

4683 Burr Drive | Liverpool NY 13088 | 1-800-724-6452 | Fax 315-457-0428 | 315-457-0245

September 26, 2016

Mr. James Midyette Genie Company/Overhead Door Corp. One Door Drive Mt. Hope, OH 44660

Dear Mr. Midyette

Enclosed is the test report for the Genie Company/Overhead Door Corp. 1-Button Remote Control 315/390 MHz Garage Door Opener Transmitter model number G1TA/O1TA tested at our facility located at 4683 Burr Drive in Liverpool, NY. This facility is on file with the Federal Communications Commission (FCC) per 47 CFR 2.948 (Site File Number 306552) and Industry Canada Site# 3034a-1.

We have completed our testing of Emissions to the FCC per 47 CFR Part 15 Class B, Part 15.231 Class C for intentional radiators, IC RSS-Gen Section 8 for License-Exempt Radio Apparatus, and IC RSS-210 Annex A.1 for Momentarily Operated Devices.

Thank you for selecting RF Solutions, LLC for your testing needs. We look forward to working with you on future projects. Should you have any questions or concerns regarding this report, contact me at 315-457-0245. Please feel free to visit our website at http://www.rfsolutionsllc.us

Sincerely,

R. Scott Gates Technical Associate

RF Solutions Test Report	
Corporation / 1-Button Remote Control / June 28 to September 08, 2016	Project No

Genie

o.: 6587

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Test Information

Laboratory:			Manufacturer:	
RF Solutions, LLC. 4683 Burr Drive Liverpool, NY 13088-5303		C. 8088-5303	Genie Company/Overhead Door Corp. One Door Drive Mt. Hope, OH 44660	
R R P	eport Issue Date: eport Number: roject Number:	September 26, 2016 Report No. 6587		

Date on Site:	June 28, 2016
Date Tested:	June 28—September 22, 2016
Product: Model:	1-Button Remote Control 315/390 MHz Garage Door Opener Transmitter G1TA/O1TA

Traceability: *Reference standards of measurement have been calibrated by a competent body using standards traceable to NIST.*

The testing performed by RF Solutions, LLC indicates that the product referenced above complies with the electromagnetic compatibility requirements according to the FCC per 47 CFR Part 15.231 and IC per RSS 210. The results in this test report apply only to the 1-Button Remote Control 315/390 MHz Garage Door Opener Transmitter; Model Number: G1TA/O1TA.

It is the responsibility of the manufacturer to ensure that the product identification and labeling are in compliance with the applicable requirements. The manufacturer is also responsible for ensuring that additional units are manufactured with identical mechanical and electrical characteristics.

The equipment listed above conforms to the specified requirements of the test standards listed in the Test Regulations section of this report.

Compiled by: Signature: Ridder

R. Scott Gates Technical Associate Date: September 26, 2016

Reviewed by: Signature: Str. Fmi

Steve Frierson Senior Technical Lab Manager

Authorized by: Signature:

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Connelle	- Tueson

Annelle Frierson Vice-President Date: September 26, 2016

Date: September 26, 2016

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Test Regulations

The tests were performed according to the following standards:

FCC Part 15	Class A	Class B
KCC Part 15.231	Class A	Class C
🔀 IC RSS Gen		
IC RSS 210		

Certification

Summary of Test Data

Name of Test	Paragraph	Results
	Number	
Transmission	FCC 15.231 (a)	Complies
Requirements	IC RSS 210 A.1.1	
Radiated Emissions	15.231 (b)	Complies
	IC RSS 210 A.1.2	
Occupied Bandwidth	15.231 (c)	Complies
	IC RSS 210 A.1.3	
Frequency Tolerance	15.231 (d)	N/A (Note 1)
	IC RSS Gen 8.11	N/A (Note 2)
Alternate Field Strength	15.231 (e)	N/A (Note 3)
Requirements	IC RSS 210 A.1.4	N/A (Note 3)
Power line Conducted	15.207	N/A (Note 4)
Emissions	IC RSS Gen 8.8	N/A (Note 4)

