TEST REPORT

Applicant:	Guangdong Deyuan Technology Co. ,Ltd.
Address of Applicant:	#1 of No.32,Xixiu Road, Motor City,Xiuquan Street,Huadu District,Guangzhou City
Manufacturer/Factory:	Guangdong Deyuan Technology Co. ,Ltd.
Address of Manufacturer	#1 of No.32,Xixiu Road, Motor City,Xiuquan Street,Huadu District,Guangzhou City
Product Name:	WiFi Module
Model No.:	SI****（*Represents numbers 0-9, -, letters a-z, letters A-Z or blank）
Trade Mark:	N/A
FCC ID:	2BEG8-SI07B
Applicable standards:	FCC CFR Title 47 Part 15 Subpart E Section 15.407
Date of Test:	Dec.25, 2024-Jan.17, 2024
Date of report issued:	Mar.02, 2024
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

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Report Revision History		
Report No.	Description	Issue Date
ET-23121517E03	Original	Mar.02, 2024

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1 Test Summary

Test Item	Section in CFR 47	Result	Test by
Antenna requirement	15.203	Pass	/
AC Power Line Conducted Emission	15.207	N/A	/
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.*
3. *N/A: Not applicable.*

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:	WiFi Module
Model No.:	SI****（*Represents numbers 0-9, -, letters a-z, letters A-Z or blank）
Difference of model(s)	All the model are the same circuit and RF module, except the model names
Test Model:	SI07B
Hardware Version:	SRC.WiFi_AP.02 D
Software Version:	4K_2K_64G_6G_develop_T_MT9950_71_S4_S_20211020_142630
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:	PCB Antenna
Antenna gain:	ANT2:3.01dBi ANT4:4.88dBi Note: Antenna information is provided by applicant, Testing lab is not responsible for the accuracy of the information.
Battery	N/A
Adapter information:	N/A

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		
Highest channel	5240	5230	

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		
Highest channel	5825	5795	

2.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode(or with a duty cycle ≥ 98%)

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.

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
1	Laptop computer	DELL	VOSTRO 3400	/

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	SecureCRTPortable.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	2023.3.02	2024.3.01
2	Artificial power network	schwarabeck	NSLK8127	8127483	2023.3.02	2024.3.01
3	Artificial power network	ETS	3186/2NM	1132	2023.3.02	2024.3.01
4	10dB attenuator	HUBER+SUHNER	10dB	/	2023.3.02	2024.3.01
5	Cable 4	HUBER SUNNER	3M	/	2023.3.02	2024.3.01
6	Absorbing Clamp	schwarabeck	MDS21	D69250	2023.3.06	2024.3.05

Radiated Emission &RF Conducted test:

Item	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	EMI Test Receiver	Rohde&schwarz	ESCI7	101032	2023.3.02	2024.3.01
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	2023.3.02	2024.3.01
5	Amplifier	Space-Dtronics	EWLAN0118G-P40	19113001	2023.3.02	2024.3.01
6	Spectrum analyzer	KEYSIGHT	N9020A	MY55370280	2023.3.02	2024.3.01
7	Power detector meter	MWRFtest	MW100-PSB	MW201020JYT	2023.10.18	2024.10.17
8	Signal generator	Agilent	N5182A	MY49060455	2023.10.18	2024.10.17
9	Spectrum analyzer	Rohde&schwarz	FSU40	1166.1660K43	2023.8.16	2024.8.15
10	Amplifier	SKET	LNPA_1840-50	SK2019040302	2023.8.16	2024.8.15
11	Horn antenna	schwarabeck	BBHA 9170	946	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	/	2023.3.02	2024.3.01
14	Cable7	HUBER SUNNER	2.0M	/	2023.3.02	2024.3.01
15	Cable8	HUBER SUNNER	6.0M	/	2023.3.02	2024.3.01
16	Filter	Xin bo	XBLBQ-GTA29	210410-3-2	2023.3.06	2024.3.05

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

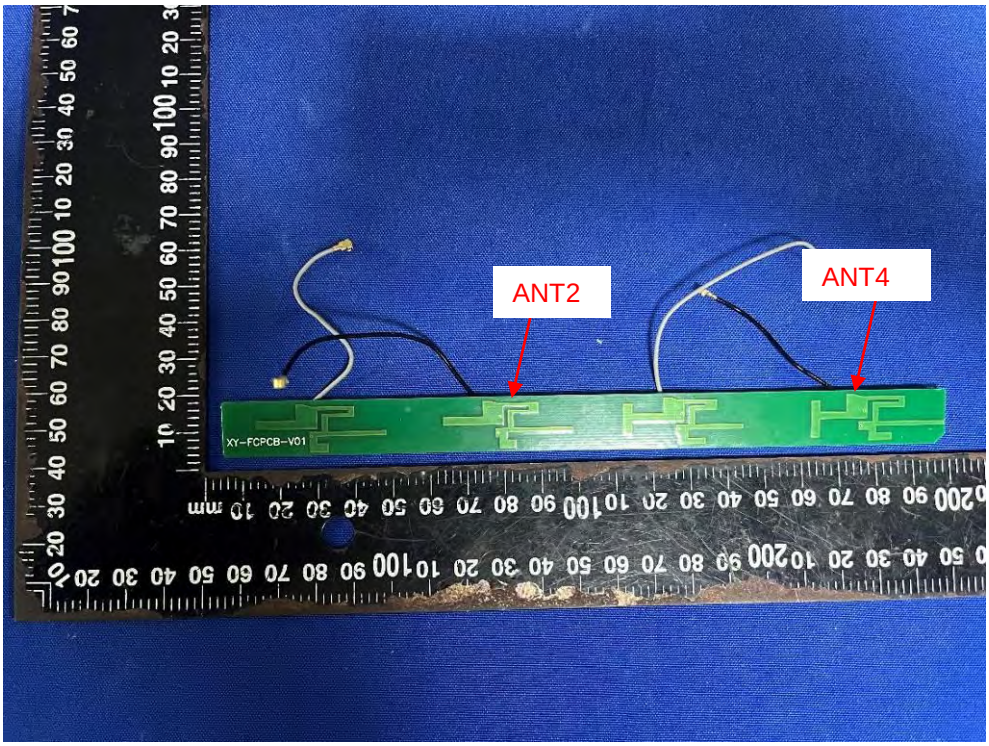
Standard requirement:	FCC Part15 C Section 15.203

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.

E.U.T Antenna:	

The antennas are PCB Antenna, the best case gain of the antennas are ANT2:3.01dBi &ANT4:4.88dBi, reference to the photo details.



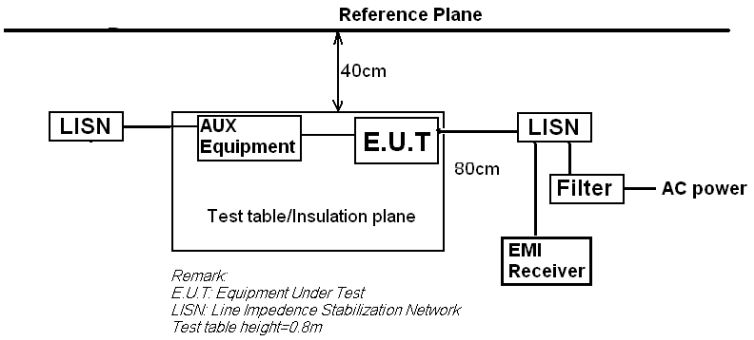
4.2 Conducted Emissions

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:

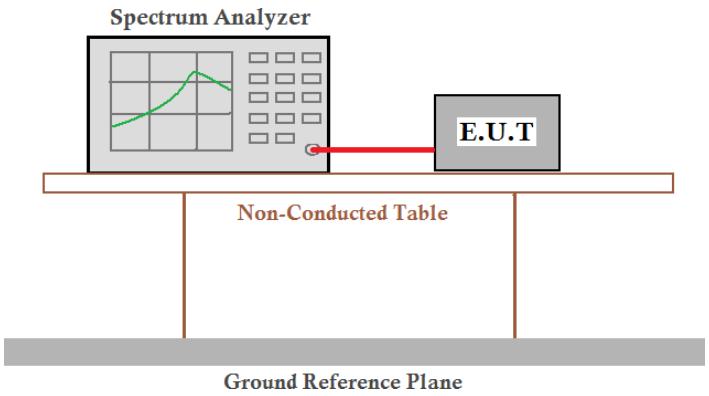


Test procedure:

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.:	/C	Humid.:	/%	Press.:	/
Test voltage:	/					
Test results:	N/A EUT Power by DC 5V From USB port, So this test item is not applicable .					

4.3 Duty cycle

Test Method :	ANSI C63.10:2013	
Limit:	/	
Test setup:		
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 24.3°C	Humid.:51%RH
Test voltage:	DC 5V	
Test results:	Pass	

Measurement Result

Module: WB800D.3(ANT2)

5180-5240MHz

Mode	Test Channel	Frequency (MHz)	Duty cycle (%)	Correction Factor (dB)
TX 802.11a Mode	CH36	5180	100	0
	CH40	5200	100	0
	CH48	5240	100	0
TX 802.11n20 Mode	CH36	5180	100	0
	CH40	5200	100	0
	CH48	5240	100	0
TX 802.11ac20 Mode	CH36	5180	100	0
	CH40	5200	100	0
	CH48	5240	100	0
TX 802.11n40 Mode	CH38	5190	100	0
	CH46	5230	100	0
TX 802.11a40 Mode	CH38	5190	100	0
	CH46	5230	100	0
TX 802.11ac80 Mode	CH42	5210	100	0

5745-5825 MHz

Mode	Test Channel	Frequency (MHz)	Duty cycle (%)	Correction Factor (dB)
TX 802.11a Mode	CH149	5745	100	0
	CH157	5785	100	0
	CH165	5825	100	0
TX 802.11n20 Mode	CH149	5745	100	0
	CH157	5785	100	0
	CH165	5825	100	0
TX 802.11ac20 Mode	CH149	5745	100	0
	CH157	5785	100	0
	CH165	5825	100	0
TX 802.11n40 Mode	CH151	5755	100	0
	CH159	5795	100	0
TX 802.11a40 Mode	CH151	5755	100	0
	CH159	5795	100	0
TX 802.11ac80 Mode	CH155	5775	100	0

Module: WB663U.1(ANT4)

5180-5240MHz

Mode	Test Channel	Frequency (MHz)	Duty cycle (%)	Correction Factor (dB)
TX 802.11a Mode	CH36	5180	100	0
	CH40	5200	100	0
	CH48	5240	100	0
TX 802.11n20 Mode	CH36	5180	100	0
	CH40	5200	100	0
	CH48	5240	100	0
TX 802.11ac20 Mode	CH36	5180	100	0
	CH40	5200	100	0
	CH48	5240	100	0
TX 802.11n40 Mode	CH38	5190	100	0
	CH46	5230	100	0
TX 802.11a40 Mode	CH38	5190	100	0
	CH46	5230	100	0
TX 802.11ac80 Mode	CH42	5210	100	0

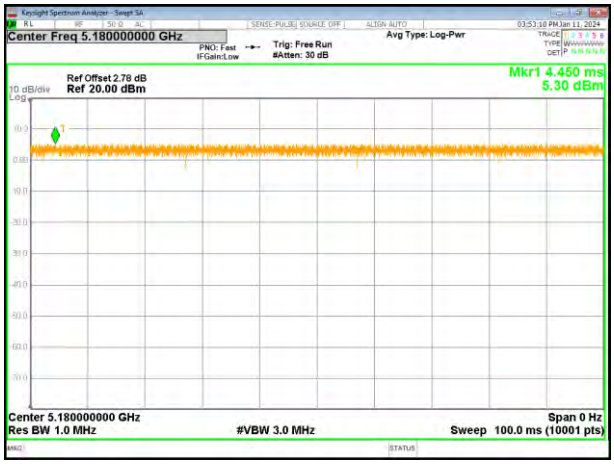
5745-5825 MHz

Mode	Test Channel	Frequency (MHz)	Duty cycle (%)	Correction Factor (dB)
TX 802.11a Mode	CH149	5745	100	0
	CH157	5785	100	0
	CH165	5825	100	0
TX 802.11n20 Mode	CH149	5745	100	0
	CH157	5785	100	0
	CH165	5825	100	0
TX 802.11ac20 Mode	CH149	5745	100	0
	CH157	5785	100	0
	CH165	5825	100	0
TX 802.11n40 Mode	CH151	5755	100	0
	CH159	5795	100	0
TX 802.11a40 Mode	CH151	5755	100	0
	CH159	5795	100	0
TX 802.11ac80 Mode	CH155	5775	100	0

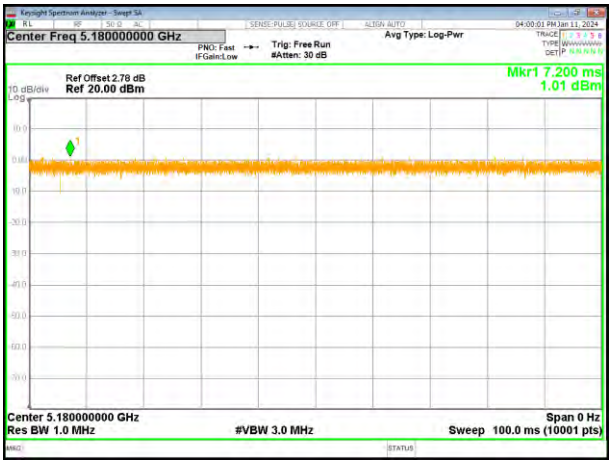
Module: WB800D.3(ANT2)

