



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. LONGINGTTI		
Tested by	Mark E. Longinotti		
Signature	Raymond J Klouda		
Approved by	Raymond J. Klouda, Registered Professional Engineer of Illinois – 44894		
PO Number	936132		
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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 I	dentification
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

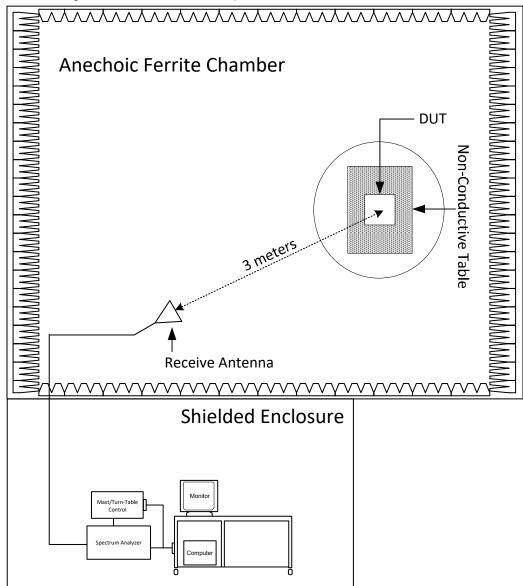








18. Block Diagram of Test Setup



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

automatically. Such setup information may include data.

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

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.

and do not exceed ten seconds after a manually operated switch is released or a transmitter is activated

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					

MultiView	Receiver	Spectrum	Ш	Spectrum 2	II Spectrum	3 II			(×
Ref Level 1 Att Input TRG:VID			MHz MHz Off	SGL			Frequ	ency 303.00	00000 MHz
1 Zero Span									 2AP Clrw
110 dBµ/V								D1[2]
									950 ps
								M1[2	2] 81.67 dBµV
100 dBµV									33,40 ms
90 d8µV									
and a state of the							1 1		
an dent									
120-4860									
	TRG 62,000 df	Bu OK							
60 dBμV · · · ·									
50 dBµV									
40 dBµV + + + +		and the second second	والمراجع والمعادر والم	Section of the sector of the	i fatisfication and an an an and	وأرتب والتلاور ومرا	de se husbandaria	La transmistra da cara da c	المتعادية والمعالم
CF 303.0 MH	z			1	001 pts				500.0 ms/
	1				Ready		4 31.00.2 22:31	020 Ref Level	RBW

22:31:25 31.08.2020



	Test Details	
Manufacturer	Genie Company	
Model	UWWC	
Mode	Transmit at 310MHz	
Protocol	Sommer	
MultiView Receiver	II Spectrum 2 II Spectrum 3 II	×.
Ref Level 112.00 dBµV = RBW 1 Att 10 dB = SWT 5 s = VBW 3	MHz SGL MHz	Frequency 310.0000000 MHz

Att Input TRG: VID	10 dB = 1 AC			/BW : Notch	3 MHz Off				Frequ	ency 310.00	00000 MHz
1 Zero Span 110 dBµV		-								D1[7	
100 dBµV		_								M1[2	950 µs 94.59 d8µV 33.40 ms
100 dBµV	ш	4	H	L							
90 HBuy	Ш	Ц	Ц								
70 HBc/V	Ш	Ц	Ш								
60 dBuV	TRG 62.0	00 dBµV	Ц								
50 dBuy	Ш	Ш	Ш								
		П	Π								
40 dBμV —				abate	alada Bakilan	وحقائمه فأحمدهم	i i socie di cara stran	a sector all is the	nilve ani-states di	in a state of the state	مصاغلتم تأبأتناهم
30 d6µV											
20 d6µV											
CF 310.0 MHz	Y					100	1 pts Ready		31.00.2	020 Ref Level	500.0 ms/
									22:4	0:40	

22:40:48 31.08.2020



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

MultiView	Receiver	Spectrum	I Spectr	um 2 🛛 🖾	Spectrum 3	(III)			×.
Ref Level 1 Att Input TRG:VID	10 dB • SW 1 AC PS		MHz SGL MHz Off				Freque	ency 310.00	00000 MHz
1 Zero Span									 2AP Clrw
110 dBµV								01[2]
									950 ps
100 d8µV								M1[2	2] 36.84 dBµV
100 000*				1					33,40 ms
		100000000000000000000000000000000000000							
90.dej.(v	**********								
RD dRUV									
							1		
加西欧一种一									
60 d8µV	TRG 62.000 dB	suv							
su disuv									
ар авши								- 1	
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CF 310.0 MHz				1001 pt	5				500.0 ms/
	Y				Ready		31.00.2	020 Ref Level	

22:43:41 31.08.2020



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

MultiView	Receiver	Spectrum	Spectrum 2	II Spectrum	з (п		
Ref Level 1 Att Input TRG:VID	12.00 dBµV 10 dB = SW 1 AC PS	F 5 s RBW 1 MHz On Notch Off	SGL			Frequency	315.0000000 M
1 Zero Span							 2AP Clin
110 dBµ/V							01[2] 0.00
							950
100 30(4)							M1[2] 94.98 df
100 dBµV							33,40
90 dBUV				-			
						- T	
ND dealer				-			
60 d8µV	TRG 62.000 dB	yuv					
-							
50 dBµV —							
40 dBµV — —							
10 (B) 10		and a second state of the second		and a state of the second second	and a second second best of a	ta incention of the second states.	فالالمانية والمتلكية والمتلوم
30 dBuV							
on only .							
20 dBpV							
CF 315.0 MHz	z		1	001 pts			500.0 m
	Y			Ready		31.00.2020 22:46:37	Ref Level RBW

22:46:38 31.08.2020



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

MultiView			_	ectrum		ectrum 2	Spectru	m 3 🛛 🖽	1		. v
Ref Leve Att Input TRG:VID		db = SWT AC PS	5	RBW 1 MH VBW 3 MH Notch Of		iL.			Fr	equency 315.0	000000 MHz
1 Zero Sp	an										 2AP Clrw
110 dBµ/V										01	[2] 0.00 dB
											950 ps
DO HEAV-		1					-			M1	[2] 99.40 dBµV
							1				33,40 ms
90 HBµV —			m								
90 HBµV —			HH				-	-			
10 HBuly -							-	-			
60 dBuV -	TR	62.000 dBµ	v —								
50 dBµV			HH								
40 dBµV —		and both former of		de later	and the set					- · · ·	4
10 T 10	to Applying			al an eile bar	with Almosti	a sector de la contra de la c	a for a state of the	a Minister and the s	a diddaa a	in a filling in the back is in the	den instante between
so dehv											
CF 315.0	MHz					10	01 pts			.08.2020 Ref Leve	500.0 ms/

22:49:38 31.08.2020



(BA)

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

MultiView	Receiver	Spectrum	Spectrum 2	Spectrum	з (ш)			×
Ref Level 1 Att Input TRG:VID	12.00 dBµV 10 dB • SV 1 AC PS		SGL			Freque	ency 315.00	00000 MHz
1 Zero Span								 2AP Clrw
110 dBµ/V							01[2]	0.00 dB
								950 ps
100 dBµV							M1[2] 80.18 dBµV
100 0001								33.40 ms
90 d8µV			-	-				
102		the second second						
70 HBclV								
60 dBuV	TRG 62.000 d	f8μV						
50 GBUV								
50 dBµV — —								
40 dBµV — —								
	har and a state for least and play	AND IN R. IN PRODUCTS	ومعامد أنابة بالمامين	alusta se a se a trabatil	had a digital da a di se di	اطبيعات فالجار فالدا	interest and build all	ici, ssinkelten ek her
20 d8µV								
CF 315.0 MH	z		100	01 pts				500.0 ms/
				Ready		31.00.20 22:51		RBW

22:51:48 31.08.2020



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

MultiView	Receiver	Spectrum	II Sp	ectrum 2	Spectrum	з (п)			v.
Ref Level 1 Att Input TRG:VID		PBW 1 T5s VBW 3 On Notch	MHz SC MHz Off	iL.			Frequ	ency 315.000	00000 MHz
1 Zero Span							V.		 2AP Clrw
110 dBµV								D1[2]	
									950 ps
at here we have								M1[2]	97.20 dBµV
2100mdBax									33,40 ms
90) degi (c				-		-		-	
80 880V									
70 8Boy									
60 dBuV	TRG 62.000 dB	μV							
50 dBµV +									
40 d8uV									
40 00ps		Sec. and	محمورة المحمولية	a sustained a	and a supervision of the lite	and the state of the state	بالصارة أستحجه ويرجا	والمتعادية والمتعادية	والمتعقب بالمراجع
30 dBuV									
20 d8µV									
CF 315.0 MH	z			100	l pts				500.0 ms/
0.0101010	Y			100	Ready		31.00.2	020 Ref Level	RBW
					- Cody		22:5	1:47	

22:54:48 31.08.2020



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

MultiView	Receiver	II Spectrum	I Spectrum 2	Spectrum	з (п)		w.
Ref Level 1 Att Input TRG:VID		RBW 1 M Ss VBW 3 M On Notch 0				Frequer	acy 318.0000000 MHz
1 Zero Span							 2AP Cirw
110 dBµV							D1[2] 0.00 dB
							950 ps
		1000					M1[2] 96.93 dBµV
200 dayw 90 dayw 90 dayw 90 dayw 90 dayw 50 dayw 40 dayw	TRG 62.000 dB						33,40 ms
CF 318.0 MH:	z			1001 pts			500.0 ms/
	1			Ready		40 31.00.202 22:50:1	0 Ref Level RBW

22:58:18 31.08.2020



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

		E I	Spectrum 3	H	sctrum 2	H	um	Spectr	(=	Receiver	ultiView
Frequency 372.5000000 MH	Freq				L	_	V 3 MHz		SWT 5 PS O	12.00 dBµV 10 dB 1 AC	Ref Level 1 Att Input RG:VID
• 2AP Cirv										-	Zero Span
D1[2] 0.00 0 950								1			0 dBµV
M1[2] 105.83 dB											
33,40 n							1				o depv
				-							HBLIV
				-							HBUV
											HBuly
				-					000 d8µV	TRG 62.	
								Ħ			dBµV — —
											dBuV — —
								П		ш	astro — —
											a
باستعملان زيعد أتعقأ لتبيئ فيستبدوا أتحادلون	فأعدانه ومخلقا وأ	discoutions.	البيانة فصطحياتهم		A Later balance Alaster	<u>با</u> مراد	ويقرر وتتنقيق	. J			
500.0 ms				1 pts	100						372.5 MH:

23:01:10 31.08.2020



CF 372.5 MHz

23:04:10 31.08.2020

	Test Details	
Manufacturer	Genie Company	
Model	UWWC	
Mode	Transmit at 372.5MHz	
Protocol	Ryobi	
MultiView Receiver	II Spectrum 2 II Spectrum	13 II ·
Att 10 dB = SWT 5 s = VBW 3 Input 1 AC PS On Notch		Frequency 372,5000000 MHz
TRG:VID 1 Zero Span		• 2AP Cinv
110 dBµV		D1[2] 0.00 d8
		950 ps M1[2] 105.78 d8pV
1000889Y		33,40 ms
(90.3BµV		
30 dBμV		
10 <u>нв</u> ау — — — — — — — — — — — — — — — — — — —		
705 42 000 49 44		
60 BBuy		
50 dBµV		
	والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع	an internet in the second structure of the second structure of the second structure of the second structure of

1001 pts

Ready

......

