

7. MAXIMUM CONDUCTED OUTPUT POWER

7.1 PPLIED PROCEDURES / LIMIT

According to FCC §15.407

The maximum conduced output power should not exceed:

Frequency Band(MHz)	Limit
5150~5250	250mW
5725~5850	1W

The maximum e.i.r.p should not exceed:

Frequency Band(MHz)	Limit
5150~5250	200mW or 10dBm +10logB whichever is less
5725~5850	N/A

Note: Where "B" is the 99% emission bandwidth in MHz

7.2 TEST PROCEDURE

Maximum conducted output power may be measured using a spectrum analyzer/EMI receiver or an RF power meter.

1. Device Configuration

If possible, configure or modify the operation of the EUT so that it transmits continuously at its maximum power control level (see section II.B.).

a) The intent is to test at 100 percent duty cycle; however a small reduction in duty cycle (to no lower than 98 percent) is permitted if required by the EUT for amplitude control purposes. Manufacturers are expected to provide software to the test lab to permit such continuous operation.

b) If continuous transmission (or at least 98 percent duty cycle) cannot be achieved due to hardware limitations (e.g., overheating), the EUT shall be operated at its maximum power control level with the transmit duration as long as possible and the duty cycle as high as possible.

2. Measurement using a Spectrum Analyzer or EMI Receiver (SA)

Measurement of maximum conducted output power using a spectrum analyzer requires integrating the spectrum across a frequency span that encompasses, at a minimum, either the EBW or the 99-percent occupied bandwidth of the signal.1 However, the EBW must be used to determine bandwidth dependent limits on maximum conducted output power in accordance with § 15.407(a).



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a) The test method shall be selected as follows: (i) Method SA-1 or SA-1 Alternative (averaging with the EUT transmitting at full power throughout each sweep) shall be applied if either of the following conditions can be satisfied:

• The EUT transmits continuously (or with a duty cycle \geq 98 percent).

• Sweep triggering or gating can be implemented in a way that the device transmits at the maximum power control level throughout the duration of each of the instrument sweeps to be averaged. This condition can generally be achieved by triggering the instrument's sweep if the duration of the sweep (with the analyzer configured as in Method SA-1, below) is equal to or shorter than the duration T of each transmission from the EUT and if those transmissions exhibit full power throughout their durations.

(ii) Method SA-2 or SA-2 Alternative (averaging across on and off times of the EUT transmissions, followed by duty cycle correction) shall be applied if the conditions of (i) cannot be achieved and the transmissions exhibit a constant duty cycle during the measurement duration. Duty cycle will be considered to be constant if variations are less than ± 2 percent.

(iii) Method SA-3 (RMS detection with max hold) or SA-3 Alternative (reduced VBW with max hold) shall be applied if the conditions of (i) and (ii) cannot be achieved.

b) Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep): (i) Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal.

(ii) Set RBW = 1 MHz.

(iii) Set VBW ≥ 3 MHz.

(iv) Number of points in sweep \geq 2 Span / RBW. (This ensures that bin-to-bin spacing is \leq RBW/2, so that narrowband signals are not lost between frequency bins.)

(v) Sweep time = auto.

(vi) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.

(vii) If transmit duty cycle < 98 percent, use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle \geq 98 percent, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run".

(viii) Trace average at least 100 traces in power averaging (i.e., RMS) mode.

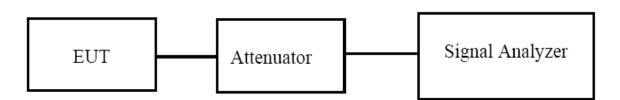
(ix) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum



7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



7.6 TEST RESULTS

EUT:	JMGO Smart Home Theater	Model Name. :	G3 Pro			
Temperature :	25 ℃	Relative Humidity :	60%			
Pressure :	1012 hPa		DC 19.5V from Adapter AC 120V/60Hz			
Test Mode :	TX (5G) Mode Frequency Band I (5150-5250MHz)					

Test Channel	Frequency (MHz)	Maximum output power. Antenna port (AV) (dBm)	LIMIT dBm	Result
		TX 802.11a Mode		
CH36	5180	9.8	23.98	Pass
CH40	5200	9.5	23.98	Pass
CH48	5240	9.9	23.98	Pass
		TX 802.11 n20M Mode		
CH36	5180	8.8	23.98	Pass
CH40	5200	8.7	23.98	Pass
CH48	5240	8.9	23.98	Pass
		TX 802.11 n40M Mode		
CH38	5190	8.0	23.98	Pass
CH46	5230	8.2	23.98	Pass
		TX 802.11 AC20M Mode		
CH36	5180	8.7	23.98	Pass
CH40	5200	8.9	23.98	Pass
CH48	5240	8.8	23.98	Pass
		TX 802.11 AC40M Mode		
CH38	5190	8.3	23.98	Pass
CH46	5230	8.0	23.98	Pass
		TX 802.11 AC80M Mode		
CH42	5210	8.8	23.98	Pass