Note:

- 1. The Device does not operate between 40.66 to 40.70 MHz
- 2. IC RSS 210 A.1 does not specify a frequency tolerance thus it is not required per IC RSS Gen 8.11
- 3. The Device does not operate at a periodic rate
- 4. The Device is battery powered

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Equipment Under Test (EUT) Testing Operation Mode

The EUT was operated under the following conditions during testing:

Standby

Normal Operating Mode

Practice Operation

Description / Configuration of the EUT:

The 1-Button Remote Control is a remote garage door opener transmitter. It operates at 315 MHz and 390 MHz for the purpose of opening garage doors. The transmitter utilizes OOK Modulation techniques.

The EUT was powered with a 3 V battery during the collection of data included within this report.

For testing purposes only, the EUT firmware was modified to allow it to transmit either a 315 MHZ or a 390 MHz CW signal to facilitate data gathering.

Rationale for EUT setup / configuration:

ANSI C63.4-2014, ANSI C63.10-2013

Modifications:

None

Deviations from test method:

None

Radiated Emissions Test Setup Photographs

1.1 Radiated Emissions / Occupied Bandwidth



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1.2 Radiated Emissions Above 1 GHz



Emissions Testing Conditions

Radiated Emissions

The Radiated Emissions measurements, in the frequency range of 10 MHz – 6000 MHz, were tested in a horizontal and vertical polarization at the following test location:

RF Solutions Open Area Test site

at a test distance of:

3 meters 10 meters 30 meters

The EUT was tested in all three axes with the data presented in this report in tabular form. RF Solutions uses automated data reductions to determine product compliance to Radiated Emissions regulations. The product's signal data is compared to a current ambient scan. The frequencies that are of significant amplitude are sorted and are enhanced to be further analyzed and maximized. These same frequencies are also profiled by rotating the product 360 degrees on the turntable and adjusting antenna height between 1 - 4 meters.

Test equipment used:

Manufacturer	Model	Description	Serial No.
Hewlett Packard	E4407B	Spectrum Analyzer	US39440719
EMCO	6502	Active Loop Antenna 10 kHz-30 MHz	9110-2685
Electro-Metrics	BIA-25	Biconical Antenna, 20-220 MHz	001
Electro-Metrics	LPA-25	Log Periodic Antenna 200-1000 MHz	1242
Electro-Metric	RGA-60	Horn Antenna 1-18 GHz	2981
	57500	Low Loss Cable	337
		Co-ax Cable, 100-foot RG 8/U	
		10-meter open field test range, grounded	
		with 1/4 x 1/4" hardware cloth	
		AC supply cord, 100-foot, grounded	
		100-foot signal cable for remote testing,	
		Remote Operated 1-4 Meters Mast	

Transmission Requirements

Test Title: Transmission Requirements

Minimum Standard:

15.231 (a): Continuous transmissions such as voice, video, or data transmissions are not permitted.

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

15.231 (a) (2): A transmitter activated automatically shall cease transmission within 5 seconds of activation.

15.231 (a) (3): Periodic Transmission at regular predetermined intervals are not permitted. However, polling or supervisory transmissions to determine system integrity of transmitters used in security or safety applications are allowed if the periodic rate of transmission does not exceed one transmission of not more than one second duration per hour for each transmitter.

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

Test Results:	Complies
Test Data:	Compliance was determined by verification
	of technical specifications and functional
	tests on the equipment.

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Rationale for Compliance with Transmission Requirements

15.231 (a) (1)	Manual Activation	Tx deactivation time:					
15.231 (a) (2)	Automatic Activation						
15.231 (a) (3)	Regular, predetermined tra	Tx rate and duration					
15.231 (a) (4)	Alarm device operating during the pendency of alarm condition						
	Non-Alarm Device						

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Test Data: Transmission Requirements

315 MHz Deactivation Time: 455 mS



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Test Data: Transmission Requirements

