



TEST REPORT

Applicant: Jiumao (Shenzhen) Industrial Co., LTD
Address of Applicant: 2nd Floor, Building 9, Jingxuan Industrial Park, Donghuan Road, Longhua District, Shenzhen
Manufacturer: Jiumao (Shenzhen) Industrial Co., LTD
Address of Manufacturer: 2nd Floor, Building 9, Jingxuan Industrial Park, Donghuan Road, Longhua District, Shenzhen
Product Name: TV BOX
Model No.: M98-M9,M98PRO,M98mini,M98Max,M98Plus,Q96,
M98-M5,M8,M98,X2,X2PLUS,X3PRO,X3PLUS,M98-Y9,M98-Y10,
TVR3,M98-Y2,M98-Y3,X96Q,X96mini,X96PRO,MXQ,MXQPRO
Trade Mark: JIUMAO
FCC ID: 2BB8K-M98M9
Applicable standards: CFR Title 47 Part 15.247
Date of Test: May.12, 2025-May.27, 2025
Date of report issued: May.30, 2025

Remark:

The 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

Prepared By

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Report Revision History		
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1 Test Summary

Test Item	Section	Result	Test by
Antenna requirement	47CRF part 15.203	Pass	/
AC Power Line Conducted Emission	47CRF part 15.207	Pass	Jason Huang
Conducted Output Power	47CRF part 15.407 (a)(1)/(a)(3)	Pass	Kara Wu
26dB Bandwidth and 99% Occupied Bandwidth	47CRF part 15.407 (a)(12)	Pass	Kara Wu
6dB Bandwidth	47CRF part 15.407 (e)	Pass	Kara Wu
Power Spectral Density	47CRF part 15.407(a)(1)/(a)(3)	Pass	Kara Wu
Band Edge	47CRF part 15.407(b)(1)/(b)(4)	Pass	Kara Wu
Spurious Emission	47CRF part 15.205/15.209 47CRF part 15.407(b)(1)/(b)(4)/(b)(8)	Pass	Jason Huang
Frequency Stability	47CRF part 15.407(g)	Pass	Kara Wu

Remarks:

1. Pass: The EUT complies with the essential requirements in the standard.
2. Test according to ANSI C63.10:2013.
3. Note: Compliance determination rules
 - 1).The Compliance determination of test results does not take into account measurement uncertainty. Measurement results are determined based on regulatory limitations or requirements specified by the applicant/manufacturer. If measurement uncertainty is taken into account, the applicant/manufacturer will bear all possible risks of non-compliance.
 - 2).The measurement uncertainty please refer to each test result in the "Measurement Uncertainty"

Measurement Uncertainty

Test Item	Measurement Uncertainty	Notes
Occupied Channel Bandwidth	0.55%	(1)
RF output power, conducted	±0.57 dB	(1)
Power Spectral Density, conducted	±0.61 dB	(1)
Unwanted Emissions, conducted	±0.64 dB	(1)
AC Power Line Conducted Emission	± 2.55 dB	(1)
Radiated emissions 9K-30MHz	±3.79 dB	(1)
Radiated emissions 30M- 1GHz	± 4.24 dB	(1)
Radiated emissions 1GHz-18GHz	± 4.26 dB	(1)
Radiated emissions 18GHz-40GHz	±4.17 dB	(1)
Frequency error	Uc=1X10 ⁻⁷	(1)
Duty Cycle	0.03%	(1)

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

2 General Information

2.1 General Description of EUT

Product Name:	TV BOX
Model No.:	M98-M9,M98PRO,M98mini,M98Max,M98Plus,Q96, M98-M5,M8,M98,X2,X2PLUS,X3PRO,X3PLUS,M98-Y9,M98-Y10, TVR3,M98-Y2,M98-Y3,X96Q,X96mini,X96PRO,MXQ,MXQPRO
Difference of model(s)	All the model are the same circuit and RF module, except the model names
Test Model:	M98-M9
Hardware Version:	B00-M96PLUS-REV1.5
Software Version:	11.1
Sample(s) Status:	Engineer sample
Operation Frequency:	☒ 5180-5240MHz for 802.11a/n20; 5190-5230MHz for 802.11n40; ☒ 5745-5825 MHz for 802.11a/n20; 5755-5795 MHz for 802.11n40)
Channel numbers:	☒ 4 channels for 802.11a/n20 in the 5180-5240MHz band; 2 channels for 802.11 n40 in the 5190-5230MHz band ; ☒ 5 channels for 802.11a/n20 in the 5745-5825MHz band ; 2 channels for 802.11 n40 in the 5755-5795MHz band ;
Channel bandwidth:	802.11a/802.11n20/ : 20MHz 802.11n(HT40) : 40MHz
Data Rate	802.11a: 6,9,12,18,24,36,48,54Mbps; 802.11n(20/40):MCS0-MCS15;
Modulation technology:	Orthogonal Frequency Division Multiplexing (OFDM) with BPSK/QPSK/16QAM/64QAM
Antenna Type:	PCB Antenna
Antenna gain:	3.25dBi(Declare by applicant) Note: Antenna information is provided by applicant, Testing lab is not responsible for the accuracy of the information.
Power supply:	5VDC from adapter with 100-240Vac
Battery	N/A
Adapter Model:	Model: YBJ-220502 Input:100-240V 50/60Hz 0.5A Output: DC 5V 2A

For more details, refer to the user's manual of the EUT.

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180MHz	38	5190MHz	40	5200MHz	/	/
44	5220MHz	46	5230MHz	48	5240MHz	/	/
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
149	5745MHz	151	5755MHz	153	5765MHz	/	/
157	5785MHz	159	5795MHz	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 /n20	802.11 n40	
Lowest channel	5180	5190	/
Middle channel	5200		
Highest channel	5240	5230	

Test channel	Frequency (MHz)		
	802.11 a /n20	802.11 n40	
Lowest channel	5745	5755	/
Middle channel	5785		
Highest channel	5825	5795	

2.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode(or with max duty cycle.)
<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:

Pretest Mode	Description
Mode 1	802.11a / n 20CH36/CH40/CH48 802.11a / n 20CH149/CH157/CH165
Mode 2	802.11n40/CH38/CH46
Mode 3	Link Mode
Conducted Emission	
Final Test Mode	Description
Mode 5	Link Mode
For Radiated Emission	
Final Test Mode	Description
Mode 1	802.11a/n 20CH36/ CH40/ CH 48 802.11a/n 20CH149/ CH157/ CH165
Mode 2	802.11n40CH38/ CH46

Note: The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.

2.3 Description of Support Units

No.	Description	Manufacturer	Model	Serial Number
1	mouse	DELL	MS116	/
2	keyboard	DELL	KB216t	/
3	MONITOR	SKYWORTH	2BU1	/

2.4 Test Facility

Test laboratory:	Shenzhen ETR Standard Technology Co., Ltd.
CNAS Registration Number:	L11864
A2LA Certificate Number:	6640.01
FCC Designation Number:	CN1326
FCC Test Firm Registration:	183064
IC Company Number:	28440
Laboratory location:	No.103, No.10, Phase I, Zone 3, Xinxing Industrial Park, Xinhe, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

2.5 Additional Instructions

Test Software	SecureCRT_6.7.0.15.EXE
Power level setup	Default



3 Test Instruments list

Conducted Emission

Item	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	EMI Test Receiver	Rohde&schwarz	ESCI3	100605	2025.3.06	2026.3.05
2	Artificial power network	schwarabeck	NSLK8127	8127483	2025.3.06	2026.3.05
3	Artificial power network	ETS	3186/2NM	1132	2025.3.06	2026.3.05
4	10dB attenuator	HUBER+SUHNER	10dB	/	2025.3.06	2026.3.05
5	Cable 4	HUBER SUNNER	3M	/	2025.3.06	2026.3.05
6	Absorbing Clamp	schwarabeck	MDS21	D69250	2025.3.06	2026.3.05

Radiated Emission & RF Conducted test:

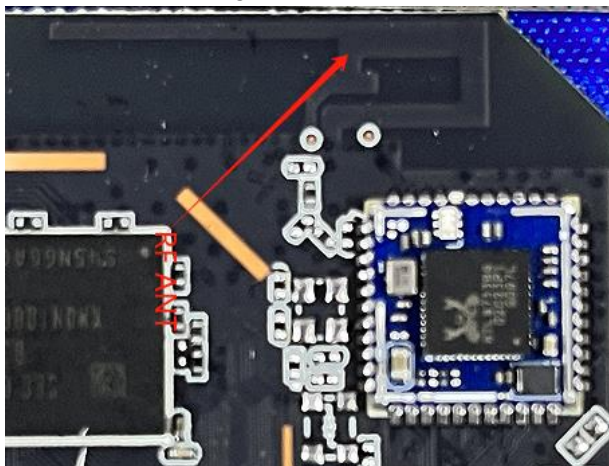
Item	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	EMI Test Receiver	Rohde&schwarz	ESCI7	101032	2025.3.06	2026.3.05
2	Broadband antenna	schwarabeck	VULB9168	1064	2024.3.26	2026.3.25
3	Horn antenna	schwarabeck	BBHA9120D	9120D-1145	2024.3.22	2026.3.21
4	Amplifier	EMtrace	RP01A	50117	2025.3.06	2026.3.05
5	Amplifier	Space-Dtronic	EWLAN0118G-P40	19113001	2025.3.06	2026.3.05
6	Spectrum analyzer	KEYSIGHT	N9020A	MY55370280	2025.3.06	2026.3.05
7	Power detector meter	MWRFTesT	MW100-PSB	MW201020JYT	2025.3.06	2026.3.05
8	Signal generator	Agilent	N5182A	MY49060455	2025.3.06	2026.3.05
9	Spectrum analyzer	Rohde&schwarz	FSV-40N	101321	2025.3.06	2026.3.05
10	Amplifier	SKET	LNPA_1840-50	SK2019040302	2025.3.06	2026.3.05
11	Horn antenna	schwarabeck	BBHA 9170	946	2024.3.22	2026.3.21
12	Loop antenna	schwarabeck	FMZB 1519 B	1519	2024.3.22	2026.3.21
13	Cable 6	HUBER SUNNER	0.5M	/	2025.3.06	2026.3.05
14	Cable7	HUBER SUNNER	2.0M	/	2025.3.06	2026.3.05
15	Cable8	HUBER SUNNER	6.0M	/	2025.3.06	2026.3.05
16	Filter	Xin bo	XLBQ-GTA29	210410-3-2	2025.3.06	2026.3.05
17	Power Sensor	Keysight	U2021XA	MY54111006	2025.3.06	2026.3.05
18	Temp. & Humidity Chamber	Jiecheng Instrument	QA-LP-80	20160705001	2025/3/07	2026/3/06

Note: the calibration interval of the above test instruments is 12 or 24 months and the calibrations are traceable to international system unit (SI).

Software Name	Manufacturer	Model	Version
RF test software	MWRFTesT	MTS 8310	V2.0.0.0
Conducted test software	EZ-EMC	Farad	Ver.EMC-CON 3A1.1
Radiated test software	EZ-EMC	Farad	Ver.FA-03A2 RE

4 Test results and Measurement Data

4.1 Antenna requirement

Standard requirement:	47CRF Part 15.203
15.203 requirement: <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>	
EUT Antenna: The antenna is PCB antenna, the best case gain of the is 3.25dBi, reference to the below for details .	
	

4.2 Conducted Emissions

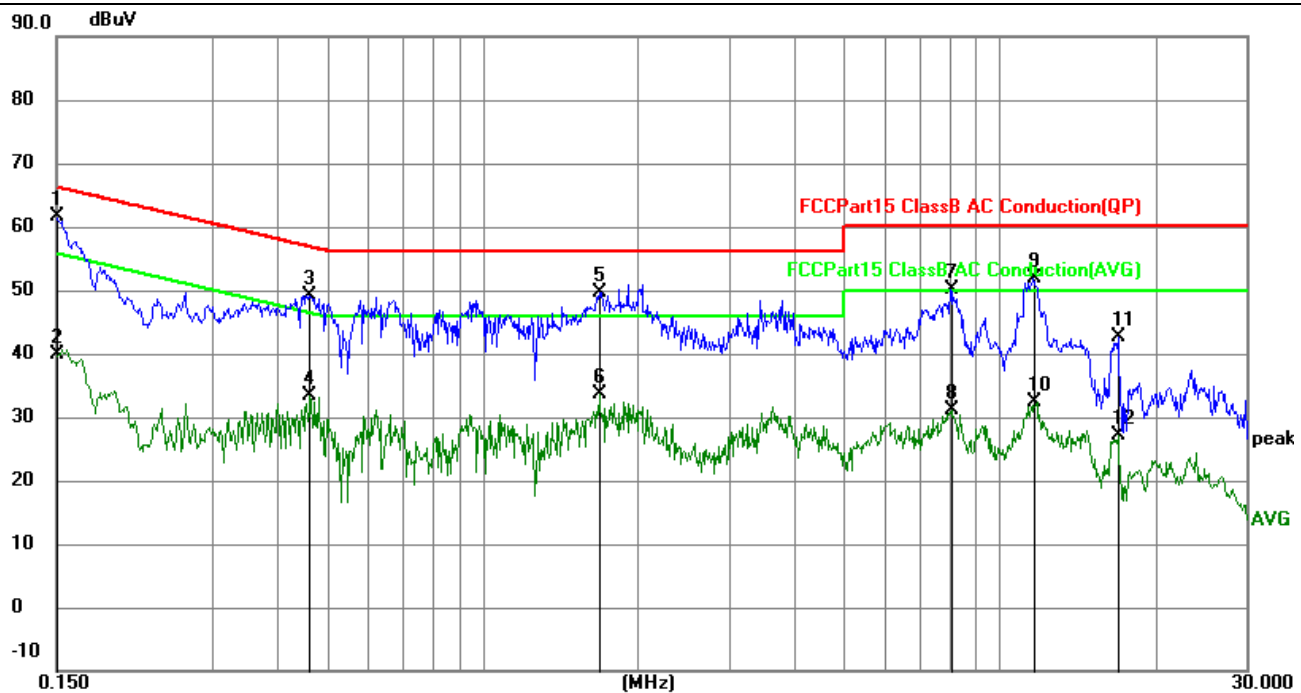
Test Requirement:	47CRF Part 15.207					
Test Method:	ANSI C63.10:2013					
Test Frequency Range:	150KHz to 30MHz					
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto					
Limit:	Frequency range (MHz)		Limit (dBuV)			
			Quasi-peak		Average	
	0.15-0.5		66 to 56*		56 to 46*	
	0.5-5		56		46	
	5-30		60		50	
* Decreases with the logarithm of the frequency.						
Test setup:	Reference Plane 40cm LISN AUX Equipment E.U.T Test table/Insulation plane 80cm LISN Filter EMI Receiver AC power Remark E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m					
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 3.0 for details					
Test mode:	Refer to section 2.2 for details					
Test environment:	Temp.:	25.5°C	Humid.:	52%	Press.:	1012mbar
Test voltage:	AC 120V 60Hz					
Test results:	Pass					

