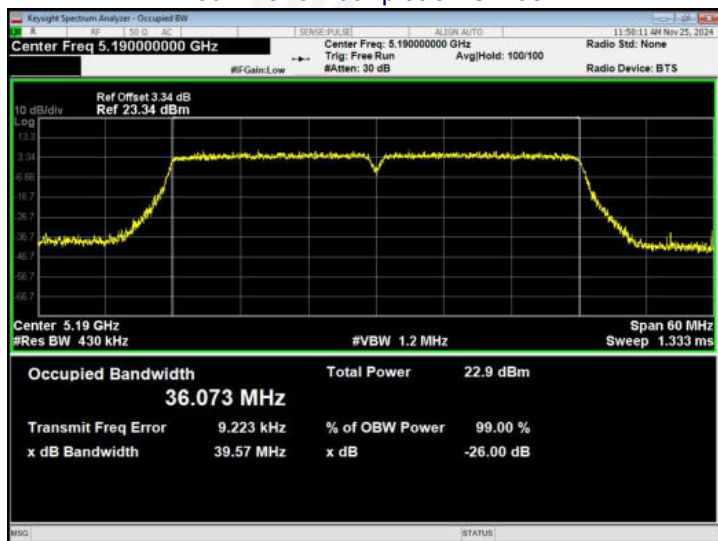




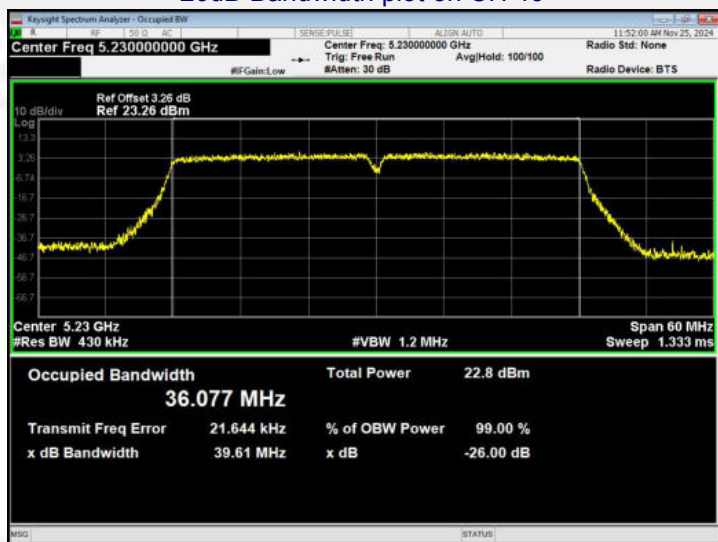
SISO ANT A - 802.11ac40
26dB Bandwidth plot on CH 38



SISO ANT B - 802.11ac40
26dB Bandwidth plot on CH 38



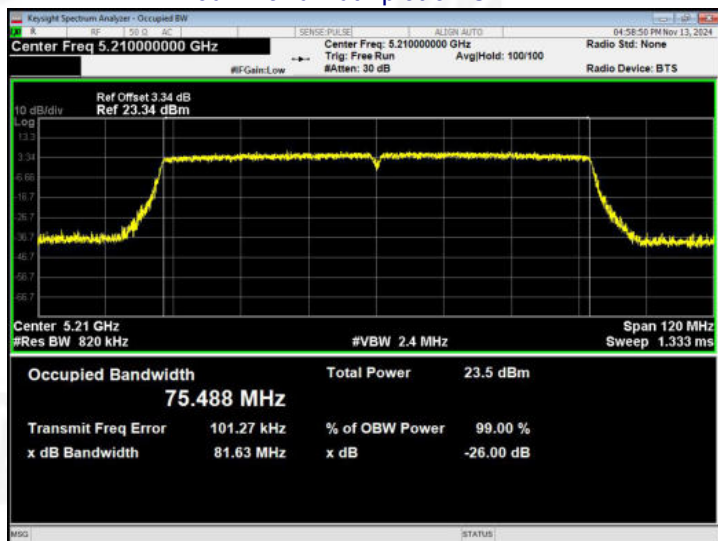
26dB Bandwidth plot on CH 46



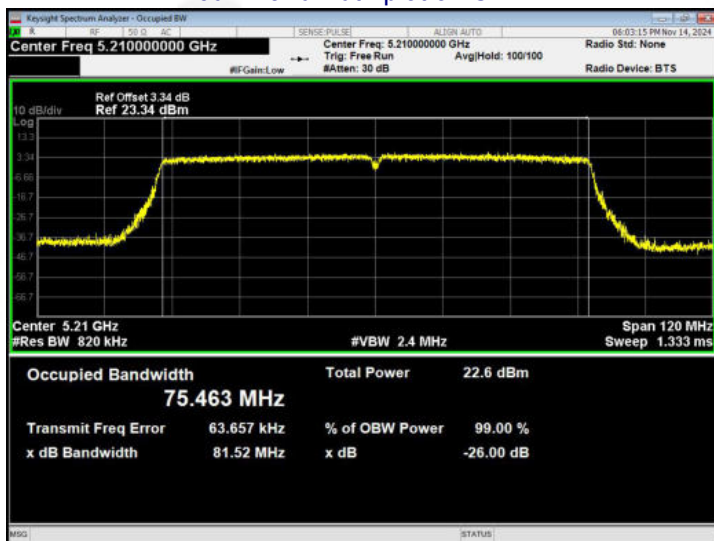
26dB Bandwidth plot on CH 46



SISO ANT A - 802.11ac80
26dB Bandwidth plot on CH 42



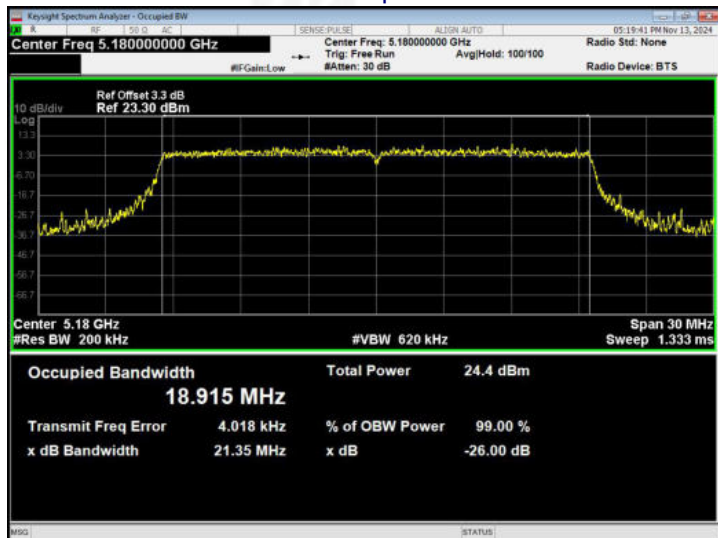
SISO ANT B - 802.11ac80
26dB Bandwidth plot on CH 42





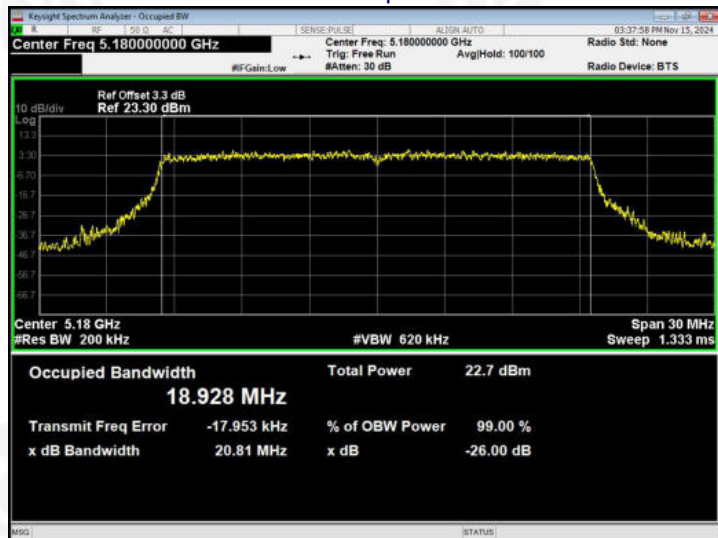
SISO ANT A - 802.11ax20

26dB Bandwidth plot on CH 36



SISO ANT B - 802.11ax20

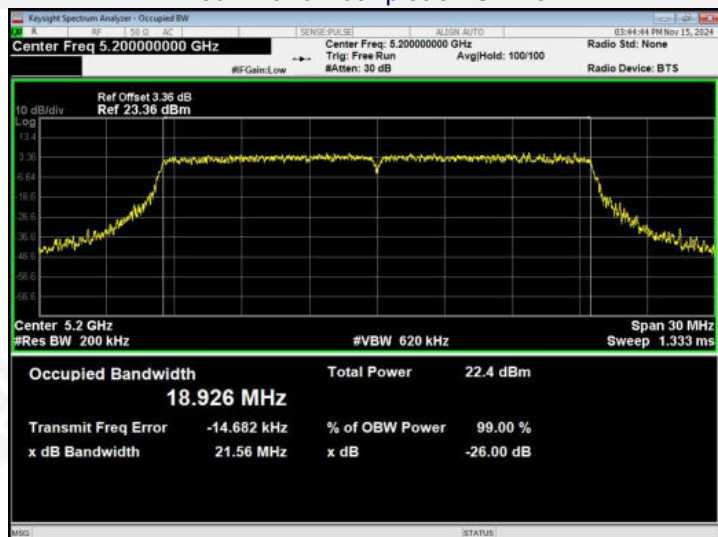
26dB Bandwidth plot on CH 36



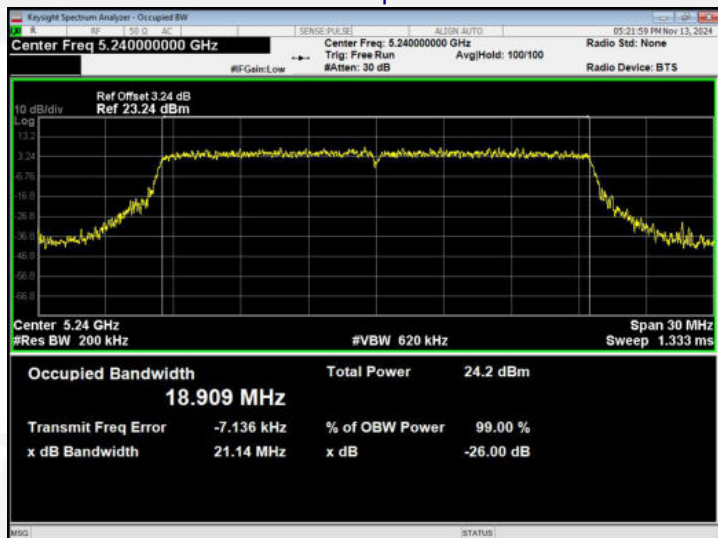
26dB Bandwidth plot on CH 40



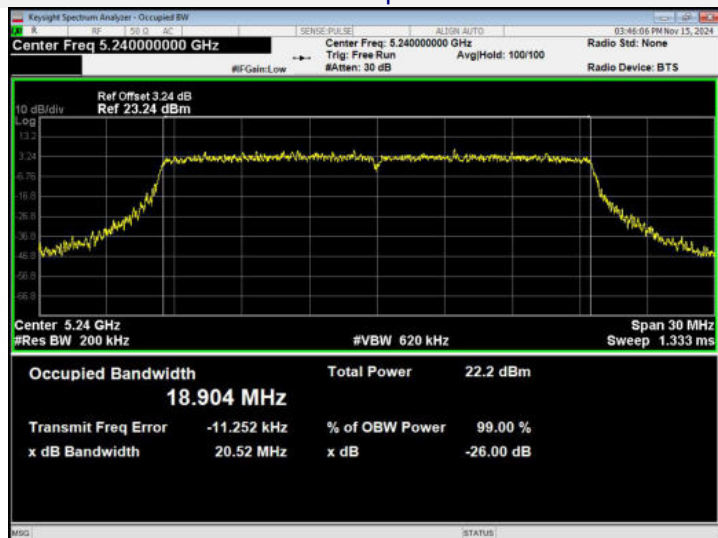
26dB Bandwidth plot on CH 40



26dB Bandwidth plot on CH 48

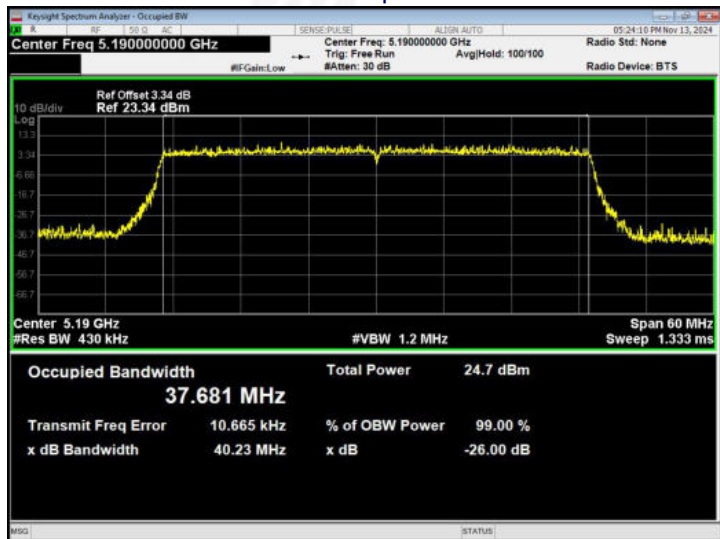


26dB Bandwidth plot on CH 48

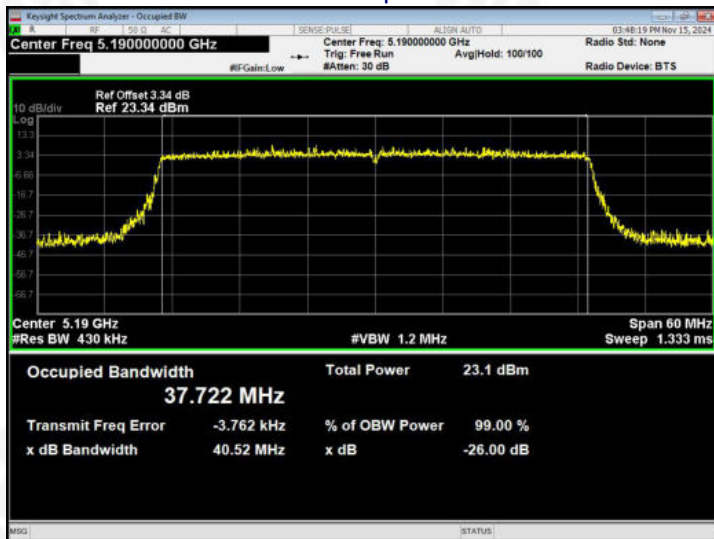




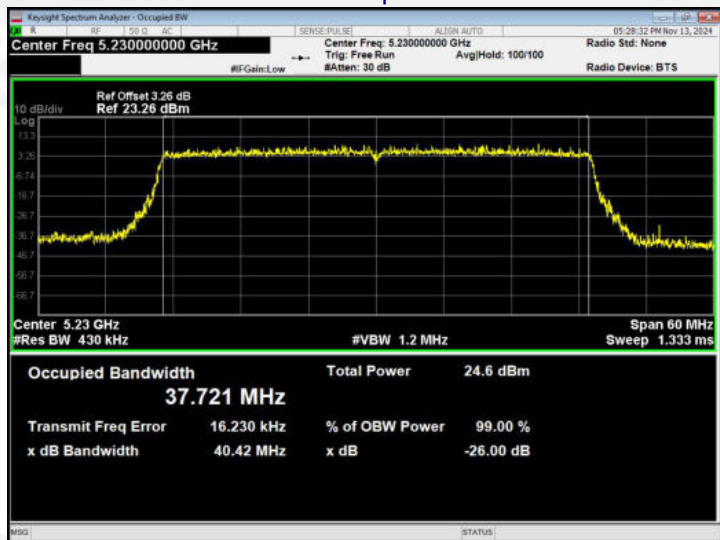
SISO ANT A - 802.11ax40
26dB Bandwidth plot on CH 38



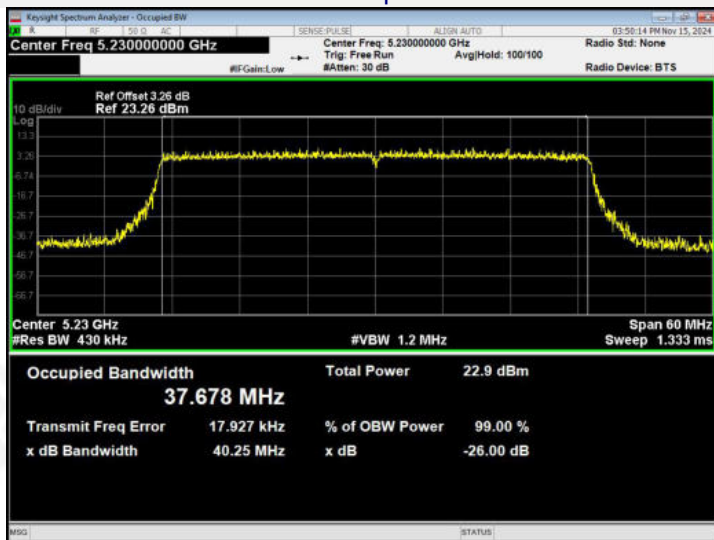
SISO ANT B - 802.11ax40
26dB Bandwidth plot on CH 38



