FCC Test Report

Applicant	:	**D2G Group LLC**
Address	:	**81 Commerce Drive, Fall River, Massachusetts, United States**
Product Name	:	**49inch Indoor Floor Standing Digital Sign With Camera & MIC, IR Touch**
Report Date	:	**Jul. 15, 2024**

Shenzhen Anbotek Compliance Laboratory Limited

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TEST REPORT

Applicant	:	D2G Group LLC
Manufacturer	:	Shenzhen I-Pivot Intelligent Technology Co., Ltd
Product Name	:	49inch Indoor Floor Standing Digital Sign With Camera & MIC, IR Touch
Model No.	:	DF049TLWM
Trade Mark	:	Displays2go
Rating(s)	:	Input: AC 100-240V, 0.7-1.5A, 50/60Hz, 140W
Test Standard(s)	:	**47 CFR Part 15E**
Test Method(s)	:	**ANSI C63.10: 2020** **KDB 789033 D02 General UNII Test Procedures New Rules v02r01**

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the 47 CFR Part 15E requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Receipt	May 28, 2024
Date of Test	May 28 ~ Jun. 17, 2024
Prepared By	Ella Liang (Ella Liang)
Approved & Authorized Signer	Edward pan (Edward Pan)

Revision History

Report Version	Description	Issued Date
R00	Original Issue.	Jul. 15, 2024

1. General Information

1.1. Client Information

Applicant	:	D2G Group LLC
Address	:	81 Commerce Drive, Fall River, Massachusetts, United States
Manufacturer	:	Shenzhen I-Pivot Intelligent Technology Co., Ltd
Address	:	2nd Floor, Building 2A, Dacheng Industrial Zone, No. 357 Jihua Rd, Longgang District, Shenzhen, Guangdong, China
Factory	:	Shenzhen I-Pivot Intelligent Technology Co., Ltd
Address	:	2nd Floor, Building 2A, Dacheng Industrial Zone, No. 357 Jihua Rd, Longgang District, Shenzhen, Guangdong, China

1.2. Description of Device (EUT)

Product Name	:	49inch Indoor Floor Standing Digital Sign With Camera & MIC, IR Touch
Model No.	:	DF049TLWM
Trade Mark	:	Displays2go
Test Power Supply	:	AC 120V, 60Hz
Test Sample No.	:	1-2-1(Normal Sample), 1-2-2(Engineering Sample)
Adapter	:	N/A
RF Specification		
Operation Mode	:	☒ a ☒ n(HT20) ☒ n(HT40) ☒ ac(VHT20) ☒ ac(VHT40) ☐ ac(VHT80) ☐ ac(VHT160) ☒ ax(HEW20) ☒ ax(HEW40) ☐ ax(HEW80) ☐ ax(HEW160)
Device Type	:	☐ Outdoor AP ☐ Indoor AP ☐ Point-to-point AP ☒ Client
TPC Function	:	☐ With TPC ☒ Without TPC
DFS Type	:	☒ Slave without radar detection ☐ Slave with radar detection ☐ Master
Operation Frequency	:	☒ Wi-Fi 5.2G: 5150~5250MHz ☒ Wi-Fi 5.3G: 5250~5350MHz ☒ Wi-Fi 5.6G: 5470~5725MHz ☒ Wi-Fi 5.8G: 5725~5850MHz
Number of Channel	:	Wi-Fi 5.2G: ☒ 4 Channels for 20MHz bandwidth (5180-5240MHz) ☒ 2 Channels for 40MHz bandwidth (5190-5230MHz) ☐ 1 Channels for 80MHz bandwidth (5210MHz)

		Wi-Fi 5.3G: ☒ 4 Channels for 20MHz bandwidth (5260-5320MHz) ☒ 2 Channels for 40MHz bandwidth (5270-5310MHz) ☐ 1 Channels for 80MHz bandwidth (5290MHz) Wi-Fi 5.6G: ☒ 11 Channels for 20MHz bandwidth (5500-5700MHz) ☒ 5 Channels for 40MHz bandwidth (5510-5670MHz) ☐ 2 Channels for 80MHz bandwidth (5530~5610MHz) Wi-Fi 5.8G: ☒ 5 Channels for 20MHz bandwidth (5745MHz ~ 5825MHz) ☒ 2 Channels for 40MHz bandwidth (5755MHz ~ 5795MHz) ☐ 1 Channels for 80MHz bandwidth (5775MHz)
Modulation Type	:	☒ 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) ☒ 802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM) ☒ 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) ☒ 802.11ax: OFDMA(BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Antenna Type	:	Rod Antenna
Antenna Gain(Peak)	:	Wi-Fi 5.2G/5.3G/5.6G/5.8G: 5dBi

Remark:

1) All of the RF specification are provided by customer.

2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

1.3. Auxiliary Equipment Used During Test

Description	Rating(s)
Master device	Equipment: AX3000 Dual-Band Gigabit Wi-Fi 6 Router Model: RX9 Pro FCC-ID: V7TRX9P
Adapter	Model: MDY-11-EX Input: 100-240V-0.7A, 50-60Hz USB-A output: 5V⎓ 3A, 9V⎓ 3A, 12V⎓ 2.25A, 20V⎓ 1.35A, 11V⎓ 3A

1.4. Description of Test Modes

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

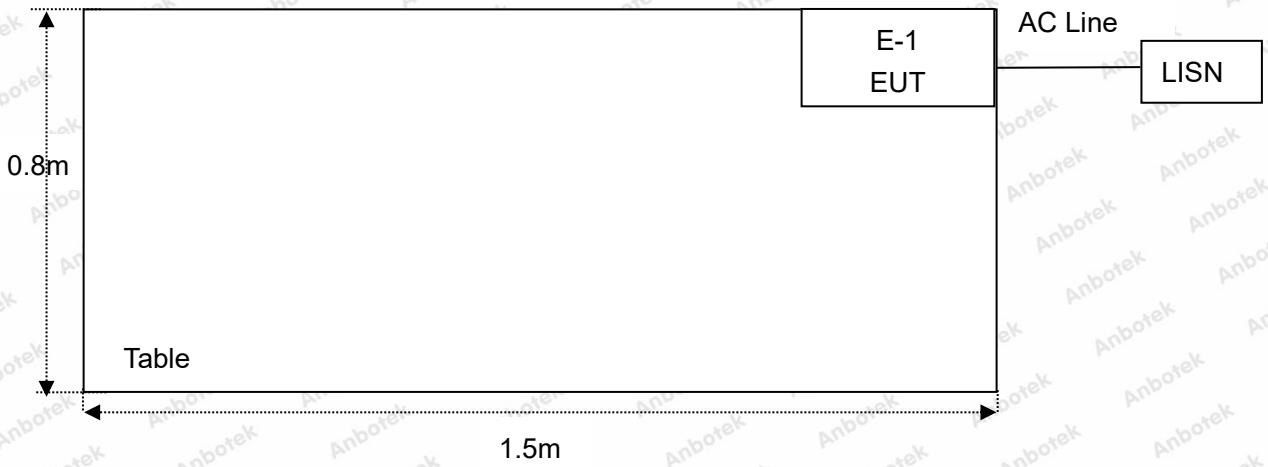
Frequency Band	Mode	Test channel	Frequency (MHz)
5.2GHz	OFDM 802.11a/n(HT20) /ac(VHT20)/ax(HEW20)	CH 36	5180MHz
		CH 40	5200MHz
		CH 48	5240MHz
	OFDM 802.11n(HT40)/ac(VHT40)/ax(HEW40)	CH 38	5190MHz
		CH 46	5230MHz
5.3GHz	OFDM 802.11a/n(HT20) /ac(VHT20)/ax(HEW20)	CH 52	5260MHz
		CH 60	5300MHz
		CH 64	5320MHz
	OFDM 802.11n(HT40)/ac(VHT40)/ax(HEW40)	CH 54	5270MHz
		CH 62	5310MHz
5.6GHz	OFDM 802.11a/n(HT20) /ac(VHT20)/ax(HEW20)	CH 100	5500MHz
		CH 116	5580MHz
		CH 140	5700MHz
	OFDM 802.11n(HT40)/ac(VHT40)/ax(HEW40)	CH 102	5510MHz
		CH 110	5550MHz
		CH 134	5670MHz
5.8GHz	OFDM 802.11a/n(HT20) /ac(VHT20)/ax(HEW20)	CH 149	5745MHz
		CH 157	5785MHz
		CH 165	5825MHz
	OFDM 802.11n(HT40)/ac(VHT40)/ax(HEW40)	CH 151	5755MHz
		CH 159	5795MHz

Note:

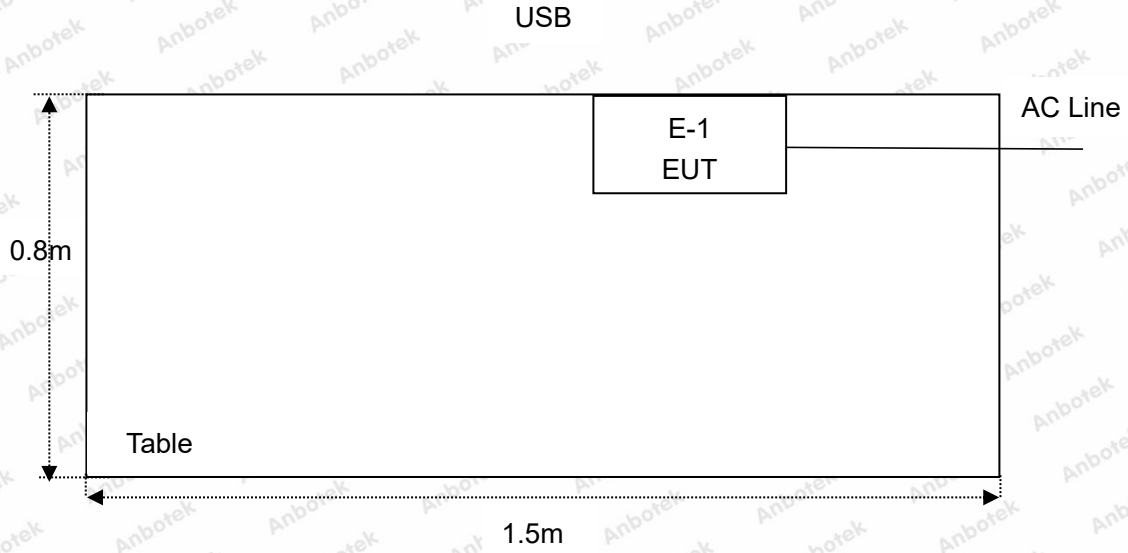
1. The measurements are performed at the highest, middle, lowest available channels.
2. The EUT has been tested as an independent unit. And Continual Transmitting in maximum power.
3. For the relevant Conducted Measurement, the temporary antenna connector is used during the measurement. Antenna Connector Impedance: 50Ω, Cable Loss: 1.0 dB
4. The EUT was programmed to be in continuously transmitting mode.

1.5. Description Of Test Setup

CE



RE



1.6. Test Equipment List

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	L.I.S.N. Artificial Mains Network	Rohde & Schwarz	ENV216	100055	Jan. 18, 2024	1 Year
2.	Three Phase V-type Artificial Power Network	CYBERTEK	EM5040DT	E215040DT001	Jan. 18, 2024	1 Year
3.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Oct. 12, 2023	1 Year
4.	EMI Test Receiver	Rohde & Schwarz	ESR26	101481	Jan. 23, 2024	1 Year
5.	MXA Spectrum Analysis	Agilent	N9020A	MY51170037	Oct. 12, 2023	1 Year
6.	EMI Preamplifier	SKET Electronic	LNPA-0118G -45	SKET-PA-002	Jan. 17, 2024	1 Year
7.	Double Ridged Horn Antenna	SCHWARZBECK	BBHA 9120D	02555	Oct. 16, 2022	3 Year
8.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	345	Oct. 23, 2022	3 Year
9.	Loop Antenna	Schwarzbeck	FMZB1519B	00053	Oct. 12, 2023	1 Year
10.	Horn Antenna	A-INFO	LB-180400-KF	J211060628	Oct. 12, 2023	1 Year
11.	Pre-amplifier	SONOMA	310N	186860	Jan. 17, 2024	1 Year
12.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A
13.	MXA Spectrum Analysis	KEYSIGHT	N9020A	MY53280032	Oct. 12, 2023	1 Year
14.	MXG RF Vector Signal Generator	Agilent	N5182A	MY48180656	Oct. 12, 2023	1 Year
15.	Signal Generator	Agilent	E4421B	MY41000743	Oct. 12, 2023	1 Year
16.	DC Power Supply	IVYTECH	IV3605	1804D360510	Oct. 20, 2023	1 Year
17.	Constant Temperature Humidity Chamber	ZHONGJIAN	ZJ-KHWS80 B	N/A	Oct. 16, 2023	1 Year
18.	Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102150	May. 06, 2024	1 Year

1.7. Measurement Uncertainty

Parameter	Uncertainty
Conducted emissions (AMN 150kHz~30MHz)	3.8dB
Occupied Bandwidth	925Hz
Conducted Output Power	0.76dB
Conducted Spurious Emission	1.24dB
Radiated spurious emissions (Below 30MHz)	3.53dB
Radiated spurious emissions (30MHz~1GHz)	Horizontal: 3.92dB; Vertical: 4.52dB
Radiated spurious emissions (above 1GHz)	1G-6GHz: 4.78dB; 6G-18GHz: 4.88dB 18G-40GHz: 5.68dB
The measurement uncertainty and decision risk evaluated according to AB/WI-RF-F-032. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

1.8. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 434132

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 434132.

ISED-Registration No.: 8058A

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A.

Test Location

Shenzhen Anbotek Compliance Laboratory Limited.
1/F, Building D, Sogood Science and Technology Park, Sanwei community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

1.9. Disclaimer

1. The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
2. The test report is invalid if there is any evidence and/or falsification.
3. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.
4. This document may not be altered or revised in any way unless done so by Anbotek and all revisions are duly noted in the revisions section.
5. Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
6. The authenticity of the information provided by the customer is the responsibility of the customer and the laboratory is not responsible for its authenticity.

The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.

2. Summary of Test Results

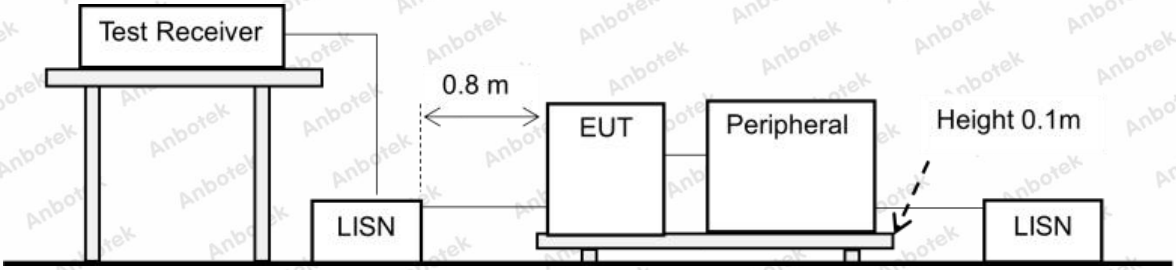
Standard	Test Type	Result
15.207 & 15.407(b)	Conducted Emission	PASS
15.205 & 15.209 & 15.407(b)	Radiated Spurious Emission and Restricted Band	PASS
15.407(b)	Conducted Band Edge	PASS
15.407(a) & 2.1049	26dB Bandwidth & 99% Occupied Bandwidth	PASS
15.407(e)	Minimum 6dB Bandwidth (5.725-5.85GHz Band)	PASS
15.407(a)	Maximum Conducted Output Power	PASS
15.407(a)	Maximum Power Spectral Density	PASS
15.407(g)	Frequency Stability	PASS
15.407(h)	Channel Move Time, Channel Closing Transmission Time	PASS
15.407(h)	DFS Detection Thresholds	PASS
15.203	Antenna Requirement	PASS
Remark: “N/A” is an abbreviation for Not Applicable.		

