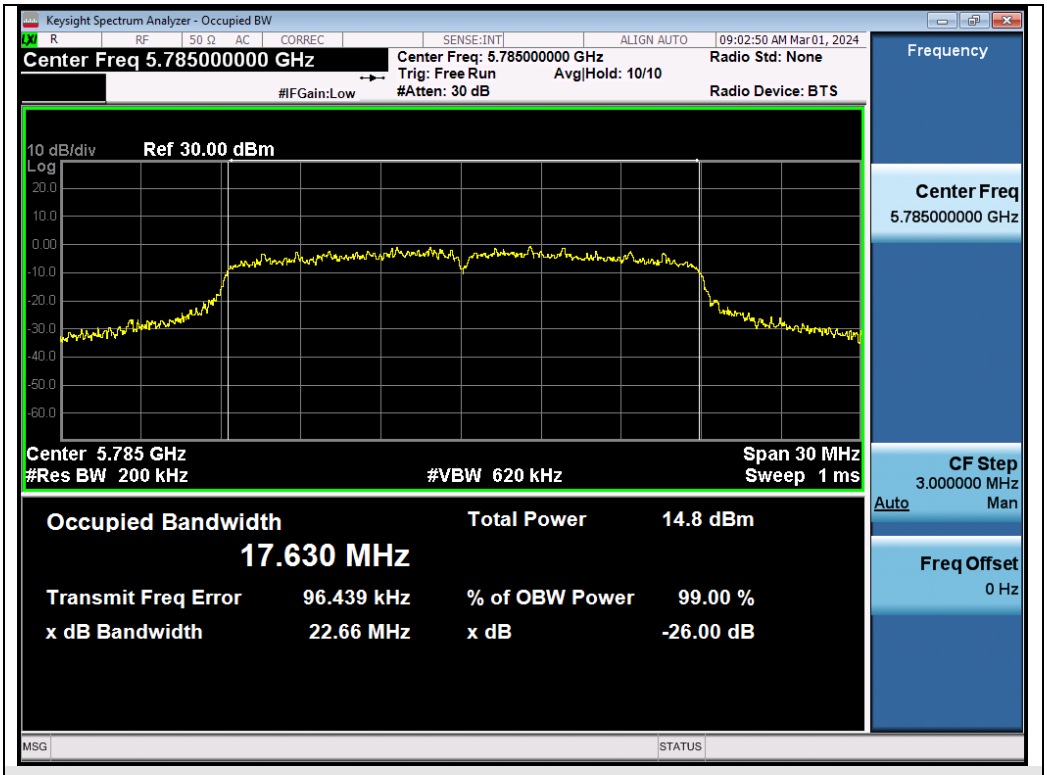
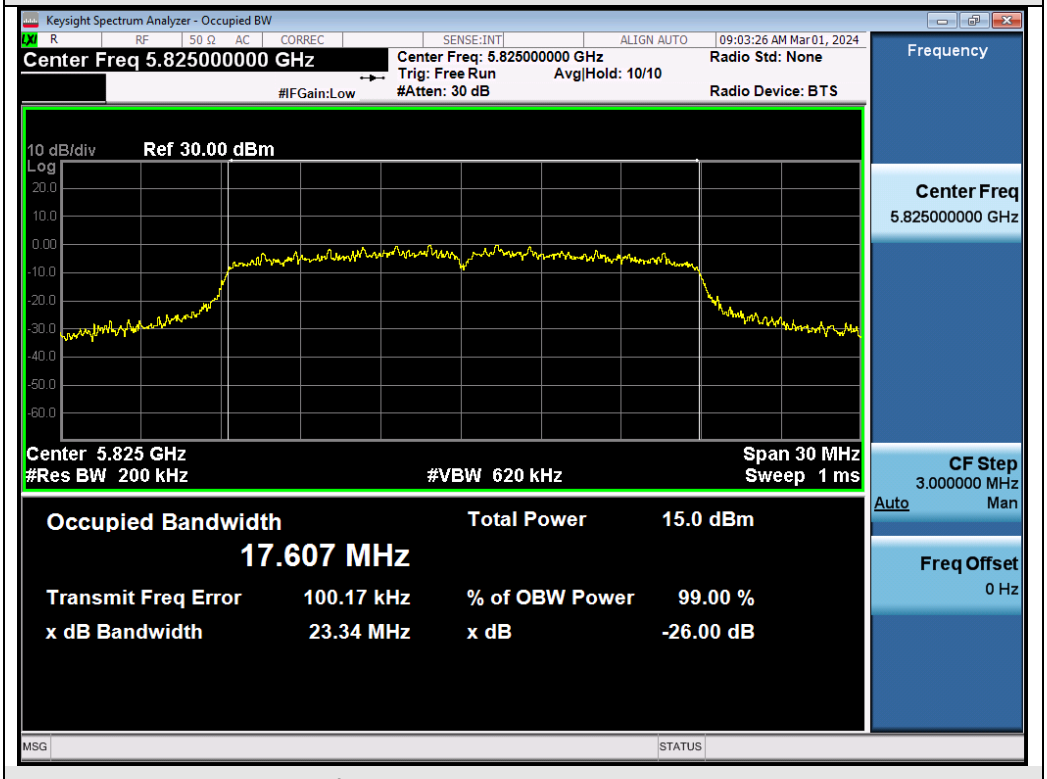
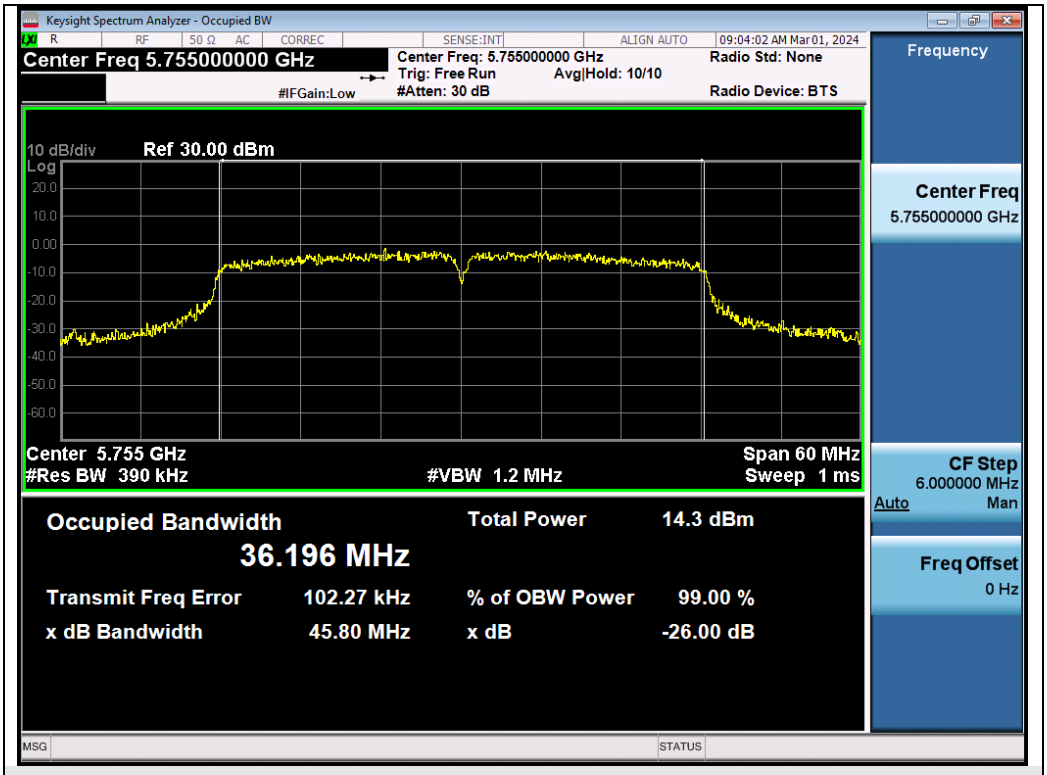


