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FCC TEST REPORT

Test report On Behalf of Shenzhen Zidoo Technology Co., Ltd. For SMART TV BOX Model No.: H6 PRO, H6

FCC ID: 2AGN7-H6PRO

Prepared for : Shenzhen Zidoo Technology Co., Ltd. Room 12 D, Block A CENTRAL GREAT SEARCHINGS, Xixiang Avenue, BaoAn District, Shenzhen, Guangdong, P.R.C. 518100

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 Date of Test:
 Jun. 15, 2017 ~ Jun. 26, 2017

 Date of Report:
 Jun. 26, 2017

 Report Number:
 HK1700615041-E



TEST RESULT CERTIFICATION

	Shenzhen Zidoo Technology Co., Ltd. Room 12 D, Block A CENTRAL GREAT SEARCHINGS, Xixiang				
Address	Avenue, BaoAn District, Shenzhen, Guangdong, P.R.C. 518100 Shenzhen Zidoo Technology Co., Ltd.				
Address:	Room 12 D, Block A CENTRAL GREAT SEARCHINGS, Xixiang Avenue, BaoAn District, Shenzhen, Guangdong, P.R.C. 518100				
Product description					
Trade Mark:	zidoo				
Product name:	SMART TV BOX				
Model and/or type reference :	H6 PRO, H6				
Standards	FCC Rules and Regulations Part 15 Subpart C Section 15.407 ANSI C63.10: 2013				

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Date of Test	
Date (s) of performance of tests:	Jun. 15, 2017 ~ Jun. 26, 2017
Date of Issue	Jun. 26, 2017
Test Result	Pass

2

Testing Engineer

(Eric Xie)

Technical Manager

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(Dora Qin)

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(Kait Chen)



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1. TEST SUMMARY

1.1 TEST PROCEDURES AND RESULTS

DESCRIPTION OF TEST	RESULT
CONDUCTED EMISSIONS TEST	COMPLIANT
RADIATED EMISSION TEST	COMPLIANT
BAND EDGE	COMPLIANT
FREQUENCY STABILITY	COMPLIANT
OCCUPIED BANDWIDTH MEASUREMENT	COMPLIANT
POWER SPECTRAL DENSITY	COMPLIANT
PEAK OUTPUT POWEReak	COMPLIANT
ANTENNA REQUIREMENT	COMPLIANT

1.2 TEST FACILITY

Test Firm	: QTC Certification & Testing Co., Ltd. Certificated by FCC, Registration No.: 588523
Address	2nd Floor,B1 Building,Fengyeyuan Industrial Plant, Liuxian 2st. Road,
	Xin'an Street, Bao'an District, Shenzhen, China

1.3 MEASUREMENT UNCERTAINTY

Measurement Uncertainty		
Conducted Emission Expanded Uncertainty	=	2.23dB, k=2
Radiated emission expanded uncertainty(9kHz-30MHz)	=	3.08dB, k=2
Radiated emission expanded uncertainty(30MHz-1000MHz)	=	4.42dB, k=2
Radiated emission expanded uncertainty(Above 1GHz)	=	4.06dB, k=2



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	SMART TV BOX
Model Name	H6 PRO
Serial No	H6
Model Difference	All model's the function, software and electric circuit are the same, only with a product color and model named different. Test sample model: H6 PRO.
FCC ID	2AGN7-H6PRO
Antenna Type	Integral Antenna
Antenna Gain	2 dBi
Operation frequency	802.11a/n 20:5180~5240 MHz; 5745~5825 MHz 802.11n 40: 5190~5230 MHz; 5755 MHz -5795 MHz
Number of Channels	802.11a/n20: 5.2G:4CH; 5.8G: 5CH 802.11n 40: 5.2G:2CH; 5.8G: 2CH
Modulation Type	CCK/OFDM/DBPSK/DAPSK
Power Source	DC power
Power Rating	DC5V form Adapter with AC 120V/60Hz

2.1.1 Carrier Frequency of Channels

	Channel List for 802.11 a/n 20 with 5.2G						
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	40	5200	44	5220	48	5240
/	/	/	/	1	/	/	/

Channel List for 802.11 n 40 with 5.2G							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	46	5230	1	/	/	/
/	/	/	/	1	/	/	/

	Channel List for 802.11 a/n 20 with 5.8G							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	
CH149	5745	CH157	5785	CH165	5825	/	/	
CH153	5765	CH161	5805	/	/	/	/	

	Channel List for 802.11 n 40 with 5.8G						
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
CH151	5755	CH159	5795	1	/	/	/
/	1	1	/	1	1	1	1



Operation of EUT during testing

Operating Mode The mode is used: **Transmitting mode for 802.11 a/n 20 with 5.2G** Low Channel: 5180MHz Middle Channel: 5200MHz High Channel: 5240MHz

> Transmitting mode for 802.11 n 40 with 5.2G Low Channel: 5190MHz High Channel: 5230MHz

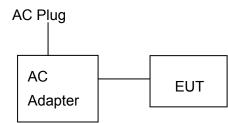
Transmitting mode for 802.11 a/n 20 with 5.8G Low Channel: 5745MHz Middle Channel: 5785MHz High Channel: 5825MHz

Transmitting mode for 802.11 n 40 with 5.8G

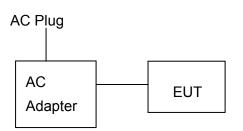
Low Channel: 5755MHz High Channel: 5795MHz

2.2 DESCRIPTION OF TEST SETUP

Operation of EUT during conducted and below 1GHz Radiation testing:



Operation of EUT during Above1GHz Radiation testing:



2.3 MEASUREMENT INSTRUMENTS LIST

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Feb. 18, 2017	1 Year
2.	LISN	SchwarzBeck	NSLK 8126	8126377	Feb. 18, 2017	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Feb. 18, 2017	1 Year
4.	EMI Test Software ES-K1	Rohde & Schwarz	N/A	N/A	N/A	N/A
5.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Feb. 18, 2017	1 Year
6.	Trilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Feb. 18, 2017	1 Year
7.	Pre-amplifier	Compliance Direction	PAP-0203	22008	Feb. 18, 2017	1 Year
8.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A
9.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Feb. 18, 2017	1 Year
10.	LISN	SchwarzBeck	NSLK 8126	8126377	Feb. 18, 2017	1 Year
11.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Feb. 18, 2017	1 Year
12.	EMI Test Software ES-K1	Rohde & Schwarz	N/A	N/A	N/A	N/A
13.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Feb. 18, 2017	1 Year
14.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Feb. 18, 2017	1 Year
15.	LISN	SchwarzBeck	NSLK 8126	8126377	Feb. 18, 2017	1 Year
16.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Feb. 18, 2017	1 Year
17.	EMI Test Software ES-K1	Rohde & Schwarz	N/A	N/A	N/A	N/A
18.	Power Meter	R&S	NRVD	SEL0069	Feb. 18, 2017	1 Year
19.	Power Sensor	R&S	URV5-Z2	SEL0071	Feb. 18, 2017	1 Year
20.	Power Sensor	R&S	URV5-Z2	SEL0072	Feb. 18, 2017	1 Year
21.	Software EMC32	R&S	EMC32-S	SEL0082	N/A	N/A
22.	Log-periodic Antenna	Amplifier Reasearch	AAviation Head up display80	SEL0073	N/A	N/A
23.	Antenna Tripod	Amplifier Reasearch	TP1000A	SEL0074	N/A	N/A
24.	High Gain Horn Antenna	Amplifier Reasearch	AT4002A	SEL0075	N/A	N/A
25.	Spectrum analyzer	Agilent	N9020A	MY499110 048	Feb. 18, 2017	1 Year
26.	Spectrum analyzer	Agilent	E4407B	MY461843 26	Feb. 18, 2017	1 Year



3. CONDUCTED EMISSIONS TEST

3.1 Conducted Power Line Emission Limit

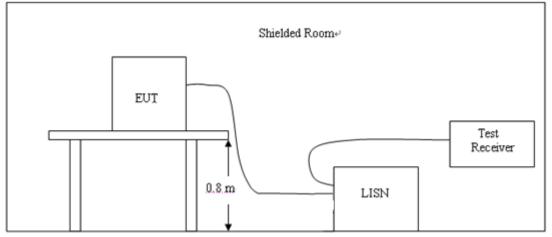
For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following

Fraguenov	Maximum RF Line Voltage (dBµV)						
Frequency (MHz)	CLAS	SS A	CLASS B				
(11112)	Q.P.	Ave.	Q.P.	Ave.			
0.15 - 0.50	79	66	66-56*	56-46*			
0.50 - 5.00	73	60	56	46			
5.00 - 30.0	73	60	60	50			

* Decreasing linearly with the logarithm of the frequency

For intentional device, according to §15.207(a) Line Conducted Emission Limit is same as above table.