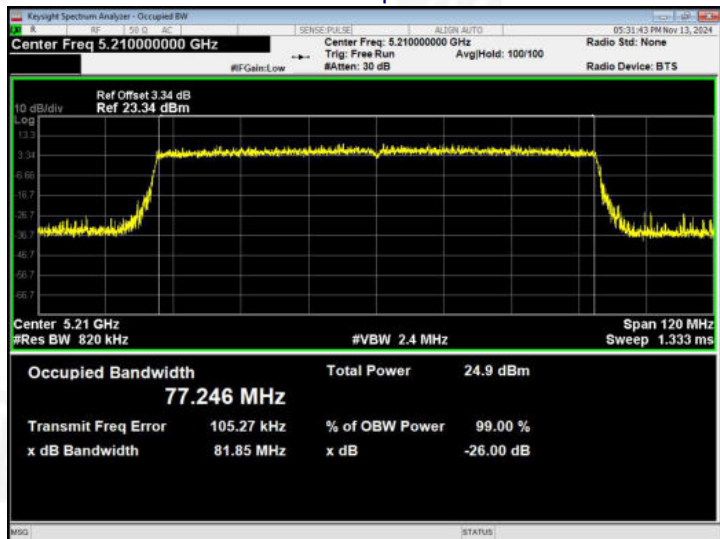
26dB Bandwidth plot on CH 46



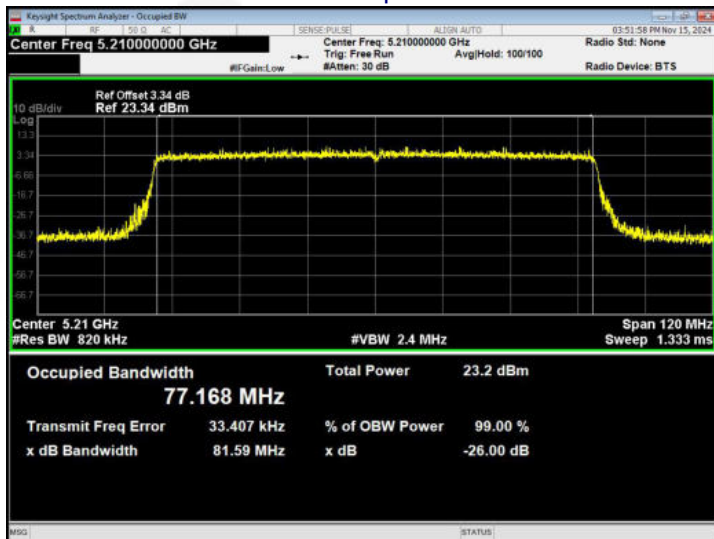
26dB Bandwidth plot on CH 46



SISO ANT A - 802.11ax80
26dB Bandwidth plot on CH 42



SISO ANT B - 802.11ax80
26dB Bandwidth plot on CH 42





Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 3.85V
Test Band :	5.8G		

Test Mode	Antenna	Frequency (MHz)	6dB Bandwidth (MHz)	26dB Bandwidth (MHz)	6dB Limit (kHz)	Result
802.11a	SISO ANT A	5745	16.38	19.00	>500	Pass
		5785	16.33	18.90		
		5825	16.38	19.19		
	SISO ANT B	5745	16.38	19.13	>500	Pass
		5785	16.40	18.76		
		5825	16.41	18.98		
802.11n20	SISO ANT A	5745	17.55	19.76	>500	Pass
		5785	16.90	19.84		
		5825	17.59	19.84		
	SISO ANT B	5745	17.54	20.02	>500	Pass
		5785	17.27	20.14		
		5825	17.57	20.08		
802.11n40	SISO ANT A	5755	35.71	39.48	>500	Pass
		5795	36.03	39.28		
	SISO ANT B	5755	36.04	39.61	>500	Pass
		5795	35.46	39.39		
802.11ac20	SISO ANT A	5745	17.27	19.96	>500	Pass
		5785	17.56	19.97		
		5825	17.17	20.15		
	SISO ANT B	5745	17.21	20.02	>500	Pass
		5785	17.55	20.00		
		5825	17.57	20.12		
802.11ac40	SISO ANT A	5755	35.94	39.33	>500	Pass
		5795	36.28	39.55		
	SISO ANT B	5755	35.90	39.94	>500	Pass
		5795	36.00	39.64		
802.11ac80	SISO ANT A	5755	75.05	81.14	>500	Pass
	SISO ANT B	5755	74.99	81.25	>500	Pass

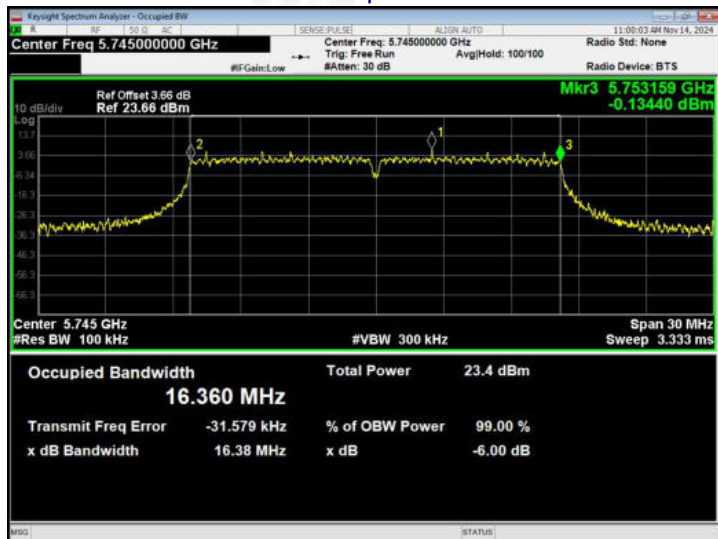


802.11ax20	SISO ANT A	5745	17.53	19.95	>500	Pass
		5785	18.66	21.03		
		5825	18.34	20.66		
	SISO ANT B	5745	18.59	20.86	>500	Pass
		5785	18.51	20.85		
		5825	18.78	21.06		
802.11ax40	SISO ANT A	5755	37.92	40.82	>500	Pass
		5795	37.14	40.06		
	SISO ANT B	5755	37.57	40.26	>500	Pass
		5795	37.61	39.92		
802.11ax80	SISO ANT A	5755	76.90	81.39	>500	Pass
	SISO ANT B	5755	76.43	81.83	>500	Pass