3. Conducted Emission Test

3.1. Test Standard and Limit

Test Standard	FCC Part15 Section 15.207 & 15.407(b)		
Test Limit	Frequency	Maximum RF Line Voltage (dBuV)	
		Quasi-peak Level	Average Level
	150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
	500kHz~5MHz	56	46
	5MHz~30MHz	60	50
Remark: (1) *Decreasing linearly with logarithm of the frequency. (2) The lower limit shall apply at the transition frequency.			

3.2. Test Setup



3.3. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC ANSI C63.10: 2020 on Conducted Emission Measurement.

The bandwidth of test receiver (ESCI) set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

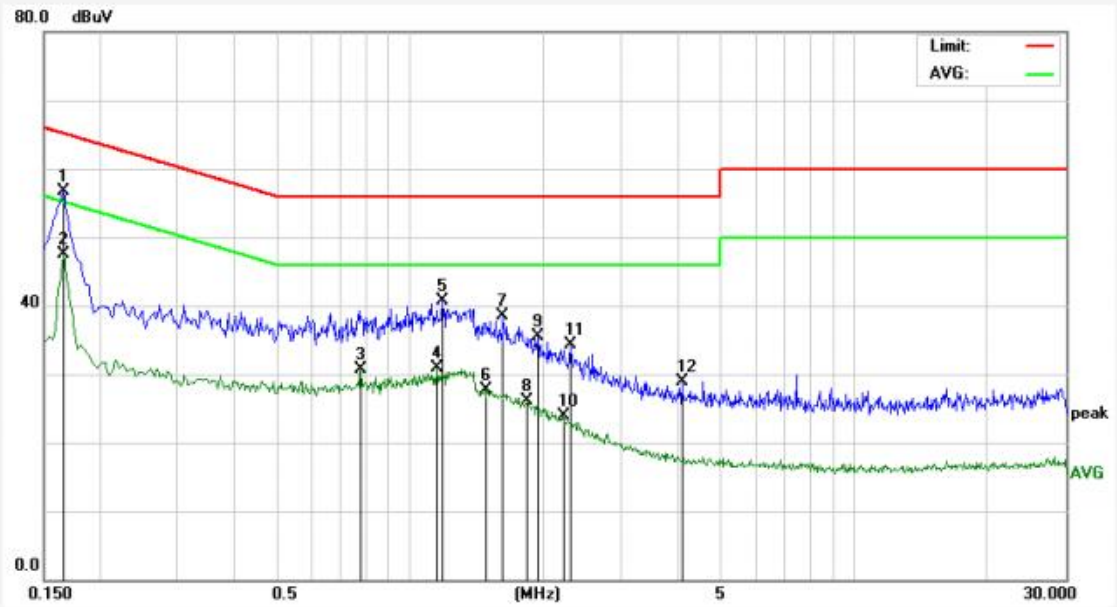
3.4. Test Data

During the test, pre-scan all modes, and found the 802.11n(HT40) 5190MHz which is the worst case, only the worst case is recorded in the report.

AC conducted emission pre-test at both at AC 120V/60Hz and AC 240V/60Hz modes, recorded worst case AC 120V/60Hz.

Conducted Emission Test Data

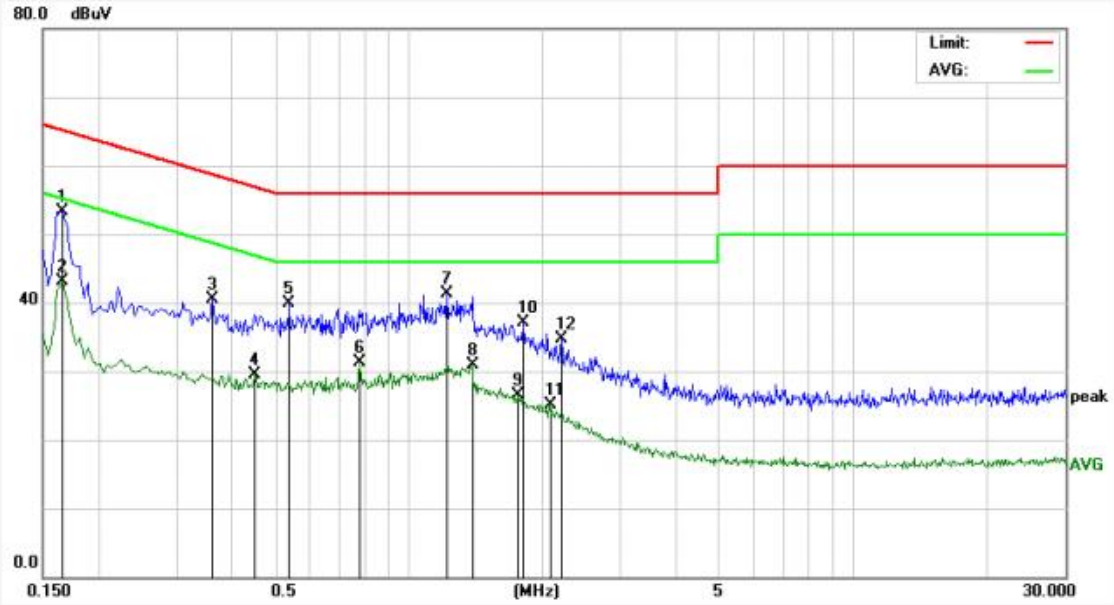
Test Site: 1# Shielded Room
Operating Condition: 802.11n(HT40) 5190MHz
Test Specification: AC 120V, 60Hz
Comment: Live Line
Temp.(℃)/Hum.(%RH): 23.5℃/57%RH



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.1660	38.94	17.83	56.77	65.15	-8.38	QP	
2	0.1660	29.62	17.83	47.45	55.15	-7.70	AVG	
3	0.7780	12.83	17.87	30.70	46.00	-15.30	AVG	
4	1.1580	12.95	17.86	30.81	46.00	-15.19	AVG	
5	1.1900	22.95	17.85	40.80	56.00	-15.20	QP	
6	1.4740	9.86	17.86	27.72	46.00	-18.28	AVG	
7	1.6260	20.69	17.85	38.54	56.00	-17.46	QP	
8	1.8420	8.31	17.85	26.16	46.00	-19.84	AVG	
9	1.9460	17.70	17.85	35.55	56.00	-20.45	QP	
10	2.2060	5.99	17.85	23.84	46.00	-22.16	AVG	
11	2.3060	16.44	17.85	34.29	56.00	-21.71	QP	
12	4.1099	11.10	17.85	28.95	56.00	-27.05	QP	

Conducted Emission Test Data

Test Site:	1# Shielded Room
Operating Condition:	802.11n(HT40) 5190MHz
Test Specification:	AC 120V, 60Hz
Comment:	Neutral Line
Temp.(℃)/Hum.(%RH):	23.5℃/57%RH



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.1660	35.40	17.83	53.23	65.15	-11.92	QP	
2	0.1660	25.23	17.83	43.06	55.15	-12.09	AVG	
3	0.3620	22.68	17.82	40.50	58.68	-18.18	QP	
4	0.4500	11.67	17.83	29.50	46.87	-17.37	AVG	
5	0.5380	22.06	17.86	39.92	56.00	-16.08	QP	
6	0.7780	13.34	17.87	31.21	46.00	-14.79	AVG	
7	1.2220	23.54	17.85	41.39	56.00	-14.61	QP	
8	1.3820	12.97	17.86	30.83	46.00	-15.17	AVG	
9	1.7540	8.68	17.86	26.54	46.00	-19.46	AVG	
10	1.8180	19.30	17.86	37.16	56.00	-18.84	QP	
11	2.0700	7.28	17.85	25.13	46.00	-20.87	AVG	
12	2.2020	16.89	17.85	34.74	56.00	-21.26	QP	

4. Radiation Spurious Emission and Restricted Band Test

4.1. Test Standard and Limit

Radiated Spurious Emission					
Test Standard	FCC Part15 C Section 15.205 & 15.209 & 15.407(b)				
Test Limit	Frequency (MHz)	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz~0.490MHz	2400/F(kHz)	-	-	300
	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
	1.705MHz-30MHz	30	-	-	30
	30MHz~88MHz	100	40.0	Quasi-peak	3
	88MHz~216MHz	150	43.5	Quasi-peak	3
	216MHz~960MHz	200	46.0	Quasi-peak	3
	960MHz~1000MHz	500	54.0	Quasi-peak	3
	Above 1000MHz	500	54.0	Average	3
		-	68.2	Peak	3

Band Edge				
Test Standard	15.407(b)			
Test Limit	Operating Band	Frequency	EIRP Limit	Remark
	5150-5250MHz	Out of operation band	-27dBm/MHz(68.2dBuV/m)@3m	Peak
	5250-5350MHz	Out of operation band	-27dBm/MHz(68.2dBuV/m)@3m	Peak
	5470-5725MHz	Out of operation band	-27dBm/MHz(68.2dBuV/m)@3m	Peak
	5725-5850 MHz	Below 5.65GHz	-27dBm/MHz(68.2dBuV/m)@3m	Peak
		5.65GHz-5.7GHz	-27*dBm/MHz to 10dBm/MHz (68.2* dBuV/m to 105.6dBuV/m)	Peak
		5.7GHz-5.72GHz	10*dBm/MHz to 15.6dBm/MHz (105.6*dBuV/m to 110.8dBuV/m)	Peak
		5.72GHz-5.725GHz	15.6*dBm/MHz to 27dBm/MHz (110.8dBuV/m to* 122.2dBuV/m)	Peak
		5.85GHz-5.855GHz	27dBm/MHz to 15.6*dBm/MHz (122.2dBuV/m to110.8* dBuV/m)	Peak

		5.855GHz-5.875GHz	15.6dBm/MHz to 10*dBm/MHz (110.8dBuV/m to 105.6* dBuV/m	Peak
		5.875GHz-5.925GHz	10dBm/MHz to -27*dBm/MHz (105.6dBuV/m to 68.2* dBuV/m)	Peak
		Above 5.925GHz	-27 dBm/MHz(68.2dBuV/m)@3m	Peak

Remark:

(1)The lower limit shall apply at the transition frequency.

(2) 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

(3)Above 1GHz limit:E[dBμV/m] = EIRP[dBm] + 95.2=68.2 dBuV/m, for EIPR[dBm]=-27dBm.

4.2. Test Setup

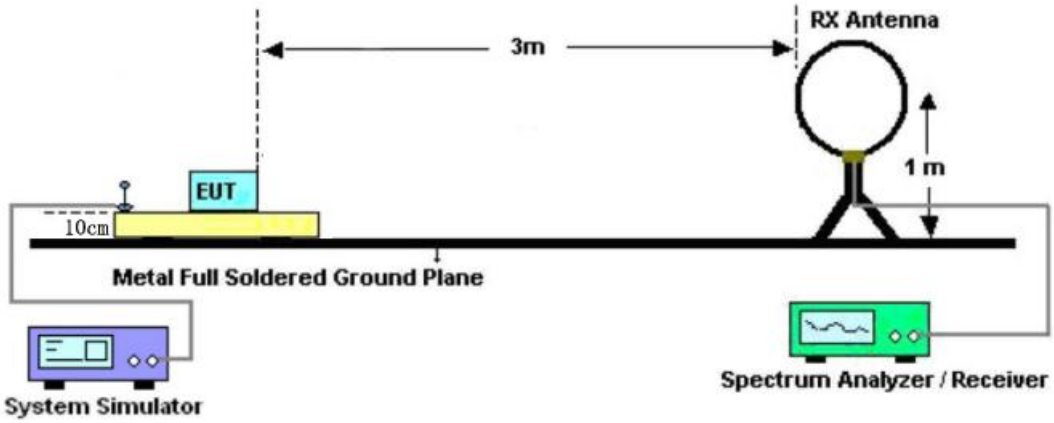


Figure 1. Below 30MHz

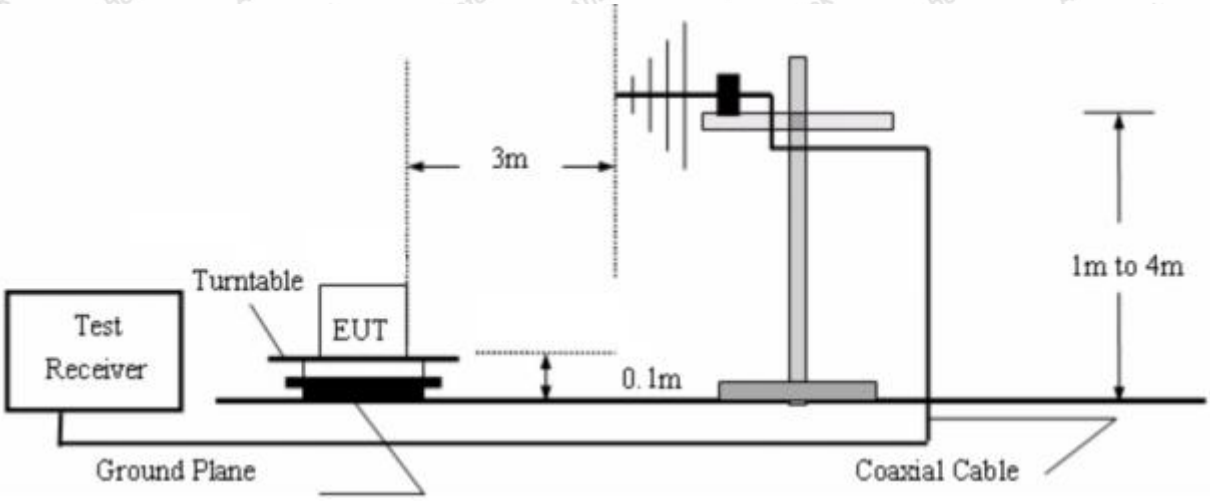


Figure 2. 30MHz to 1GHz

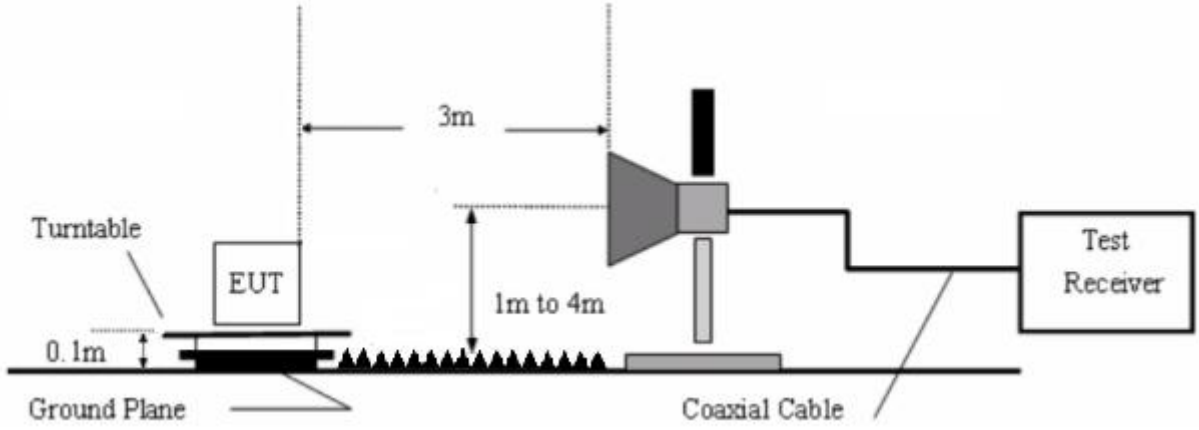


Figure 3. Above 1 GHz

4.3. Test Procedure

For below 1GHz: The EUT is placed on a turntable, which is 0.1m above the ground plane.