5180-5240 MHz

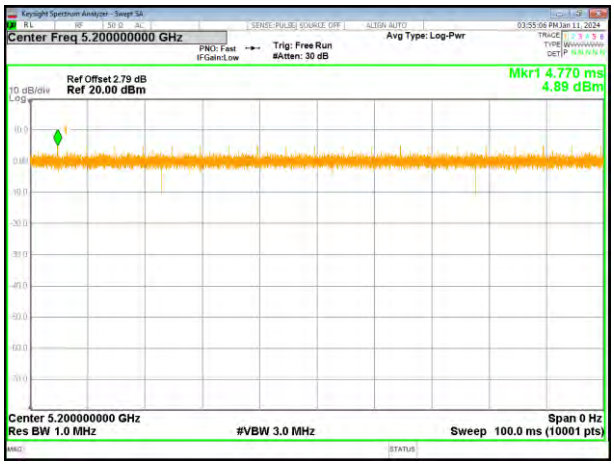
(802.11a) plot on channel 36



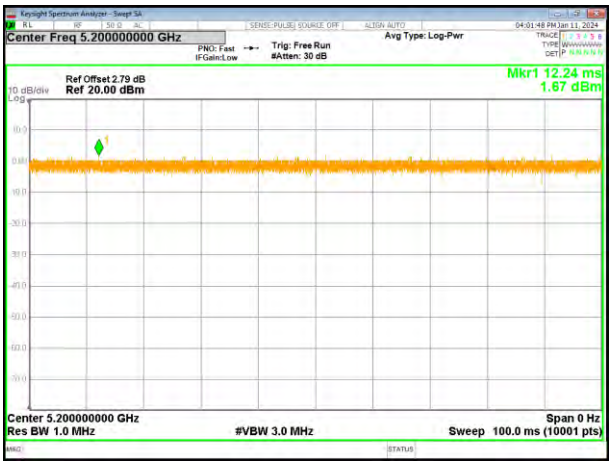
(802.11 n20) plot on channel 36



(802.11a) plot on channel 40

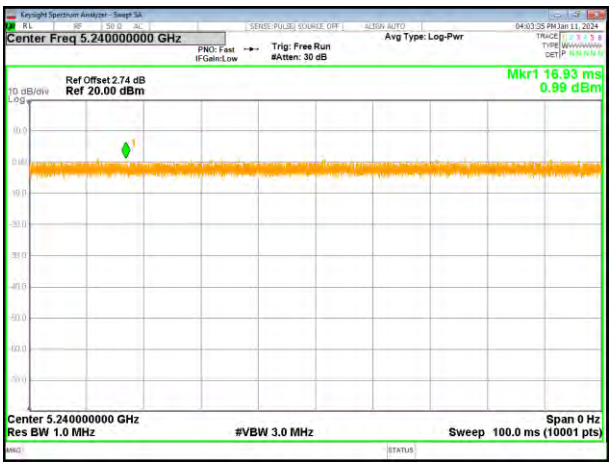


(802.11 n20) plot on channel 40



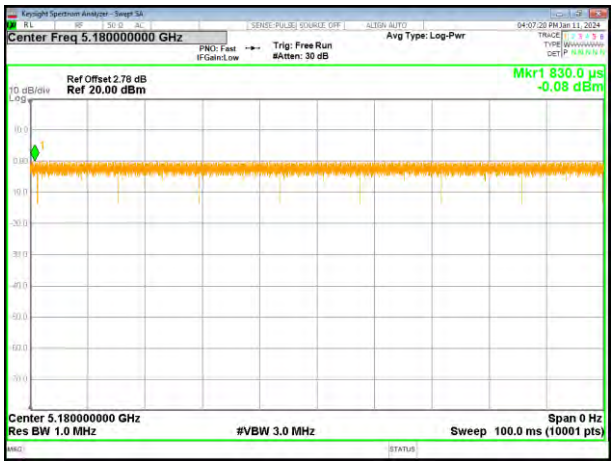
(802.11a) plot on channel 48

(802.11 n20) plot on channel 48

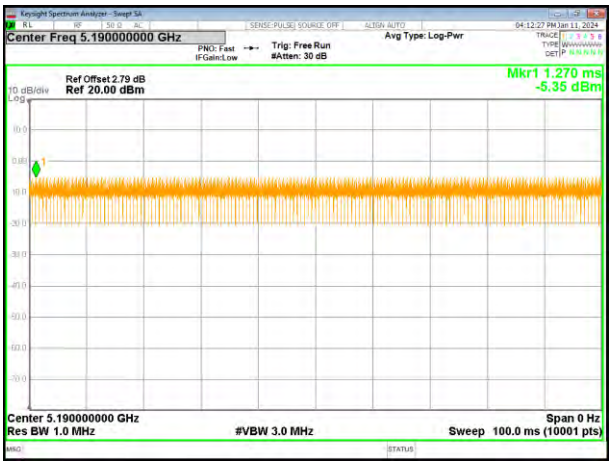


Test plot

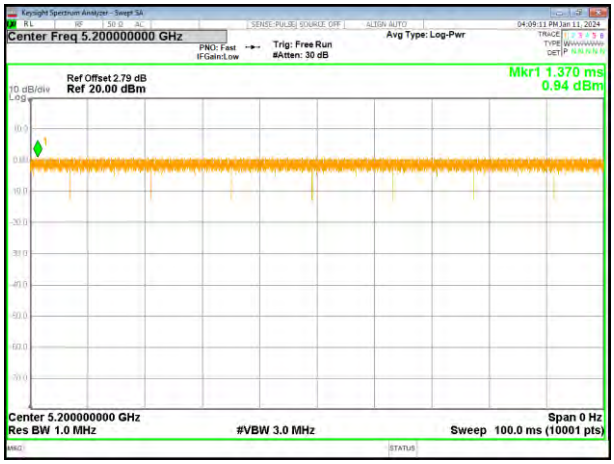
(802.11ac20) plot on channel 36



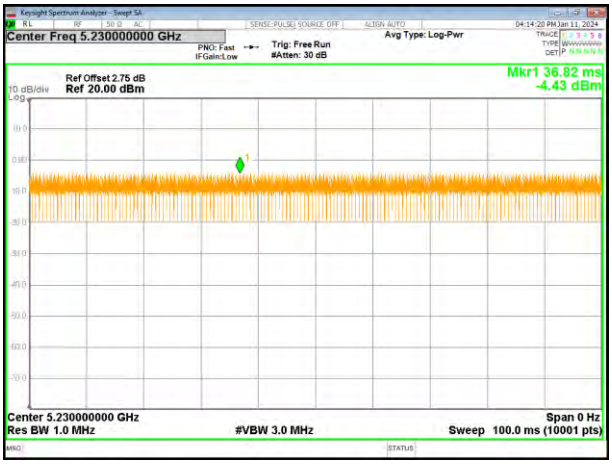
(802.11 n40) plot on channel 38



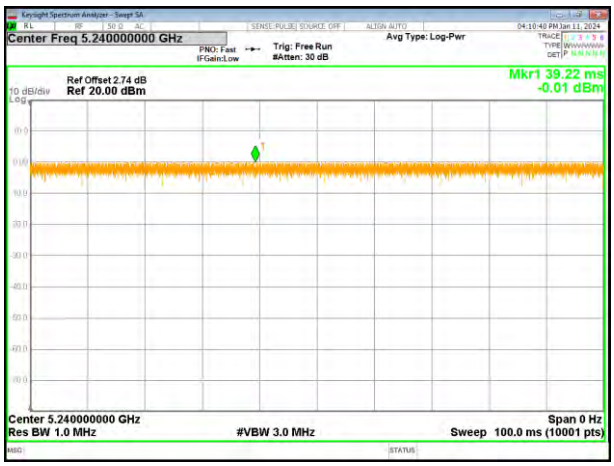
(802.11ac20) plot on channel 40



(802.11 n40) plot on channel 46



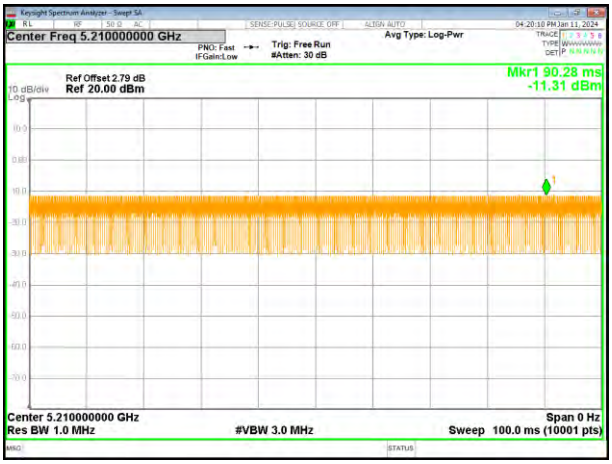
(802.11ac20) plot on channel 48



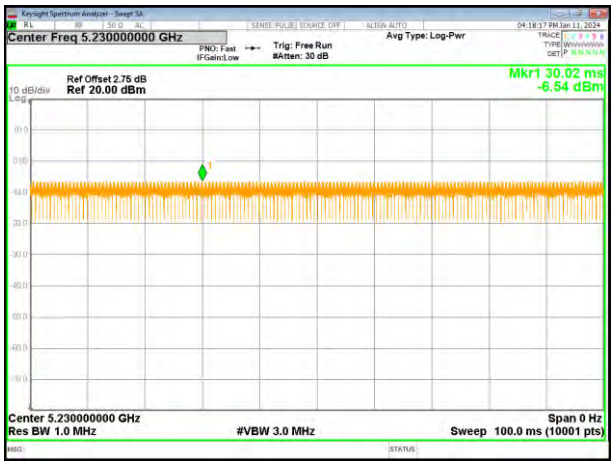
Test plot

(802.11ac40) plot on channel 38

(802.11ac80) plot on channel 42

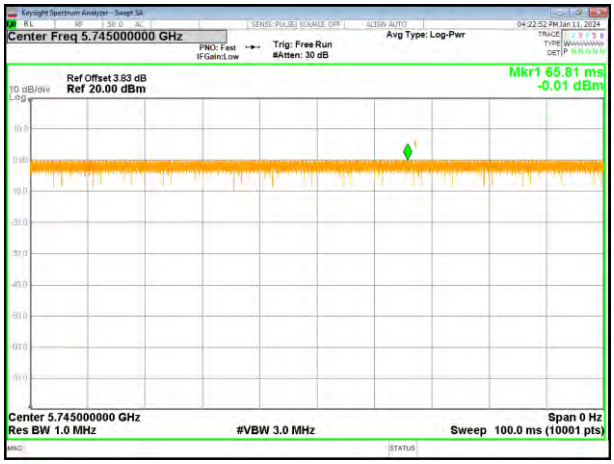


(802.11ac40) plot on channel 46

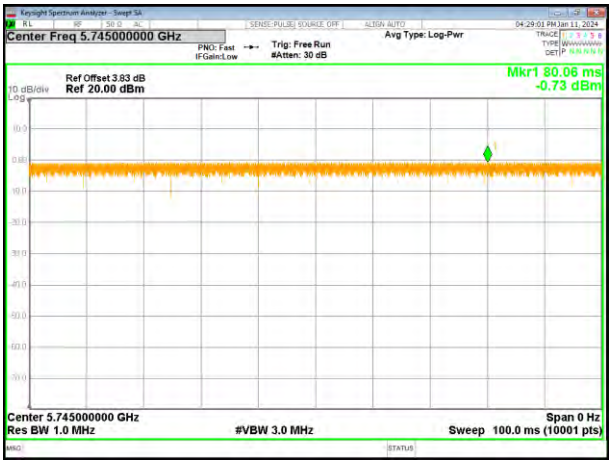


5745-5825 MHz

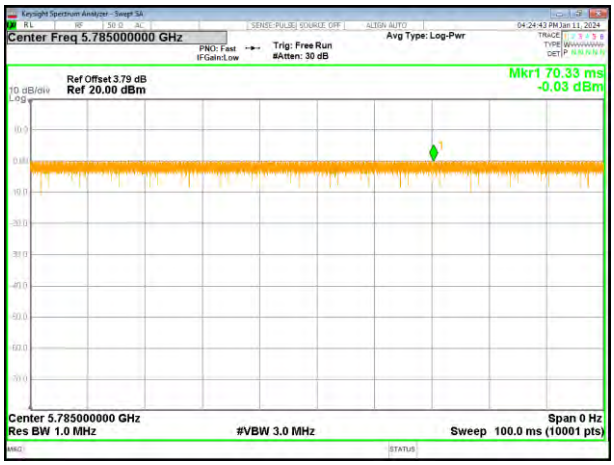
(802.11a) plot on channel 36



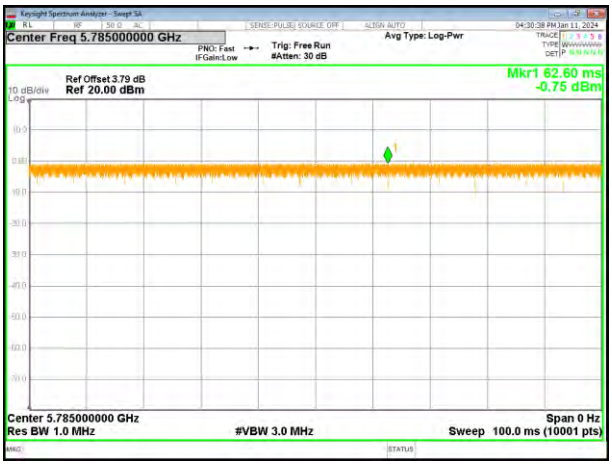
(802.11 n20) plot on channel 36



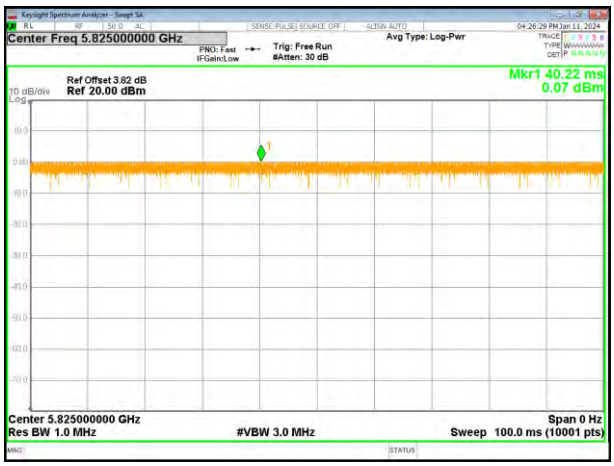
(802.11a) plot on channel 40



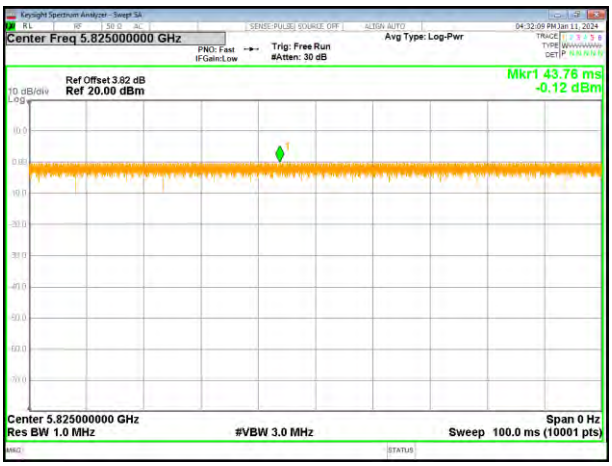
(802.11 n20) plot on channel 40



(802.11a) plot on channel 48

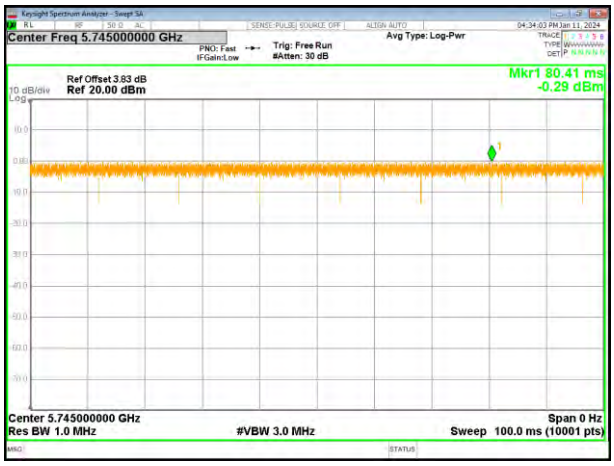


(802.11 n20) plot on channel 48



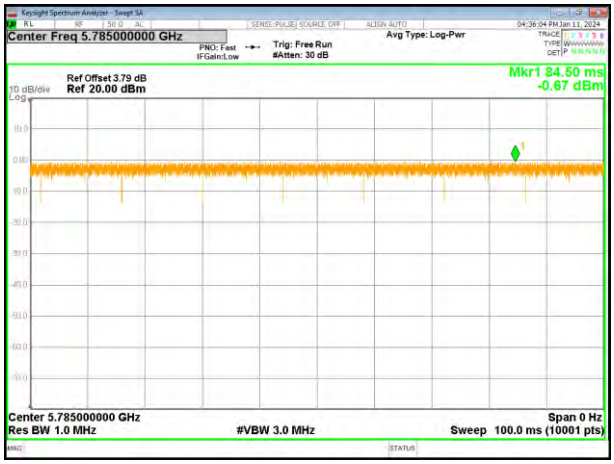
Test plot

(802.11ac20) plot on channel 36

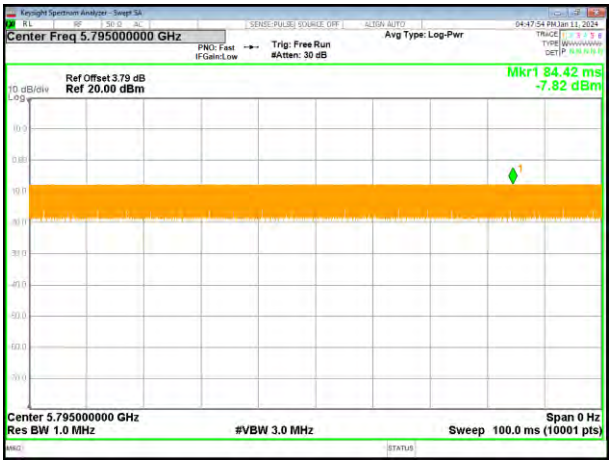


(802.11 n40) plot on channel 38

(802.11ac20) plot on channel 40



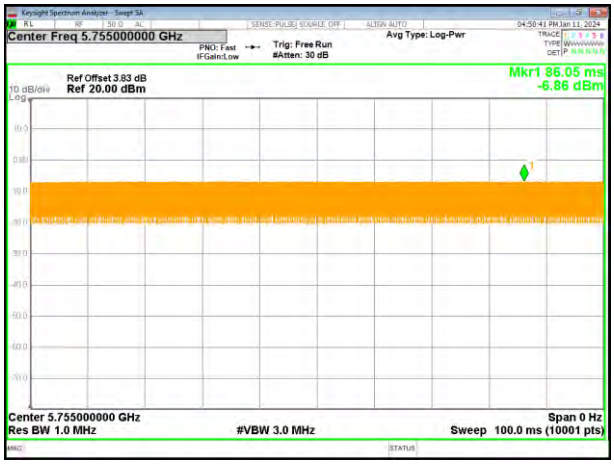
(802.11 n40) plot on channel 46



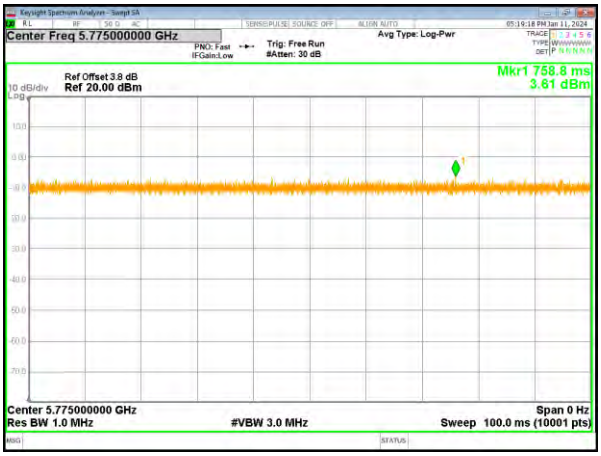
(802.11ac20) plot on channel 48

Test plot

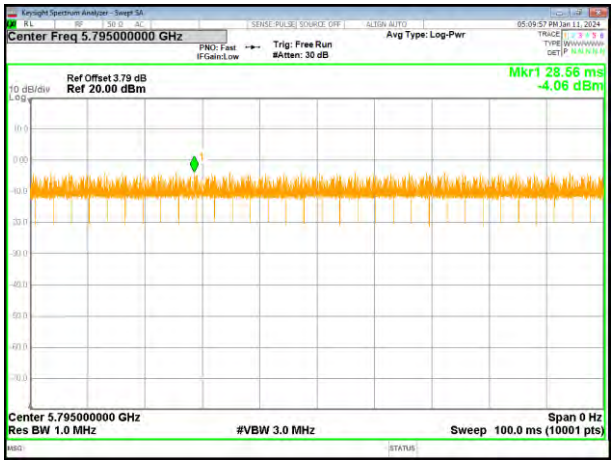
(802.11ac40) plot on channel 38



(802.11ac80) plot on channel 42



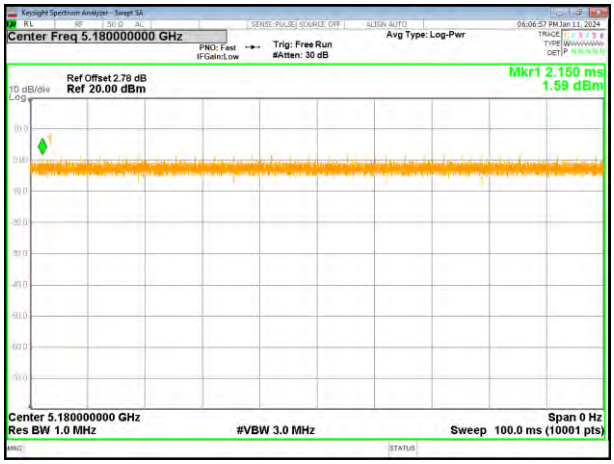
(802.11ac40) plot on channel 46



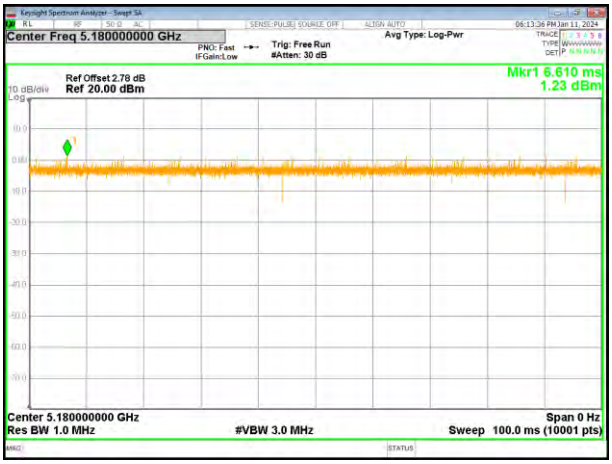
Module: WB663U.1(ANT4)

