Engineering Test Report No. 2002696-01		
Report Date	September 21, 2020	
Manufacturer Name	Genie Company	
Manufacturer Address	One Door Drive Mount Hope, OH 44660	
Model No.	UWWC, Universal Wireless Wall Console	
Date Received	August 31, 2020	
Test Dates	August 31, 2020 through September 8, 2020	
Specifications	FCC "Code of Federal Regulations" Title 47 Part 15, Subpart C, Section 15.231(b) Innovation, Science, and Economic Development Canada, RSS-210 Innovation, Science, and Economic Development Canada, RSS-GEN	
Test Facility	Elite Electronic Engineering, Inc. 1516 Centre Circle, Downers Grove, IL 60515	FCC Reg. Number: 269750 IC Reg. Number: 2987A
Signature	MARK E. LONGINOTTI	
Tested by	Mark E. Longinotti	
Signature	Raymond J Klouda	
Approved by	Raymond J. Klouda, Registered Professional Engineer of Illinois – 44894	
PO Number	936132	

Elite Electronic Engineering Incorporated certifies that the information contained in this report was obtained under conditions which meet or exceed those specified in the FCC "Code of Federal Regulations" Title 47 Part 15, Subpart C, Section 15.231 and Innovation, Science, and Economic Development Canada, RSS-210 and RSS-Gen test specification(s). The data presented in this test report pertains to the EUT on the test date(s) specified. Any electrical or mechanical modifications made to the EUT subsequent to the specified test date will serve to invalidate the data and void this certification. This report must not be used to claim product certification, approval, or endorsement by A2LA, NIST, or any agency of the Federal Government.

Table of Contents

1. Report Revision History

Revision	Date	Description
–	22 SEP 2020	Initial Release of Engineering Test Report No. 2002696-01

2. Introduction

2.1. Scope of Tests

This document presents the results of a series of RF emissions tests that were performed on the Genie Company Universal Wireless Wall Console (hereinafter referred to as the Equipment Under Test (EUT)). The EUT was manufactured and submitted for testing by Genie Company located in Mount Hope, OH.

2.2. Purpose

The test series was performed to determine if the EUT meets the RF emission requirements of the FCC "Code of Federal Regulations" Title 47, Part 15, Subpart C, Sections 15.231(b).

The test series was also performed to determine if the EUT meets the RF emission requirements of the Industry Canada Radio Standards Specification RSS-Gen and Industry Canada Radio Standards Specification RSS-210 for Transmitters.

Testing was performed in accordance with ANSI C63.10-2013.

2.3. Identification of the EUT

The EUTs were identified as follows:

EUT Identification	
Product Description	Universal Wireless Wall Console
Model/Part No.	UWWC
S/N	Label 1
Band of Operation	303MHz to 433.92MHz
Software Version	114.1 UT UI
Antenna Type	Resonator antenna (internal)
20dB Bandwidth	See Section 23 of this report
99% Bandwidth	See Section 23 of this report
Size of EUT	7.5cm x 12.5 cm x 2.0cm
Emission Classification	F1D
Product Description	Universal Wireless Wall Console
Model/Part No.	UWWC
S/N	AVL2
Band of Operation	303MHz to 433.92MHz
Software Version	114.1 UT UI
Antenna Type	Resonator antenna (internal)
20dB Bandwidth	See Section 23 of this report
99% Bandwidth	See Section 23 of this report
Size of EUT	7.5cm x 12.5 cm x 2.0cm
Emission Classification	F1D
Product Description	Universal Wireless Wall Console
Model/Part No.	UWWC
S/N	Label 2
Band of Operation	303MHz to 433.92MHz
Software Version	114.1 UT UI
Antenna Type	Resonator antenna (internal)
20dB Bandwidth	See Section 23 of this report
99% Bandwidth	See Section 23 of this report
Size of EUT	7.5cm x 12.5 cm x 2.0cm
Emission Classification	F1D
Product Description	Universal Wireless Wall Console

Model/Part No.	UWWC
S/N	AVL7
Band of Operation	303MHz to 433.92MHz
Software Version	114.1 UT UI
Antenna Type	Resonator antenna (internal)
20dB Bandwidth	See Section 23 of this report
99% Bandwidth	See Section 23 of this report
Size of EUT	7.5cm x 12.5 cm x 2.0cm

For spurious radiated emissions tests, two samples were provided for each test mode. The first sample was a primary source PCB. The second sample was an alternate source PCB. Complete radiated emissions tests were performed on the primary source PCB (first sample). Significant spurious radiated emissions were also tested on the alternate source PCB (second sample).

Sample Serial No. Label 1 was used as the primary source PCB for all radiated emissions tests except for 315MHz unknown protocol tests and 318MHz unknown protocol tests. Sample Serial No. AVL2 was used as the secondary source PCB for all radiated emissions tests except for 315MHz unknown protocol tests and 318MHz unknown protocol tests.

Sample Serial No. Label 2 was used as the primary source PCB for radiated emissions tests for 315MHz unknown protocol tests and 318MHz unknown protocol tests. Sample Serial No. AVL7 was used as the secondary source PCB for radiated emissions tests for 315MHz unknown protocol tests and 318MHz unknown protocol tests.

3. Power Input

The EUT was powered by 3VDC from two (2) each “AA” internal batteries.

4. Grounding

The EUTs were not connected to ground.

5. Support Equipment

The EUTs were submitted for testing with no support equipment.

6. Interconnect Leads

No interconnect leads were used during the tests.

7. Modifications Made to the EUT

No modifications were made to the EUTs during the testing.

8. Modes of Operation

For all tests, the EUT was placed on an 80cm high non-conductive stand when testing below 1GHz. Above 1GHz, the EUT was placed on a 150cm high non-conductive stand. The EUT was programmed to transmit separately in each of the following modes:

Mode	Frequency MHz	Manufacturer	Description
1	303	Guardian	Fixed Code
2	310	Sommer	Rolling Code

3	310	Stanley	Fixed Dip Switch
4	315	Chamberlain	Purple
5	315	Genie	IC1
6	315	Genie	IC2
7	315	Marantec	Fixed Code
8	318	Linear	Mega Code
9	372.5	Wayne Dalton	Rolling Code
10	372.5	Ryobi	Rolling Code
11	390	Chamberlain	Green
12	390	Chamberlain	Orange/Red
13	390	Chamberlain	Yellow
14	390	Chamberlain Legacy	9 DIP switches
15	390	Genie	IC1
16	390	Genie	IC2
17	390	Genie Legacy	9 DIP switches
18	390	Genie Legacy	12 position DIP switches
19	390	Overhead Door	9 DIP switches
19	433.92	FAAC	Rolling Code
21	303	Clone	Worst Case
22	310	Clone	Worst Case
23	315	Clone	Worst Case
24	318	Clone	Worst Case
25	372.5	Clone	Worst Case
26	390	Clone	Worst Case
27	433.92	Clone	Worst Case

9. Test Specifications

The tests were performed to selected portions of, and in accordance with the following test specifications:

- Federal Communications Commission “Code of Federal Regulations”, Title 47, Part 15, Subpart C
- 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 9kHz to 40 GHz”
- ANSI C63.10-2013, “American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices”
- RSS-210 Issue 10, December 2019, “License-Exempt Radio Apparatus: Category I Equipment”
- RSS-Gen Issue 5, March 2019, Amendment 1, Innovation, Science, and Economic Development Canada, “Spectrum Management and Telecommunications, Radio Standards Specification, General Requirements for Compliance of Radio Apparatus”

10. Test Plan

No test plan was provided. Instructions were provided by personnel from Genie Company and used in conjunction with the FCC "Code of Federal Regulations" Title 47 Part 15, Subpart C, Section 15.231 and

Innovation, Science, and Economic Development Canada, RSS-210, and ANSI C63.10-2013 specifications.

11. Deviation, Additions to, or Exclusions from Test Specifications

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

12. Laboratory Conditions

Ambient Parameters	Value
Temperature	26°C
Relative Humidity	31%
Atmospheric Pressure	1018mb

13. Summary

The following EMC tests were performed and the results are shown below:

Test Description	Requirements	Test Methods	Results
Periodic Operation Measurements	FCC 15C ISED RSS-210	ANSI C63.10: 2013	Conforms
Duty Cycle Factor Measurements	FCC 15C ISED RSS-210	ANSI C63.10: 2013	N/A
Spurious Radiated Emissions	FCC 15C ISED RSS-210	ANSI C63.10: 2013	Conforms
Occupied Bandwidth Measurements	FCC 15C ISED RSS-210	ANSI C63.10: 2013	Conforms

14. Sample Calculations

For Powerline Conducted Emissions:

The resultant voltage level (VL) is a summation in decibels (dB) of the receiver meter reading (MTR) and the cable loss factor (CF).

Formula 1: VL (dBuV) = MTR (dBuV) + CF (dB).

For Radiated Emissions:

The resultant field strength (FS) is a summation in decibels (dB) of the receiver meter reading (MTR), the antenna correction factor (AF), and the cable loss factor (CF). If an external preamplifier is used, the total is reduced by its gain (-PA). If a distance correction (DC) is required, it is added to the total.

Formula 1: FS (dBuV/m) = MTR (dBuV) + AF (dB/m) + CF (dB) + (- PA (dB)) + DC (dB)

To convert the Field Strength dBuV/m term to uV/m, the dBuV/m is first divided by 20. The Base 10 AntiLog is taken of this quotient. The result is the Field Strength value in uV/m terms.

Formula 2: FS (uV/m) = AntiLog [(FS (dBuV/m))/20]

15. Statement of Conformity

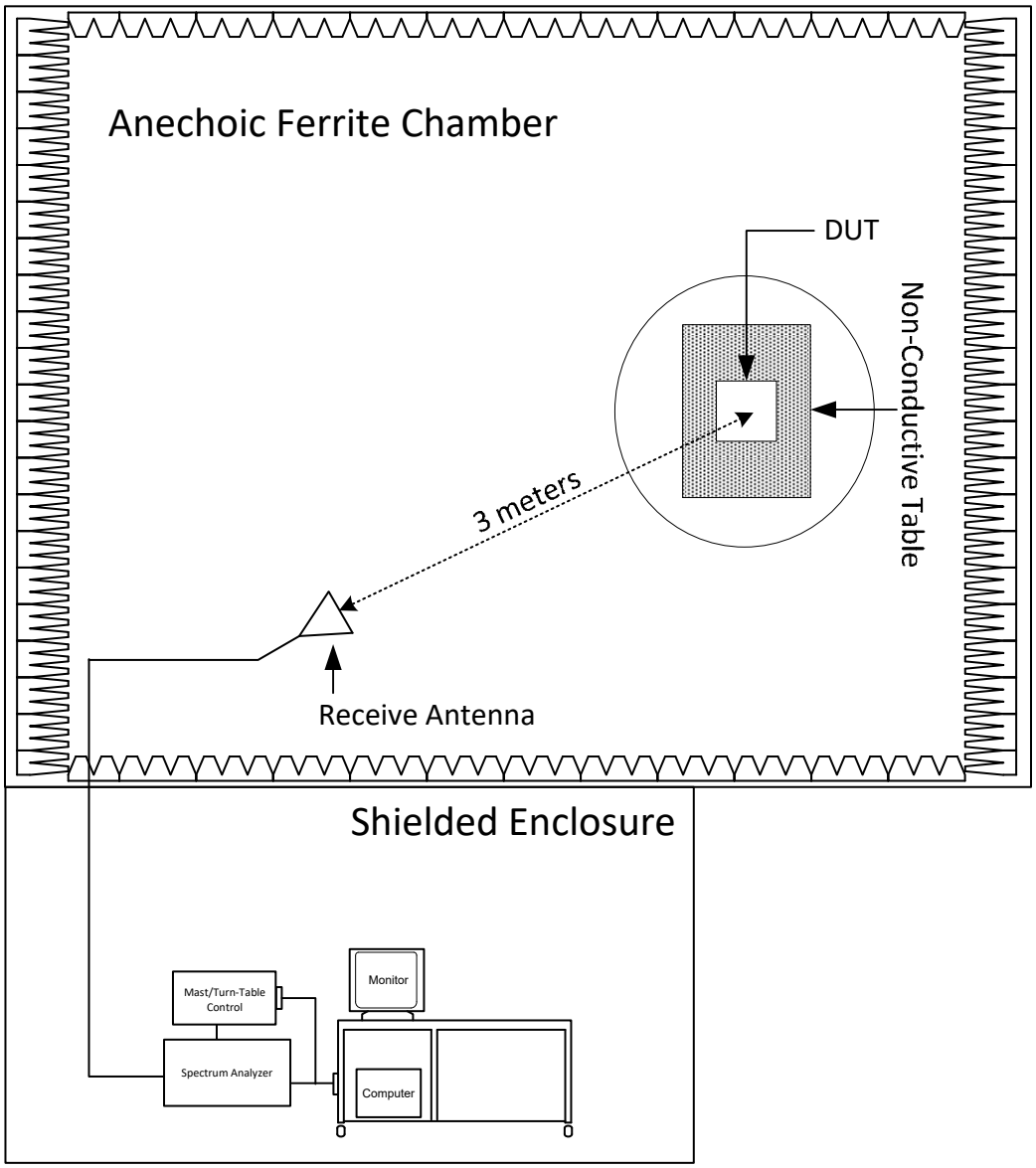
The Genie Company Universal Wireless Wall Console, Model No. UWWC, did fully conform to the selected requirements of FCC "Code of Federal Regulations" Title 47 Part 15, Subpart C, Section 15.231 and Innovation, Science, and Economic Development Canada, RSS-210.

16. 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 FCC "Code of Federal Regulations" Title 47 Part 15, Subpart C, Section 15.231 and Innovation, Science, and Economic Development Canada, RSS-210 test specifications. The data presented in this test report pertains to the EUTs on the test date specified. Any electrical or mechanical modifications made to the EUTs subsequent to the specified test date will serve to invalidate the data and void this certification.

17. Photographs of EUT

18. Block Diagram of Test Setup



Radiated Measurements Test Setup

19. Equipment List

Eq ID	Equipment Description	Manufacturer	Model No.	Serial No.	Frequency Range	Cal Date	Due Date
CDX8	COMPUTER	ELITE	WORKSTATION			N/A	
NTA4	BILOG ANTENNA	TESEQ	6112D	46660	20-2000GHZ	9/23/2019	9/23/2020
NWQ2	DOUBLE RIDGED WAVEGUIDE ANTENNA	ETS LINDGREN	3117	66659	1GHZ-18GHZ	4/7/2020	4/7/2022
RBG3	EMI ANALYZER	ROHDE & SCHWARZ	ESW44	101592	2HZ-44GHZ	4/24/2020	4/24/2021
WKA1	SOFTWARE, UNIVERSAL RCV EMI	ELITE	UNIV_RCV_EMI	1	---	I/O	

N/A: Not Applicable I/O: Initial Only CNR: Calibration Not Required
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.

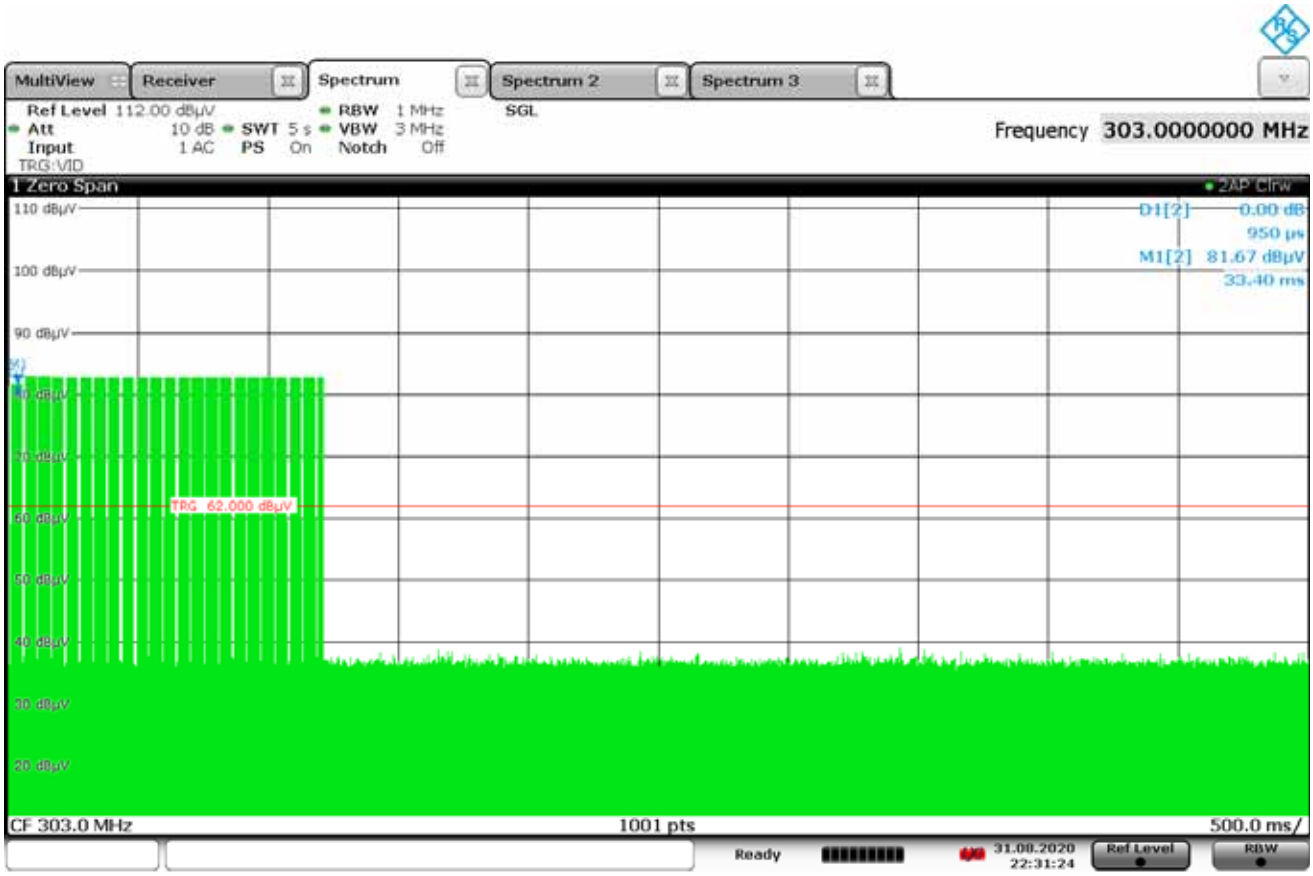
20. Periodic Operation Measurements

Test Information	
Manufacturer	Genie Company
Product	Universal Wireless Wall Console
Model	UWWC
Mode	See Below
Test Date	August 31, 2020

Requirements
For FCC 15.231(a)(1) and ISED RSS-210, Annex A, Section A1.1: A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released. A transmitter activated automatically shall cease transmission within 5 seconds after activation. Transmission of setup information for security systems may exceed said transmission duration limits, provided such transmissions are under the control of a professional installer and do not exceed ten seconds after a manually operated switch is released or a transmitter is activated automatically. Such setup information may include data. Periodic transmissions at regular predetermined intervals are not permitted. However, polling or supervision transmissions, including data, to determine system integrity of transmitters used in security or safety applications are allowed if the total duration of transmissions does not exceed more than two seconds per hour for each transmitter. There is no limit on the number of individual transmissions, provided the total transmission time does not exceed two seconds per hour. Intentional radiators which are employed for radio control purposes during emergencies involving fire, security, and safety of life, when activated to signal an alarm, may operate during the pendency of the alarm condition.

Procedures
The spectrum analyzer was set up 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.

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 303MHz
Protocol	Guardian



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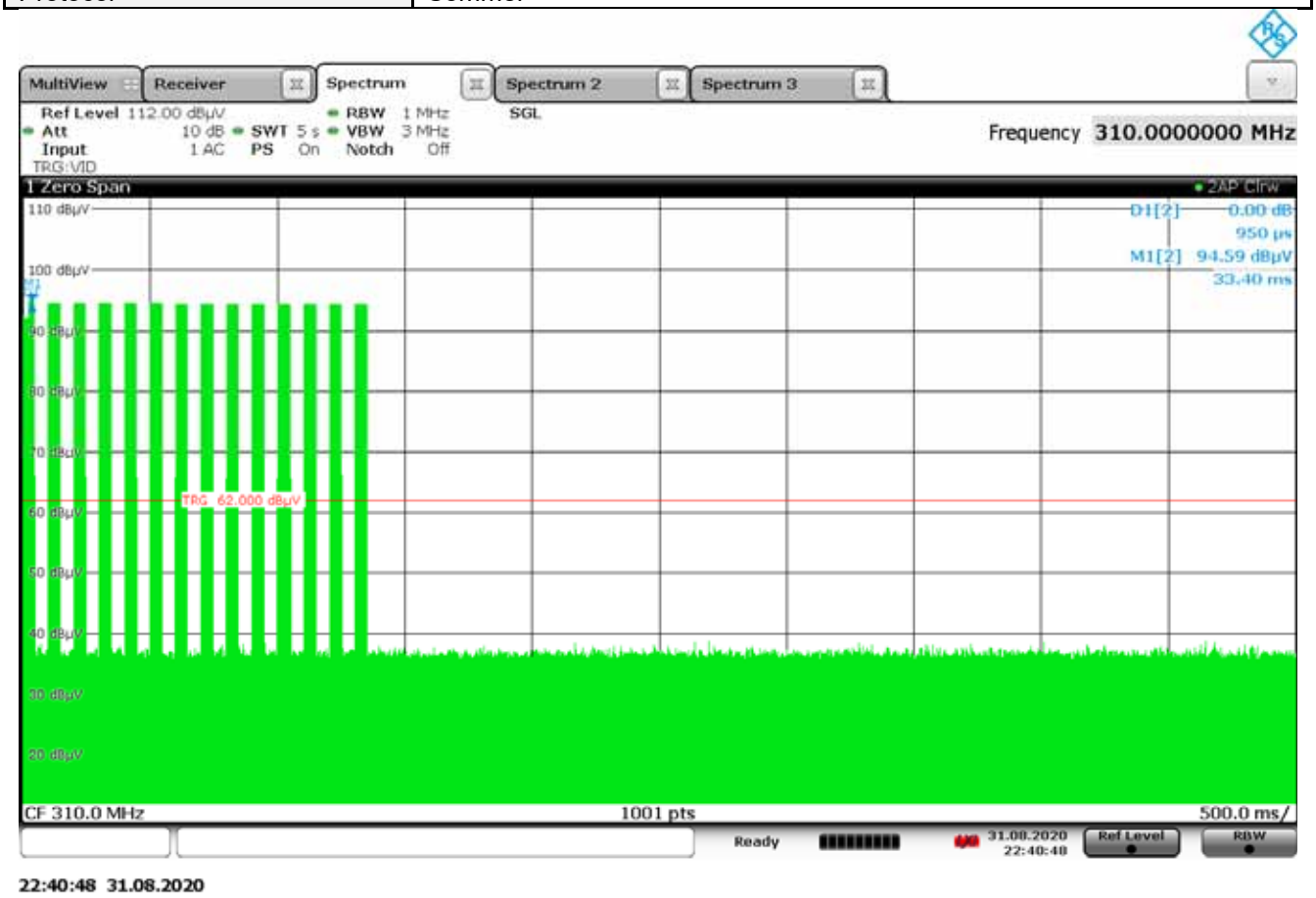
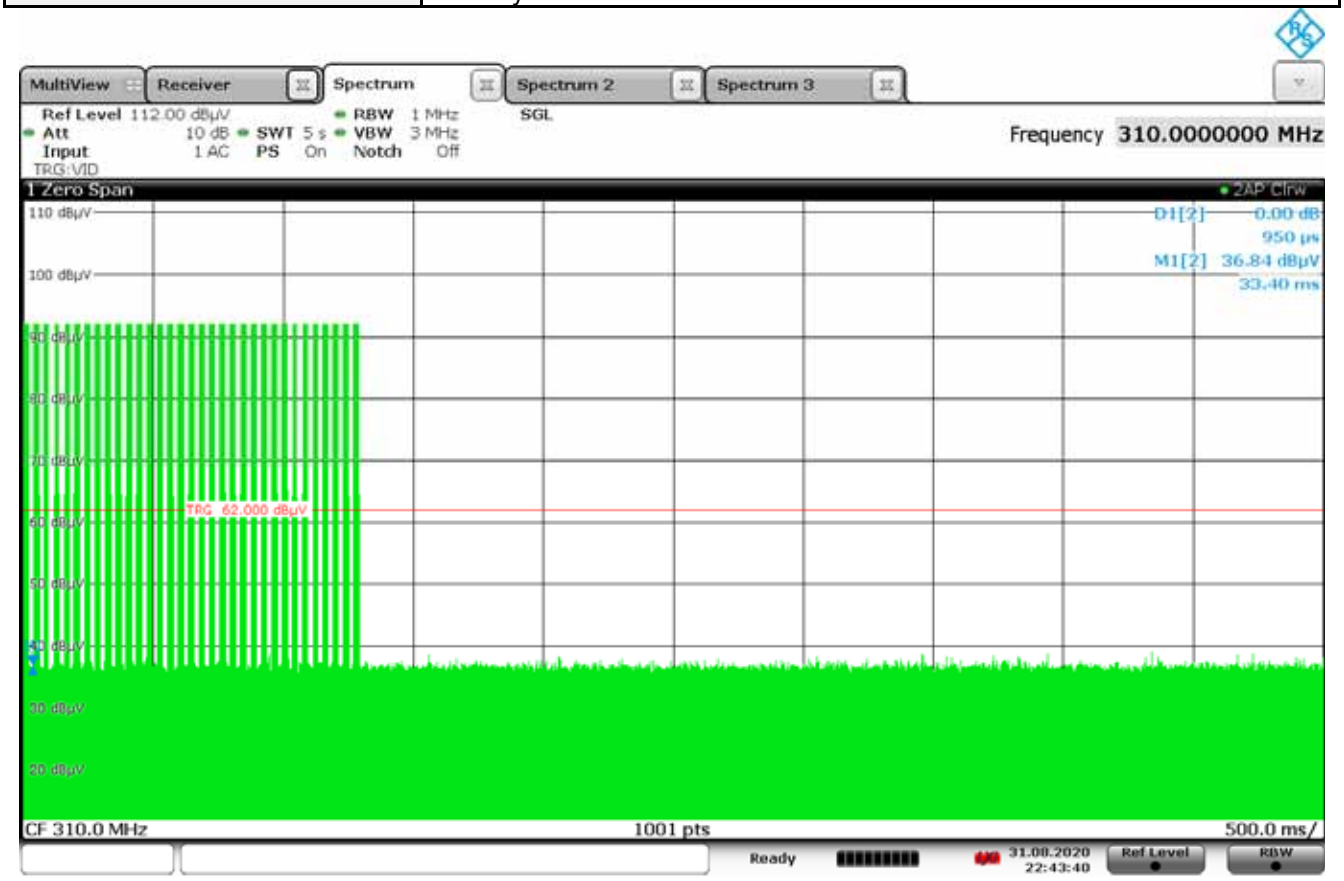
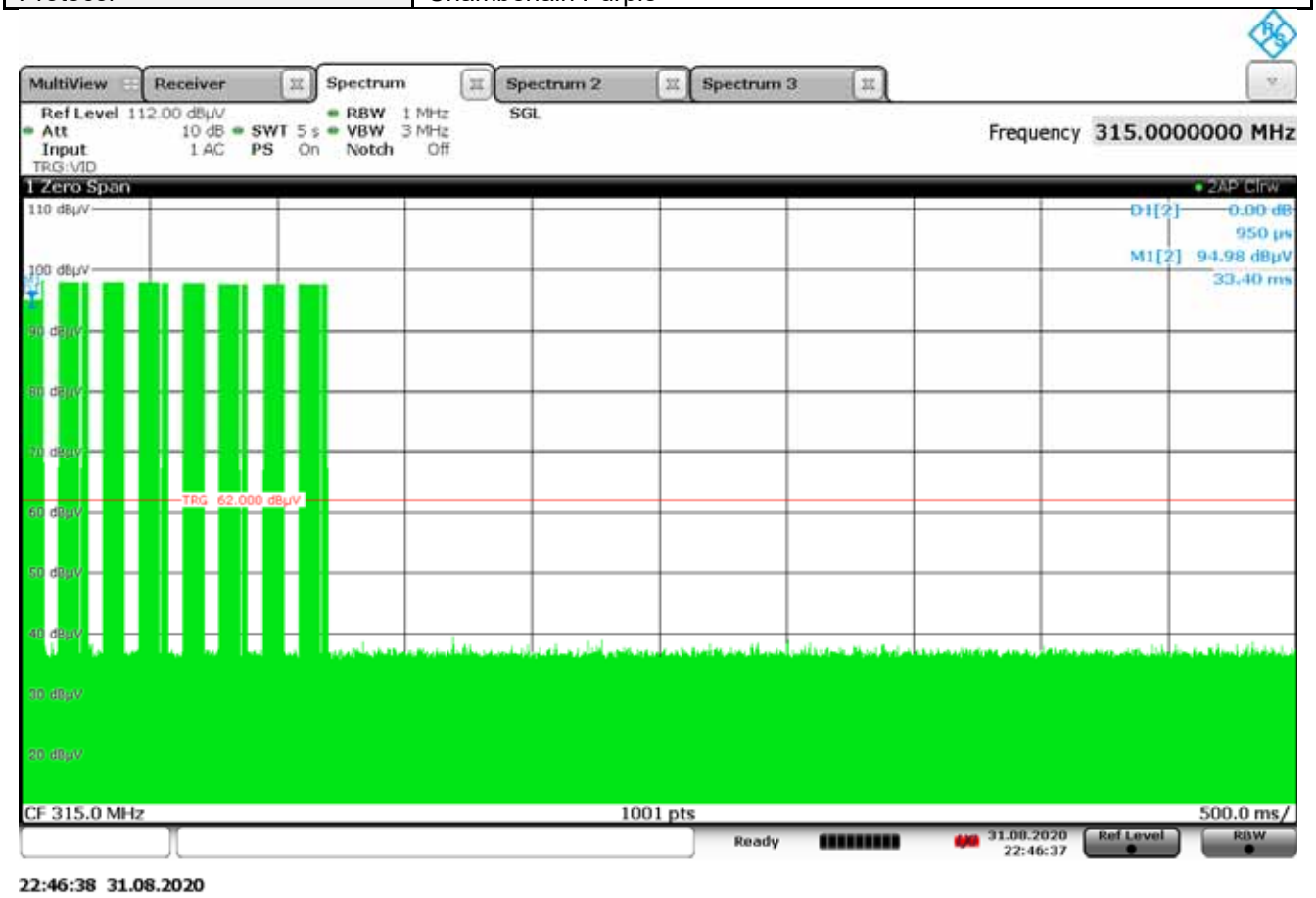
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 310MHz
Protocol	Sommer



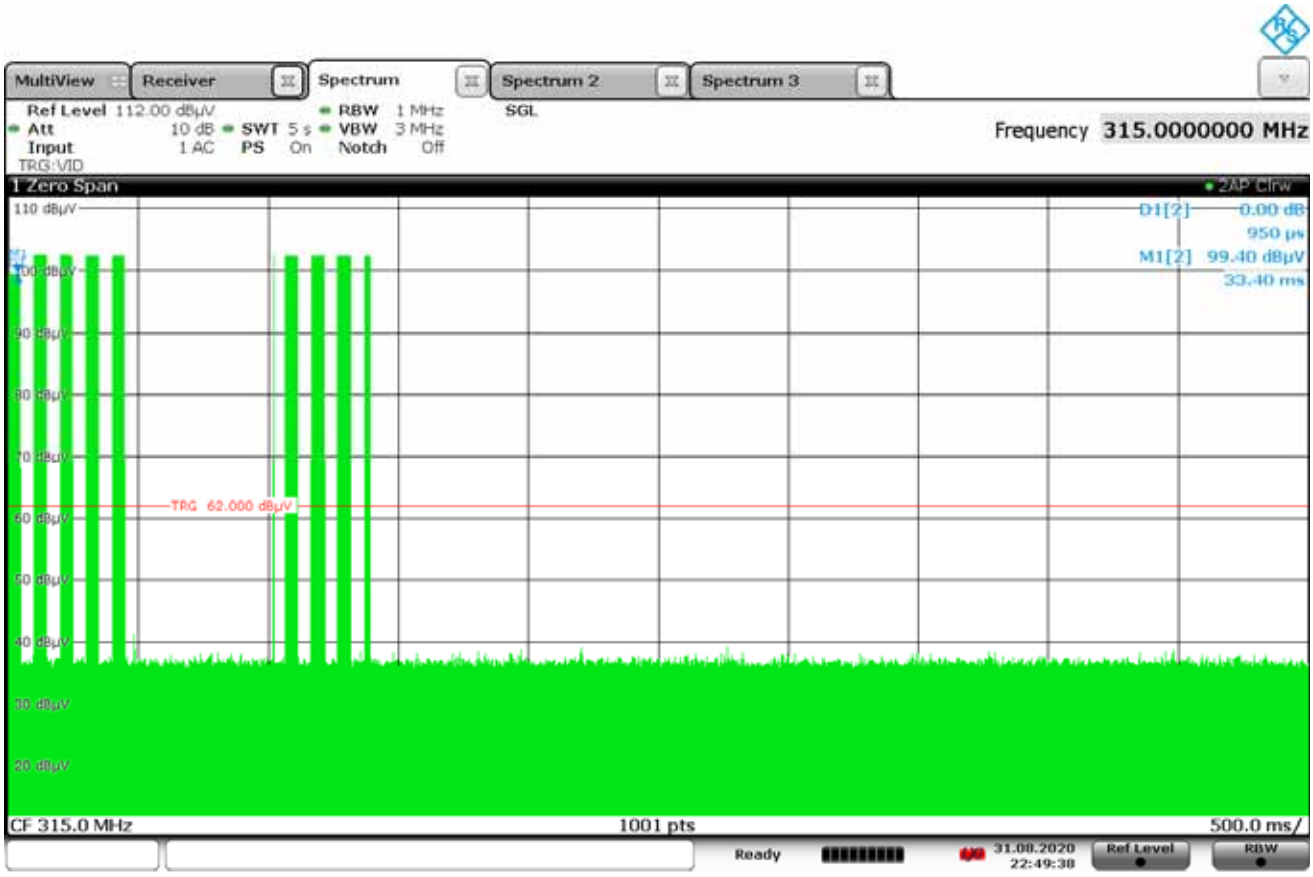
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 310MHz
Protocol	Stanley



Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 315MHz
Protocol	Chamberlain Purple



Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 315MHz
Protocol	Genie IC1



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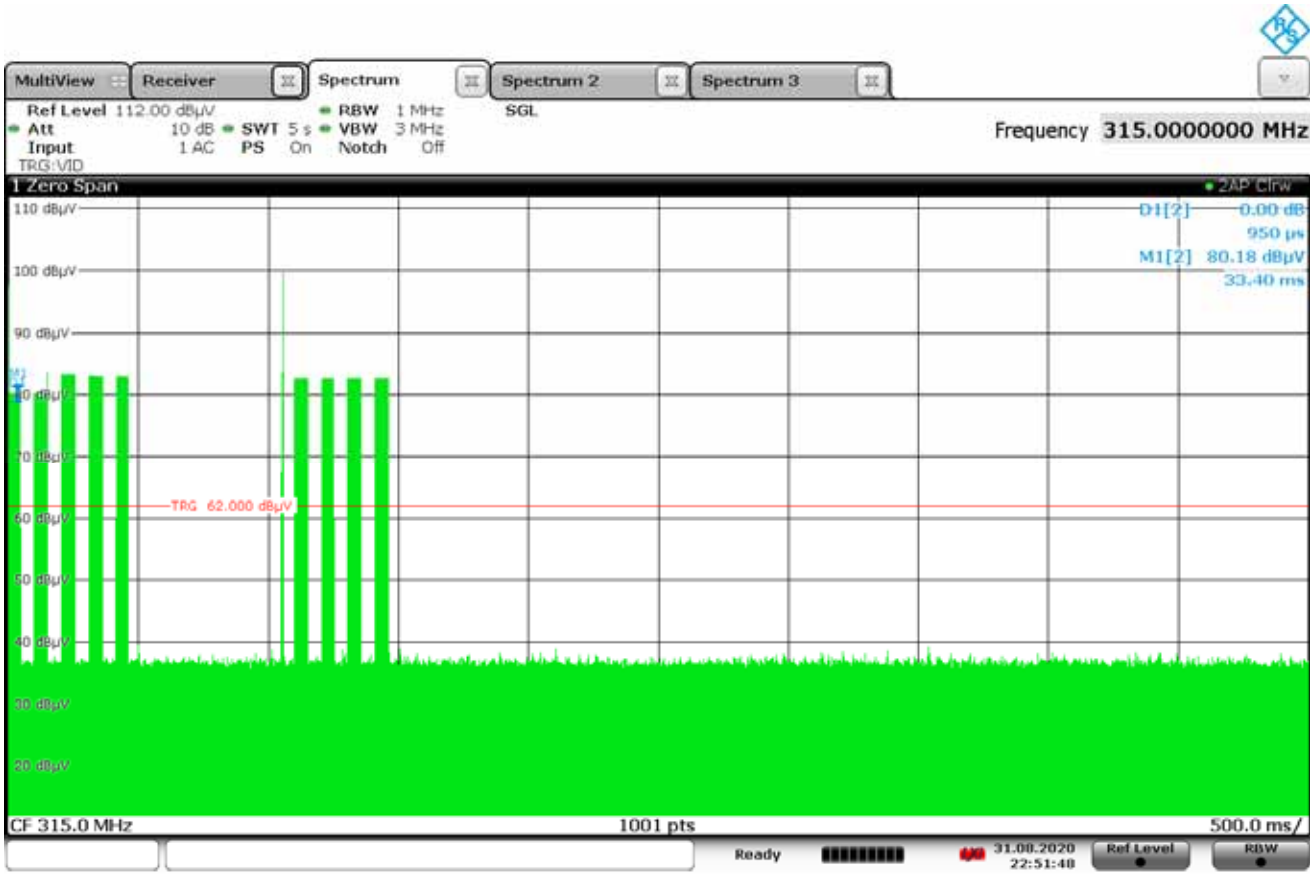
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 315MHz
Protocol	Genie IC2