For above 1GHz: The EUT is placed on a turntable, which is 0.1m above the ground plane.

The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Rotated the EUT through three orthogonal axes to determine the maximum emissions, both horizontal and vertical polarization of the antenna are set on test. The EUT is tested in 9*6*6 Chamber. The device is evaluated in xyz orientation.

For the radiated emission test above 1GHz:

Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

For 9kHz to 150kHz, Set the spectrum analyzer as:
RBW = 200Hz, VBW =1kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For 150kHz to 30MHz, Set the spectrum analyzer as:
RBW = 9KHz, VBW =30kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For 30MHz to 1000MHz, Set the spectrum analyzer as:
RBW = 100kHz, VBW =300kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For above 1GHz, Set the spectrum analyzer as:

RBW =1MHz, VBW =1MHz, Detector= Peak, Trace mode= Max hold, Sweep- auto couple.

RBW =1MHz, VBW =10Hz, Detector= Average, Trace mode= Max hold, Sweep- auto couple.

4.4. Test Data

Pass

During the test, Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the X-axis is the

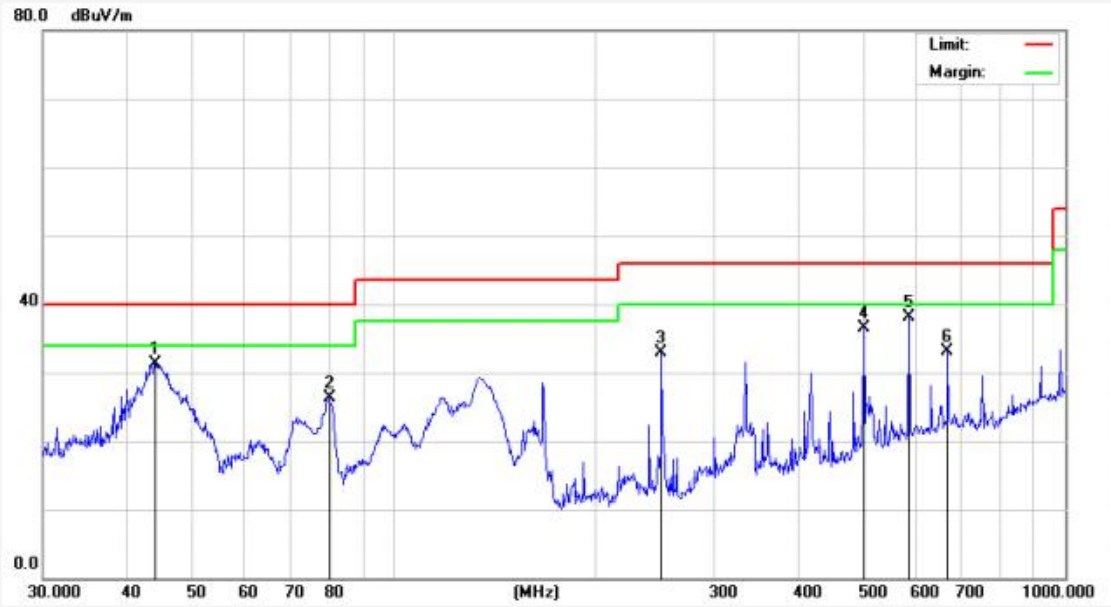
worst case.

The test results of 9kHz-30MHz was attenuated more than 20dB below the permissible limits, so the results don't record in the report.

During the test, pre-scan all the modes, and found the 802.11n(HT40) 5190MHz which is the worst case, only the worst case is recorded in the report.

Test Results (30~1000MHz)

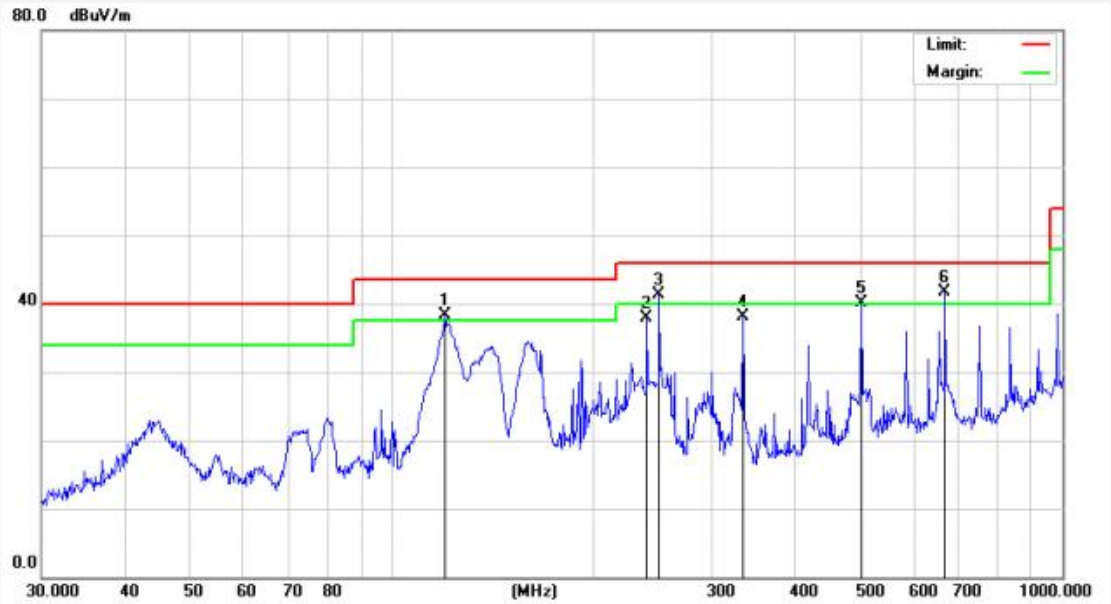
Test Mode:	802.11n(HT40) 5190MHz
Power Source:	AC 120V, 60Hz
Polarization:	Vertical
Temp.(℃)/Hum.(%RH):	20.3℃/46%RH



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector			
1	44.1202	46.27	-14.97	31.30	40.00	-8.70	QP			
2	80.0806	45.56	-19.30	26.26	40.00	-13.74	QP			
3	250.3012	50.89	-17.92	32.97	46.00	-13.03	QP			
4	501.1790	48.82	-12.22	36.60	46.00	-9.40	QP			
5	584.7895	48.97	-10.90	38.07	46.00	-7.93	QP			
6	668.1423	43.49	-10.39	33.10	46.00	-12.90	QP			

Test Results (30~1000MHz)

Test Mode:	802.11n(HT40) 5190MHz
Power Source:	AC 120V, 60Hz
Polarization:	Horizontal
Temp.(℃)/Hum.(%RH):	20.3℃/46%RH



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector			
1	119.8556	62.27	-23.94	38.33	43.50	-5.17	QP			
2	239.9874	59.57	-21.66	37.91	46.00	-8.09	QP			
3	250.3012	62.69	-21.47	41.22	46.00	-4.78	QP			
4	333.6867	54.56	-16.38	38.18	46.00	-7.82	QP			
5	501.1790	53.88	-13.72	40.16	46.00	-5.84	QP			
6	668.1423	52.04	-10.39	41.65	46.00	-4.35	QP			

Test Results (Above 1000MHz)

Test Mode: IEEE 802.11n(HT40)							
Test channel: 802.11n(HT40) 5510MHz							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
11020.000	27.49	24.12	51.61	68.20	-16.59	V	Peak
16530.000	27.72	32.96	60.68	68.20	-7.52	V	Peak
11020.000	28.51	24.12	52.63	68.20	-15.57	H	Peak
16530.000	27.40	32.96	60.36	68.20	-7.84	H	Peak
11020.000	17.18	24.12	41.30	54.00	-12.70	V	AVG
16530.000	17.84	32.96	50.80	54.00	-3.20	V	AVG
11020.000	16.71	24.12	40.83	54.00	-13.17	H	AVG
16530.000	17.50	32.96	50.46	54.00	-3.54	H	AVG
Test channel: 802.11n(HT40) 5550MHz							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
11100.000	26.76	23.86	50.62	68.20	-17.58	V	Peak
16650.000	27.96	32.25	60.21	68.20	-7.99	V	Peak
11100.000	27.39	23.86	51.25	68.20	-16.95	H	Peak
16650.000	27.58	32.25	59.83	68.20	-8.37	H	Peak
11100.000	16.35	23.86	40.21	54.00	-13.79	V	AVG
16650.000	16.57	32.25	48.82	54.00	-5.18	V	AVG
11100.000	16.41	23.86	40.27	54.00	-13.73	H	AVG
16650.000	17.07	32.25	49.32	54.00	-4.68	H	AVG
Test channel: 802.11n(HT40) 5670MHz							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
11340.000	27.76	23.60	51.36	68.20	-16.84	V	Peak
17010.000	27.96	31.58	59.54	68.20	-8.66	V	Peak
11340.000	26.39	23.60	49.99	68.20	-18.21	H	Peak
17010.000	27.03	31.58	58.61	68.20	-9.59	H	Peak
11340.000	17.14	23.60	40.74	54.00	-13.26	V	AVG
17010.000	17.81	31.58	49.39	54.00	-4.61	V	AVG
11340.000	16.89	23.60	40.49	54.00	-13.51	H	AVG
17010.000	17.67	31.58	49.25	54.00	-4.75	H	AVG

Remark:

1. During the test, pre-scan the 802.11a, 802.11n(HT20), ac(VHT20), ax(HEW20), n(HT40), ac(VHT40), ax(HEW40) mode, and found the 802.11n(HT40) mode is worse case , the report only record this mode.
2. Result =Reading + Factor

Radiated Band Edge: 5.2G&5.3G

Test Mode: IEEE 802.11a							
Test channel: Lowest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5150.00	36.98	15.99	52.97	68.20	-15.23	H	Peak
5150.00	39.05	15.99	55.04	68.20	-13.16	V	Peak
5150.00	26.92	15.99	42.91	54.00	-11.09	H	AVG
5150.00	28.97	15.99	44.96	54.00	-9.04	V	AVG
Test channel: Highest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5350.00	37.43	16.43	53.86	68.20	-14.34	H	Peak
5350.00	40.38	16.43	56.81	68.20	-11.39	V	Peak
5350.00	28.75	16.43	45.18	54.00	-8.82	H	AVG
5350.00	29.65	16.43	46.08	54.00	-7.92	V	AVG

Remark: 1. Result =Reading + Factor

Test Mode: IEEE 802.11n(HT20)							
Test channel: Lowest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5150.00	35.93	15.99	51.92	68.20	-16.28	H	Peak
5150.00	37.32	15.99	53.31	68.20	-14.89	V	Peak
5150.00	26.65	15.99	42.64	54.00	-11.36	H	AVG
5150.00	27.64	15.99	43.63	54.00	-10.37	V	AVG
Test channel: Highest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5350.00	37.75	16.43	54.18	68.20	-14.02	H	Peak
5350.00	38.79	16.43	55.22	68.20	-12.98	V	Peak
5350.00	27.78	16.43	44.21	54.00	-9.79	H	AVG
5350.00	29.23	16.43	45.66	54.00	-8.34	V	AVG

Remark: 1. Result =Reading + Factor

Test Mode: IEEE 802.11n(HT40)							
Test channel: Lowest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5150.00	36.47	15.99	52.46	68.20	-15.74	H	Peak
5150.00	38.32	15.99	54.31	68.20	-13.89	V	Peak
5150.00	27.04	15.99	43.03	54.00	-10.97	H	AVG
5150.00	28.75	15.99	44.74	54.00	-9.26	V	AVG
Test channel: Highest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5350.00	38.08	16.43	54.51	68.20	-13.69	H	Peak
5350.00	36.95	16.43	53.38	68.20	-14.82	V	Peak
5350.00	28.29	16.43	44.72	54.00	-9.28	H	AVG
5350.00	29.50	16.43	45.93	54.00	-8.07	V	AVG

Remark: 1. Result =Reading + Factor

Test Mode: IEEE 802.11ac(VHT20)							
Test channel: Lowest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5150.00	36.93	15.99	52.92	68.20	-15.28	H	Peak
5150.00	38.69	15.99	54.68	68.20	-13.52	V	Peak
5150.00	26.56	15.99	42.55	54.00	-11.45	H	AVG
5150.00	28.75	15.99	44.74	54.00	-9.26	V	AVG
Test channel: Highest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5350.00	37.88	16.43	54.31	68.20	-13.89	H	Peak
5350.00	38.13	16.43	54.56	68.20	-13.64	V	Peak
5350.00	27.79	16.43	44.22	54.00	-9.78	H	AVG
5350.00	28.35	16.43	44.78	54.00	-9.22	V	AVG

Remark: 1. Result =Reading + Factor

Test Mode: IEEE 802.11ac(VHT40)							
Test channel: Lowest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5150.00	35.88	15.99	51.87	68.20	-16.33	H	Peak
5150.00	36.33	15.99	52.32	68.20	-15.88	V	Peak
5150.00	26.07	15.99	42.06	54.00	-11.94	H	AVG
5150.00	26.80	15.99	42.79	54.00	-11.21	V	AVG
Test channel: Highest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5350.00	38.03	16.43	54.46	68.20	-13.74	H	Peak
5350.00	37.18	16.43	53.61	68.20	-14.59	V	Peak
5350.00	27.49	16.43	43.92	54.00	-10.08	H	AVG
5350.00	27.47	16.43	43.90	54.00	-10.10	V	AVG

Remark: 1. Result =Reading + Factor

Test Mode: IEEE 802.11ax(HEW20)							
Test channel: Lowest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5150.00	36.98	15.99	52.97	68.20	-15.23	H	Peak
5150.00	38.74	15.99	54.73	68.20	-13.47	V	Peak
5150.00	26.58	15.99	42.57	54.00	-11.43	H	AVG
5150.00	28.79	15.99	44.78	54.00	-9.22	V	AVG
Test channel: Highest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5350.00	37.90	16.43	54.33	68.20	-13.87	H	Peak
5350.00	38.15	16.43	54.58	68.20	-13.62	V	Peak
5350.00	27.82	16.43	44.25	54.00	-9.75	H	AVG
5350.00	28.40	16.43	44.83	54.00	-9.17	V	AVG

Remark: 1. Result =Reading + Factor

Test Mode: IEEE 802.11ax(HEW40)							
Test channel: Lowest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5150.00	35.93	15.99	51.92	68.20	-16.28	H	Peak
5150.00	36.36	15.99	52.35	68.20	-15.85	V	Peak
5150.00	26.13	15.99	42.12	54.00	-11.88	H	AVG
5150.00	26.85	15.99	42.84	54.00	-11.16	V	AVG
Test channel: Highest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5350.00	38.07	16.43	54.50	68.20	-13.70	H	Peak
5350.00	37.20	16.43	53.63	68.20	-14.57	V	Peak
5350.00	27.51	16.43	43.94	54.00	-10.06	H	AVG
5350.00	27.53	16.43	43.96	54.00	-10.04	V	AVG