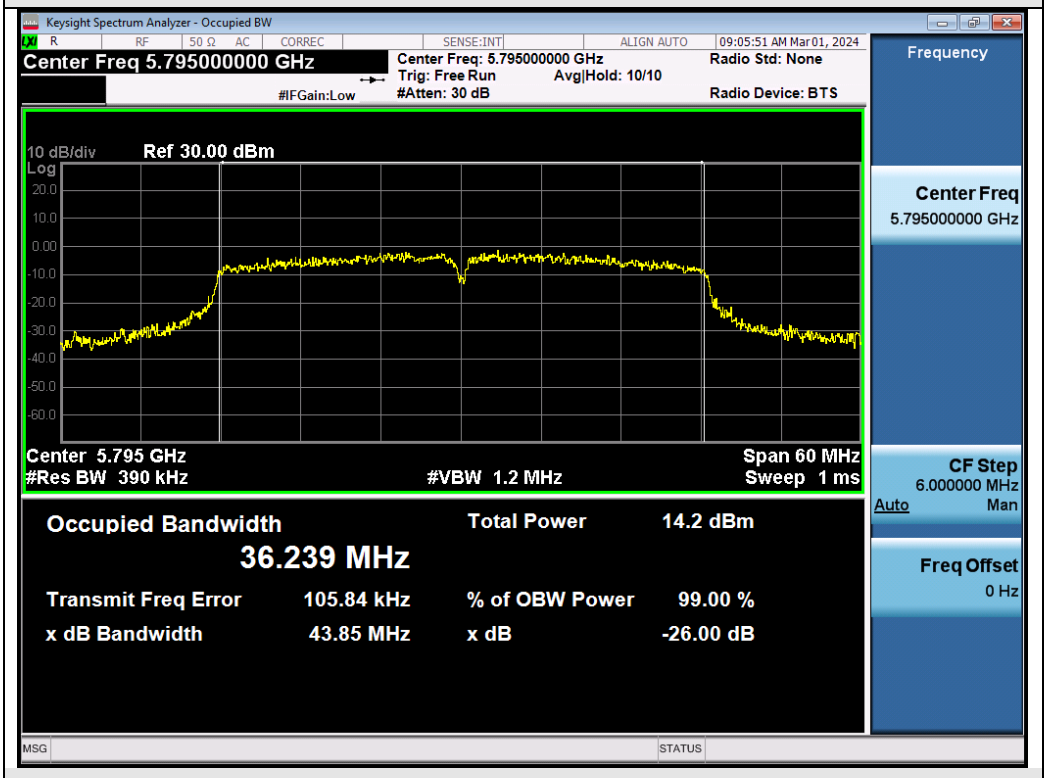
Test_Graph_802.11n20_ANT1_5785_MCS0_OBW



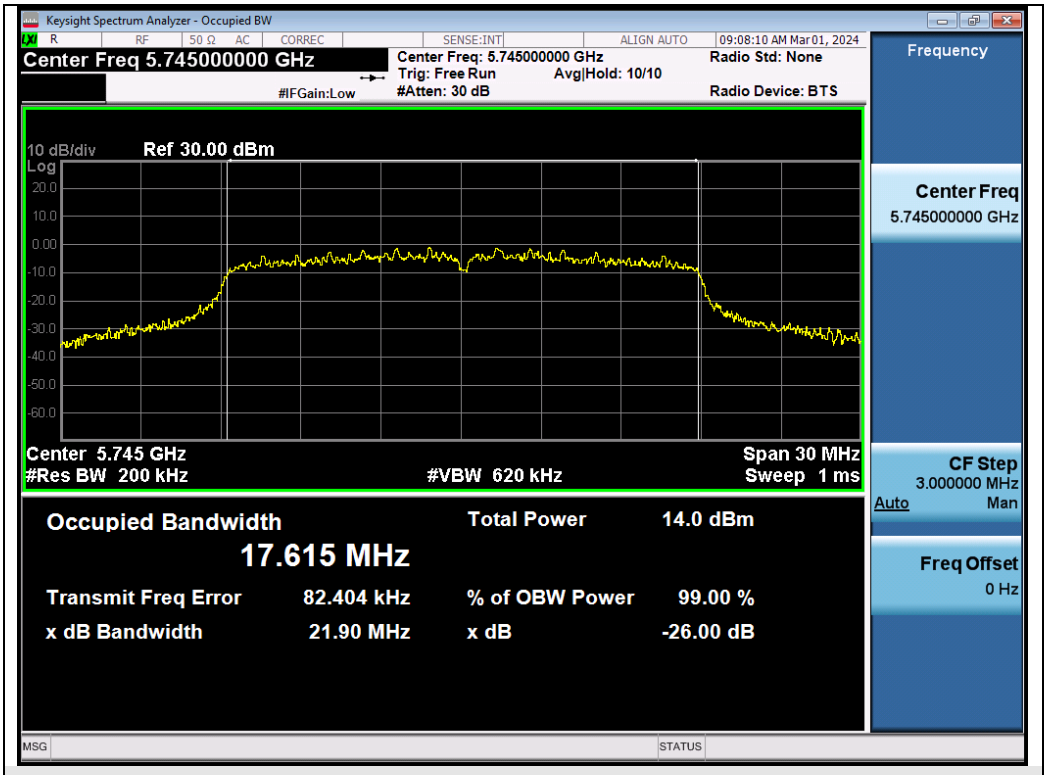
Test_Graph_802.11n20_ANT1_5825_MCS0_OBW