5180-5240MHz

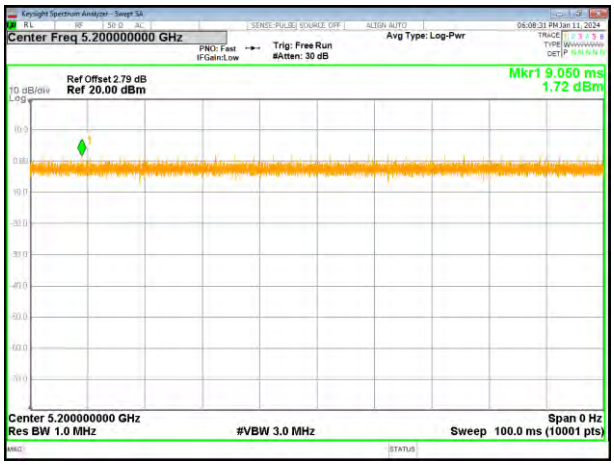
(802.11a) plot on channel 36



(802.11 n20) plot on channel 36

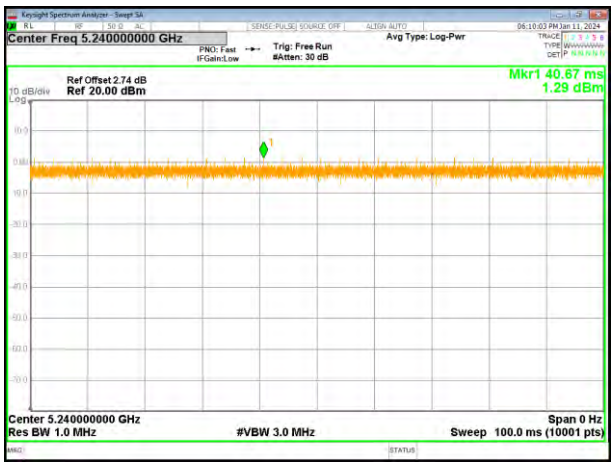


(802.11a) plot on channel 40



(802.11 n20) plot on channel 40

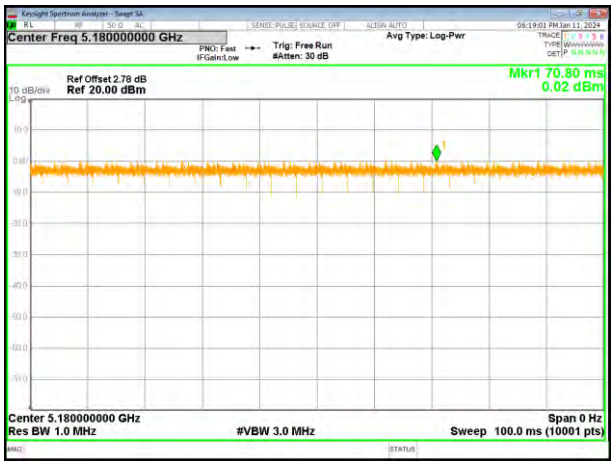
(802.11a) plot on channel 48



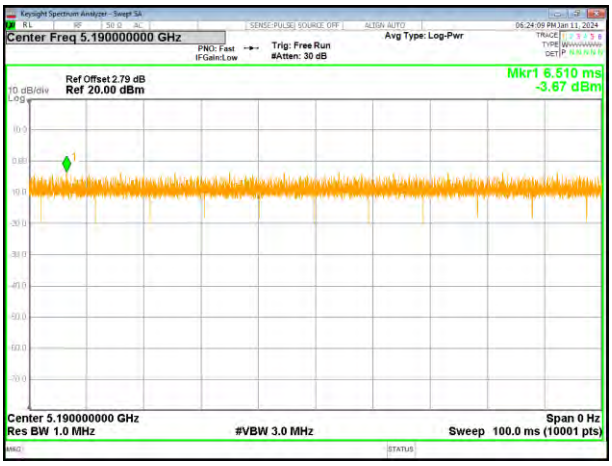
(802.11 n20) plot on channel 48

Test plot

(802.11ac20) plot on channel 36

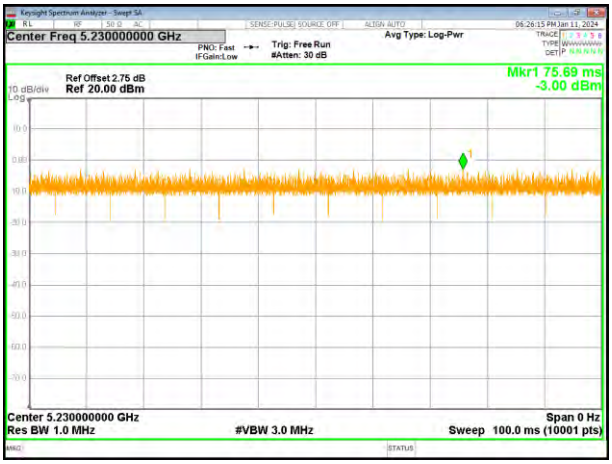


(802.11 n40) plot on channel 38

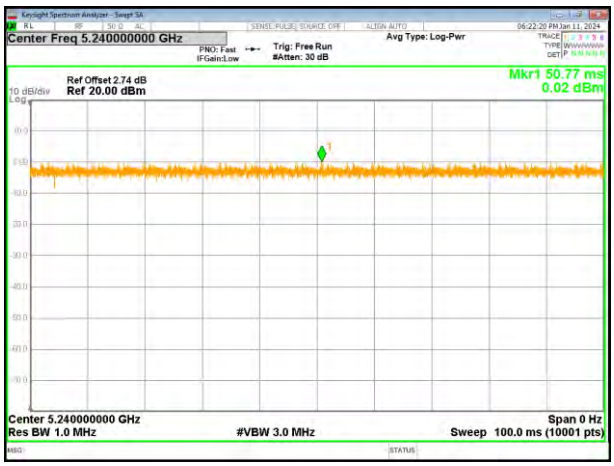


(802.11ac20) plot on channel 40

(802.11 n40) plot on channel 46

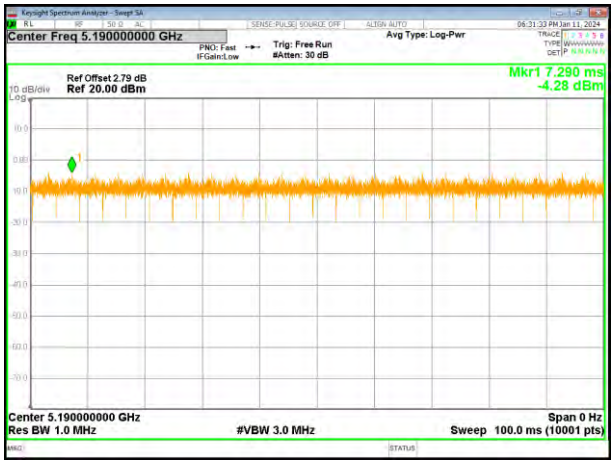


(802.11ac20) plot on channel 48

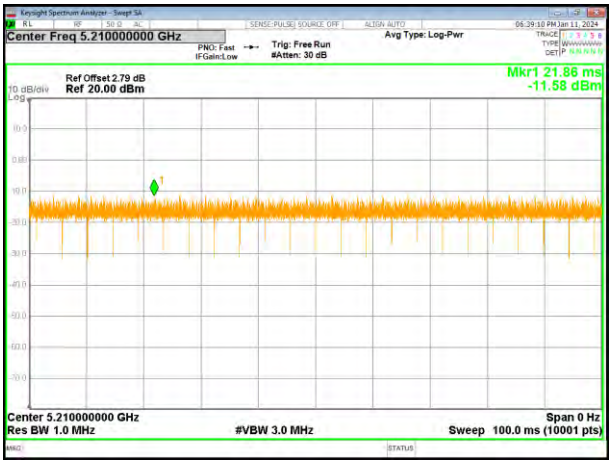


Test plot

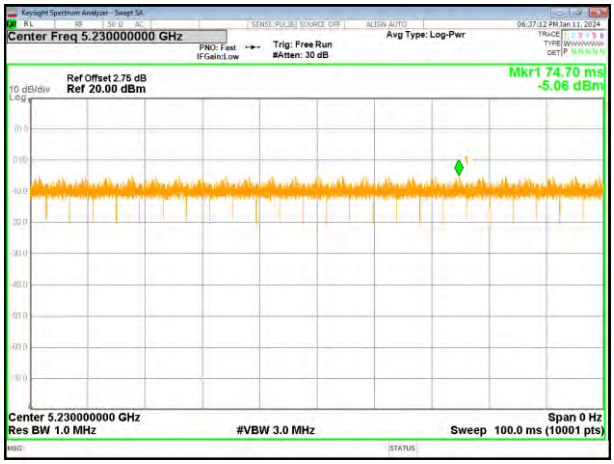
(802.11ac40) plot on channel 38



(802.11ac80) plot on channel 42

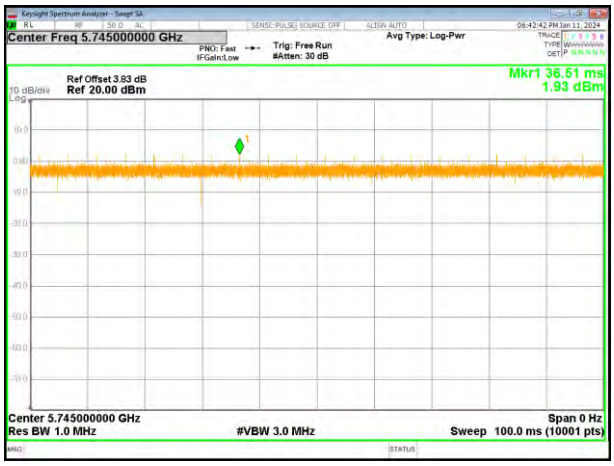


(802.11ac40) plot on channel 46

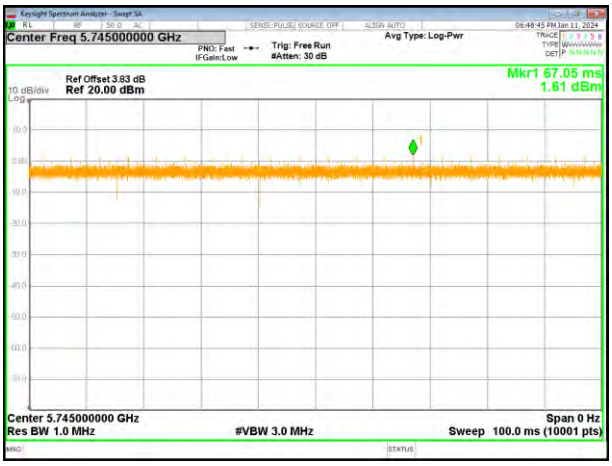


5745-5825 MHz

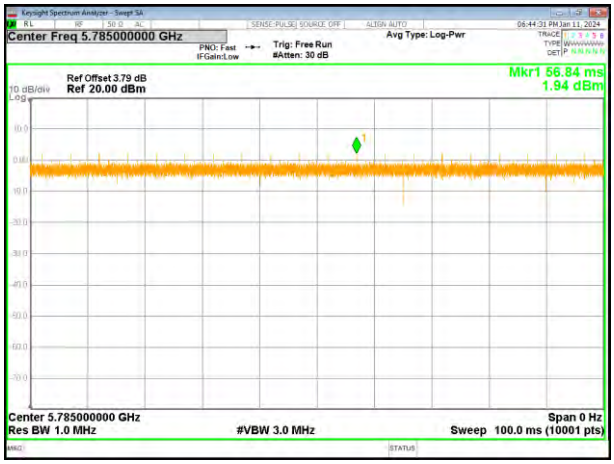
(802.11a) plot on channel 36



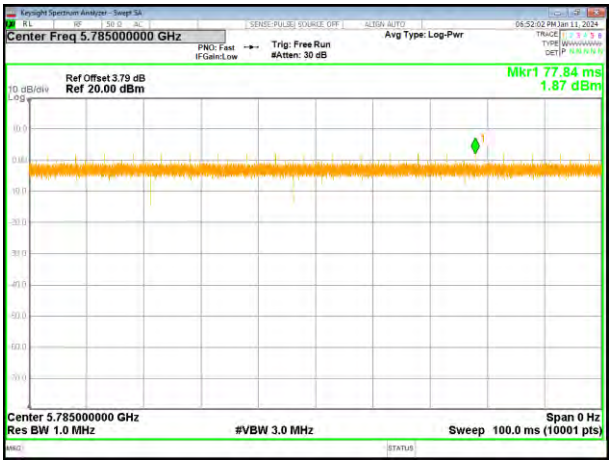
(802.11 n20) plot on channel 36



(802.11a) plot on channel 40

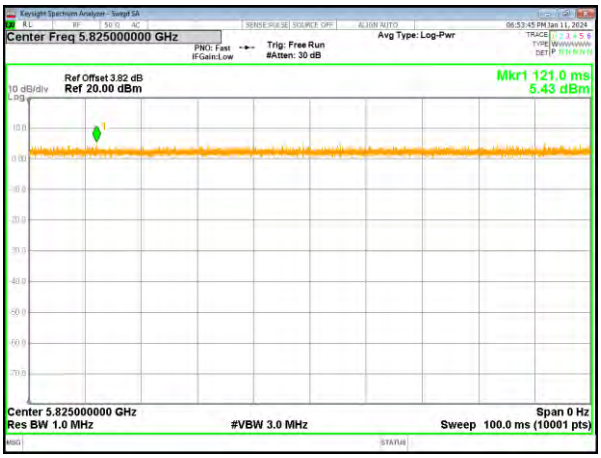


(802.11 n20) plot on channel 40



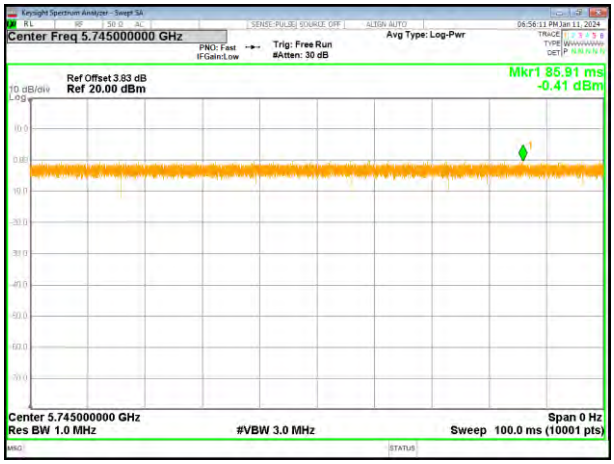
(802.11a) plot on channel 48

(802.11 n20) plot on channel 48

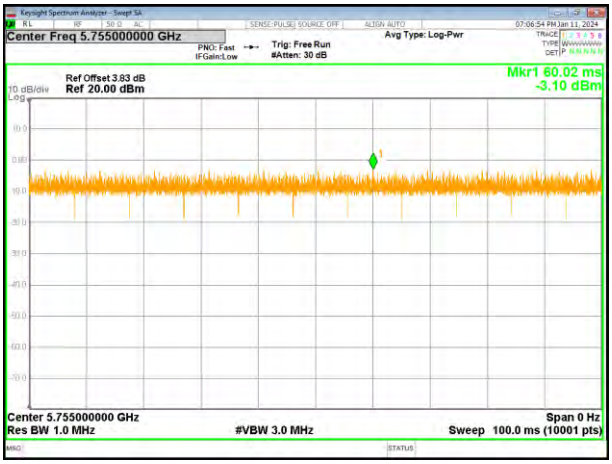


Test plot

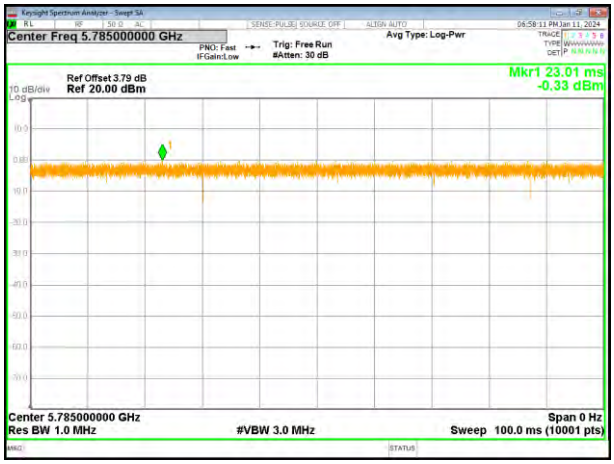
(802.11ac20) plot on channel 36



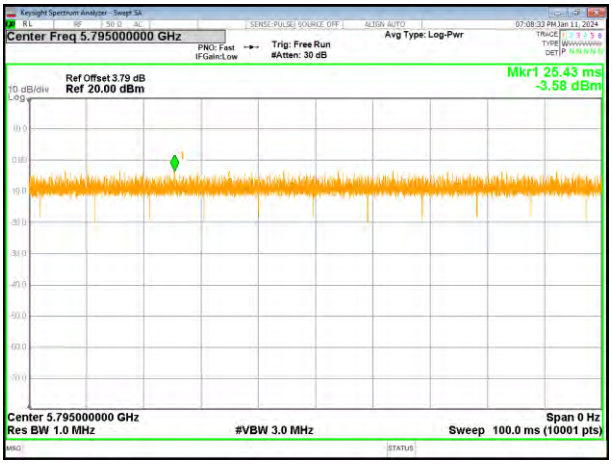
(802.11 n40) plot on channel 38



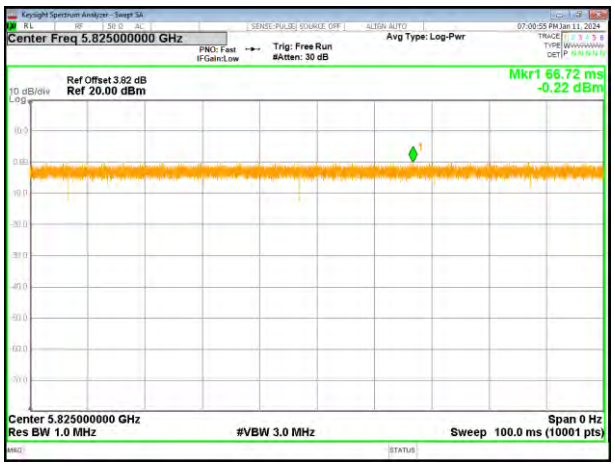
(802.11ac20) plot on channel 40



(802.11 n40) plot on channel 46



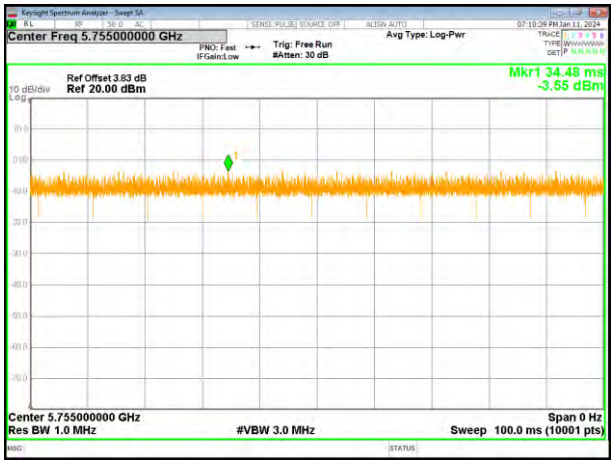
(802.11ac20) plot on channel 48

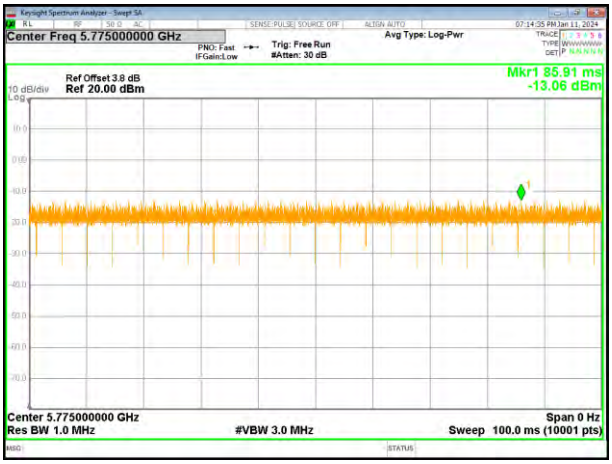


Test plot

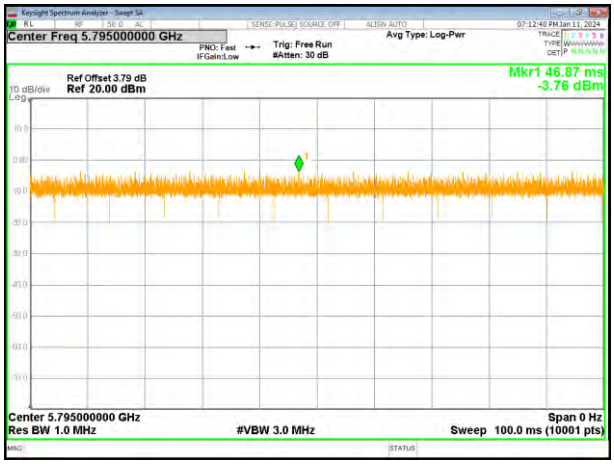
(802.11ac40) plot on channel 38

(802.11ac80) plot on channel 42

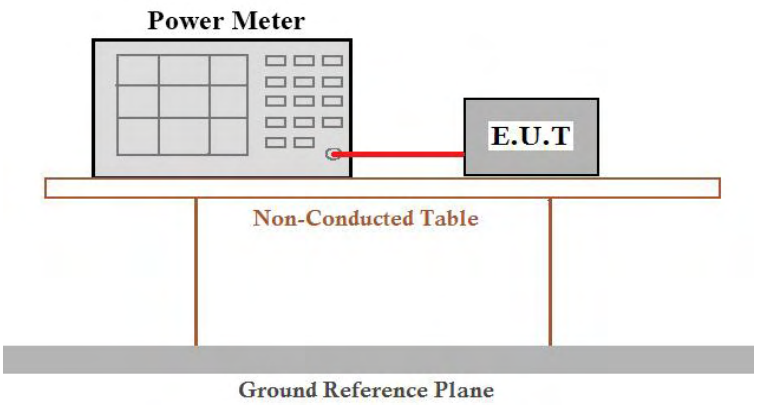




(802.11ac40) plot on channel 46



4.4 Conducted 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 environment:	Temp.: 24.3°C	Humid.:51%RH
Test voltage:	DC 5V	
Test results:	Pass	

Measurement Result

Module: WB800D.3(ANT2)

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	0.00	12.92	12.92	23.98	Pass
CH40	5200	0.00	11.86	11.86	23.98	Pass
CH48	5240	0.00	10.22	10.22	23.98	Pass
TX 802.11 n20 Mode						
CH36	5180	0.00	10.18	10.18	23.98	Pass
CH40	5200	0.00	10.53	10.53	23.98	Pass
CH48	5240	0.00	9.90	9.90	23.98	Pass
TX 802.11 ac20 Mode						
CH36	5180	0.00	9.95	9.95	23.98	Pass
CH40	5200	0.00	10.73	10.73	23.98	Pass
CH48	5240	0.00	9.97	9.97	23.98	Pass
TX 802.11 n40 Mode						
CH38	5190	0.00	8.84	8.84	23.98	Pass
CH46	5230	0.00	9.33	9.33	23.98	Pass
TX 802.11 ac40 Mode						
CH38	5190	0.00	8.84	8.84	23.98	Pass
CH46	5230	0.00	8.54	8.54	23.98	Pass
TX 802.11 ac80 Mode						
CH42	5210	0.00	7.05	7.05	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	0.00	10.19	10.19	30	Pass
CH157	5785	0.00	10.16	10.16	30	Pass
CH165	5825	0.00	10.17	10.17	30	Pass
TX 802.11 n20 Mode						
CH149	5745	0.00	9.69	9.69	30	Pass
CH157	5785	0.00	9.66	9.66	30	Pass