EUT :	JMGO Sma	art Home Theater	Model Name. :	G3 Pro		
Temperature :	25 ℃		Relative Humidity :	60%		
Pressure :	1012 hPa		Test Voltage :	DC 19.5V from 120V/60Hz	n Adapter AC	
Test Mode :	TX (5G) Mo	ode Frequency Bar	nd IV (5725-5825MHz)		
Test Channel	Frequency	Maximum output power. Antenna port (AV)		LIMIT	Result	
	(MHz)	((dBm)	dBm		
		TX 802. 1	l1a Mode	L		
CH 149	5745		8.4	30	Pass	
CH 157	5785		8.3	30	Pass	
CH 165	5825	8.7		30	Pass	
		TX 802.11	n20M Mode			
CH 149	5745	8.5		30	Pass	
CH 157	5785		8.4	30	Pass	
CH 165	5825		8.6	30	Pass	
		TX 802.11	n40M Mode		•	
CH 151	5755		8.4	30	Pass	
CH 159	5795		8.3	30	Pass	
		TX 802.11 A	C20M Mode	30		
CH 149	5745		8.4		Pass	
CH 157	5785		8.5	30	Pass	
CH 165	5825		8.6	30	Pass	
		TX 802.11 A	C40M Mode			
CH 151	5755		8.3	30	Pass	
CH 159	5795		8.1	30	Pass	
		TX 802.11 A	C80M Mode			
CH 155	5775		8.6	30	Pass	



8. OUT OF BAND EMISSIONS

8.1 APPLICABLE STANDARD

According to FCC §15.407(b)

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(2) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.

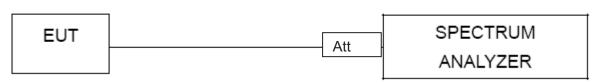
8.2 TEST PROCEDURE

- 1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
- 3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
- 4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
- 5. Repeat above procedures until all measured frequencies were complete.

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP



8.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



8.6 TEST RESULTS

EUT:	JMGO Smart Home Theater	Model Name. :	G3 Pro
Temperature :	25 ℃	Relative Humidity :	56%
Pressure :	1012 hPa	Lest Voltage	DC 19.5V from Adapter AC 120V/60Hz



5.2G

5.15~5.25 GHz

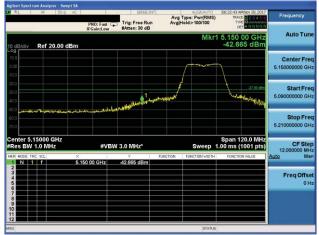


(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side





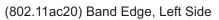
(802.11n20) Band Edge, Right Side





5.15~5.25 GHz

(802.11n40) Band Edge, Left Side





(802.11n40) Band Edge, Right Side







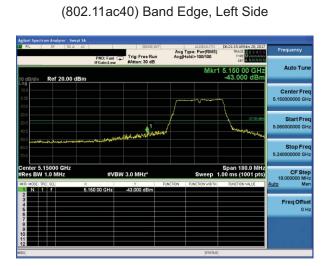
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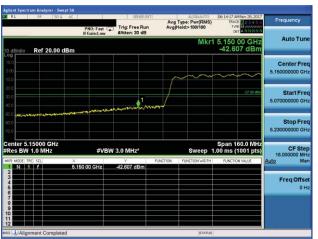


5.15~5.25 GHz

(802.11ac80) Band Edge, Left Side



(802.11ac40) Band Edge, Right Side



(802.11ac80) Band Edge, Right Side

	DA AC	SENSE:INT	ALIGNAUTO	D5:14:51 AMNov 28, 2017	Frequency			
	PNO: Fast IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Type: Pwr(RMS) Avg Hold>100/100	TRACE 23456 TYPE MUNICIPAL OF	Auto Tun			
dB/div Ref 20.0	B/div Ref 20.00 dBm Mkr1 5.350 00 GHz -49.455 dBm -49.455 dBm							
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enter 5.3500 GHz Res BW 1.0 MHz	#VE	3W 3.0 MHz*	Sweep 1	Span 280.0 MHz .00 ms (1001 pts)	CF Ste 28.000000 MH			
KR MODE TRC SOL	× 5.350 00 GHz	Y F -49.455 dBm	UNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Ma			
2 3 4 5 6 7					Freq Offs 0 F			
8 9 0 1								