Test_Graph_802.11n40_ANT1_5755_MCS0_OBW

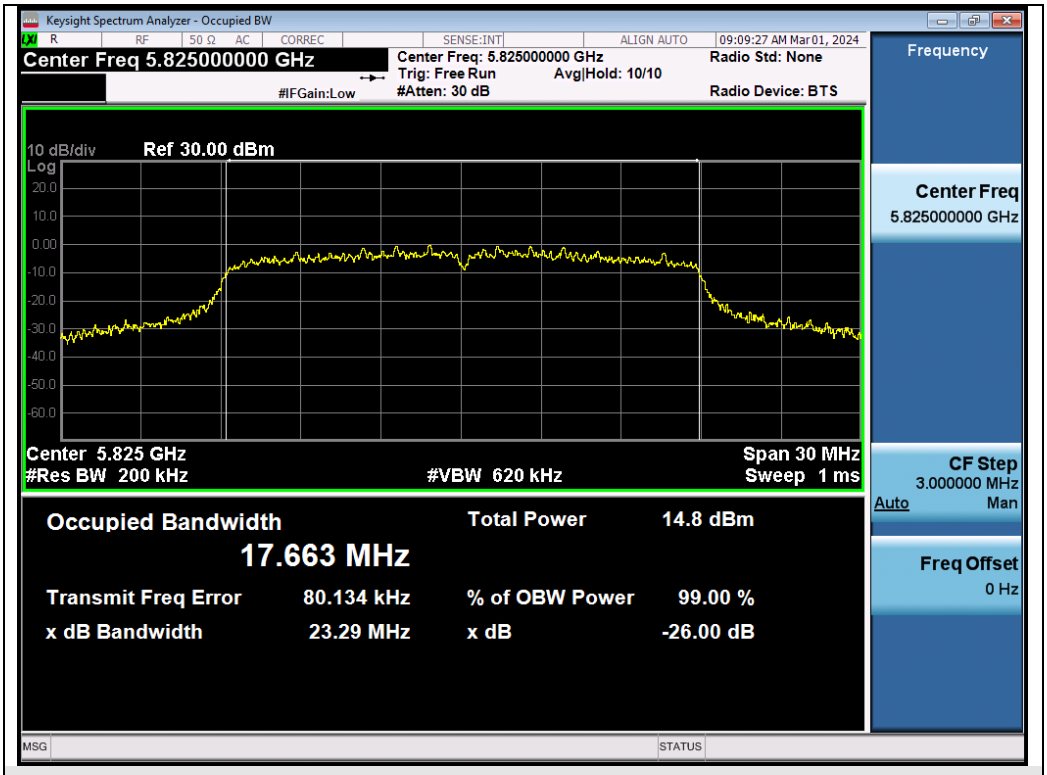


Test_Graph_802.11n40_ANT1_5795_MCS0_OBW

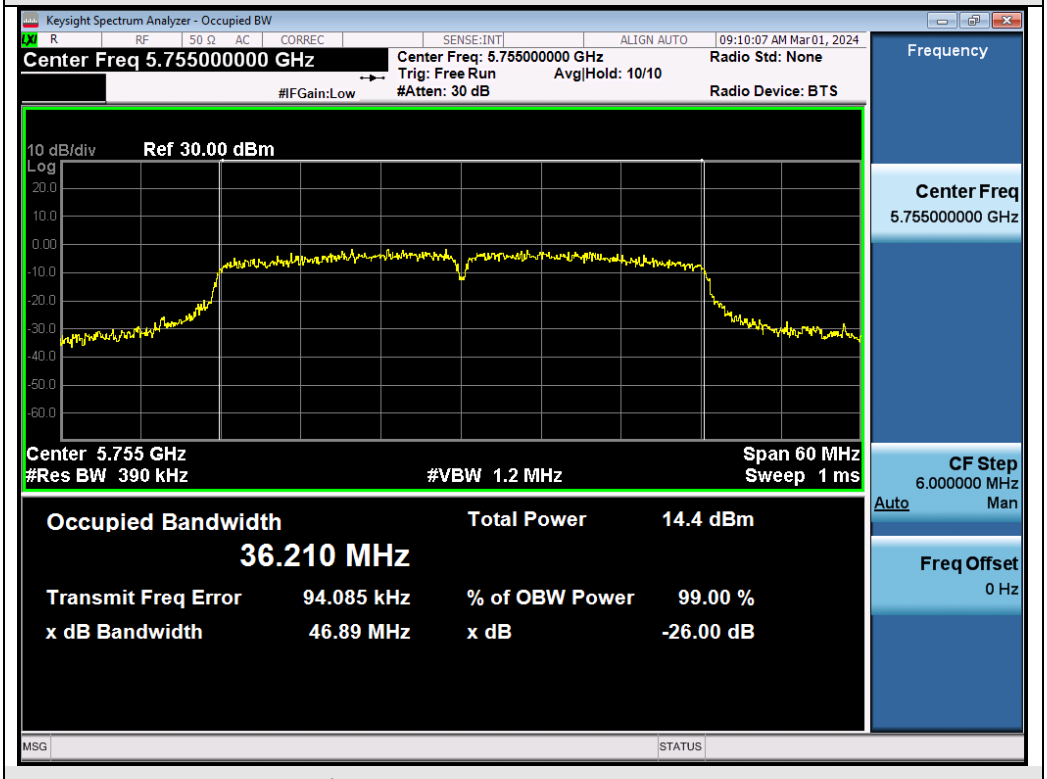


Test_Graph_802.11ac20_ANT1_5745_MCS0_OBW