390 MHz Deactivation Time: 455 mS

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Ref 76.99	Hugh (#Atten 0	dB			Mkr1	△ -22.	455 ms 35 dB
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Center 39	30 MHz Mu⇒		#UPU 100	LU-	<	Sucon (Spa	n 0 Hz. 1 pto)
Marker	Trace	Type	X	Axis		oweeh 7	Amplit	ude
1R	(1)	Time		890 ms			34.04 dl	BµV
10	(1)	lime		455 MS			-22.35	aB

Radiated Emissions 15.231 (b)

Minimum Standard:

Fundamental frequency (MHz)	Field strength of fundamental (microvolts/meter)	Field strength of spurious emissions (microvolts/meter)
40.66-40.70	2,250	225
70-130	1,250	125
130-174	¹ 1,250 to 3,750	¹ 125 to 375
174-260	3,750	375
260-470	¹ 3,750 to 12,500	¹ 375 to 1,250
Above 470	12,500	1,250

¹ Linear interpolations

Any emissions that fall within the restricted bands of 15.205 shall not exceed the following limits:

Frequency	Field Strength	Field Strength
(MHz)	(μV/m @ 3m)	(dB @ 3m)
30-88	100	40.0
88-216	150	43.5
216-960	200	46.0
Above 960	500	54.0

Test Result: Complies, see attached data table.

Above 1 GHz a spectrum analyzer is used to measure emission levels. The spectrum analyzer resolution bandwidth was set to 1 MHz and video bandwidth was set to a minimum of 1 MHz.

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Test Data: Radiated Emissions

Freq.	Antenna	a Meter Reading (dBuV)					S Duty ADD Cable	(y ADD Cable B) Factor* (dB)	ADD Antenna	LESS 1 m to 3 m Distance	Corrected Reading	FCC Spec Limit	Margin (dB)	Results	Comments
(10112)	Foldfization	Х	Y	Z	Max				Factor (dB)	(dBuV/m)	(dBuV/m)	(0.5)			
345	Н	56.7	52.1	46.0	56.7	-13.0	7.2	15.1	0.0	66.0	75.6	-9.6	Pass	e construction	
315	V	40.7	51.6	52.8	52.8	-13.0	7.2	15.1	0.0	62.1	75.6	~1.3.5	Pass		
620	Н	15.9	16.8	13.9	16.8	-13.0	-,12.4	19.7	0.0	35.9	55.6	-19.7	Pass		
650	V	14.6	15.1	16.2	16.2	-13.0	12.4	19.7	0.0	35.3	55.6	-20.3	Pass		
OAF	Н	11.6	11.6	9.5	11.6	-13.0	17.6	23.5	0.0	39.7	55.6	-15.9	Pass	Noise Floor	
945	V	9.5	9.2	11.8	11.8	-13.0	17.6	23.5	0.0	39.9	55.6	-15.7	Pass	Noise Floor	
1260	Н	30.2	30.3	29.9	30.3	-13.0	0.5	25.2	0.0	43.0	55.6	-12.6	Pass	Noise Floor	
1260	V .	29.9	30.0	30.7	30.7	-13.0	0.5	25.2	0.0	43.4	55.6	-12.2	Pass	Noise Floor	
1676	H	35.7	36.6	32.7	36.6	-13.0	0.8	25.9	0.0	50.3	54.0	-3.7	Pass		
13/3	V	33.2	34.1	36.9	36.9	-13.0	0.8	25.9	0.0	50.6	54.0	-3.4	Pass		
1900	Н	33.5	33.8	30.7	33.8	-13.0	0.7	27.8	0.0	49.2	55.6	-6.4	Pass		
1090	V	30.3	30.5	31.8	31.8	-13.0	0.7	27.8	0.0	47.2	55.6	-8.4	Pass	l	
2205	Н	30.8	30.8	30.5	30.8	-13.0	1.2	28.9	0.0	47,8	54.0	-6.2	Pass	Noise Floor	
2203	V	30.6	30.6	30.3	30.6	-13.0	1.2	28.9	0.0	47.6	54.0	-6.4	Pass	Noise Floor	
2520	н	31.2	31.6	30.7	31.6	-13.0	1.3	29.6	0.0	49.5	55.6	-6.1	Pass	Noise Floor	
2320	V	30.9	31.0	31.5	31.5	-13.0	1.3	29.6	0.0	49.4	55.6	-6.2	Pass	Noise Floor	
2025	Н	31.5	31.3	31.4	31.5	-13.0	1.3	30.4	0.0	50.2	54.0	-3.8	Pass	Noise Floor	
2000	V	31.1	31.3	31.0	31.3	-13.0	1.3	30.4	0.0	50.0	54.0	-4.0	Pass	Noise Floor	
2150	н	31.9	33.0	31.2	33.0	-13.0	1.1	31.1	0.0	52.2	55.6	-3.4	Pass	Noise Floor	
2720	V	32.0	32.6	32.0	32.6	-13.0	1.1	31.1	0.0	51.8	55.6	-3.8	Pass	Noise Floor	

