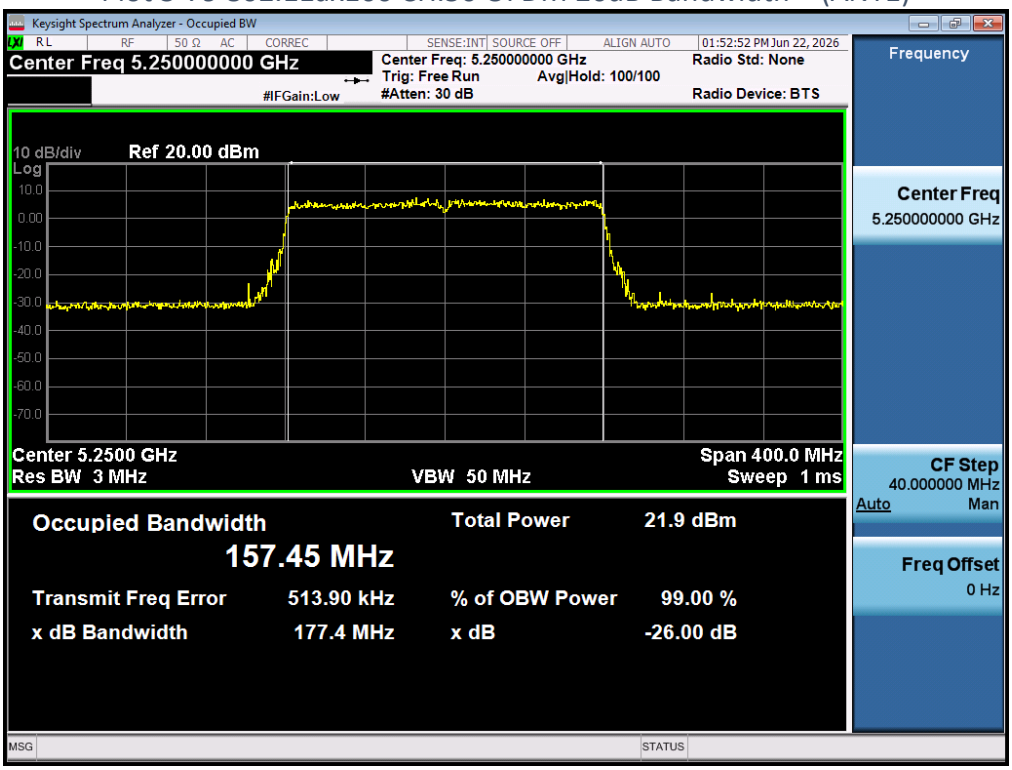
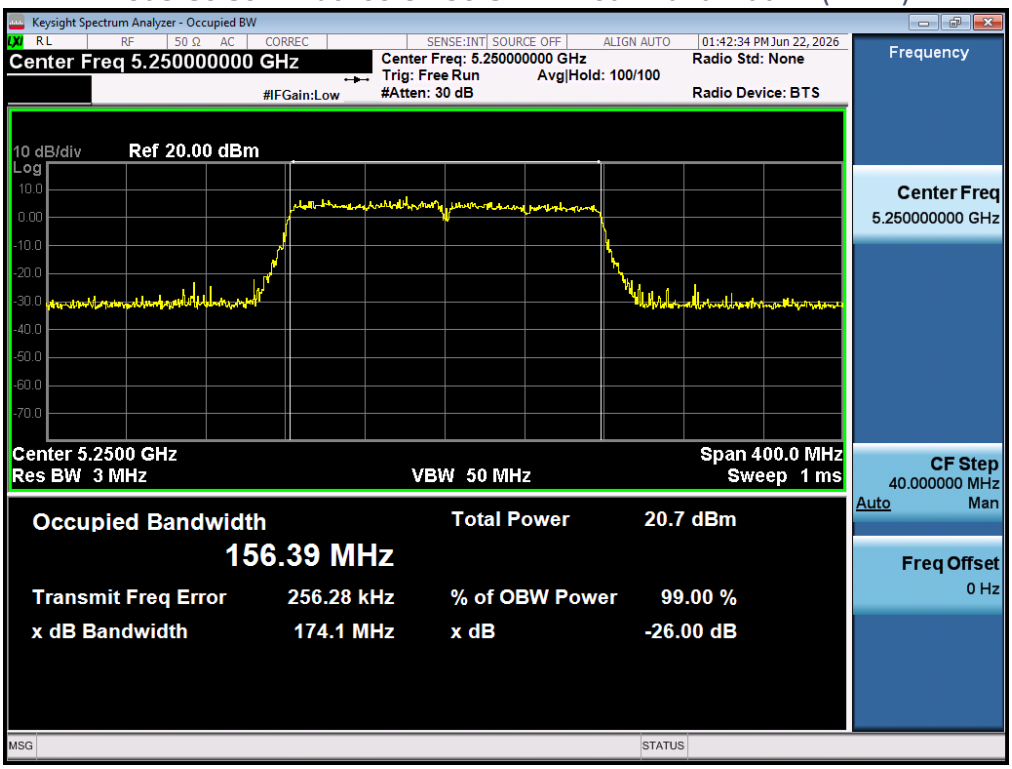
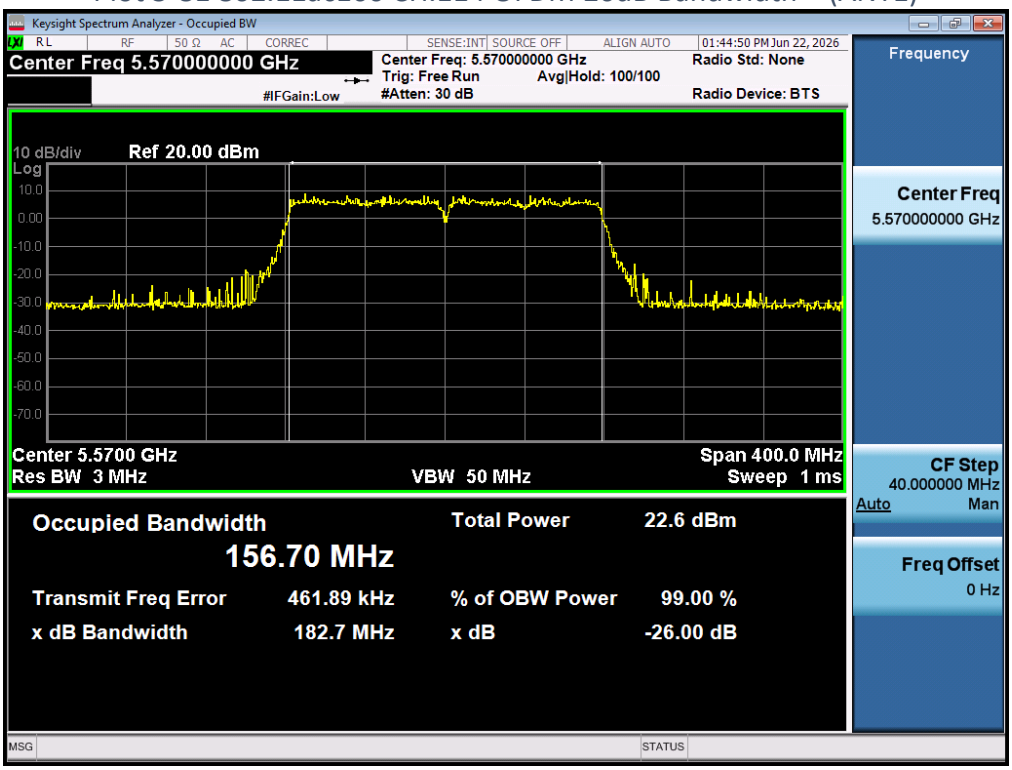
Plot 5-79 802.11ax160 CH.50 OFDM 26dB Bandwidth – (ANT1)



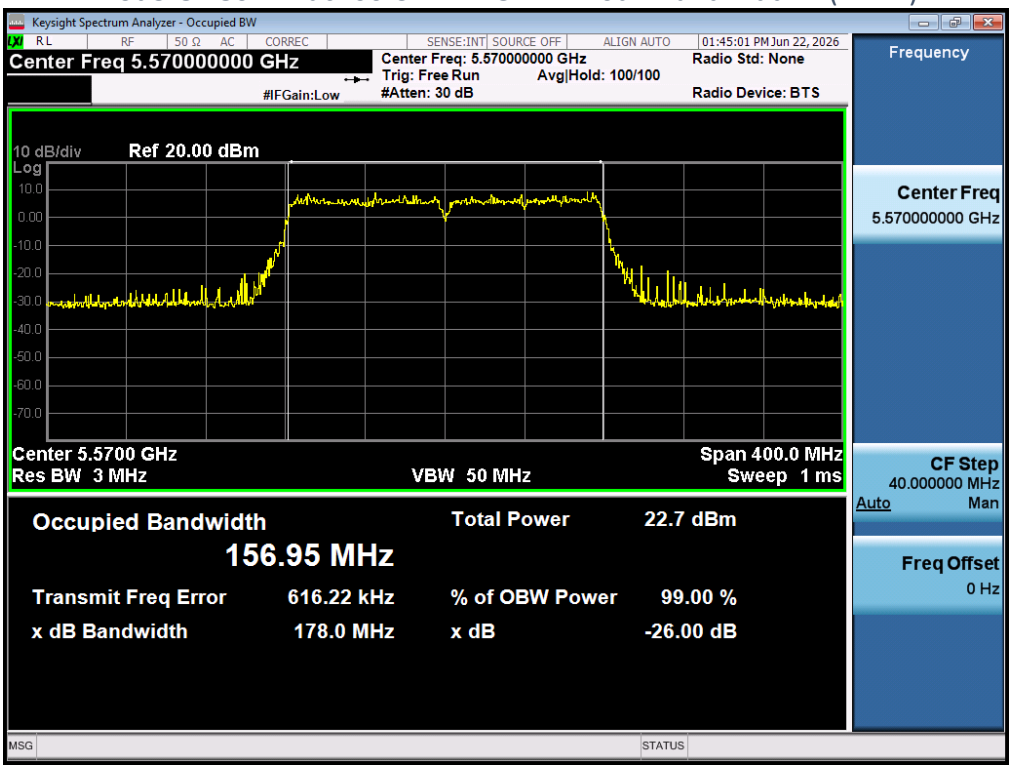
Plot 5-80 802.11ac160 CH.50 OFDM 26dB Bandwidth – (ANT2)



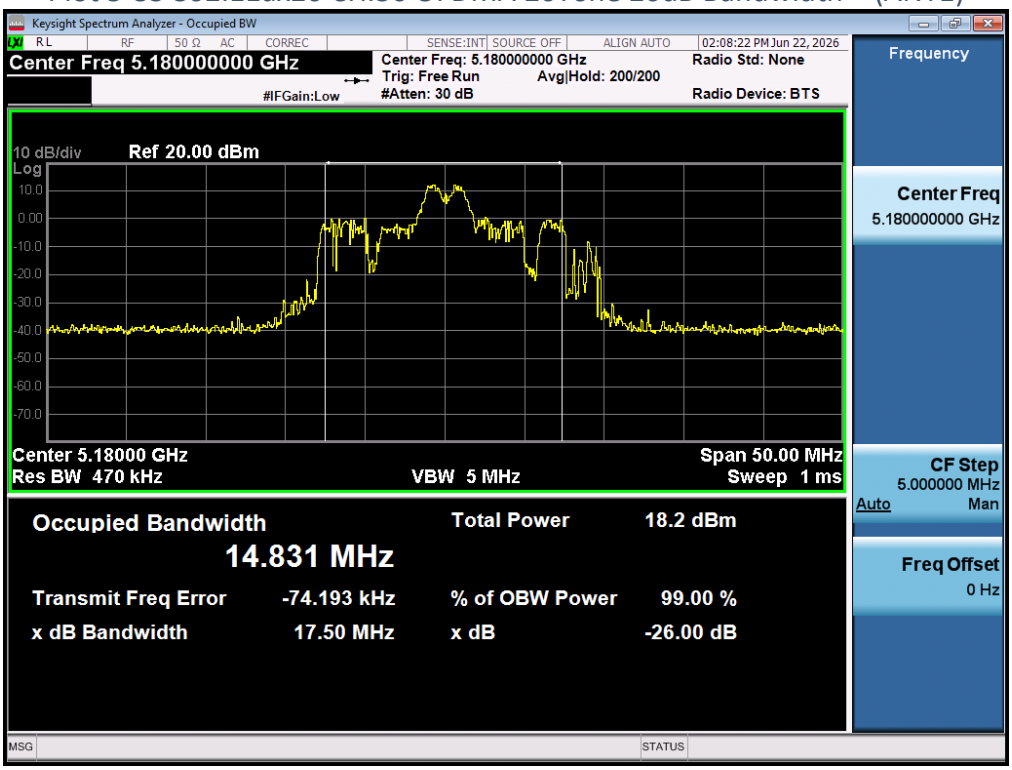
Plot 5-81 802.11ac160 CH.114 OFDM 26dB Bandwidth – (ANT1)



Plot 5-82 802.11ac160 CH.114 OFDM 26dB Bandwidth – (ANT2)



Plot 5-83 802.11ax20 CH.36 OFDMA 26Tone 26dB Bandwidth – (ANT1)

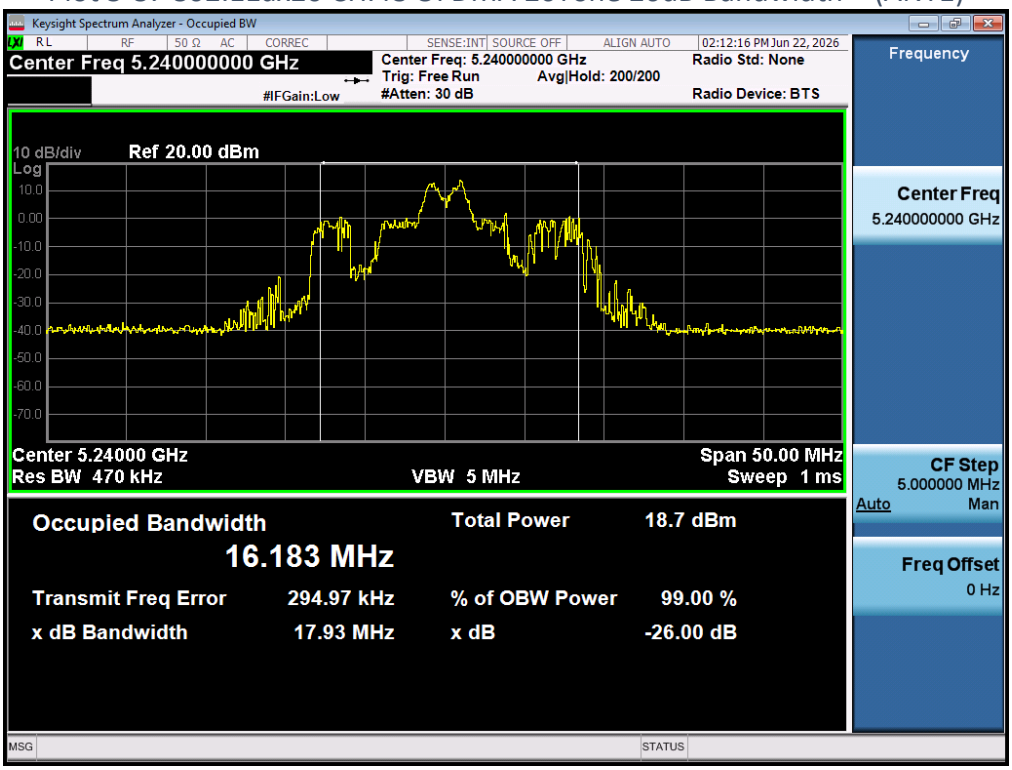


Plot 5-84 802.11ax20 CH.36 OFDMA 26Tone 26dB Bandwidth – (ANT2)

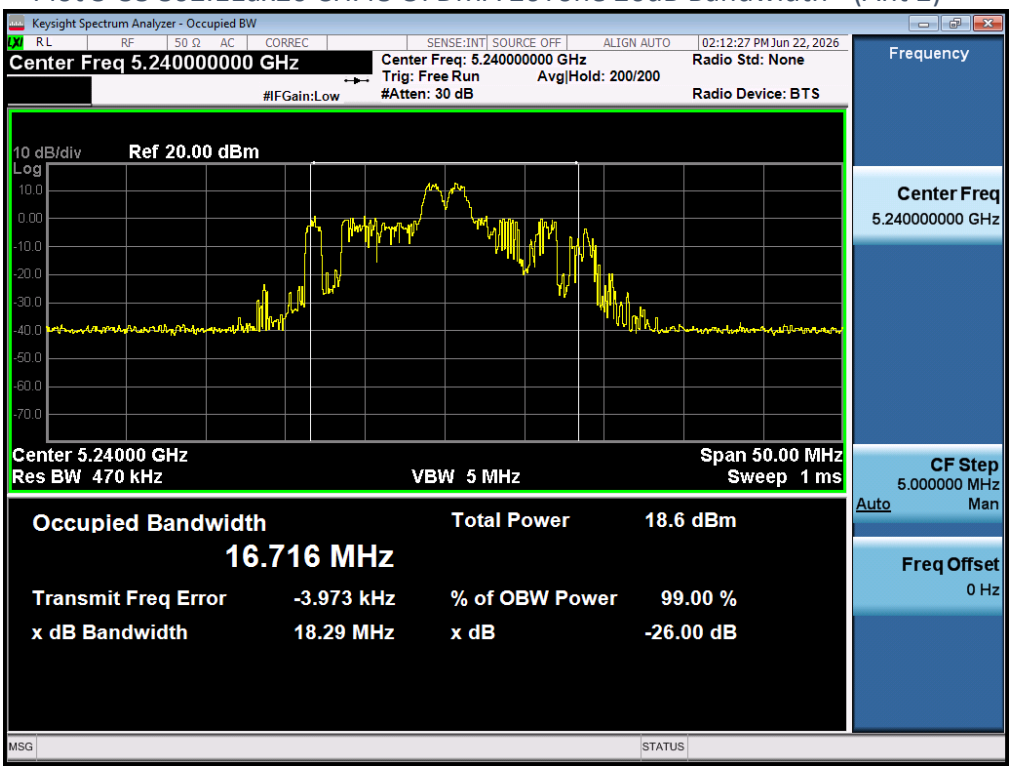
Plot 5-85 802.11ax20 CH.40 OFDMA 26Tone 26dB Bandwidth – (ANT1)

Plot 5-86 802.11ax20 CH.40 OFDMA 26Tone 26dB Bandwidth - (Ant 2)

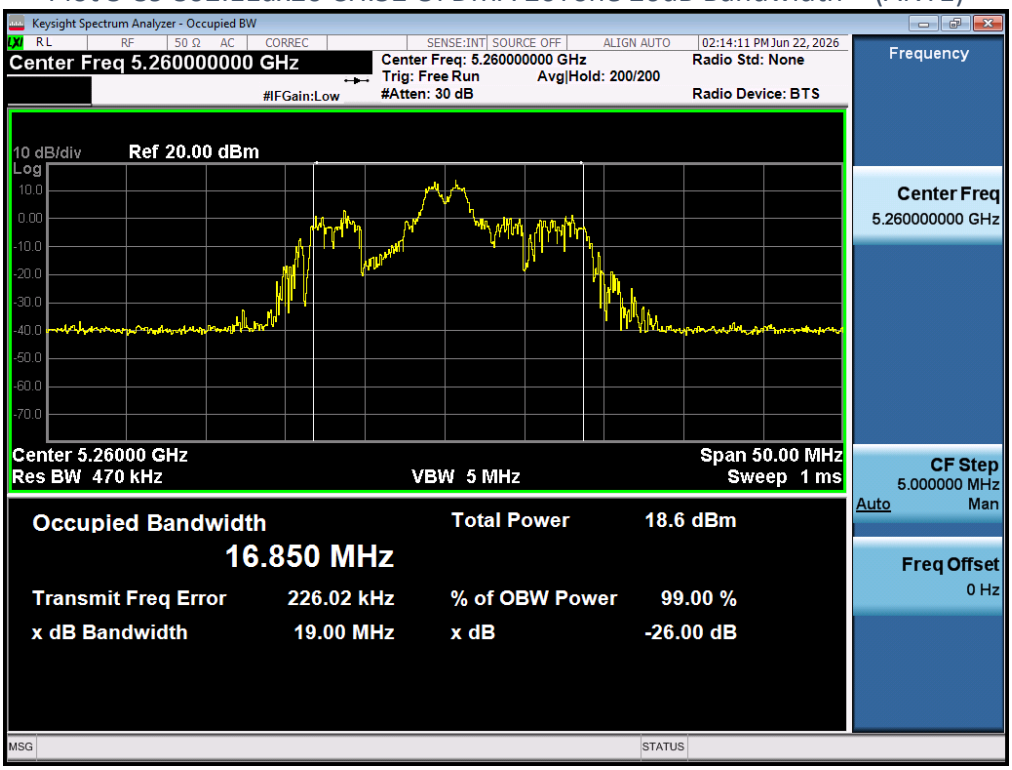
Plot 5-87 802.11ax20 CH.48 OFDMA 26Tone 26dB Bandwidth – (ANT1)



Plot 5-88 802.11ax20 CH.48 OFDMA 26Tone 26dB Bandwidth - (Ant 2)



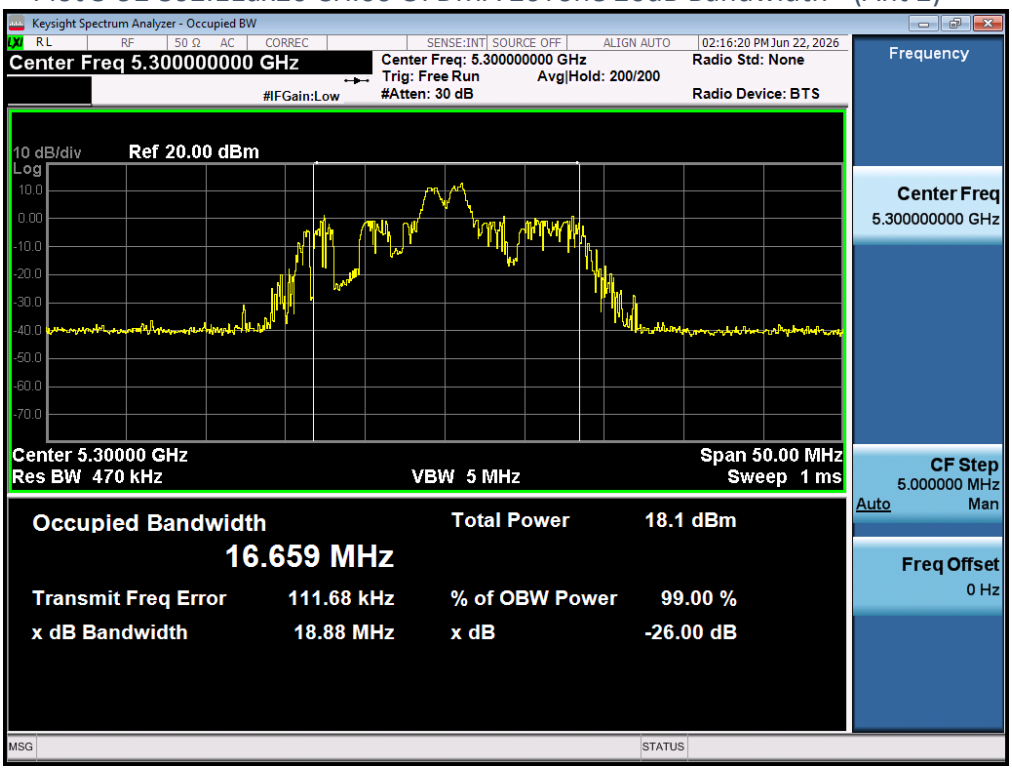
Plot 5-89 802.11ax20 CH.52 OFDMA 26Tone 26dB Bandwidth – (ANT1)



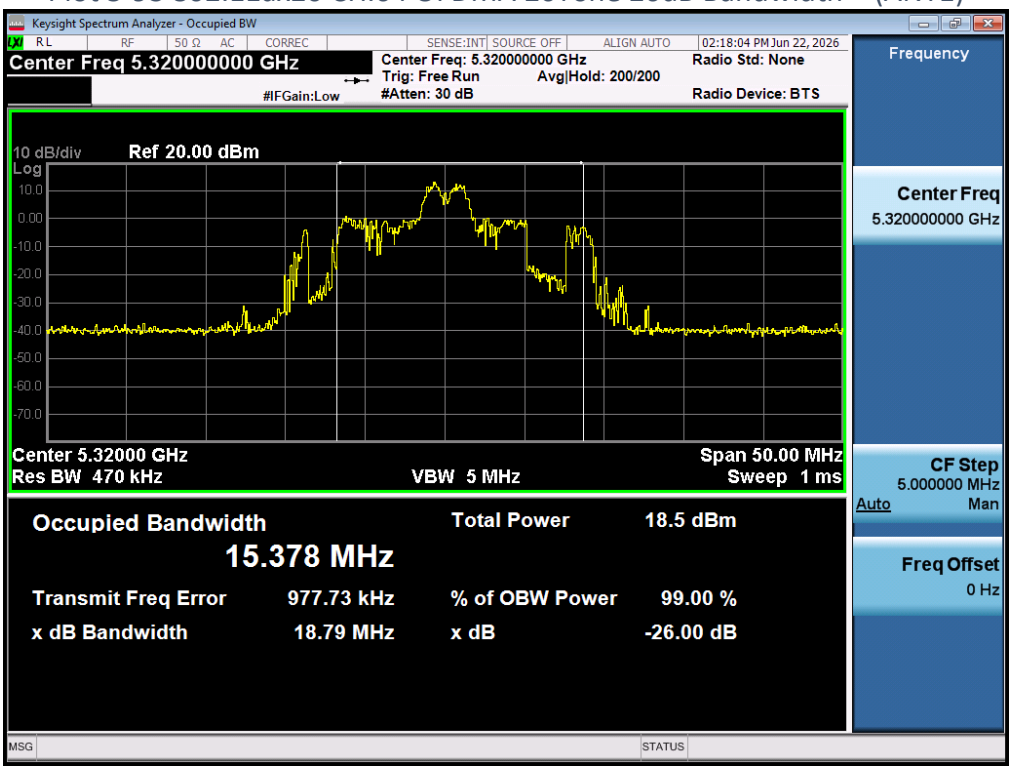
Plot 5-90 802.11ax20 CH.52 OFDMA 26Tone 26dB Bandwidth - (Ant 2)

Plot 5-91 802.11ax20 CH.60 OFDMA 26Tone 26dB Bandwidth – (ANT1)

Plot 5-92 802.11ax20 CH.60 OFDMA 26Tone 26dB Bandwidth - (Ant 2)



