

TEST REPORT

Applicant: Shenzhen ZO Video Technology Co., Ltd

Address of Applicant: 2c,2/F,building 6,Longbi Industrial Zone,27 Dafa Road, Longgang District, Shenzhen

Manufacturer/Factory: Shenzhen ZO Video Technology Co., Ltd

Address of Manufacturer/Factory: 2c, 2/F,building 6,Longbi Industrial Zone, 27 Dafa Road, Longgang District, Shenzhen

Equipment Under Test (EUT)

Product Name: Wireless monitor system

Model No.: ZO600M, ZO600MPRO, ZO600Mmini, WS600Mpro, WS600M, A5, MOMAN_M5, A5Cloud

Trade Mark: N/A

FCC ID: 2A2RJ-ZO600M

Applicable standards: FCC CFR Title 47 Part 15 Subpart E Section 15.407

Date of sample receipt: March 11,2022

Date of Test: March 18,2022~April 02,2022

Date of report issued: April 02,2022

Test Result : PASS *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Robinson Luo

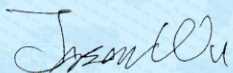
Laboratory Manager

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

2 Version

Version No.	Date	Description
00	April 02,2022	Original

Prepared By:

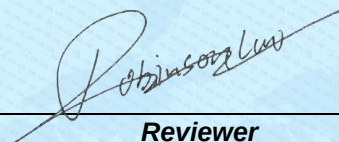


Date:

April 02,2022

Project Engineer

Check By:



Date:

April 02,2022

Reviewer

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4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	Pass
AC Power Line Conducted Emission	15.207	Pass
Conducted Peak Output Power	15.407(a)(3)	Pass
Channel Bandwidth	15.407(e)	Pass
Power Spectral Density	15.407(a)(3)	Pass
Band Edge	15.407(b)(4)	Pass
Spurious Emission	15.205/15.209/15.407(b)(4)	Pass
Frequency Stability	15.407(g)	Pass

Remarks:

1. Pass: The EUT complies with the essential requirements in the standard.
2. Test according to ANSI C63.10:2013.

4.1 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	1×10^{-7}
2	Duty cycle	0.37%
3	Occupied Bandwidth	2.8dB
4	RF conducted power	0.75dB
5	RF power density	3dB
6	Conducted Spurious emissions	2.58dB
7	AC Power Line Conducted Emission	3.44dB (0.15MHz ~ 30MHz)
8	Radiated Spurious emission test	3.1dB (9kHz-30MHz)
		3.8039dB (30MHz-200MHz)
		3.9679dB (200MHz-1GHz)
		4.29dB (1GHz-18GHz)
		3.30dB (18GHz-40GHz)

Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

5 General Information

5.1 General Description of EUT

Product Name:	Wireless monitor system
Model No.:	ZO600M, ZO600MPRO, ZO600Mmini, WS600Mpro, WS600M, A5, MOMAN_M5, A5Cloud
Serial No.:	N/A
Hardware Version:	V1.2
Software Version:	V 0261
Test sample(s) ID:	GTSL202203000211-1
Sample(s) Status:	Engineer sample
Operation Frequency:	802.11a/802.11n(HT20): 5745MHz ~ 5825MHz
Channel numbers:	802.11a/802.11n(HT20): 5
Channel bandwidth:	802.11a/802.11n(HT20) : 20MHz
Modulation technology:	802.11a/802.11n(H20): Orthogonal Frequency Division Multiplexing (OFDM) MIMO: 802.11n SISO: 802.11a
Antenna Type:	Internal Antenna
Antenna gain:	ANT1:2.5dBi ANT2:2.5dBi MIMO Mode: For power measurement: the direct gain=2.5dBi For Power Spectral Density measurement: the direct gain=2.5+10lg2=5.51dBi
Power supply:	DC 7-17V (Powered By Adaptor or Battery)

Operation Frequency each of channel					
Channel	Frequency	Channel	Frequency	Channel	Frequency
149	5745MHz	153	5765MHz	157	5785MHz
161	5805MHz	165	5825MHz	/	/

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Test channel	Frequency (MHz)	
	802.11 a	802.11 n(HT20)
Lowest channel	5745	5745
Middle channel	5785	5785
Highest channel	5825	5825

5.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode
<i>Remark: During the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.</i>	

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.

Mode	Data rate
802.11a	6Mbps
802.11n(HT20)	MCS0

5.3 Description of Support Units

None.

5.4 Deviation from Standards

None.

5.5 Abnormalities from Standard Conditions

None.

5.6 Test Facility

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

- **FCC—Registration No.: 381383**

Designation Number: CN5029

Global United Technology Services Co., Ltd., Shenzhen 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 files.

- **IC —Registration No.: 9079A**

CAB identifier: CN0091

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

- **NVLAP (LAB CODE:600179-0)**

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

5.7 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone,
Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102

Tel: 0755-27798480

Fax: 0755-27798960

6 Test Instruments list

Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	July. 02 2020	July. 01 2025
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	June. 24 2021	June. 23 2022
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June. 24 2021	June. 23 2022
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	June. 24 2021	June. 23 2022
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	June. 24 2021	June. 23 2022
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	June. 24 2021	June. 23 2022
9	Coaxial Cable	GTS	N/A	GTS211	June. 24 2021	June. 23 2022
10	Coaxial cable	GTS	N/A	GTS210	June. 24 2021	June. 23 2022
11	Coaxial Cable	GTS	N/A	GTS212	June. 24 2021	June. 23 2022
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June. 24 2021	June. 23 2022
13	Amplifier(2GHz-20GHz)	HP	84722A	GTS206	June. 24 2021	June. 23 2022
14	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June. 24 2021	June. 23 2022
15	Band filter	Amindeon	82346	GTS219	June. 24 2021	June. 23 2022
16	Power Meter	Anritsu	ML2495A	GTS540	June. 24 2021	June. 23 2022
17	Power Sensor	Anritsu	MA2411B	GTS541	June. 24 2021	June. 23 2022
18	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	June. 24 2021	June. 23 2022
19	Splitter	Agilent	11636B	GTS237	June. 24 2021	June. 23 2022
20	Loop Antenna	ZHINAN	ZN30900A	GTS534	June. 24 2021	June. 23 2022
21	Breitband hornantenne	SCHWARZBECK	BBHA 9170	GTS579	Oct. 17 2021	Oct. 16 2022
22	Amplifier	TDK	PA-02-02	GTS574	Oct. 17 2021	Oct. 16 2022
23	Amplifier	TDK	PA-02-03	GTS576	Oct. 17 2021	Oct. 16 2022
24	PSA Series Spectrum Analyzer	Rohde & Schwarz	FSP	GTS578	June. 24 2021	June. 23 2022

Conducted Emission						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	May.15 2019	May.14 2022
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 24 2021	June. 23 2022
3	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June. 24 2021	June. 23 2022
4	ENV216 2-L-V-NETZNACHB.DE	ROHDE&SCHWARZ	ENV216	GTS226	June. 24 2021	June. 23 2022
5	Coaxial Cable	GTS	N/A	GTS227	N/A	N/A
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Thermo meter	KTJ	TA328	GTS233	June. 24 2021	June. 23 2022
8	Absorbing clamp	Elektronik-Feinmechanik	MDS21	GTS229	June. 24 2021	June. 23 2022
9	ISN	SCHWARZBECK	NTFM 8158	GTS565	June. 24 2021	June. 23 2022
10	High voltage probe	SCHWARZBECK	TK9420	GTS537	July. 09 2021	July. 08 2022

RF Conducted Test:						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	MXA Signal Analyzer	Agilent	N9020A	GTS566	June. 24 2021	June. 23 2022
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 24 2021	June. 23 2022
3	Spectrum Analyzer	Agilent	E4440A	GTS533	June. 24 2021	June. 23 2022
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	June. 24 2021	June. 23 2022
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	June. 24 2021	June. 23 2022
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	June. 24 2021	June. 23 2022
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	June. 24 2021	June. 23 2022
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	June. 24 2021	June. 23 2022

General used equipment:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Humidity/ Temperature Indicator	KTJ	TA328	GTS243	June. 24 2021	June. 23 2022
2	Barometer	ChangChun	DYM3	GTS255	June. 24 2021	June. 23 2022

7 Test results and Measurement Data

7.1 Antenna requirement

Standard requirement:	FCC Part15 C Section 15.203
<i>15.203 requirement:</i> <i>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.</i>	
E.U.T Antenna:	
<i>The antennas are integral antenna, the best case gain of the antennas are 2.5dBi, reference to the appendix II for details</i>	