500.0 ms/

RBW

31.00.2020 Ref Level 23:04:09



	Test Details	
Manufacturer	Genie Company	
Model	UWWC	
Mode	Transmit at 390MHz	
Protocol	Chamberlain Green	
		60

Input TRGMD 1AC PS On Notch Off 12CroSpan 02AP Claw 01[2] 0.00 dB 950 mg	MultiView	Receiver	Spectrum	T Spectrum	2 II Spect	trum 3 III		le l
12 Core Span -229 C [ky 100 dg/V 01[2] -0.00 dg/V 100 dg/V M1[2] 101.29 dg/V 33.40 ms 300 dg/V 33.40 ms 33.40 ms 300 dg/V -0.00 dg/V -0.00 dg/V 00 dg/V -0.00 dg/V	Att Input	10 dB . SW	T5s . VBW 3MH	tz			Frequency	390.0000000 MHz
Solution Solution	1 Zero Span	he -						2AP Clrw
M1[2] 101.29 dBµV 90 dBµV 33.40 ms 90 dBµV 33.40 ms 90 dBµV 33.40 ms 90 dBµV 90 dBµV 10 lpts 500.0 ms/	110 dBµV							D1[2] 0.00 dB
00 dbpv 33,40 ms 40 dbpv 33,40 ms 10 dbpv 10 dbpv 10 dbpv 10 lbps 10 lbps 100 lbps	641-							950 ps
90.09 y	Y-							M1[2] 101.29 dBµV
S0.081V	nan agh s-a							33,40 ms
10 000 //	90:d8gV — —							
10 000 //	an deay							
60 dBgV 100 gBgV 60 dBgV								
50 BBV	10 080V						-	
50 BBV		TRG 62.000 d	BuV					
40 degV	50 diguy							
20 d8gv 20 d8gv CF 390.0 MHz 1001 pts 500.0 ms/ Poadu 11001.2020 [Ref Level] R8W	50 d8uV							
20 d8gv 20 d8gv CF 390.0 MHz 1001 pts 500.0 ms/ Poadu 11001.2020 [Ref Level] R8W								
20 d8gv CF 390.0 MHz 1001 pts 500.0 ms/ Roady 11001.2020 [Ref Level RbW	40 d8µV		A P A Line Average and	in the second distance in the second second	and the second second second	فيسقله ويصافدونه بالقيسة	بقطب ويعتد لطو يحمد النواف	and the second
20 d8gv CF 390.0 MHz 1001 pts 500.0 ms/ Ready 11001.2020 [Ref.Level] RBW								
CF 390.0 MHz 1001 pts 500.0 ms/	30 dBpV							
CF 390.0 MHz 1001 pts 500.0 ms/								
CF 390.0 MHz 1001 pts 500.0 ms/	20 dBuV							
Ready 31.00.2020 RefLevel RBW	Co. ougo							
Ready 31.00.2020 Ref Level RBW	CF 390.0 MH	iz			1001 pts			500.0 ms/
		1			R	eady	31.00.2020	

23:06:42 31.08.2020



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

MultiView	Receiver	Spectrum	Spectrum 2	Spectrum	з (п)		× ×
Ref Level 1 Att Input TRG:VID		BBW 1 MHz S S S VBW 3 MHz On Notch Off	-33575			Frequenc	390.0000000 MHz
1 Zero Span							2AP CIrw
110 dBuV				_			D1[2] 0.00 dB
and a							950 ps
4		- 10 C					M1[2] 101.51 dBpV
too diipy							33,40 ms
90.d80V3							
.en deuv							
im dagy —	TRC 40.000 d						
60 dBµV —							
50 dBµV —							
40 d8µY -		a di materialian	continue concert conducted and been	a descents building 1 mar	and the setting the set is the	and the state of t	وريافة والمحمد والمعام والمحمد والمحمد والمحمد
30 dBµV							
20 dBµV							
CF 390.0 MH	z		10	001 pts			500.0 ms/
	1			Ready		31.00.2020 23:00:41	Ref Level RBW

23:08:42 31.08.2020



Test Details						
Manufacturer	Genie Company					
Model	UWWC					
Mode	Transmit at 390MHz					
Protocol	Chamberlain Yellow					
		00				

Frequency 390.000000	Spectrum 3	ctrum II Spectrum BW 1 MHz SGL BW 3 MHz otch otch Off	00 dBµV = F 10 dB = SWT 5 s = V	Ref Level 11 Att Input
• 2AP (TRG:VID Zero Span
D1[2] 0.0				110 dBµV
9:				
M1[2] 36.93 33.4				100 Bapy
0.00				
				90 dBull
				A HOLES
				O dBUV
				n <mark>d albaki</mark>
			TRG 62.000 dBµV	so deµv
				0 dBuV
ويعرفاء ويصبغ أنقاب وتمدعه إيباعهم أقبادهم وبالمزهر	 المحدقة الرائد المحقق	A more state of the state	and the set of the set	AD deµv
500.0	1001 pts			F 390.0 MHz

23:11:29 31.08.2020



Test Details						
Manufacturer	Genie Company					
Model	UWWC					
Mode	Transmit at 390MHz					
Protocol	Chamberlain Legacy (9 DIP switches)					
10		\$				

MultiView	Receiver	Spectrum	πs	pectrum 2	Spectrum	з (п)			×
Ref Level 1 Att Input TRG:VID	12.00 dBµV 10 dB • SW 1 AC PS			GL			Freque	ncy 390.00 0	00000 MHz
1 Zero Span									 2AP Clrw
110 dBµV				-				01[2]	
									950 ps
100 40 41								M1[2]	96.20 dBµV
100 dBhA	0.000.000	Sector 1							33,40 ms
9098807	**-	-		+					
80.d84V									
DO MORA									
701886V	**			-					
60 dBuV-	TRG 62.000 dB	Suv -							
50 dBµV									
40 dBµV		a a line de la la com							
in the second se		n a nananina	المروب بالعائلات	u hallo de litrica italia	Nelsonplasticies	The second s	والمعارف ومستقيمه	والتعالية والمسادية والمقادي	a detail de de de
00 d8µV									
20 d8µV									
CF 390.0 MH	7			100	1 pts				500.0 ms/
CF 390.0 MH	<u>د</u>			100	_		31.00.20	20 Ref Level	RBW
L					Ready		23:13:		

23:13:05 31.08.2020



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

MultiView	S	Receiver	Spectrum		Spectrum 2	II Spe	ctrum 3	E			×
Ref Lev Att Input TRIS:VID		12.00 dBµV 10 dB • SV 1 AC PS	RBW S S S VBW Notch		SGL				Frequen	cy 390.00	00000 MHz
1 Zero S											 2AP Clrw
110 dBµV-			-		_		_			D1[2]	
	-										950 µs
										M1[2]	38.35 dBµV
190 (d8µV					-						33.40 ms
90 degv	-										
en deuv											
ON GODA											
711 dBaV											
60 d8uV		TRG 62.000	dBµV								
SD dBuV											
AD deuv	1. 11	1									
	n 10	designed (10) date	ala an abana ara	hati shirili	المراقعة والمتأميما	n di na financia da	entras de la com	daaraa kustafbar	in all the destribution	adamenta aprilata	e ha ea de la commu
30 dBµV											
20 dBpV											
CF 390.0		7				1001 pts					500.0 ms/
GF 390.0	, (VIE'),						0		31.08.202	0 Ref Level	RBW
							Ready		23:20:4		

23:20:41 31.08.2020



Test Details					
Manufacturer	Genie Company				
Model	UWWC				
Mode	Transmit at 390MHz				
Protocol	Genie IC2				
		60			

MultiView	Receiver	Spectrum	II Spectrum	2 I Spe	ectrum 3	12		×
Att Input TRG:VID	112.00 dBµV 10 dB = SV 1 AC PS					F	requency 390.00	00000 MHz
1 Zero Span								 2AP Clrw
110 dBµV							01[2] 0.00 dB 950 µs
190 deux							M1[2	37.47 dBµV
								33,40 ms
90. d8gv++			-					
en degv-c	<u> </u>							
70 d8gvi								
60.d8uV-	TRG 62.000	dBµV						
50 dēµv- —								
ab degv —		A langest offer second of t	and the state in the	and an a local bands of	and delivery street	the collection of the second states	na an an tha an an an Airl Airlinean A	AND STREET, SALES
*			and the set of the set of					
30 d8µV								
20 d8µV								
CF 390.0 MH	2			1001 pts				500.0 ms/
CF 390.0 MH	12			1001 pts				300.0 ms/

23:22:24 31.08.2020



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

MultiView	Receiver	I Spectrum	π	Spectrum 2	I Spectrum	3 II			v.
Ref Level 1 Att Input TRG:VID		5 5 * VBW 31		SGL	r		Frequer	icy 390.00	00000 MHz
1 Zero Span									 2AP Clrw
110 dBµV								D1[2]	
									950 ps
								M1[2]	95.96 d8µV
100 dBµV				-					33.40 ms
10 m									
90 dBut									
80.4800									
TRABAT									
	TRG 62.000 dB	uV Vu							
60 dBµV									
S0 dBuV									
40 dBµV		4.4	والمراجع والمراجع	and a second second	a transitional a	and the second second	- Libralianti antelli	and the first of the second	والمراجع المراجع والمراجع
30 dBuV									
an unpr									
20 dBµV									
CF 390.0 MH	7			100)1 pts				500.0 ms/
0. 05010 1111	Y			100	_		31.00.202	0 Ref Level	RBW
					Ready		23:15:0		

23:15:02 31.08.2020



Test Details						
Manufacturer	Genie Company					
Model	UWWC					
Mode	Transmit at 390MHz					
Protocol	Genie Legacy (12 DIP switches)					
	80					

MultiView	Receiver	Spectrum	I Spectrum 2	II Spectrum	з (ш)		×
Ref Level 1 Att Input TRG:VID		T 5 s • VBW 3 MH On Notch Of	- 2018 T -			Frequency 390.00	00000 MHz
1 Zero Span							 2AP CINW
110 dBµV						DH	2] 0.00 dB 950 ps
100 dBµV						M1[2] 96.06 d8µV 33,40 ms
90.4800							
80 dB(0)				_			
70 alger		-		_	-		
60 dBµV	TRG 62.000 d	BμV					
50 dBµV							
40 dBµV		a state of the	a de la contra de la contra de desarro	u a ser a la	i candina an Maraja	a second a statement of the second later	ağırlaran danışı titir.
20 dBµV							
CF 390.0 MH	7			1001 pts			500.0 ms/
0. 05 910 1111	T T			Ready		31.00.2020 Ref Level	

23:16:53 31.08.2020



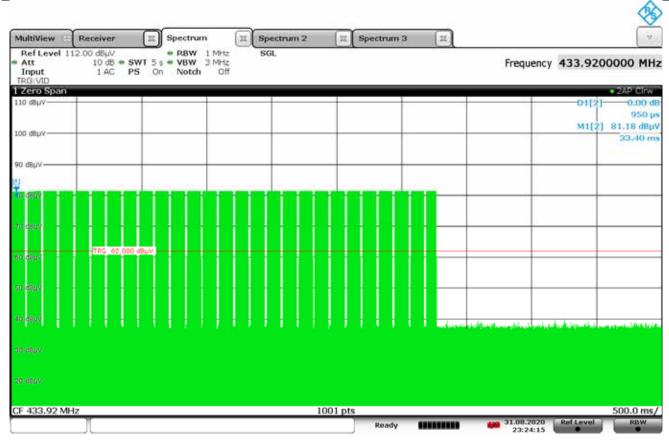
Test Details					
Manufacturer	Genie Company				
Model	UWWC				
Mode	Transmit at 390MHz				
Protocol	Overhead Door				
		RA			

MultiView 🗄	Receiver	Spectrum	П	Spectrum 2	II Spectrum	n 3 🔳			×9
Ref Level 1 Att Input TRG:VID	12.00 dBµV 10 dB = SV 1 AC PS	VT 5 s . VBW 3	MHz MHz Off	SGL			Freque	ency 390.000	00000 MHz
1 Zero Span									 2AP Clrw
110 dBµV				_		1		D1[2]	
									950 ps
100 40/41								M1[2]	96.36 dBµV
Vulab 001									33,40 ms
90 dBuv — — —				-		-	-		
80 deuv		_		_	_				
							1 1		
701086IV									
	TRC 62,000	dBu (V							
60 d8µV — — —									
50 d8µV				_					
en denta el el		R P R Workburdt	فعلما والضخافة	تدا وأفلام بدايا فأرجده	ومعزز فبأد لابتجريانا أبسدان	بالمعصفة سروه فال	مربعية استربعا أنتبأه	والمتلاف ومستقدينا ومرود	all the second second second
30 dBµV									
20 dBuV									
CF 390.0 MH	2				001 pts				500.0 ms/
CF 39010 MH	<u>د</u>						31.00.2	020 Ref Level	RBW
					Read	y 111111	23:10	:29	

23:18:30 31.08.2020



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).

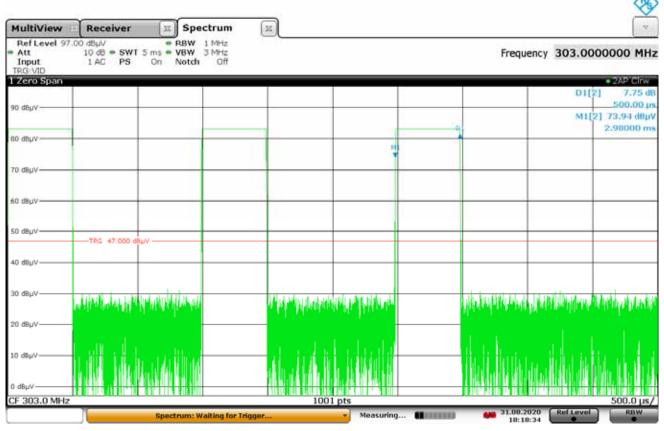
6) The duty cycle factor is computed from the duty cycle.