	50.0 AC PNO: Far	sense in Trig: Free Run	Avg	ALIGNAUTO Type: Pwr(RMS) Hold>100/100	06:19:40 AMNoy 28, 2017 TRACE 2 3 4 5 6 TYPE MUNICIPAL	Frequency
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-50.0 -60.0 -70.0	"Yighy Koh	er Unaling and an and	harin an	r, najisi lunu kralina	an a shi ya s	Stop Fre 5.51000000 GH
Center 5.3500 #Res BW 1.0 M		/BW 3.0 MHz*		Sweep 1	Span 320.0 MHz .00 ms (1001 pts)	CF Ste 32.000000 MH
	× 5.350 00 GHz	-50,357 dBm	PUNCTION	FUNCTION WIDTH	FUNCTION VALUE	Auto Ma
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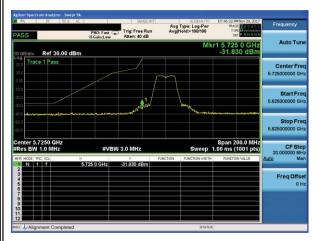


5.8G

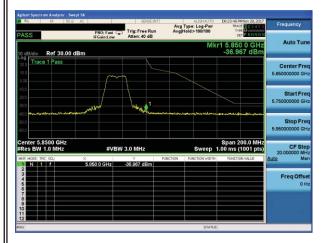
5.75~5.85 GHz



(802.11n20) Band Edge, Left Side



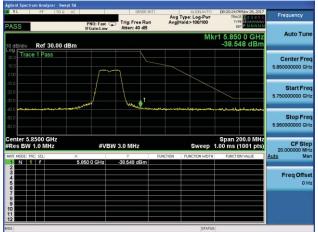
(802.11a) Band Edge, Right Side



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(802.11n20) Band Edge, Right Side

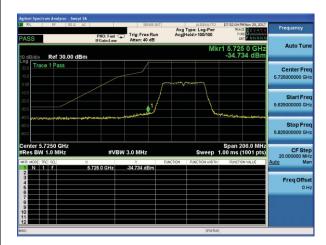




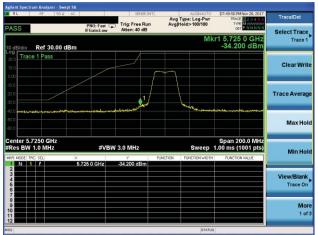
5.75~5.85 GHz

(802.11n40) Band Edge, Left Side

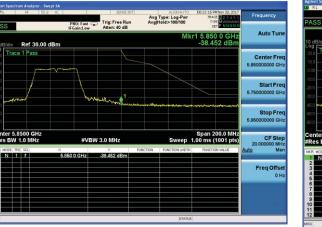




(802.11n40) Band Edge, Right Side



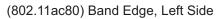
(802.11ac20) Band Edge, Right Side





5.75~5.83 GHz

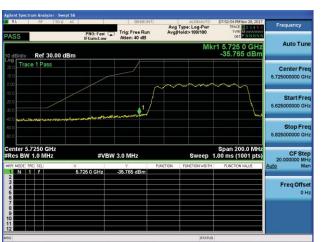
(802.11ac40) Band Edge, Left Side



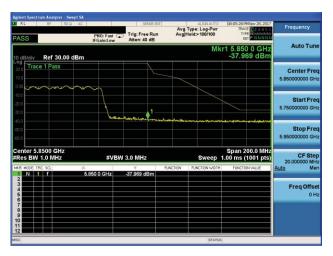


(802.11ac40) Band Edge, Right Side

	RF 50.0 AC		SENSE:INT	OTUANELIA	08:22:10 PM Nov 28, 2017	
PASS		PNO: Fast 🖵 IFGain:Low	Trig: Free Run Atten: 40 dB	Avg Type: Log-Pwr Avg Hold>100/100	TRACE 1 2 3 4 5 6 TYPE MUNININ DET PINNINN	Frequency
0 dB/div	Ref 30.00 dBm			Mk	r1 5.850 0 GHz -36.217 dBm	Auto Tune
og 20.0 10.0 0.00	a 1 Pass					Center Free 5.850000000 GH
10 0 20 0 30 0		Xuun	1_			Start Fred 5.750000000 GH
40.0 50.0 60.0				unigtingly, egoing di sangaraha	an a	Stop Free 5.950000000 GH:
Center 5.8 Res BW	1.0 MHz	#VBW	3.0 MHz		Span 200.0 MHz 1.00 ms (1001 pts)	CF Step 20.000000 MH
AR MODE TR		360 0 GHz	-36.217 dBm	UNCTION FUNCTION WIDTH	FUNCTION VALUE	Auto Mar
34667						Freq Offse 0 Hi
8 9 10						



(802.11ac80) Band Edge, Right Side





9.SPURIOUS RF CONDUCTED EMISSIONS

9.1CONFORMANCE LIMIT

- 1. Below -20dB of the highest emission level in operating band.
- 2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

9.2MEASURING INSTRUMENTS

The Measuring equipment is listed in the section 6.3 of this test report.