3.2 Test Setup



3.3 Test Procedure

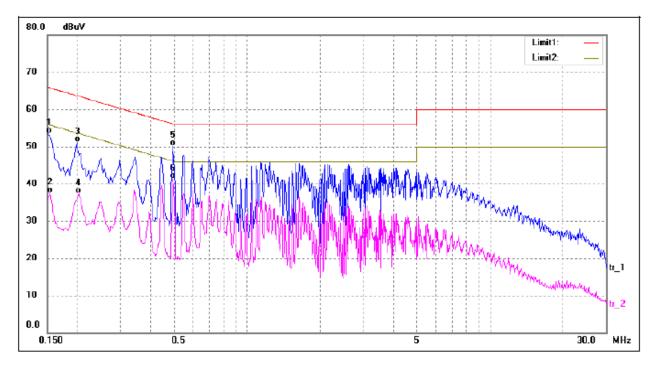
- 1, The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10.
- 2, Support equipment, if needed, was placed as per ANSI C63.10.
- 3, All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
- 4, If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5, All support equipments received AC power from a second LISN, if any.
- 6, The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7, Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.

3.4 Test Result

PASS

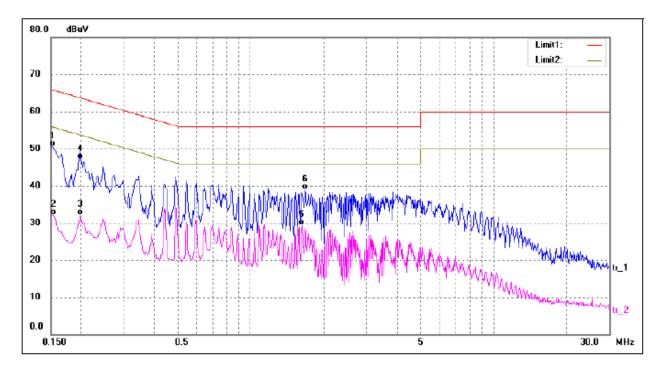
All the test modes completed for test.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.1500	43.57	9.85	53.42	66.00	-12.58	QP
2	0.1540	27.69	9.85	37.54	55.78	-18.24	AVG
3	0.1980	41.30	9.80	51.10	63.69	-12.59	QP
4	0.2020	27.51	9.80	37.31	53.53	-16.22	AVG
5	0.4940	40.34	9.80	50.14	56.10	-5.96	QP
6*	0.4940	31.48	9.80	41.28	46.10	-4.82	AVG





No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.1500	40.63	9.85	50.48	66.00	-15.52	QP
2	0.1540	22.29	9.85	32.14	55.78	-23.64	AVG
3	0.1980	22.30	9.80	32.10	53.69	-21.59	AVG
4	0.1997	37.37	9.80	47.17	63.62	-16.45	QP
5	1.6300	19.56	9.74	29.30	46.00	-16.70	AVG
6	1.6780	29.08	9.74	38.82	56.00	-17.18	QP



4 RADIATED EMISSION TEST

4.1 Radiation Limit

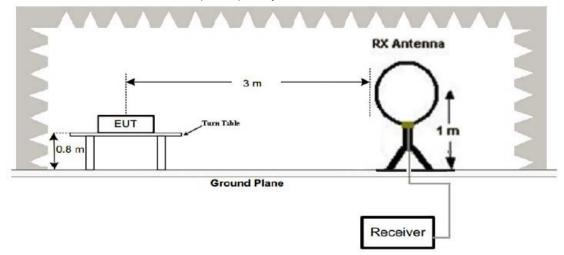
For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency (MHz)	Distance (Meters)	Radiated (dBµV/m)	Radiated (µV/m)
30-88	3	40	100
88-216	3	43.5	150
216-960	3	46	200
Above 960	3	54	500

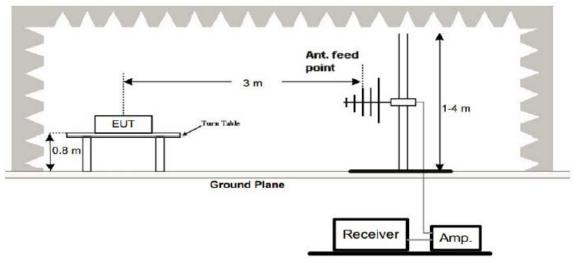
For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

4.2 Test Setup

(1) Radiated Emission Test-Up Frequency Below 30MHz

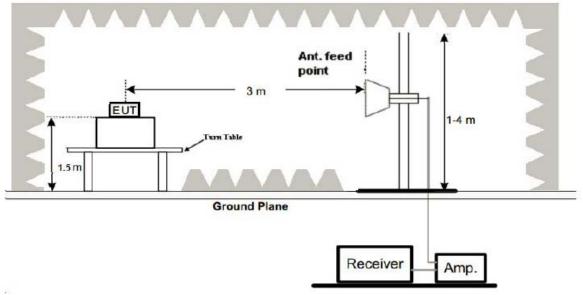


(2) Radiated Emission Test-Up Frequency 30MHz~1GHz





(3) Radiated Emission Test-Up Frequency Above 1GHz



4.3 Test Procedure

- 1. Below 1GHz measurement the EUT is placed on turntable which is 0.8m above ground plane. And above 1GHz measurement EUT was placed on low permittivity and low tangent turn table which is 1.5m above ground plane.
- 2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
- 4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 6. Repeat above procedures until the measurements for all frequencies are complete.
- 7. The test frequency range from 9KHz to 25GHz per FCC PART 15.33(a).

Note:

For battery operated equipment, the equipment tests shall be performed using a new battery.

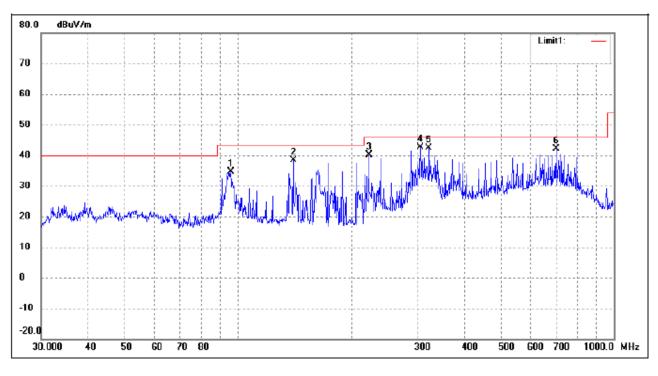
4.4 Test Result

PASS

All the test modes completed for test. The worst case of Radiated Emission; the test data of this mode was reported.



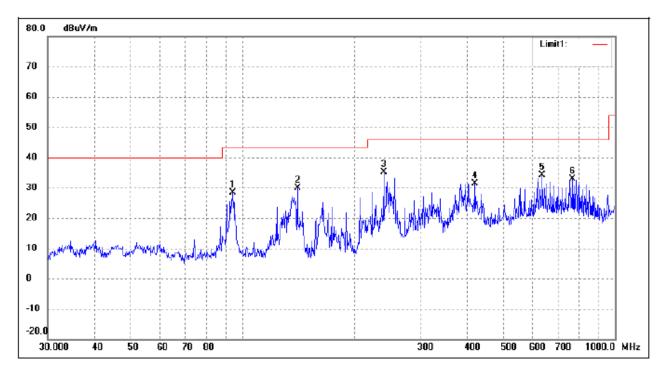
Below 1GHz Test Results: Antenna polarity: H



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	()	(cm)	
1	95.7622	54.70	-20.19	34.51	43.50	-8.99	327	100	peak
2	140.3420	59.68	-21.35	38.33	43.50	-5.17	93	100	peak
3	222.9501	56.86	-16.66	40.20	46.00	-5.80	120	100	peak
4	305.6800	55.25	-12.53	42.72	46.00	-3.28	111	100	peak
5	322.1886	54.65	-12.38	42.27	46.00	-3.73	281	100	peak
6	701.7609	46.82	-4.76	42.06	46.00	-3.94	262	100	peak



Antenna polarity: V



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	()	(cm)	
1	94.0979	48.82	-20.44	28.38	43.50	-15.12	212	100	peak
2	140.3421	51.33	-21.35	29.98	43.50	-13.52	100	100	peak
3	239.1473	50.83	-15.60	35.23	46.00	-10.77	181	100	peak
4	420.5803	42.75	-11.32	31.43	46.00	-14.57	95	100	peak
5	636.1340	38.37	-4.15	34.22	46.00	-11.78	163	100	peak
6	768.7482	37.05	-4.10	32.95	46.00	-13.05	274	100	peak

Remark:

(1) Measuring frequencies from 9 KHz to the 1 GHz, Radiated emission test from 9KHz to 30MHz was verified, and no any emission was found except system noise floor.

(2) * denotes emission frequency which appearing within the Restricted Bands specified in

provision of 15.205, then the general radiated emission limits in 15.209 apply.

(3) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.