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		



18:18:34 31.08.2020



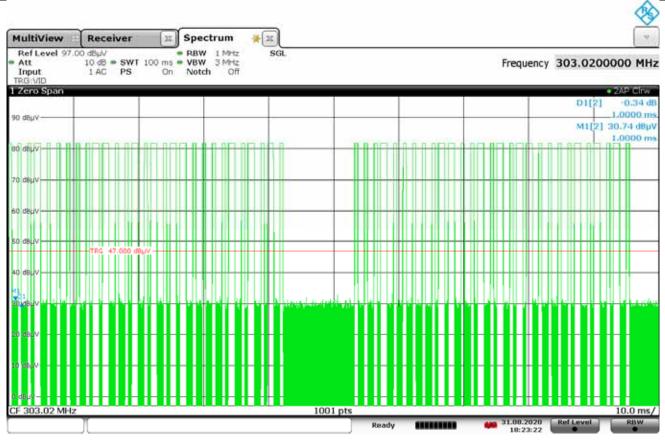
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 303MHz
Protocol	Guardian
Parameters	Wide Pulse = 1msec
Notes	



18:20:09 31.08.2020



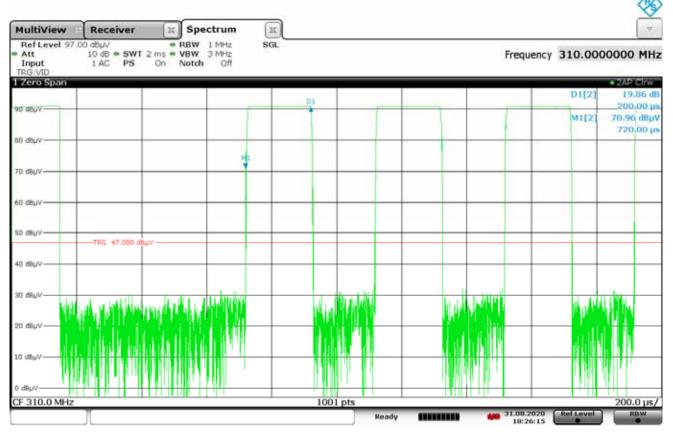
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 303MHz
Protocol	Guardian
Parameters	Duty Cycle calculation was based on 50% short pulses and 50% long pulses or 29 short pulse and 29 long pulses = 29 x 500usec + 29 x 1 msec = 43.5msec
Notes	Duty Cycle = 20 x log(43.5msec/100msec)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



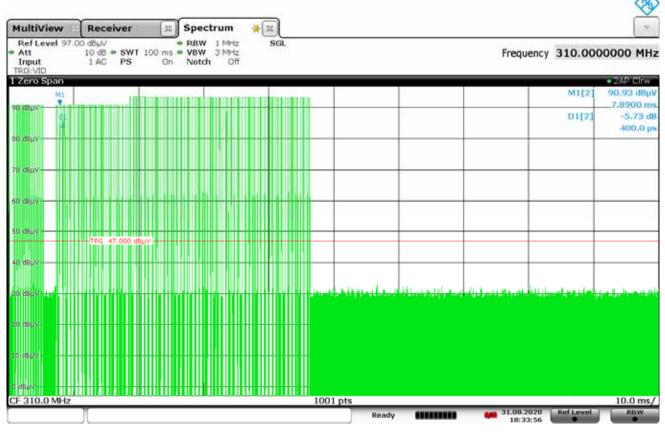
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 310MHz
Protocol	Sommer
Parameters	Wide Pulse = 400usec
Notes	



18:27:53 31.08.2020



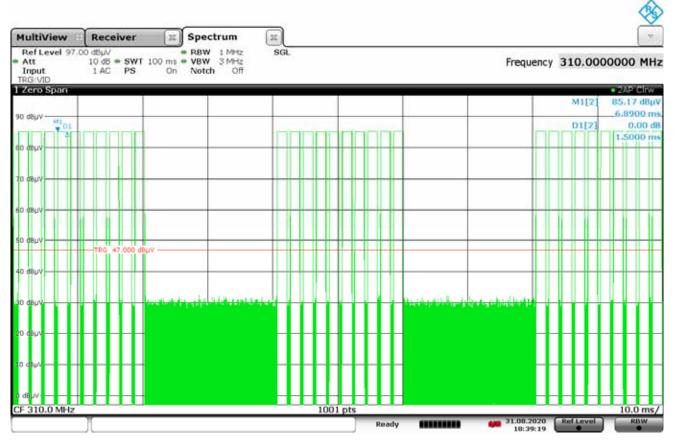
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 310MHz
Protocol	Sommer
Parameters	Duty Cycle: 41 short pulse and 36 long pulses = 41 x 200usec + 36 x 400usec = 22.6msec
Notes	Duty Cycle = 20 x log(22.6msec/100msec) = -12.9dB



18:33:57 31.08.2020



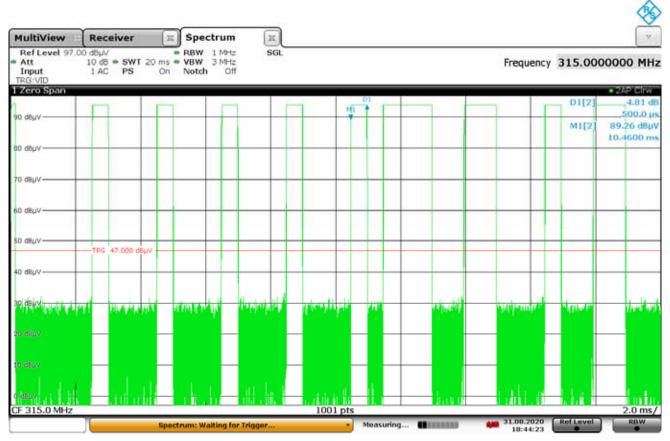
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 310MHz
Protocol	Stanley
Parameters	Duty Cycle: 30 pulses x 1.5msec = 45msec
Notes	Duty Cycle = 20 x log(45msec/100msec) = -6.9dB



18:39:19 31.08.2020



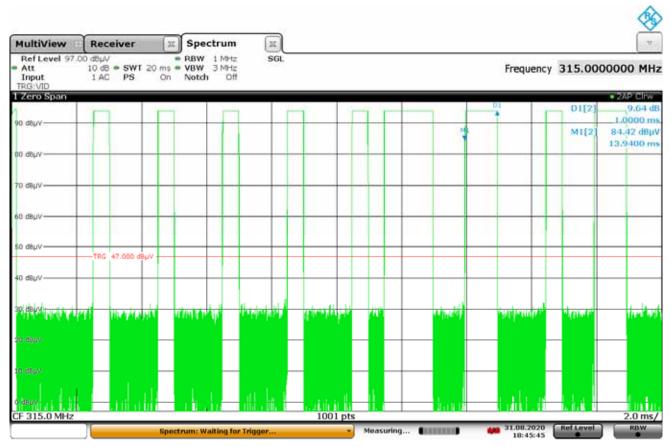
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 315MHz
Protocol	Chamberlain Purple
Parameters	Narrow Pulse = 500usec
Notes	



18:44:24 31.08.2020



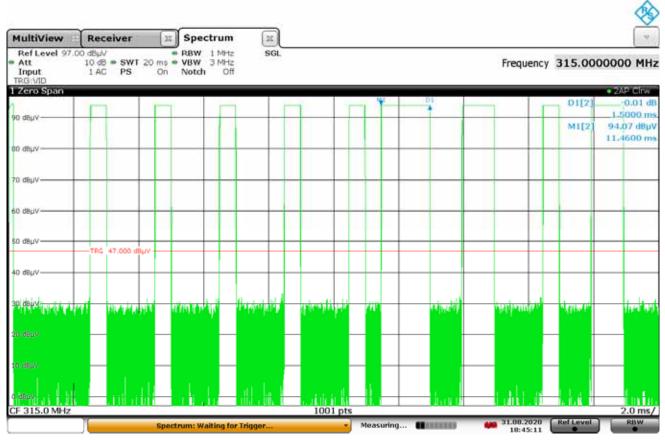
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 315MHz
Protocol	Chamberlain Purple
Parameters	Medium Pulse = 1msec
Notes	



18:45:45 31.08.2020



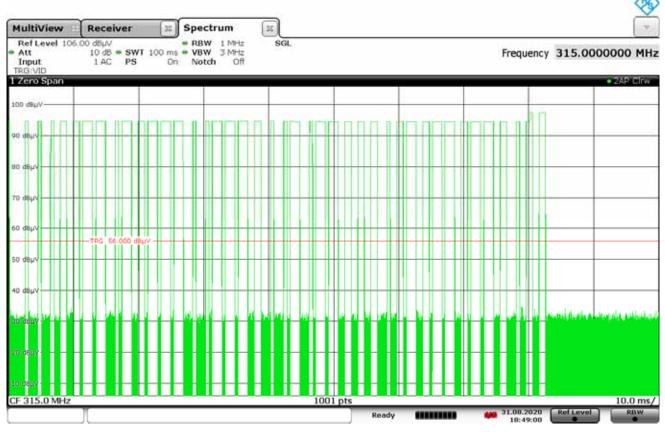
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 315MHz
Protocol	Chamberlain Purple
Parameters	Wide Pulse = 1.5msec
Notes	



18:45:12 31.08.2020



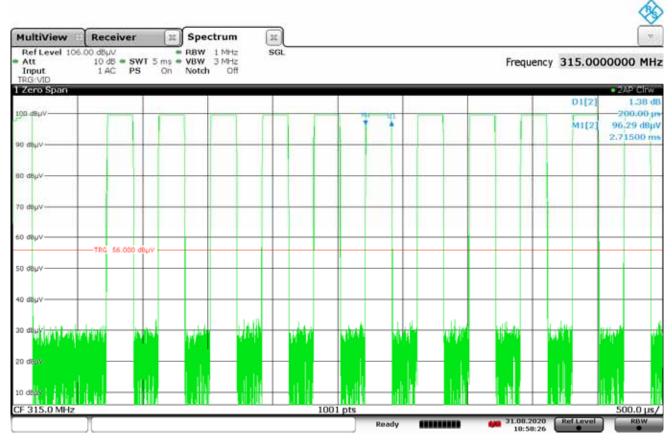
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 315MHz
Protocol	Chamberlain Purple
Parameters	Duty Cycle: 11 narrow pulses, 13 medium pulses, and 17 long pulses: 11 x 500usec + 13 x 1 msec + 17 x 1.5msec = 44msec
Notes	Duty Cycle = 20 x log(44msec/100msec) = -7.13dB



18:49:00 31.08.2020



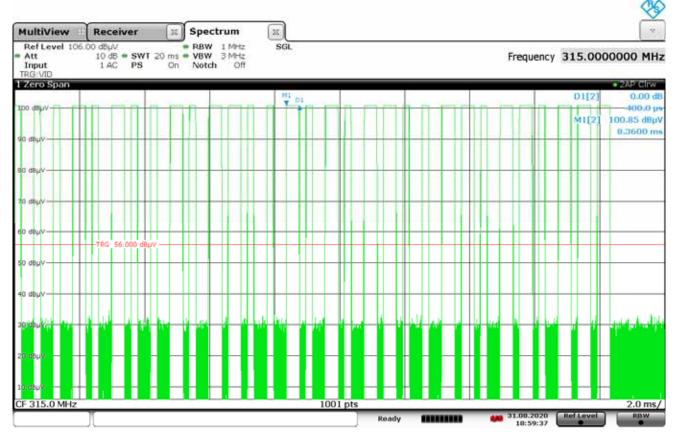
Test Details	
Manufacturer	Genie Company
Model	UWWC
S/N	Label 1
Protocol	Genie IC1 (same duty cycle for Genie IC1 at 390MHz)
Parameters	Narrow Pulse = 200usec
Notes	



18:58:26 31.08.2020



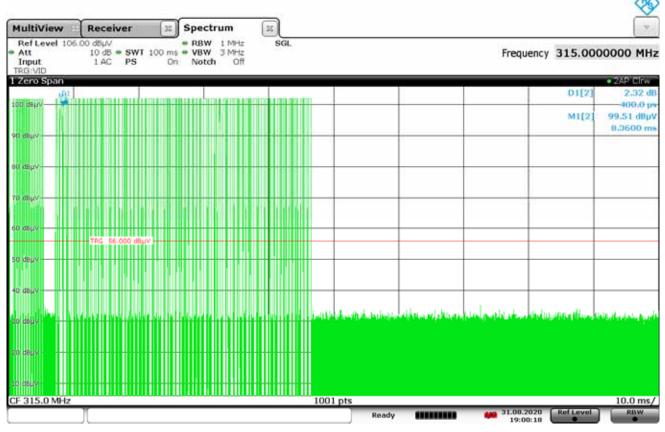
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 315MHz
Protocol	Genie IC1 (same duty cycle for Genie IC1 at 390MHz)
Parameters	Wide Pulse = 400usec
Notes	