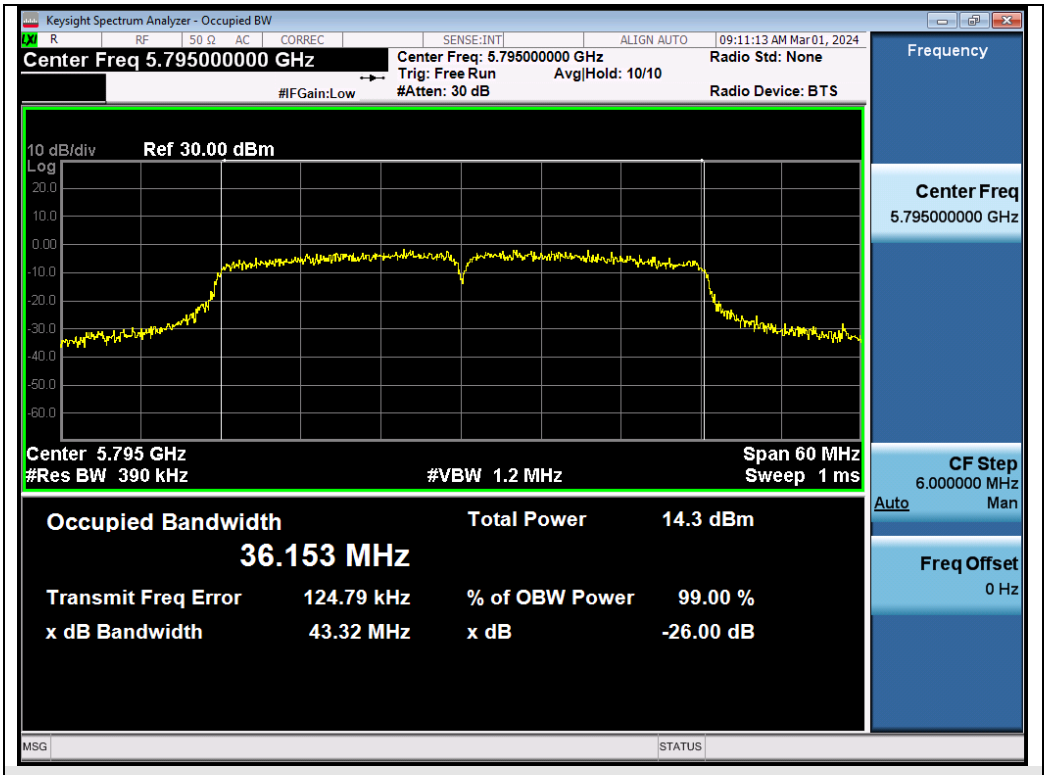
Test_Graph_802.11ac20_ANT1_5785_MCS0_OBW



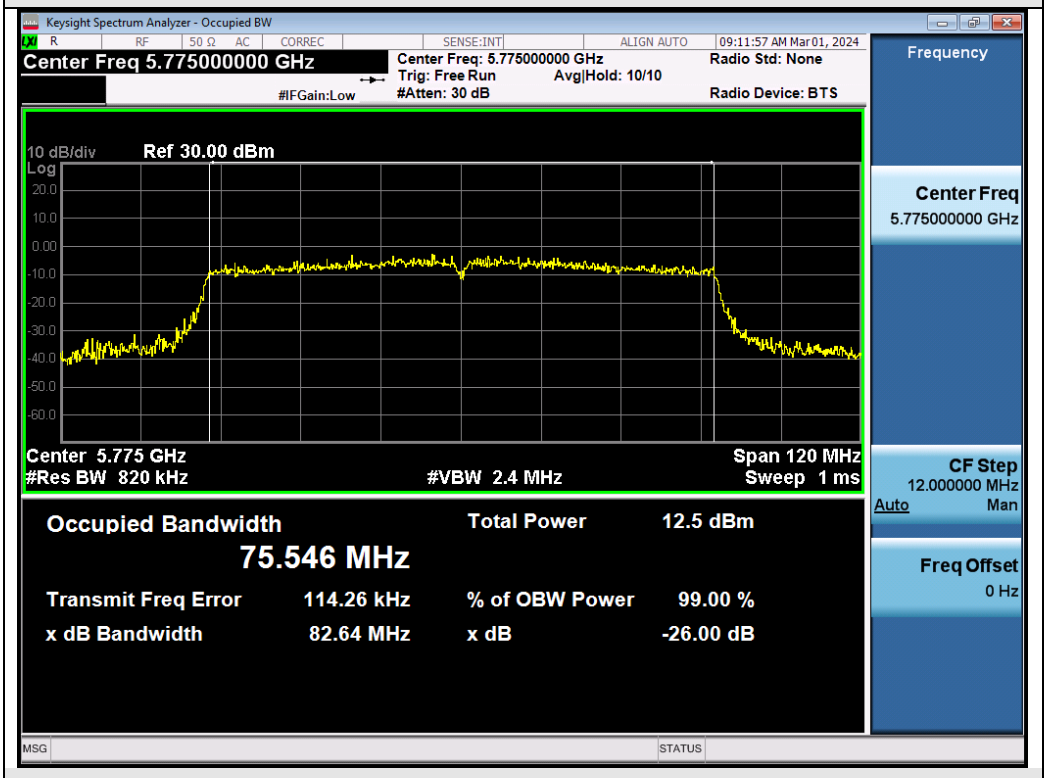
Test_Graph_802.11ac20_ANT1_5825_MCS9_OBW