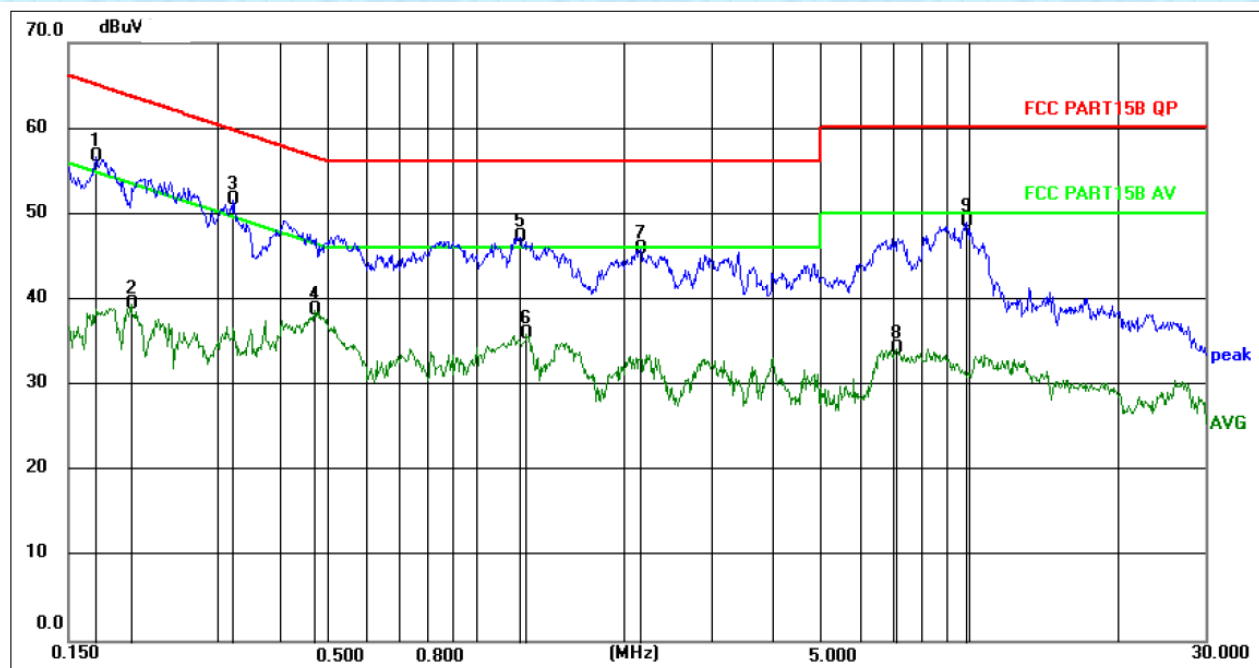
7.2 Conducted Emissions

Test Requirement:	FCC Part15 C Section 15.207						
Test Method:	ANSI C63.10:2013						
Test Frequency Range:	150KHz to 30MHz						
Class / Severity:	Class B						
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto						
Limit:	Frequency range (MHz)		Limit (dBuV)				
			Quasi-peak		Average		
	0.15-0.5		66 to 56*		56 to 46*		
	0.5-5		56		46		
	5-30		60		50		
* Decreases with the logarithm of the frequency.							
Test setup:	Reference Plane <i>Remark: E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</i>						
Test procedure:	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10:2013 on conducted measurement.						
Test Instruments:	Refer to section 6.0 for details						
Test mode:	Refer to section 5.2 for details						
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar	
Test voltage:	DC 12V (Powered by adaptor)						
Test results:	Pass						

Note: Pre-scan all test modes, found worst case at 802.11n(HT20) 5745MHz, and so only show the test result of 802.11n(HT20) 5745MHz.

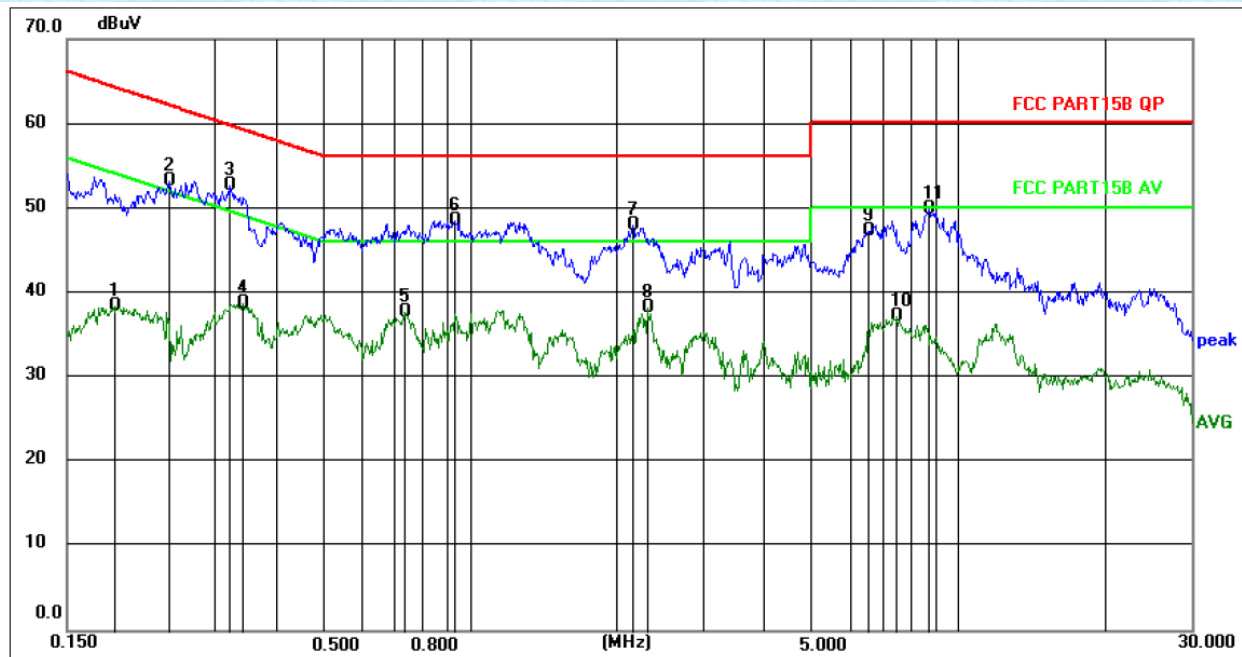
Measurement data

Line:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1703	46.67	10.02	56.69	64.95	-8.26	QP
2	0.2006	29.40	10.02	39.42	53.59	-14.17	AVG
3	0.3234	41.56	10.03	51.59	59.62	-8.03	QP
4	0.4711	28.61	10.05	38.66	46.49	-7.83	AVG
5	1.2291	37.19	10.13	47.32	56.00	-8.68	QP
6	1.2681	25.84	10.14	35.98	46.00	-10.02	AVG
7	2.1551	35.74	10.22	45.96	56.00	-10.04	QP
8	7.1374	23.51	10.76	34.27	50.00	-15.73	AVG
9	9.8605	37.92	11.05	48.97	60.00	-11.03	QP

Neutral:

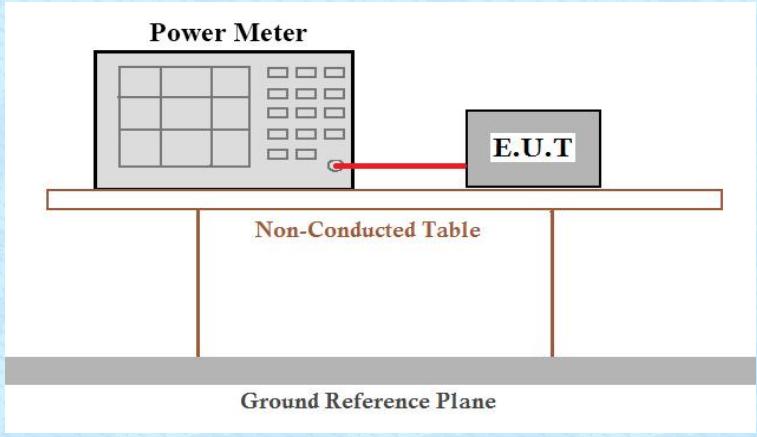


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1882	28.45	10.02	38.47	54.12	-15.65	AVG
2	0.2429	43.20	10.02	53.22	62.00	-8.78	QP
3	0.3234	42.56	10.03	52.59	59.62	-7.03	QP
4	0.3446	28.68	10.03	38.71	49.09	-10.38	AVG
5	0.7347	27.69	10.07	37.76	46.00	-8.24	AVG
6	0.9331	38.46	10.10	48.56	56.00	-7.44	QP
7	2.1551	37.74	10.22	47.96	56.00	-8.04	QP
8	2.3088	27.96	10.24	38.20	46.00	-7.80	AVG
9	6.5571	36.66	10.70	47.36	60.00	-12.64	QP
10	7.4858	26.31	10.80	37.11	50.00	-12.89	AVG
11	8.7293	39.00	10.93	49.93	60.00	-10.07	QP

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss
4. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.