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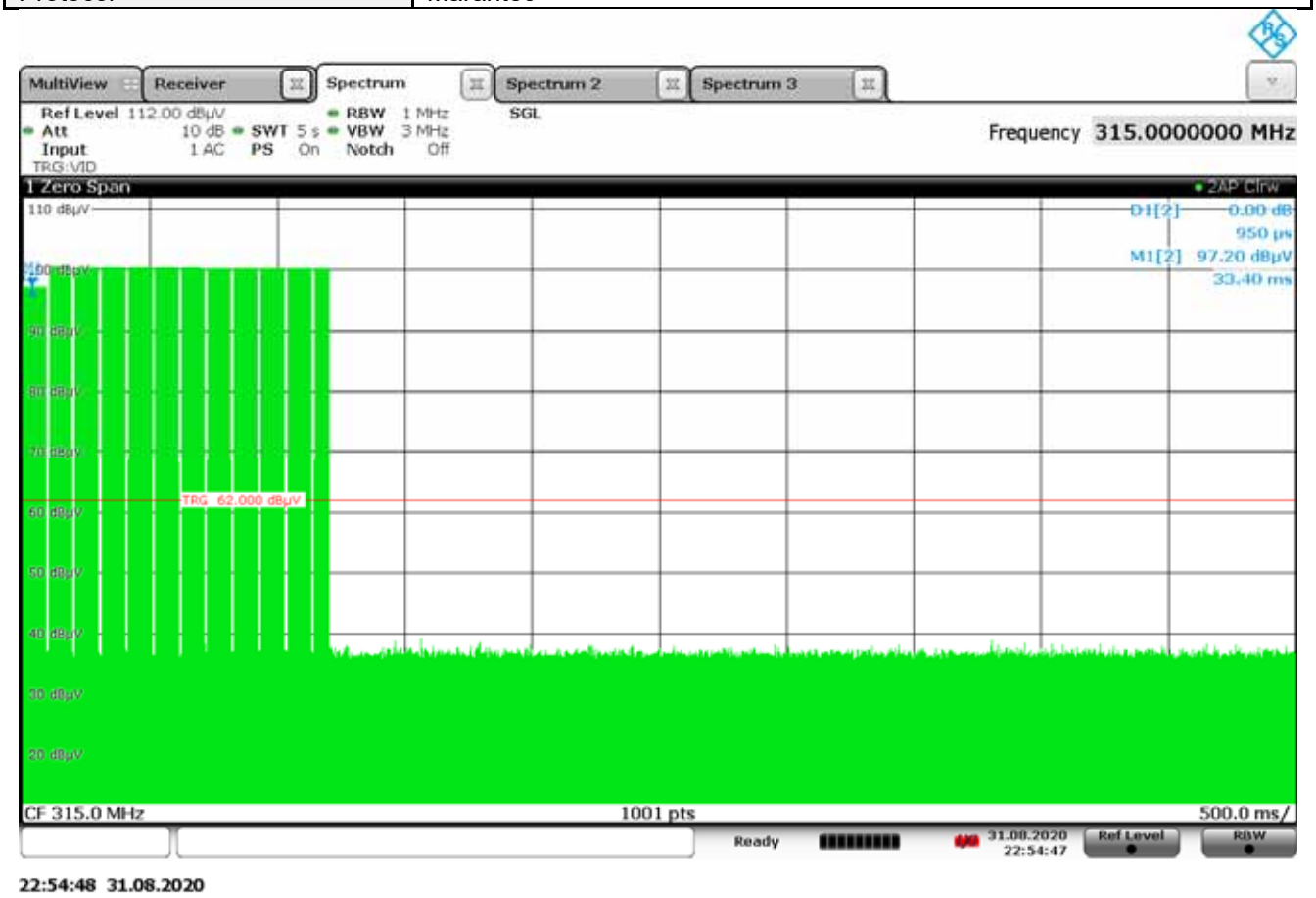
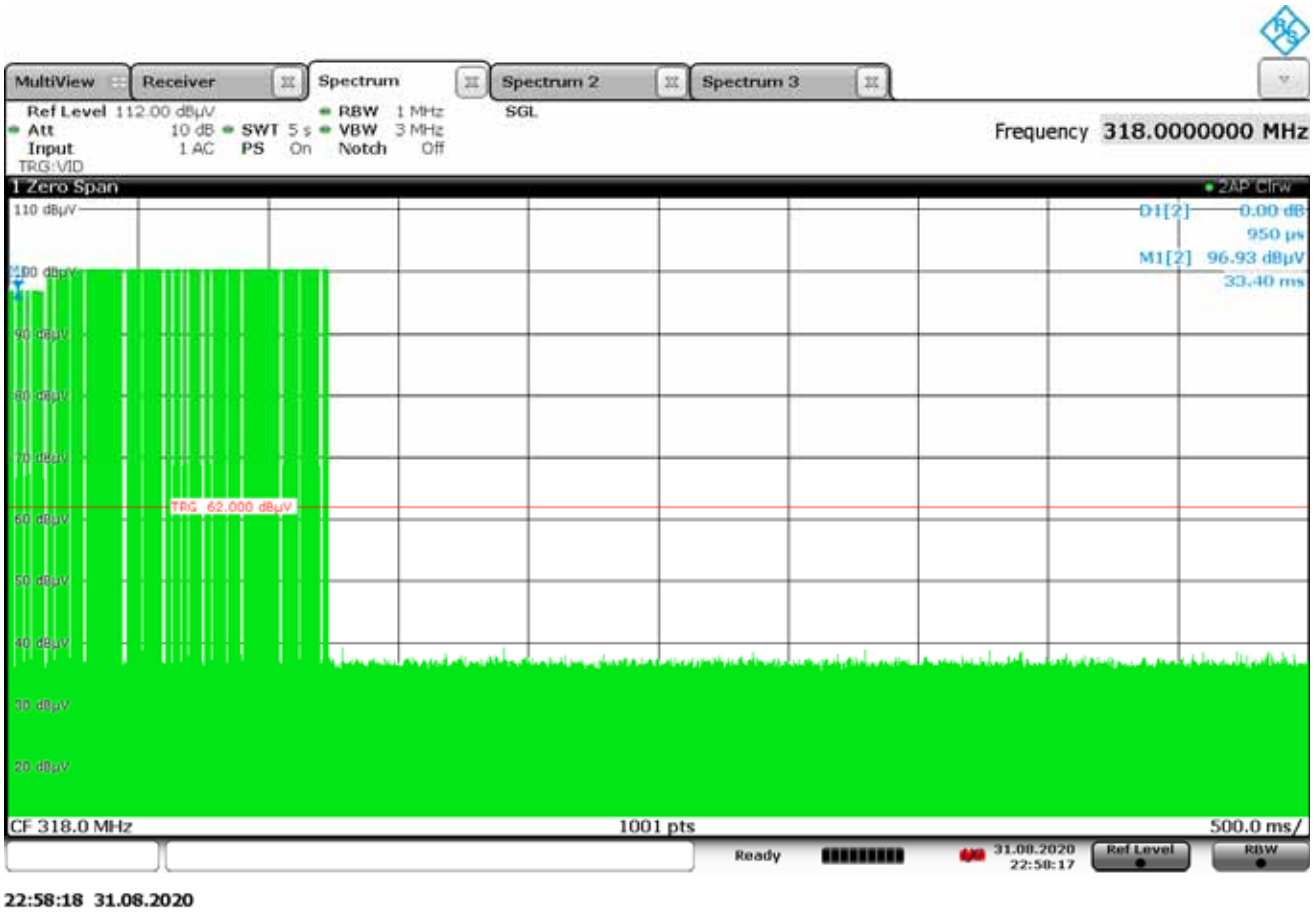
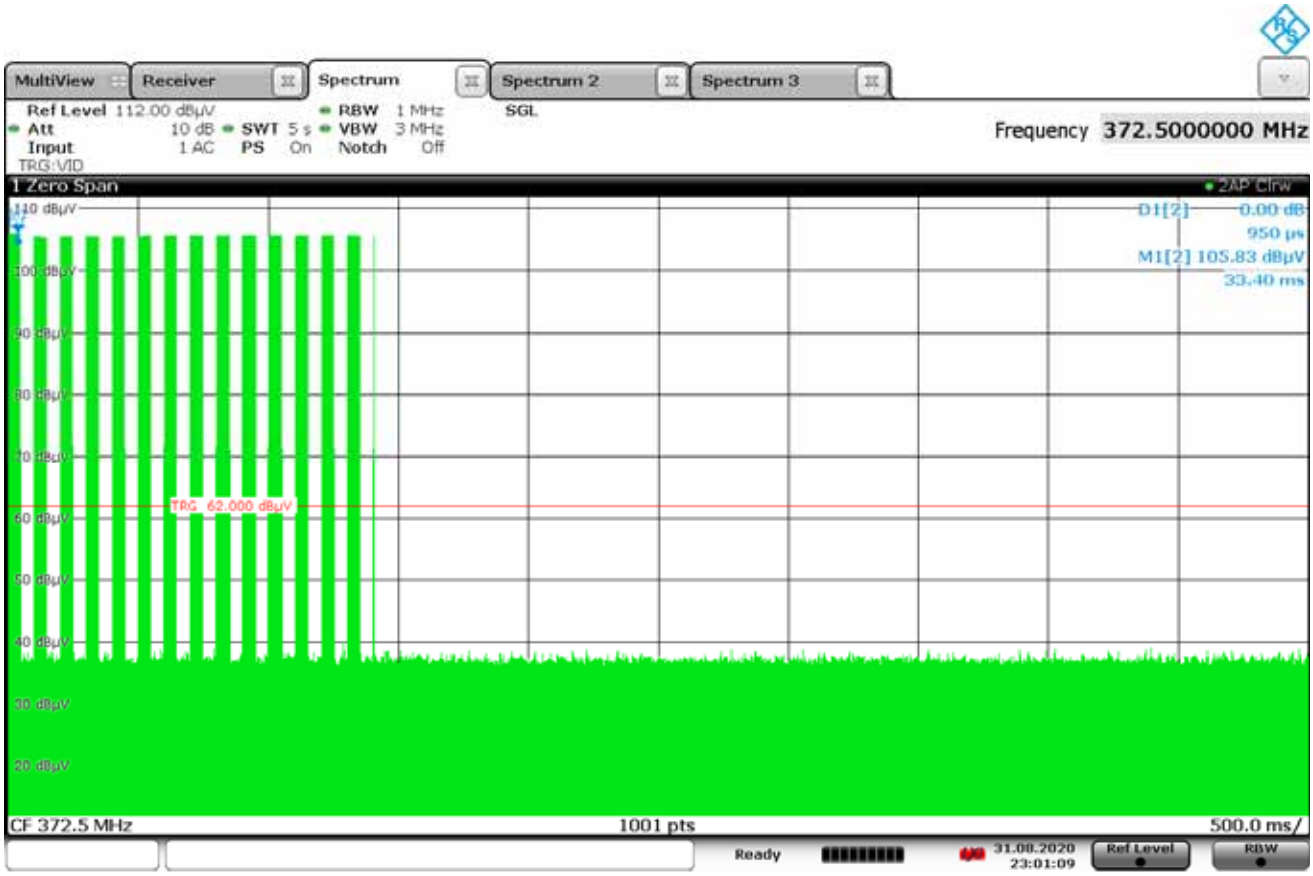
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 315MHz
Protocol	Marantec



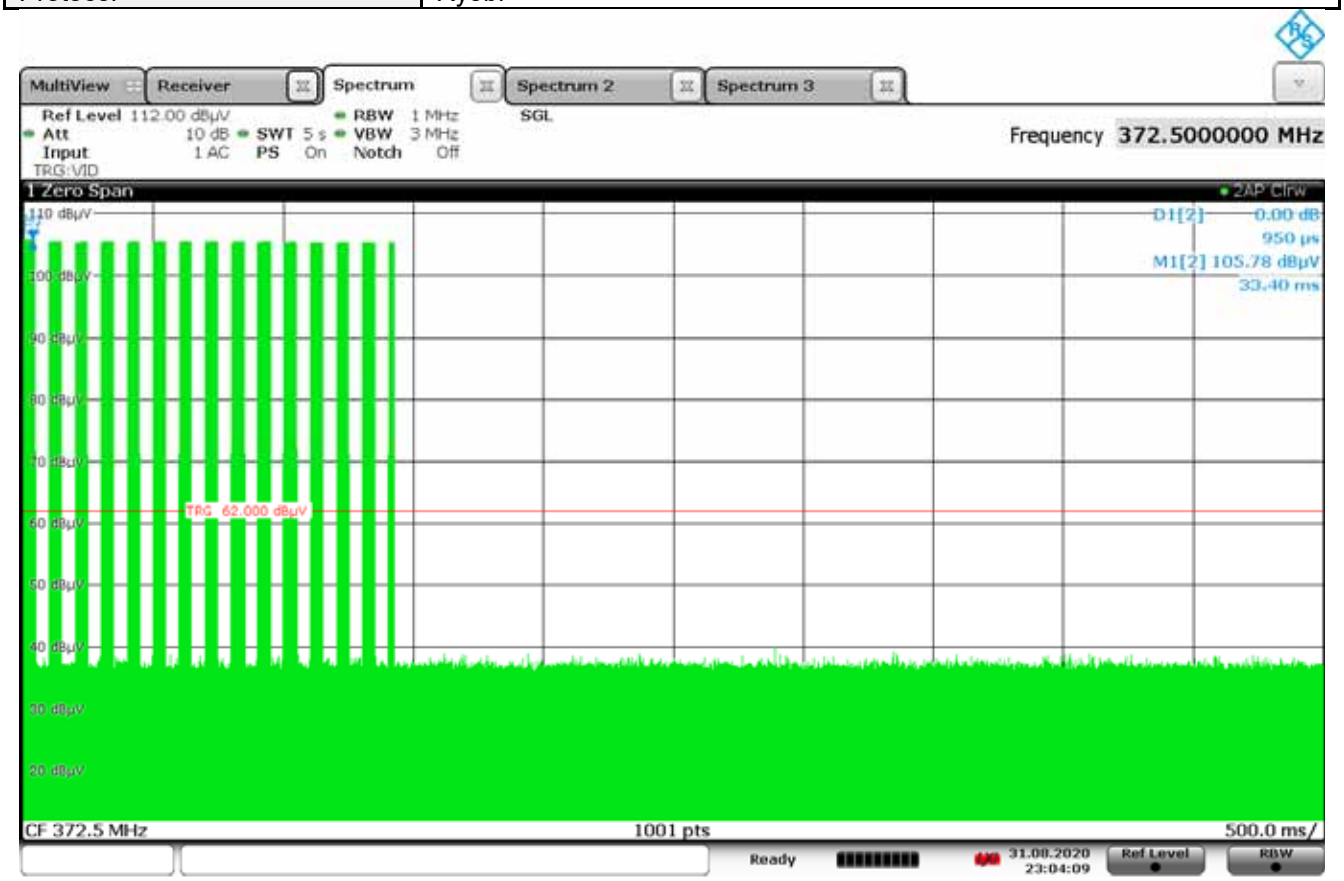
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 318MHz
Protocol	Linear



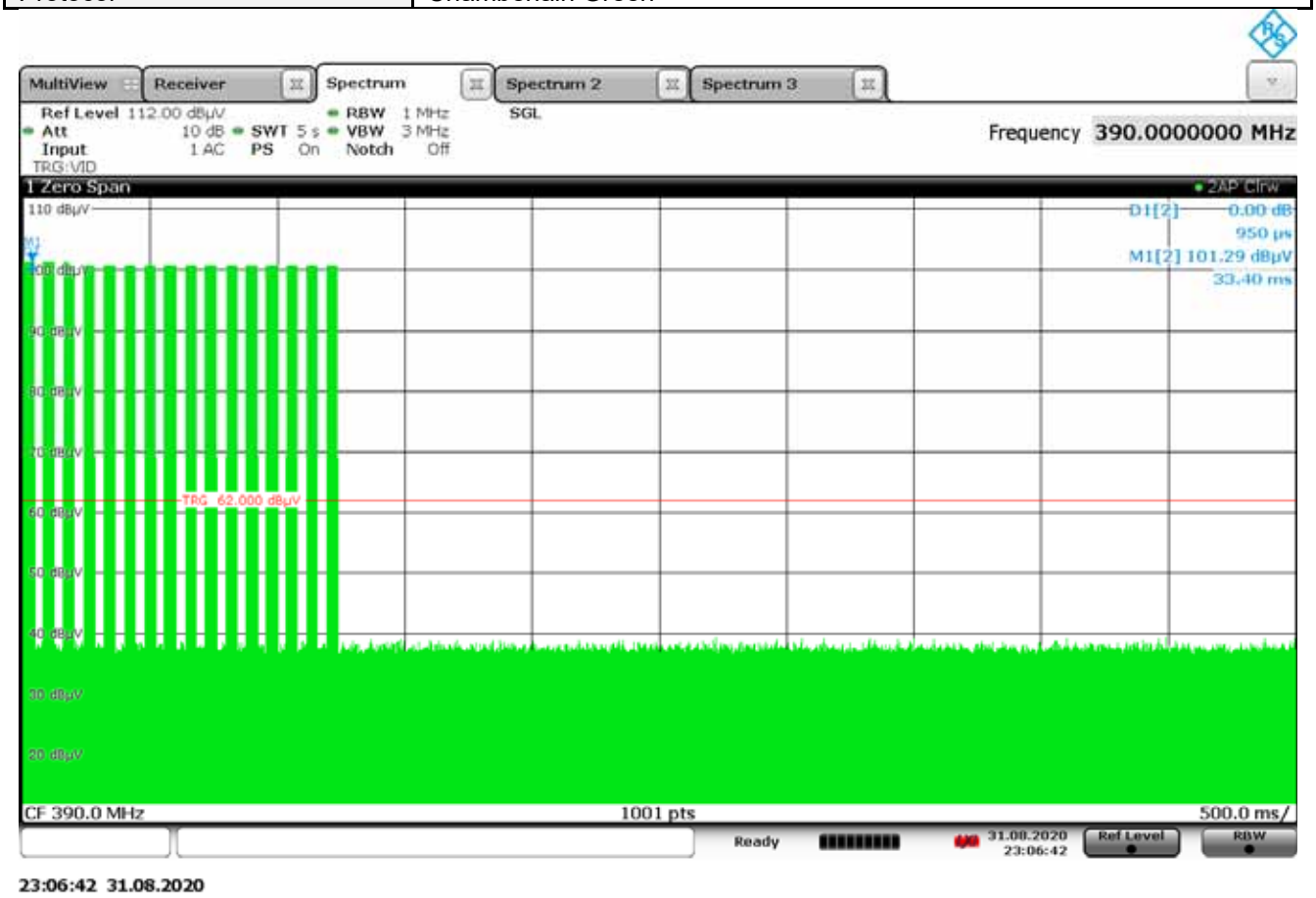
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 372.5MHz
Protocol	Wayne Dalton



Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 372.5MHz
Protocol	Ryobi



Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Chamberlain Green



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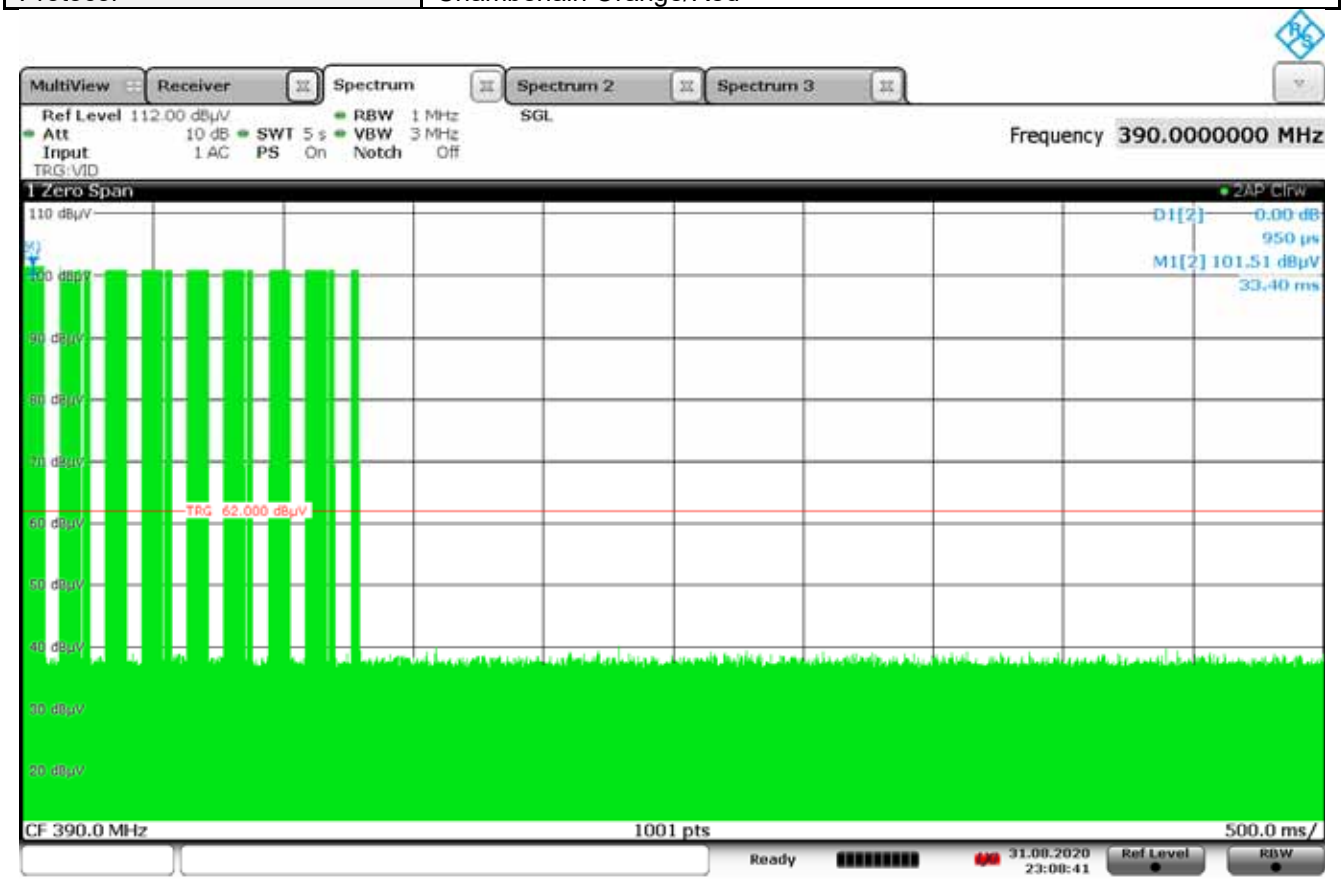
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Chamberlain Orange/Red



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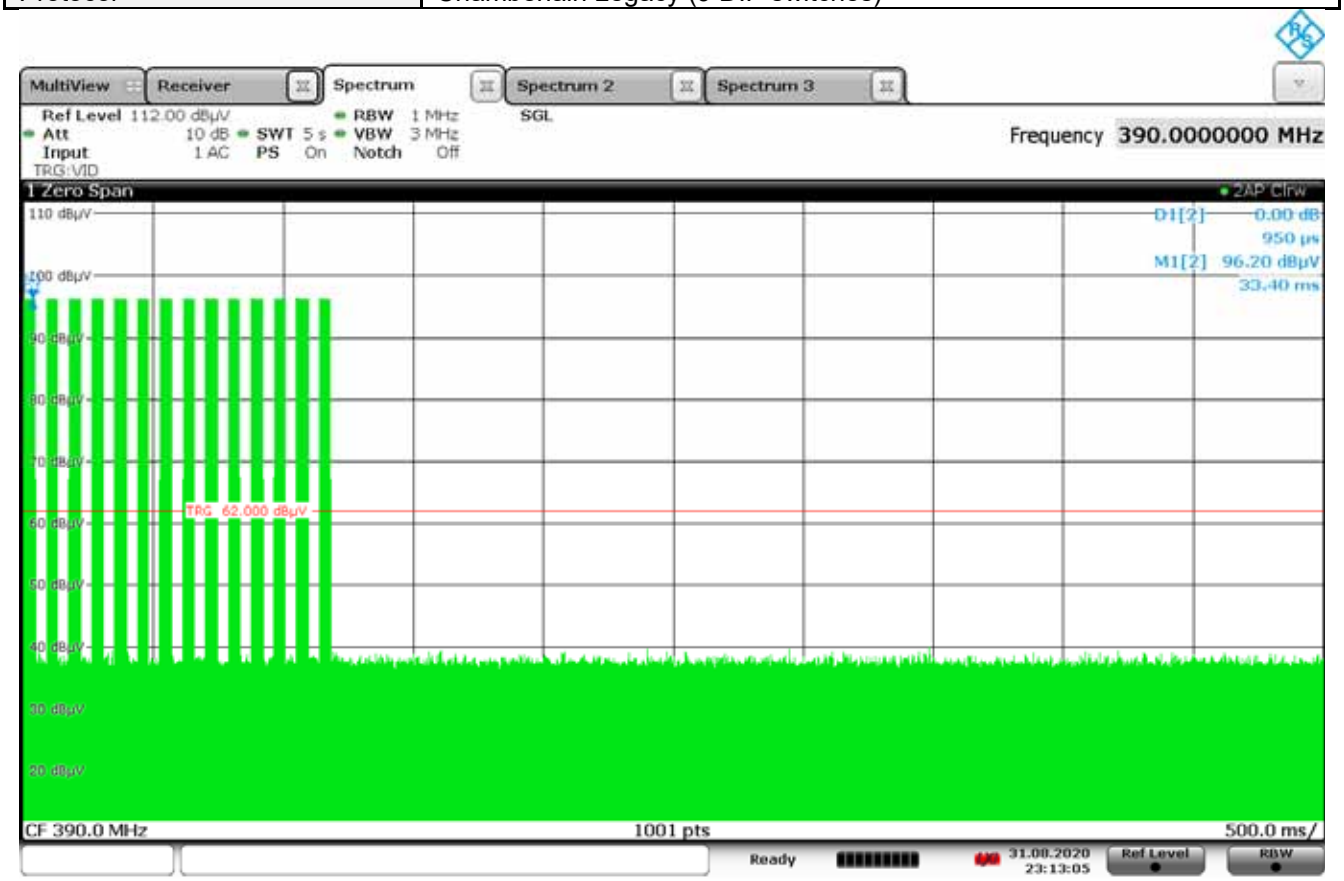
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Chamberlain Yellow

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Chamberlain Legacy (9 DIP switches)



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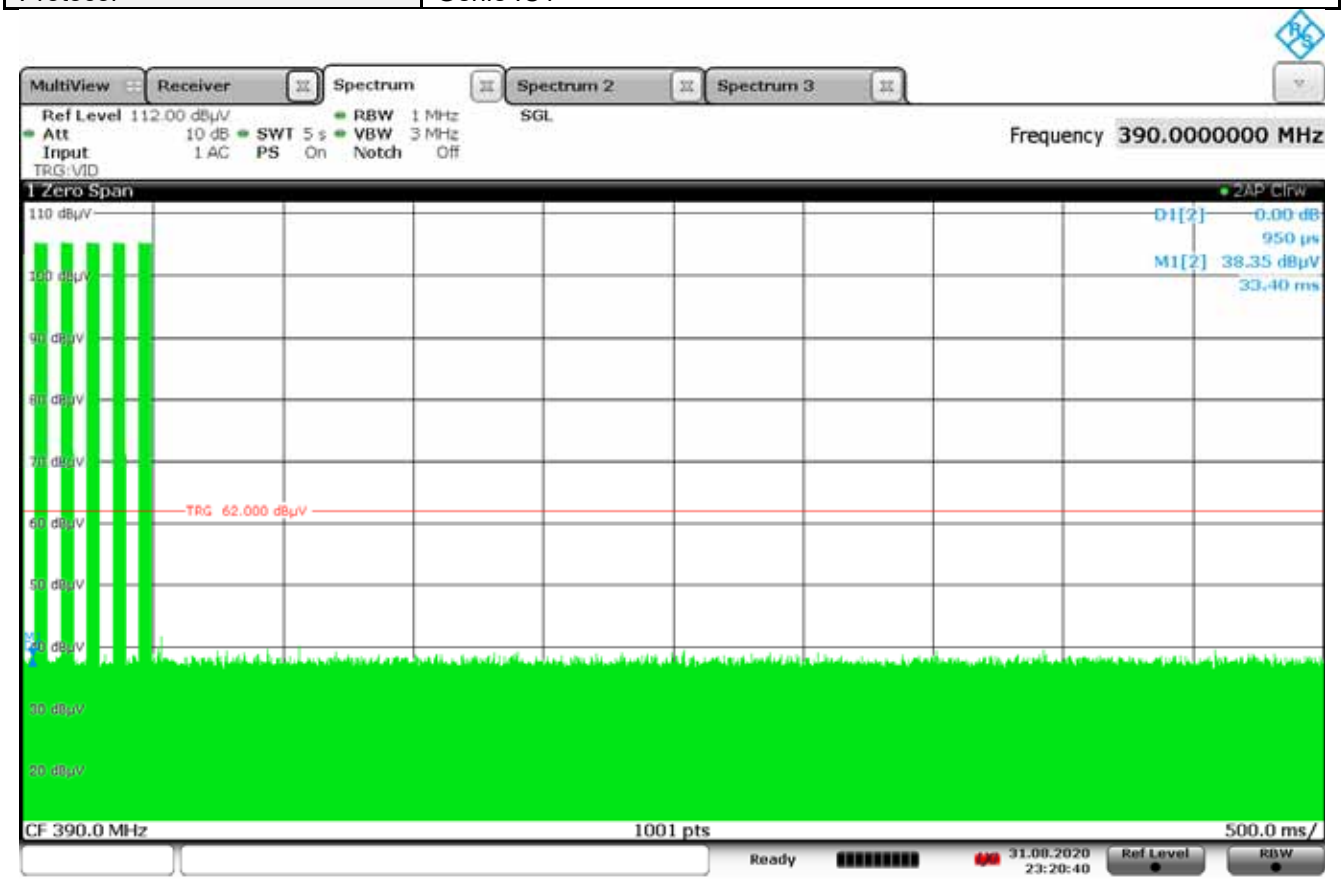
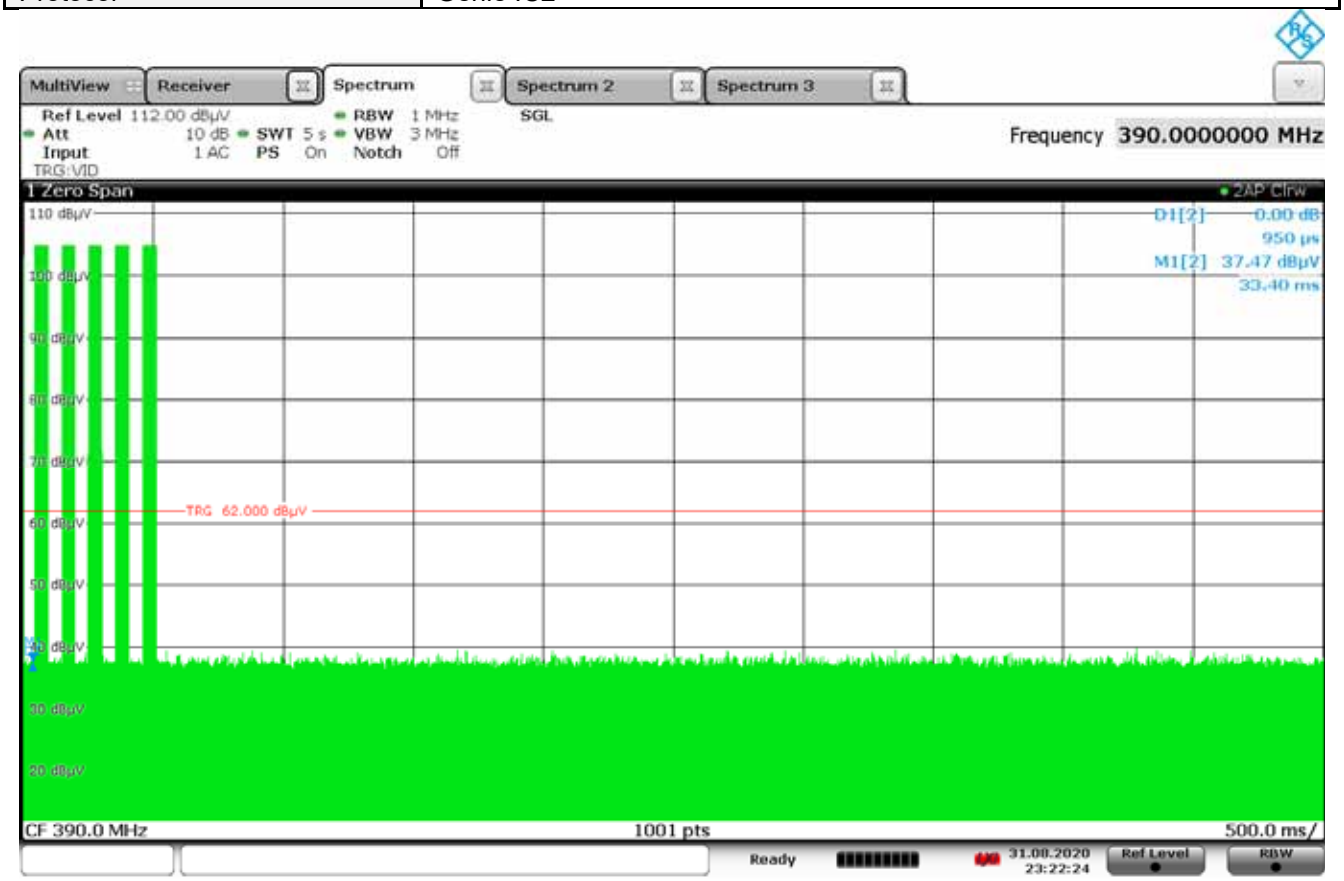
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Genie IC1



Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Genie IC2



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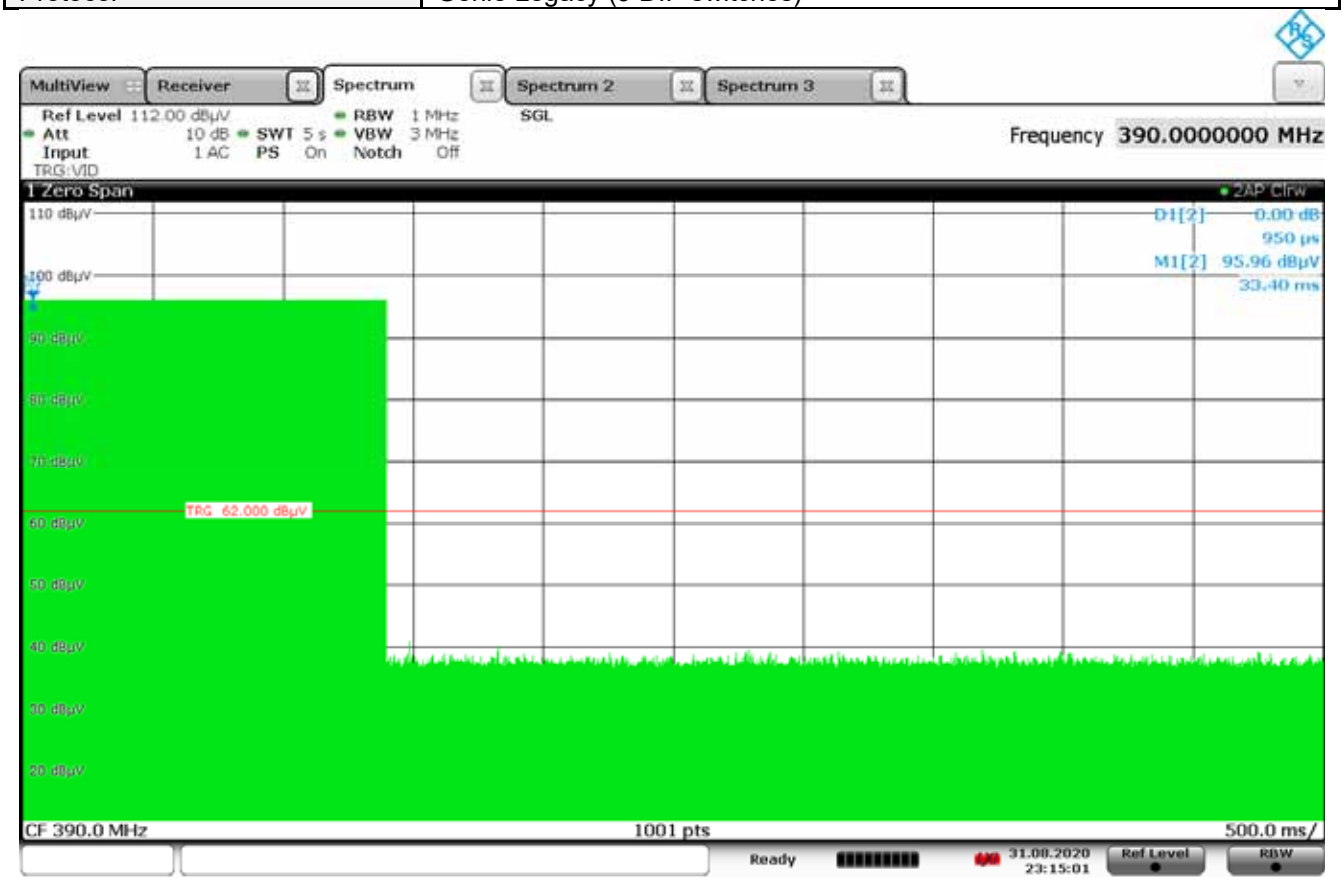
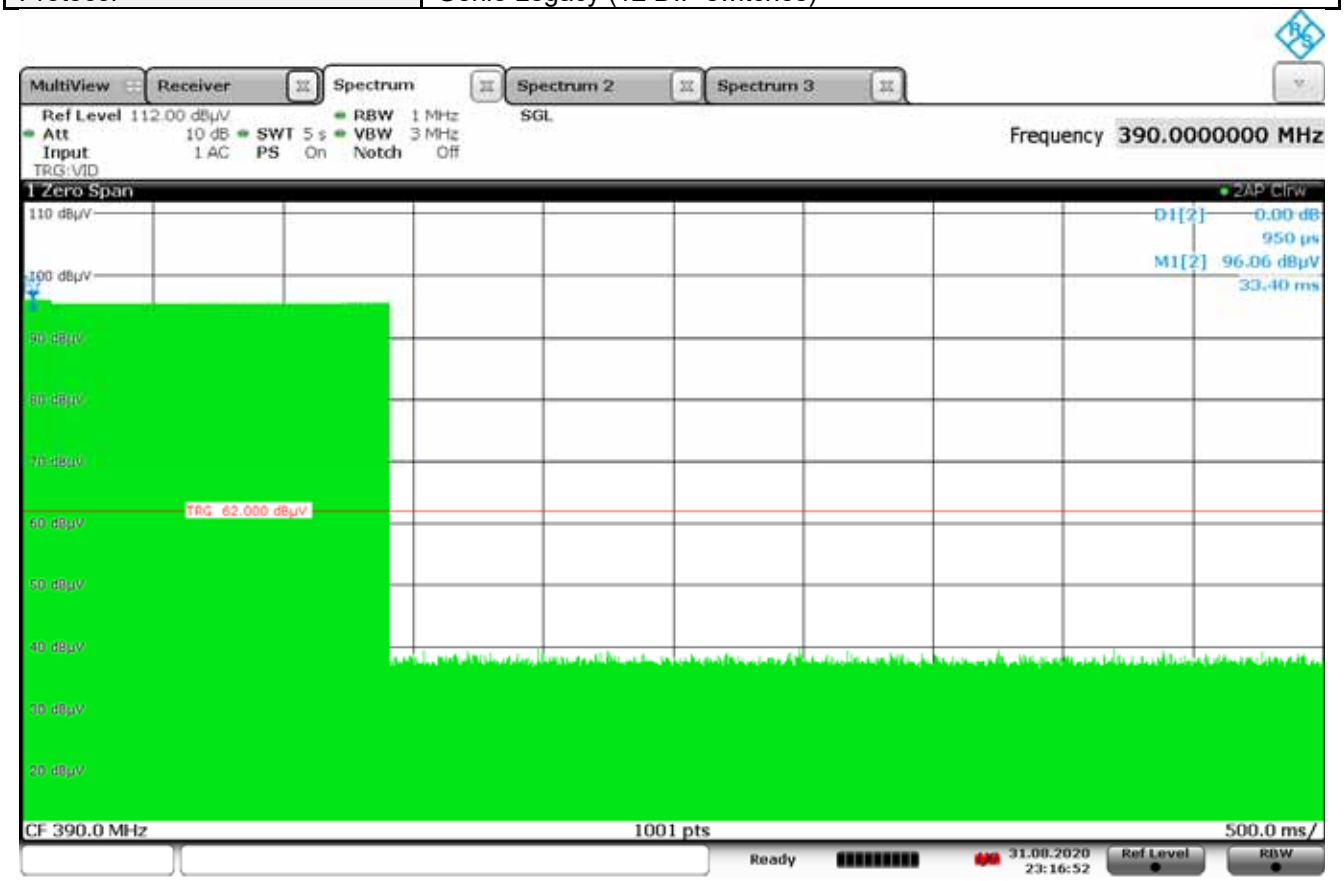
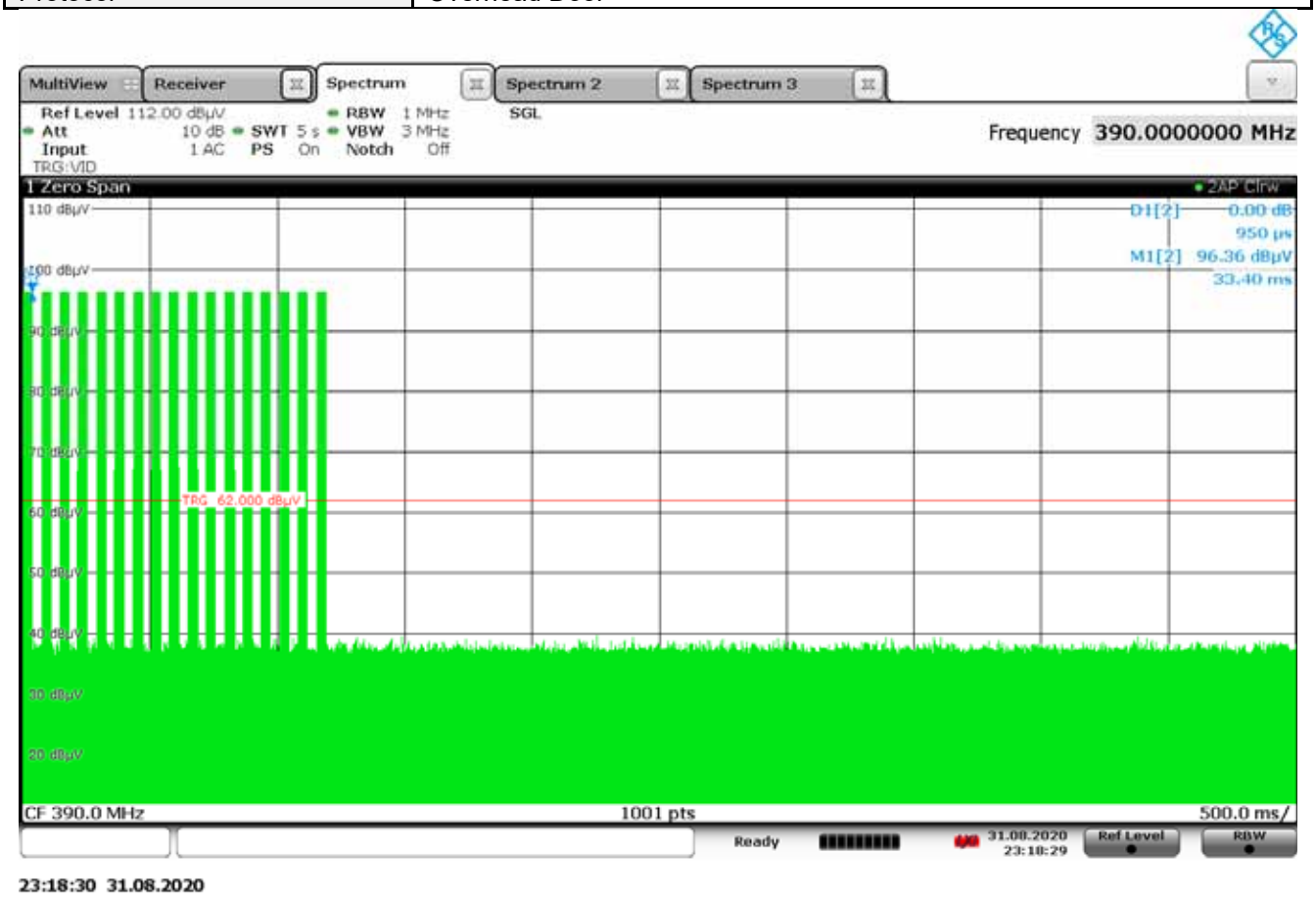
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Genie Legacy (9 DIP switches)



Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Genie Legacy (12 DIP switches)



Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Overhead Door



Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 433.92MHz
Protocol	FAAC

23:24:16 31.08.2020

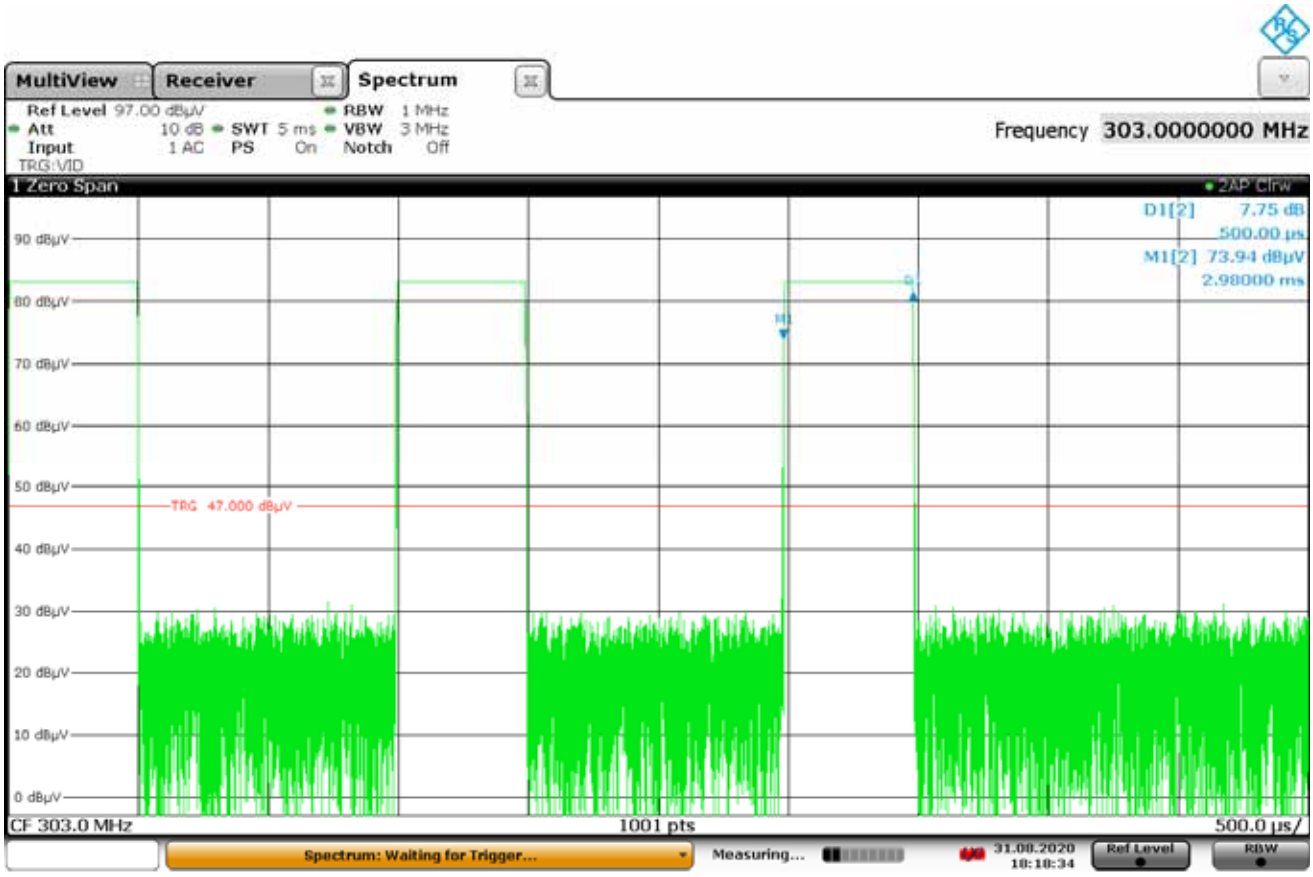
21. Duty Cycle Factor Measurements

Test Information	
Manufacturer	Genie Company
Product	Universal Wireless Wall Console
Model	UWWC
Mode	See Below
Test Date	August 31, 2020

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 following procedure was used to measure a representative sample: 1) With the transmitter set up to transmit for maximum pulse density, the time domain trace is displayed on the spectrum analyzer. 2) The pulse width is measured and a plot of this measurement is recorded. 3) Next the number of pulses in the word period is measured and a plot is recorded. 4) Finally the length of the word period is measured and a third plot is recorded. If the word period exceeds 100msec, the word period is limited to 100msec. 5) 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). 6) The duty cycle factor is computed from the duty cycle.

