

# **Gold Light Toys Factory**

# **TEST REPORT**

SCOPE OF WORK FCC TESTING-101069850155

REPORT NUMBER GZHH00318353-002

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**TEST REPORT** 

Intertek Report No.: GZHH00318353-002

## **Gold Light Toys Factory**

Application For Certification

## FCC ID: QW9JG2019C24GR

## **Drone Mach 10inch With Camera Streaming**

## Model: 101069850155

## 2.4GHz Wi-Fi Transceiver

Report No.: GZHH00318353-002

We hereby certify that the sample of the above item is considered to comply with the requirements of FCC Part 15, Subpart C for Intentional Radiator, mention 47 CFR [10-1-18]

Prepared and Checked by:

Approved by:

Sign on file

Terry Tang Senior Engineer Kidd Yang Technical Supervisor Date: June 6, 2019

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#### **MEASUREMENT/TECHNICAL REPORT**

## Drone Mach 10inch With Camera Streaming

#### Model: 101069850155

## FCC ID: QW9JG2019C24GR

This report concerns	s (check one)	Original Grant	X	_Class II	Change	
Equipment Type: <u>D</u> portion)	<u>TS - Part 15 [</u>	Digital Transmis	<u>sion Sys</u>	tems (W	i-Fi transm	<u>nitter</u>
Deferred grant requ	ested per 47 CF	FR 0.457(d)(1)(ii	)? Ye	es	No	X
Company Name agi	rees to notify the	e Commission b	y:	s, defer u late	ntil :dat	
of the intended dat issued on that date.	e of announce	ment of the pro	oduct so	that the	grant car	n be
Transition Rules Re	quest per 15.37	?	Yes		No	<u>x</u>
If no, assumed Pa [10-01-18] Edition]		C for intention	al radia	tor - the	new 47 (	CFR
Report prepared by	:					
	101, 201, Bu Community ( People's Rep	ng Services She uilding B, No. GuanHu Subdis ublic of China 755-8601 6288/	308 Wu strict, Lo	ihe Aven ongHua	ue, Zhan District, S	gkengjin



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## List of attached file

Exhibit type	File Description	Filename
Test Report	Test Report	report.pdf
Test Setup Photo	Radiated Emission	radiated photos.pdf
External Photo	External Photo	external photos.pdf
Internal Photo	Internal Photo	internal photos.pdf
Block Diagram	Block Diagram	block.pdf
Schematics	Circuit Diagram	circuit.pdf
Operation Description	Technical Description	descri.pdf
ID Label/Location	Label Artwork and Location	label.pdf
User Manual	User Manual	manual.pdf
Cover Letter	Confidentiality Letter	request.pdf
Cover Letter	Letter of Agency	agency.pdf



## **EXHIBIT 1**

## SUMMARY OF TEST RESULTS



#### 1.0 Summary of Test Results

## Drone Mach 10inch With Camera Streaming

## Model: 101069850155

#### FCC ID: QW9JG2019C24GR

TEST ITEM	REFERENCE	RESULTS
Max. Output power	15.247(b)(3)	Pass
6 dB Bandwidth	15.247(a)(2)	Pass
Max. Power Density	15.247(e)	Pass
Out of Band Antenna Conducted Emission	15.247(d)	Pass
Radiated Emission in Restricted Bands	15.247(d)	Pass
Antenna Requirement	15.203	Pass (See Notes)

Notes: The EUT uses an Integral Antenna which in accordance to Section 15.203 is considered sufficient to comply with the provisions of this section.



## EXHIBIT 2

## **GENERAL DESCRIPTION**



#### 2.0 General Description

#### 2.1 Product Description

The Equipment Under Test (EUT) is a Drone Mach 10inch With Camera Streaming with Wi-Fi function operating at 2412-2462MHz for 802.11b/g/n-HT20, 11 channels with 5MHz channel spacing. The EUT is powered by DC 3.7V rechargeable battery. For more detailed features description, please refer to the user's manual.

Type of Modulation: CCK, BPSK, QPSK, 16QAM, 64QAM.

Antenna Type: Integral Antenna

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

#### 2.2 Related Submittal(s) Grants

This is an application for certification of: DTS- Part 15 Digital Transmission Systems (2.4GHz Wi-Fi transmitter portion).

Remaining portions are subject to the following procedures:

- 1. Receiver portion of WiFi: exempt from technical requirement of this Part.
- 2. Other Digital Function: Subject to FCC Part 15B SDOC.
- 3. The Corresponding transmitter is in the process of being filed under the FCC ID: QW9JG2019C24GT.

#### 2.3 Test Methodology

Radiated emission measurements was performed according to the procedures in ANSI C63.10: 2013 and KDB 558074 D01 v05r02. Radiated emission measurement was performed in semi-anechoic chamber. For radiated emission measurement, preliminary scans were performed in the semi-anechoic chamber only to determine the worst case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "**Justification Section**" of this Application. All other measurements were made in accordance with the procedures in part 2 of CFR 47.

#### 2.4 Test Facility

The Semi-anechoic chamber used to collect the radiated data is **Intertek Testing Services Shenzhen Ltd. Longhua Branch** and located at 101, 201, Building B, No. 308 Wuhe Avenue, Zhangkengjing Community GuanHu Subdistrict, LongHua District, Shenzhen, People's Republic of China. This test facility and site measurement data have been fully placed on file with the FCC (Registration Number: CN1188).



## **EXHIBIT 3**

## SYSTEM TEST CONFIGURATION



## 3.0 System Test Configuration

#### 3.1 Justification

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, all cables were manipulated to produce worst case emissions. The EUT was powered by DC 3.7V rechargeable battery during the test. Only the worst case mode is shown in the report.

On 802.11b/g/n-HT20 mode, only one antenna is used, and all data rate were tested and only the worst case data is shown in the report.

For maximizing emissions, the EUT was rotated through 360°, the EUT was placed on the styrene turntable with 0.8m up to 1GHz and 1.5 m above 1GHz. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters. Radiated emissions are taken at three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance.

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000 MHz. The resolution is 1 MHz or greater for frequencies above 1000 MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

The unit was operated standalone and placed at the center of table.

Radiated emission measurement were performed the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

#### 3.2 EUT Exercising Software

The EUT exercise program (provided by client) used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use. The worst case configuration is used in all specified testing. Test Software: Serial debugging assistant V1.2

The parameters of test software setting:

During the test, Channel and power controlling software provided by the applicant was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the application and is going to be fixed on the firmware of the end product.



#### 3.3 Special Accessories

N/A.

#### 3.4 Measurement Uncertainty

When determining of the test conclusion, the Measurement Uncertainty of test has been considered.

Uncertainty and Compliance - Unless the standard specifically states that measured values are to be extended by the measurement uncertainty in determining compliance, all compliance determinations are based on the actual measured value.

3.5 Equipment Modification

Any modifications installed previous to testing by Gold Light Toys Factory will be incorporated in each production model sold / leased in the United States.

No modifications were installed by Intertek Testing Services Shenzhen Ltd. Longhua Branch.

3.6 Support Equipment List and Description

This product was tested in the following configuration:

Refer List:

Description	Manufacturer	Model No.
iPod (Provided by Intertek)	Apple	A1421



## **EXHIBIT 4**

## **MEASUREMENT RESULTS**



Applicant: Gold Light Toys Factory Date of Test: April 25, 2019

Model: 101069850155

#### 4.0 <u>Measurement Results</u>

4.1 Maximum Conducted Output Power at Antenna Terminals, FCC Rules 15.247(b)(3):

The antenna power of the EUT was connected to the input of a broadband peak RF power meter. The power meter have a video bandwidth that is greater than DTS bandwidth and utilize a fast-responding diode detector. Power was read directly at the EUT antenna terminals with cable loss added.

For antennas with gains of 6 dBi or less, maximum allowed Transmitter output is 1 watt (+30 dBm).

IEEE 802.11b (Antenna Gain = 2.0dBi) (CCK, 1Mbps)		
Frequency (MHz)	Output in dBm (Peak Reading)	Output in mWatt
Low Channel: 2412	23.7	234.4
Middle Channel: 2437	24.3	269.2
High Channel: 2462	24.0	251.2

IEEE 802.11g (Antenna Gain = 2.0dBi) (16QAM, 6Mbps)		
Frequency (MHz)Output in dBm (Peak Reading)Output in mWatt		
Low Channel: 2412	25.2	331.1
Middle Channel: 2437	25.4	346.7
High Channel: 2462	25.5	354.8

IEEE 802.11n-HT20 (Antenna Gain = 2.0dBi) (64QAM, 6Mbps)		
Frequency (MHz)Output in dBm (Peak Reading)Output in mWatt		
Low Channel: 2412	25.0	316.2
Middle Channel: 2437	24.9	309.0
High Channel: 2462	25.3	338.8

Cable loss: <u>1.5</u> dB External Attenuation: 0 dB

Cable loss, external attenuation has been included in OFFSET function

EUT max. output level = 25.5dBm

EUT max. E.I.R.P = 25.5dBm + 2.0dBi = 27.5dBm

For RF Exposure, the information is saved with filename: RF exposure.pdf.



Applicant: Gold Light Toys Factory Date of Test: April 25, 2019

Model: 101069850155

#### 4.2 Minimum 6 dB RF Bandwidth, FCC Rule 15.247(a) (2):

The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RES BW was set to 100 KHz according to FCC KDB 558074 D01 v05r02. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A PEAK output reading was taken, a DISPLAY line was drawn 6 dB lower than PEAK level. The 6dB bandwidth was determined from where the channel output spectrum intersected the display line.

Limit: The 6 dB Bandwidth is at least 500 kHz.

IEEE 802.11b (CCK, 1Mbps)		
Frequency (MHz)	6 dB Bandwidth (MHz)	
2412	9.986	
2437	9.682	
2462	9.508	

IEEE 802.11g (16QAM, 6Mbps)		
Frequency (MHz)	6 dB Bandwidth (MHz)	
2412	16.498	
2437	16.541	
2462	16.541	

IEEE 802.11n-HT20 (64QAM, 6Mbps)		
Frequency (MHz)	6 dB Bandwidth (MHz)	
2412	17.670	
2437	17.670	
2462	17.713	

The test plots are attached as below.