Test_Graph_802.11ac40_ANT1_5755_MCS9_OBW

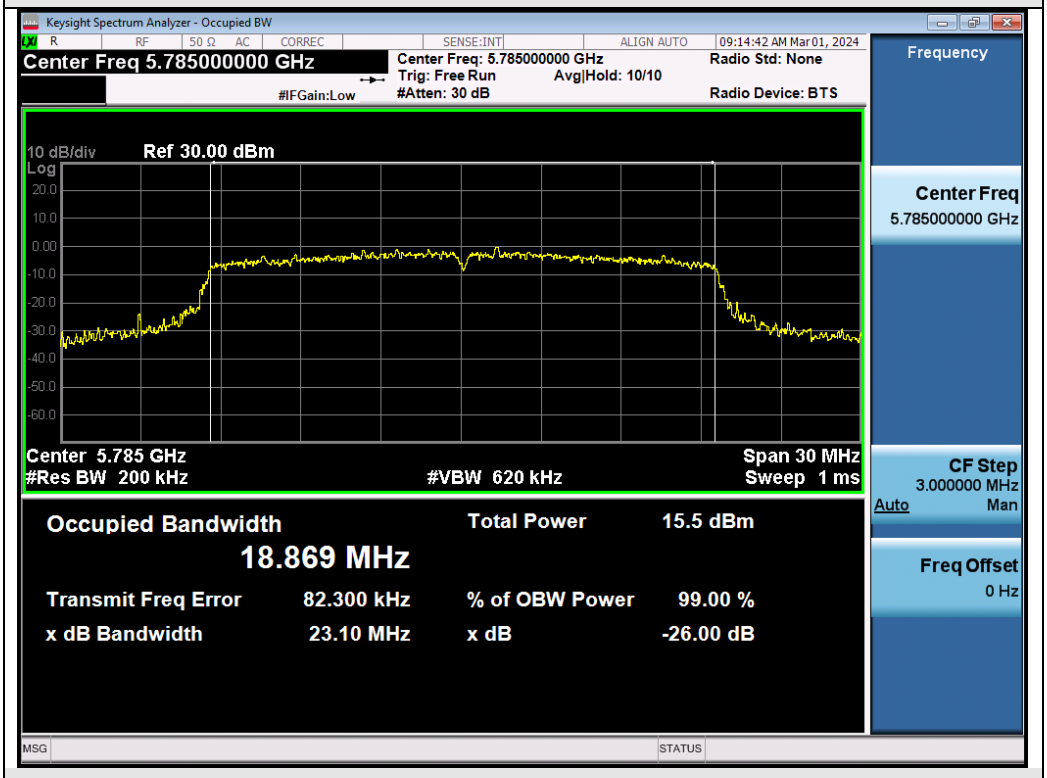


Test_Graph_802.11ac40_ANT1_5795_MCS9_OBW

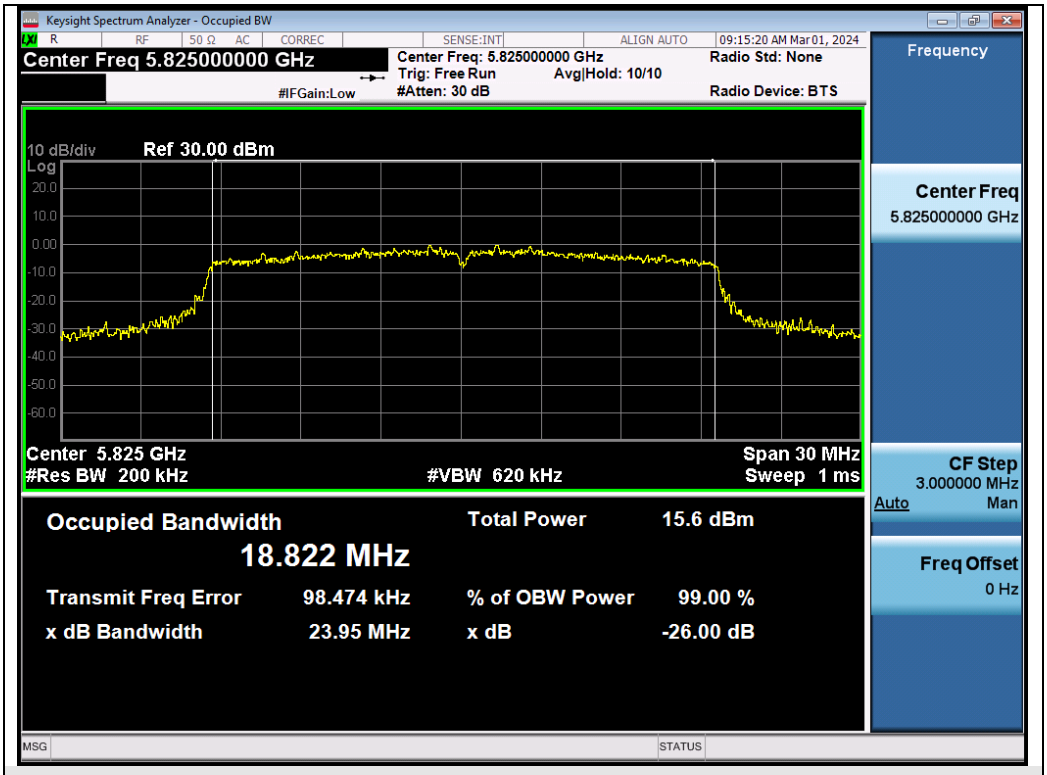


Test_Graph_802.11ac80_ANT1_5775_MCS9_OBW

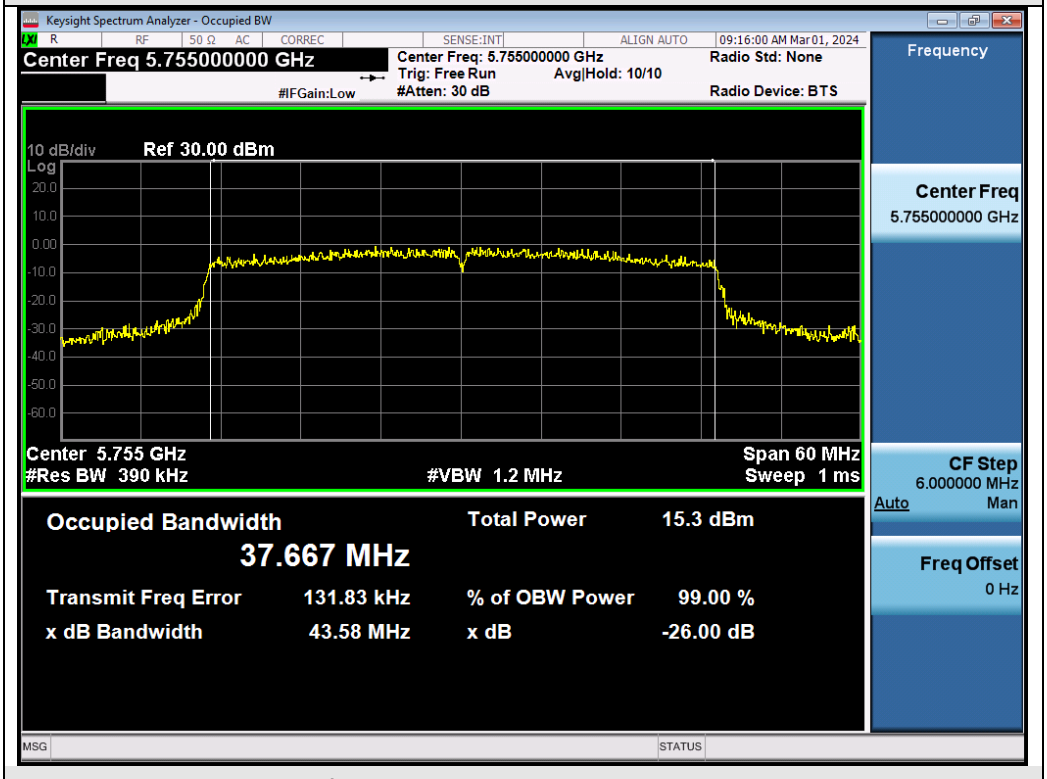
Test_Graph_802.11ax20_ANT1_5745_MCS0_OBW