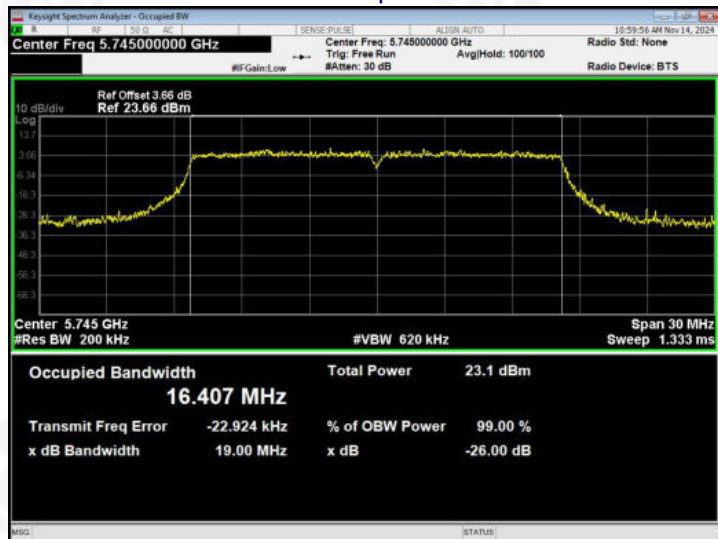


SISO ANT A - 802.11a

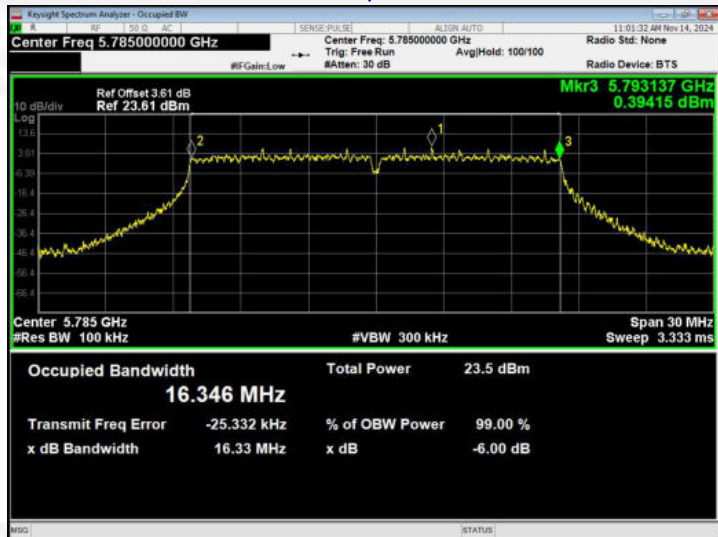
6dB Bandwidth plot on CH 149



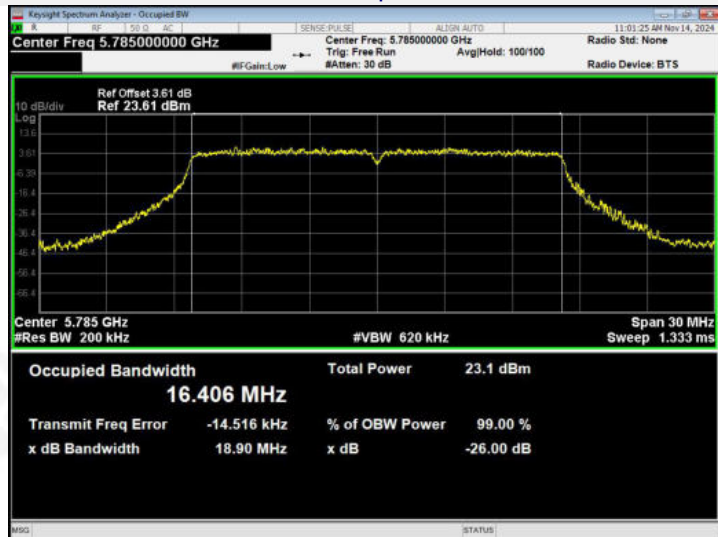
26dB Bandwidth plot on CH 149



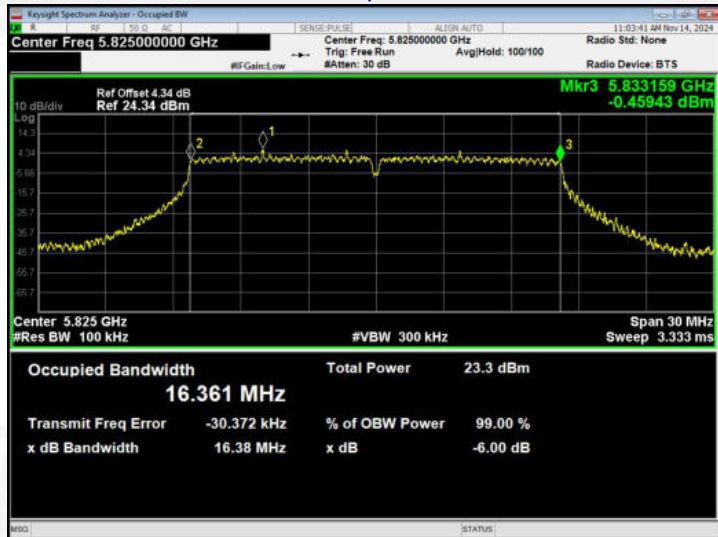
6dB Bandwidth plot on CH 157



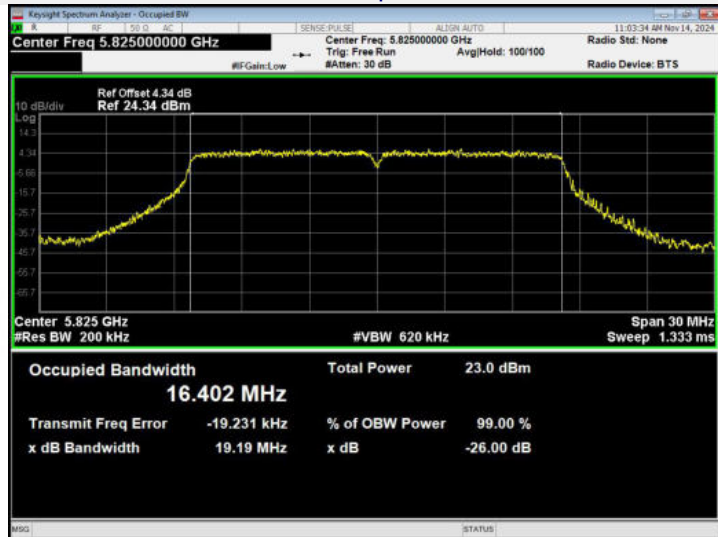
26dB Bandwidth plot on CH 157



6dB Bandwidth plot on CH 165



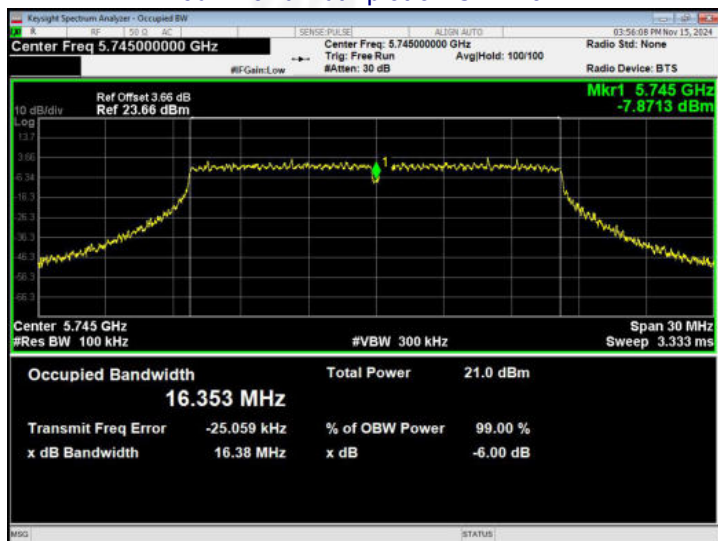
26dB Bandwidth plot on CH 165



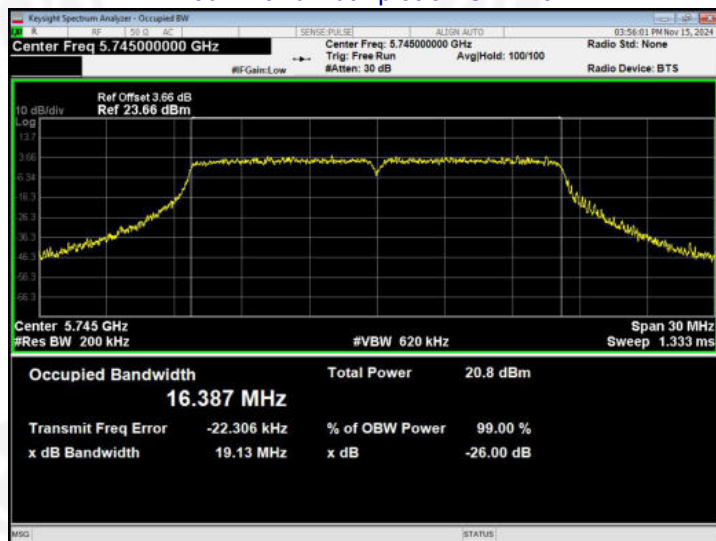


SISO ANT B - 802.11a

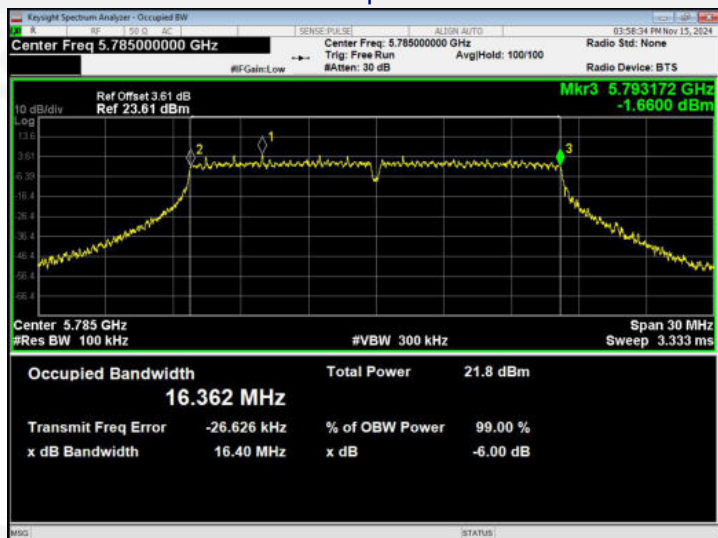
6dB Bandwidth plot on CH 149



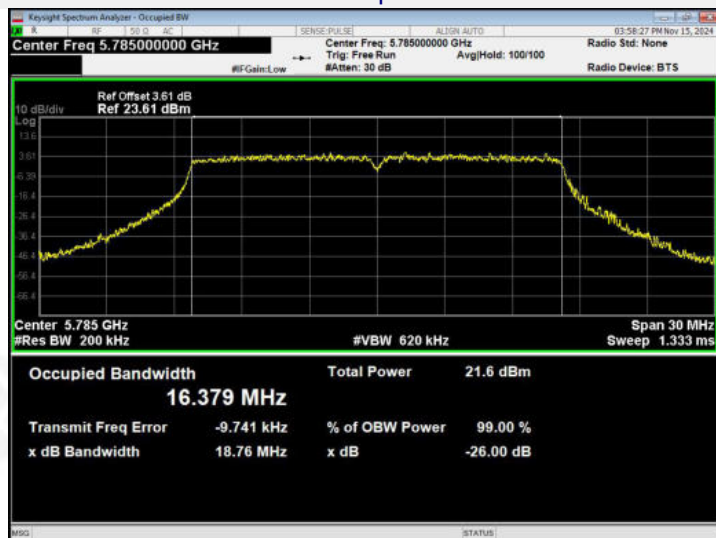
26dB Bandwidth plot on CH 149



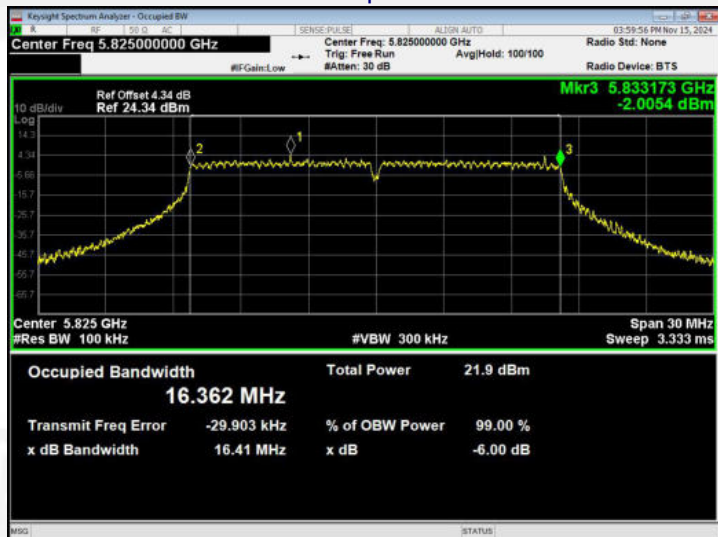
6dB Bandwidth plot on CH 157



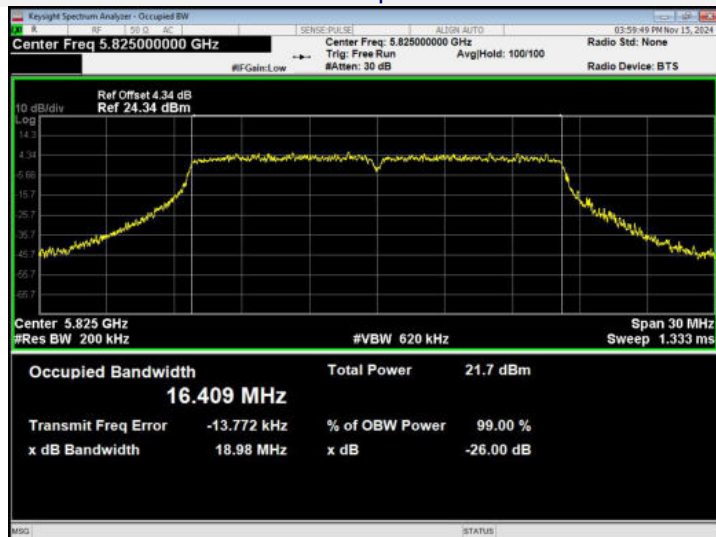
26dB Bandwidth plot on CH 157



6dB Bandwidth plot on CH 165



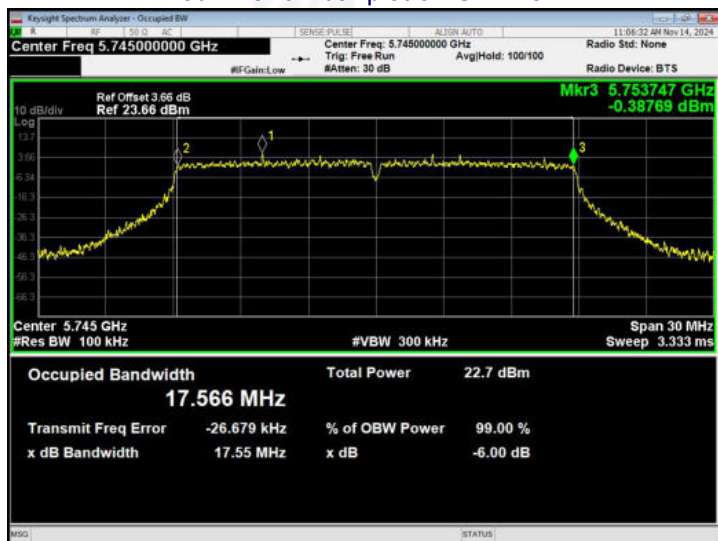
26dB Bandwidth plot on CH 165



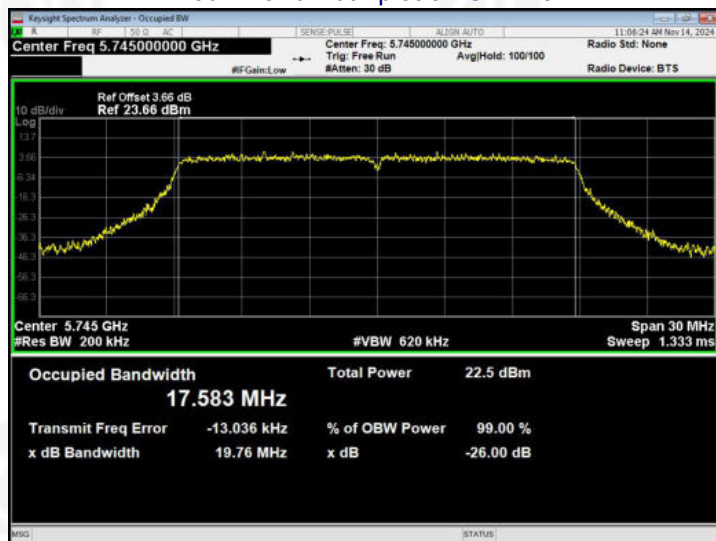


SISO ANT A - 802.11n20

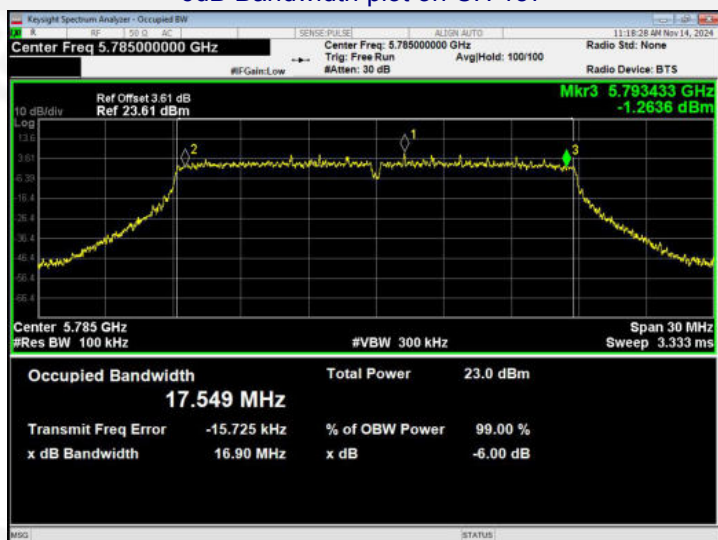
6dB Bandwidth plot on CH 149



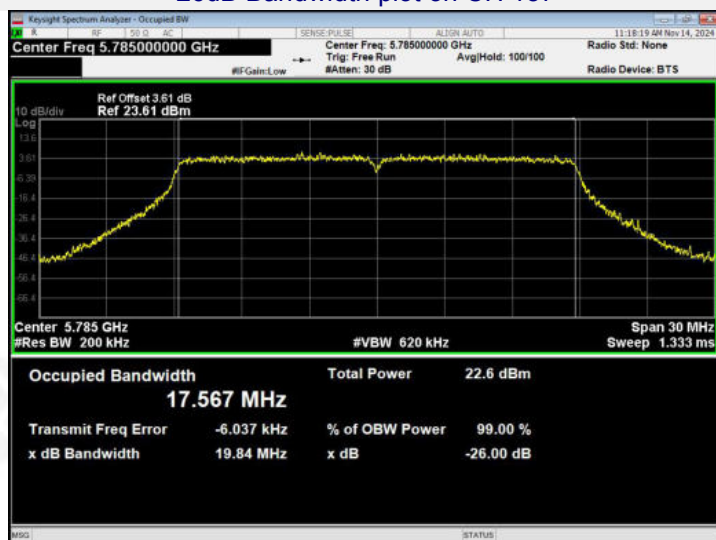
26dB Bandwidth plot on CH 149



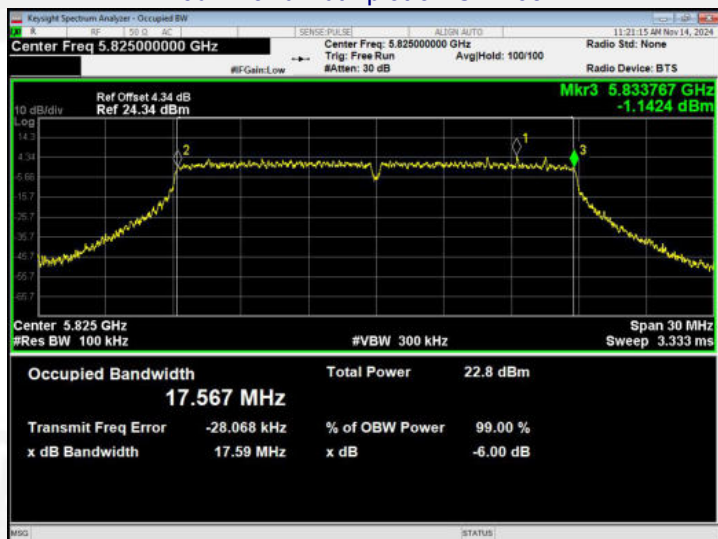
6dB Bandwidth plot on CH 157



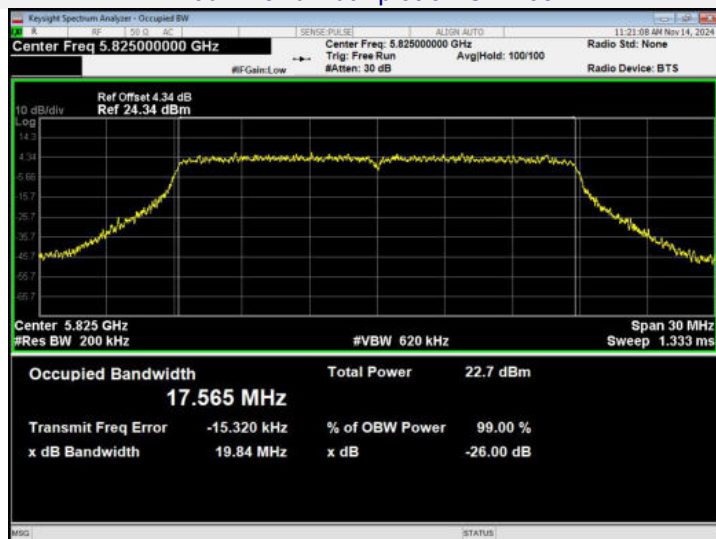
26dB Bandwidth plot on CH 157



6dB Bandwidth plot on CH 165



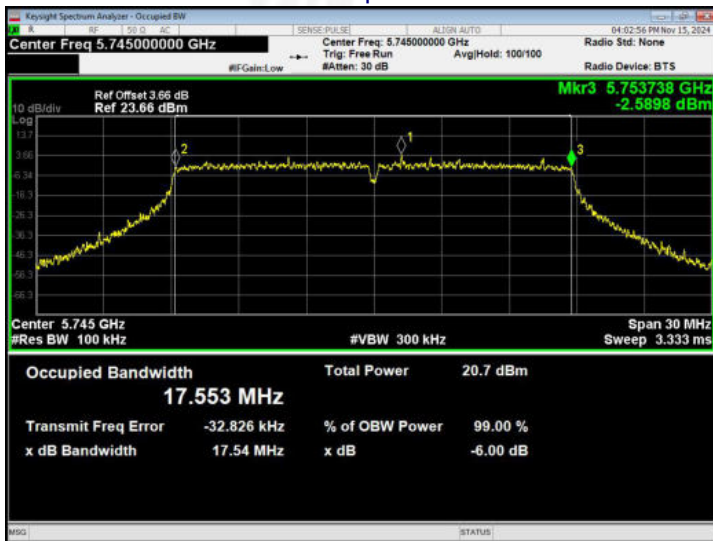
26dB Bandwidth plot on CH 165



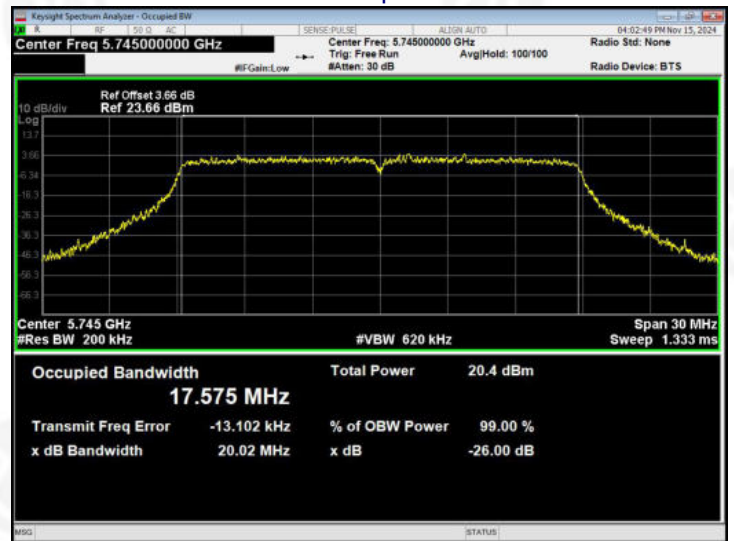


SISO ANT B - 802.11n20

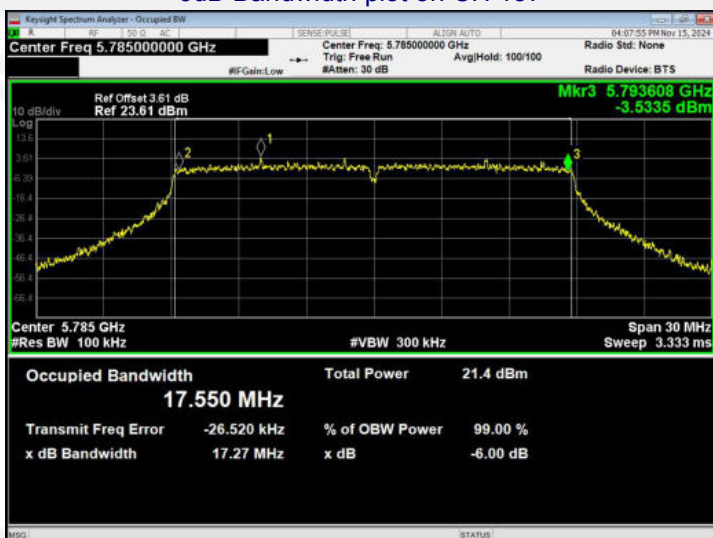
6dB Bandwidth plot on CH 149



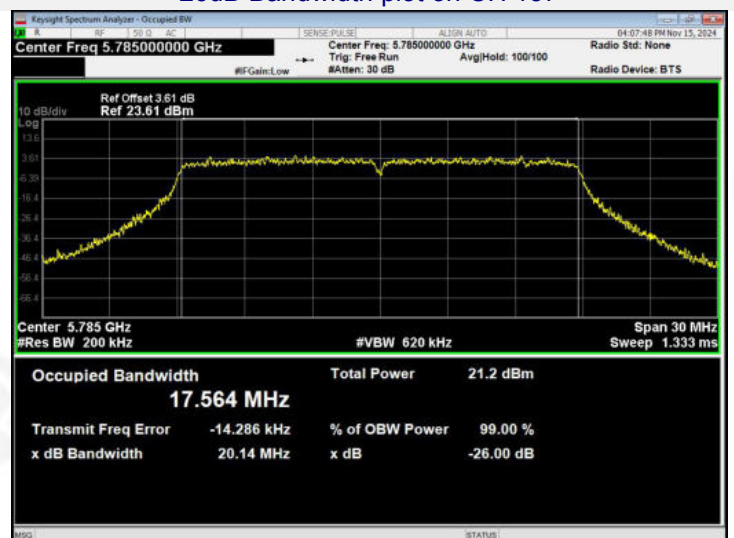
26dB Bandwidth plot on CH 149



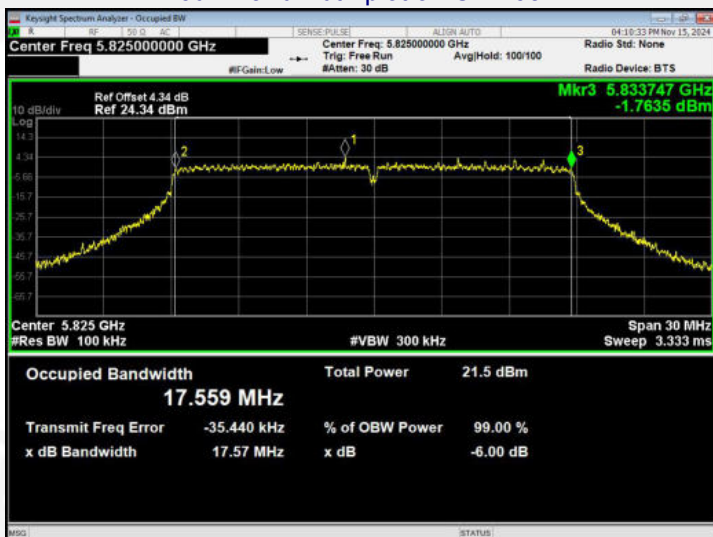
6dB Bandwidth plot on CH 157



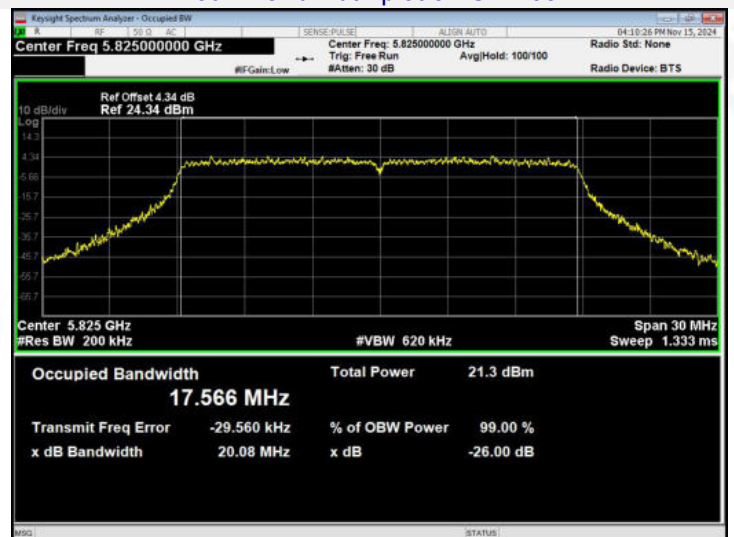
26dB Bandwidth plot on CH 157



6dB Bandwidth plot on CH 165



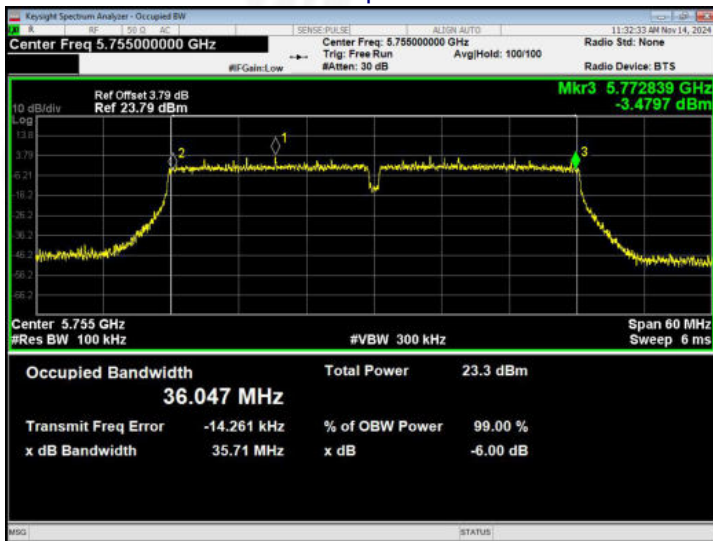
26dB Bandwidth plot on CH 165