#### 802.11b

Spectrum								
Ref Level 3	<b>ם</b> 30.00 d	Bm Offset	1.50 dB 🦷	RBW 100 kHz				
Att	45	dB SWT	75.9 µs 🦷	<b>VBW</b> 300 kHz	Mode Auto FF	Г		
1Pk Max								
					D1[1]			-0.10 dB 9.9860 MHz
20 dBm			_		M1[1]			2.61 dBm
				M2	unt(r)		2.4	074410 GHz
LO dBm			641		A Charles			
	1 2 62	20 dBm	M1	mahamm	many	m D1		_
I dBm	1 2.02		M			MA.		
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row	www	The second se						Warmy 1
10 dBm						2		
50 dBm					8			2
60 dBm								
F 2.412 GF	17			691 pt	l		Sna	n 30.0 MHz
arker	12			<u> </u>			000	11 0010 14112
ype   Ref	Trc	X-va	lue	Y-value	Function	l Ei	unction Resu	lt
M1	1	2.40	7441 GHz	2.61 dBm				
D1 M1 M2	1		.986 MHz 5687 GHz	-0.10 dB				
1. A				8.62 dBm				( <b>⊞</b>
Ref Level 3		Bm Offset dB SWT	1.50 dB 🖷	RBW 100 kHz	Mode Auto FF	<u> </u>		
Ref Level 3 Att			1.50 dB 🖷	RBW 100 kHz		T <sup>.</sup>		(E
Ref Level 3 Att			1.50 dB 🖷	RBW 100 kHz		<u>т</u>		( ⊽ 0.09 dE
Ref Level 3 Att 1Pk Max			1.50 dB 🖷	RBW 100 kHz	Mode Auto FF D1[1]	T		0.09 dE 9.6820 MH:
Ref Level 3 Att 1Pk Max			1.50 dB 🖷	RBW 100 kHz VBW 300 kHz	Mode Auto FF	Ι <u></u>	2.4	( ⊽ 0.09 dE 9.6820 MH: 3.10 dBn
Att 1Pk Max 0 dBm			1.50 dB е 75.9 µs е	RBW 100 kHz VBW 300 kHz	Mode Auto FF D1[1] M1[1]	ĩ	2.4	( ⊽ 0.09 dE 9.6820 MH: 3.10 dBn
Cef Level 3 Att 1Pk Max 0 dBm	45		1.50 dB 🖷	RBW 100 kHz VBW 300 kHz	Mode Auto FF D1[1]	ĩ	2.4	( ⊽ 0.09 dE 9.6820 MH: 3.10 dBn
Ref Level 3 Att 1Pk Max 0 dBm 0 dBm	45	dB SWT	1.50 dB е 75.9 µs е	RBW 100 kHz VBW 300 kHz	Mode Auto FF D1[1] M1[1]	ĩ	2.4	( ⊽ 0.09 dE 9.6820 MH: 3.10 dBn
Att 1Pk Max 0 dBm dBm C	45	dB SWT	1.50 dB е 75.9 µs е	RBW 100 kHz VBW 300 kHz	Mode Auto FF D1[1] M1[1]	ĩ	2.4	( ⊽ 0.09 dE 9.6820 MHz 3.10 dBm
Att 1Pk Max 0 dBm dBm C	45	dB SWT	1.50 dB е 75.9 µs е	RBW 100 kHz VBW 300 kHz	Mode Auto FF D1[1] M1[1]	ĩ	2.4	( ⊽ 0.09 dE 9.6820 MHz 3.10 dBm
Ref Level 3 Att 1Pk Max 0 dBm 0 dBm dBm L0 dBm	45	dB SWT	1.50 dB е 75.9 µs е	RBW 100 kHz VBW 300 kHz	Mode Auto FF D1[1] M1[1]	ĩ	2.4	( ⊽ 0.09 dE 9.6820 MH: 3.10 dBn
Ref Level 3 Att 1Pk Max 0 dBm 0 dBm dBm L0 dBm	45	dB SWT	1.50 dB е 75.9 µs е	RBW 100 kHz VBW 300 kHz	Mode Auto FF D1[1] M1[1]	ĩ	2.4	( ⊽ 0.09 dE 9.6820 MH: 3.10 dBn
Ref Level 3 Att 1Pk Max 0 dBm 0 dBm 0 dBm 0 dBm 20 dBm	45	20 dBm	1.50 dB е 75.9 µs е	RBW 100 kHz VBW 300 kHz	Mode Auto FF D1[1] M1[1]	ĩ	1	( ⊽ 0.09 dE 9.6820 MHz 3.10 dBm
Ref Level 3 Att 1Pk Max 0 dBm 0 dBm 0 dBm 0 dBm 20 dBm	45	20 dBm	1.50 dB е 75.9 µs е	RBW 100 kHz VBW 300 kHz	Mode Auto FF D1[1] M1[1]	ĩ	2.4	0.09 dE 9.6820 MHz 3.10 dBm 322680 GHz
Act Level 3 Att 1Pk Max 0 dBm 0 dBm 0 dBm 10 dBm 20 dBm 30 dBm	45	20 dBm	1.50 dB е 75.9 µs е	RBW 100 kHz VBW 300 kHz	Mode Auto FF D1[1] M1[1]	ĩ	1	0.09 dE 9.6820 MHz 3.10 dBm 322680 GHz
Ref Level 3           Att           1Pk Max           0 dBm           0 dBm           0 dBm           10 dBm           20 dBm           30 dBm	45	20 dBm	1.50 dB е 75.9 µs е	RBW 100 kHz VBW 300 kHz	Mode Auto FF D1[1] M1[1]	ĩ	1	0.09 dE 9.6820 MHz 3.10 dBm 322680 GHz
Ref Level 3           Att           1Pk Max           0 dBm           0 dBm           0 dBm           10 dBm           20 dBm           30 dBm           40 dBm	45	20 dBm	1.50 dB е 75.9 µs е	RBW 100 kHz VBW 300 kHz	Mode Auto FF D1[1] M1[1]	ĩ	1	0.09 dE 9.6820 MHz 3.10 dBm 322680 GHz
Act Level 3 Att 1Pk Max 0 dBm 0 dBm 0 dBm 10 dBm 20 dBm 30 dBm 40 dBm	45	20 dBm	1.50 dB е 75.9 µs е	RBW 100 kHz VBW 300 kHz	Mode Auto FF D1[1] M1[1]	ĩ	1	0.09 dE 9.6820 MHz 3.10 dBm 322680 GHz
Ref Level 3           Att           1Pk Max           0 dBm           0 dBm           0 dBm           0 dBm           0 dBm           10 dBm           20 dBm           30 dBm           40 dBm           50 dBm	45	20 dBm	1.50 dB е 75.9 µs е	RBW 100 kHz VBW 300 kHz	Mode Auto FF D1[1] M1[1]	ĩ	1	0.09 dE 9.6820 MHz 3.10 dBm 322680 GHz
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Ref Level 3           Att           1Pk Max           0 dBm           50 dBm           50 dBm           50 dBm           50 dBm	45 01 3.62	20 dBm	1.50 dB е 75.9 µs е	RBW         100 kHz           VBW         300 kHz	Mode Auto FF D1[1] M1[1] 	ĩ	2 horange	0.09 dE 9.6820 MH2 3.10 dBm 322680 GH2
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1 dBm	45 01 3.62 1z	20 dBm	1.50 dB = 75.9 µs = М1 ум им	RBW 100 kHz VBW 300 kHz	Mode Auto FF D1[1] M1[1] M1[1]	D1	2 month of the second s	



Spect	rum								
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20 dBm	-					D1[1] M1[1]			0.17 dB 9.5080 MHz 1.69 dBm 974410 GHz
10 dBm	( <del></del>			M1 .	M2	0.000			
0 dBm-	D	1 1.670	dBm	- ANN	1 minung	IC W WHITE WILLING			
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-50 dBn	n								
-60 dBn	n		-						
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Marker				- 28			<i>a</i> 2		
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M1		1	2.45744	a second s	1.69 dBm				
D1	M1	1		8 MHz	0.17 dB		-		
M2		1	2.459568	7 GHz	7.67 dBm				



#### 802.11g

Ref Level 30.00 dBr	m Offset 1.50 dB 👄	RBW 100 kHz				[₩
Att 45 d		<b>VBW</b> 300 kHz	Mode Auto FF	P.		
1Pk Max	<u> </u>		D1[1]			0.80 dE
					1	6.4980 MH
0 dBm			M1[1]		2.4	-2.96 dBn 040550 GH:
0 dBm				M2		
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0 dBm				1-		<u></u>
i0 dBm						
0 dBm	+ +				-	
C 0.410 01-						- 00 C MI
F 2.412 GHz arker		691 pt	5		spa	n 30.0 MHz
ype   Ref   Trc	X-value	Y-value	Function	Fund	ction Resu	lt
M1 1 D1 M1 1	2.404055 GHz	-2.96 dBm 0.80 dB				
M2 1	16.498 MHz 2.419771 GHz	3.66 dBm				
a	m Offset 1.50 dB 🖷	<b>RBW</b> 100 kHz				
tef Level 30.00 dBr tt 45 d		<b>RBW</b> 100 kHz <b>VBW</b> 300 kHz	Mode Auto FF	г		<b>∏</b> ▼
tef Level 30.00 dBr tt 45 d			Mode Auto FF	F.		-0.60 d
tef Level 30.00 dBr tt 45 d 1Pk Max			D1[1]	r	1	-0.60 dl 6.5410 MH
tef Level 30.00 dBr tt 45 d IPk Max				r		-0.60 di 6.5410 MH -2.23 dBn
ef Level 30.00 dBr .tt 45 d IPk Max			D1[1]	r 		-0.60 di 6.5410 MH -2.23 dBn
ef Level 30.00 dBr tt 45 d LPK Max 0 dBm 0 dBm dBm	В <b>SWT</b> 75.9 µs •		D1[1]	r uhutoutogi	2.4	-0.60 di 6.5410 MH -2.23 dBn
lef Level         30.00 dBr           tt         45 d           LPk Max         0 dBm           0 dBm         0 dBm           0 dBm         0 dBm	В <b>SWT</b> 75.9 µs •		D1[1]		2.4	-0.60 di 6.5410 MH -2.23 dBn
lef Level         30.00 dBr           tt         45 d           LPk Max         0 dBm           0 dBm         0 dBm           0 dBm         0 dBm	В <b>SWT</b> 75.9 µs •		D1[1]		2.4	-0.60 di 6.5410 MH -2.23 dBn
tef Level         30.00 dBr           1Pk Max	B SWT 75.9 μs		D1[1]		2.4	-0.60 di 6.5410 MH -2.23 dBn
tef Level         30.00 dBr           tt         45 d           1Pk Max	B SWT 75.9 μs		D1[1]		2.4	-0.60 di 6.5410 MH -2.23 dBn
tef Level         30.00 dBr           tt         45 d           1Pk Max         0           0 dBm         0	B SWT 75.9 μs		D1[1]		2.4	-0.60 di 6.5410 MH -2.23 dBn
tef Level         30.00 dBr           tt         45 d           1Pk Max         0           0 dBm         0	B SWT 75.9 μs		D1[1]		2.4	-0.60 di 6.5410 MH -2.23 dBn
tef Level         30.00 dBr           tt         45 d           1Pk Max         0           0 dBm         0	B SWT 75.9 μs		D1[1]		2.4	-0.60 di 6.5410 MH. -2.23 dBn 290120 GH
tef Level         30.00 dBr           tt         45 d           1Pk Max         0           0 dBm         0	B SWT 75.9 μs		D1[1]		2.4	-0.60 di 6.5410 MH -2.23 dBn
lef Level         30.00 dBr           tt         45 d           IPk Max         0           0 dBm         0	B SWT 75.9 μs		D1[1]		2.4	-0.60 di 6.5410 MH -2.23 dBn
itt         30.00 dBr           itt         45 d           iPk Max         0           0 dBm         0	B SWT 75.9 μs	VBW 300 kHz	D1[1]		2.4	-0.60 di 6.5410 MH -2.23 dBn 290120 GH
tef Level         30.00 dBr           1Pk Max         45 d           0 dBm         0           0 dBm         01 -2.770           0 dBm         01 -2.770           0 dBm         00 dBm           00 dBm         00 dBm	B SWT 75.9 μs		D1[1]		2.4	-0.60 di 6.5410 MH -2.23 dBn 290120 GH
1Pk Max         0 dBm         50 dBm	B SWT 75.9 μs	VBW 300 kHz	D1[1]	un non har	2.4	-0.60 di 6.5410 MH -2.23 dBn 290120 GH
tef Level         30.00 dBr           1Pk Max         45 d           0 dBm         0           0 dBm         01 -2.770           0 dBm         01 -2.770           0 dBm         00 dBm           30 dBm         01 -2.770           0 dBm         01 -2.770           0 dBm         00 dBm           30 dBm         90 dBm	B SWT 75.9 μs	VBW 300 kHz	D1[1] M1[1] M	un non har	2.4	-0.60 di 6.5410 MH -2.23 dBn 290120 GH



Spect	um						
Ref Le <sup>.</sup> Att	vel 31	0.00 df 45			Mode Auto FFT		10
∋1Pk Ma	эх		77 15	N7			
20 dBm-					D1[1] M1[1]		-0.33 d 16.5410 MH -3.68 dBr 2.4540120 GH
10 dBm-	<u>. c</u>		M2		<u> </u>		2.4340120 011
0 dBm—		1 4 07		worknow ,	when having	1 phinting	
-10 dBm	-	1 -4.07		V		The second se	
-20 dBm	(		1				M
-30 dBm <u>Ն</u> թու (Ն		www					hurmon
-40 dBm							
-50 dBm							
-60 dBm							
CF 2.46	52 GH	z		691 pt	s		Span 30.0 MHz
Marker							
Type	Ref		X-value	Y-value	Function	Functi	ion Result
M1	140	1	2.454012 GHz	-3.68 dBm			
D1 M2	M1	1	16.541 MHz 2.454793 GHz	-0.33 dB 1.93 dBm			