7.3 Conducted Peak Output Power

Test Requirement:	FCC Part15 E Section 15.407(a)(3)
Test Method:	ANSI C63.10:2013 and KDB 789033 D02 General U-NII Test Procedures New Rules v02r01
Limit:	30dBm
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

Modulation	Frequency (MHz)	Duty cycle		Duty Factor	
		Antenna1	Antenna2	Antenna1	Antenna2
802.11a	5745	97.82	97.83	0.1	0.1
	5785	97.81	97.80	0.1	0.1
	5825	97.82	97.83	0.1	0.1
802.11n(HT20)	5745	97.68	97.68	0.1	0.1
	5785	97.86	97.86	0.1	0.1
	5825	97.68	97.68	0.1	0.1

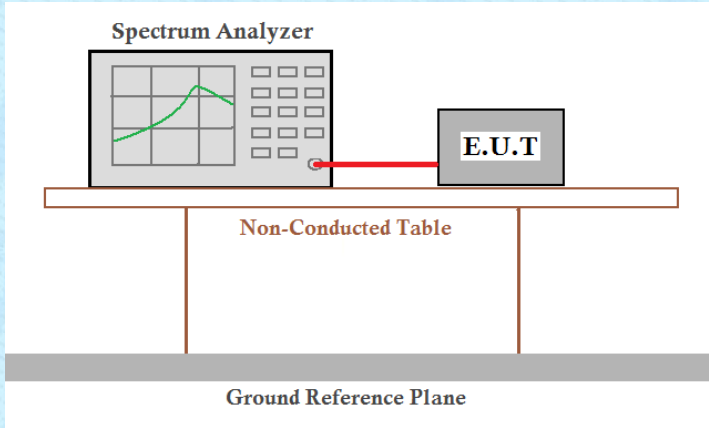
802.11a mode										
CH No.	Frequency (MHz)	Measured Power (dBm)			Duty Factor	Output Power (dBm)			Limit (dBm)	Result
		ANT1	ANT2	ANT 1+2		ANT1	ANT2	ANT 1+2		
149	5745	14.923	15.246	--	0.1	15.023	15.346	--	30.00	Pass
157	5785	14.812	16.203		0.1	14.912	16.303			
165	5825	14.031	16.099	--	0.1	14.131	16.199	--		
802.11n(HT20) mode										
CH No.	Frequency (MHz)	Measured Power (dBm)			Duty Factor	Output Power (dBm)			Limit (dBm)	Result
		ANT1	ANT2	ANT 1+2		ANT1	ANT2	ANT 1+2		
149	5745	13.229	13.782	16.525	0.1	13.329	13.882	16.525	30.00	Pass
157	5785	12.718	13.973	16.401	0.1	12.818	14.073	16.501		
165	5825	12.371	14.572	16.62	0.1	12.471	14.672	16.72		

Note: Output Power = Measured Power + Duty Factor

Duty Factor = $10 \log (1/\text{Duty Cycle})$

Remark: "---" is not applicable

7.4 Channel Bandwidth

Test Requirement:	FCC Part15 E Section 15.407(e)
Test Method:	ANSI C63.10:2013 and KDB 789033 D02 General U-NII Test Procedures New Rules v02r01
Limit:	>500KHz
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

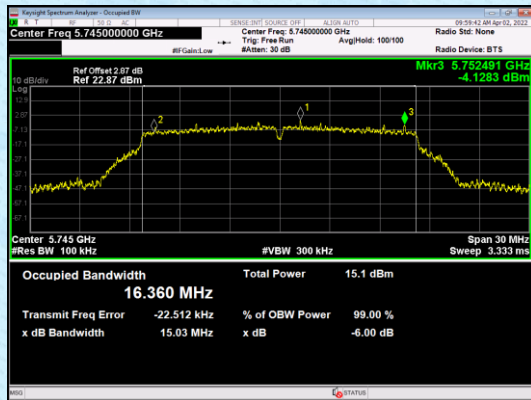
CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)				6dB Occupied Bandwidth (MHz)				
		802.11a		802.11n(HT20)		802.11a		802.11n(HT20)		Limit (MHz)
		ANT1	ANT2	ANT1	ANT2	ANT1	ANT2	ANT1	ANT2	-----
149	5745	16.346	16.342	17.543	17.557	15.03	15.42	14.93	15.46	>0.5
157	5785	16.479	16.396	17.564	17.577	15.08	15.67	15.02	15.65	>0.5
165	5825	16.378	16.341	17.540	17.548	14.44	15.7	14.69	15.06	>0.5

Remark: “---“is not applicable

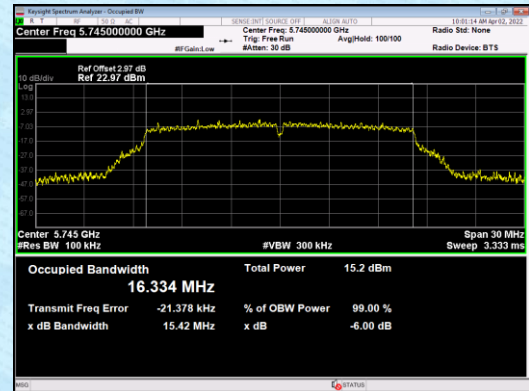
Test plot as follows:

Test mode: 802.11a
Lowest channel 5745MHz

Antenna1

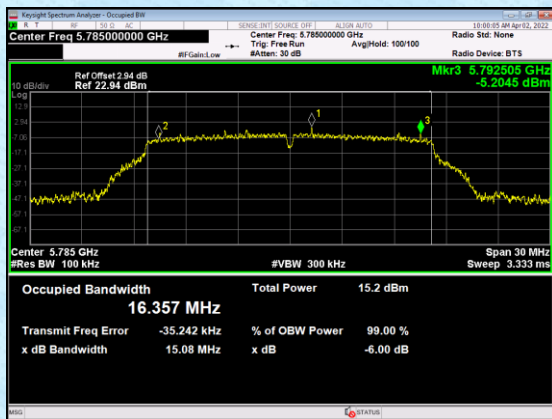


Antenna2

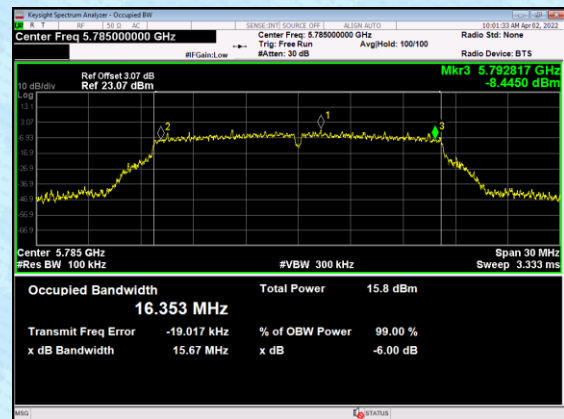


Middle channel 5785MHz

Antenna1

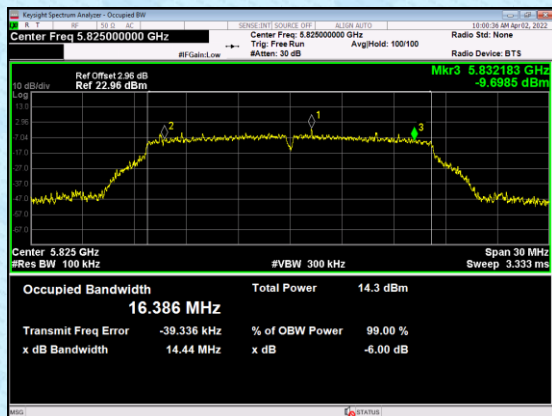


Antenna2

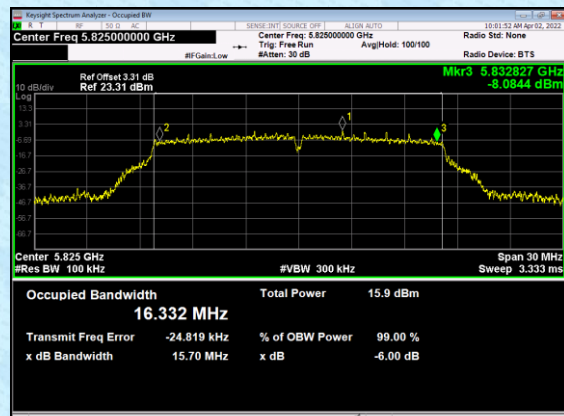


Highest channel 5825MHz

Antenna1



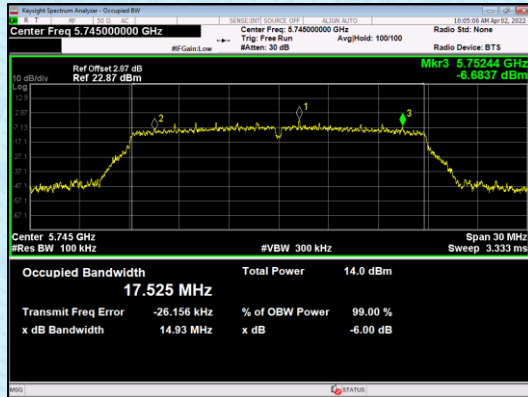
Antenna2



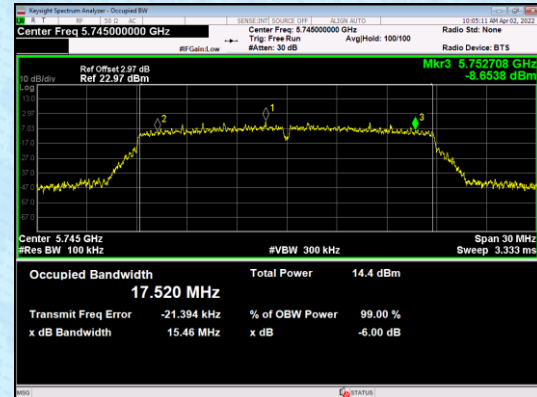
Test mode: 802.11 n(HT20)