18:59:37 31.08.2020



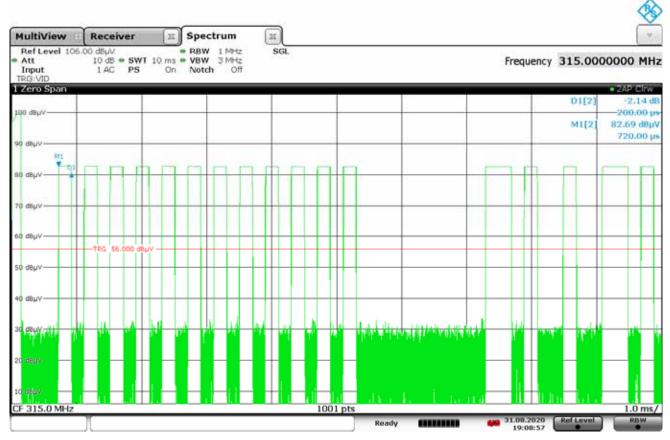
Test Details		
Manufacturer	Genie Company	
Model	UWWC	
Mode	Transmit at 315MHz	
Protocol	Genie IC1 (same duty cycle for Genie IC1 at 390MHz)	
Parameters	Duty Cycle: 51 narrow pulses and 27 long pulses: 51 x 200usec + 27 x 400usec = 21msec	
Notes	Duty Cycle = 20 x log(21msec/100msec) = -13.55dB	



19:00:19 31.08.2020



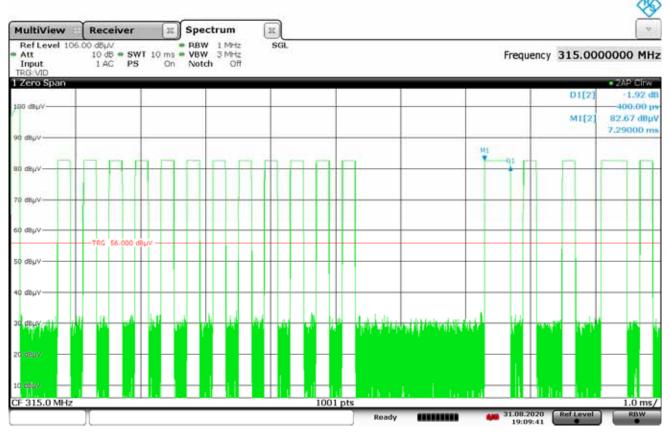
Test Details			
Manufacturer Genie Company			
Model	UWWC		
Mode	Transmit at 315MHz		
Protocol	Genie IC2 (same duty cycle for Genie IC2 at 390MHz)		
Parameters	Narrow Pulse = 200usec		
Notes			



19:08:58 31.08.2020



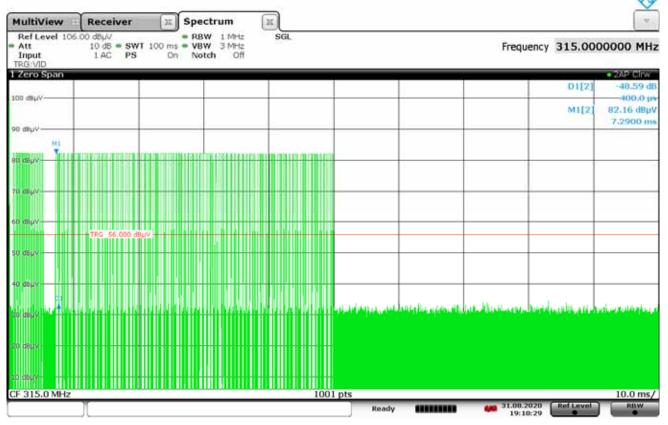
Test Details			
Manufacturer Genie Company			
Model	UWWC		
Mode	Transmit at 315MHz		
Protocol	Genie IC2 (same duty cycle for Genie IC2 at 390MHz)		
Parameters	Wide Pulse = 400usec		
Notes			



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



60

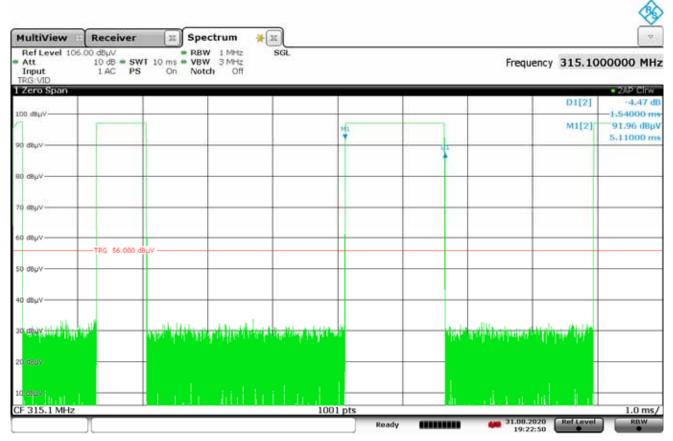
Test Details			
Manufacturer Genie Company			
Model	UWWC		
Mode	Transmit at 315MHz		
Protocol	Marantec		
Parameters	Narrow Pulse = 780usec		
Notes			

MultiView	Receiver	Spectrum	x				(×
Ref Level 106 Att Input TRG: VID	10 dB . SWT 10	* RBW 1 MHz ms * VBW 3 MHz On Notch Off	SGL		Frequen	cy 315.00	00000 MHz
1 Zero Span							 2AP Clrw
						D1[2]	59.87 dB
100 dBµV							-780.00 pm
1						M1[2]	32.38 dBµV
90 dbuV							1.28000 ms
1.000							
80 dBµV							
70 dBµV							
60 dBµV							
00 00µv							
	- 104 S6.000 d84V -						
50 dBµV							
40 dBuV							
	M						
		un linal.				1. 1. 1.	
30 dbuY	19	te data ya ad hiratikawa	A legal time the shirt will	194	art desirent t	11177	
20 dBµV						-	
10 dBox			and the second second			1.000	
10 dBµV				di la constante da la constante	الصناعات ال		
CF 315.0 MHz			1001 pts				1.0 ms/
				Ready	31.08.202 19:21:3	Ref Level	RBW

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		
Notes	Duty Cycle = $20 \times \log(26.32 \text{ msec}/100 \text{ msec}) = -11.59 \text{ dB}$		



19:22:50 31.08.2020



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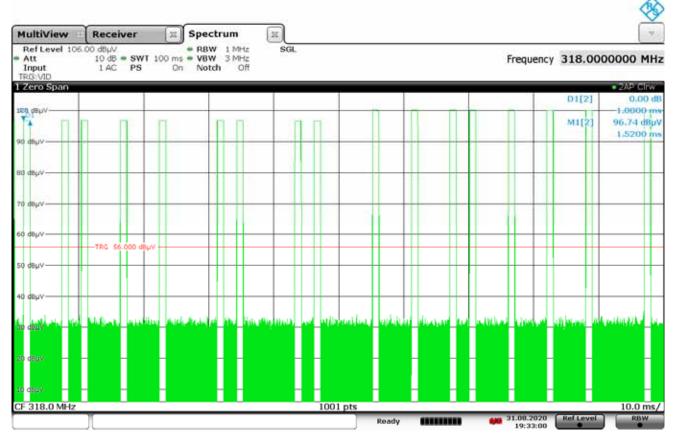
Test Details			
Manufacturer Genie Company			
Model	UWWC		
Mode	Transmit at 318MHz		
Protocol	Linear		
Parameters	Pulse = 1msec		
Notes			

MultiView	Receiver	Spect	rum [3	อ						
Ref Level 106 Att Input TRG:VID			The second se	SGL			I	Frequency	318.00	00000 MHz
1 Zero Span									D1[2]	• 2AP Cirw •7.30 d8
100 dBµV	Mis w									-1.00000 ms
1									M1[2]	96.69 dBµV 1.52000 ms
90 diluv		+								
80 dBµV	_	_		1				_		
70 dBµV	_							_		
60 @µV										
50 dBµV	- 1KG 58.000 dBp	×								
40 dBµV										
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20 dBµV		-					-			
10 dBµw	nd -				. տեսնու		h ti			dul ut
CF 318.0 MHz				100	l pts			11.00.2020		1.0 ms/

19:32:17 31.08.2020



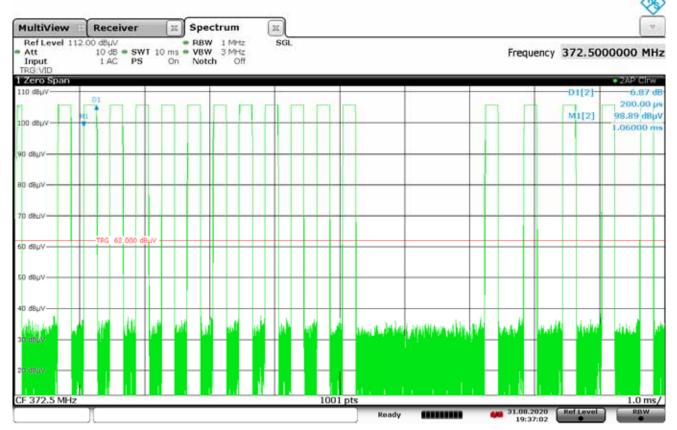
Test Details			
Manufacturer Genie Company			
Model	UWWC		
Mode	Transmit at 318MHz		
Protocol	Linear		
Parameters	Duty Cycle = 17 pulses x 1 msec = 17msec		
Notes	Duty Cycle = 20 x log(17msec/100msec) = -15.39dB		



19:33:01 31.08.2020



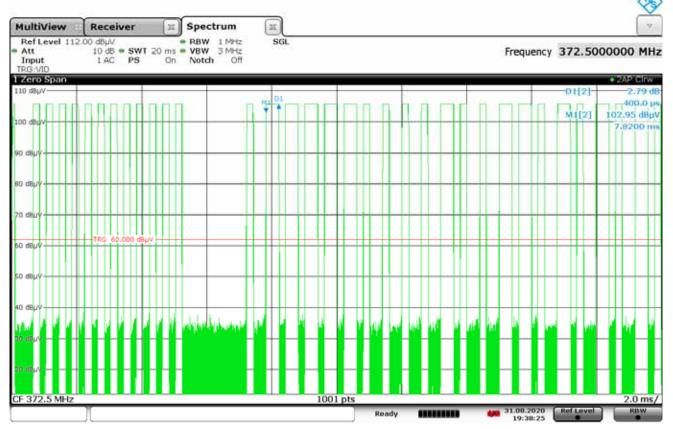
Test Details			
Manufacturer Genie Company			
Model	UWWC		
Mode	Transmit at 372.5MHz		
Protocol	Wayne Dalton		
Parameters	Narrow Pulse = 200usec		
Notes			



19:37:02 31.08.2020



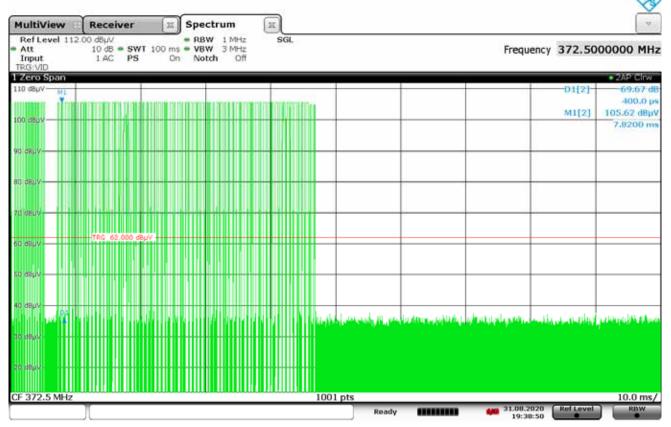
Test Details			
Manufacturer Genie Company			
Model	UWWC		
Mode	Transmit at 372.5MHz		
Protocol	Wayne Dalton		
Parameters	Wide Pulse = 400usec		
Notes			