#### 802.11n-HT20

Spectrun	n ]							
Ref Level Att	30.00 dBm 45 dB			RBW 100 kHz VBW 300 kHz	Marda Anto FFT			
1Pk Max	+5 UD	3991 73	5,9 µs 🖷 '	Y D VY 300 KH2	Mode Auto FFT			
	65				D1[1]			-1.05 di
20 dBm							1	7.6700 MH
20 0011					M1[1]		2.4	-2.67 dBn 034910 GH
10 dBm	16	-				-	1	Jo 13 10 Gri
		1.00			- 100 M	M2		
0 dBm	D1 -2.870	HB Basterse	handward	unterstand p	tabar Another	april way	<b>%</b> 1	
10 40		11		V			1	
-10 dBm	8			· · · · · · · · · · · · · · · · · · ·		c.	4	1
-20 dBm		<u></u>		_			4	
	ľ						X	
30 dBm	• 0.1 <sup>10</sup>	-					[w	mmm
30 dBm-	man							
40 dBm—								
50 dBm		-			54			
00 0011								
60 dBm								8
F 2.412 (	GHz			691 pts			Spar	n 30.0 MHz
arker					5%.			
	ef   Trc	X-value		Y-value	Function	Fun	ction Resul	t
M1 D1 N	1 11	2,4034	91 GHz	-2.67 dBm -1.05 dB				
M2	1	2.4197		3.13 dBm				
								_
10		Offset 1	50 dB 🛋 I	28W 100 kHz				
Ref Level	n 30.00 dBm 45 dB			<b>RBW</b> 100 kHz <b>VBW</b> 300 kHz	Mode Auto FFT	2		
Ref Level Att	30.00 dBm					,		7]
Ref Level Att	30.00 dBm				Mode Auto FFT D1[1]	9		0.59 d
Ref Level Att 1Pk Max	30.00 dBm				D1[1]	p.	1	0.59 d 7.6700 MH
Ref Level Att 1Pk Max	30.00 dBm							0.59 d 7.6700 MH -3.07 dBi
Ref Level Att 1Pk Max 0 dBm	30.00 dBm	SWT 7:			D1[1]	,		0.59 d 7.6700 MF -3.07 dBi
Ref Level Att 1Pk Max 0 dBm	30.00 dBm	SWT 7:	5.9 µs 🕳 ۱	VBW 300 kHz	D1[1]		2.4:	0.59 d 7.6700 MF -3.07 dBi
Ref Level Att 1Pk Max 0 dBm	30.00 dBm	SWT 75	5.9 µs 🕳 ۱	VBW 300 kHz	D1[1]		2.4:	0.59 d 7.6700 MF -3.07 dBi
Ref Level Att 1Pk Max 0 dBm 0 dBm dBm	30.00 dBm 45 dB	SWT 75	5.9 µs 🕳 ۱	VBW 300 kHz	D1[1]		2.4:	0.59 d 7.6700 MF -3.07 dBi
Ref Level Att 1Pk Max 0 dBm 0 dBm dBm	30.00 dBm 45 dB	SWT 75	5.9 µs 🕳 ۱	VBW 300 kHz	D1[1]		2.4:	0.59 d 7.6700 MF -3.07 dBi
Ref Level Att 1Pk Max 0 dBm	30.00 dBm 45 dB	SWT 75	5.9 µs 🕳 ۱	VBW 300 kHz	D1[1]		2.4:	0.59 d 7.6700 MH -3.07 dBi
Ref Level           Att           1Pk Max           0 dBm           0 dBm           1 dBm           10 dBm           20 dBm	30.00 dBm 45 dB	SWT 75	5.9 µs 🕳 ۱	VBW 300 kHz	D1[1]		2.4:	0.59 d 7.6700 MH -3.07 dBi
Ref Level           Att           1Pk Max           0 dBm           0 dBm           10 dBm           10 dBm           20 dBm	30.00 dBm 45 dB	SWT 75	5.9 µs 🕳 ۱	VBW 300 kHz	D1[1]		2.4	0.59 d 7.6700 MF -3.07 dB 284470 GF
Ref Level           Att           1Pk Max           0 dBm           0 dBm           dBm           10 dBm           20 dBm           30 dBm           30 dBm	30.00 dBm 45 dB	SWT 75	5.9 µs 🕳 ۱	VBW 300 kHz	D1[1]		2.4:	0.59 d 7.6700 MF -3.07 dB 284470 GF
Ref Level           Att           1Pk Max           0 dBm           0 dBm           dBm           10 dBm           20 dBm           30 dBm           30 dBm	30.00 dBm 45 dB	SWT 75	5.9 µs 🕳 ۱	VBW 300 kHz	D1[1]		2.4	0.59 d 7.6700 MF -3.07 dB 284470 GF
Ref Level           Att           1Pk Max           0 dBm           0 dBm           0 dBm           10 dBm           20 dBm           30 dBm           10 dBm	30.00 dBm 45 dB	SWT 75	5.9 µs 🕳 ۱	VBW 300 kHz	D1[1]		2.4	0.59 d 7.6700 MF -3.07 dB 284470 GF
Ref Level           Att           1Pk Max           1Pk Max           0 dBm           0 dBm           10 dBm           10 dBm           20 dBm           30 dBm           30 dBm           30 dBm           30 dBm	30.00 dBm 45 dB	SWT 75	5.9 µs 🕳 ۱	VBW 300 kHz	D1[1]		2.4	0.59 d 7.6700 MH -3.07 dBr 284470 GH
Ref Level           Att           1Pk Max           1Pk Max           0 dBm           0 dBm           10 dBm           10 dBm           20 dBm           30 dBm           30 dBm           50 dBm	30.00 dBm 45 dB	SWT 75	5.9 µs 🕳 ۱	VBW 300 kHz	D1[1]		2.4	0.59 d 7.6700 MH -3.07 dBr 284470 GH
Ref Level           Att           1Pk Max           0 dBm           0 dBm           dBm           10 dBm           20 dBm           30 dBm           30 dBm           50 dBm           50 dBm	30.00 dBm 45 dB	SWT 75	5.9 µs 🕳 ۱	VBW 300 kHz	D1[1]		2.4	0.59 d 7.6700 MF -3.07 dB 284470 GF
Ref Level Att 1Pk Max 1Pk Max 0 dBm 0 dBm 10 dBm 20 dBm 20 dBm 30 dBm 30 dBm 50 dBm 60 dBm 60 dBm	30.00 dBm 45 dB	SWT 75	5.9 µs 🕳 ۱	VBW 300 kHz	D1[1]		2.4	0.59 d 7.6700 MH -3.07 dBr 284470 GH
Ref Level           Att           (1Pk Max           (1Pk Max           (0 dBm—	30.00 dBm 45 dB	SWT 75	5.9 µs 🕳 ۱	VBW 300 kHz	D1[1]		2.4	0.59 d 7.6700 MH -3.07 dBr 284470 GH
Ref Level           Att           11Pk Max           11Pk Max           20 dBm           10 dBm           10 dBm           20 dBm           30 dBm           30 dBm           50 dBm           50 dBm           60 dBm           60 dBm           27 2.437 (           Type   Re	30.00 dBm 45 dB	SWT 75	5.9 µs • 1	VBW 300 kHz	D1[1]		2.4	0.59 d 7.6700 MH
Att           11Pk Max           11Pk Max           20 dBm           10 dBm           10 dBm           20 dBm           20 dBm           30 dBm           50 dBm           60 dBm           61 dBm           62 dBm           63 dBm	30.00 dBm 45 dB	SWT 7:	5.9 µs • 1	VBW 300 kHz	D1[1]		2.4:	0.59 d 7.6700 MH



Spect	um					Ę
Ref Le <sup>.</sup> Att	vel 31	0.00 di 45			Mode Auto FFT	
<b>1</b> Pk Ma	эх					
20 dBm-	-				D1[1] M1[1]	0.02 c 17.7130 MH -4.49 dB 2.4534470 GH
10 dBm-	o - 10					
0 dBm—		1 -4 7		who have a	aluntaritar	Murrun Maria
-10 dBm				V		
-20 dBm						- Ny
-30 dBm 	m	ww				howww
-50 dBm						
-60 dBm						
CF 2.46	52 GH	z		691 pt:	5	Span 30.0 MH:
Marker						
Type	Ref		X-value	Y-value	Function	Function Result
M1	541	1	2.453447 GHz	-4.49 dBm		
D1 M2	M1	1	17.713 MHz 2.454793 GHz	0.02 dB 1.29 dBm		



Applicant: Gold Light Toys Factory Date of Test: April 25, 2019

Model: 101069850155

4.3 Maximum Power Density Reading, FCC Rule 15.247(e):

The Measurement Procedure PKPSD was set according to the FCC KDB 558074 D01 v05r02.

Antenna output of the EUT was coupled directly to spectrum analyzer; if an external attenuator and/or cable was used, these losses are compensated for with the analyzer OFFSET function.

Limit: The Power Density does not exceed 8dBm/3 kHz.

IEEE 802.11b (CCK, 1Mbps)								
Frequency (MHz)	Power Density with RBW 3KHz							
2412	-5.86							
2437	-5.04							
2462	-7.11							

IEEE 802.11g (16QAM, 6Mbps)							
Frequency (MHz)	Power Density with RBW 3KHz						
2412	-12.04						
2437	-11.93						
2462	-13.74						

IEEE 802.11n-HT20 (64QAM, 6Mbps)							
Frequency (MHz) Power Density with RBW 3KHz							
2412	-13.92						
2437	-12.67						
2462	-14.71						

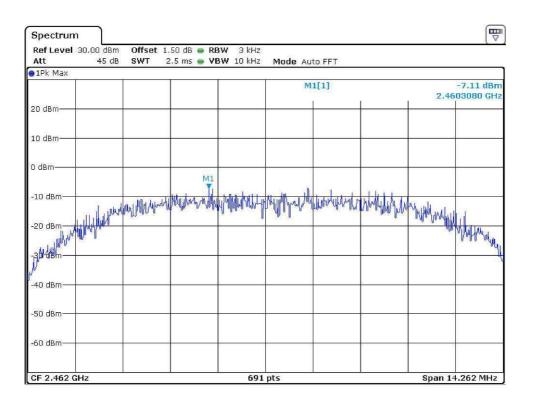
The test plots are attached as below.



#### 802.11b

Spectrum Ref Level 30.00 dBm Offset 1.50 dB 👄 RBW 3 kHz 45 dB SWT Mode Auto FFT 2.5 ms 🔵 VBW 10 kHz Att ⊖1Pk Max M1[1] -5.86 dBm 2.4132575 GHz 20 dBm 10 dBm -20 dBm adalphorenging and and a stand of the stand 1/44 40 dBm -50 dBm -60 dBm Span 14.979 MHz CF 2.412 GHz 691 pts Spectrum Ref Level 30.00 dBm Offset 1.50 dB 👄 RBW 3 kHz 45 dB SWT 2.5 ms 🝙 VBW 10 kHz Mode Auto FFT Att ⊖1Pk Max M1[1] -5.04 dBm 2.4352975 GHz 20 dBm 10 dBm Hard have and have the set of the 0 dBm M1 shill alway and all the bound the proved -10 dBm -20 dBm -40 dBm -50 dBm -60 dBm CF 2.437 GHz 691 pts Span 14.523 MHz



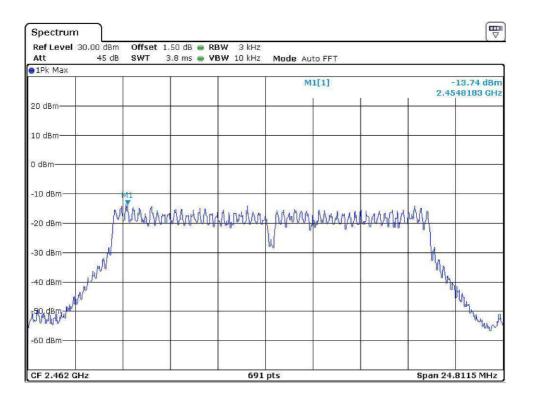




#### 802.11g

Spectrum Ref Level 30.00 dBm Offset 1.50 dB 👄 RBW 3 kHz Att 45 dB SWT 3.8 ms 💿 VBW 10 kHz Mode Auto FFT ⊖1Pk Max M1[1] -12.04 dBm 2.4197715 GHz 20 dBm-10 dBm 0 dBm -10 dBm Manusananan man manusananan -20 dBm Anyling -30 dBm HUN N -40 dBm Whathyw n stal de la la la -60 dBm CF 2.412 GHz 691 pts Span 24.747 MHz Spectrum Ref Level 30.00 dBm Offset 1.50 dB 👄 RBW 3 kHz 3.8 ms 💿 VBW 10 kHz 45 dB SWT Att Mode Auto FFT 😑 1 Pk Max M1[1] -11.93 dBm 2.4297113 GHz 20 dBm-10 dBm 0 dBm -10 dBm Manunananan manunanananan -20 dBm -30 dBm Tyle N -40 dBm "How the 150-dehal -60 dBm CF 2.437 GHz 691 pts Span 24.8115 MHz



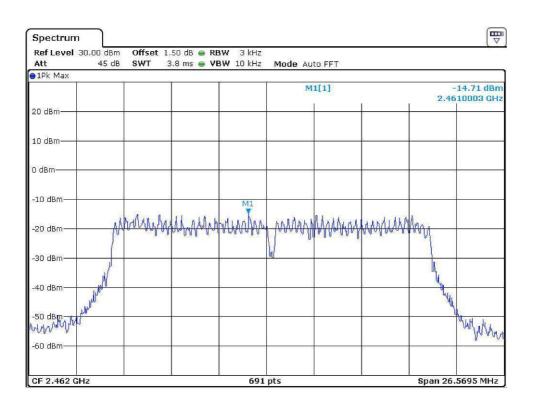




#### 802.11n-HT20

Spectrum Ref Level 30.00 dBm Offset 1.50 dB 👄 RBW 3 kHz 3.8 ms 💿 VBW 10 kHz Att 45 dB SWT Mode Auto FFT ⊖1Pk Max M1[1] -13.92 dBm 2.4191725 GHz 20 dBm-10 dBm 0 dBm -10 dBm where the second por the second por the second seco -20 dBm -30 dBm 1 -40 dBm -50 dBM MANYOU -60 dBm CF 2.412 GHz 691 pts Span 26.505 MHz Spectrum Ref Level 30.00 dBm Offset 1.50 dB 👄 RBW 3 kHz 45 dB 3.8 ms 💿 VBW 10 kHz SWT Att Mode Auto FFT 😑 1 Pk Max M1[1] -12.67 dBm 2.4360025 GHz 20 dBm-10 dBm 0 dBm -10 dBm www.walker. -20 dBm -30 dBm -40 dBm -50 dBM they way -60 dBm CF 2.437 GHz 691 pts Span 26.505 MHz







Applicant: Gold Light Toys Factory Date of Test: April 25, 2019

Model: 101069850155

4.4 Out of Band Conducted Emissions, FCC Rule 15.247(d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. The Measurement Procedure was set according to the FCC KDB 558074 D01 v05r02.

All other types of emissions from the EUT shall meet the general limits for radiated frequencies outside the passband.

Refer to the attached test plots for out of band conducted emissions data with rate of 1Mbps for 802.11b and 6Mbps for 802.11g/802.11n-HT20.

The test plots showed all spurious emission up to the tenth harmonic were measured and they were found to be at least 20 dB below the highest level of the desired power in the passband.

The test plots are attached as below.