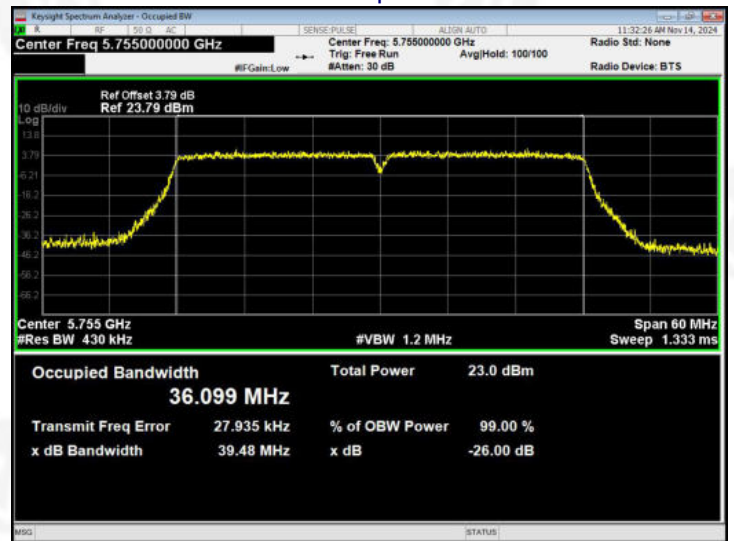


SISO ANT A - 802.11n40

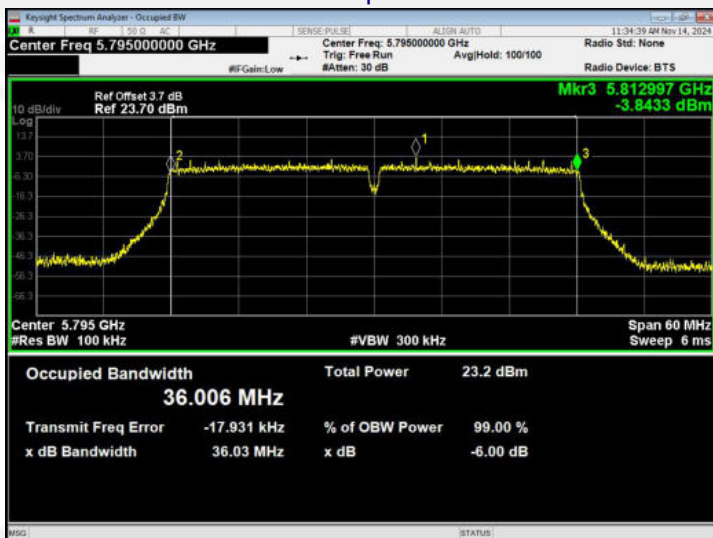
6dB Bandwidth plot on CH 151



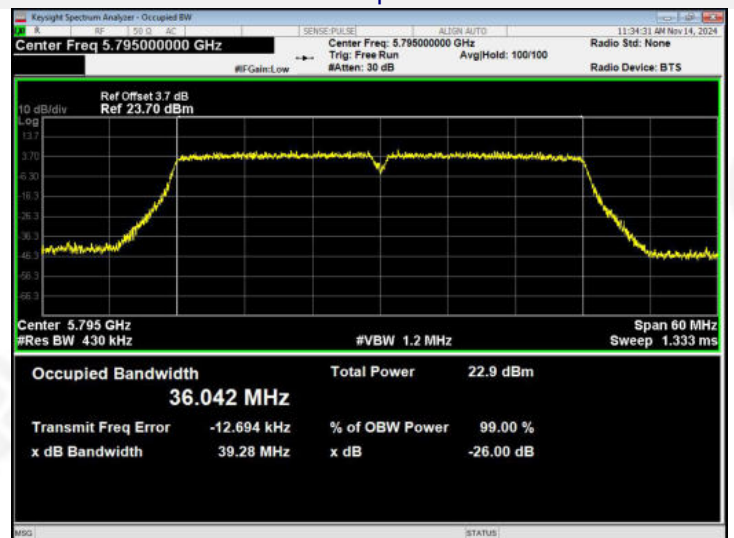
26dB Bandwidth plot on CH 151



6dB Bandwidth plot on CH 159



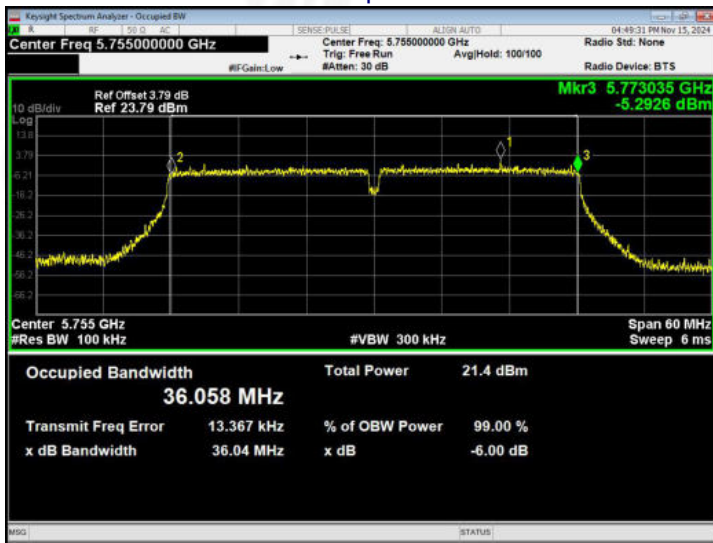
26dB Bandwidth plot on CH 159



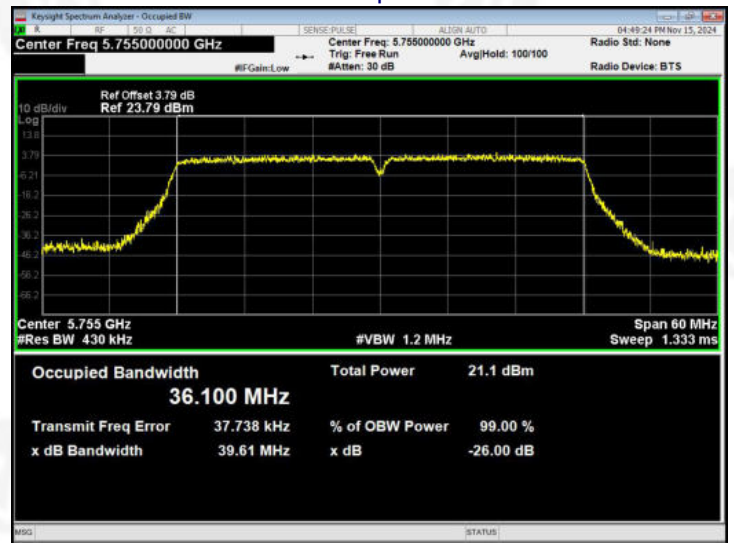


SISO ANT B - 802.11n40

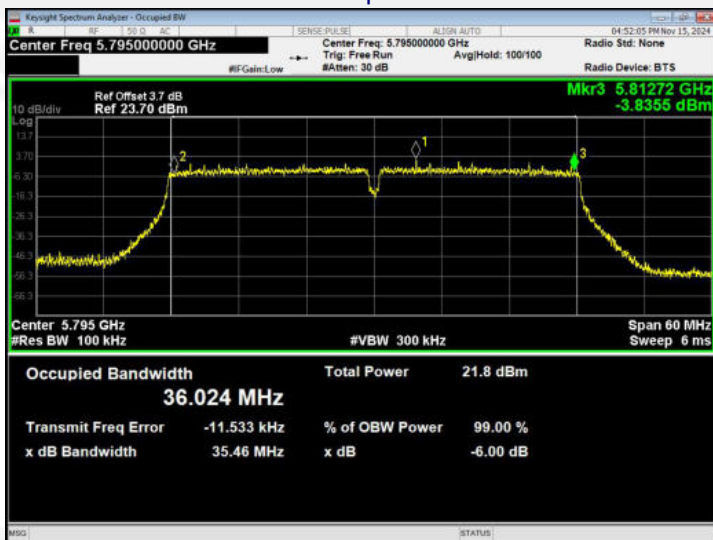
6dB Bandwidth plot on CH 151



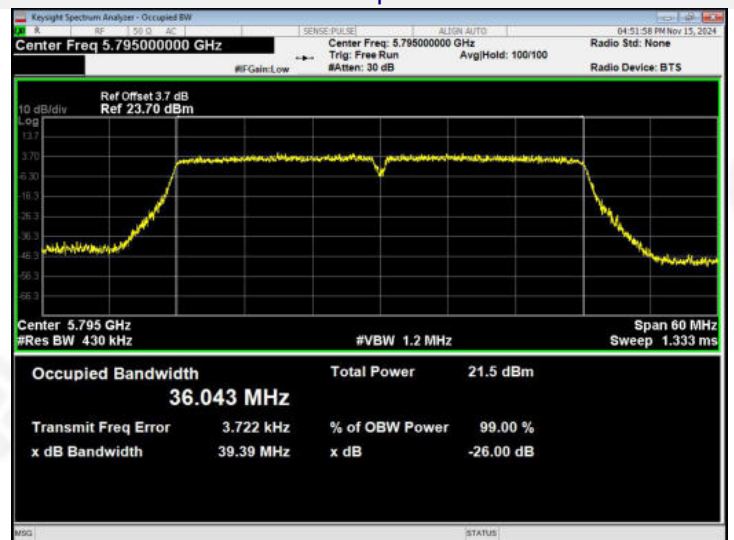
26dB Bandwidth plot on CH 151



6dB Bandwidth plot on CH 159



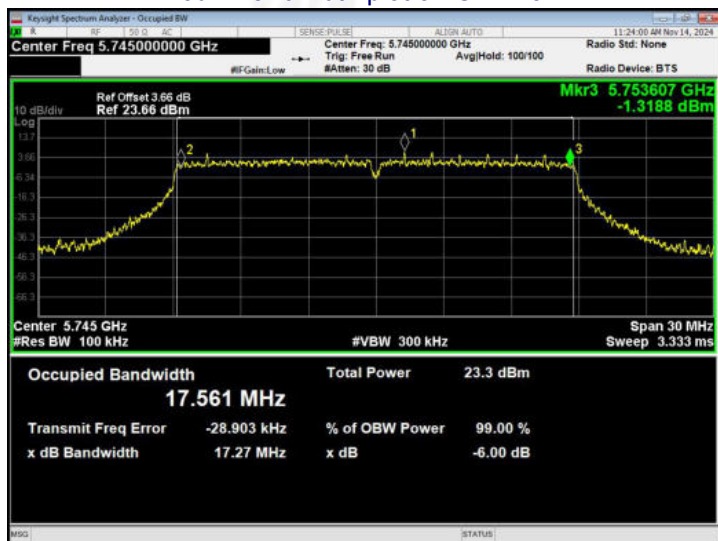
26dB Bandwidth plot on CH 159



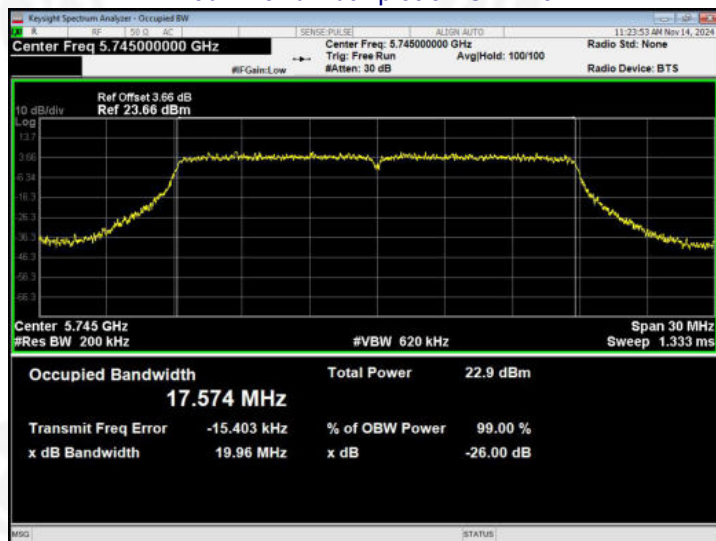


SISO ANT A - 802.11ac20

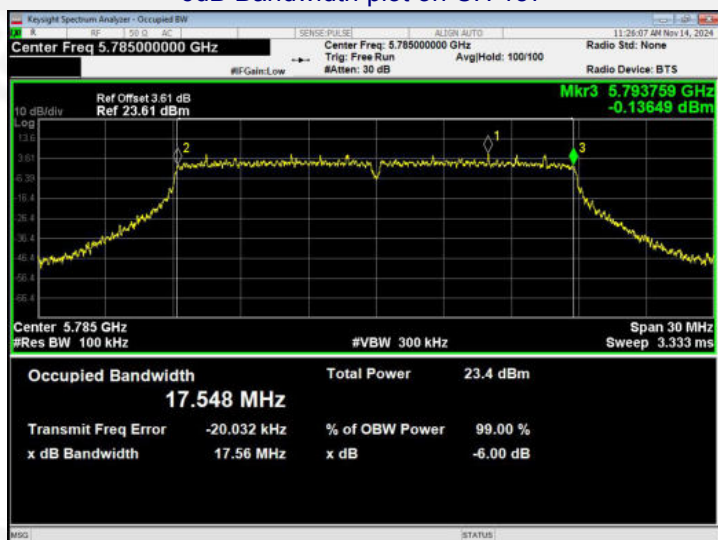
6dB Bandwidth plot on CH 149



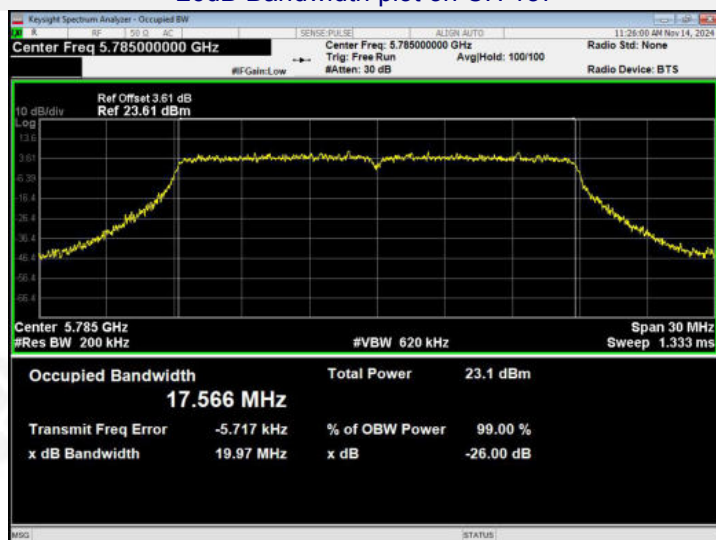
26dB Bandwidth plot on CH 149



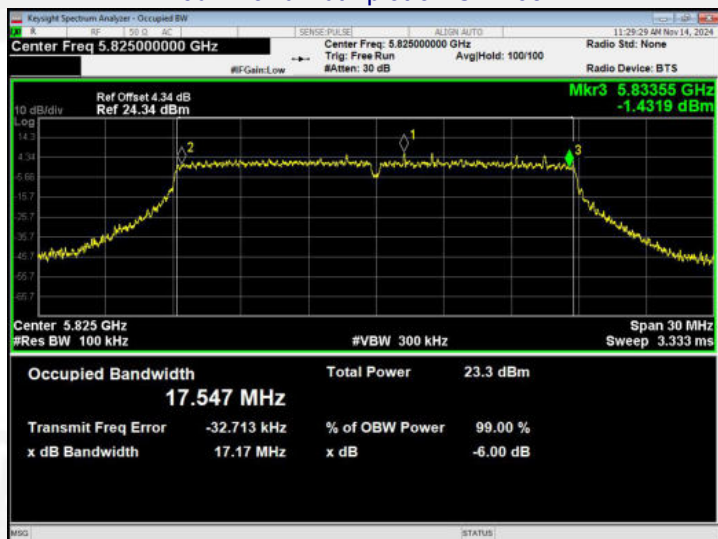
6dB Bandwidth plot on CH 157



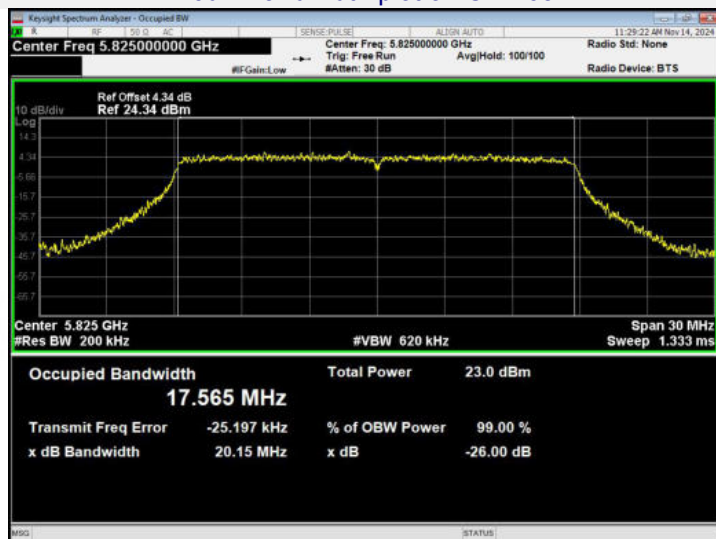
26dB Bandwidth plot on CH 157



6dB Bandwidth plot on CH 165



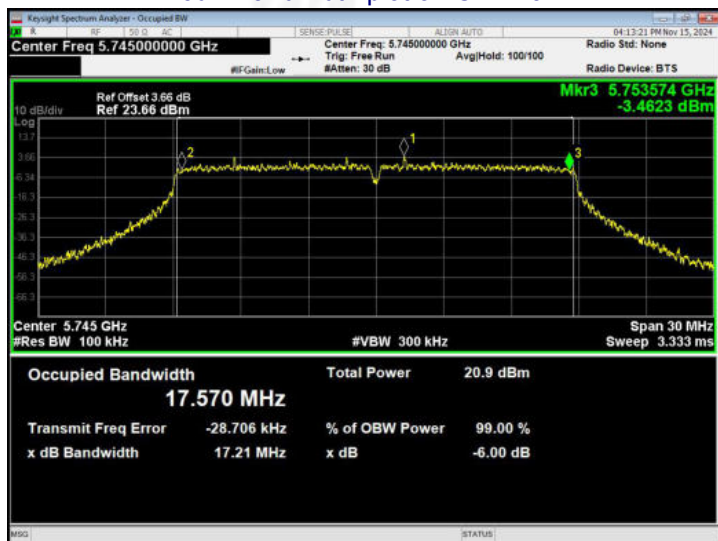
26dB Bandwidth plot on CH 165



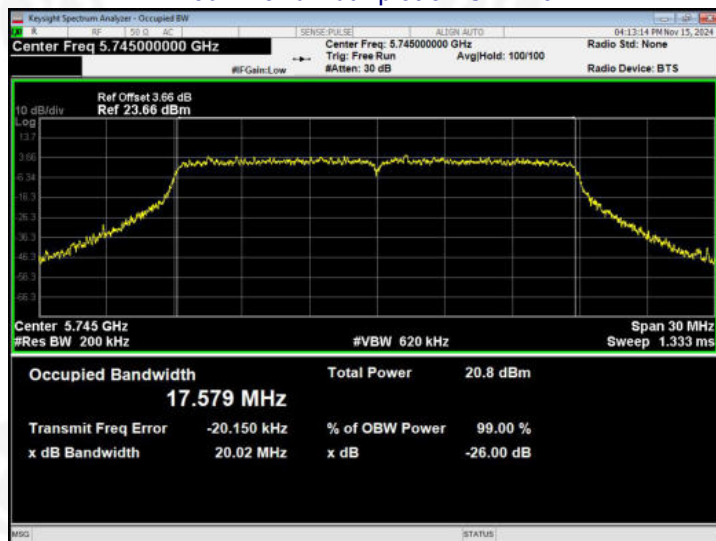


SISO ANT B - 802.11ac20

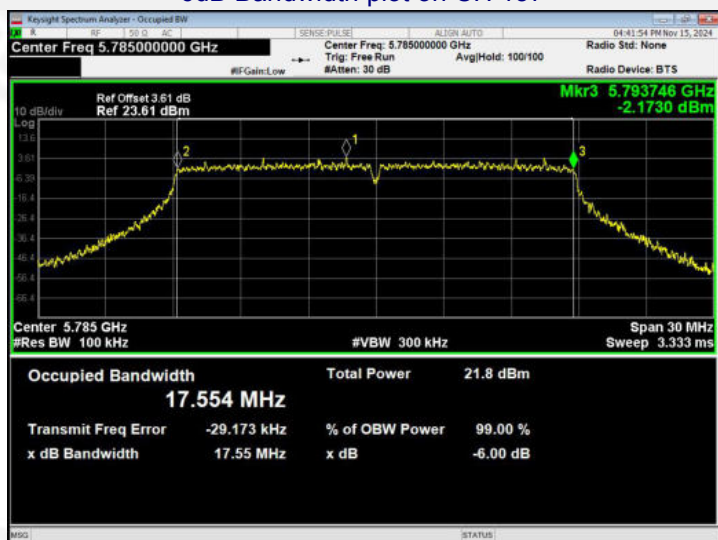
6dB Bandwidth plot on CH 149



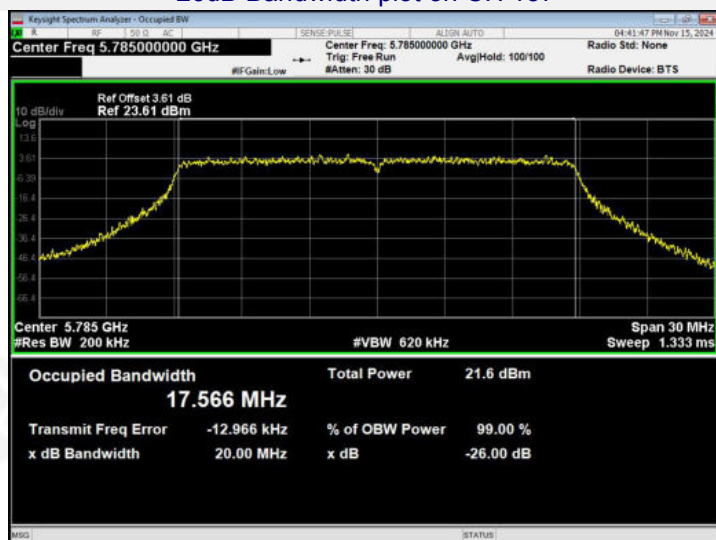
26dB Bandwidth plot on CH 149



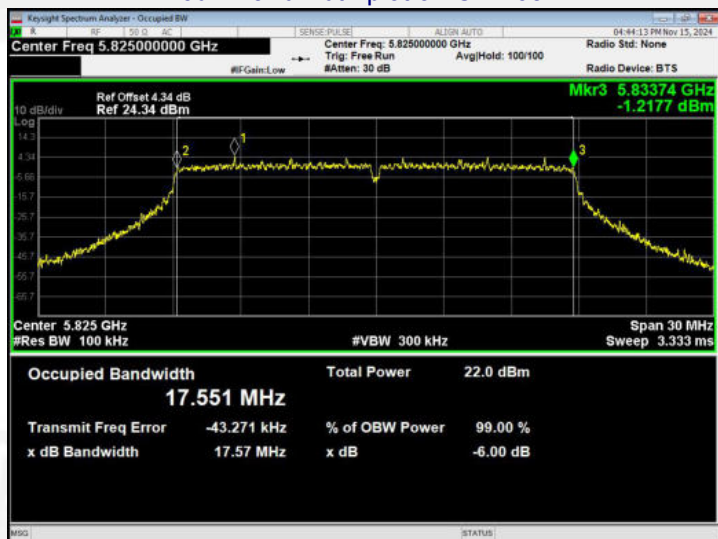
6dB Bandwidth plot on CH 157



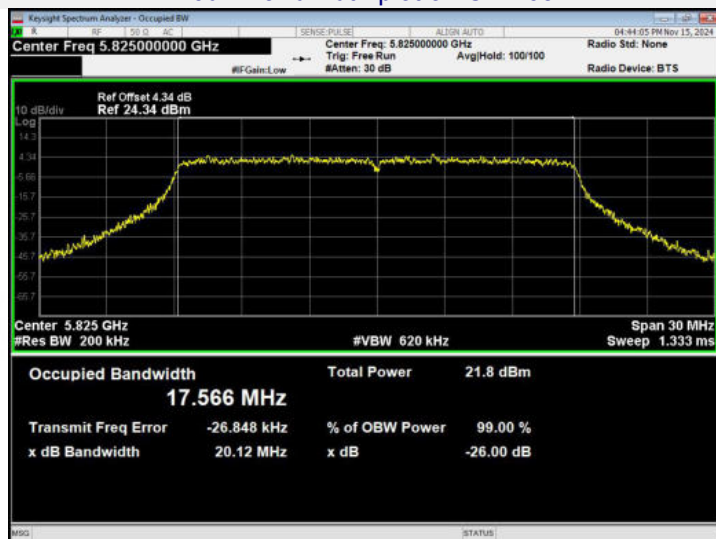
26dB Bandwidth plot on CH 157



6dB Bandwidth plot on CH 165



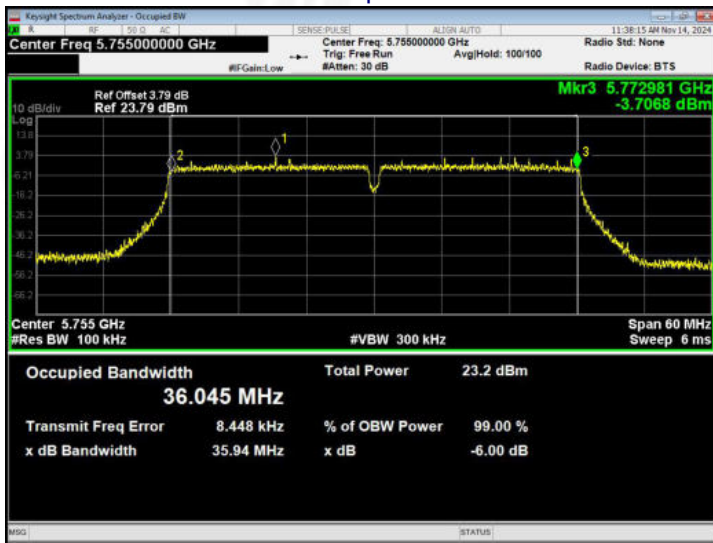
26dB Bandwidth plot on CH 165



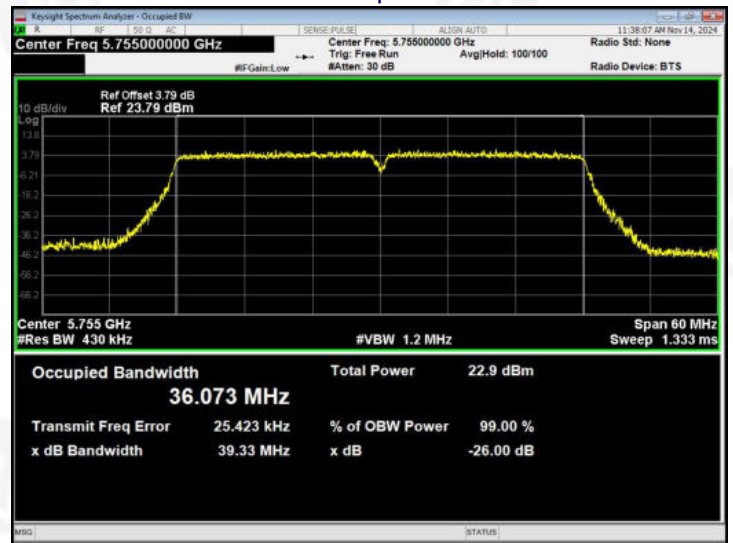


SISO ANT A - 802.11ac40

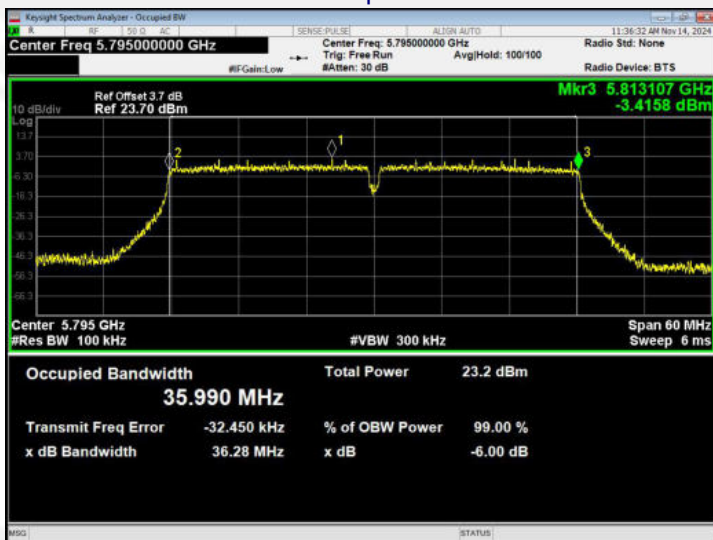
6dB Bandwidth plot on CH 151



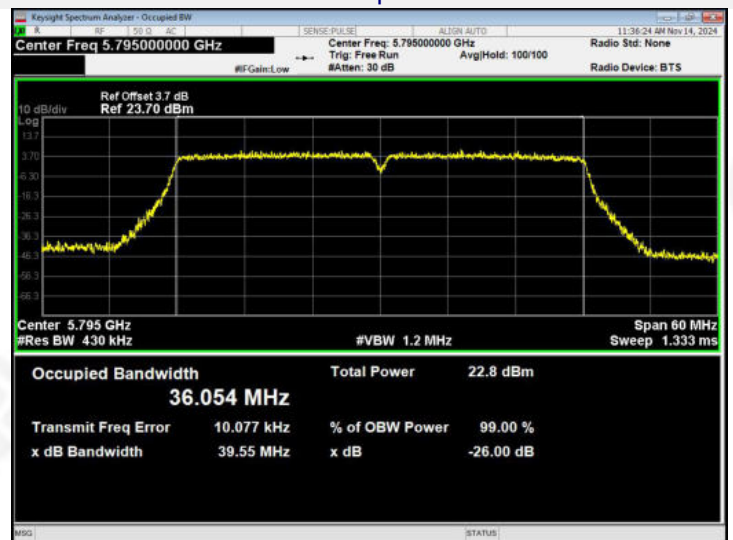
26dB Bandwidth plot on CH 151



6dB Bandwidth plot on CH 159



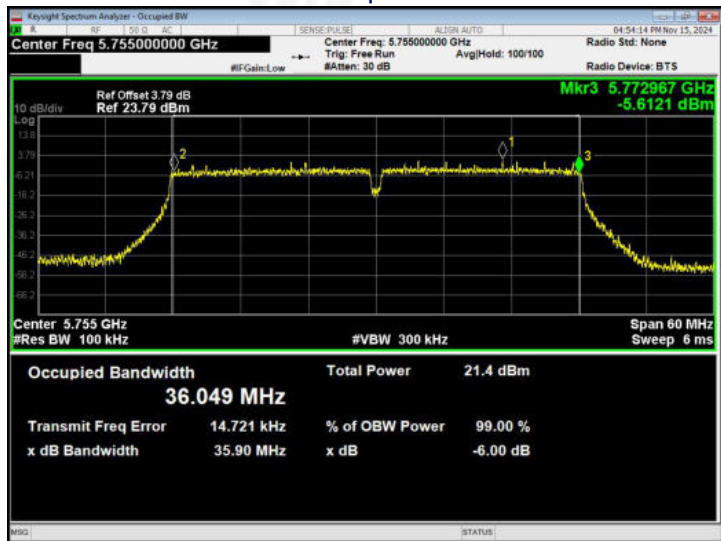
26dB Bandwidth plot on CH 159