19:38:25 31.08.2020



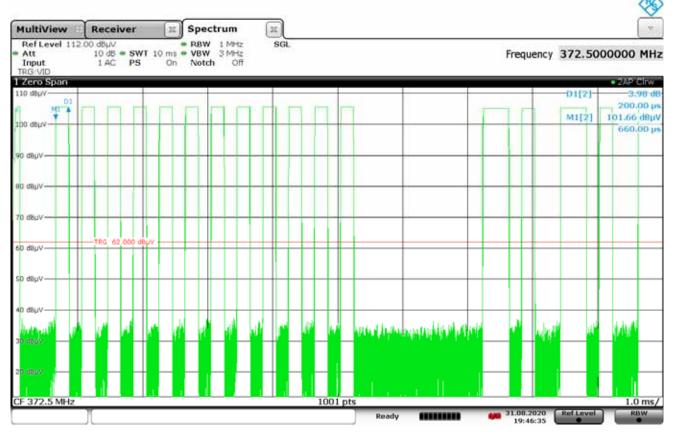
Test Details				
Manufacturer	Genie Company			
Model	UWWC			
Mode	Transmit at 372.5MHz			
Protocol	Wayne Dalton			
Parameters	Duty Cycle = 41 short pulses and 39 long pulses: 41 x 200usec + 39 x 400usec = 23.8msec			
Notes	Duty Cycle = 20 x log(23.8msec/100msec) = -12.47dB			



19:38:50 31.08.2020



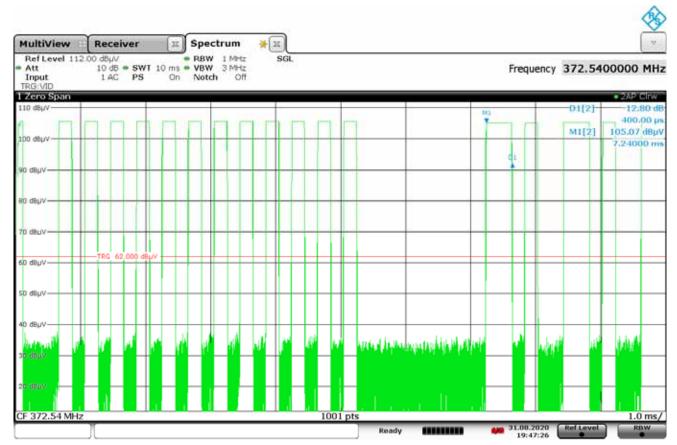
	Test Details				
Manufacturer	Genie Company				
Model	UWWC				
Mode	Transmit at 372.5MHz				
Protocol	Ryobi				
Parameters	Narrow Pulse is 200usec				
Notes					



19:46:36 31.08.2020



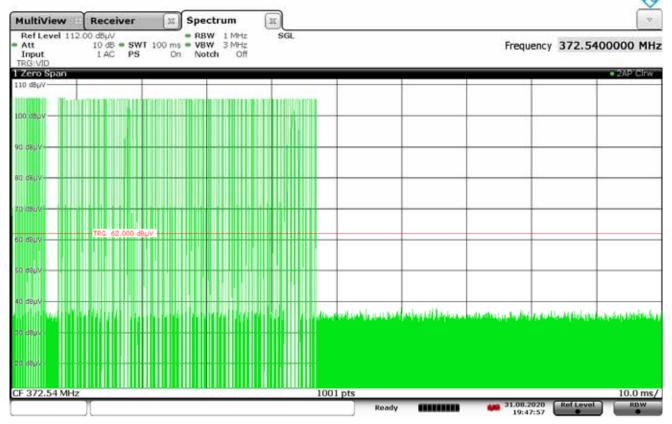
	Test Details				
Manufacturer	Genie Company				
Model	UWWC				
Mode	Transmit at 372.5MHz				
Protocol	Ryobi				
Parameters	Wide Pulse is 400usec				
Notes					



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				

MultiView	Receiver	Spectrum	25									v.
Ref Level 112 Att Input TRG:VID	10 dBµV 10 dB = SWT 20 ms 1 AC PS On		SGL					Frequ	ency	390.0	0000000	мн
Zero Span											• 2AP	Clrw
110 dBµV									-	-D1[2	17.	.06 d
	14.1										1.000	
Vu8b 001	M1		-	_			_			M1[2		
00 0001				11		1					4,440	00 m
				-		-	-					-
		C1:										
0 d8µV		1		_							_	
70 d8c/V				_		-	-					-
50 dBµV						-				_		-
50 dBµV												
so deha												
40 dBµV						-	-					-
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30 dBuV	and the sector	contacts bet a sec		_		·	_		· ·			
CF 390.0 MHz				100	1 pts						2.0	0 ms

19:54:54 31.08.2020



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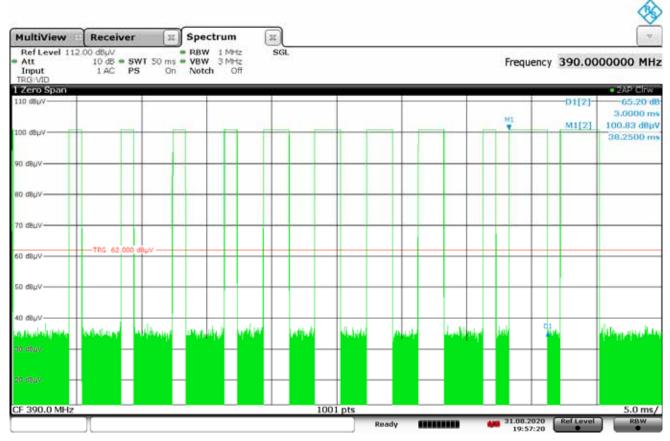
	Test Details				
Manufacturer	Genie Company				
Model	UWWC				
Mode	Transmit at 390MHz				
Protocol	Chamberlain Green				
Parameters	Medium Pulse = 2 msec				
Notes					

MultiView	Receiver	III Spe	ctrum	* 2						v.
Ref Level 112 Att Input TRG:VID	00 dBµV 10 dB = SWT 1 AC PS	30 ms • VBV On Not	V 3 MHz	SGL				Frequer	acy 390.00	00000 MH
1 Zero Span				,						 2AP CIFW
110 dBµ/V							-	-	D1[2]	-29.86 df
										1.9993 m
100 dBµV									M1[2]	100,49 dBpV
000000										19.3500 ms
					++					
10 dBuV-										
								C		
70 d8uV-										
60 dBµV		v								
SO dBuV										
30 0001										
40 dBµV										
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		· · · · · ·		· · · ·		· / · · · ·				
F 390.0 MHz					1001	nts				3.0 ms/

19:56:19 31.08.2020



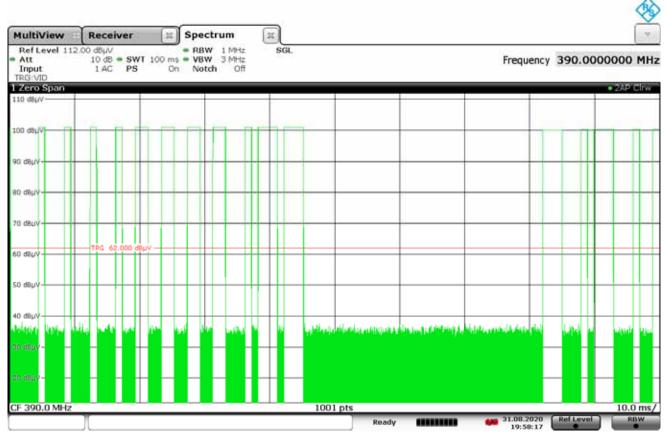
Test Details				
Manufacturer	Genie Company			
Model	UWWC			
Mode	Transmit at 390MHz			
Protocol	Chamberlain Green			
Parameters	Wide Pulse = 3 msec			
Notes				



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



A

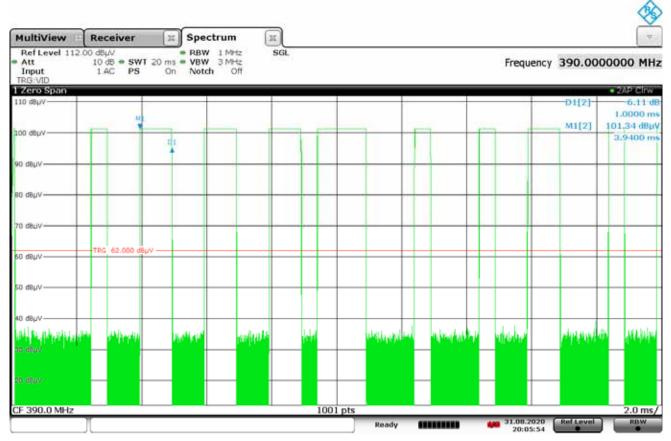
	Test Details				
Manufacturer	Genie Company				
Model	UWWC				
Mode	Transmit at 390MHz				
Protocol	Chamberlain Orange/Red				
Parameters	Narrow Pulse = 500usec				
Notes					

MultiView	Receiver	Spectrum 🔳			¥.,
Ref Level 11 Att Input TRG: VID	2.00 dBµV 10 dB = SWT 10 ms 1 AC PS On	RBW 1 MHz SGL VBW 3 MHz Notch Off		Frequen	cy 390.000000 MHz
Zero Span					2AP CIrw
10 dBµV					-D1[2]
	MI				500.00 ps M1[2] 100.76 dBpV
vuab oo		-			2,45000 ms
		*			and a second second
0 dBµV					
o oop i					
0 d8µV					
0 dBuV					
0 dBuV					
		1			
0 dBµV					
0 dBµV					
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D dBuV					
or outpre					
			the state of the state		
F 390.0 MHz			1001 pts		1.0 ms/

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



A

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

MultiView	Receiver II	Spectrum 🔟			¥.0
Ref Level 112 Att Input TRG:VID	10 dB SWT 10 ms 1 AC PS On	RBW 1 MHz SGL VBW 3 MHz Notch Off		Freque	ncy 390.000000 MHz
1 Zero Span					 2AP Clrw
110 dBµV			_		D1[2] -7.23 dB
					1.50000 ms
100 dBµV				Mi	M1[2] 98.43 dBµV
			7.1		7.42000 ms
					d1
40 d8µV					
80 d8µV					
70 dBuV-					
60 dBµV					
50 dBµV					
40 dBµV					
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20 dBµV					
11		and the second second second	e de la companya de l		
CF 390.0 MHz			1001 pts		1.0 ms/
or openentia	Y		Ready	31.00.20	

20:04:06 31.08.2020



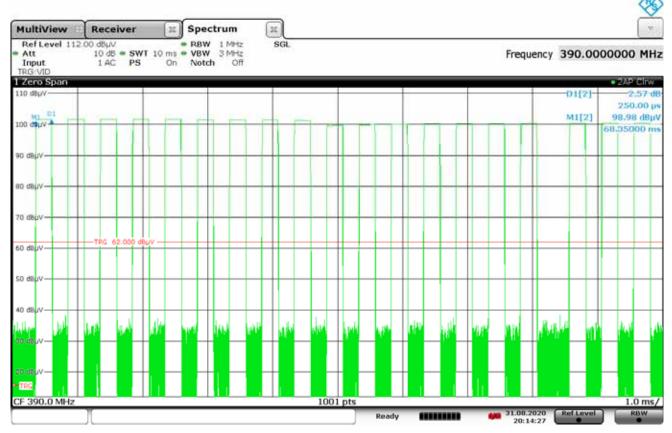
Test Details		
Manufacturer	Genie Company	
Model	UWWC	
Mode	Transmit at 390MHz	
Protocol	Chamberlain Orange/Red	
Parameters	Duty Cycle: 19 narrow pulses, 10 medium pulses, and 12 wide pulses: 19 x 500usec + 10 x 1 msec + 12 x 1.5 msec = 37.5msec	
Notes	Duty Cycle = 20 x log(37.5msec/100msec) = -8.5 dB	



20:06:23 31.08.2020



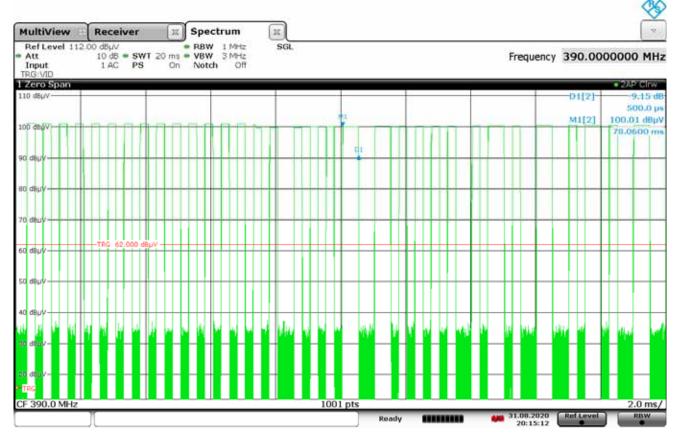
Test Details		
Manufacturer	Genie Company	
Model	UWWC	
Mode	Transmit at 390MHz	
Protocol	Chamberlain Yellow	
Parameters	Narrow Pulse is 250usec	
Notes		