Remark:

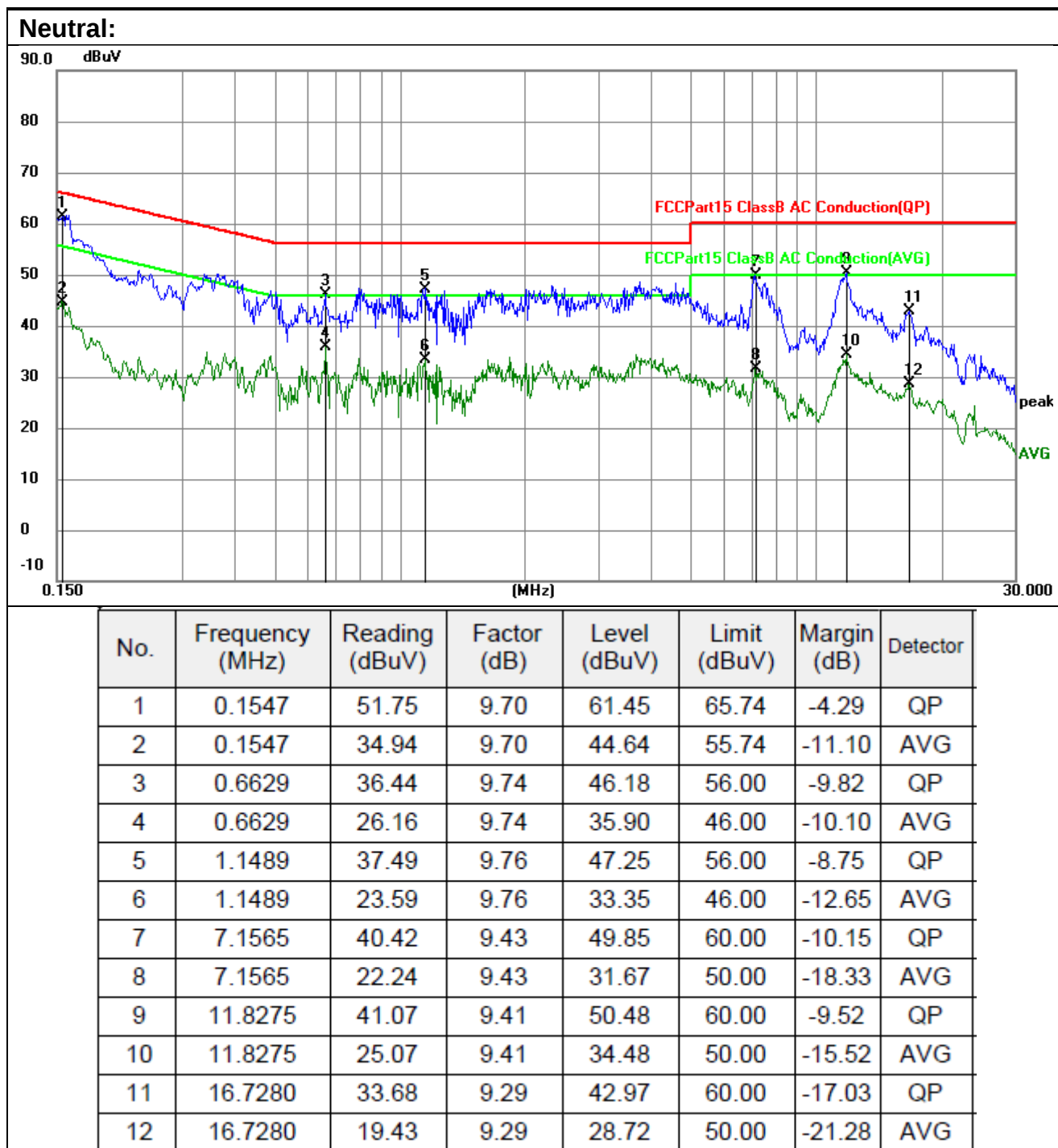
1. Both high voltage and low voltage have been tested, and the report only shows the worst case data with AC 120V/60Hz.
2. All mode have been tested, the report only shows the worst mode (802.11a 5785MHz)

Measurement Result

Line:



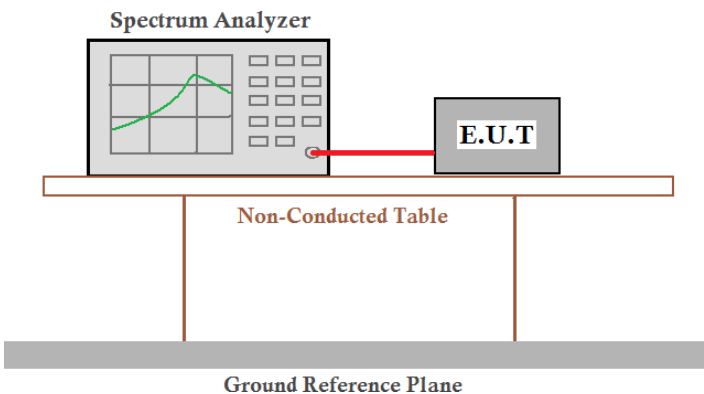
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1500	51.90	9.70	61.60	66.00	-4.40	QP
2	0.1500	30.17	9.70	39.87	56.00	-16.13	AVG
3	0.4611	39.41	9.74	49.15	56.67	-7.52	QP
4	0.4611	23.72	9.74	33.46	46.67	-13.21	AVG
5	1.6839	39.94	9.76	49.70	56.00	-6.30	QP
6	1.6839	23.93	9.76	33.69	46.00	-12.31	AVG
7	8.0385	40.42	9.61	50.03	60.00	-9.97	QP
8	8.0385	21.43	9.61	31.04	50.00	-18.96	AVG
9	11.6430	42.44	9.48	51.92	60.00	-8.08	QP
10	11.6430	22.87	9.48	32.35	50.00	-17.65	AVG
11	16.9345	33.31	9.36	42.67	60.00	-17.33	QP
12	16.9345	17.82	9.36	27.18	50.00	-22.82	AVG



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.

4.3 Duty cycle

Test Method :	ANSI C63.10:2013	
Limit:	/	
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.	
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 20.9°C	Humid.: 59%RH
Test voltage:	5VDC	
Test results:	Pass	



Measurement Result

5180-5240MHz

Mode	Duty cycle (%)	Correction Factor (dB)
TX 802.11a Mode	84.89	0.71
TX 802.11n20 Mode	86.77	0.62
TX 802.11n40 Mode	87.70	0.57

5745-5825 MHz

Mode	Duty cycle (%)	Correction Factor (dB)
TX 802.11a Mode	85.42	0.68
TX 802.11n20 Mode	91.49	0.39
TX 802.11n40 Mode	88.24	0.54



Test plot

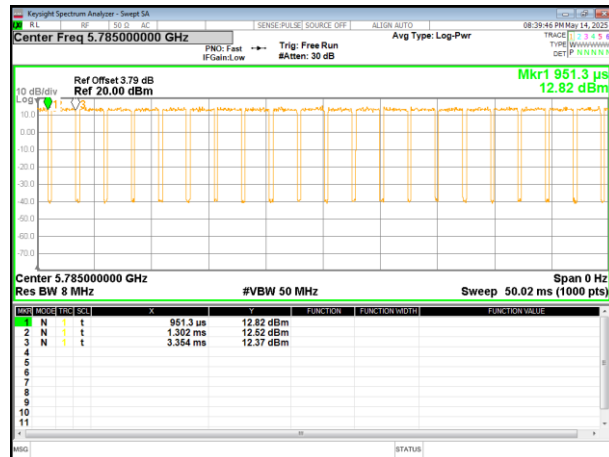
5180-5240MHz



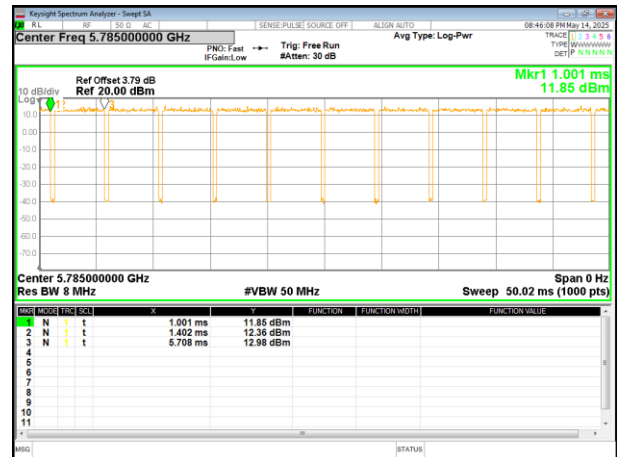


5745-5825 MHz

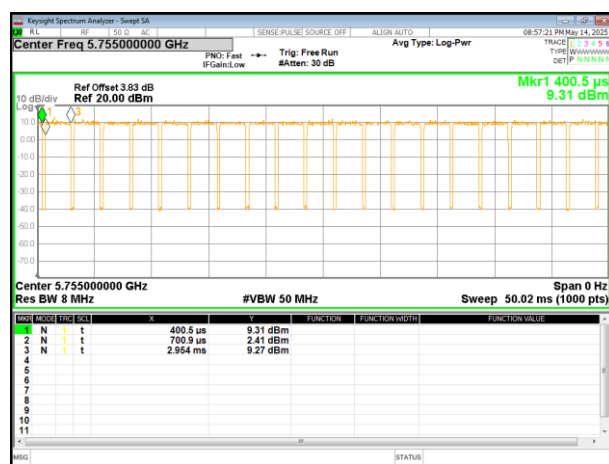
(802.11a) plot



(802.11 n20) plot



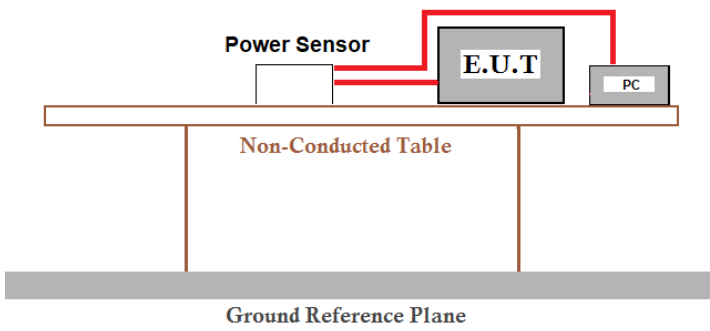
(802.11 n40) plot



/

/

4.4 Conducted Output Power & EIRP

Test Requirement:	47CRF Part 15.407 (a)(1)/(a)(3)	
Test Method:	KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 ANSI C63.10-2013	
Limit:	5150-5250MHz : 250mW 5725~5850MHz : 1W	
Test setup:		
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 20.9°C	Humid.: 59%RH
Test voltage:	5V DC	
Test results:	Pass	



Measurement Result

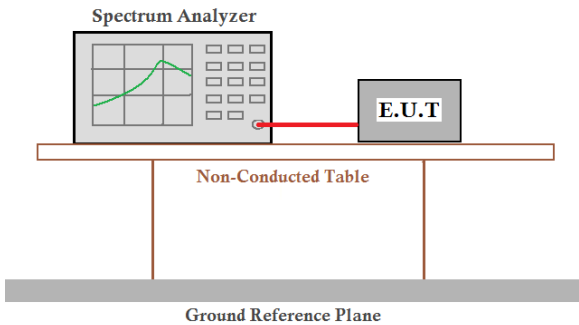
5180-5240MHz

Test Channel	Frequency	Correction Factor	Maximum output power	Total Power	LIMIT	Result
	(MHz)	(dB)	(dBm)	(dBm)	dBm	
TX 802.11a Mode						
CH36	5180	0.71	13.67	14.38	23.98	Pass
CH40	5200	0.71	13.61	14.32	23.98	Pass
CH48	5240	0.71	13.55	14.26	23.98	Pass
TX 802.11 n20 Mode						
CH36	5180	0.62	13.40	14.02	23.98	Pass
CH40	5200	0.62	13.39	14.01	23.98	Pass
CH48	5240	0.62	13.44	14.06	23.98	Pass
TX 802.11 n40 Mode						
CH38	5190	0.57	12.80	13.37	23.98	Pass
CH46	5230	0.57	12.64	13.21	23.98	Pass