Above 1 GHz Test Results:

LOW CH 36 (802.11 a Mode with 5.2G)/5180 Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type				
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)					
3647	62.31	-4.59	57.72	74	-16.28	peak				
3647	47.99	-4.59	43.4	54	-10.6	AVG				
10360	52.27	3.74	56.01	74	-17.99	peak				
10360	38.23	3.74	41.97	54	-12.03	AVG				
Remark: Facto	emark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.									

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type				
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)					
3647	60.03	-4.59	55.44	74	-18.56	peak				
3647	45.54	-4.59	40.95	54	-13.05	AVG				
10360	53.12	3.74	56.86	74	-17.14	peak				
10360	38.53	3.74	42.27	54	-11.73	AVG				
Remark: Facto	emark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.									



MID CH40 (802.11 a Mode with 5.2G)/5200 Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type				
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)					
3647	60.27	-4.59	55.68	74	-18.32	peak				
3647	45.53	-4.59	40.94	54	-13.06	AVG				
10400	52.51	3.74	56.25	74	-17.75	peak				
10400	37.64	3.74	41.38	54	-12.62	AVG				
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.									

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type				
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)					
3647	60.08	-4.59	55.49	74	-18.51	peak				
3647	46.24	-4.59	41.65	54	-12.35	AVG				
10400	51.40	3.74	55.14	74	-18.86	peak				
10400	38.21	3.74	41.95	54	-12.05	AVG				
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.									



HIGH CH 48 (802.11a Mode with 5.2G)/5240 Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type				
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)					
3647	59.38	-4.59	54.79	74	-19.21	peak				
3647	45.09	-4.59	40.5	54	-13.5	AVG				
10480	51.39	3.75	55.14	74	-18.86	peak				
10480	37.57	3.75	41.32	54	-12.68	AVG				
Remark: Facto	emark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.									

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
3647	62.43	-4.59	57.84	74	-16.16	peak
3647	49.19	-4.59	44.6	54	-9.4	AVG
10480	53.47	3.75	57.22	74	-16.78	peak
10480	40.40	3.75	44.15	54	-9.85	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Remark:

(1) Measuring frequencies from 1 GHz to the 25 GHz.

(2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
 (3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of

15.205, then the general radiated emission limits in 15.209 apply.

(4) Data of measurement within this frequency range shown "--- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.

(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is

not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit),

at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.



LOW CH 36 (802.11 n20 Mode with 5.2G)/5180 Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
3054	61.83	-4.79	57.04	74	-16.96	peak
3054	48.38	-4.79	43.59	54	-10.41	AVG
10360	53.75	3.74	57.49	74	-16.51	peak
10360	39.01	3.74	42.75	54	-11.25	AVG

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)			
3054	61.42	-4.79	56.63	74	-17.37	peak		
3054	46.77	-4.79	41.98	54	-12.02	AVG		
10360	52.34	3.74	56.08	74	-17.92	peak		
10360	38.30	3.74	42.04	54	-11.96	AVG		
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							



MID CH40 (802.11 n20 Mode with 5.2G)/5200 Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type			
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)				
3054	60.98	-4.79	56.19	74	-17.81	peak			
3054	47.92	-4.79	43.13	54	-10.87	AVG			
10400	51.63	3.74	55.37	74	-18.63	peak			
10400	38.38	3.74	42.12	54	-11.88	AVG			
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.								

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type			
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)				
3054	62.17	-4.79	57.38	74	-16.62	peak			
3054	48.96	-4.79	44.17	54	-9.83	AVG			
10400	52.75	3.74	56.49	74	-17.51	peak			
10400	39.23	3.74	42.97	54	-11.03	AVG			
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.								



HIGH CH 48 (802.11 n20 Mode with 5.2G)/5240 Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)			
3054	61.37	-4.79	56.58	74	-17.42	peak		
3054	46.55	-4.79	41.76	54	-12.24	AVG		
10480	54.07	3.75	57.82	74	-16.18	peak		
10480	40.88	3.75	44.63	54	-9.37	AVG		
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
3054	60.34	-4.79	55.55	74	-18.45	peak
3054	47.32	-4.79	42.53	54	-11.47	AVG
10480	53.90	3.75	57.65	74	-16.35	peak
10480	39.41	3.75	43.16	54	-10.84	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Remark:

(1) Measuring frequencies from 1 GHz to the 25 GHz.

(2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
 (3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of

15.205, then the general radiated emission limits in 15.209 apply.

(4) Data of measurement within this frequency range shown "--- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.

(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is

not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit),

at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.



LOW CH38 (802.11n40 Mode with 5.2G)/5190 Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type			
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)				
3432	61.24	-5.21	56.03	74	-17.97	peak			
3432	48.13	-5.21	42.92	54	-11.08	AVG			
10380	53.91	3.74	57.65	74	-16.35	peak			
10380	40.77	3.74	44.51	54	-9.49	AVG			
Remark: Facto	emark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.								

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type			
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)				
3432	60.30	-5.21	55.09	74	-18.91	peak			
3432	46.66	-5.21	41.45	54	-12.55	AVG			
10380	54.01	3.74	57.75	74	-16.25	peak			
10380	39.68	3.74	43.42	54	-10.58	AVG			
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.								



HIGH CH46 (802.11n40 Mode with 5.2G)/5230 Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)			
3432	59.24	-5.21	54.03	74	-19.97	peak		
3432	45.58	-5.21	40.37	54	-13.63	AVG		
10460	50.76	3.75	54.51	74	-19.49	peak		
10460	37.58	3.75	41.33	54	-12.67	AVG		
Remark: Facto	emark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
3432	59.34	-5.21	54.13	74	-19.87	peak
3432	44.48	-5.21	39.27	54	-14.73	AVG
10460	50.33	3.75	54.08	74	-19.92	peak
10460	35.80	3.75	39.55	54	-14.45	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Remark:

(1) Measuring frequencies from 1 GHz to the 25 GHz.

(2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
 (3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of

15.205, then the general radiated emission limits in 15.209 apply.

(4) Data of measurement within this frequency range shown "--- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.

(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is

not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit),

at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.



LOW CH 149 (802.11 a Mode with 5.8G)/5745 Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
3647	61.62	-4.59	57.03	74	-16.97	peak
3647	46.95	-4.59	42.36	54	-11.64	AVG
11570	51.80	4.21	56.01	74	-17.99	peak
11570	38.52	4.21	42.73	54	-11.27	AVG
	or = Antenna Fac					

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)			
3647	61.37	-4.59	56.78	74	-17.22	peak		
3647	47.65	-4.59	43.06	54	-10.94	AVG		
11570	53.56	4.21	57.77	74	-16.23	peak		
11570	38.84	4.21	43.05	54	-10.95	AVG		
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							



MID CH157 (802.11 a Mode with 5.8G)/5785 Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)			
3647	61.68	-4.59	57.09	74	-16.91	peak		
3647	47.16	-4.59	42.57	54	-11.43	AVG		
11570	50.38	4.21	54.59	74	-19.41	peak		
11570	36.87	4.21	41.08	54	-12.92	AVG		
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)			
3647	59.12	-4.59	54.53	74	-19.47	peak		
3647	44.57	-4.59	39.98	54	-14.02	AVG		
11570	52.00	4.21	56.21	74	-17.79	peak		
11570	38.94	4.21	43.15	54	-10.85	AVG		
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							



HIGH CH 165 (802.11a Mode with 5.8G)/5825 Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)			
3647	58.65	-4.59	54.06	74	-19.94	peak		
3647	43.93	-4.59	39.34	54	-14.66	AVG		
11650	49.21	4.84	54.05	74	-19.95	peak		
11650	35.95	4.84	40.79	54	-13.21	AVG		
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
3647	61.74	-4.59	57.15	74	-16.85	peak
3647	47.87	-4.59	43.28	54	-10.72	AVG
11650	49.49	4.84	54.33	74	-19.67	peak
11650	35.10	4.84	39.94	54	-14.06	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Remark:

(1) Measuring frequencies from 1 GHz to the 25 GHz.

(2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
 (3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of

15.205, then the general radiated emission limits in 15.209 apply.

(4) Data of measurement within this frequency range shown "--- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.

(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is

not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit),

at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.