20:14:27 31.08.2020



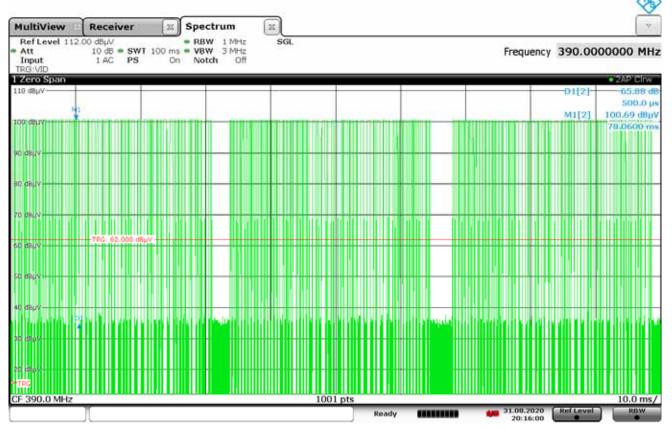
Test Details		
Manufacturer	Genie Company	
Model	UWWC	
Mode	Transmit at 390MHz	
Protocol	Chamberlain Yellow	
Parameters	Wide Pulse is 5000usec	
Notes		



20:15:13 31.08.2020



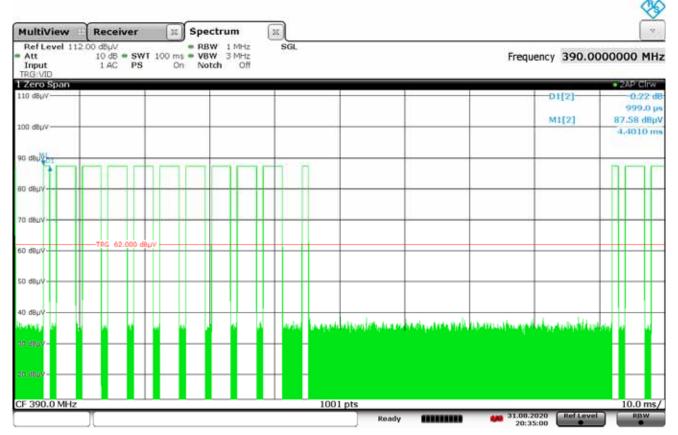
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Chamberlain Yellow
Parameters	Duty Cycle: 126 narrow pulses and 30 wide pulses: 126 x 250usec + 30 x 500usec = 46.5msec
Notes	Duty Cycle = 20 x log(46.5msec/100msec) = -6.65dB



20:16:01 31.08.2020



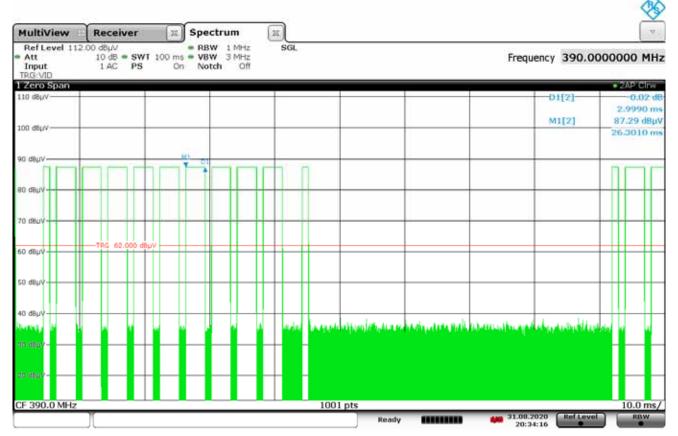
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Chamberlain Legacy (9 DIP switch)
Parameters	Narrow Pulse is 1 msec
Notes	



20:35:00 31.08.2020



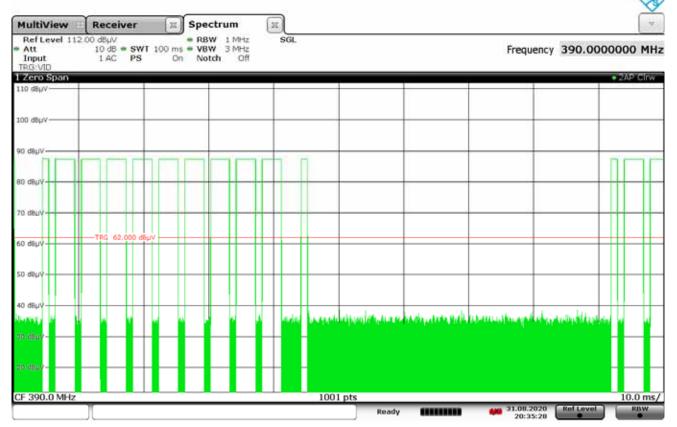
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Chamberlain Legacy (9 DIP switch)
Parameters	Wide Pulse is 3 msec
Notes	



20:34:17 31.08.2020



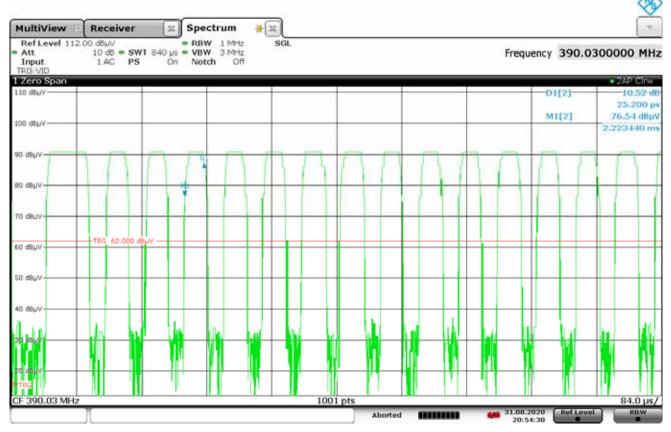
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Chamberlain Legacy (9 DIP switch)
Parameters	Duty Cycle: 3 narrow pulses and 11 wide pulses:3 x 1 msec + 11 x 3 msec = 36msec
Notes	Duty Cycle = 20 x log(36msec/100msec) = -6.65dB



20:35:29 31.08.2020



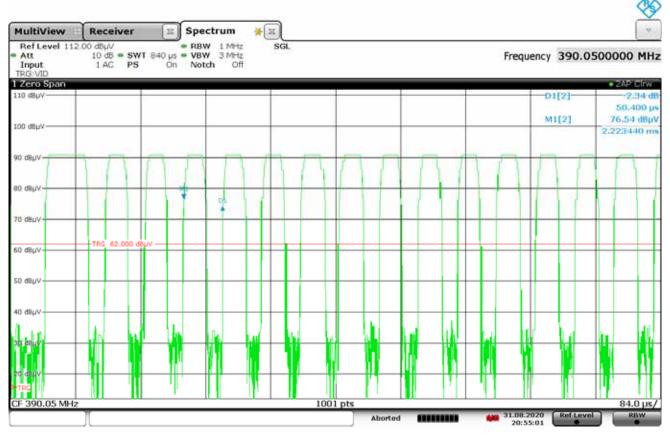
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Genie Legacy (9 DIP switch)
Parameters	Narrow pulse is 25usec
Notes	



20:54:31 31.08.2020



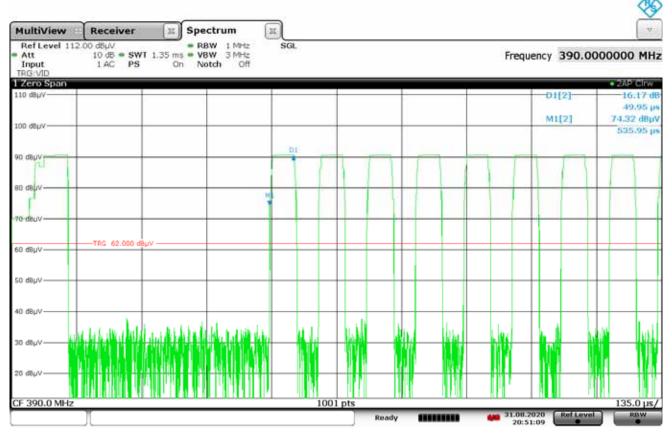
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Genie Legacy (9 DIP switch)
Parameters	Narrow pulse is 25usec, narrow pulse period is 50usec (50% duty cycle)
Notes	



20:55:01 31.08.2020



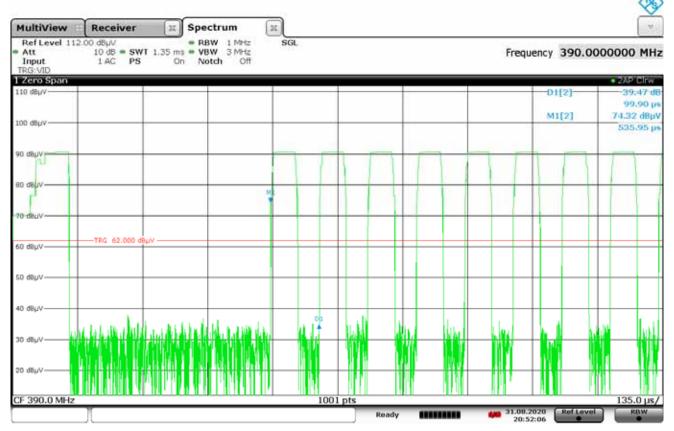
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Genie Legacy (9 DIP switch)
Parameters	Wide pulse is 50usec
Notes	



20:51:10 31.08.2020



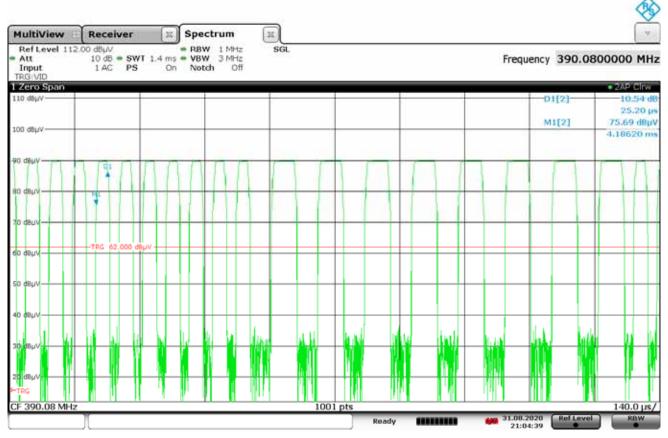
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Genie Legacy (9 DIP switch)
Parameters	Wide pulse is 50usec, wide pulse period is 100usec (50% duty cycle)
Notes	Duty Cycle = 20 x log(50msec/100msec) = -6.0dB



20:52:06 31.08.2020



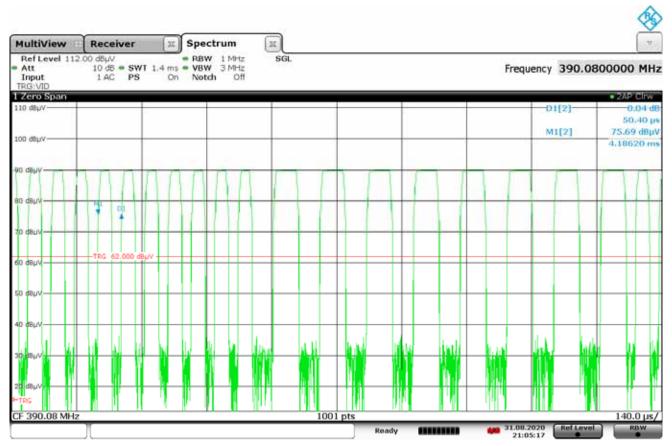
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Genie Legacy (12 DIP switch)
Parameters	Narrow pulse is 25usec
Notes	



21:04:39 31.08.2020



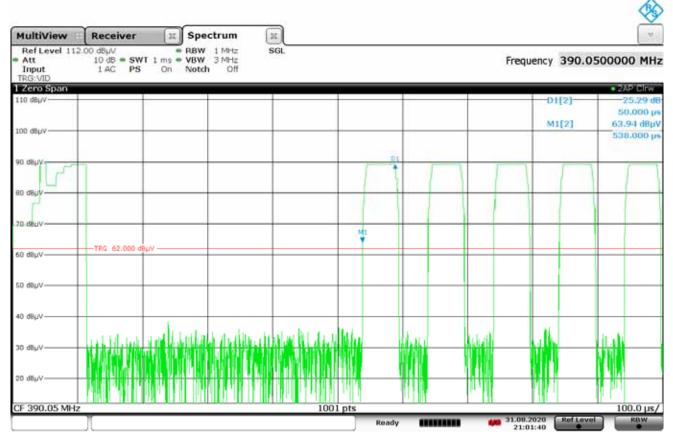
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Genie Legacy (12 DIP switch)
Parameters	Narrow pulse is 25usec, narrow pulse period is 50usec (50% duty cycle)
Notes	