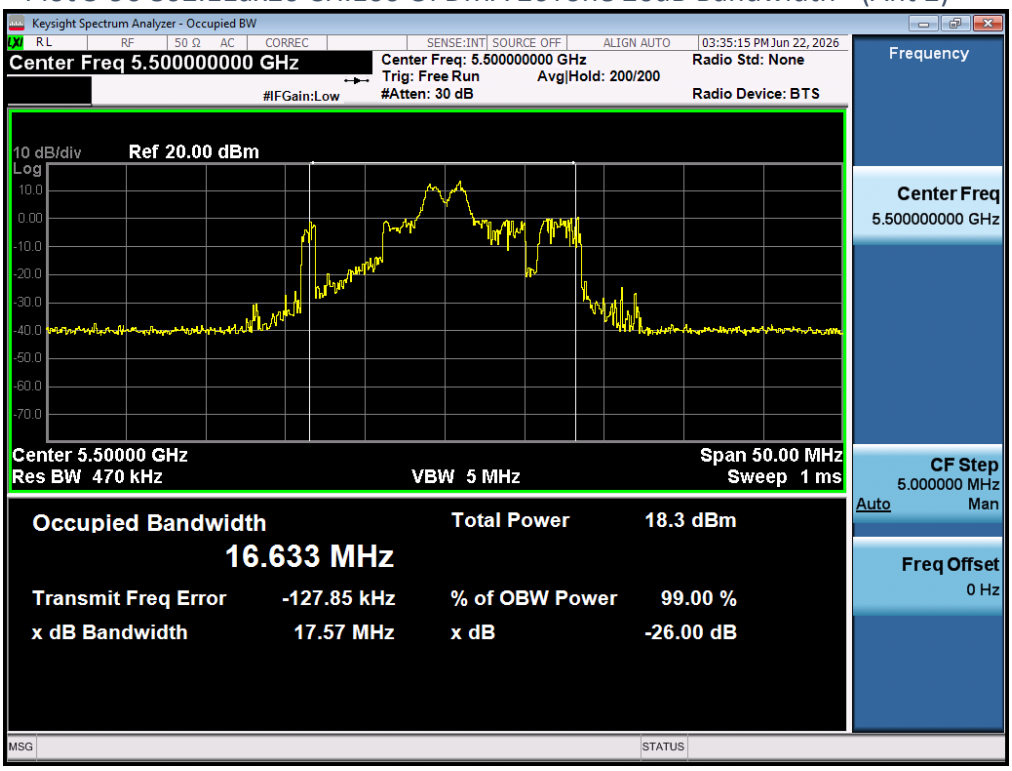
Plot 5-93 802.11ax20 CH.64 OFDMA 26Tone 26dB Bandwidth – (ANT1)



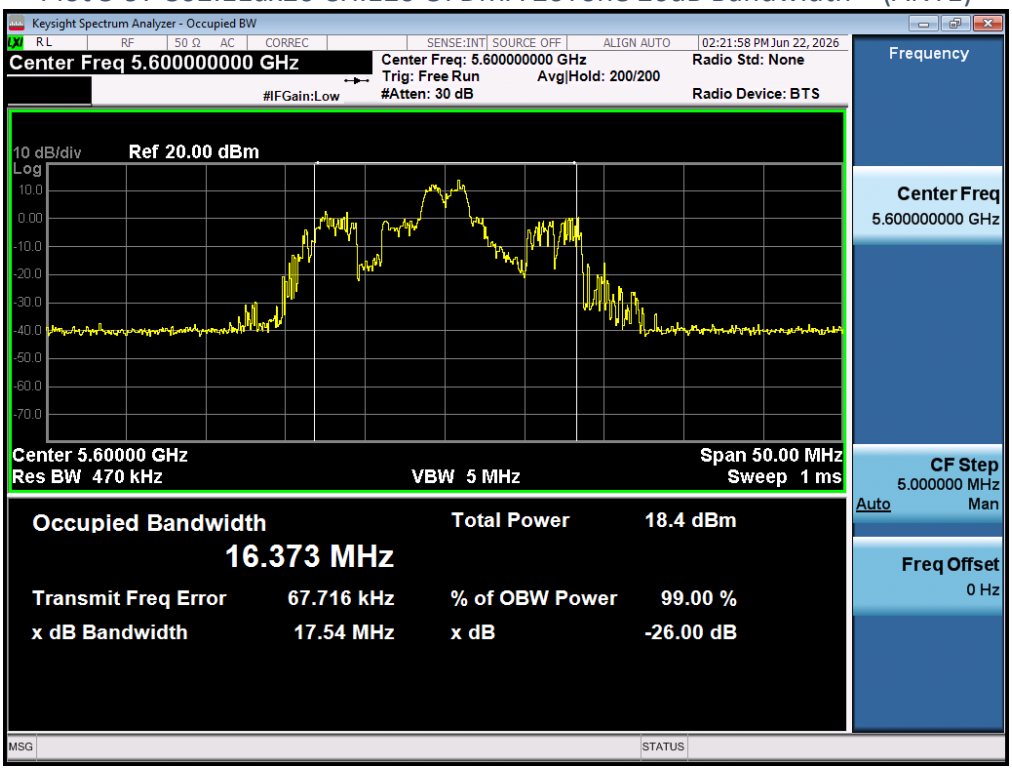
Plot 5-94 802.11ax20 CH.64 OFDMA 26Tone 26dB Bandwidth - (Ant 2)

Plot 5-95 802.11ax20 CH.100 OFDMA 26Tone 26dB Bandwidth – (ANT1)

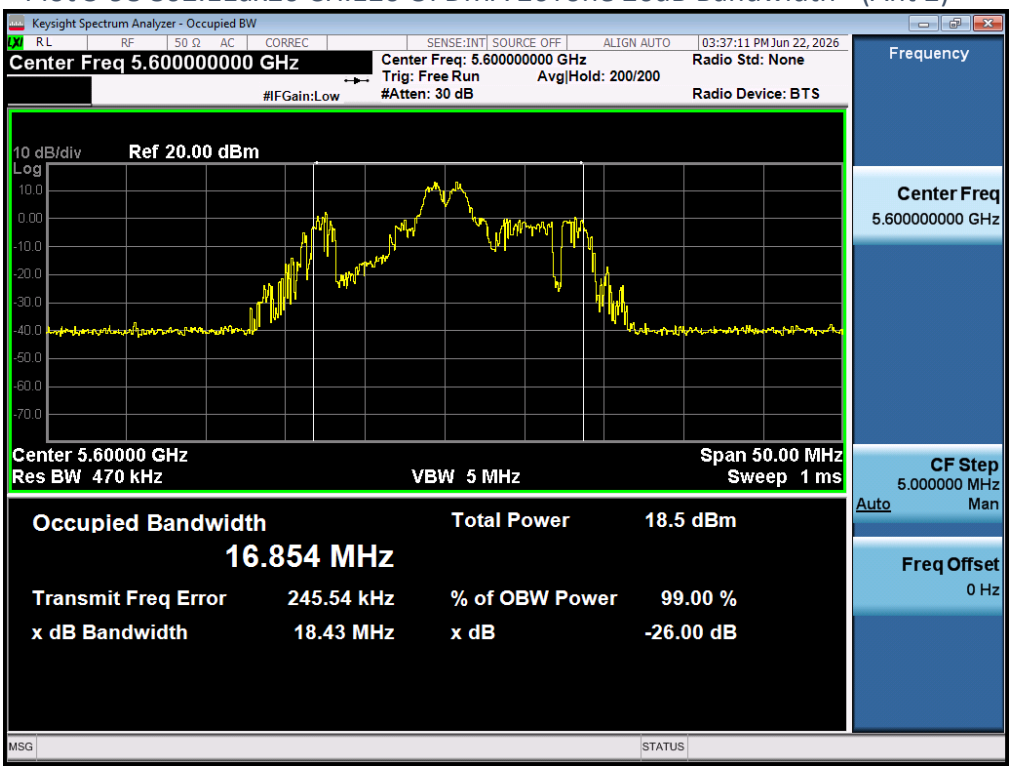
Plot 5-96 802.11ax20 CH.100 OFDMA 26Tone 26dB Bandwidth - (Ant 2)



Plot 5-97 802.11ax20 CH.120 OFDMA 26Tone 26dB Bandwidth – (ANT1)



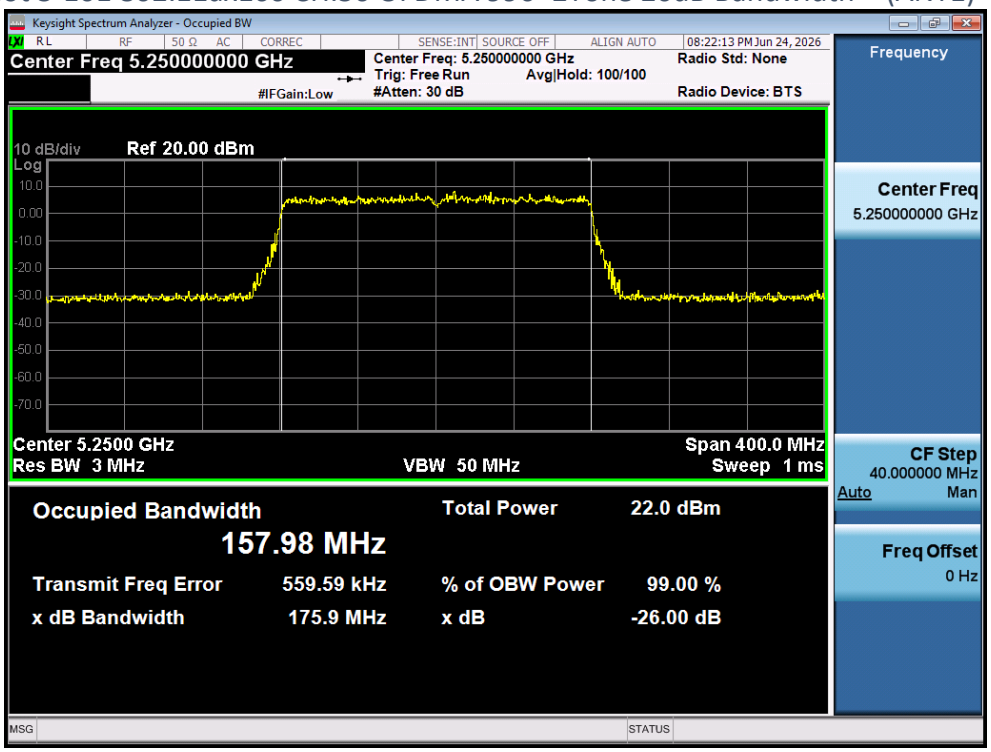
Plot 5-98 802.11ax20 CH.120 OFDMA 26Tone 26dB Bandwidth - (Ant 2)



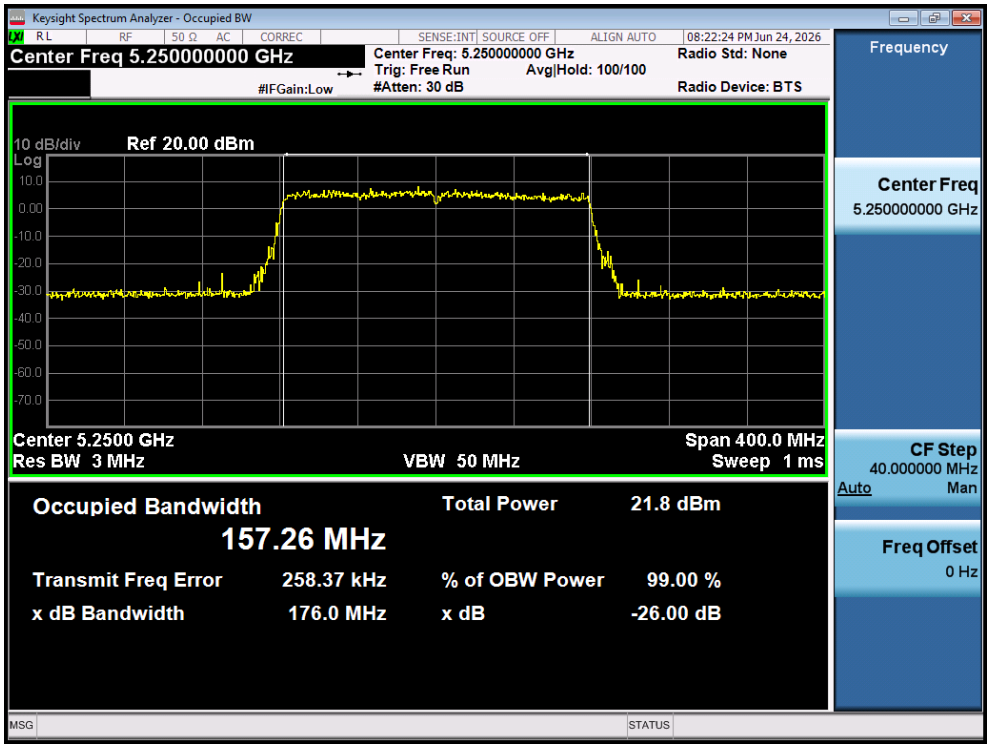
Plot 5-99 802.11ax20 CH.144 OFDMA 26Tone 26dB Bandwidth – (ANT1)

Plot 5-100 802.11ax20 CH.144 OFDMA 26Tone 26dB Bandwidth - (Ant 2)

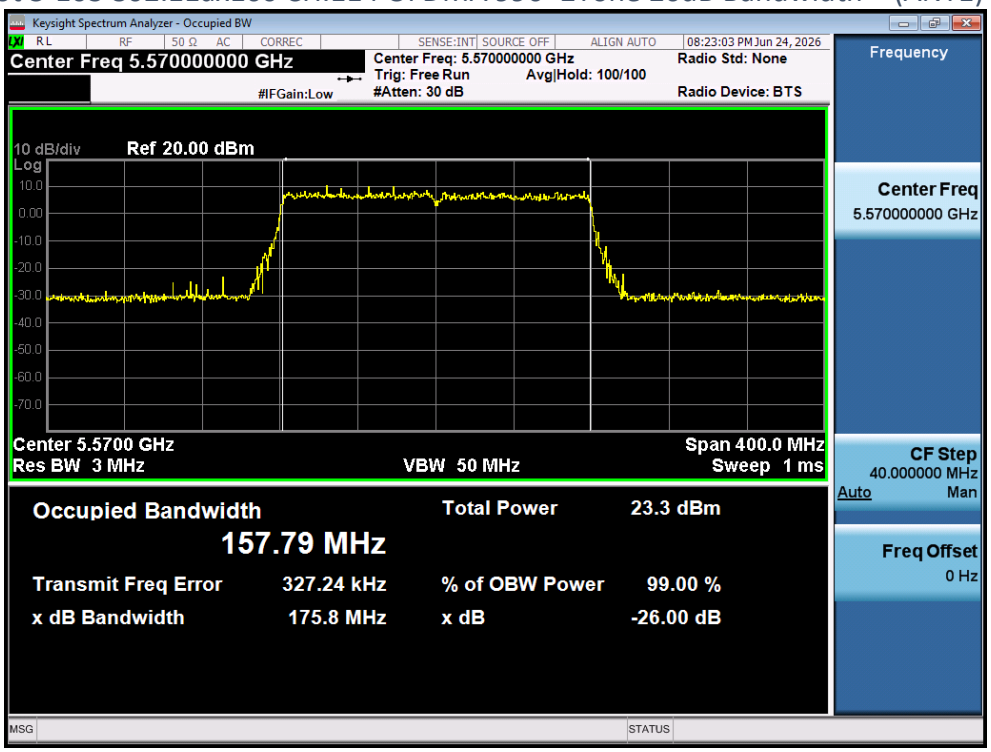
Plot 5-101 802.11ax160 CH.50 OFDMA 996*2Tone 26dB Bandwidth – (ANT1)



Plot 5-102 802.11ax160 CH.50 OFDMA 996*2Tone 26dB Bandwidth – (ANT2)



Plot 5-103 802.11ax160 CH.114 OFDMA 996*2Tone 26dB Bandwidth – (ANT1)



Plot 5-104 802.11ax160 CH.114 OFDMA 996*2Tone 26dB Bandwidth – (ANT2)

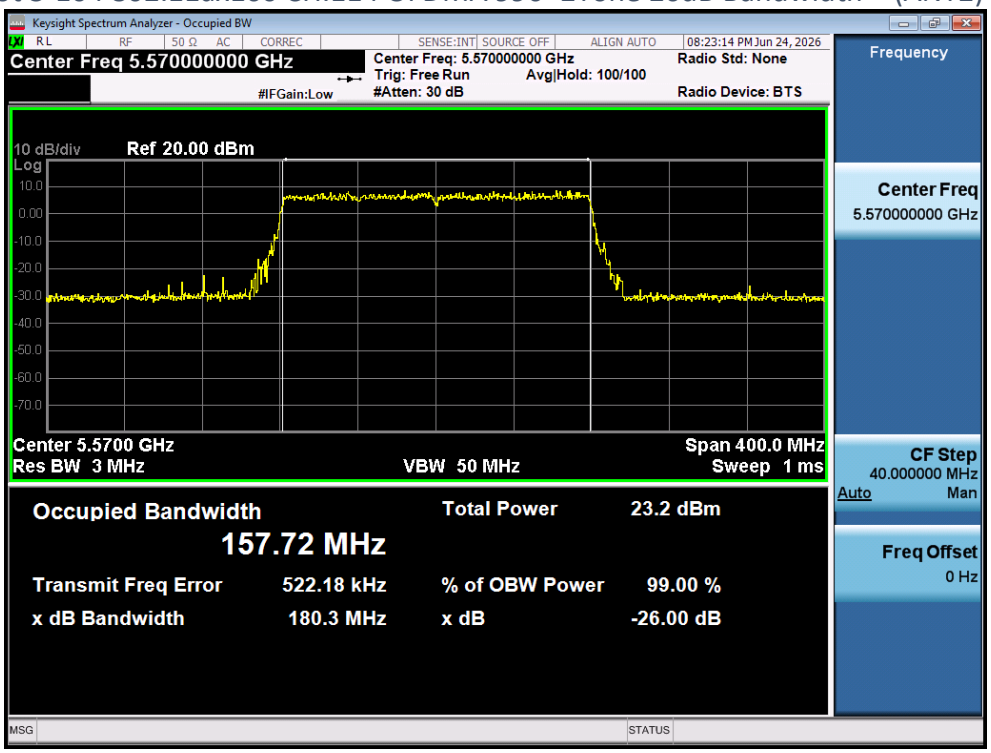


Table 5-24 OFDM OBW and 6dB Bandwidth – BW 20

Mode	Band	freq. [MHz]	CH. [No.]	6dB Bandwidth [MHz]		Occupied Bandwidth [MHz]	
				Ant1	Ant2	Ant1	Ant2
802.11 a	UNII-3	5745	149	16.37	16.38	17.44	17.45
		5785	157	16.38	16.36	17.41	17.50
		5825	165	16.36	16.37	17.46	17.47
	UNII-4	5845	169	16.38	16.38	17.47	17.60
		5865	173	16.36	16.37	17.50	17.52
		5885	177	16.47	16.40	17.52	17.44
802.11n (HT20)	UNII-3	5745	149	17.67	17.62	18.43	18.48
		5785	157	17.68	17.65	18.41	18.50
		5825	165	17.64	17.66	18.40	18.39
	UNII-4	5845	169	17.64	17.66	18.41	18.49
		5865	173	17.67	17.61	18.46	18.44
		5885	177	17.68	17.64	18.32	18.45
802.11ac (VHT20)	UNII-3	5745	149	17.63	17.64	18.46	18.44
		5785	157	17.67	17.65	18.48	18.39
		5825	165	17.64	17.62	18.47	18.48
	UNII-4	5845	169	17.63	17.64	18.54	18.39
		5865	173	17.64	17.63	18.44	18.36
		5885	177	17.64	17.64	18.49	18.45
802.11ax (HE20)	UNII-3	5745	149	19.04	19.01	19.27	19.27
		5785	157	19.00	18.90	19.26	19.29
		5825	165	19.01	18.78	19.34	19.29
	UNII-4	5845	169	18.97	19.00	19.25	19.28
		5865	173	18.91	18.96	19.24	19.27
		5885	177	18.99	18.96	19.39	19.32

Table 5-25 OFDM OBW and 6dB Bandwidth – BW 40

Mode	Band	freq. [MHz]	CH. [No.]	6dB Bandwidth [MHz]		Occupied Bandwidth [MHz]	
				Ant1	Ant2	Ant1	Ant2
802.11n (HT40)	UNII-3	5755	151	36.47	36.47	36.97	37.01
		5795	159	36.43	36.45	37.01	37.01
	UNII-4	5835	167	36.47	36.47	37.00	36.88
		5875	175	36.46	36.47	37.03	36.84
802.11ac (VHT40)	UNII-3	5755	151	36.44	36.46	36.85	36.81
		5795	159	36.45	36.46	36.77	36.84
	UNII-4	5835	167	36.42	36.44	36.93	36.95
		5875	175	36.46	36.35	36.90	36.79
802.11ax (HE40)	UNII-3	5755	151	38.25	38.03	38.29	38.31
		5795	159	38.06	38.25	38.29	38.19
	UNII-4	5835	167	38.18	38.15	38.30	38.32
		5875	175	38.19	38.17	38.29	38.27

Table 5-26 OFDM OBW and 6dB Bandwidth – BW 80

Mode	Band	freq. [MHz]	CH. [No.]	6dB Bandwidth [MHz]		Occupied Bandwidth [MHz]	
				Ant1	Ant2	Ant1	Ant2
802.11ac (VHT80)	UNII-3	5775	155	76.45	76.49	77.50	77.45
	UNII-4	5855	171	76.51	76.33	77.31	77.22
802.11ax (HE80)	UNII-3	5775	155	78.32	78.31	78.47	78.25
	UNII-4	5855	171	78.23	78.17	78.33	78.29

Table 5-27 OFDM OBW and 6dB Bandwidth – BW 160

Mode	Band	freq. [MHz]	CH. [No.]	6dB Bandwidth [MHz]		Occupied Bandwidth [MHz]	
				Ant1	Ant2	Ant1	Ant2
802.11ac (VHT160)	UNII-3/4	5815	163	156.40	156.20	157.06	156.72
802.11ax (HE160)	UNII-3/4	5815	163	158.50	158.10	157.99	157.62

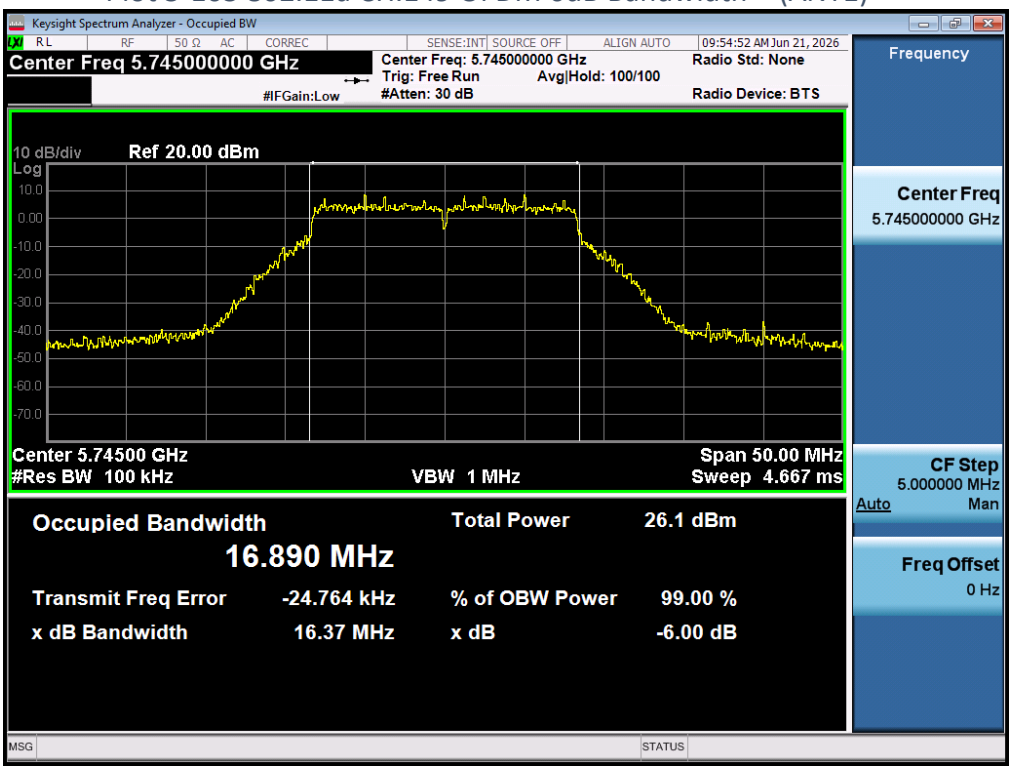
Table 5-28 OFDMA Partial 26Tone OBW and 6dB Bandwidth

Mode	Band	freq. [MHz]	CH. [No.]	Tone	Index	6dB Bandwidth [MHz]		Occupied Bandwidth [MHz]	
						Ant1	Ant2	Ant1	Ant2
802.11ax (HE20)	UNII-3	5745	149	26T	0	2.12	2.12	18.66	18.80
					4	2.68	2.71	16.91	16.11
					8	2.11	2.08	18.55	18.72
		5785	157	26T	0	2.09	2.12	18.55	18.39
					4	2.68	2.66	16.45	15.92
					8	2.08	2.10	18.28	18.73
		5825	165	26T	0	2.13	2.13	18.68	18.09
					4	2.67	2.66	16.10	16.14
					8	2.14	2.15	18.63	18.68
	UNII-4	5845	169	26T	0	2.12	2.13	18.60	18.58
					4	2.68	2.73	16.43	16.61
					8	2.09	2.15	18.22	18.14
		5865	173	26T	0	2.12	2.12	18.70	18.64
					4	2.67	2.66	16.14	16.87
					8	2.10	2.12	18.73	18.12
		5885	177	26T	0	2.12	2.09	18.71	18.50
					4	2.65	2.68	16.33	16.49
					8	2.11	2.12	18.78	18.65

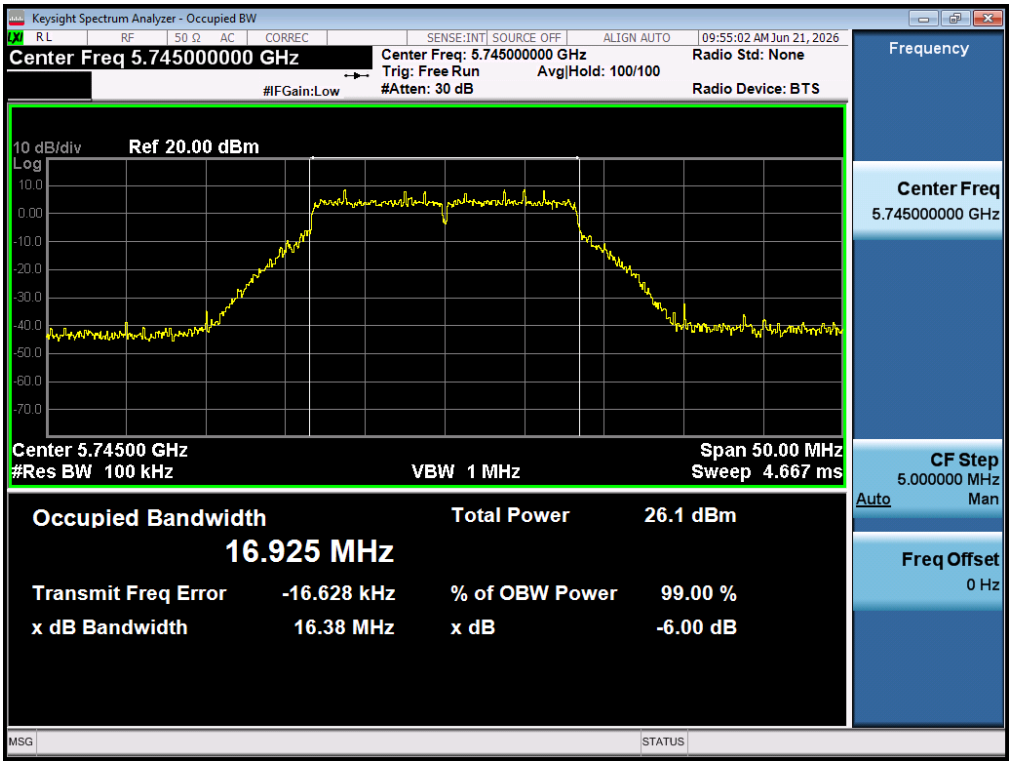
Table 5-29 OFDMA Full Tone OBW and 6dB Bandwidth