Mode	Frequency MHz	Manufacturer	Description	Duty Cycle	Field Strength Correction Factor (dB)
1	303	Guardian	Fixed Code	43.5%	-7.23
2	310	Sommer	Rolling Code	22.6%	-12.9
3	310	Stanley	Fixed Dip Switch	45%	-6.9
4	315	Chamberlain	Purple	44%	-7.13
5	315	Genie	IC1	21%	-13.55
6	315	Genie	IC2	24%	-12.4
7	315	Marantec	Fixed Code	26.32%	-11.59
8	318	Linear	Mega Code	17.00%	-15.39
9	372.5	Wayne Dalton	Rolling Code	23.8%	-12.47
10	372.5	Ryobi	Rolling Code	22.4%	-13.0
11	390	Chamberlain	Green	30.0%	-10.45
12	390	Chamberlain	Orange/Red	37.5%	-8.5
13	390	Chamberlain	Yellow	46.5%	-6.65
14	390	Chamberlain Legacy	9 DIP switches	36.0%	-8.7
15	390	Genie	IC1	21%	-13.55
16	390	Genie	IC2	24.0%	-12.4
17	390	Genie Legacy	9 DIP switches	50.0%	-6.00
18	390	Genie Legacy	12 position DIP switches	50.0%	-6.00
19	390	Overhead Door	9 DIP switches	47.0%	-6.56
19	433.92	FAAC	Rolling Code	52.5%	-6.65
21	303	Clone	Worst Case	100%	0.00
22	310	Clone	Worst Case	100%	0.00
23	315	Clone	Worst Case	100%	0.00
24	318	Clone	Worst Case	100%	0.00
25	372.5	Clone	Worst Case	100%	0.00
26	390	Clone	Worst Case	70.79%	-3.00
27	433.92	Clone	Worst Case	70.79%	-3.00

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 303MHz
Protocol	Guardian
Parameters	Short Pulse = 500usec
Notes	



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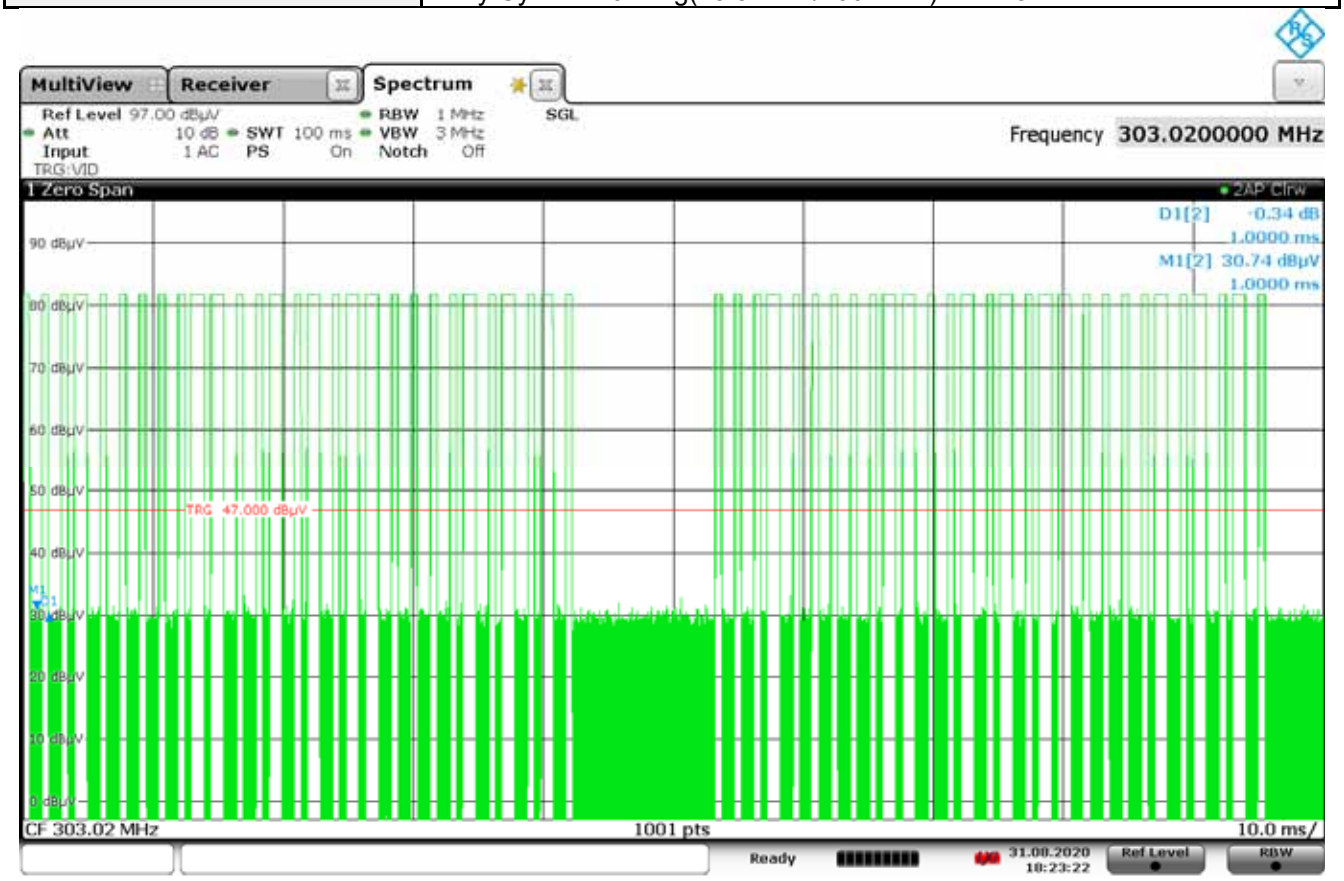
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 303MHz
Protocol	Guardian
Parameters	Wide Pulse = 1msec
Notes	

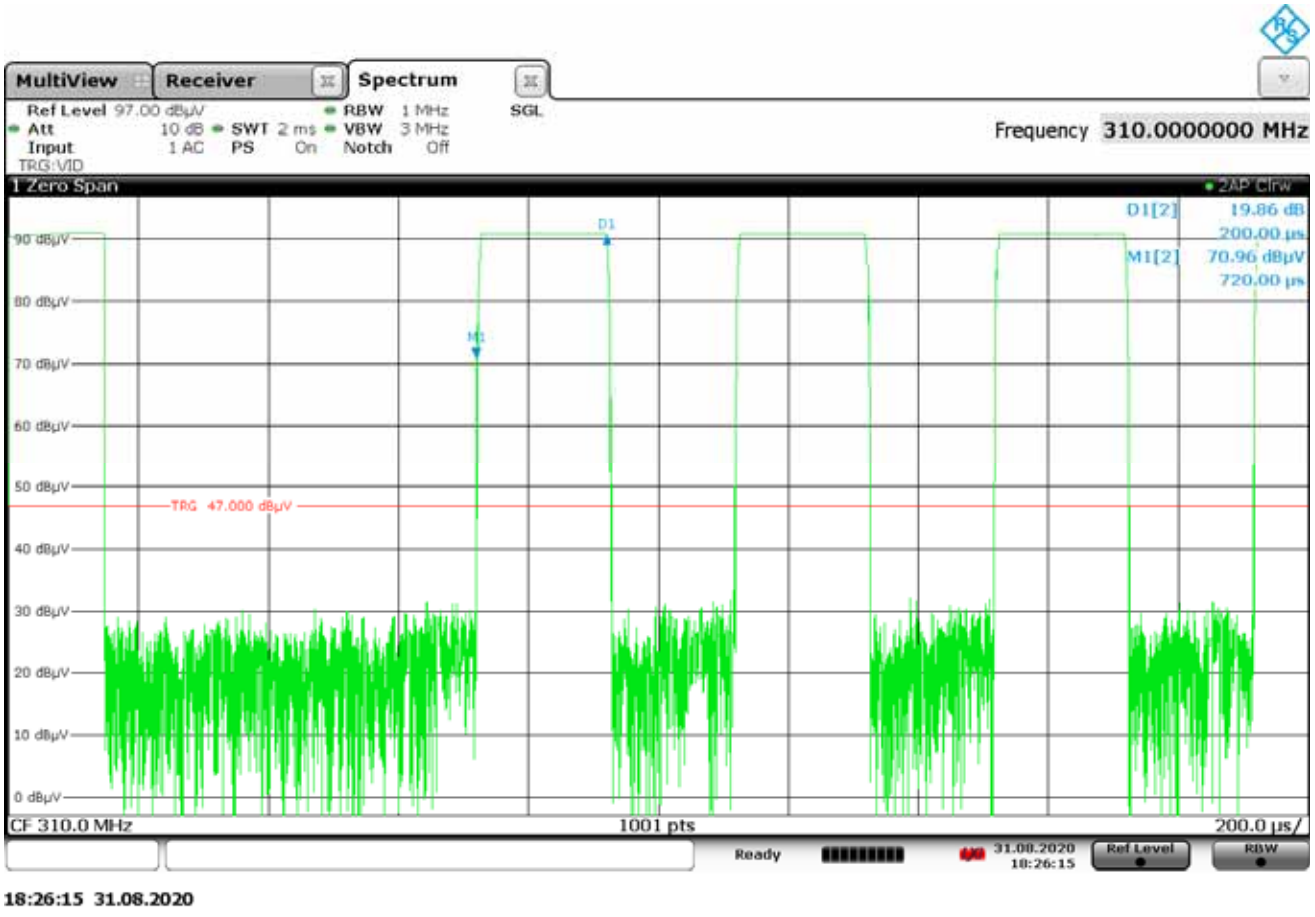
18:20:09 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 303MHz
Protocol	Guardian
Parameters	Duty Cycle calculation was based on 50% short pulses and 50% long pulses or 29 short pulse and 29 long pulses = 29 x 500usec + 29 x 1 msec = 43.5msec
Notes	Duty Cycle = 20 x log(43.5msec/100msec) = -7.23dB



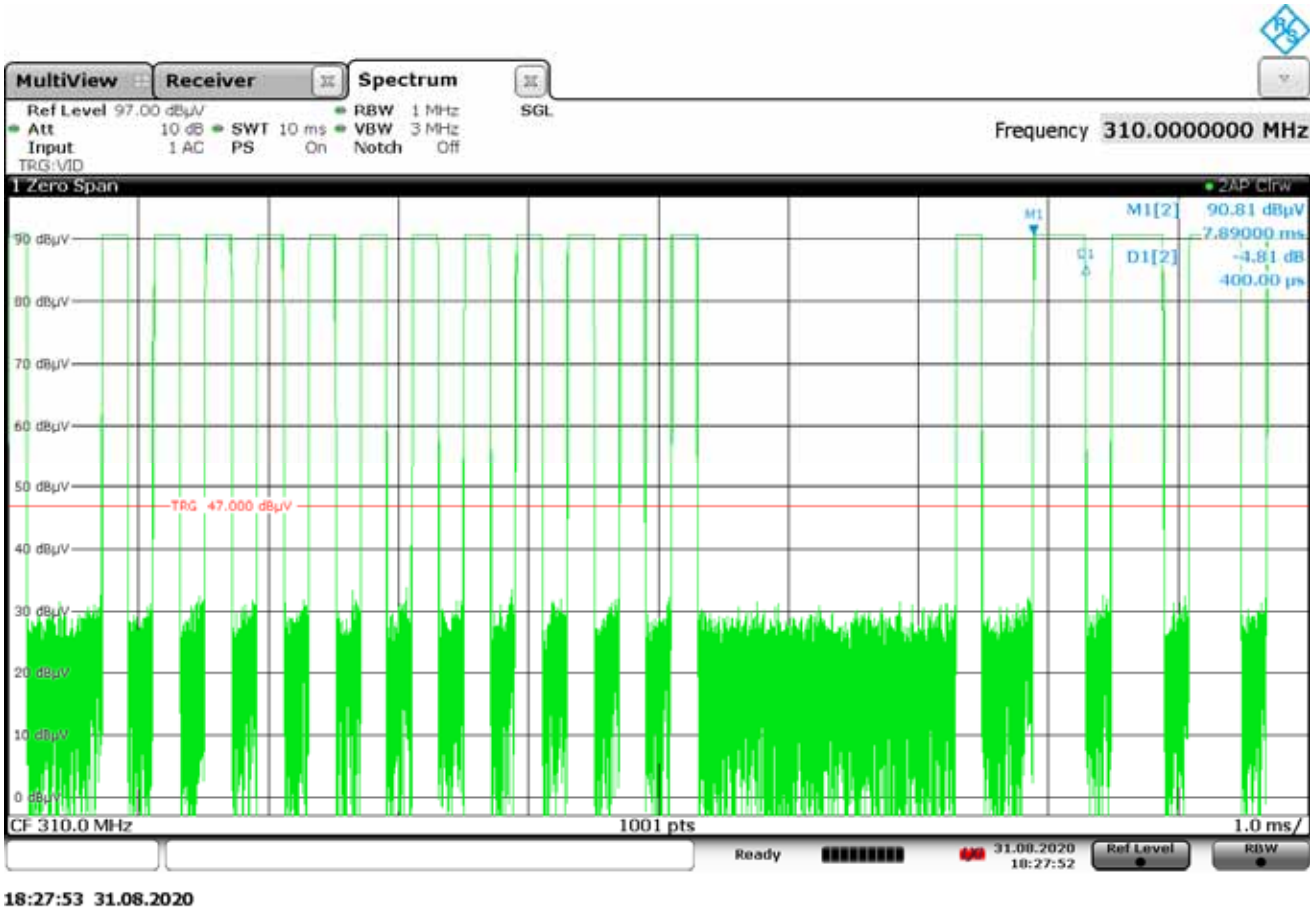
18:23:23 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 310MHz
Protocol	Sommer
Parameters	Narrow Pulse = 200usec
Notes	



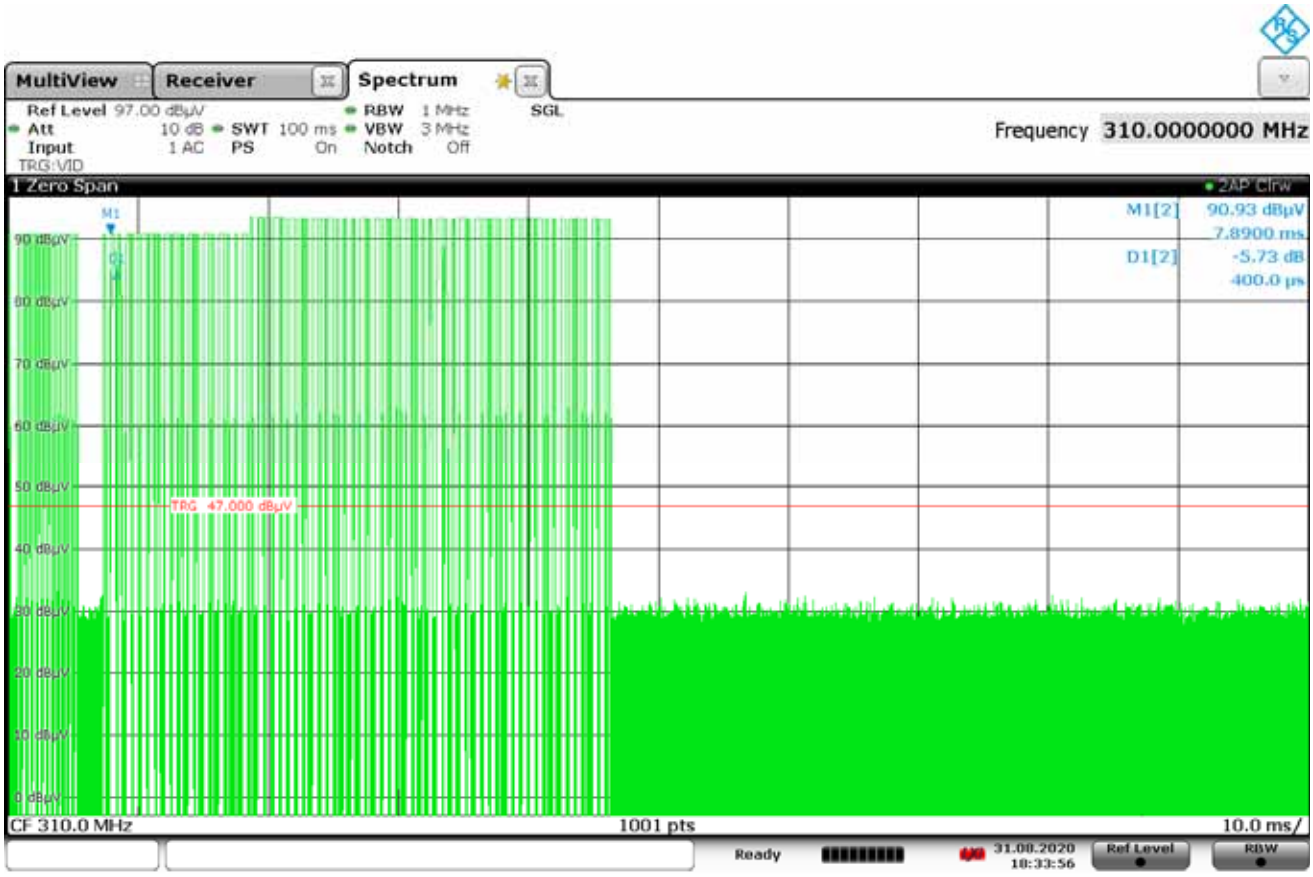
18:26:15 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 310MHz
Protocol	Sommer
Parameters	Wide Pulse = 400usec
Notes	



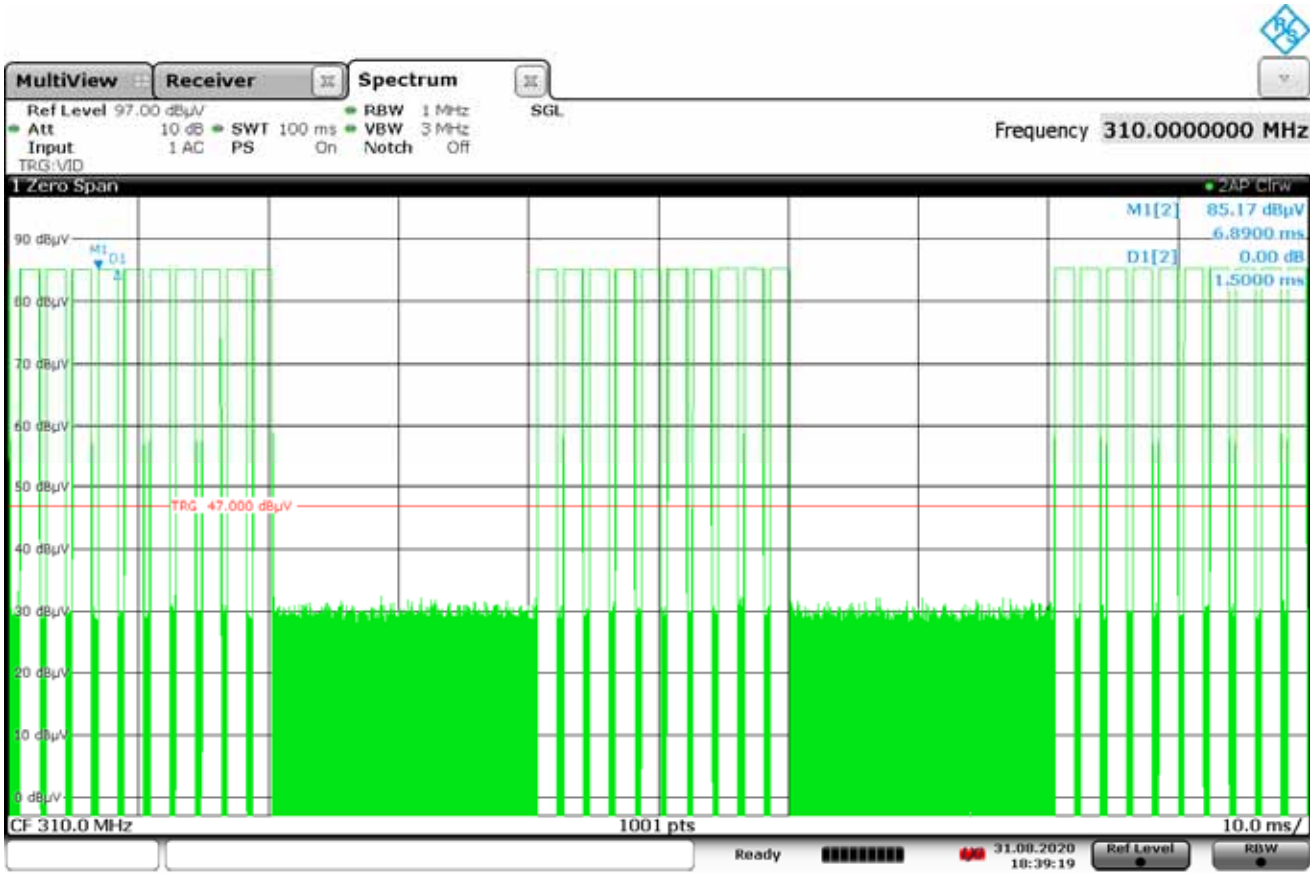
18:27:53 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 310MHz
Protocol	Sommer
Parameters	Duty Cycle: 41 short pulse and 36 long pulses = 41 x 200usec + 36 x 400usec = 22.6msec
Notes	Duty Cycle = 20 x log(22.6msec/100msec) = -12.9dB



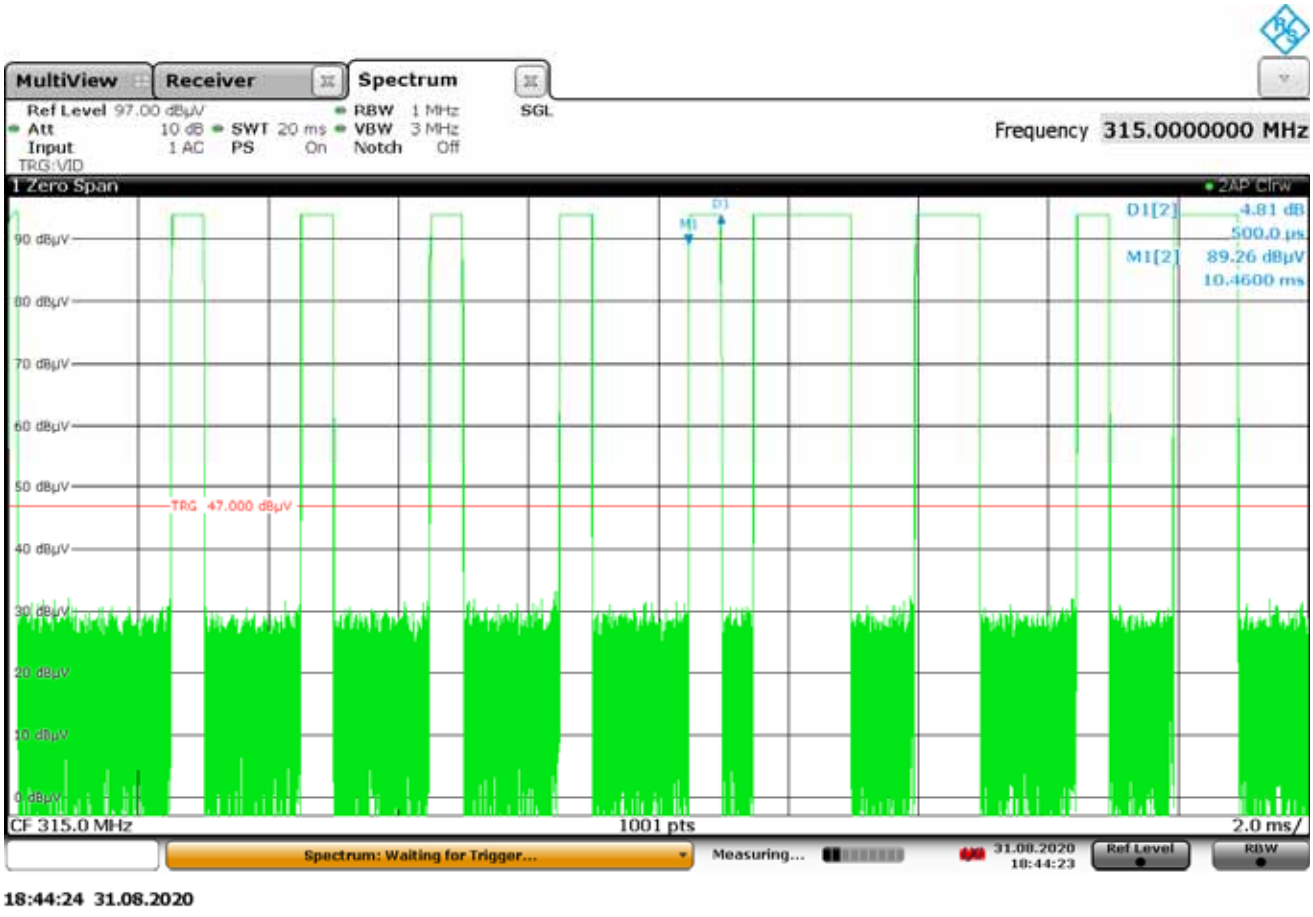
18:33:57 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 310MHz
Protocol	Stanley
Parameters	Duty Cycle: 30 pulses x 1.5msec = 45msec
Notes	Duty Cycle = 20 x log(45msec/100msec) = -6.9dB



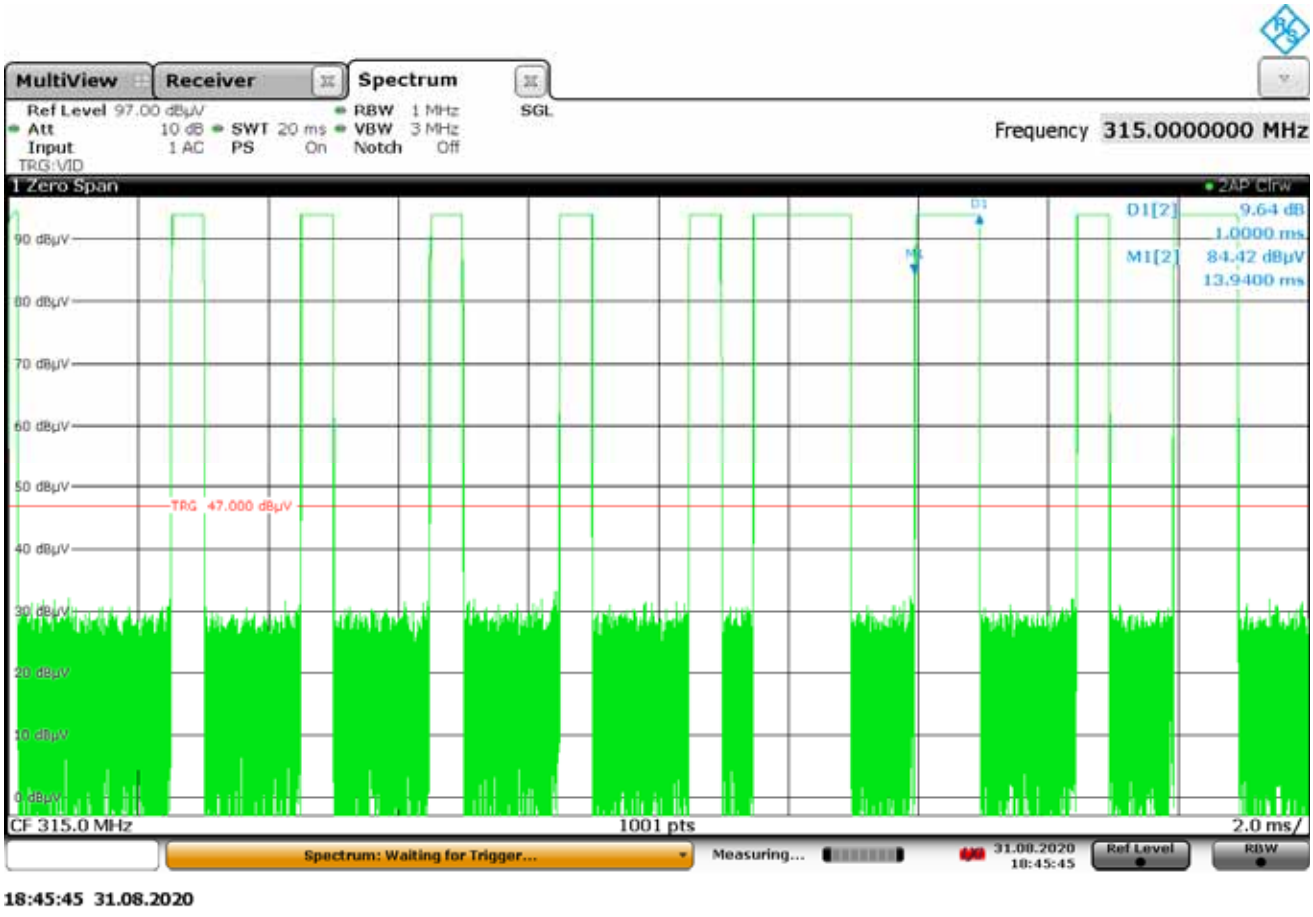
18:39:19 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 315MHz
Protocol	Chamberlain Purple
Parameters	Narrow Pulse = 500usec
Notes	



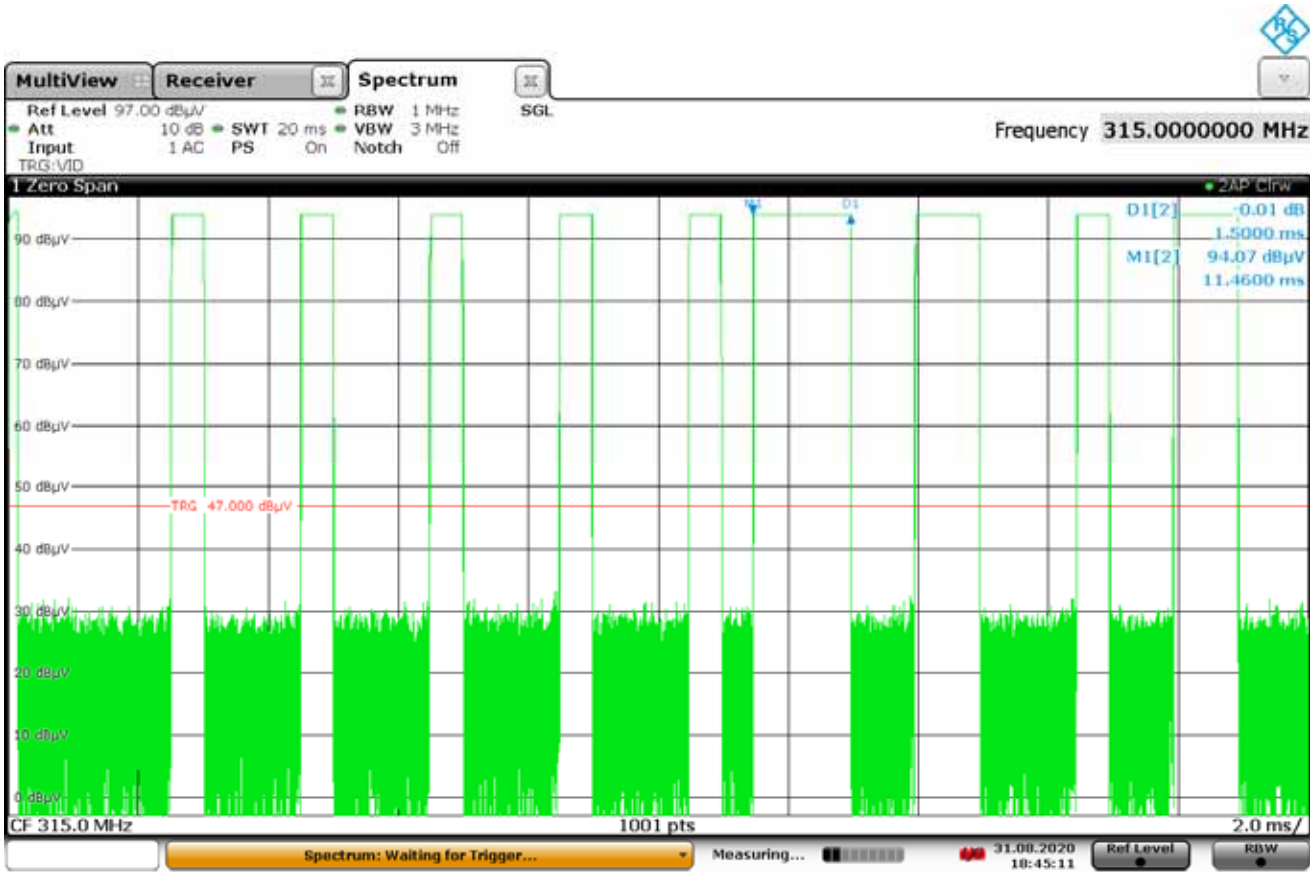
18:44:24 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 315MHz
Protocol	Chamberlain Purple
Parameters	Medium Pulse = 1msec
Notes	



18:45:45 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 315MHz
Protocol	Chamberlain Purple
Parameters	Wide Pulse = 1.5msec
Notes	

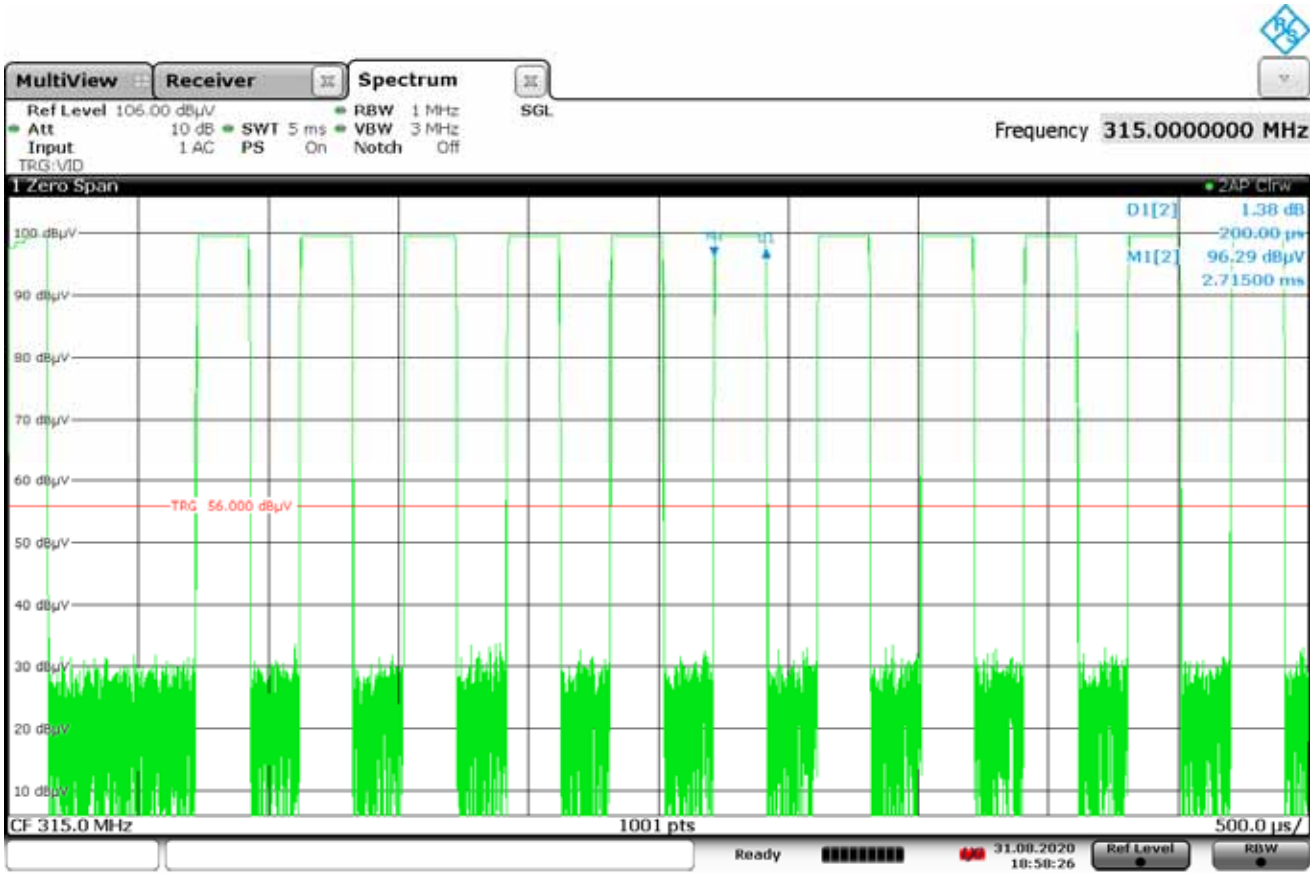


18:45:12 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 315MHz
Protocol	Chamberlain Purple
Parameters	Duty Cycle: 11 narrow pulses, 13 medium pulses, and 17 long pulses: 11 x 500usec + 13 x 1 msec + 17 x 1.5msec = 44msec
Notes	Duty Cycle = 20 x log(44msec/100msec) = -7.13dB