21:05:18 31.08.2020



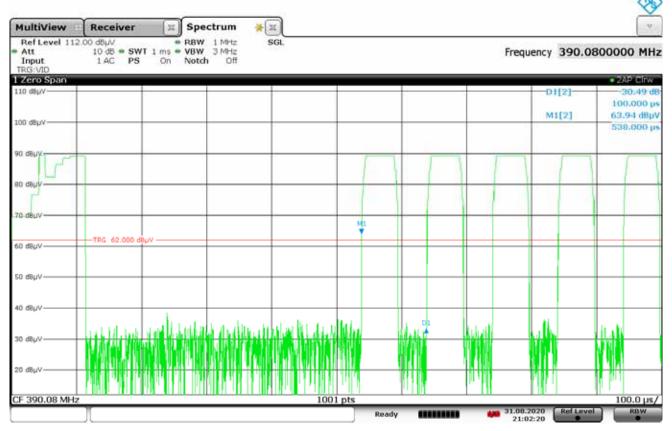
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Genie Legacy (12 DIP switch)
Parameters	Wide pulse is 50usec
Notes	



21:01:40 31.08.2020



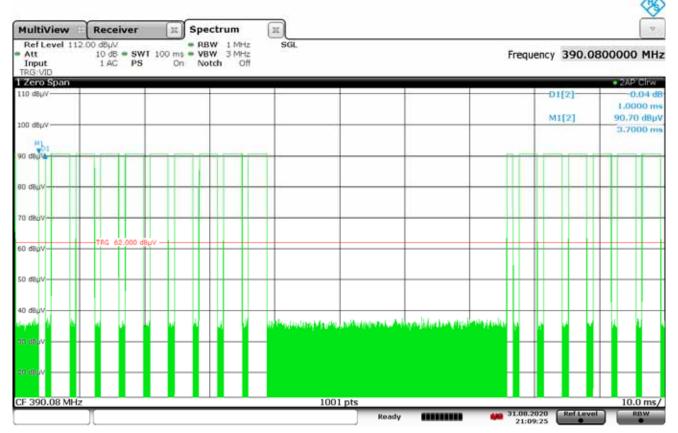
Test Details	
Manufacturer	Genie Company
Model	UWWC
Mode	Transmit at 390MHz
Protocol	Genie Legacy (12 DIP switch)
Parameters	Wide pulse is 50usec, wide pulse period is 100usec (50% duty cycle)
Notes	Duty Cycle = 20 x log(50msec/100msec) = -6.0dB



21:02:21 31.08.2020



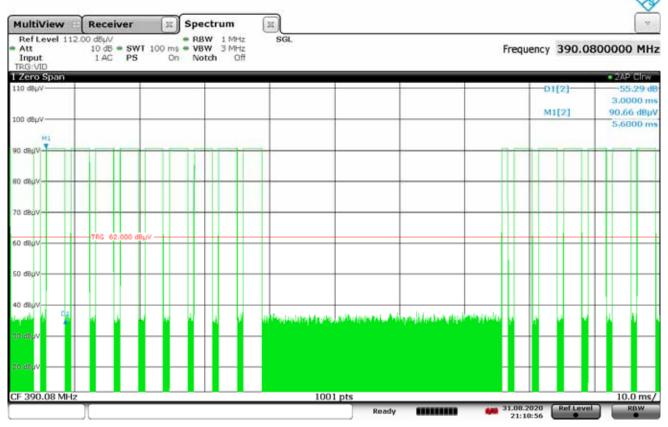
Test Details				
Manufacturer	Genie Company			
Model	UWWC			
Mode	Transmit at 390MHz			
Protocol	Overhead Door			
Parameters	Narrow pulse is 1 msec			
Notes				



21:09:26 31.08.2020



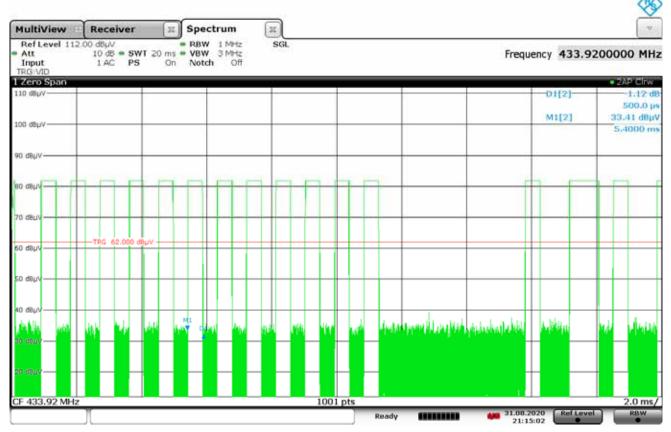
Test Details				
Manufacturer	Genie Company			
Model	UWWC			
Mode	Transmit at 390MHz			
Protocol	Overhead Door			
Parameters	Wide pulse is 3 msec			
Notes	Duty Cycle: 2 narrow pulses and 15 long pulses: 2 x 1msec + 15 x 3msec = 47msec Duty Cycle = 20 x log(47msec/100msec) = -6.56dB			



^{21:10:57 31.08.2020}



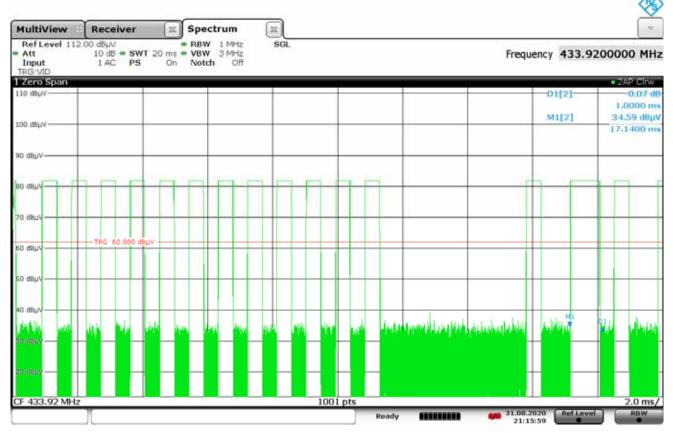
Test Details				
Manufacturer	Genie Company			
Model	UWWC			
Mode	Transmit at 499.92MHz			
Protocol	FAAC			
Parameters	Narrow pulse is 500usec			
Notes				



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	<u>N/A</u>		
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.

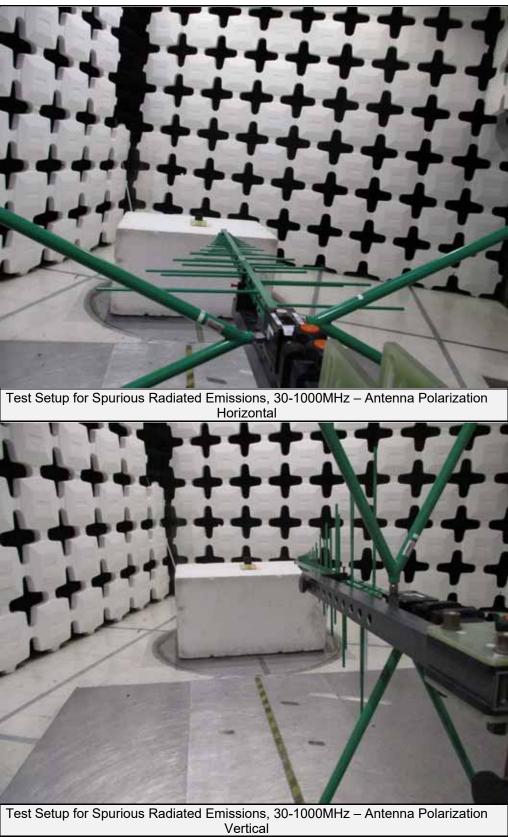
Above 1GHz, a broadband double ridged waveguide antenna was used as the pick-up device. The EUT was placed on an 150cm high non-conductive stand. A peak detector with a resolution bandwidth of 1 MHz was used on the spectrum analyzer.

The peak detected levels were converted to average levels using a duty cycle factor which was computed from the pulse train.

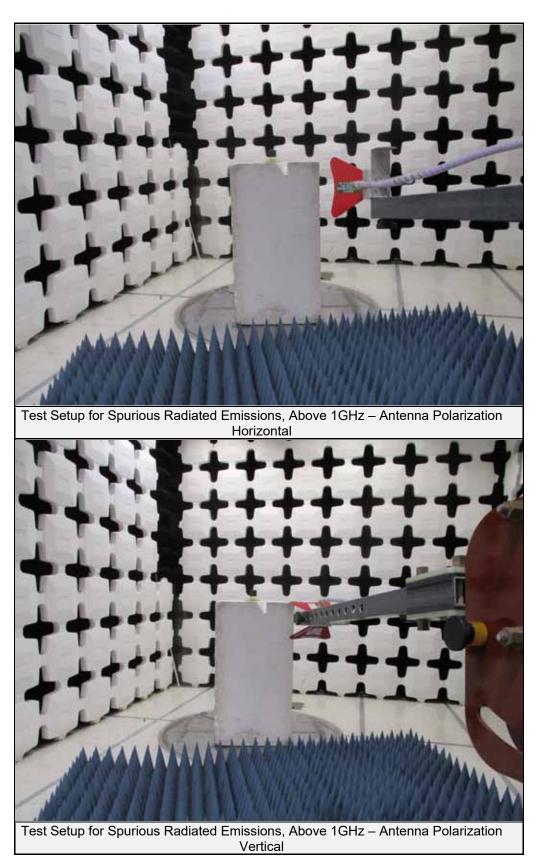
To ensure that maximum or worst case, emission levels were measured, the following steps were taken:

- 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.