Remark: 1. Result =Reading + Factor

Radiated Band Edge: 5.6G&5.8G

Test Mode: IEEE 802.11a							
Test channel: Lowest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5460.00	38.37	16.37	54.74	68.20	-13.46	H	Peak
5460.00	39.83	16.37	56.20	68.20	-12.00	V	Peak
5470.00	39.30	16.70	56.00	68.20	-12.20	H	Peak
5470.00	40.12	16.70	56.82	68.20	-11.38	V	Peak
5460.00	28.91	16.37	45.28	54.00	-8.72	H	AVG
5460.00	28.80	16.37	45.17	54.00	-8.83	V	AVG
5470.00	29.18	16.70	45.88	54.00	-8.12	H	AVG
5470.00	30.31	16.70	47.01	54.00	-6.99	V	AVG
Test channel: Highest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5850.00	39.35	17.21	56.56	68.20	-11.64	H	Peak
5850.00	39.76	17.21	56.97	68.20	-11.23	V	Peak
5850.00	29.30	17.21	46.51	54.00	-7.49	H	AVG
5850.00	29.28	17.21	46.49	54.00	-7.51	V	AVG

Remark: Result =Reading + Factor

Test Mode: IEEE 802.11n(HT20)							
Test channel: Lowest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5460.00	38.36	16.37	54.73	68.20	-13.47	H	Peak
5460.00	39.00	16.37	55.37	68.20	-12.83	V	Peak
5470.00	38.47	16.70	55.17	68.20	-13.03	H	Peak
5470.00	38.95	16.70	55.65	68.20	-12.55	V	Peak
5460.00	27.27	16.37	43.64	54.00	-10.36	H	AVG
5460.00	27.75	16.37	44.12	54.00	-9.88	V	AVG
5470.00	27.71	16.70	44.41	54.00	-9.59	H	AVG
5470.00	28.29	16.70	44.99	54.00	-9.01	V	AVG
Test channel: Highest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5850.00	37.59	17.21	54.80	68.20	-13.40	H	Peak
5850.00	38.15	17.21	55.36	68.20	-12.84	V	Peak
5850.00	27.92	17.21	45.13	54.00	-8.87	H	AVG
5850.00	28.67	17.21	45.88	54.00	-8.12	V	AVG

Remark: 1. Result =Reading + Factor

Test Mode: IEEE 802.11n(HT40)							
Test channel: Lowest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5460.00	37.94	16.37	54.31	68.20	-13.89	H	Peak
5460.00	38.88	16.37	55.25	68.20	-12.95	V	Peak
5470.00	38.77	16.70	55.47	68.20	-12.73	H	Peak
5470.00	39.49	16.70	56.19	68.20	-12.01	V	Peak
5460.00	27.01	16.37	43.38	54.00	-10.62	H	AVG
5460.00	28.83	16.37	45.20	54.00	-8.80	V	AVG
5470.00	27.21	16.70	43.91	54.00	-10.09	H	AVG
5470.00	28.51	16.70	45.21	54.00	-8.79	V	AVG
Test channel: Highest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5850.00	38.30	17.21	55.51	68.20	-12.69	H	Peak
5850.00	38.63	17.21	55.84	68.20	-12.36	V	Peak
5850.00	28.49	17.21	45.70	54.00	-8.30	H	AVG
5850.00	29.53	17.21	46.74	54.00	-7.26	V	AVG

Remark: 1. Result =Reading + Factor

Test Mode: IEEE 802.11ac(VHT20)							
Test channel: Lowest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5460.00	37.55	16.37	53.92	68.20	-14.28	H	Peak
5460.00	37.62	16.37	53.99	68.20	-14.21	V	Peak
5470.00	38.13	16.70	54.83	68.20	-13.37	H	Peak
5470.00	38.42	16.70	55.12	68.20	-13.08	V	Peak
5460.00	28.14	16.37	44.51	54.00	-9.49	H	AVG
5460.00	28.85	16.37	45.22	54.00	-8.78	V	AVG
5470.00	28.42	16.70	45.12	54.00	-8.88	H	AVG
5470.00	29.31	16.70	46.01	54.00	-7.99	V	AVG
Test channel: Highest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5850.00	38.29	17.21	55.50	68.20	-12.70	H	Peak
5850.00	39.14	17.21	56.35	68.20	-11.85	V	Peak
5850.00	28.13	17.21	45.34	54.00	-8.66	H	AVG
5850.00	29.27	17.21	46.48	54.00	-7.52	V	AVG

Remark: 1. Result =Reading + Factor

Test Mode: IEEE 802.11ac(VHT40)							
Test channel: Lowest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5460.00	36.48	16.37	52.85	68.20	-15.35	H	Peak
5460.00	37.95	16.37	54.32	68.20	-13.88	V	Peak
5470.00	36.91	16.70	53.61	68.20	-14.59	H	Peak
5470.00	38.29	16.70	54.99	68.20	-13.21	V	Peak
5460.00	27.45	16.37	43.82	54.00	-10.18	H	AVG
5460.00	27.56	16.37	43.93	54.00	-10.07	V	AVG
5470.00	27.70	16.70	44.40	54.00	-9.60	H	AVG
5470.00	28.37	16.70	45.07	54.00	-8.93	V	AVG
Test channel: Highest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5850.00	37.81	17.21	55.02	68.20	-13.18	H	Peak
5850.00	38.71	17.21	55.92	68.20	-12.28	V	Peak
5850.00	27.83	17.21	45.04	54.00	-8.96	H	AVG
5850.00	27.50	17.21	44.71	54.00	-9.29	V	AVG

Remark: 1. Result =Reading + Factor

Test Mode: IEEE 802.11ax(HEW20)							
Test channel: Lowest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5460.00	37.65	16.37	54.02	68.20	-14.18	H	Peak
5460.00	37.67	16.37	54.04	68.20	-14.16	V	Peak
5470.00	38.23	16.70	54.93	68.20	-13.27	H	Peak
5470.00	38.47	16.70	55.17	68.20	-13.03	V	Peak
5460.00	28.21	16.37	44.58	54.00	-9.42	H	AVG
5460.00	28.98	16.37	45.35	54.00	-8.65	V	AVG
5470.00	28.49	16.70	45.19	54.00	-8.81	H	AVG
5470.00	29.44	16.70	46.14	54.00	-7.86	V	AVG
Test channel: Highest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5850.00	38.39	17.21	55.60	68.20	-12.60	H	Peak
5850.00	39.22	17.21	56.43	68.20	-11.77	V	Peak
5850.00	28.21	17.21	45.42	54.00	-8.58	H	AVG
5850.00	29.40	17.21	46.61	54.00	-7.39	V	AVG

Remark: 1. Result =Reading + Factor

Test Mode: IEEE 802.11ax(HEW40)							
Test channel: Lowest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5460.00	36.57	16.37	52.94	68.20	-15.26	H	Peak
5460.00	38.01	16.37	54.38	68.20	-13.82	V	Peak
5470.00	37.00	16.70	53.70	68.20	-14.50	H	Peak
5470.00	38.35	16.70	55.05	68.20	-13.15	V	Peak
5460.00	27.52	16.37	43.89	54.00	-10.11	H	AVG
5460.00	27.62	16.37	43.99	54.00	-10.01	V	AVG
5470.00	27.77	16.70	44.47	54.00	-9.53	H	AVG
5470.00	28.43	16.70	45.13	54.00	-8.87	V	AVG
Test channel: Highest							
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Antenna Pol.	Detector
5850.00	37.89	17.21	55.10	68.20	-13.10	H	Peak
5850.00	38.84	17.21	56.05	68.20	-12.15	V	Peak
5850.00	27.92	17.21	45.13	54.00	-8.87	H	AVG
5850.00	27.63	17.21	44.84	54.00	-9.16	V	AVG

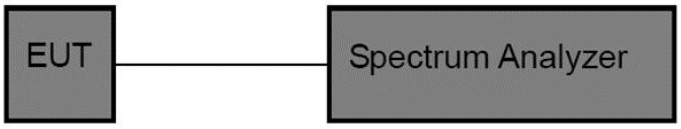
Remark: 1. Result =Reading + Factor

5. Maximum Conducted Output Power Test

5.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.407(a)	
Test Limit	5.15 - 5.25GHz	1) Outdoor AP The maximum conducted output power (Pout) shall not exceed the lesser of 1W (30dBm). if GTx>6dBi, then Pout =30-(GTx-6). e.i.r.p. at any elevation angle above 30 degrees≤125mW (21dBm) 2) Indoor AP The maximum conducted output power (Pout) shall not exceed the lesser of 1W (30dBm). if GTx>6dBi, then Pout =30-(GTx-6). 3) Point-to-point AP The maximum conducted output power (Pout) shall not exceed the lesser of 1W (30dBm). if GTx>23dBi, then Pout =30-(GTx-23). 4) Client devices The maximum conducted output power (Pout) shall not exceed the lesser of 250W (23.98dBm). if GTx>6dBi, then Pout =24-(GTx-6).
	5.25 - 5.35GHz	The maximum conducted output power (Pout) shall not exceed the lesser of 250mW (24dBm) or 11dBm+10 log B, where B is the 26dB emission bandwith in MHz. if GTx>6dBi, then Pout =24-(GTx-6).
	5.47- 5.725GHz	The maximum conducted output power (Pout) shall not exceed the lesser of 250mW (23.98dBm) or 11dBm+10 log B, where B is the 26dB emission bandwith in MHz. if GTx>6dBi, then Pout =24-(GTx-6).
	5.725 - 5.85GHz	1) Point-to-multipoint systems (P2M) The maximum conducted output power (Pout) shall not exceed the lesser of 1W (30dBm). if GTx>6dBi, then Pout =30-(GTx-6). 2) Point-to-point systems (P2P) The maximum conducted output power (Pout) shall not exceed the lesser of 1W (30dBm).

5.2. Test Setup



5.3. Test Procedure

1. Measure the duty cycle D of the transmitter output signal.
2. Set span to encompass the entire 99% OBW of the signal.

3. Set RBW = 1 MHz.
4. Set VBW ≥ [3 × RBW].
5. Number of points in sweep ≥ [2 × span / RBW].
6. Sweep time = auto.
7. Detector = RMS
8. Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed such that the average accurately represents the true average over the ON and OFF periods of the transmitter.
9. Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function with band limits set equal to the OBW band edges. If the instrument does not have a band power function, then sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.
10. Add [10 log (1 / D)], where D is the duty cycle, to the measured power to compute the average power during the actual transmission times.

Note: The cable loss and attenuator loss were offset into measure device as amplitude offset.

5.4. Test Data

Pass

Please refer to Appendix C of the Appendix Test Data.

Additional test for duty cycle.

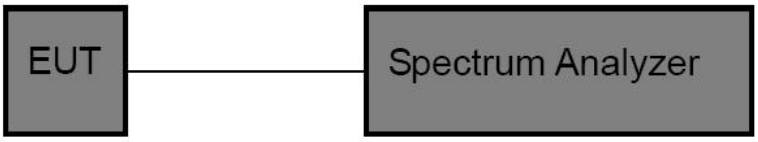
Please refer to Appendix B of the Appendix Test Data.

6. 26dB Bandwidth & 99% Occupied Bandwidth Test

6.1. Test Standard

Test Standard	FCC Part15 C Section 15.407(a) & 2.1049
Test Limit	N/A

6.2. Test Setup



6.3. Test Procedure

1. Place the EUT on the table and set it in the 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:

   26 dB &99%bandwidth
   RBW = approximately 1% of the emission bandwidth;
   Set the VBW＞RBW;
   Detector= Peak
   Trace mode= Max hold.
   Sweep- auto couple.
4. Measure the maximum width of the emission that is 26dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer.
5. Repeat until all the rest channels are investigated.

6.4. Test Data

Pass

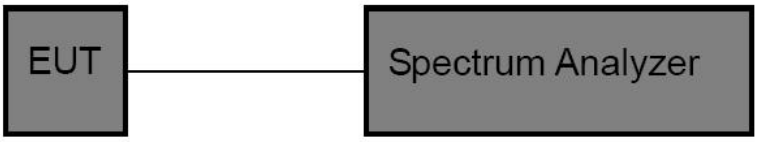
Please refer to Appendix A1&A2 of the Appendix Test Data.

7. Minimum 6dB Bandwidth Test

7.1. Test Standard

Test Standard	FCC Part15 C Section 15.407(e)
Test Limit	≥500 kHz

7.2. Test Setup



7.3. Test Procedure

1. Place the EUT on the table and set it in the 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:

   6 dB bandwidth
   RBW= 100kHz, VBW≥3*RBW
   Detector= Peak
   Trace mode= Max hold.
   Sweep- auto couple.
   Mark the peak frequency and –6dB (upper and lower) frequency.
4. Measure the maximum width of the emission that is 6dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer.
5. Repeat until all the rest channels are investigated.

7.4. Test Data

Pass

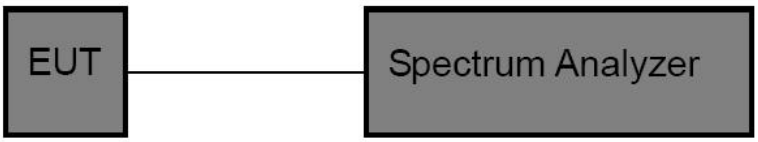
Please refer to Appendix A3 of the Appendix Test Data.

8. Maximum Power Spectral Density Test

8.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.407(a)	
Test Limit	5.15 - 5.25GHz	1) Outdoor AP The peak power spectral density (PSD) shall not exceed the lesser of 17dBm/MHz. if GTx>6dBi, then PSD =17-(GTx-6). 2) Indoor AP The peak power spectral density (PSD) shall not exceed the lesser of 17dBm/MHz. if GTx>6dBi, then PSD =17-(GTx-6). 3) Point-to-point AP The peak power spectral density (PSD) shall not exceed the lesser of 17dBm/MHz. if GTx>23dBi, then PSD =17-(GTx-23). 4) Client devices The peak power spectral density (PSD) shall not exceed the lesser of 11dBm/MHz. if GTx>6dBi, then PSD =11-(GTx-6).
	5.25 - 5.35GHz	The peak power spectral density (PSD) shall not exceed the lesser of 11dBm/MHz. if GTx>6dBi, then PSD =11-(GTx-6).
	5.47- 5.725GHz	The peak power spectral density (PSD) shall not exceed the lesser of 11dBm/MHz. if GTx>6dBi, then PSD =11-(GTx-6).
	5.725 - 5.85GHz	1) Point-to-multipoint systems (P2M) The peak power spectral density (PSD) shall not exceed the lesser of 30dBm/500kHz. if GTx>6dBi, then PSD =30-(GTx-6). 2) Point-to-point systems (P2P) The peak power spectral density (PSD) shall not exceed the lesser of 30dBm/500kHz.

8.2. Test Setup



8.3. Test Procedure

For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz).

1. The EUT is directly connected to the spectrum analyzer;
2. Set RBW =1MHz;

3. Set VBW ≥ 3 RBW=3MHz;
3. Set the span to encompass the entire emissions bandwidth (EBW) of the signal;
5. Detector=RMS;
6. Sweep time= auto couple;
7. Trace mode=max. hold;

8.4. Test Data

Pass

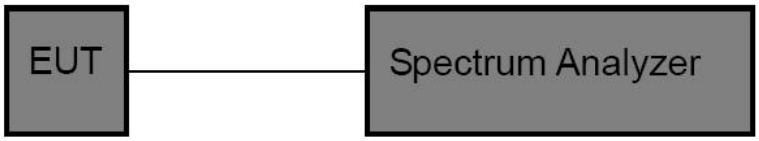
Please refer to Appendix D of the Appendix Test Data.