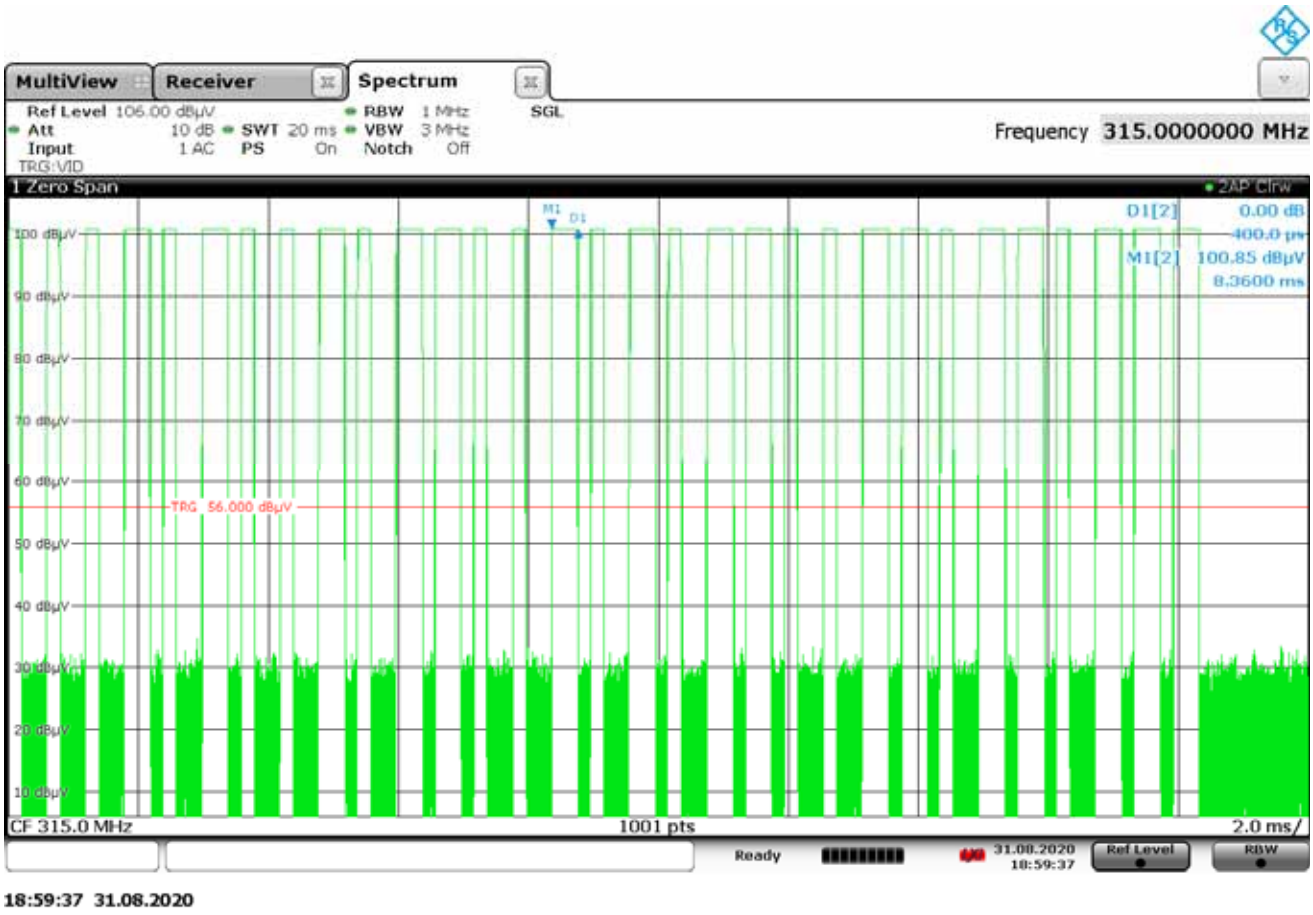
18:49:00 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
S/N	Label 1
Protocol	Genie IC1 (same duty cycle for Genie IC1 at 390MHz)
Parameters	Narrow Pulse = 200usec
Notes	



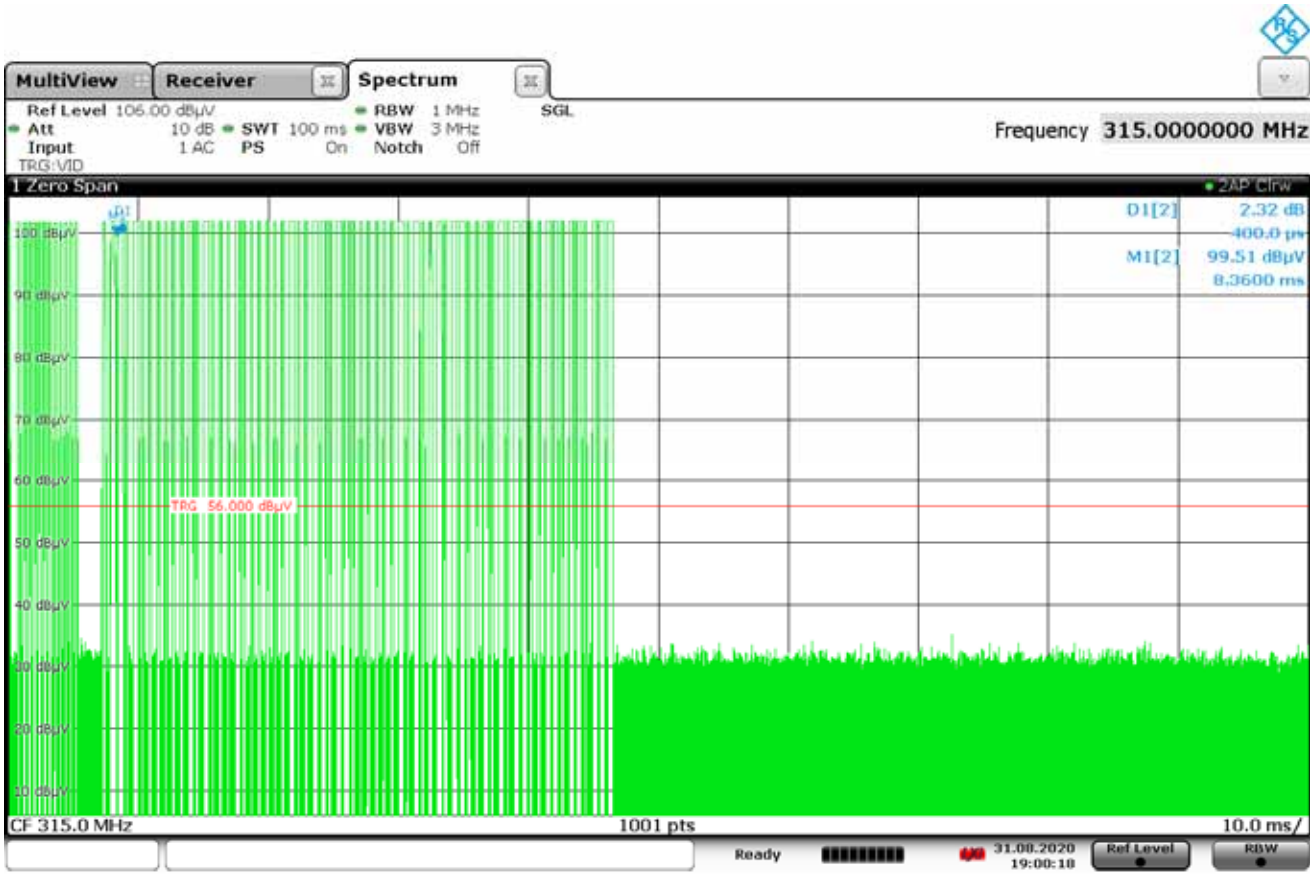
18:58:26 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 315MHz
Protocol	Genie IC1 (same duty cycle for Genie IC1 at 390MHz)
Parameters	Wide Pulse = 400usec
Notes	



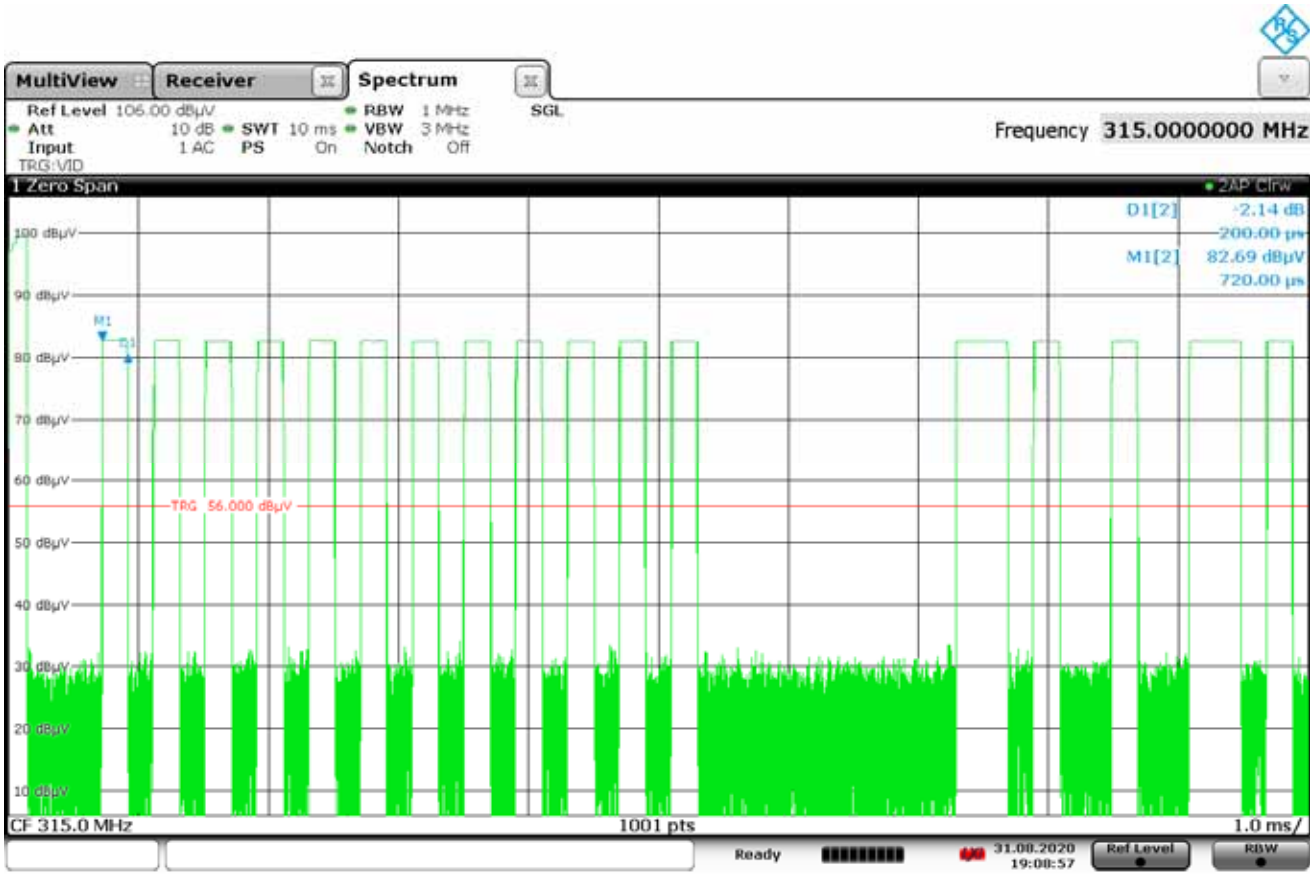
18:59:37 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 315MHz
Protocol	Genie IC1 (same duty cycle for Genie IC1 at 390MHz)
Parameters	Duty Cycle: 51 narrow pulses and 27 long pulses: 51 x 200usec + 27 x 400usec = 21msec
Notes	Duty Cycle = 20 x log(21msec/100msec) = -13.55dB



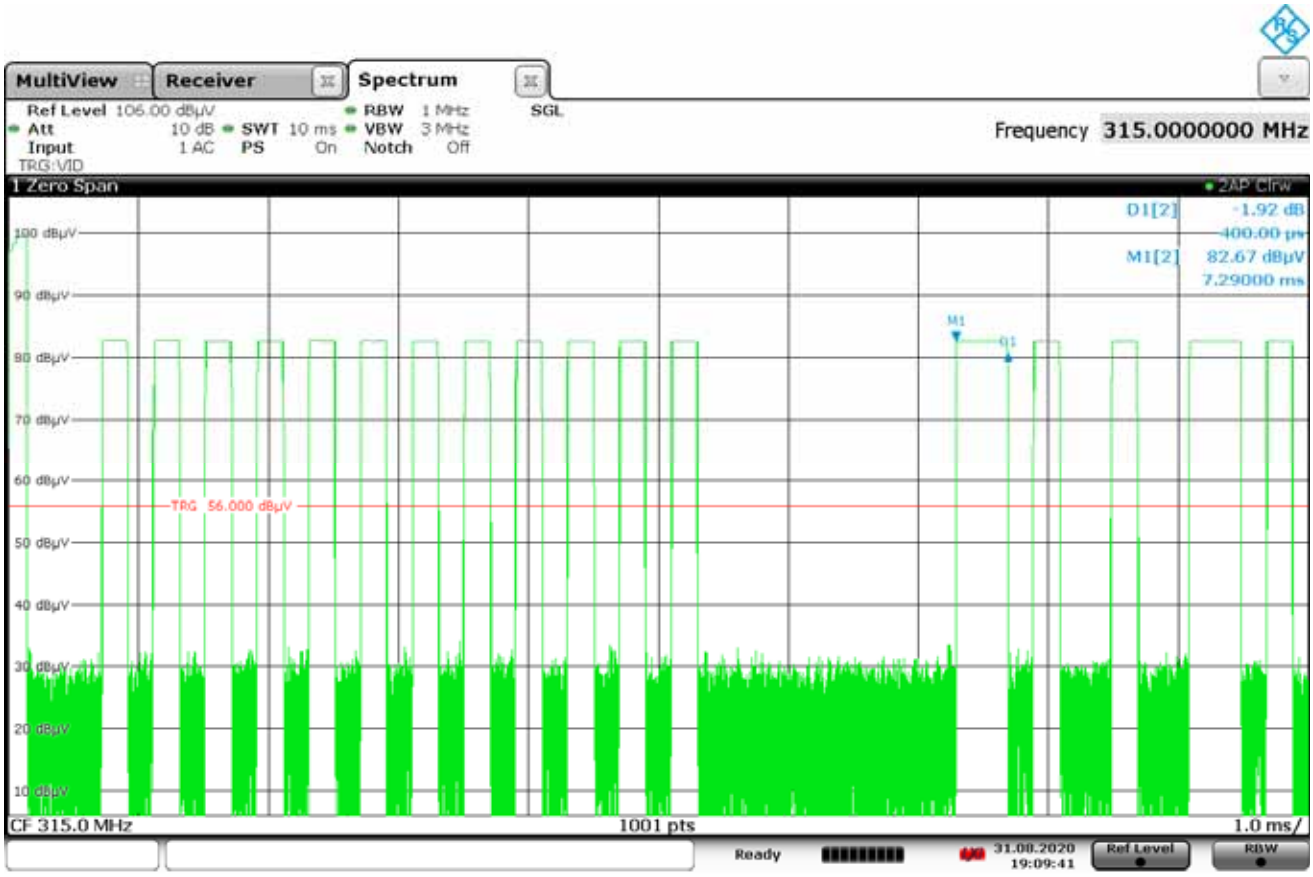
19:00:19 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 315MHz
Protocol	Genie IC2 (same duty cycle for Genie IC2 at 390MHz)
Parameters	Narrow Pulse = 200usec
Notes	



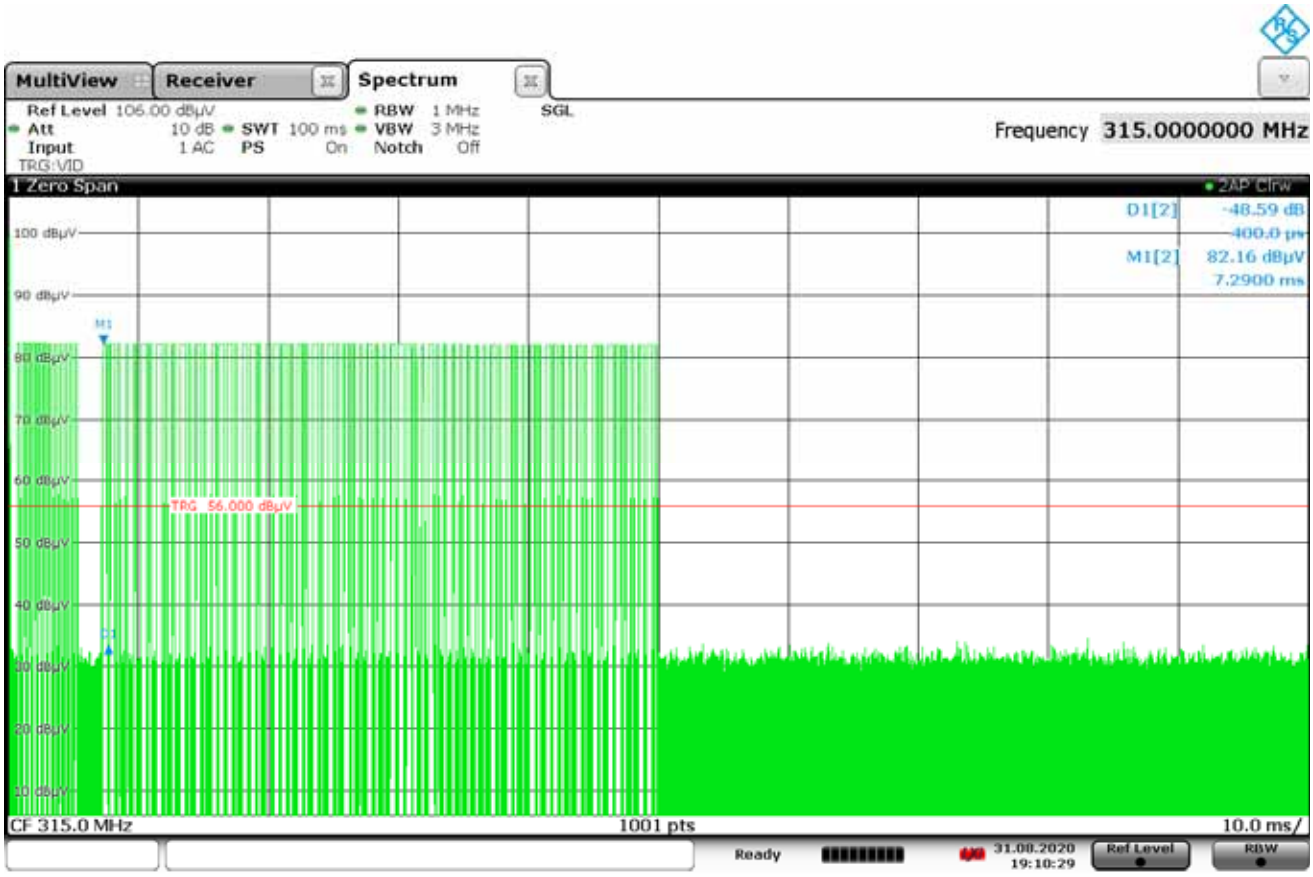
19:08:58 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 315MHz
Protocol	Genie IC2 (same duty cycle for Genie IC2 at 390MHz)
Parameters	Wide Pulse = 400usec
Notes	



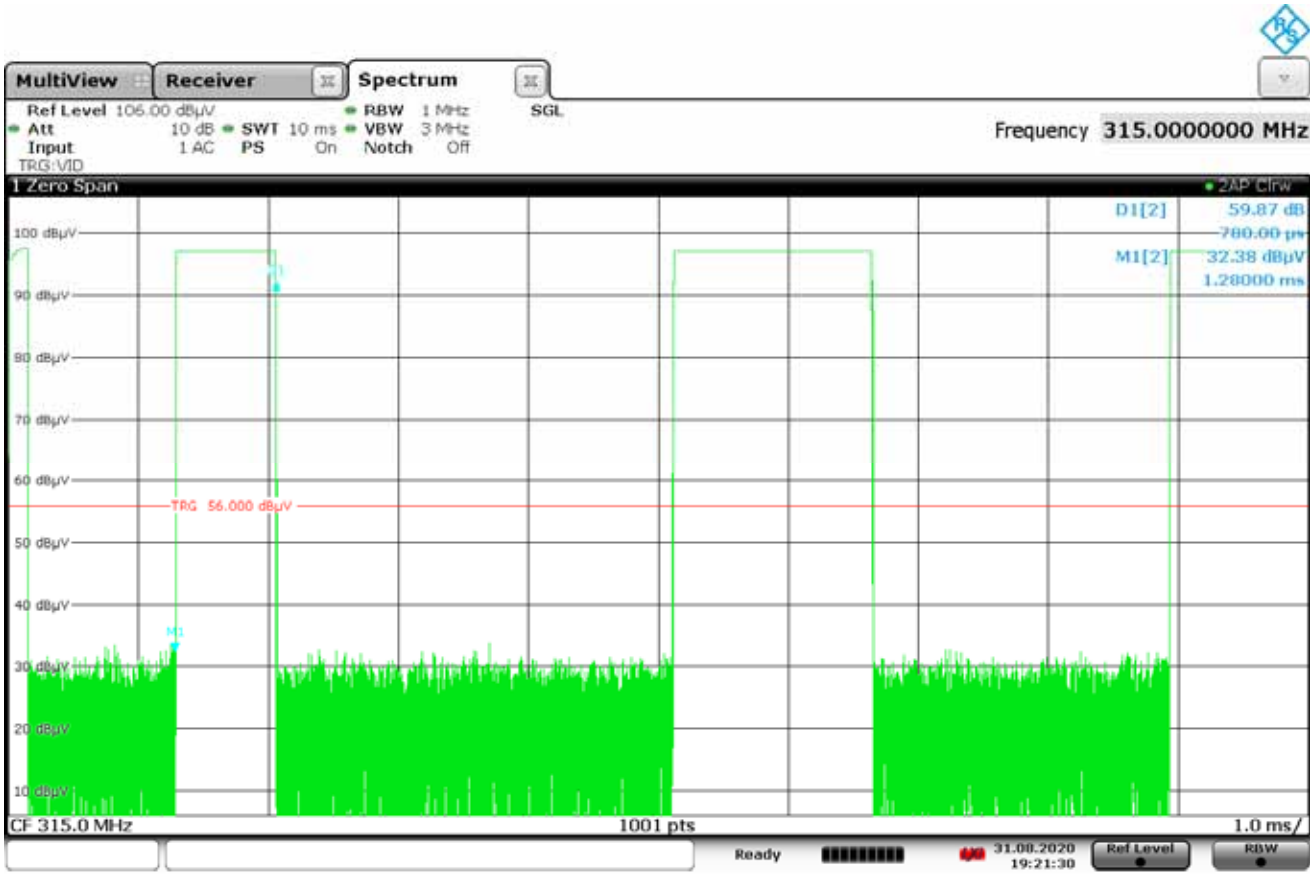
19:09:41 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 315MHz
Protocol	Genie IC2 (same duty cycle for Genie IC2 at 390MHz)
Parameters	Duty Cycle: 50 narrow pulses and 35 long pulses: 50 x 200usec + 35 x 400usec = 24msec
Notes	Duty Cycle = 20 x log(24msec/100msec) = -12.4dB



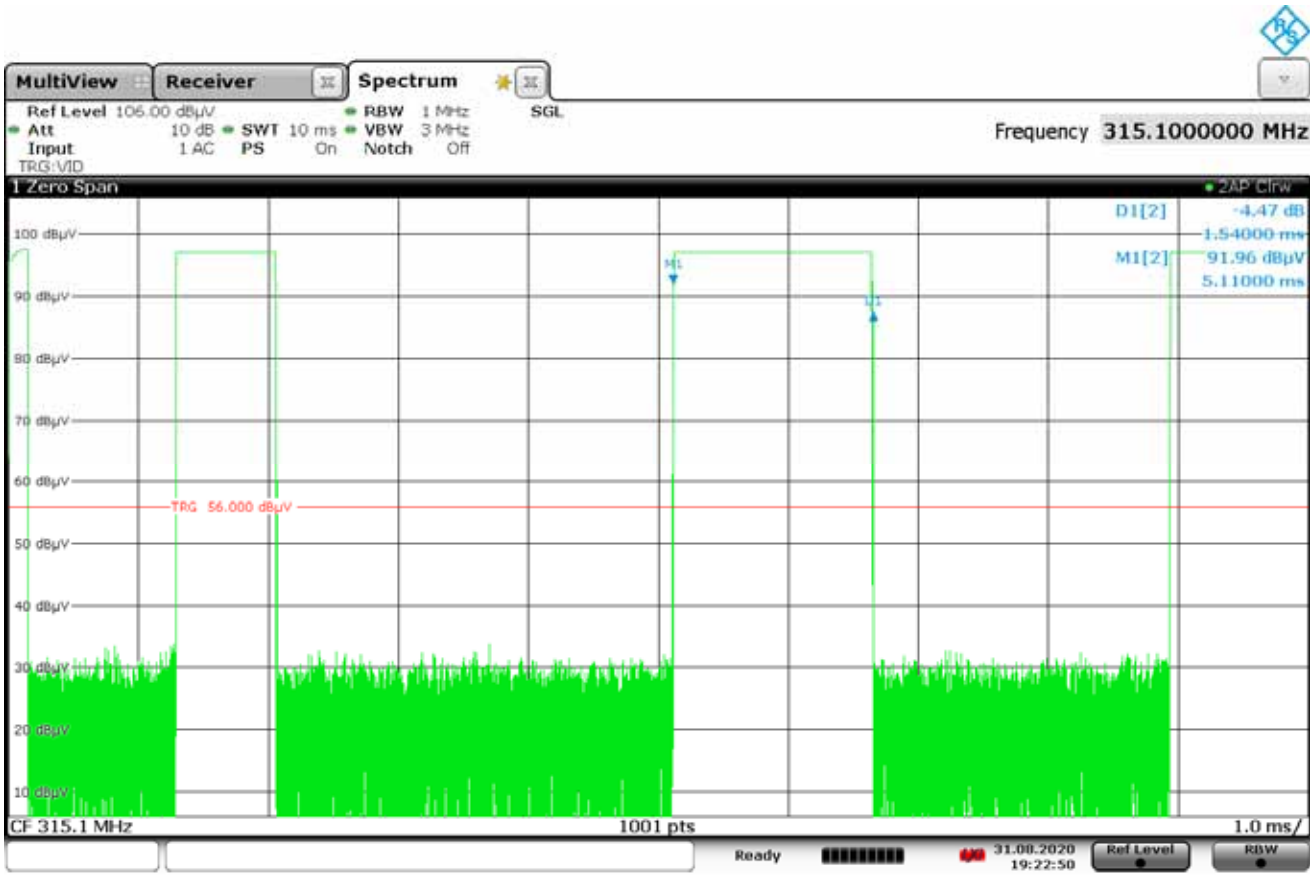
19:10:29 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 315MHz
Protocol	Marantec
Parameters	Narrow Pulse = 780usec
Notes	



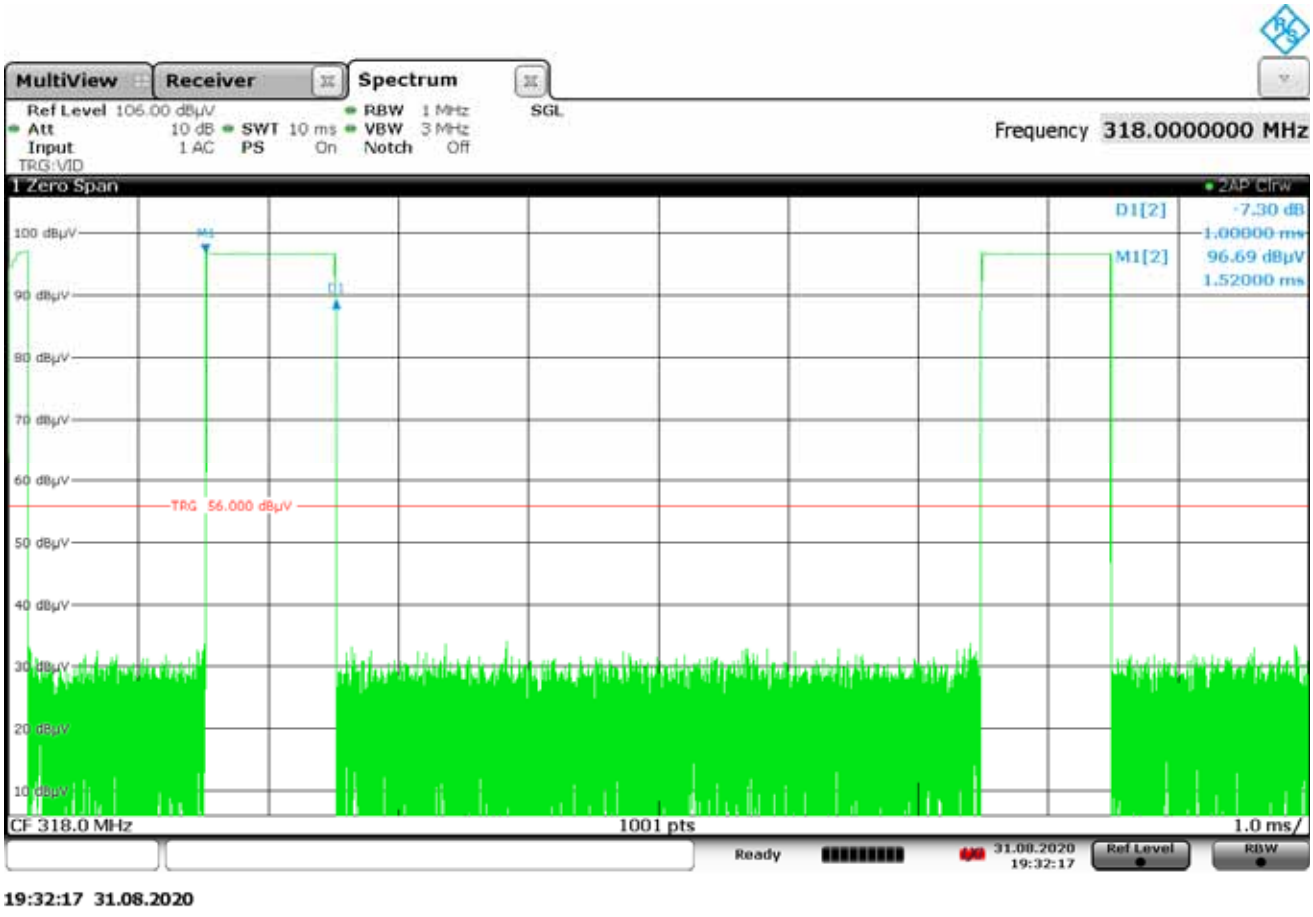
19:21:30 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 315MHz
Protocol	Marantec
Parameters	Wide Pulse = 1.54msec
Notes	Duty Cycle: 14 narrow pulses and 10 long pulses: 14 x 780usec + 10 x 1.54msec = 26.32msec Duty Cycle = 20 x log(26.32msec/100msec) = -11.59dB



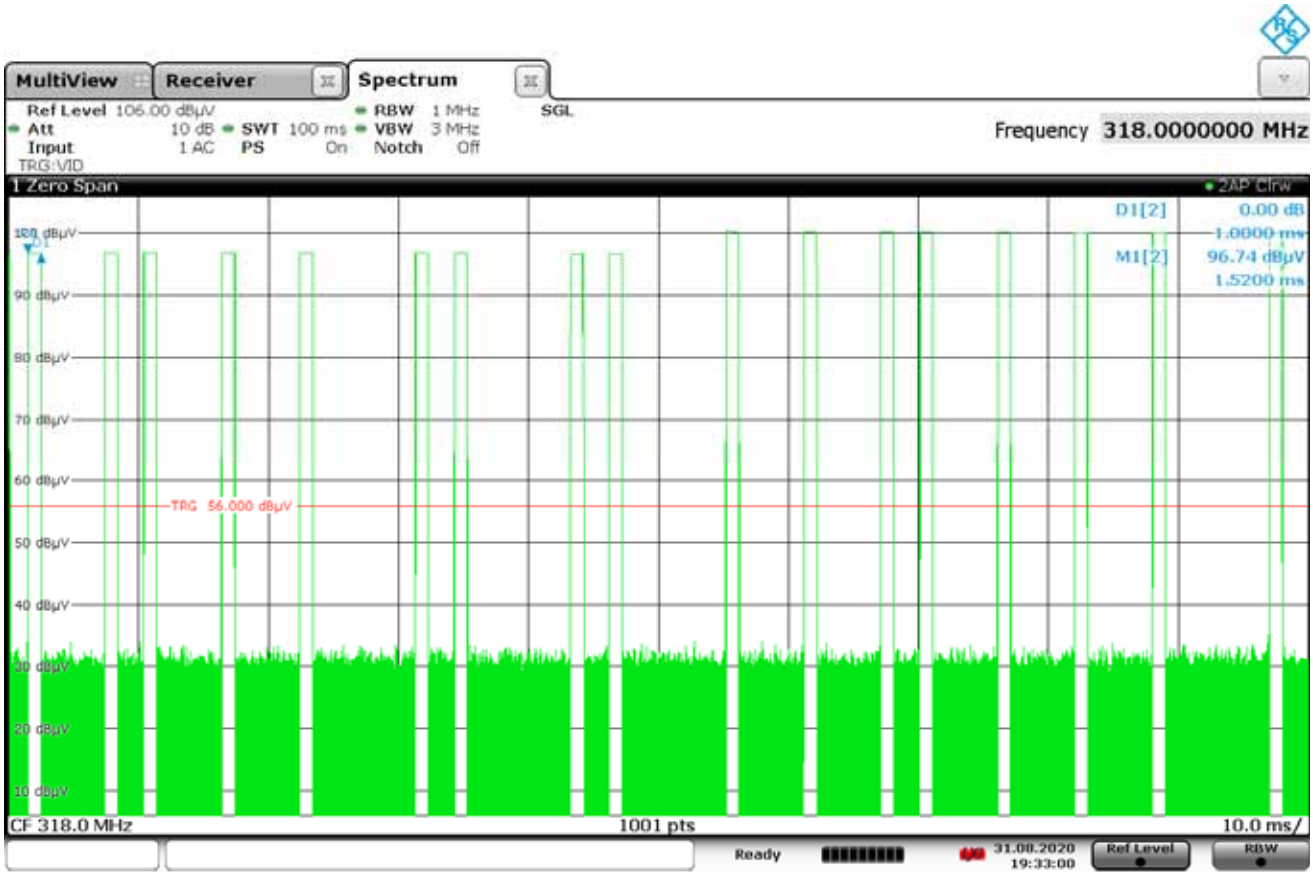
19:22:50 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 318MHz
Protocol	Linear
Parameters	Pulse = 1msec
Notes	



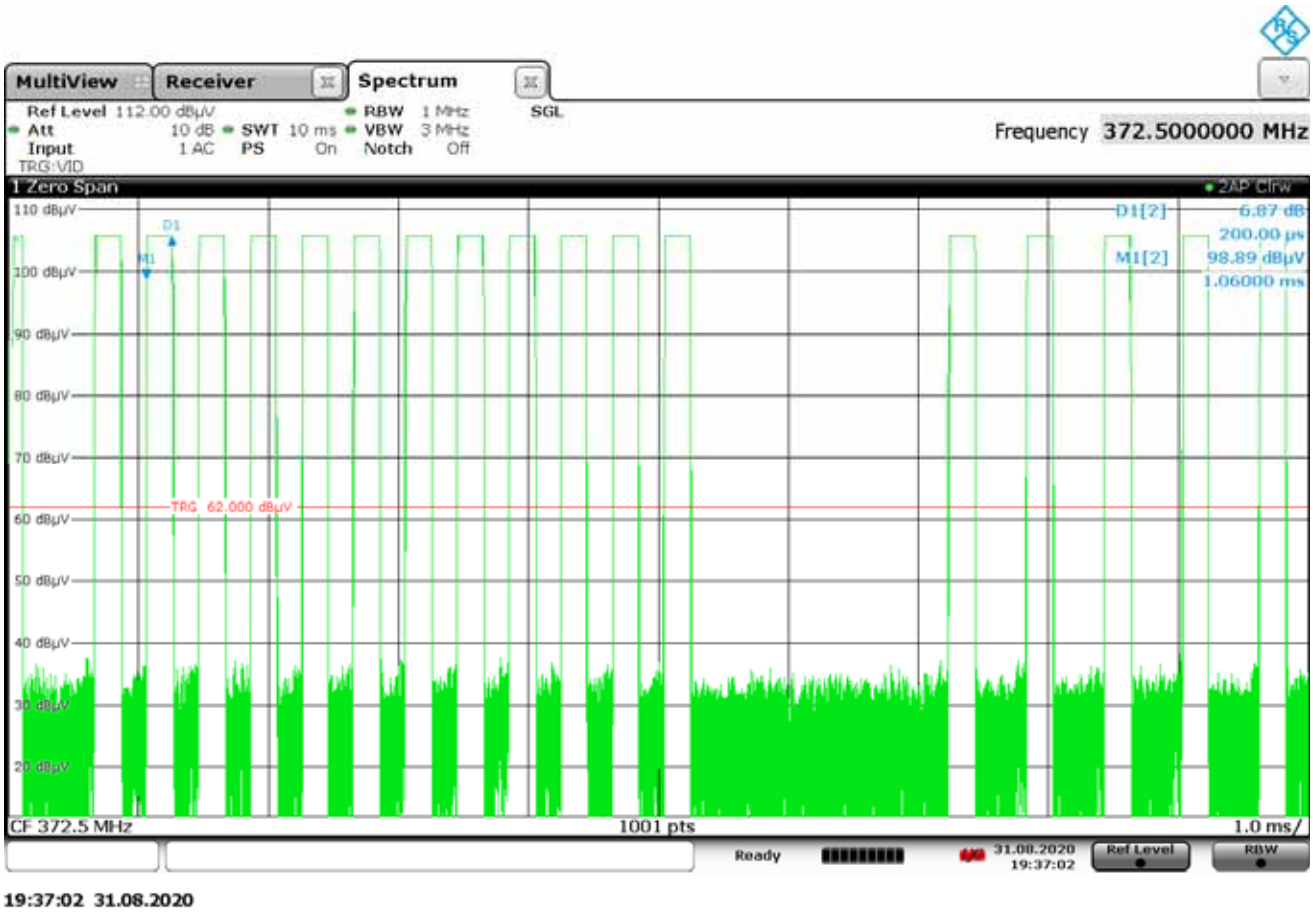
19:32:17 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 318MHz
Protocol	Linear
Parameters	Duty Cycle = 17 pulses x 1 msec = 17msec
Notes	Duty Cycle = 20 x log(17msec/100msec) = -15.39dB



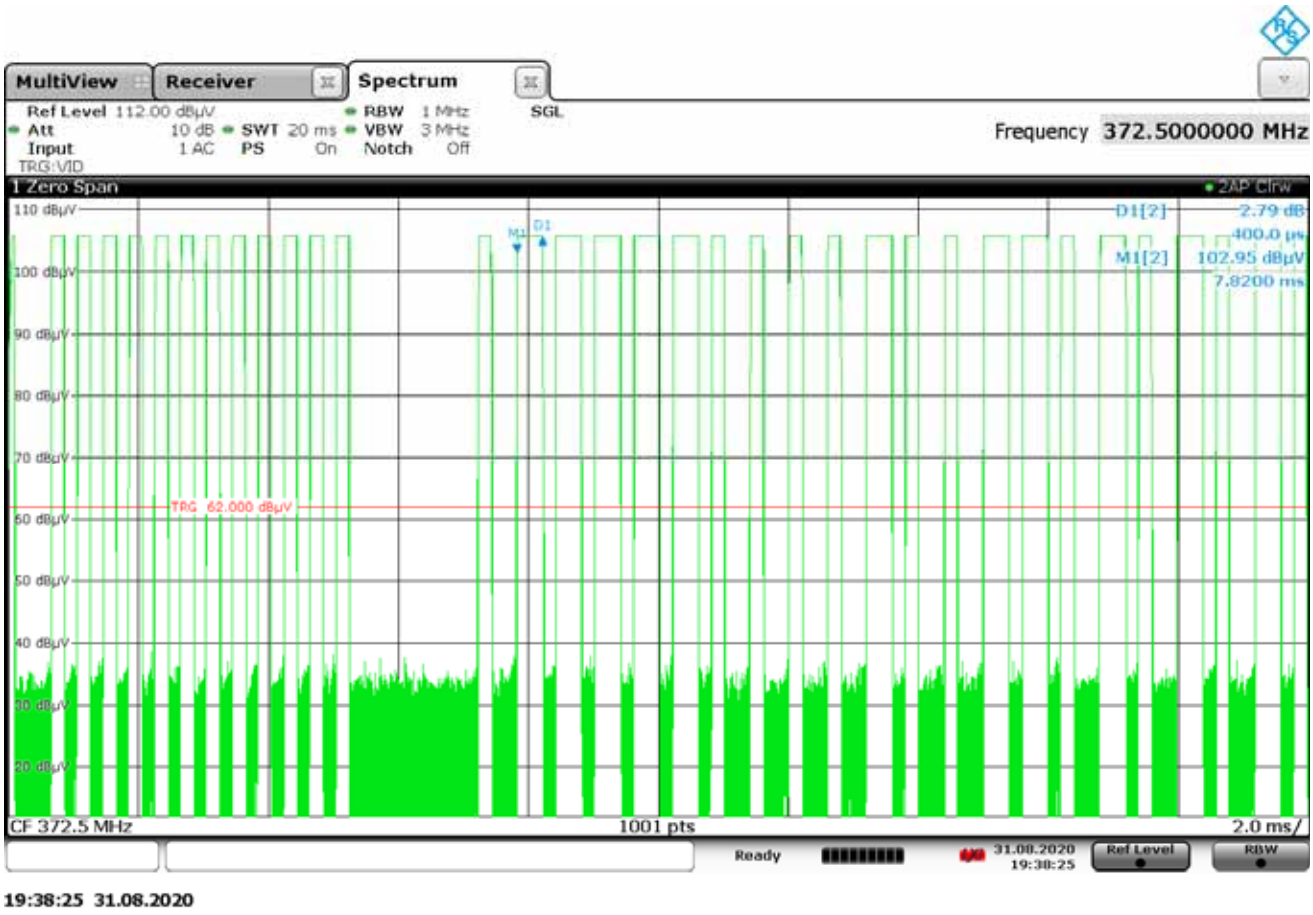
19:33:01 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 372.5MHz
Protocol	Wayne Dalton
Parameters	Narrow Pulse = 200usec
Notes	