Lowest channel 5745MHz

Antenna1

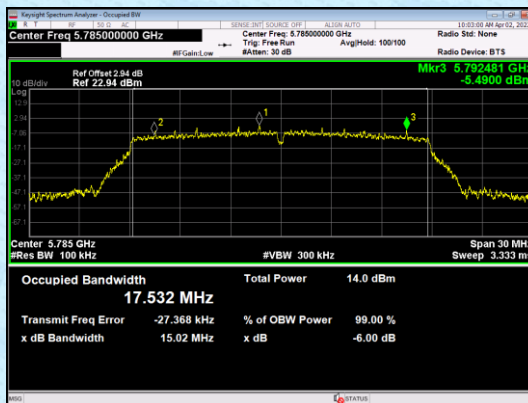


Antenna2

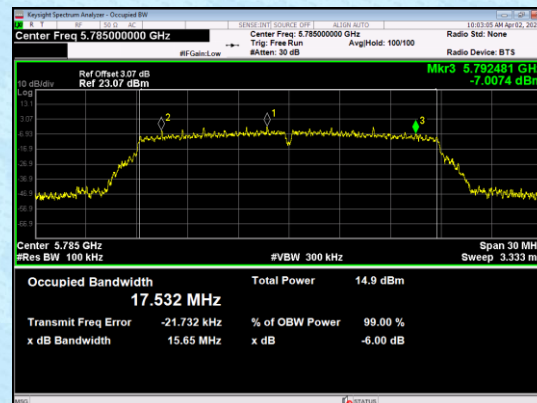


Middle channel 5785MHz

Antenna1

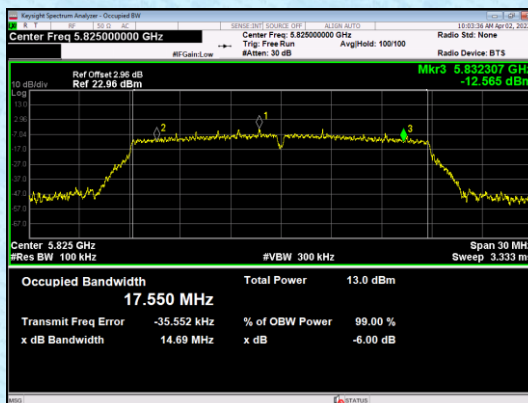


Antenna2

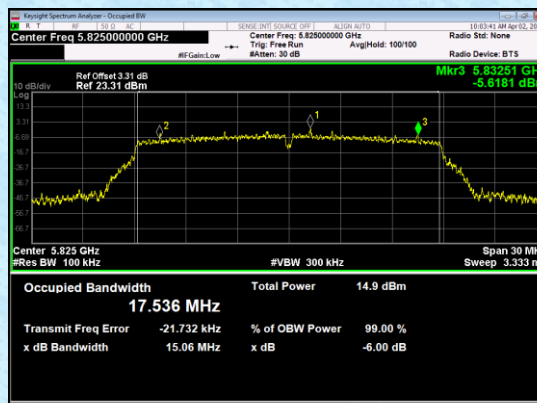


Highest channel 5825MHz

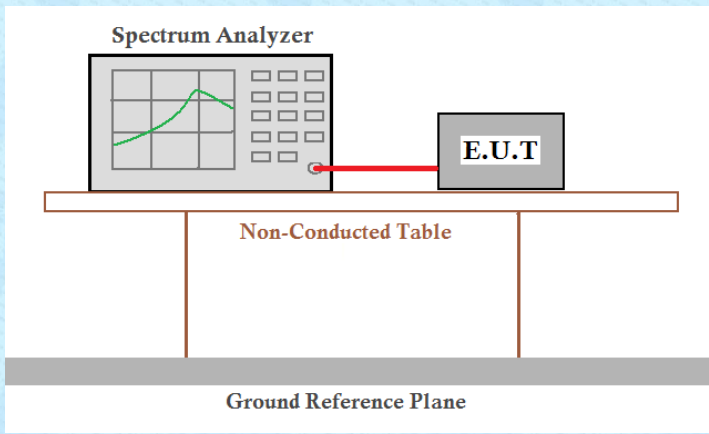
Antenna1



Antenna2



7.5 Power Spectral Density

Test Requirement:	FCC Part15 E Section 15.407(a)(3)
Test Method:	ANSI C63.10:2013 and KDB 789033 D02 General U-NII Test Procedures New Rules v02r01
Limit:	30dBm/500kHz
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

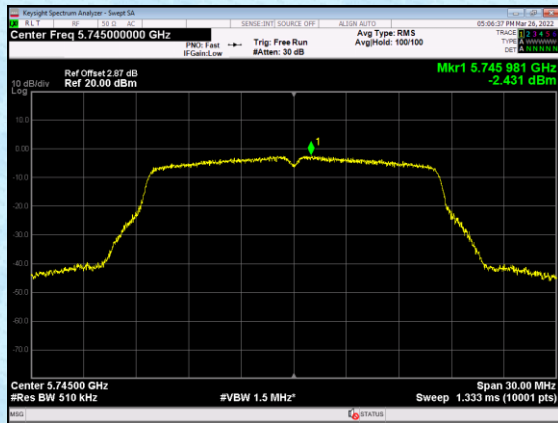
Test CH	Power Spectral Density (dBm)						Limit (dBm/500kHz)	Result
	802.11a			802.11n(HT20)				
	Antenna 1	Antenna 2	Antenna 1+2	Antenna 1	Antenna 2	Antenna 1+2		
149	-2.431	-2.258	----	-3.905	-3.913	-0.899	30.00	Pass
157	-2.04	-1.239	----	-4.204	-3.374	-0.759		
165	-3.269	-1.585	----	-4.955	-3.369	-1.08		

Remark: “---“is not applicable

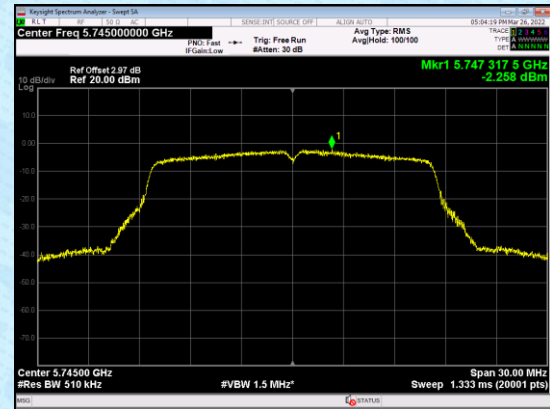
Test plot as follows:

Test mode: 802.11a
Lowest channel149 5745MHz

Antenna1



Antenna2

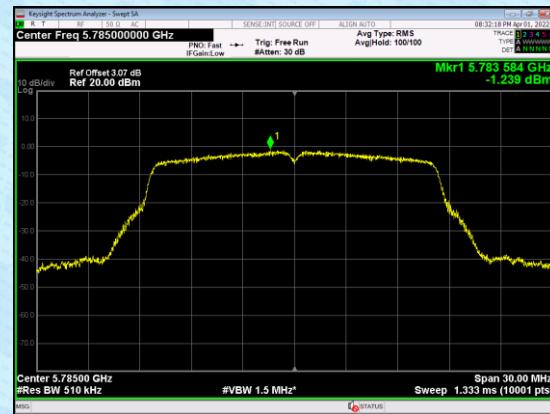


Middle channel157 5785MHz

Antenna1

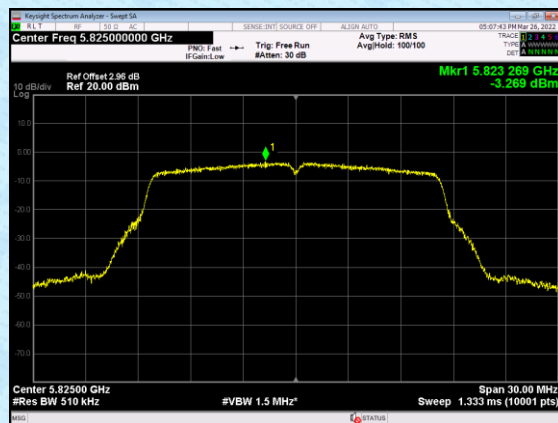


Antenna2

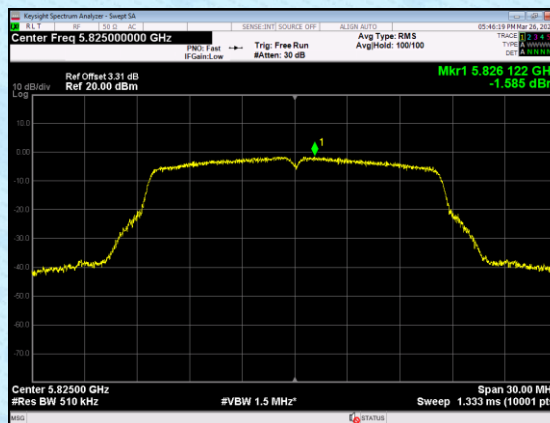


Highest channel165 5825MHz

Antenna1

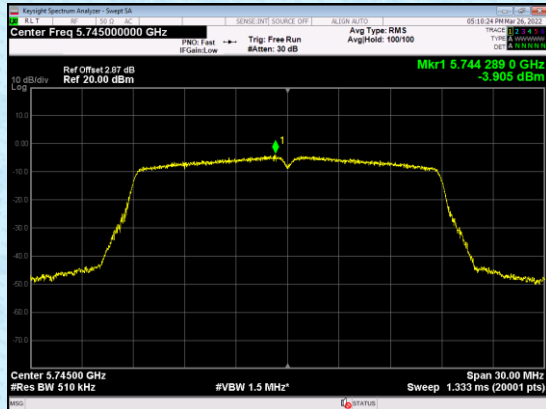


Antenna2

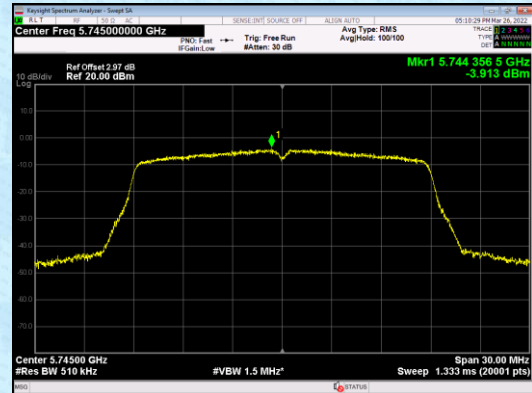


Test mode: 802.11 n(HT20)
Lowest channel149 5745MHz

Antenna1

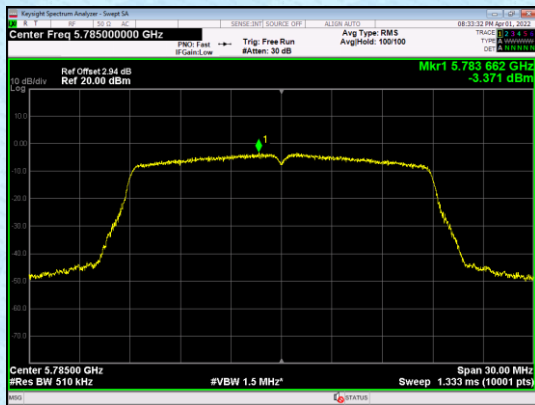


Antenna2

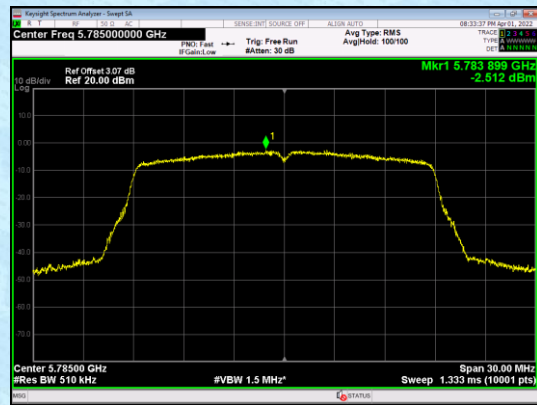


Middle channel157 5785MHz

Antenna1

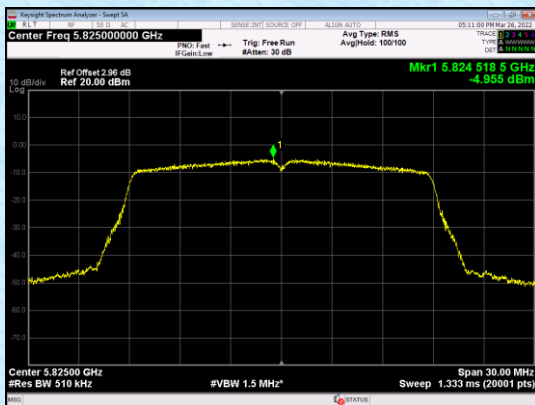


Antenna2

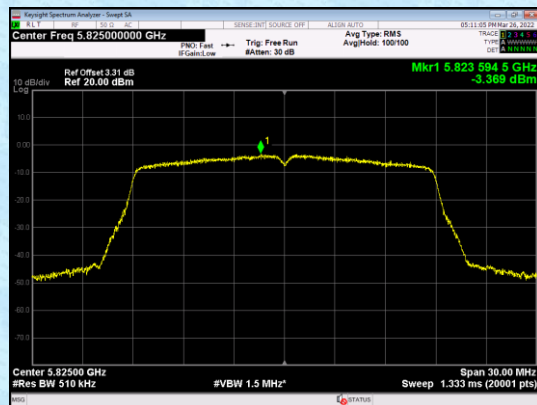


Highest channel165 5825MHz

Antenna1

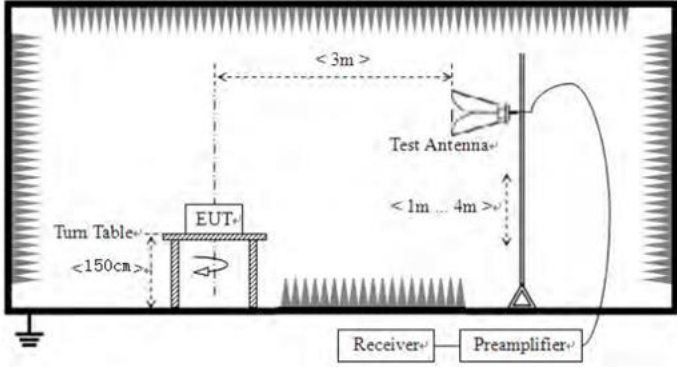


Antenna2



7.6 Band edge

7.6.1 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209 and 15.205				
Test Method:	ANSI C63.10: 2013				
Test Frequency Range:	9kHz to 40GHz, only worse case is reported				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	Above 1GHz	Peak RMS	1MHz 1MHz	3MHz 3MHz	Peak RMS
Limit:	All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.				
Test setup:					
Test Procedure:	1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. 7. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test				

	worst case mode is recorded in the report.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Remarks:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.*
4. *According to KDB 789033 D02v02r01 section G) 1) d), for measurements above 1000 MHz @3m distance, the limit of field strength is computed as follows:*

$$E[\text{dBuV/m}] = \text{EIRP}[\text{dBm}] + 95.2;$$

$$E[\text{dBuV/m}] = -27 + 95.2 = 68.2\text{dBuV/m}.$$

$$E[\text{dBuV/m}] = 10 + 95.2 = 105.2\text{dBuV/m}.$$

$$E[\text{dBuV/m}] = 15.6 + 95.2 = 110.8\text{dBuV/m}.$$

$$E[\text{dBuV/m}] = 27 + 95.2 = 122.2\text{dBuV/m}$$

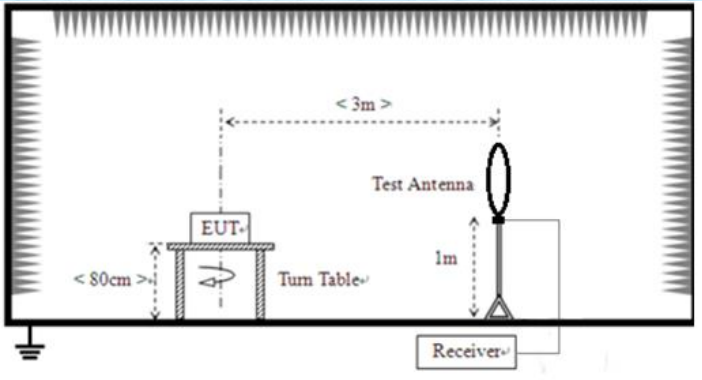
Measurement data:

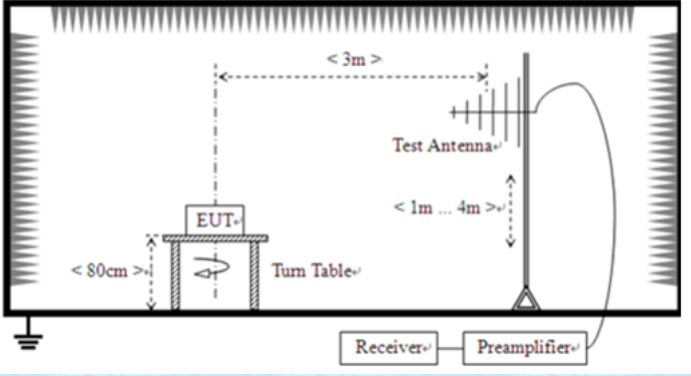
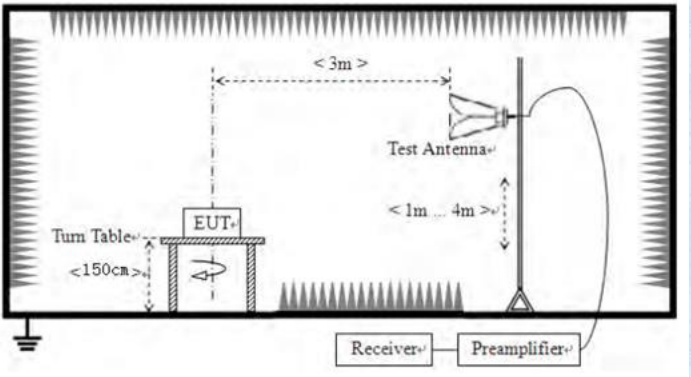
IEEE 802.11a (Worst case:antenna1)								
Peak value:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5650	28.88	32.36	9.72	23.83	47.13	68.2	-21.07	Horizontal
5700	29.52	32.5	9.79	23.84	47.97	105.2	-57.23	Horizontal
5720	31.97	32.53	9.81	23.85	50.46	110.8	-60.34	Horizontal
5725	33.68	32.53	9.83	23.86	52.18	122.2	-70.02	Horizontal
5850	30.57	32.7	9.99	23.87	49.39	122.2	-72.81	Horizontal
5855	28.24	32.72	9.99	23.88	47.07	110.8	-63.73	Horizontal
5875	26.98	32.74	10.04	23.89	45.87	105.2	-59.33	Horizontal
5925	27.01	32.8	10.11	23.9	46.02	68.2	-22.18	Horizontal
5650	27.16	32.36	9.72	23.83	45.41	68.2	-22.79	Vertical
5700	26.33	32.5	9.79	23.84	44.78	105.2	-60.42	Vertical
5720	30.56	32.53	9.81	23.85	49.05	110.8	-61.75	Vertical
5725	31.72	32.53	9.83	23.86	50.22	122.2	-71.98	Vertical
5850	29.07	32.7	9.99	23.87	47.89	122.2	-74.31	Vertical
5855	28.54	32.72	9.99	23.88	47.37	110.8	-63.43	Vertical
5875	26.89	32.74	10.04	23.89	45.78	105.2	-59.42	Vertical
5925	26.79	32.8	10.11	23.9	45.8	68.2	-22.4	Vertical

IEEE 802.11n HT20(Worst case:MIMO)								
Peak value:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5650	28.24	32.36	9.72	23.83	46.49	68.2	-21.71	Horizontal
5700	29.96	32.5	9.79	23.84	48.41	105.2	-56.79	Horizontal
5720	32.34	32.53	9.81	23.85	50.83	110.8	-59.97	Horizontal
5725	33.91	32.53	9.83	23.86	52.41	122.2	-69.79	Horizontal
5850	31.02	32.7	9.99	23.87	49.84	122.2	-72.36	Horizontal
5855	29.18	32.72	9.99	23.88	48.01	110.8	-62.79	Horizontal
5875	27.03	32.74	10.04	23.89	45.92	105.2	-59.28	Horizontal
5925	27.07	32.8	10.11	23.9	46.08	68.2	-22.12	Horizontal
5650	27.24	32.36	9.72	23.83	45.49	68.2	-22.71	Vertical
5700	27.53	32.5	9.79	23.84	45.98	105.2	-59.22	Vertical
5720	30.59	32.53	9.81	23.85	49.08	110.8	-61.72	Vertical
5725	31.84	32.53	9.83	23.86	50.34	122.2	-71.86	Vertical
5850	29.56	32.7	9.99	23.87	48.38	122.2	-73.82	Vertical
5855	28.38	32.72	9.99	23.88	47.21	110.8	-63.59	Vertical
5875	26.17	32.74	10.04	23.89	45.06	105.2	-60.14	Vertical
5925	26.52	32.8	10.11	23.9	45.53	68.2	-22.67	Vertical

7.7 Spurious Emission

7.7.1 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209, 15.205,Part 15E Section 15.407(b)(4)				
Test Method:	ANSI C63.10:2013				
Test Frequency Range:	9kHz to 40GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	9kHz-150KHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value
	150kHz-30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		AV	1MHz	3MHz	Average Value
Limit:	Frequency		Limit (uV/m)	Value	Measurement Distance
	0.009MHz-0.490MHz		2400/F(KHz)	QP	300m
	0.490MHz-1.705MHz		24000/F(KHz)	QP	300m
	1.705MHz-30MHz		30	QP	30m
	30MHz-88MHz		100	QP	3m
	88MHz-216MHz		150	QP	
	216MHz-960MHz		200	QP	
	960MHz-1GHz		500	QP	
	Frequency		Limit (dBuV/m)	Remark	
	Above 1GHz		68.20	Peak Value	
			54.00	Average Value	
Test setup:	For radiated emissions from 9kHz to 30MHz				
					
For radiated emissions from 30MHz to1GHz					

	 For radiated emissions above 1GHz 
Test Procedure:	1. The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. 7. The radiation measurements are performed in X, Y, Z axis positioning.

	And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report.					
Test Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for details					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar
Test voltage:	DC 12V Powered by adaptor)					
Test results:	Pass					

Remarks:

1. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

Measurement Data:

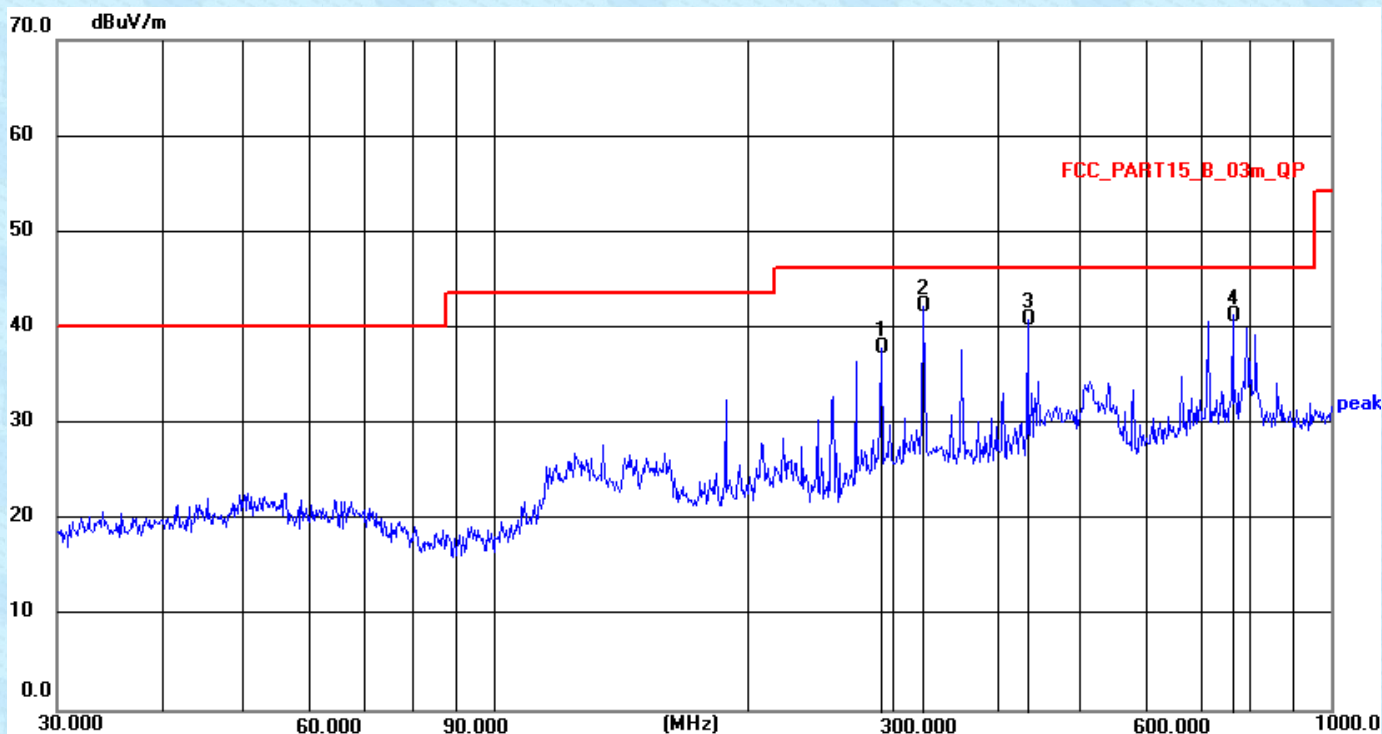
9 kHz ~ 30 MHz

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

Below 1GHz

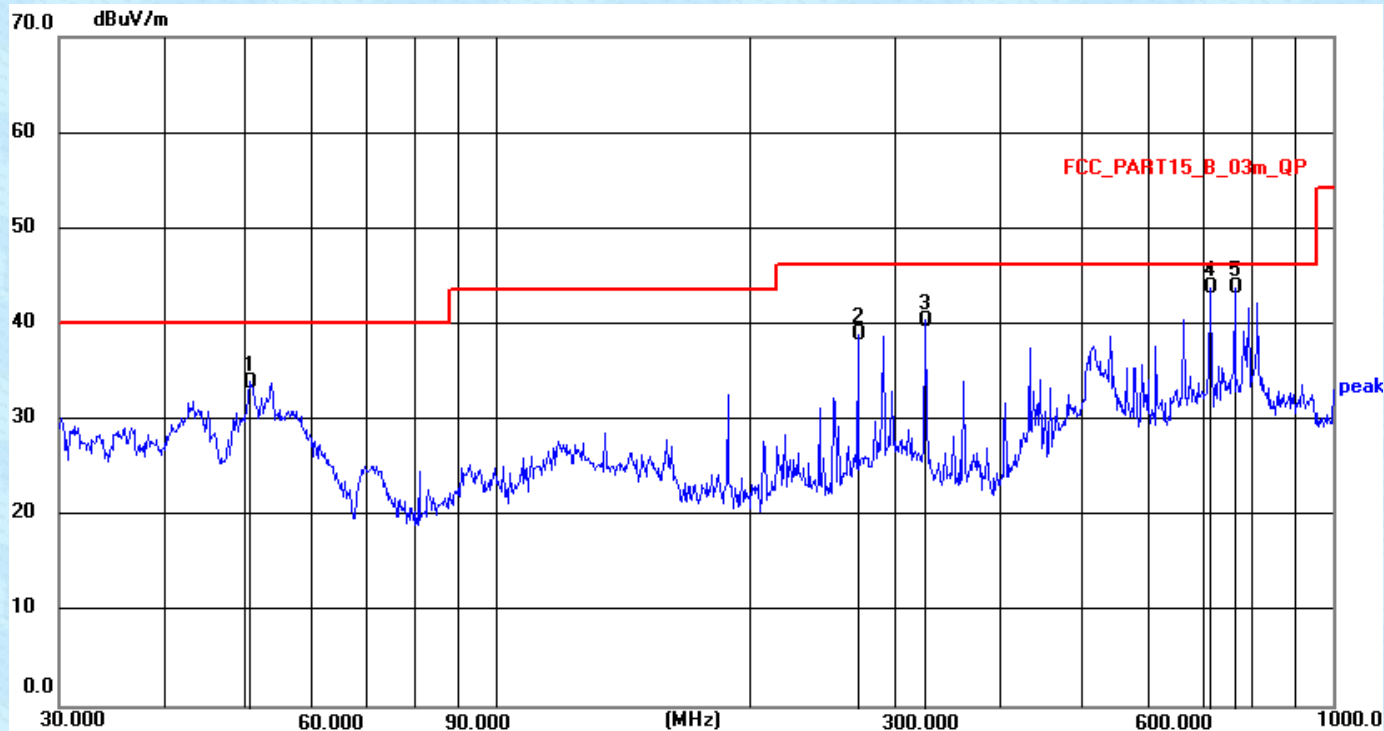
Pre-scan all test modes, found worst case at 802.11n(HT20) 5745MHz, and so only show the test result of 802.11n(HT20) 5745MHz.

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Remark
1	290.0172	23.35	14.54	37.89	46.00	-8.11	134	158	QP
2	325.5957	26.84	15.42	42.26	46.00	-3.74	116	213	QP
3	434.0649	23.17	17.65	40.82	46.00	-5.18	103	348	QP
4	763.3757	18.53	22.70	41.23	46.00	-4.77	122	49	QP

Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Remark
1	50.7635	19.41	14.49	33.90	40.00	-6.10	106	237	QP
2	270.3747	24.92	14.01	38.93	46.00	-7.07	112	128	QP
3	325.5957	24.95	15.42	40.37	46.00	-5.63	107	225	QP
4	714.1733	21.61	22.10	43.71	46.00	-2.29	100	89	QP
5	763.3757	21.10	22.70	43.80	46.00	-2.20	100	312	QP

Above 1GHz:

802.11a 5745MHz (worst case: Antenna1)

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11490	34.43	39.4	8.73	35.3	47.26	68.2	-20.94	Horizontal
17235	28.27	41	11.37	35.28	45.36	68.2	-22.84	Horizontal
11490	31.95	39.4	8.73	35.3	44.78	68.2	-23.42	Vertical
17235	26.19	41	11.37	35.28	43.28	68.2	-24.92	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11490	29.42	39.4	8.73	35.3	42.25	54	-11.75	Horizontal
17235	23.18	41	11.37	35.28	40.27	54	-13.73	Horizontal
11490	27.09	39.4	8.73	35.3	39.92	54	-14.08	Vertical
17235	22.14	41	11.37	35.28	39.23	54	-14.77	Vertical

802.11a 5785MHz (worst case: Antenna1)

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11570	33.97	39.28	8.77	36.29	45.73	68.2	-22.47	Horizontal
17355	28.74	41.52	11.48	36.26	45.48	68.2	-22.72	Horizontal
11570	30.38	39.28	8.77	36.29	42.14	68.2	-26.06	Vertical
17355	26.01	41.52	11.48	36.26	42.75	68.2	-25.45	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11570	28.95	39.28	8.77	36.29	40.71	54	-13.29	Horizontal
17355	23.86	41.52	11.48	36.26	40.60	54	-13.40	Horizontal
11570	26.13	39.28	8.77	36.29	37.89	54	-16.11	Vertical
17355	22.54	41.52	11.48	36.26	39.28	54	-14.72	Vertical

802.11a 5825MHz (worst case: Antenna1)

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11650	31.06	39.15	8.78	35.25	44.74	68.2	-23.46	Horizontal
17475	27.81	42.1	11.59	35.26	46.24	68.2	-21.96	Horizontal
11650	29.52	39.15	8.78	35.25	42.20	68.2	-26.00	Vertical
17475	25.19	42.1	11.59	35.26	43.62	68.2	-24.58	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11650	27.83	39.15	8.78	35.25	40.51	54	-13.49	Horizontal
17475	22.91	42.1	11.59	35.26	41.34	54	-12.66	Horizontal
11650	25.03	39.15	8.78	35.25	37.71	54	-16.29	Vertical
17475	20.84	42.1	11.59	35.26	39.27	54	-14.73	Vertical

802.11n(HT20) 5745MHz (worst case: MIMO)

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11490	36.86	39.4	8.73	35.3	49.69	68.2	-18.51	Horizontal
17235	30.14	41	11.37	35.28	47.23	68.2	-20.97	Horizontal
11490	35.57	39.4	8.73	35.3	46.40	68.2	-21.80	Vertical
17235	27.18	41	11.37	35.28	44.27	68.2	-23.93	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11490	31.73	39.4	8.73	35.3	44.56	54	-9.44	Horizontal
17235	25.89	41	11.37	35.28	42.98	54	-11.02	Horizontal
11490	28.81	39.4	8.73	35.3	41.64	54	-12.36	Vertical
17235	23.06	41	11.37	35.28	40.15	54	-13.85	Vertical

802.11n(HT20) 5785MHz (worst case: MIMO)

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11570	35.82	39.28	8.77	36.29	47.58	68.2	-20.62	Horizontal
17355	31.49	41.52	11.48	36.26	48.23	68.2	-19.97	Horizontal
11570	31.26	39.28	8.77	36.29	43.02	68.2	-25.18	Vertical
17355	27.22	41.52	11.48	36.26	43.96	68.2	-24.24	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11490	31.21	39.28	8.77	36.29	42.97	54	-11.03	Horizontal
17235	26.88	41.52	11.48	36.26	43.62	54	-10.38	Horizontal
11490	27.12	39.28	8.77	36.29	38.88	54	-15.12	Vertical
17235	23.74	41.52	11.48	36.26	40.48	54	-13.52	Vertical

802.11n(HT20) 5825MHz (worst case: MIMO)

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11650	34.92	39.15	8.78	35.25	47.60	68.2	-20.60	Horizontal
17475	29.08	42.1	11.59	35.26	47.51	68.2	-20.69	Horizontal
11650	33.16	39.15	8.78	35.25	45.84	68.2	-22.36	Vertical
17475	28.24	42.1	11.59	35.26	46.67	68.2	-21.53	Vertical

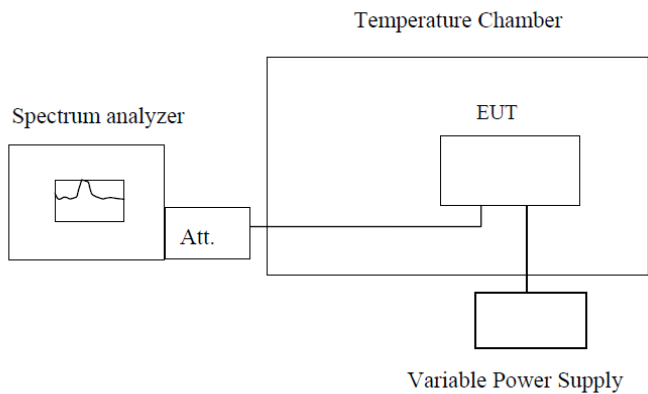
Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11650	29.73	39.15	8.78	35.25	42.41	54	-11.59	Horizontal
17475	25.21	42.1	11.59	35.26	43.64	54	-10.36	Horizontal
11650	29.02	39.15	8.78	35.25	41.70	54	-12.30	Vertical
17475	23.37	42.1	11.59	35.26	41.80	54	-12.20	Vertical