Freq. (MHz)	Freq.	Antenna	tenna Meter Reading (dBuV)			LESS Duty	LESS Duty ADD Cable	ESS Duty ADD Cable	ADD Antenna	LESS 1 m to 3 m Distance	Corrected Reading	FCC Spec Limit	Margin (dB)	Results	Comments
	Polarization	Х	Y	Z	Max	1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		1 4 4 6 7	Factor (dB)	(dBuV/m)	(dBuV/m)	(0.0)			
200	Н	58.2	54.7	47.3	58.2	-13.3	9.5	15.8	0.0	70.2	79.2	-9.0	Pass		
590	V	43.3	53.5	57.2	57.2	-13.3	9.5	15.8	0.0	69.2	79.2	-10.0	Pass		
790	Н	16.5	16.0	12.3	16.5	-13.3	17.0	21.6	0.0	41.8	59.2	-17.4	Pass		
780	V	11.5	11.9	15.3	15.3	-13.3	17.0	21.6	0.0	40.6	59.2	-18.6	Pass		
1170	н	33.1	32.2	31.0	33.1	-13.3	0.7	_25.2	0.0	45.6	54.0	-8.4	Pass		
11/0	V	31.0	30.3	33.7	33.7	-13.3	0.7	25.2	0.0	46.2	54.0	-7.8	Pass		
1500	н	33.6	34.0	31.5	34.0	-13.3	0.8	25.8	0.0	47.3	54.0	-6.7	Pass		
1200	V	31.5	31.7	34.8	34.8	-13.3	0.8	25.8	0.0	48.1	54.0	-5.9	Pass		
1050	Н	35.3	36.1	33.7	36.1	-13.3	0.8	28.1	0.0	51.7	59.2	-7.5	Pass		
1930	V	34.7	37.2	37.0	37.2	-13.3	0.8	28.1	0.0	52.8	59.2	~6.4	Pass		
2240	Н	32.7	32.0	32.0	32.7	-13.3	1.3	29.1	0.0	49.8	54.0	-4.2	Pass		
2540	V	32.3	34.4	33.3	34.4	-13.3	1.3	29.1	0.0	51.5	54.0	-2.5	Pass		
2720	Н	31.1	30.2	30.5	31.1	-13.3	1.3	30.1	0.0	49.2	54.0	-4.8	Pass	Noise Floor	
2750	V	29.9	30.4	30.2	30.4	-13.3	1.3	30.1	0.0	48.5	54.0	-5.5	Pass	Noise Floor	
2120	Н	32.5	31.3	31.7	32.5	-13.3	1.1	31.1	0.0	51.4	59.2	-7.8	Pass	Noise Floor	
5120	V	32.0	32.4	32.1	32.4	-13.3	1.1	31.1	0.0	51.3	59.2	-7.9	Pass	Noise Floor	
2510	Н	31.4	31.6	31.1	31.6	-13.3	1.0	31.9	0.0	51.2	54.0	-2.8	Pass	Noise Floor	
3510	V	30.6	31.1	32.5	32.5	-13.3	1.0	31.9	0.0	52.1	54.0	-1.9	Pass	Noise Floor	
2000	н	30.7	30.0	31.0	31.0	-13.3	0.9	32.5	0.0	51.1	54.0	-2.9	Pass	Noise Floor	
3900	V	31.3	30.8	30.9	31.3	-13.3	0.9	32.5	0.0	51.4	54.0	-2.6	Pass	Noise Floor	

The EUT was tested on all three axes

The EUT was tested with fresh batteries

The spectrum was searched from 10 MHz to 6 GHz

All measurements are peak measurements and fall below the QP or AVG limits specified for each frequency.