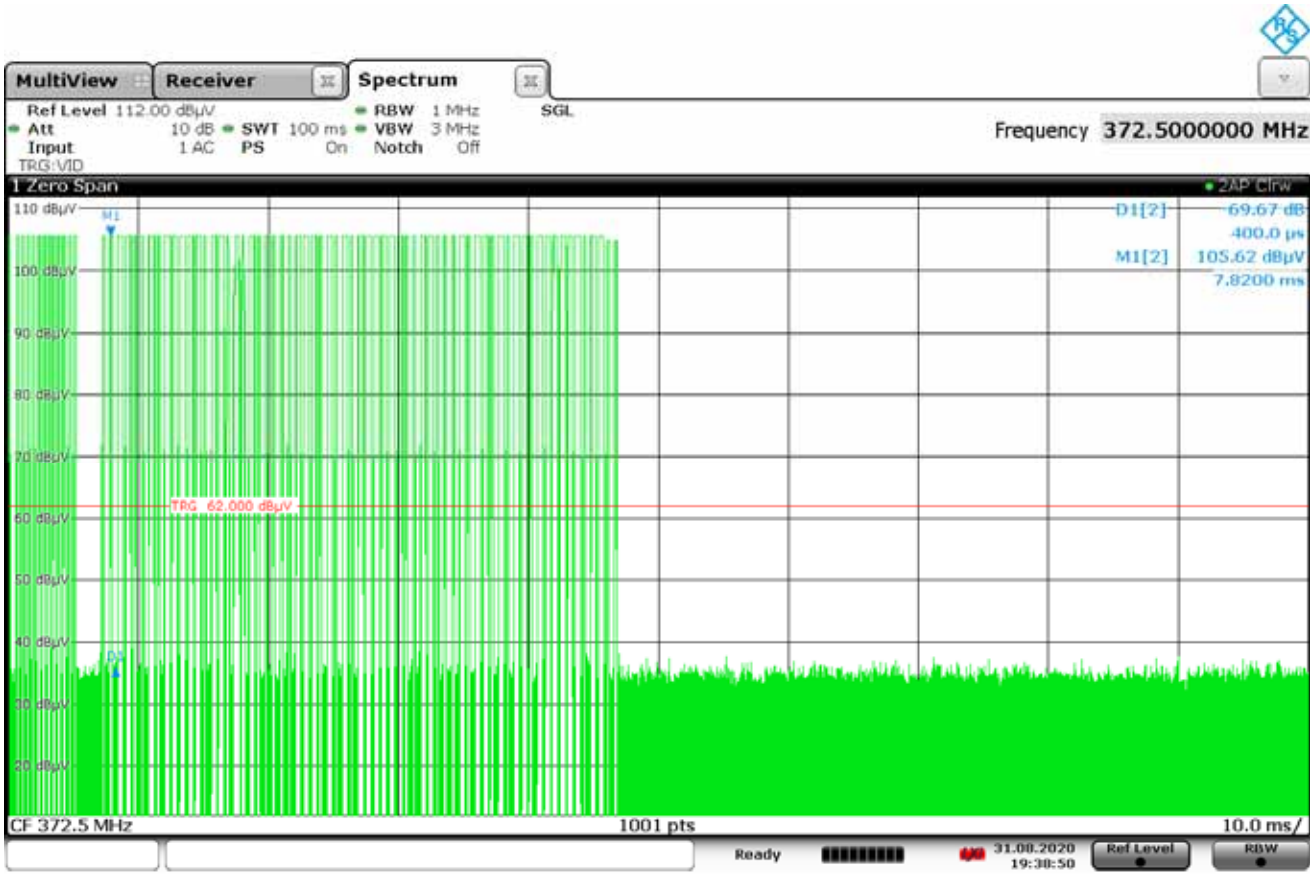
19:37:02 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 372.5MHz
Protocol	Wayne Dalton
Parameters	Wide Pulse = 400usec
Notes	



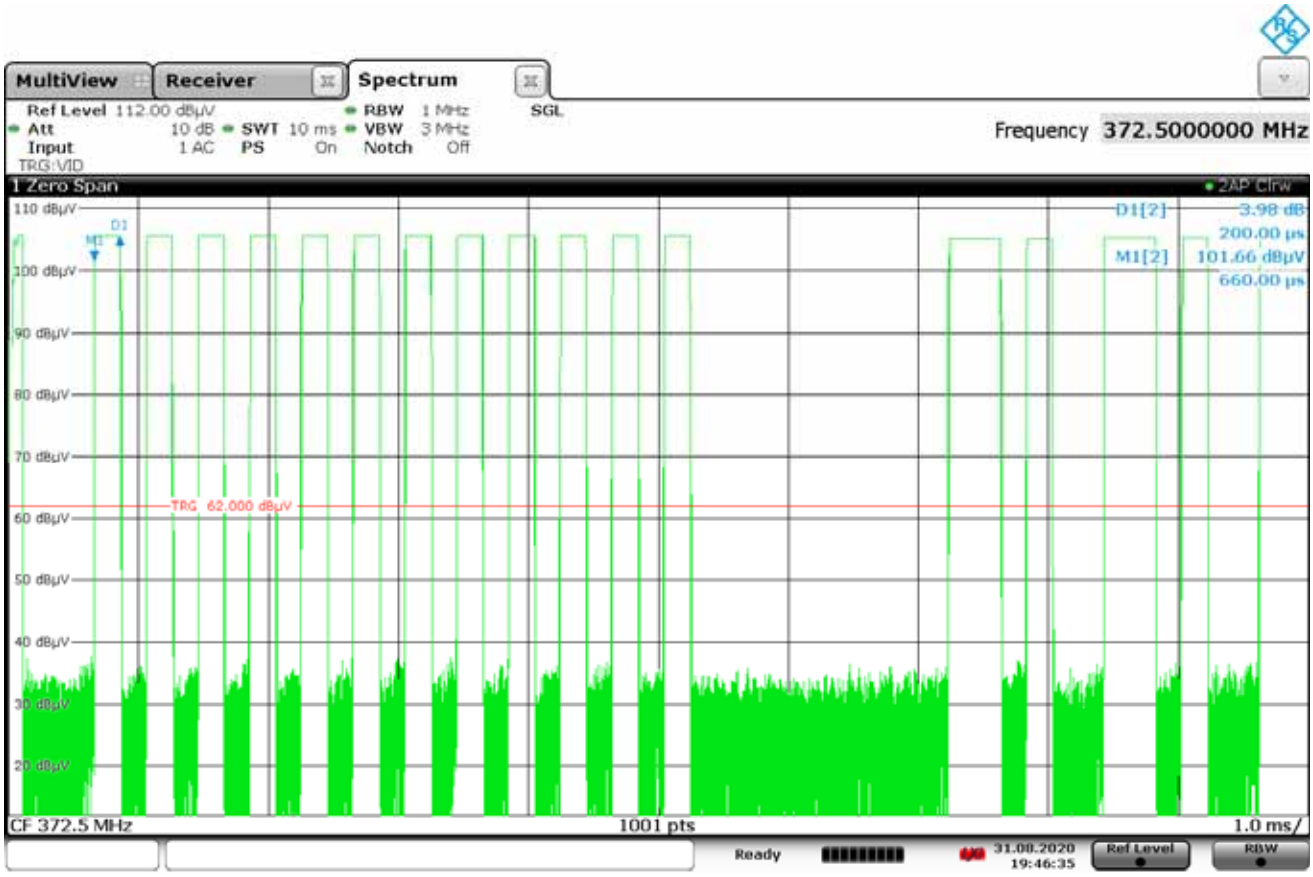
19:38:25 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 372.5MHz
Protocol	Wayne Dalton
Parameters	Duty Cycle = 41 short pulses and 39 long pulses: 41 x 200usec + 39 x 400usec = 23.8msec
Notes	Duty Cycle = 20 x log(23.8msec/100msec) = -12.47dB



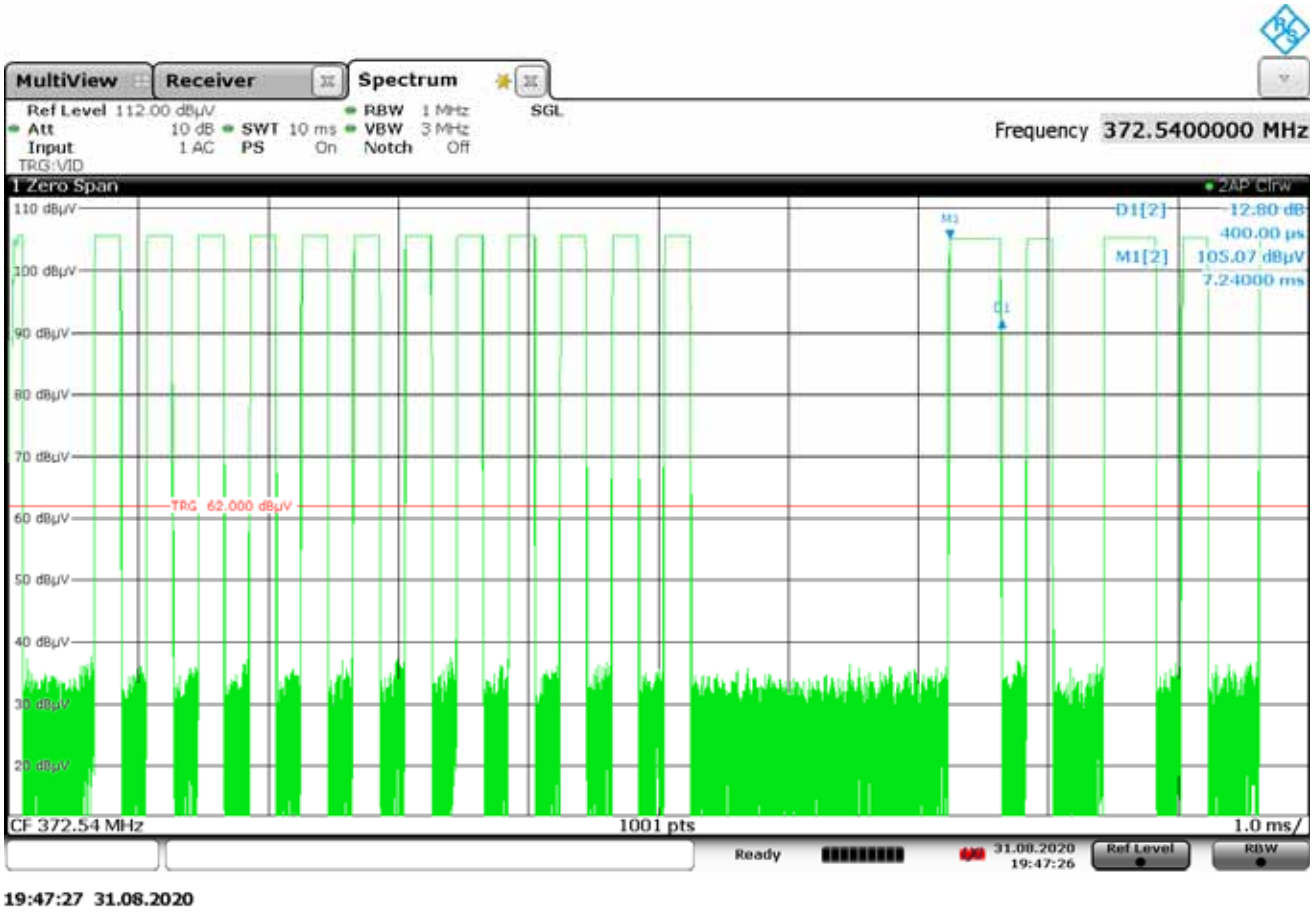
19:38:50 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 372.5MHz
Protocol	Ryobi
Parameters	Narrow Pulse is 200usec
Notes	



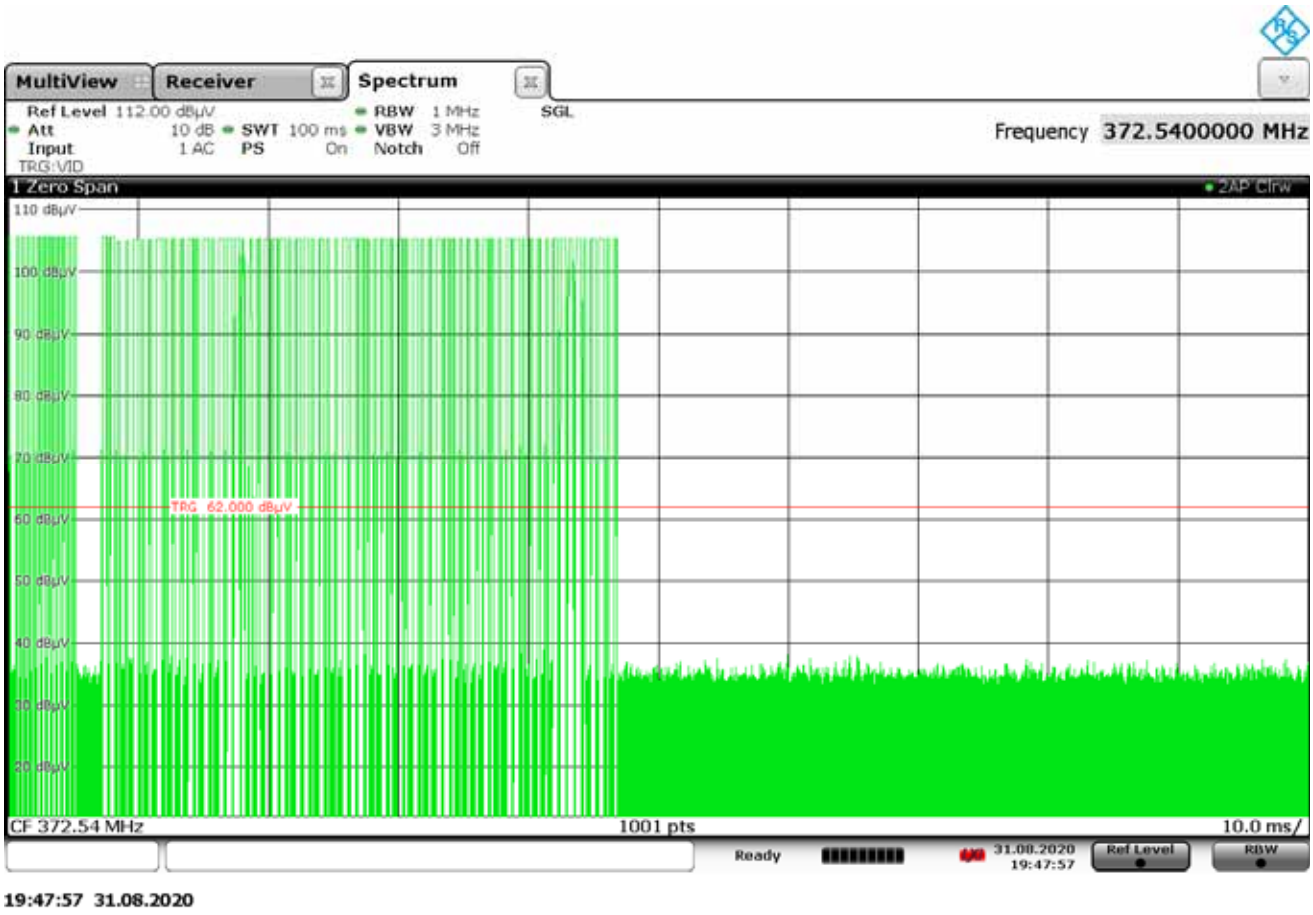
19:46:36 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 372.5MHz
Protocol	Ryobi
Parameters	Wide Pulse is 400usec
Notes	



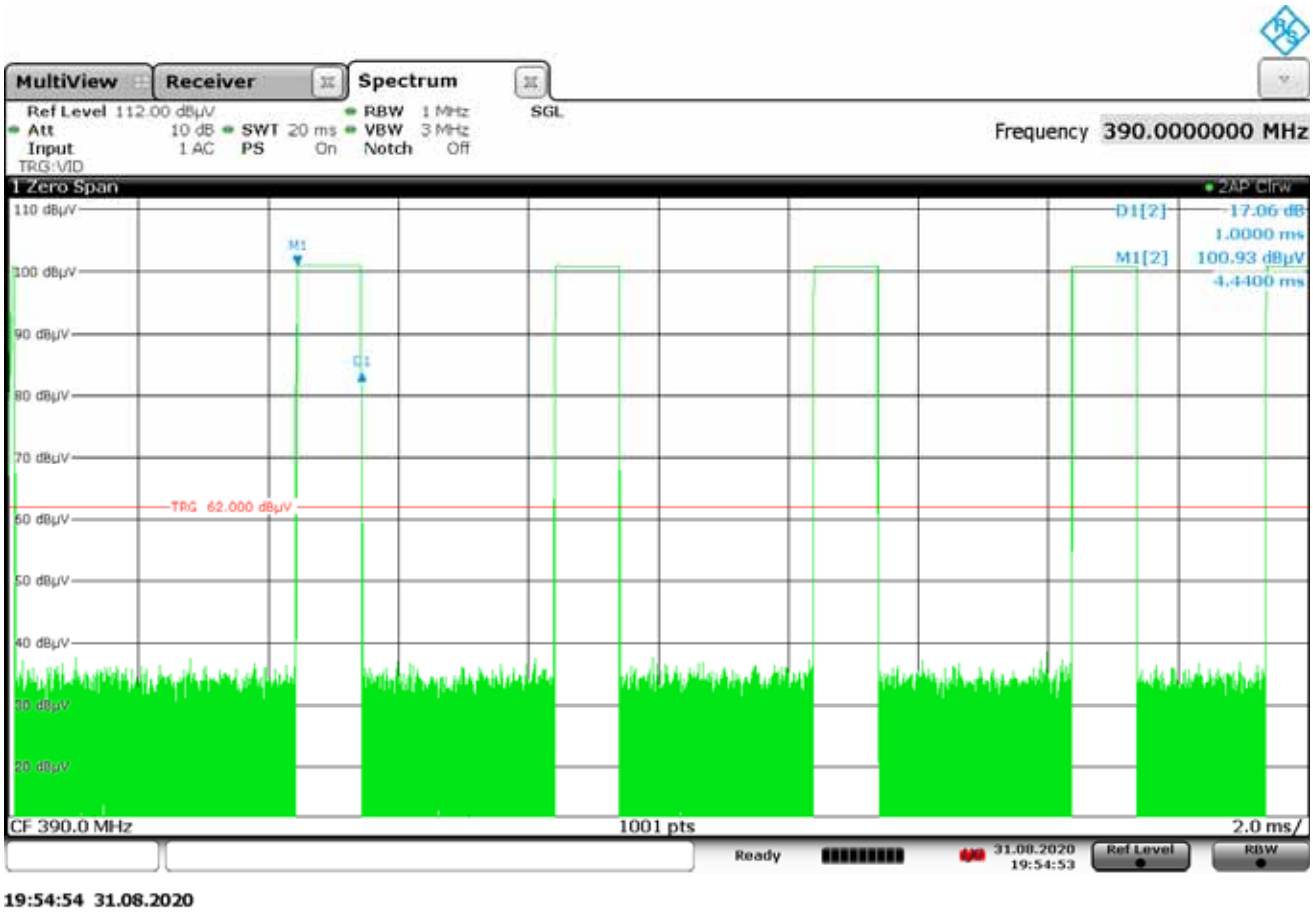
19:47:27 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 372.5MHz
Protocol	Ryobi
Parameters	Duty Cycle = 48 short pulses and 32 long pulses: 48 x 200usec + 32 x 400usec = 22.4msec
Notes	Duty Cycle = 20 x log(22.4msec/100msec) = -13.0dB



19:47:57 31.08.2020

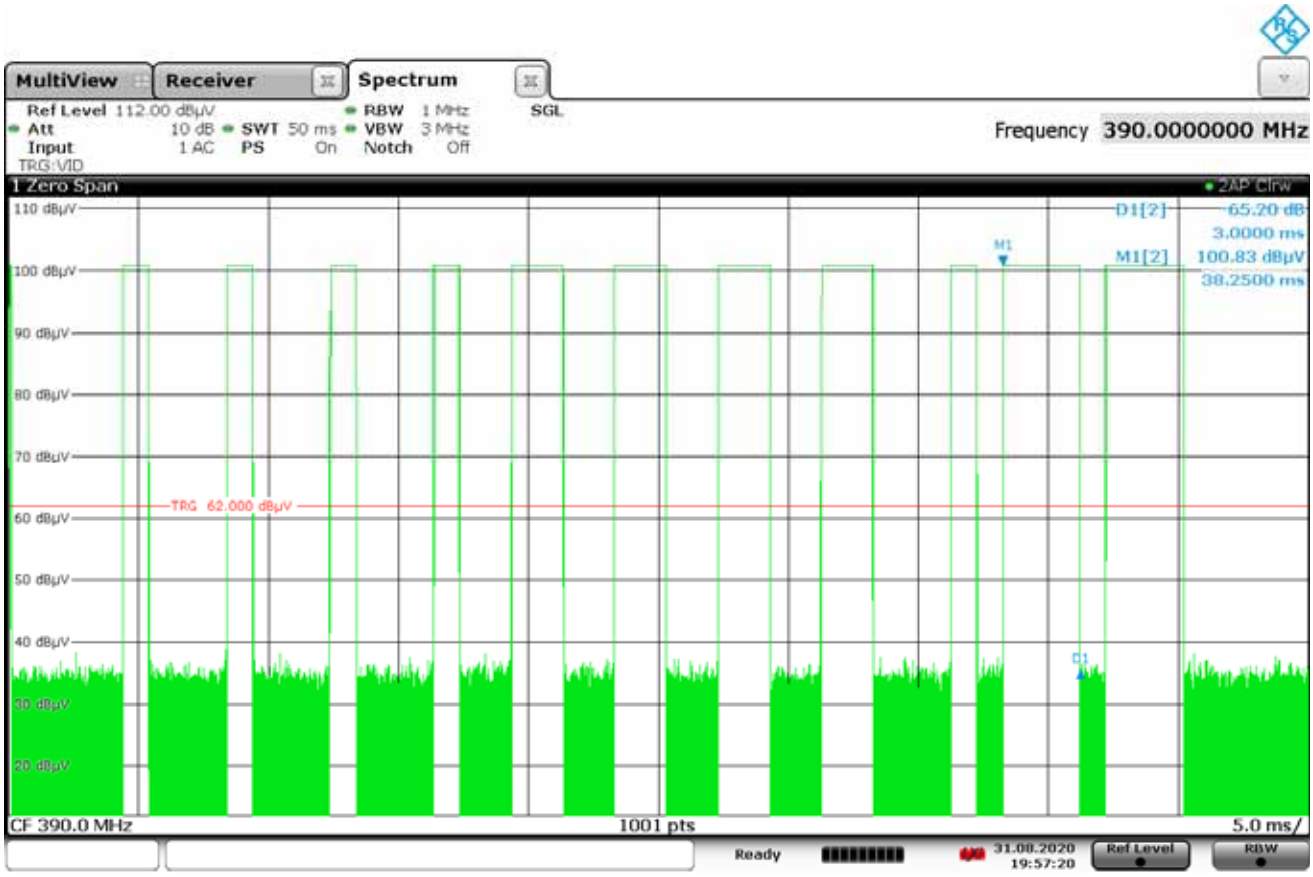
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Chamberlain Green
Parameters	Narrow Pulse = 1msec
Notes	



19:54:54 31.08.2020

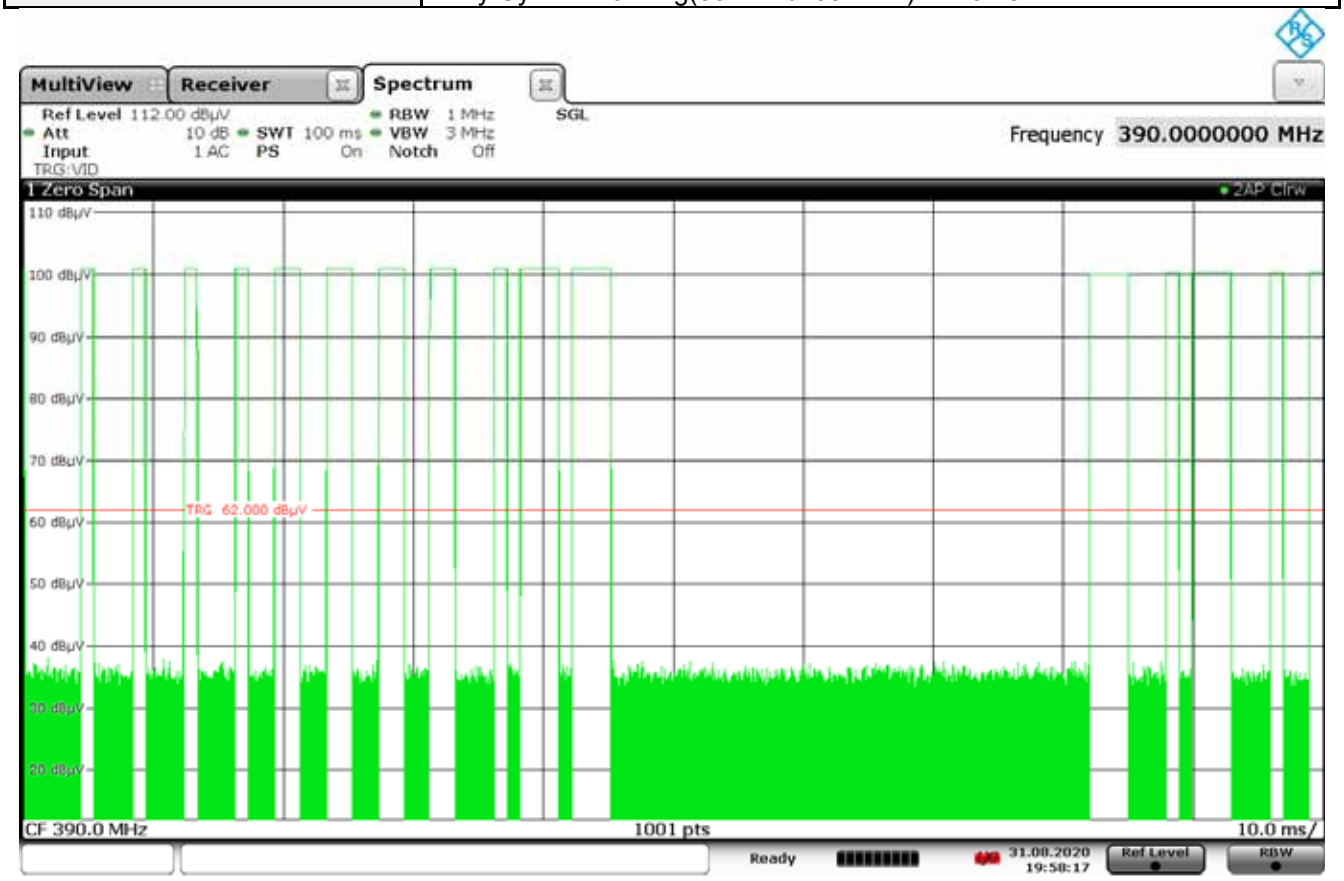
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Chamberlain Green
Parameters	Medium Pulse = 2 msec
Notes	

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Chamberlain Green
Parameters	Wide Pulse = 3 msec
Notes	



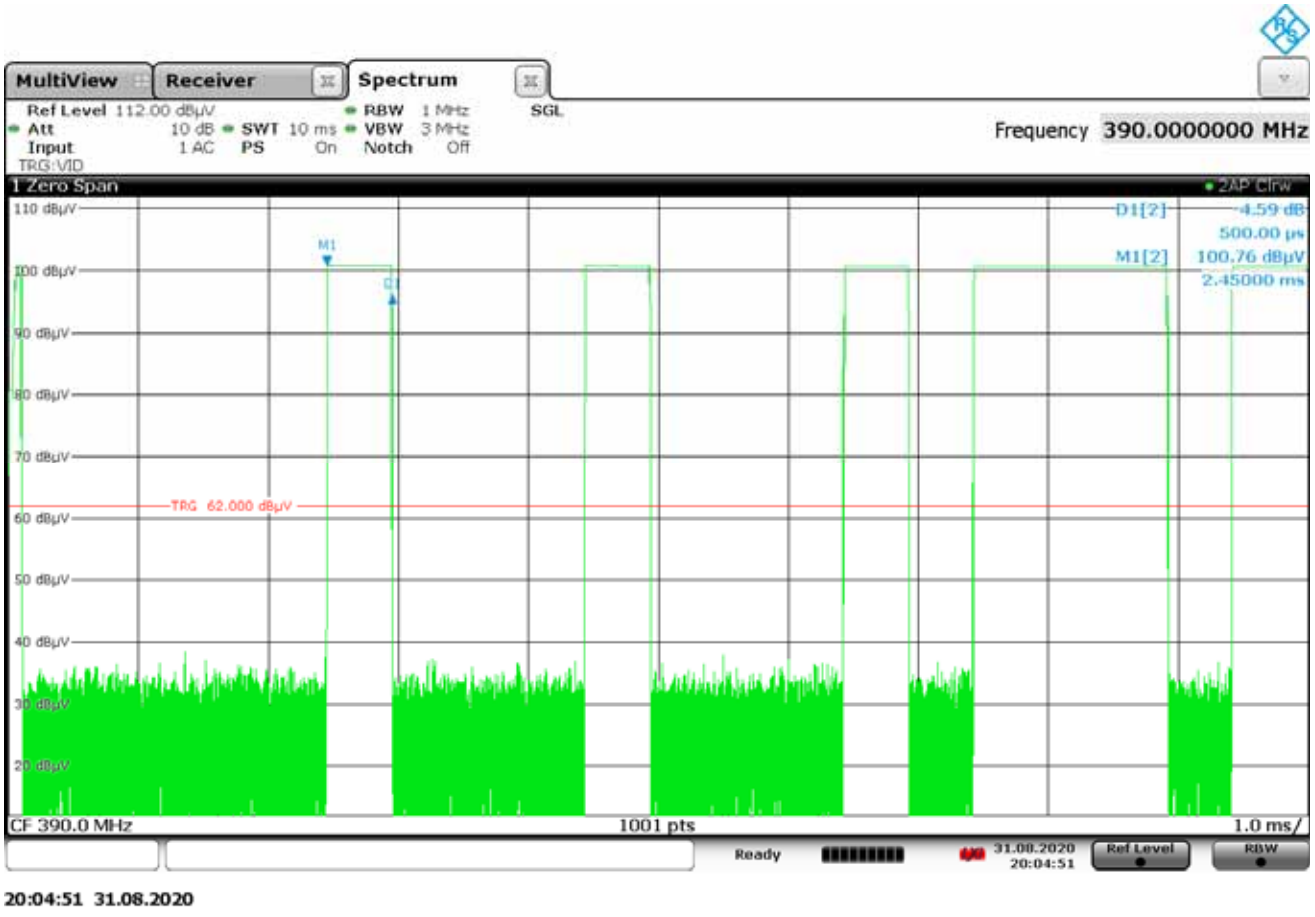
19:57:21 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Chamberlain Green
Parameters	Duty Cycle: 7 narrow pulses, 5 medium pulses, and 4 wide pulses: 7 x 1msec + 5 x 2 msec + 4 x 3 msec = 30msec
Notes	Duty Cycle = 20 x log(30msec/100msec) = -10.45dB



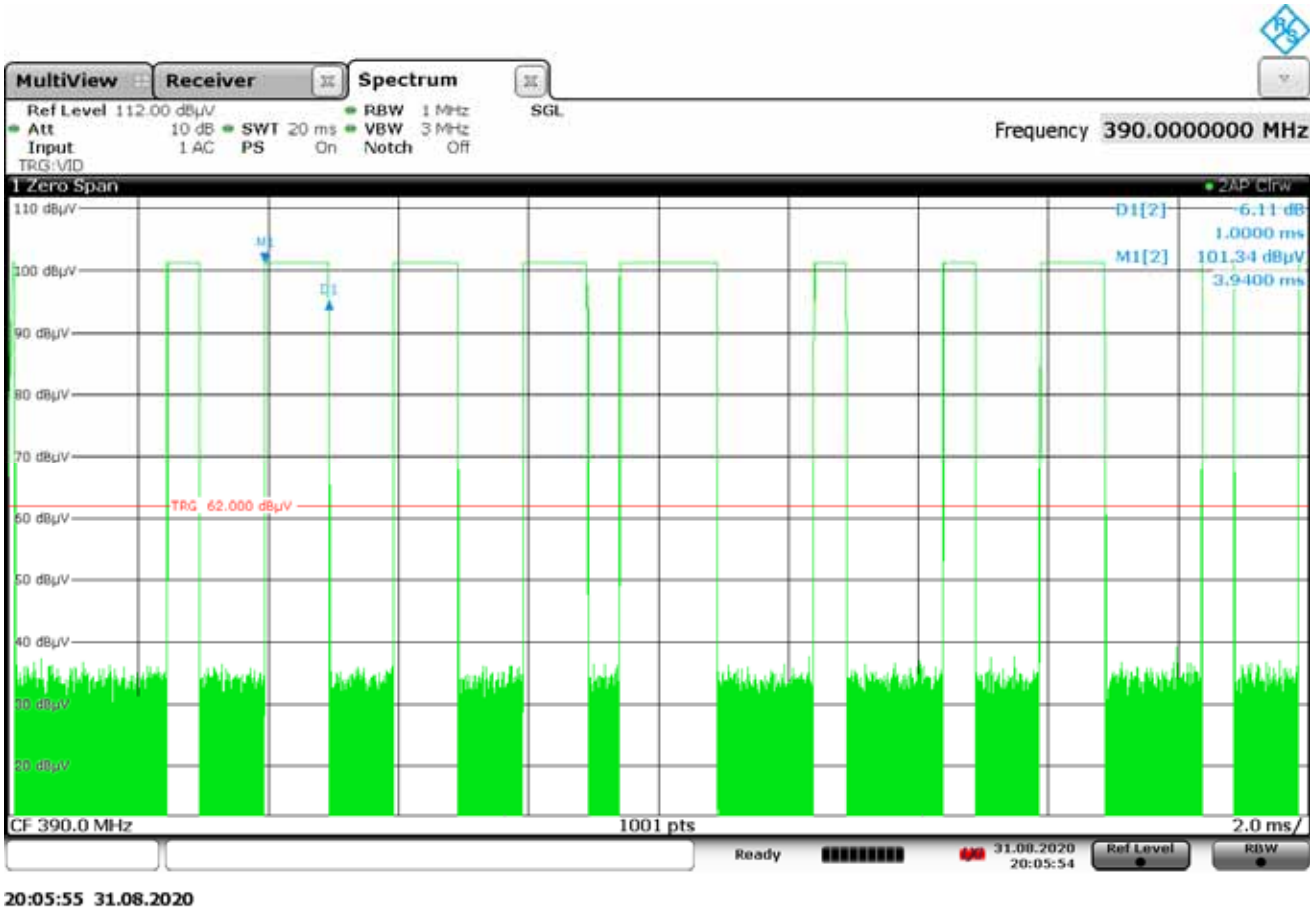
19:58:18 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Chamberlain Orange/Red
Parameters	Narrow Pulse = 500usec
Notes	



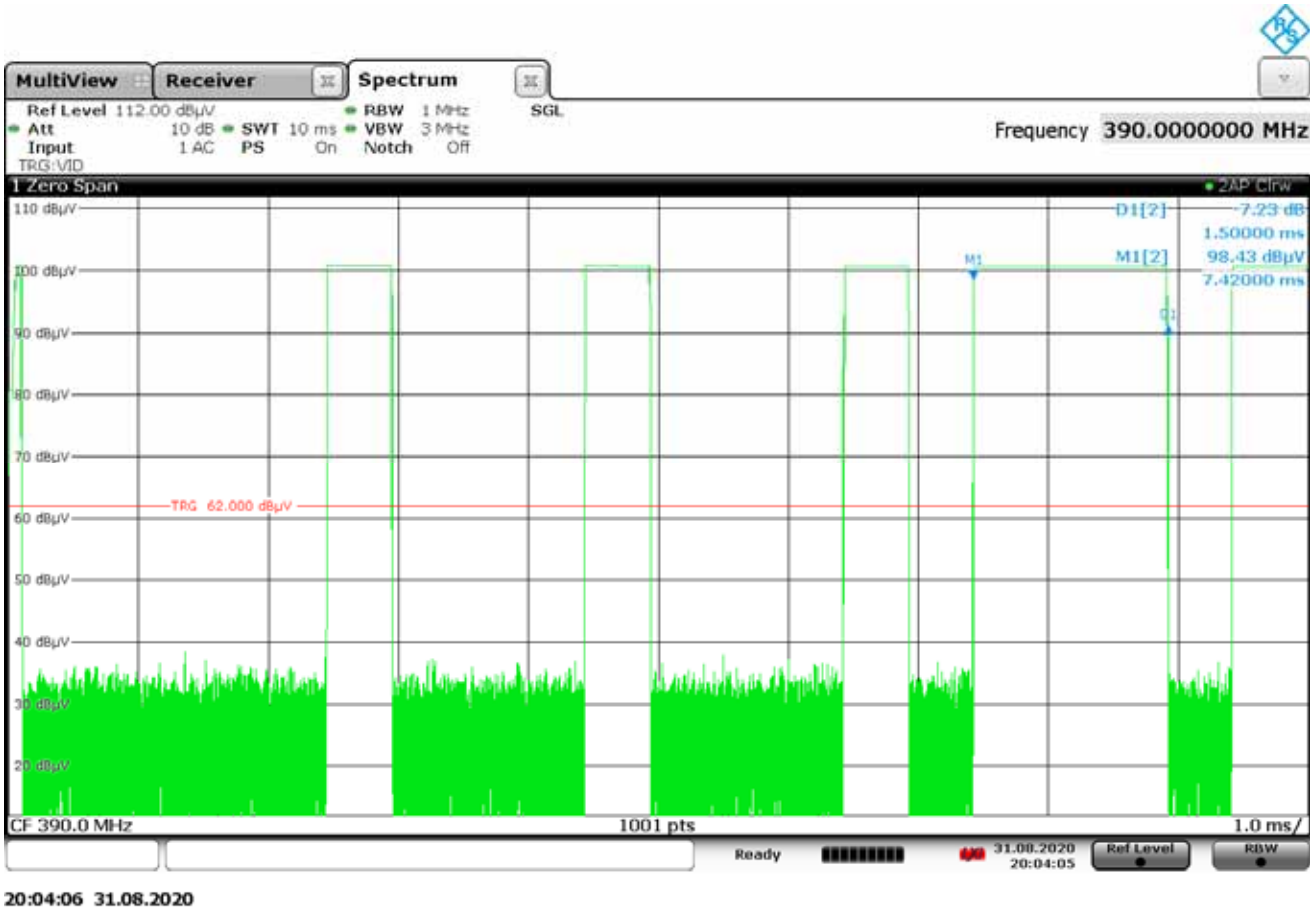
20:04:51 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Chamberlain Orange/Red
Parameters	Medium Pulse = 1msec
Notes	



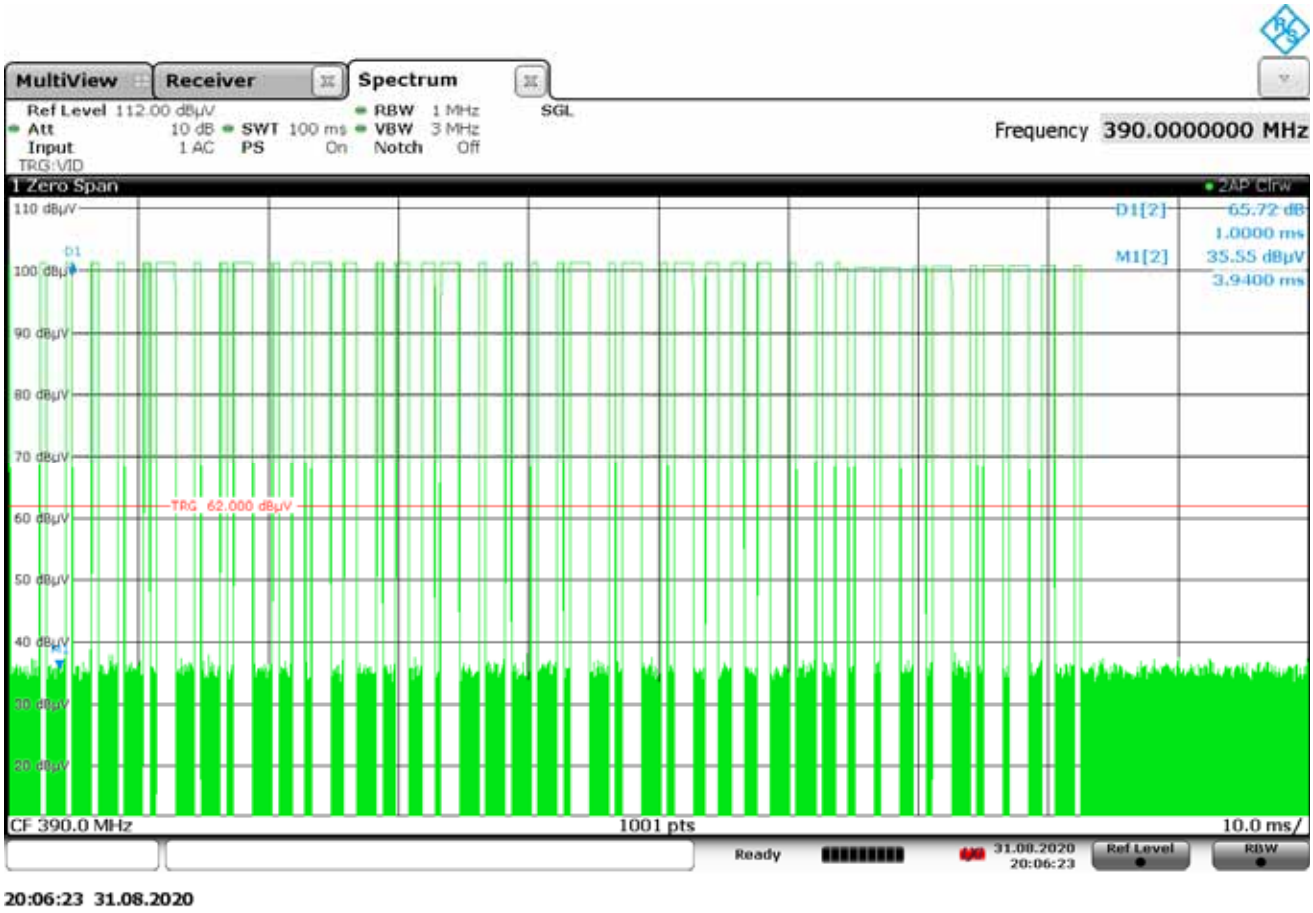
20:05:55 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Chamberlain Orange/Red
Parameters	Wide Pulse = 1.5msec
Notes	