CH165	5825	0.00	10.11	10.11	30	Pass
TX 802.11 ac20 Mode						
CH149	5745	0.00	9.95	9.95	30	Pass
CH157	5785	0.00	9.72	9.72	30	Pass
CH165	5825	0.00	9.99	9.99	30	Pass
TX 802.11 n40 Mode						
CH151	5755	0.00	8.77	8.77	30	Pass
CH159	5795	0.00	8.56	8.56	30	Pass
TX 802.11 ac40 Mode						
CH151	5755	0.00	7.15	7.15	30	Pass
CH159	5795	0.00	6.55	6.55	30	Pass
TX 802.11 ac80 Mode						
CH155	5775	0.00	7.05	7.05	30	Pass

Module: WB663U.1（ANT4）

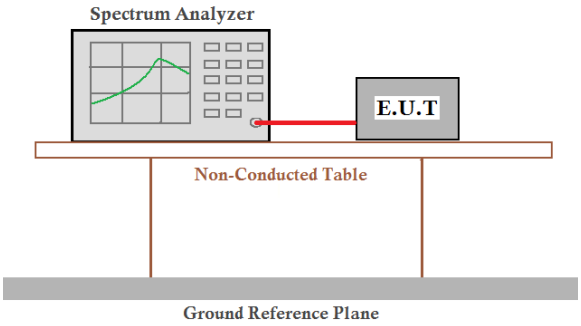
5180-5240MHz

Test Channel	Frequency	Correction Factor	Maximum output power	Total Power	LIMIT	Result
	(MHz)	(dB)	(dBm)	(dBm)	dBm	
TX 802.11a Mode						
CH36	5180	0.00	9.40	9.40	23.98	Pass
CH40	5200	0.00	9.37	9.37	23.98	Pass
CH48	5240	0.00	8.89	8.89	23.98	Pass
TX 802.11 n20 Mode						
CH36	5180	0.00	9.03	9.03	23.98	Pass
CH40	5200	0.00	9.08	9.08	23.98	Pass
CH48	5240	0.00	8.98	8.98	23.98	Pass
TX 802.11 ac20 Mode						
CH36	5180	0.00	9.29	9.29	23.98	Pass
CH40	5200	0.00	9.61	9.61	23.98	Pass
CH48	5240	0.00	8.94	8.94	23.98	Pass
TX 802.11 n40 Mode						
CH38	5190	0.00	8.18	8.18	23.98	Pass
CH46	5230	0.00	8.14	8.14	23.98	Pass
TX 802.11 ac40 Mode						
CH38	5190	0.00	8.20	8.20	23.98	Pass
CH46	5230	0.00	7.80	7.80	23.98	Pass
TX 802.11 ac80 Mode						
CH42	5210	0.00	5.88	5.88	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	0.00	9.40	9.40	30	Pass
CH157	5785	0.00	9.18	9.18	30	Pass
CH165	5825	0.00	9.14	9.14	30	Pass
TX 802.11 n20 Mode						
CH149	5745	0.00	9.08	9.08	30	Pass
CH157	5785	0.00	9.09	9.09	30	Pass
CH165	5825	0.00	9.94	9.94	30	Pass
TX 802.11 ac20 Mode						
CH149	5745	0.00	9.43	9.43	30	Pass
CH157	5785	0.00	9.23	9.23	30	Pass
CH165	5825	0.00	9.35	9.35	30	Pass
TX 802.11 n40 Mode						
CH151	5755	0.00	8.20	8.20	30	Pass
CH159	5795	0.00	7.75	7.75	30	Pass
TX 802.11 ac40 Mode						
CH151	5755	0.00	7.61	7.61	30	Pass
CH159	5795	0.00	7.60	7.60	30	Pass
TX 802.11 ac80 Mode						
CH155	5775	0.00	6.19	6.19	30	Pass

4.5 Channel Bandwidth& 99% Occupy 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 environment:	Temp.: 24.3°C	Humid.:51%RH
Test voltage:	DC 5V	
Test results:	Pass	

Measurement Result

Module: WB800D.3(ANT2)

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	18.67	19.57	19.53	39.61	39.74	--	Pass
Middle	18.44	19.49	19.46	--	--	78.88	
Highest	18.44	19.49	19.56	39.32	39.24	--	

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	16.350	17.546	17.531	35.926	35.947	--	Pass
Middle	16.316	17.515	17.501	--	--	74.110	
Highest	16.325	17.509	17.480	35.867	35.824	--	

Module: WB663U.1

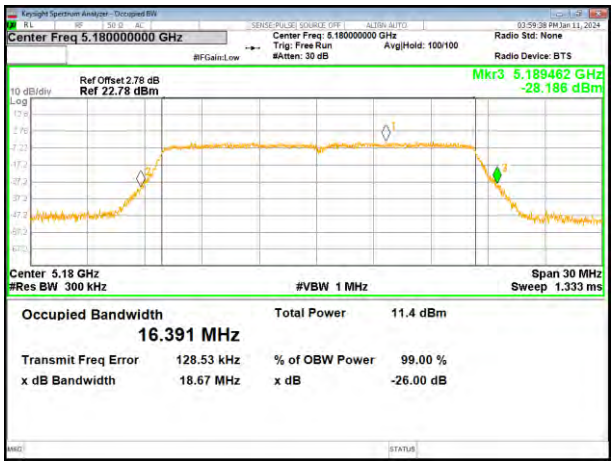
5180-5240MHz

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	18.72	19.40	19.40	40.14	39.99	--	Pass
Middle	18.72	19.34	19.33	--	--	78.49	
Highest	18.62	19.40	19.37	39.66	39.60	--	

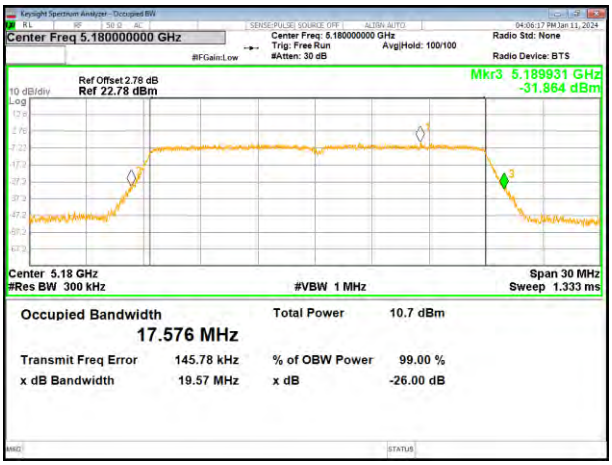
Test CH	99% Occupy Bandwidth (MHz)						Result
	802.11a	802.11n (HT20)	802.11ac (HT20)	802.11n (HT40)	802.11ac (HT40)	802.11ac (HT80)	
Lowest	16.356	17.552	17.560	35.932	35.980	--	Pass
Middle	16.328	17.546	17.534	--	--	74.065	
Highest	16.317	17.529	17.527	35.807	35.845	--	

Module: WB800D.3(ANT2)