9. Conducted Band Edge Test

9.1. Test Standard and Limit

Test Standard	15.407(b)			
Test Limit	Operating Band	Frequency	EIRP Limit	Remark
	5150-5250MHz	Out of operation band	-27dBm/MHz	Peak
	5250-5350MHz	Out of operation band	-27dBm/MHz	Peak
	5470-5725MHz	Out of operation band	-27dBm/MHz	Peak
	5725-5850 MHz	Below 5.65GHz	-27dBm/MHz	Peak
		5.65GHz-5.7GHz	-27dBm/MHz to 10dBm/MHz	Peak
		5.7GHz-5.72GHz	10dBm/MHz to 15.6dBm/MHz	Peak
		5.72GHz-5.725GHz	15.6dBm/MHz to 27dBm/MHz	Peak
		5.85GHz-5.855GHz	27dBm/MHz to 15.6dBm/MHz	Peak
		5.855GHz-5.875GHz	15.6dBm/MHz to 10dBm/MHz	Peak
		5.875GHz-5.925GHz	10dBm/MHz to -27dBm/MHz	Peak
		Above 5.925GHz	-27dBm/MHz	Peak

9.2. Test Setup



9.3. Test Procedure

Using the following spectrum analyzer setting:

1. Set the RBW = 1MHz.
2. Set the VBW = 3MHz.
3. Sweep time = auto couple.
4. Detector function = peak.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.

9.4. Test Data

Pass

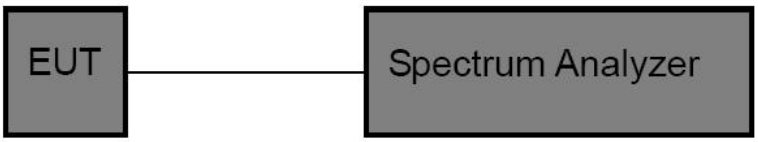
Please refer to Appendix E of the Appendix Test Data.

10. Frequency Stability

10.1. Test Standard and Limit

Test Standard	FCC Part15 Section 15.407(g)
Test Limit	The frequency tolerance shall be maintained within the band of operation frequency over a temperature variation of 0 degrees to 35 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

10.2. Test Setup



10.3. Test Procedure

The EUT was placed inside the environmental test chamber and powered by nominal AC/DC voltage. b. Turn the EUT on and couple its output to a spectrum analyzer. c. Turn the EUT off and set the chamber to the highest temperature specified. d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize. e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature. f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

10.4. Test Data

Pass

Please to see the following pages.

Test Mode: 5.2G							
Mode	TX Type	Frequency (MHz)	Temperature (°C)	Voltage (VAC)	Measured Frequency (MHz)	Limit	Verdict
802.11a	SISO	5180	20	102.00	5180.04	5172 to 5188	Pass
				120.00	5180.00	5172 to 5188	Pass
				138.00	5180.12	5172 to 5188	Pass
			-30	120.00	5180.05	5172 to 5188	Pass
			-20	120.00	5180.08	5150 to 5250	Pass
			-10	120.00	5180.08	5150 to 5250	Pass
			0	120.00	5180.03	5150 to 5250	Pass
			10	120.00	5180.08	5150 to 5250	Pass
			30	120.00	5180.03	5150 to 5250	Pass
			40	120.00	5180.02	5150 to 5250	Pass
			50	120.00	5180.01	5172 to 5188	Pass
		5200	20	102.00	5200.06	5192 to 5208	Pass
				120.00	5200.08	5192 to 5208	Pass
				138.00	5200.00	5192 to 5208	Pass
			-30	120.00	5200.13	5192 to 5208	Pass
			-20	120.00	5200.13	5150 to 5250	Pass
			-10	120.00	5200.01	5150 to 5250	Pass
			0	120.00	5200.06	5150 to 5250	Pass
			10	120.00	5200.02	5150 to 5250	Pass
			30	120.00	5200.11	5150 to 5250	Pass
			40	120.00	5200.02	5150 to 5250	Pass
			50	120.00	5200.01	5192 to 5208	Pass
		5240	20	102.00	5240.01	5232 to 5248	Pass
				120.00	5240.10	5232 to 5248	Pass
				138.00	5240.05	5232 to 5248	Pass
			-30	120.00	5240.12	5232 to 5248	Pass
			-20	120.00	5240.02	5150 to 5250	Pass
			-10	120.00	5240.10	5150 to 5250	Pass
			0	120.00	5240.11	5150 to 5250	Pass
			10	120.00	5240.12	5150 to 5250	Pass
			30	120.00	5240.04	5150 to 5250	Pass
			40	120.00	5240.09	5150 to 5250	Pass
			50	120.00	5240.11	5232 to 5248	Pass
802.11n (HT20)	SISO	5180	20	102.00	5180.04	5172 to 5188	Pass
				120.00	5180.04	5172 to 5188	Pass
				138.00	5180.11	5172 to 5188	Pass
			-30	120.00	5180.08	5172 to 5188	Pass

			-20	120.00	5180.01	5150 to 5250	Pass
			-10	120.00	5180.08	5150 to 5250	Pass
			0	120.00	5180.10	5150 to 5250	Pass
			10	120.00	5180.13	5150 to 5250	Pass
			30	120.00	5180.06	5150 to 5250	Pass
			40	120.00	5180.07	5150 to 5250	Pass
			50	120.00	5180.04	5172 to 5188	Pass
		5200	20	102.00	5200.09	5192 to 5208	Pass
				120.00	5200.07	5192 to 5208	Pass
				138.00	5200.13	5192 to 5208	Pass
			-30	120.00	5200.13	5192 to 5208	Pass
			-20	120.00	5200.13	5150 to 5250	Pass
			-10	120.00	5200.12	5150 to 5250	Pass
			0	120.00	5200.09	5150 to 5250	Pass
			10	120.00	5200.01	5150 to 5250	Pass
			30	120.00	5200.11	5150 to 5250	Pass
			40	120.00	5200.03	5150 to 5250	Pass
			50	120.00	5200.07	5192 to 5208	Pass
		5240	20	102.00	5240.00	5232 to 5248	Pass
				120.00	5240.12	5232 to 5248	Pass
				138.00	5240.09	5232 to 5248	Pass
			-30	120.00	5240.12	5232 to 5248	Pass
			-20	120.00	5240.13	5150 to 5250	Pass
			-10	120.00	5240.07	5150 to 5250	Pass
			0	120.00	5240.06	5150 to 5250	Pass
			10	120.00	5240.08	5150 to 5250	Pass
			30	120.00	5240.13	5150 to 5250	Pass
			40	120.00	5240.06	5150 to 5250	Pass
			50	120.00	5240.12	5232 to 5248	Pass
802.11n (HT40)	SISO	5190	20	102.00	5190.02	5174 to 5206	Pass
				120.00	5190.02	5174 to 5206	Pass
				138.00	5190.13	5174 to 5206	Pass
			-30	120.00	5190.08	5174 to 5206	Pass
			-20	120.00	5190.01	5150 to 5250	Pass
			-10	120.00	5190.09	5150 to 5250	Pass
			0	120.00	5190.03	5150 to 5250	Pass
			10	120.00	5190.00	5150 to 5250	Pass
			30	120.00	5190.08	5150 to 5250	Pass
			40	120.00	5190.01	5150 to 5250	Pass
			50	120.00	5190.11	5174 to 5206	Pass

		5230	20	102.00	5230.11	5214 to 5246	Pass
				120.00	5230.09	5214 to 5246	Pass
				138.00	5230.01	5214 to 5246	Pass
			-30	120.00	5230.10	5214 to 5246	Pass
			-20	120.00	5230.00	5150 to 5250	Pass
			-10	120.00	5230.09	5150 to 5250	Pass
			0	120.00	5230.09	5150 to 5250	Pass
			10	120.00	5230.02	5150 to 5250	Pass
			30	120.00	5230.05	5150 to 5250	Pass
			40	120.00	5230.02	5150 to 5250	Pass
			50	120.00	5230.05	5214 to 5246	Pass
802.11ac (VHT20)	SISO	5180	20	102.00	5180.02	5172 to 5188	Pass
				120.00	5180.04	5172 to 5188	Pass
				138.00	5180.01	5172 to 5188	Pass
			-30	120.00	5180.06	5172 to 5188	Pass
			-20	120.00	5180.08	5150 to 5250	Pass
			-10	120.00	5180.11	5150 to 5250	Pass
			0	120.00	5180.07	5150 to 5250	Pass
			10	120.00	5180.08	5150 to 5250	Pass
			30	120.00	5180.00	5150 to 5250	Pass
			40	120.00	5180.10	5150 to 5250	Pass
			50	120.00	5180.10	5172 to 5188	Pass
		5200	20	102.00	5200.06	5192 to 5208	Pass
				120.00	5200.09	5192 to 5208	Pass
				138.00	5200.02	5192 to 5208	Pass
			-30	120.00	5200.03	5192 to 5208	Pass
			-20	120.00	5200.12	5150 to 5250	Pass
			-10	120.00	5200.11	5150 to 5250	Pass
			0	120.00	5200.12	5150 to 5250	Pass
			10	120.00	5200.09	5150 to 5250	Pass
			30	120.00	5200.07	5150 to 5250	Pass
			40	120.00	5200.10	5150 to 5250	Pass
			50	120.00	5200.09	5192 to 5208	Pass
		5240	20	102.00	5240.09	5232 to 5248	Pass
				120.00	5240.11	5232 to 5248	Pass
				138.00	5240.10	5232 to 5248	Pass
			-30	120.00	5240.12	5232 to 5248	Pass
			-20	120.00	5240.10	5150 to 5250	Pass
			-10	120.00	5240.03	5150 to 5250	Pass
			0	120.00	5240.04	5150 to 5250	Pass

			10	120.00	5240.12	5150 to 5250	Pass
			30	120.00	5240.10	5150 to 5250	Pass
			40	120.00	5240.01	5150 to 5250	Pass
			50	120.00	5240.04	5232 to 5248	Pass
802.11ac (VHT40)	SISO	5190	20	102.00	5190.07	5174 to 5206	Pass
				120.00	5190.08	5174 to 5206	Pass
				138.00	5190.08	5174 to 5206	Pass
			-30	120.00	5190.03	5174 to 5206	Pass
			-20	120.00	5190.10	5150 to 5250	Pass
			-10	120.00	5190.03	5150 to 5250	Pass
			0	120.00	5190.12	5150 to 5250	Pass
			10	120.00	5190.06	5150 to 5250	Pass
			30	120.00	5190.11	5150 to 5250	Pass
			40	120.00	5190.01	5150 to 5250	Pass
			50	120.00	5190.12	5174 to 5206	Pass
		5230	20	102.00	5230.03	5214 to 5246	Pass
				120.00	5230.06	5214 to 5246	Pass
				138.00	5230.01	5214 to 5246	Pass
			-30	120.00	5230.03	5214 to 5246	Pass
			-20	120.00	5230.02	5150 to 5250	Pass
			-10	120.00	5230.03	5150 to 5250	Pass
			0	120.00	5230.12	5150 to 5250	Pass
			10	120.00	5230.03	5150 to 5250	Pass
			30	120.00	5230.07	5150 to 5250	Pass
			40	120.00	5230.02	5150 to 5250	Pass
			50	120.00	5230.09	5214 to 5246	Pass
802.11ax (HEW20)	SISO	5180	20	102.00	5180.05	5172 to 5188	Pass
				120.00	5180.12	5172 to 5188	Pass
				138.00	5180.10	5172 to 5188	Pass
			-30	120.00	5180.00	5172 to 5188	Pass
			-20	120.00	5180.09	5150 to 5250	Pass
			-10	120.00	5180.08	5150 to 5250	Pass
			0	120.00	5180.04	5150 to 5250	Pass
			10	120.00	5180.07	5150 to 5250	Pass
			30	120.00	5180.12	5150 to 5250	Pass
			40	120.00	5180.04	5150 to 5250	Pass
			50	120.00	5180.06	5172 to 5188	Pass
		5200	20	102.00	5200.05	5192 to 5208	Pass
				120.00	5200.07	5192 to 5208	Pass
				138.00	5200.11	5192 to 5208	Pass

			-30	120.00	5200.02	5192 to 5208	Pass
			-20	120.00	5200.02	5150 to 5250	Pass
			-10	120.00	5200.10	5150 to 5250	Pass
			0	120.00	5200.12	5150 to 5250	Pass
			10	120.00	5200.06	5150 to 5250	Pass
			30	120.00	5200.08	5150 to 5250	Pass
			40	120.00	5200.06	5150 to 5250	Pass
			50	120.00	5200.07	5192 to 5208	Pass
		5240	20	102.00	5240.02	5232 to 5248	Pass
				120.00	5240.07	5232 to 5248	Pass
				138.00	5240.05	5232 to 5248	Pass
			-30	120.00	5240.09	5232 to 5248	Pass
			-20	120.00	5240.04	5150 to 5250	Pass
			-10	120.00	5240.08	5150 to 5250	Pass
			0	120.00	5240.04	5150 to 5250	Pass
			10	120.00	5240.04	5150 to 5250	Pass
			30	120.00	5240.11	5150 to 5250	Pass
			40	120.00	5240.05	5150 to 5250	Pass
			50	120.00	5240.04	5232 to 5248	Pass
802.11ax (HEW40)	SISO	5190	20	102.00	5190.04	5174 to 5206	Pass
				120.00	5190.05	5174 to 5206	Pass
				138.00	5190.03	5174 to 5206	Pass
			-30	120.00	5190.01	5174 to 5206	Pass
			-20	120.00	5190.04	5150 to 5250	Pass
			-10	120.00	5190.05	5150 to 5250	Pass
			0	120.00	5190.05	5150 to 5250	Pass
			10	120.00	5190.08	5150 to 5250	Pass
			30	120.00	5190.07	5150 to 5250	Pass
			40	120.00	5190.08	5150 to 5250	Pass
			50	120.00	5190.04	5174 to 5206	Pass
		5230	20	102.00	5230.06	5214 to 5246	Pass
				120.00	5230.01	5214 to 5246	Pass
				138.00	5230.05	5214 to 5246	Pass
			-30	120.00	5230.07	5214 to 5246	Pass
			-20	120.00	5230.09	5150 to 5250	Pass
			-10	120.00	5230.10	5150 to 5250	Pass
			0	120.00	5230.09	5150 to 5250	Pass
			10	120.00	5230.05	5150 to 5250	Pass
			30	120.00	5230.07	5150 to 5250	Pass
			40	120.00	5230.07	5150 to 5250	Pass

			50	120.00	5230.05	5214 to 5246	Pass

Test Mode: 5.3G							
Mode	TX Type	Frequency (MHz)	Temperature (°C)	Voltage (VAC)	Measured Frequency (MHz)	Limit	Verdict
802.11a	SISO	5180	20	102.00	5260.03	5252 to 5268	Pass
				120.00	5260.10	5252 to 5268	Pass
				138.00	5260.06	5252 to 5268	Pass
			-30	102.00	5260.00	5252 to 5268	Pass
			-20	120.00	5260.04	5250 to 5350	Pass
			-10	120.00	5260.10	5250 to 5350	Pass
			0	120.00	5260.06	5250 to 5350	Pass
			10	120.00	5260.07	5250 to 5350	Pass
			30	120.00	5260.03	5250 to 5350	Pass
			40	120.00	5260.02	5250 to 5350	Pass
			50	120.00	5260.04	5252 to 5268	Pass
		5200	20	102.00	5280.11	5292 to 5308	Pass
				120.00	5280.08	5292 to 5308	Pass
				138.00	5280.06	5292 to 5308	Pass
			-30	102.00	5280.01	5292 to 5308	Pass
			-20	120.00	5280.08	5250 to 5350	Pass
			-10	120.00	5280.12	5250 to 5350	Pass
			0	120.00	5280.11	5250 to 5350	Pass
			10	120.00	5280.08	5250 to 5350	Pass
			30	120.00	5280.11	5250 to 5350	Pass
			40	120.00	5280.11	5250 to 5350	Pass
			50	120.00	5280.09	5292 to 5308	Pass
		5240	20	102.00	5320.05	5312 to 5328	Pass
				120.00	5320.09	5312 to 5328	Pass
				138.00	5320.01	5312 to 5328	Pass
			-30	102.00	5320.06	5312 to 5328	Pass
			-20	120.00	5320.12	5250 to 5350	Pass
			-10	120.00	5320.12	5250 to 5350	Pass
			0	120.00	5320.10	5250 to 5350	Pass
			10	120.00	5320.02	5250 to 5350	Pass
			30	120.00	5320.06	5250 to 5350	Pass
			40	120.00	5320.02	5250 to 5350	Pass
			50	120.00	5320.04	5312 to 5328	Pass
802.11n (HT20)	SISO	5180	20	102.00	5260.09	5252 to 5268	Pass
				120.00	5260.09	5252 to 5268	Pass
				138.00	5260.02	5252 to 5268	Pass
			-30	102.00	5260.03	5252 to 5268	Pass