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Duty Cycle Correction – 315 MHz

100 mS Window



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Duty Cycle Correction – 315 MHz

50 mS Window



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Duty Cycle Correction – 315 MHz

Narrow and Wide Pulse Widths



Narrow pulse width = $210 \ \mu S$ Wide pulse width = $400 \ \mu S$

100 mS worst case: 47 narrow pulses * 210 μ S /pulse = 12.4 mS 31 wide pulses * 400 μ S /pulse = 9.9 mS Total transmit time = 22.3 mS Correction factor = 20 * log(22.3/100) = 13.0 dB

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Duty Cycle Correction – 390 MHz

100 mS Window



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Duty Cycle Correction – 390 MHz

50 mS Window



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Duty Cycle Correction – 390 MHz

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2R 2a		(1	>		Tim	e			4	108.	7 ms 7 μs	8 8				3	5.55	30 d	dВ	

Narrow and Wide Pulse Widths

Narrow pulse width = 209.3 μ S Wide pulse width = 408.7 μ S

100 mS worst case:

51 narrow pulses * 209.3 μ S /pulse = 10.7 mS

27 wide pulses $*408.7 \,\mu\text{S}$ /pulse = 11.0 mS

Total transmit time = 21.7 mS

Correction factor = 20 * log(21.7/100) = 13.3 dB

Occupied Bandwidth

Minimum Standard:

15.231 (c) The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

Test Results: Complies, see attached graphs

0.25% * 315 MHz = 787.5 kHz 0.25% * 390 MHz = 875 kHz

Test Data - Occupied Bandwidth - 315 MHz

🔆 Agil Ref 76	lent .99 dB	99:05:3 با	8 Jun 3 #Atten	0, 201 0 dB	6			Mkr3	} ∆ 51 _0.2	.25 kHz 288 dB
Peak Log 10 dB/	Mark 51.2 -0.2	er Δ 50 k	Hz		38			m		
Center #Res B	315 M	1Hz Hz		VB	W 10 k	Hz	Swe	ep 8.5	Span 5 ms (40	00 kHz
Marki 1 2 3R 3Δ	er T	race (1) (1) (1) (1)	Type Freq Freq Freq Freq		X 315.016 315.040 314.988 51	Axis i25 MHz i00 MHz i75 MHz .25 kHz			Amplit 56.13 d 35.69 d 35.98 d -0.288	ude BµV BµV (BµV } dB

Test Data - Occupied Bandwidth - 390 MHz

🔆 Agilent	09:13:1	3 Jun 30,	2016		
Ref 76.99	dBµV	#Atten 0	dB	Mkrú	3 ∆ 48.75 kHz 1.273 dB
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dB/					
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mut	murum	her marked	vm.	maria	handrow
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Contor 200	2 MU-				Seen EQQ LUIS
#Res BW 10	0 kHz		VBW 10 kHz	Sweep 8.5	ms (401 pts)
Marker	Trace	Type	X Axis	235	Amplitude
2	(1)	Freq	390.02000 MHz		34.95 dBµV
ЗR	(1)	Freq	389.99375 MHz		33.67 dBµV
36	(1)	Freq	48./5 kHz		1.273 dB

Restricted Bands of Operation

15.205 Restricted bands of operation.

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz	
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15	
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46	
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75	
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5	
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2	
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5	
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7	
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4	
6.31175-6.31225	123-138	2200-2300	14.47-14.5	
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2	
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4	
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12	
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0	
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8	
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5	
12.57675-12.57725	322-335.4	3600-4400	(2)	
13.36-13.41				

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Spurious Emissions

Minimum Requirements:

15.109 Radiated emission limits.

(a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency of emission (MHz)	Field strength (microvolts/meter)
30-88	100
88-216	150
216-960	200
Above 960	500

Test Result:

Complies, see attached data.