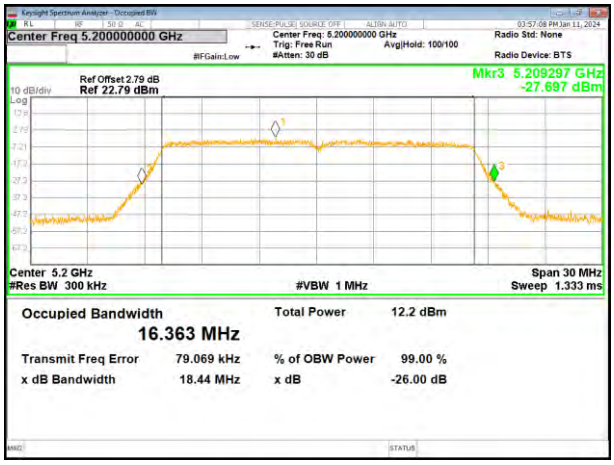
(802.11a) plot on channel 36



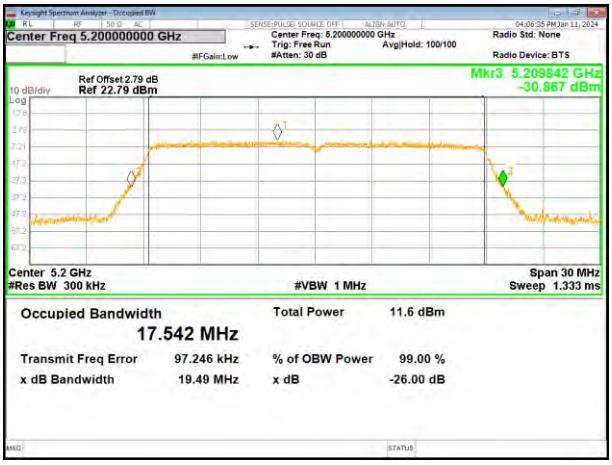
(802.11 n20) plot on channel 36



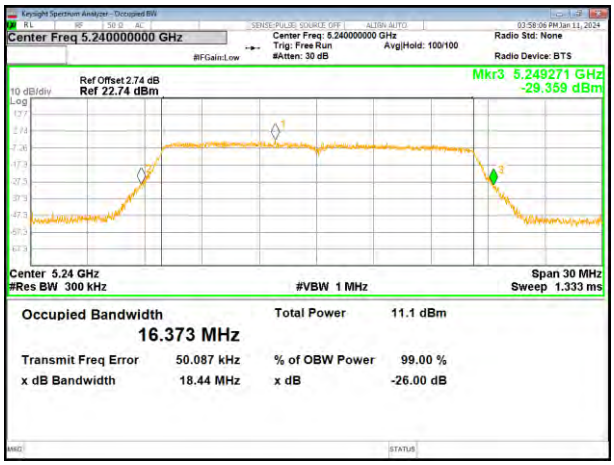
(802.11a) plot on channel 40



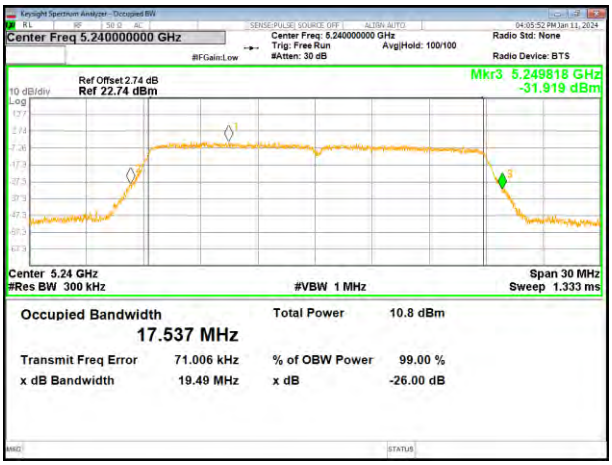
(802.11 n20) plot on channel 40



(802.11a) plot on channel 48

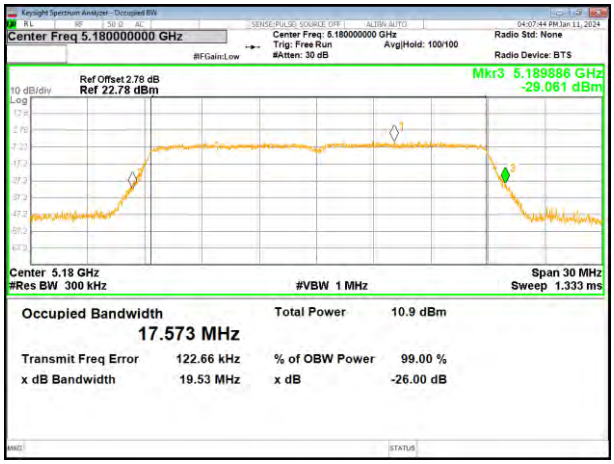


(802.11 n20) plot on channel 48

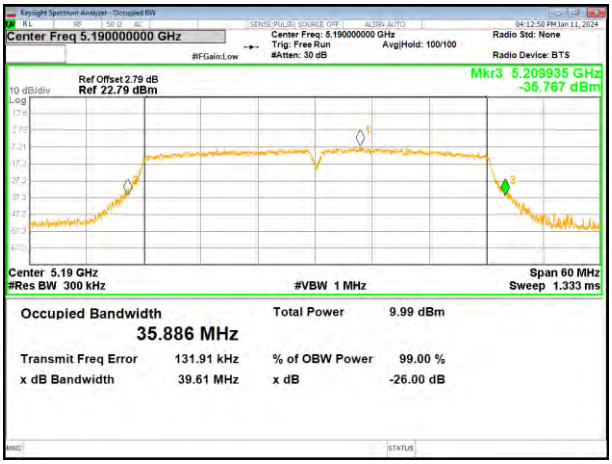


Test plot

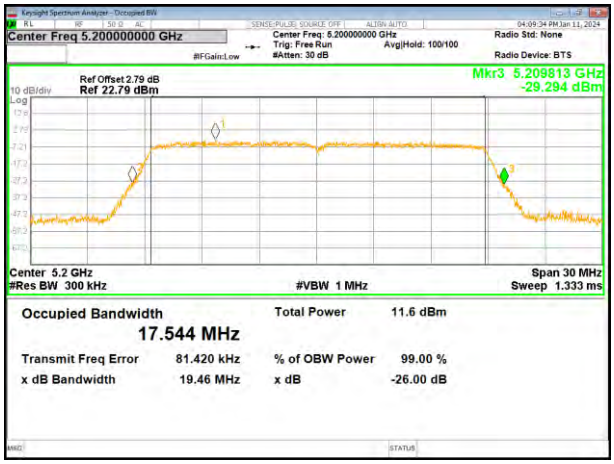
(802.11ac20) plot on channel 36



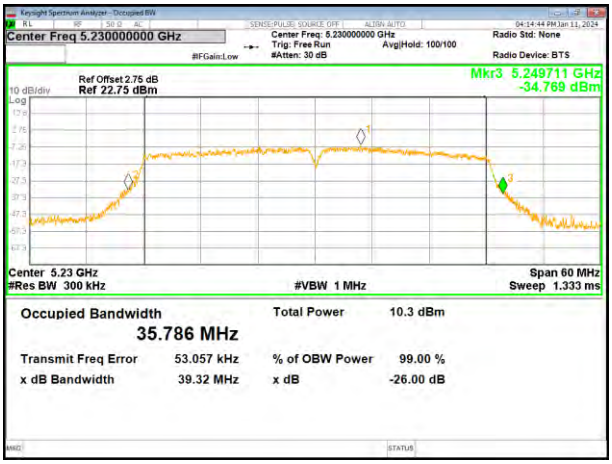
(802.11 n40) plot on channel 38



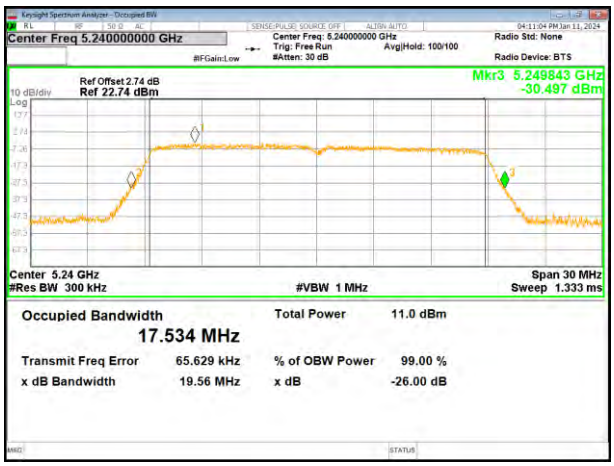
(802.11ac20) plot on channel 40



(802.11 n40) plot on channel 46

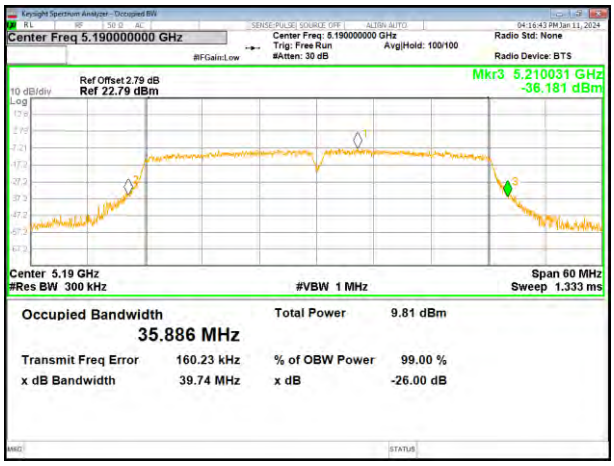


(802.11ac20) plot on channel 48

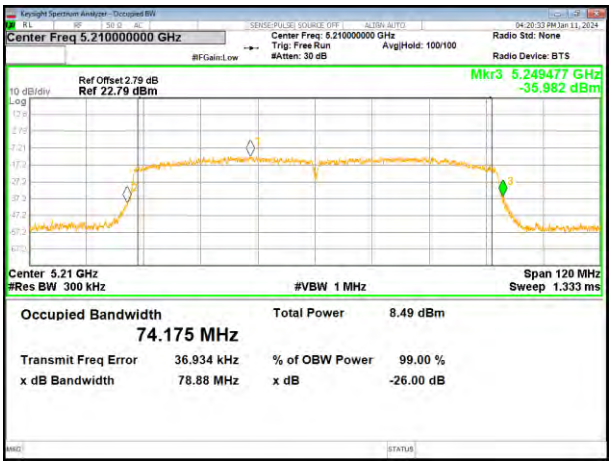


Test plot

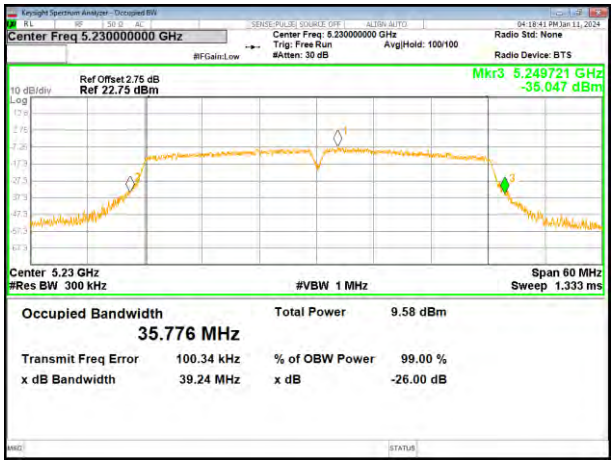
(802.11ac40) plot on channel 38



(802.11ac80) plot on channel 42



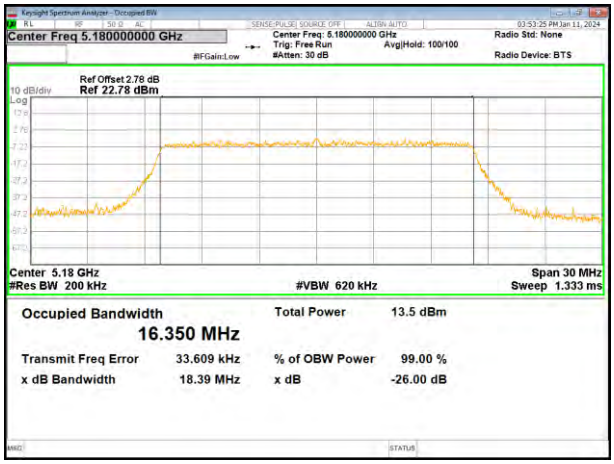
(802.11ac40) plot on channel 46



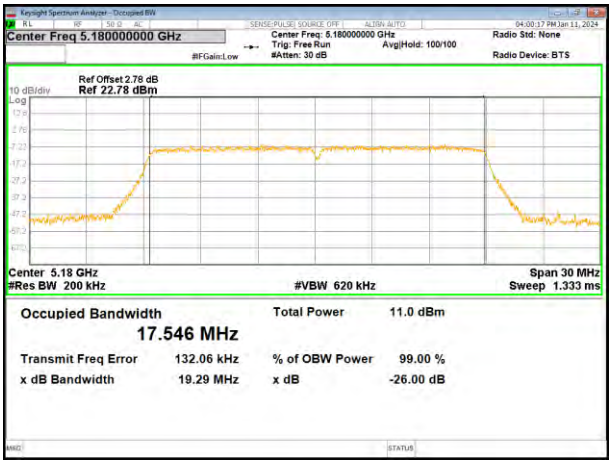
Module: WB800D.3(ANT2)