5745-5825 MHz

Test Channel	Frequency	Correction Factor	Maximum output power	Total Power	Limit	Result
	(MHz)	(dB)	(dBm)	(dBm)	dBm	
TX 802.11a Mode						
CH149	5745	0.68	13.78	14.46	30	Pass
CH157	5785	0.68	13.79	14.47	30	Pass
CH165	5825	0.68	13.75	14.43	30	Pass
TX 802.11 n20 Mode						
CH149	5745	0.39	13.21	13.60	30	Pass
CH157	5785	0.39	13.35	13.74	30	Pass
CH165	5825	0.39	13.50	13.89	30	Pass
TX 802.11 n40 Mode						
CH151	5755	0.54	12.04	12.58	30	Pass
CH159	5795	0.54	12.31	12.85	30	Pass

4.5 Bandwidth &99% Occupy Bandwidth

Test Requirement:	47CFR Part 15.407(a)(12)&15.407(e),	
Test Method:	KDB 789033 D02 General U-NII Test Procedures New Rules v02r01, ANSI C63.10:2013 and RSS Gen	
Limit:	Measurements in the 5.725-5.85 GHz band, the minimum bandwidth 6 dB bandwidth of U-NII devices shall be at least 500KHz. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.	
Test setup:		
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 20.9°C	Humid.: 59%RH
Test voltage:	5VDC	
Test results:	Pass	

Measurement Result

5180-5240MHz

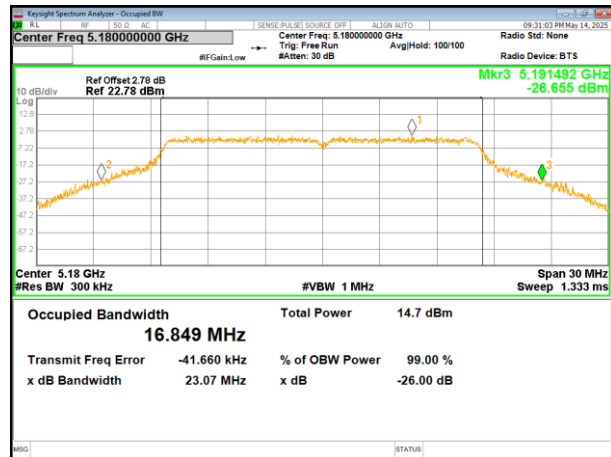
Test CH	-26dB Channel Bandwidth (MHz)						Result
	802.11a	802.11n20	802.11ac20	802.11n40	802.11ac40	802.11ac80	
Lowest	23.07	22.75	--	41.72	--	--	Pass
Middle	23.39	22.48	--	--	--	--	
Highest	23.28	22.86	--	41.42	--	--	

Test CH	99% Occupy Bandwidth (MHz)						Result
	802.11a	802.11n20	802.11ac20	802.11n40	802.11ac40	802.11ac80	
Lowest	16.849	17.901	--	36.230	--	--	Pass
Middle	16.826	17.885	--	--	--	--	
Highest	16.877	17.875	--	36.228	--	--	

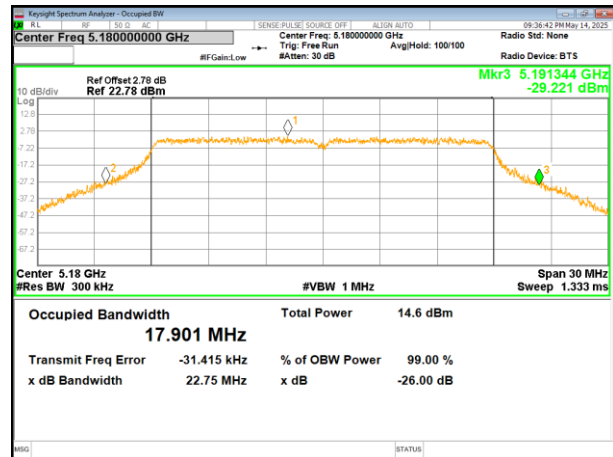
Remark: "---"is not applicable

Test plot 99% Occupancy Bandwidth

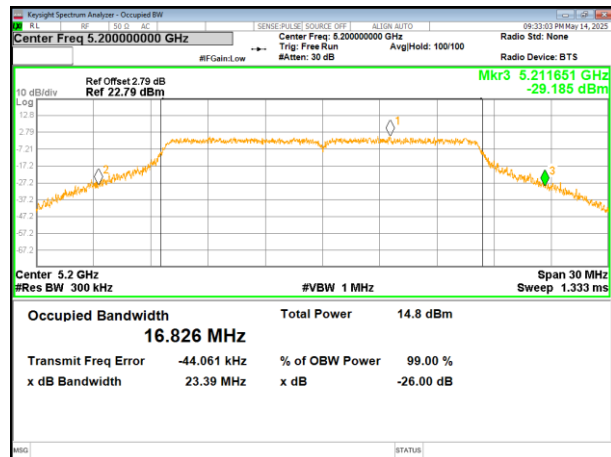
(802.11a) plot on channel 36



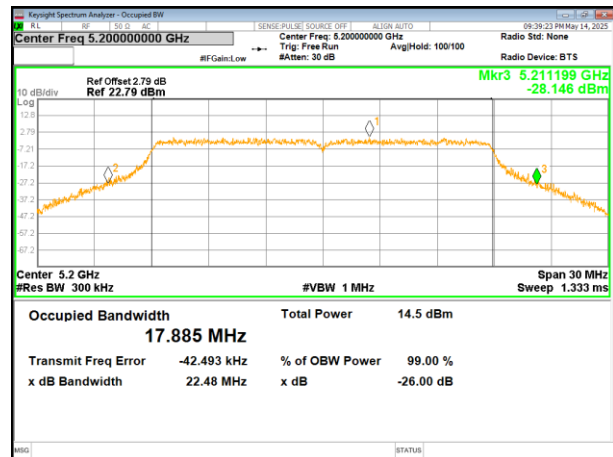
(802.11 n20) plot on channel 36



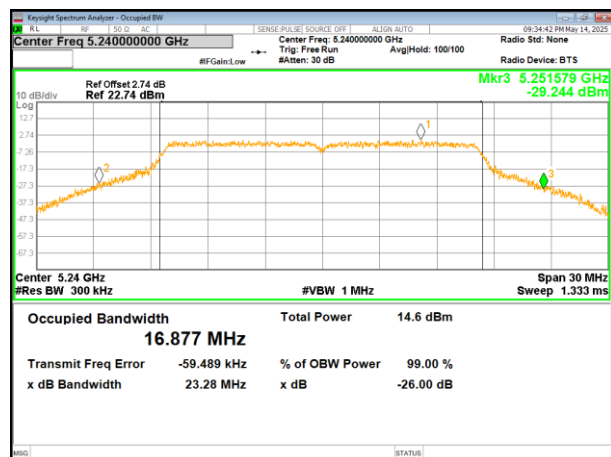
(802.11a) plot on channel 40



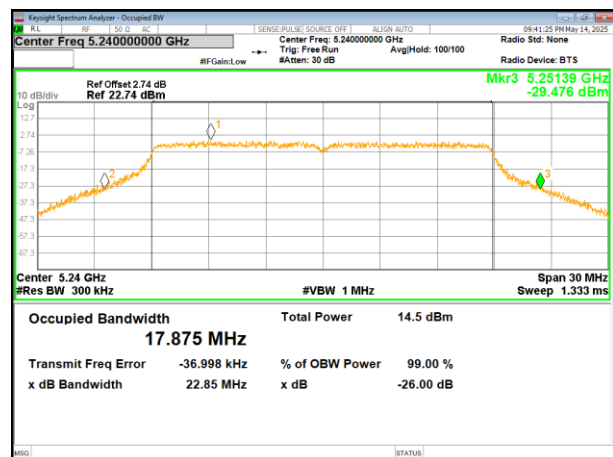
(802.11 n20) plot on channel 40



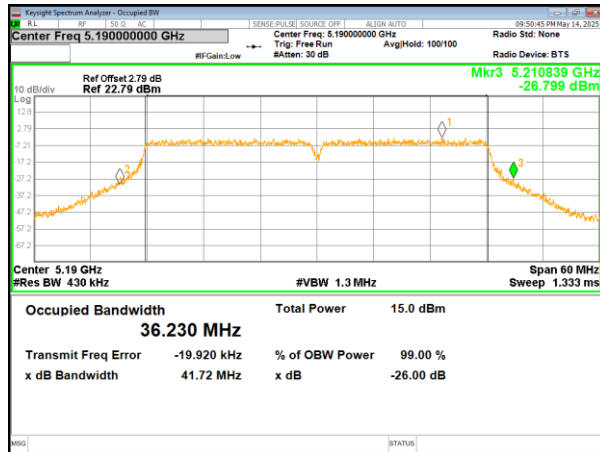
(802.11a) plot on channel 48



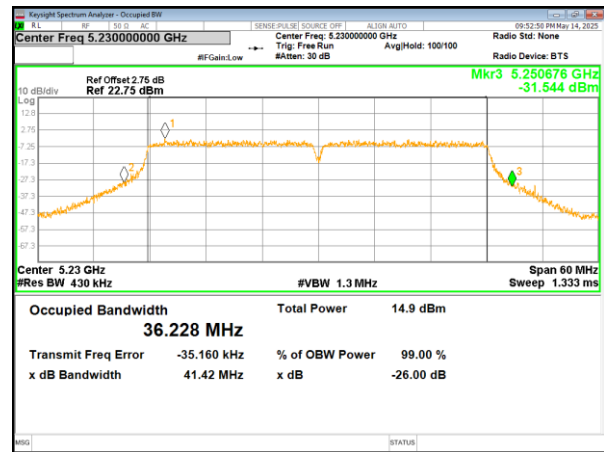
(802.11 n20) plot on channel 48



(802.11n40) plot on channel 38



(802.11n40) plot on channel 46





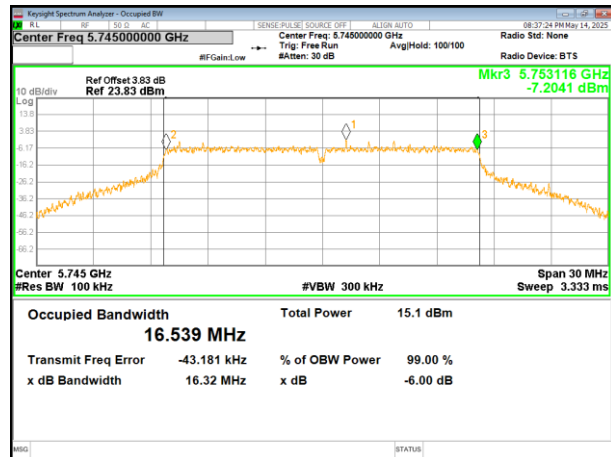
5745-5825MHz

Test CH	-6dB Channel Bandwidth (MHz)						Limit (KHz)	Result
	802.11a	802.11n 20	802.11ac 20	802.11n 40	802.11ac 40	802.11ac 80		
Lowest	16.32	17.58	--	36.36	--	--	>500	Pass
Middle	16.33	17.59	--	--	--	--		
Highest	16.33	17.67	--	36.18	--	--		