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Radiated Emissions Spurious Test Data

Active Loop – X Axis - 24 MHz Oscillator



Active Loop - Y Axis - 24 MHz Oscillator



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Active Loop – Z Axis - 24 MHz Oscillator



Biconical – Horizontal – Fundamental Frequency 315 MHz – X Axis



Biconical – Horizontal – Fundamental Frequency 315 MHz – Y Axis



Biconical – Horizontal – Fundamental Frequency 315 MHz – Z Axis



Biconical – Horizontal – Fundamental Frequency 390 MHz – X Axis







Biconical – Horizontal – Fundamental Frequency 390 MHz – Z Axis



Biconical – Vertical – Fundamental Frequency 315 MHz – X Axis



Biconical – Vertical – Fundamental Frequency 315 MHz – Y Axis



Biconical – Vertical – Fundamental Frequency 315 MHz – Z Axis



Biconical – Vertical – Fundamental Frequency 390 MHz – X Axis



Biconical – Vertical – Fundamental Frequency 390 MHz – Y Axis



Biconical – Vertical – Fundamental Frequency 390 MHz – Z Axis



Ref 76	.99 dB	μV	#Atten	0 dB				١	1kr2 6 12	30 MHz dBµV		
Peak Log		1										
10 dB/		Ō										
				, ĥn	A	10				1		
				MMU	hant	2	A.A	-		3		
	ماليجو ويوالي											
					•							
Start 2 #Res B	L 200 MH: W 120	z kHz		VB	W 300 I	(Hz	Sweep	127.9	Stop Ms (40	1 GHz 1 pts)		
Mark 1 2 3	Marker Trace 1 (2) 2 (2) 3 (2)		Type Freq Freq Freq		X S E	Axis 16 MHz 30 MHz 145 MHz		Amplitude 53.38 dBµV 12 dBµV 12.14 dBµV				

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Log Periodic – Horizontal – Fundamental Frequency 315 MHz – Y Axis



Log Periodic – Horizontal – Fundamental Frequency 315 MHz – Z Axis

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Log Periodic – Horizontal – Fundamental Frequency 390 MHz – X Axis

Ref 76	.99 dB	٧Ч	#Atter	n 0 dB				Ν	1kr1 3 31.98	90 MHz dBµV
Peak Log										*
10 dB/										
	Mark	er								
	390.	0000	10 1 0 M	Hz		P	٨			
	31.	98 d	BμV				• A		4	
V1 V2	auturt	mensole	wy way the	M	1 ma	MU	Almot	and a second	l.M.	halion

VBW 300 kHz

PA

Start 200 MHz #Res BW 120 kHz

Log Periodic – Horizontal – Fundamental Frequency 390 MHz – Y Axis

Stop 1 GHz

Sweep 127.9 ms (401 pts)

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Log Periodic – Horizontal – Fundamental Frequency 390 MHz – Z Axis



Log Periodic – Vertical – Fundamental Frequency 315 MHz – X Axis

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Log Periodic – Vertical – Fundamental Frequency 315 MHz – Y Axis



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Log Periodic – Vertical – Fundamental Frequency 390 MHz – X Axis





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Log Periodic – Vertical – Fundamental Frequency 390 MHz – Z Axis

Horn Antenna – Vertical – Fundamental Frequency 315 MH – X Axis

🗮 Ag	jilent	09:	:01:41	Se	ep	8, ż	203	16																		
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Start 1 #Res B	l GHz 3W 1 M	Hz								1	/BW	11	 ∕IHz						S۲	veep	12	2.5 r	St ns (ор 401	6 GH L pts	ĺΖ s)
Mark 1 2 3 4	ker Trace Type . (2) Freq . (2) Freq . (2) Freq . (2) Freq . (2) Freq			X Axis 1.5750 GHz 2.9875 GHz 3.1500 GHz 3.5625 GHz						Amplitude 36.01 dBµV 33.05 dBµV 33.97 dBµV 29.92 dBµV																
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Horn Antenna – Vertical – Fundamental Frequency 315 MH – Y Axis