LOW CH 149 (802.11 n20 Mode with 5.8G)/5745 Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)			
3054	62.15	-4.79	57.36	74	-16.64	peak		
3054	47.52	-4.79	42.73	54	-11.27	AVG		
11570	50.13	4.21	54.34	74	-19.66	peak		
11570	35.58	4.21	39.79	54	-14.21	AVG		
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)			
3054	61.80	-4.79	57.01	74	-16.99	peak		
3054	48.44	-4.79	43.65	54	-10.35	AVG		
11570	53.50	4.21	57.71	74	-16.29	peak		
11570	39.04	4.21	43.25	54	-10.75	AVG		
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							



MID CH157 (802.11 n20 Mode with 5.8G)/5785 Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)			
3054	62.65	-4.79	57.86	74	-16.14	peak		
3054	49.07	-4.79	44.28	54	-9.72	AVG		
11570	52.13	4.21	56.34	74	-17.66	peak		
11570	37.77	4.21	41.98	54	-12.02	AVG		
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)			
3054	60.47	-4.79	55.68	74	-18.32	peak		
3054	46.21	-4.79	41.42	54	-12.58	AVG		
11570	52.56	4.21	56.77	74	-17.23	peak		
11570	38.95	4.21	43.16	54	-10.84	AVG		
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							



HIGH CH 165 (802.11 n20 Mode with 5.8G)/5825 Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)			
3054	59.44	-4.79	54.65	74	-19.35	peak		
3054	45.81	-4.79	41.02	54	-12.98	AVG		
11650	51.85	4.84	56.69	74	-17.31	peak		
11650	37.02	4.84	41.86	54	-12.14	AVG		
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
3054	61.44	-4.79	56.65	74	-17.35	peak
3054	47.28	-4.79	42.49	54	-11.51	AVG
11650	49.55	4.84	54.39	74	-19.61	peak
11650	34.79	4.84	39.63	54	-14.37	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Remark:

(1) Measuring frequencies from 1 GHz to the 25 GHz.

(2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
 (3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of

15.205, then the general radiated emission limits in 15.209 apply.

(4) Data of measurement within this frequency range shown "--- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.

(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is

not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit),

at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.



LOW CH151 (802.11n40 Mode with 5.8G)/5755 Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type			
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)				
3432	61.33	-5.21	56.12	74	-17.88	peak			
3432	47.00	-5.21	41.79	54	-12.21	AVG			
11510	52.44	4.21	56.65	74	-17.35	peak			
11510	39.11	4.21	43.32	54	-10.68	AVG			
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.								

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)			
3432	62.69	-5.21	57.48	74	-16.52	peak		
3432	49.24	-5.21	44.03	54	-9.97	AVG		
11510	50.26	4.21	54.47	74	-19.53	peak		
11510	36.81	4.21	41.02	54	-12.98	AVG		
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							



HIGH CH159 (802.11n40 Mode with 5.8G)/5795 Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)			
3432	62.74	-5.21	57.53	74	-16.47	peak		
3432	49.31	-5.21	44.1	54	-9.9	AVG		
11590	51.00	4.21	55.21	74	-18.79	peak		
11590	37.38	4.21	41.59	54	-12.41	AVG		
Remark: Facto	emark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
3432	60.36	-5.21	55.15	74	-18.85	peak
3432	45.62	-5.21	40.41	54	-13.59	AVG
11590	52.40	4.21	56.61	74	-17.39	peak
11590	38.06	4.21	42.27	54	-11.73	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Remark:

(1) Measuring frequencies from 1 GHz to the 25 GHz.

(2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
 (3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of

15.205, then the general radiated emission limits in 15.209 apply.

(4) Data of measurement within this frequency range shown "--- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.

(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is

not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit),

at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.



5 BAND EDGE

5.1 Limits

FCC PART 15.247 Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

Except as shown in paragraph (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 5.25-5.35 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.

3.For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

4.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.

5. The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

6.Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

7. The provisions of §15.205 apply to intentional radiators operating under this section.

8. When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits

5.2 Test Procedure

The band edge compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10 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 to 100KHz and VBM to 300KHz to measure the peak field strength and set RBW to 1MHz and VBW to 10Hz to measure the average radiated field strength. The conducted RF band edge was measured by using a spectrum analyzer. Set span wide enough to capture the highest in-band emission and the emission at the band edge. Set RBW to 100 KHz and VBW to 300 KHz, to measure the conducted peak band edge.

5.3 Test Result

PASS.



Radiated Band Edge Test: Operation Mode: 802.11a Mode with 5.2G TX CH Low Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)			
5150	51.17	-2.49	48.68	74	-25.37	peak		
5150	/	-2.49	1	54	1	AVG		
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)		
5150	51.82	-2.49	49.33	74	-24.43	peak	
5150	/	-2.49	1	54	1	AVG	
Pemark: Eactor - Antenna Eactor + Cable Loss Pre amplifier							

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: TX CH High with 5.2G Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)			
5250	53.52	-2.28	51.24	74	-22.89	peak		
5250	1	-2.28	1	54	1	AVG		
5350	47.13	-2.11	45.02	74	-27.77	peak		
5350	/	-2.11	1	54	1	AVG		
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type			
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)				
5250	53.15	-2.28	50.87	74	-23.44	peak			
5250	1	-2.28	1	54	1	AVG			
5350	48.92	-2.11	46.81	74	-28.44	peak			
5350	/	-2.11	1	54	1	AVG			
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.								



Operation Mode: 802.11n20 Mode with 5.2G TX CH Low Horizontal

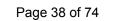
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)			
5150	51.26	-2.49	48.77	74	-23.62	peak		
5150	/	-2.49	1	54	1	AVG		
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type			
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)				
5150	50.77	-2.49	48.28	74	-25.67	peak			
5150	/	-2.49	1	54	1	AVG			
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.								

Operation Mode: TX CH High with 5.2G Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type			
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)				
5250	51.41	-2.28	49.13	74	-22.59	peak			
5250	1	-2.28	1	54	/	AVG			
5350	50.36	-2.11	48.25	74	-28.83	peak			
5350	1	-2.11	1	54	/	AVG			
Remark: Facto	emark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.								

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5250	51.66	-2.28	49.38	74	-23.75	peak
5250	/	-2.28	1	54	1	AVG
5350	48.16	-2.11	46.05	74	-25.51	peak
5350	/	-2.11	/	54	/	AVG
Remark: Facto	r = Antenna Fac	tor + Cable Los	s – Pre-amplifie	er.		





Operation Mode: 802.11 n40 Mode with 5.2G TX CH Low Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5150	52.05	-2.49	49.56	74	-22.73	peak
5150	/	-2.49	/	54	1	AVG
Remark: Facto	or = Antenna Fac	tor + Cable Los	ss – Pre-amplifie	er.		

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5150	52.66	-2.49	50.17	74	-24.52	peak
5150	1	-2.49	1	54	1	AVG
Remark: Facto	or = Antenna Fac	tor + Cable Los	s – Pre-amplifie	er.		



Operation Mode: TX CH High with 5.2G Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type			
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)				
5250	51.47	-2.28	49.19	74	-22.31	peak			
5250	1	-2.28	1	54	/	AVG			
5350	49.39	-2.11	47.28	74	-25.39	peak			
5350	/	-2.11	1	54	/	AVG			
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.								

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5250	51.86	-2.28	49.58	74	-22.36	peak
5250	/	-2.28	1	54	1	AVG
5350	48.93	-2.11	46.82	74	-28.21	peak
5350	/	-2.11	1	54	1	AVG
Remark: Facto	r = Antenna Fac	tor + Cable Los	s – Pre-amplifie	er.		



Operation Mode: 802.11a Mode with 5.8G TX CH Low Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5460	54.38	-2.06	52.32	74	-22.42	peak
5460	/	-2.06	1	54	1	AVG
5725	49.31	-1.96	47.35	74	-26.57	peak
5725	/	-1.96	/	54	1	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5460	52.07	-2.06	50.01	74	-22.36	peak
5460	1	-2.06	1	54	1	AVG
5725	49.81	-1.96	47.85	74	-24.69	peak
5725	1	-1.96	1	54	1	AVG
Remark: Facto	or = Antenna Fac	tor + Cable Los	s – Pre-amplifie	er.		



Operation Mode: TX CH High with 5.8G Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5850	50.23	-1.97	48.26	74	-23.94	peak
5850	/	-1.97	/	54	1	AVG
Remark: Facto	or = Antenna Fac	tor + Cable Los	s – Pre-amplifie	er.		

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5850	50.26	-1.97	48.29	74	-23.17	peak
5850	/	-1.97	1	54	1	AVG
Remark: Facto	r = Antenna Fac	tor + Cable Los	s – Pre-amplifie	er.		



Operation Mode: 802.11n20 Mode with 5.8G TX CH Low Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5460	53.42	-2.06	51.36	74	-21.64	peak
5460	/	-2.06	1	54	1	AVG
5725	49.00	-1.96	47.04	74	-24.97	peak
5725	/	-1.96	1	54	1	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5460	53.51	-2.06	51.45	74	-23.73	peak
5460	1	-2.06	1	54	1	AVG
5725	49.00	-1.96	47.04	74	-26.91	peak
5725	/	-1.96	1	54	1	AVG
Remark: Facto	or = Antenna Fac	tor + Cable Los	s – Pre-amplifie	er.		