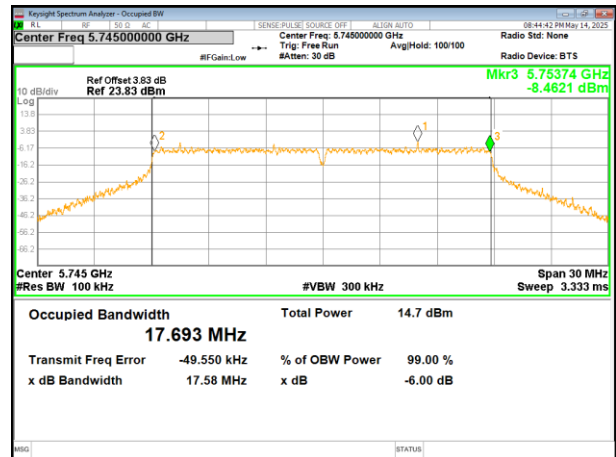
Remark: "---" is not applicable

Test plot -6dB Channel Bandwidth

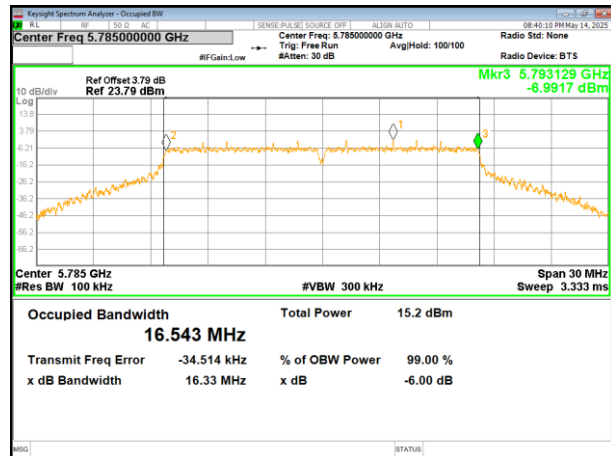
(802.11a) plot on channel 149



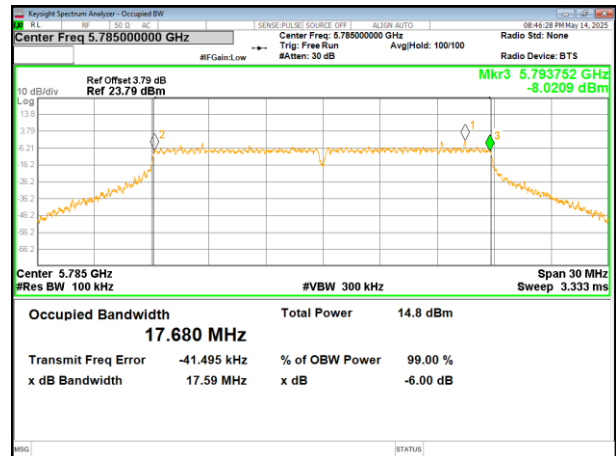
(802.11 n20) plot on channel 149



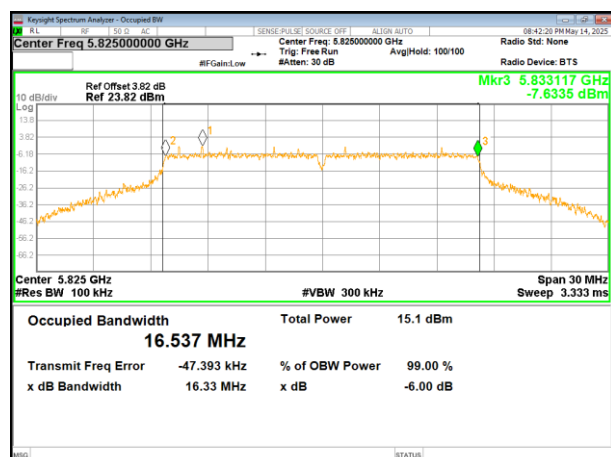
(802.11a) plot on channel 157



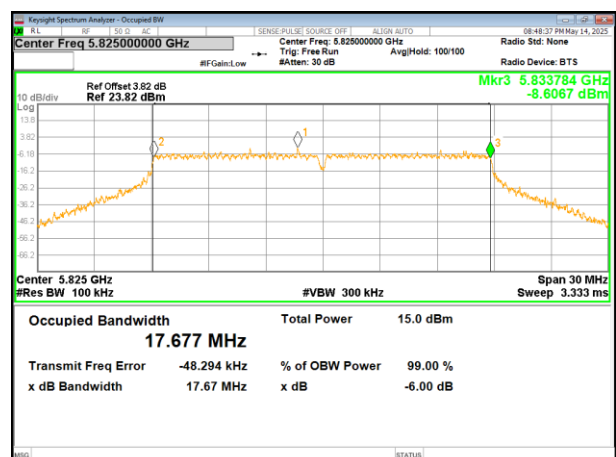
(802.11 n20) plot on channel 157



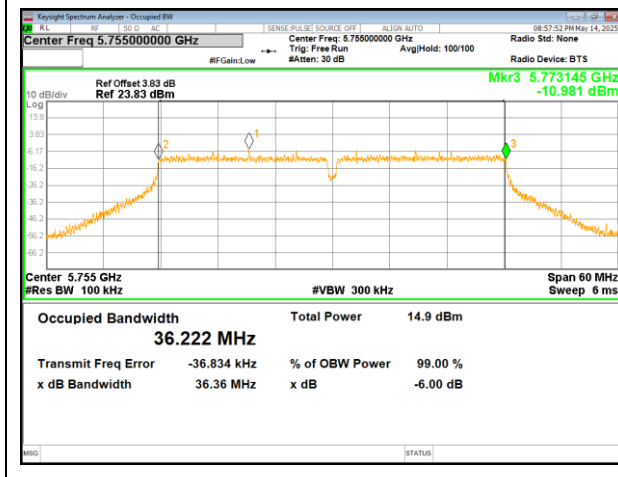
(802.11a) plot on channel 165



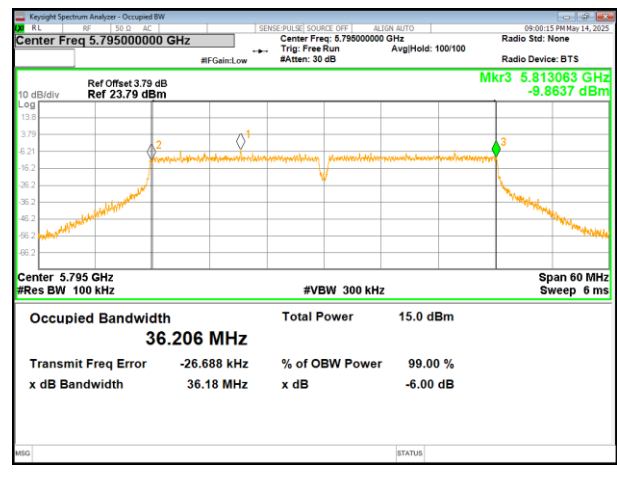
(802.11 n20) plot on channel 165



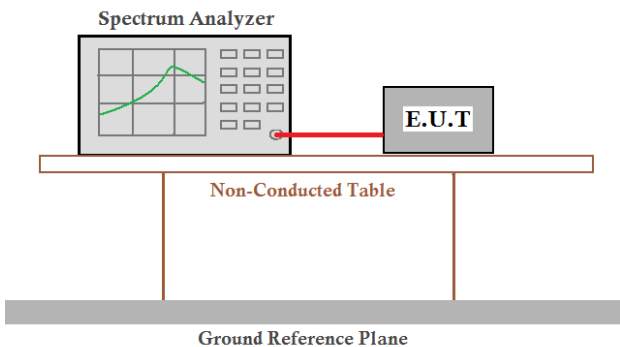
(802.11 n40) plot on channel 151



(802.11 n40) plot on channel 159



4.6 Power Spectral Density

Test Requirement:	47CRF Part 15.407(a)(1)/ (a)(3)	
Test Method:	KDB 789033 D02 General U-NII Test Procedures New Rules v02r01, ANSI C63.10:2013	
Limit:	Frequency band (MHz)	Limit for FCC
	5150-5250	≤17dBm/1MHz for master device
		≤11dBm/1MHz for client device
	5250-5350	≤11dBm/1MHz for client device
	5470-5725	≤11dBm/1MHz for client device
	5725-5850	≤30dBm/500kHz
Test setup:		
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 20.9°C	Humid.: 59%RH
Test voltage:	5VDC	
Test results:	Pass	

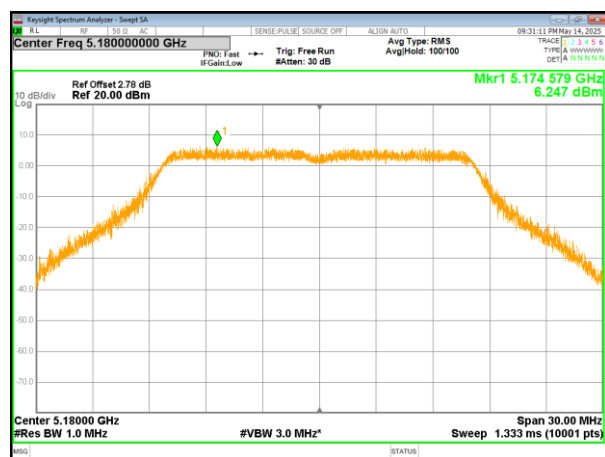
Measurement Result See next page



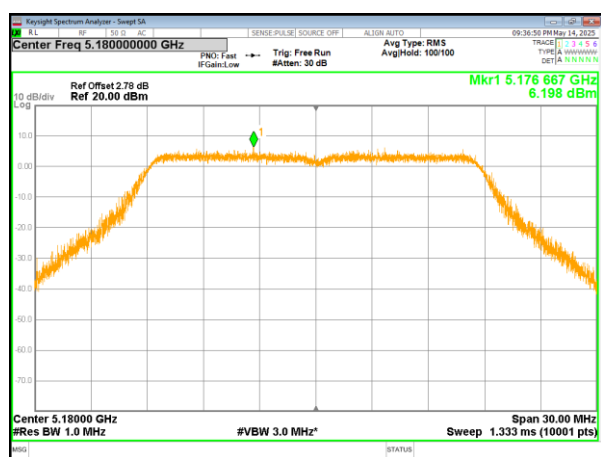
5180-5240MHz

Mode	Frequency	Measured Power Density (dBm/MHz)	Correction Factor (dB)	Total Measured Power Density (dBm/MHz)	Limit (dBm/MHz)
802.11 a	5180 MHz	6.247	0.710	6.957	11
	5200 MHz	6.083	0.710	6.793	11
	5240 MHz	5.995	0.710	6.705	11
802.11 n20	5180 MHz	6.198	0.620	6.818	11
	5200 MHz	6.056	0.620	6.676	11
	5240 MHz	6.255	0.620	6.875	11
802.11 n40	5190 MHz	3.645	0.570	4.215	11
	5230 MHz	3.037	0.570	3.607	11

