



TEST REPORT

Applicant: Pixxie Global Pty Ltd

Address of Applicant: P.O. Box 7054 Redland Bay Queensland 4165 Australia

Manufacturer: VSOONTECH (GUANGZHOU) ELECTRONICS CO., LIMITED

Address of Manufacturer: 101, Buliding 11,NO.3 South Street, Yongshan Village, Shiqi Town, Panyu District, Guangzhou City, Guangdong Province, China

Product Name: Projector

Model No.: S10,A3,A5,A7,A9,G1,G2,G3,G5,G6,G7,G8,G9,G11,H1,H2,H3,H4,H5, H6,K10,K20,K40,K60,K70,K90,M1,M2,M3,M4,M5,M6,M7,M8,M9,M10, M20,M30,M40,M60,N1,N2,N3,N7,N9,N11,N15,N19,P1,P1+,P2,P2+, P3,P3+,P6,P8,P9,P10,P19,P20,P30,P40,P60,Q3,R1,R2,R3,R5,R6,R7, R8,R9,R10,R11,R13,R15,R16,R11S,S6, S20,S30,X1,X2,X3,X5, X6,X7,X8,X9,X10,X30,X60,X70,X90,VSWT01,VSWT02,VSWT03, VSWT04,VSWT05,VSWT06,VSWT07,VSWT08,VSWT09,VSWT10, VSWT20,VSWT30,R5 PRO, S10 PRO,S30 PRO,HDP300,HDP500

Trade Mark: Pixxie

FCC ID: 2A9WL-S10

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

Date of Test: Dec.13,2022-Dec.31,2022

Date of report issued: Jan.09, 2023

Test Result : PASS *

Remark:

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

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

Shenzhen ETR Standard Technology Co., Ltd.

Address: No.103, No.10, Phase I, Zone 3, Xinxing Industrial Park, Xinhe, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

Compiled by:

Reviewed by:

Approved by:

Project Engineer

Project Manager

Authorized Signature



Report Revision History		
Report No.	Description	Issue Date
ET-22120922E03	Original	Jan.09, 2023



Contents

Page

1	TEST SUMMARY	4
1.1	MEASUREMENT UNCERTAINTY	4
2	GENERAL INFORMATION	5
2.1	GENERAL DESCRIPTION OF EUT	5
2.2	TEST MODE	7
2.3	DESCRIPTION OF SUPPORT UNITS	8
2.4	DEVIATION FROM STANDARDS	8
2.5	ABNORMALITIES FROM STANDARD CONDITIONS	8
2.6	TEST FACILITY	8
2.7	TEST LOCATION	8
2.8	ADDITIONAL INSTRUCTIONS	8
3	TEST INSTRUMENTS LIST	9
4	TEST RESULTS AND MEASUREMENT DATA	10
4.1	ANTENNA REQUIREMENT	10
4.2	CONDUCTED EMISSIONS	11
4.3	CONDUCTED PEAK OUTPUT POWER	14
4.4	CHANNEL BANDWIDTH	16
4.5	POWER SPECTRAL DENSITY	24
4.6	BAND EDGE	32
4.6.1	Conducted test Method	32
4.7	SPURIOUS EMISSION	39
4.7.1	Radiated Emission Method	39
4.7.2	Conducted Emission Method	48
4.8	FREQUENCY STABILITY	55
5	TEST SETUP PHOTO	61
6	EUT CONSTRUCTIONAL DETAILS	61

1 Test Summary

Test Item	Section in CFR 47	Result	Test by
Antenna requirement	15.203	Pass	/
AC Power Line Conducted Emission	15.207	Pass	Qiao Li
Conducted Output Power	15.407 (a)(1)/(a)(3)	Pass	Yvan Fan
26dB Bandwidth and 99% Occupied Bandwidth	15.407 (a)(12)	Pass	Yvan Fan
6dB Bandwidth	15.407 (e)	Pass	Yvan Fan
Power Spectral Density	15.407(a)(1)/(a)(3)	Pass	Yvan Fan
Band Edge	15.407(b)(1)/(b)(4)	Pass	Yvan Fan
Spurious Emission	15.205/15.209 15.407(b)(1)/(b)(4)/(b)(8)	Pass	Qiao Li
Frequency Stability	15.407(g)	Pass	Yvan Fan

Remarks:

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

1.1 Measurement Uncertainty

Test Item	Measurement Uncertainty	Notes
Occupied Channel Bandwidth	±0.55%	(1)
RF output power, conducted	±0.99dB	(1)
Power Spectral Density, conducted	±0.61dB	(1)
Unwanted Emissions, conducted	±0.64dB	(1)
AC Power Line Conducted Emission	± 3.02dB	(1)
Radiated emissions 9K-30MHz	±3.98dB	(1)
Radiated emissions 30M- 1GHz	±4.30dB	(1)
Radiated emissions 1GHz-18GHz	±4.35dB	(1)
Radiated emissions 18GHz-40GHz	±4.59 dB	(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:	Projector
Model No.:	S10,A3,A5,A7,A9,G1,G2,G3,G5,G6,G7,G8,G9,G11,H1,H2,H3,H4,H5,H6,K10,K20,K40,K60,K70,K90,M1,M2,M3,M4,M5,M6,M7,M8,M9,M10,M20,M30,M40,M60,N1,N2,N3,N7,N9,N11,N15,N19,P1,P1+,P2,P2+,P3,P3+,P6,P8,P9,P10,P19,P20,P30,P40,P60,Q3,R1,R2,R3,R5,R6,R7,R8,R9,R10,R11,R13,R15,R16,R11S,S6, S20,S30,X1,X2,X3,X5,X6,X7,X8,X9,X10,X30,X60,X70,X90,VSWT01,VSWT02,VSWT03,VSWT04,VSWT05,VSWT06,VSWT07,VSWT08,VSWT09,VSWT10,VSWT20,VSWT30,R5 PRO,S10 PRO,S30 PRO,HDP300,HDP500
Difference of model(s)	All the models are the same circuit and RF module, except the names.
Test Model:	S10
Hardware Version:	N/A
Software Version:	N/A
Sample(s) Status:	Engineer sample
Operation Frequency:	☒ 5180-5240MHz for 802.11a/n(HT20)/ac20; 5190-5230MHz for 802.11n(HT40)/ac40; 5210MHz for 802.11 ac80; ☒ 5745-5825 MHz for 802.11a/n(HT20)/ac20; 5755-5795 MHz for 802.11n(HT40)/ac40; 5775MHz for 802.11 ac80;
Channel numbers:	☒ 4 channels for 802.11a/n20/ac20 in the 5180-5240MHz band; 2 channels for 802.11 n40/ac40 in the 5190-5230MHz band ; 1 channels for 802.11 ac80 in the 5210MHz band ; ☒ 5 channels for 802.11a/n20/ac20 in the 5745-5825MHz band ; 2 channels for 802.11 n40/ac40 in the 5755-5795MHz band ; 1 channels for 802.11 ac80 in the 5775MHz band
Channel bandwidth:	802.11a/802.11n(HT20)/ 802.11ac(HT20): 20MHz 802.11n(HT40)/ 802.11ac(HT40) : 40MHz 802.11ac(HT80) : 80MHz
Data Rate	802.11a: 6,9,12,18,24,36,48,54Mbps; 802.11n(HT20/HT40):MCS0-MCS15; 802.11ac(VHT/20/40/80):NSS1, MCS0-MCS9
Modulation technology:	Orthogonal Frequency Division Multiplexing (OFDM) with BPSK/QPSK/16QAM/64QAM/256QAM
Antenna Type:	Integrated antenna
Antenna gain:	3.01dBi
Battery:	7.4V 4600mAh
Power supply:	DC12V From adapter or DC 7.4V From battery

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180MHz	38	5190MHz	40	5200MHz	42	5210MHz
44	5220MHz	46	5230MHz	48	5240MHz	/	/
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
149	5745MHz	151	5755MHz	153	5765MHz	155	5775MHz
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 /n(HT20)/ac(HT20)	802.11 n(HT40)/ac(HT40)	802.11ac(HT80)
Lowest channel	5180	5190	5210
Middle channel	5200	X	
Highest channel	5240		

Test channel	Frequency (MHz)		
	802.11 a /n(HT20)/ac(HT20)	802.11 n(HT40)/ac(HT40)	802.11ac(HT80)
Lowest channel	5745	5755	5775
Middle channel	5785	X	
Highest channel	5825		

2.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode(or with a duty cycle $\geq 98\%$)
<i>Remark: For battery operated equipment, the EUT was performed using a new DC7.4V battery.</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 20 CH36/ CH40/ CH 48 802.11a /n 20 CH149/ CH157/ CH 165
Mode 2	802.11n 40 CH38/ CH 46 802.11n 40 CH 151 / CH 159
Mode 3	802.11 ac80 CH 42/CH 155
Mode 4	802.11a / n 20 CH36/ CH40/ CH 48 802.11a /n 20 CH149/ CH157/ CH 165
Mode 5	Link Mode

Conducted Emission	
Final Test Mode	Description
Mode 5	Link Mode

For Radiated Emission	
Final Test Mode	Description
Mode 1	802.11a / n 20 CH36/ CH40/ CH 48 802.11a /n 20 CH149/ CH157/ CH 165
Mode 2	802.11n 40 CH38/ CH 46 802.11n 40 CH 151 / CH 159
Mode 3	802.11 ac80 CH 42/CH 155
Mode 4	802.11a / n 20 CH36/ CH40/ CH 48 802.11a /n 20 CH149/ CH157/ CH 165

Note:

(1) 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
/	/	/	/	/

2.4 Deviation from Standards

None.

2.5 Abnormalities from Standard Conditions

None.