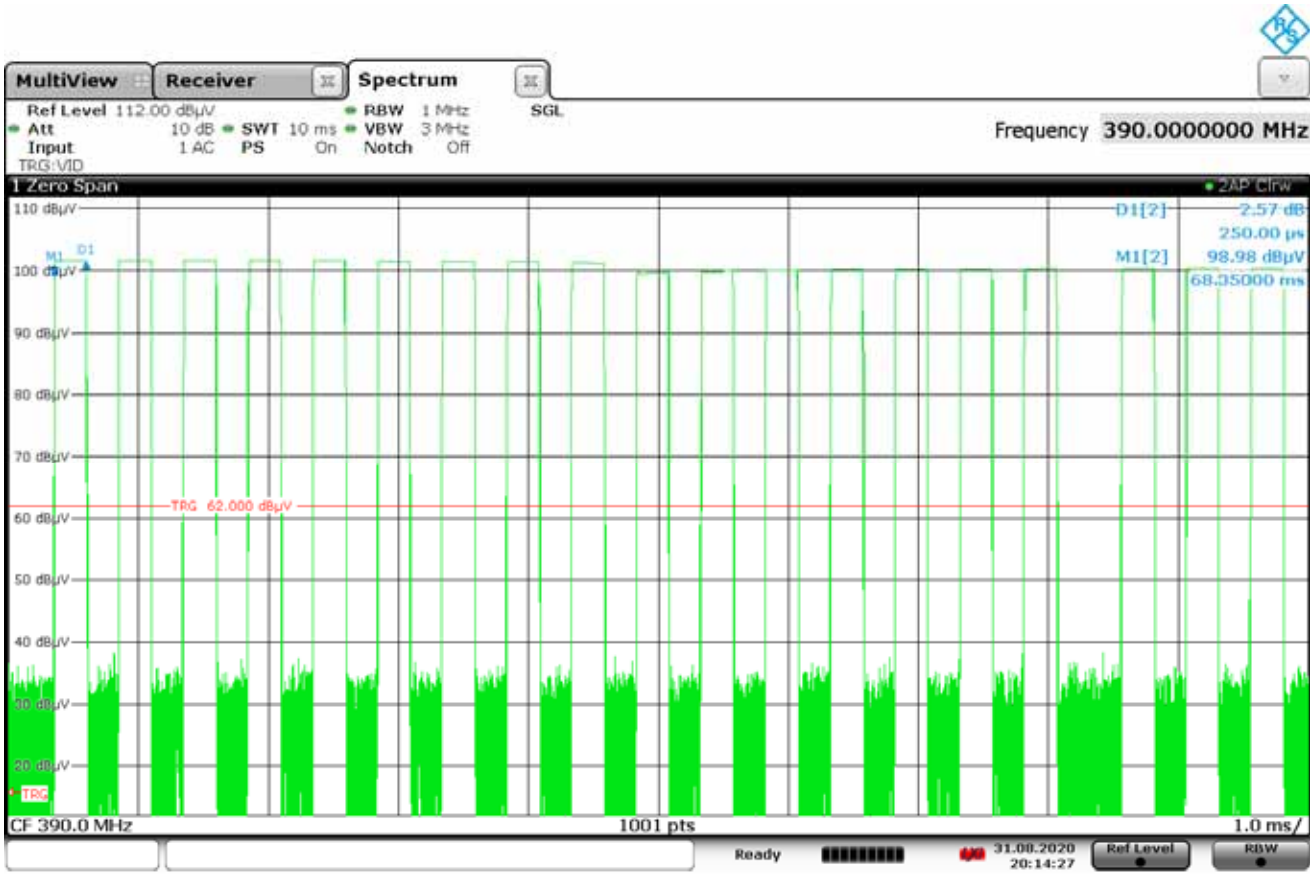
20:04:06 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Chamberlain Orange/Red
Parameters	Duty Cycle: 19 narrow pulses, 10 medium pulses, and 12 wide pulses: 19 x 500usec + 10 x 1 msec + 12 x 1.5 msec = 37.5msec
Notes	Duty Cycle = 20 x log(37.5msec/100msec) = -8.5 dB



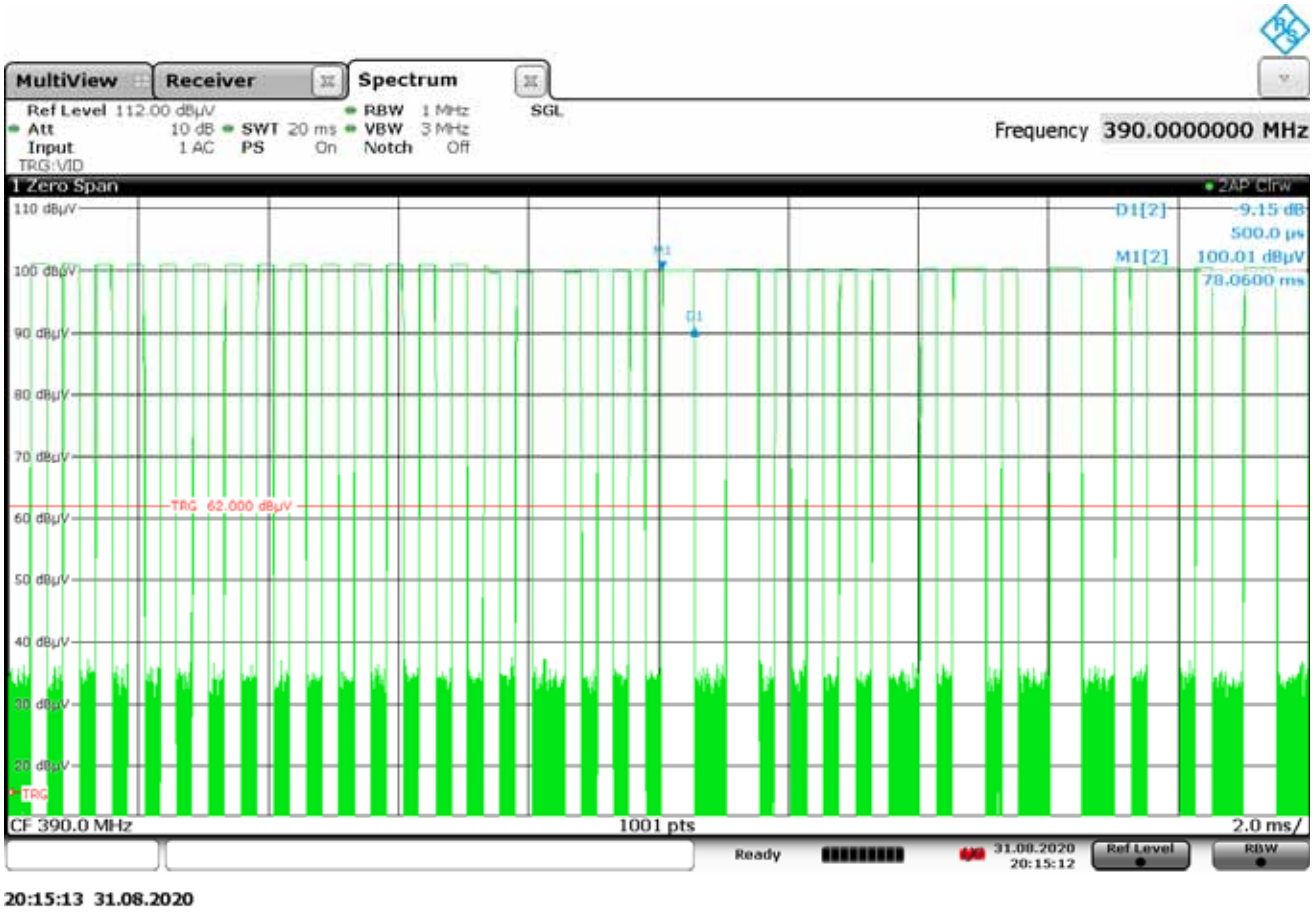
20:06:23 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Chamberlain Yellow
Parameters	Narrow Pulse is 250usec
Notes	



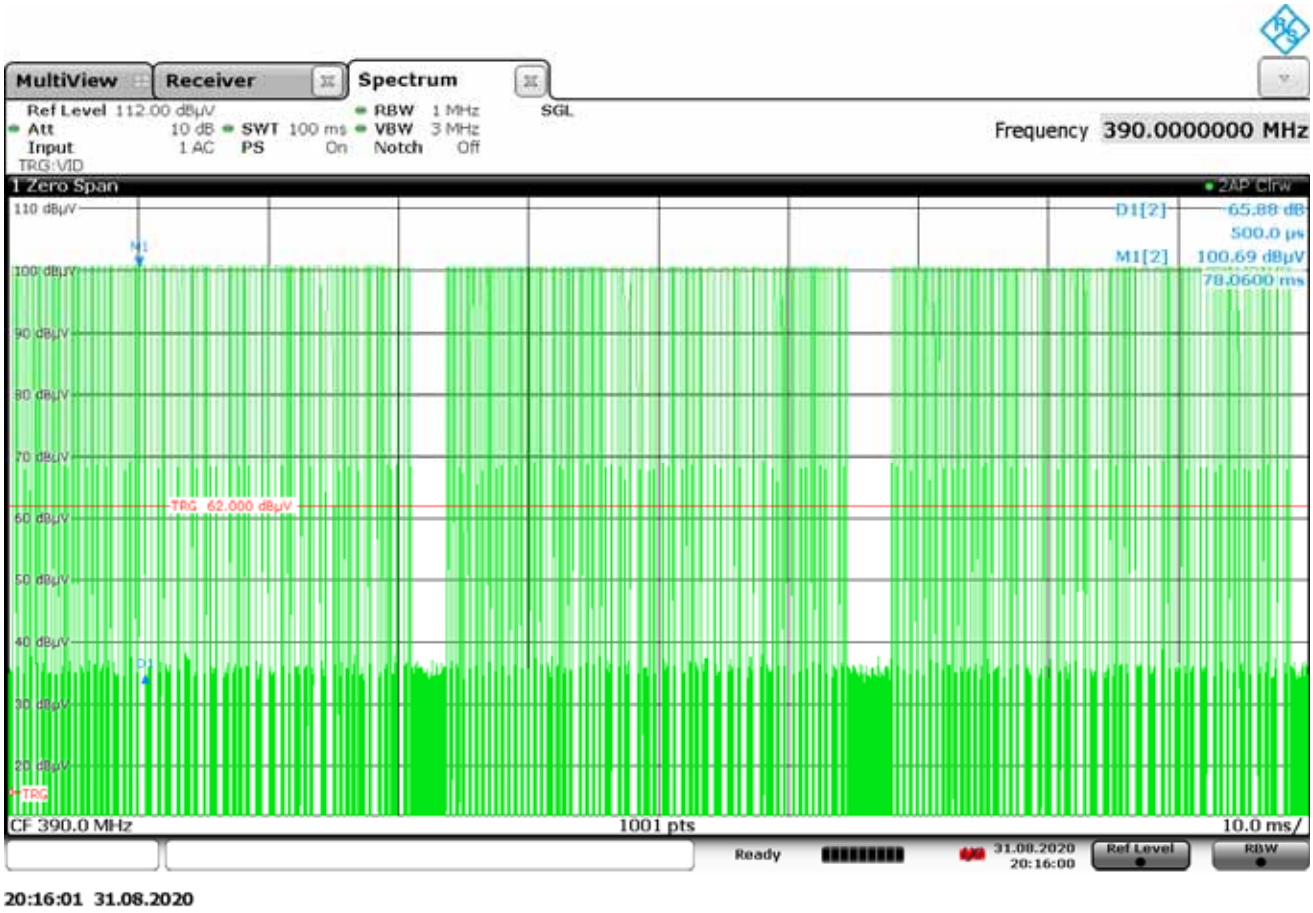
20:14:27 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Chamberlain Yellow
Parameters	Wide Pulse is 5000usec
Notes	



20:15:13 31.08.2020

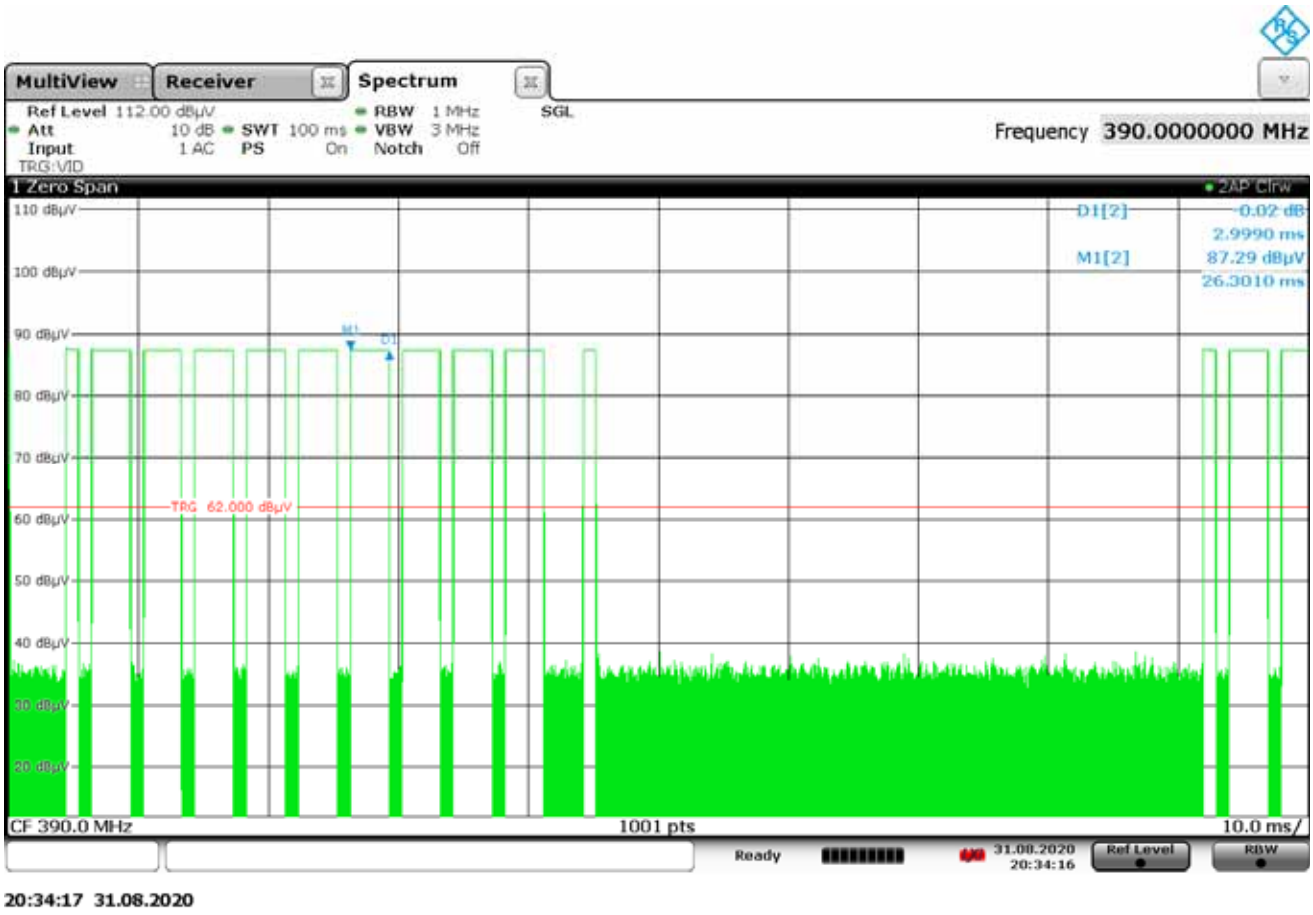
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Chamberlain Yellow
Parameters	Duty Cycle: 126 narrow pulses and 30 wide pulses: 126 x 250usec + 30 x 500usec = 46.5msec
Notes	Duty Cycle = 20 x log(46.5msec/100msec) = -6.65dB



Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Chamberlain Legacy (9 DIP switch)
Parameters	Narrow Pulse is 1 msec
Notes	

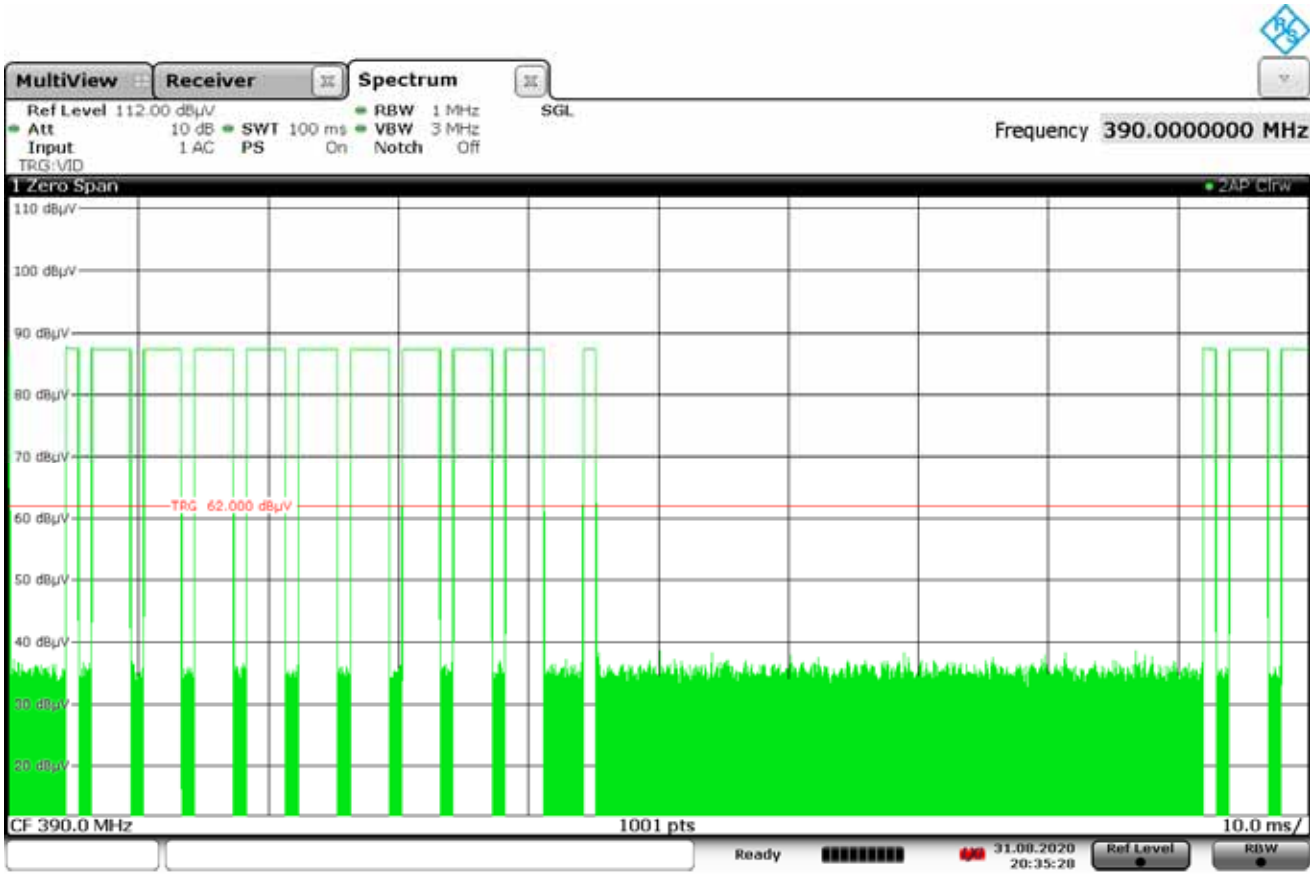
20:35:00 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Chamberlain Legacy (9 DIP switch)
Parameters	Wide Pulse is 3 msec
Notes	

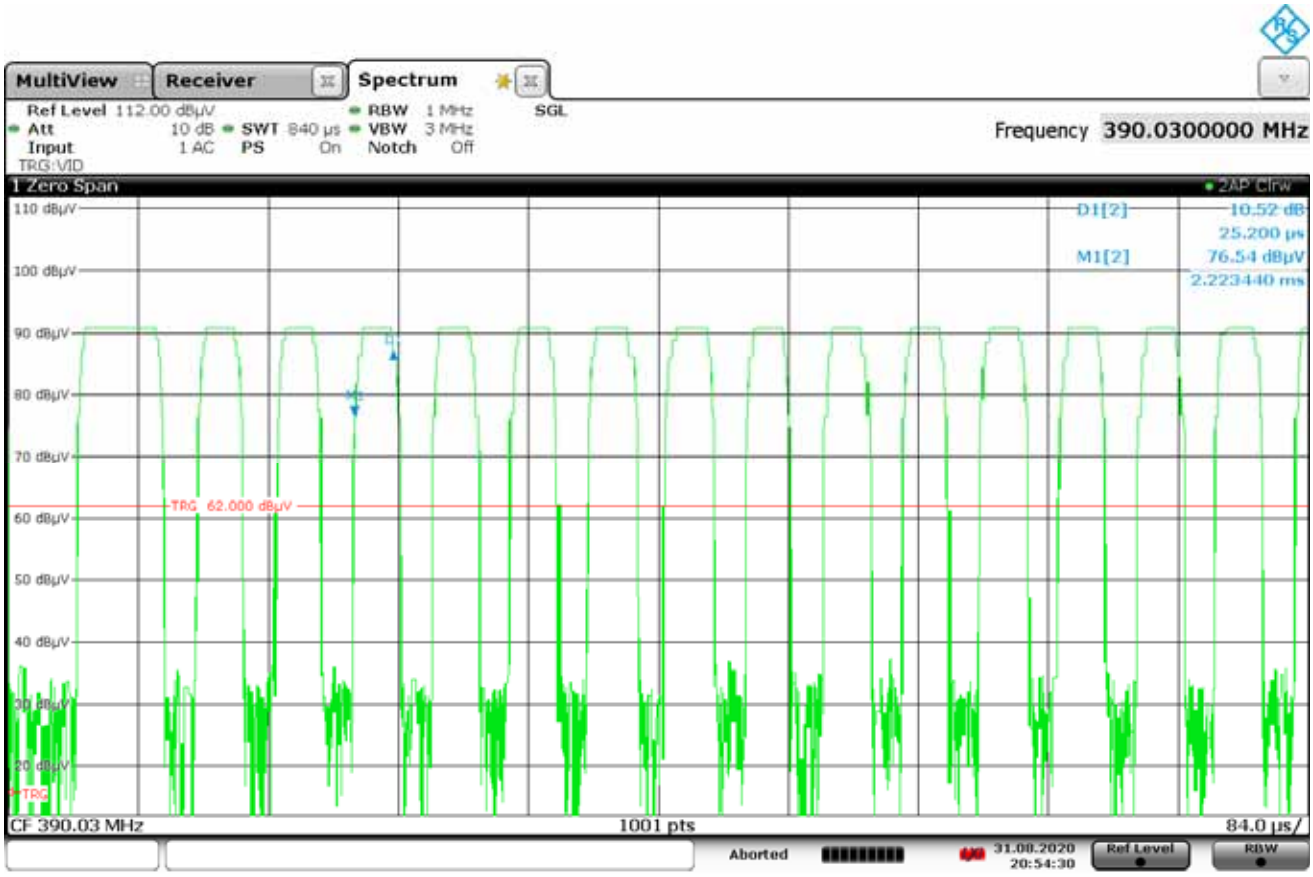


20:34:17 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Chamberlain Legacy (9 DIP switch)
Parameters	Duty Cycle: 3 narrow pulses and 11 wide pulses:3 x 1 msec + 11 x 3 msec = 36msec
Notes	Duty Cycle = 20 x log(36msec/100msec) = -6.65dB

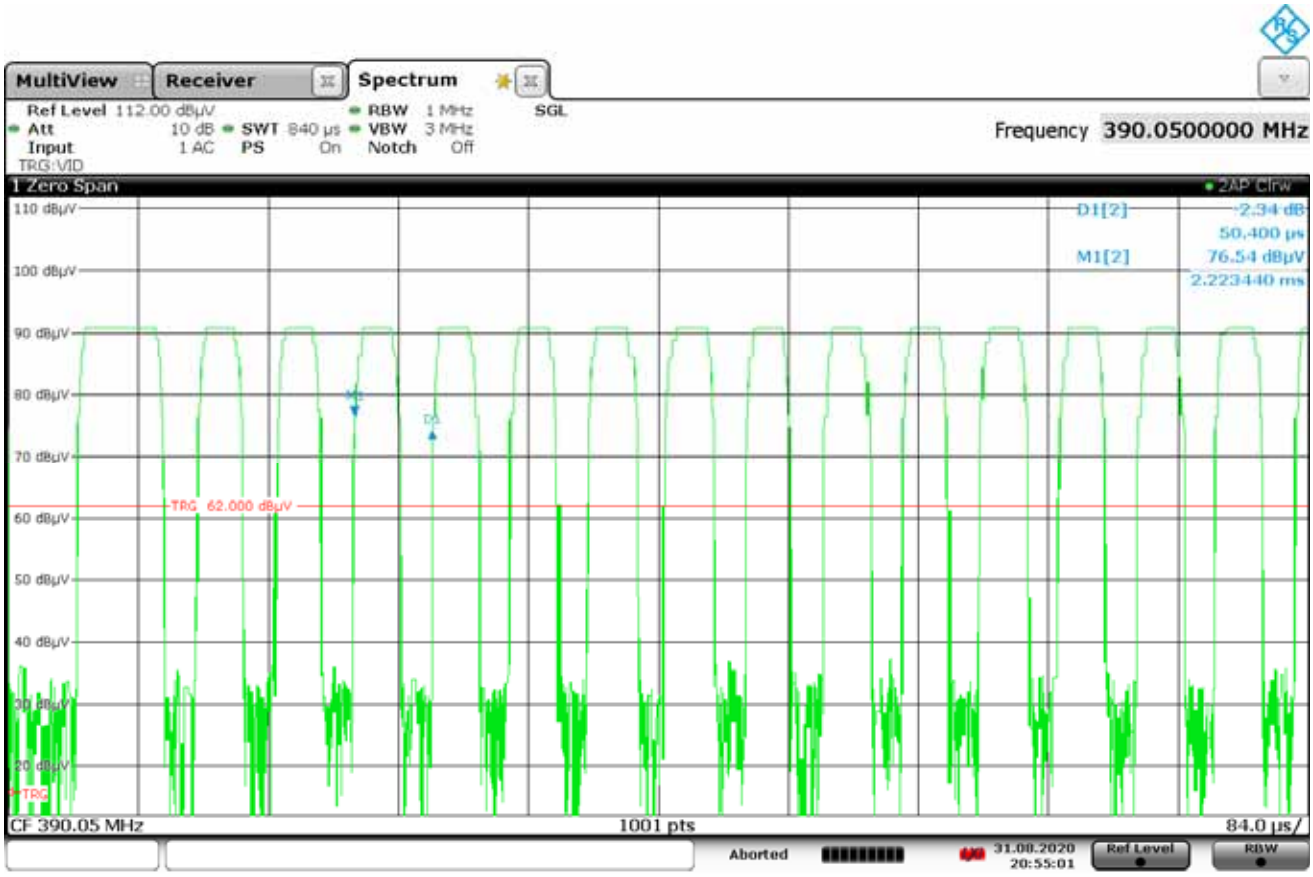


Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Genie Legacy (9 DIP switch)
Parameters	Narrow pulse is 25usec
Notes	



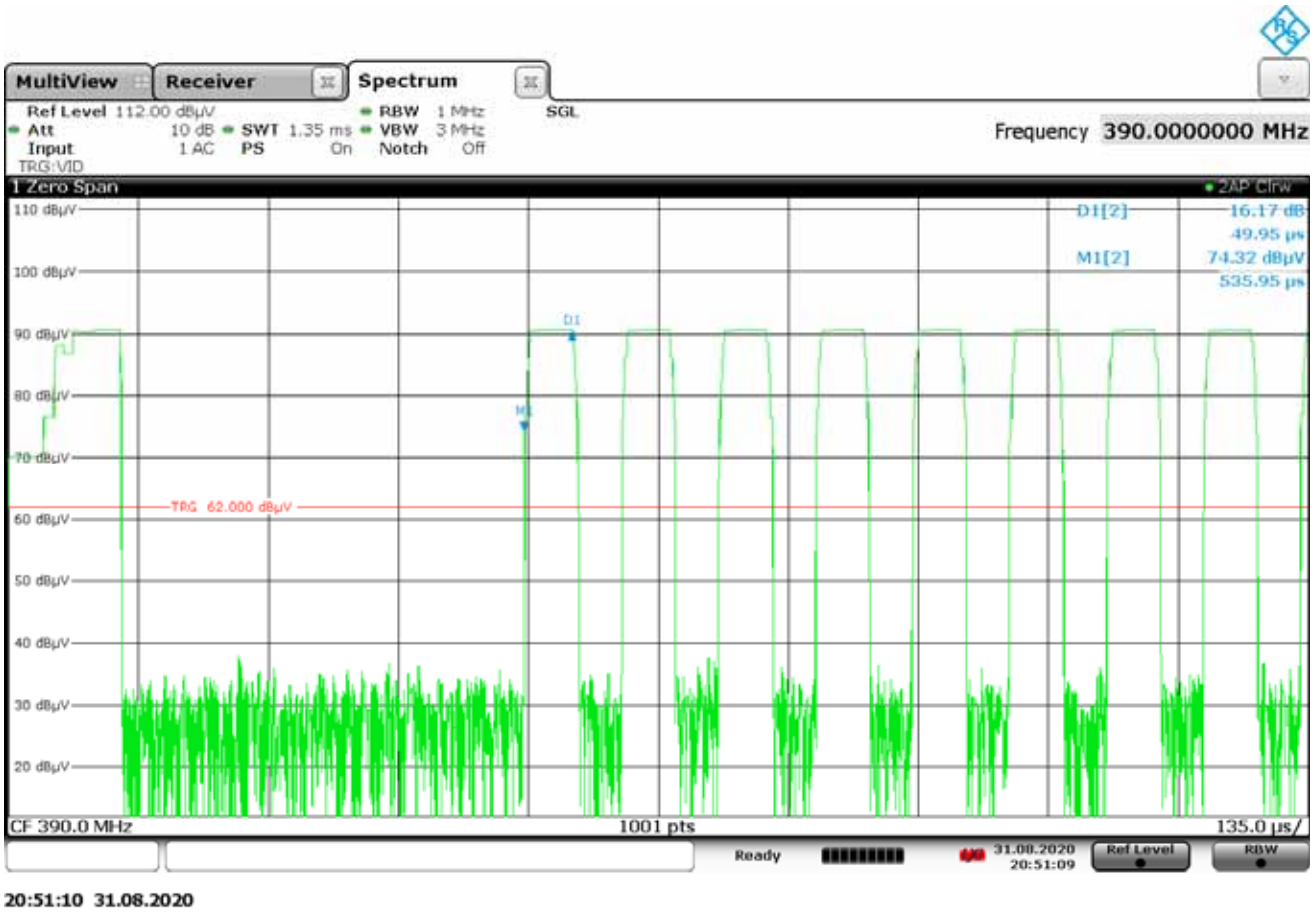
20:54:31 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Genie Legacy (9 DIP switch)
Parameters	Narrow pulse is 25usec, narrow pulse period is 50usec (50% duty cycle)
Notes	



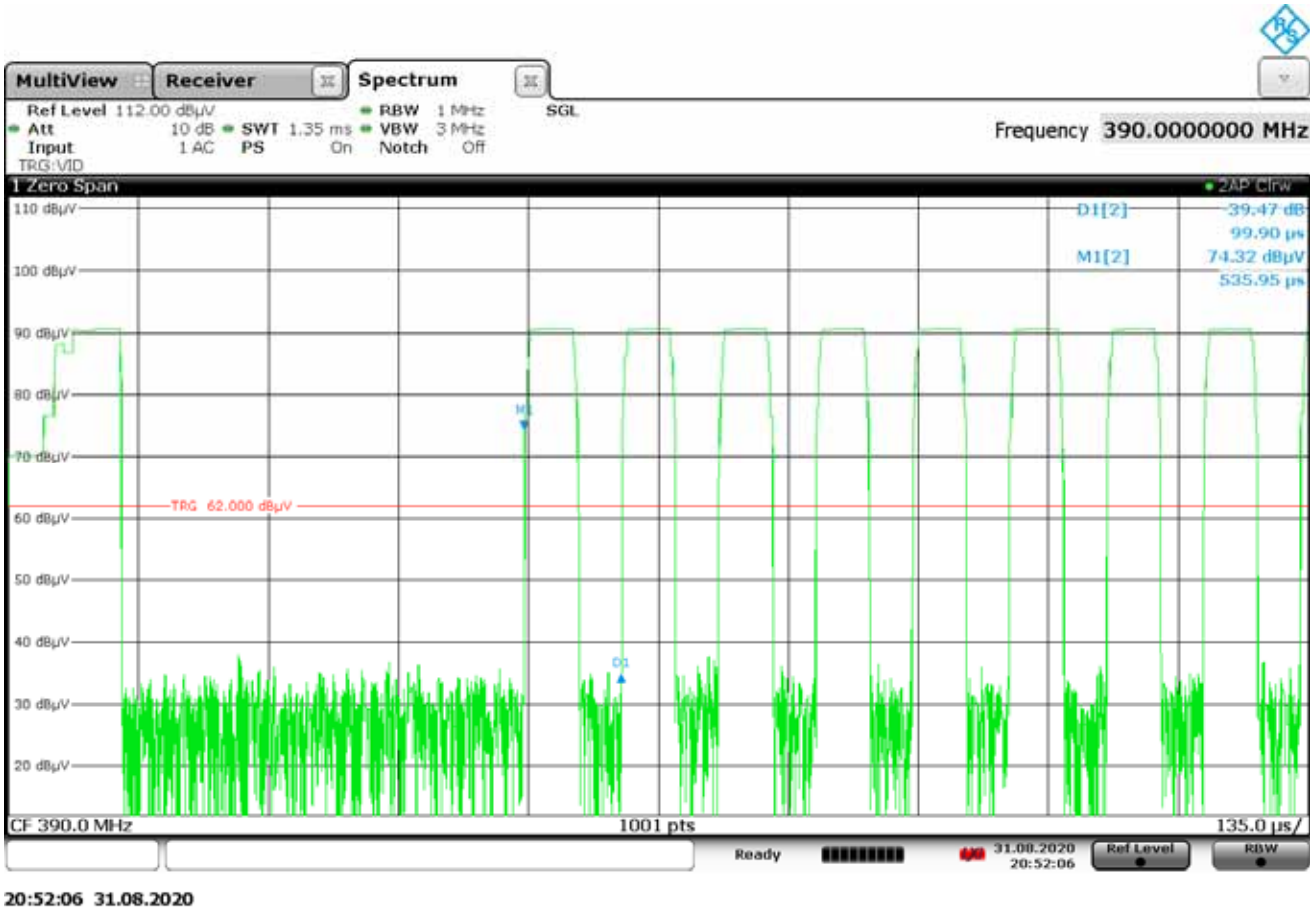
20:55:01 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Genie Legacy (9 DIP switch)
Parameters	Wide pulse is 50usec
Notes	



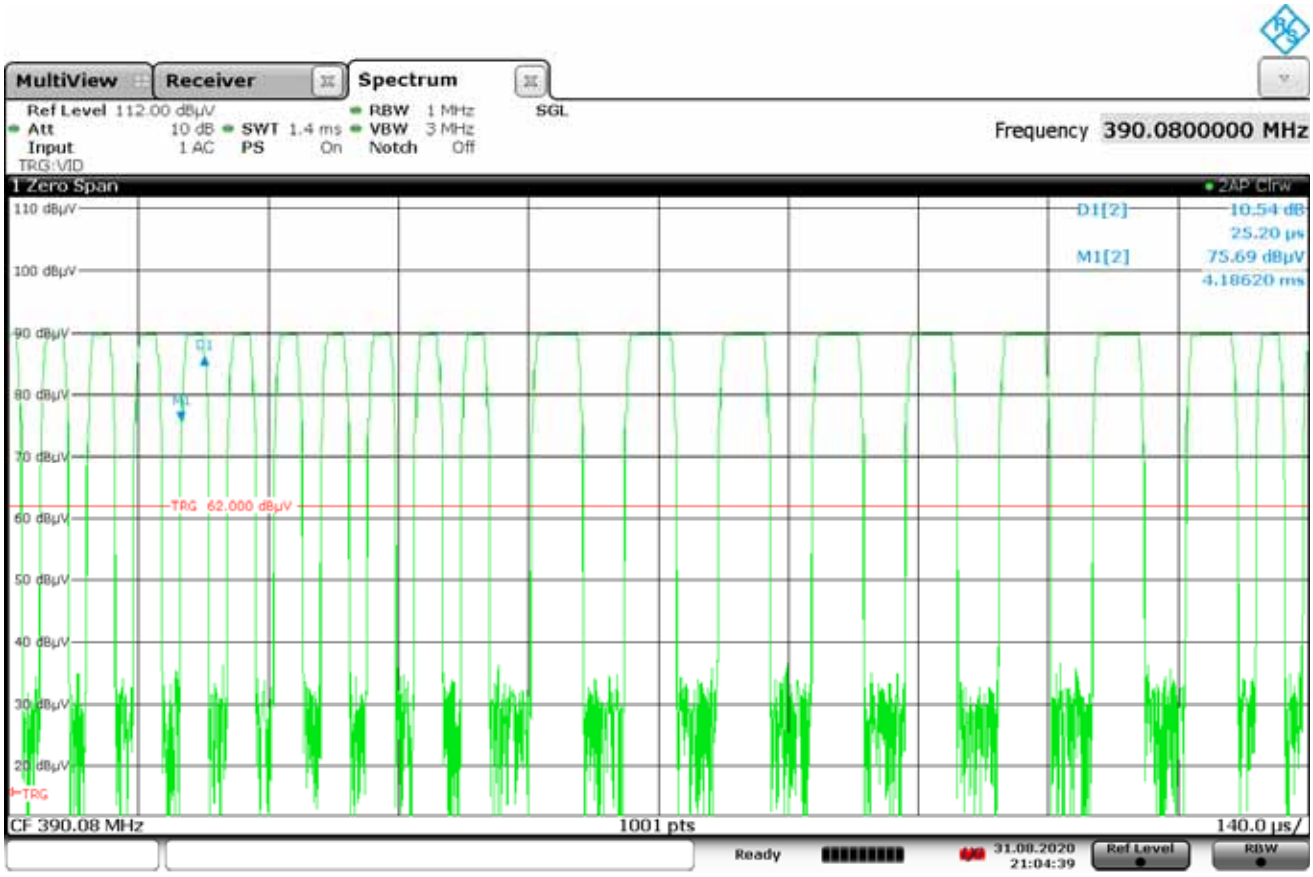
20:51:10 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Genie Legacy (9 DIP switch)
Parameters	Wide pulse is 50usec, wide pulse period is 100usec (50% duty cycle)
Notes	Duty Cycle = 20 x log(50msec/100msec) = -6.0dB



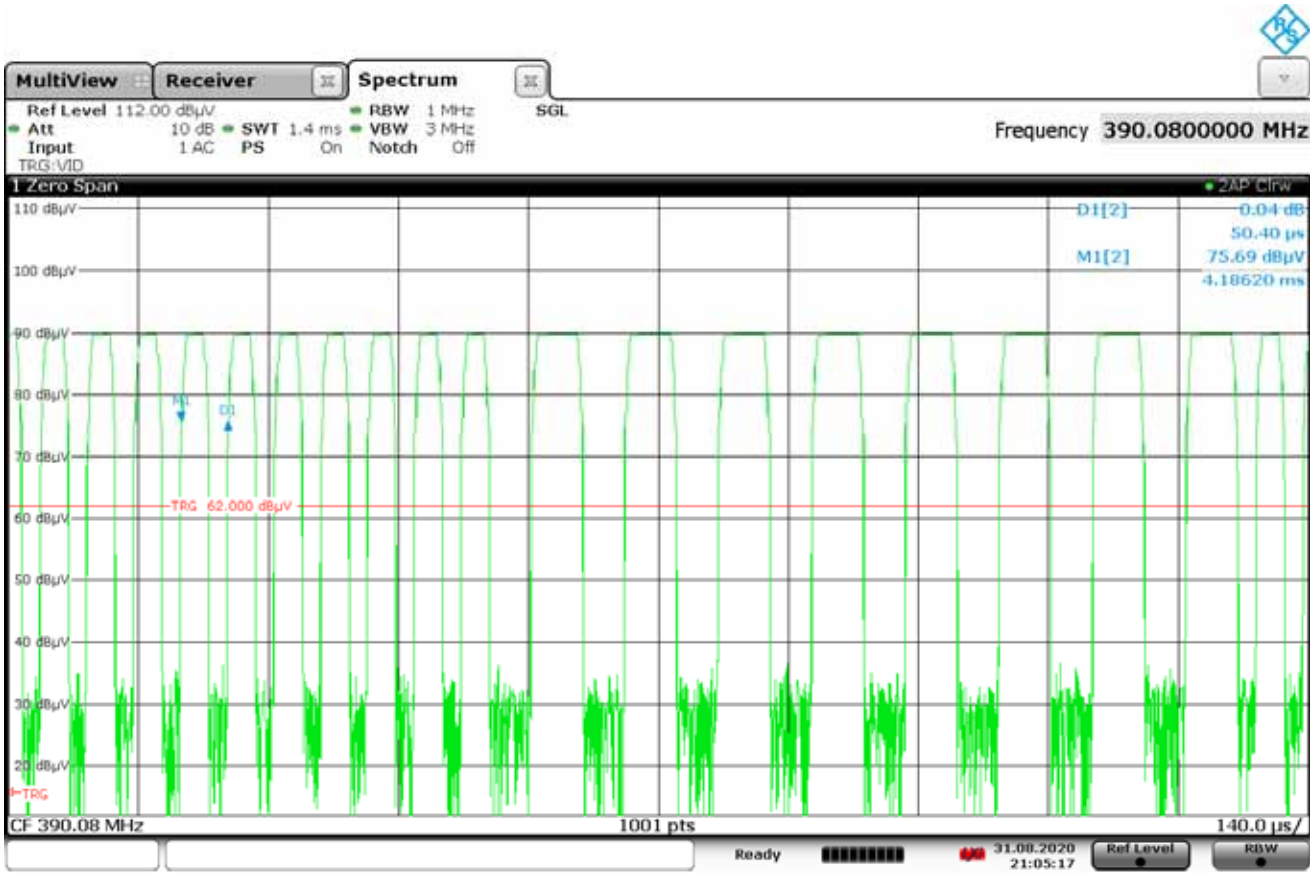
20:52:06 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Genie Legacy (12 DIP switch)
Parameters	Narrow pulse is 25usec
Notes	