#### 802.11b Channel 01 (2412MHz) Reference Level: 8.19dBm

99									
Ref Level 30. Att				<b>RBW</b> 100 kHz <b>VBW</b> 300 kHz		uto FFT			
1Pk Max	10 40 4	.n	но µз 🖕	<b>TEN</b> 300 KHz	. Mode A				
					м	1[1]		2 40	8.19 dBm 95935 GHz
20 dBm				-				2,10	50500 0112
			2014.0						
10 dBm			M1		~				
	0. P	An	mm	man	mon	Mann	mm	Mrs an	
) dBm	www	<u>v</u>		-				· maler	IAN.
10 db more									word a
N aBing									~1
20 dBm				_					
30 dBm									
40 dBm					2 7		6 C		
-50 dBm									
-60 dBm									
oo dom									
CF 2.412 GHz				~					
197	<u></u>				pts			Span 14	.979 MHz
Ref Level 30. Att				691 RBW 100 kHz VBW 300 kHz		uto Sweep		Span 14	_
Spectrum Ref Level 30.1 Att 1Pk Max				<b>RBW</b> 100 kHz	2 Mode A				
Ref Level 30. Att 1Pk Max				<b>RBW</b> 100 kHz	2 Mode A	uto Sweep			(
Ref Level 30. Att				<b>RBW</b> 100 kHz	2 Mode A				.979 MHz (
Ref Level 30. Att 1Pk Max 20 dBm-				<b>RBW</b> 100 kHz	2 Mode A				(
Ref Level 30. Att 1Pk Max 20 dBm-				<b>RBW</b> 100 kHz	2 Mode A				(
Ref Level 30.1           Att           1Pk Max           20 dBm           10 dBm				<b>RBW</b> 100 kHz	2 Mode A				(
Ref Level 30. Att 1Pk Max				<b>RBW</b> 100 kHz	2 Mode A				(
Ref Level 30.1           Att           1Pk Max           20 dBm           10 dBm           0 dBm		SWT :		<b>RBW</b> 100 kHz	2 Mode A				(
Ref Level 30.7           Att           1Pk Max           20 dBm           10 dBm           0 dBm           10 dBm	45 dB \$	SWT :		<b>RBW</b> 100 kHz	2 Mode A				(
Ref Level 30.4           Att           1Pk Max           20 dBm           10 dBm           0 dBm           10 dBm	45 dB \$	SWT :		<b>RBW</b> 100 kHz	2 Mode A				(
Ref Level 30.1           Att           1Pk Max           20 dBm           10 dBm           10 dBm           20 dBm           20 dBm	45 dB \$	SWT :		<b>RBW</b> 100 kHz	2 Mode A				(
Ref Level 30.1           Att           1Pk Max           20 dBm           10 dBm           0 dBm	45 dB \$	SWT :		<b>RBW</b> 100 kHz	2 Mode A				(
Ref Level 30.1           Att           1Pk Max           20 dBm           10 dBm           10 dBm           20 dBm           20 dBm	-11.810 dBr	m	24 ms	RBW 100 kHz	Mode A	1[1]		2.	( 31.83 dBm 39830 GHz
Ref Level 30.7           Att           1Pk Max           20 dBm           10 dBm           10 dBm           20 dBm           30 dBm           40 dBm	-11.810 dBr	SWT :		RBW 100 kHz	2 Mode A	1[1]		2.	( 31.83 dBm 39830 GHz
Ref Level 30.1           Att           11Pk Max           20 dBm           10 dBm           10 dBm           20 dBm           30 dBm           30 dBm	-11.810 dBr	m	24 ms	RBW 100 kHz	Mode A	1[1]		2.	( 31.83 dBm 39830 GHz
Ref Level 30.7           Att           1Pk Max           20 dBm           10 dBm           0 dBm           20 dBm           10 dBm           0 dBm           20 dBm           50 dBm	-11.810 dBr	m	24 ms	RBW 100 kHz	Mode A	1[1]		2.	(
Ref Level 30.7           Att           1Pk Max           20 dBm           10 dBm           10 dBm           20 dBm           30 dBm           40 dBm	-11.810 dBr	m	24 ms	RBW 100 kHz	Mode A	1[1]	atritinit notice	2.	(₩ 31.83 dBm 39830 GHz



Ref Leve	m I 30.00 dBm	Offset	1.50 dB 👄 F	RBW 100 kHz					
Att	45 dB	SWT	226 ms 👜	<b>/BW</b> 300 kHz	Mode A	uto Sweep			
1Pk Max		1	1						
					IVI	1[1]			-36.92 dBn 6.8335 GH
20 dBm	<i>v</i>		_						
10 dBm	K			2					
0 dBm	-		_						
-10 dBm—									3
	D1 -11.810	dBm							
-20 dBm—									
-30 dBm—									
	M								
-40 dBm	upoward Mark				N 174		,		
under him a	h har har	He Andrew	mathing white	1. millionth	Multurn	mountaining	wornton you	mithalimber	When the particular
-50 dBm—		<u> </u>		and as					
-30 0010									
co dos									
-60 dBm—	8.	20.	0	8			6		22 ···
Start 2.48	225 CHz								05 0 011
Spectru	m			691				Sto	
Spectrui Ref Leve Att	_	Offset SWT		691 RBW 100 kH: VBW 300 kH:	2	Auto FFT		Sto	op 25.0 GHz
Spectrui Ref Leve Att	m I 30.00 dBm			<b>RBW</b> 100 kH:	2 2 Mode /			Sto	(₩ ∇
Spectrui Ref Leve Att	m I 30.00 dBm			<b>RBW</b> 100 kH:	2 2 Mode /	Auto FFT 1[1]			-38.91 dt
Spectrui Ref Leve	m I 30.00 dBm			<b>RBW</b> 100 kH:	z z Mode / D:			-1	-38.91 dB I7.1060 MH 8.25 dBn
Spectrui Ref Leve Att 1Pk Max	m I 30.00 dBm			<b>RBW</b> 100 kH:	z z Mode / D:	1[1]		-1	-38.91 dB I7.1060 MH 8.25 dBn
Spectrui Ref Leve Att 1Pk Max	m I 30.00 dBm			<b>RBW</b> 100 kH:	z z Mode / D:	1[1] 1[1]	M1	-1	
Spectrum Ref Leve Att 1Pk Max 20 dBm	m I 30.00 dBm			<b>RBW</b> 100 kH:	z z Mode / D:	1[1] 1[1]	M1 Wharan	-1	-38.91 dB I7.1060 MH 8.25 dBn
Spectrui Ref Leve Att 1Pk Max 20 dBm	m I 30.00 dBm			<b>RBW</b> 100 kH:	z z Mode / D:	1[1]	M1 Whing y	-1	-38.91 dB I7.1060 MH 8.25 dBn
Spectrum Ref Leve Att ) 1Pk Max 20 dBm	m I 30.00 dBm			<b>RBW</b> 100 kH:	z z Mode / D:	1[1] 1[1]	M1 Willinger	-1	-38.91 di I7.1060 MH 8.25 dBn
Spectrui Ref Leve Att ) IPk Max 20 dBm 10 dBm 0 dBm	m I 30.00 dBm			<b>RBW</b> 100 kH:	z z Mode / D:	1[1] 1[1]	M1 Whoren y	-1	-38.91 di I7.1060 MH 8.25 dBn
Spectrum Ref Leve Att ) 1Pk Max 20 dBm	m I 30.00 dBm			<b>RBW</b> 100 kH:	z z Mode / D:	1[1] 1[1]	M1 Untrangen	-1	-38.91 di I7.1060 MH 8.25 dBn
Spectrui Ref Leve Att ) IPk Max 20 dBm 10 dBm 0 dBm	m I 30.00 dBm			<b>RBW</b> 100 kH:	z z Mode / D:	1[1] 1[1]	M1 Untrangen	-1	-38.91 di I7.1060 MH 8.25 dBn
<b>Spectrui</b> Ref Leve Att 1Pk Max 20 dBm	m I 30.00 dBm			<b>RBW</b> 100 kH:	z z Mode / D:	1[1] 1[1]	M1 Untrangen	-]	-38.91 di 17.1060 MH 8.25 dBn 138930 GH
<b>Spectrui</b> Ref Leve Att 1Pk Max 20 dBm	m I 30.00 dBm			RBW 100 kH; VBW 300 kH;	2 Mode /	1[1] 1[1]	M1 Wharan y	-1	-38.91 di 17.1060 MH 8.25 dBn 138930 GH
Spectrui Ref Leve Att 1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm	m I 30.00 dBm		132.7 µs ●	RBW 100 kH; VBW 300 kH;	2 Mode /	1[1] 1[1]	M1 Whang y	-]	-38.91 di 17.1060 MH 8.25 dBn 138930 GH
Spectrui Ref Leve Att 1 PIPK Max 20 dBm	m I 30.00 dBm	SWT	132.7 µs ●	RBW 100 kH; VBW 300 kH;	2 Mode /	1[1] 1[1]	M1 Jul Marine 2	-]	-38.91 di 17.1060 MH 8.25 dBn 138930 GH
Spectrui Ref Leve Att 10 IPk Max 20 dBm 10 dBm -10 dBm -20 dBm -30 dBm	m	SWT	132.7 µs ●	RBW 100 kH; VBW 300 kH;	2 Mode /	1[1] 1[1]	M1 Juliuur	-]	-38.91 dl 17.1060 MH 8.25 dBn 138930 GH
Spectruit           Ref Leve           Att           1PK Max           20 dBm           10 dBm           -10 dBm           -10 dBm           -20 dBm           -30 dBm           -40 dBm	m	SWT	132.7 µs ●	RBW 100 kH; VBW 300 kH;	2 Mode /	1[1] 1[1]	M1 Juliunu	-]	-38.91 dl 17.1060 MH 8.25 dBn 138930 GH
Spectrui           Ref Leve           Att           1PK Max           20 dBm           20 dBm           10 dBm           -10 dBm           -20 dBm           -30 dBm           -30 dBm	m	SWT	132.7 µs ●	RBW 100 kH; VBW 300 kH;	2 Mode /	1[1] 1[1]	M1 Julturury	-]	-38.91 dl 17.1060 MH 8.25 dBn 138930 GH
Spectrun Ref Leve Att 10 IPK Max 20 dBm	m	SWT	132.7 µs ●	RBW 100 kH; VBW 300 kH;	2 Mode /	1[1] 1[1]	M1 Juliumun	-]	-38.91 dl 17.1060 MH 8.25 dBn 138930 GH
Spectrui           Ref Leve           Att           1PK Max           20 dBm           20 dBm           10 dBm           -10 dBm           -20 dBm           -30 dBm           -30 dBm	m	SWT	132.7 µs ●	RBW 100 kH; VBW 300 kH;	2 Mode /	1[1] 1[1]	M1 Julium 12	-]	-38.91 dl 17.1060 MH 8.25 dBr 138930 GH



#### Channel 06 (2437MHz) Reference Level: 11.21dBm

Ref Level 31.50 dBm         Offset 1.50 dB         RBW 100 kHz           Att         50 dB         SWT         37.9 µs         VBW 300 kHz         Mode Auto FFT           IPk Max         M1[1]         11.21 dBm         2.4375045 GHz           20 dBm         M1         M1         10 dBm           10 dBm         M1         M1         10 dBm           -10 dBm         M1         M1         M1         M1           -20 dBm         M1         M1         M1         M1           -10 dBm         M1         M1         M1         M1           -20 dBm         M1         M1         M1         M1           -20 dBm         GBm         GBm         GBm         GBm         GBm         GBm           -20 dBm         GBm	Spectrun	n								
Att         50 db         SWT         37.9 µs         • VBW 300 kHz         Mode Auto FFT           ©IPk Max         M1[1]         11.21 dbn         2.4373045 GHz         2.4373045 GHz           20 dbm         M1         M1         10 dbm         10 dbm         10 dbm           -10 dbm         M1         M1         10 dbm         10 dbm         10 dbm           -20 dbm         M1         M1         10 dbm         10 dbm         10 dbm           -20 dbm         M1         M1         10 dbm         10 dbm         10 dbm           -30 dbm         M1         M1         10 dbm         10 dbm         10 dbm           -30 dbm         M1         M1         10 dbm         10 dbm         10 dbm           -60 dbm         M1         M1         10 dbm         10 dbm         10 dbm           -50 dbm         M1         M1         10 dbm         10 dbm         10 dbm           -50 dbm         M1         10 dbm	-		Offset	1.50 dB 🔵 R	<b>BW</b> 100 kHz					(*)
20 dBm     M1[1]     11.21 dBn       20 dBm     M1     2.4375045 GH;       10 dBm     M1     M1       0 dBm     M1     M1       -20 dBm     M1     M1       -30 dBm     M1     M1       -30 dBm     M1     M1       -50 dBm     M1     M1       -60 dBm     M1     M1       -50 dBm     M1     M1       -60 dBm     M1     M1       -70 dBm     M1     M1	Att		SWT	37.9 µs 👄 <b>V</b>	' <b>BW</b> 300 kHz	Mode A	uto FFT			
2.4375045 GH: 20 dBm 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -30 dBm -30 dBm -30 dBm -30 dBm -30 dBm -30 dBm -40 dBm -50 dBm	⊖1Pk Max	1			1					]
20 dBm						М	1[1]			
10 dBm       M1       M1         0 dBm       M1       M1         -10 dBm       M1       M1         -20 dBm       M1       M1         -20 dBm       M1       M1         -20 dBm       M1       M1         -30 dBm       M1       M1         -40 dBm       M1       M1         -50 dBm       M1       M1         -60 dBm       M1       M1         -50 dBm       M1       M1         -60 dBm       M1       M0         -60 dBm       M1       M1         -70 dBm       M1       M1         -70 dBm       M1       M1									2.40	70040 0112
10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -30 dBm -40 dBm -50 dBm -60 dBm -50 dBm -60 dBm -70 dB	20 dBm									
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-10 dBm -20 dBm -30 dBm -40 dBm -40 dBm -50 dBm -50 dBm -50 dBm -50 dBm -50 dBm -50 dBm -10						J				A MAR
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-30 dBm -40 dBm -40 dBm -50 dBm -50 dBm -60 dBm -60 dBm -60 dBm -60 dBm -60 dBm -60 dBm -60 dBm -70	-10 dBm									
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-40 dBm -50 dBm -50 dBm -60 dBm -70										
-50 dBm -60 dBm -70	-30 dBm									
-50 dBm -60 dBm -70										
-50 dBm -60 dBm -70	-40 dBm									
-60 dBm       Image: state stat										
-60 dBm       Image: state stat	-50 dBm									
GF 2.437 GHz       Spectrum         Ref Level 31.50 dBm       Offset 1.50 dB       RBW 100 kHz         Att       S0 dB       SWT       24 ms       WBW 300 kHz       Mode Auto Sweep         ● IPk Max	-50 0011									
CF 2.437 GHz         691 pts         Span 14.523 MHz           Spectrum         Image: constraint of the state	co do-									
Spectrum         Image: Construct of the second	-60 aBm									
Spectrum         Image: Construct of the second										
Ref Level 31.50 dBm       Offset 1.50 dB       RBW 100 kHz         Att       50 dB       SWT       24 ms       VBW 300 kHz       Mode Auto Sweep            •• IPk Max           •• IPk Max           •• M1[1]         •• -38.17 dBm          20 dBm          •• IPk           •• III           •• IIII           •• IIII          20 dBm          •• III           •• IIII           •• IIII           •• IIII          10 dBm          •• III           •• III           •• III           •• IIII          -10 dBm          •• III           •• III           •• III           •• III          -20 dBm          •• III           •• III           •• III           •• III          -20 dBm          •• III           •• IIII           •• IIII           •• IIII           •• IIII          -30 dBm            •• IIII           •• IIII           •• IIII           •• IIII	CF 2.437 (	GHz			691	pts			Span 14	.523 MHz
Ref Level         31.50 dBm         Offset         1.50 dB         RBW         100 kHz           Att         50 dB         SWT         24 ms         VBW 300 kHz         Mode         Auto Sweep           ●1Pk Max	Spectrun	<u></u>								Ē
Att         50 db         SWT         24 ms         VBW 300 kHz         Mode Auto Sweep                • 1Pk Max               • 10 dBm			Offset	1 50 dB 👄 P	<b>BW</b> 100 kHz					( • )
20 dBm							uto Sweep			
20 dBm     10 dBm <td>⊖1Pk Max</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	⊖1Pk Max									
20 dBm I						м	1[1]			
10 dBm [ ]							1	1	1.	87060 GHZ
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0 dBm D1 -8.790										
-10 dBm D1 -8.790 dBm D1 -8.790 dBm D1 -8.790 dBm D1 -8.790 dBm D1 -20 dBm D1	10 dBm									
-10 dBm D1 -8.790 dBm D1 -8.790 dBm D1 -8.790 dBm D1 -8.790 dBm D1 -20 dBm D1										
-20 dBm	0 dBm									
-20 dBm										
	-10 dBm	D1 -8.790 d	IBm <del></del>							
	-20 dBm									
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	1									
-50 dBm										
	-50 dBm						1	1	1	
-60 dBm	-50 dBm									
Start 1.0 MHz 691 pts Stop 2.4 GHz										