Mode	Band	freq. [MHz]	CH. [No.]	Tone	Index	6dB Bandwidth [MHz]		Occupied Bandwidth [MHz]	
						Ant1	Ant2	Ant1	Ant2
802.11ax (HE20)	UNII-3	5745	149	242T	61	19.08	19.07	19.43	19.46
		5785	157	242T	61	19.02	18.99	19.35	19.40
		5825	165	242T	61	19.01	19.03	19.34	19.40
	UNII-4	5845	169	242T	61	19.00	19.02	19.36	19.54
		5865	173	242T	61	18.94	19.01	19.30	19.43
		5885	177	242T	61	18.98	19.00	19.37	19.49
802.11ax (HE40)	UNII-3	5755	151	484T	65	38.24	38.15	38.30	38.37
		5795	159	484T	65	38.29	38.09	38.21	38.40
	UNII-4	5835	167	484T	65	38.18	38.20	38.37	38.36
		5875	175	484T	65	38.15	38.12	38.44	38.31
802.11ax (HE80)	UNII-3	5775	155	996T	67	78.19	78.10	78.46	78.44
	UNII-4	5855	171	996T	67	78.08	78.14	78.25	78.30
802.11ax (HE160)	UNII-3/4	5815	163	996T*2	68	158.50	158.00	158.02	157.99

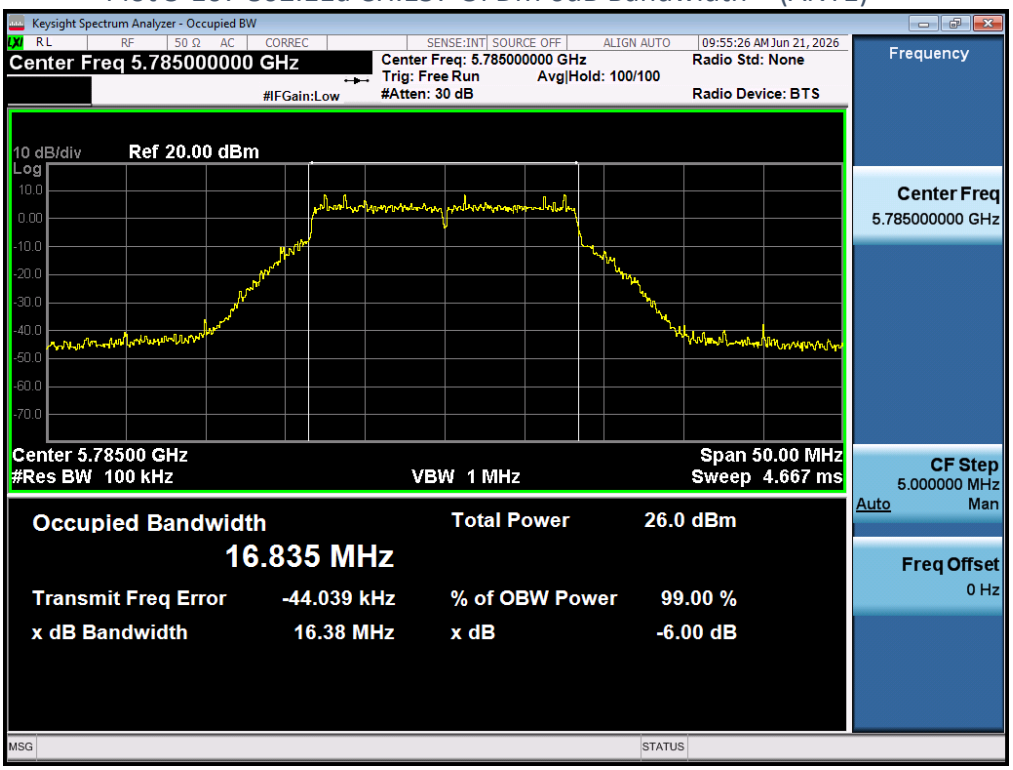
Plot 5-105 802.11a CH.149 OFDM 6dB Bandwidth – (ANT1)



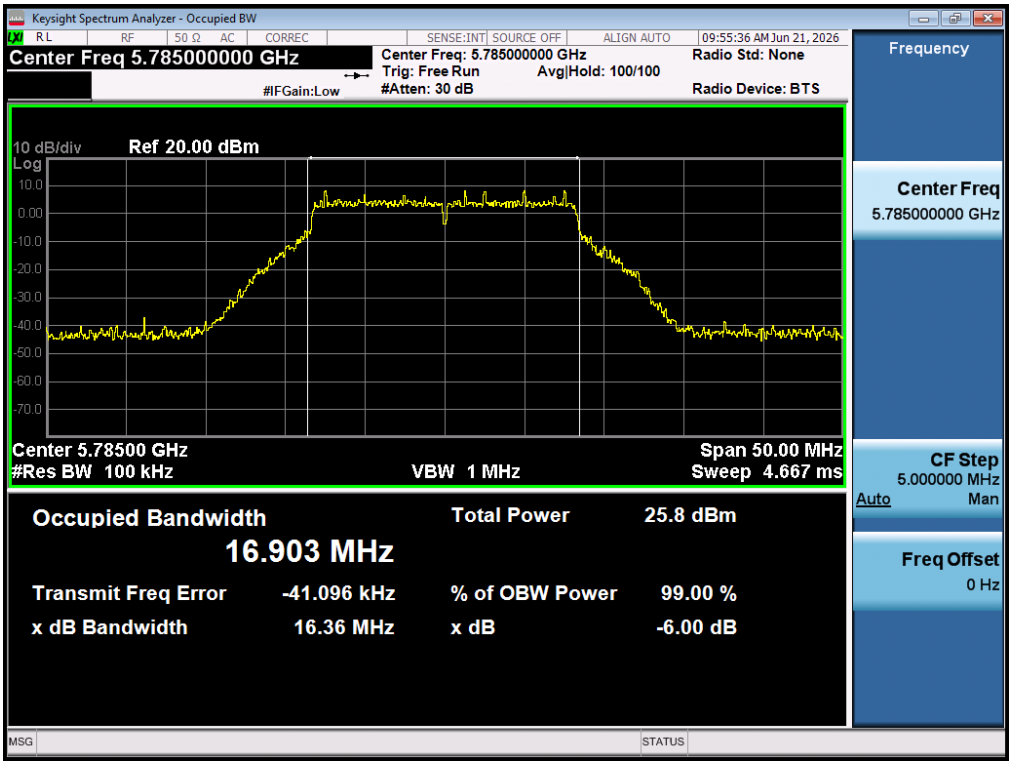
Plot 5-106 802.11a CH.149 OFDM 6dB Bandwidth – (ANT2)



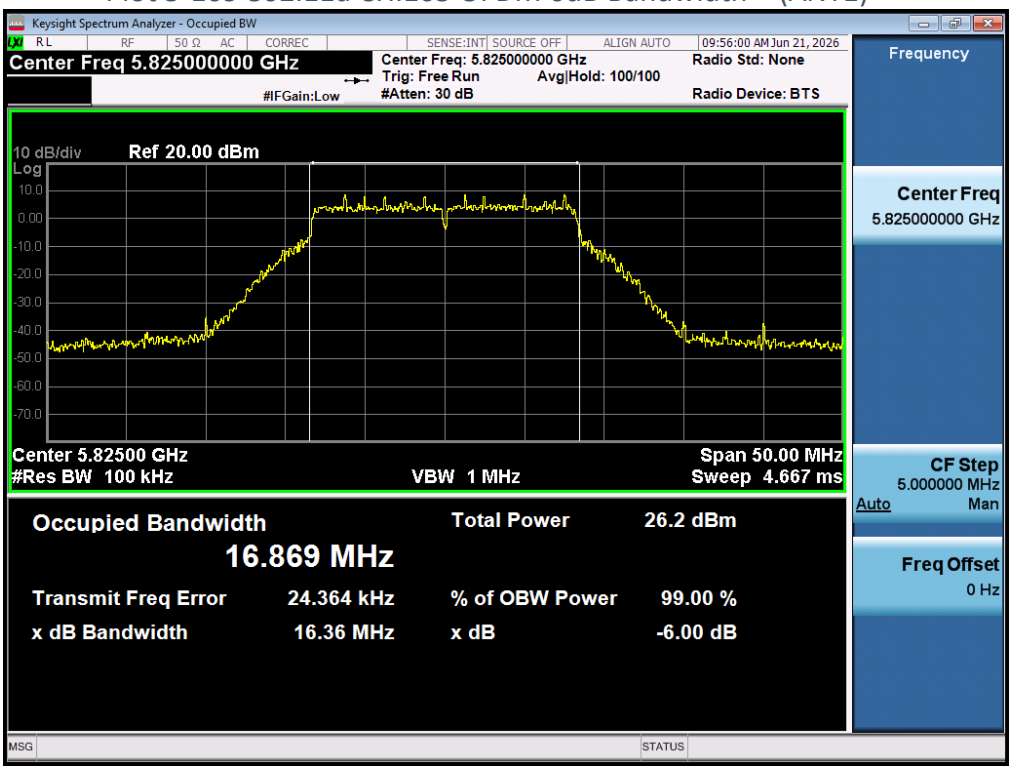
Plot 5-107 802.11a CH.157 OFDM 6dB Bandwidth – (ANT1)



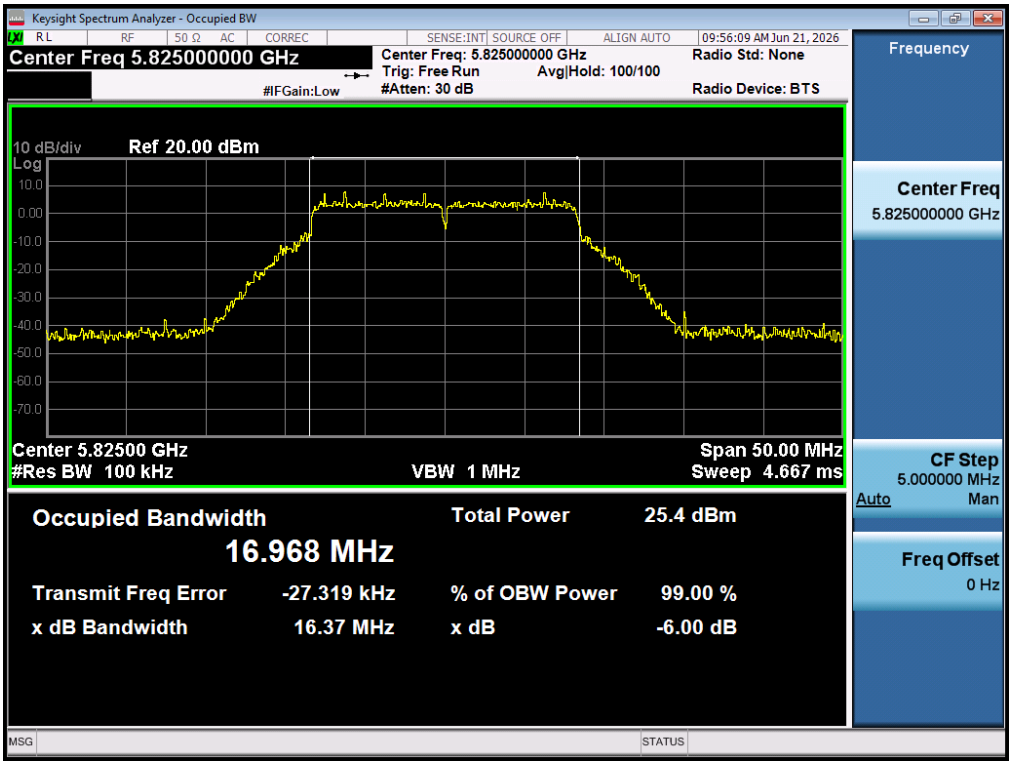
Plot 5-108 802.11a CH.157 OFDM 6dB Bandwidth – (ANT2)



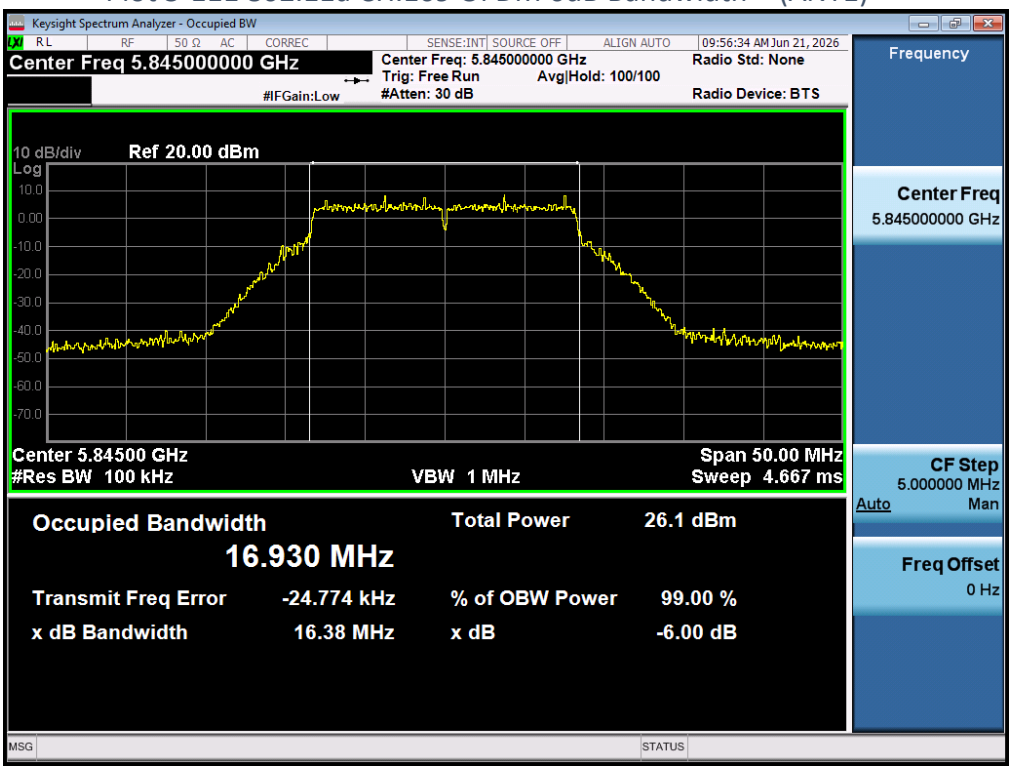
Plot 5-109 802.11a CH.165 OFDM 6dB Bandwidth – (ANT1)



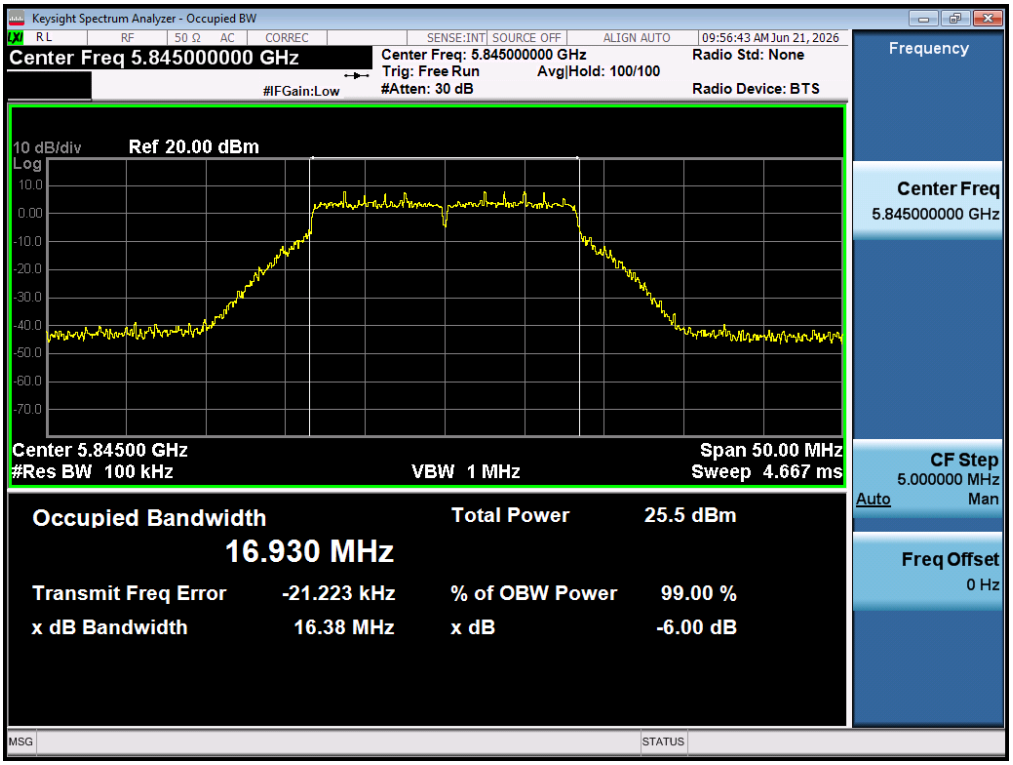
Plot 5-110 802.11a CH.165 OFDM 6dB Bandwidth – (ANT2)



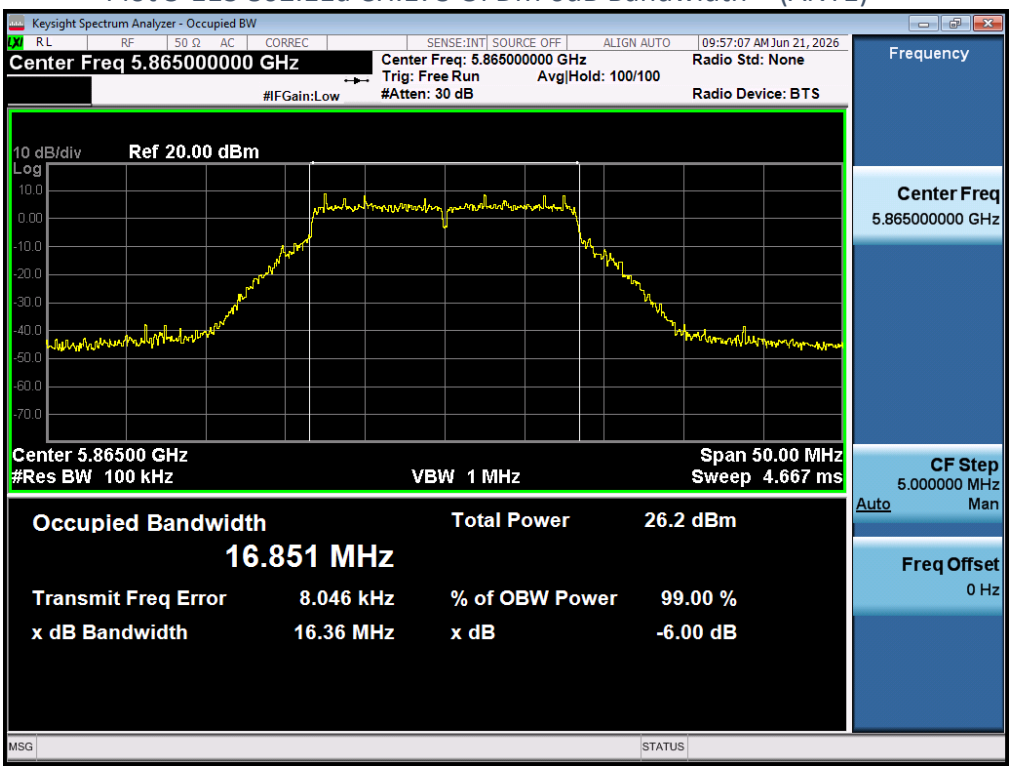
Plot 5-111 802.11a CH.169 OFDM 6dB Bandwidth – (ANT1)



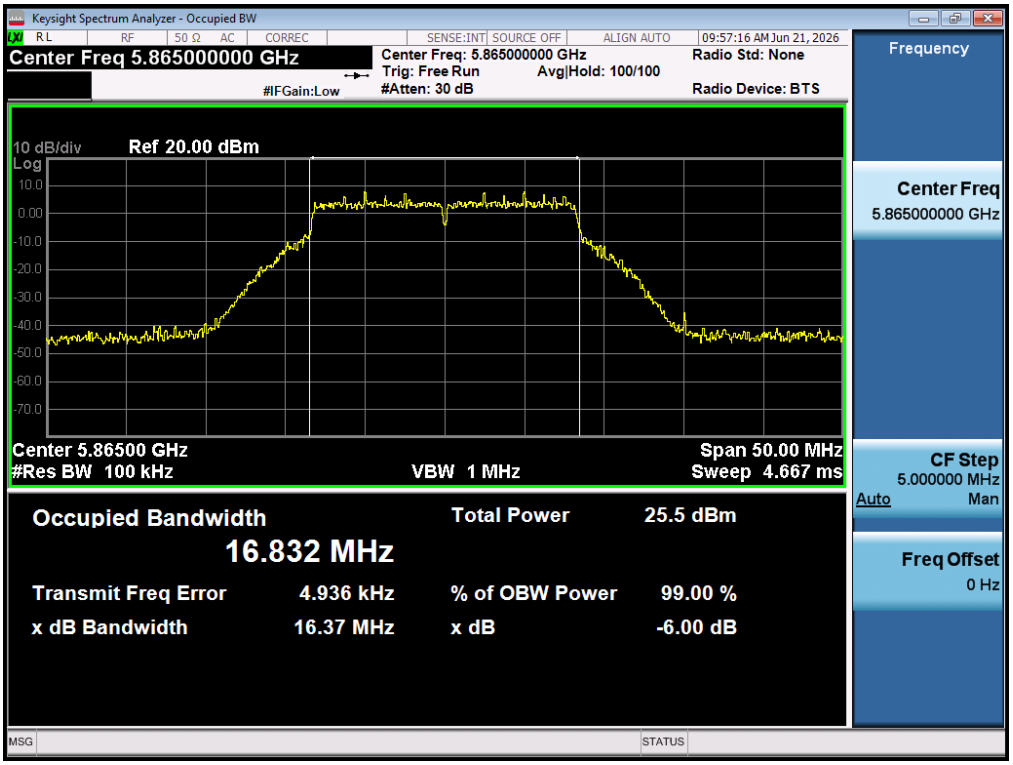
Plot 5-112 802.11a CH.169 OFDM 6dB Bandwidth – (ANT2)



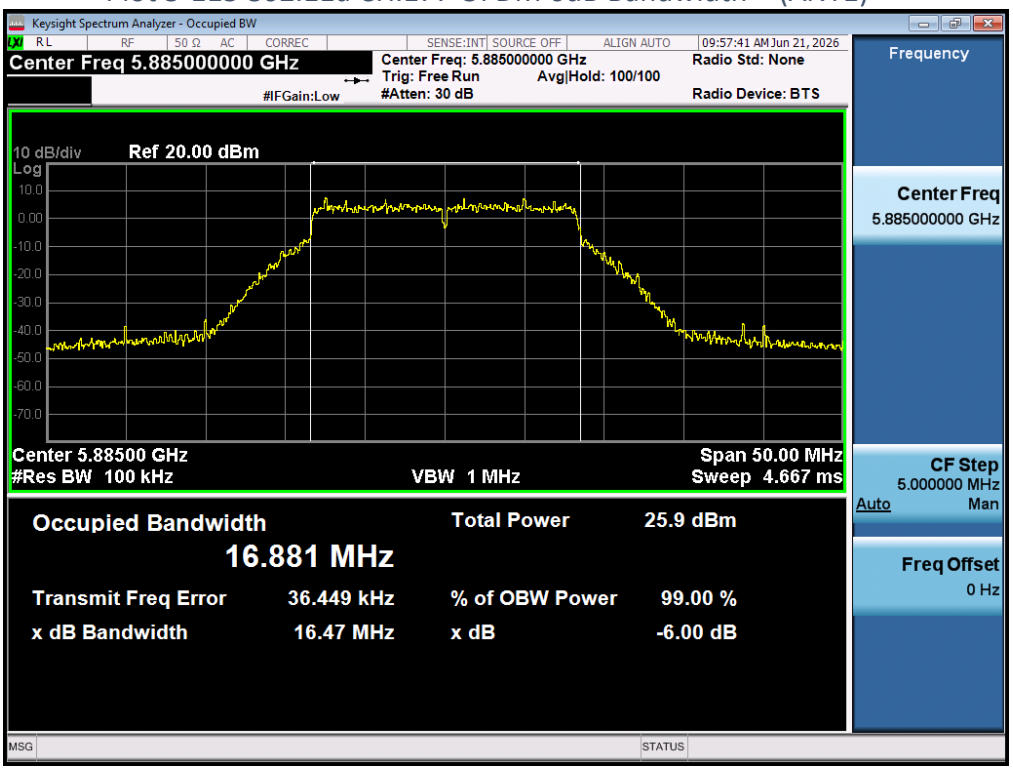
Plot 5-113 802.11a CH.173 OFDM 6dB Bandwidth – (ANT1)



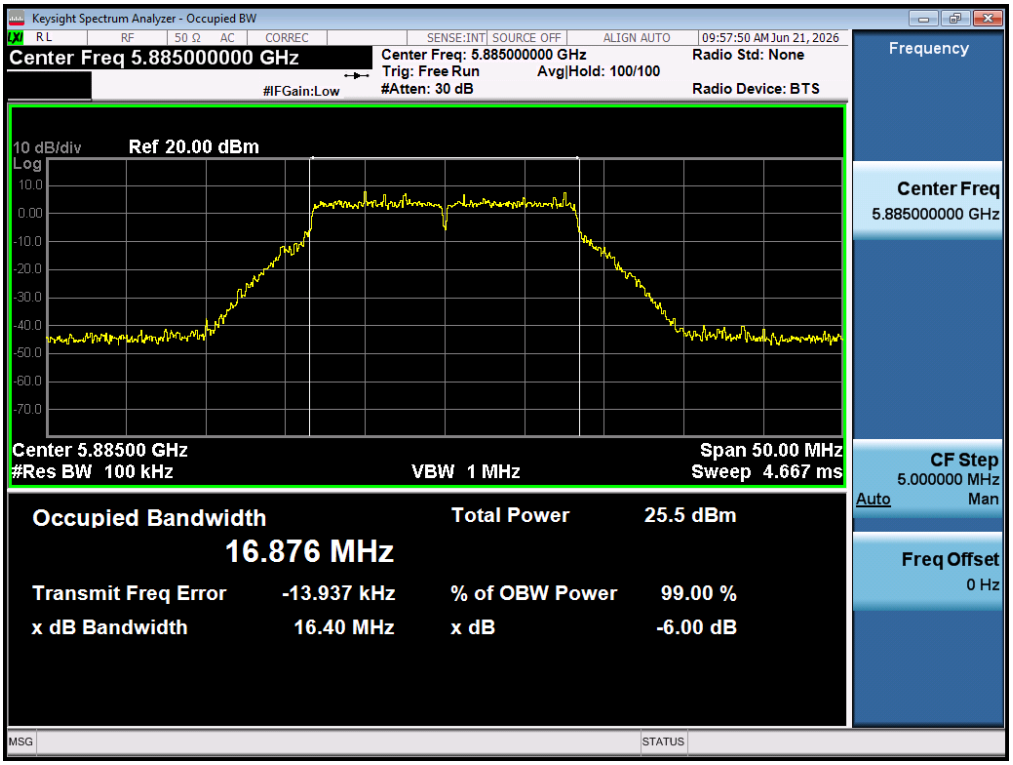
Plot 5-114 802.11a CH.173 OFDM 6dB Bandwidth – (ANT2)