9.3TEST SETUP

Please refer to Section 6.1 of this test report.

9.4TEST PROCEDURE

The Spurious RF conducted emissions compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10-2013 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW=100kHz and VBW= 300KHz to measure the peak field strength, and mwasure frequeny range from 9KHz to 26.5GHz.

9.5TEST RESULTS

Remark: The measurement frequency range is from 9KHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandege measurement data.



Auto Tu

Center Fr

Start Fre

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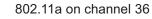
Freq Offse

-45.496 dE

802.11a on channel 40



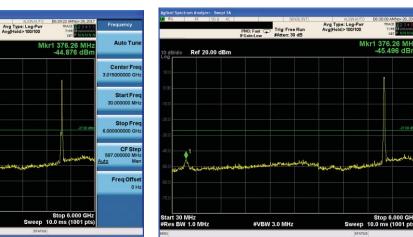
5.2G **Test Plot**



Trig: Free Ru

Ref 20.00 dBm

Start 30 MHz #Res BW 1.0 MHz



802.11a on channel 36

#VBW 3.0 MHz

802.11a on channel 40







Freq

376.26 MI

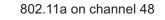
Stop 6.000 GHz Sweep 10.0 ms (1001 pts) Auto Tur

Center Fre 3.015000000 GH

> Start Fre 30.000000 MH

> > Stop Free

Freq Offse



Trig: Free Ru

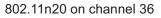
Ref 20.00 dBm

Start 30 MHz #Res BW 1.0 MHz Avg Type: Log-Pwr Avg[Hold>100/100



802.11a on channel 48

#VBW 3.0 MHz







Avg Type: Log-Pwr Avg|Hold:>100/100

> kr1 382.23 MH -45.115 dBn

Stop 6.000 GH eep 10.0 ms (1001 pt Auto Tu

Center Fr

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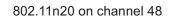
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Test Plot

Ref 20.00 dBm

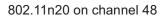
30 MHz BW 1.0 MHz



Trig: Free Run



802.11n20 on channel 40



#VBW 3.0 MHz



RL RF 50 Q AC	SENSE.INT	ALIGNAUTO Avg Type: Log-Pwr	TRACE REALES	Frequency
	PNO: Fast Trig: Free Run IFGain:Low #Atten: 30 dB	Avg Hold: 77/100	DET P N N N N	
10 dB/div Ref 20.00 dBm		N	lkr1 25.496 GHz -37.457 dBm	Auto Tun
10.0				Center Fre 16.250000000 GH
10.0				Start Fre 6.00000000 GH
30.0			-27.00 siBm	Stop Fre 26.50000000 GH
600 500 ^H andrik Antonia	and a second of the second and the	and have all the second	and the second second	CF Ste 2.05000000 GH Auto Ma
60.0				Freq Offs 0 H
70.0				
Start 6.00 GHz #Res BW 1.0 MHz	#VBW 3.0 MHz		Stop 26.50 GHz 51.3 ms (1001 pts)	

Avg Type: Log-Pwr Avg|Hold: 86/100

> 1 370.29 M -45.900 dE

Stop 6.000 GH eep 10.0 ms (1001 pt Auto Tu

Center Fr

Start Fre

Stop Fr

CF S

Freq Offse

802.11n40 on channel 46

Trig: Free Run



Test Plot

Ref 20.00 dBm

30 MHz BW 1.0 MHz



802.11n40 on channel 38

802.11n40 on channel 46

#VBW 3.0 MHz



RL RF 500 AC Start Freq 6.000000000 G	PNO: Fast +++ IFGain:Low #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold: 98/100	06:40:22 AMNov 29, 2017 TRACE 1 2 3 4 5 6 TYPE MV000000 DET P NNNNN	Frequency
0 dB/dly Ref 20.00 dBm		M	kr1 26.008 GHz -37.739 dBm	Auto Tun
10.0				Center Fre 16.25000000 GF
0.00				Start Fre 6.000000000 Gi
10 0			-27 00 d9n	Stop Fre 26.50000000 Gi
13.0 50.0 *hilder/servel.au/redau/st are/redau/	and and an and an and and and and and an	and a second second second	wowant a preserve all and	CF Ste 2.050000000 GI Auto M
0.0				Freq Offs 01
70.0 Start 6.00 GHz Res BW 1.0 MHz	#VBW 3.0 MHz		Stop 26.50 GHz 51.3 ms (1001 pts)	