Spectrum	'n								
Ref Level	31.50 dBm	Offset 1.	50 dB 😑 RE	<b>SW</b> 100 kHz					
Att	50 dB	<b>SWT</b> 2	26 ms 🔵 <b>VE</b>	3W 300 kHz	Mode A	uto Sweep			
⊖1Pk Max									
					м	1[1]	1		31.91 dBm ).2265 GHz
20 dBm									
10 dBm									
0 dBm									
-10 dBm	D1 -8.790d	Bm							
-20 dBm—									
-30 dBm							M1		
ulyo alm	unichante	www.	winter	mound	the when the part	munu	manula	where we have	houldware
-50 dBm									
-60 dBm									
Start 2.48	35 GHz			691	pts			Stop	25.0 GHz



#### Channel 11 (2462MHz) Reference Level: 7.42dBm

Ref Level Att	30.00 dBm 45 dB		.50 dB 👄 RE 7.9 μs 👄 VE			uto FFT			
1Pk Max					HOUC A	atorri			
					M	1[1]		2.45	7.42 dBm 95850 GHz
20 dBm								2.10	50000 Griz
10 dBm			MI	2					
	5	non	mm	MMm	monon	non	man	Man	
I dBm	m	V ·						A ARA MARA	<u>_</u>
10 den	~~		mm						www
N apm									-1
/ 20 dBm—									
30 dBm—									
40 dBm—	2			×			ş		
10400 - 10401									
50 dBm—							9		
60 dBm									
	6.			6			e 0		
Spectrur	n	Offset 1	50 dP 👄 PP	691	<u>.</u>			Span 14	.262 MHz
Spectrur Ref Level Att	_	Offset 1 SWT	.50 dB 👄 RE 24 ms 👄 VE	<b>W</b> 100 kHz		uto Sweep		Span 14	_
CF 2.462 ( Spectrur Ref Level Att (1Pk Max	n 30.00 dBm			<b>W</b> 100 kHz	Mode A				
Spectrur Ref Level Att	n 30.00 dBm			<b>W</b> 100 kHz	Mode A	uto Sweep			( ▼ 41.70 dBn
Spectrur Ref Level Att 1Pk Max	n 30.00 dBm			<b>W</b> 100 kHz	Mode A				( ▼ 41.70 dBn
Spectrur Ref Level Att 1Pk Max 20 dBm	n 30.00 dBm			<b>W</b> 100 kHz	Mode A				( ▼ 41.70 dBn
Spectrur Ref Level Att 1Pk Max 20 dBm	n 30.00 dBm			<b>W</b> 100 kHz	Mode A				( ▼ 41.70 dBn
Spectrur Ref Level Att 1Pk Max 20 dBm	n 30.00 dBm			<b>W</b> 100 kHz	Mode A				(Ⅲ ⊽ 41.70 dBm
Spectrur Ref Level Att	n 30.00 dBm			<b>W</b> 100 kHz	Mode A				262 MHz ( ₩ 41.70 dBm 79070 GHz
Spectrur Ref Level Att (1Pk Max 20 dBm	n 30.00 dBm 45 dB	SWT		<b>W</b> 100 kHz	Mode A				(Ⅲ ⊽ 41.70 dBm
Spectrur Ref Level Att 11Pk Max 10 dBm	n 30.00 dBm	SWT		<b>W</b> 100 kHz	Mode A				( ▼ 41.70 dBn
Spectrur Ref Level Att 11Pk Max 0 dBm 0 dBm 10 dBm	n 30.00 dBm 45 dB	SWT		<b>W</b> 100 kHz	Mode A				( ▼ 41.70 dBn
Spectrur           Ref Level           Att           11Pk Max           20 dBm           10 dBm           10 dBm           10 dBm           20 dBm	n 30.00 dBm 45 dB	SWT		<b>W</b> 100 kHz	Mode A				( ▼ 41.70 dBn
Spectrur Ref Level Att 11Pk Max 0 dBm	n 30.00 dBm 45 dB	SWT		<b>W</b> 100 kHz	Mode A				( ▼ 41.70 dBn
Spectrur           Ref Level           Att           11Pk Max           :0 dBm           :0 dBm	n	SWT dBm	24 ms  VE	3W 100 kHz 3W 300 kHz	Mode A	1[1]			( ▼ 41.70 dBn
Spectrur           Ref Level           Att           1Pk Max           0 dBm           0 dBm           dBm           10 dBm           20 dBm           30 dBm           30 dBm	n	SWT dBm		3W 100 kHz 3W 300 kHz	Mode A	1[1]	MI		(₩ 41.70 dBn 79070 GH
Spectrur           Ref Level           Att           1Pk Max           0 dBm           0 dBm           0 dBm           10 dBm           20 dBm           30 dBm           40 dBm	n	SWT dBm	24 ms  VE	3W 100 kHz 3W 300 kHz	Mode A	1[1]	11		(₩ 41.70 dBn 79070 GH
Spectrur           Ref Level           Att           1Pk Max           0 dBm           0 dBm           0 dBm           10 dBm           20 dBm           30 dBm           40 dBm	n	SWT dBm	24 ms  VE	3W 100 kHz 3W 300 kHz	Mode A	1[1]	11		( ▼ 41.70 dBn
Spectrur           Ref Level           Att           11Pk Max           20 dBm           0 dBm           0 dBm           10 dBm           20 dBm           30 dBm           30 dBm	n	SWT dBm	24 ms  VE	3W 100 kHz 3W 300 kHz	Mode A	1[1]	11		(₩ 41.70 dBn 79070 GH



	30.00 dBm	Offcot 1	50 dB 👄 RE	W 100 kuz	d				7
Att	45 dB		226 ms 🥃 VE			uto Sweep			
1Pk Max									
					м	1[1]			-37.43 dBi
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10 dBm			÷.						
to abii									
) dBm									
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	D1 -12.580	dBm					2		
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at all a contraction of the	Pro A.	which um	mentolyper	without when	which we were	- Marganarda	plandre in	al marine	Monument
50 dBm			A AND MEMORY						
-60 dBm	6		3				9-		
Start 2.48	05.011-		_	691					op 25.0 GHz
9 a									
Ref Level	n 30.00 dBm 45 dB	Offset 1 SWT	.50 dB 👄 RE 1 ms 👄 VI			uto Sweep			
Ref Level Att	30.00 dBm			<b>3W</b> 100 kHz	Mode A				E
Spectrur Ref Level Att ) 1Pk Max	30.00 dBm			<b>3W</b> 100 kHz	Mode A	uto Sweep			-48.22 d
Ref Level Att 1Pk Max	30.00 dBm			<b>3W</b> 100 kHz	Mode A				-48.22 d 41.330 MH 7.32 dBr
Ref Level Att 1Pk Max	30.00 dBm			<b>3W</b> 100 kHz	Mode A	L[1]	Ĩ		-48.22 d 41.330 MH 7.32 dBr
Ref Level Att ) 1Pk Max 20 dBm	30.00 dBm 45 dB	SWT		<b>3W</b> 100 kHz	Mode A	L[1]	[		-48.22 d 41.330 MH 7.32 dBr
Ref Level Att	30.00 dBm 45 dB	SWT		<b>3W</b> 100 kHz	Mode A	L[1]	[		-48.22 d 41.330 MH 7.32 dBr
Ref Level Att ) 1Pk Max 20 dBm	30.00 dBm 45 dB			<b>3W</b> 100 kHz	Mode A	L[1]	[		-48.22 d 41.330 MH 7.32 dBr
Ref Level Att ) 1Pk Max 20 dBm	30.00 dBm 45 dB	SWT		<b>3W</b> 100 kHz	Mode A	L[1]	[		-48.22 d 41.330 MH 7.32 dBr
Ref Level           Att           11Pk Max           20 dBm           10 dBm           0 dBm	30.00 dBm 45 dB	SWT		<b>3W</b> 100 kHz	Mode A	L[1]	[		-48.22 d 41.330 MH 7.32 dBr
Ref Level Att ) 1Pk Max 20 dBm	30.00 dBm 45 dB	SWT		<b>3W</b> 100 kHz	Mode A	L[1]	f		-48.22 d 41.330 MH 7.32 dBr
Ref Level           Att           ) 1Pk Max           20 dBm           10 dBm           0 dBm	30.00 dBm 45 dB	SWT		<b>3W</b> 100 kHz	Mode A	L[1]			-48.22 d 41.330 MH 7.32 dBr
Ref Level           Att           )1Pk Max           20 dBm           10 dBm	30.00 dBm 45 dB	SWT		<b>3W</b> 100 kHz	Mode A	L[1]			-48.22 d 41.330 MH 7.32 dBr
Ref Level           Att           )1Pk Max           20 dBm           10 dBm	30.00 dBm 45 dB	SWT	1 ms  VI	<b>3W</b> 100 kHz	Mode A	L[1]	2		-48.22 d 41.330 MH 7.32 dBr
Ref Level Att ) 1Pk Max 20 dBm	30.00 dBm 45 dB	SWT		<b>3W</b> 100 kHz	Mode A	L[1]			-48.22 d 41.330 MH
Ref Level           Att           )1Pk Max           20 dBm           10 dBm	30.00 dBm 45 dB	SWT	1 ms  VI	3W 100 kHz 3W 300 kHz	Mode A	([1]			-48.22 d 41.330 MH 7.32 dB 2.459590 GH
Ref Level           Att           11Pk Max           20 dBm           10 dBm           0 dBm           20 dBm           10 dBm           20 dBm           30 dBm           30 dBm           40 dBm	30.00 dBm 45 dB	SWT	1 ms  VI	3W 100 kHz 3W 300 kHz	Mode A	L[1]			-48.22 d 41.330 MF 7.32 dB 2.459590 GF
Ref Level           Att           1Pk Max           20 dBm           10 dBm	30.00 dBm 45 dB	SWT	1 ms  VI	3W 100 kHz 3W 300 kHz	Mode A	([1]	D1		-48.22 d 41.330 MH 7.32 dB 2.459590 GH
Ref Level           Att           11Pk Max           120 dBm           10 dBm           10 dBm           20 dBm           10 dBm           20 dBm           30 dBm           30 dBm           50 dBm           50 dBm	30.00 dBm 45 dB	SWT	1 ms  VI	3W 100 kHz 3W 300 kHz	Mode A	([1]	D1 Martin Martin		-48.22 d 41.330 MH 7.32 dBr
Ref Level           Att           1Pk Max           1Pk Max           0 dBm           0 dBm           10 dBm           10 dBm           20 dBm           30 dBm           30 dBm           40 dBm	30.00 dBm 45 dB	SWT	1 ms  VI	3W 100 kHz 3W 300 kHz	Mode A	([1]	D1		-48.22 d 41.330 MH 7.32 dB 2.459590 GH

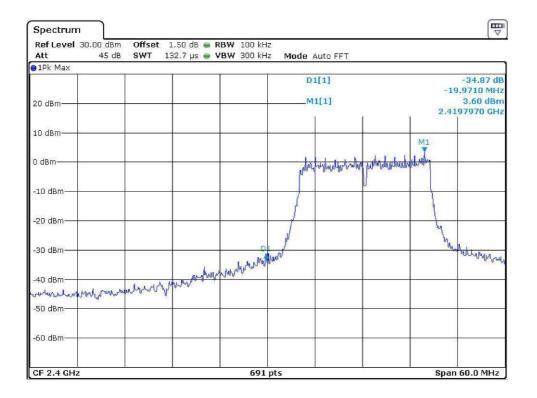


#### 802.11g Channel 01 (2412MHz) Reference Level: 3.57dBm

3.57 dBn 2.4198075 GH:
2.4198075 GH
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No.
"Yn
" Mun mar
Span 24.747 MHz
-34.44 dBn
2.39830 GH
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manuality
-Mutradoutlinged Augilies
+