Test plot 99% Occupy Bandwidth

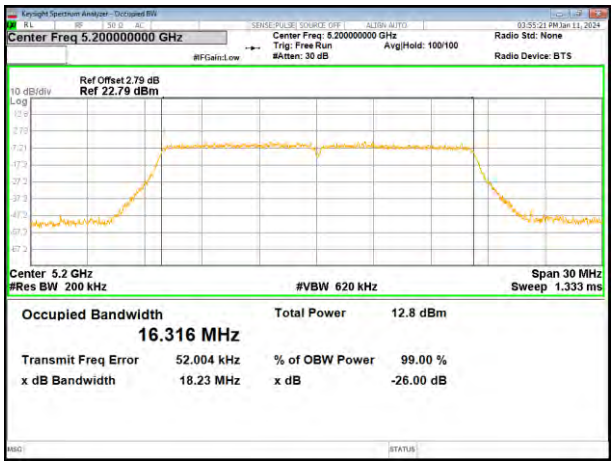
(802.11a) plot on channel 36



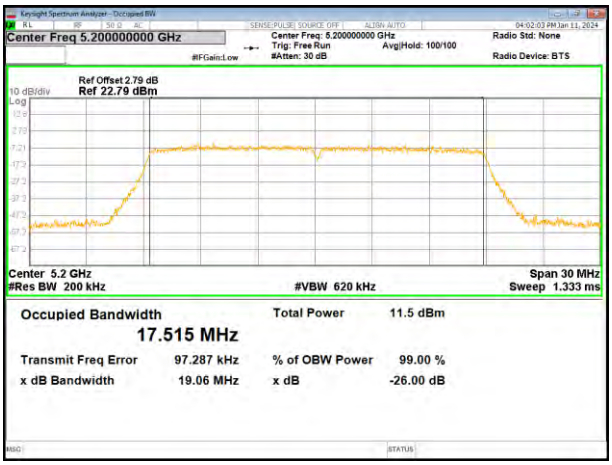
(802.11 n20) plot on channel 36



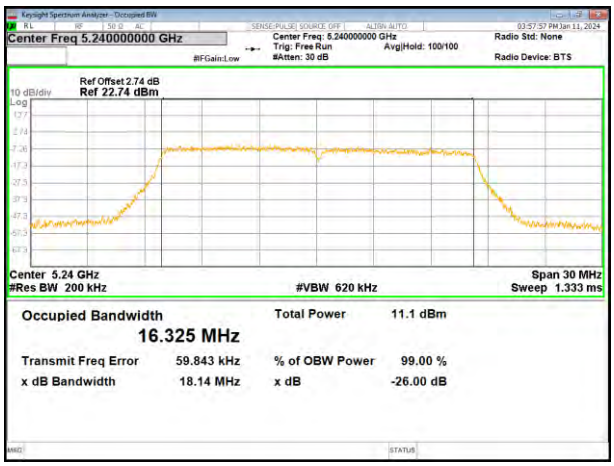
(802.11a) plot on channel 40



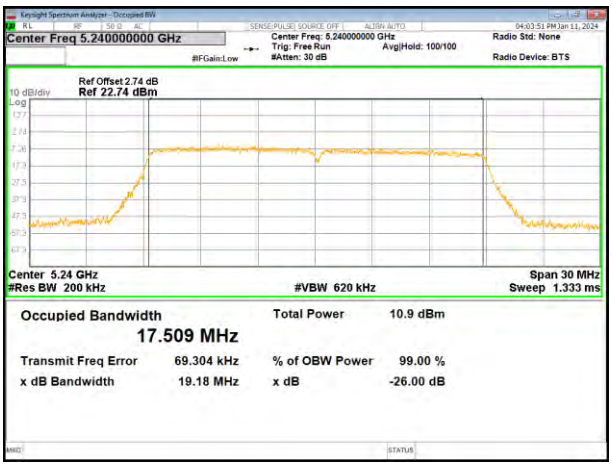
(802.11 n20) plot on channel 40



(802.11a) plot on channel 48

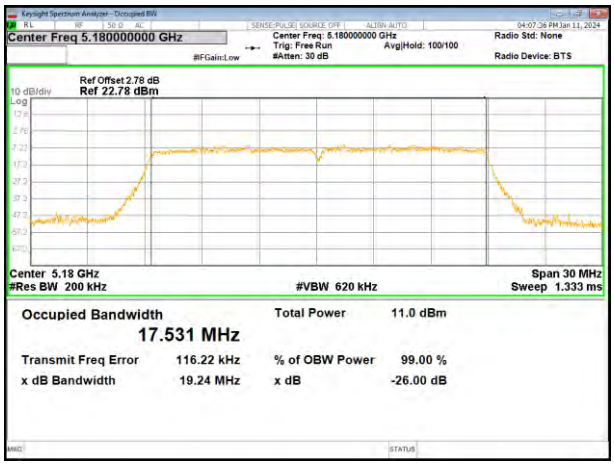


(802.11 n20) plot on channel 48

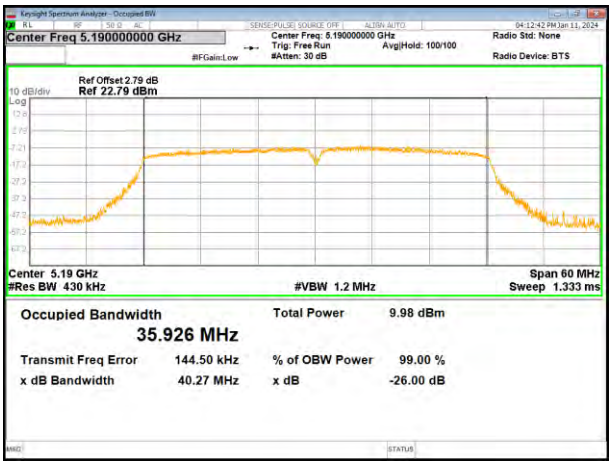


Test plot

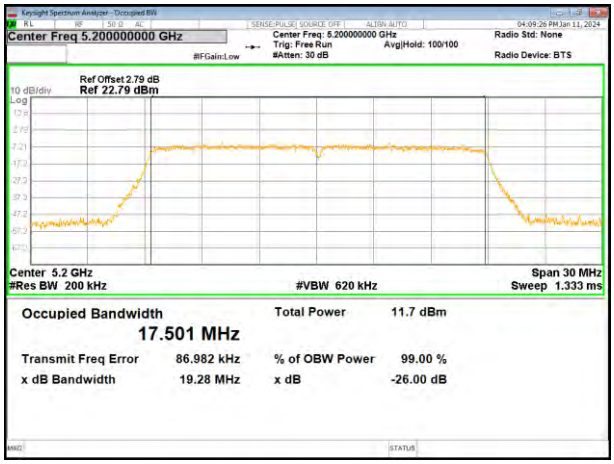
(802.11ac20) plot on channel 36



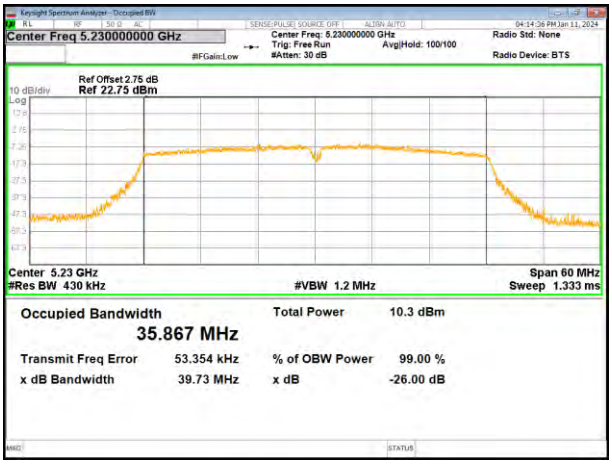
(802.11 n40) plot on channel 38



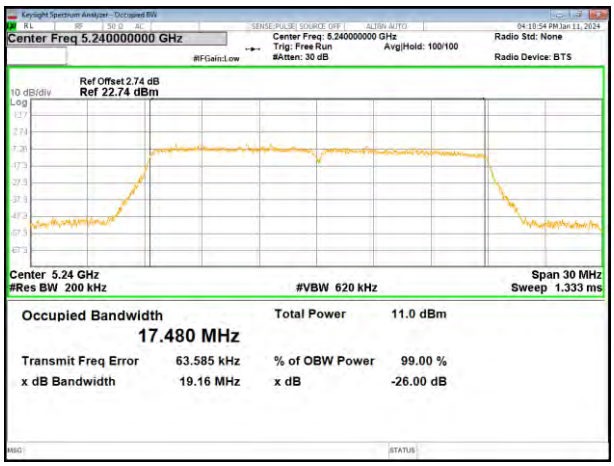
(802.11ac20) plot on channel 40



(802.11 n40) plot on channel 46

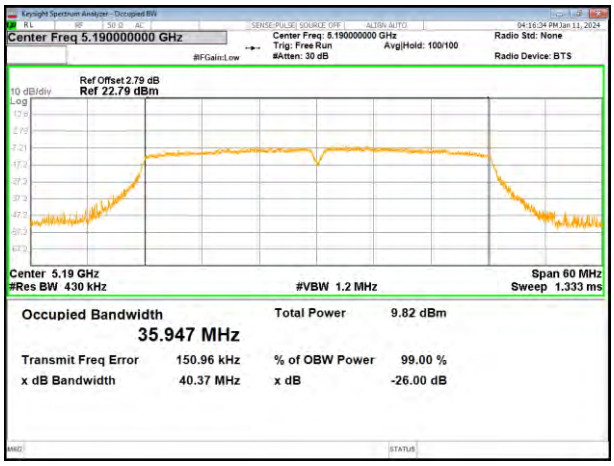


(802.11ac20) plot on channel 48

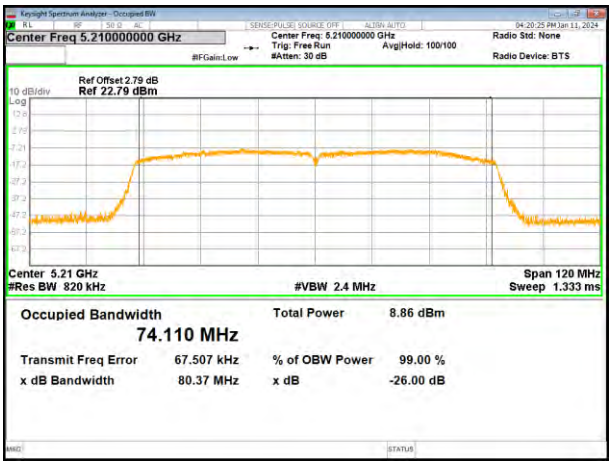


Test plot

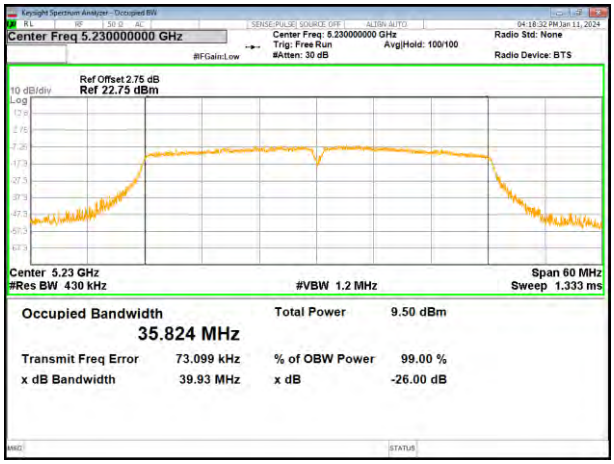
(802.11ac40) plot on channel 38



(802.11ac80) plot on channel 42

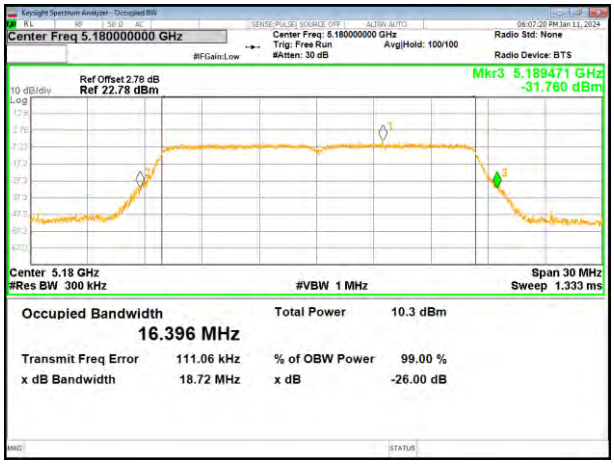


(802.11ac40) plot on channel 46

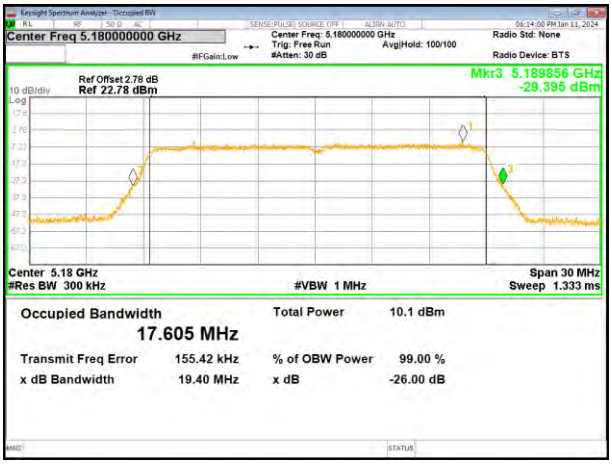


Module: WB663U.1(ANT4)

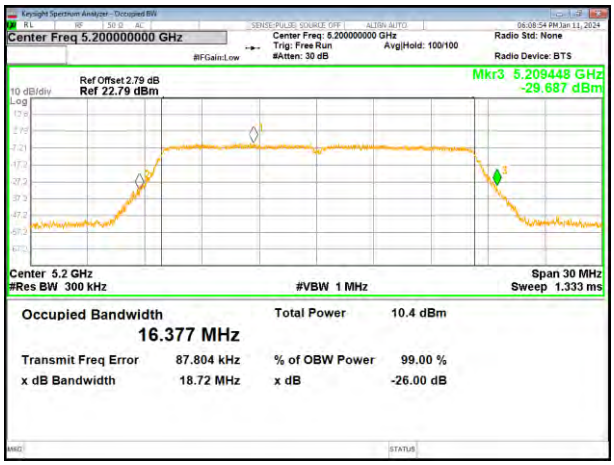
(802.11a) plot on channel 36



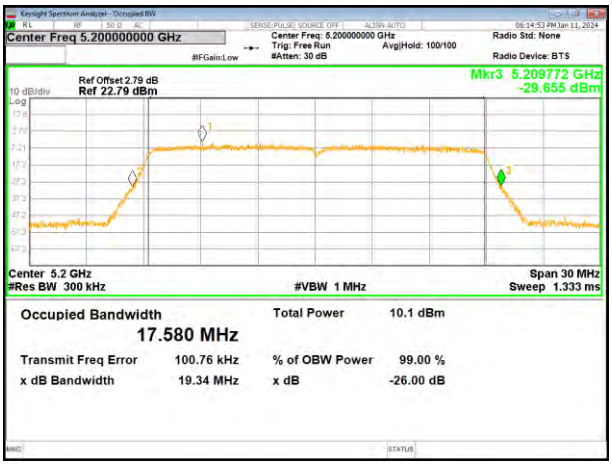
(802.11 n20) plot on channel 36



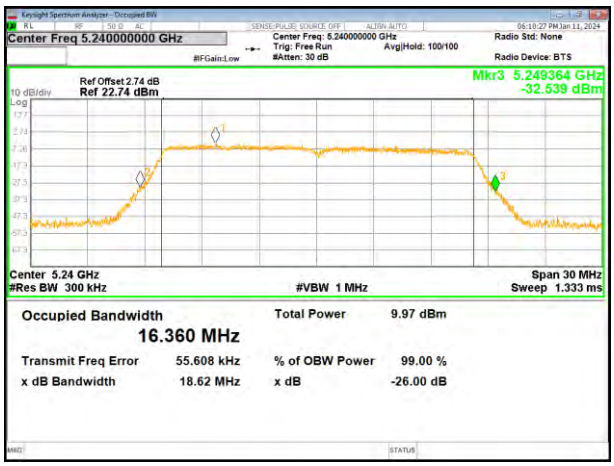
(802.11a) plot on channel 40



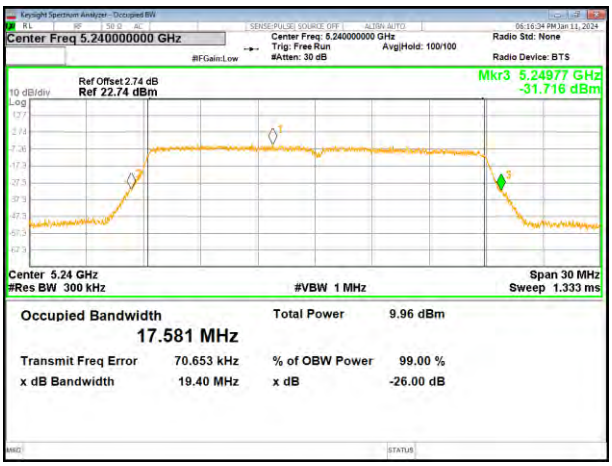
(802.11 n20) plot on channel 40



(802.11a) plot on channel 48

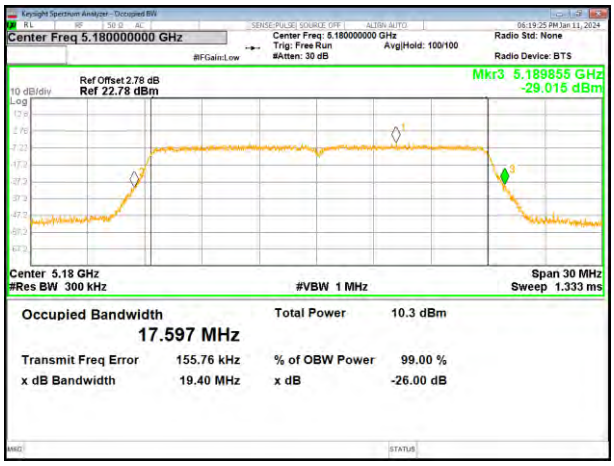


(802.11 n20) plot on channel 48

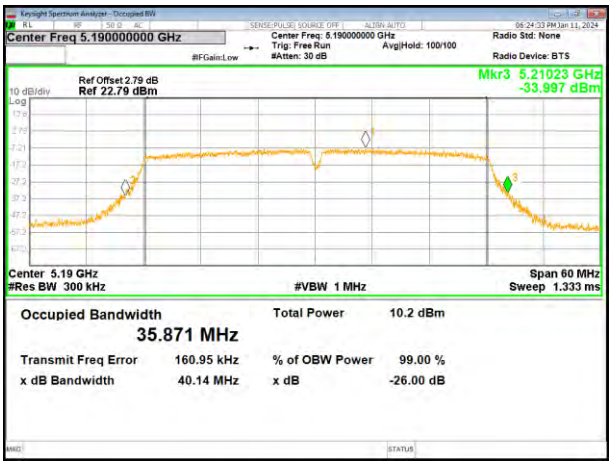


Test plot

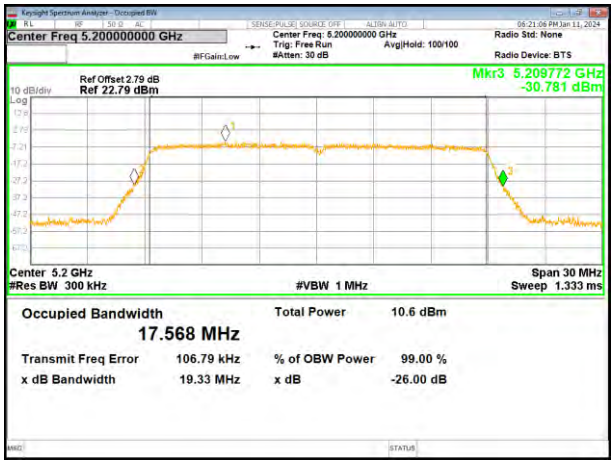
(802.11ac20) plot on channel 36



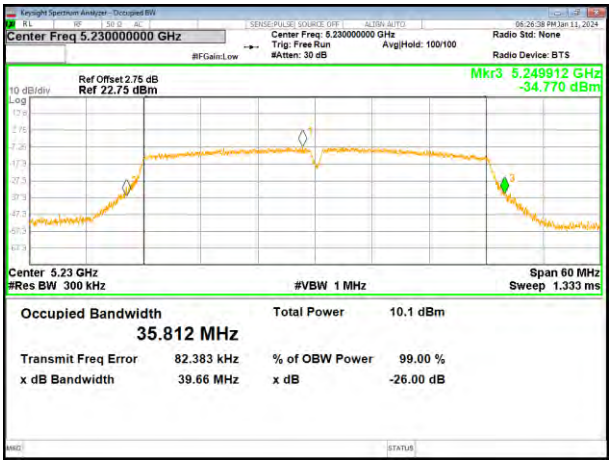
(802.11 n40) plot on channel 38



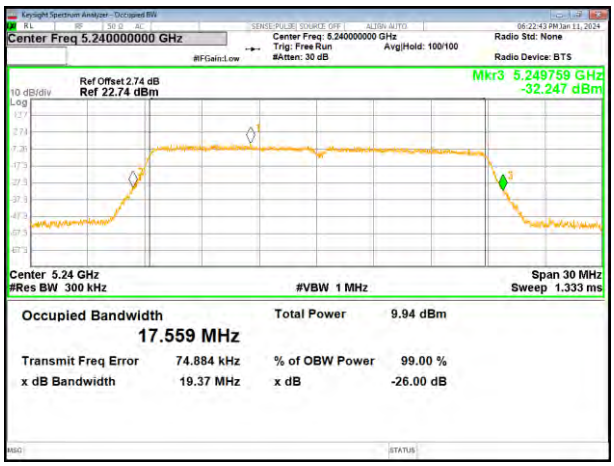
(802.11ac20) plot on channel 40



(802.11 n40) plot on channel 46

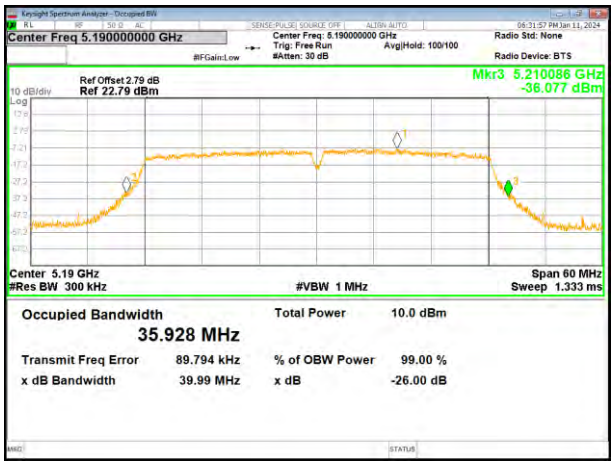


(802.11ac20) plot on channel 48

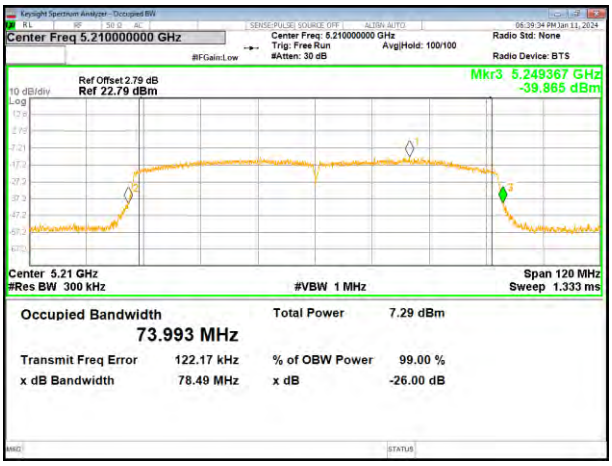


Test plot

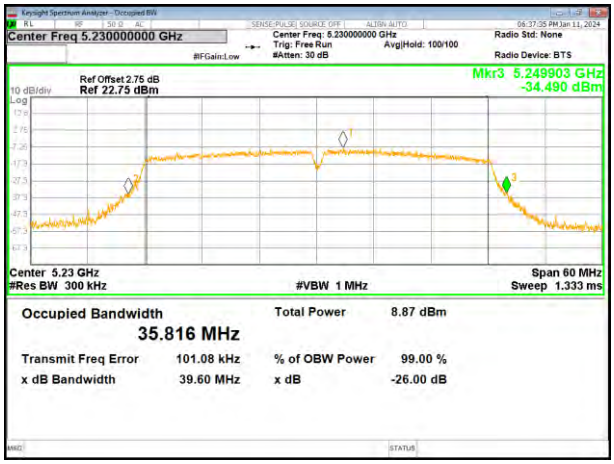
(802.11ac40) plot on channel 38



(802.11ac80) plot on channel 42



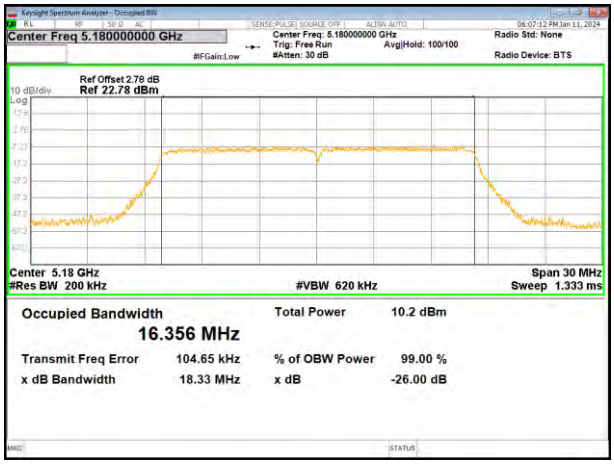
(802.11ac40) plot on channel 46



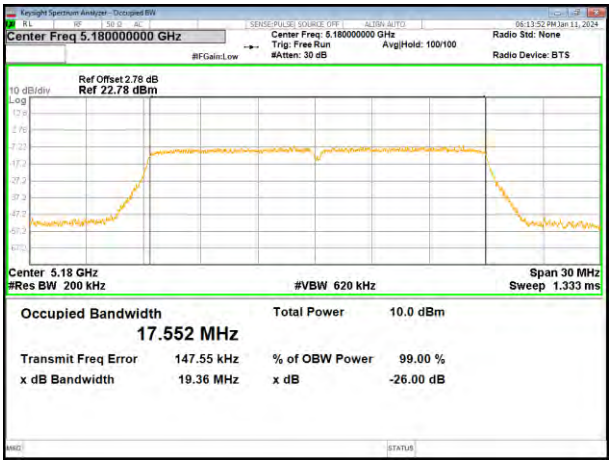
Module: WB663U.1(ANT4)