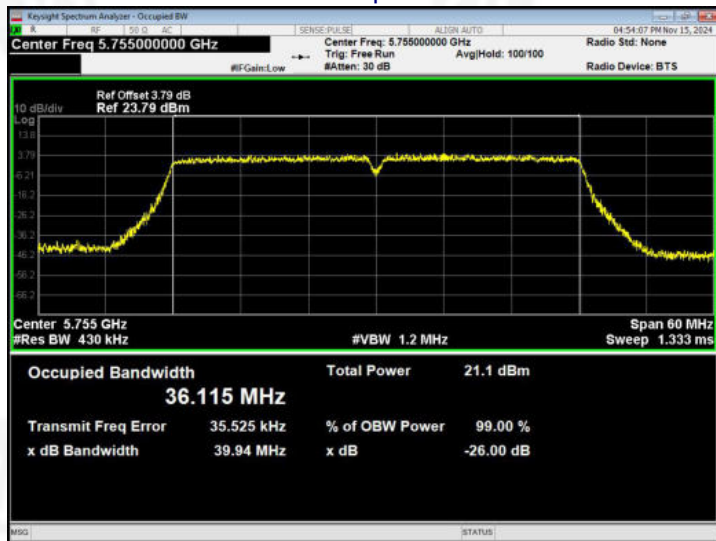


SISO ANT B - 802.11ac40

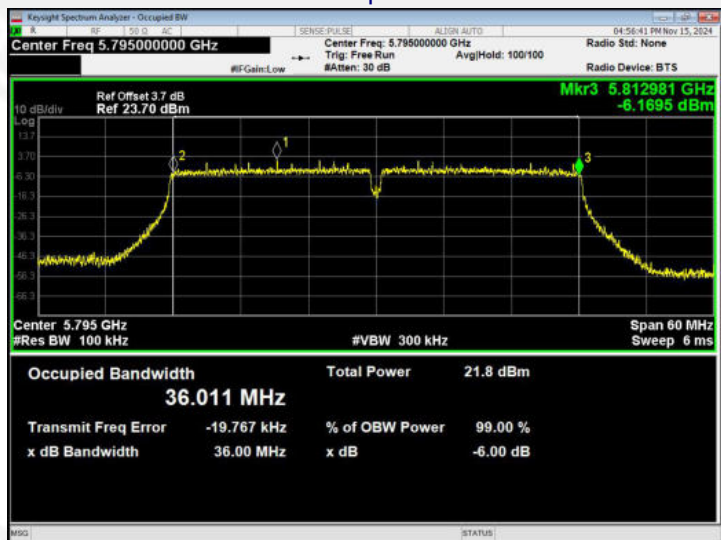
6dB Bandwidth plot on CH 151



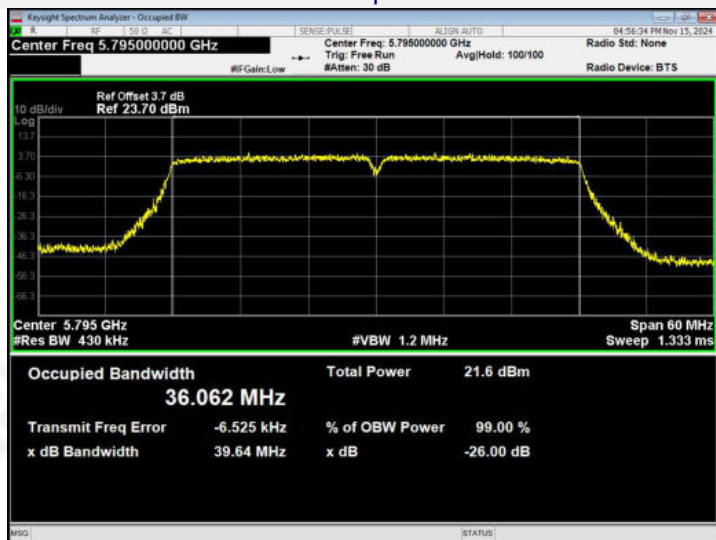
26dB Bandwidth plot on CH 151



6dB Bandwidth plot on CH 159



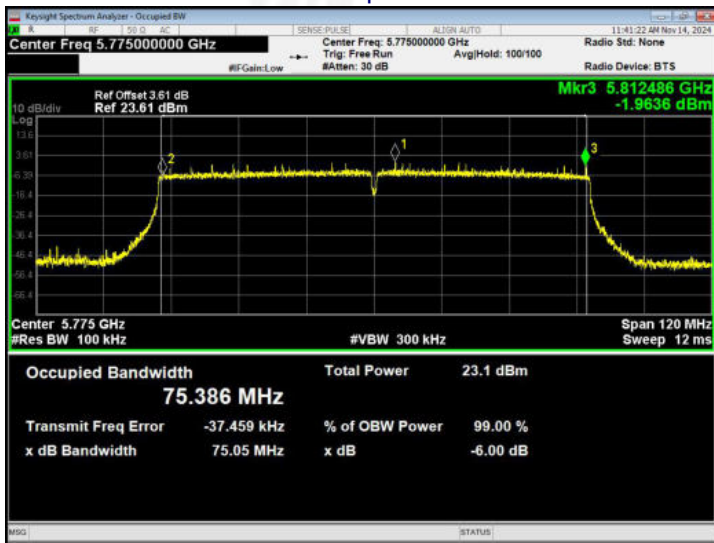
26dB Bandwidth plot on CH 159



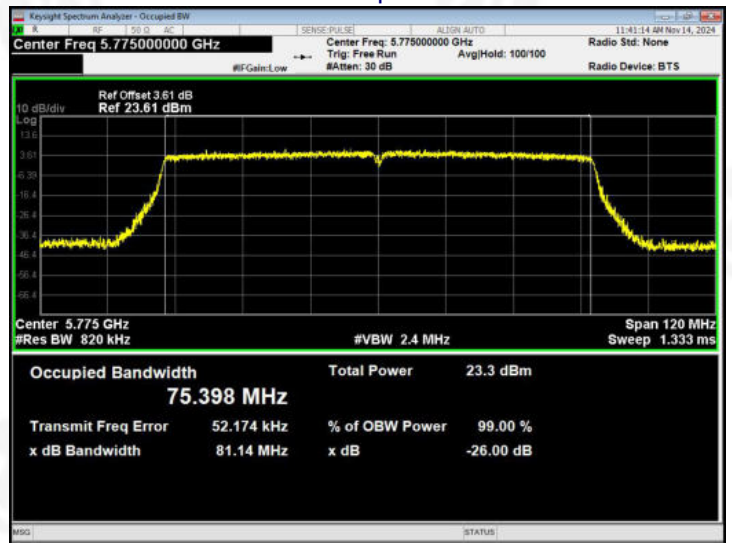


SISO ANT A - 802.11ac80

6dB Bandwidth plot on CH 155

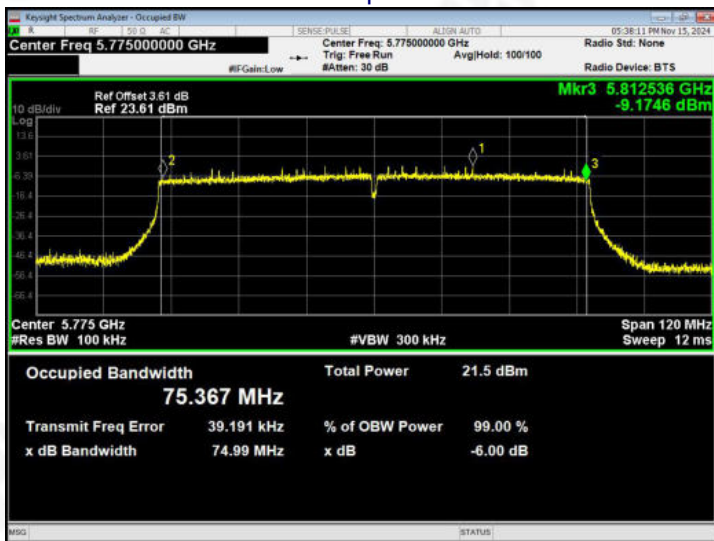


26dB Bandwidth plot on CH 155

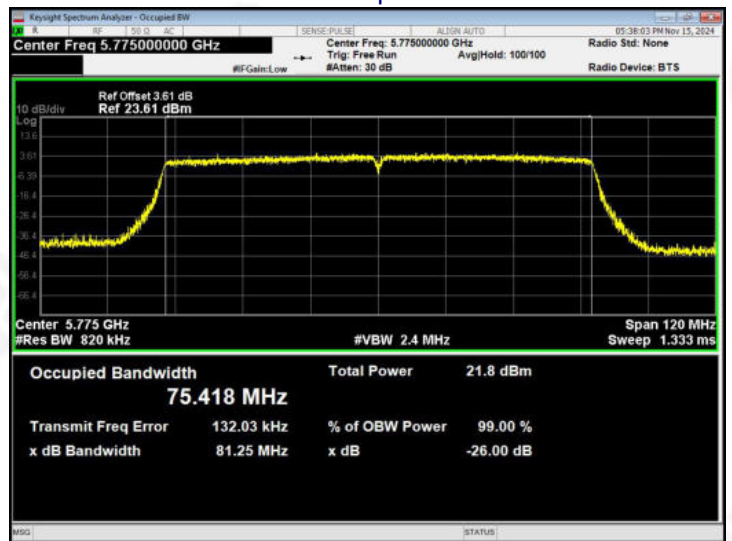


SISO ANT B - 802.11ac80

6dB Bandwidth plot on CH 155



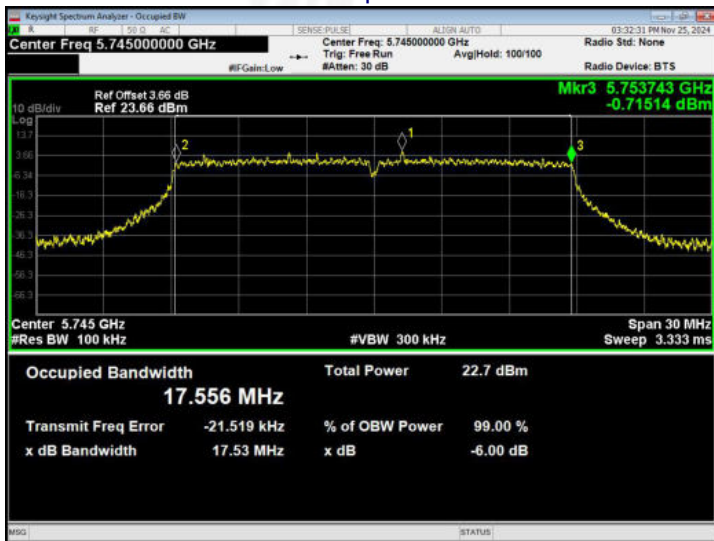
26dB Bandwidth plot on CH 155



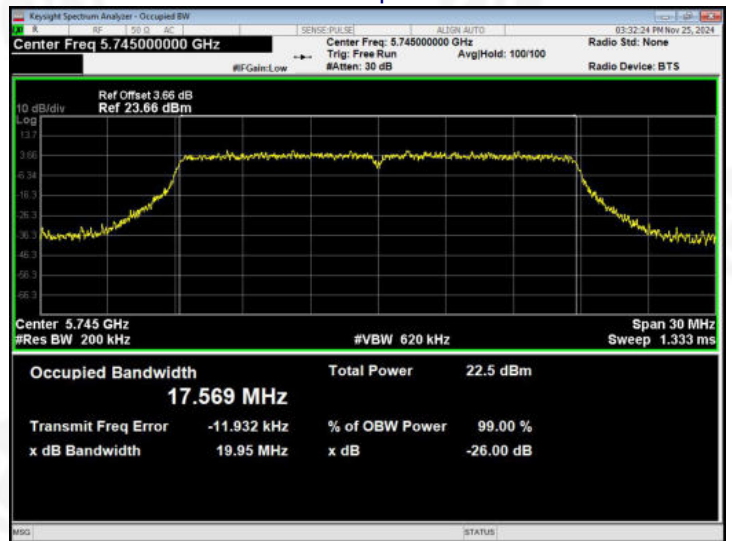


SISO ANT A - 802.11ax20

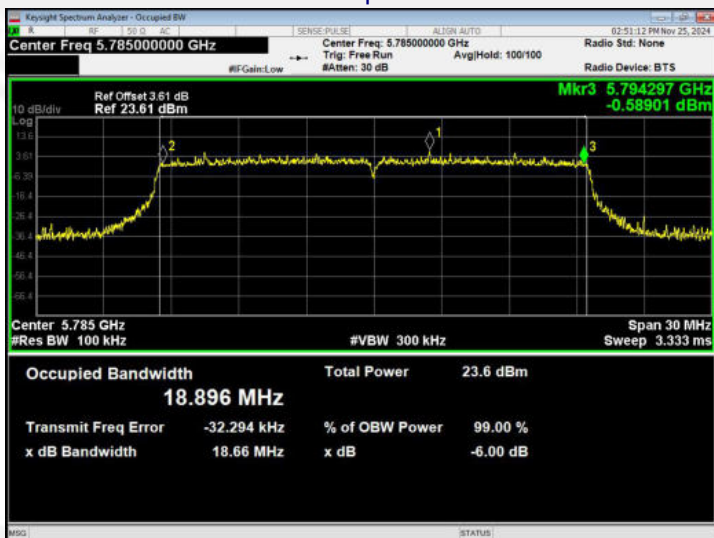
6dB Bandwidth plot on CH 149



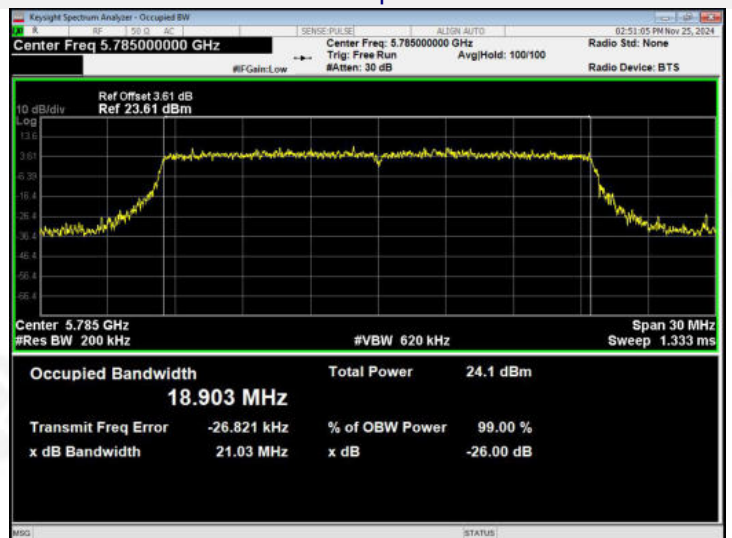
26dB Bandwidth plot on CH 149



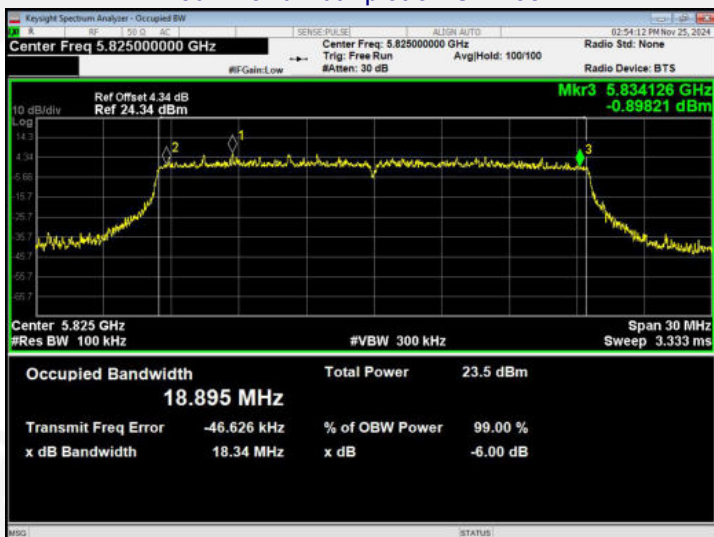
6dB Bandwidth plot on CH 157



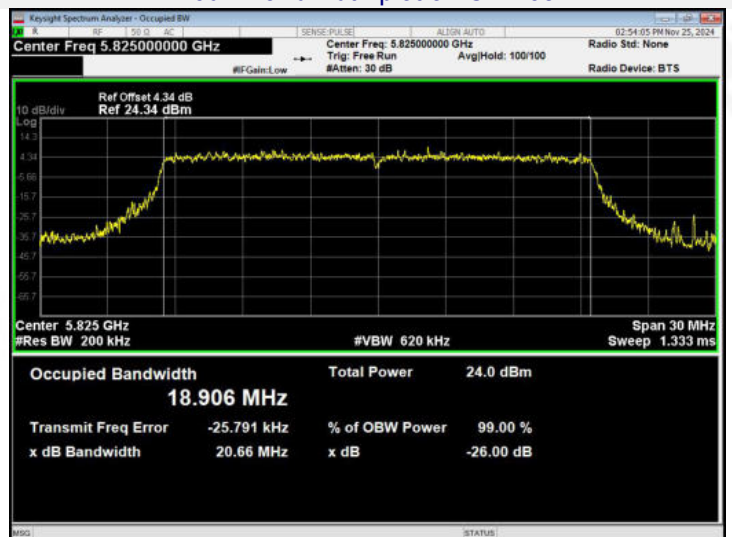
26dB Bandwidth plot on CH 157



6dB Bandwidth plot on CH 165



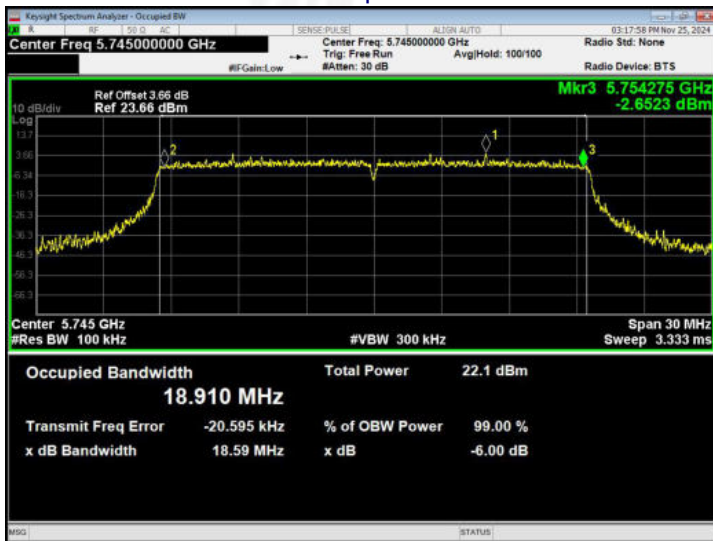
26dB Bandwidth plot on CH 165



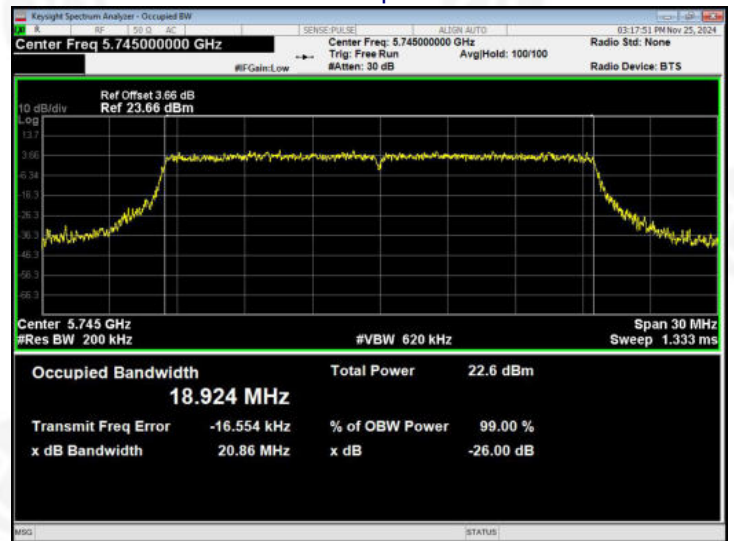


SISO ANT B - 802.11ax20

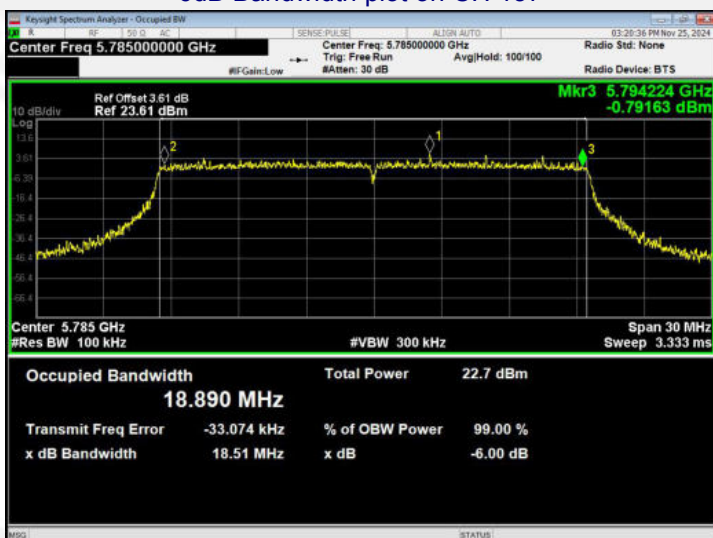
6dB Bandwidth plot on CH 149



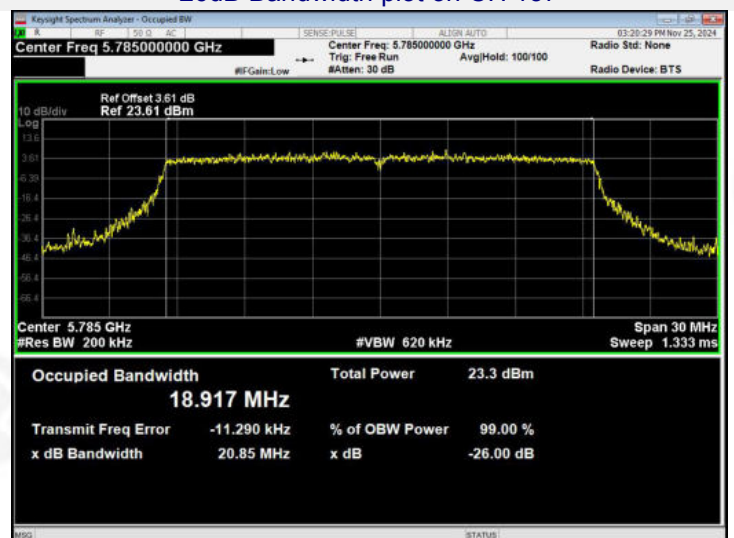
26dB Bandwidth plot on CH 149



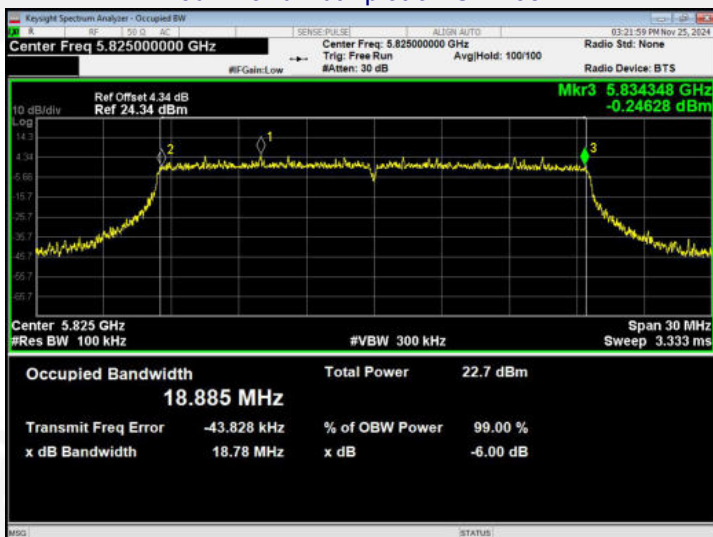
6dB Bandwidth plot on CH 157



26dB Bandwidth plot on CH 157



6dB Bandwidth plot on CH 165



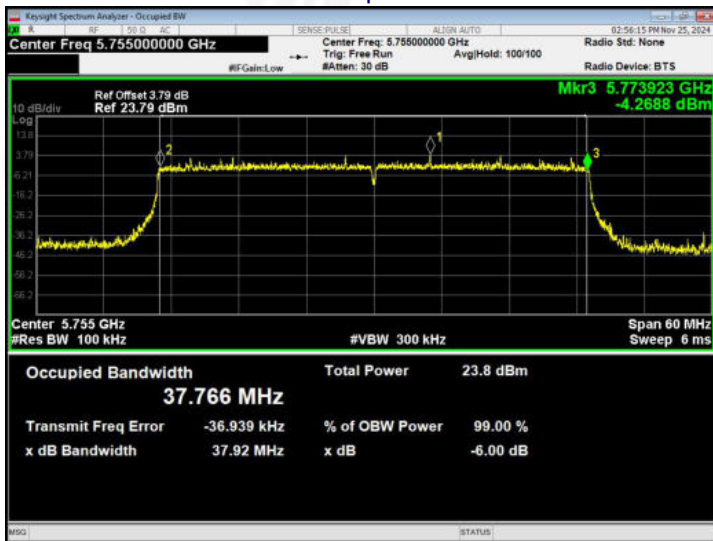
26dB Bandwidth plot on CH 165



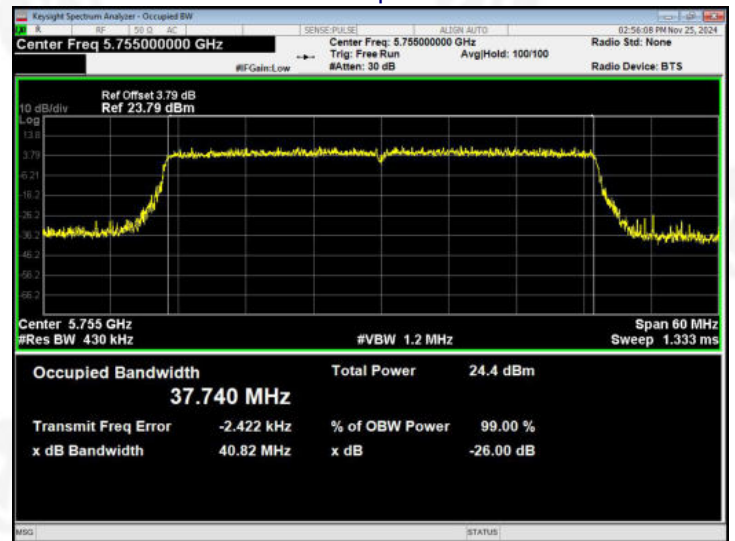


SISO ANT A - 802.11ax40

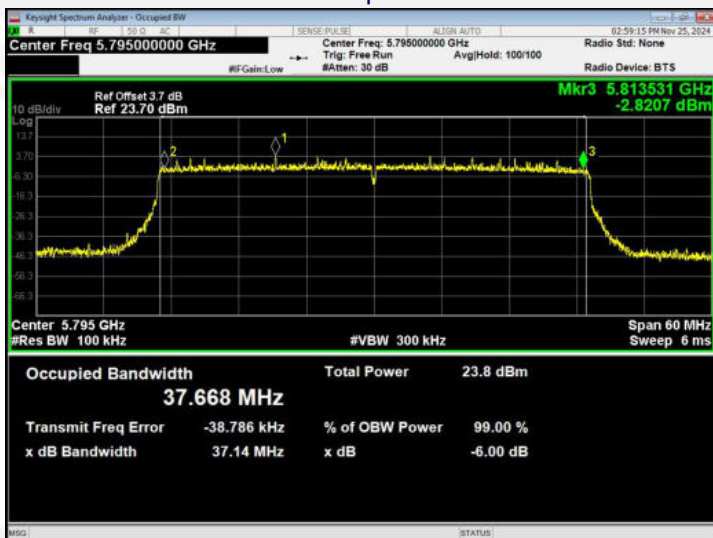
6dB Bandwidth plot on CH 151



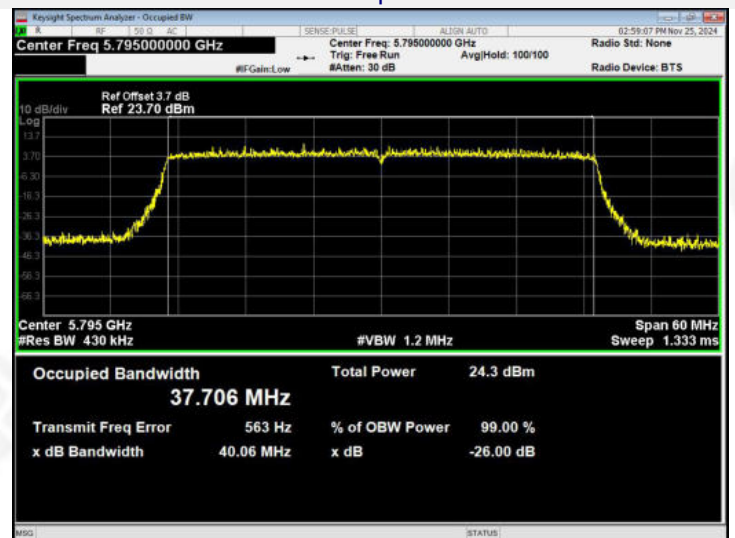
26dB Bandwidth plot on CH 151



6dB Bandwidth plot on CH 159



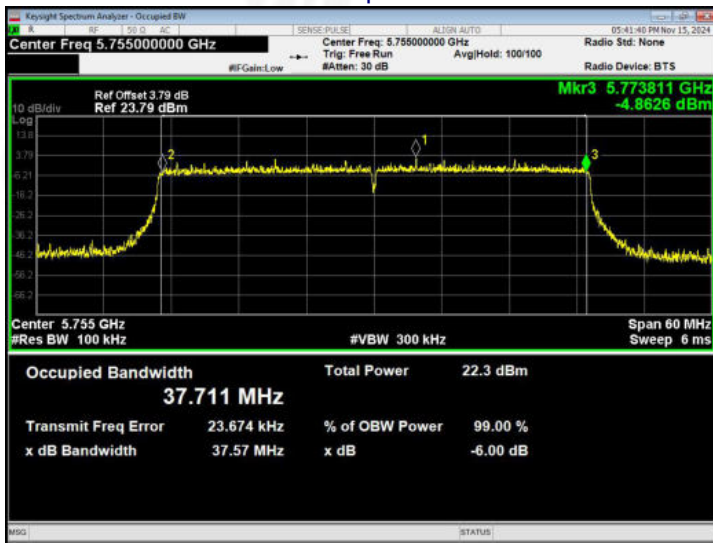
26dB Bandwidth plot on CH 159