Operation Mode: TX CH High with 5.8G Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)		
5850	52.24	-1.97	50.27	74	-23.31	peak	
5850	/	-1.97	1	54	1	AVG	
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)			
5850	52.69	-1.97	50.72	74	-23.99	peak		
5850	/	-1.97	1	54	1	AVG		
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							



Operation Mode: 802.11n40 Mode with 5.8G TX CH Low Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	_ Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5460	52.89	-2.06	50.83	74	-22.59	peak
5460	1	-2.06	1	54	1	AVG
5725	51.48	-1.96	49.52	74	-26.24	peak
5725	/	-1.96	/	54	/	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)			
5460	53.75	-2.06	51.69	74	-22.17	peak		
5460	1	-2.06	1	54	1	AVG		
5725	49.28	-1.96	47.32	74	-26.39	peak		
5725	/	-1.96	/	54	1	AVG		
Remark: Facto	emark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							



Operation Mode: TX CH High with 5.8G Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)		
5850	51.52	-1.97	49.55	74	-25.14	peak	
5850	/	-1.97	1	54	1	AVG	
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)			
5850	50.31	-1.97	48.34	74	-25.17	peak		
5850	/	-1.97	1	54	1	AVG		
Remark: Facto	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							





6 FREQUENCY STABILITY

6.1 Test Limit

Manufacturers 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.

6.2 Test Procedure

1. The transmitter output (antenna port) was connected to the spectrum analyser. EUT have transmitted absence of modulation signal and fixed channelize. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth. Set RBW = 10 kHz, VBW =10 kHz with peak detector and maxhold settings. fc is declaring of channel frequency. Then the frequency error formula is (fc-f)/fc × 106 ppm and the limit is less than ±20ppm (IEEE802.11a specification). The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value.

2. Extreme temperature rule is -30°C~50°C.

6.3 Measurement Equipment Used

Same as Radiated Emission Measurement

6.4 Test Result

PASS

All the test modes completed for test.



Mada	Voltage	FHL	Deviation	FHH	Deviation
Mode	(V)	(5180MHz)	(KHz)	(5240MHz)	(KHz)
	132 V	5179.984	16	5239.989	11
5.2G Band	120 V	5179.989	11	5239.984	16
	108 V	5179.984	16	5239.981	19

Mode	Temperature	FHL	Deviation	FHH	Deviation
	(°C)	(5180MHz)	(KHz)	(5240MHz)	(KHz)
	-30	5179.952	48	5239.953	47
	-20	5179.952	48	5239.955	45
	-10	5179.974	26	5239.971	29
	0	5179.976	24	5239.977	23
5.2G Band	10	5179.975	25	5239.976	24
	20	5179.987	13	5239.984	16
	30	5179.979	21	5239.979	21
	40	5179.979	21	5239.974	26
	50	5179.962	38	5239.961	39



Mada	Voltage	FHL	Deviation	FHH	Deviation
Mode	(V)	(5745MHz)	(KHz)	(5825MHz)	(KHz)
	132 V	5744.982	18	5824.984	16
5.8G Band	120 V	5744.983	17	5824.986	14
	108 V	5744.989	11	5824.985	15

Mode	Temperature (℃)	FHL (5745MHz)	Deviation	FHH	Deviation
	(0)	(5745MHz)	(KHz)	(5825MHz)	(KHz)
	-30	5744.967	33	5824.964	36
	-20	5744.952	48	5824.969	31
	-10	5744.978	22	5824.975	25
	0	5744.974	26	5824.971	29
5.8G Band	10	5744.971	29	5824.972	28
	20	5744.981	19	5824.989	11
	30	5744.978	22	5824.977	23
	40	5744.974	26	5824.975	25
	50	5744.966	34	5824.961	39



7 OCCUPIED BANDWIDTH MEASUREMENT

7.1 Test Limit

Please refer section15.407

For purposes of this subpart the emission bandwidth shall be determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 26 dB down relative to the maximum level of the modulated carrier Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz

7.2 Test Procedure

Details see the KDB558074 D01 Meas Guidance

a) The bandwidth is measured at an amplitude level reduced 26dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst-case (i.e. the widest) bandwidth.

b) The test receiver set RBW = 1-5 % EBW, VBW≥3RBW, Sweep time set auto, detail see the test plot.

7.3 Measurement Equipment Used

Same as Radiated Emission Measurement

7.4 Test Result

PASS

All the test modes completed for test.

TX 802.11a Mode with 5.2G						
Frequency	Frequency (MHz) Ch (MHz)					
5180 MHz	25.29	/	PASS			
5200 MHz	22.56	/	PASS			
5240 MHz	22.15	/	PASS			

CH: 5180MHz



CH: 5200MHz

Agilent Spectrum Analyzer - Occupie	d BW				
(X) L RF 50Ω AC		SENSE:INT	ALIGN AUTO		Trace/Detector
Center Freq 5.200000	00 GHz	Center Freq: 5.2000000 Trig: Free Run	Vg Hold:>10/10	Radio Std: None	
	#IFGain:Low	#Atten: 30 dB		Radio Device: BTS	
Disofficial	-10				
Ref Offset 0.5 10 dB/div Ref 20.00 dl					
Log					
10.0					Clear Write
0.00		maner monthern in			Clear Write
-10.0	mononon	American and the second will be	manna		
-20.0	ا ار		l k		
	and		\		Average
-30.0				toolwood time the work of the	
-40.0				WAY	
-50.0					
-60.0					Max Hold
-70.0					
-70.0					
Center 5.2 GHz				Span 40 MHz	Min Hold
#Res BW 240 kHz		#VBW 750 kHz	!	Sweep 1 ms	MITTIOIG
Occupied Bandwie	dth	Total Power	14.0 dB	m	Detector
17	7.673 MHz				Peak
					Auto <u>Man</u>
Transmit Freq Error	18.164 kHz	OBW Power	99.00	%	
x dB Bandwidth	22.56 MHz	x dB	-26.00 d	B	
MSG			In STATUS		
Mou			LO STATUS		



CH: 5240MHz

Agilent Spectrum Analyzer MLRF Center Freq 5.24(0 Q AC	SHz 'IFGain:Low				ALIGN AUTO >10/10	Radio Std: Radio Dev		Trac	e/Detector
Ref Off 10 dB/div Ref 20	set 0.5 dB).00 dBm					_				
10.00			what you the	pro-veral van	1-1-10					Clear Write
-10.0 -20.0 -30.0 -40.0 Jund Mark Mark Mark	mound						and the states of the states o	^Ա սայությերներին		Average
-50.0										Max Hold
Center 5.24 GHz #Res BW 240 kHz			#VE	SW 750 k	Hz			n 40 MHz ep 1 ms		Min Hold
Occupied Bai		97 MH2		otal Pow	ver	12.7 dl	Зm		Auto	Detector Peak▶ Man
Transmit Freq I x dB Bandwidtł		-5.622 kH 22.15 MH		BW Pow dB		99.00 -26.00			luto	<u>ur</u>
MSG						I STATI	s			

TX 802.11a Mode with 5.8G							
Frequency	Channel Separation (MHz)	Result					
5745 MHz	14.24	1	PASS				
5785 MHz	17.27	1	PASS				
5825 MHz	15.73	1	PASS				

CH: 5745MHz

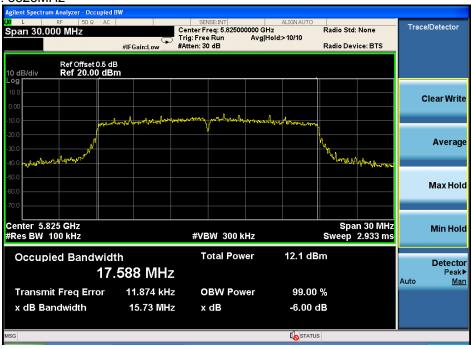
5745IVII IZ							
Agilent Spectrum Analyzer - Occupied	BW						
KLL RF 50Ω AC		SENSE:INT	ALIGN AUTO	_		Tracell	Detector
Span 30.000 MHz		enter Freq: 5.745000000 ig: Free Run Av	GHz g Hold:>10/10	Radio Std:	None	macen	Jeleeloi
		tten: 30 dB	31	Radio Devi	ice: BTS		
	_						
Ref Offset 0.5 d 10 dB/div Ref 20.00 dB							
_og							
10.0						~	ear Writ
0.00						CI	earwrit
10.0	1 Brownshop	Aborra Marlan					
N ⁴	when the for the second of the second s		verymone fallony				
20.0							Averac
30.0				1. 			Arciug
10.0 Mpmmmon lipund Aulton				hat with	mandaly		
0.0							
						1	Max Ho
60.0							
0.0							
enter 5.745 GHz Res BW 100 kHz		#V/DM/ 200 kHz		Spar	n 30 MHz 2.933 ms		Min Ho
Res BW 100 KHZ		#VBW 300 kHz		sweep	2.955 ms		
Occupied Bandwid	th	Total Power	12.0 dB	m			
							Detect
1/	. 572 MHz					Auto	Peak Ma
Transmit Freq Error	9.337 kHz	OBW Power	99.00	%		, lato	INIO
x dB Bandwidth	14.24 MHz	x dB	-6.00 c	IB			
3G			I STATUS	5			
ISG				;			