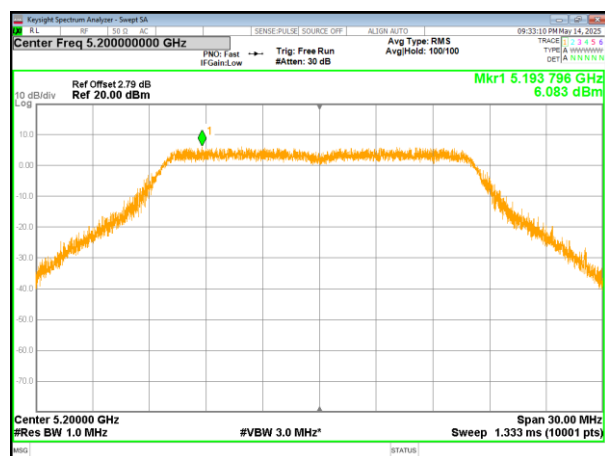
(802.11a) PSD plot on channel 36



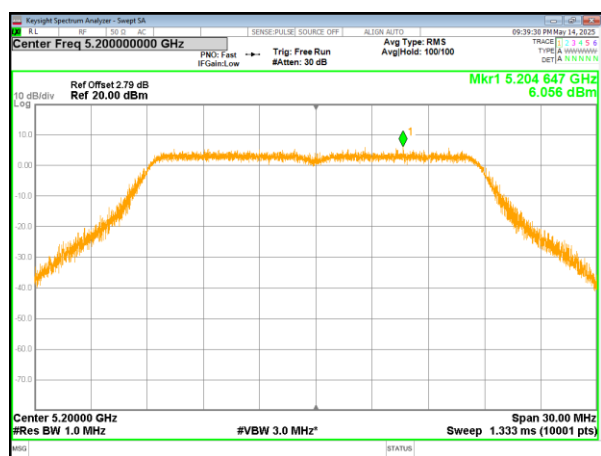
(802.11n20) PSD plot on channel 36



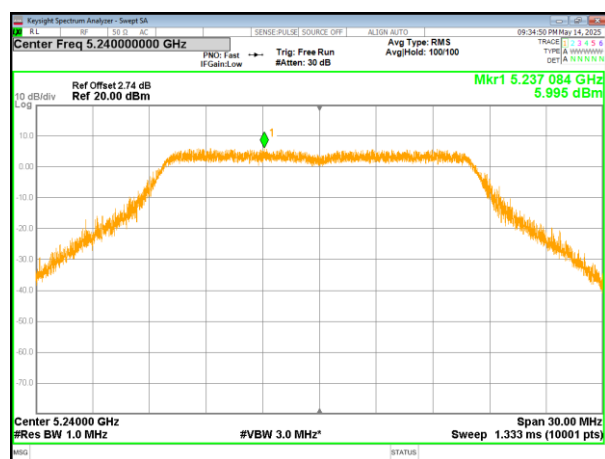
(802.11a) PSD plot on channel 40



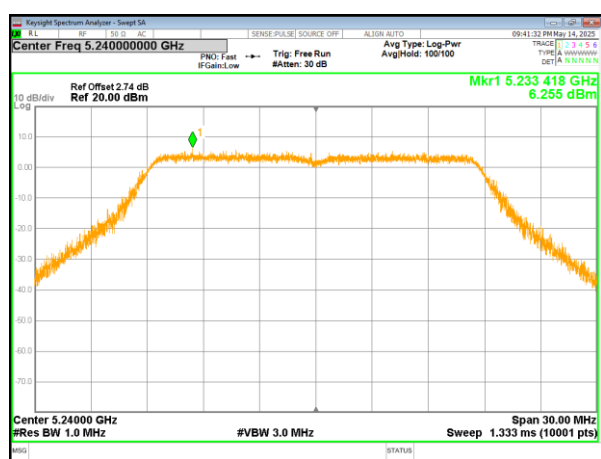
(802.11n20) PSD plot on channel 40



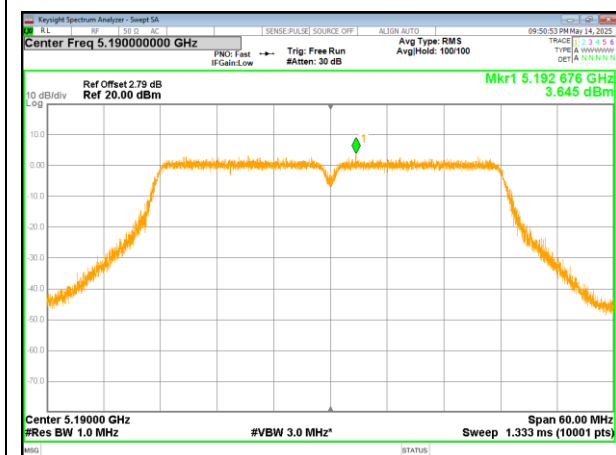
(802.11a) PSD plot on channel 48



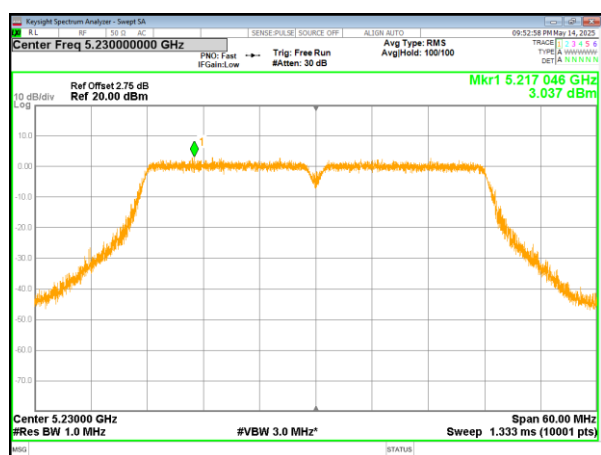
(802.11n20) PSD plot on channel 48



(802.11n40) PSD plot on channel 38



(802.11n40) PSD plot on channel 46



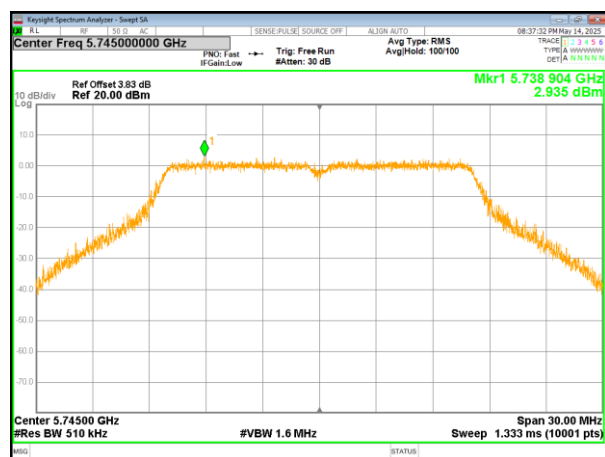
5745-5825MHz

Mode	Frequency	Measured Power Density (dBm/510KHz)	Measured Power Density (dBm/500KHz)	Correction Factor (dB)	Total Measured Power Density (dBm/500KHz)	Limit (dBm/MHz)
802.11 a	5745 MHz	2.935	2.849	0.680	3.529	30
	5785 MHz	2.323	2.237	0.680	2.917	30
	5825 MHz	2.868	2.782	0.680	3.462	30
802.11 n20	5745 MHz	2.175	2.089	0.390	2.479	30
	5785 MHz	2.661	2.575	0.390	2.965	30
	5825 MHz	3.057	2.971	0.390	3.361	30
802.11 n40	5755 MHz	-0.221	-0.307	0.540	0.233	30
	5795 MHz	0.676	0.590	0.540	1.130	30

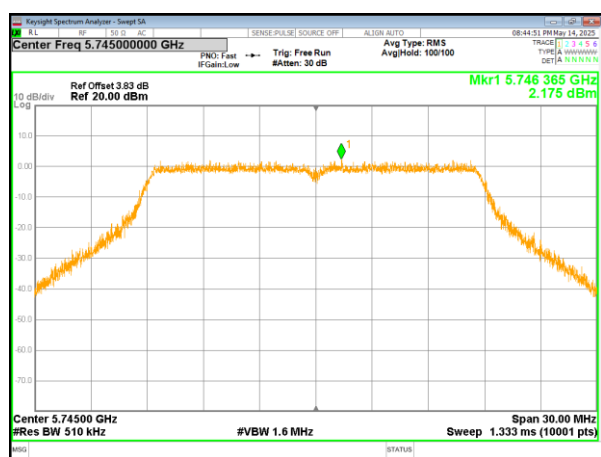
Note: 1. If the measurement is X dBm/510kHz, thus $X \text{ dBm/510kHz} = (10^{X/10}) * (500 / 510) \text{ dBm/500kHz}$

2. Correction Factor (dB)= duty cycle factor

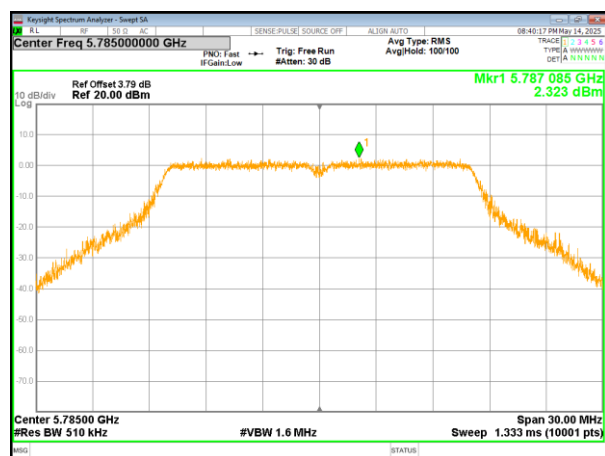
(802.11a) PSD plot on channel 149



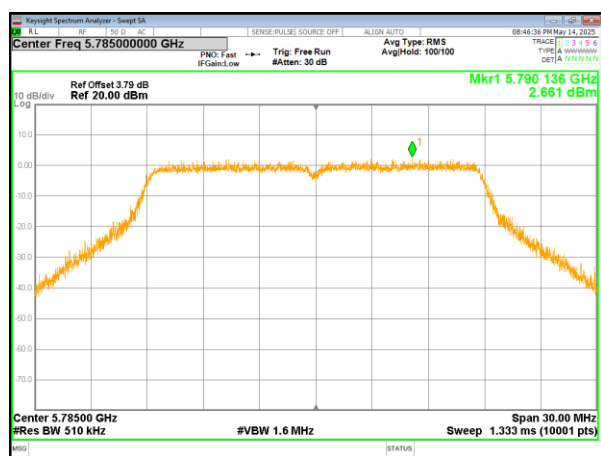
(802.11n20) PSD plot on channel 149



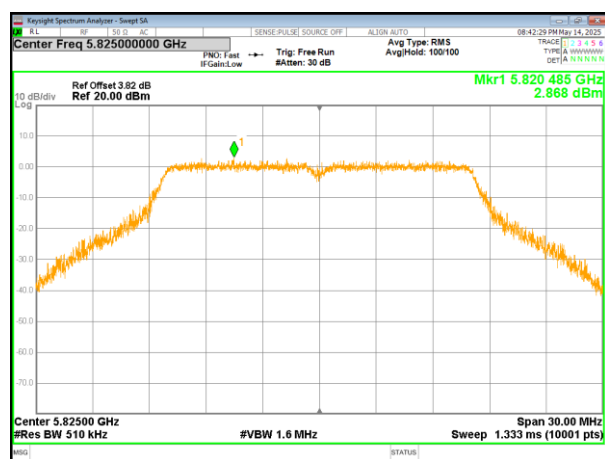
(802.11a) PSD plot on channel 157



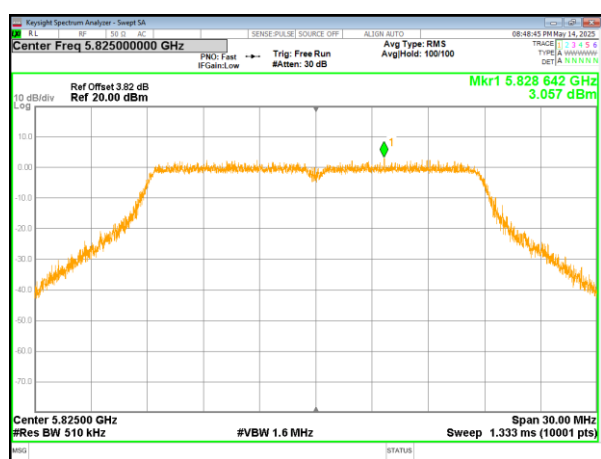
(802.11n20) PSD plot on channel 157



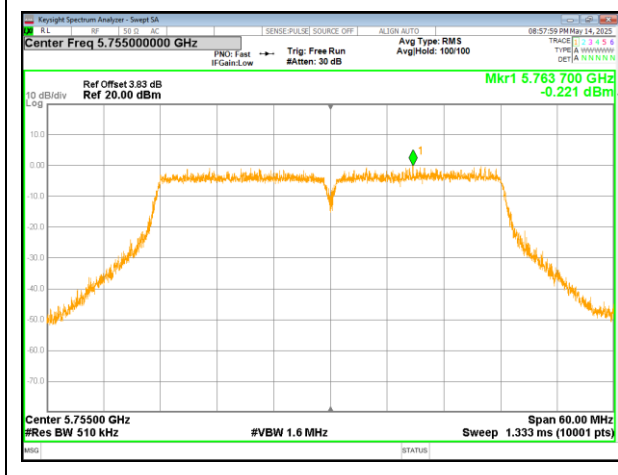
(802.11a) PSD plot on channel 165



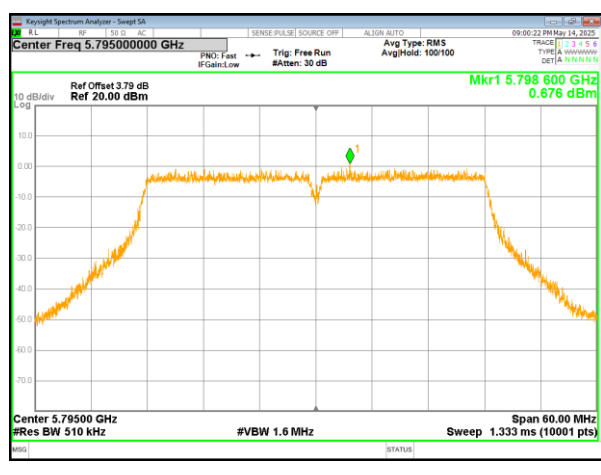
(802.11n20) PSD plot on channel 165



(802.11n40) PSD plot on channel 151

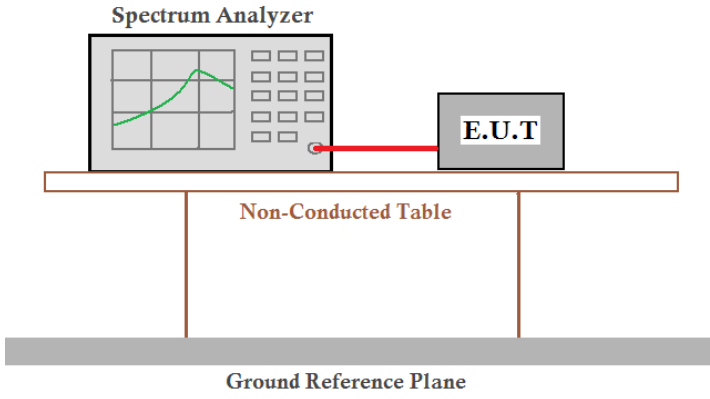


(802.11n40) PSD plot on channel 159



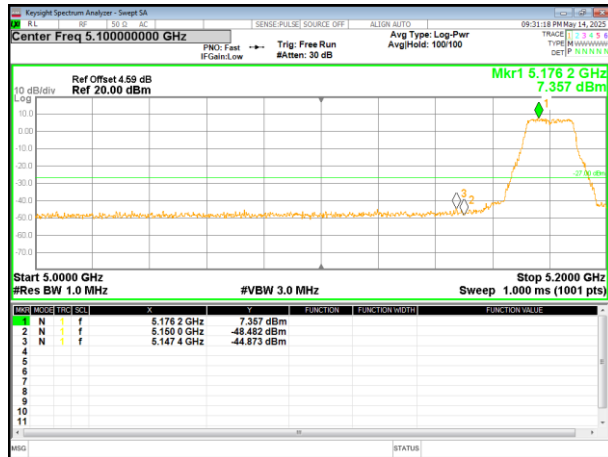
4.7 Band edge

4.7.1 Conducted test Method

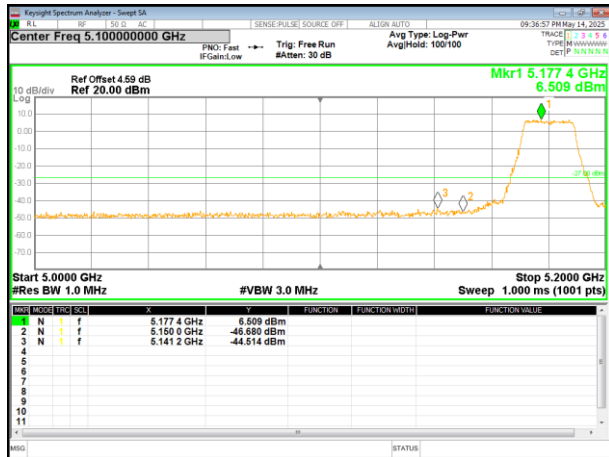
Test Requirement:	47CRF Part 15.209 and 15.205	
Test Method:	ANSI C63.10: 2013	
Limit:	All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band 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:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both are placed on a Non-Conducted Table, which is supported by a Ground Reference Plane.	
Test Procedure:	1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator. 2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range. 3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span. 4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency. 5. Repeat above procedures until all measured frequencies were complete..	
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 20.9°C	Humid.: 59%RH
Test voltage:	5VDC	
Test results:	Pass	