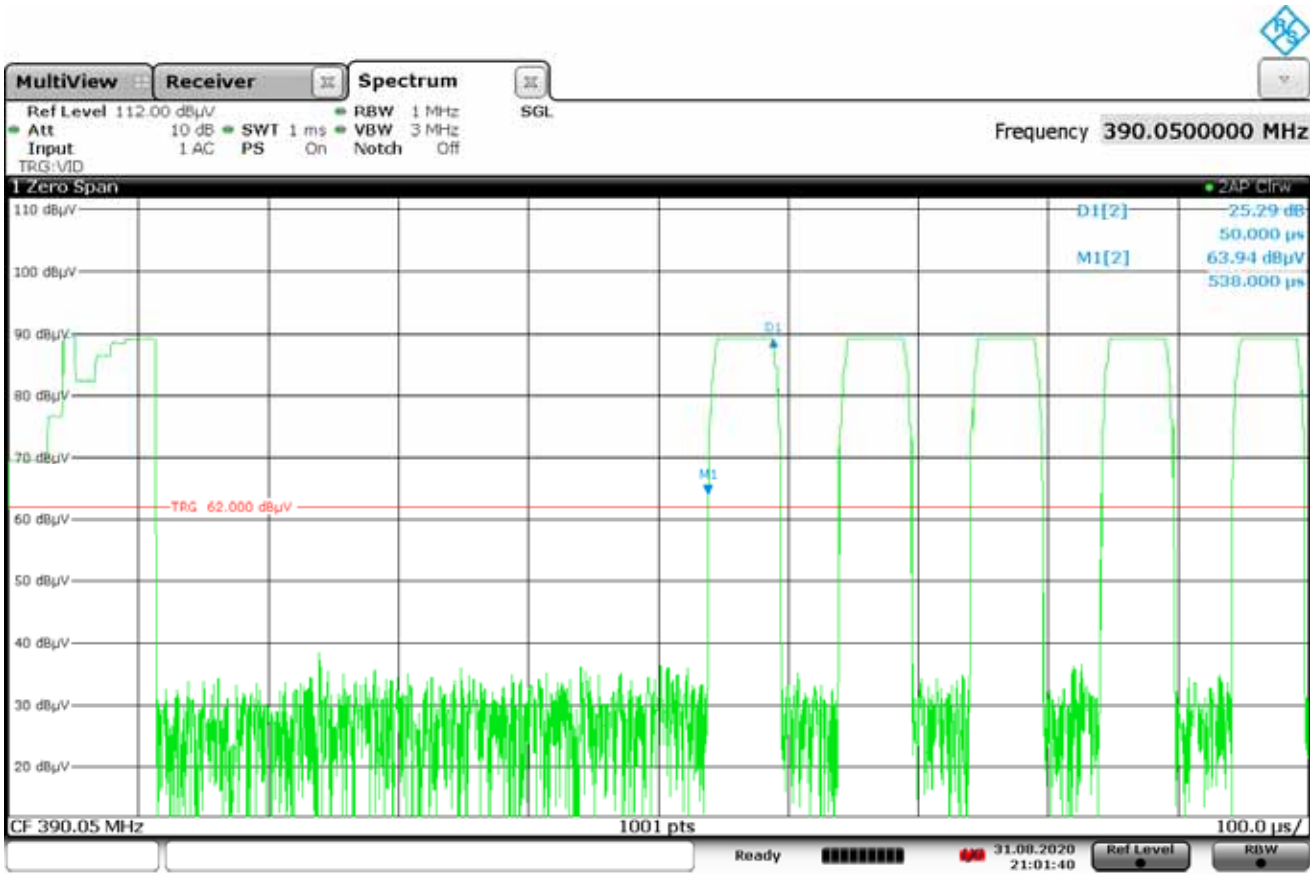
21:04:39 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Genie Legacy (12 DIP switch)
Parameters	Narrow pulse is 25usec, narrow pulse period is 50usec (50% duty cycle)
Notes	



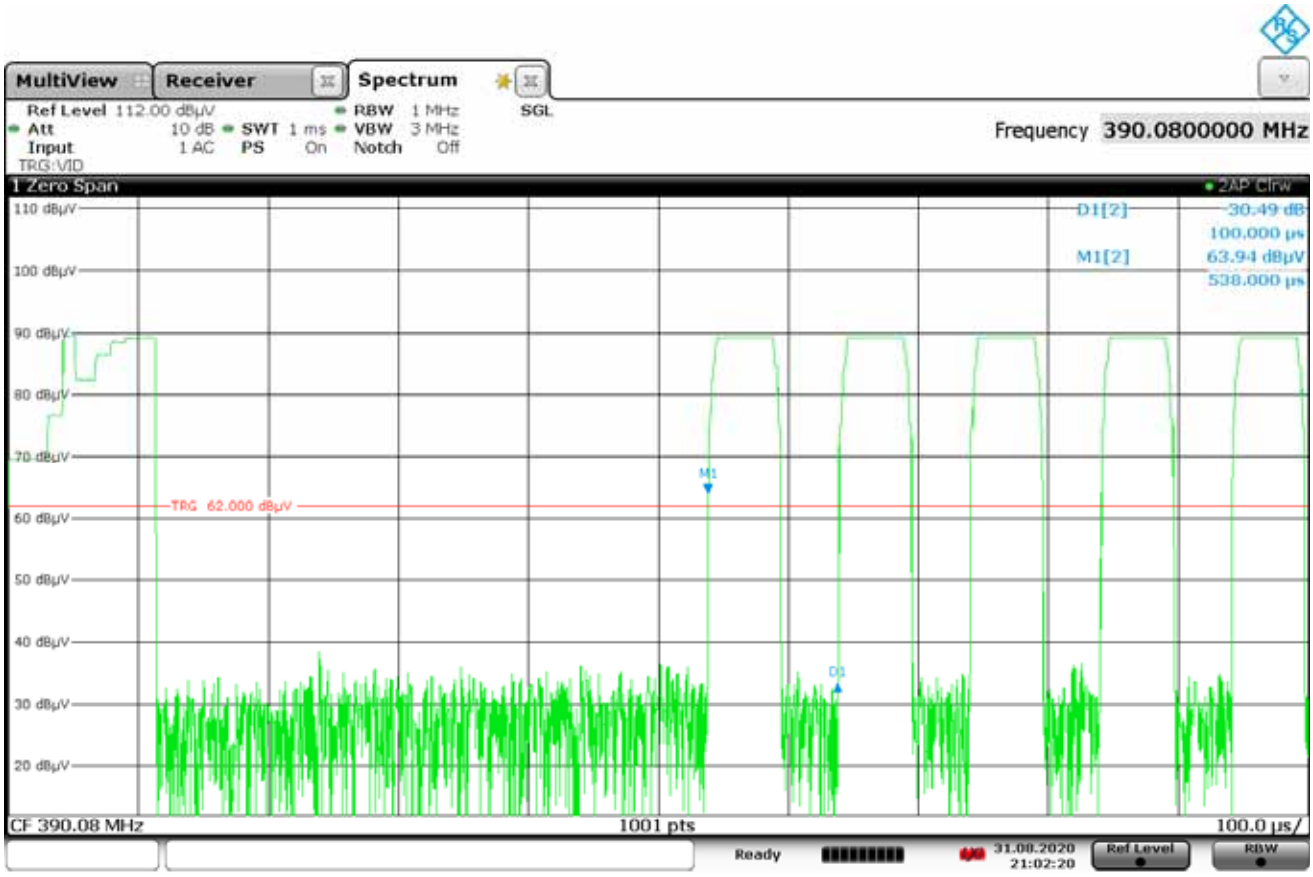
21:05:18 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Genie Legacy (12 DIP switch)
Parameters	Wide pulse is 50usec
Notes	



21:01:40 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Genie Legacy (12 DIP switch)
Parameters	Wide pulse is 50usec, wide pulse period is 100usec (50% duty cycle)
Notes	Duty Cycle = 20 x log(50msec/100msec) = -6.0dB

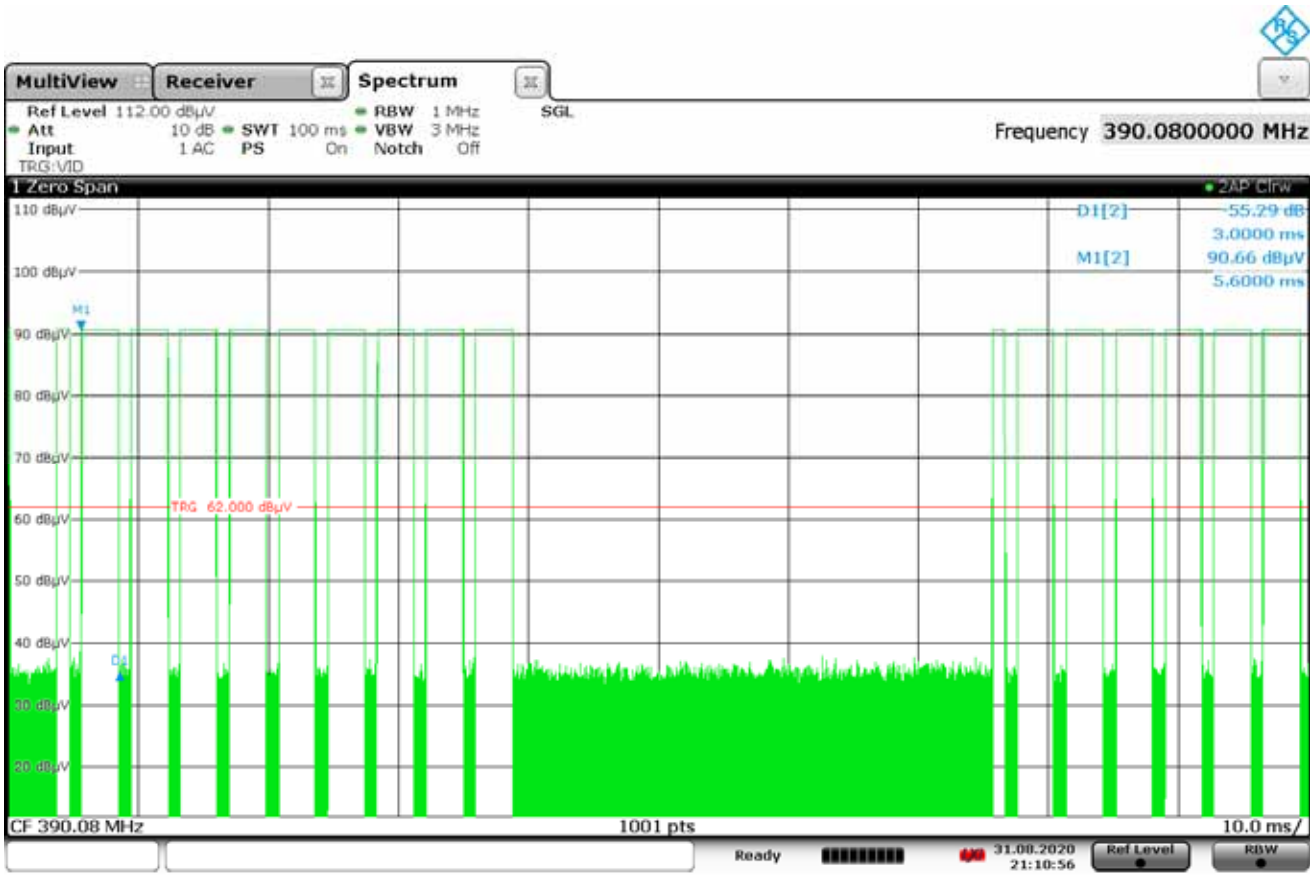


21:02:21 31.08.2020

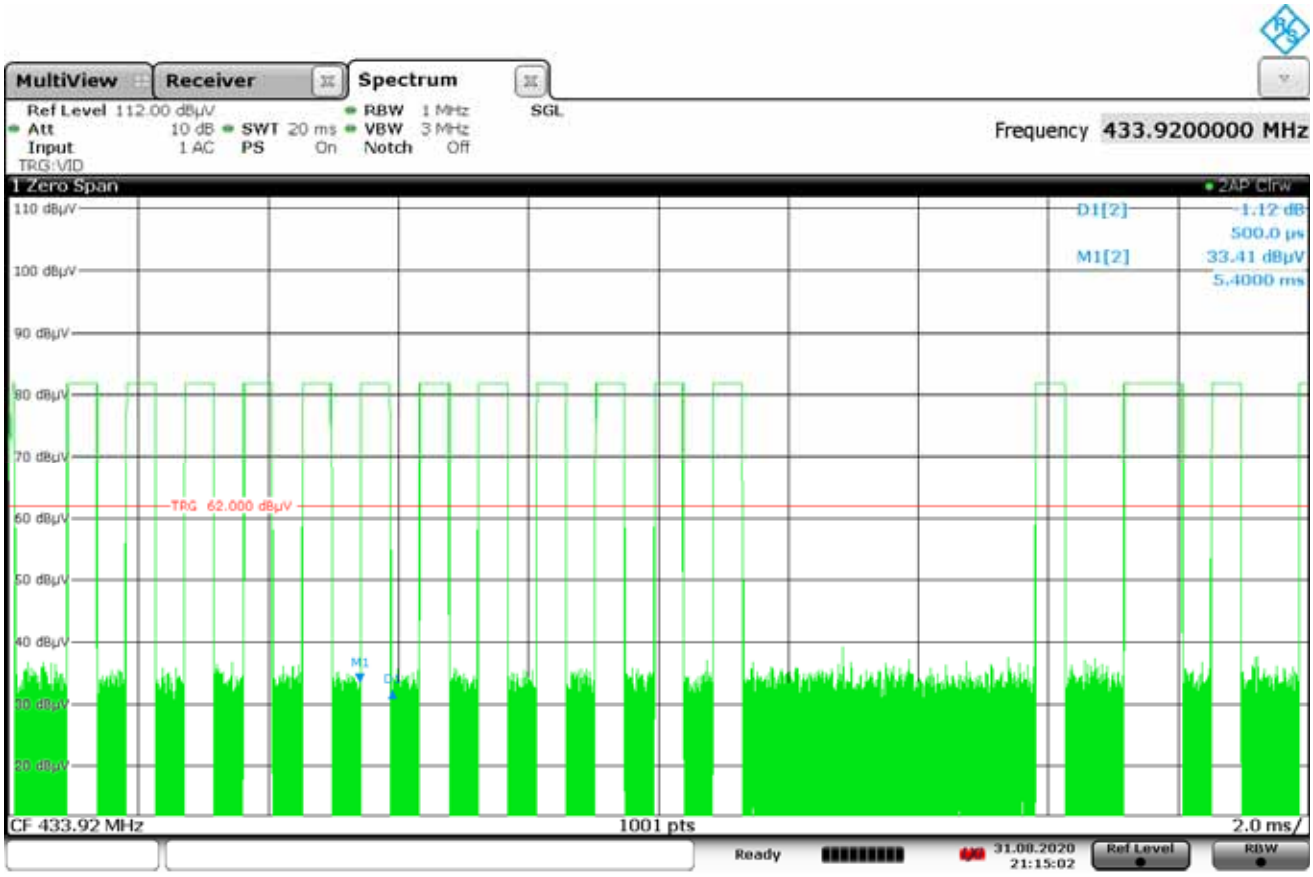
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Overhead Door
Parameters	Narrow pulse is 1 msec
Notes	

21:09:26 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Overhead Door
Parameters	Wide pulse is 3 msec
Notes	Duty Cycle: 2 narrow pulses and 15 long pulses: 2 x 1msec + 15 x 3msec = 47msec Duty Cycle = 20 x log(47msec/100msec) = -6.56dB

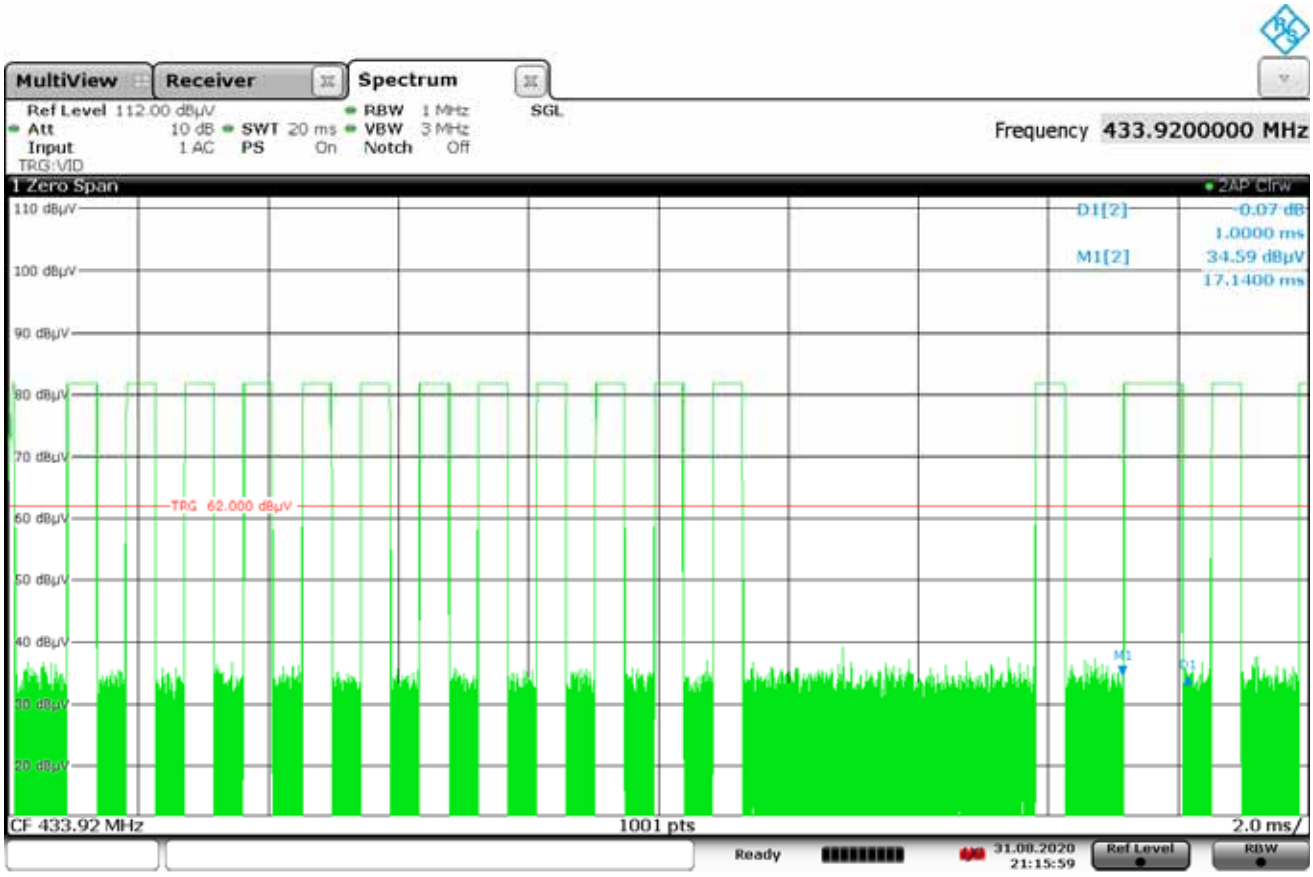


Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 499.92MHz
Protocol	FAAC
Parameters	Narrow pulse is 500usec
Notes	



21:15:02 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 499.92MHz
Protocol	FAAC
Parameters	Wide pulse is 1msec
Notes	



21:15:59 31.08.2020

Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 499.92MHz
Protocol	FAAC
Parameters	Duty Cycle: 45 narrow pulses and 30 wide pulses:45 x 500usec + 30 x 1 msec = 52.5msec
Notes	Duty Cycle = 20 x log(52.5msec/100msec) = -6.65dB

21:20:17 31.08.2020

22. Spurious Radiated Emissions

Test Information	
Manufacturer	Genie Company
Product	Universal Wireless Wall Console
Model	UWWC
Serial No	See Below
Mode	See Below
Test Date	August 31, 2020 through September 8, 2020

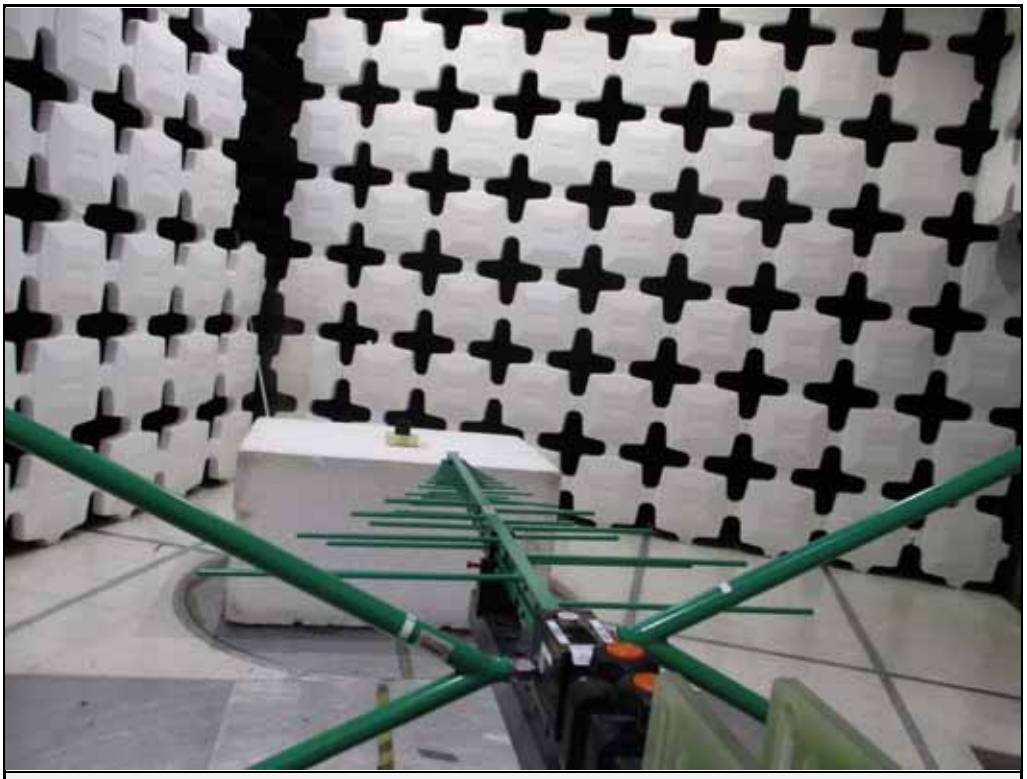
Test Setup Details	
Setup Format	Tabletop
Height of Support	N/A
Type of Test Site	Semi-Anechoic Chamber
Notes	

Measurement Uncertainty	
Measurement Type	Expanded Measurement Uncertainty
Radiated disturbance (electric field strength on an open area test site or alternative test site) (30 MHz – 1000 MHz)	4.3
Radiated disturbance (electric field strength on an open area test site or alternative test site) (1 GHz – 6 GHz)	3.1
Radiated disturbance (electric field strength on an open area test site or alternative test site) (6 GHz – 18 GHz)	3.2
Radiated disturbance (electric field strength on an open area test site or alternative test site) (18 GHz – 26.5 GHz)	3.3
Radiated disturbance (electric field strength on an open area test site or alternative test site) (26.5 GHz – 40 GHz)	3.4

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. as well as the requirements of the RSS-GEN specification Section 8.10.		
Carrier Frequency (MHz)	Field Strength of Carrier (µV/m)	Field Strength of Spurious Emissions (µV/m)
40.66-40.70 70-130 130-174 174-260 260-470 Above 470	2250 1250 1250 to 3750* 3750 3750 to 12500* 12500	225 125 125 to 375* 375 375 to 1250* 1250

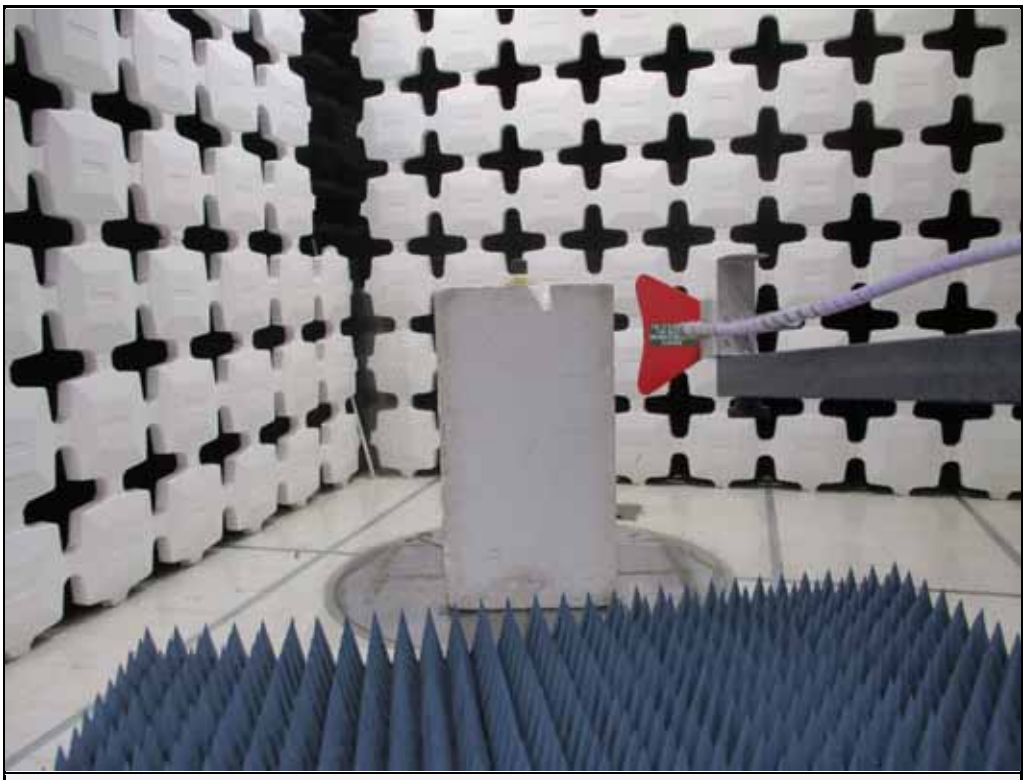
*Linear interpolations

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 4.5GHz was investigated using a peak detector function. The data was then processed by the computer to calculate equivalent field intensity. The final emission tests were then manually performed over the frequency range of 30MHz to 4.5GHz. Between 30MHz and 1000MHz, a bi-log antenna was used as the pick-up device. The EUT was placed on an 80cm high non-conductive stand. A peak detector with a resolution bandwidth of 100 kHz was used on the spectrum analyzer. Above 1GHz, a broadband double ridged waveguide antenna was used as the pick-up device. The EUT was placed on an 150cm high non-conductive stand. A peak detector with a resolution bandwidth of 1 MHz was used on the spectrum analyzer. 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.

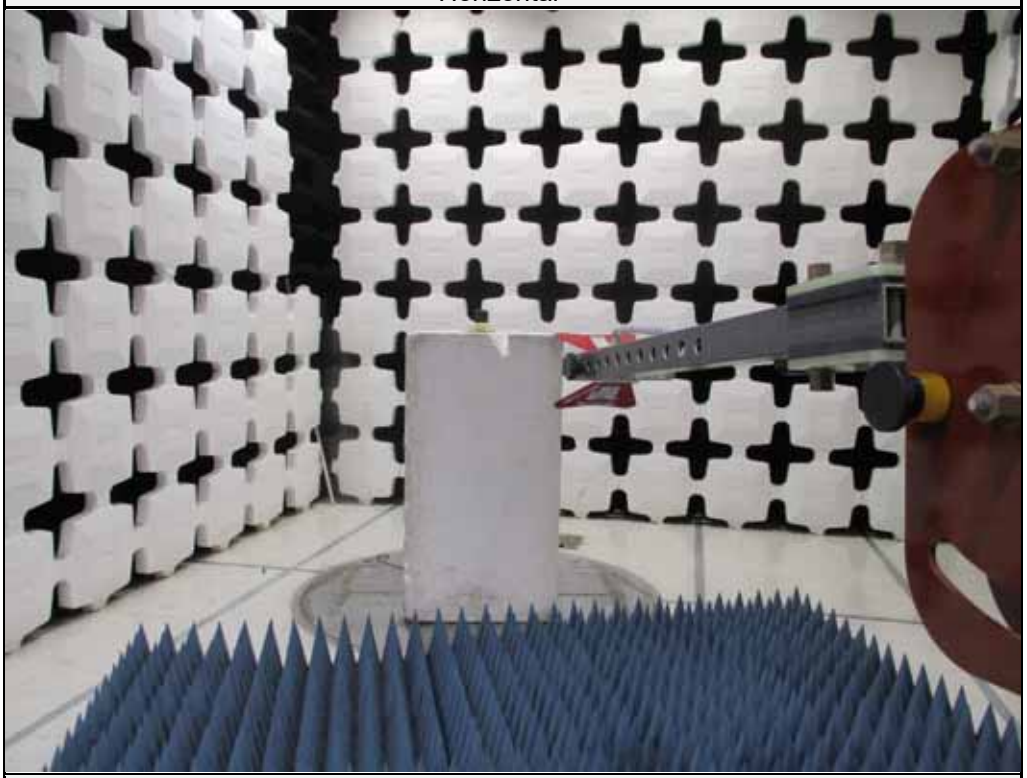


Test Setup for Spurious Radiated Emissions, 30-1000MHz – Antenna Polarization Horizontal

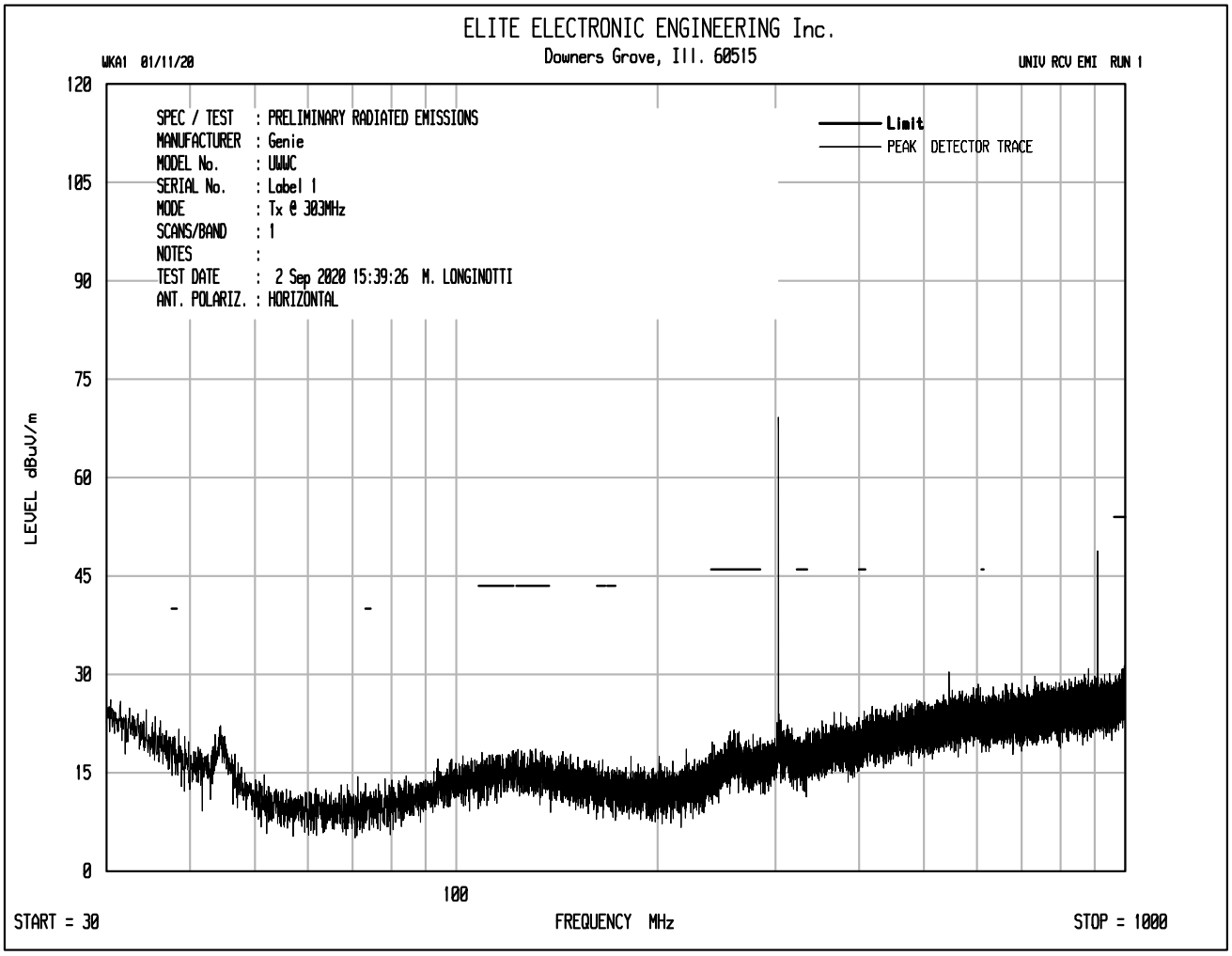
Test Setup for Spurious Radiated Emissions, 30-1000MHz – Antenna Polarization Vertical

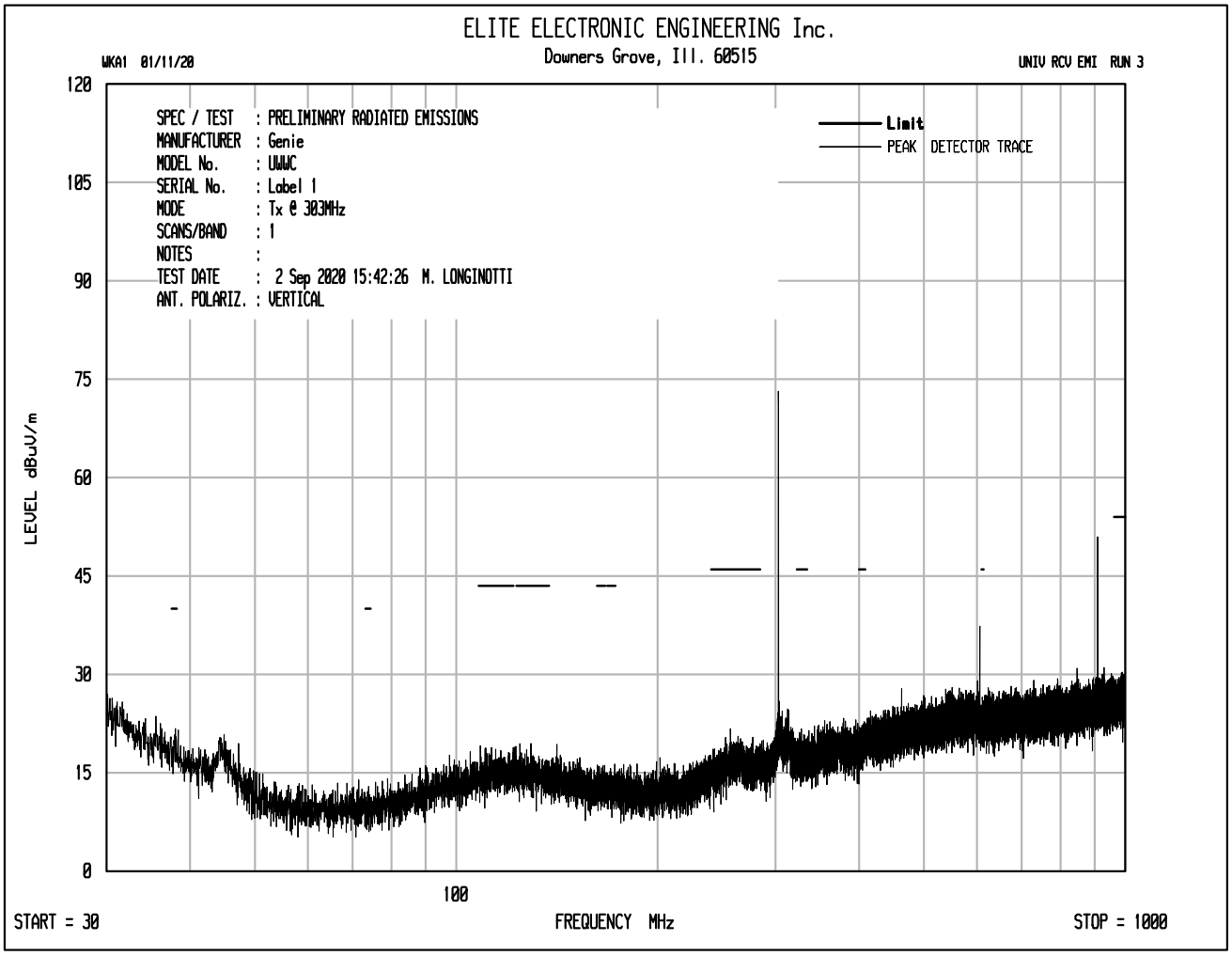


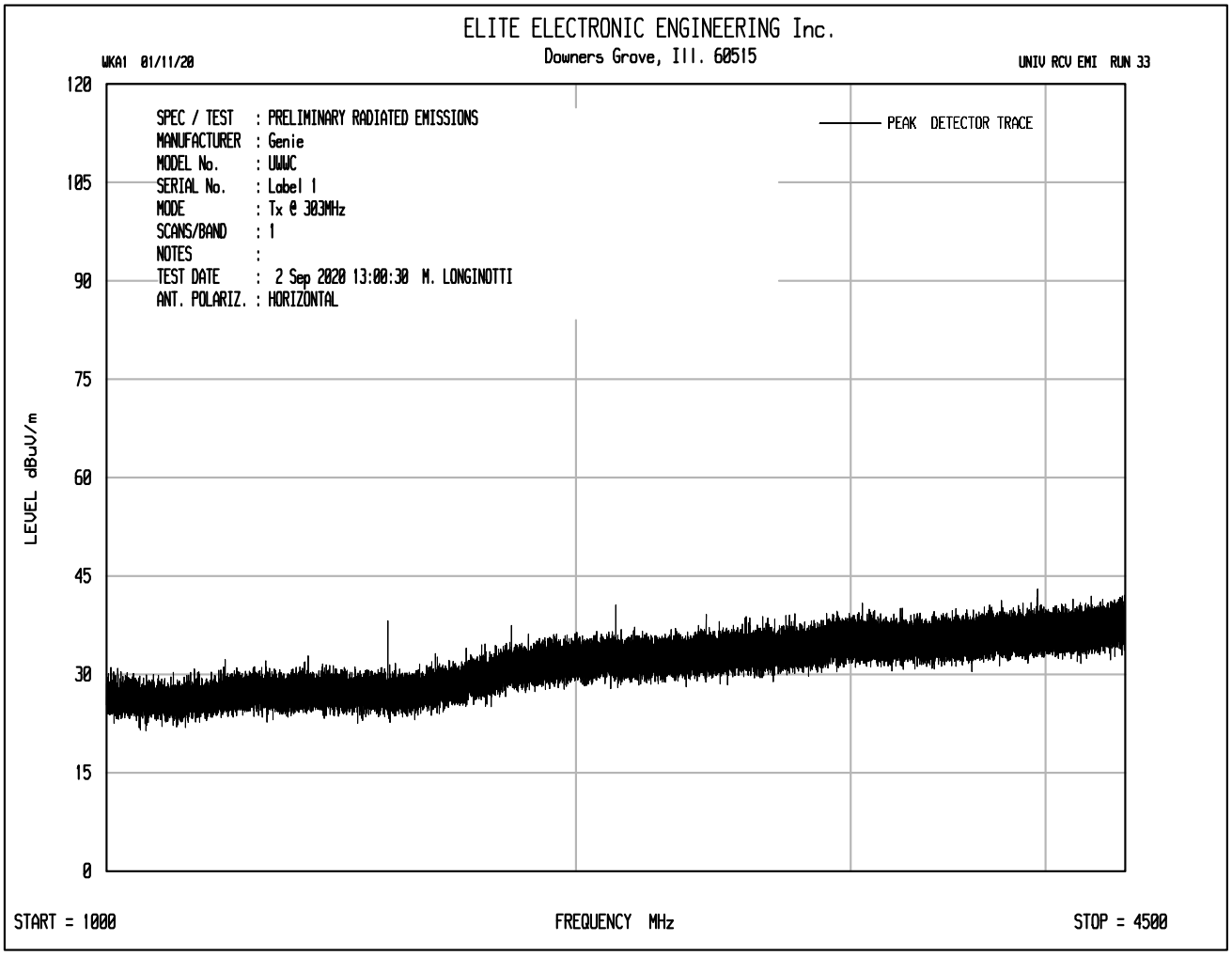
Test Setup for Spurious Radiated Emissions, Above 1GHz – Antenna Polarization Horizontal