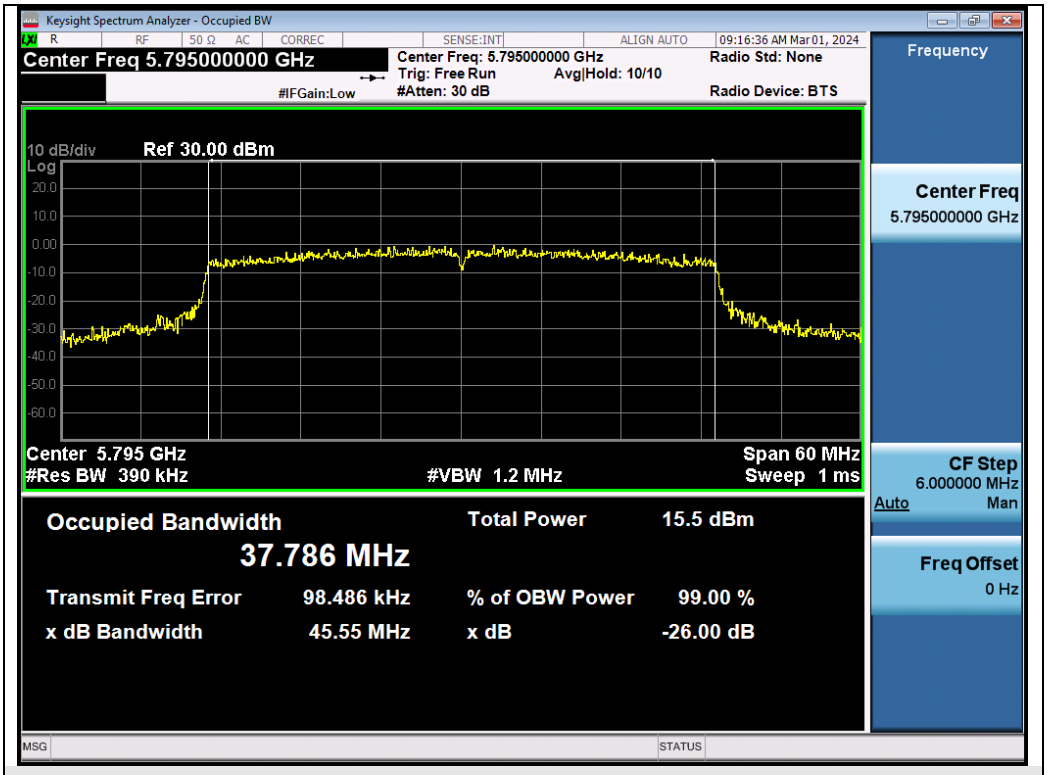
Test_Graph_802.11ax20_ANT1_5785_MCS0_OBW



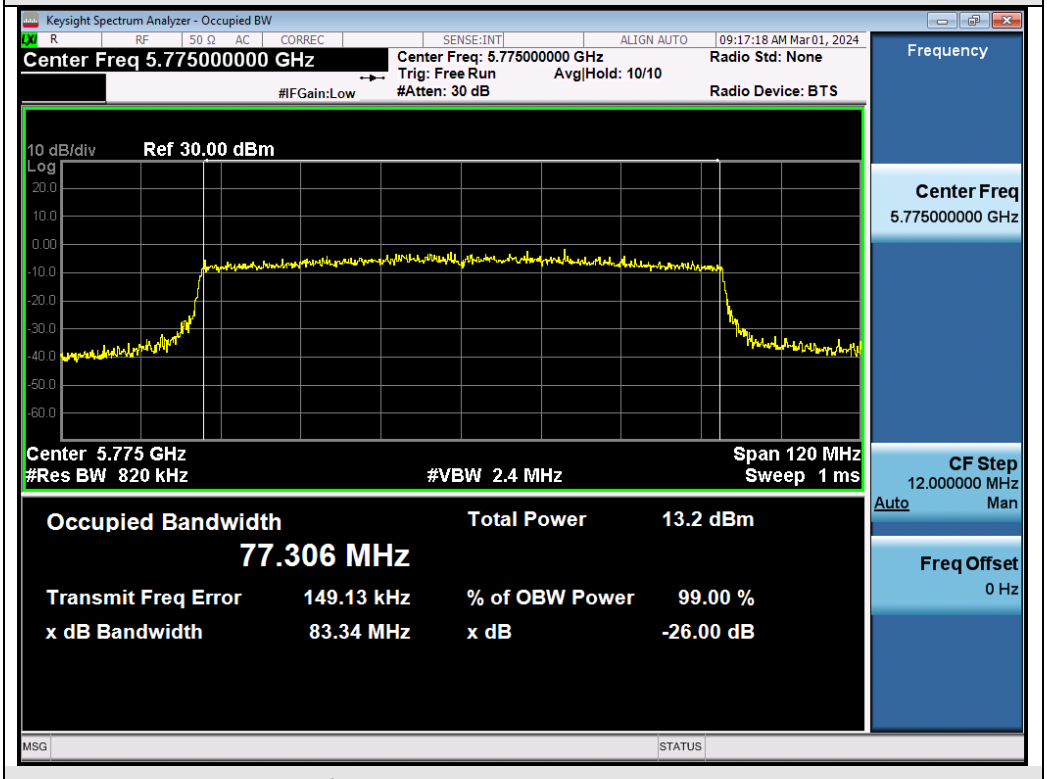
Test_Graph_802.11ax20_ANT1_5825_MCS0_OBW