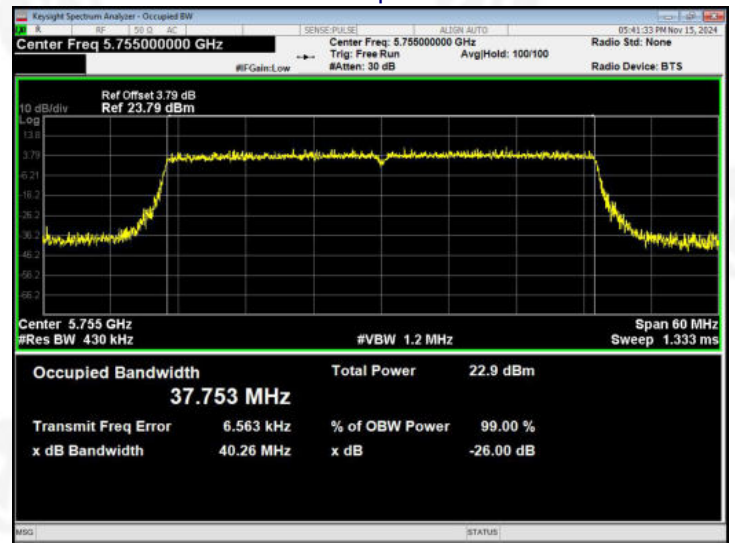


SISO ANT B - 802.11ax40

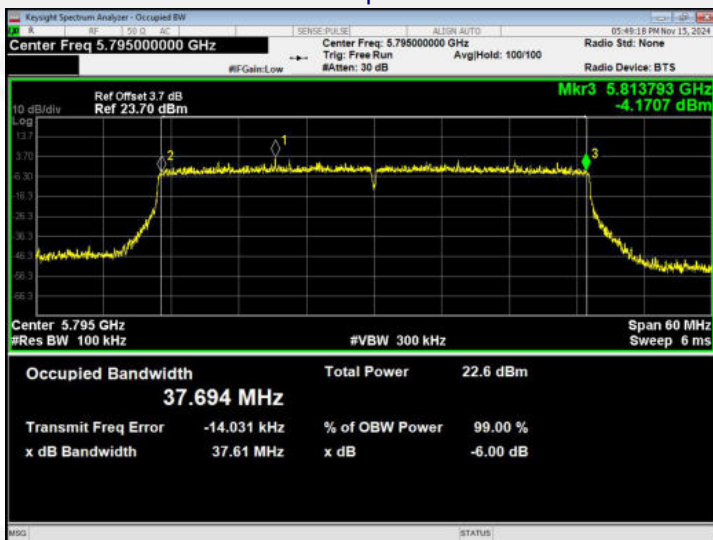
6dB Bandwidth plot on CH 151



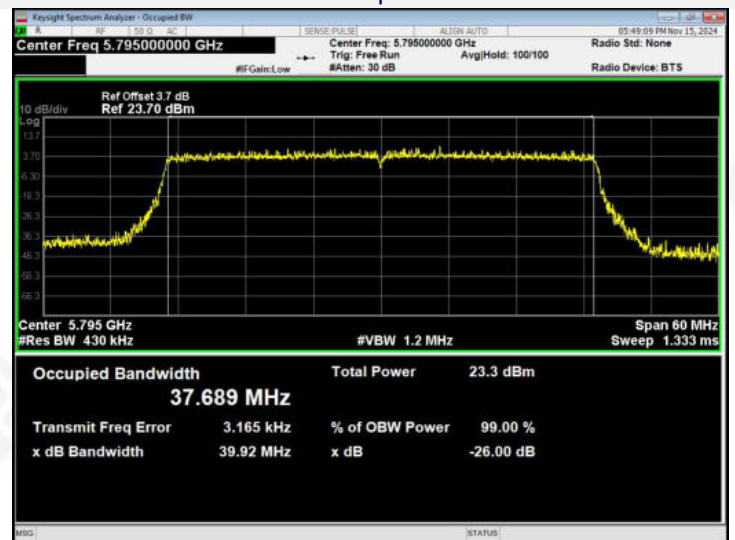
26dB Bandwidth plot on CH 151



6dB Bandwidth plot on CH 159



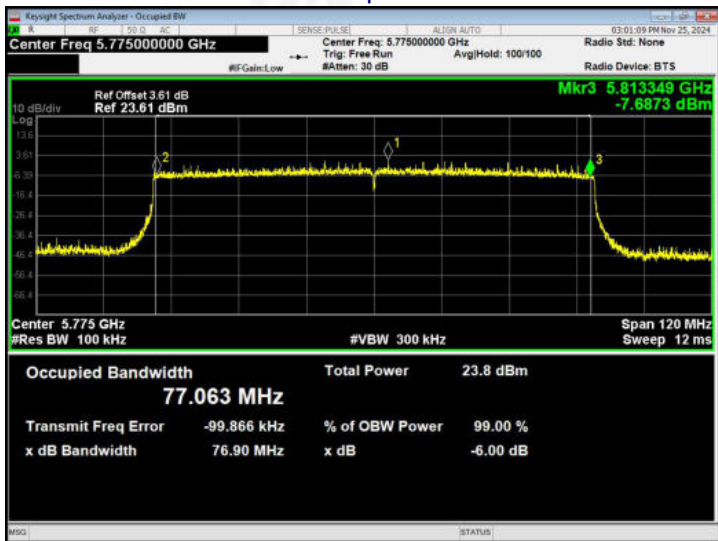
26dB Bandwidth plot on CH 159



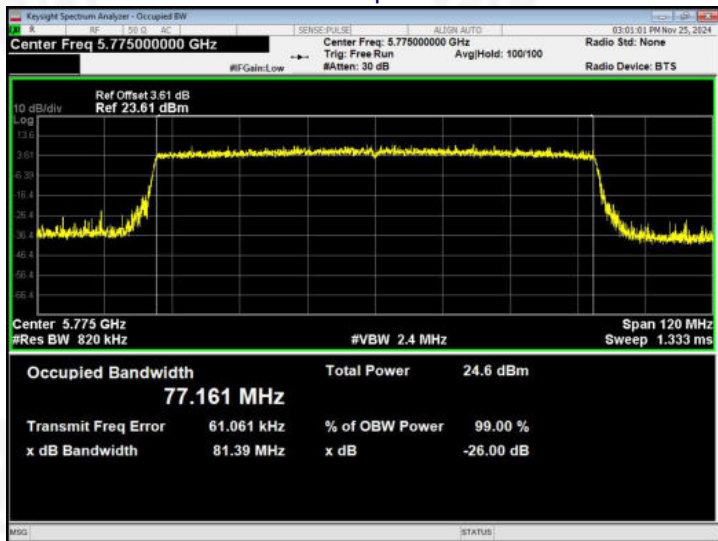


SISO ANT A - 802.11ax80

6dB Bandwidth plot on CH 155

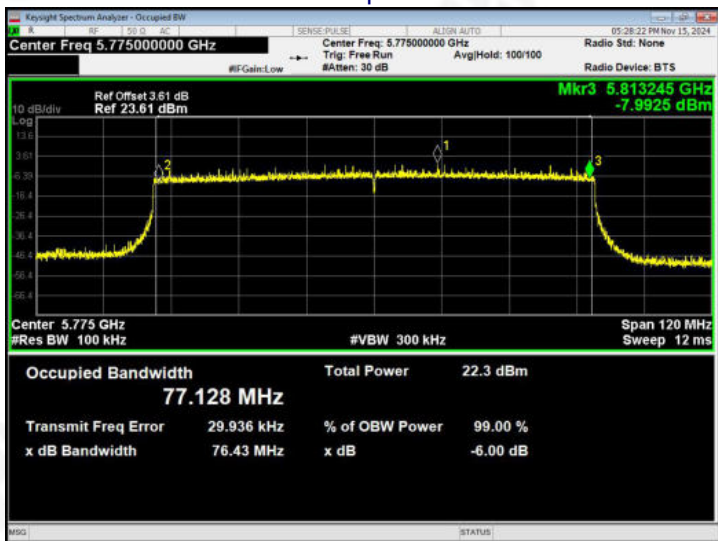


26dB Bandwidth plot on CH 155

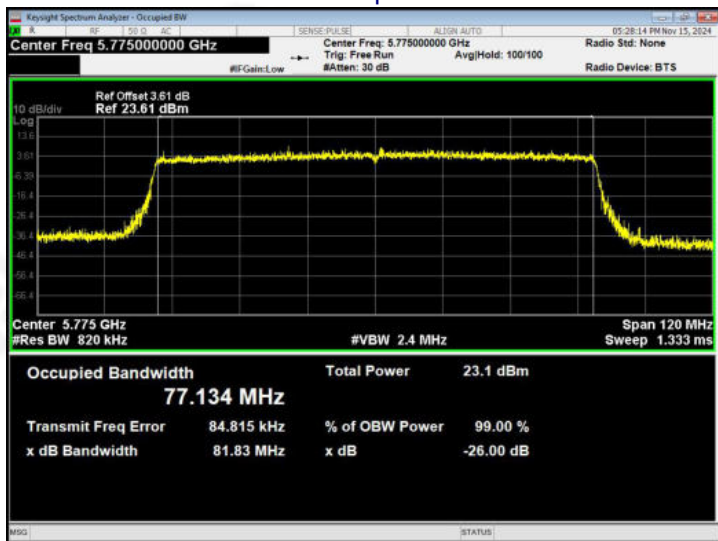


SISO ANT B - 802.11ax80

6dB Bandwidth plot on CH 155



26dB Bandwidth plot on CH 155





7. MAXIMUM CONDUCTED OUTPUT POWER

7.1 PPLIED PROCEDURES / LIMIT

According to FCC §15.407

The maximum conducted output power should not exceed:

Frequency Band(MHz)	Limit
5150~5250	250mW
5725~5850	1W

7.2 TEST PROCEDURE

The EUT was directly connected to the Power meter

1. Device Configuration

If possible, configure or modify the operation of the EUT so that it transmits continuously at its maximum power control level (see section II.B.).

a) The intent is to test at 100 percent duty cycle; however a small reduction in duty cycle (to no lower than 98 percent) is permitted if required by the EUT for amplitude control purposes. Manufacturers are expected to provide software to the test lab to permit such continuous operation.

b) If continuous transmission (or at least 98 percent duty cycle) cannot be achieved due to hardware limitations (e.g., overheating), the EUT shall be operated at its maximum power control level with the transmit duration as long as possible and the duty cycle as high as possible.

2. Measurement using a Spectrum Analyzer or EMI Receiver (SA)