5.180~5.240 GHz

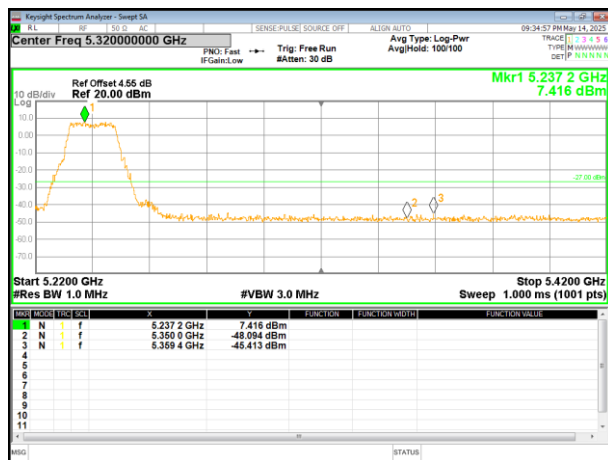
(802.11a) Band Edge, Left Side



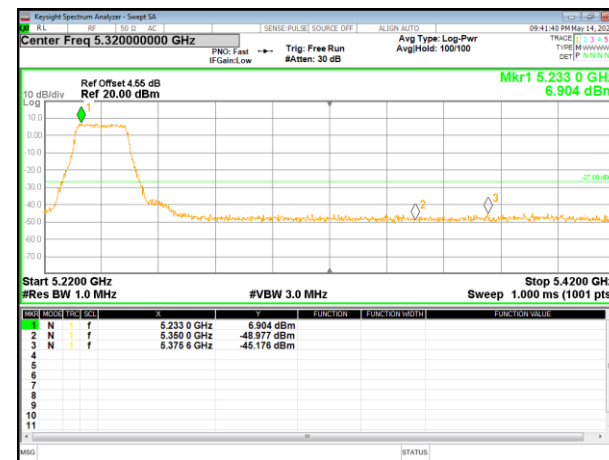
(802.11n20) Band Edge, Left Side



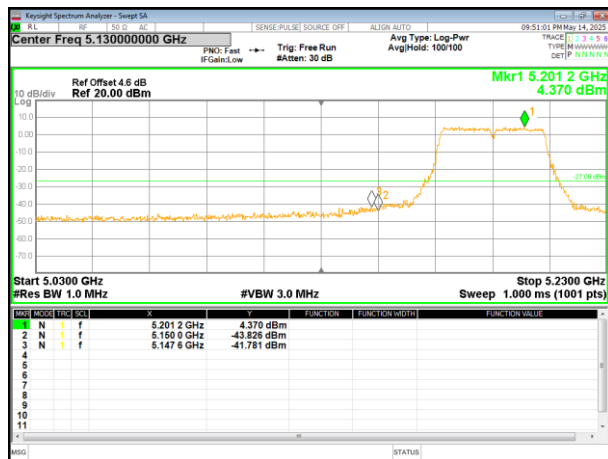
(802.11a) Band Edge, Right Side



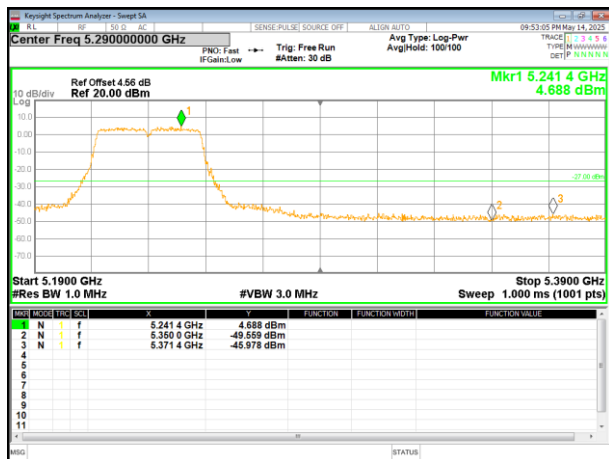
(802.11n20) Band Edge, Right Side



(802.11n40) Band Edge, Left Side



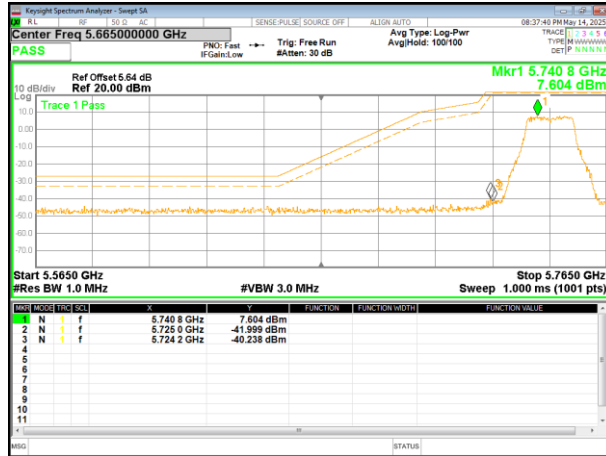
(802.11n40) Band Edge, Right Side



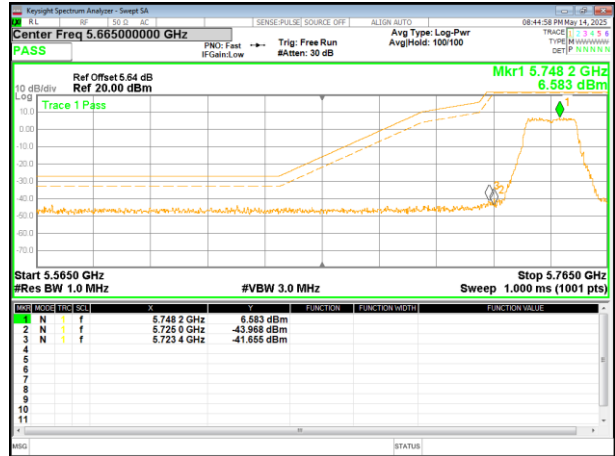
Remark: The antenna gain and cable loss were not compensated in the test data, and the margin value of the Band Edge test was greater than the sum of the antenna gain and cable loss, so the test met the requirements

5.745~5.825 GHz

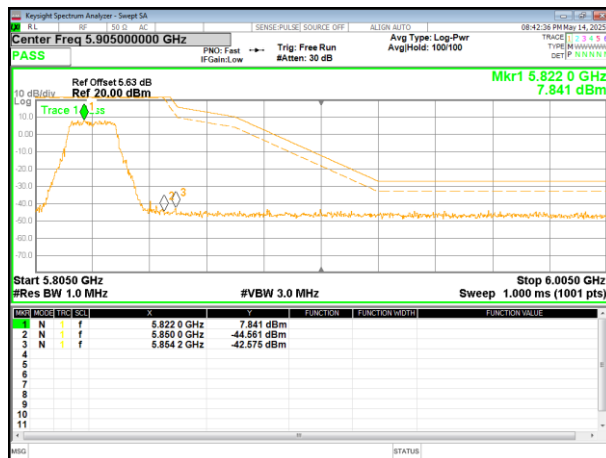
(802.11a) Band Edge, Left Side



(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

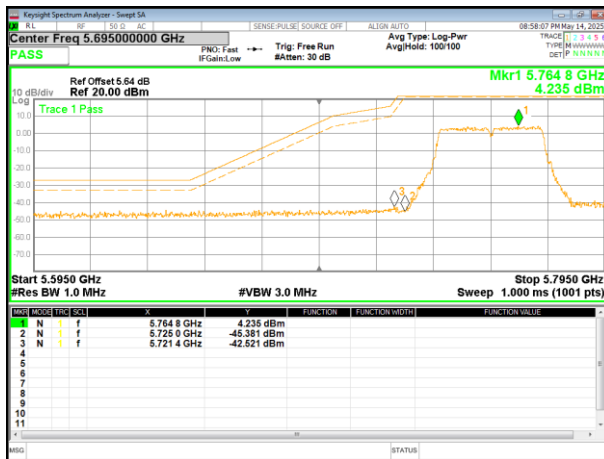


(802.11n20) Band Edge, Right Side

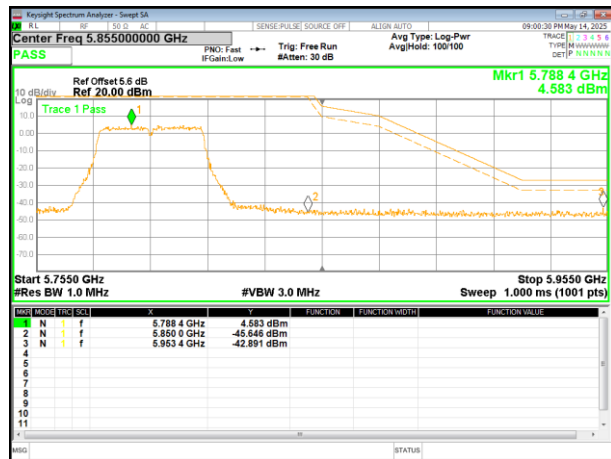


Remark: Antenna gain and cable loss data included in Offset.

(802.11n40) Band Edge, Left Side



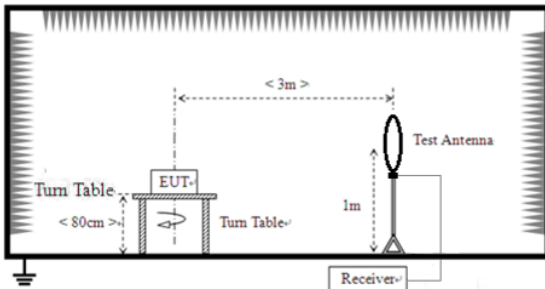
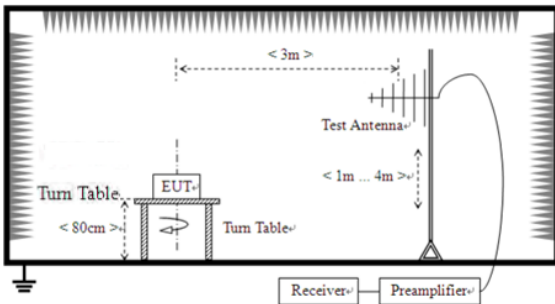
(802.11n40) Band Edge, Right Side

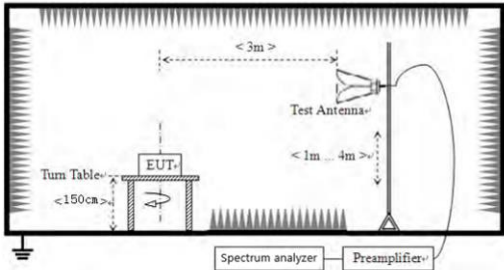


Remark: Antenna gain and cable loss data included in Offset.

4.8 Spurious Emission

4.8.1 Radiated Emission Method

Test Requirement:	47CRF Part 15.209, 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 (dBm/MHz)	Remark		
	Above 1GHz	-27.0	Peak Value		
Test setup:	For radiated emissions from 9kHz to 30MHz				
					
Test setup:	For radiated emissions from 30MHz to 1GHz				
					

	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. 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 3.0 for details
Test mode:	Refer to section 2.2 for details
Test results:	Pass

Remarks:

1. The report only shows the worst mode.
2. 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:

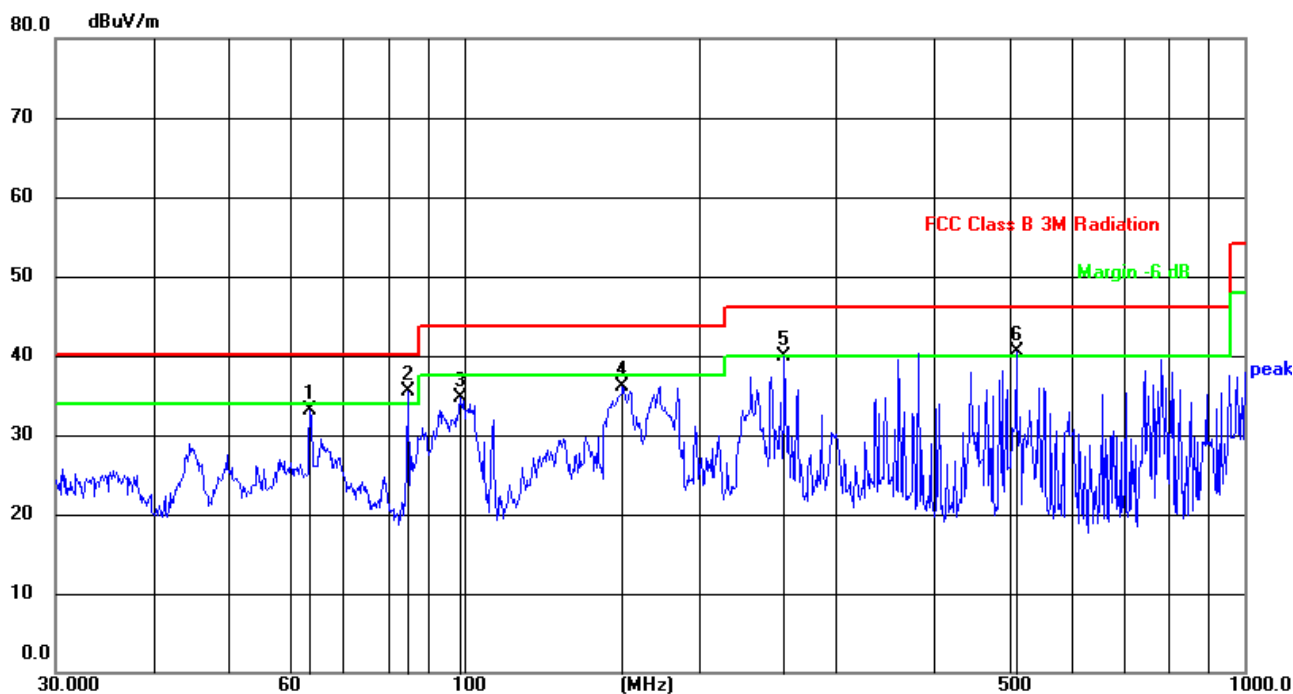
9 kHz ~ 30 MHz

The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

Below 1GHz

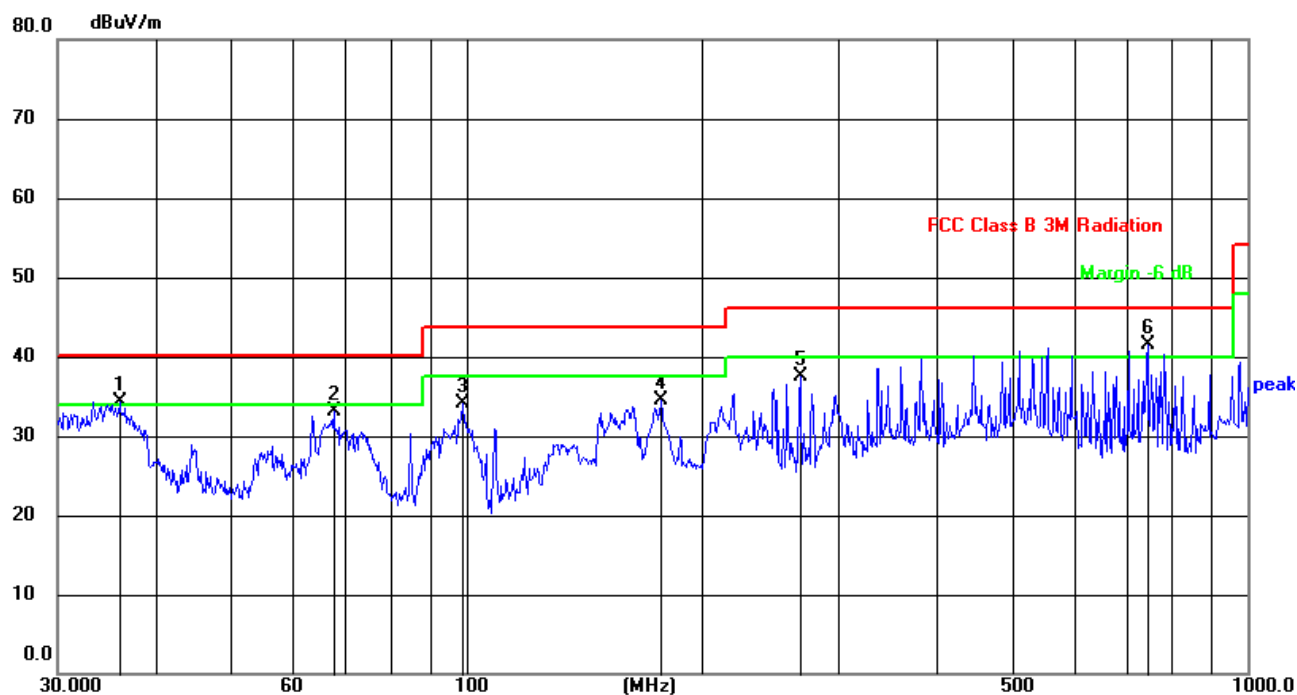
Temperature:	20.9℃	Relative Humidity:	59%RH
Pressure:	101.2kPa	Test Voltage :	5VDC from adapter with 120Vac
Test Mode :	5.8G TX- 802.11a (5875MHz)		

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	63.5356	56.30	-23.11	33.19	40.00	-6.81	QP
2	84.7018	61.22	-25.76	35.46	40.00	-4.54	QP
3	98.8324	59.93	-25.24	34.69	43.50	-8.81	QP
4	159.7844	56.66	-20.58	36.08	43.50	-7.42	QP
5	257.4221	62.11	-22.11	40.00	46.00	-6.00	QP
6	510.0434	54.47	-13.93	40.54	46.00	-5.46	QP

Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	36.0007	55.83	-21.55	34.28	40.00	-5.72	QP
2	67.6751	56.87	-23.79	33.08	40.00	-6.92	QP
3	98.8324	59.43	-25.24	34.19	43.50	-9.31	QP
4	177.5089	56.60	-22.14	34.46	43.50	-9.04	QP
5	267.5452	59.29	-21.80	37.49	46.00	-8.51	QP
6	744.8659	49.72	-8.21	41.51	46.00	-4.49	QP

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 test data shows only the worst case 802.11a mode.

Above 1GHz:

Remark: The test data shows only the worst case 802.11a mode.

Temperature:	20.9℃	Relative Humidity:	59%
Pressure:	101.2kPa	Test Voltage :	5VDC
Test Mode :	5.2G TX- 802.11a		

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detect or Type
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
Low Channel:5180MHz							
V	10360.00	43.17	1.77	44.94	68.20	-23.26	PK
V	10360.00	38.40	1.77	40.17	54.00	-13.83	AV
V	15540.00	47.91	7.72	55.63	74.00	-18.37	PK
V	15540.00	36.92	7.72	44.64	54.00	-9.36	AV
V	20720.00	53.60	-5.73	47.87	68.20	-20.33	PK
V	20720.00	48.94	-5.73	43.21	54.00	-10.79	AV
V	25900.00	50.14	-2.89	47.25	68.20	-20.95	PK
V	25900.00	44.71	-2.89	41.82	54.00	-12.18	AV
V	31080.00	47.02	1.66	48.68	68.20	-19.52	PK
V	31080.00	42.12	1.66	43.78	54.00	-10.22	AV
V	36260.00	44.00	4.63	48.63	68.20	-19.57	PK
V	36260.00	39.05	4.63	43.68	54.00	-10.32	AV
H	10360.00	42.61	1.77	44.38	68.20	-23.82	PK
H	10360.00	37.86	1.77	39.63	54.00	-14.37	AV
H	15540.00	47.69	7.72	55.41	74.00	-18.59	PK
H	15540.00	37.32	7.72	45.04	54.00	-8.96	AV
H	20720.00	53.37	-5.73	47.64	68.20	-20.56	PK
H	20720.00	48.03	-5.73	42.30	54.00	-11.70	AV
H	25900.00	50.12	-2.89	47.23	68.20	-20.97	PK
H	25900.00	45.11	-2.89	42.22	54.00	-11.78	AV
H	31080.00	46.24	1.66	47.90	68.20	-20.30	PK
H	31080.00	40.93	1.66	42.59	54.00	-11.41	AV
H	36260.00	43.86	4.63	48.49	68.20	-19.71	PK
H	36260.00	39.54	4.63	44.17	54.00	-9.83	AV

Remark:

1. Emission Level = Meter Reading + Factor,
Factor=Antenna Factor + Cable Loss – Pre-amplifier
Margin= Emission Level – Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detect or Type
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
Middle Channel:5200Hz							
V	10400.00	42.60	1.85	44.45	68.20	-23.75	PK
V	10400.00	38.25	1.85	40.10	54.00	-13.90	AV
V	15600.00	47.40	7.64	55.04	74.00	-18.96	PK
V	15600.00	36.57	7.64	44.21	54.00	-9.79	AV
V	20800.00	53.36	-5.67	47.69	68.20	-20.51	PK
V	20800.00	48.21	-5.67	42.54	54.00	-11.46	AV
V	26000.00	50.28	-2.85	47.43	68.20	-20.77	PK
V	26000.00	44.91	-2.85	42.06	54.00	-11.94	AV
V	31200.00	46.36	1.57	47.93	68.20	-20.27	PK
V	31200.00	41.29	1.57	42.86	54.00	-11.14	AV
V	36400.00	44.00	4.93	48.93	68.20	-19.27	PK
V	36400.00	39.55	4.93	44.48	54.00	-9.52	AV
H	10400.00	43.07	1.85	44.92	68.20	-23.28	PK
H	10400.00	38.94	1.85	40.79	54.00	-13.21	AV
H	15600.00	49.12	7.64	56.76	74.00	-17.24	PK
H	15600.00	38.42	7.64	46.06	54.00	-7.94	AV
H	20800.00	54.38	-5.67	48.71	68.20	-19.49	PK
H	20800.00	48.92	-5.67	43.25	54.00	-10.75	AV
H	26000.00	48.10	-2.85	45.25	68.20	-22.95	PK
H	26000.00	35.38	-2.85	32.53	54.00	-21.47	AV
H	31200.00	46.21	1.57	47.78	68.20	-20.42	PK
H	31200.00	40.91	1.57	42.48	54.00	-11.52	AV
H	36400.00	43.72	4.93	48.65	68.20	-19.55	PK
H	36400.00	38.66	4.93	43.59	54.00	-10.41	AV

Remark:

1. Emission Level = Meter Reading + Factor,
Factor=Antenna Factor + Cable Loss – Pre-amplifier
Margin= Emission Level – Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detect or Type
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
High Channel:5240MHz							
V	10480.00	44.27	2.02	46.29	68.20	-21.91	PK
V	10480.00	39.35	2.02	41.37	54.00	-12.63	AV
V	15720.00	46.43	7.46	53.89	74.00	-20.11	PK
V	15720.00	36.13	7.46	43.59	54.00	-10.41	AV
V	20960.00	53.70	-5.56	48.14	68.20	-20.06	PK
V	20960.00	48.53	-5.56	42.97	54.00	-11.03	AV
V	26200.00	49.48	-2.50	46.98	68.20	-21.22	PK
V	26200.00	45.08	-2.50	42.58	54.00	-11.42	AV
V	31440.00	46.53	1.39	47.92	68.20	-20.28	PK
V	31440.00	41.47	1.39	42.86	54.00	-11.14	AV
V	36680.00	43.45	5.25	48.70	68.20	-19.50	PK
V	36680.00	39.09	5.25	44.34	54.00	-9.66	AV
H	10480.00	43.43	2.02	45.45	68.20	-22.75	PK
H	10480.00	38.36	2.02	40.38	54.00	-13.62	AV
H	15720.00	47.83	7.46	55.29	74.00	-18.71	PK
H	15720.00	37.14	7.46	44.60	54.00	-9.40	AV
H	20960.00	54.47	-5.56	48.91	68.20	-19.29	PK
H	20960.00	48.88	-5.56	43.32	54.00	-10.68	AV
H	26200.00	49.93	-2.50	47.43	68.20	-20.77	PK
H	26200.00	45.81	-2.50	43.31	54.00	-10.69	AV
H	31440.00	46.78	1.39	48.17	68.20	-20.03	PK
H	31440.00	42.54	1.39	43.93	54.00	-10.07	AV
H	36680.00	44.50	5.15	49.65	68.20	-18.55	PK
H	36680.00	44.27	5.15	49.42	54.00	-4.58	AV

Remark:

1. Emission Level = Meter Reading + Factor,
Factor=Antenna Factor + Cable Loss – Pre-amplifier
Margin= Emission Level – Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



Temperature:	20.9℃	Relative Humidity:	59%
Pressure:	101.2kPa	Test Voltage :	5VDC
Test Mode :	5.8G TX- 802.11a		

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detect or Type
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
Low Channel:5745MHz							
V	11490.00	47.11	3.31	50.42	74.00	-23.58	PK
V	11490.00	37.56	3.31	40.87	54.00	-13.13	AV
V	17235.00	43.46	10.10	53.56	68.20	-14.64	PK
V	17235.00	38.15	10.10	48.25	54.00	-5.75	AV
V	22980.00	55.60	-4.61	50.99	74.00	-23.01	PK
V	22980.00	46.08	-4.61	41.47	54.00	-12.53	AV
V	28725.00	48.04	0.87	48.91	68.20	-19.29	PK
V	28725.00	42.82	0.87	43.69	54.00	-10.31	AV
V	34470.00	44.14	3.82	47.96	68.20	-20.24	PK
V	34470.00	39.49	3.82	43.31	54.00	-10.69	AV
H	11490.00	47.41	3.31	50.72	74.00	-23.28	PK
H	11490.00	36.89	3.31	40.20	54.00	-13.80	AV
H	17235.00	41.96	10.10	52.06	68.20	-16.14	PK
H	17235.00	36.80	10.10	46.90	54.00	-7.10	AV
H	22980.00	57.92	-4.61	53.31	74.00	-20.69	PK
H	22980.00	46.98	-4.61	42.37	54.00	-11.63	AV
H	28725.00	48.02	0.87	48.89	68.20	-19.31	PK
H	28725.00	43.65	0.87	44.52	54.00	-9.48	AV
H	34470.00	44.53	3.82	48.35	68.20	-19.85	PK
H	34470.00	40.28	3.82	44.10	54.00	-9.90	AV

Remark:

1. Emission Level = Meter Reading + Factor,
Factor=Antenna Factor + Cable Loss – Pre-amplifier
Margin= Emission Level – Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detect or Type
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
Low Channel:5785MHz							
V	11570.00	47.79	3.34	51.13	74.00	-22.87	PK
V	11570.00	37.29	3.34	40.63	54.00	-13.37	AV
V	17355.00	43.43	10.52	53.95	68.20	-14.25	PK
V	17355.00	38.72	10.52	49.24	54.00	-4.76	AV
V	23140.00	55.26	-4.66	50.60	74.00	-23.40	PK
V	23140.00	45.40	-4.66	40.74	54.00	-13.26	AV
V	28925.00	47.53	1.36	48.89	68.20	-19.31	PK
V	28925.00	43.76	1.36	45.12	54.00	-8.88	AV
V	34710.00	43.93	3.95	47.88	68.20	-20.32	PK
V	34710.00	39.10	3.95	43.05	54.00	-10.95	AV
H	11570.00	48.60	3.34	51.94	74.00	-22.06	PK
H	11570.00	38.27	3.34	41.61	54.00	-12.39	AV
H	17355.00	41.76	10.52	52.28	68.20	-15.92	PK
H	17355.00	34.75	10.52	45.27	54.00	-8.73	AV
H	23140.00	54.62	-4.66	49.96	74.00	-24.04	PK
H	23140.00	43.24	-4.66	38.58	54.00	-15.42	AV
H	28925.00	53.38	1.36	54.74	68.20	-13.46	PK
H	28925.00	47.82	1.36	49.18	54.00	-4.82	AV
H	34710.00	53.66	3.95	57.61	68.20	-10.59	PK
H	34710.00	42.48	3.95	46.43	54.00	-7.57	AV

Remark:

1. Emission Level = Meter Reading + Factor,
Factor=Antenna Factor + Cable Loss – Pre-amplifier
Margin= Emission Level – Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

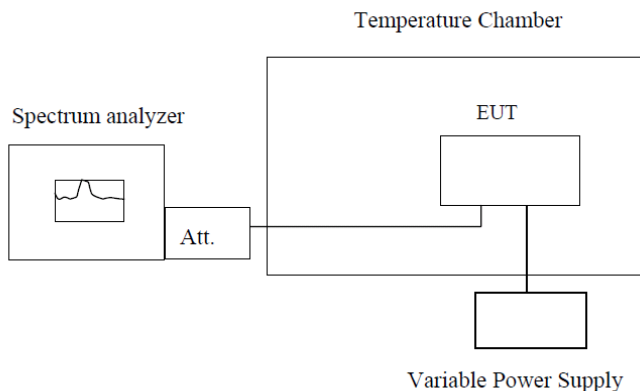


Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detect or Type
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
Low Channel:5825MHz							
V	11650.00	46.15	3.36	49.51	74.00	-24.49	PK
V	11650.00	36.66	3.36	40.02	54.00	-13.98	AV
V	17475.00	42.73	10.93	53.66	68.20	-14.54	PK
V	17475.00	38.21	10.93	49.14	54.00	-4.86	AV
V	23300.00	53.47	-4.77	48.70	68.20	-19.50	PK
V	23300.00	48.10	-4.77	43.33	54.00	-10.67	AV
V	29125.00	48.00	1.65	49.65	68.20	-18.55	PK
V	29125.00	42.48	1.65	44.13	54.00	-9.87	AV
V	34950.00	42.46	4.09	46.55	68.20	-21.65	PK
V	34950.00	38.70	4.09	42.79	54.00	-11.21	AV
H	11650.00	49.05	3.36	52.41	74.00	-21.59	PK
H	11650.00	38.11	3.36	41.47	54.00	-12.53	AV
H	17475.00	40.85	10.93	51.78	68.20	-16.42	PK
H	17475.00	37.09	10.93	48.02	54.00	-5.98	AV
H	23300.00	52.44	-4.77	47.67	68.20	-20.53	PK
H	23300.00	48.94	-4.77	44.17	54.00	-9.83	AV
H	29125.00	48.88	1.65	50.53	68.20	-17.67	PK
H	29125.00	44.35	1.65	46.00	54.00	-8.00	AV
H	34950.00	46.15	4.09	50.24	68.20	-17.96	PK
H	34950.00	36.66	4.09	40.75	54.00	-13.25	AV

Remark:

1. Emission Level = Meter Reading + Factor,
Factor=Antenna Factor + Cable Loss – Pre-amplifier
Margin= Emission Level – Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

4.9 Frequency stability

Test Requirement:	47CRF Part 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:	a. The EUT was placed inside the environmental test chamber and powered by nominal 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, turn the EUT on and measure the operating frequency after 2, 5, and 10 Minutes. 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 Minute s. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.
Test setup:	 Note : Measurement setup for testing on Antenna connector
Test Instruments:	Refer to section 3.0 for details
Test mode:	Refer to section 2.2 for details
Test results:	Pass

Remark: Set the EUT transmits at un-modulation mode to test frequency stability.



Measurement data:

Frequency stability versus Temp.					
Power Supply: 5VDC					
Temp. (°C)	Operating Frequency (MHz)	0 minute	2 minute	5 minute	10 minute
		Measured Frequency (MHz)	Measured Frequency (MHz)	Measured Frequency (MHz)	Measured Frequency (MHz)
-30	5180	5179.983	5179.947	5179.975	5179.988
	5190	5189.974	5189.977	5189.976	5189.987
	5200	5199.982	5200.002	5199.967	5199.981
	5220	5219.995	5219.977	5219.967	5219.981
	5230	5229.973	5230.005	5229.988	5299.979
	5240	5239.991	5239.993	5239.966	5239.983
-20	5180	5179.992	5179.985	5179.976	5179.940
	5190	5189.988	5189.986	5189.967	5189.970
	5200	5199.983	5199.977	5199.975	5199.995
	5220	5219.984	5219.977	5219.988	5219.970
	5230	5229.982	5229.998	5229.966	5229.998
	5240	5239.955	5239.976	5239.984	5239.986
-10	5180	5179.944	5179.985	5179.976	5179.988
	5190	5189.974	5189.986	5189.967	5189.984
	5200	5199.999	5199.977	5199.975	5199.979
	5220	5219.974	5219.977	5219.988	5219.980
	5230	5230.002	5229.998	5229.966	5229.978
	5240	5239.990	5239.976	5239.984	5239.951
0	5180	5179.983	5179.947	5179.975	5179.988
	5190	5189.974	5189.977	5189.976	5189.987
	5200	5199.982	5200.002	5199.967	5199.981
	5220	5219.995	5219.977	5219.967	5219.981
	5230	5229.973	5230.005	5229.988	5299.979
	5240	5239.991	5239.993	5239.966	5239.983
10	5180	5179.971	5179.986	5179.976	5179.988
	5190	5189.982	5189.977	5189.967	5179.988
	5200	5199.973	5199.985	5199.975	5189.984
	5220	5219.981	5219.998	5219.988	5209.985
	5230	5229.999	5229.976	5229.966	5219.980
	5240	5239.971	5239.994	5239.984	5229.978
20	5180	5179.992	5179.985	5179.976	5179.940
	5190	5189.988	5189.986	5189.967	5189.970
	5200	5199.983	5199.977	5199.975	5199.995
	5220	5219.984	5219.977	5219.988	5219.970
	5230	5229.982	5229.998	5229.966	5229.998
	5240	5239.955	5239.976	5239.984	5239.986
30	5180	5179.992	5179.985	5179.976	5179.940



	5190	5189.988	5189.986	5189.967	5189.970
	5200	5199.983	5199.977	5199.975	5199.995
	5220	5219.984	5219.977	5219.988	5219.970
	5230	5229.982	5229.998	5229.966	5229.998
	5240	5239.955	5239.976	5239.984	5239.986
40	5180	5179.982	5179.974	5179.976	5179.978
	5190	5189.983	5189.985	5189.967	5189.979
	5200	5199.974	5199.976	5199.975	5199.970
	5220	5219.974	5219.984	5219.988	5219.970
	5230	5229.995	5230.002	5229.966	5229.991
	5240	5239.973	5239.974	5239.984	5239.969
50	5180	5179.944	5179.985	5179.964	5180.103
	5190	5189.974	5189.986	5189.975	5199.978
	5200	5199.999	5199.977	5199.966	5200.003
	5220	5219.974	5219.977	5219.974	5219.996
	5230	5230.002	5229.998	5229.992	5229.989
	5240	5239.990	5239.976	5239.964	5239.997



Frequency stability versus Voltage					
Temperature: 25°C					
Power Supply (VDC)	Operating Frequency (MHz)	0 minute Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)
DC 4.25V	5180	5179.977	5179.974	5179.985	5179.984
	5190	5189.971	5189.985	5189.981	5189.970
	5200	5199.984	5199.976	5199.976	5199.971
	5220	5219.974	5219.984	5219.977	5219.979
	5230	5229.967	5230.002	5229.975	5229.989
	5240	5180.107	5179.990	5179.976	5179.967
DC 5V	5180	5199.982	5189.984	5189.967	5189.978
	5190	5200.007	5199.984	5199.975	5199.969
	5200	5209.985	5209.996	5209.967	5209.970
	5220	5229.993	5299.990	5229.966	5229.995
	5230	5240.001	5239.987	5239.984	5239.980
	5240	5180.107	5179.990	5179.976	5179.967
DC 5.75V	5180	5179.992	5179.995	5179.964	5179.967
	5190	5189.988	5189.991	5189.975	5189.978
	5200	5199.983	5199.986	5199.966	5199.968
	5220	5219.984	5219.987	5219.974	5219.977
	5230	5229.982	5229.985	5229.992	5230.000
	5240	5239.955	5239.958	5239.964	5239.967



Frequency stability versus Temp.					
Power Supply: 5VDC					
Temp. (°C)	Operating Frequency (MHz)	0 minute Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)
-30	5745	5745.004	5744.967	5744.596	5744.948
	5755	5744.952	5754.983	5754.979	5754.970
	5785	5774.983	5784.985	5784.983	5784.970
	5795	5784.974	5794.996	5794.966	5794.981
	5825	5794.985	5824.977	5824.962	5824.984
-20	5745	5744.969	5744.967	5744.977	5744.971
	5755	5754.994	5754.983	5754.978	5754.997
	5785	5784.984	5784.985	5784.973	5784.977
	5795	5794.982	5794.996	5794.964	5794.966
	5825	5824.992	5824.977	5824.973	5824.901
-10	5745	5744.974	5744.978	5744.961	5745.035
	5755	5754.981	5754.985	5754.985	5744.600
	5785	5784.965	5784.978	5784.975	5774.985
	5795	5794.972	5794.974	5794.973	5784.988
	5825	5824.901	5824.977	5824.983	5794.971
0	5745	5744.968	5744.977	5744.967	5744.970
	5755	5754.978	5754.984	5754.973	5754.959
	5785	5784.975	5784.968	5784.966	5784.977
	5795	5794.971	5794.975	5794.962	5794.995
	5825	5824.969	5824.904	5824.965	5824.987
10	5745	5744.965	5744.988	5744.961	5744.981
	5755	5754.980	5754.990	5754.985	5754.995
	5785	5784.982	5784.985	5784.975	5784.967
	5795	5794.992	5794.976	5794.973	5794.961
	5825	5824.974	5824.985	5824.983	5824.995
20	5745	5744.985	5745.002	5744.977	5744.970
	5755	5754.999	5754.974	5754.990	5754.989
	5785	5784.971	5784.997	5784.962	5784.996
	5795	5794.965	5794.988	5794.956	5794.988
	5825	5824.999	5825.003	5824.990	5824.997
30	5745	5744.964	5744.988	5744.961	5744.981
	5755	5754.980	5754.990	5754.985	5754.995
	5785	5784.982	5784.985	5784.975	5784.967
	5795	5794.993	5794.976	5794.973	5794.961
	5825	5824.974	5824.985	5824.983	5824.995
40	5745	5744.985	5744.977	5744.961	5744.965
	5755	5754.987	5754.994	5754.985	5754.990
	5785	5784.982	5784.977	5784.975	5784.980
	5795	5794.973	5794.994	5794.973	5794.978
	5825	5824.982	5824.992	5824.983	5824.988
50	5745	5744.969	5744.977	5744.966	5744.971
	5755	5754.994	5754.994	5754.972	5754.978
	5785	5784.984	5784.977	5784.956	5784.971
	5795	5794.982	5794.994	5794.963	5794.967
	5825	5824.992	5824.992	5824.892	5824.970



Frequency stability versus Voltage					
Temperature: 25°C					
Power Supply (VDC)	Operating Frequency (MHz)	0 minute Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)
DC 4.25V	5745	5744.964	5744.977	5744.966	5744.965
	5755	5754.980	5754.984	5754.982	5754.990
	5785	5784.982	5784.968	5784.965	5784.980
	5795	5794.993	5794.975	5794.983	5794.978
	5825	5824.974	5824.904	5824.980	5824.988
DC 5V	5745	5744.964	5744.988	5744.961	5744.981
	5755	5754.980	5754.990	5754.985	5754.995
	5785	5784.982	5784.985	5784.975	5784.967
	5795	5794.989	5794.976	5794.973	5794.961
	5825	5824.974	5824.985	5824.983	5824.995
DC 5.75V	5745	5744.985	5745.001	5744.977	5744.970
	5755	5754.999	5754.974	5754.990	5754.989
	5785	5784.971	5784.997	5784.962	5784.996
	5795	5794.965	5794.988	5794.956	5794.988
	5825	5824.999	5825.003	5824.990	5824.997



5 Test Setup Photo

Reference to the file No.: ET-25051273SP for details.

6 EUT Constructional Details

Reference to the file No.: ET-25051273EP and ET-25051273IP for details

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