			-20	120.00	5260.02	5250 to 5350	Pass
			-10	120.00	5260.05	5250 to 5350	Pass
			0	120.00	5260.11	5250 to 5350	Pass
			10	120.00	5260.02	5250 to 5350	Pass
			30	120.00	5260.01	5250 to 5350	Pass
			40	120.00	5260.06	5250 to 5350	Pass
			50	120.00	5260.04	5252 to 5268	Pass
		5200	20	102.00	5280.08	5292 to 5308	Pass
				120.00	5280.02	5292 to 5308	Pass
				138.00	5280.03	5292 to 5308	Pass
			-30	102.00	5280.10	5292 to 5308	Pass
			-20	120.00	5280.03	5250 to 5350	Pass
			-10	120.00	5280.01	5250 to 5350	Pass
			0	120.00	5280.06	5250 to 5350	Pass
			10	120.00	5280.07	5250 to 5350	Pass
			30	120.00	5280.08	5250 to 5350	Pass
			40	120.00	5280.04	5250 to 5350	Pass
			50	120.00	5280.13	5292 to 5308	Pass
		5240	20	102.00	5320.03	5312 to 5328	Pass
				120.00	5320.04	5312 to 5328	Pass
				138.00	5320.07	5312 to 5328	Pass
			-30	102.00	5320.00	5312 to 5328	Pass
			-20	120.00	5320.08	5250 to 5350	Pass
			-10	120.00	5320.01	5250 to 5350	Pass
			0	120.00	5320.01	5250 to 5350	Pass
			10	120.00	5320.08	5250 to 5350	Pass
			30	120.00	5320.08	5250 to 5350	Pass
			40	120.00	5320.08	5250 to 5350	Pass
			50	120.00	5320.11	5312 to 5328	Pass
802.11n (HT40)	SISO	5190	20	102.00	5270.11	5254 to 5286	Pass
				120.00	5270.04	5254 to 5286	Pass
				138.00	5270.02	5254 to 5286	Pass
			-30	102.00	5270.02	5254 to 5286	Pass
			-20	120.00	5270.10	5250 to 5350	Pass
			-10	120.00	5270.12	5250 to 5350	Pass
			0	120.00	5270.04	5250 to 5350	Pass
			10	120.00	5270.03	5250 to 5350	Pass
			30	120.00	5270.04	5250 to 5350	Pass
			40	120.00	5270.06	5250 to 5350	Pass
			50	120.00	5270.02	5254 to 5286	Pass

		5230	20	102.00	5310.06	5294 to 5326	Pass
				120.00	5310.10	5294 to 5326	Pass
				138.00	5310.01	5294 to 5326	Pass
			-30	102.00	5310.05	5294 to 5326	Pass
			-20	120.00	5310.06	5250 to 5350	Pass
			-10	120.00	5310.08	5250 to 5350	Pass
			0	120.00	5310.02	5250 to 5350	Pass
			10	120.00	5310.03	5250 to 5350	Pass
			30	120.00	5310.05	5250 to 5350	Pass
			40	120.00	5310.10	5250 to 5350	Pass
			50	120.00	5310.05	5294 to 5326	Pass
802.11ac (VHT20)	SISO	5180	20	102.00	5260.11	5252 to 5268	Pass
				120.00	5260.06	5252 to 5268	Pass
				138.00	5260.02	5252 to 5268	Pass
			-30	102.00	5260.03	5252 to 5268	Pass
			-20	120.00	5260.02	5250 to 5350	Pass
			-10	120.00	5260.09	5250 to 5350	Pass
			0	120.00	5260.09	5250 to 5350	Pass
			10	120.00	5260.12	5250 to 5350	Pass
			30	120.00	5260.04	5250 to 5350	Pass
			40	120.00	5260.10	5250 to 5350	Pass
			50	120.00	5260.02	5252 to 5268	Pass
		5200	20	102.00	5280.13	5292 to 5308	Pass
				120.00	5280.10	5292 to 5308	Pass
				138.00	5280.05	5292 to 5308	Pass
			-30	102.00	5280.00	5292 to 5308	Pass
			-20	120.00	5280.04	5250 to 5350	Pass
			-10	120.00	5280.00	5250 to 5350	Pass
			0	120.00	5280.08	5250 to 5350	Pass
			10	120.00	5280.06	5250 to 5350	Pass
			30	120.00	5280.02	5250 to 5350	Pass
			40	120.00	5280.01	5250 to 5350	Pass
			50	120.00	5280.10	5292 to 5308	Pass
		5240	20	102.00	5320.11	5312 to 5328	Pass
				120.00	5320.07	5312 to 5328	Pass
				138.00	5320.07	5312 to 5328	Pass
			-30	102.00	5320.11	5312 to 5328	Pass
			-20	120.00	5320.02	5250 to 5350	Pass
			-10	120.00	5320.11	5250 to 5350	Pass
			0	120.00	5320.12	5250 to 5350	Pass

Address:1/F.,Building D,Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.
Tel:(86) 0755-26066440 Fax:(86) 0755-26014772 Email:service@anbotek.com
Hotline 400-003-0500
www.anbotek.com.cn

			10	120.00	5320.07	5250 to 5350	Pass
			30	120.00	5320.05	5250 to 5350	Pass
			40	120.00	5320.04	5250 to 5350	Pass
			50	120.00	5320.10	5312 to 5328	Pass
802.11ac (VHT40)	SISO	5190	20	102.00	5270.10	5254 to 5286	Pass
				120.00	5270.05	5254 to 5286	Pass
				138.00	5270.06	5254 to 5286	Pass
			-30	102.00	5270.04	5254 to 5286	Pass
			-20	120.00	5270.08	5250 to 5350	Pass
			-10	120.00	5270.05	5250 to 5350	Pass
			0	120.00	5270.08	5250 to 5350	Pass
			10	120.00	5270.01	5250 to 5350	Pass
			30	120.00	5270.12	5250 to 5350	Pass
			40	120.00	5270.06	5250 to 5350	Pass
			50	120.00	5270.04	5254 to 5286	Pass
		5230	20	102.00	5310.08	5294 to 5326	Pass
				120.00	5310.03	5294 to 5326	Pass
				138.00	5310.04	5294 to 5326	Pass
			-30	102.00	5310.10	5294 to 5326	Pass
			-20	120.00	5310.06	5250 to 5350	Pass
			-10	120.00	5310.12	5250 to 5350	Pass
			0	120.00	5310.05	5250 to 5350	Pass
			10	120.00	5310.01	5250 to 5350	Pass
			30	120.00	5310.11	5250 to 5350	Pass
			40	120.00	5310.04	5250 to 5350	Pass
			50	120.00	5310.05	5294 to 5326	Pass
802.11ax (HEW20)	SISO	5180	20	102.00	5260.07	5252 to 5268	Pass
				120.00	5260.10	5252 to 5268	Pass
				138.00	5260.10	5252 to 5268	Pass
			-30	102.00	5260.02	5252 to 5268	Pass
			-20	120.00	5260.03	5250 to 5350	Pass
			-10	120.00	5260.08	5250 to 5350	Pass
			0	120.00	5260.09	5250 to 5350	Pass
			10	120.00	5260.10	5250 to 5350	Pass
			30	120.00	5260.06	5250 to 5350	Pass
			40	120.00	5260.06	5250 to 5350	Pass
			50	120.00	5260.08	5252 to 5268	Pass
		5200	20	102.00	5280.05	5292 to 5308	Pass
				120.00	5280.13	5292 to 5308	Pass
				138.00	5280.03	5292 to 5308	Pass

			-30	102.00	5280.05	5292 to 5308	Pass
			-20	120.00	5280.04	5250 to 5350	Pass
			-10	120.00	5280.03	5250 to 5350	Pass
			0	120.00	5280.06	5250 to 5350	Pass
			10	120.00	5280.12	5250 to 5350	Pass
			30	120.00	5280.09	5250 to 5350	Pass
			40	120.00	5280.11	5250 to 5350	Pass
			50	120.00	5280.07	5292 to 5308	Pass
		5240	20	102.00	5320.05	5312 to 5328	Pass
				120.00	5320.05	5312 to 5328	Pass
				138.00	5320.06	5312 to 5328	Pass
			-30	102.00	5320.10	5312 to 5328	Pass
			-20	120.00	5320.08	5250 to 5350	Pass
			-10	120.00	5320.06	5250 to 5350	Pass
			0	120.00	5320.08	5250 to 5350	Pass
			10	120.00	5320.11	5250 to 5350	Pass
			30	120.00	5320.07	5250 to 5350	Pass
			40	120.00	5320.09	5250 to 5350	Pass
			50	120.00	5320.12	5312 to 5328	Pass
802.11ax (HEW40)	SISO	5190	20	102.00	5270.03	5254 to 5286	Pass
				120.00	5270.11	5254 to 5286	Pass
				138.00	5270.09	5254 to 5286	Pass
			-30	102.00	5270.09	5254 to 5286	Pass
			-20	120.00	5270.01	5250 to 5350	Pass
			-10	120.00	5270.06	5250 to 5350	Pass
			0	120.00	5270.12	5250 to 5350	Pass
			10	120.00	5270.10	5250 to 5350	Pass
			30	120.00	5270.05	5250 to 5350	Pass
			40	120.00	5270.12	5250 to 5350	Pass
			50	120.00	5270.03	5254 to 5286	Pass
		5230	20	102.00	5310.05	5294 to 5326	Pass
				120.00	5310.12	5294 to 5326	Pass
				138.00	5310.06	5294 to 5326	Pass
			-30	102.00	5310.08	5294 to 5326	Pass
			-20	120.00	5310.08	5250 to 5350	Pass
			-10	120.00	5310.11	5250 to 5350	Pass
			0	120.00	5310.09	5250 to 5350	Pass
			10	120.00	5310.05	5250 to 5350	Pass
			30	120.00	5310.02	5250 to 5350	Pass
			40	120.00	5310.13	5250 to 5350	Pass

			50	120.00	5310.05	5294 to 5326	Pass

Test Mode: 5.6G							
Mode	TX Type	Frequency (MHz)	Temperature (°C)	Voltage (VAC)	Measured Frequency (MHz)	Limit	Verdict
802.11a	SISO	5500	20	102.00	5500.04	5492 to 5508	Pass
				120.00	5500.12	5492 to 5508	Pass
				138.00	5500.03	5492 to 5508	Pass
			-30	102.00	5500.12	5492 to 5508	Pass
			-20	120.00	5500.09	5470 to 5725	Pass
			-10	120.00	5500.13	5470 to 5725	Pass
			0	120.00	5500.11	5470 to 5725	Pass
			10	120.00	5500.07	5470 to 5725	Pass
			30	120.00	5500.11	5470 to 5725	Pass
			40	120.00	5500.08	5470 to 5725	Pass
			50	120.00	5500.13	5492 to 5508	Pass
		5580	20	102.00	5580.03	5572 to 5588	Pass
				120.00	5580.07	5572 to 5588	Pass
				138.00	5580.10	5572 to 5588	Pass
			-30	102.00	5580.08	5572 to 5588	Pass
			-20	120.00	5580.06	5470 to 5725	Pass
			-10	120.00	5580.01	5470 to 5725	Pass
			0	120.00	5580.07	5470 to 5725	Pass
			10	120.00	5580.11	5470 to 5725	Pass
			30	120.00	5580.02	5470 to 5725	Pass
			40	120.00	5580.12	5470 to 5725	Pass
			50	120.00	5580.03	5572 to 5588	Pass
		5700	20	102.00	5700.06	5692 to 5708	Pass
				120.00	5700.08	5692 to 5708	Pass
				138.00	5700.03	5692 to 5708	Pass
			-30	102.00	5700.07	5692 to 5708	Pass
			-20	120.00	5700.10	5470 to 5725	Pass
			-10	120.00	5700.06	5470 to 5725	Pass
			0	120.00	5700.11	5470 to 5725	Pass
			10	120.00	5700.02	5470 to 5725	Pass
			30	120.00	5700.10	5470 to 5725	Pass
			40	120.00	5700.10	5470 to 5725	Pass
			50	120.00	5700.08	5692 to 5708	Pass
802.11n (HT20)	SISO	5500	20	102.00	5500.02	5492 to 5508	Pass
				120.00	5500.09	5492 to 5508	Pass
				138.00	5500.01	5492 to 5508	Pass

			-30	102.00	5500.05	5492 to 5508	Pass
			-20	120.00	5500.04	5470 to 5725	Pass
			-10	120.00	5500.11	5470 to 5725	Pass
			0	120.00	5500.12	5470 to 5725	Pass
			10	120.00	5500.03	5470 to 5725	Pass
			30	120.00	5500.07	5470 to 5725	Pass
			40	120.00	5500.08	5470 to 5725	Pass
			50	120.00	5500.08	5492 to 5508	Pass
		5580	20	102.00	5580.04	5572 to 5588	Pass
				120.00	5580.05	5572 to 5588	Pass
				138.00	5580.01	5572 to 5588	Pass
			-30	102.00	5580.11	5572 to 5588	Pass
			-20	120.00	5580.11	5470 to 5725	Pass
			-10	120.00	5580.11	5470 to 5725	Pass
			0	120.00	5580.00	5470 to 5725	Pass
			10	120.00	5580.01	5470 to 5725	Pass
			30	120.00	5580.11	5470 to 5725	Pass
			40	120.00	5580.02	5470 to 5725	Pass
			50	120.00	5580.09	5572 to 5588	Pass
		5700	20	102.00	5700.07	5692 to 5708	Pass
				120.00	5700.06	5692 to 5708	Pass
				138.00	5700.03	5692 to 5708	Pass
			-30	102.00	5700.00	5692 to 5708	Pass
			-20	120.00	5700.08	5470 to 5725	Pass
			-10	120.00	5700.08	5470 to 5725	Pass
			0	120.00	5700.11	5470 to 5725	Pass
			10	120.00	5700.04	5470 to 5725	Pass
			30	120.00	5700.04	5470 to 5725	Pass
			40	120.00	5700.11	5470 to 5725	Pass
			50	120.00	5700.11	5692 to 5708	Pass
802.11n (HT40)	SISO	5510	20	102.00	5510.03	5494 to 5526	Pass
				120.00	5510.08	5494 to 5526	Pass
				138.00	5510.11	5494 to 5526	Pass
			-30	102.00	5510.09	5494 to 5526	Pass
			-20	120.00	5510.06	5470 to 5725	Pass
			-10	120.00	5510.05	5470 to 5725	Pass
			0	120.00	5510.03	5470 to 5725	Pass
			10	120.00	5510.04	5470 to 5725	Pass
			30	120.00	5510.11	5470 to 5725	Pass

Address:1/F.,Building D,Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.
Tel:(86) 0755-26066440 Fax:(86) 0755-26014772 Email:service@anbotek.com
Hotline 400-003-0500
www.anbotek.com.cn