2.6 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

2.7 Test Location

All tests were performed at:

Laboratory location: No.103, No.10, Phase I, Zone 3, Xinxing Industrial Park, Xinhe, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Telephone: +86 755 85259392

2.8 Additional Instructions

Test Software	ADB Command
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	2022.3.09	2023.3.08
2	amplifier	EMtrace	RP01A	50117	2022.3.09	2023.3.08
3	Artificial power network	schwarabeck	NSLK8127	8127483	2022.3.09	2023.3.08
4	Artificial power network	ETS	3186/2NM	1132	2022.3.09	2023.3.08
5	10dB attenuator	HUBER+SUNNER	10dB	/	2022.3.09	2023.3.08
6	Cable 4	HUBER SUNNER	3M	/	2022.3.09	2023.3.08
7	Absorbing Clamp	schwarabeck	MDS21	D69250	2022.3.11	2023.3.10

Radiated Emission & RF Conducted test:

Item	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	EMI Test Receiver	Rohde&schwarz	ESPI7	100605	2022.3.09	2023.3.08
2	Broadband antenna	schwarabeck	VULB9168	1064	2022.3.11	2024.3.10
3	Horn antenna	schwarabeck	BBHA9120D	9120D-1145	2022.3.11	2024.3.10
4	amplifier	EMtrace	RP01A	50117	2022.3.09	2023.3.08
5	amplifier	Space-Dtronics	EWLAN0118G-P40	19113001	2022.3.09	2023.3.08
6	Spectrum analyzer	KEYSIGHT	N9020A	MY55370280	2022.3.09	2023.3.08
7	Power detector box	MWRFTest	MW100-PSB	MW201020JYT	2022.11.08	2023.11.07
8	Signal generator	Agilent	N5182A	MY49060455	2022.11.08	2023.11.07
9	Spectrum analyzer	Rohde&schwarz	FSV40	100363	2022.3.09	2023.3.08
10	amplifier	Aeroflex	DLE-161	097	2022.3.09	2023.3.08
11	Horn antenna	Com-Power	SAS-574	588	2022.3.11	2024.3.10
12	Loop antenna	schwarabeck	FMZB 1519 B	1519	2022.3.11	2024.3.10
13	Cable 6	HUBER SUNNER	0.5M	/	2022.3.09	2023.3.08
14	Cable7	HUBER SUNNER	2.0M	/	2022.3.09	2023.3.08
15	Cable8	HUBER SUNNER	6.0M	/	2022.3.09	2023.3.08

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:	FCC Part15 C Section 15.203
<i>15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.</i>	
E.U.T Antenna:	
<i>The antennas are Integrated antenna, the best case gain of the antennas are 3.01dBi, reference to the appendix II for details</i>	

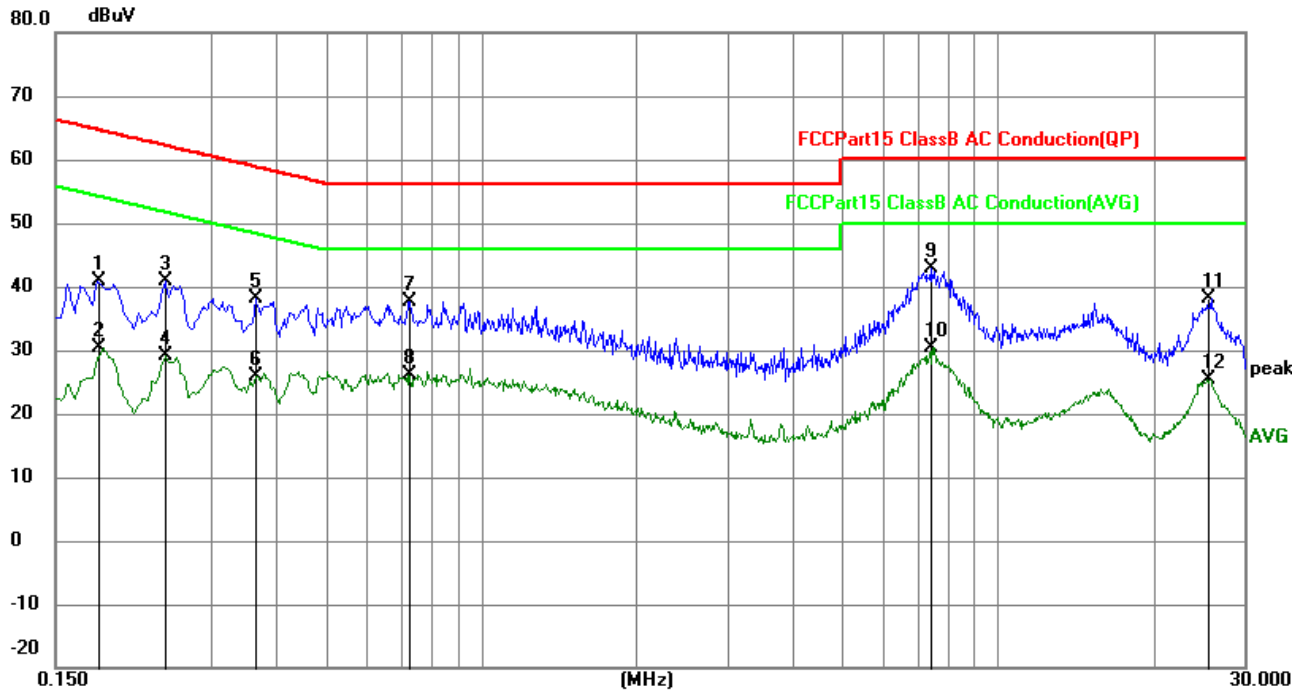
4.2 Conducted Emissions

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:</i> 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.:	21.3°C	Humid.:	33%	Press.:	1012mbar	
Test voltage:	AC 120V, 60Hz						
Test results:	Pass						

Remark: Both high voltage and low voltage have been tested, and the report only shows the worst case data with AC 120V/60Hz.

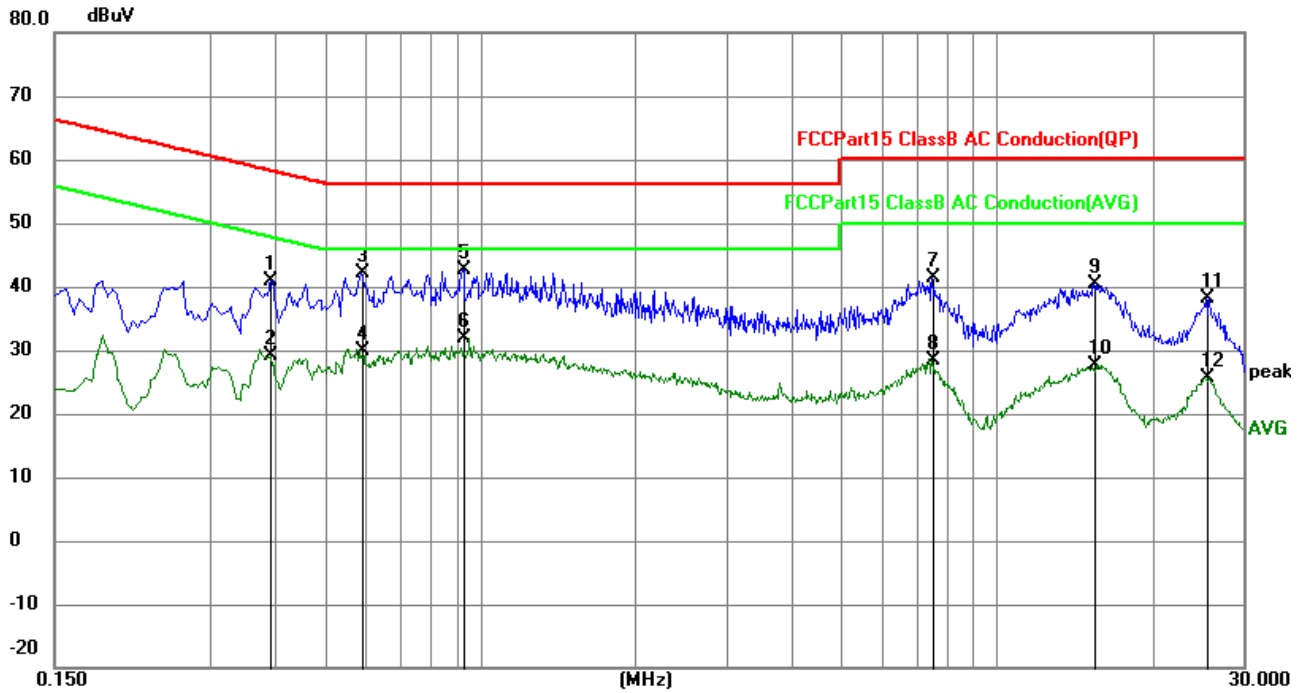
Measurement data

Line:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1814	28.46	12.47	40.93	64.42	-23.49	QP
2	0.1814	17.81	12.47	30.28	54.42	-24.14	AVG
3	0.2444	28.53	12.43	40.96	61.95	-20.99	QP
4	0.2444	16.60	12.43	29.03	51.95	-22.92	AVG
5	0.3659	25.77	12.38	38.15	58.59	-20.44	QP
6	0.3659	13.56	12.38	25.94	48.59	-22.65	AVG
7	0.7258	25.37	12.33	37.70	56.00	-18.30	QP
8	0.7258	13.73	12.33	26.06	46.00	-19.94	AVG
9	7.4310	30.44	12.37	42.81	60.00	-17.19	QP
10	7.4310	18.01	12.37	30.38	50.00	-19.62	AVG
11	25.5255	25.45	12.64	38.09	60.00	-21.91	QP
12	25.5255	12.66	12.64	25.30	50.00	-24.70	AVG

Neutral:

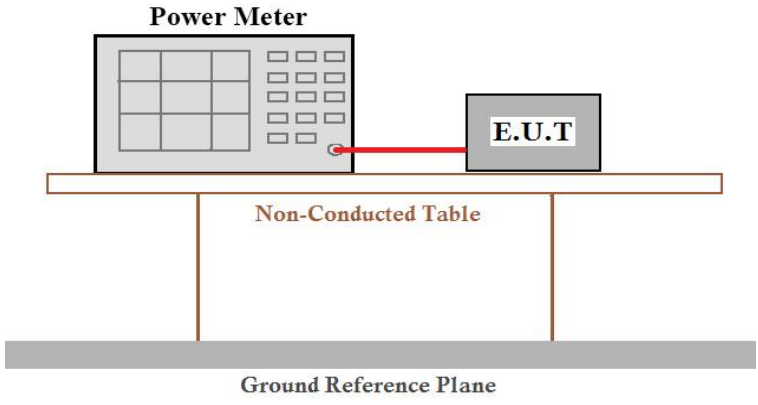


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.3933	28.49	12.38	40.87	57.99	-17.12	QP
2	0.3933	16.83	12.38	29.21	47.99	-18.78	AVG
3	0.5907	29.71	12.35	42.06	56.00	-13.94	QP
4	0.5907	17.46	12.35	29.81	46.00	-16.19	AVG
5	0.9239	30.24	12.30	42.54	56.00	-13.46	QP
6	0.9239	19.53	12.30	31.83	46.00	-14.17	AVG
7	7.4893	29.05	12.37	41.42	60.00	-18.58	QP
8	7.4893	16.06	12.37	28.43	50.00	-21.57	AVG
9	15.4588	28.01	12.43	40.44	60.00	-19.56	QP
10	15.4588	15.28	12.43	27.71	50.00	-22.29	AVG
11	25.5657	25.52	12.64	38.16	60.00	-21.84	QP
12	25.5657	13.09	12.64	25.73	50.00	-24.27	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 Conducted Peak Output Power

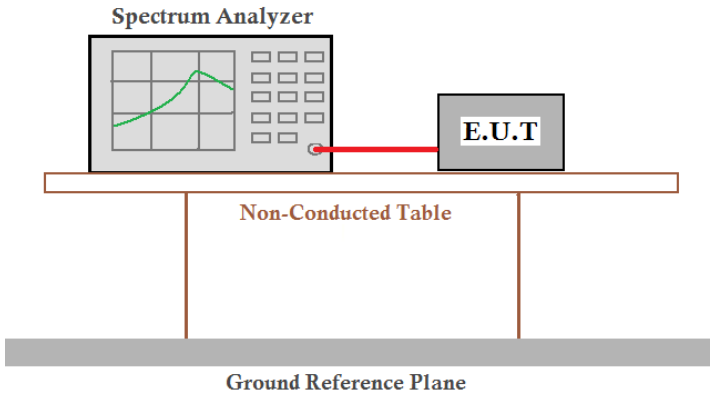
Test Requirement:	FCC Part15 E Section 15.407 (a)(1)/(a)(3)
Test Method:	ANSI C63.10:2013 and KDB 789033 D02 General U-NII Test Procedures New Rules v02r01
Limit:	5150-5250MHz : 250mW 5725~5850MHz : 1W
Test setup:	
Test Instruments:	Refer to section 3.0 for details
Test mode:	Refer to section 2.2 for details
Test results:	Pass

Measurement Data

Test Channel	Frequency	Maximum output power	LIMIT	Result
	(MHz)	(dBm)	dBm	
TX 802.11a Mode				
CH36	5180	12.64	23.98	Pass
CH40	5200	12.20	23.98	Pass
CH48	5240	11.91	23.98	Pass
TX 802.11 n20 Mode				
CH36	5180	12.33	23.98	Pass
CH40	5200	11.76	23.98	Pass
CH48	5240	11.36	23.98	Pass
TX 802.11 ac20 Mode				
CH36	5180	11.95	23.98	Pass
CH40	5200	11.50	23.98	Pass
CH48	5240	11.15	23.98	Pass
TX 802.11 n40 Mode				
CH38	5190	11.96	23.98	Pass
CH46	5230	12.42	23.98	Pass
TX 802.11 ac40 Mode				
CH38	5190	12.80	23.98	Pass
CH46	5230	12.40	23.98	Pass
TX 802.11 ac80 Mode				
CH42	5210	11.99	23.98	Pass

Test Channel	Frequency	Maximum output power.	LIMIT	Result
	(MHz)	(dBm)	dBm	
TX 802.11a Mode				
CH149	5745	11.89	30	Pass
CH157	5785	11.71	30	Pass
CH165	5825	11.53	30	Pass
TX 802.11 n20 Mode				
CH149	5745	11.87	30	Pass
CH157	5785	11.52	30	Pass
CH165	5825	11.33	30	Pass
TX 802.11 ac20 Mode				
CH149	5745	11.62	30	Pass
CH157	5785	11.36	30	Pass
CH165	5825	11.29	30	Pass
TX 802.11 n40 Mode				
CH151	5755	10.86	30	Pass
CH159	5795	10.41	30	Pass
TX 802.11 ac40 Mode				
CH151	5755	10.77	30	Pass
CH159	5795	10.39	30	Pass
TX 802.11 ac80 Mode				
CH155	5775	9.45	30	Pass

4.4 Channel Bandwidth

Test Requirement:	FCC Part15 E Section 15.407(a)(12)&15.407(e)
Test Method:	ANSI C63.10:2013 and KDB 789033 D02 General U-NII Test Procedures New Rules v02r01
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 results:	Pass

Measurement Data

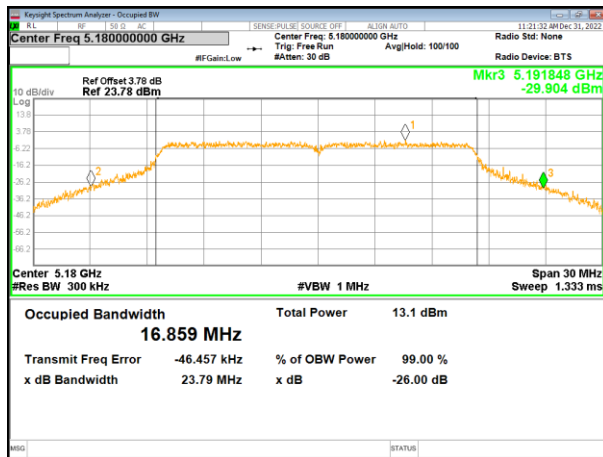
5180-5240MHz

Test CH	-26dB Channel Bandwidth (MHz)						Result
	802.11a	802.11n (HT20)	802.11ac (HT20)	802.11n (HT40)	802.11ac (HT40)	802.11ac (HT80)	
Lowest	23.79	23.70	23.96	43.86	43.92	--	Pass
Middle	23.82	23.98	23.69	--	--	80.41	
Highest	24.01	24.26	24.14	44.84	44.39	--	

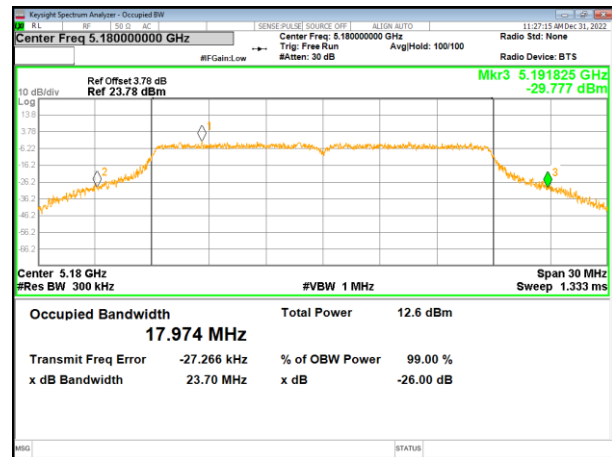
Test CH	99% Occupy Bandwidth (MHz)						Result
	802.11a	802.11n (HT20)	802.11ac (HT20)	802.11n (HT40)	802.11ac (HT40)	802.11ac (HT80)	
Lowest	16.859	17.974	17.998	36.298	36.290	--	Pass
Middle	16.840	17.935	17.992	--	--	75.155	
Highest	16.864	17.984	17.959	36.273	36.297	--	

Test plots:

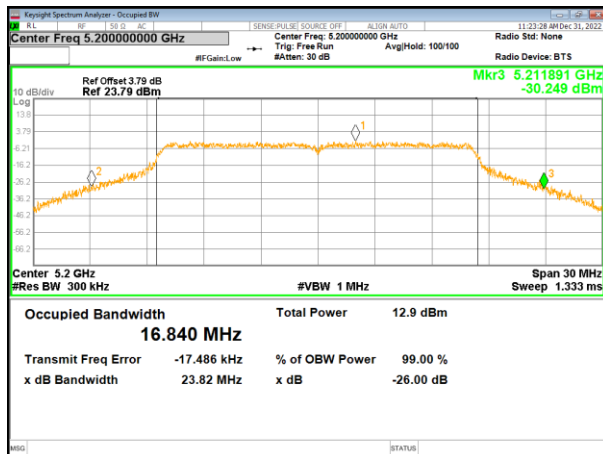
(802.11a) plot on channel 36



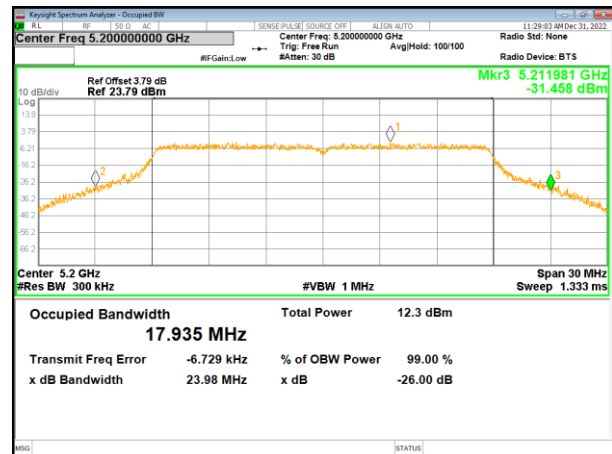
(802.11 n20) plot on channel 36



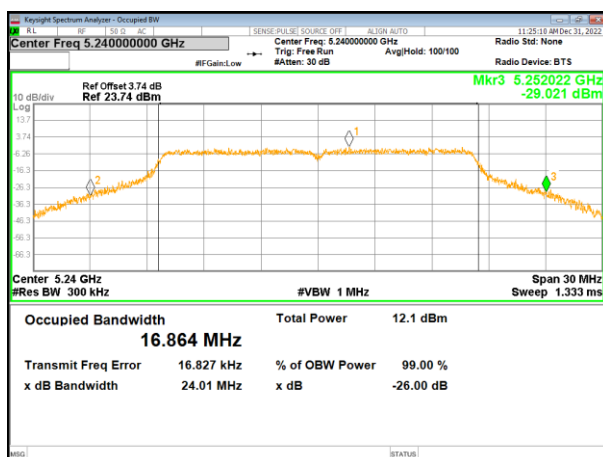
(802.11a) plot on channel 40



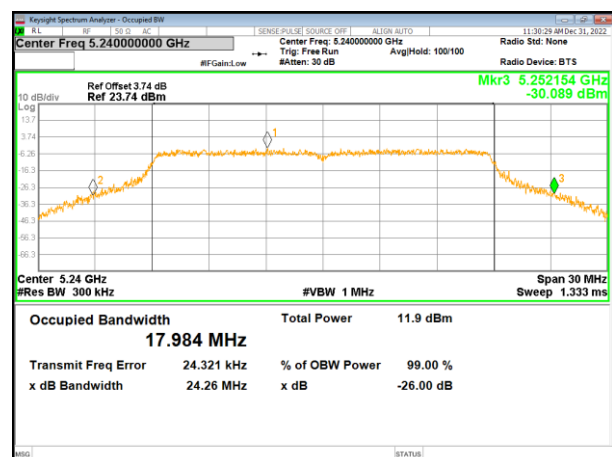
(802.11 n20) plot on channel 40



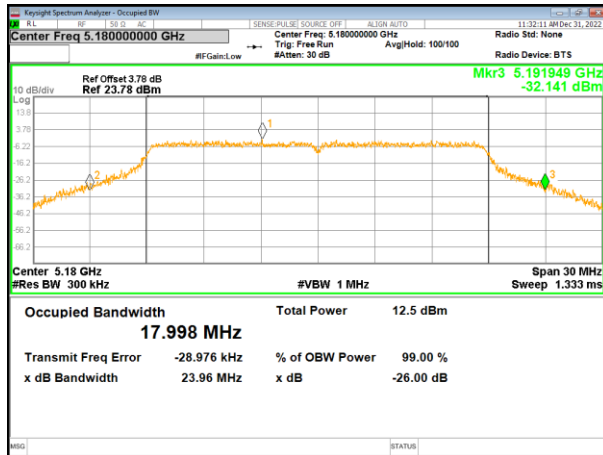
(802.11a) plot on channel 48



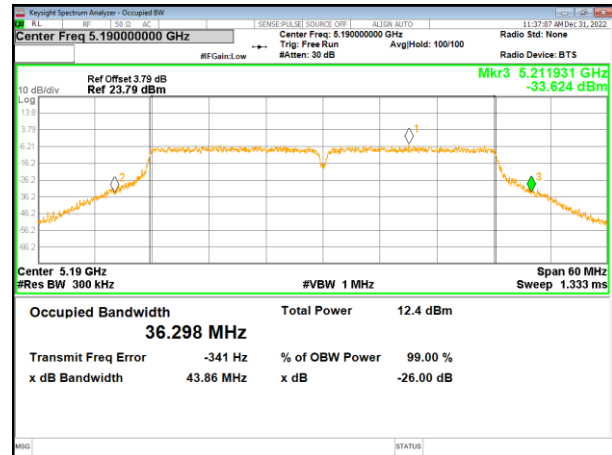
(802.11 n20) plot on channel 48



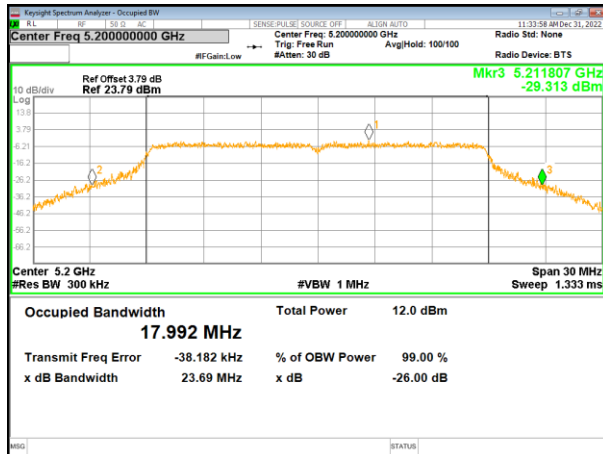
(802.11ac20) plot on channel 36



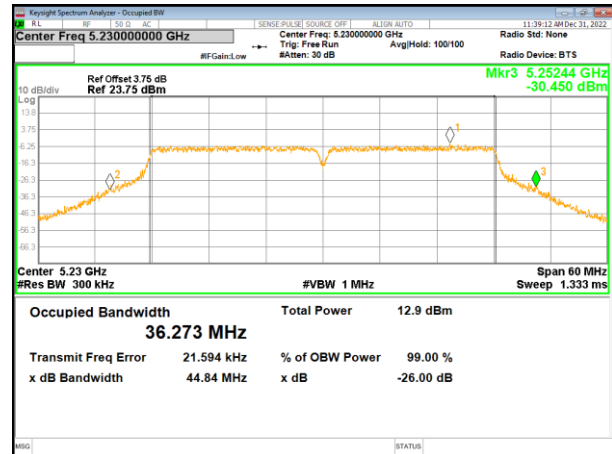
(802.11 n40) plot on channel 38



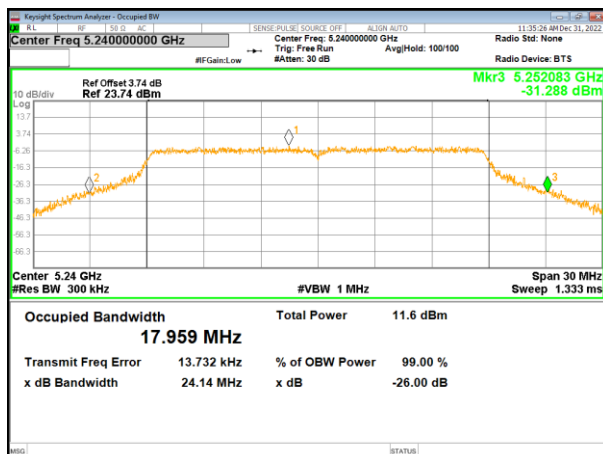
(802.11ac20) plot on channel 40



(802.11 n40) plot on channel 46

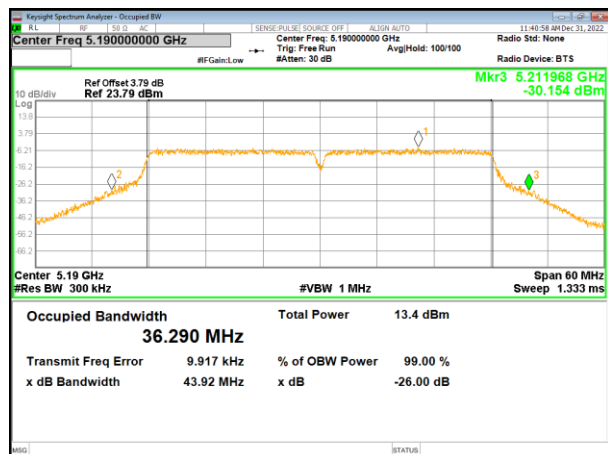


(802.11ac20) plot on channel 48

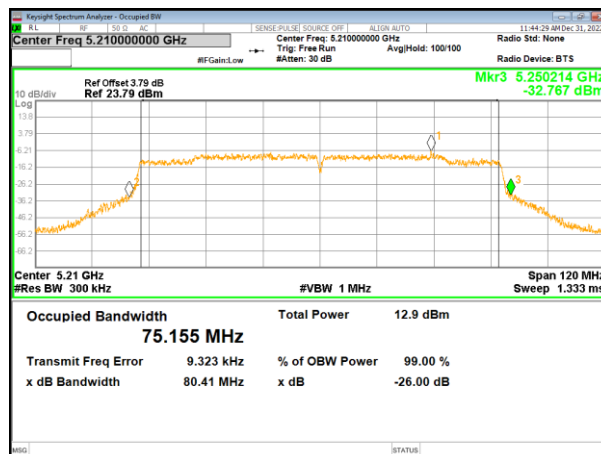


Test plot

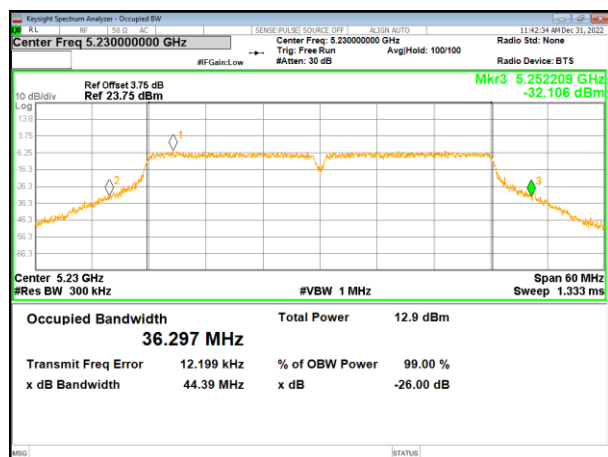
(802.11ac40) plot on channel 38



(802.11ac80) plot on channel 42



(802.11ac40) plot on channel 46





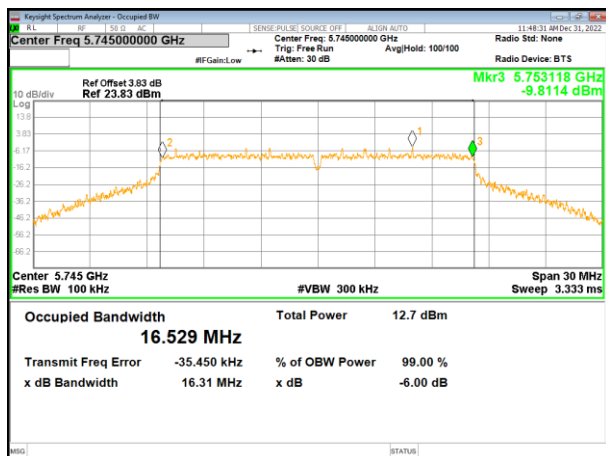
5745-5825MHz

Test CH	-6dB Channel Bandwidth (MHz)						Limit (KHz)	Result
	802.11a	802.11n (HT20)	802.11ac (HT20)	802.11n (HT40)	802.11ac (HT40)	802.11ac (HT80)		
Lowest	16.31	17.54	17.55	36.02	36.12	--	>500	Pass
Middle	16.33	17.59	17.57	--	--	75.04		
Highest	16.34	17.56	17.60	36.31	36.30	--		