CH: 5785MHz

Agilent Spectrum Analyzer - Occupie U L RF 50Ω AC Center Freq 5.78500000	00 GHz	SENSE:INT Center Freq: 5.785000000 Trig: Free Run Av #Atten: 30 dB	ALIGNAUTO) GHz /g Hold:>10/10	Radio Std: N Radio Devic		Trace/Detector
Ref Offset 0.5 of 10 dB/div Ref 20.00 dI						
10.0 0.00						Clear Write
-10.0	mannalow	hard production	almmann ann			
-30.0				1, ¹¹ , 1		Average
-40.0 mpthpapelitheraphtman				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	4°iuwai (Iny	
-60.0						Max Hold
-70.0						
Center 5.785 GHz #Res BW 100 kHz		#VBW 300 kHz		Span Sweep 2	30 MHz .933 ms	Min Hold
Occupied Bandwid	dth	Total Power	10.6 dB	m		Detector
17	'. 582 MHz					Peak≱ Auto Mar
Transmit Freq Error	11.513 kHz	OBW Power	99.00	%		
x dB Bandwidth	17.27 MHz	x dB	-6.00 c	1B		
MSG			I STATU:	3		

CH: 5825MHz



TX 802.11n20 Mode with 5.2G							
Frequency	26dB Bandwidth (MHz)	Channel Separation (MHz)	Result				
5180 MHz	24.17	/	PASS				
5200 MHz	22.40	1	PASS				
5240 MHz	20.60	1	PASS				

CH: 5180MHz



CH: 5200MHz





CH: 5240MHz

	OΩ AC	SENSE:INT	ALIGNAUTO	idio Std: None	Trace/Detector
Center Freq 5.240	#IFGain:Low	Tria Eros Dun Aug	Hold:>10/10	idio Device: BTS	
10 dB/div Ref 20	set 0.5 dB 0.00 dBm				
Log 10.0 0.00		warment margent manage	400004-		Clear Write
-10.0 -20.0 -30.0 -40.0	waywall			Munth My Matridger	Average
-60.0					Max Hold
Center 5.24 GHz #Res BW 240 kHz		#VBW 750 kHz		Span 40 MHz Sweep 1 ms	Min Hold
Occupied Bar	ndwidth 17.710 MHz	Total Power	13.0 dBm		Detector Peak► Auto <u>Man</u>
Transmit Freq E x dB Bandwidth			99.00 % -26.00 dB		
MSG			STATUS		

TX 802.11n20 Mode with 5.8G								
Frequency	6dB Bandwidth (MHz)	Channel Separation (MHz)	Result					
5745 MHz	16.90	/	PASS					
5785 MHz	17.20	/	PASS					
5825 MHz	15.09	/	PASS					

CH: 5745MHz

57-510112					
Agilent Spectrum Analyzer - Occuj					
(X) L RF 50 Ω	AC	SENSE:INT Center Freq: 5.74500	ALIGN AUTO	Radio Std: None	Trace/Detector
Span 30.000 MHz		Trig: Free Run	Avg Hold:>10/10	Radio Sta: None	
	#IFGain:Low	#Atten: 30 dB		Radio Device: BTS	
Ref Offset 0.	5 dB				
10 dB/div Ref 20.00					
Log					
10.0					Clear Write
0.00					
-10.0	mouthour hours here and have	Mendora poromentes	and water and the second		
20.0		Y			
-30.0				h	Averag
40.0 WARNAMAN				mommental	
				1. 194.94	
-50.0					Max Hol
-60.0					
70.0					
Center 5.745 GHz #Res BW 100 kHz		#VBW 300 k	47	Span 30 MHz Sweep 2.933 ms	Min Hol
FRES DW TOO KIIZ		#4D44 300 K	12	5weep 2.933 ms	
Occupied Bandw	vidth	Total Pow	er 12.1 dE	Sm	
	7.567 MHz	,			Detecto
					Auto <u>Ma</u>
Transmit Freq Erro	r -6.142 kH:	z OBW Pow	er 99.00	%	
x dB Bandwidth	16.90 MH;	z xdB	-6.00 d	dB	
	10.00 101	- A GB	0.001		
			-1	_	
MSG				s	



CH: 5785MHz

	Analyzer - Occupied E RF 50 Ω AC	3W	SENSE:INT		ALIGNAUTO			Turner	
Center Fred	q 5.78500000) GHz #IFGain:Low	Center Freq: 5.7850 Trig: Free Run #Atten: 30 dB	00000 GHz Avg Ho	ld:>10/10	Radio Std Radio Dev		Trace/De	tector
10 dB/div	Ref Offset 0.5 dE Ref 20.00 dBr	s n							
- og 10.0 0.00								Clea	r Writ
10.0 20.0 30.0	/	nen tallanara anno anno anno anno anno anno anno	anti-parta provident	bonnonale	mmanthur	han kitati		A	verag
40.0 •••••••••••••••••••••••••••••••••••							ᢣᠬᢇᡧ᠋ᡎᠰᢧᢧᠬᢦᢏ	Ma	ıx Hol
Center 5.78 Res BW 10			#VBW 300	kHz			n 30 MHz 2.933 ms	Mi	in Hol
Occupie	ed Bandwidt 17	^{.h} 601 MH:	Total Po	wer	11.3 dB	m		D	etecto Peak
Transmit	Freq Error	2.507 kH		wer	99.00	%		Auto	Ma
x dB Ban		17.20 MH	z xdB		-6.00 d	IB			
ISG									

CH: 5825MHz

Agilent Spectrum Analyzer - Occupied B	N					
ເ <mark>X</mark> L RF 50 Ω AC Center Freq 5.825000000	Tri	SENSE:INT ALIGN AUTO Center Freq: 5.82500000 GHz Trig: Freq: 6.82500000 GHz Trig: Freq: 6.80 Avg Hold:>10/10 #Atten: 30 dB Avg		Radio Std: None Radio Device: BTS	Trace/Detector	
Ref Offset 0.5 dB 10 dB/div Ref 20.00 dBm Log	1					
10.0 0.00					Clear Write	
	verse vinderscharter and met	way marine and	wwwwwww			
-30.0			N	Mart all a	Average	
-40.0 Anton MAN Provident				Work Margin and Anthenia	Max Hold	
-60.0					Maxiloid	
Center 5.825 GHz #Res BW 100 kHz		#VBW 300 kHz	s	Span 30 MHz Sweep 2.933 ms	Min Hold	
Occupied Bandwidt		Total Power	11.4 dBm		Detector	
17.9	580 MHz				Peak▶ Auto <u>Man</u>	
Transmit Freq Error	3.074 kHz	OBW Power	99.00 %			
x dB Bandwidth	15.09 MHz	x dB	-6.00 dB			
MSG			STATUS			



	TX 802.11n40 Mode with 5.2G							
Frequency	26dB Bandwidth (MHz)	Channel Separation (MHz)	Result					
5190 MHz	47.25	/	PASS					
5230 MHz	49.56	1	PASS					

CH: 5190 MHz



CH: 5230 MHz

LXIRL	n <mark>Analyzer - Occu</mark> RF 50 Ω	AC		SENSE:INT		IGNAUTO	Radio Std:	Nana	Trace	e/Detector
	eq 5.230000	#IFGain:Lo	Trig: F	ree Run : 30 dB	Avg Hold:>1	10/10	Radio Dev			
10 dB/div	Ref Offset 0 Ref 20.00					•				
Log 10.0 0.00			ور مردم مردم مردم مردم مردم مردم مردم مر	n mumm					c	Clear Write
-10.0				Y						
-30.0	nt langer and	1 ⁷ /1 ⁴¹				Warne	᠕ᠰᢦ᠇ᡩᡰ᠉ᡛᡟᢦ᠕ᢣ	mont		Average
-50.0										Max Hold
-70.0										
Center 5.23 #Res BW 4			#	VBW 1.3 N	IHz			n 80 MHz ep 1 ms		Min Hold
Occupi	ed Bandw	/idth 36.256 IV	IHz	Total Pov	ver 1	4.8 dB	m		Auto	Detector Peak▶ Man
Transmi	t Freq Erro	r -74.199	kHz	OBW Pov	ver	99.00	%		Adto	INIAII
x dB Baı	ndwidth	49.56	MHz	x dB	-	26.00 d	В			
MSG						I STATUS				



TX 802.11n40 Mode with 5.8G						
Frequency	6dB Bandwidth (MHz)	Channel Separation (MHz)	Result			
5755 MHz	35.26	/	PASS			
5795 MHz	35.42	1	PASS			

CH: 5755 MHz

RL RF 50 Ω A enter Freq 5.7550000		SENSE:INT Center Freq: 5.75500000 Trig: Free Run A #Atten: 30 dB	ALIGNAUTO 0 GHz vg Hold:>10/10	Radio Std: Radio Dev		Trace/Detector
Ref Offset 0.5 dB/div Ref 20.00 d						
og 0.0 .00						Clear Writ
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enter 5.755 GHz Res BW 100 kHz		#VBW 300 kHz			n 60 MHz p 5.8 ms	Min Ho
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Transmit Freq Error x dB Bandwidth	-19.244 kH: 35.26 MH:		99.00 -6.00			
G			I N STATU	IS		