			40	120.00	5510.05	5470 to 5725	Pass
			50	120.00	5510.05	5494 to 5526	Pass
		5550	20	102.00	5550.04	5534 to 5566	Pass
				120.00	5550.02	5534 to 5566	Pass
				138.00	5550.08	5534 to 5566	Pass
			-30	102.00	5550.02	5534 to 5566	Pass
			-20	120.00	5550.03	5470 to 5725	Pass
			-10	120.00	5550.07	5470 to 5725	Pass
			0	120.00	5550.10	5470 to 5725	Pass
			10	120.00	5550.06	5470 to 5725	Pass
			30	120.00	5550.07	5470 to 5725	Pass
			40	120.00	5550.02	5470 to 5725	Pass
			50	120.00	5550.02	5534 to 5566	Pass
		5670	20	102.00	5670.01	5654 to 5686	Pass
				120.00	5670.06	5654 to 5686	Pass
				138.00	5670.06	5654 to 5686	Pass
			-30	102.00	5670.06	5654 to 5686	Pass
			-20	120.00	5670.06	5470 to 5725	Pass
			-10	120.00	5670.05	5470 to 5725	Pass
			0	120.00	5670.11	5470 to 5725	Pass
			10	120.00	5670.05	5470 to 5725	Pass
			30	120.00	5670.12	5470 to 5725	Pass
			40	120.00	5670.06	5470 to 5725	Pass
			50	120.00	5670.02	5654 to 5686	Pass
802.11ac (VHT20)	SISO	5500	20	102.00	5500.12	5492 to 5508	Pass
				120.00	5500.06	5492 to 5508	Pass
				138.00	5500.07	5492 to 5508	Pass
			-30	102.00	5500.05	5492 to 5508	Pass
			-20	120.00	5500.10	5470 to 5725	Pass
			-10	120.00	5500.07	5470 to 5725	Pass
			0	120.00	5500.02	5470 to 5725	Pass
			10	120.00	5500.08	5470 to 5725	Pass
			30	120.00	5500.04	5470 to 5725	Pass
			40	120.00	5500.08	5470 to 5725	Pass
			50	120.00	5500.11	5492 to 5508	Pass
		5580	20	102.00	5580.01	5572 to 5588	Pass
				120.00	5580.03	5572 to 5588	Pass
				138.00	5580.10	5572 to 5588	Pass
			-30	102.00	5580.02	5572 to 5588	Pass

Address:1/F.,Building D,Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.
Tel:(86) 0755-26066440 Fax:(86) 0755-26014772 Email:service@anbotek.com
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www.anbotek.com.cn

			-20	120.00	5580.02	5470 to 5725	Pass
			-10	120.00	5580.09	5470 to 5725	Pass
			0	120.00	5580.04	5470 to 5725	Pass
			10	120.00	5580.06	5470 to 5725	Pass
			30	120.00	5580.02	5470 to 5725	Pass
			40	120.00	5580.04	5470 to 5725	Pass
			50	120.00	5580.10	5572 to 5588	Pass
		5700	20	102.00	5700.09	5692 to 5708	Pass
				120.00	5700.00	5692 to 5708	Pass
				138.00	5700.04	5692 to 5708	Pass
			-30	102.00	5700.02	5692 to 5708	Pass
			-20	120.00	5700.04	5470 to 5725	Pass
			-10	120.00	5700.09	5470 to 5725	Pass
			0	120.00	5700.06	5470 to 5725	Pass
			10	120.00	5700.02	5470 to 5725	Pass
			30	120.00	5700.09	5470 to 5725	Pass
			40	120.00	5700.01	5470 to 5725	Pass
			50	120.00	5700.02	5692 to 5708	Pass
802.11ac (VHT40)	SISO	5510	20	102.00	5510.03	5494 to 5526	Pass
				120.00	5510.07	5494 to 5526	Pass
				138.00	5510.09	5494 to 5526	Pass
			-30	102.00	5510.10	5494 to 5526	Pass
			-20	120.00	5510.12	5470 to 5725	Pass
			-10	120.00	5510.11	5470 to 5725	Pass
			0	120.00	5510.00	5470 to 5725	Pass
			10	120.00	5510.10	5470 to 5725	Pass
			30	120.00	5510.05	5470 to 5725	Pass
			40	120.00	5510.10	5470 to 5725	Pass
			50	120.00	5510.03	5494 to 5526	Pass
		5550	20	102.00	5550.12	5534 to 5566	Pass
				120.00	5550.11	5534 to 5566	Pass
				138.00	5550.04	5534 to 5566	Pass
			-30	102.00	5550.02	5534 to 5566	Pass
			-20	120.00	5550.12	5470 to 5725	Pass
			-10	120.00	5550.06	5470 to 5725	Pass
			0	120.00	5550.06	5470 to 5725	Pass
			10	120.00	5550.12	5470 to 5725	Pass
			30	120.00	5550.09	5470 to 5725	Pass
			40	120.00	5550.05	5470 to 5725	Pass

			50	120.00	5550.09	5534 to 5566	Pass
		5670	20	102.00	5670.12	5654 to 5686	Pass
				120.00	5670.07	5654 to 5686	Pass
				138.00	5670.10	5654 to 5686	Pass
			-30	102.00	5670.13	5654 to 5686	Pass
			-20	120.00	5670.09	5470 to 5725	Pass
			-10	120.00	5670.03	5470 to 5725	Pass
			0	120.00	5670.11	5470 to 5725	Pass
			10	120.00	5670.02	5470 to 5725	Pass
			30	120.00	5670.02	5470 to 5725	Pass
			40	120.00	5670.04	5470 to 5725	Pass
			50	120.00	5670.05	5654 to 5686	Pass
802.11ax (HEW20)	SISO	5500	20	102.00	5500.04	5492 to 5508	Pass
				120.00	5500.10	5492 to 5508	Pass
				138.00	5500.07	5492 to 5508	Pass
			-30	102.00	5500.12	5492 to 5508	Pass
			-20	120.00	5500.06	5470 to 5725	Pass
			-10	120.00	5500.10	5470 to 5725	Pass
			0	120.00	5500.12	5470 to 5725	Pass
			10	120.00	5500.01	5470 to 5725	Pass
			30	120.00	5500.05	5470 to 5725	Pass
			40	120.00	5500.03	5470 to 5725	Pass
			50	120.00	5500.01	5492 to 5508	Pass
		5580	20	102.00	5580.03	5572 to 5588	Pass
				120.00	5580.04	5572 to 5588	Pass
				138.00	5580.08	5572 to 5588	Pass
			-30	102.00	5580.01	5572 to 5588	Pass
			-20	120.00	5580.12	5470 to 5725	Pass
			-10	120.00	5580.09	5470 to 5725	Pass
			0	120.00	5580.05	5470 to 5725	Pass
			10	120.00	5580.01	5470 to 5725	Pass
			30	120.00	5580.04	5470 to 5725	Pass
			40	120.00	5580.11	5470 to 5725	Pass
			50	120.00	5580.07	5572 to 5588	Pass
		5700	20	102.00	5700.05	5692 to 5708	Pass
				120.00	5700.01	5692 to 5708	Pass
				138.00	5700.04	5692 to 5708	Pass
			-30	102.00	5700.02	5692 to 5708	Pass
			-20	120.00	5700.05	5470 to 5725	Pass

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Hotline 400-003-0500
www.anbotek.com.cn

			-10	120.00	5700.01	5470 to 5725	Pass
			0	120.00	5700.07	5470 to 5725	Pass
			10	120.00	5700.10	5470 to 5725	Pass
			30	120.00	5700.09	5470 to 5725	Pass
			40	120.00	5700.09	5470 to 5725	Pass
			50	120.00	5700.03	5692 to 5708	Pass
802.11ax (HEW40)	SISO	5510	20	102.00	5510.03	5494 to 5526	Pass
				120.00	5510.08	5494 to 5526	Pass
				138.00	5510.04	5494 to 5526	Pass
			-30	102.00	5510.10	5494 to 5526	Pass
			-20	120.00	5510.10	5470 to 5725	Pass
			-10	120.00	5510.01	5470 to 5725	Pass
			0	120.00	5510.02	5470 to 5725	Pass
			10	120.00	5510.02	5470 to 5725	Pass
			30	120.00	5510.09	5470 to 5725	Pass
			40	120.00	5510.06	5470 to 5725	Pass
			50	120.00	5510.04	5494 to 5526	Pass
		5550	20	102.00	5550.03	5534 to 5566	Pass
				120.00	5550.04	5534 to 5566	Pass
				138.00	5550.05	5534 to 5566	Pass
			-30	102.00	5550.05	5534 to 5566	Pass
			-20	120.00	5550.11	5470 to 5725	Pass
			-10	120.00	5550.00	5470 to 5725	Pass
			0	120.00	5550.02	5470 to 5725	Pass
			10	120.00	5550.01	5470 to 5725	Pass
			30	120.00	5550.03	5470 to 5725	Pass
			40	120.00	5550.01	5470 to 5725	Pass
			50	120.00	5550.10	5534 to 5566	Pass
		5670	20	102.00	5670.09	5654 to 5686	Pass
				120.00	5670.00	5654 to 5686	Pass
				138.00	5670.09	5654 to 5686	Pass
			-30	102.00	5670.08	5654 to 5686	Pass
			-20	120.00	5670.10	5470 to 5725	Pass
			-10	120.00	5670.13	5470 to 5725	Pass
			0	120.00	5670.04	5470 to 5725	Pass
			10	120.00	5670.11	5470 to 5725	Pass
			30	120.00	5670.09	5470 to 5725	Pass
			40	120.00	5670.07	5470 to 5725	Pass
			50	120.00	5670.13	5654 to 5686	Pass

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Test Mode: 5.8G							
Mode	TX Type	Frequency (MHz)	Temperature (°C)	Voltage (VDC)	Measured Frequency (MHz)	Limit	Verdict
802.11a	SISO	5745	20	102.00	5745.07	5737 to 5753	Pass
				120.00	5745.06	5737 to 5753	Pass
				138.00	5745.09	5737 to 5753	Pass
			-30	102.00	5745.03	5737 to 5753	Pass
			-20	120.00	5745.12	5725 to 5850	Pass
			-10	120.00	5745.02	5725 to 5850	Pass
			0	120.00	5745.02	5725 to 5850	Pass
			10	120.00	5745.06	5725 to 5850	Pass
			30	120.00	5745.06	5725 to 5850	Pass
			40	120.00	5745.13	5725 to 5850	Pass
			50	120.00	5745.10	5737 to 5753	Pass
		5785	20	102.00	5785.00	5777 to 5793	Pass
				120.00	5785.00	5777 to 5793	Pass
				138.00	5785.08	5777 to 5793	Pass
			-30	102.00	5785.11	5777 to 5793	Pass
			-20	120.00	5785.02	5725 to 5850	Pass
			-10	120.00	5785.09	5725 to 5850	Pass
			0	120.00	5785.02	5725 to 5850	Pass
			10	120.00	5785.11	5725 to 5850	Pass
			30	120.00	5785.13	5725 to 5850	Pass
			40	120.00	5785.01	5725 to 5850	Pass
			50	120.00	5785.09	5777 to 5793	Pass
		5825	20	102.00	5825.01	5817 to 5833	Pass
				120.00	5825.01	5817 to 5833	Pass
				138.00	5825.05	5817 to 5833	Pass
			-30	102.00	5825.13	5817 to 5833	Pass
			-20	120.00	5825.11	5725 to 5850	Pass
			-10	120.00	5825.06	5725 to 5850	Pass
			0	120.00	5825.04	5725 to 5850	Pass
			10	120.00	5825.07	5725 to 5850	Pass
			30	120.00	5825.00	5725 to 5850	Pass
			40	120.00	5825.06	5725 to 5850	Pass
			50	120.00	5825.10	5817 to 5833	Pass
802.11n (HT20)	SISO	5745	20	102.00	5745.12	5737 to 5753	Pass
				120.00	5745.06	5737 to 5753	Pass
				138.00	5745.10	5737 to 5753	Pass
			-30	102.00	5745.09	5737 to 5753	Pass

			-20	120.00	5745.03	5725 to 5850	Pass
			-10	120.00	5745.02	5725 to 5850	Pass
			0	120.00	5745.01	5725 to 5850	Pass
			10	120.00	5745.03	5725 to 5850	Pass
			30	120.00	5745.00	5725 to 5850	Pass
			40	120.00	5745.04	5725 to 5850	Pass
			50	120.00	5745.02	5737 to 5753	Pass
		5785	20	102.00	5785.02	5777 to 5793	Pass
				120.00	5785.07	5777 to 5793	Pass
				138.00	5785.02	5777 to 5793	Pass
			-30	102.00	5785.05	5777 to 5793	Pass
			-20	120.00	5785.11	5725 to 5850	Pass
			-10	120.00	5785.09	5725 to 5850	Pass
			0	120.00	5785.00	5725 to 5850	Pass
			10	120.00	5785.01	5725 to 5850	Pass
			30	120.00	5785.13	5725 to 5850	Pass
			40	120.00	5785.10	5725 to 5850	Pass
			50	120.00	5785.06	5777 to 5793	Pass
		5825	20	102.00	5825.00	5817 to 5833	Pass
				120.00	5825.08	5817 to 5833	Pass
				138.00	5825.02	5817 to 5833	Pass
			-30	102.00	5825.11	5817 to 5833	Pass
			-20	120.00	5825.09	5725 to 5850	Pass
			-10	120.00	5825.05	5725 to 5850	Pass
			0	120.00	5825.01	5725 to 5850	Pass
			10	120.00	5825.08	5725 to 5850	Pass
			30	120.00	5825.03	5725 to 5850	Pass
			40	120.00	5825.10	5725 to 5850	Pass
			50	120.00	5825.01	5817 to 5833	Pass
802.11n (HT40)	SISO	5755	20	102.00	5755.09	5739 to 5771	Pass
				120.00	5755.06	5739 to 5771	Pass
				138.00	5755.11	5739 to 5771	Pass
			-30	102.00	5755.06	5739 to 5771	Pass
			-20	120.00	5755.11	5725 to 5850	Pass
			-10	120.00	5755.00	5725 to 5850	Pass
			0	120.00	5755.10	5725 to 5850	Pass
			10	120.00	5755.01	5725 to 5850	Pass
			30	120.00	5755.09	5725 to 5850	Pass
			40	120.00	5755.09	5725 to 5850	Pass
			50	120.00	5755.03	5739 to 5771	Pass

		5795	20	102.00	5795.04	5779 to 5811	Pass
				120.00	5795.00	5779 to 5811	Pass
				138.00	5795.01	5779 to 5811	Pass
			-30	102.00	5795.02	5779 to 5811	Pass
			-20	120.00	5795.02	5725 to 5850	Pass
			-10	120.00	5795.00	5725 to 5850	Pass
			0	120.00	5795.12	5725 to 5850	Pass
			10	120.00	5795.07	5725 to 5850	Pass
			30	120.00	5795.10	5725 to 5850	Pass
			40	120.00	5795.13	5725 to 5850	Pass
			50	120.00	5795.10	5779 to 5811	Pass
802.11ac (VHT20)	SISO	5745	20	102.00	5745.11	5737 to 5753	Pass
				120.00	5745.10	5737 to 5753	Pass
				138.00	5745.04	5737 to 5753	Pass
			-30	102.00	5745.01	5737 to 5753	Pass
			-20	120.00	5745.04	5725 to 5850	Pass
			-10	120.00	5745.05	5725 to 5850	Pass
			0	120.00	5745.01	5725 to 5850	Pass
			10	120.00	5745.05	5725 to 5850	Pass
			30	120.00	5745.06	5725 to 5850	Pass
			40	120.00	5745.11	5725 to 5850	Pass
			50	120.00	5745.05	5737 to 5753	Pass
		5785	20	102.00	5785.08	5777 to 5793	Pass
				120.00	5785.03	5777 to 5793	Pass
				138.00	5785.07	5777 to 5793	Pass
			-30	102.00	5785.06	5777 to 5793	Pass
			-20	120.00	5785.06	5725 to 5850	Pass
			-10	120.00	5785.03	5725 to 5850	Pass
			0	120.00	5785.01	5725 to 5850	Pass
			10	120.00	5785.01	5725 to 5850	Pass
			30	120.00	5785.04	5725 to 5850	Pass
			40	120.00	5785.06	5725 to 5850	Pass
			50	120.00	5785.03	5777 to 5793	Pass
		5825	20	102.00	5825.05	5817 to 5833	Pass
				120.00	5825.04	5817 to 5833	Pass
				138.00	5825.09	5817 to 5833	Pass
			-30	102.00	5825.12	5817 to 5833	Pass
			-20	120.00	5825.08	5725 to 5850	Pass
			-10	120.00	5825.12	5725 to 5850	Pass
			0	120.00	5825.05	5725 to 5850	Pass