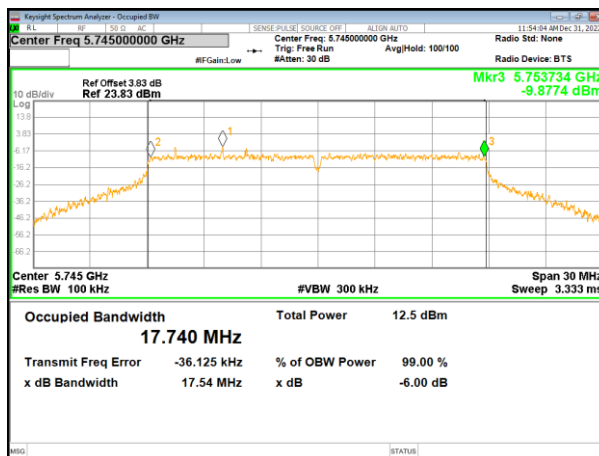
Remark: "---"is not applicable

Test plot

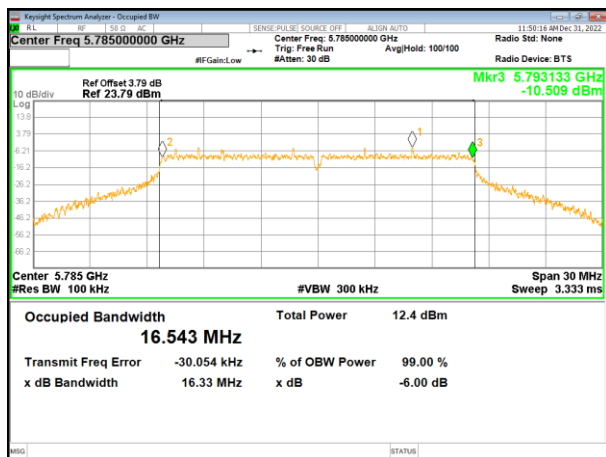
(802.11a) plot on channel 149



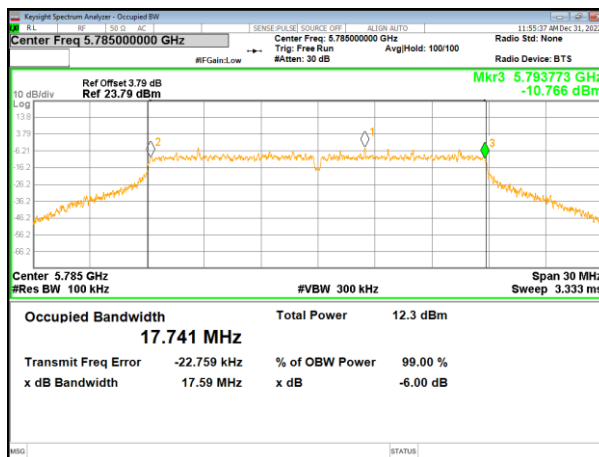
(802.11 n20) plot on channel 149



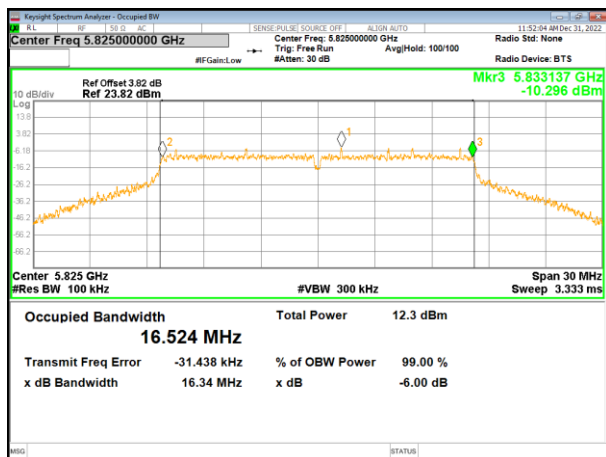
(802.11a) plot on channel 157



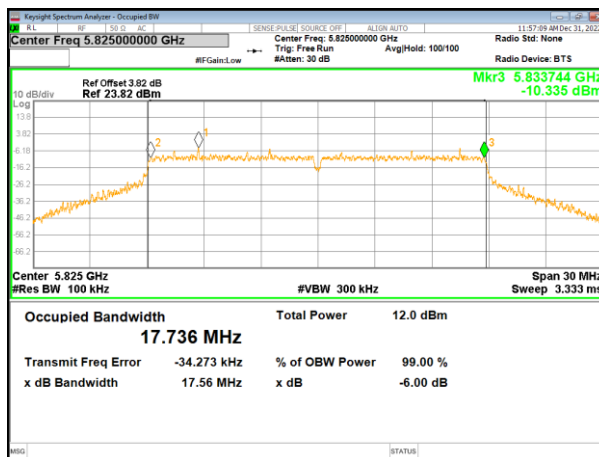
(802.11 n20) plot on channel 157



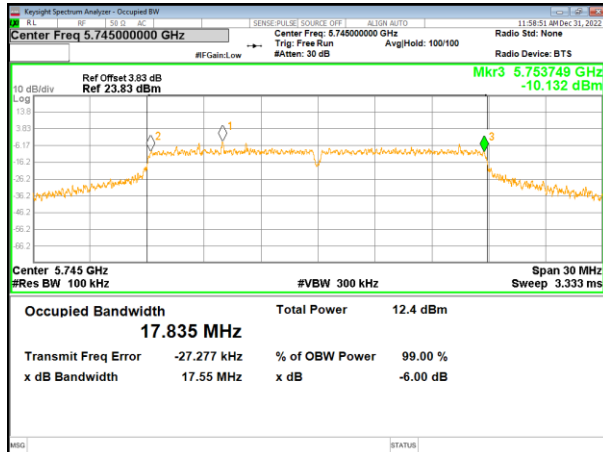
(802.11a) plot on channel 165



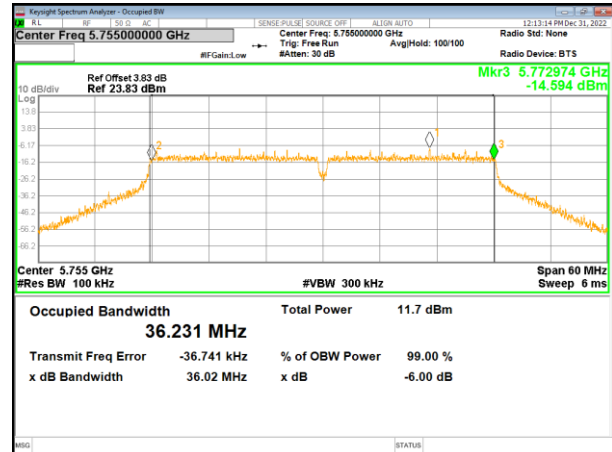
(802.11 n20) plot on channel 165



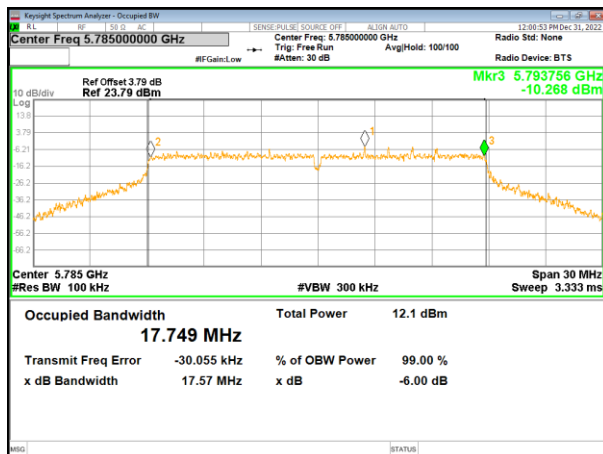
(802.11ac20) plot on channel 149



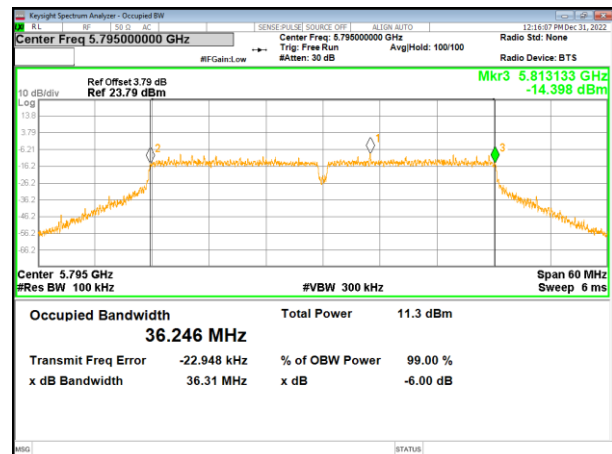
(802.11 n40) plot on channel 151



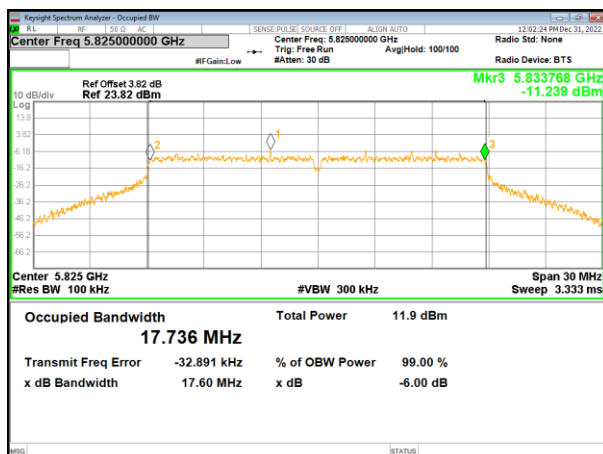
(802.11ac20) plot on channel 157



(802.11 n40) plot on channel 159

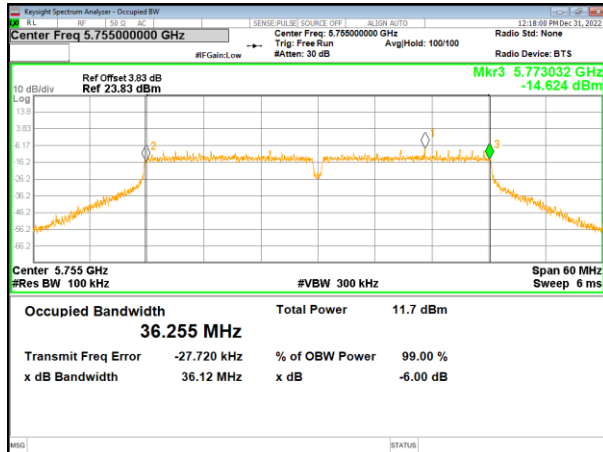


(802.11ac20) plot on channel 165

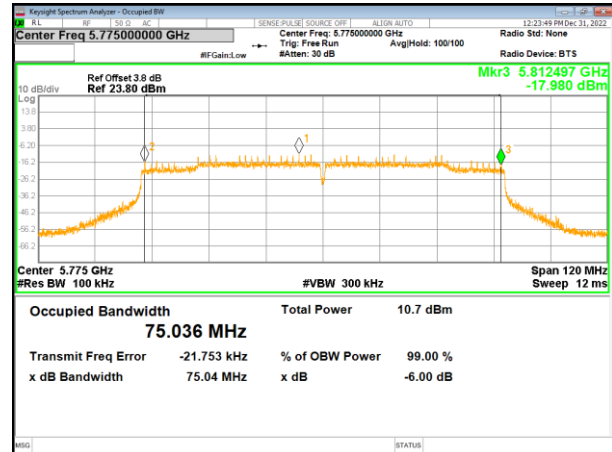


Test plot

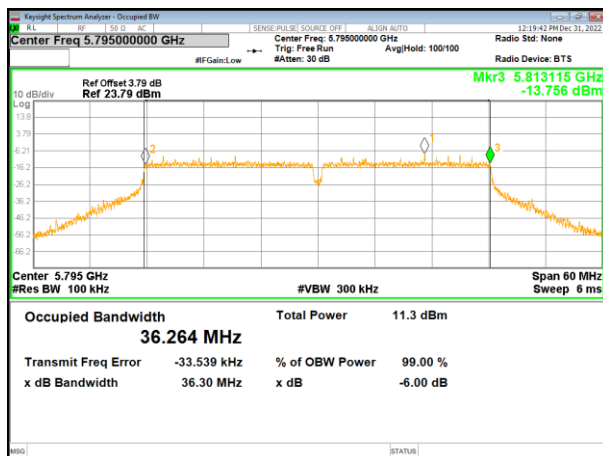
(802.11 ac40) plot on channel 151



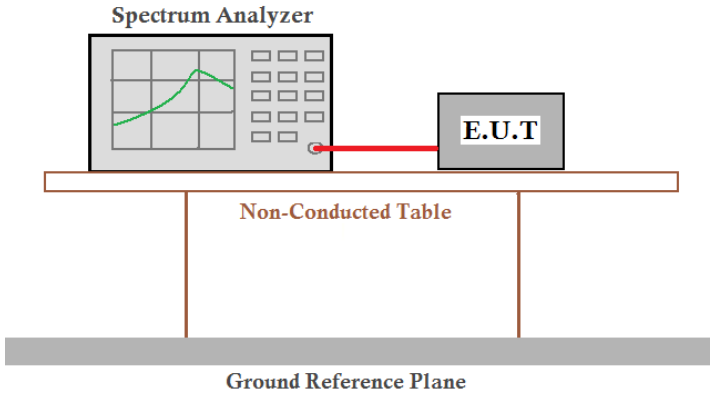