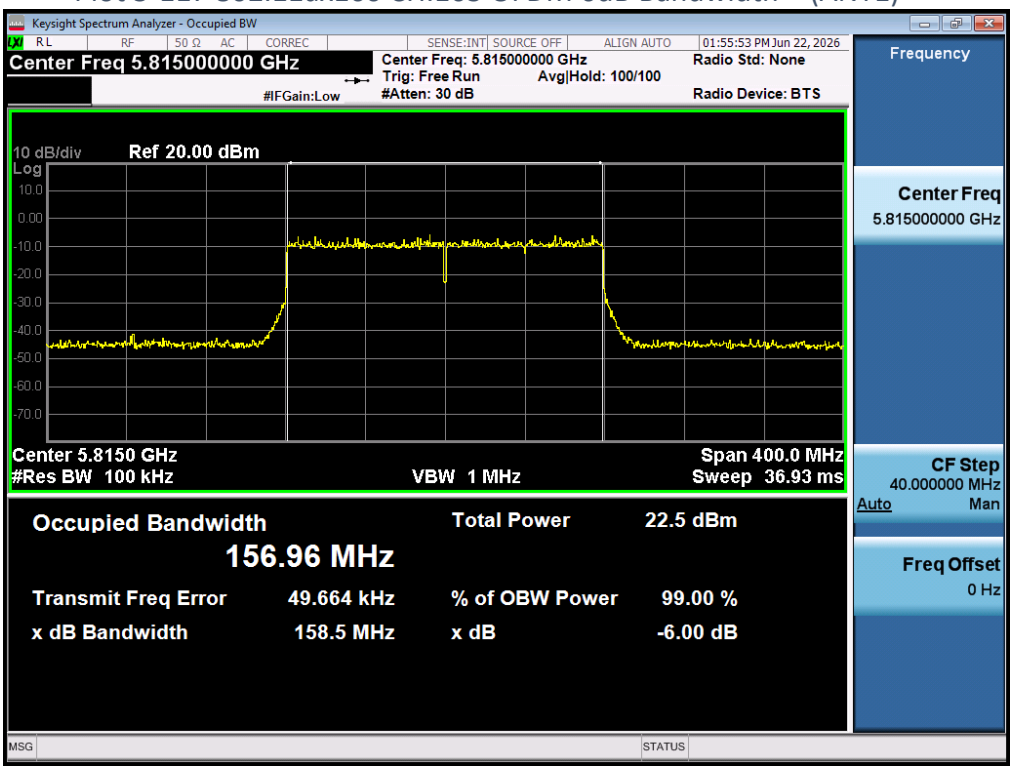
Plot 5-115 802.11a CH.177 OFDM 6dB Bandwidth – (ANT1)



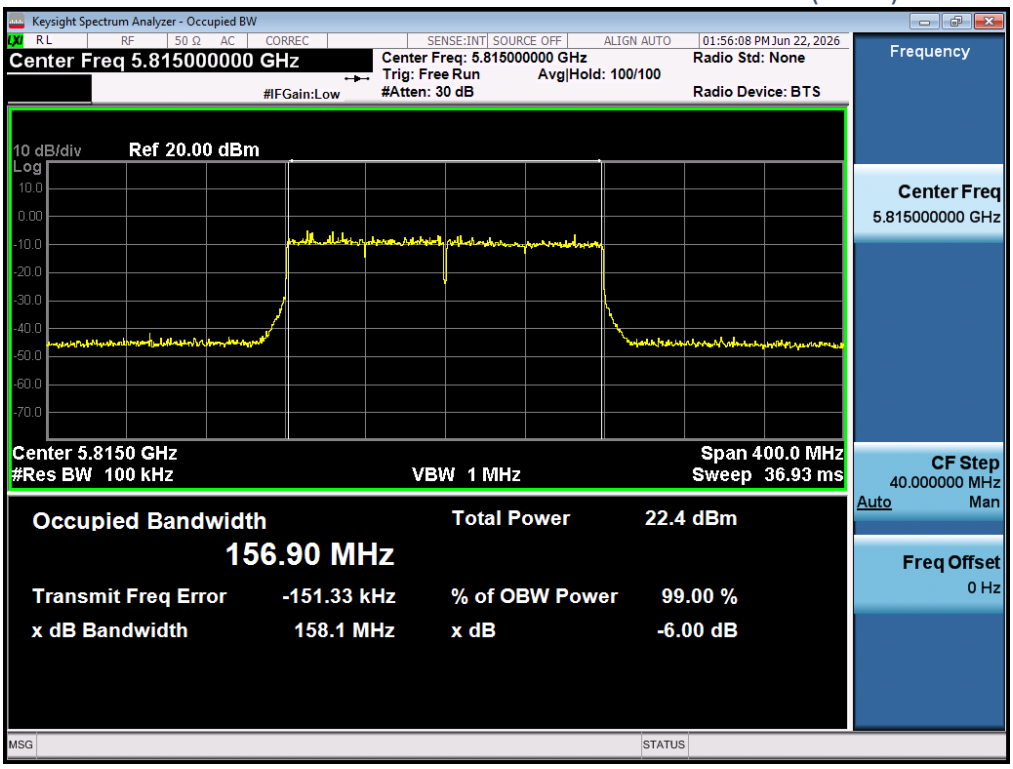
Plot 5-116 802.11a CH.177 OFDM 6dB Bandwidth – (ANT2)



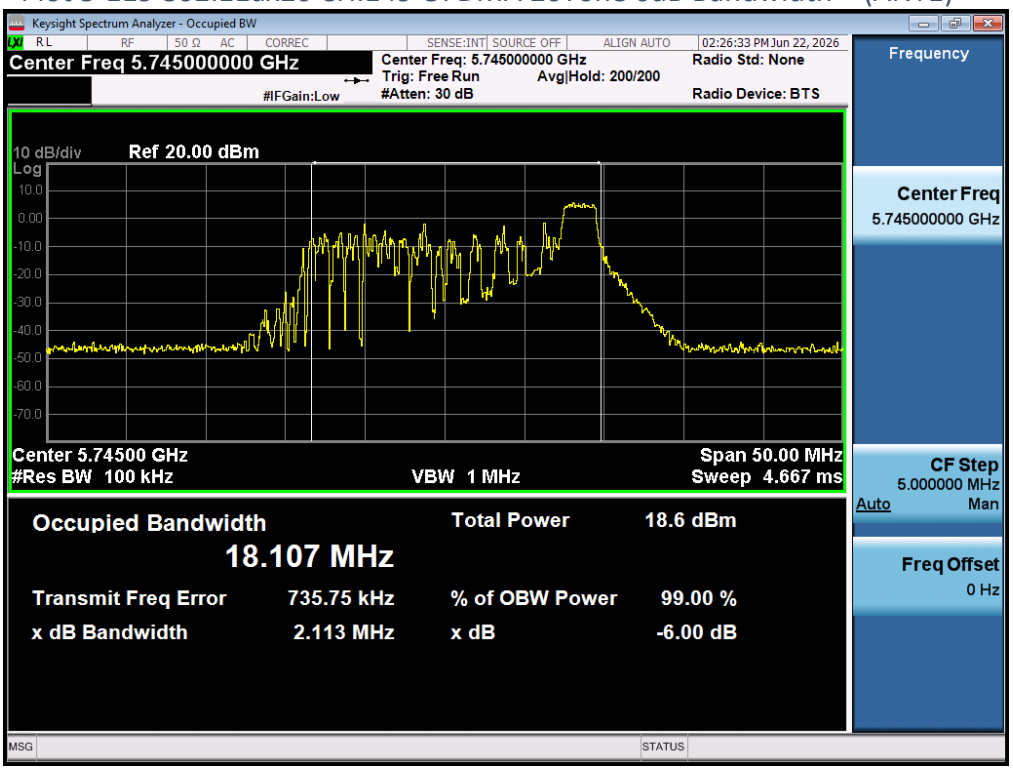
Plot 5-117 802.11ax160 CH.163 OFDM 6dB Bandwidth – (ANT1)



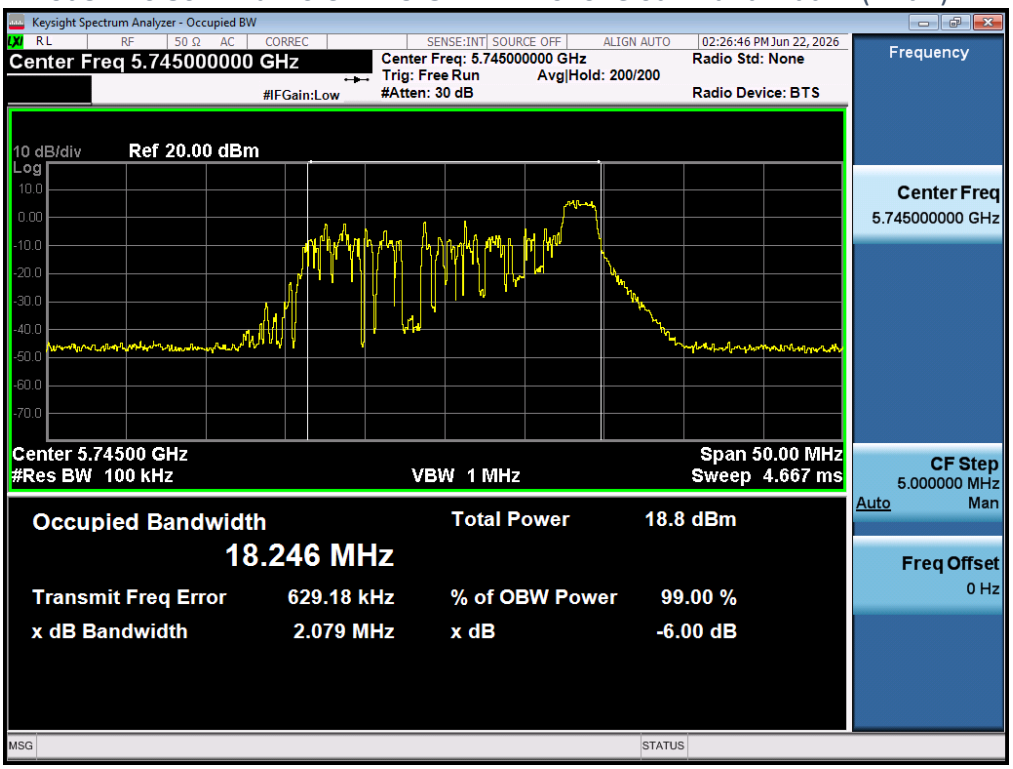
Plot 5-118 802.11ax160 CH.163 OFDM 6dB Bandwidth – (ANT2)



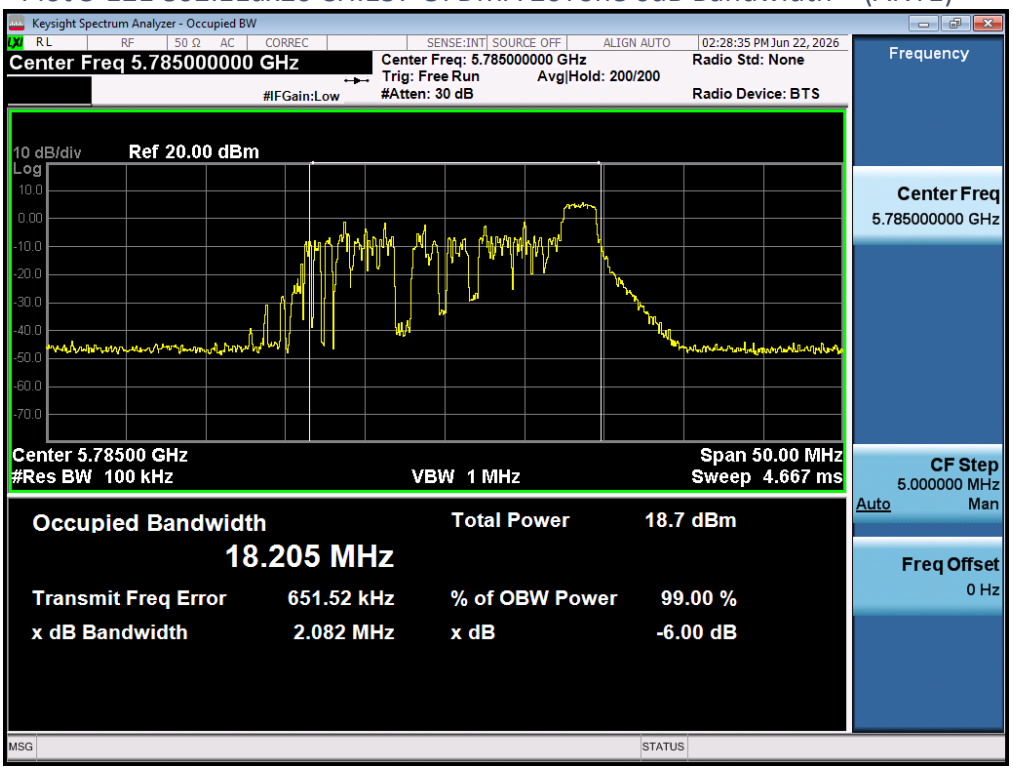
Plot 5-119 802.11ax20 CH.149 OFDMA 26Tone 6dB Bandwidth – (ANT1)



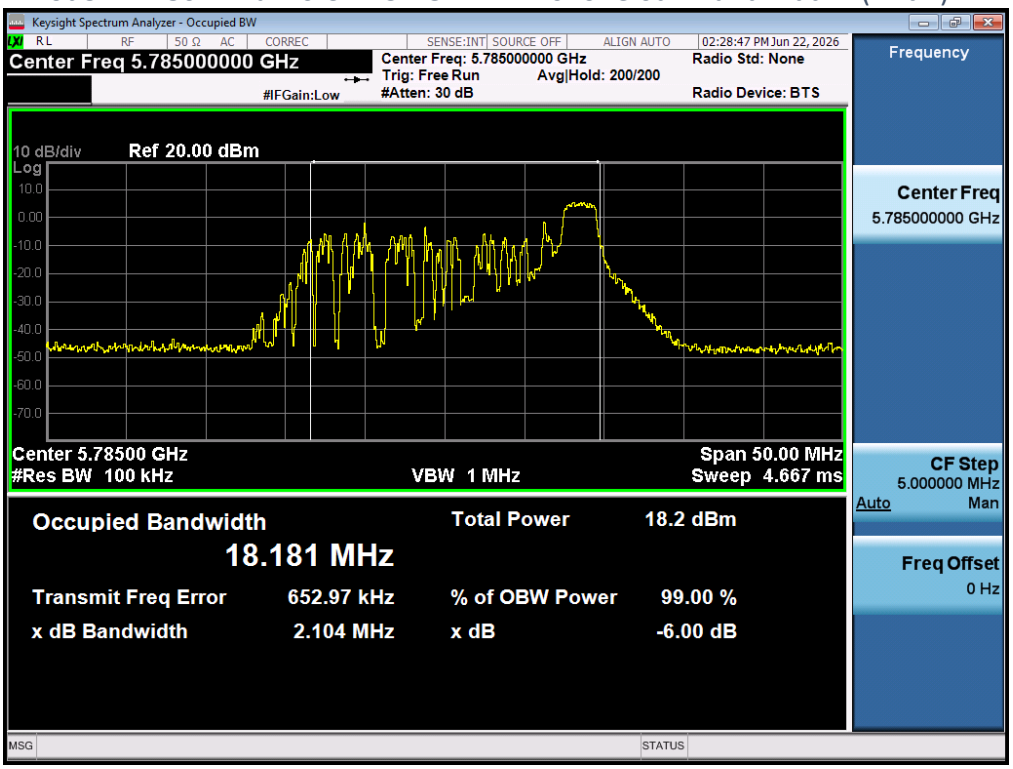
Plot 5-120 802.11ax20 CH.149 OFDMA 26Tone 6dB Bandwidth - (Ant 2)



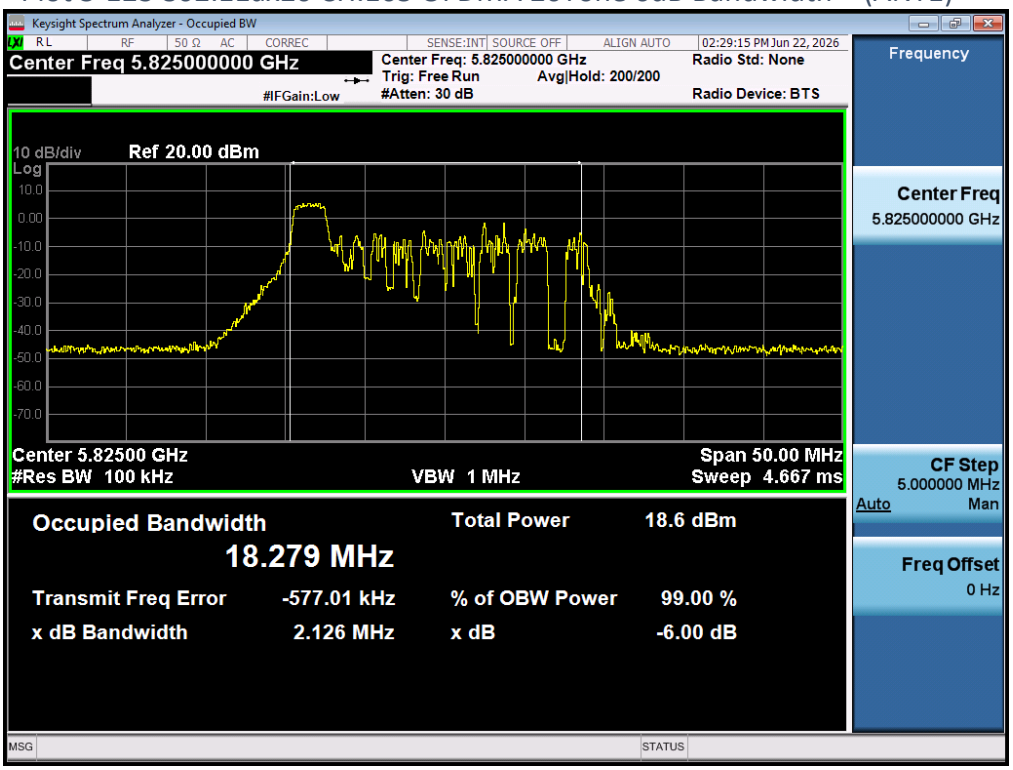
Plot 5-121 802.11ax20 CH.157 OFDMA 26Tone 6dB Bandwidth – (ANT1)



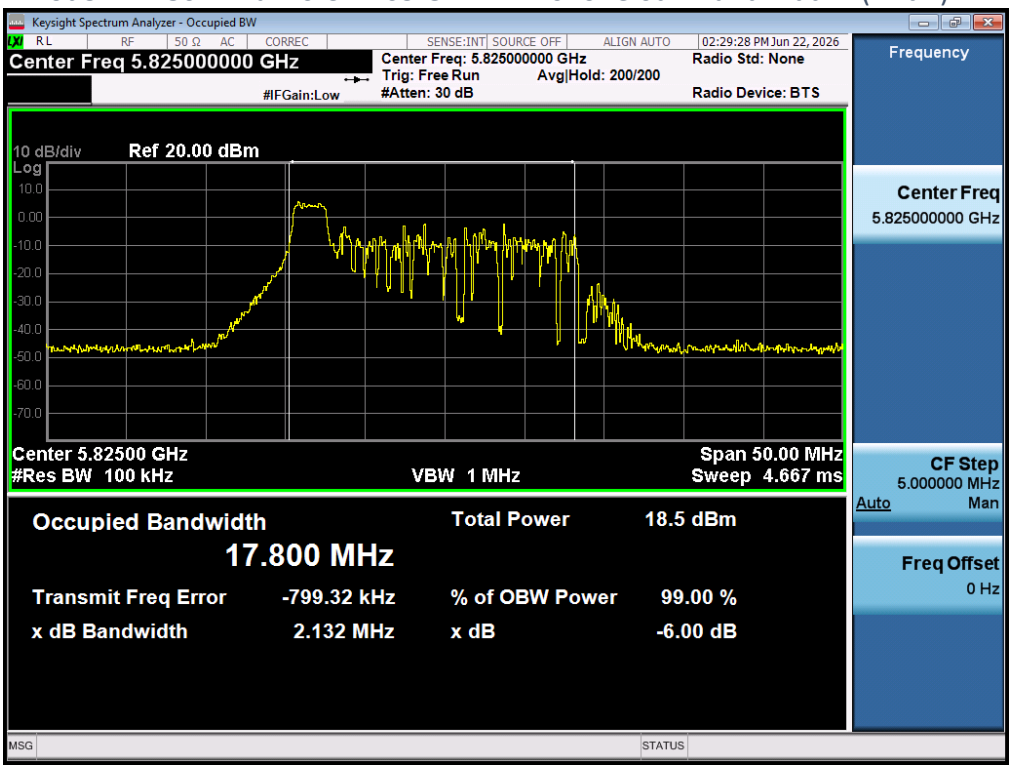
Plot 5-122 802.11ax20 CH.157 OFDMA 26Tone 6dB Bandwidth - (Ant 2)



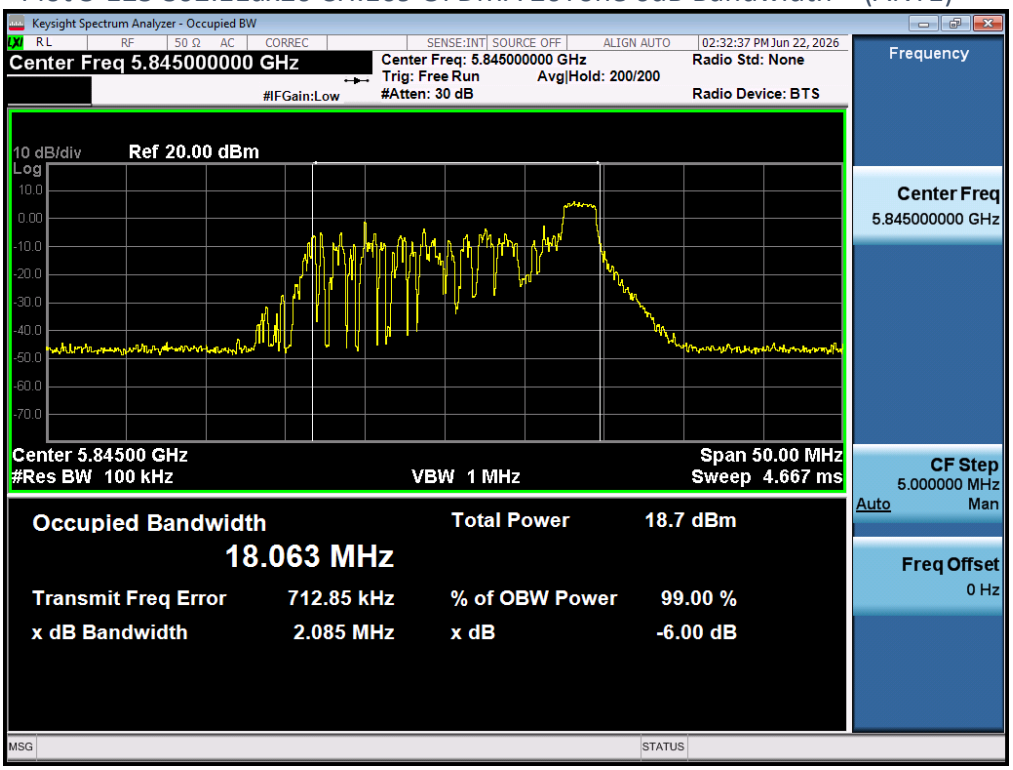
Plot 5-123 802.11ax20 CH.165 OFDMA 26Tone 6dB Bandwidth – (ANT1)



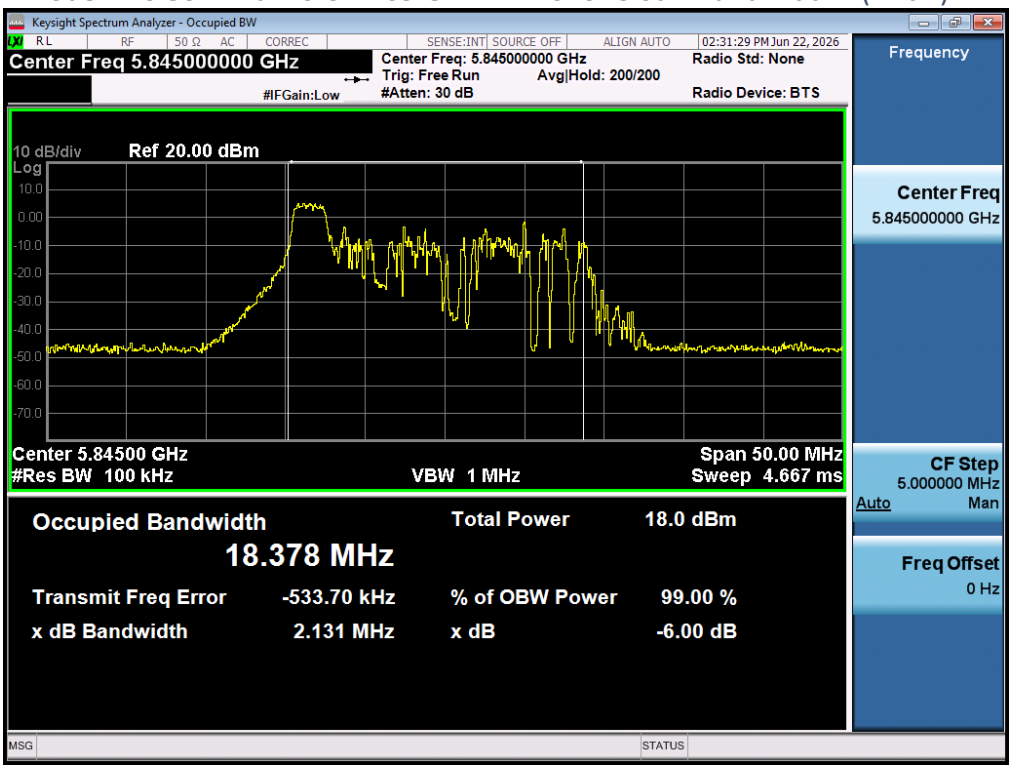
Plot 5-124 802.11ax20 CH.165 OFDMA 26Tone 6dB Bandwidth - (Ant 2)