Test plot 99% Occupy Bandwidth

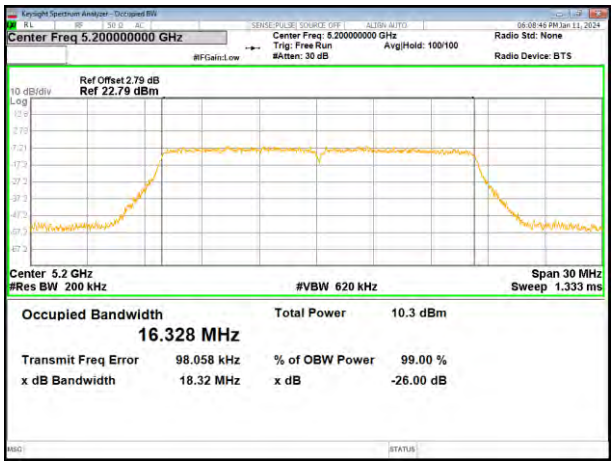
(802.11a) plot on channel 36



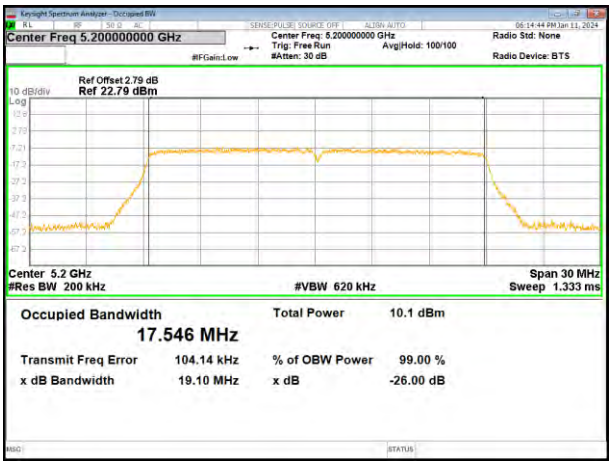
(802.11 n20) plot on channel 36



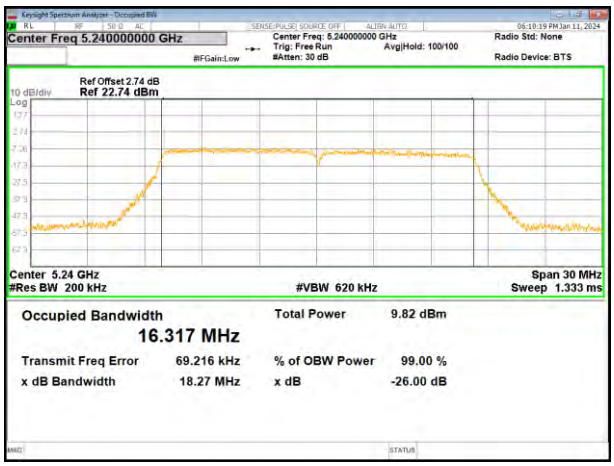
(802.11a) plot on channel 40



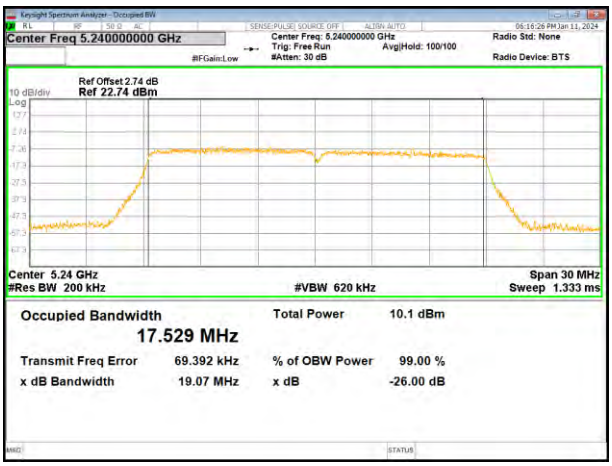
(802.11 n20) plot on channel 40



(802.11a) plot on channel 48

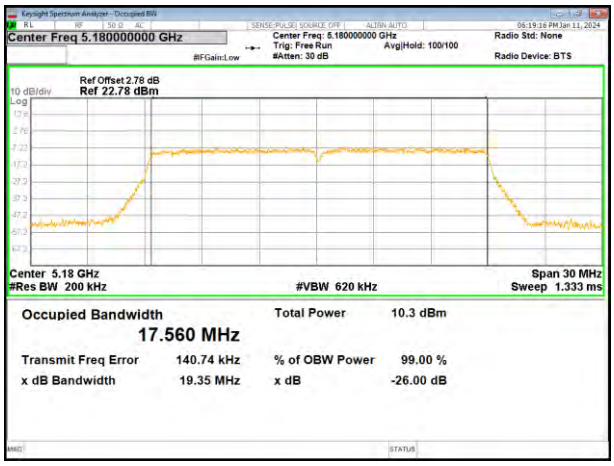


(802.11 n20) plot on channel 48

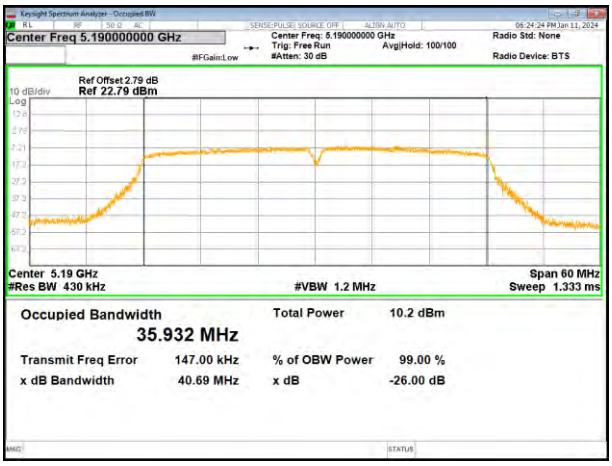


Test plot

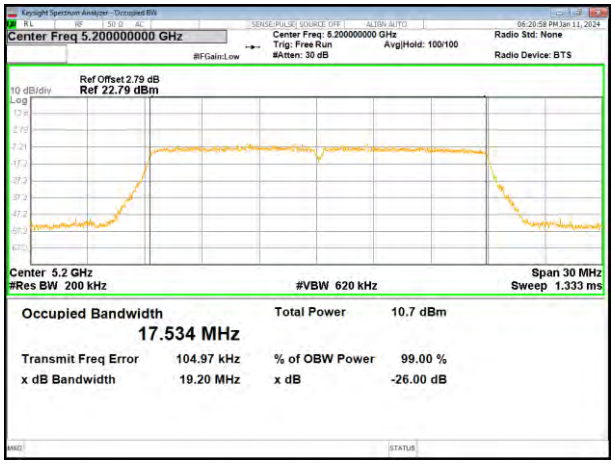
(802.11ac20) plot on channel 36



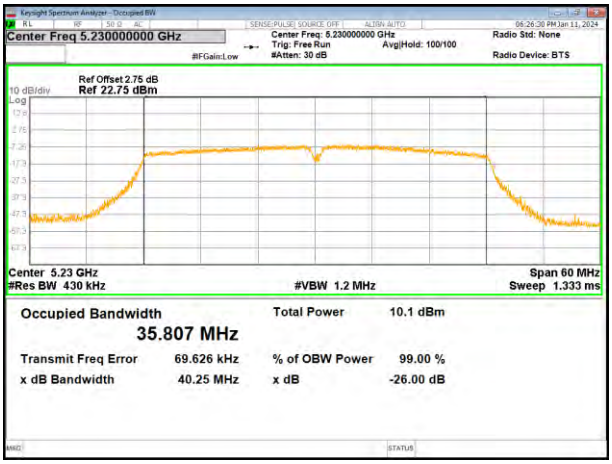
(802.11 n40) plot on channel 38



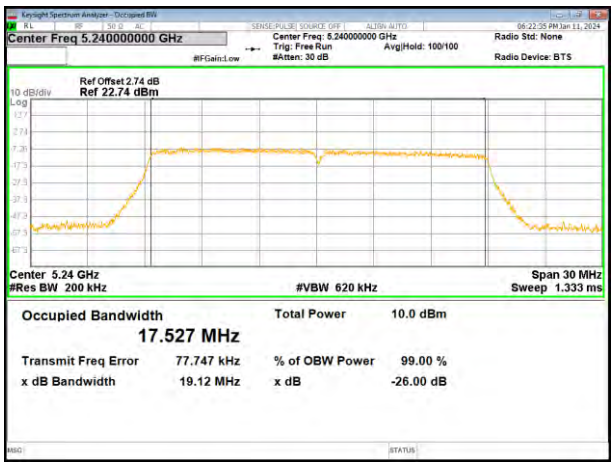
(802.11ac20) plot on channel 40



(802.11 n40) plot on channel 46

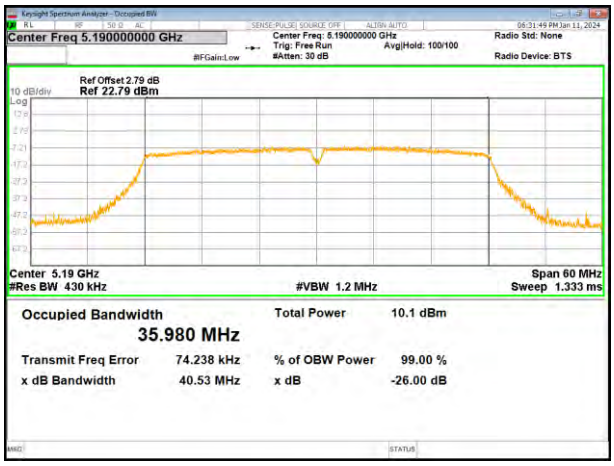


(802.11ac20) plot on channel 48

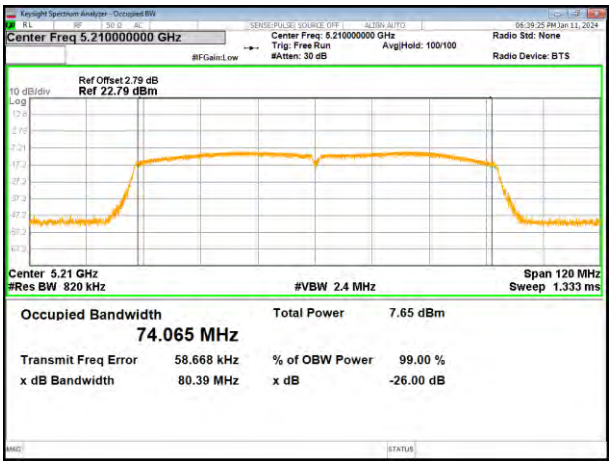


Test plot

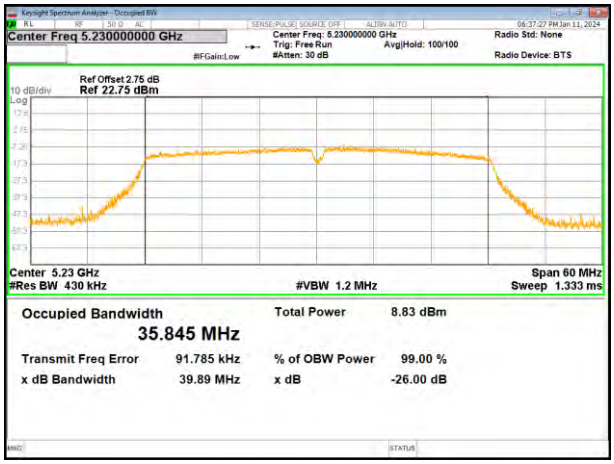
(802.11ac40) plot on channel 38



(802.11ac80) plot on channel 42



(802.11ac40) plot on channel 46



Module: WB800D.3(ANT2)

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	14.80	15.10	13.88	31.29	31.31	--	>500	Pass
Middle	12.01	15.11	16.35	--	--	65.02		
Highest	14.47	15.09	16.35	31.30	25.07	--		

Remark: “---“is not applicable

Module: WB663U.1(ANT4)

5745-5825MHz

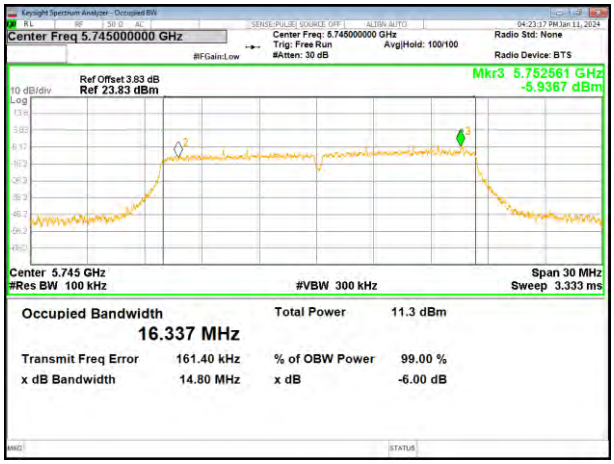
Test CH	-6dB Channel Bandwidth (MHz)						Limit (KHz)	Result
	802.11a	802.11n (HT20)	802.11ac (HT20)	802.11n (HT40)	802.11ac (HT40)	802.11ac (HT80)		
Lowest	16.39	16.41	16.29	28.19	23.16	--	>500	Pass
Middle	13.23	15.70	16.34	--	--	65.03		
Highest	14.08	17.66	16.98	25.02	31.31	--		

Remark: “---“is not applicable

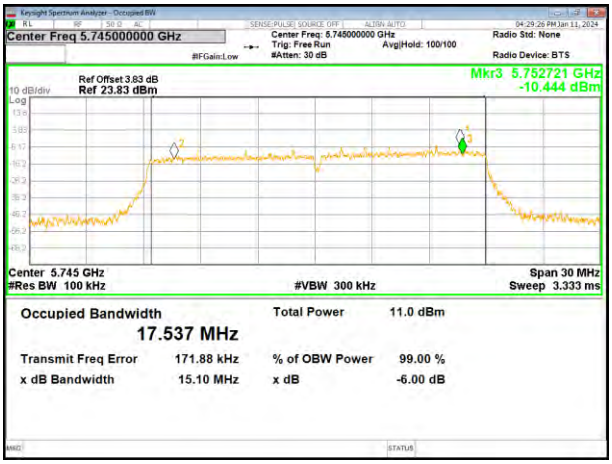
Module: WB800D.3(ANT2)