Att	30.00 dBm 45 dB		1.50 dB 👄 RE 226 ms 👄 VE			uto Sweep			
)1Pk Max									
					M	1[1]			-37.44 dBn 6.8335 GH:
20 dBm	l)						di-	0	77
10 dBm				·· · · · ·					
0 dBm						-	N		3.0
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-20 dBm—	D1 -16.430	dBm	~						*
-30 dBm—	Mi								
-40 dBm	<b>X</b>	H. hugh raker	whenwhen	a way and when	Warmer Mat the	Watureryry	www.	horizontal	in a shire when the
-50 dBm							-		-
-60 dBm—	6			8		0		-	





#### Channel 06 (2437MHz) Reference Level: 3.35dBm

Spectrum Ref Level 30.00 dBm Offset 1.50 dB 👄 RBW 100 kHz Att 45 dB SWT 56.8 µs 👄 **VBW** 300 kHz Mode Auto FFT ●1Pk Max M1[1] 3.35 dBm 2.4298183 GHz 20 dBm 10 dBm M1 Mary Joo when the property and the 0 dBm monorto -10 dBm -20 dBm n ١Ì. -30 dBm -40 dBm--50 dBm--60 dBm Span 24.8115 MHz CF 2.437 GHz 691 pts Spectrum Ref Level 30.00 dBm Offset 1.50 dB 👄 RBW 100 kHz Att 45 dB SWT 24 ms 👄 VBW 300 kHz Mode Auto Sweep ●1Pk Max M1[1] -41.30 dBm 947.10 MH 20 dBm-10 dBm-0 dBm--10 dBm-D1 -16.650 dBm--20 dBm--30 dBm N -40 dBm and you have been and have a sold and but when and a sold and the when any man and a second of the second of t -50 dBm -60 dBm Start 1.0 MHz 691 pts Stop 2.4 GHz



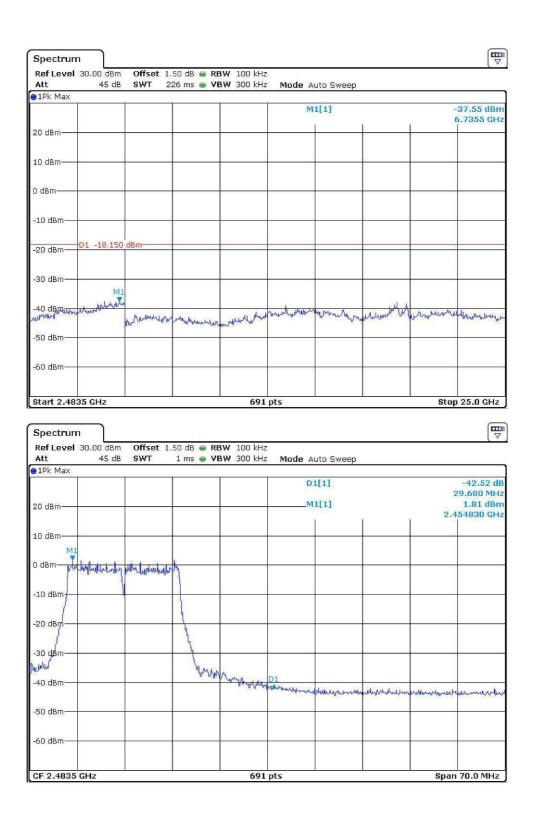
Att	30.00 dBm 45 dB		1.50 dB 👄 RI 226 ms 👄 VI			uto Sweep			
∋1Pk Max									
					M	1[1]			-37.38 dBm 6.2795 GHz
20 dBm	6								Diz 7 90 Griz
10 dBm		2					- <u></u>		
0 dBm									
-10 dBm—			-						197
-20 dBm	D1 -16.650	dBm							
-30 dBm	M1								
-40 dBm vote	<b>T</b>	h warden up	ulumbriline	and Myrow	NFC Northand St.	Mundund	munong	hoursen	un when
-50 dBm				¥V		-	5 7		
-60 dBm	6.	2		0 v			9		



#### Channel 11 (2462MHz) Reference Level: 1.85dBm

NOLLEVEL	n 30.00 dBm	Offset	1.50 dB 🥌 R	<b>BW</b> 100 kHz					( v
Att	45 dB	SWT	56.8 µs 🖷 V			uto FFT			
1Pk Max	<u> </u>	T		1					
					M	1[1]		2.45	1.85 dBm 48183 GHz
20 dBm	4	ar.		-					
10 dBm	K	3							
	1	M1							
) dBm——	Ň	Avinho	Munth	Marston	MANAN.	Andbas	Maddan	Mrs	
	l (°		0.00 × 0.01	ULAN AV V		NAMANA	0000000	a al	
10 dBm	1	1		0	V				
	y							n n n n n n n n n n n n n n n n n n n	
20 dBm—	N				;?			Ň	
	5							4	h.
30 dBm	1								pl
Month									Www
40 dBm	6								
222 121									
50 dBm		2							
60 dBm—	6.:	36			s		ate d		
Spectrun	n	Offeet		691				Span 24.	8115 MHz
Spectrun Ref Level Att	_	Offset SWT	1.50 dB 👄 R 24 ms 🖷 V			uto Sweep		Span 24.	_
Spectrun Ref Level Att	n 30.00 dBm			<b>BW</b> 100 kHz	Mode At	uto Sweep 1[1]			( ▼ 41.40 dBn
Spectrun Ref Level Att 1Pk Max	n 30.00 dBm			<b>BW</b> 100 kHz	Mode At		1		( ▼ 41.40 dBm
Spectrun Ref Level Att 1Pk Max	n 30.00 dBm			<b>BW</b> 100 kHz	Mode At				( ▼ 41.40 dBn
Spectrum Ref Level Att 1Pk Max 20 dBm	n 30.00 dBm			<b>BW</b> 100 kHz	Mode At				( ▼ 41.40 dBn
Spectrum Ref Level Att 1Pk Max 20 dBm	n 30.00 dBm			<b>BW</b> 100 kHz	Mode At				( ▼ 41.40 dBn
Spectrun Ref Level Att 1Pk Max 20 dBm	n 30.00 dBm			<b>BW</b> 100 kHz	Mode At				( ▼ 41.40 dBn
Spectrun Ref Level Att 1Pk Max 20 dBm	n 30.00 dBm			<b>BW</b> 100 kHz	Mode At				( ▼ 41.40 dBm
Spectrun Ref Level Att 11Pk Max 20 dBm	n 30.00 dBm			<b>BW</b> 100 kHz	Mode At				( ▼ 41.40 dBm
Spectrun Ref Level Att 11Pk Max 20 dBm	n 30.00 dBm			<b>BW</b> 100 kHz	Mode At				( ▼ 41.40 dBm
<b>Spectrun</b> Ref Level Att 11Pk Max 20 dBm	n 30.00 dBm	SWT		<b>BW</b> 100 kHz	Mode At				( ▼ 41.40 dBm
Spectrun Ref Level Att 11Pk Max 10 dBm	n 30.00 dBm 45 dB	SWT		<b>BW</b> 100 kHz	Mode At				( ▼ 41.40 dBn
Spectrun           Ref Level           Att           11Pk Max           20 dBm           10 dBm           10 dBm           10 dBm           20 dBm	n 30.00 dBm 45 dB	SWT		<b>BW</b> 100 kHz	Mode At				( ▼ 41.40 dBm
Spectrun           Ref Level           Att           11Pk Max           20 dBm           10 dBm           10 dBm           10 dBm           20 dBm	n 30.00 dBm 45 dB	SWT	24 ms • V	<b>BW</b> 100 kHz	Mode At				( ▼ 41.40 dBn
Spectrun Ref Level Att 11Pk Max 20 dBm 0 dBm 10 dBm 20 dBm 30 dBm 30 dBm	n 30.00 dBm 45 dB	swt	24 ms  V	BW 100 kHz	Mode Au	1[1]		7	(₩ 41.40 dBm 90.80 MHz
Spectrun Ref Level Att 11Pk Max 20 dBm	n 30.00 dBm 45 dB	SWT	24 ms  V	<b>BW</b> 100 kHz	Mode Au	1[1]		7	( ▼ 41.40 dBm
Spectrun           Ref Level           Att           11Pk Max           20 dBm           0 dBm           0 dBm           10 dBm           20 dBm           30 dBm           30 dBm	n 30.00 dBm 45 dB	swt	24 ms  V	BW 100 kHz	Mode Au	1[1]		7	41.40 dBn 90.80 MH
Spectrun           Ref Level           Att           11Pk Max           20 dBm           20 dBm           10 dBm           10 dBm           20 dBm           30 dBm           30 dBm           40 dBm	n 30.00 dBm 45 dB	swt	24 ms  V	BW 100 kHz	Mode Au	1[1]	awy y law has no	7	(₩ 41.40 dBm 90.80 MHz
CF 2.462 (           Spectrun           Ref Level           Att           )1Pk Max           20 dBm           10 dBm           10 dBm           20 dBm           30 dBm           30 dBm           40 dBm           50 dBm           60 dBm	n 30.00 dBm 45 dB	swt	24 ms  V	BW 100 kHz	Mode Au	1[1]	a Angrug Kaulu Angura	7	(₩ 41.40 dBm 90.80 MHz
Spectrun           Ref Level           Att           11Pk Max           20 dBm           0 dBm           0 dBm           10 dBm           20 dBm           30 dBm           30 dBm           50 dBm           50 dBm	n 30.00 dBm 45 dB	swt	24 ms  V	BW 100 kHz	Mode Au	1[1]	and the has the	7	41.40 dBn 90.80 MH