Measurement of maximum conducted output power using a spectrum analyzer requires integrating the spectrum across a frequency span that encompasses, at a minimum, either the EBW or the 99-percent occupied bandwidth of the signal. However, the EBW must be used to determine bandwidth dependent limits on maximum conducted output power in accordance with § 15.407(a).

a) The test method shall be selected as follows: (i) Method SA-1 or SA-1 Alternative (averaging with the EUT transmitting at full power throughout each sweep) shall be applied if either of the following conditions can be satisfied:

- The EUT transmits continuously (or with a duty cycle ≥ 98 percent).
- Sweep triggering or gating can be implemented in a way that the device transmits at the maximum power control level throughout the duration of each of the instrument sweeps to be averaged. This condition can generally be achieved by triggering the instrument's sweep if the duration of the sweep (with the analyzer configured as in Method SA-1, below) is equal to or shorter than the duration T of each transmission from the EUT and if those transmissions exhibit full power throughout their durations.

(ii) Method SA-2 or SA-2 Alternative (averaging across on and off times of the EUT transmissions, followed by duty cycle correction) shall be applied if the conditions of (i) cannot be achieved and the transmissions exhibit a constant duty cycle during the measurement duration. Duty cycle will be considered to be constant if variations are less than ± 2 percent.

(iii) Method SA-3 (RMS detection with max hold) or SA-3 Alternative (reduced VBW with max hold) shall be applied if the conditions of (i) and (ii) cannot be achieved.

b) Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep): (i) Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal.

(ii) Set RBW = 1 MHz.

(iii) Set VBW ≥ 3 MHz.

(iv) Number of points in sweep ≥ 2 Span / RBW. (This ensures that bin-to-bin spacing is $\leq$ RBW/2, so that narrowband signals are not lost between frequency bins.)