(802.11 ac80) plot on channel 155



(802.11 ac40) plot on channel 159



4.5 Power Spectral Density

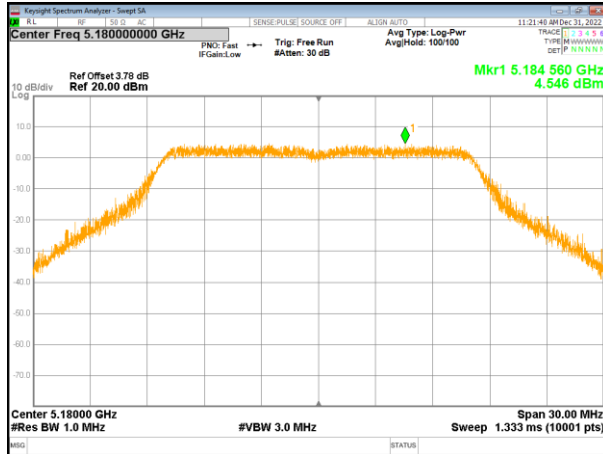
Test Requirement:	FCC Part15 E Section 15.407(a)(1)/ (a)(3)	
Test Method:	ANSI C63.10:2013 and KDB 789033 D02 General U-NII Test Procedures New Rules v02r01	
Limit:	Frequency band (MHz)	Limit
	5150-5250	≤17dBm/1MHz for master device
		≤11dBm/1MHz for client device
	5250-5350	≤11dBm/1MHz for client device
	5470-5725	≤11dBm/1MHz for client device
	725-5850	≤30dBm/500kHz
Test setup:		
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test results:	Pass	

Measurement Data

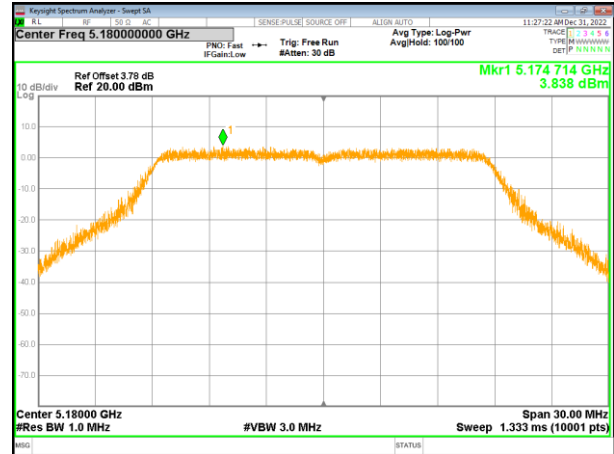
5180-5240MHz

Mode	Frequency	Measured Power Density (dBm/MHz)	Limit (dBm/MHz)
802.11 a	5180 MHz	4.546	11
	5200 MHz	4.450	11
	5240 MHz	3.639	11
802.11 n20	5180 MHz	3.838	11
	5200 MHz	3.449	11
	5240 MHz	3.046	11
802.11 ac20	5180 MHz	4.084	11
	5200 MHz	3.336	11
	5240 MHz	2.993	11
802.11 n40	5190 MHz	0.570	11
	5230 MHz	1.611	11
802.11 ac40	5190 MHz	1.743	11
	5230 MHz	1.039	11
802.11 ac80	5210 MHz	-1.998	11