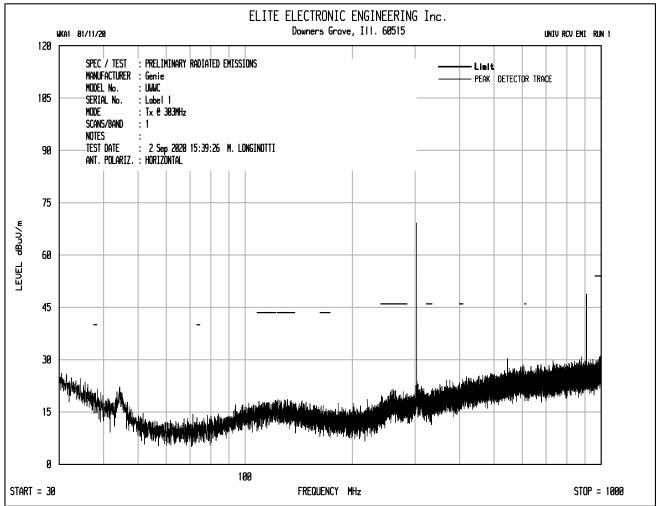




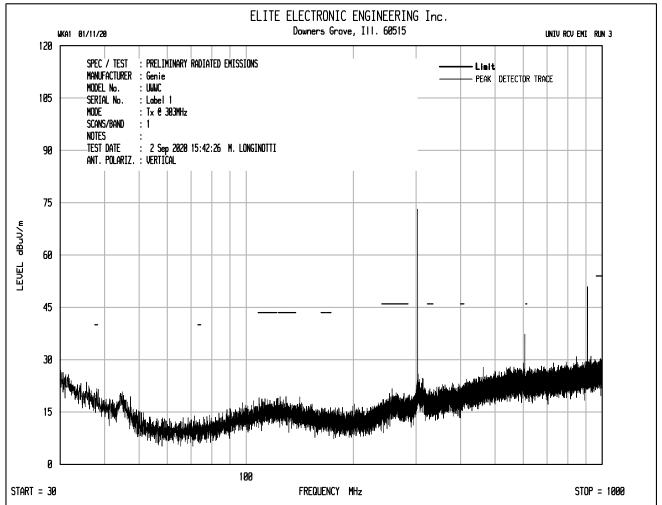




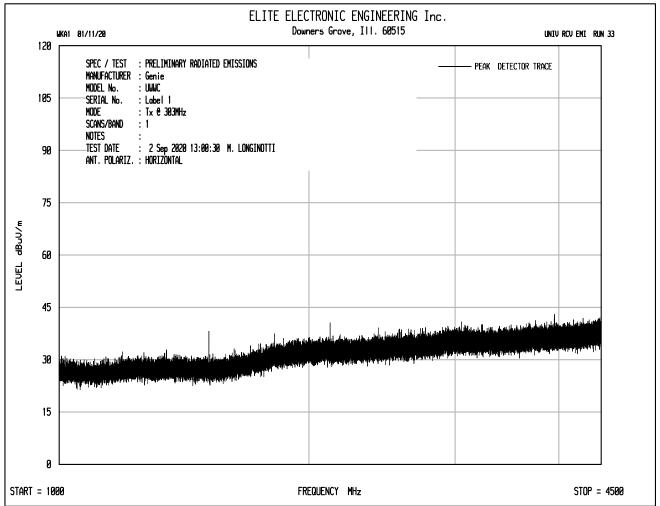




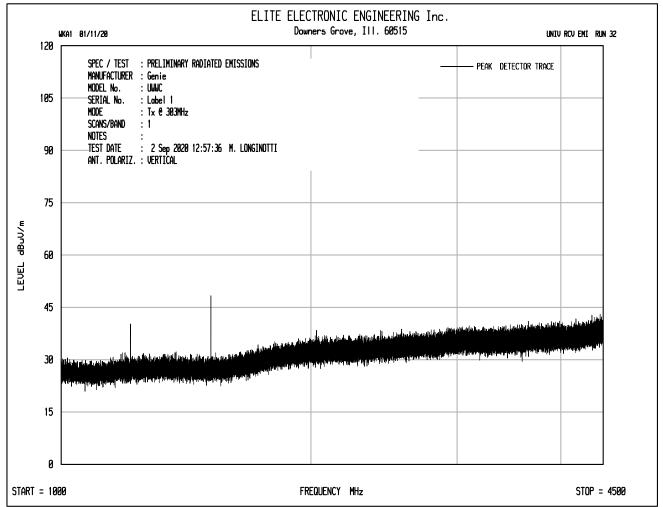










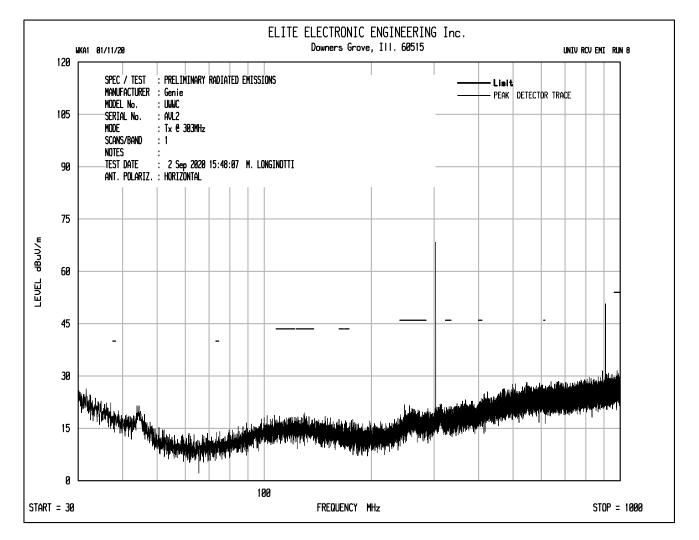




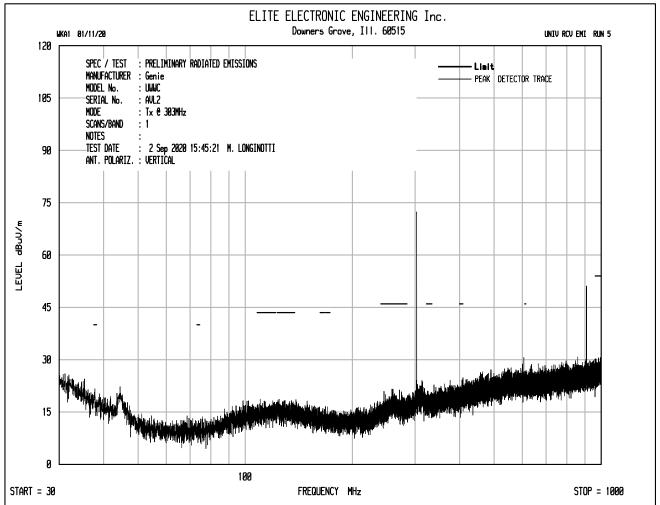
Test Details				
Manufacturer	Genie Company			
Model	UWWC			
S/N	Label 1			
Mode	Transmit at 303MHz			
Protocol	Guardian Protocol			
Notes				

		Meter		CBL	Ant	Pre	Duty				
Freq.	Ant	Reading		Fac	Fac	Amp	Cycle	Total	Total	Limit	Margin
(MHz)	Pol	(dBuV)	Ambient	(dB)	(dB/m)	(dB)	(dB)	(dBuV/m)	(uV/m)	(uV/m)	(dB)
303.000	Н	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	Н	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	Н	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	Н	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	Н	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	Н	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	Н	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	Н	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	Н	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	Н	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

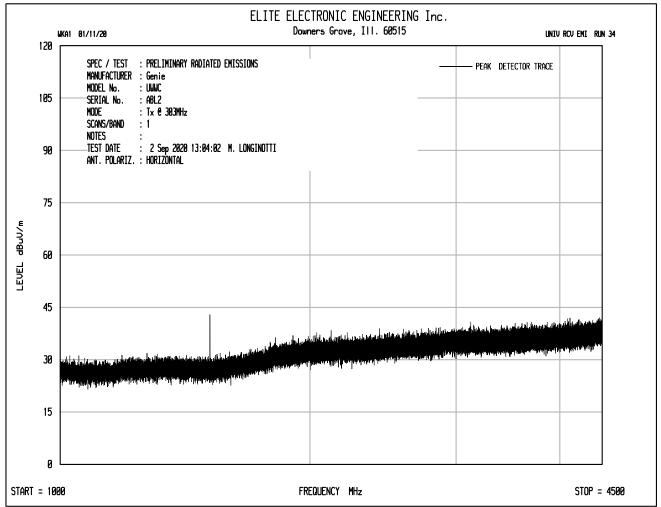




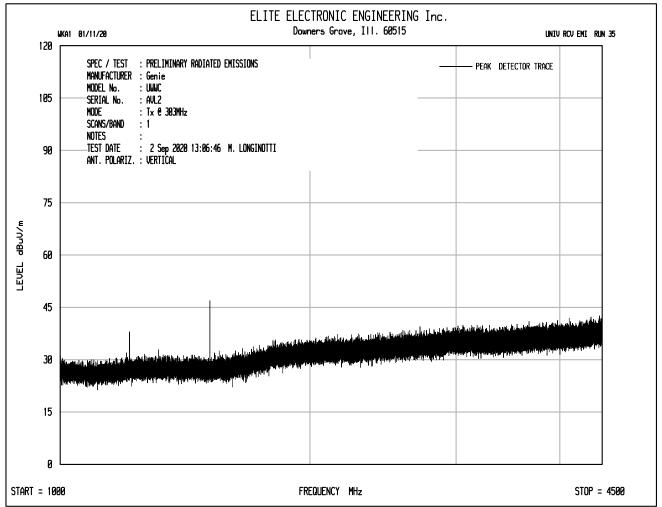










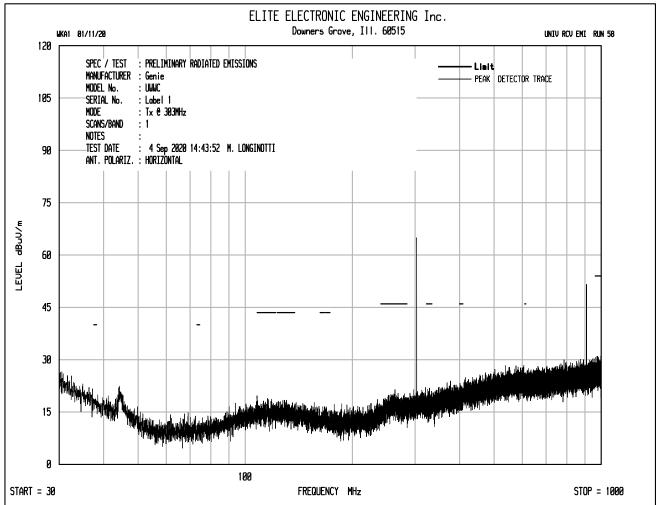




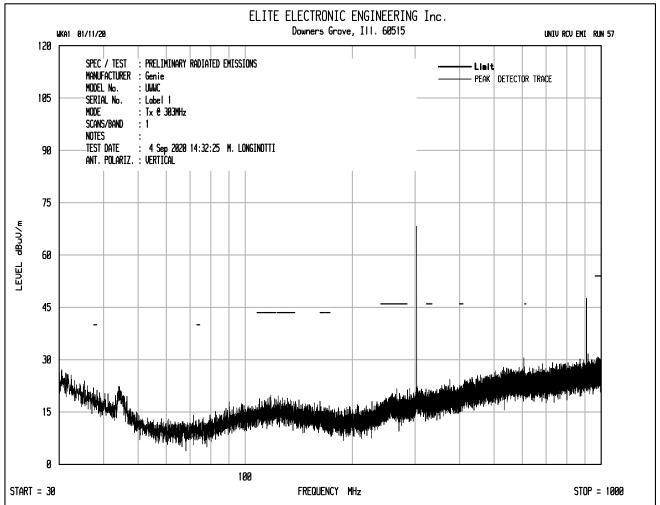
Test Details			
Manufacturer	Genie Company		
Model	UWWC		
S/N	AVL2		
Mode	Transmit at 303MHz		
Protocol	Guardian Protocol		
Notes			

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

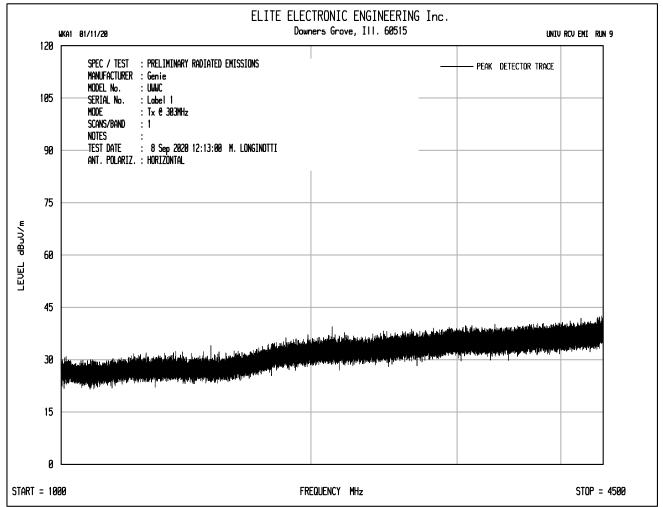




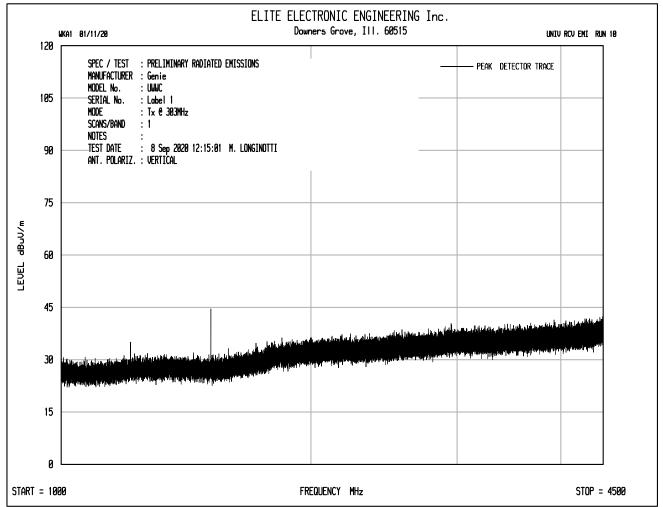














Test Details							
Manufacturer	Genie Company						
Model	UWWC						
S/N	Label 1						
Mode	Transmit at 303MHz						
Protocol	Unknown Protocol						
Notes							

		Meter		CBL	Ant	Pre	Duty				
Freq.	Ant	Reading		Fac	Fac	Amp	Cycle	Total	Total	Limit	Margin
(MHz)	Pol	(dBuV)	Ambient	(dB)	(dB/m)	(dB)	(dB)	(dBuV/m)	(uV/m)	(uV/m)	(dB)
303.000	Н	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	Н	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	Н	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	Н	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	Н	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	Н	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	Н	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	Н	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	Н	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	Н	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