Version.1.2

Avg Type: Log-Pwr Avg|Hold:>100/100

1 388.20 MH -45.440 dB

Auto Tu

Center Fr

Start Fre

Stop Fr

CF S

Freq Offse



Test Plot

Ref 20.00 dBm



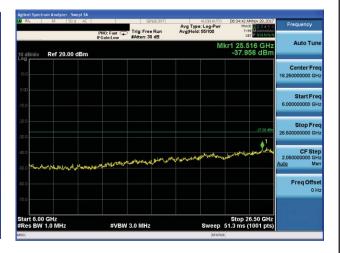
Trig: Free Run



802.11ac20 on channel 36







RL RF 50 Q AC	PNO: Fast 🖵	SENSE INT	Avg Type: Avg Hold: 4	Lignauro Log-Pwr 9/100	TRAI	MNov 28, 2017 CE 1 2 3 4 5 6 PE 0 1 1 2 3 4 5 6 PE 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Frequency
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10.00							Start Fre 6.000000000 Gi
20.0						-27.00 dBm	Stop Fre 26.50000000 G
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80.0							Freq Offs 01
70.0 Start 6.00 GHz #Res BW 1.0 MHz		3.0 MHz				6.50 GHz 1001 pts)	

802.11ac20 on channel 36





802.11ac20 on channel 48

802.11ac40 on channel 38



802.11ac40 on channel 38



Start 6.00 GHz #Res BW 1.0 MHz





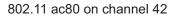
MKH 1376.26 MHz 45.384 dBm 4

802.11ac40 on channel 46

802.11 ac40 on channel 46

 Agilant Spectrum Analyter
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802.11ac80 on channel 42





RL RF 5	DA RO		SENSE:IN		ALIGNAUTO		MNov 28, 2017	Frequency
	1	PNO: Fast +++	Trig: Free Run #Atten: 30 dB	Avg Avg H	ype: Log-Pwr old: 69/100	TVI	E 23456 E Minimum P N N N N N	
0 dB/div Ref 20.0	0 dBm				М		72 GHz 89 dBm	Auto Tun
10.0								Center Fre 16.25000000 GH
10.0								Start Fre 6.000000000 GH
30.0							-27.00 dBn	Stop Fre 26.50000000 GH
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80.0								Freq Offse 0 H
70.0								
Res BW 1.0 MHz		#1/014/	3.0 MHz		Swaan	Stop 2	6.50 GHz 1001 pts)	





5.8G **Test Plot**

Auto Tur

Center Fre

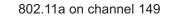
Start Fre

Stop Fre

CF Step

Ma Freq Offse

59 Luto



Trig: Free Ru

Ref 10.00 dBm

Start 30 MHz #Res BW 1.0 MHz

Avg Type: Log-Pwr Avg[Hold>100/100

1 370.29 MH -47.716 dBi

Stop 6.000 GHz Sweep 10.0 ms (1001 pts)



802.11a on channel 149

#VBW 3.0 MHz

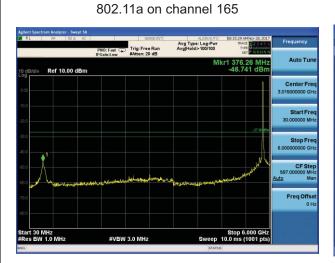
802.11a on channel 157





802.11a on channel 157







802.11a on channel 165

802.11n20 on channel 149





802.11n20 on channel 149





802.11n20 on channel 157

802.11n20 on channel 165



802.11n20 on channel 165



RL RF 50 Q AC		SENSE:INT		ALIGNAUTO	08:05:43 AMNov 28, 2017	Frequency
	PNO: Fast 🖵 IFGain:Low	Trig: Free Run #Atten: 20 dB	Avg Typ Avg Hol	d>100/100	TYPE NNNNN DET PNNNNN	
0 dB/div Ref 10.00 dBm				M	r1 26.029 GHz -47.225 dBm	Auto Tun
0.00						Center Fre 16.250000000 GH
0.0						Start Fre 6.000000000 Gi
					-27.00 xBm	Stop Fre 26.50000000 GR
000 maryanana mara	an and the second second	well and the second	part and a starter	ter Manager Marth	وأحاكم ومراميها وسيوسل ملارجه	CF Ste 2.050000000 Gi Auto M
70.0						Freq Offs 01
itart 6.00 GHz					Stop 26.50 GHz	
Res BW 1.0 MHz	#VRM	3.0 MHz		Sween	51.3 ms (1001 pts)	