(v) Sweep time = auto.

(vi) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.

(vii) If transmit duty cycle < 98 percent, use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle ≥ 98 percent, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run".

(viii) Trace average at least 100 traces in power averaging (i.e., RMS) mode.



(ix) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



7.6 TEST RESULTS

Temperature :	26 ℃	Relative Humidity :	54%
Pressure :	1012 hPa	Test Voltage :	DC 3.85V
Test Band :	5.2G		

Test Mode	Antenna	Frequency (MHz)	Output power (dBm)	Duty cycle factor (dB)	Total power (dBm)	Limit (dBm)	Result
802.11a	SISO ANT A	5180	17.617	0.198	17.815	23.98	Pass
		5200	17.608	0.198	17.806		
		5240	17.377	0.198	17.575		
	SISO ANT B	5180	16.791	0.202	16.993	23.98	Pass
		5200	16.632	0.202	16.834		
		5240	16.478	0.202	16.680		
802.11n20	SISO ANT A	5180	16.453	0.204	16.657	23.98	Pass
		5200	16.375	0.204	16.579		
		5240	16.285	0.204	16.489		
	SISO ANT B	5180	15.423	0.204	15.627	23.98	Pass
		5200	15.286	0.204	15.490		
		5240	15.313	0.204	15.517		
	MIMO A+B	5180	18.979	0.069	19.048	23.98	Pass
		5200	18.875	0.069	18.944		
		5240	18.836	0.069	18.905		
802.11n40	SISO ANT A	5190	17.301	0.205	17.506	23.98	Pass
		5230	17.223	0.205	17.428		
	SISO ANT B	5190	16.229	0.206	16.435	23.98	Pass
		5230	16.168	0.206	16.374		
	MIMO A+B	5190	19.808	0.07	19.878	23.98	Pass
		5230	19.738	0.07	19.808		
802.11ac20	SISO ANT A	5180	16.377	0.203	16.580	23.98	Pass
		5200	16.394	0.203	16.597		
		5240	16.323	0.203	16.526		
	SISO ANT B	5180	15.464	0.204	15.668	23.98	Pass
		5200	15.363	0.204	15.567		
		5240	15.304	0.204	15.508		



	MIMO A+B	5180	18.955	0.069	19.024	23.98	Pass
		5200	18.919	0.069	18.988		
		5240	18.854	0.069	18.923		
802.11ac40	SISO ANT A	5190	17.077	0.207	17.284	23.98	Pass
		5230	16.985	0.207	17.192		
	SISO ANT B	5190	16.263	0.209	16.472	23.98	Pass
		5230	16.149	0.209	16.358		
	MIMO A+B	5190	19.699	0.073	19.772	23.98	Pass
		5230	19.597	0.073	19.670		
802.11ac80	SISO ANT A	5210	17.035	0.205	17.240	23.98	Pass
	SISO ANT B	5210	16.174	0.205	16.379	23.98	Pass
	MIMO A+B	5210	19.636	0.07	19.706	23.98	Pass
802.11ax20	SISO ANT A	5180	17.895	0.006	17.901	23.98	Pass
		5200	17.804	0.006	17.810		
		5240	17.632	0.006	17.638		
	SISO ANT B	5180	16.106	0.004	16.110	23.98	Pass
		5200	15.956	0.004	15.960		
		5240	15.700	0.004	15.704		
	MIMO A+B	5180	20.102	0	20.102	23.98	Pass
		5200	19.988	0	19.988		
		5240	19.783	0	19.783		
802.11ax40	SISO ANT A	5190	17.931	0.006	17.937	23.98	Pass
		5230	17.765	0.006	17.771		
	SISO ANT B	5190	16.352	0.006	16.358	23.98	Pass
		5230	16.095	0.006	16.101		
	MIMO A+B	5190	20.223	0	20.223	23.98	Pass
		5230	20.020	0	20.020		
802.11ax80	SISO ANT A	5210	17.753	0.004	17.757	23.98	Pass
	SISO ANT B	5210	16.052	0.004	16.056	23.98	Pass
	MIMO A+B	5210	19.996	0	19.996	23.98	Pass

Note: Total power = Output power + Duty cycle factor.



Temperature :	26 ℃	Relative Humidity :	54%
Pressure :	1012 hPa	Test Voltage :	DC 3.85V
Test Band :	5.8G		

Test Mode	Antenna	Frequency (MHz)	Output power (dBm)	Duty cycle factor (dB)	Total power (dBm)	Limit (dBm)	Result
802.11a	SISO ANT A	5745	17.480	0.202	17.682	30	Pass
		5785	17.419	0.202	17.621		
		5825	17.446	0.202	17.648		
	SISO ANT B	5745	15.098	0.202	15.300	30	Pass
		5785	15.948	0.202	16.150		
		5825	15.978	0.202	16.180		
802.11n20	SISO ANT A	5745	16.774	0.006	16.780	30	Pass
		5785	16.988	0.006	16.994		
		5825	16.888	0.006	16.894		
	SISO ANT B	5745	14.697	0.006	14.703	30	Pass
		5785	15.382	0.006	15.388		
		5825	15.513	0.006	15.519		
	MIMO A+B	5745	18.869	0	18.869	30	Pass
		5785	19.269	0	19.269		
		5825	19.265	0	19.265		
802.11n40	SISO ANT A	5755	17.147	0.206	17.353	30	Pass
		5795	17.070	0.206	17.276		
	SISO ANT B	5755	15.306	0.208	15.514	30	Pass
		5795	15.754	0.208	15.962		
	MIMO A+B	5755	19.334	0.071	19.405	30	Pass
		5795	19.472	0.071	19.543		
802.11ac20	SISO ANT A	5745	17.238	0.006	17.244	30	Pass
		5785	17.330	0.006	17.336		
		5825	17.236	0.006	17.242		
	SISO ANT B	5745	15.003	0.006	15.009	30	Pass
		5785	15.789	0.006	15.795		
		5825	15.972	0.006	15.978		
	MIMO A+B	5745	19.273	0.006	19.279	30	Pass
		5785	19.638	0.006	19.644		



		5825	19.660	0.006	19.666		
802.11ac40	SISO ANT A	5755	17.112	0.207	17.319	30	Pass
		5795	17.014	0.207	17.221		
	SISO ANT B	5755	15.294	0.207	15.501	30	Pass
		5795	15.661	0.207	15.868		
	MIMO A+B	5755	19.308	0.072	19.380	30	Pass
		5795	19.400	0.072	19.472		
802.11ac80	SISO ANT A	5775	16.854	0.203	17.057	30	Pass
	SISO ANT B	5775	15.250	0.203	15.453	30	Pass
	MIMO A+B	5775	19.136	0.068	19.204	30	Pass
802.11ax20	SISO ANT A	5745	16.731	0.006	16.737	30	Pass
		5785	17.554	0.006	17.560		
		5825	17.394	0.006	17.400		
	SISO ANT B	5745	16.098	0.006	16.104	30	Pass
		5785	16.676	0.006	16.682		
		5825	16.529	0.006	16.535		
	MIMO A+B	5745	19.436	0	19.436	30	Pass
		5785	20.147	0	20.147		
		5825	19.993	0	19.993		
802.11ax40	SISO ANT A	5755	17.593	0.007	17.600	30	Pass
		5795	17.489	0.007	17.496		
	SISO ANT B	5755	16.145	0.006	16.151	30	Pass
		5795	16.436	0.006	16.442		
	MIMO A+B	5755	19.939	0	19.939	30	Pass
		5795	20.005	0	20.005		
802.11ax80	SISO ANT A	5775	17.482	0.006	17.488	30	Pass
	SISO ANT B	5775	15.970	0.006	15.976	30	Pass
	MIMO A+B	5775	19.802	0	19.802	30	Pass

Note: Total power = Output power + Duty cycle factor.



8.OUT OF BAND EMISSIONS

8.1 APPLICABLE STANDARD

According to FCC §15.407(b)

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(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)

(i) 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.

8.2 TEST PROCEDURE

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP



8.5 EUT OPERATION CONDITIONS

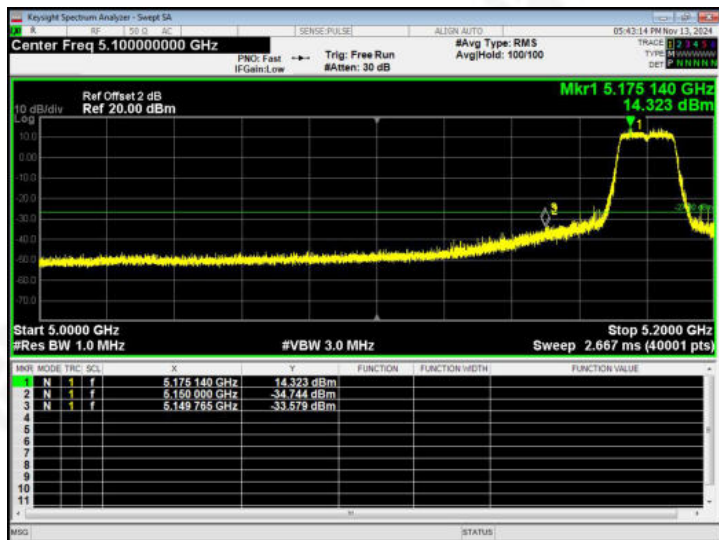
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



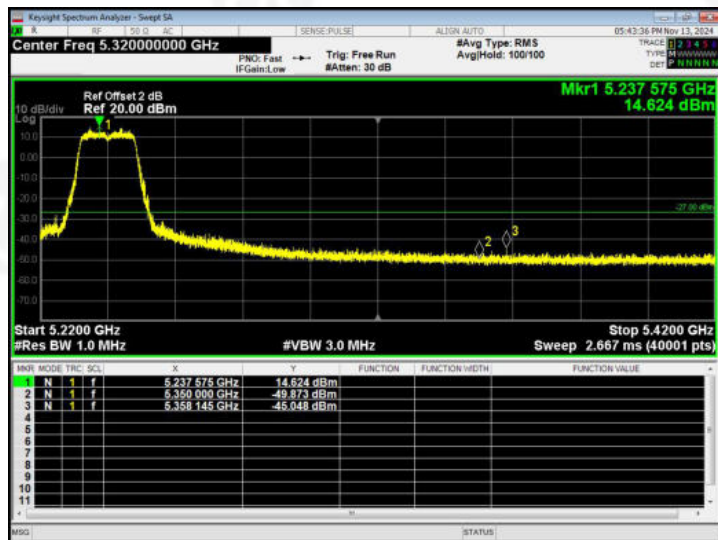
8.6 TEST RESULTS

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1012 hPa	Test Voltage :	DC 3.85V
Test band :	5.2G	Antenna gain :	2.0dBi (The gain value of antenna A is tested uniformly)

SISO ANT A - 802.11a

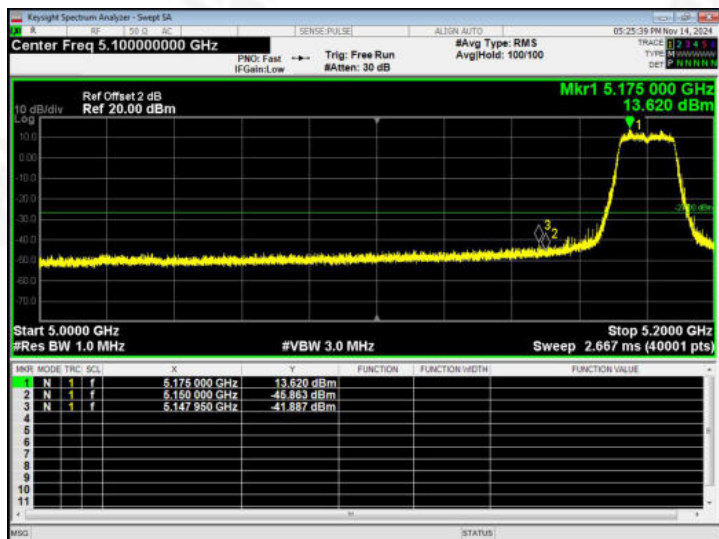


Channel 36

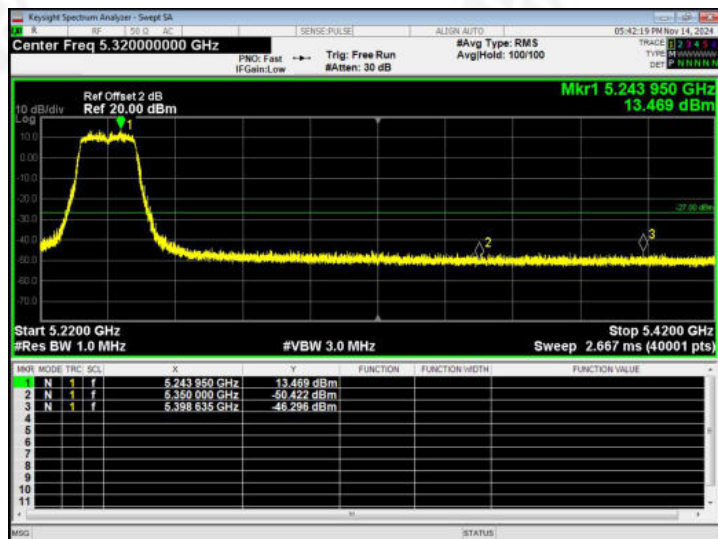


Channel 48

SISO ANT B - 802.11a



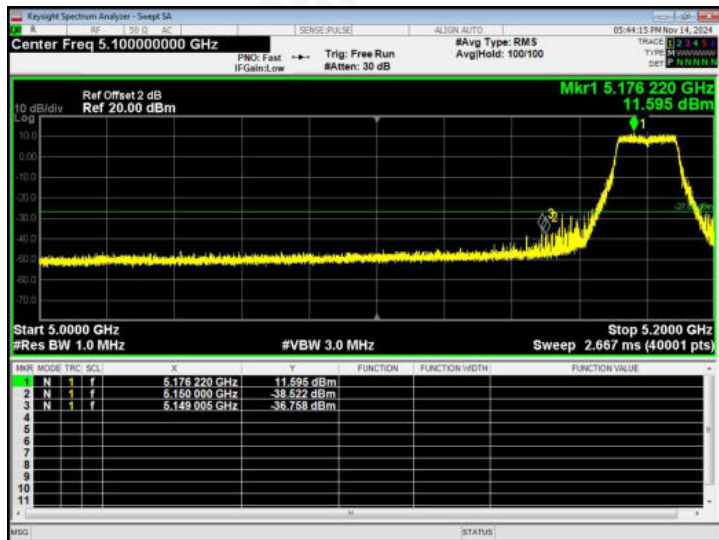
Channel 36



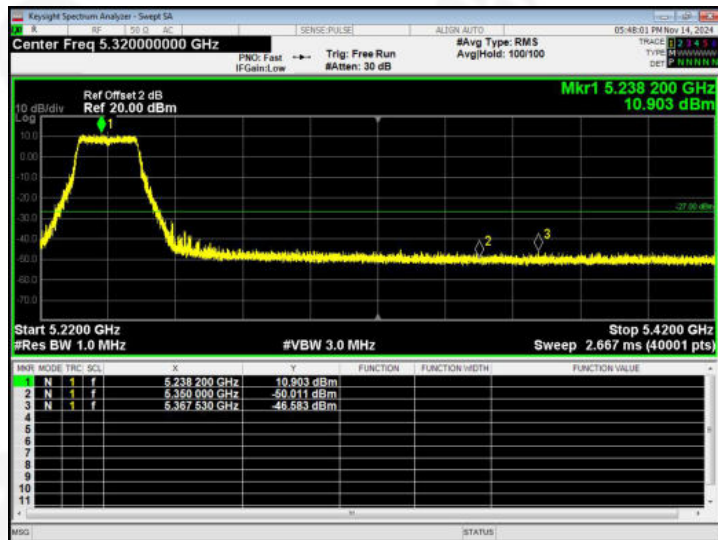
Channel 48



SISO ANT A - 802.11n20

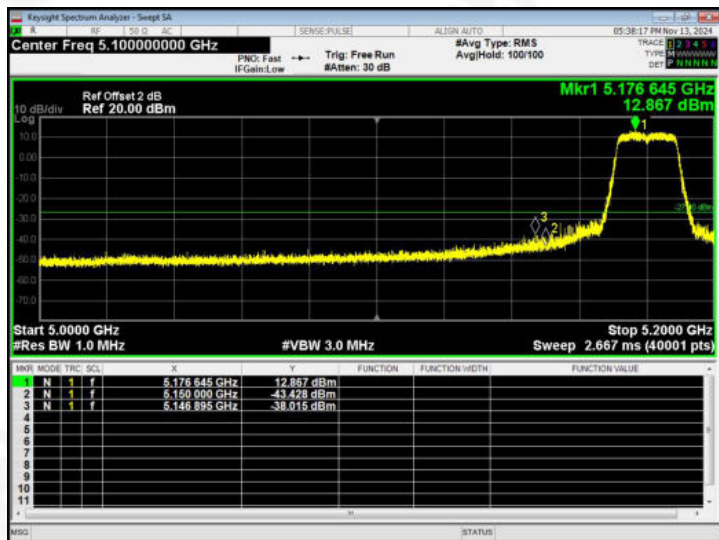


Channel 36

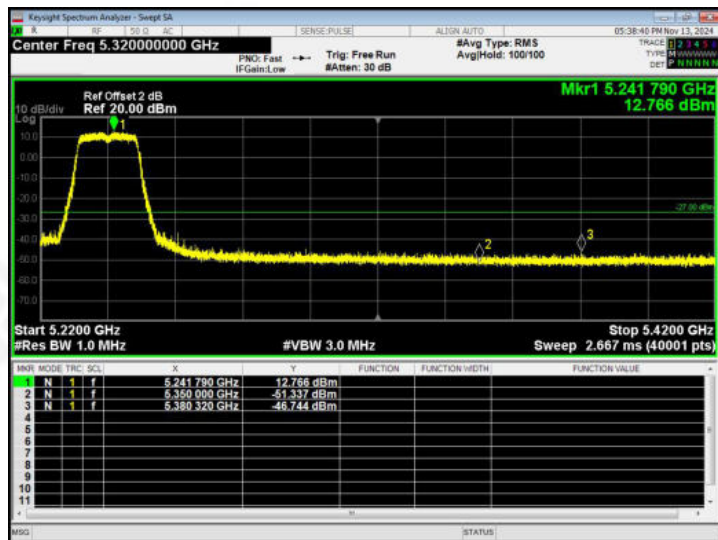


Channel 48

MIMO A - 802.11n20



Channel 36



Channel 48

Note: Both SISO ANT A&B and MIMO A&B passed the test, the test data shows only the worst case SISO ANT A and MIMO A.