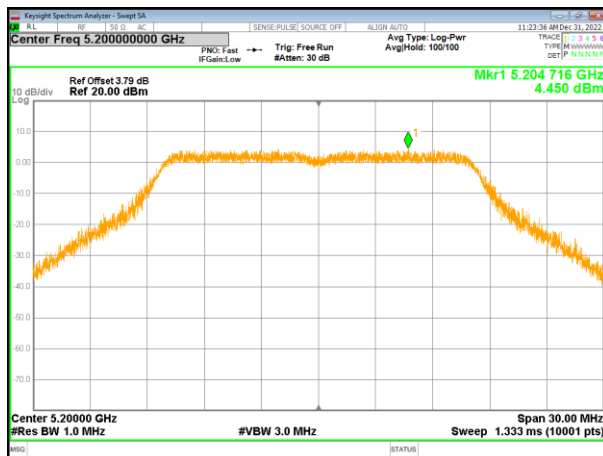
(802.11a) PSD plot on channel 36



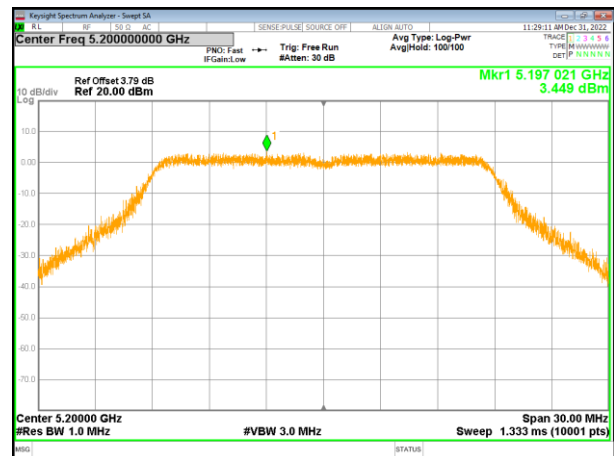
(802.11n20) PSD plot on channel 36



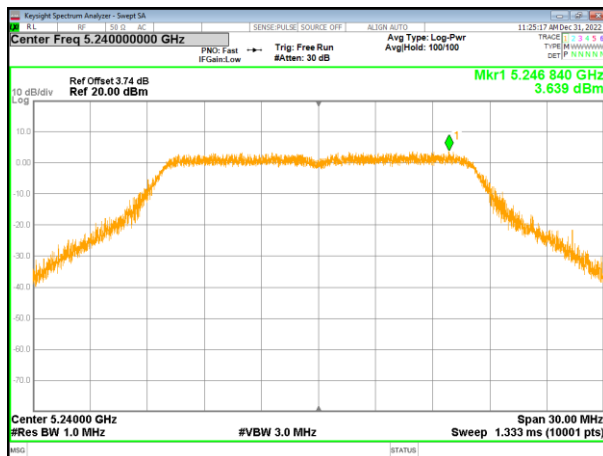
(802.11a) PSD plot on channel 40



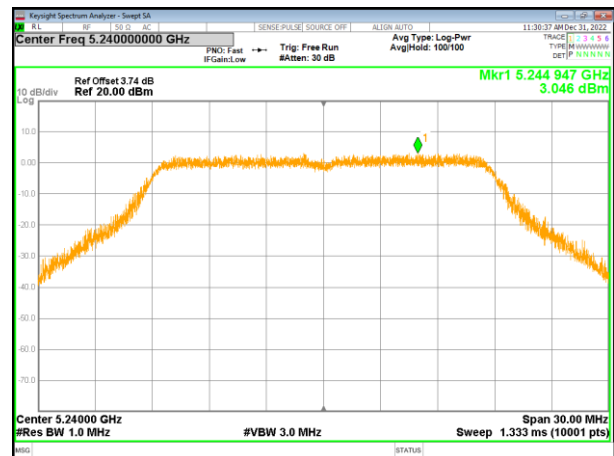
(802.11n20) PSD plot on channel 40



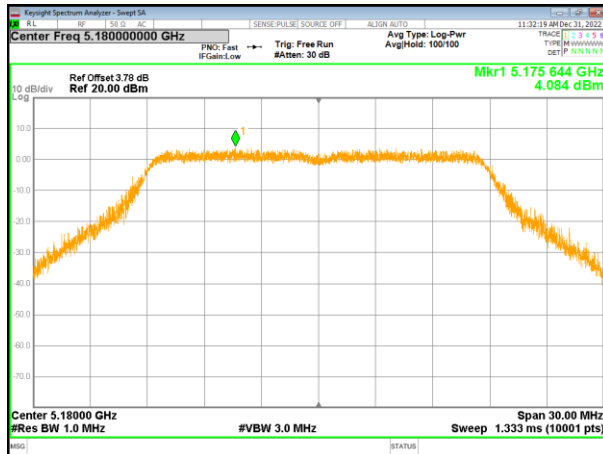
(802.11a) PSD plot on channel 48



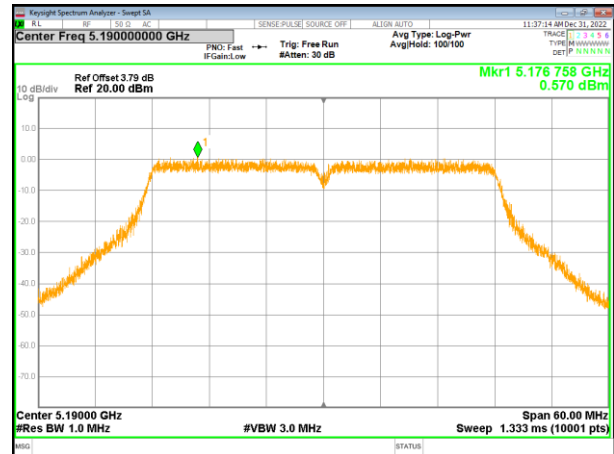
(802.11n20) PSD plot on channel 48



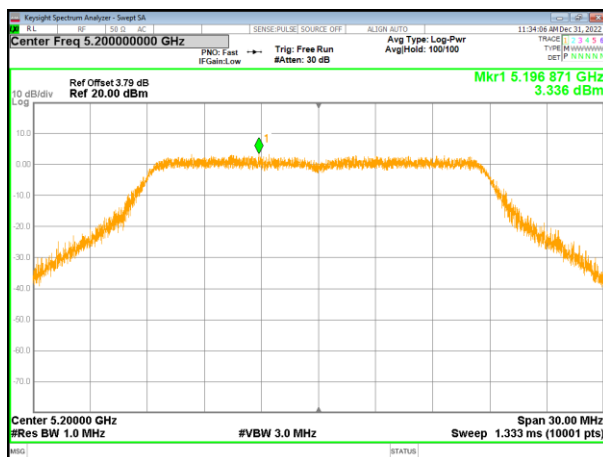
(802.11ac20) PSD plot on channel 36



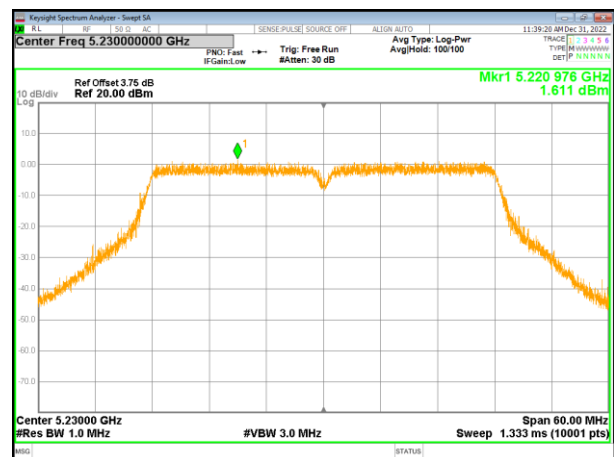
(802.11n40) PSD plot on channel 38



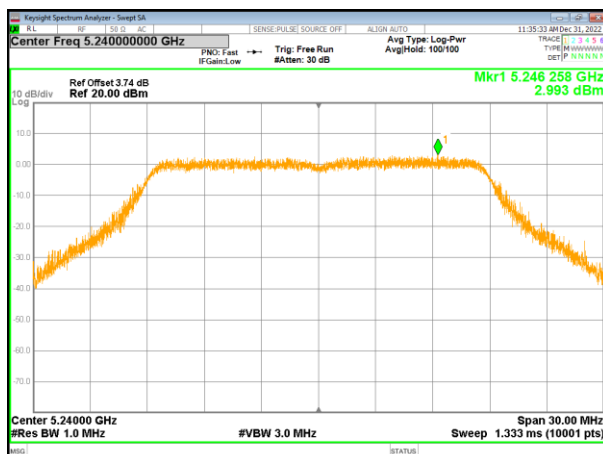
(802.11ac20) PSD plot on channel 40



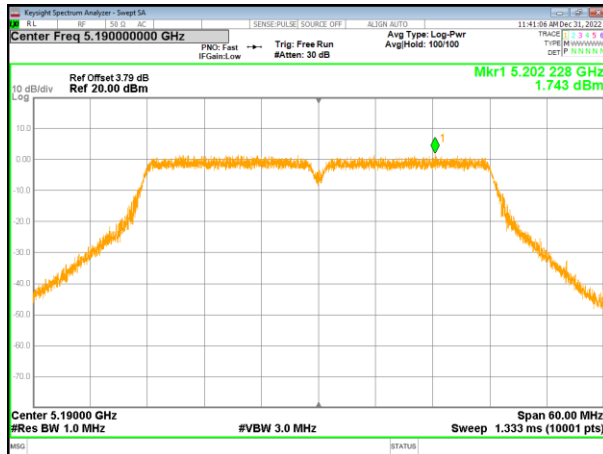
(802.11n40) PSD plot on channel 46



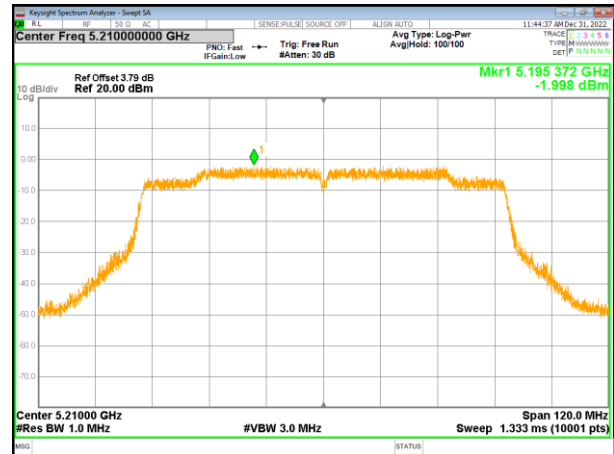
(802.11ac20) PSD plot on channel 48



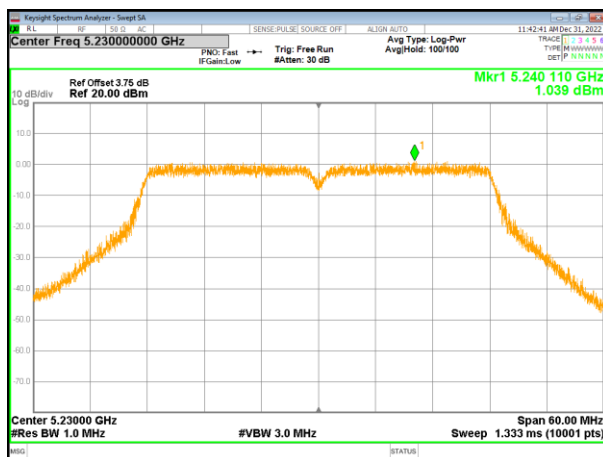
(802.11ac40) PSD plot on channel 38



(802.11ac80) PSD plot on channel 42



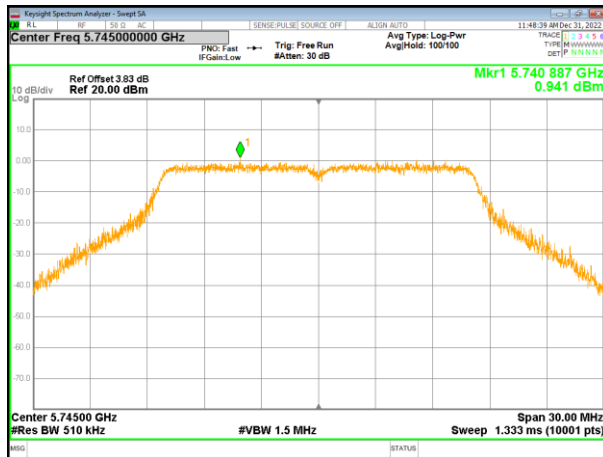
(802.11ac40) PSD plot on channel 46



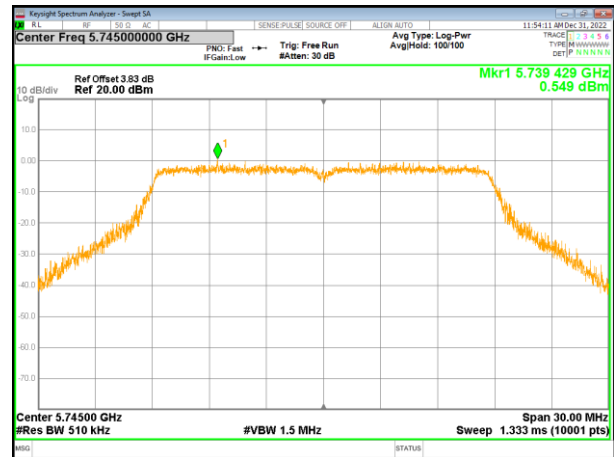
Mode	Frequency	Measured Power Density (dBm/510KHz)	Measured Power Density (dBm/500KHz)	Limit (dBm/MHz)
802.11 a	5745 MHz	0.941	0.855	30