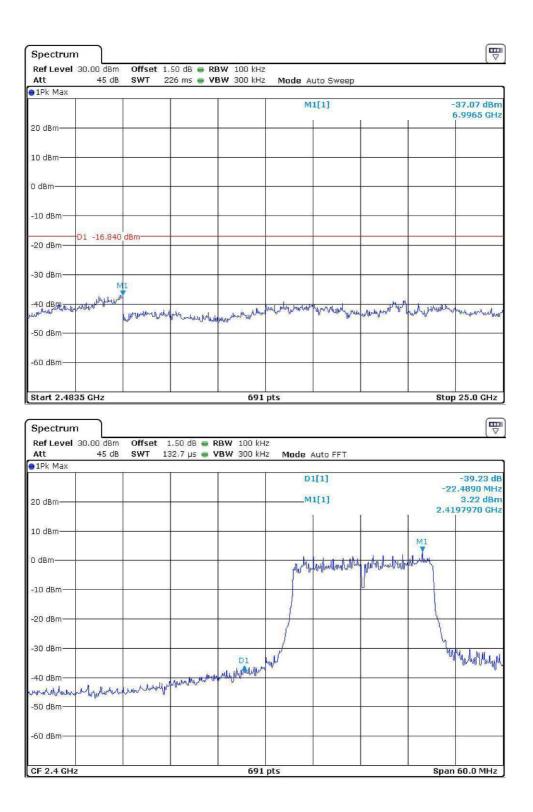




#### 802.11n-HT20 Channel 01 (2412MHz) Reference Level: 3.16dBm

Dof Louol	n 30.00 dBm	Offcat	1.50 dB (		100 ku-					( ~
Att	45 dB	SWT	75.8 µs				uto FFT			
1Pk Max		1								
						M	1[1]		9.44	3.16 dBm 97865 GHz
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) dBm		1 1				- te	Innim	hA na	ato	
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	1								L	
-30 dBm	N		_						<u>\</u>	1
Mart	Jo"									MAM
40 dBm			_					r		
-50 dBm	k		_							
60 dBm	6		_							
CE 2 412 (	2Hz		-	-	601	nts		I	Snan 26	505 MHz
					691	pts		I/	Span 26	5.505 MHz
Spectrun Ref Level Att		Offset SWT	1.50 dB ( 24 ms (			2	uto Sweep		Span 26	Ē
CF 2.412 ( Spectrun Ref Level Att	n 30.00 dBm				/ 100 kH:	2 2 Mode A				
Spectrun Ref Level Att	n 30.00 dBm				/ 100 kH:	2 2 Mode A	uto Sweep			(
Spectrun Ref Level Att 1Pk Max	n 30.00 dBm				/ 100 kH:	2 2 Mode A				(
Spectrun Ref Level Att	n 30.00 dBm				/ 100 kH:	2 2 Mode A				Ē
Spectrun Ref Level Att 1Pk Max	n 30.00 dBm				/ 100 kH:	2 2 Mode A				(
Spectrun Ref Level Att 91Pk Max 20 dBm	n 30.00 dBm				/ 100 kH:	2 2 Mode A				(
Spectrun Ref Level Att 1Pk Max 20 dBm	n 30.00 dBm				/ 100 kH:	2 2 Mode A				(
Spectrun Ref Level Att 1Pk Max 20 dBm	n 30.00 dBm				/ 100 kH:	2 2 Mode A				(
Spectrun Ref Level Att 91Pk Max 20 dBm	n 30.00 dBm				/ 100 kH:	2 2 Mode A				(
Spectrun           Ref Level           Att           1P Max           20 dBm           10 dBm           10 dBm           10 dBm	n 30.00 dBm	SWT			/ 100 kH:	2 2 Mode A				(
Spectrun           Ref Level           Att           1P Max           20 dBm           10 dBm           10 dBm           10 dBm	n	SWT			/ 100 kH:	2 2 Mode A				(
Spectrun           Ref Level           Att           1Pk Max           20 dBm           10 dBm           10 dBm           10 dBm           20 dBm	n	SWT			/ 100 kH:	2 2 Mode A				(
Spectrun           Ref Level           Att           1P Max           20 dBm           10 dBm           10 dBm           10 dBm	n	SWT			/ 100 kH:	2 2 Mode A				(
Spectrun           Ref Level           Att           11Pk Max           20 dBm           20 dBm           10 dBm           10 dBm           20 dBm           30 dBm	n	SWT			/ 100 kH:	2 2 Mode A				(
Spectrun           Ref Level           Att           11Pk Max           20 dBm           0 dBm           10 dBm           10 dBm           20 dBm           30 dBm           30 dBm	n 30.00 dBm 45 dB	SWT	24 ms		/ 100 kH; / 300 kH;	2 Mode A			2.	(₩ 35.44 dBm 39830 GHz
Spectrun           Ref Level           Att           11Pk Max           20 dBm           0 dBm           0 dBm           10 dBm           20 dBm           30 dBm           30 dBm           40 dBm	n 30.00 dBm 45 dB	SWT	24 ms		/ 100 kH; / 300 kH;	2 2 Mode A			2.	(₩ 35.44 dBm 39830 GHz
Spectrun           Ref Level           Att           11Pk Max           20 dBm           0 dBm           10 dBm           10 dBm           20 dBm           30 dBm           30 dBm	n 30.00 dBm 45 dB	SWT	24 ms		/ 100 kH; / 300 kH;	2 Mode A			2.	(₩ 35.44 dBm 39830 GHz
Spectrun           Ref Level           Att           11Pk Max           20 dBm           10 dBm           0 dBm           10 dBm           20 dBm           30 dBm           30 dBm           50 dBm	n 30.00 dBm 45 dB	SWT	24 ms		/ 100 kH; / 300 kH;	2 Mode A			2.	(₩ 35.44 dBm 39830 GHz
Spectrun           Ref Level           Att           1Pk Max           0 dBm           0 dBm           10 dBm           10 dBm           20 dBm           30 dBm           30 dBm	n 30.00 dBm 45 dB	SWT	24 ms		/ 100 kH; / 300 kH;	2 Mode A			2.	(₩ 35.44 dBm 39830 GHz







#### Channel 06 (2437MHz) Reference Level: 2.92dBm

Att	30.00 dBm 45 dB		5.8 µs 👄 VE	3W 100 kHz 3W 300 kHz		ito FFT			
1Pk Max	r				MI	[1]			2.92 dBm
								2.42	97885 GH
20 dBm	1								
10 dBm							e		
		M1							
I dBm	As	mh. As	Month	A	Malah	Adapt	1000 000	0.48	
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10 dBm—	10	()	-	s	Ų		s		
	5							4	
20 dBm—	J.							ų	
30 dBm—	N.							2	
A	N.								You .
46 dBm	e i	2		9			s		mul
50 dBm	×								
60 dBm—	8						e (		
Spectrur	n			691	•			Span 26	(m
Spectrur Ref Level Att	_	Offset 1 SWT	.50 dB 🖷 RE 24 ms 🖷 VE	<b>W</b> 100 kHz		ito Sweep		Span 26	Ē
Spectrur Ref Level Att	n 30.00 dBm			<b>W</b> 100 kHz	Mode Au				[ \
Att 1Pk Max	n 30.00 dBm			<b>W</b> 100 kHz	Mode Au	ito Sweep			Ē
Spectrur Ref Level Att 1Pk Max	n 30.00 dBm			<b>W</b> 100 kHz	Mode Au				( ▼ 41.86 dBn
Spectrur Ref Level Att 1Pk Max 20 dBm—	n 30.00 dBm			<b>W</b> 100 kHz	Mode Au				( ▼ 41.86 dBn
Spectrur Ref Level Att	n 30.00 dBm			<b>W</b> 100 kHz	Mode Au				( ▼ 41.86 dBn
Spectrur Ref Level Att IPk Max O dBm	n 30.00 dBm			<b>W</b> 100 kHz	Mode Au				( ▼ 41.86 dBn
Spectrur Ref Level Att 11Pk Max 0 dBm 0 dBm	n 30.00 dBm			<b>W</b> 100 kHz	Mode Au				( ▼ 41.86 dBn
Spectrur Ref Level Att 11Pk Max 0 dBm 0 dBm	n 30.00 dBm			<b>W</b> 100 kHz	Mode Au				( ▼ 41.86 dBn
Spectrur Ref Level Att 11Pk Max 0 dBm 0 dBm 1 dBm	n 30.00 dBm	SWT		<b>W</b> 100 kHz	Mode Au				( ▼ 41.86 dBn
Spectrur Ref Level Att 11Pk Max 0 dBm 0 dBm 1 dBm	n 30.00 dBm 45 dB	SWT		<b>W</b> 100 kHz	Mode Au				( ▼ 41.86 dBn
Spectrur Ref Level Att 1Pk Max 20 dBm—	n 30.00 dBm 45 dB	SWT		<b>W</b> 100 kHz	Mode Au				( ▼ 41.86 dBn
Spectrur Ref Level Att 11Pk Max 0 dBm	n 30.00 dBm 45 dB	SWT	24 ms  VE	<b>W</b> 100 kHz	Mode Au				( ▼ 41.86 dBn
Spectrur           Ref Level           Att           1Pk Max           0 dBm           0 dBm           0 dBm           0 dBm           10 dBm           20 dBm           30 dBm           40 dBm	n 30.00 dBm 45 dB	dBm	24 ms  VE	3W 100 kHz 3W 300 kHz	Mode Au			- g	41.86 dBn 33.20 MH
Spectrur           Ref Level           Att           11Pk Max           0 dBm           0 dBm           0 dBm           1 dBm           10 dBm           20 dBm           30 dBm           30 dBm	n 30.00 dBm 45 dB	SWT	24 ms  VE	3W 100 kHz 3W 300 kHz	Mode Au		an in a fallent	- g	41.86 dBn 33.20 MH
Spectrur Ref Level Att 1Pk Max 0 dBm	n 30.00 dBm 45 dB	dBm	24 ms  VE	3W 100 kHz 3W 300 kHz	Mode Au		an on a bloor of	- g	41.86 dBn 33.20 MH
Spectrur           Ref Level           Att           11Pk Max           10 dBm           0 dBm           10 dBm           10 dBm           20 dBm           30 dBm           30 dBm	n 30.00 dBm 45 dB	dBm	24 ms  VE	3W 100 kHz 3W 300 kHz	Mode Au		et are a full of the	- g	41.86 dBn 33.20 MH



Spectrum								
Ref Level 30.1 Att	00 dBm Offset 45 dB SWT	1.50 dB 👄 RB 226 ms 👄 VB			uto Sweep			
●1Pk Max				м	1[1]			-36.77 dBm 6.8665 GHz
20 dBm							-	0.0000 0112
10 dBm								
0 dBm								
-10 dBm								
-20 dBm	-17.080 dBm							
-30 dBm	MI							
-40 BRannathon	whender when	myumahuman		water	the total and the second second	wwwww	annut the	Meunnahra
-50 dBm						1. 1.		
-60 dBm						÷.		8
Start 2.4835 G	iHz		691	pts			Sto	o 25.0 GHz

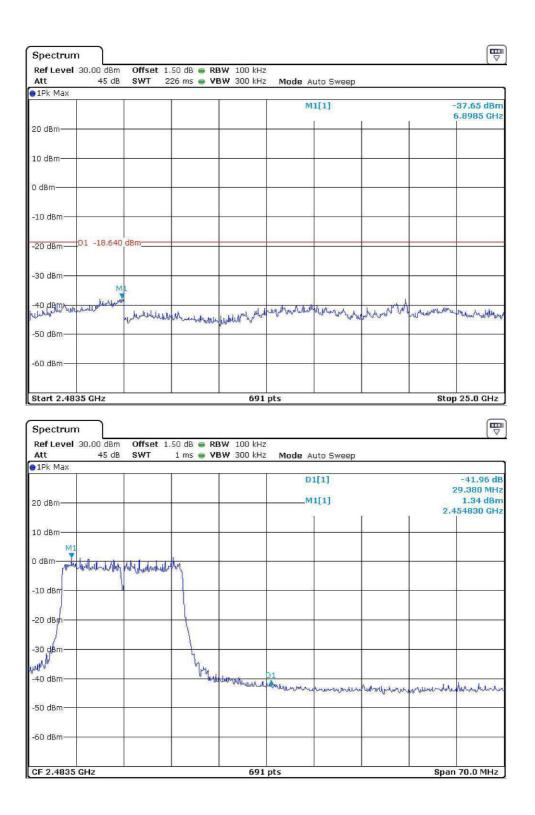




#### Channel 11 (2462MHz) Reference Level: 1.36dBm

Ret Level	1 30.00 dBm	Offset	1.50 dB 👄 RE	<b>3W</b> 100 kHz					٦J
Att	45 dB		75.9 µs 🕳 VE			uto FFT			,
1Pk Max	5	1	1		M	1[1]			1.36 dBm
						1111		2.45	48093 GHz
20 dBm	l								
0 dBm									
10		M1			1.72				
dBm	prot	man	Mundm	Martha	Maria	Marian	MANN	MAN	
10 dBm					V				
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10 Mr.N	ř								Wing
10 dBm-			-	2					- Ung
50 dBm									
60 dBm					÷		9 () ()		
				5					
	_	1		691	pts	1		Span 26.	5695 MHz
Spectrum Ref Level Att		Offset SWT	1.50 dB ● RE 24 ms ● VI	<b>3W</b> 100 kHz		uto Sweep	,, ,	Span 26.	Ē
Spectrum Ref Level Att	1 30.00 dBm			<b>3W</b> 100 kHz	Mode A	uto Sweep			
Spectrum Ref Level Att 1Pk Max	1 30.00 dBm			<b>3W</b> 100 kHz	Mode A			-	( ▼ 41.56 dBm
Spectrum Ref Level Att 1Pk Max	1 30.00 dBm			<b>3W</b> 100 kHz	Mode A			-	(
Spectrum Ref Level Att 1Pk Max 20 dBm	1 30.00 dBm			<b>3W</b> 100 kHz	Mode A			-	(
Spectrum Ref Level Att 1Pk Max 20 dBm	1 30.00 dBm			<b>3W</b> 100 kHz	Mode A			-	( ▼ 41.56 dBm
Spectrum Ref Level Att ) IPk Max 20 dBm	1 30.00 dBm			<b>3W</b> 100 kHz	Mode A			-	( ▼ 41.56 dBm
CF 2.462 C Spectrum Ref Level Att 1Pk Max 20 dBm 10 dBm	1 30.00 dBm			<b>3W</b> 100 kHz	Mode A			-	( ▼ 41.56 dBm
Spectrum Ref Level Att IPk Max CO dBm CO dBm O dBm	1 30.00 dBm			<b>3W</b> 100 kHz	Mode A			-	( ▼ 41.56 dBm
Spectrum Ref Level Att 11Pk Max 20 dBm 0 dBm 0 dBm 10 dBm	30.00 dBm 45 dB	SWT		<b>3W</b> 100 kHz	Mode A			-	( ▼ 41.56 dBm
Spectrum Ref Level Att 11Pk Max 20 dBm 10 dBm 0 dBm 10 dBm	1 30.00 dBm	SWT		<b>3W</b> 100 kHz	Mode A			-	( ▼ 41.56 dBm
Spectrum Ref Level Att 11Pk Max 20 dBm 10 dBm 10 dBm 20 dBm 20 dBm	30.00 dBm 45 dB	SWT		<b>3W</b> 100 kHz	Mode A			-	( ▼ 41.56 dBm
Spectrum Ref Level Att 11Pk Max 20 dBm 10 dBm 10 dBm 20 dBm 20 dBm	30.00 dBm 45 dB	SWT		<b>3W</b> 100 kHz	Mode A			-	( ▼ 41.56 dBm
Spectrum Ref Level Att 11Pk Max 20 dBm 10 dBm 10 dBm 20 dBm 30 dBm	30.00 dBm 45 dB	SWT		<b>3W</b> 100 kHz	Mode A			-	( ▼ 41.56 dBm
Spectrum Ref Level Att (1Pk Max 20 dBm 0 dBm 10 dBm 20 dBm 30 dBm 40 dBm	0.00 dBm 45 dB	SWT	24 ms  VI	3W 100 kHz 3W 300 kHz	Mode A	1[1]		1.	(₩ 41.56 dBm 03040 GHz
Spectrum           Ref Level           Att           11Pk Max           20 dBm           10 dBm           10 dBm           20 dBm           30 dBm           30 dBm           40 dBm	30.00 dBm 45 dB	SWT	24 ms  VI	3W 100 kHz 3W 300 kHz	Mode A	1[1]		1.	(₩ 41.56 dBm 03040 GHz
Spectrum Ref Level Att 11Pk Max 20 dBm 10 dBm 10 dBm 20 dBm 20 dBm	0.00 dBm 45 dB	SWT	24 ms  VI	3W 100 kHz 3W 300 kHz	Mode A	1[1]		1.	( ▼ 41.56 dBm
Spectrum           Ref Level           Att           11Pk Max           20 dBm           10 dBm           10 dBm           20 dBm           30 dBm           30 dBm           40 dBm           50 dBm	0.00 dBm 45 dB	SWT	24 ms  VI	3W 100 kHz 3W 300 kHz	Mode A	1[1]	hubiplinary	1.	(₩ 41.56 dBm 03040 GHz
Spectrum           Ref Level           Att           11Pk Max           0 dBm           0 dBm           1 dBm           10 dBm           20 dBm           30 dBm           30 dBm           40 dBm	0.00 dBm 45 dB	SWT	24 ms  VI	3W 100 kHz 3W 300 kHz	Mode A	1[1]	huthplanes	1.	(₩ 41.56 dBm 03040 GHz







Applicant: Gold Light Toys Factory Date of Test: April 25, 2019

Model: 101069850155

4.5 Out of Band Radiated Emissions (for emissions in 4.4 above that are less than 20dB below carrier), FCC Rule 15.247(d):

For out of band emissions that are close to or that exceed the 20dB attenuation requirement described in the specification, radiated measurements were performed at a 3m separation distance to determine whether these emissions complied with the general radiated emission requirement.