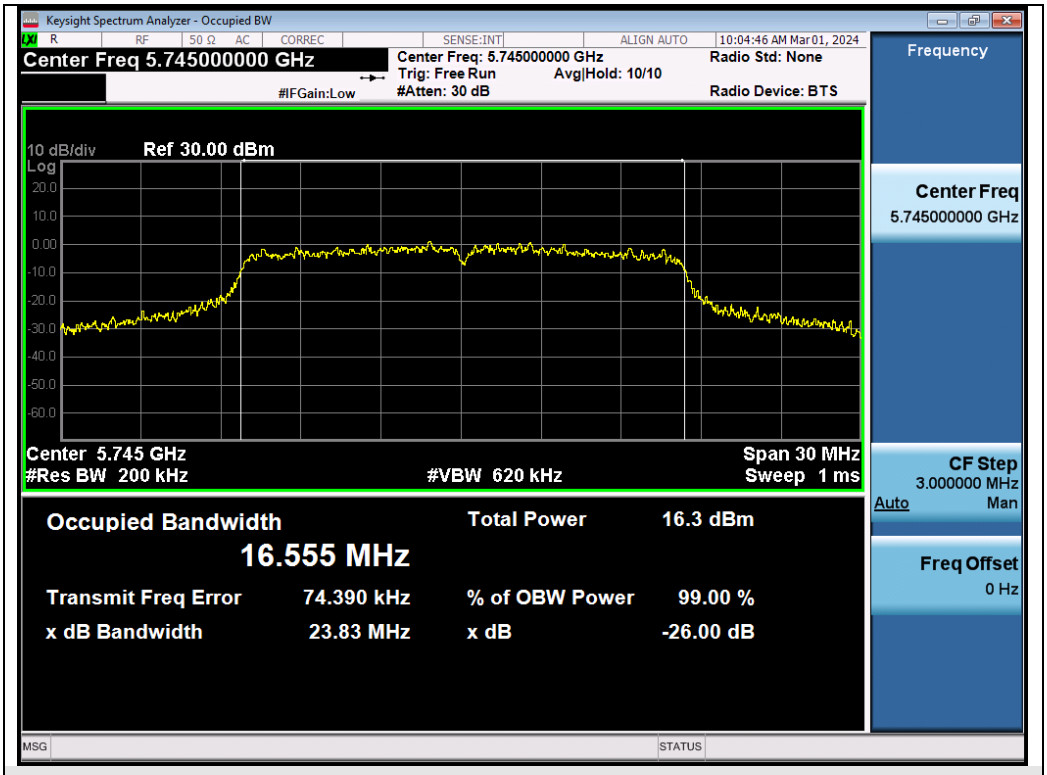
Test_Graph_802.11ax40_ANT1_5755_MCS0_OBW



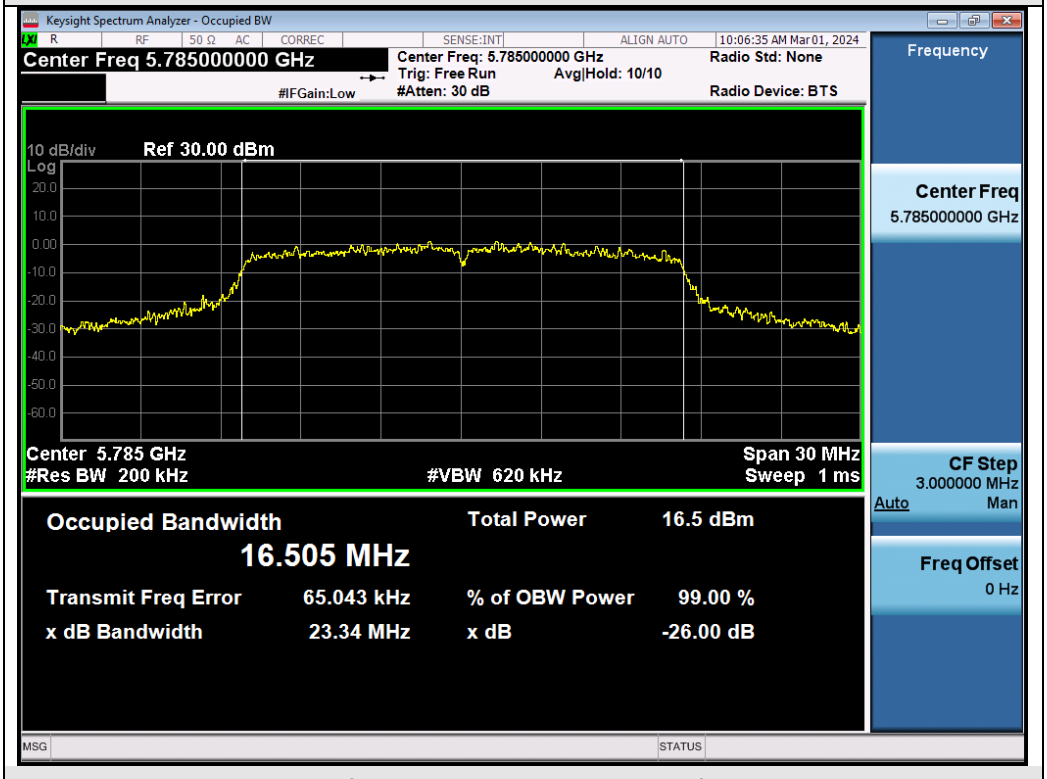
Test_Graph_802.11ax40_ANT1_5795_MCS0_OBW



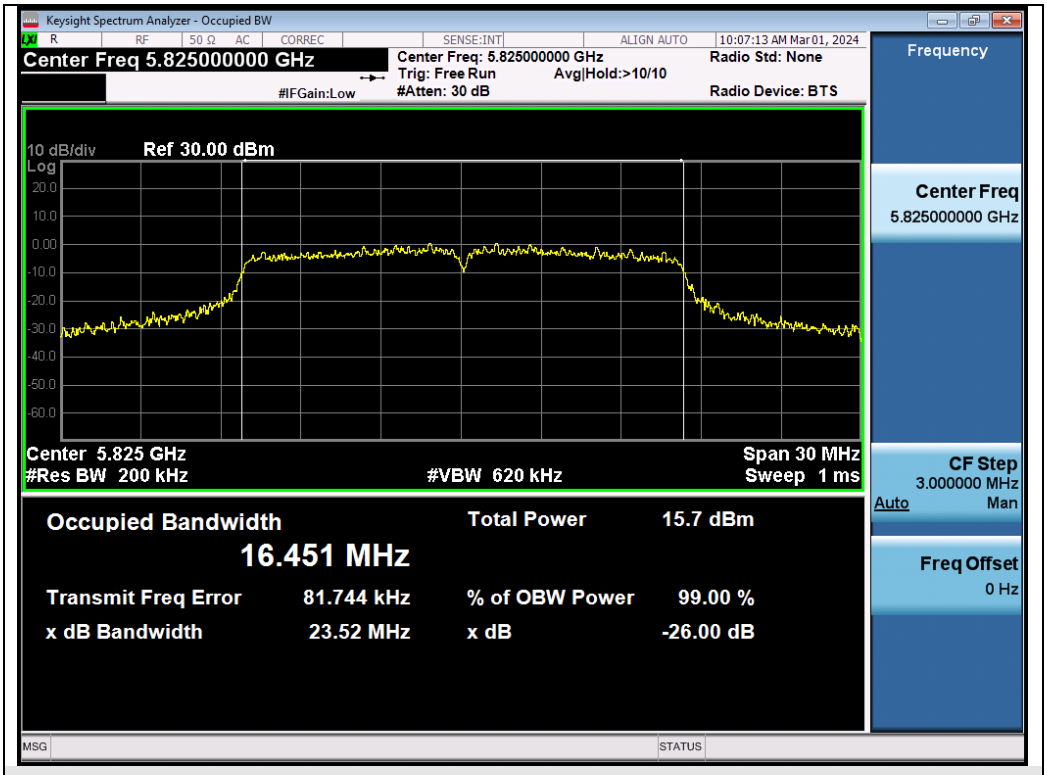
Test_Graph_802.11ax80_ANT1_5775_MCS0_OBW