CH: 5795 MHz

RL	<mark>Analyzer - Occupio</mark> RF 50 Ω A	c 🔤	SENSE:INT		ALIGN AUTO			T /	Detector
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) dB/div	Ref Offset 0.5 Ref 20.00 d	dB Bm				•			
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enter 5.79	95 GHz					Spa	n 60 MHz		Min Hol
Res BW 1	00 kHz		#VBW 30	0 kHz			p 5.8 ms		MITTIO
Occupi	ed Bandwi 3	^{dth} 5.904 MH	Total P	ower	12.8 dB	m			Detecto Peak
Transmit	t Freq Error	39.343 kl	-Iz OBW F	ower	99.00	%		Auto	Ma
x dB Bar	ndwidth	35.42 MI	Hz xdB		-6.00 c	βB			
G						2			



8 POWER SPECTRAL DENSITY TEST

- 8.1 Test Limit
 - Band 5150-5250MHz

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi

Band 5725-5850MHz

The maximum conducted output power shall not exceed 1 W. The power spectral density shall not exceed 30 dBm in any 500 kHz band

8.2 Test Procedure

Details see the KDB558074 DTS Meas Guidance V03

- 1.Place the EUT on the table and set it in transmitting mode.
- 2.Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3.Set the spectrum analyzer as RBW = 1MHz, VBW = 3MHz, span=5-30%EBW, detail see the test plot.
- 4.Record the max reading.
- 5.Repeat the above procedure until the measurements for all frequencies are completed.
- 8.3 Measurement Equipment Used

Same as Radiated Emission Measurement

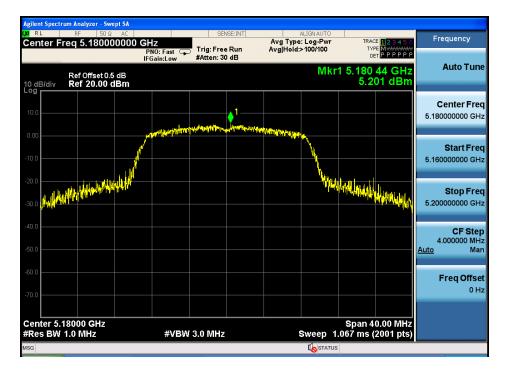
8.4 Test Result

PASS

All the test modes completed for test.

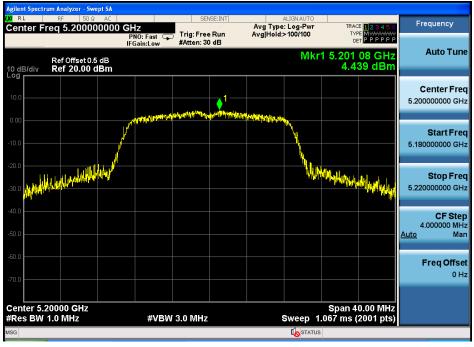
TX 802.11a Mode							
Frequency	Power Density (dBm)	Limit (dBm)	Result				
5180 MHz	5.201	11	PASS				
5200 MHz	4.439	11	PASS				
5240 MHz	4.459	11	PASS				
5745 MHz	0.411	30	PASS				
5785 MHz	-0.628	30	PASS				
5825 MHz	0.189	30	PASS				

CH: 5180MHz





CH: 5200MHz



CH: 5240MHz

Altern Andrew Spectrum Andrew Swept SA () RL BE 500 AC Service MT PNO: Fast PHO: Fast Trig: Free Run Ref Offset 0.5 dB 10 dB/div Ref 20.00 dBm 10 dB/div 10											
Center Freq 5.240000000 GHz Trig: Free Run Avg Type: Log-Pur AvgHold>100/100 Trig: Free Run AvgHold					071						
Ref Offset 0.5 dB Mkr1 5.241 58 GHz Auto Tune 100 dK/dv Ref 20.00 dBm Center Freq 100 dK/dv dK/dv Start Freq 100 dK/dv dK/dv dK/dv 100 dK/dv dK/dv <th></th> <th></th> <th>00000 GH</th> <th>z</th> <th></th> <th></th> <th>Avg Type</th> <th>: Log-Pwr</th> <th>TRAC</th> <th>E 123456</th> <th>Frequency</th>			00000 GH	z			Avg Type	: Log-Pwr	TRAC	E 123456	Frequency
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-500 -500	-20.0 -30.0	Water Water Ward	yana ⁿ					W A	MALLAN MALAN		
-70 0 Center 5.24000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.067 ms (2001 pts)											4.000000 MHz
#Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.067 ms (2001 pts)											
MSG 🚺 STATUS				#VBW	3.0 MHz				.067 ms (0.00 MHz 2001 pts)	
	MSG							I STATUS			



CH: 5745MHz



CH: 5785MHz

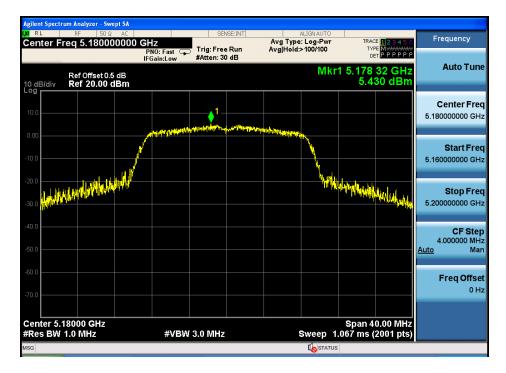
RL RF 50 Ω AC enter Freq 5.7850000	00 GHz	SENSE:INT	ALIGNAUTO Avg Type: Log-Pwr Avg Hold:>100/100	TRACE 123456 TYPE MWWWW DET P P P P P	Frequency
Ref Offset 0.5 dB dB/div Ref 20.00 dBn	II GUILLOW	Atten: 30 dB	Mkr	1 5.784 38 GHz -0.626 dBm	Auto Tun
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0.0	and an and the second second	Adelibility from a souther	anson all and any		Start Fre 5.765000000 GH
0.0 0.0 			- Nut	Antralymian Windowsan	Stop Fre 5.805000000 GF
0.0					CF Ste 4.000000 MH <u>Auto</u> Ma
D.0					Freq Offs 0 F
enter 5.78500 GHz Res BW 510 kHz	#VBW 1	.5 MHz	Sweep 1	Span 40.00 MHz .067 ms (2001 pts)	
G					



	um Analyzer - Swep									
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		P) IFG	IO: Fast 🕞 Gain:Low	#Atten: 30		Avg Hold:		DI	E MWWWWW T P P P P P P	
10 dB/div Log	Ref Offset 0.5 Ref 20.00 di						Mkr		74 GHz 89 dBm	Auto Tune
10.0					1					Center Freq 5.825000000 GHz
-10.0		<i>, , ,</i>	Ninnanahaan di	norden of a left	pride Hy Winds	dan kalinidiyi.	~			Start Freq 5.805000000 GHz
-20.0		hun) Why	Manan		Stop Freq 5.845000000 GHz
-40.0	nhoopen (had) Michael							hi ⁿ tra an t	W.MMHALAN	CF Step 4.000000 MHz Auto Man
-60.0										Freq Offset
-70.0 Center 5.8 #Res BW	82500 GHz 510 kHz		#VBW	1.5 MHz			Sweep_1	Span 4 .067 ms.(0.00 MHz 2001 pts)	
MSG							I STATUS			

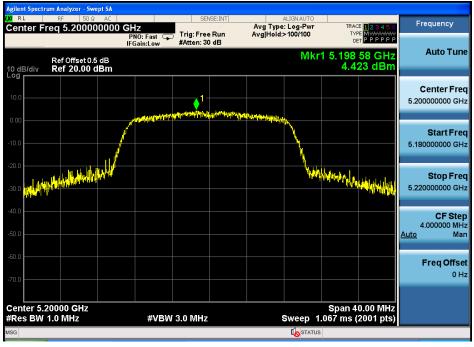
TX 802.11n20 Mode with 5.2G							
Frequency	Power Density (dBm)	Limit (dBm)	Result				
5180 MHz	5.430	11	PASS				
5200 MHz	4.423	11	PASS				
5240 MHz	4.594	11	PASS				
5745 MHz	-1.033	30	PASS				
5785 MHz	-1.378	30	PASS				
5825 MHz	-0.443	30	PASS				