802.11n40 on channel 151

802.11n40 on channel 159



802.11n40 on channel 159



RL	RF 50 Q AC		SENS	EINT		ALIGNAUTO		AMNOV 28, 2017	
		PNO: Fast ++-	Trig: Free #Atten: 20	Run dB	Avg Type Avg Hold:	: Log-Pwr 54/100	T	CE 23456 PE Minoritation PE NNNNN	Frequency
10 dB/div	Ref 10.00 dBm					М		885 GHz 824 dBm	Auto Tur
0.00									Center Fre 16.250000000 GF
20.0								-27.00 effer	Start Fre 6.000000000 Gi
40.0								1	Stop Fr 26.50000000 G
50.0 60.0	16 miles - and a 18 at 10 may 10	w colorgoand	mperhantes	per la prista	rhythe, Maiph	provilleeren	- and the state of the	- and the second	CF Sto 2.050000000 GI Auto M
70.0									Freq Offs 01
80.0 Start 6.00	GHz						Stop	26.50 GHz	
Res BW	1.0.0411-	#1/D14/	3.0 MHz			Curaon	51 2 mc	(1001 pts)	



Freq

1 376.26 MH -47.562 dBi

Stop 6.000 GHz Sweep 10.0 ms (1001 pts) Auto Tur

Center Fre

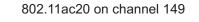
Start Fre

Stop Fre

CF Step 00000 MH Ma

Freq Offse

59'



Trig: Free Ru

Avg Type: Log-Pwr Avg[Hold>100/100



802.11ac20 on channel 149

#VBW 3.0 MHz

802.11ac20 on channel 157





ک کر کر کر ا

Ref 10.00 dBm

Start 30 MHz #Res BW 1.0 MHz



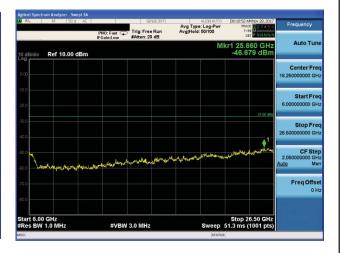


802.11ac20 on channel 165

802.11ac40 on channel 151



802.11ac40 on channel 151



RL RF 50	Q AC	SENSE:INT	ALISNAUTO	08:03:15 AMNov 28, 2017	Frequency
	PNO: Fast G	Trig: Free Run #Atten: 20 dB	Avg Type: Log-Pwr Avg Hold: 64/100	TRACE 23456 TYPE MUNICIPALITY DET PNNNNN	
0 dB/div Ref 10.00	dBm		M	kr1 25.516 GHz -46.092 dBm	Auto Tur
0.00					Center Fro 16.250000000 Gi
20.0				-27 00 dBm	Start Fr 6.000000000 G
40.0				1	Stop Fr 26.50000000 G
	Land and the state of the second	Muchukaagnigaashighad	har and the second and the second	and so a south of the south of	CF St 2.050000000 G <u>Auto</u> M
70.0					Freq Offs 0
Start 6.00 GHz Res BW 1.0 MHz		/ 3.0 MHz		Stop 26.50 GHz 51.3 ms (1001 pts)	

Avg Type: Log-Pwr Avg|Hold:>100/100

> r1 376.26 MH -47.306 dB

Stop 6.000 GH eep 10.0 ms (1001 pts Auto Tu

Center Fr

Start Fre

Stop Fr

CF St

Freq Offse

6.00

802.11ac80 on channel 155

Trig: Free Run



Test Plot

Ref 10.00 dBm

30 MHz BW 1.0 MHz



802.11 ac40 on channel 159

802.11 ac80 on channel 155

#VBW 3.0 MHz



Auto Tune PRO: Factor Marker 20 COL PRO: Facto



10. Frequency Stability Measurement

10.1 LIMIT

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

The transmitter center frequency tolerance shall be \pm 20 ppm maximum for the 5 GHz band (IEEE 802.11n specification).

10.2 TEST PROCEDURES

1. The transmitter output (antenna port) was connected to the spectrum analyzer.

2. EUT have transmitted absence of modulation signal and fixed channelize.

3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.

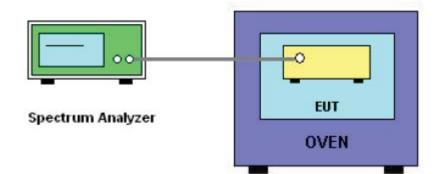
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.

5. fc is declaring of channel frequency. Then the frequency error formula is $(fc-f)/fc \times 10_6$ ppm and the limit is less than ±20ppm (IEEE 802.11nspecification).

6. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value

7. Extreme temperature is -20°C~70°C.

10.3 TEST SETUP LAYOUT



10.4 EUT OPERATION DURING TEST

The EUT was programmed to be in continuously un-modulation transmitting mode.