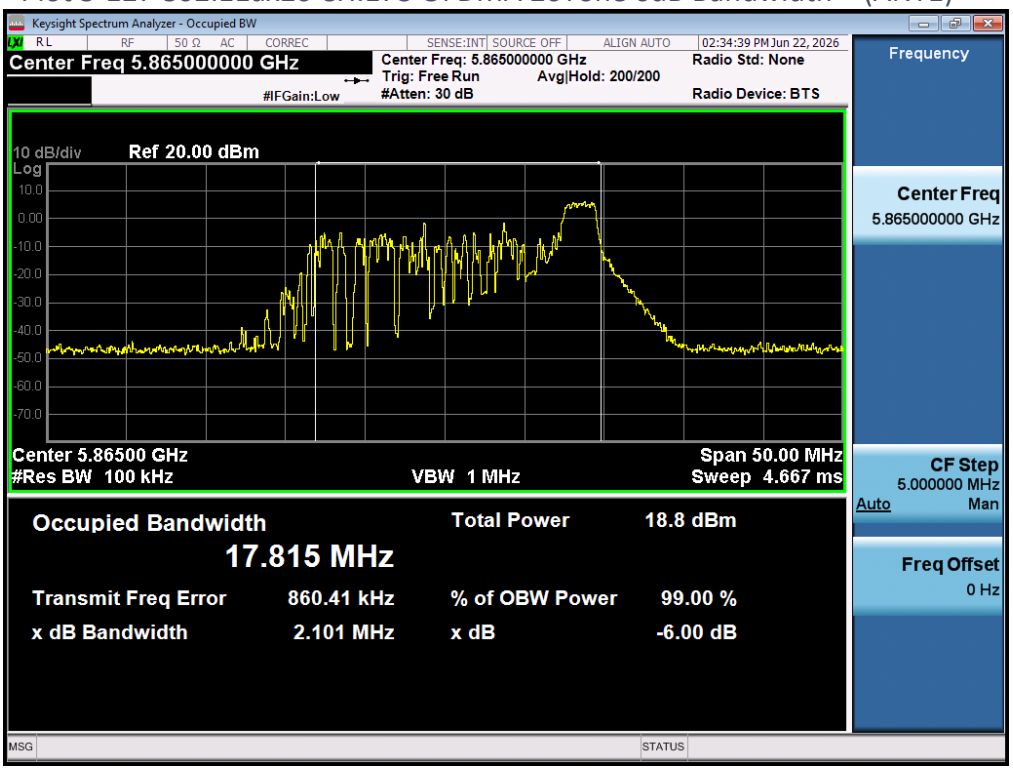
Plot 5-125 802.11ax20 CH.169 OFDMA 26Tone 6dB Bandwidth – (ANT1)



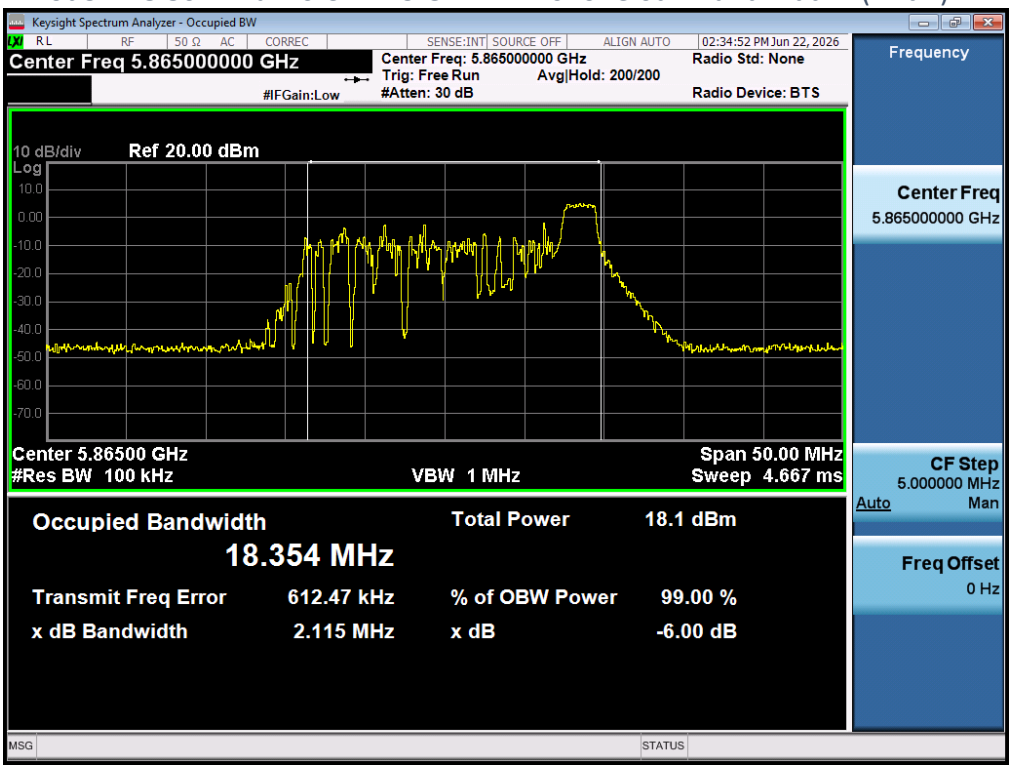
Plot 5-126 802.11ax20 CH.169 OFDMA 26Tone 6dB Bandwidth - (Ant 2)



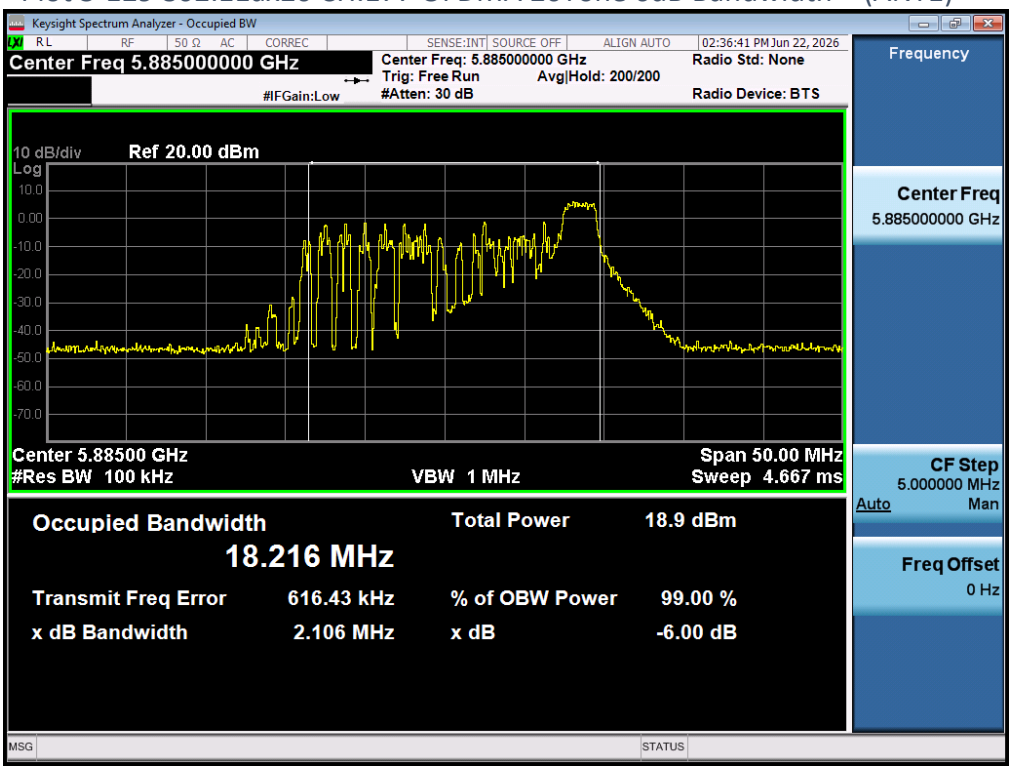
Plot 5-127 802.11ax20 CH.173 OFDMA 26Tone 6dB Bandwidth – (ANT1)



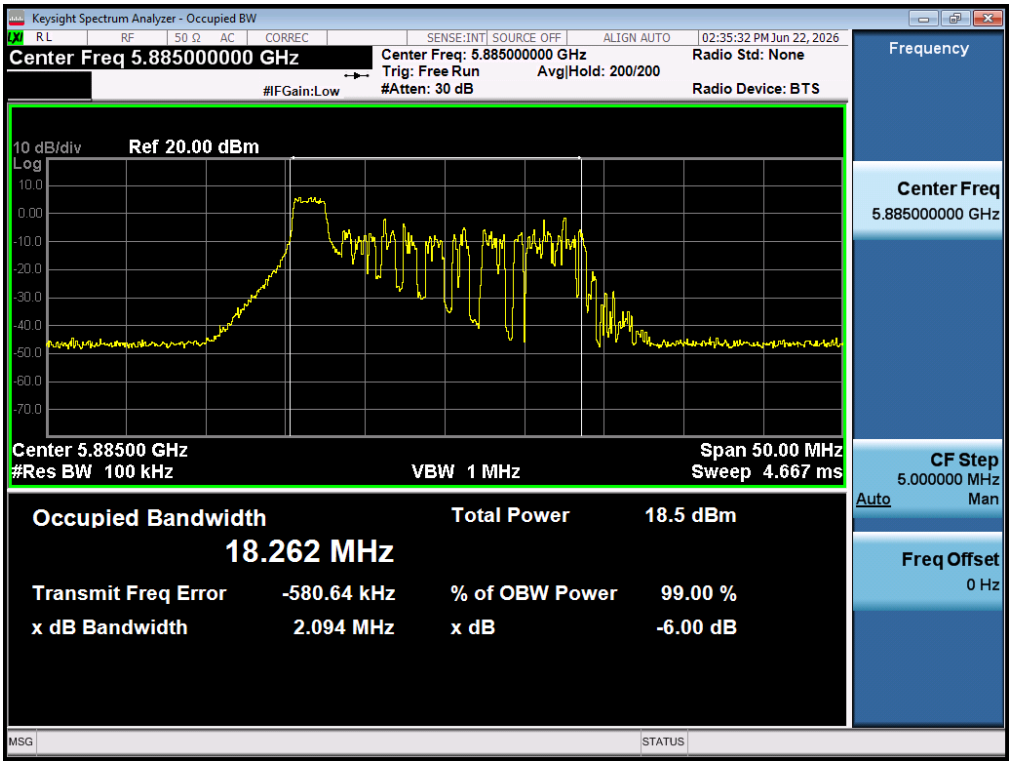
Plot 5-128 802.11ax20 CH.173 OFDMA 26Tone 6dB Bandwidth - (Ant 2)



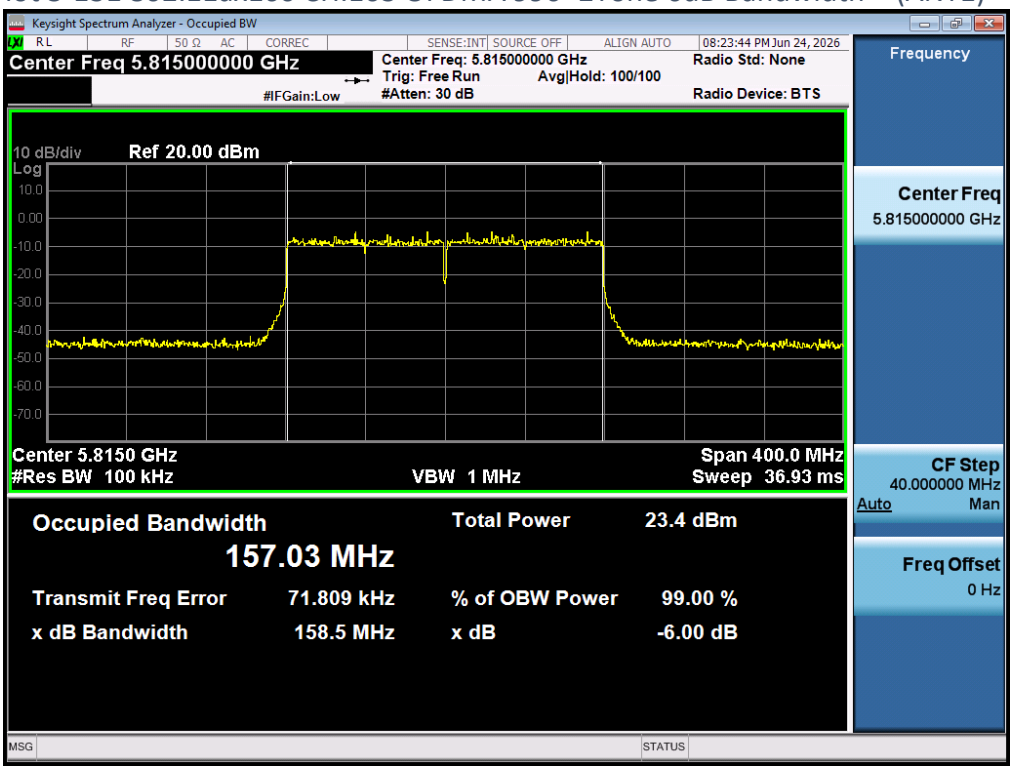
Plot 5-129 802.11ax20 CH.177 OFDMA 26Tone 6dB Bandwidth – (ANT1)



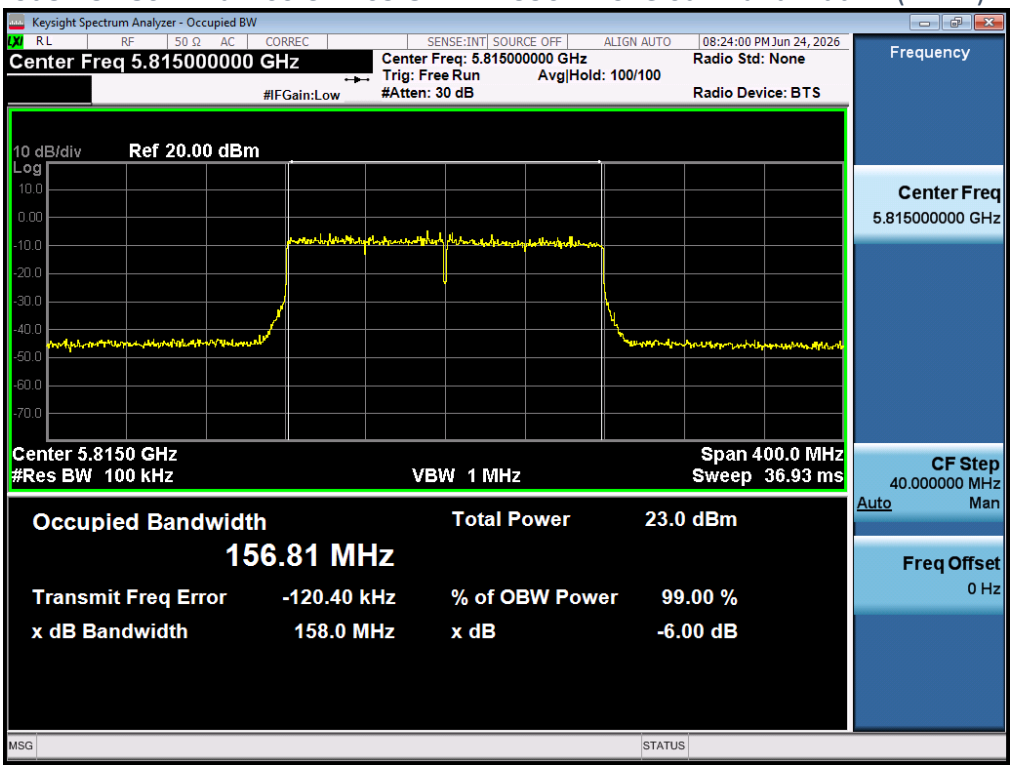
Plot 5-130 802.11ax20 CH.177 OFDMA 26Tone 6dB Bandwidth – (ANT2)



Plot 5-131 802.11ax160 CH.163 OFDMA 996*2Tone 6dB Bandwidth – (ANT1)



Plot 5-132 802.11ax160 CH.163 OFDMA 996*2Tone 6dB Bandwidth – (ANT2)



5.7. Dynamic Frequency Selection

5.7.1. Regulatory Limit

Part. 15.407(h)

Radar Detection Function of Dynamic Frequency Selection (DFS). U-NII devices operating with any part of its 26 dB emission bandwidth in the 5.25-5.35 GHz and 5.47-5.725 GHz bands shall employ a DFS radar detection mechanism to detect the presence of radar systems and to avoid co-channel operation with radar systems. Operators shall only use equipment with a DFS mechanism that is turned on when operating in these bands. The device must sense for radar signals at 100 percent of its emission bandwidth. The minimum DFS detection threshold for devices with a maximum e.i.r.p. of 200 mW to 1 W is −64 dBm. For devices that operate with less than 200 mW e.i.r.p. and a power spectral density of less than 10 dBm in a 1 MHz band, the minimum detection threshold is −62 dBm. The detection threshold is the received power averaged over 1 microsecond referenced to a 0 dBi antenna. For the initial channel setting, the manufacturers shall be permitted to provide for either random channel selection or manual channel selection.

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To demonstrate compliance with the DFS radar requirements outlined in this section, ISED accepts either the FCC KDB Procedure 905462 or the DFS test procedure specified in ETSI EN 301 893.

For devices operating in the 5600-5650 MHz band, only the ETSI EN 301 893 test procedure shall be used to demonstrate compliance. Devices using the FCC KDB Procedure 905462 must operate exclusively within the 5250-5350 MHz, 5470-5600 MHz, 5650-5725 MHz bands, or any combination of these bands.

If any part of an operating device's emission bandwidth falls in the bands 5250-5350 MHz or 5470-5725 MHz, the device shall comply with requirements in the following sections.

Applicability of DFS requirements prior to use of a channel

Requirement	Operational mode		
	Master	Client without radar detection	Client with radar detection
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check time	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

Applicability of DFS requirements during normal operation

Requirement	Operational mode	
	Master or client with radar detection	Client without radar detection
DFS Detection Threshold	Yes	Not required
Channel Closing Transmission Time	Yes	Yes
Channel Move time	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required

Additional requirements for devices with multiple bandwidth modes	Operational mode	
	Master or client with radar detection	Client without radar detection
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required
Note: Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.		

DFS response requirement values

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel availability check time	60 seconds
Channel move time	10 seconds
	See Note 1.
Channel closing transmission time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.	
Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.	

DFS detection thresholds

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP ≥ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm
Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.	
Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.	
Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.	

Radar test waveforms

Radar type	Pulse width (µsec)	PRI (µsec)	Number of pulses	Minimum percentage of successful detection	Minimum number of trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in section 2.6.2.	$\text{Roundup}\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot 10^6}{PRI_{\mu sec}}\right)\right\}$	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066 µsec, with a minimum increment of 1 µsec, excluding PRI values selected in Test A			
2	1 ~ 5	150 ~ 230	23 ~ 29	60%	30
3	6 ~ 10	200 ~ 500	16 ~ 18	60%	30
4	11 ~ 20	200 ~ 500	12 ~ 16	60%	30
Aggregate (Radar Types 1-4)				80%	120

Note 1: As the EUT is a Client Device with no Radar Detection only one type radar pulse is required for the testing. Radar Pulse type 0 was used in the evaluation of the Client device for the purpose of measuring the Channel Move Time and the Channel Closing Transmission Time.
Note 2: This report was applied Short Pulse Radar Type 0.

5.7.2. Test Method

KDB 987594 D02 905462 v02

5.7.3. Test Procedure

a) One frequency will be chosen from the Operating Channels of the UUT within the 5250-5350 MHz or 5470-5725 MHz bands.
b) The Client Device (DUT) is set up as shown in the diagram above, and communications between the Master device and the Client is established.
c) The channel loading test file is steamed from the Master Device to the Client Device on the test Channel for the entire period of the test.
d) An additional 1 dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors.
e) Observe the transmissions of the UUT at the end of the Burst on the Operating Channel for duration greater than 12 seconds for Radar Type 0 to ensure detection occurs.
f) After the initial radar burst the channel is monitored for 30 minutes to ensure no transmissions or beacons occur. A second monitoring setup is used to verify that the Master and Client have both moved to different channels.

Spectrum analyzer setting parameter

a) RBW ≥ 3 MHz
b) VBW ≥ 3 MHz
c) Detector = Peak
d) Span = Zero Span
e) Sweep Time ≥ 12 s

5.7.4. Test Results

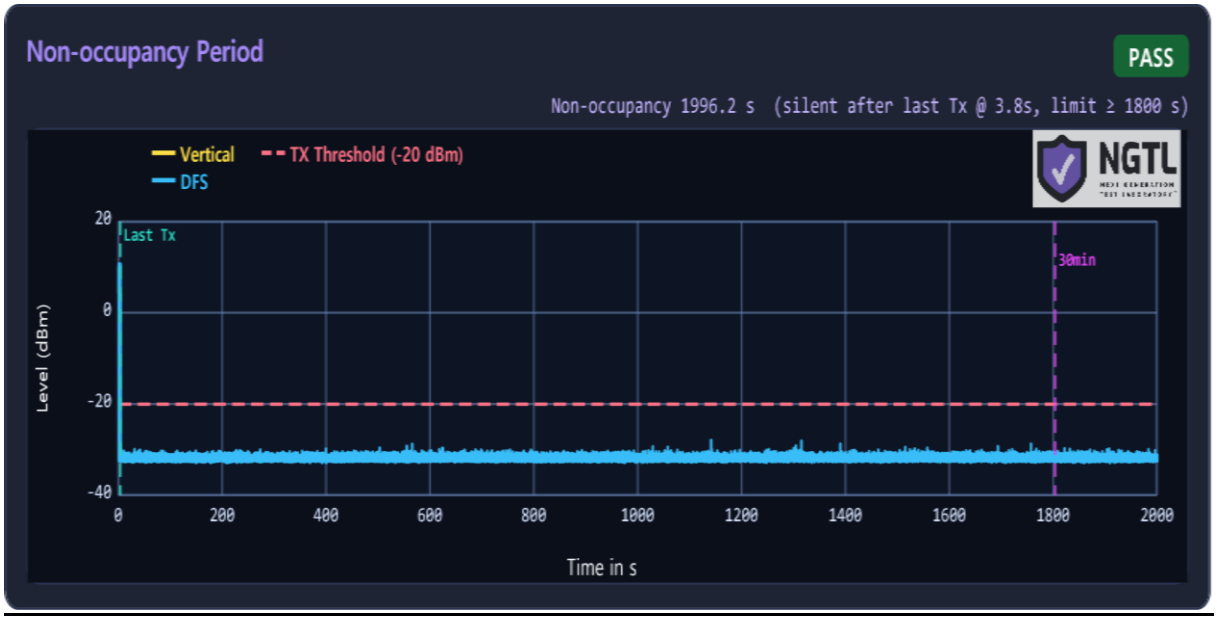
Table 5-30 DFS TEST Results

Parameter	Limit	Results
Channel move time	10 seconds	1.78 s Note 1
Channel closing transmission time	200 ms + aggregate of 60ms over remaining 10 second period	16.5 ms Note 1, 2
Non-occupancy period	30 minutes	PASS

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.
Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

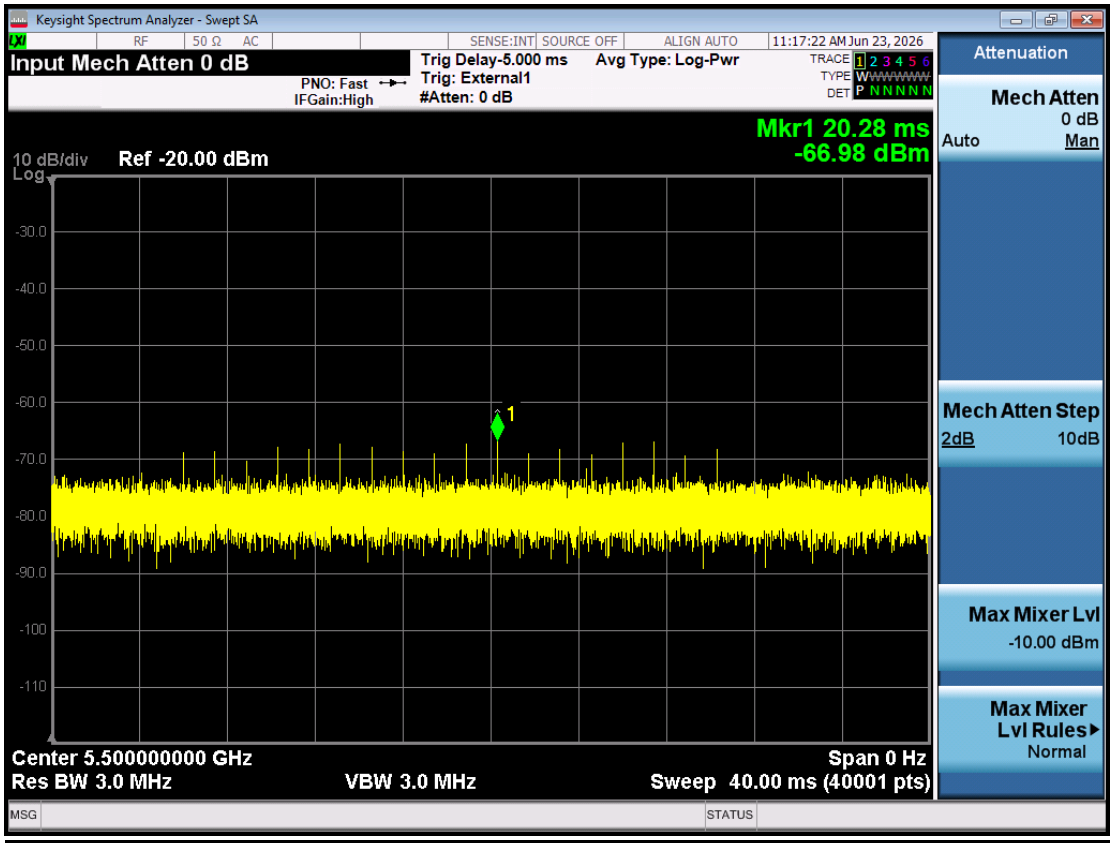
Plot 5-133 Channel Move Time & Channel Closing Transmission Time

Plot 5-134 Non-occupancy period



Plot 5-135 Channel Loading

Plot 5-136 Radar Pulse Type 0



6. Radiated Test Results

6.1. Test Configuration

Description of EUT

Description of EUT The DUT is a portable wireless handset designed to operate across multiple wireless communication standards and frequency bands. This report covers the compliance testing of the 5 GHz WLAN transmitter in accordance with the applicable FCC and ISED requirements. All operating modes, channels, and data rates across the U-NII bands were investigated. The results documented herein represent the worst-case emissions and only the worst-case results are included in this report.