	5785 MHz	-0.249	-0.335	30
	5825 MHz	-0.536	-0.622	30
802.11 n20	5745 MHz	0.549	0.463	30
	5785 MHz	-0.806	-0.892	30
	5825 MHz	-0.903	-0.989	30
802.11 ac20	5745 MHz	-0.684	-0.770	30
	5785 MHz	-0.495	-0.581	30
	5825 MHz	-1.054	-1.140	30
802.11 n40	5755 MHz	-3.245	-3.331	30
	5795 MHz	-4.645	-4.731	30
802.11 ac40	5755 MHz	-3.969	-4.055	30
	5795 MHz	-3.895	-3.981	30
802.11 ac80	5775 MHz	-8.233	-8.319	30

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

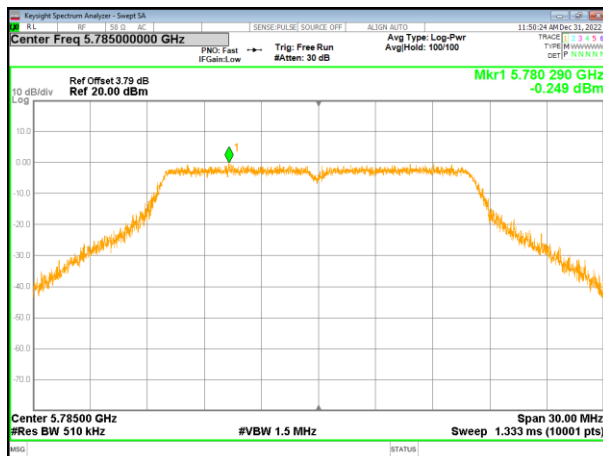
(802.11a) PSD plot on channel 149



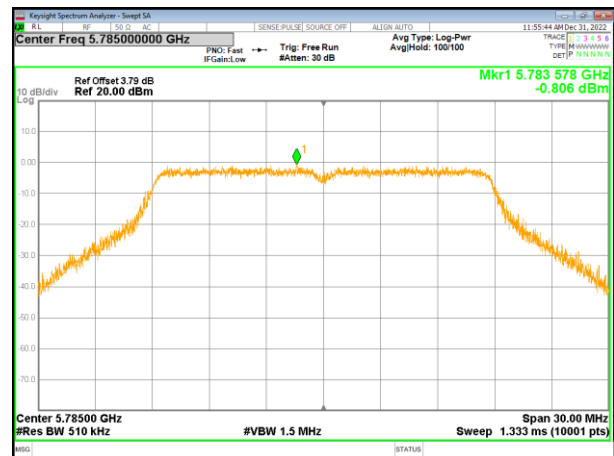
(802.11n20) PSD plot on channel 149



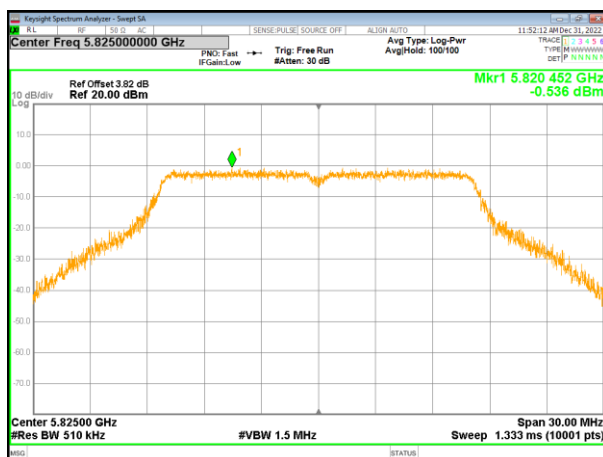
(802.11a) PSD plot on channel 157



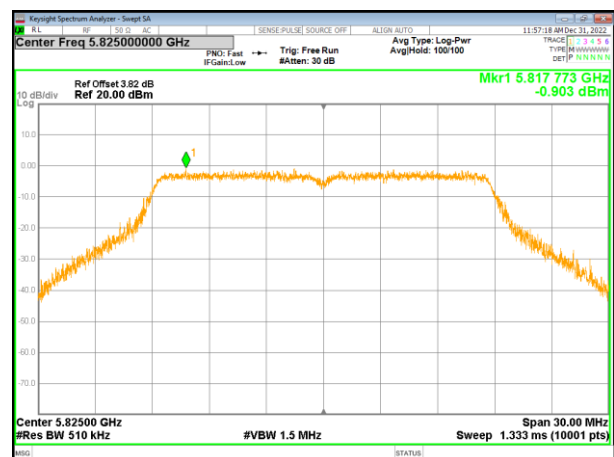
(802.11n20) PSD plot on channel 157



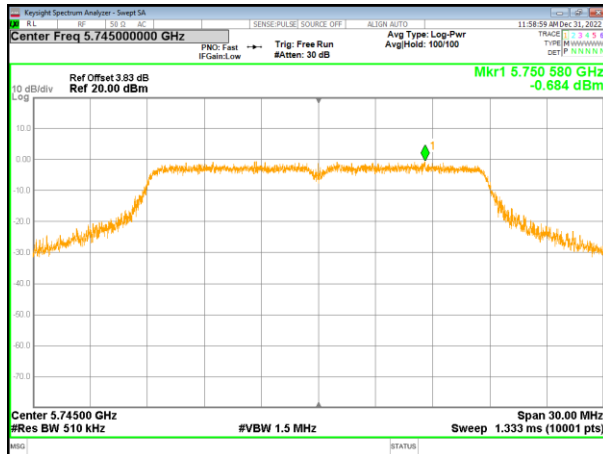
(802.11a) PSD plot on channel 165



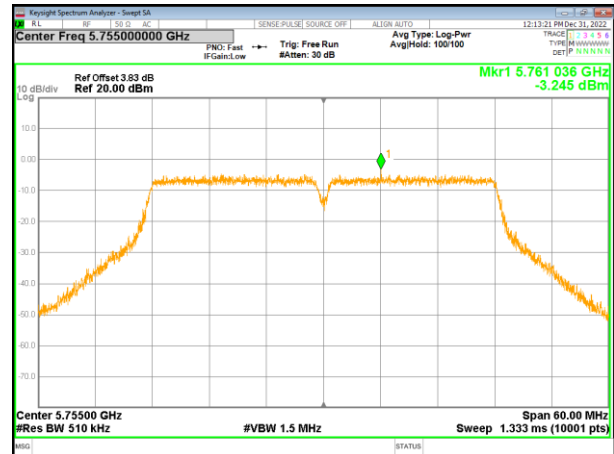
(802.11n20) PSD plot on channel 165



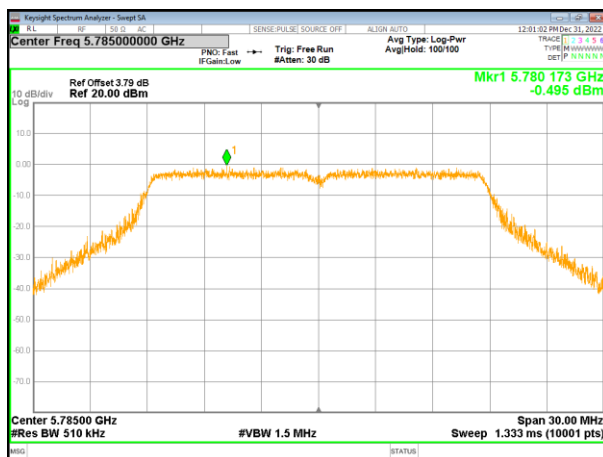
(802.11ac20) PSD plot on channel 149



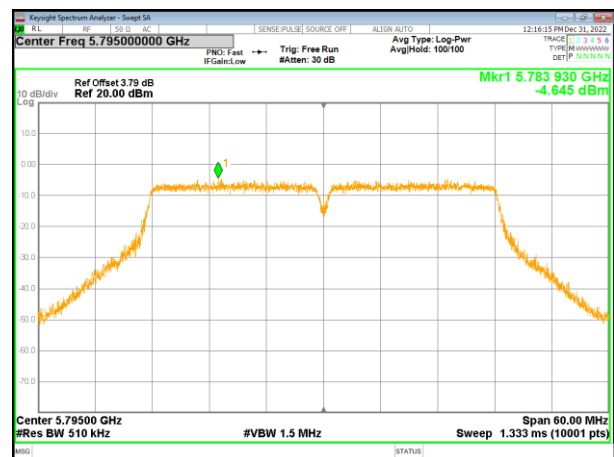
(802.11n40) PSD plot on channel 151



(802.11ac20) PSD plot on channel 157



(802.11n40) PSD plot on channel 159



(802.11ac20) PSD plot on channel 165