10.5 TEST RESUL	TS							
EUT:	JMGO Smart Home Theater	Model Name. :	G3 Pro					
Temperature :	25 ℃	Relative Humidity :	56%					
Pressure :	1012 hPa	012 hPa Test Voltage : DC 19.5V from Adapter 120V/60Hz						
Test Mode :	TX Frequency Band I (5150-5250MHz)							

				Refe	rence Free	quency: 5	180MHz	
Т	TEST CONDITIONS				fc	Max. Deviation (MHz)	Max. Deviation (ppm)	
Tnom		V nom (V)	19.50	5180.0332	5180	0.0332	-6.4093	
T nom (°C)	20	V max (V)	22.43	5180.0142	5180	0.0142	-2.7413	
		V min (V)	16.58	5180.0442	5180	0.0442	-8.5328	
	Li	mits		± 20 ppm				
	Re	esult		Complies				

				Refer	rence Fred	quency: 5	180MHz	
Т	EST CO	NDITIONS	8	f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)	
		T (°C)	-20	5180.0063	5180	0.0063	-1.2162	
		T (°C)	-10	5180.0114	5180	0.0114	-2.2008	
		T (°C)	0	5180.0234	5180	0.0234	-4.5174	
			10	5180.0326	5180	0.0326	-6.2934	
V nom	19.5	T (°C)	20	5180.0436	5180	0.0436	-8.4170	
(V)	19.5	T (°C)	30	5180.0363	5180	0.0363	-7.0077	
		T (°C)	40	5180.0114	5180	0.0114	-2.2008	
		T (°C)	50	5180.0058	5180	0.0058	-1.1197	
	T (°C) 60			5180.0381	5180	0.0381	-7.3552	
	T (°C) 70				5180	0.0337	-6.5058	
	Limits			\pm 20 ppm				
	Re	sult			Со	mplies		



			Refe	erence Fre	quency: 5	200MHz		
Т	EST CC	NDITIONS	f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)		
T nom		V nom (V) 19.5	0 5200.0251	5200	0.0251	-4.8269		
(°C)	20	V max (V) 22.4	3 5200.0425	5200	0.0425	-8.1731		
(\mathbf{C})	V min (V) 16.58			5200	0.0694	-13.3462		
	Li	mits		± 20 ppm				
	Re	esult		Сс	omplies			

				Refer	rence Fred	quency: 5	200MHz	
ТІ	EST CO	NDITIONS	5	f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)	
		T (°C)	-20	5200.0632	5200	0.0632	-12.1538	
		T (°C)	-10	5200.0529	5200	0.0529	-10.1731	
		T (°C)	0	5200.0437	5200	0.0437	-8.4038	
		T (°C)	10	5200.0923	5200	0.0923	-17.7500	
V nom	19.5	T (°C)	20	5200.0633	5200	0.0633	-12.1731	
(V)	19.5	T (°C)	30	5200.0124	5200	0.0124	-2.3846	
		T (°C)	40	5200.0739	5200	0.0739	-14.2115	
		T (°C)	50	5200.0418	5200	0.0418	-8.0385	
	T (°C) 60			5200.0326	5200	0.0326	-6.2692	
	T (°C) 70				5200	0.0421	-8.0962	
	Limits			± 20 ppm				
	Re	sult			Со	mplies		



				Refe	rence Free	quency: 5	240MHz	
ТІ	TEST CONDITIONS				fc	Max. Deviation (MHz)	Max. Deviation (ppm)	
Tnom		V nom (V)	19.50	5240.0132	5240	0.0132	-2.5191	
T nom (°C)	20	V max (V)	22.43	5240.0417	5240	0.0417	-7.9580	
(0)	V min (V) 16.58			5240.0095	5240	0.0095	-1.8130	
	Li	mits		± 20 ppm				
	Re	esult			Сс	omplies		

				Refer	ence Fred	quency: 5	240MHz	
Т	EST CO	NDITIONS	6	f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)	
		T (°C)	-20	5240.0092	5240	0.0092	-1.7557	
		T (°C)	-10	5240.0034	5240	0.0034	-0.6489	
		T (°C)	0	5240.0147	5240	0.0147	-2.8053	
		T (°C)	10	5240.0852	5240	0.0852	-16.2595	
V nom	19.5	T (°C)	20	5240.0111	5240	0.0111	-2.1183	
(V)	19.5	T (°C)	30	5240.0126	5240	0.0126	-2.4046	
		T (°C)	40	5240.0069	5240	0.0069	-1.3168	
		T (°C)	50	5240.0074	5240	0.0074	-1.4122	
	T (°C) 60		5240.0058	5240	0.0058	-1.1069		
		T (°C)	70	5240.0100	5240	0.0100	-1.9084	
	Limits			± 20 ppm				
	Re	sult			Со	mplies		