- [X] Not required, since all emissions are more than 20dB below fundamental
- [ ] See attached data sheet



Applicant: Gold Light Toys Factory Date of Test: April 25, 2019

Model: 101069850155

4.6 Transmitter Radiated Emissions in Restricted Bands, FCC Rule 15.35(b) (c):

Data is included of the worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included. All measurements were performed with peak detection unless otherwise specified.

The data on the following pages list the significant emission frequencies, the limit and the margin of compliance.



Applicant: Gold Light Toys Factory Date of Test: April 25, 2019

Model: 101069850155

#### 4.7 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

FS = RA + AF + CF - AG + PD

Where FS = Field Strength in  $dB\mu V/m$  RA = Receiver Amplitude (including preamplifier) in  $dB\mu V$  CF = Cable Attenuation Factor in dB AF = Antenna Factor in dB AG = Amplifier Gain in dBPD = Pulse Desensitization in dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

FS = RA + AF + CF - AG + PD

Example

Assume a receiver reading of 62.0 dB $\mu$ V is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted. The pulse desensitization factor of the spectrum analyzer was 0 dB. The net field strength for comparison to the appropriate emission limit is 42 dB $\mu$ V/m. This value in dB $\mu$ V/m was converted to its corresponding level in  $\mu$ V/m.

RA = 62.0 dB $\mu$ V AF = 7.4 dB CF = 1.6 dB AG = 29.0 dB PD = 0 dB FS = 62 + 7.4 + 1.6 - 29 + 0 = 42 dB $\mu$ V/m

Level in mV/m = Common Antilogarithm [(42 dB $\mu$ V/m)/20] = 125.9  $\mu$ V/m



Applicant: Gold Light Toys Factory Date of Test: April 25, 2019

Model: 101069850155

4.8 Radiated Spurious Emission

#### Worst Case Radiated Spurious Emission (802.11b-Channel 11) at 4924.000MHz

Judgement: Passed by 2.4dB margin.

For the electronic filing, the worst case radiated emission configuration photographs are saved with filename: radiated photos.pdf.



# Applicant: Gold Light Toys FactoryDate of Test: April 25, 2019Model: 101069850155Worst Case Operating Mode: Transmitting (802.11b-Channel 01)

#### **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	30.465	27.8	20.0	15.5	23.3	40.0	-16.7
Horizontal	329.110	21.1	20.0	20.4	21.5	46.0	-24.5
Horizontal	534.110	15.8	20.0	27.6	23.4	46.0	-22.6
Vertical	440.170	30.2	20.0	20.6	30.8	46.0	-15.2
Vertical	680.150	27.8	20.0	22.4	30.2	46.0	-15.8
Vertical	848.555	27.5	20.0	27.6	35.1	46.0	-10.9

NOTES: 1. Quasi-Peak detector is used for frequency below 1GHz.

- 2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
- 3. Negative value in the margin column shows emission below limit.



# Applicant: Gold Light Toys FactoryDate of Test: April 25, 2019Model: 101069850155Operating Mode: Transmitting (802.11b-Channel 01)

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4824.000	57.7	36.1	34.2	55.8	74.0	-18.2
Vertical	*2335.280	59.5	34.7	33.1	57.9	74.0	-16.1

#### **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4824.000	50.4	36.1	34.2	48.5	54.0	-5.5
Vertical	*2335.280	46.6	34.7	33.1	45.0	54.0	-9.0

NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz/VBW=10Hz for average value.

- 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
- 3. Negative value in the margin column shows emission below limit.
- 4. Horn antenna used for the emission over 1000MHz.
- \* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.



# Applicant: Gold Light Toys FactoryDate of Test: April 25, 2019Model: 101069850155Operating Mode: Transmitting (802.11b-Channel 06)

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4874.000	57.5	36.1	34.6	56.0	74.0	-18.0
Vertical	*7311.000	53.6	35.6	37.1	55.1	74.0	-18.9

#### **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4874.000	49.6	36.1	34.6	48.1	54.0	-5.9
Vertical	*7311.000	37.4	35.6	37.1	38.9	54.0	-15.1

NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.

- 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
- 3. Negative value in the margin column shows emission below limit.
- 4. Horn antenna used for the emission over 1000MHz.
- \* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.



# Applicant: Gold Light Toys FactoryDate of Test: April 25, 2019Model: 101069850155Operating Mode: Transmitting (802.11b-Channel 11)

#### **Radiated Emissions**

Polarization	n Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4924.000	58.1	36.1	34.6	56.6	74.0	-17.4
Vertical	*2485.661	55.7	35.6	37.2	57.3	74.0	-16.7

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4924.000	53.1	36.1	34.6	51.6	54.0	-2.4
Vertical	*2485.661	43.1	35.6	37.2	44.7	54.0	-9.3

- NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.
  - 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
  - 3. Negative value in the margin column shows emission below limit.
  - 4. Horn antenna used for the emission over 1000MHz.
  - \* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.



# Applicant: Gold Light Toys FactoryDate of Test: April 25, 2019Model: 101069850155Operating Mode: Transmitting (802.11g-Channel 01)

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4824.000	57.0	36.1	34.2	55.1	74.0	-18.9
Vertical	*2390.000	65.5	34.7	33.1	63.9	74.0	-10.1

#### **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4824.000	42.9	36.1	34.2	41.0	54.0	-13.0
Vertical	*2390.000	48.1	34.7	33.1	46.5	54.0	-7.5

NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz/VBW=10Hz for average value.

- 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
- 3. Negative value in the margin column shows emission below limit.
- 4. Horn antenna used for the emission over 1000MHz.
- \* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.



# Applicant: Gold Light Toys FactoryDate of Test: April 25, 2019Model: 101069850155Operating Mode: Transmitting (802.11g-Channel 06)

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4874.000	56.7	36.1	34.6	55.2	74.0	-18.8
Vertical	*7311.000	52.4	35.6	37.1	53.9	74.0	-20.1

#### **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4874.000	43.6	36.1	34.6	42.1	54.0	-11.9
Vertical	*7311.000	39.6	35.6	37.1	41.1	54.0	-12.9

NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.

- 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
- 3. Negative value in the margin column shows emission below limit.
- 4. Horn antenna used for the emission over 1000MHz.
- \* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.



# Applicant: Gold Light Toys FactoryDate of Test: April 25, 2019Model: 101069850155Operating Mode: Transmitting (802.11g-Channel 11)

#### **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4924.000	56.5	36.1	34.6	55.0	74.0	-19.0
Vertical	*2484.160	62.4	35.6	37.2	64.0	74.0	-10.0

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4924.000	43.9	36.1	34.6	42.4	54.0	-11.6
Vertical	*2484.160	43.4	35.6	37.2	45.0	54.0	-9.0

- NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.
  - 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
  - 3. Negative value in the margin column shows emission below limit.
  - 4. Horn antenna used for the emission over 1000MHz.
  - \* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.



#### Applicant: Gold Light Toys Factory Date of Test: April 25, 2019 Model: 101069850155 Operating Mode: Transmitting (802.11n-HT20-Channel 01)

#### **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4824.000	56.5	36.1	34.2	54.6	74.0	-19.4
Vertical	*2389.840	68.4	34.7	33.1	66.8	74.0	-7.2

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4824.000	43.0	36.1	34.2	41.1	54.0	-12.9
Vertical	*2389.840	47.8	34.7	33.1	46.2	54.0	-7.8

- NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz/VBW=10Hz for average value.
  - 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
  - 3. Negative value in the margin column shows emission below limit.
  - 4. Horn antenna used for the emission over 1000MHz.
  - \* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.



#### Applicant: Gold Light Toys Factory Date of Test: April 25, 2019 Model: 101069850155 Operating Mode: Transmitting (802.11n-HT20-Channel 06)

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4874.000	56.6	36.1	34.6	55.1	74.0	-18.9
Vertical	*7311.000	51.6	35.6	37.1	53.1	74.0	-20.9

#### **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4874.000	42.7	36.1	34.6	41.2	54.0	-12.8
Vertical	*7311.000	38.4	35.6	37.1	39.9	54.0	-14.1

NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.

- 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
- 3. Negative value in the margin column shows emission below limit.
- 4. Horn antenna used for the emission over 1000MHz.
- \* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.



#### Applicant: Gold Light Toys Factory Date of Test: April 25, 2019 Model: 101069850155 Operating Mode: Transmitting (802.11n-HT20-Channel 11)

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4924.000	56.7	36.1	34.6	55.2	74.0	-18.8
Vertical	*2489.143	59.1	35.6	37.2	60.7	74.0	-13.3

#### **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4924.000	42.9	36.1	34.6	41.4	54.0	-12.6
Vertical	*2489.143	42.3	35.6	37.2	43.9	54.0	-10.1

- NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.
  - 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
  - 3. Negative value in the margin column shows emission below limit.
  - 4. Horn antenna used for the emission over 1000MHz.
  - \* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.



Applicant: Gold Light Toys Factory Date of Test: April 25, 2019

Model: 101069850155

4.9 Radiated Emissions from Digital Section of Transceiver, FCC Ref: 15.109

- [ ] Not required No digital part
- [ ] Test results are attached
- [x] Included in the separated report.



Applicant: Gold Light Toys Factory Date of Test: April 25, 2019

Model: 101069850155

4.10 Transmitter Duty Cycle Calculation and Measurements, FCC Rule 15.35(b), (c)

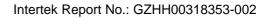
The EUT antenna output port was connected to the input of the spectrum analyzer. The analyzer center frequency was set to EUT RF channel carrier. The SWEP function on the analyzer was set to ZERO SPAN. The Transmitter ON time was determined from the resultant time-amplitude display:

	See attached spectrum analyzer chart (s) for Transmitter timing
	See Transmitter timing diagram provided by manufacturer
х	Not applicable, duty cycle was not used.



## **EXHIBIT 5**

### **EQUIPMENT PHOTOGRAPHS**





#### 5.0 Equipment Photographs

For electronic filing, the photographs are saved with filename: external photos.pdf & internal photos.pdf.



## **EXHIBIT 6**

### **PRODUCT LABELLING**



#### 6.0 Product Labeling

For electronic filing, the FCC ID label artwork and location is saved with filename: label.pdf.



# EXHIBIT 7

**TECHNICAL SPECIFICATIONS** 



#### 7.0 <u>Technical Specifications</u>

For electronic filing, the block diagram and circuit diagram are saved with filename: block.pdf and circuit.pdf respectively.



## **EXHIBIT 8**

**INSTRUCTION MANUAL** 



#### 8.0 Instruction Manual

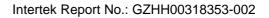
For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold/leased in the United States.



## **EXHIBIT 9**

### **CONFIDENTIALITY REQUEST**





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#### 9.0 Confidentiality Request

For electronic filing, the confidentiality request of the tested EUT is saved with filename: request.pdf.



## **EXHIBIT 10**

### **MISCELLANEOUS INFORMATION**



#### 10.0 Discussion of Pulse Desensitization

The determination of pulse desensitivity was made in accordance with Hewlett Packard Application Note 150-2, *Spectrum Analysis ... Pulsed RF.* 

Pulse desensitivity is not applicable for this device since the transmitter transmits the RF signal continuously.



## **EXHIBIT 11**

### **TEST EQUIPMENT LIST**



TEST REPORT

#### Intertek Report No.: GZHH00318353-002

### 11.0 Test Equipment List

Equipment No.	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
SZ182-02	RF Power Meter	Anritsu	ML2496A	1302005	05-Jun-2018	05-Jun-2019
SZ182-02-01	Power Sensor	Anritsu	MA2411B	1207429	05-Jun-2018	05-Jun-2019
SZ061-12	BiConiLog Antenna	ETS	3142E	00166158	14-Sep-2018	14-Sep-2019
SZ185-01	EMI Receiver	R&S	ESCI	100547	4-Jan-2019	4-Jan-2020
SZ061-08	Horn Antenna	ETS	3115	00092346	14-Sep-2018	14-Sep-2019
SZ061-06	Active Loop Antenna	Electro-Metrics	EM-6876	217	21-May-2018	21-May-2019
SZ056-03	Spectrum Analyzer	R&S	FSP 30	101148	05-Jun-2018	05-Jun-2019
SZ056-06	Signal Analyzer	R&S	FSV 40	101101	05-Jun-2018	05-Jun-2019
SZ181-04	Preamplifier	Agilent	8449B	3008A02474	15-Jan-2019	15-Jan-2020
SZ188-01	Anechoic Chamber	ETS	RFD-F/A- 100	4102	15-Dec-2018	15-Dec-2020
SZ062-02	RF Cable	RADIALL	RG 213U		10-Jun-2018	10-Jun-2019
SZ062-05	RF Cable	F Cable RADIALL			10-Jun-2018	10-Jun-2019
SZ062-12	RF Cable	RADIALL	0.04- 26.5GHz		10-Jun-2018	10-Jun-2019
SZ067-04	04 Notch Filter Micro-Tronics		BRM50702 -02		05-Jun-2018	05-Jun-2019