CH: 5180MHz

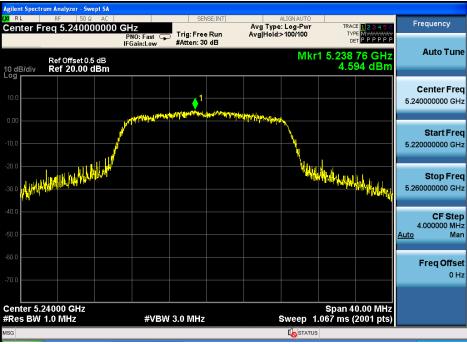




CH: 5200MHz

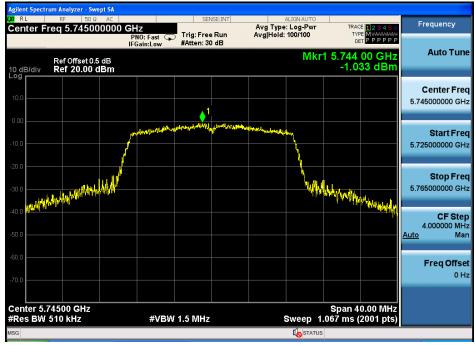


CH: 5240MHz

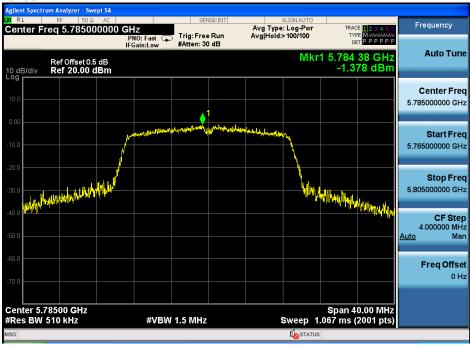




CH: 5745MHz

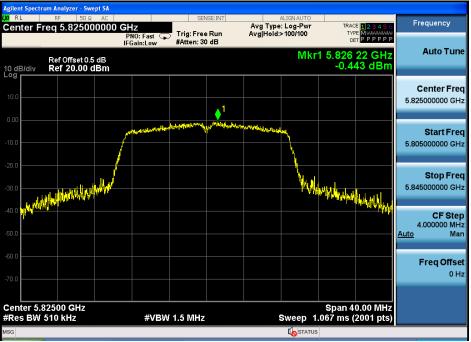


CH: 5785MHz





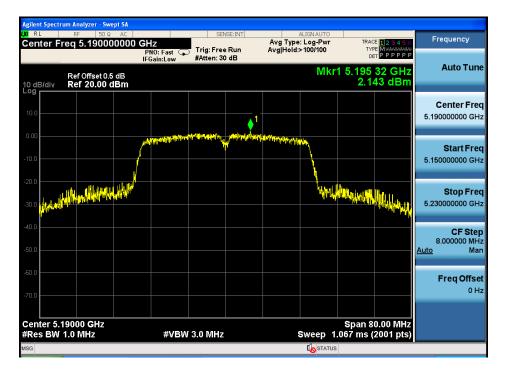
CH: 5825MHz





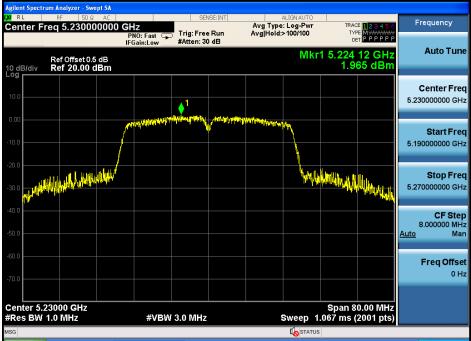
	TX 802.11n40 Mode with 5.2G						
Frequency	Power Density (dBm)	Limit (dBm)	Result				
5190 MHz	2.143	11	PASS				
5230 MHz	1.965	11	PASS				
5755 MHz	-3.299	30	PASS				
5795 MHz	-2.965	30	PASS				

CH: 5190 MHz





CH: 5230 MHz

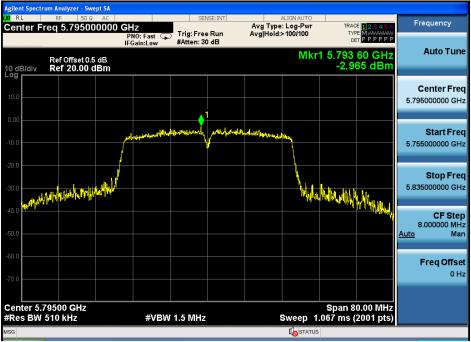


CH: 5745 MHz

	rum Analyzer - Swept S/						
Center F	RF 50 Ω AC		SENSE	Avg T	ALIGNAUTO Vpe: Log-Pwr	TRACE 123456	Frequency
Contor I		PNO: Fast G	Trig: Free F #Atten: 30 d		old:>100/100	TYPE MWWWWWW DET P P P P P P	
		II Gam.cow		-	Mkr	1 5.762 64 GHz	Auto Tune
10 dB/div	Ref Offset 0.5 dB Ref 20.00 dBm	ı				-3.298 dBm	
Log							
10.0							Center Freq 5.755000000 GHz
							5.755000000 GHZ
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		المانية المانية المانية الماني	www.mananaka	white the states of the states	eren hurring		Start Freq
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AN AN	Wirel with an a with					WWWWWWWWWWW	
-40.0							CF Step
-50.0							8.000000 MHz Auto Man
-60.0							Freq Offset
70.0							0 Hz
-70.0							
Center 5. #Res BW	75500 GHz 510 kHz	#VBV	/ 1.5 MHz		Sween 1	Span 80.00 MHz .067 ms (2001 pts)	
MSG					STATUS		
	99 <u>4</u>						



CH: 5795 MHz





9 PEAK OUTPUT POWER TEST

9.1 Test Limit

Band 5150-5250MHz

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi

Band 5725-5850MHz

The maximum conducted output power shall not exceed 1 W. The power spectral density shall not exceed 30 dBm in any 500 kHz band

9.2 Test Procedure

- 1. The EUT was placed on a turn table which is 0.8m above ground plane.
- 2. The EUT was directly connected to the Power meter.

9.3 Measurement Equipment Used

Same as Radiated Emission Measurement

9.4 Test Result

PASS

All the test modes completed for test.



	TX 802.11a Mode with 5.2G							
Test	Frequency	Maximum Peak Conducted Output Power	LIMIT					
Channe	(MHz)	(dBm)	dBm					
CH36	5180	17.83	24					
CH40	5200	17.82	24					
CH48	5240	17.83	24					
	TX 802.11n20 Mode with 5.2G							
CH36	5180	17.76	24					
CH40	5200	17.67	24					
CH48	5240	17.87	24					
	TX 802.11n40 Mode with 5.2G							
CH38	5190	16.92	24					
CH46	5230	16.76	24					

	TX 802.11a Mode with 5.8G							
Test	Frequency	Maximum Peak Conducted Output Power	LIMIT					
Channe	(MHz)	(dBm)	dBm					
CH149	5745	17.72	30					
CH157	5785	17.71	30					
CH165	5825	17.93	30					
	TX 802.11n20 Mode with 5.8G							
CH149	5745	17.57	30					
CH157	5785	17.58	30					
CH165	5825	17.52	30					
	TX 802.11n40 Mode with 5.8G							
CH151	5755	16.89	30					
CH159	5795	16.64	30					



10 ANTENNA REQUIREMENT

Standard Applicable

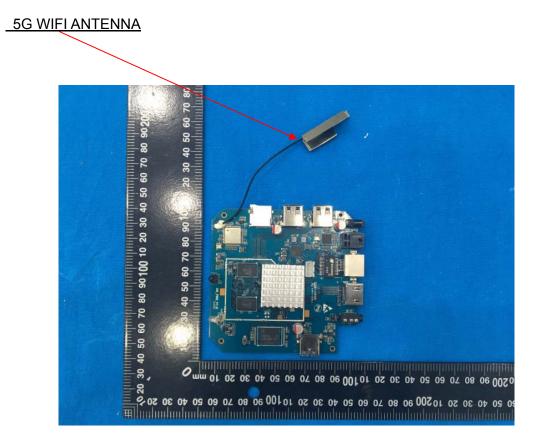
For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.249, if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

Refer to statement below for compliance.

The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

Antenna Connected Construction

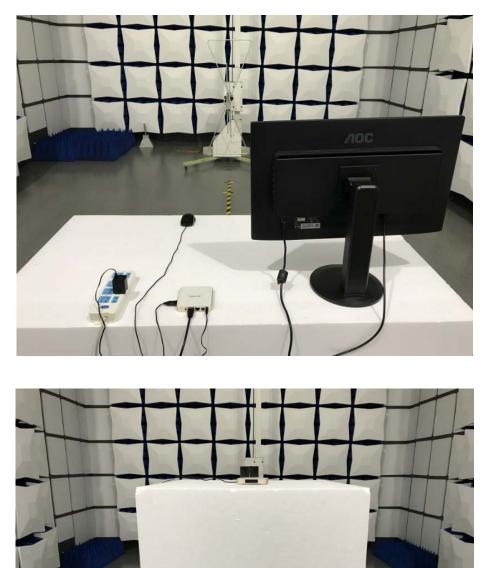
The antenna used in this product is a Integral Antenna, The directional gains of antenna used for transmitting is 2dBi.





11 PHOTOGRAPH OF TEST

11.1 Radiated Emission





11.2 Conducted Emission