EUT :		JMGO Smar	t Homo	Thoator M	Inda	I Name. :	G3 Pro	
Temperat	turo .	25 ℃	TIOITIE			ve Humidity		
Pressure		1012 hPa				/oltage :	DC 19.5	/ from Adapter AC
Test Mod		TX Frequen	cv(5745)			0	120V/60	HZ
1631 1000	6 ·		cy(3743-	·303010112)				
				F	Refe	erence Free	uency: 57	45MHz
Т	EST CC	NDITIONS		f		fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°		- ()		5745.0025	52	5745	0.00252	-0.4393
T nom (°	20		22.43	5745.0063	36	5745	0.00636	-1.1065
C)		V min (V)	16.58	5745.0073	39	5745	0.00739	-1.2857
	Lir	nits				± 2	20 ppm	
	Re	sult				Со	mplies	
Temperatu	ure vs. Fro	equency Stal	bility	I				
				I	Refe	erence Fre	quency: 57	745MHz
Г	TEST CC	NDITIONS		f		fc	Max. Deviation (MHz)	Max. Deviation (ppm)
		T (°C)	-20	5745.0094	47	5745	0.00947	-1.6483
		T (°C)	-10	5745.0092	24	5745	0.00924	-1.6081
		T (°C)	0	5745.008	18	5745	0.00818	-1.4247
		T (°C)	10	5745.0020	62	5745	0.00262	-0.4566
V nom	105	T (°C)	20	5745.006	61	5745	0.00661	-1.1513
(V)	19.5	T (°C)	30	5745.0092	26	5745	0.00926	-1.6111
		T (°C)	40	5745.007	10	5745	0.00710	-1.2358
		T (°C)	50	5745.012	78	5745	0.01278	-2.2240
		T (°C)	60	5745.006	79	5745	0.00679	-1.1826
		T (°C)	70	5745.000	52	5745	0.00052	-0.0912
	Lir	nits				<u>±</u>	20 ppm	•
		esult					mplies	



				Reference Frequency: 5785MHz			
TEST CONDITIONS				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (° C)	20	V nom (V)	19.50	5785.00830	5785	0.00830	-1.4355
		V max (V)	22.43	5785.01329	5785	0.01329	-2.2969
		V min (V)	16.58	5785.00157	5785	0.00157	-0.2713
Limits				\pm 20 ppm			
Result				Complies			

				Refe	erence Fred	quency: 57	85MHz
TEST CONDITIONS				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
	19.5	T (°C)	-20	5785.00845	5785	0.00845	-1.4605
		T (°C)	-10	5785.00311	5785	0.00311	-0.5374
V nom (V)		T (°C)	0	5785.00684	5785	0.00684	-1.1831
		T (°C)	10	5785.00912	5785	0.00912	-1.5756
		T (°C)	20	5785.01231	5785	0.01231	-2.1279
		T (°C)	30	5785.00989	5785	0.00989	-1.7102
		T (°C)	40	5785.00494	5785	0.00494	-0.8546
		T (°C)	50	5785.00427	5785	0.00427	-0.7387
		T (°C)	60	5785.00002	5785	0.00002	-0.0027
		T (°C)	70	5785.00924	5785	0.00924	-1.5964
Limits				\pm 20 ppm			
Result				Complies			



	•						
				Reference Frequency: 5825MHz			
TEST CONDITIONS				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°	20	V nom (V)	19.50	5825.00107	5825	0.00107	-0.1832
C)		V max (V)	22.43	5825.00474	5825	0.00474	-0.8141
		V min (V)	16.58	5825.00473	5825	0.00473	-0.8117
Limits				\pm 20 ppm			
Result				Complies			

				Reference Frequency: 5825MHz				
L I	TEST CONDITIONS				fc	Max. Deviation (MHz)	Max. Deviation (ppm)	
	19.5	T (°C)	-20	5825.00392	5825	0.00392	-0.6722	
		T (°C)	-10	5825.00314	5825	0.00314	-0.5393	
		T (°C)	0	5825.00420	5825	0.00420	-0.7213	
		T (°C)	10	5825.00035	5825	0.00035	-0.0599	
V nom		T (°C)	20	5825.00848	5825	0.00848	-1.4553	
(V)		T (°C)	30	5825.01308	5825	0.01308	-2.2448	
		T (°C)	40	5825.00530	5825	0.00530	-0.9104	
		T (°C)	50	5825.00647	5825	0.00647	-1.1115	
		T (°C)	60	5825.00694	5825	0.00694	-1.1906	
		T (°C)	70	5825.00235	5825	0.00235	-0.4031	
	Limits			\pm 20 ppm				
	Result			Complies				



11. ANTENNA REQUIREMENT

11.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

11.2 EUT ANTENNA

The EUT antenna is permanent attached FPCB antenna(antenna gain:1dBi). It comply with the standard requirement.

END OF REPORT