Notes:

1. Level = Read Level + Antenna Factor+ Cable loss- Preamp Factor.
2. The test trace is same as the ambient noise (the test frequency range: 18GHz~40GHz), therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

7.8 Frequency stability

Test Requirement:	FCC Part15 C Section 15.407(g)
Test Method:	ANSI C63.10:2013, FCC Part 2.1055
Limit:	Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified
Test Procedure:	The EUT was setup to ANSI C63.4, 2003; tested to 2.1055 for compliance to FCC Part 15.407(g) requirements.
Test setup:	 Note : Measurement setup for testing on Antenna connector
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement data:

Frequency stability versus Temp.													
Worst Case Operating Frequency: 5745MHz													
Temp. (°C)	Power Supply (VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	Pass / Fail	Measured Frequency (MHz)	Frequency Error (ppm)	Pass /Fail	Measured Frequency (MHz)	Frequency Error (ppm)	Pass /Fail	Measured Frequency (MHz)	Frequency Error (ppm)	Pass /Fail
-30	12.0	5745.02	3.48	Pass	5745.00	0.00	Pass	5745.01	1.74	Pass	5744.99	-1.74	Pass
-20	12.0	5744.97	-5.22	Pass	5745.01	1.74	Pass	5744.98	-3.48	Pass	5745.03	5.22	Pass
-10	12.0	5744.97	-5.22	Pass	5745.01	1.74	Pass	5745.03	5.22	Pass	5744.97	-5.22	Pass
0	12.0	5744.96	-6.96	Pass	5744.98	-3.48	Pass	5745.01	1.74	Pass	5745.00	0.00	Pass
10	12.0	5744.97	-5.22	Pass	5745.02	3.48	Pass	5745.01	1.74	Pass	5744.99	-1.74	Pass
20	12.0	5745.02	3.48	Pass	5745.01	1.74	Pass	5744.98	-3.48	Pass	5745.03	5.22	Pass
30	12.0	5745.02	3.48	Pass	5744.95	-8.70	Pass	5744.98	-3.48	Pass	5745.02	3.48	Pass
40	12.0	5745.02	3.48	Pass	5745.01	1.74	Pass	5744.96	-6.96	Pass	5744.99	-1.74	Pass
50	12.0	5745.01	1.74	Pass	5745.03	5.22	Pass	5744.97	-5.22	Pass	5744.99	-1.74	Pass
Frequency stability versus Voltage.													
Worst Case Operating Frequency: 5745MHz													
Temp. (°C)	Power Supply (VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	Pass /Fail	Measured Frequency (MHz)	Frequency Error (ppm)	Pass /Fail	Measured Frequency (MHz)	Frequency Error (ppm)	Pass /Fail	Measured Frequency (MHz)	Frequency Error (ppm)	Pass /Fail
25	6.3	5744.99	-1.74	Pass	5745.01	1.74	Pass	5744.98	-3.48	Pass	5744.99	-1.74	Pass
25	12.0	5745.01	1.74	Pass	5745.04	5.11	Pass	5744.98	-3.48	Pass	5744.97	-5.22	Pass
25	18.7	5744.99	-1.74	Pass	5745.02	3.48	Pass	5744.98	-3.48	Pass	5745.02	3.48	Pass
Frequency stability versus Temp.													
Worst Case Operating Frequency: 5785MHz													
Temp. (°C)	Power Supply (VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	Pass / Fail	Measured Frequency (MHz)	Frequency Error (ppm)	Pass /Fail	Measured Frequency (MHz)	Frequency Error (ppm)	Pass /Fail	Measured Frequency (MHz)	Frequency Error (ppm)	Pass /Fail
-30	12.0	5784.98	-3.46	Pass	5784.99	-1.73	Pass	5784.99	-1.73	Pass	5784.99	-1.73	Pass
-20	12.0	5784.96	-6.91	Pass	5784.97	-5.19	Pass	5784.98	-3.46	Pass	5784.98	-3.46	Pass
-10	12.0	5785.01	1.73	Pass	5785.01	1.73	Pass	5785.00	0.00	Pass	5785.00	0.00	Pass
0	12.0	5785.02	3.46	Pass	5785.04	6.91	Pass	5785.01	1.73	Pass	5785.05	7.24	Pass
10	12.0	5784.97	-5.19	Pass	5784.98	-3.46	Pass	5784.98	-3.46	Pass	5784.99	-1.73	Pass
20	12.0	5784.99	-1.73	Pass	5784.96	-6.91	Pass	5784.97	-5.19	Pass	5784.96	-6.91	Pass
30	12.0	5784.97	-5.19	Pass	5784.99	-1.73	Pass	5784.98	-3.46	Pass	5784.98	-3.46	Pass
40	12.0	5785.03	5.19	Pass	5785.01	1.73	Pass	5785.02	3.46	Pass	5785.02	3.46	Pass
50	12.0	5784.98	-3.46	Pass	5784.99	-1.73	Pass	5784.99	-1.73	Pass	5784.99	-1.73	Pass
Frequency stability versus Voltage.													
Worst Case Operating Frequency: 5785MHz													
Temp. (°C)	Power Supply (VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	Pass /Fail	Measured Frequency (MHz)	Frequency Error (ppm)	Pass /Fail	Measured Frequency (MHz)	Frequency Error (ppm)	Pass /Fail	Measured Frequency (MHz)	Frequency Error (ppm)	Pass /Fail
25	6.3	5785.00	0.00	Pass	5784.99	-1.73	Pass	5785.01	1.73	Pass	5784.99	-1.73	Pass
25	12.0	5784.99	-1.73	Pass	5784.97	-5.19	Pass	5784.99	-1.73	Pass	5784.98	-3.46	Pass
25	18.7	5784.97	-5.19	Pass	5784.98	-3.46	Pass	5784.97	-5.19	Pass	5785.02	3.46	Pass
Frequency stability versus Temp.													
Worst Case Operating Frequency: 5825MHz													
Temp. (°C)	Power Supply (VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	Pass / Fail	Measured Frequency (MHz)	Frequency Error (ppm)	Pass /Fail	Measured Frequency (MHz)	Frequency Error (ppm)	Pass /Fail	Measured Frequency (MHz)	Frequency Error (ppm)	Pass /Fail
-30	12.0	5825.00	0.00	Pass	5825.01	1.72	Pass	5824.98	-3.43	Pass	5825.03	5.15	Pass
-20	12.0	5825.01	1.72	Pass	5825.02	3.43	Pass	5824.96	-6.87	Pass	5825.02	3.43	Pass
-10	12.0	5825.02	3.43	Pass	5825.01	1.72	Pass	5825.00	0.00	Pass	5824.99	-1.72	Pass
0	12.0	5825.00	0.00	Pass	5825.00	0.00	Pass	5825.00	0.00	Pass	5825.00	0.00	Pass
10	12.0	5825.01	1.72	Pass	5825.02	3.43	Pass	5824.98	-3.43	Pass	5824.96	-6.87	Pass
20	12.0	5825.01	1.72	Pass	5825.03	5.15	Pass	5824.96	-3.43	Pass	5825.04	6.87	Pass
30	12.0	5825.01	1.72	Pass	5825.02	3.43	Pass	5824.99	-1.72	Pass	5825.00	0.00	Pass
40	12.0	5824.98	-3.43	Pass	5825.01	1.72	Pass	5825.02	3.43	Pass	5825.00	0.00	Pass
50	12.0	5825.02	3.43	Pass	5825.03	5.15	Pass	5824.98	-3.43	Pass	5824.96	-6.87	Pass

Frequency stability versus Voltage.

Worst Case Operating Frequency: 5825MHz

Temp. (°C)	Power Supply (VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	Pass /Fail	Measured Frequency (MHz)	Frequency Error (ppm)	Pass /Fail	Measured Frequency (MHz)	Frequency Error (ppm)	Pass /Fail	Measured Frequency (MHz)	Frequency Error (ppm)	Pass /Fail
25	6.3	5825.01	1.72	Pass	5825.02	3.43	Pass	5824.99	-1.72	Pass	5824.97	-5.15	Pass
25	12.0	5825.02	3.43	Pass	5825.01	1.72	Pass	5824.99	-1.72	Pass	5824.99	-1.72	Pass
25	18.7	5824.97	-5.15	Pass	5824.98	-3.43	Pass	5825.02	3.43	Pass	5824.98	-3.48	Pass

8 Test Setup Photo

Reference to the **appendix I** for details.

9 EUT Constructional Details

Reference to the **appendix II** for details.

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