			10	120.00	5825.08	5725 to 5850	Pass
			30	120.00	5825.11	5725 to 5850	Pass
			40	120.00	5825.09	5725 to 5850	Pass
			50	120.00	5825.10	5817 to 5833	Pass
802.11ac (VHT40)	SISO	5755	20	102.00	5755.06	5739 to 5771	Pass
				120.00	5755.11	5739 to 5771	Pass
				138.00	5755.13	5739 to 5771	Pass
			-30	102.00	5755.03	5739 to 5771	Pass
			-20	120.00	5755.02	5725 to 5850	Pass
			-10	120.00	5755.05	5725 to 5850	Pass
			0	120.00	5755.09	5725 to 5850	Pass
			10	120.00	5755.00	5725 to 5850	Pass
			30	120.00	5755.01	5725 to 5850	Pass
			40	120.00	5755.03	5725 to 5850	Pass
			50	120.00	5755.09	5739 to 5771	Pass
		5795	20	102.00	5795.08	5779 to 5811	Pass
				120.00	5795.09	5779 to 5811	Pass
				138.00	5795.05	5779 to 5811	Pass
			-30	102.00	5795.03	5779 to 5811	Pass
			-20	120.00	5795.10	5725 to 5850	Pass
			-10	120.00	5795.10	5725 to 5850	Pass
			0	120.00	5795.11	5725 to 5850	Pass
			10	120.00	5795.05	5725 to 5850	Pass
			30	120.00	5795.04	5725 to 5850	Pass
			40	120.00	5795.10	5725 to 5850	Pass
			50	120.00	5795.08	5779 to 5811	Pass
802.11ax (HEW20)	SISO	5745	20	102.00	5745.04	5737 to 5753	Pass
				120.00	5745.10	5737 to 5753	Pass
				138.00	5745.06	5737 to 5753	Pass
			-30	102.00	5745.06	5737 to 5753	Pass
			-20	120.00	5745.12	5725 to 5850	Pass
			-10	120.00	5745.05	5725 to 5850	Pass
			0	120.00	5745.03	5725 to 5850	Pass
			10	120.00	5745.02	5725 to 5850	Pass
			30	120.00	5745.08	5725 to 5850	Pass
			40	120.00	5745.04	5725 to 5850	Pass
			50	120.00	5745.06	5737 to 5753	Pass
		5785	20	102.00	5785.01	5777 to 5793	Pass
				120.00	5785.05	5777 to 5793	Pass
				138.00	5785.05	5777 to 5793	Pass

			-30	102.00	5785.08	5777 to 5793	Pass
			-20	120.00	5785.10	5725 to 5850	Pass
			-10	120.00	5785.07	5725 to 5850	Pass
			0	120.00	5785.02	5725 to 5850	Pass
			10	120.00	5785.03	5725 to 5850	Pass
			30	120.00	5785.10	5725 to 5850	Pass
			40	120.00	5785.08	5725 to 5850	Pass
			50	120.00	5785.02	5777 to 5793	Pass
		5825	20	102.00	5825.00	5817 to 5833	Pass
				120.00	5825.01	5817 to 5833	Pass
				138.00	5825.02	5817 to 5833	Pass
			-30	102.00	5825.01	5817 to 5833	Pass
			-20	120.00	5825.02	5725 to 5850	Pass
			-10	120.00	5825.07	5725 to 5850	Pass
			0	120.00	5825.12	5725 to 5850	Pass
			10	120.00	5825.10	5725 to 5850	Pass
			30	120.00	5825.08	5725 to 5850	Pass
			40	120.00	5825.10	5725 to 5850	Pass
			50	120.00	5825.08	5817 to 5833	Pass
802.11ax (HEW40)	SISO	5755	20	102.00	5755.08	5739 to 5771	Pass
				120.00	5755.05	5739 to 5771	Pass
				138.00	5755.05	5739 to 5771	Pass
			-30	102.00	5755.01	5739 to 5771	Pass
			-20	120.00	5755.10	5725 to 5850	Pass
			-10	120.00	5755.09	5725 to 5850	Pass
			0	120.00	5755.04	5725 to 5850	Pass
			10	120.00	5755.09	5725 to 5850	Pass
			30	120.00	5755.06	5725 to 5850	Pass
			40	120.00	5755.03	5725 to 5850	Pass
			50	120.00	5755.09	5739 to 5771	Pass
		5795	20	102.00	5795.11	5779 to 5811	Pass
				120.00	5795.09	5779 to 5811	Pass
				138.00	5795.04	5779 to 5811	Pass
			-30	102.00	5795.00	5779 to 5811	Pass
			-20	120.00	5795.00	5725 to 5850	Pass
			-10	120.00	5795.05	5725 to 5850	Pass
			0	120.00	5795.05	5725 to 5850	Pass
			10	120.00	5795.13	5725 to 5850	Pass
			30	120.00	5795.10	5725 to 5850	Pass
			40	120.00	5795.00	5725 to 5850	Pass

			50	120.00	5795.05	5779 to 5811	Pass

Address:1/F.,Building D,Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.
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Hotline 400-003-0500
www.anbotek.com.cn

11. Channel Move Time, Channel Closing Transmission Time

Test Requirement:	47 CFR Part 15.407(h)(2)(iii)
Test Limit:	Channel Move Time: within 10 seconds Channel Closing Transmission Time: 200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. (The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.)
Test Method:	KDB 905462 D02, Clause 7.8.3
Procedure:	The steps below define the procedure to determine the above-mentioned parameters when a radar *Burst* with a level equal to the *DFS Detection Threshold* + 1dB is generated on the *Operating Channel* of the U-NII device *(In- Service Monitoring).* 1. One frequency will be chosen from the *Operating Channels* of the UUT within the 5250-5350 MHz or 5470-5725 MHz bands. For 802.11 devices, the test frequency must contain control signals. This can be verified by disabling channel loading and monitoring the spectrum analyzer. If no control signals are detected, another frequency must be selected within the emission bandwidth where control signals are detected. 2. In case the UUT is a U-NII device operating as a *Client Device* (with or without DFS), a U-NII device operating as a *Master Device* will be used to allow the UUT (Client device) to *Associate* with the *Master Device*. In case the UUT is a *Master Device*, a U-NII device operating as a *Client Device* will be used and it is assumed that the Client will *Associate* with the UUT (Master). In both cases for conducted tests, the *Radar Waveform* generator will be connected to the *Master Device*. For radiated tests, the emissions of the *Radar Waveform* generator will be directed towards the *Master Device*. If the *Master Device* has antenna gain, the main beam of the antenna will be directed toward the radar emitter. Vertical polarization is used for testing. 3. Stream the channel loading test file from the *Master Device* to the *Client Device* on the test *Channel* for the entire period of the test. 4. At time T0 the *Radar Waveform* generator sends a *Burst* of pulses for one of the Radar Type 0 in **Table 5** at levels defined in **Table 3**, on the *Operating Channel*. An additional 1 dB is added to the radar test signal to ensure it is at or above the *DFS Detection Threshold*, accounting for equipment variations/errors.

5. Observe the transmissions of the UUT at the end of the radar *Burst* on the *Operating Channel* for duration greater than 10 seconds. Measure and record the transmissions from the UUT during the observation time (*Channel Move Time)*. Measure and record the *Channel Move Time* and *Channel Closing Transmission Time* if radar detection occurs. **Figure 17** illustrates *Channel Closing Transmission Time.*

6. When operating as a *Master Device*, monitor the UUT for more than 30 minutes following instant T2 to verify that the UUT does not resume any transmissions on this *Channel*. Perform this test once and record the measurement result.

7. In case the UUT is a U-NII device operating as a *Client Device* with *In-Service Monitoring*, perform steps 1 to 6.

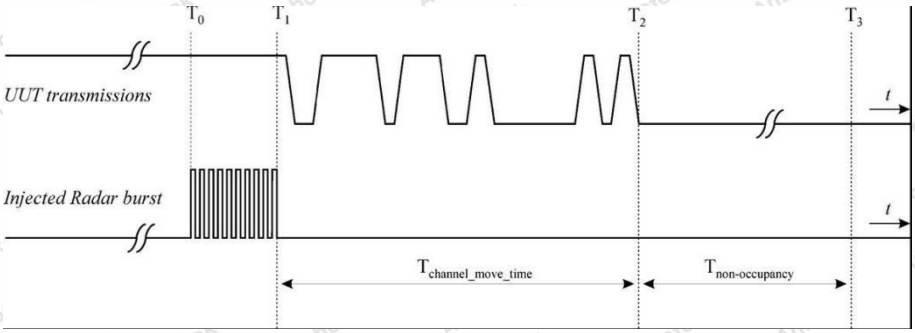
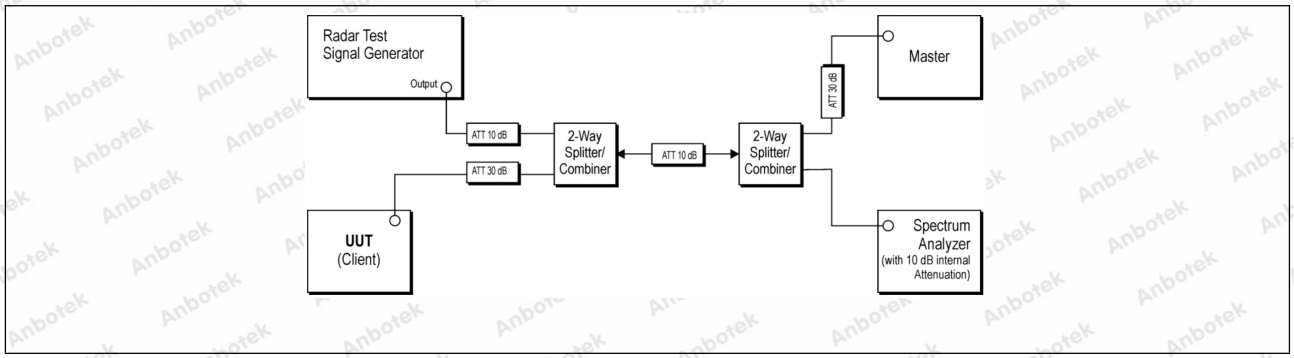


Figure 17: Example of Channel Closing Transmission Time & Channel Closing Time

7. The time for the EUT to fully restart up is 65s.

8. The time for the master device to fully restart up is 65s.

11.1. Test Setup



11.2. Test Data

Pass

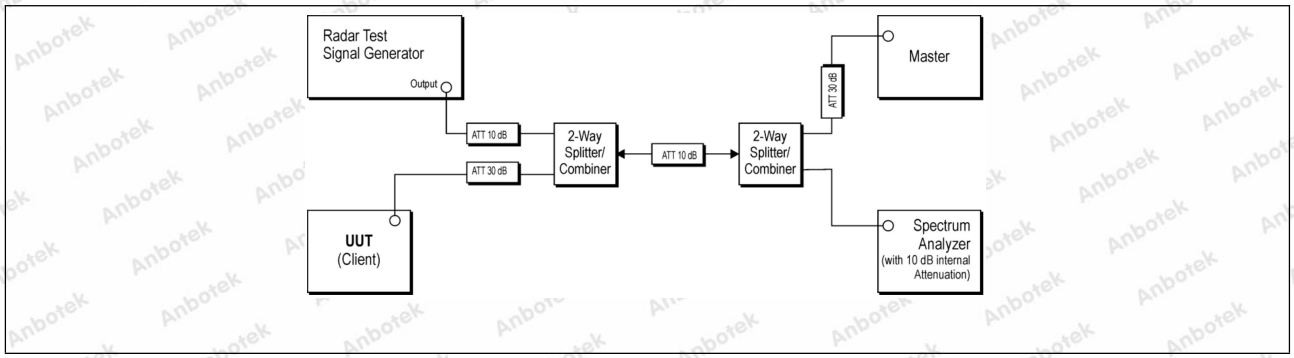
Please refer to Appendix G of the Appendix Test Data.

12. DFS Detection Thresholds

<table>
<tr><td>Test Requirement:</td><td>KDB 905462 D02, Clause 5.2 Table 3</td></tr>
<tr><td>Test Limit:</td><td>Table 3: DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection

Table 3: DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection
<table>
<tr><th>Maximum Transmit Power</th><th>Value
(See Notes 1, 2, and 3)</th></tr>
<tr><td>EIRP ≥ 200 milliwatt</td><td>-64 dBm</td></tr>
<tr><td>EIRP < 200 milliwatt and
power spectral density < 10 dBm/MHz</td><td>-62 dBm</td></tr>
<tr><td>EIRP < 200 milliwatt that do not meet the power spectral density requirement</td><td>-64 dBm</td></tr>
<tr><td colspan="2">Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.
Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.
Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.</td></tr>
</table></td></tr>
<tr><td>Test Method:</td><td>KDB 905462 D02, Clause 7.4.1.1</td></tr>
<tr><td>Procedure:</td><td>1) A 50 ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected to place of the master
2) The interference Radar Detection Threshold Level is TH+ 0dBi +1dB that had been taken into account the output power range and antenna gain.
3) The following equipment setup was used to calibrate the conducted radar waveform. A vector signal generator was utilized to establish the test signal level for radar type 0. During this process, there were no transmissions by either the master or client device. The spectrum analyzer was switched to the zero spans (time domain) at the frequency of the radar waveform generator. Peak detection was used. The spectrum analyzer resolution bandwidth (RBW) and video bandwidth (VBW) were set to 3 MHz. The spectrum analyzer had offset -1.0dB to compensate RF cable loss 1.0dB.
4) The vector signal generator amplitude was set so that the power level measured at the spectrum analyzer was TH + 0dBi +1dB = -63dBm. Capture the spectrum analyzer plots on short pulse radar waveform.
Note: TH=-64 dBm or -62 dBm</td></tr>
</table>

12.1. Test Setup



12.2. Test Data

Pass

Please refer to Appendix F of the Appendix Test Data.

13. Antenna Requirement

13.1. Test Standard and Requirement

Test Standard	FCC Part15 Section 15.203 /15.407
Requirement	1) 15.203 requirement: 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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. 2) 15.407 requirement: 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.

13.2. Antenna Connected Construction

The antenna is a Rod antenna which permanently attached, and the best case gain of the 5dBi. It complies with the standard requirement.

APPENDIX I -- TEST SETUP PHOTOGRAPH

Please refer to separated files Appendix I -- Test Setup Photograph_RF

APPENDIX II -- EXTERNAL PHOTOGRAPH

Please refer to separated files Appendix II -- External Photograph

APPENDIX III -- INTERNAL PHOTOGRAPH

Please refer to separated files Appendix III -- Internal Photograph

---------- End of Report ----------