Radiated Test Facilities & Setup

Radiated emissions testing was Conducted in an indoor 3-meter semi-anechoic chamber (SAC). For all frequency ranges, the turntable was rotated 360° and the receive antenna height was varied from 1 m to 4 m to maximize emissions. The specific test setups and calibrated, linearly polarized antennas utilized are as follows:

- 9 kHz to 30 MHz : DUT height at 0.8 m / Active Loop Antenna
- 30 MHz to 1 GHz : DUT height at 0.8 m / No floor absorbers / Broadband Bi-log Antenna
- 1 GHz to 18 GHz : DUT height at 1.5 m / Floor absorbers deployed / Broadband Double-Ridge Horn Antenna
- Above 18 GHz : DUT height at 1.5 m / Floor absorbers deployed / Standard Gain Horn Antenna

Test Orientations

The DUT was investigated in three orthogonal orientations (X, Y, and Z) for each band. Since the equipment transmits below 10 GHz, Radiated Spurious Emissions testing was performed from 9 kHz up to the lower of the tenth harmonic of the highest fundamental frequency or 40 GHz. Testing from 1 GHz to 18 GHz was performed on the low, mid, and high channels. Testing below 1 GHz and above 18 GHz was conducted only under the worst-case configuration. In accordance with ANSI C63.10, measurement results for frequencies below 1 GHz and above 18 GHz are included in the report only when emissions are detected within 20 dB of the applicable limit.

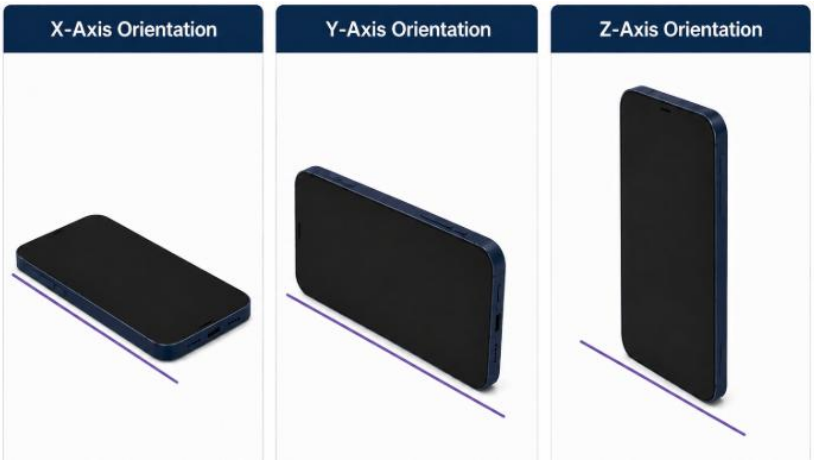


Figure 6-1 Three orthogonal orientations.

Radiated emissions were captured using automated test software 'NGTL ATE' Ver. 0.00.

6.2. Radiated Measurement Setup

Figure 6-2 Radiated Measurement Setup Below 30 MHz

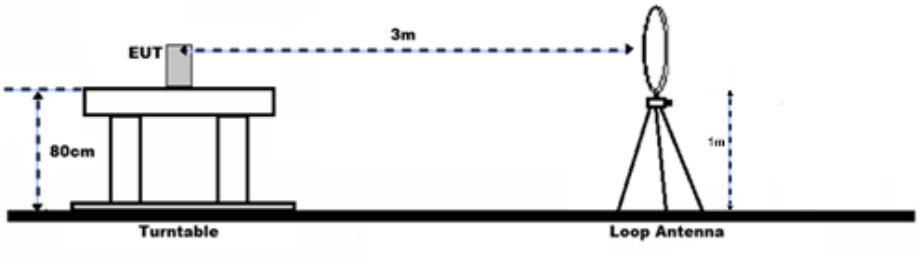


Figure 6-3 Radiated Measurement Setup Below 1 GHz

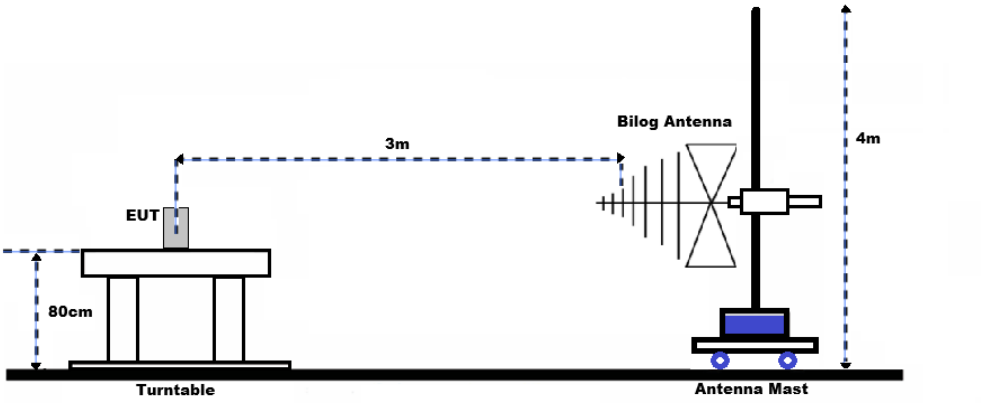
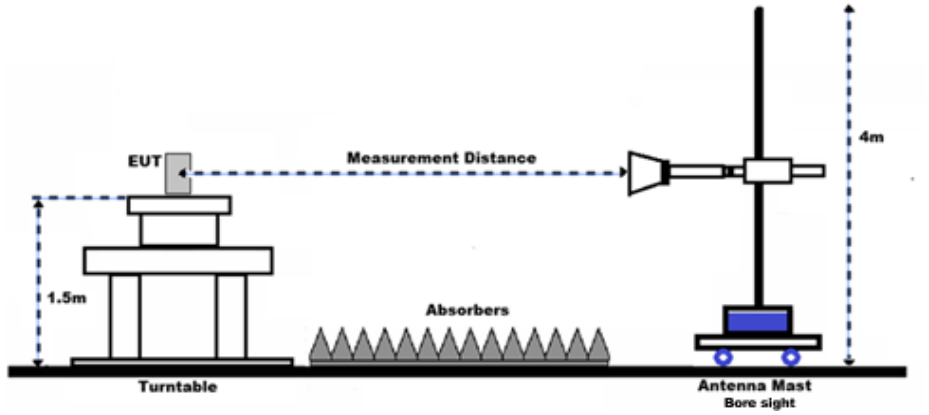


Figure 6-4 Radiated Measurement Setup Above 1 GHz



6.3. Radiated Measurement Sample

Serial Number(s) : ZDH0461M, ZDH0460M

6.4. Radiated Spurious Emissions

6.4.1. Regulatory Limit

Part 15.205 Restriction band of operation

Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(Above 38.6)
13.36-13.41			

Part 15.209 Radiated emission limit; general requirements

Except as shown in paragraph (b)(6) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 – 0.490	2400 / F(kHz)	300
0.490 – 1.705	24000 / F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100**	3
88 – 216	150**	3
216 – 960	200**	3
Above 960	500	3

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§15.231 and 15.241.

Part 15.407 (b)

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz

(4) For transmitters operating solely in the 5.725-5.850 GHz band:

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.

(5) For transmitters operating solely in the 5.850-5.895 GHz band or operating on a channel that spans 5.725-5.895 GHz:

For an indoor access point or subordinate device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of 15 dBm/MHz and shall decrease linearly to an e.i.r.p. of −7 dBm/MHz at or above 5.925 GHz.

For a client device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of −5 dBm/MHz and shall decrease linearly to an e.i.r.p. of −27 dBm/MHz at or above 5.925 GHz.

For a client device or indoor access point or subordinate device, all emissions below 5.725 GHz shall not exceed an e.i.r.p. of −27 dBm/MHz at 5.65 GHz increasing linearly to 10 dBm/MHz at 5.7 GHz, and from 5.7 GHz increasing linearly to a level of 15.6 dBm/MHz at 5.72 GHz, and from 5.72 GHz increasing linearly to a level of 27 dBm/MHz at 5.725 GHz.

RSS-GEN - Section 8.9

Except where otherwise indicated in the applicable RSS, radiated emissions shall comply with the field strength limits shown in table 5 and table 6. Additionally, the level of any transmitter unwanted emission shall not exceed the level of the transmitter's fundamental emission.

Frequency (MHz)	Magnetic field strength (H-Field) (μA/m)	Measurement Distance (m)
0.009 – 0.490[Note]	6.37/F (F in kHz)	300
0.490 – 1.705	63.7/F (F in kHz)	30
1.705 – 30.0	0.08	30

The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
30 – 88	100**	3
88 – 216	150**	3
216 – 960	200**	3
Above 960	500	3

RSS-GEN - Section 8.10

Restricted frequency bands

Restricted frequency bands, identified in table 7, are designated primarily for safety-of-life services (distress calling and certain aeronautical activities), certain satellite downlinks, radio astronomy and some government uses. Except where otherwise indicated, the following conditions related to the restricted frequency bands apply:

a. The transmit frequency, including fundamental components of modulation, of license-exempt radio apparatus shall not fall within the restricted frequency bands listed in table 7 except for apparatus compliant with RSS-287, Emergency Position Indicating Radio Beacons (EPIRB), Emergency Locator Transmitters (ELT), Personal Locator Beacons (PLB), and Maritime Survivor Locator Devices (MSLD).
b. Unwanted emissions that fall into restricted frequency bands listed in table 7 shall comply with the limits specified in table 5 and table 6.
c. Unwanted emissions that do not fall within the restricted frequency bands listed in table 7 shall co mply either with the limits specified in the applicable RSS or with those specified in table 5 and tabl e 6.

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	13.36 - 13.41	960 - 1427	9.0 - 9.2
0.495 - 0.505	16.42 - 16.423	1435 - 1626.5	9.3 - 9.5
2.1735 - 2.1905	16.69475 - 16.69525	1645.5 - 1646.5	10.6 - 12.7
3.020 - 3.026	16.80425 - 16.80475	1660 - 1710	13.25 - 13.4
4.125 - 4.128	25.5 - 25.67	1718.8 - 1722.2	14.47 - 14.5
4.17725 - 4.17775	37.5 - 38.25	2200 - 2300	15.35 - 16.2
4.20725 - 4.20775	73 - 74.6	2310 - 2390	17.7 - 21.4
5.677 - 5.683	74.8 - 75.2	2483.5 - 2500	22.01 - 23.12
6.215 - 6.218	108 – 138	2655 - 2900	23.6 - 24.0
6.26775 - 6.26825	149.9 - 150.05	3260 – 3267	31.2 - 31.8
6.31175 - 6.31225	156.52475 - 156.52525	3332 - 3339	36.43 - 36.5
8.291 - 8.294	156.7 - 156.9	3345.8 - 3358	Above 38.6
8.362 - 8.366	162.0125 - 167.17	3500 - 4400	
8.37625 - 8.38675	167.72 - 173.2	4500 - 5150	
8.41425 - 8.41475	240 – 285	5350 - 5460	
12.29 - 12.293	322 - 335.4	7250 - 7750	
12.51975 - 12.52025	399.9 - 410	8025 – 8500	
12.57675 - 12.57725	608 - 614		

RSS-247 - Section 7.3

(1) All emissions outside the 5150-5350 MHz band shall not exceed -27 dBm/MHz peak e.i.r.p. spectral density.

(2) All emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz peak e.i.r.p spectral density.

(3) For devices with fundamental emissions fully contained within the 5470-5725 MHz band, all unwanted emissions outside the band 5470-5725 MHz shall not exceed -27 dBm/MHz peak e.i.r.p. spectral density.

(4) For devices with bandwidth overlapping the band edge of 5725 MHz, all unwanted emissions shall not exceed -27 dBm/MHz peak e.i.r.p. spectral density at 5850 MHz instead of 5725 MHz.

(5) Equipment operating in the band 5725-5850 MHz shall comply with the following peak e.i.r.p. spectral density limits:

a. 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz ab ove or below the band edges;
b. 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;
c. 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and
d. -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.

(6) For the band edge 5725 MHz and below, all devices shall be measured using peak detection and shall comply with the following e.i.r.p. spectral density limits:

a. 27 dBm/MHz at frequencies from the 5725 MHz band edge decreasing linearly to 15.6 dBm/MHz at 5 MHz below the 5725 MHz band edge
b. 15.6 dBm/MHz at 5 MHz below the 5725 MHz band edge decreasing linearly to 10 dBm/MHz at 25 MHz below the 5725 MHz band edge
c. 10 dBm/MHz at 25 MHz below the 5725 MHz band edge decreasing linearly to -27 dBm/MHz at 75 MHz below the 5725 MHz band edge
d. -27 dBm/MHz at frequencies more than 75 MHz below the 5725 MHz band edge

(7) For the 5895 MHz band edge and above, all devices shall be measured using average detection and shall comply with the following e.i.r.p. spectral density limits:

a. fixed outdoor APs and fixed outdoor client devices shall not exceed -27 dBm/MHz at or above the 5 895 MHz band edge.
b. indoor APs or indoor subordinate devices shall not exceed 15 dBm/MHz at the 5895 MHz band edg e and shall decrease linearly to not exceed -7 dBm/MHz at or above 5925 MHz.
c. client devices shall not exceed -5 dBm/MHz at the 5895 MHz band edge and shall decrease linearly to not exceed -27 dBm/MHz at or above 5925 MHz.

6.4.2. Test Method

ANSI C63.10 – 2020, clause 12.7

ANSI C63.10 – 2020, clause 12.7.7

6.4.3. Test Procedure

Quasi-Peak - Below 1 GHz

a) RBW = 120 kHz
b) Detector = Quasi-Peak
c) Sweep time = Auto (Coupled) or sufficient to investigate
d) Trace mode = Max-Hold

Peak measurement - above 1 GHz

a) RBW = 1 MHz
b) VBW ≥ [3 × RBW]
c) Detector = Peak
d) Trace mode = Max-Hold
e) Allow sweeps to continue until the trace stabilizes. Note that if the transmission is not continuous, then the time required for the trace to stabilize will increase by a factor of approximately 1 / D, where D is the duty cycle. For example, at 50% duty cycle, the measurement time will increase by a factor of two, relative to measurement time for continuous transmission.

Average measurement - above 1 GHz [Method AD]

a) RBW = 1 MHz
b) VBW ≥ [3 × RBW]
c) Detector = RMS
d) Trace mode = Max-Hold
e) Sweep time = Auto (Coupled) or sufficient to investigate
f) Sweep count = Same or greater than 100
g) If tests are performed with the EUT transmitting at a duty cycle less than 98%, then a correction factor shall be added to the measurement results prior to comparing with the emission limit, to compute the emission level that would have been measured had the test been performed at 100% duty cycle. The correction factor is computed as follows:

1) If power averaging (rms) mode was used in the preceding step e), then the correction factor is [10 log (1 / D)], where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 3 dB shall be added to the measured emission levels.

6.4.4. Sample Calculation

Where relevant, the following sample calculation is provided:

EIRP (dBm)= Measured Voltage (dBµV) + DCCF (dB) + Antenna Factor (dB/m)+ Total Loss [Cable Loss (dB) – Preamp Gain (dB)]

EIRP (dBm) = 44.88 dBµV + 4.90 dB/m = 49.78 dBµV/m

The EIRP limit was converted to a field strength limit in dBµV/m

E(dBµV/m) = EIRP (dBm) + 95.2 for d = 3 m
= -27 dBm/MHz + 95.2 = 68.2 dBµV/m

* DCCF: Duty Cycle Correction Factor

Test Note

✓ The EIRP limit was converted to a field strength limit in dBµV/m at 3-meter distance and applied to the test results.

6.4.5. Radiated Spurious Test Results

Plot 6-1 Radiated Spurious Emissions 30 MHz to 1 000 MHz Worst case 802.11a 5 200 MHz

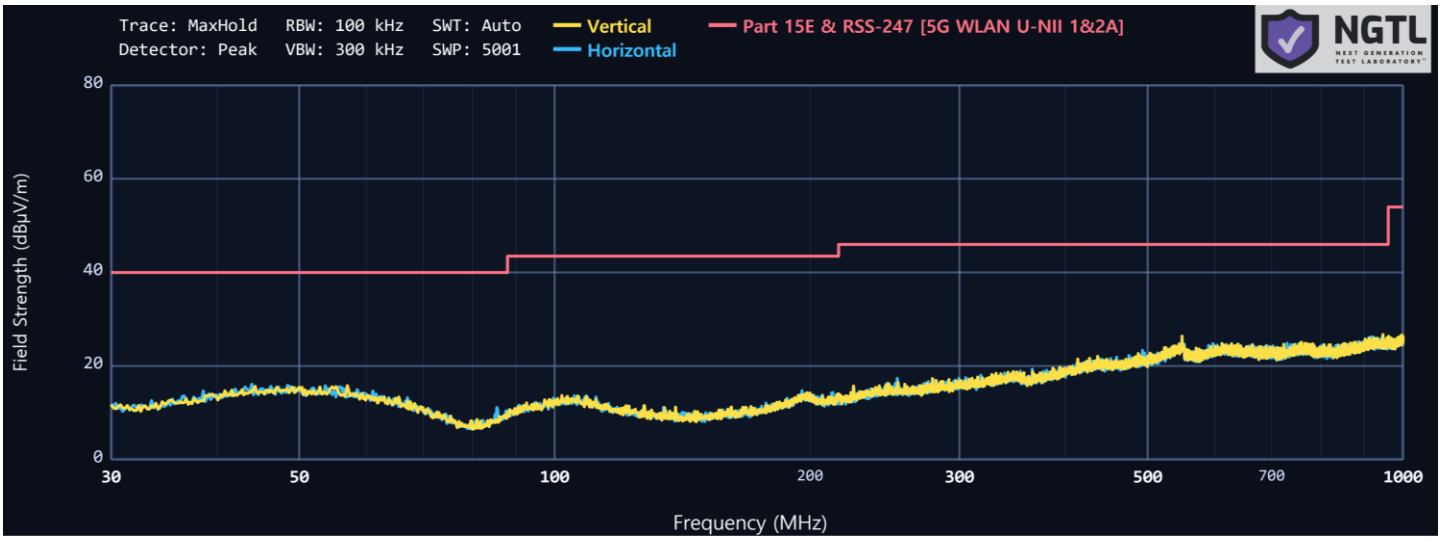


Table 6-1 Radiated Spurious Emissions 30 MHz to 1000 MHz

Test mode	Tested Frequency [MHz]	Frequency [MHz]	Reading Value [dBµV]	Pol [H/V]	Detector Mode	DCCF [dB]	AFCL [dB/m]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]
a	5200	85.48	48.19	H	PK	0.00	- 37.06	11.13	40.00	-28.87
		138.83	48.18	V	PK	0.00	- 36.99	11.19	43.50	-32.31
		548.76	52.58	V	PK	0.00	- 26.22	26.36	46.00	-19.64

Plot 6-2 Radiated Spurious Emissions 18 GHz to 40 GHz Worst case 802.11a 5 785 MHz

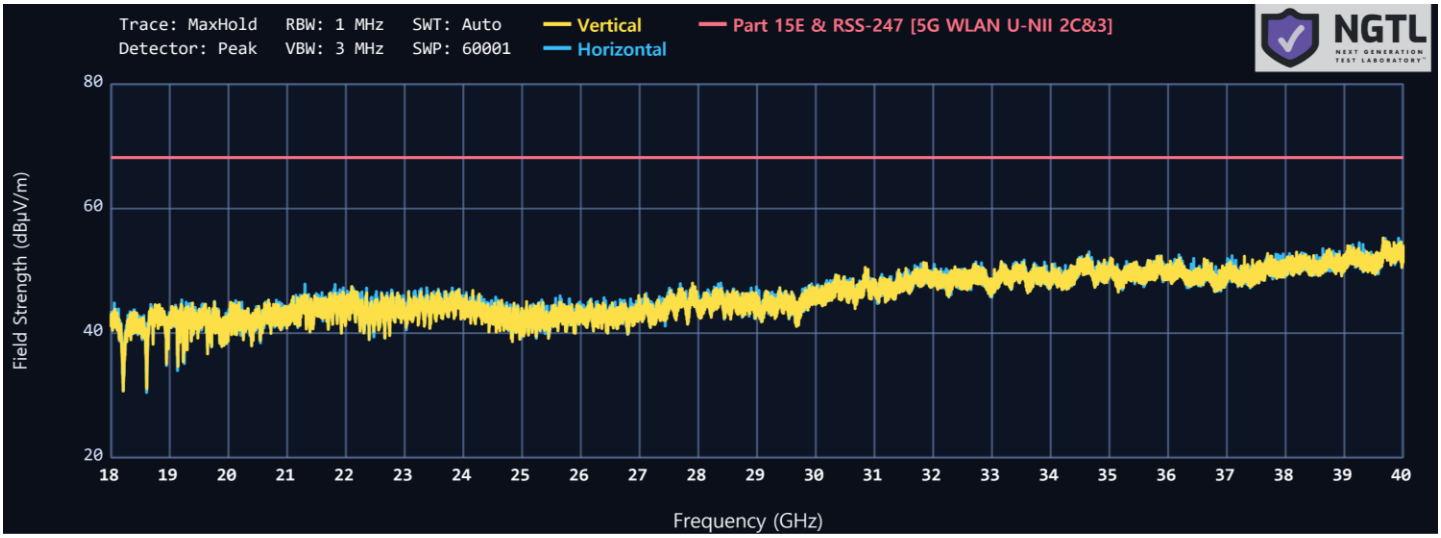
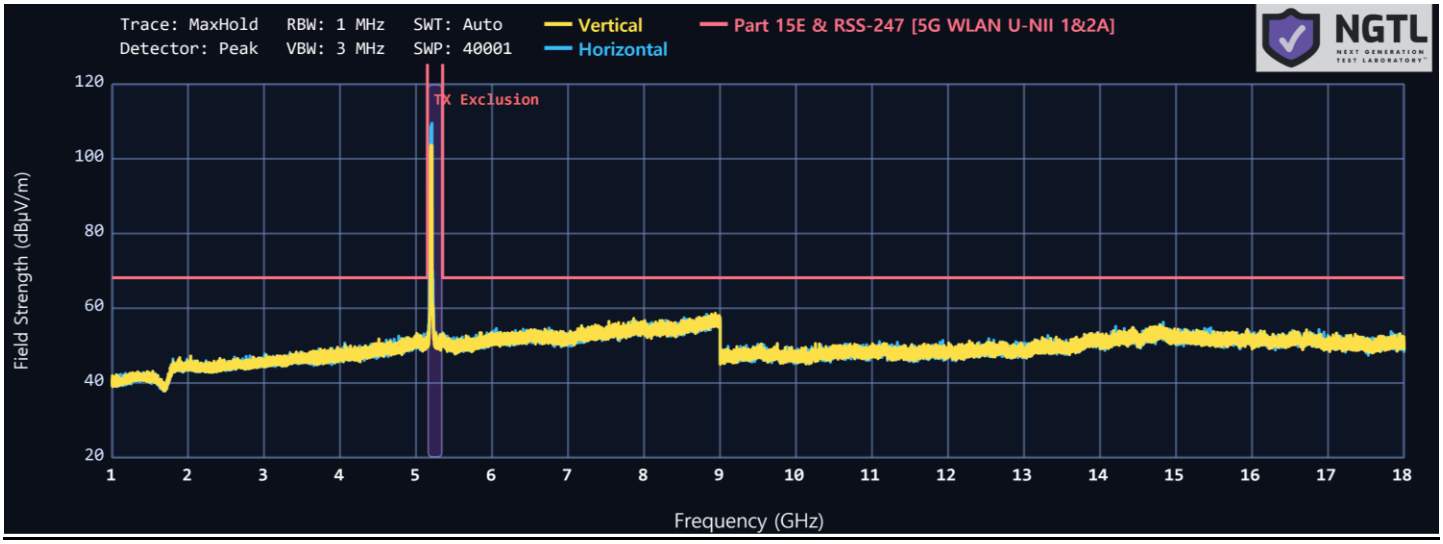


Table 6-2 Radiated Spurious Emissions 18 GHz to 40 GHz

Test mode	Tested Frequency [MHz]	Frequency [MHz]	Reading Value [dBµV]	Pol [H/V]	Detector Mode	DCCF [dB]	AFCL [dB/m]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]
a	5785	23 141.67	36.37	H	PK	0.00	7.50	43.87	68.20	-24.33
		28 925.45	37.41	H	PK	0.00	8.40	45.81	68.20	-22.39
		34 708.82	34.07	H	PK	0.00	15.10	49.17	68.20	-19.03

Plot 6-3 Radiated Spurious Emissions UNII 1 – 5 200 MHz 802.11ax20



Plot 6-4 Radiated Spurious Emissions UNII 2A – 5 300 MHz 802.11a

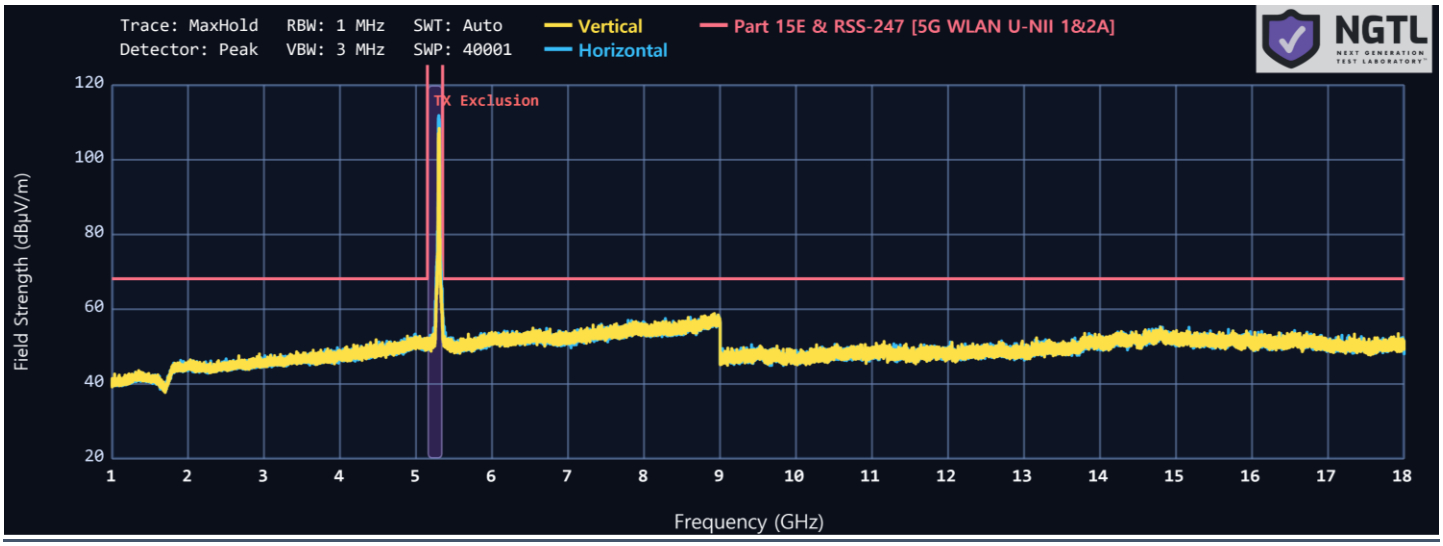


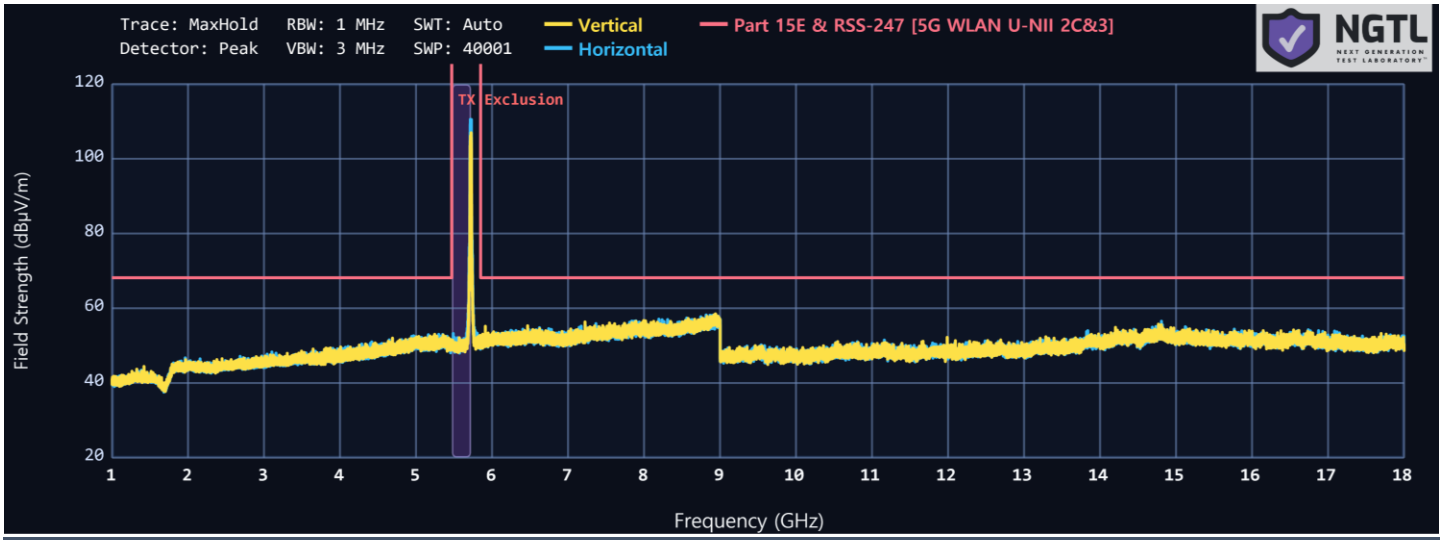
Table 6-3 Radiated Spurious Emissions UNII 1