Horn Antenna – Vertical – Fundamental Frequency 315 MH – Z Axis



Horn Antenna – Vertical – Fundamental Frequency 390 MH – X Axis



Horn Antenna – Vertical – Fundamental Frequency 390 MH – Y Axis



Horn Antenna – Vertical – Fundamental Frequency 390 MH – Z Axis



Horn Antenna – Horizontal – Fundamental Frequency 315 MH – X Axis

🔆 Aç	gilent	10:22	:28 🔇	Sep 8	3, 20	16										
Ref 79	9.99 dB	٧u			#Ĥ	tten 0 dl	B							Mkr4	2.4	4625 GHz .6 dBµV
Peak Log 7																*
, dB∕																
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Start 1 #Res B	L 1 GHz 3W 1 MH						URW 1	Mł	47			Swee		 25 m	Sto s (4	p 6 GHz 101 pts)
Mark	er Tr	- ace	T	ype		X	Axis		12		Amplit	ude	/p 1	2.0 11	5 (-	101 pt3)
1 2	(2) Freq (2) Freq				1.26; 1.57;	25 GHz 50 GHz				30.99 dBµV 41.57 dBµV						
4	3 (2) Freq 4 (2) Freq			1.8875 GHz 34.5 2.4625 GHz 37.						вµ∪ ВµV						
									1010101010	10101				.111	101010	

Horn Antenna – Horizontal – Fundamental Frequency 315 MH – Y Axis



Horn Antenna – Horizontal – Fundamental Frequency 315 MH – Z Axis



Horn Antenna – Horizontal – Fundamental Frequency 390 MH – X Axis



Horn Antenna – Horizontal – Fundamental Frequency 390 MH – Y Axis



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									Mkr4 3.3	1500 GHz
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Start I	L GHZ							0) کتر 1 م ا	эр 6 GHZ
#Res BW 1 MHz			-	VBW 1 MHz			Sweep 12.5 ms (401 pts)			
Mark	er Tra	ce I	ype Troc	X Axis 1 1750 CH-			Amplitu an ac ce	ude Pour		
	1 (2) Freq 2 (2) Freq		1.5625 GHz			30.44 dBuV				
3	(2	Σ F	Freq	1.850	30 GHz		31.07 dF	3μV		
4	(2)) F	Freq	3.150	30 GHz		34.39 dE	ЗµV		
NUMBER										

Horn Antenna – Horizontal – Fundamental Frequency 390 MH – Z Axis

Certificate of Conformity

RF Solutions, LLC has tested the product to the current appropriate standards and finds that the product is in compliance with those requirements.

Rules and Regulations:	United States 47 Code of Federal Regulations Part 15 – Electromagnetic Emissions of Information Technology Equipment (ITE)
	IC RSS 210 Industry Canada Radio Standards Specification
Standards:	ANSI C63.4-2014, Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical Equipment in the Range of 9kHz to 40GHz.ANSI C63.10-2013, Procedures for Compliance Testing of Unlicensed Wireless Devices
	ANSI C63.10-2013, Procedures for compliance testing of unlicensed wireless devices.
	Section 11.0 Measurement of Information Technology Equipment (ITE)
Manufacturer's Name: Manufacturer's Address: Product: Transmitter	Genie Company/Overhead Door Corp. One Door Drive Mt. Hope, OH 44660 1-Button Remote Control 315/390 MHz Garage Door Opener
Model Number:	G1TA/O1TA

This Certificate of Compliance issued 9/26/2016 is valid for the test sample of the product specified above and that it conforms to the Directive(s) and Standard(s).

Signature:

Unnelle Frieson

Annelle Frierson, Vice President RF Solutions, LLC 4683 Burr Drive Liverpool NY 13088 Phone: 315-457-0245 / Fax: 315-457-0428