Test plot

(802.11a) plot on channel 149

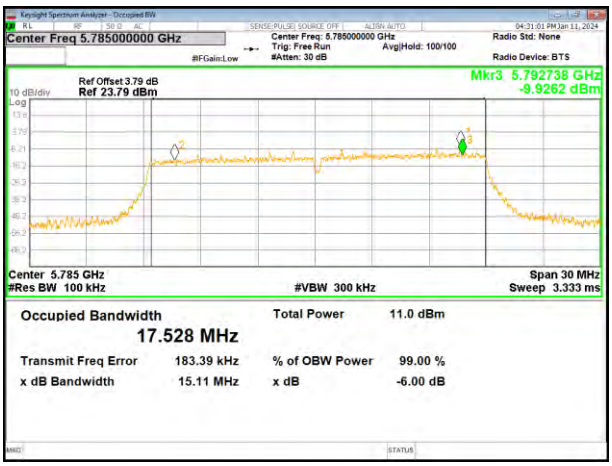


(802.11 n20) plot on channel 149

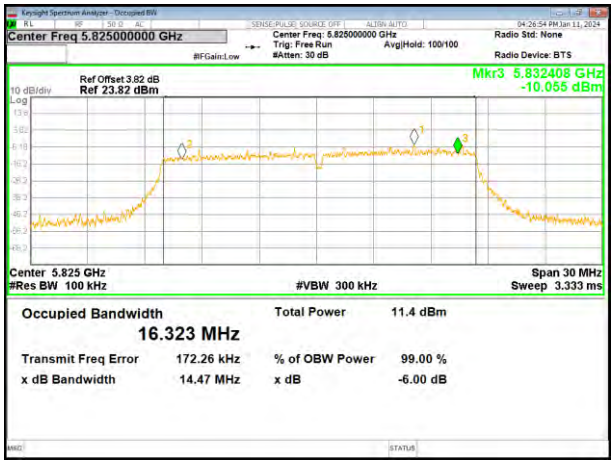


(802.11a) plot on channel 157

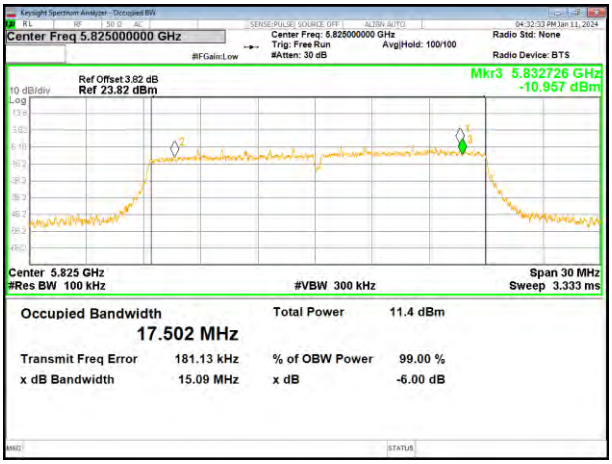
(802.11 n20) plot on channel 157



(802.11a) plot on channel 165



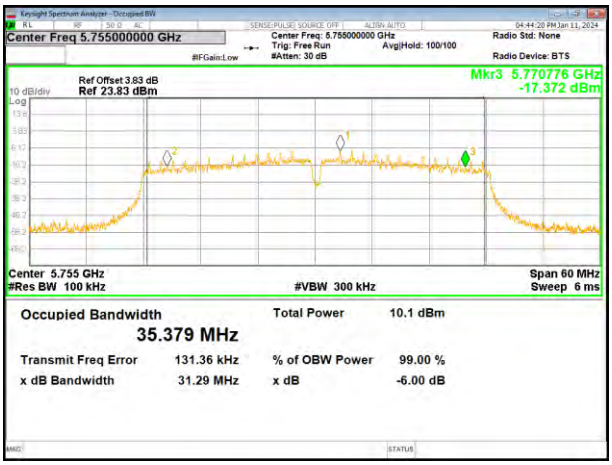
(802.11 n20) plot on channel 165



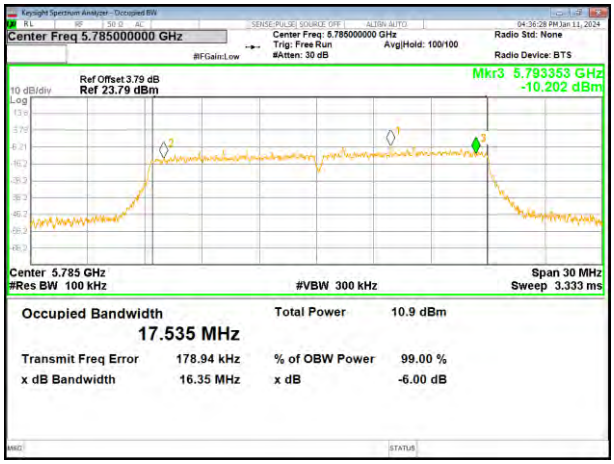
Test plot

(802.11ac20) plot on channel 149

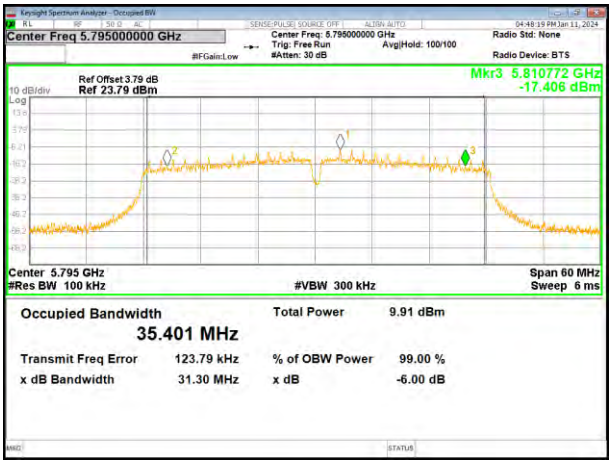
(802.11 n40) plot on channel 151



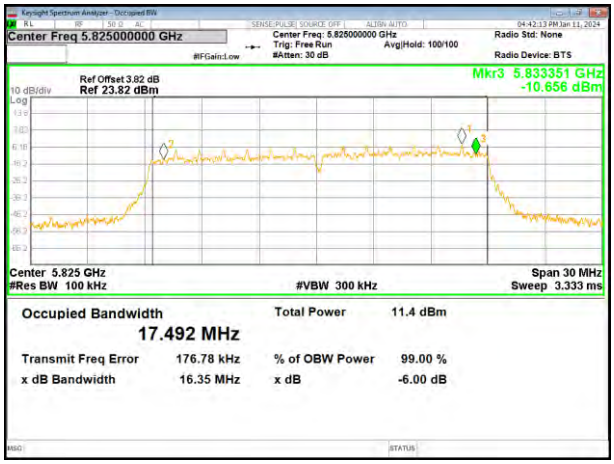
(802.11ac20) plot on channel 157



(802.11 n40) plot on channel 159

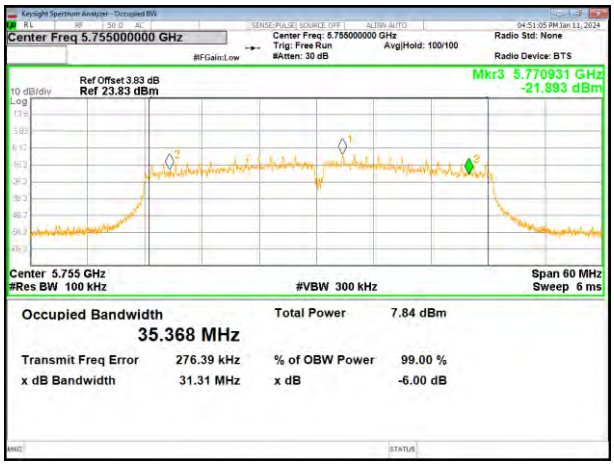


(802.11ac20) plot on channel 165

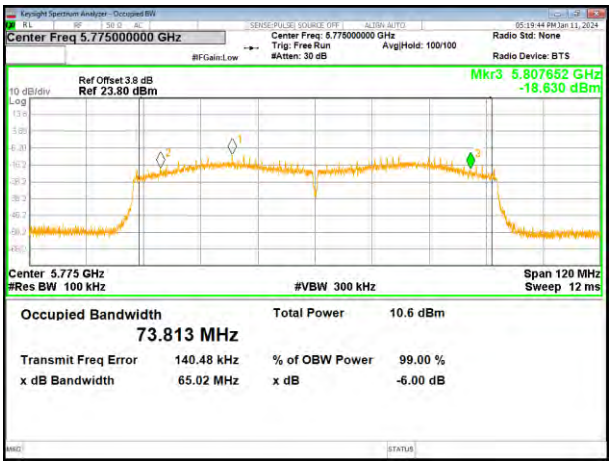


Test plot

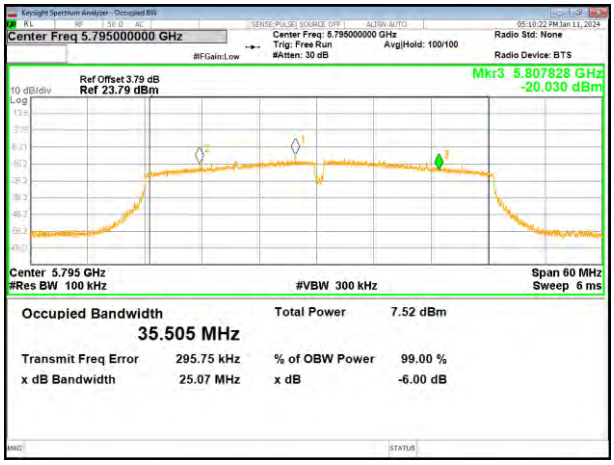
(802.11 ac40) plot on channel 151



(802.11 ac80) plot on channel 155



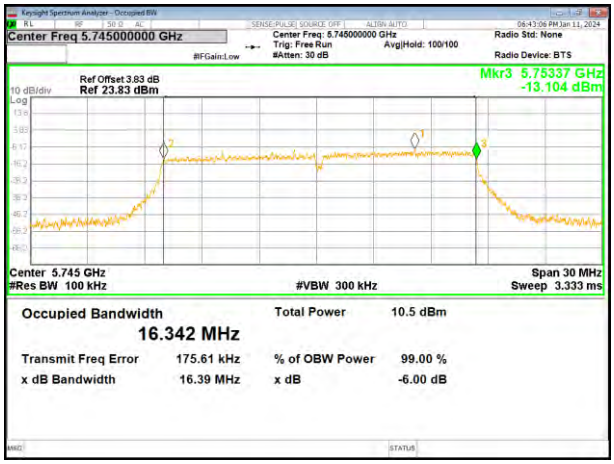
(802.11 ac40) plot on channel 159



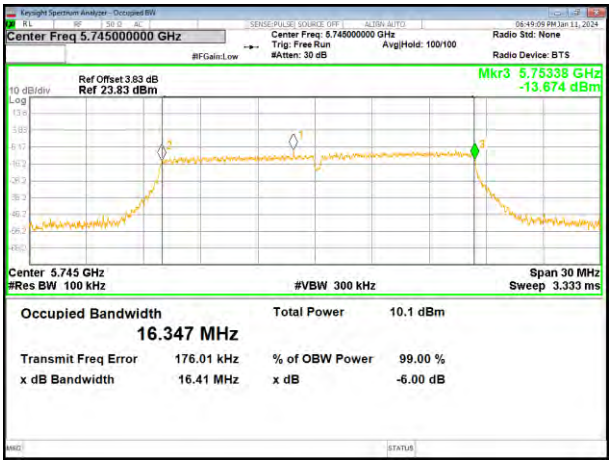
Module: WB663U.1(ANT4)

Test plot

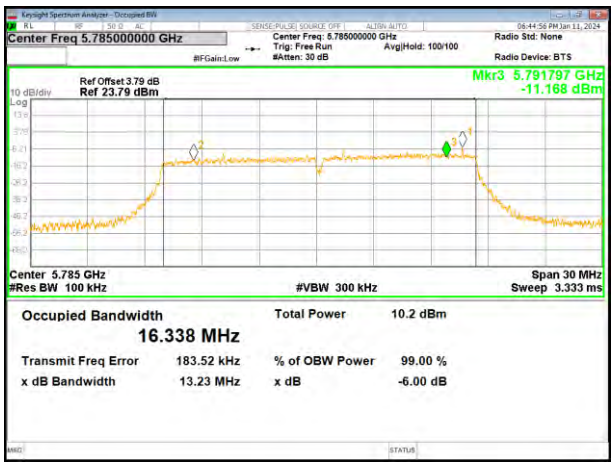
(802.11a) plot on channel 149



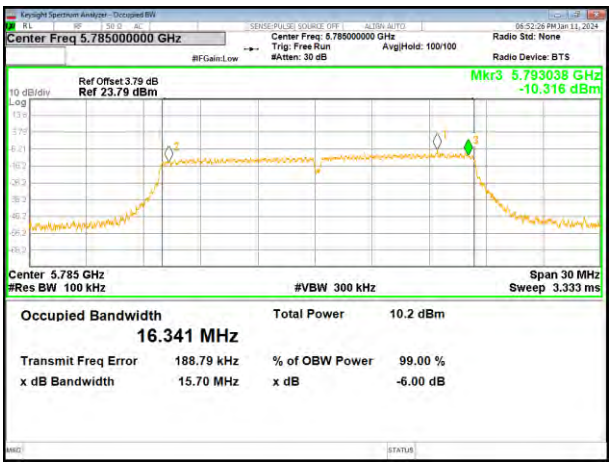
(802.11 n20) plot on channel 149



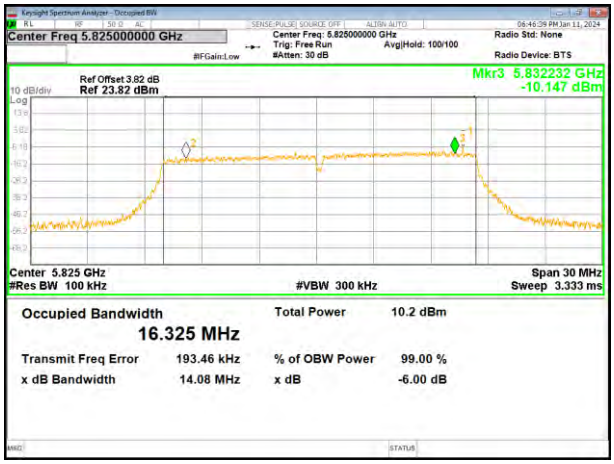
(802.11a) plot on channel 157



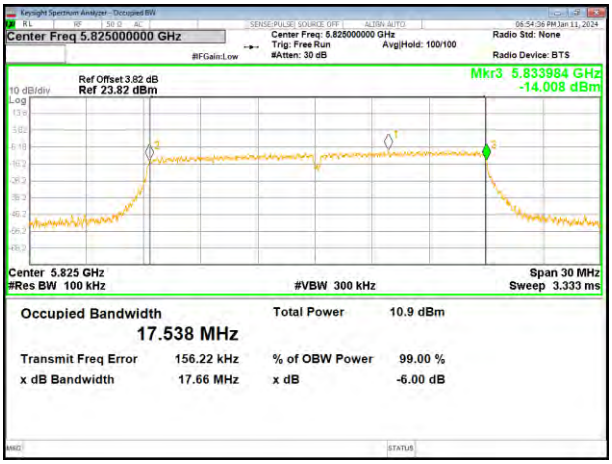
(802.11 n20) plot on channel 157



(802.11a) plot on channel 165



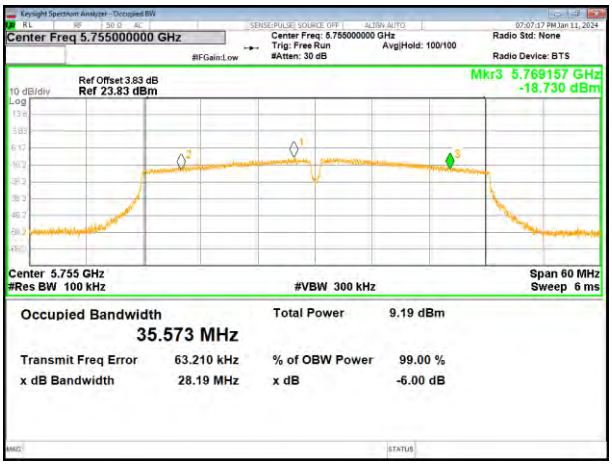
(802.11 n20) plot on channel 165



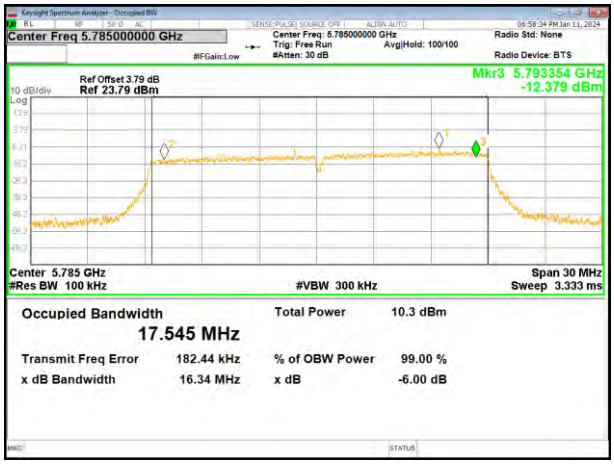
Test plot

(802.11ac20) plot on channel 149

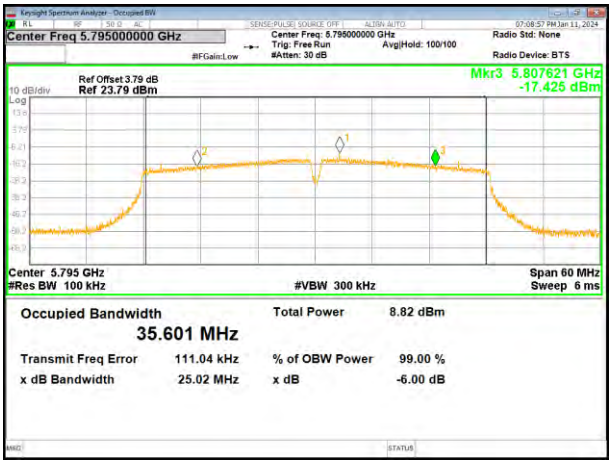
(802.11 n40) plot on channel 151



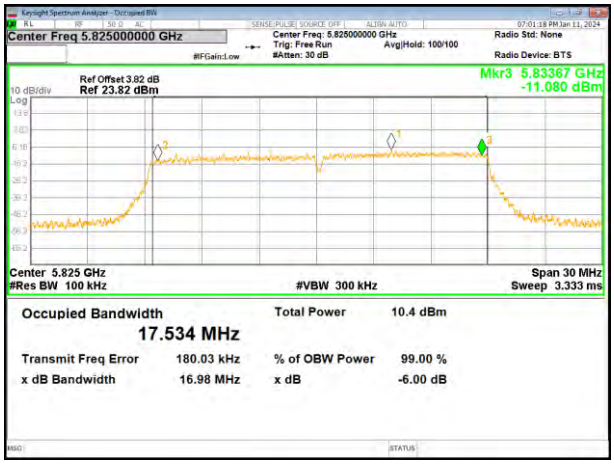
(802.11ac20) plot on channel 157



(802.11 n40) plot on channel 159



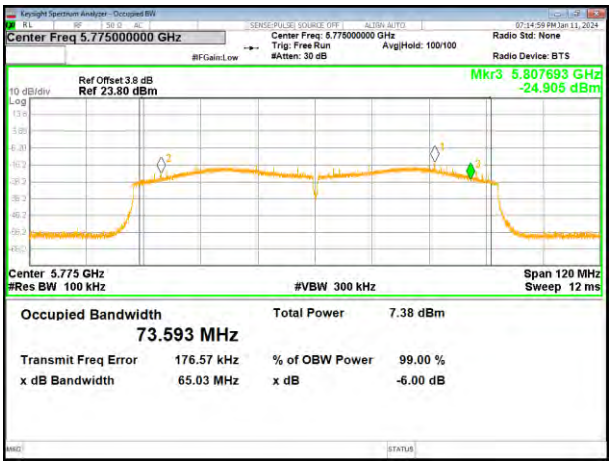
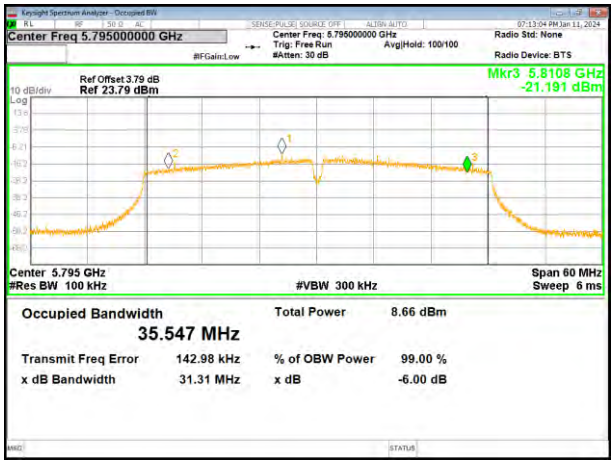
(802.11ac20) plot on channel 165



Test plot

(802.11 ac40) plot on channel 151

(802.11 ac80) plot on channel 155



(802.11 ac40) plot on channel 159