Test mode	Tested Frequency [MHz]	Frequency [MHz]	Reading Value [dBµV]	Pol [H/V]	Detector Mode	DCCF [dB]	AFCL [dB/m]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]
a	5180	10 361.93	45.20	H	PK	0.00	1.99	47.19	68.20	-21.01
		15 541.83	44.83	H	PK	0.00	6.62	51.45	73.98	-22.53
		15 541.50	34.32	H	AV	0.15	6.62	41.09	53.98	-12.89
	5200	10 400.35	45.30	H	PK	0.00	2.11	47.41	68.20	-20.79
		15 600.55	45.15	H	PK	0.00	6.69	51.84	73.98	-22.14
		15 601.70	34.92	H	AV	0.15	6.69	41.76	53.98	-12.22
	5240	10 480.44	45.01	H	PK	0.00	2.35	47.36	68.20	-20.84
		15 720.96	44.92	H	PK	0.00	6.72	51.64	73.98	-22.34
		15 720.87	34.33	H	AV	0.15	6.72	41.20	53.98	-12.78
n20	5180	10 360.80	45.32	H	PK	0.00	1.99	47.31	68.20	-20.89
		15 540.90	45.55	H	PK	0.00	6.62	52.17	73.98	-21.81
		15 541.20	34.89	H	AV	0.00	6.62	41.51	53.98	-12.47
	5200	10 400.81	45.44	H	PK	0.00	2.11	47.55	68.20	-20.65
		15 601.40	45.98	H	PK	0.00	6.69	52.67	73.98	-21.31
		15 601.26	34.74	H	AV	0.00	6.69	41.43	53.98	-12.55
	5240	10 480.91	44.66	H	PK	0.00	2.35	47.01	68.20	-21.19
		15 721.31	45.04	H	PK	0.00	6.72	51.76	73.98	-22.22
		15 721.99	33.70	H	AV	0.00	6.72	40.42	53.98	-13.56
ax20	5180	10 361.53	45.28	H	PK	0.00	1.99	47.27	68.20	-20.93
		15 541.56	45.72	H	PK	0.00	6.62	52.34	73.98	-21.64
		15 541.07	34.49	H	AV	0.00	6.62	41.11	53.98	-12.87
	5200	10 400.57	45.82	H	PK	0.00	2.11	47.93	68.20	-20.27
		15 600.48	45.61	H	PK	0.00	6.69	52.30	73.98	-21.68
		15 600.47	35.19	H	AV	0.00	6.69	41.88	53.98	-12.10
	5240	10 480.04	44.46	H	PK	0.00	2.35	46.81	68.20	-21.39
		15 721.32	44.61	H	PK	0.00	6.72	51.33	73.98	-22.65
		15 720.99	34.34	H	AV	0.00	6.72	41.06	53.98	-12.92
ax20 26T	5180	10 360.47	44.84	H	PK	0.00	1.99	46.83	68.20	-21.37
		15 540.16	44.96	H	PK	0.00	6.62	51.58	73.98	-22.40
		15 540.34	35.03	H	AV	0.00	6.62	41.65	53.98	-12.33
	5200	10 401.24	46.05	H	PK	0.00	2.11	48.16	68.20	-20.04
		15 600.78	45.54	H	PK	0.00	6.69	52.23	73.98	-21.75
		15 600.26	34.93	H	AV	0.00	6.69	41.62	53.98	-12.36
	5240	10 480.33	45.05	H	PK	0.00	2.35	47.40	68.20	-20.80
		15 720.27	44.38	H	PK	0.00	6.72	51.10	73.98	-22.88
		15 721.41	33.93	H	AV	0.00	6.72	40.65	53.98	-13.33

Table 6-4 Radiated Spurious Emissions UNII 2A

Test mode	Tested Frequency [MHz]	Frequency [MHz]	Reading Value [dBµV]	Pol [H/V]	Detector Mode	DCCF [dB]	AFCL [dB/m]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]
a	5260	10 521.28	45.75	H	PK	0.00	2.60	48.35	68.20	-19.85
		15 780.38	44.90	H	PK	0.00	6.63	51.53	73.98	-22.45
		15 780.18	34.84	H	AV	0.15	6.63	41.62	53.98	-12.36
	5300	10 601.69	45.56	H	PK	0.00	2.32	47.88	68.20	-20.32
		15 900.48	46.09	H	PK	0.00	6.90	52.99	73.98	-20.99
		15 901.40	35.03	H	AV	0.15	6.90	42.08	53.98	-11.90
	5320	10 640.80	45.27	H	PK	0.00	2.40	47.67	73.98	-26.31
		10 641.79	34.60	H	AV	0.15	2.40	37.15	53.98	-16.83
		15 960.44	44.99	H	PK	0.00	6.82	51.81	73.98	-22.17
		15 961.71	33.92	H	AV	0.15	6.82	40.89	53.98	-13.09
n20	5260	10 520.29	44.87	H	PK	0.00	2.60	47.47	68.20	-20.73
		15 781.07	45.42	H	PK	0.00	6.63	52.05	73.98	-21.93
		15 780.74	34.79	H	AV	0.00	6.63	41.42	53.98	-12.56
	5300	10 601.81	45.92	H	PK	0.00	2.32	48.24	68.20	-19.96
		15 900.50	45.58	H	PK	0.00	6.90	52.48	73.98	-21.50
		15 901.28	34.67	H	AV	0.00	6.90	41.57	53.98	-12.41
	5320	10 641.89	44.67	H	PK	0.00	2.40	47.07	73.98	-26.91
		10 640.58	33.74	H	AV	0.00	2.40	36.14	53.98	-17.84
		15 961.26	44.49	H	PK	0.00	6.82	51.31	73.98	-22.67
		15 961.73	33.98	H	AV	0.00	6.82	40.80	53.98	-13.18
ax20	5260	10 520.90	45.01	H	PK	0.00	2.60	47.61	68.20	-20.59
		15 780.93	45.70	H	PK	0.00	6.63	52.33	73.98	-21.65
		15 781.47	34.97	H	AV	0.00	6.63	41.60	53.98	-12.38
	5300	10 601.10	45.78	H	PK	0.00	2.32	48.10	68.20	-20.10
		15 900.57	45.90	H	PK	0.00	6.90	52.80	73.98	-21.18
		15 900.94	34.67	H	AV	0.00	6.90	41.57	53.98	-12.41
	5320	10 640.92	44.54	H	PK	0.00	2.40	46.94	73.98	-27.04
		10 640.15	34.27	H	AV	0.00	2.40	36.67	53.98	-17.31
		15 961.14	44.79	H	PK	0.00	6.82	51.61	73.98	-22.37
		15 960.82	34.10	H	AV	0.00	6.82	40.92	53.98	-13.06
ax20 26T	5260	10 520.70	45.44	H	PK	0.00	2.60	48.04	68.20	-20.16
		15 780.08	44.91	H	PK	0.00	6.63	51.54	73.98	-22.44
		15 780.41	34.88	H	AV	0.00	6.63	41.51	53.98	-12.47
	5300	10 600.42	45.60	H	PK	0.00	2.32	47.92	68.20	-20.28
		15 900.97	45.70	H	PK	0.00	6.90	52.60	73.98	-21.38
		15 900.08	34.75	H	AV	0.00	6.90	41.65	53.98	-12.33
	5320	10 641.25	45.17	H	PK	0.00	2.40	47.57	73.98	-26.41
		10 640.91	33.75	H	AV	0.00	2.40	36.15	53.98	-17.83
		15 960.18	44.47	H	PK	0.00	6.82	51.29	73.98	-22.69
		15 961.96	34.21	H	AV	0.00	6.82	41.03	53.98	-12.95

Plot 6-5 Radiated Spurious Emissions UNII 2C – 5 720 MHz 802.11n20



Plot 6-6 Radiated Spurious Emissions UNII 3 – 5 825 MHz 802.11ax20 26Tone

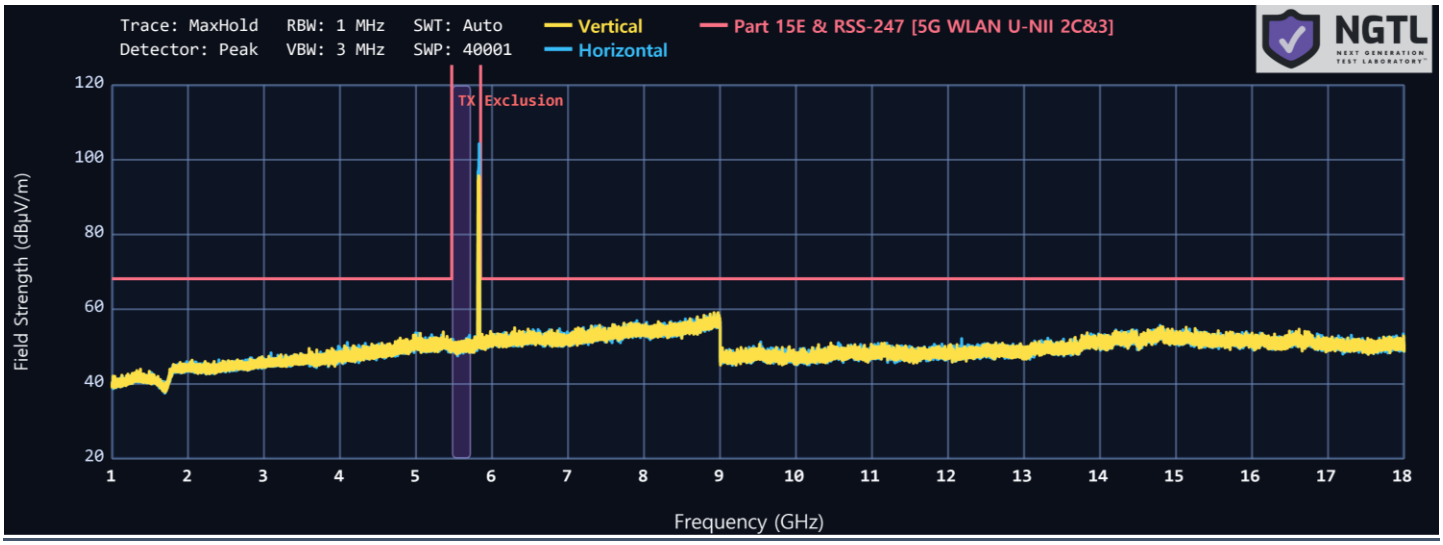


Table 6-5 Radiated Spurious Emissions UNII 2C

Test mode	Tested Frequency [MHz]	Frequency [MHz]	Reading Value [dBµV]	Pol [H/V]	Detector Mode	DCCF [dB]	AFCL [dB/m]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]
a	5500	11 000.11	45.71	H	PK	0.00	2.94	48.65	73.98	-25.33
		11 001.15	34.87	H	AV	0.15	2.94	37.96	53.98	-16.02
		16 501.95	43.37	H	PK	0.00	6.50	49.87	68.20	-18.33
	5600	11 201.14	45.71	H	PK	0.00	3.05	48.76	73.98	-25.22
		11 201.60	34.29	H	AV	0.15	3.05	37.49	53.98	-16.49
		16 801.46	46.22	H	PK	0.00	6.80	53.02	68.20	-15.18
	5720	11 441.20	44.73	H	PK	0.00	3.55	48.28	73.98	-25.70
		11 440.35	34.64	H	AV	0.15	3.55	38.34	53.98	-15.64
		17 160.89	46.01	H	PK	0.00	7.00	53.01	68.20	-15.19
n20	5500	11 000.29	45.13	H	PK	0.00	2.94	48.07	73.98	-25.91
		11 000.21	34.27	H	AV	0.00	2.94	37.21	53.98	-16.77
		16 501.15	43.59	H	PK	0.00	6.50	50.09	68.20	-18.11
	5600	11 201.41	45.14	H	PK	0.00	3.05	48.19	73.98	-25.79
		11 201.64	34.18	H	AV	0.00	3.05	37.23	53.98	-16.75
		16 800.04	46.50	H	PK	0.00	6.80	53.30	68.20	-14.90
	5720	11 440.36	44.50	H	PK	0.00	3.55	48.05	73.98	-25.93
		11 440.61	34.68	H	AV	0.00	3.55	38.23	53.98	-15.75
		17 160.70	46.55	H	PK	0.00	7.00	53.55	68.20	-14.65
ax20	5500	11 001.60	45.34	H	PK	0.00	2.94	48.28	73.98	-25.70
		11 001.87	34.95	H	AV	0.00	2.94	37.89	53.98	-16.09
		16 501.73	43.75	H	PK	0.00	6.50	50.25	68.20	-17.95
	5600	11 201.85	45.47	H	PK	0.00	3.05	48.52	73.98	-25.46
		11 200.08	35.02	H	AV	0.00	3.05	38.07	53.98	-15.91
		16 800.59	46.18	H	PK	0.00	6.80	52.98	68.20	-15.22
	5720	11 440.61	44.56	H	PK	0.00	3.55	48.11	73.98	-25.87
		11 441.30	35.34	H	AV	0.00	3.55	38.89	53.98	-15.09
		17 161.02	46.54	H	PK	0.00	7.00	53.54	68.20	-14.66
ax20 26T	5500	11 001.93	45.29	H	PK	0.00	2.94	48.23	73.98	-25.75
		11 001.36	34.80	H	AV	0.00	2.94	37.74	53.98	-16.24
		16 500.87	43.16	H	PK	0.00	6.50	49.66	68.20	-18.54
	5600	11 200.54	45.51	H	PK	0.00	3.05	48.56	73.98	-25.42
		11 200.62	34.97	H	AV	0.00	3.05	38.02	53.98	-15.96
		16 800.11	46.53	H	PK	0.00	6.80	53.33	68.20	-14.87
	5720	11 440.93	44.83	H	PK	0.00	3.55	48.38	73.98	-25.60
		11 441.73	34.89	H	AV	0.00	3.55	38.44	53.98	-15.54
		17 161.41	46.26	H	PK	0.00	7.00	53.26	68.20	-14.94

Table 6-6 Radiated Spurious Emissions UNII 3

Test mode	Tested Frequency [MHz]	Frequency [MHz]	Reading Value [dBµV]	Pol [H/V]	Detector Mode	DCCF [dB]	AFCL [dB/m]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]
a	5745	11 491.50	46.28	H	PK	0.00	3.65	49.93	73.98	-24.05
		11 490.14	34.09	H	AV	0.15	3.65	37.89	53.98	-16.09
		17 235.41	45.57	H	PK	0.00	7.01	52.58	68.20	-15.62
	5785	11 570.06	44.98	H	PK	0.00	3.94	48.92	73.98	-25.06
		11 571.02	34.72	H	AV	0.15	3.94	38.81	53.98	-15.17
		17 355.31	45.46	H	PK	0.00	7.21	52.67	68.20	-15.53
	5825	11 651.51	45.95	H	PK	0.00	4.13	50.08	73.98	-23.90
		11 651.26	35.89	H	AV	0.15	4.13	40.17	53.98	-13.81
		17 475.73	44.88	H	PK	0.00	7.38	52.26	68.20	-15.94
n20	5745	11 491.45	46.17	H	PK	0.00	3.65	49.82	73.98	-24.16
		11 490.26	34.39	H	AV	0.00	3.65	38.04	53.98	-15.94
		17 236.80	45.52	H	PK	0.00	7.01	52.53	68.20	-15.67
	5785	11 570.50	45.18	H	PK	0.00	3.94	49.12	73.98	-24.86
		11 570.11	34.34	H	AV	0.00	3.94	38.28	53.98	-15.70
		17 356.77	45.12	H	PK	0.00	7.21	52.33	68.20	-15.87
	5825	11 651.74	46.12	H	PK	0.00	4.13	50.25	73.98	-23.73
		11 650.15	35.92	H	AV	0.00	4.13	40.05	53.98	-13.93
		17 475.11	44.83	H	PK	0.00	7.38	52.21	68.20	-15.99
ax20	5745	11 490.23	45.97	H	PK	0.00	3.65	49.62	73.98	-24.36
		11 491.16	34.09	H	AV	0.00	3.65	37.74	53.98	-16.24
		17 235.06	45.58	H	PK	0.00	7.01	52.59	68.20	-15.61
	5785	11 570.57	44.58	H	PK	0.00	3.94	48.52	73.98	-25.46
		11 571.93	34.31	H	AV	0.00	3.94	38.25	53.98	-15.73
		17 355.52	44.95	H	PK	0.00	7.21	52.16	68.20	-16.04
	5825	11 651.69	46.30	H	PK	0.00	4.13	50.43	73.98	-23.55
		11 650.29	36.00	H	AV	0.00	4.13	40.13	53.98	-13.85
		17 475.59	44.68	H	PK	0.00	7.38	52.06	68.20	-16.14
ax20 26T	5745	11 490.37	46.61	H	PK	0.00	3.65	50.26	73.98	-23.72
		11 491.51	34.35	H	AV	0.00	3.65	38.00	53.98	-15.98
		17 235.58	45.09	H	PK	0.00	7.01	52.10	68.20	-16.10
	5785	11 571.29	45.05	H	PK	0.00	3.94	48.99	73.98	-24.99
		11 571.51	34.27	H	AV	0.00	3.94	38.21	53.98	-15.77
		17 355.17	45.19	H	PK	0.00	7.21	52.40	68.20	-15.80
	5825	11 651.65	46.58	H	PK	0.00	4.13	50.71	73.98	-23.27
		11 651.46	36.36	H	AV	0.00	4.13	40.49	53.98	-13.49
		17 475.75	44.76	H	PK	0.00	7.38	52.14	68.20	-16.06

Plot 6-7 Radiated Spurious Emissions UNII 4 – 5 885 MHz 802.11ax20 26Tone

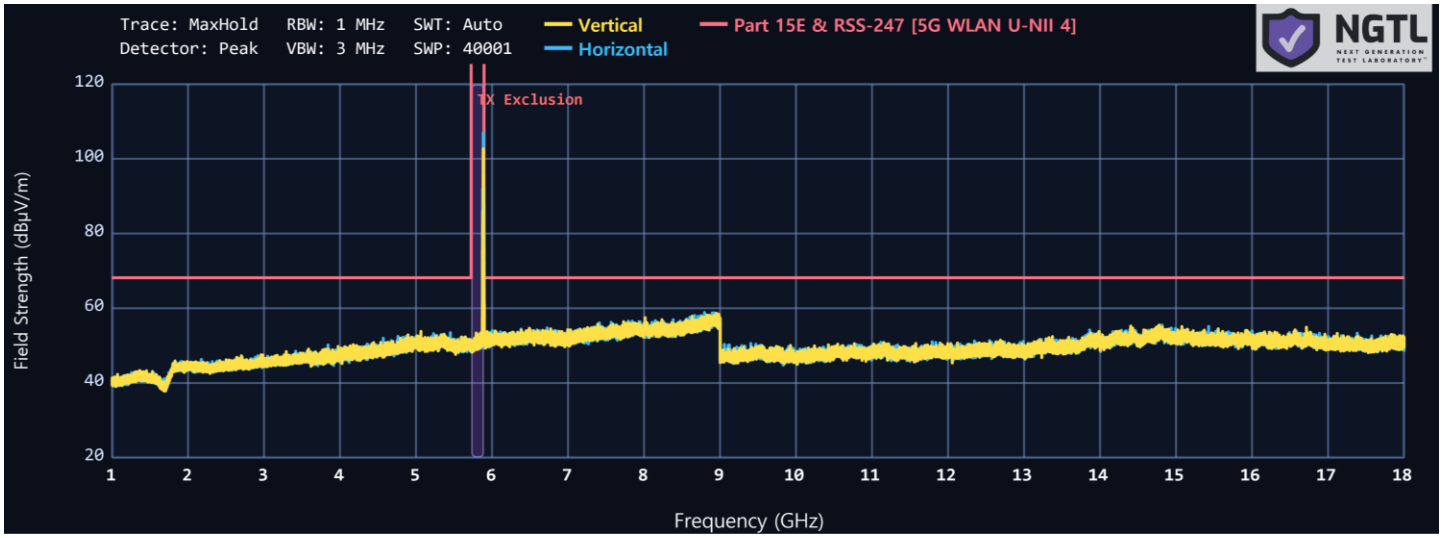


Table 6-7 Radiated Spurious Emissions UNII 4

Test mode	Tested Frequency [MHz]	Frequency [MHz]	Reading Value [dBµV]	Pol [H/V]	Detector Mode	DCCF [dB]	AFCL [dB/m]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]
a	5845	11 690.77	44.71	H	PK	0.00	4.17	48.88	73.98	-25.10
		11 690.06	33.95	H	AV	0.15	4.17	38.27	53.98	-15.71
		17 535.72	44.89	H	PK	0.00	7.57	52.46	68.20	-15.74
	5865	11 730.23	44.96	H	PK	0.00	4.21	49.17	73.98	-24.81
		11 731.72	34.11	H	AV	0.15	4.21	38.47	53.98	-15.51
		17 596.10	45.74	H	PK	0.00	7.78	53.52	68.20	-14.68
	5885	11 770.23	45.93	H	PK	0.00	4.25	50.18	73.98	-23.80
		11 770.12	36.24	H	AV	0.15	4.25	40.64	53.98	-13.34
		17 656.40	45.31	H	PK	0.00	8.00	53.31	68.20	-14.89
n20	5845	11 690.65	45.19	H	PK	0.00	4.17	49.36	73.98	-24.62
		11 691.47	34.29	H	AV	0.00	4.17	38.46	53.98	-15.52
		17 535.56	45.37	H	PK	0.00	7.57	52.94	68.20	-15.26
	5865	11 731.34	44.68	H	PK	0.00	4.21	48.89	73.98	-25.09
		11 730.84	34.69	H	AV	0.00	4.21	38.90	53.98	-15.08
		17 595.60	45.74	H	PK	0.00	7.78	53.52	68.20	-14.68
	5885	11 771.12	45.97	H	PK	0.00	4.25	50.22	73.98	-23.76
		11 770.89	36.13	H	AV	0.00	4.25	40.38	53.98	-13.60
		17 656.96	45.19	H	PK	0.00	8.00	53.19	68.20	-15.01
ax20	5845	11 690.98	45.45	H	PK	0.00	4.17	49.62	73.98	-24.36
		11 691.72	34.27	H	AV	0.00	4.17	38.44	53.98	-15.54
		17 536.72	44.96	H	PK	0.00	7.57	52.53	68.20	-15.67
	5865	11 730.71	44.49	H	PK	0.00	4.21	48.70	73.98	-25.28
		11 730.70	34.62	H	AV	0.00	4.21	38.83	53.98	-15.15
		17 595.01	45.78	H	PK	0.00	7.78	53.56	68.20	-14.64
	5885	11 771.35	46.36	H	PK	0.00	4.25	50.61	73.98	-23.37
		11 771.25	36.19	H	AV	0.00	4.25	40.44	53.98	-13.54
		17 655.23	44.66	H	PK	0.00	8.00	52.66	68.20	-15.54
ax20 26T	5845	11 690.51	45.15	H	PK	0.00	4.17	49.32	73.98	-24.66
		11 691.64	34.85	H	AV	0.00	4.17	39.02	53.98	-14.96
		17 535.22	45.45	H	PK	0.00	7.57	53.02	68.20	-15.18
	5865	11 730.88	44.40	H	PK	0.00	4.21	48.61	73.98	-25.37
		11 731.91	34.90	H	AV	0.00	4.21	39.11	53.98	-14.87
		17 596.32	45.37	H	PK	0.00	7.78	53.15	68.20	-15.05
	5885	11 771.45	46.54	H	PK	0.00	4.25	50.79	73.98	-23.19
		11 770.34	36.53	H	AV	0.00	4.25	40.78	53.98	-13.20
		17 656.14	45.37	H	PK	0.00	8.00	53.37	68.20	-14.83