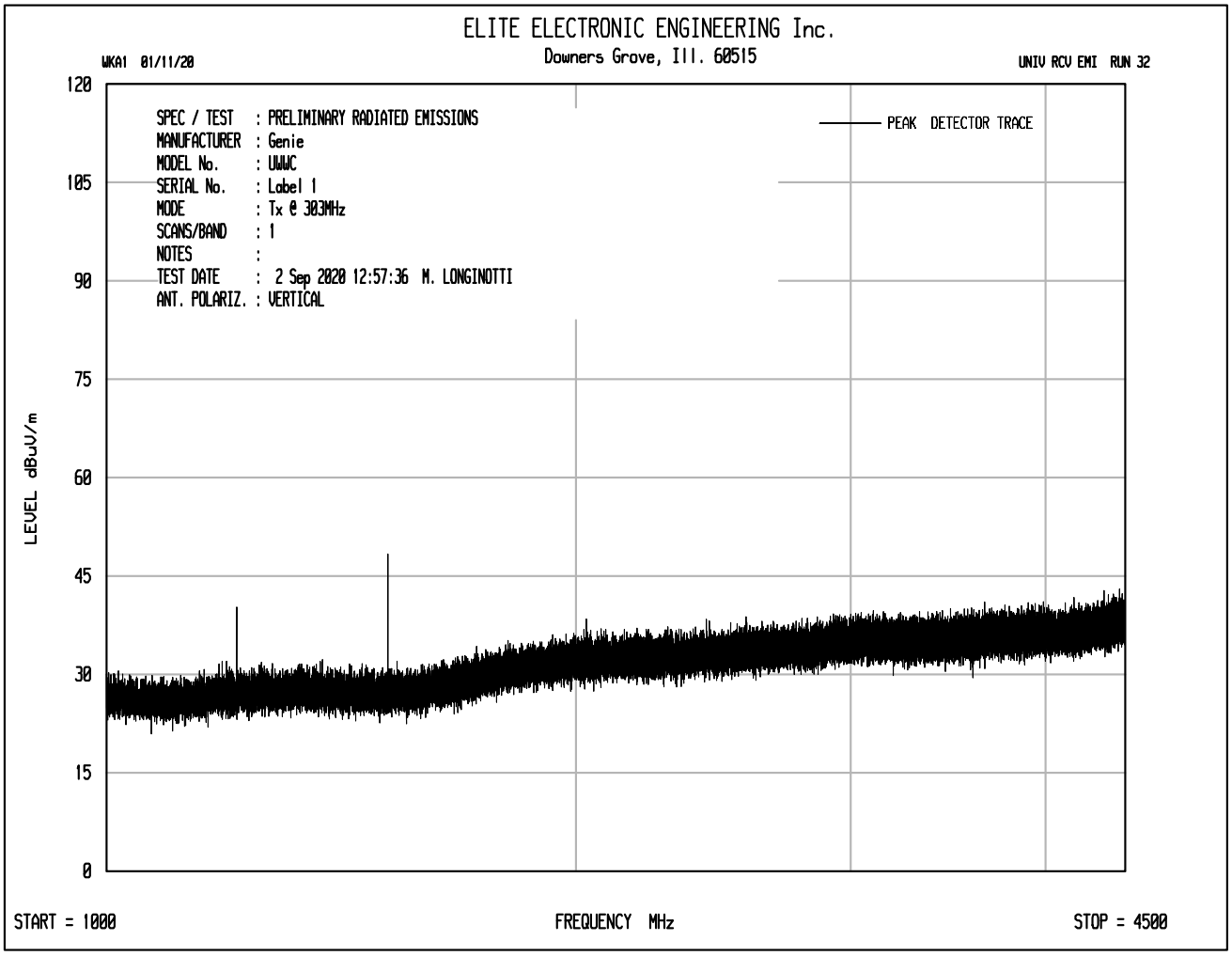


Test Setup for Spurious Radiated Emissions, Above 1GHz – Antenna Polarization Vertical


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 01/11/20
UNIV RCV EMI RUN 1
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : Genie
MODEL No. : UWC
SERIAL No. : Label 1
MODE : Tx @ 303MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 2 Sep 2020 15:39:26 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

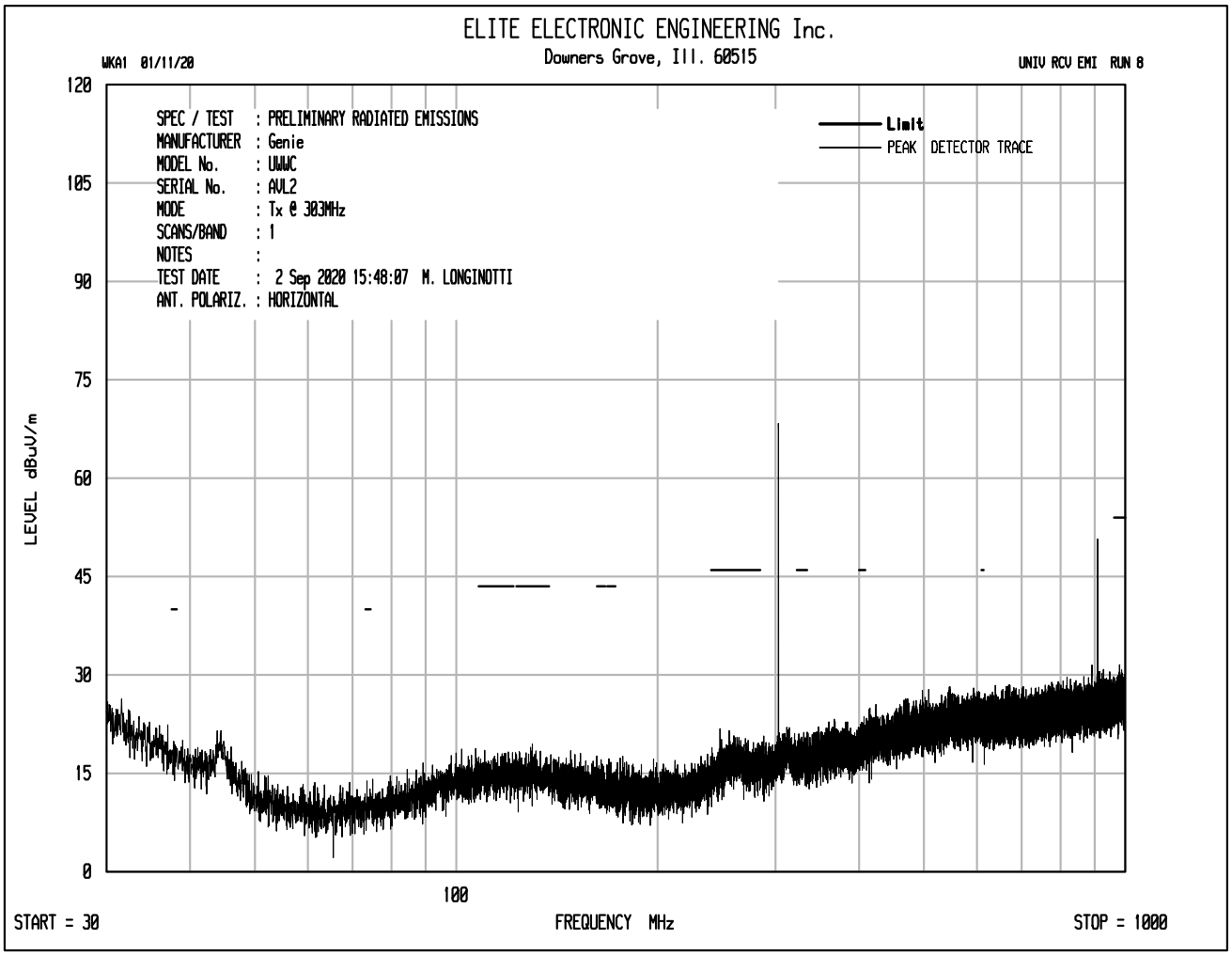

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 01/11/20
UNIV RCV EMI RUN 3
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : Genie
MODEL No. : UWC
SERIAL No. : Label 1
MODE : Tx @ 303MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 2 Sep 2020 15:42:26 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

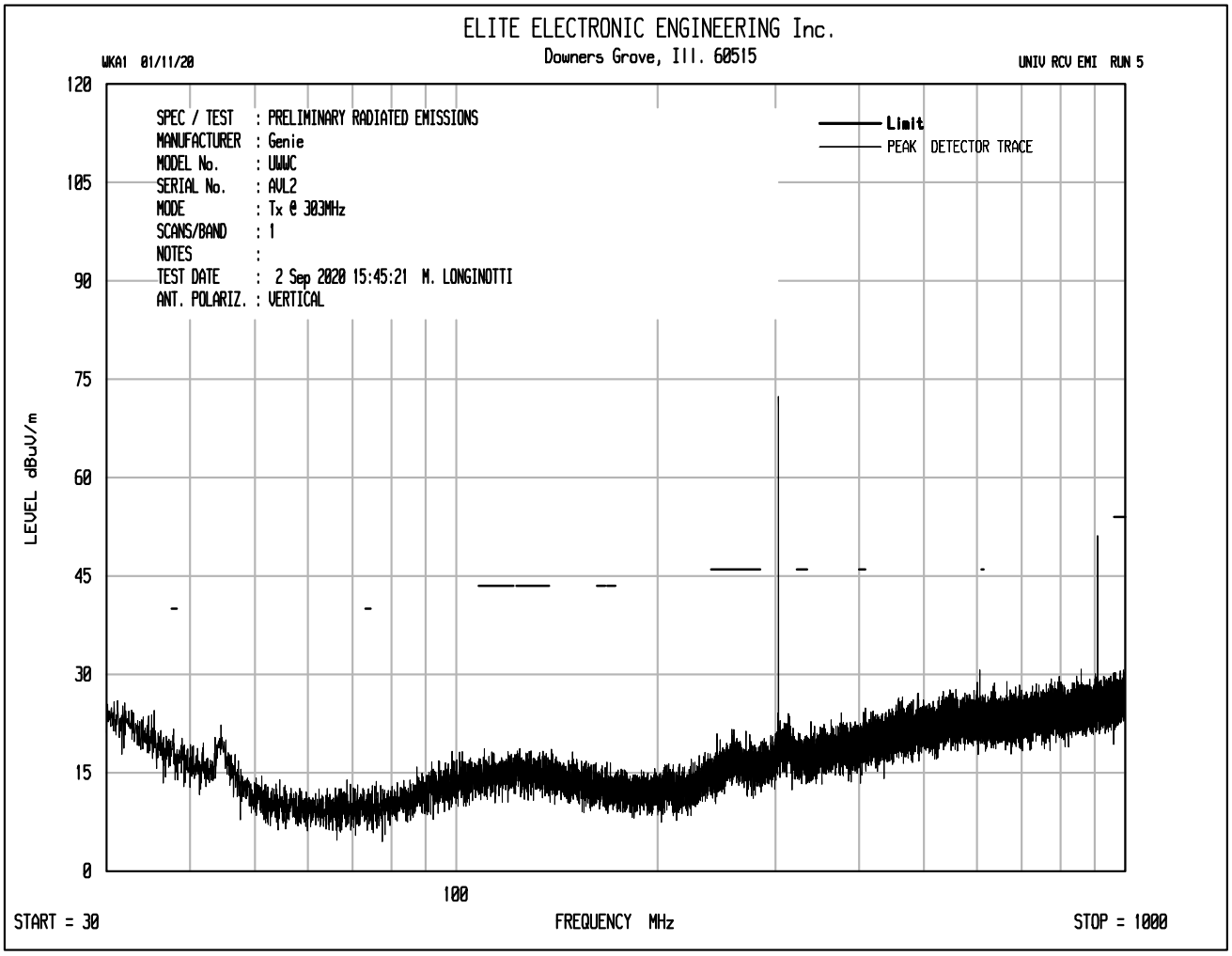

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 01/11/20
UNIV RCV EMI RUN 33
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : Genie
MODEL No. : UWC
SERIAL No. : Label 1
MODE : Tx @ 303MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 2 Sep 2020 13:00:30 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4500

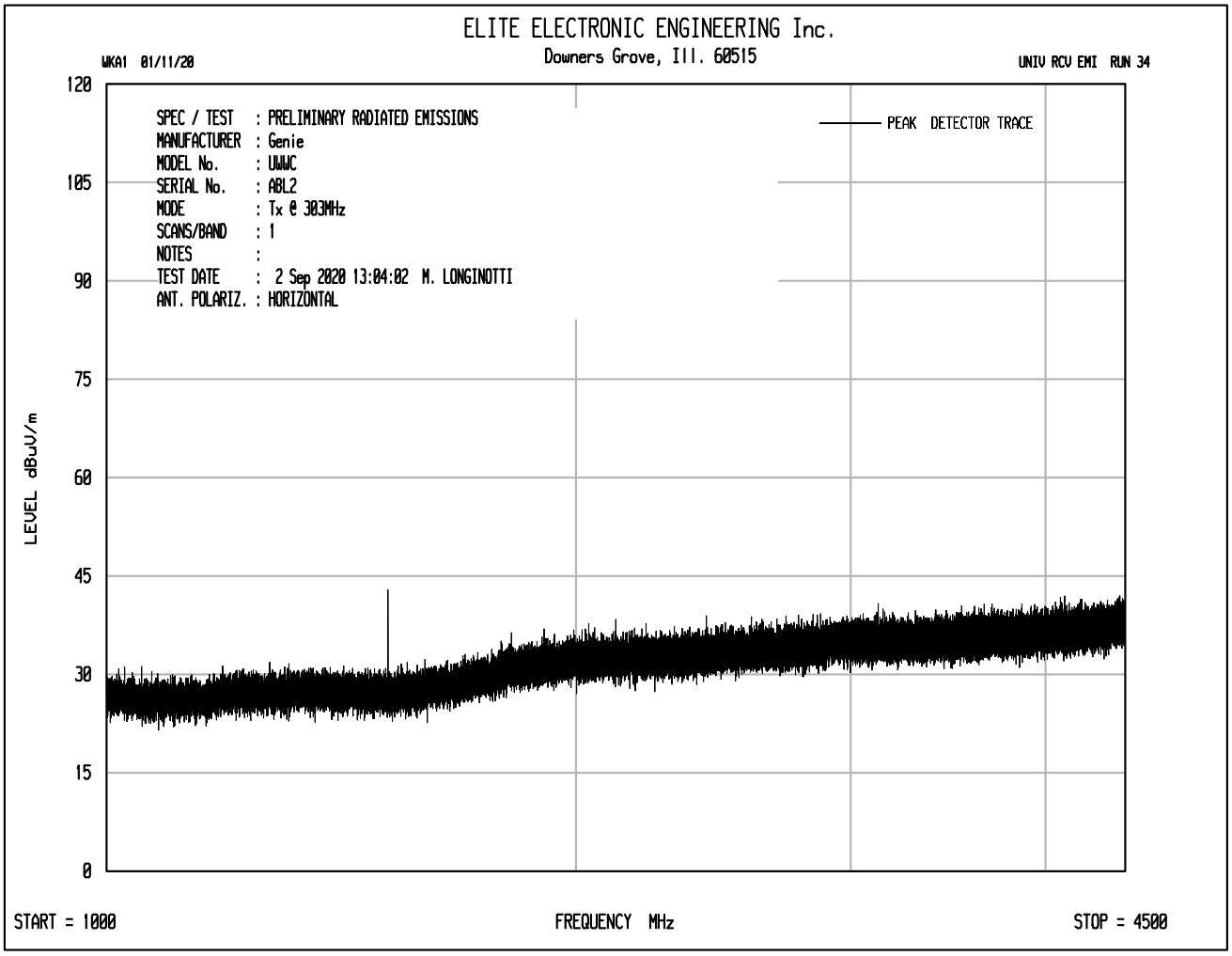

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 01/11/20
UNIV RCV EMI RUN 32
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : Genie
MODEL No. : UWC
SERIAL No. : Label 1
MODE : Tx @ 303MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 2 Sep 2020 12:57:36 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4500

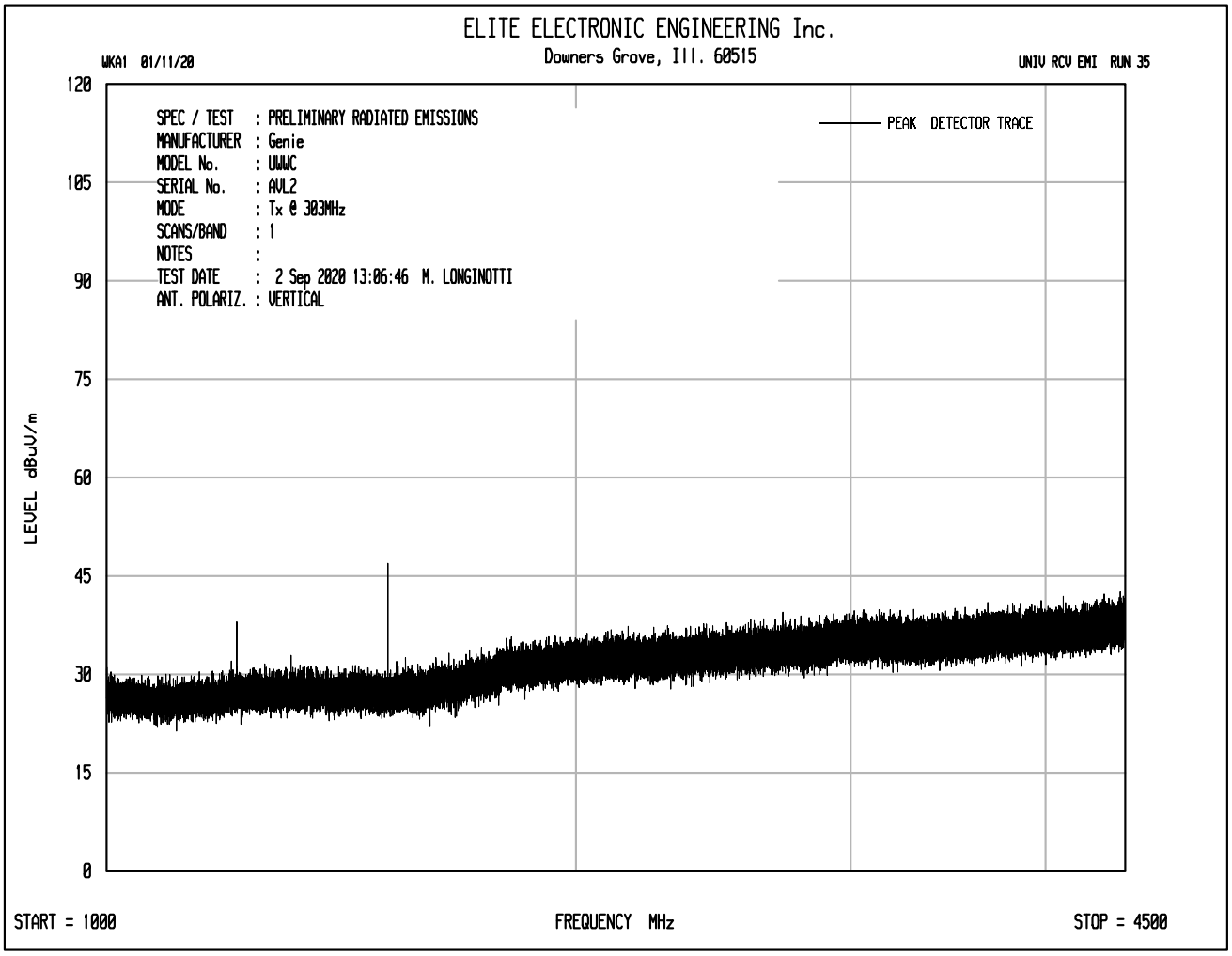
Test Details	
Manufacturer	Genie Company
Model	UWWC
S/N	Label 1
Mode	Transmit at 303MHz
Protocol	Guardian Protocol
Notes	

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB/m)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
303.000	H	50.1		0.9	19.5	0.0	-7.2	63.2	1453.5	5541.7	-11.6
303.000	V	54.0		0.9	19.5	0.0	-7.2	67.1	2277.3	5541.7	-7.7
606.000	H	9.3		1.3	24.8	0.0	-7.2	28.2	25.7	554.2	-26.7
606.000	V	19.2		1.3	24.8	0.0	-7.2	38.1	80.3	554.2	-16.8
909.000	H	28.4		1.6	26.7	0.0	-7.2	49.4	295.7	554.2	-5.5
909.000	V	30.1		1.6	26.7	0.0	-7.2	51.1	359.6	554.2	-3.8
1212.000	H	15.1	Ambient	1.8	29.6	0.0	-7.2	39.3	92.5	500.0	-14.7
1212.000	V	17.4		1.8	29.6	0.0	-7.2	41.6	120.1	500.0	-12.4
1515.000	H	24.3		2.0	29.2	0.0	-7.2	48.3	259.5	500.0	-5.7
1515.000	V	18.0		2.0	29.2	0.0	-7.2	41.9	125.0	500.0	-12.0
1818.000	H	16.1		2.2	31.6	0.0	-7.2	42.7	135.8	554.2	-12.2
1818.000	V	16.5		2.2	31.6	0.0	-7.2	43.1	142.3	554.2	-11.8
2121.000	H	17.2		2.4	32.5	0.0	-7.2	44.9	175.7	554.2	-10.0
2121.000	V	17.6		2.4	32.5	0.0	-7.2	45.4	185.5	554.2	-9.5
2424.000	H	17.2	Ambient	2.6	32.8	0.0	-7.2	45.4	186.6	554.2	-9.5
2424.000	V	17.2	Ambient	2.6	32.8	0.0	-7.2	45.4	186.1	554.2	-9.5
2727.000	H	17.5	Ambient	2.8	33.3	0.0	-7.2	46.4	208.2	500.0	-7.6
2727.000	V	17.5	Ambient	2.8	33.3	0.0	-7.2	46.4	207.9	500.0	-7.6
3030.000	H	17.8	Ambient	3.0	33.5	0.0	-7.2	47.0	225.1	554.2	-7.8
3030.000	V	17.9	Ambient	3.0	33.5	0.0	-7.2	47.1	227.2	554.2	-7.7


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 01/11/20
UNIV RCV EMI RUN 8
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : Genie
MODEL No. : UWC
SERIAL No. : AUL2
MODE : Tx @ 303MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 2 Sep 2020 15:48:07 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

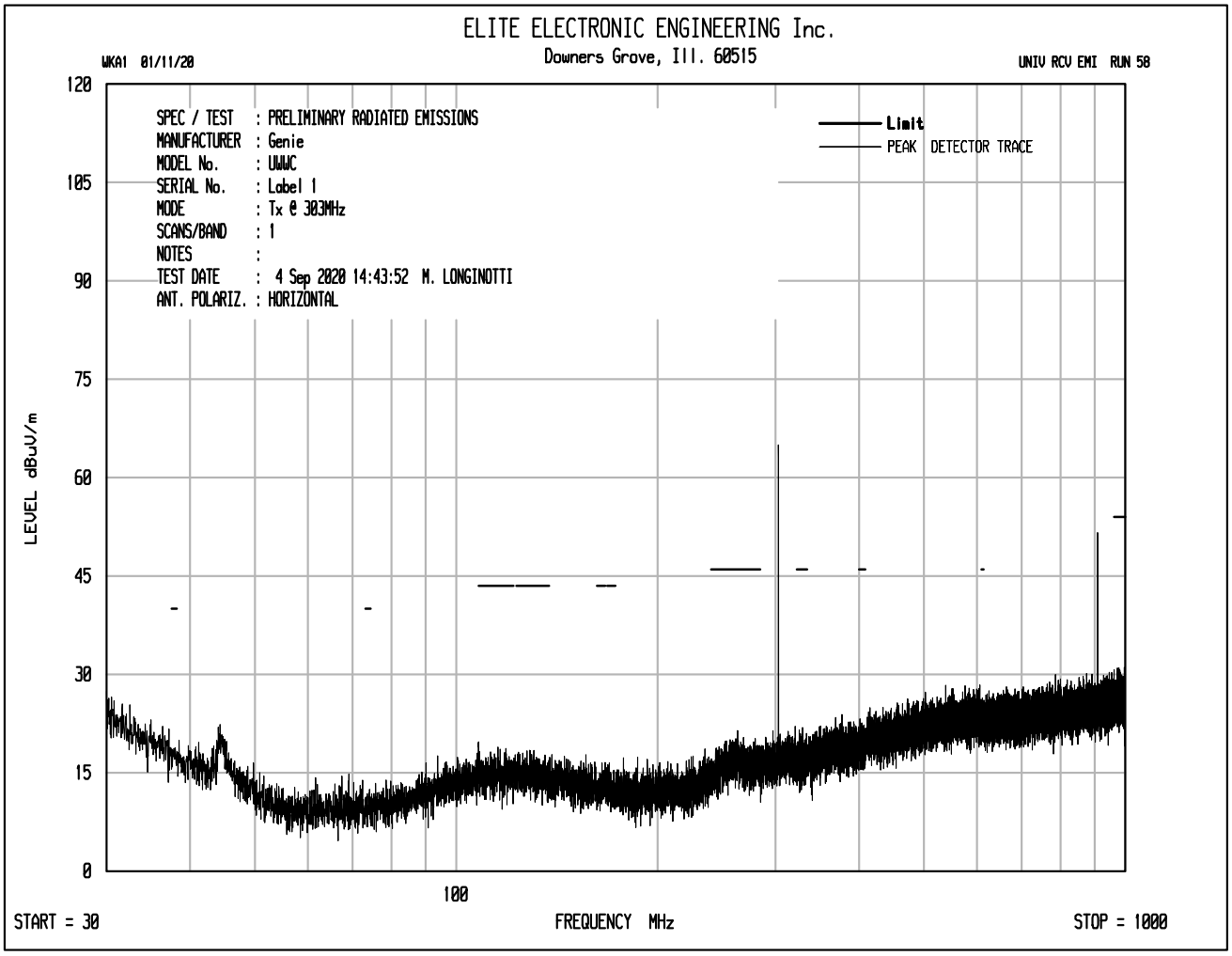

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 01/11/20
UNIV RCV EMI RUN 5
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : Genie
MODEL No. : UWC
SERIAL No. : AVL2
MODE : Tx @ 303MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 2 Sep 2020 15:45:21 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

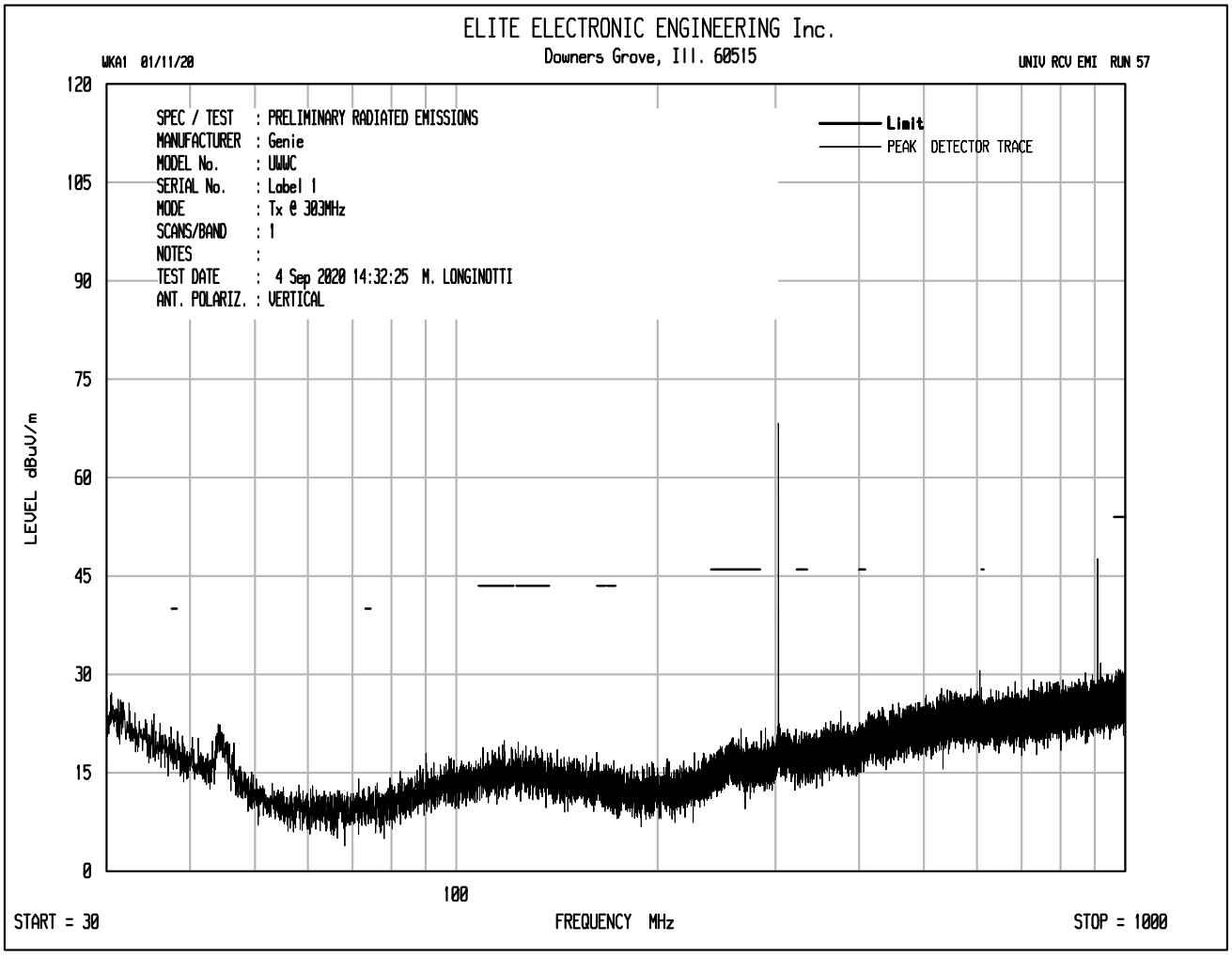

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 01/11/20
UNIV RCV EMI RUN 34
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : Genie
MODEL No. : UWC
SERIAL No. : ABL2
MODE : Tx @ 303MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 2 Sep 2020 13:04:02 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4500

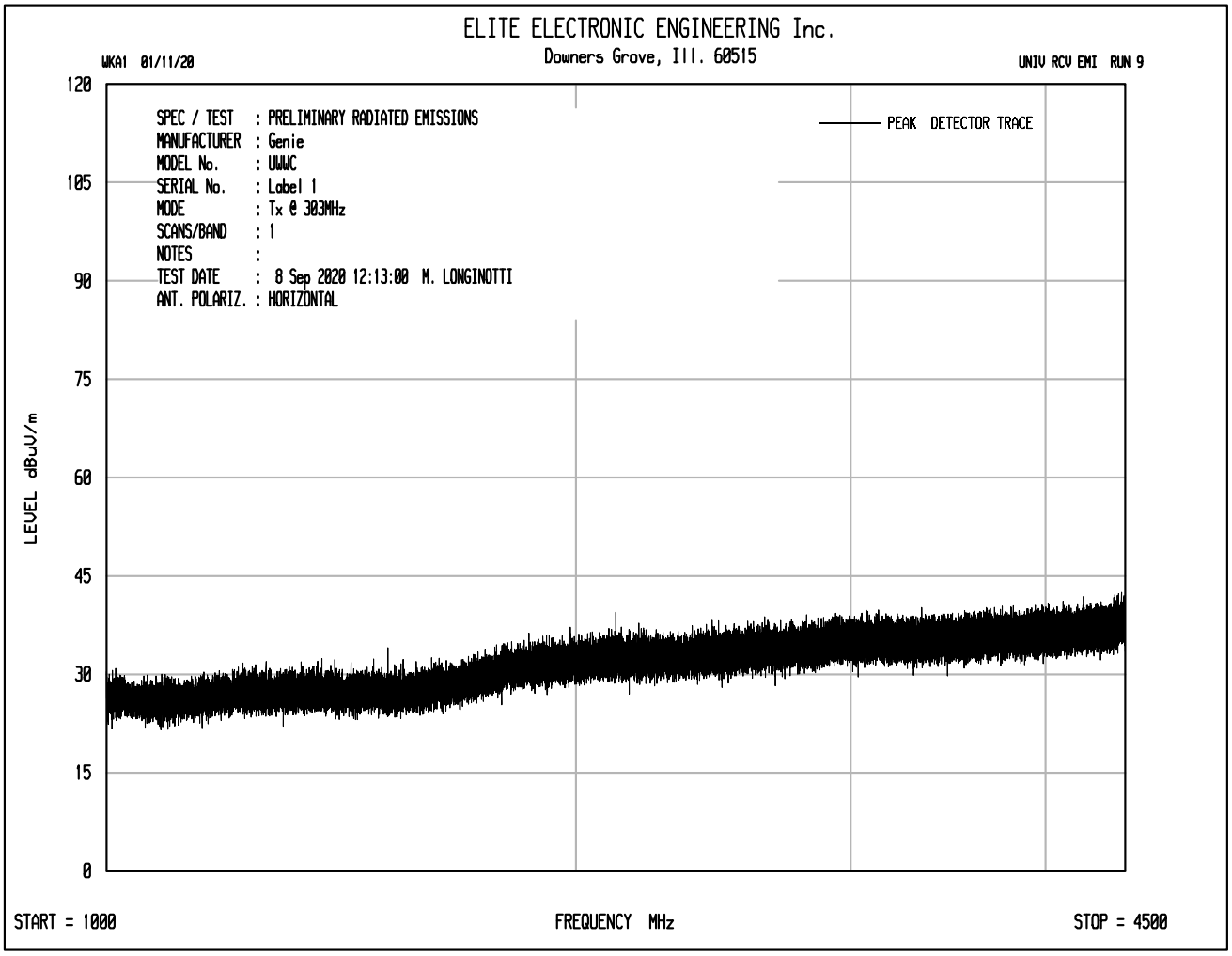

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 01/11/20
UNIV RCV EMI RUN 35
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : Genie
MODEL No. : UWC
SERIAL No. : AVL2
MODE : Tx @ 303MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 2 Sep 2020 13:06:46 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4500

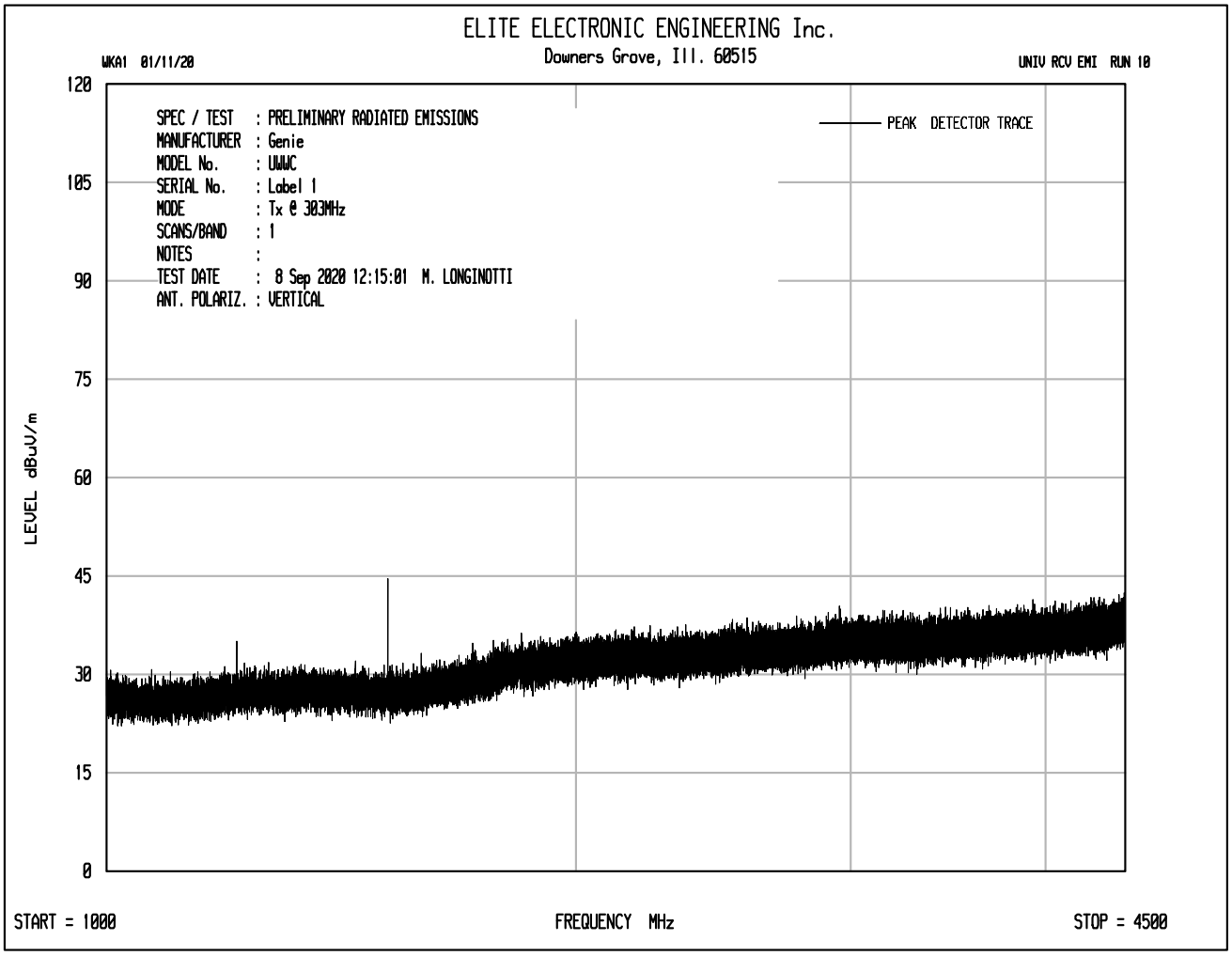
Test Details	
Manufacturer	Genie Company
Model	UWWC
S/N	AVL2
Mode	Transmit at 303MHz
Protocol	Guardian Protocol
Notes	

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB/m)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
H	49.5		0.9	19.5	0.0	-7.2	62.6	1356.5	5541.7	-12.2	H
V	53.3		0.9	19.5	0.0	-7.2	66.4	2101.0	5541.7	-8.4	V
H	28.4		1.6	26.7	0.0	-7.2	49.4	295.7	554.2	-5.5	H
V	27.5		1.6	26.7	0.0	-7.2	48.5	266.6	554.2	-6.4	V
H	17.5		2.0	29.2	0.0	-7.2	41.5	118.6	500.0	-12.5	H
V	21.0		2.0	29.2	0.0	-7.2	45.0	177.4	500.0	-9.0	V


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 01/11/20
UNIV RCV EMI RUN 58
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : Genie
MODEL No. : UWC
SERIAL No. : Label 1
MODE : Tx @ 303MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 4 Sep 2020 14:43:52 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
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 01/11/20
UNIV RCV EMI RUN 57
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : Genie
MODEL No. : UWC
SERIAL No. : Label 1
MODE : Tx @ 303MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 4 Sep 2020 14:32:25 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
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 01/11/20
UNIV RCV EMI RUN 9
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : Genie
MODEL No. : UWC
SERIAL No. : Label 1
MODE : Tx @ 303MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 8 Sep 2020 12:13:00 M. LONGINOTTI
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 01/11/20
UNIV RCV EMI RUN 10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : Genie
MODEL No. : UWC
SERIAL No. : Label 1
MODE : Tx @ 303MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 8 Sep 2020 12:15:01 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4500

Test Details	
Manufacturer	Genie Company
Model	UWWC
S/N	Label 1
Mode	Transmit at 303MHz
Protocol	Unknown Protocol
Notes	

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB/m)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
303.000	H	45.1		0.9	19.5	0.0	0.0	65.5	1879.0	5541.7	-9.4
303.000	V	48.6		0.9	19.5	0.0	0.0	69.0	2811.4	5541.7	-5.9
606.000	H	6.7	Ambient	1.3	24.8	0.0	0.0	32.8	43.8	554.2	-22.1
606.000	V	11.8		1.3	24.8	0.0	0.0	37.9	78.7	554.2	-17.0
909.000	H	24.1		1.6	26.7	0.0	0.0	52.3	414.3	554.2	-2.5
909.000	V	25.8		1.6	26.7	0.0	0.0	54.0	503.9	554.2	-0.8
1212.000	H	15.3		1.8	29.6	0.0	0.0	46.7	216.8	500.0	-7.3
1212.000	V	15.9		1.8	29.6	0.0	0.0	47.3	232.3	500.0	-6.7
1515.000	H	16.6		2.0	29.2	0.0	0.0	47.8	245.8	500.0	-6.2
1515.000	V	20.4		2.0	29.2	0.0	0.0	51.6	380.7	500.0	-2.4
1818.000	H	16.5		2.2	31.6	0.0	0.0	50.3	328.5	554.2	-4.5
1818.000	V	15.6		2.2	31.6	0.0	0.0	49.4	296.2	554.2	-5.4
2121.000	H	16.3	Ambient	2.4	32.5	0.0	0.0	51.3	365.9	554.2	-3.6
2121.000	V	16.8	Ambient	2.4	32.5	0.0	0.0	51.8	387.6	554.2	-3.1
2424.000	H	15.5	Ambient	2.6	32.8	0.0	0.0	50.9	351.0	554.2	-4.0
2424.000	V	16.2	Ambient	2.6	32.8	0.0	0.0	51.6	380.5	554.2	-3.3
2727.000	H	15.5	Ambient	2.8	33.3	0.0	0.0	51.6	381.0	500.0	-2.4
2727.000	V	15.5	Ambient	2.8	33.3	0.0	0.0	51.6	381.0	500.0	-2.4
3030.000	H	16.4	Ambient	3.0	33.5	0.0	0.0	52.9	440.9	554.2	-2.0
3030.000	V	16.2	Ambient	3.0	33.5	0.0	0.0	52.7	430.9	554.2	-2.2