6.4.6. Radiated Band Edge Test Results

Plot 6-8 UNII 1 Lower Band Edge – 802.11ax40 – Peak & Average

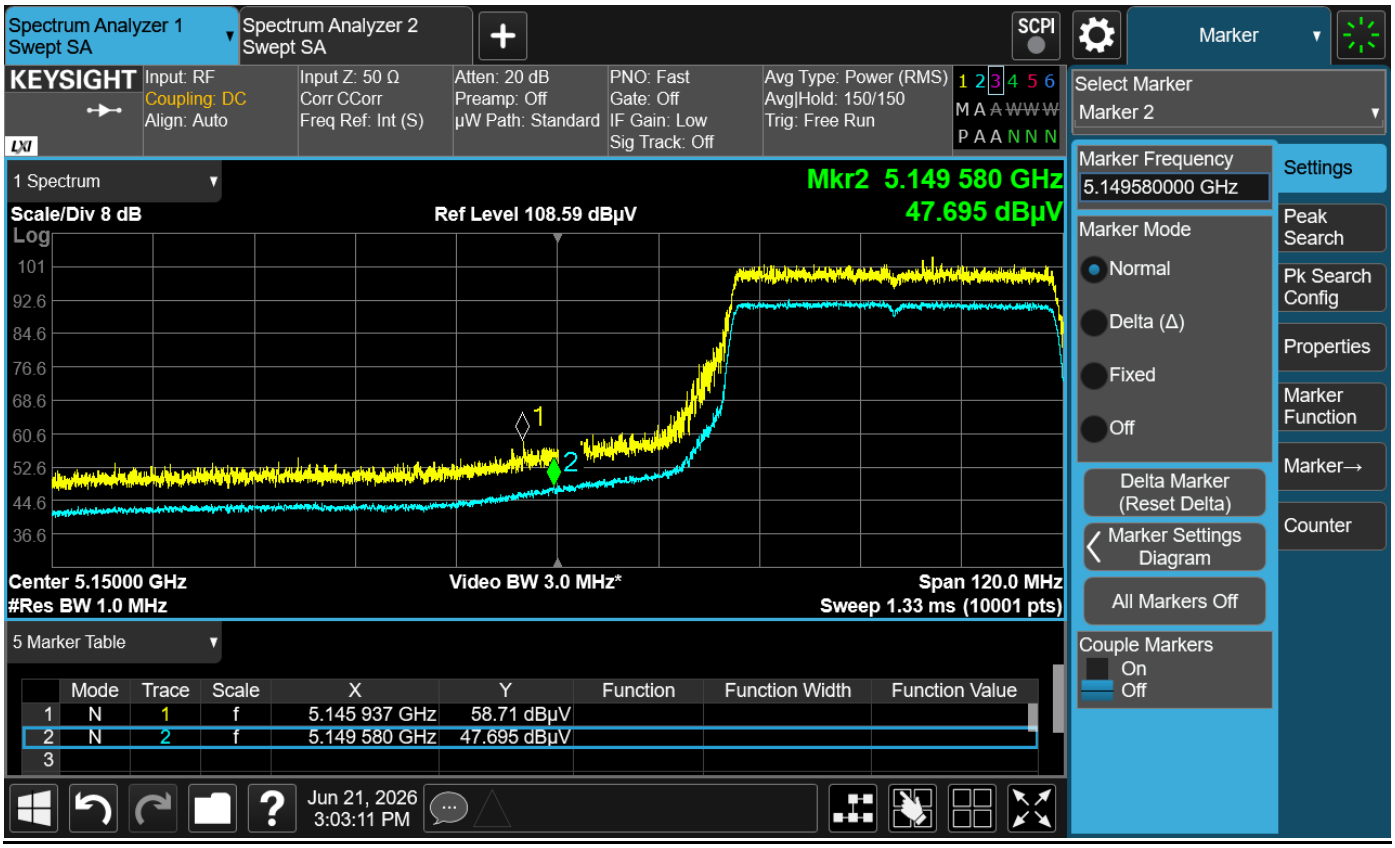


Table 6-8 UNII 1 Radiated Lower Band Edge – 5 150 MHz

Test mode	Tested Frequency [MHz]	Frequency [MHz]	Reading Value [dBµV]	Pol [H/V]	Detector Mode	DCCF [dB]	AFCL [dB/m]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]
a	5180	5 148.85	58.79	H	PK	0.00	4.04	62.83	74.00	-11.17
		5 148.90	46.81	H	AV	0.15	4.04	51.00	54.00	-3.00
n20	5180	5 149.34	58.51	H	PK	0.00	4.04	62.55	74.00	-11.45
		5 149.88	47.53	H	AV	0.00	4.04	51.57	54.00	-2.43
ac20	5180	5 148.15	57.73	H	PK	0.00	4.04	61.77	74.00	-12.23
		5 149.53	47.29	H	AV	0.00	4.04	51.33	54.00	-2.67
ax20	5180	5 149.49	56.91	H	PK	0.00	4.04	60.95	74.00	-13.05
		5 149.87	47.33	H	AV	0.00	4.04	51.37	54.00	-2.63
n40	5190	5 147.95	57.68	H	PK	0.00	4.04	61.72	74.00	-12.28
		5 149.60	46.79	H	AV	0.17	4.04	51.00	54.00	-3.00
ac40	5190	5 148.18	58.06	H	PK	0.00	4.04	62.10	74.00	-11.90
		5 149.78	44.58	H	AV	3.02	4.04	51.64	54.00	-2.36
ax40	5190	5 145.94	58.71	H	PK	0.00	4.04	62.75	74.00	-11.25
		5 149.58	47.70	H	AV	0.00	4.04	51.74	54.00	-2.27
ac80	5210	5 132.92	59.49	H	PK	0.00	4.04	63.53	74.00	-10.47
		5 146.18	46.85	H	AV	0.35	4.04	51.24	54.00	-2.76
ax80	5210	5 134.22	56.88	H	PK	0.00	4.04	60.92	74.00	-13.08
		5 147.68	46.90	H	AV	0.00	4.04	50.94	54.00	-3.06
ac160	5250	5 147.01	62.30	H	PK	0.00	4.04	66.34	74.00	-7.66
		5 113.22	46.53	H	AV	0.66	4.04	51.23	54.00	-2.77
ax160	5250	5 146.33	61.00	H	PK	0.00	4.04	65.04	74.00	-8.96
		5 146.33	46.40	H	AV	0.00	4.04	50.44	54.00	-3.56
ax20 26T	5180	5 147.78	52.55	H	PK	0.00	4.04	56.59	74.00	-17.41
		5 149.31	42.67	H	AV	0.00	4.04	46.71	54.00	-7.29
ax20 52T	5180	5 148.81	53.43	H	PK	0.00	4.04	57.47	74.00	-16.53
		5 149.80	43.30	H	AV	0.00	4.04	47.34	54.00	-6.66
ax20 106T	5180	5 149.60	62.54	H	PK	0.00	4.04	66.58	74.00	-7.42
		5 149.37	46.68	H	AV	0.00	4.04	50.72	54.00	-3.28
ax20 242T	5180	5 148.13	63.24	H	PK	0.00	4.04	67.28	74.00	-6.72
		5 148.22	47.39	H	AV	0.00	4.04	51.43	54.00	-2.57
ax40 484T	5190	5 143.39	59.21	H	PK	0.00	4.04	63.25	74.00	-10.75
		5 149.74	47.51	H	AV	0.00	4.04	51.55	54.00	-2.45
ax80 996T	5210	5 148.99	58.04	H	PK	0.00	4.04	62.08	74.00	-11.92
		5 149.86	46.65	H	AV	0.12	4.04	50.81	54.00	-3.19
ax160 996X2T	5150	5 139.98	60.81	H	PK	0.00	4.04	64.85	74.00	-9.15
		5 141.67	46.43	H	AV	0.00	4.04	50.47	54.00	-3.53

Plot 6-9 UNII 2A Upper Band Edge – 802.11ac80 – Peak & Average

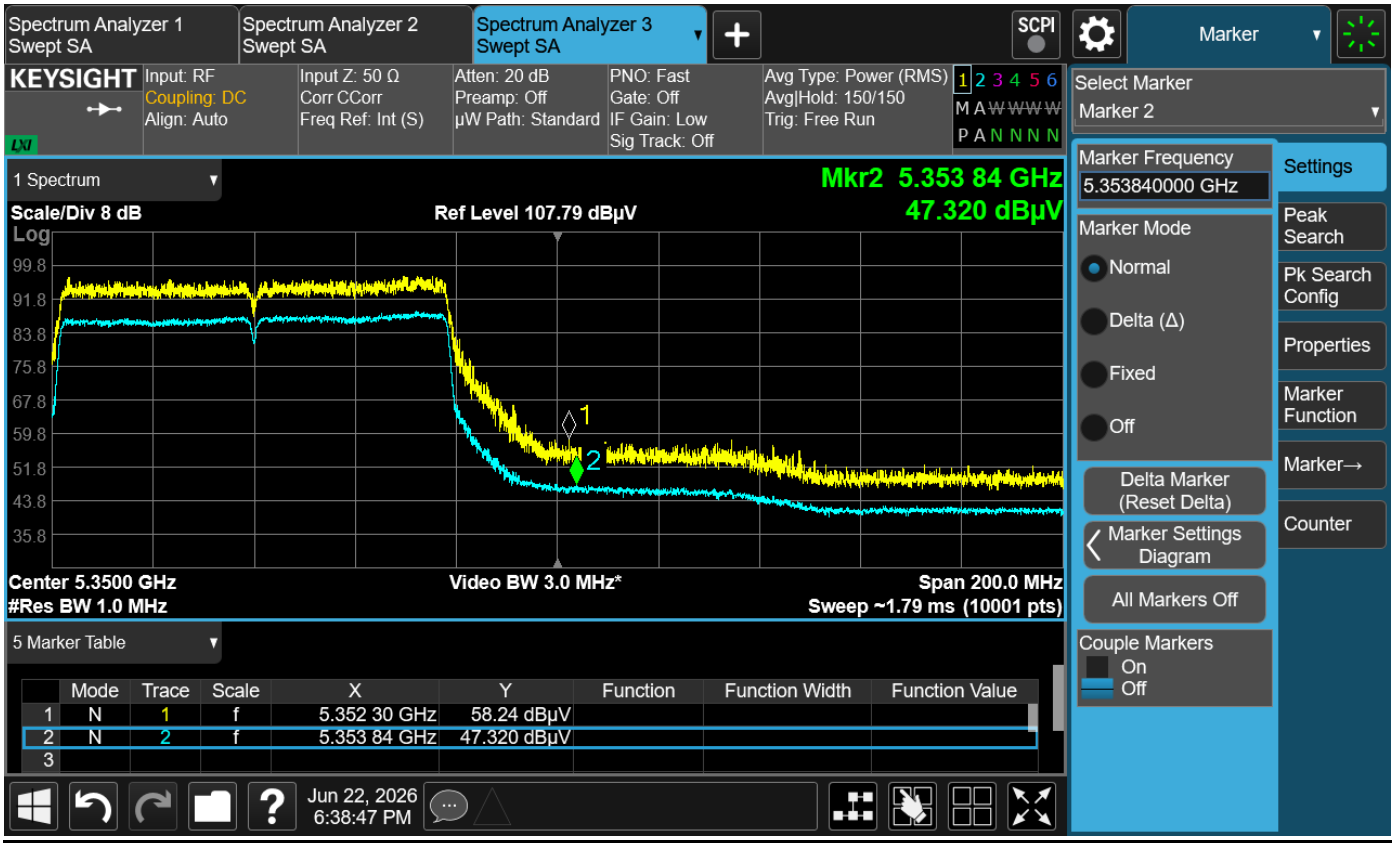


Table 6-9 UNII 2A Radiated Upper Band Edge – 5 350 MHz

Test mode	Tested Frequency [MHz]	Frequency [MHz]	Reading Value [dBµV]	Pol [H/V]	Detector Mode	DCCF [dB]	AFCL [dB/m]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]
a	5320	5 350.85	59.42	H	PK	0.00	4.29	63.71	74.00	-10.29
		5 350.44	47.19	H	AV	0.15	4.29	51.63	54.00	-2.37
n20	5320	5 352.40	58.60	H	PK	0.00	4.29	62.89	74.00	-11.11
		5 350.22	47.53	H	AV	0.00	4.29	51.82	54.00	-2.18
ac20	5320	5 350.03	59.20	H	PK	0.00	4.29	63.49	74.00	-10.51
		5 350.01	47.55	H	AV	0.00	4.29	51.84	54.00	-2.16
ax20	5320	5 351.02	58.10	H	PK	0.00	4.29	62.39	74.00	-11.61
		5 350.08	47.37	H	AV	0.00	4.29	51.66	54.00	-2.34
n40	5310	5 351.36	57.19	H	PK	0.00	4.29	61.48	74.00	-12.52
		5 350.07	46.95	H	AV	0.17	4.29	51.41	54.00	-2.59
ac40	5310	5 353.03	55.83	H	PK	0.00	4.29	60.12	74.00	-13.88
		5 350.13	43.82	H	AV	3.02	4.29	51.13	54.00	-2.87
ax40	5310	5 351.36	57.91	H	PK	0.00	4.29	62.20	74.00	-11.80
		5 351.26	47.08	H	AV	0.00	4.29	51.37	54.00	-2.63
ac80	5290	5 352.30	58.24	H	PK	0.00	4.29	62.53	74.00	-11.47
		5 353.84	47.32	H	AV	0.35	4.29	51.96	54.00	-2.04
ax80	5290	5 361.84	58.26	H	PK	0.00	4.29	62.55	74.00	-11.45
		5 350.50	47.41	H	AV	0.00	4.29	51.70	54.00	-2.30
ac160	5250	5 350.17	62.09	H	PK	0.00	4.29	66.38	74.00	-7.62
		5 394.04	46.57	H	AV	0.66	4.29	51.52	54.00	-2.48
ax160	5250	5 354.31	61.99	H	PK	0.00	4.29	66.28	74.00	-7.72
		5 350.23	46.92	H	AV	0.00	4.29	51.21	54.00	-2.79
ax20 26T	5320	5 351.76	51.95	H	PK	0.00	4.29	56.24	74.00	-17.76
		5 350.24	40.49	H	AV	0.00	4.29	44.78	54.00	-9.22
ax20 52T	5320	5 350.02	52.05	H	PK	0.00	4.29	56.34	74.00	-17.66
		5 351.35	41.14	H	AV	0.00	4.29	45.43	54.00	-8.58
ax20 106T	5320	5 350.25	60.80	H	PK	0.00	4.29	65.09	74.00	-8.91
		5 350.06	45.79	H	AV	0.00	4.29	50.08	54.00	-3.93
ax20 242T	5320	5 350.53	57.51	H	PK	0.00	4.29	61.80	74.00	-12.20
		5 350.03	44.71	H	AV	0.00	4.29	49.00	54.00	-5.00
ax40 484T	5310	5 350.12	58.04	H	PK	0.00	4.29	62.33	74.00	-11.67
		5 350.38	46.78	H	AV	0.00	4.29	51.07	54.00	-2.93
ax80 996T	5290	5 382.70	58.64	H	PK	0.00	4.29	62.93	74.00	-11.07
		5 372.94	46.35	H	AV	0.12	4.29	50.76	54.00	-3.25
ax160 996X2T	5210	5 353.14	61.84	H	PK	0.00	4.29	66.13	74.00	-7.87
		5 353.15	47.29	H	AV	0.00	4.29	51.58	54.00	-2.43

Plot 6-10 UNII 2C Lower Band Edge – 802.11ax80 996Tone – Peak & Average

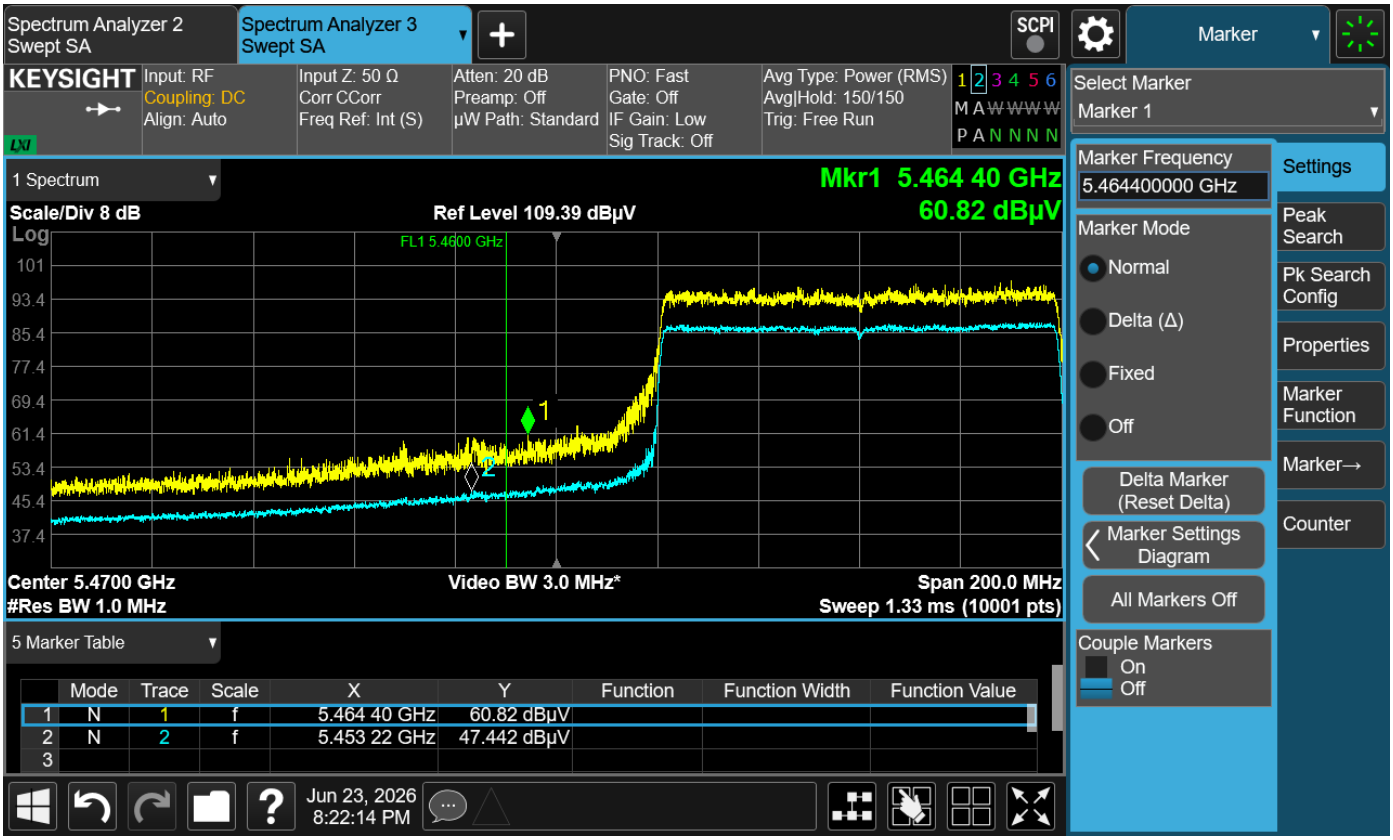


Table 6-10 UNII 2C Radiated Lower Band Edge – 5 470 MHz

Test mode	Tested Frequency [MHz]	Frequency [MHz]	Reading Value [dBµV]	Pol [H/V]	Detector Mode	DCCF [dB]	AFCL [dB/m]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]
a	5500	5 469.35	59.41	H	PK	0.00	4.09	63.50	68.20	-4.70
		5 459.24	44.62	H	AV	0.15	4.09	48.86	54.00	-5.15
n20	5500	5 468.89	60.64	H	PK	0.00	4.09	64.73	68.20	-3.47
		5 459.83	45.10	H	AV	0.00	4.09	49.19	54.00	-4.81
ac20	5500	5 469.50	60.03	H	PK	0.00	4.09	64.12	68.20	-4.08
		5 459.84	45.29	H	AV	0.00	4.09	49.38	54.00	-4.62
ax20	5500	5 468.23	60.13	H	PK	0.00	4.09	64.22	68.20	-3.98
		5 459.44	45.63	H	AV	0.00	4.09	49.72	54.00	-4.28
n40	5510	5 467.87	59.53	H	PK	0.00	4.09	63.62	68.20	-4.58
		5 459.84	43.87	H	AV	0.17	4.09	48.13	54.00	-5.87
ac40	5510	5 469.11	59.69	H	PK	0.00	4.09	63.78	68.20	-4.42
		5 459.88	43.09	H	AV	3.02	4.09	50.20	54.00	-3.80
ax40	5510	5 469.59	59.63	H	PK	0.00	4.09	63.72	68.20	-4.48
		5 458.97	45.13	H	AV	0.00	4.09	49.22	54.00	-4.78
ac80	5530	5 468.88	58.14	H	PK	0.00	4.09	62.23	68.20	-5.97
		5 454.84	46.88	H	AV	0.35	4.09	51.32	54.00	-2.69
ax80	5530	5 463.16	58.29	H	PK	0.00	4.09	62.38	68.20	-5.82
		5 459.32	47.36	H	AV	0.00	4.09	51.45	54.00	-2.55
ac160	5570	5 463.69	61.49	H	PK	0.00	4.09	65.58	68.20	-2.62
		5 435.08	46.64	H	AV	0.66	4.09	51.39	54.00	-2.61
ax160	5570	5 469.36	56.07	H	PK	0.00	4.09	60.16	68.20	-8.04
		5 457.40	45.68	H	AV	0.00	4.09	49.77	54.00	-4.23
ax20 26T	5500	5 462.71	53.07	H	PK	0.00	4.09	57.16	68.20	-11.04
		5 459.78	42.16	H	AV	0.00	4.09	46.25	54.00	-7.75
ax20 52T	5500	5 463.94	52.96	H	PK	0.00	4.09	57.05	68.20	-11.15
		5 457.73	42.31	H	AV	0.00	4.09	46.40	54.00	-7.60
ax20 106T	5500	5 469.89	55.19	H	PK	0.00	4.09	59.28	68.20	-8.92
		5 459.58	42.49	H	AV	0.00	4.09	46.58	54.00	-7.42
ax20 242T	5500	5 468.19	58.10	H	PK	0.00	4.09	62.19	68.20	-6.01
		5 459.86	44.03	H	AV	0.00	4.09	48.12	54.00	-5.88
ax40 484T	5510	5 466.73	60.36	H	PK	0.00	4.09	64.45	68.20	-3.75
		5 458.73	46.11	H	AV	0.00	4.09	50.20	54.00	-3.80
ax80 996T	5530	5 464.40	60.82	H	PK	0.00	4.09	64.91	68.20	-3.29
		5 453.22	47.44	H	AV	0.12	4.09	51.65	54.00	-2.35
ax160 996X2T	5570	5 436.13	58.60	H	PK	0.00	4.09	62.69	68.20	-5.51
		5 459.23	46.57	H	AV	0.00	4.09	50.66	54.00	-3.34

Plot 6-11 UNII 3 Upper Band Edge – 802.11ax20 242Tone – Peak

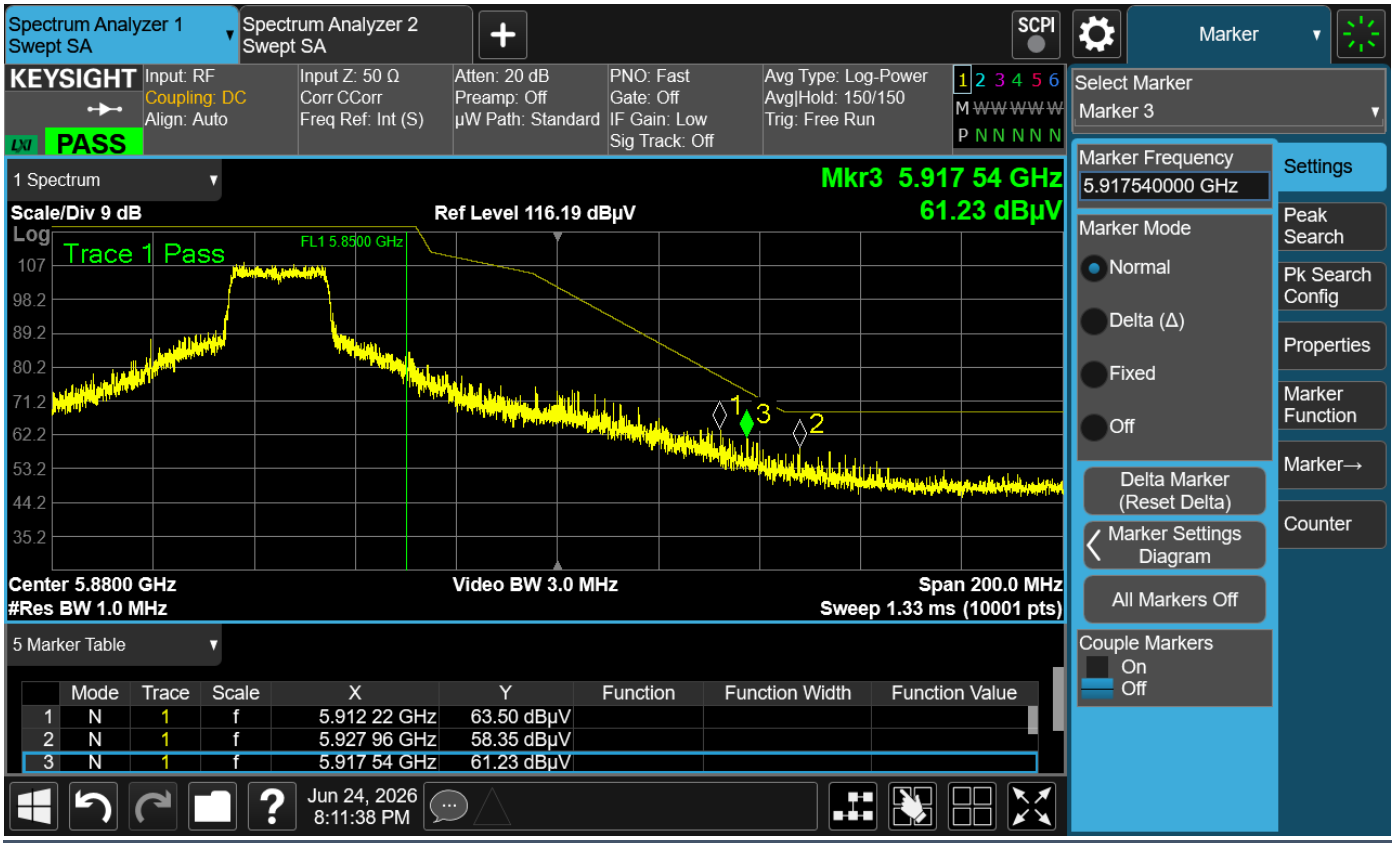


Table 6-11 UNII 3 Radiated Upper Band Edge – 5 850 MHz

Test mode	Tested Frequency [MHz]	Frequency [MHz]	Reading Value [dBµV]	Pol [H/V]	Detector Mode	DCCF [dB]	AFCL [dB/m]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]
a	5825	5 945.12	52.60	H	PK	0.00	4.93	57.53	68.20	-10.67
n20	5825	5 938.70	51.05	H	PK	0.00	4.93	55.98	68.20	-12.22
ac20	5825	5 927.28	51.79	H	PK	0.00	4.93	56.72	68.20	-11.48
ax20	5825	5 925.61	55.23	H	PK	0.00	4.93	60.16	68.20	-8.04
n40	5795	5 937.87	51.23	H	PK	0.00	4.93	56.16	68.20	-12.04
ac40	5795	5 968.47	51.59	H	PK	0.00	4.93	56.52	68.20	-11.68
ax40	5795	6 016.62	51.67	H	PK	0.00	4.93	56.60	68.20	-11.60
ac80	5775	6 017.50	51.73	H	PK	0.00	4.93	56.66	68.20	-11.54
ax80	5775	6 063.00	52.40	H	PK	0.00	4.93	57.33	68.20	-10.87
ax20 26T	5825	5 923.96	51.61	H	PK	0.00	4.93	56.54	68.20	-11.66
ax20 52T	5825	5 934.54	50.75	H	PK	0.00	4.93	55.68	68.20	-12.52
ax20 106T	5825	5 970.96	50.95	H	PK	0.00	4.93	55.88	68.20	-12.32
ax20 242T	5825	5 912.22	63.50	H	PK	0.00	4.93	68.43	71.57	-3.14
		5 917.54	61.23	H	PK	0.00	4.93	66.16	70.17	-4.01
		5 927.96	58.35	H	PK	0.00	4.93	63.28	68.20	-4.92
ax40 484T	5795	5 993.04	51.44	H	PK	0.00	4.93	56.37	68.20	-11.83
ax80 996T	5795	5 931.36	55.41	H	PK	0.00	4.93	60.34	68.20	-7.86