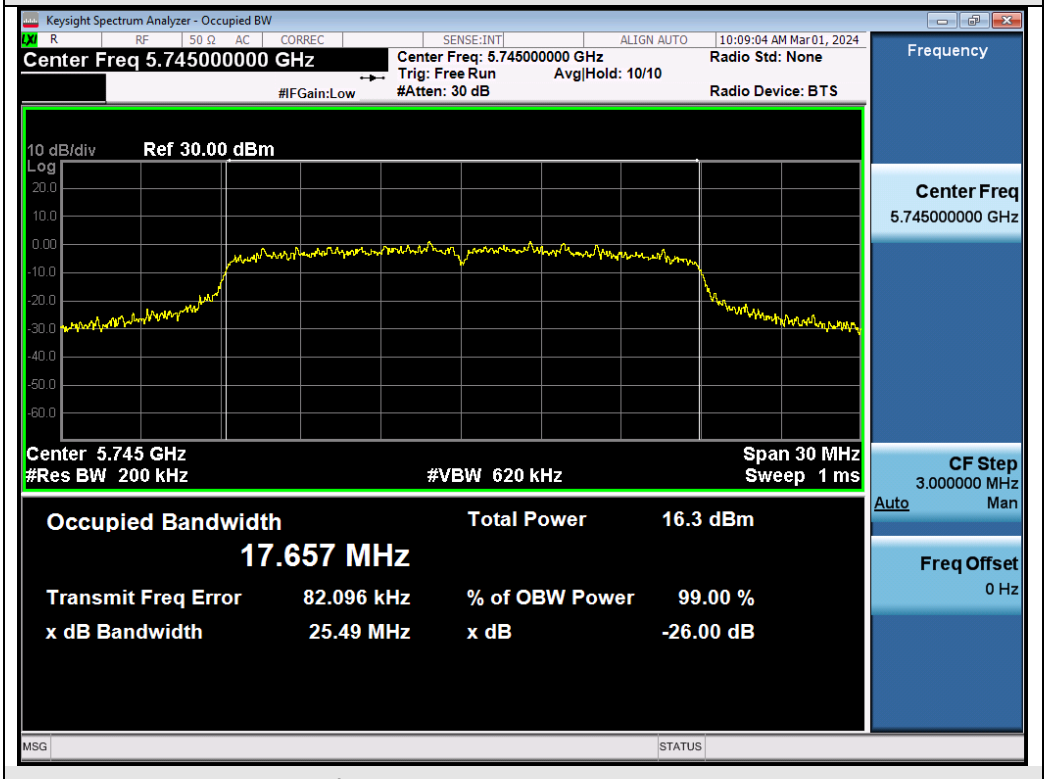
Test_Graph_802.11a_ANT2_5745_6Mbps_OBW



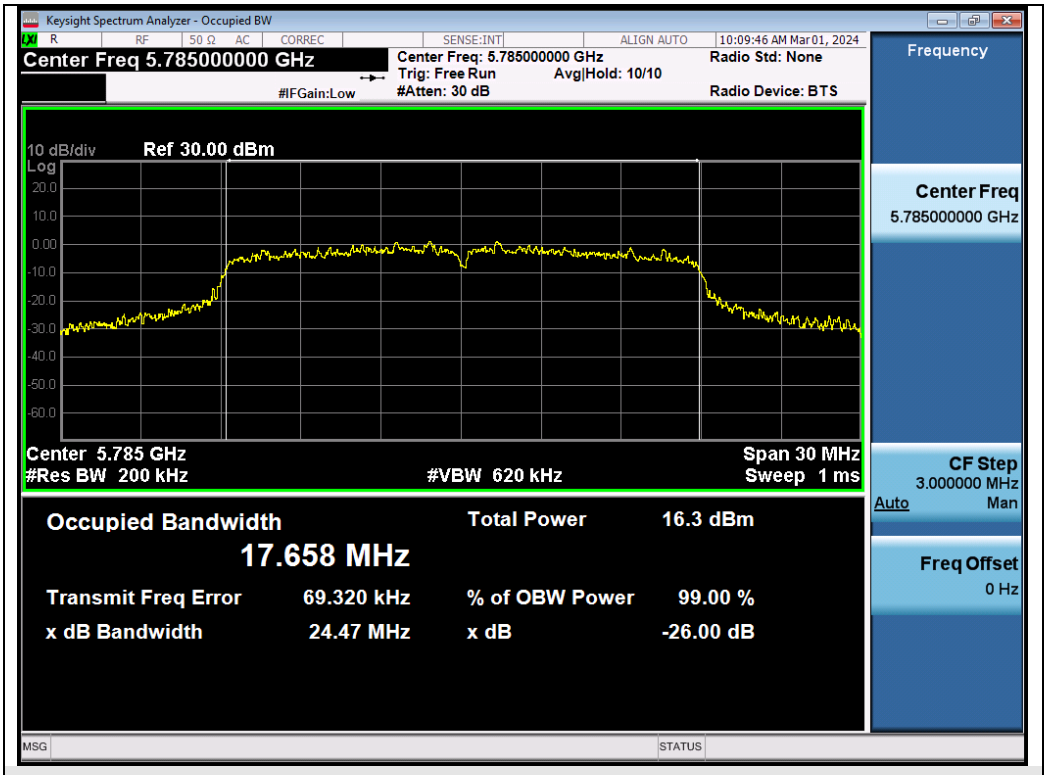
Test_Graph_802.11a_ANT2_5785_6Mbps_OBW



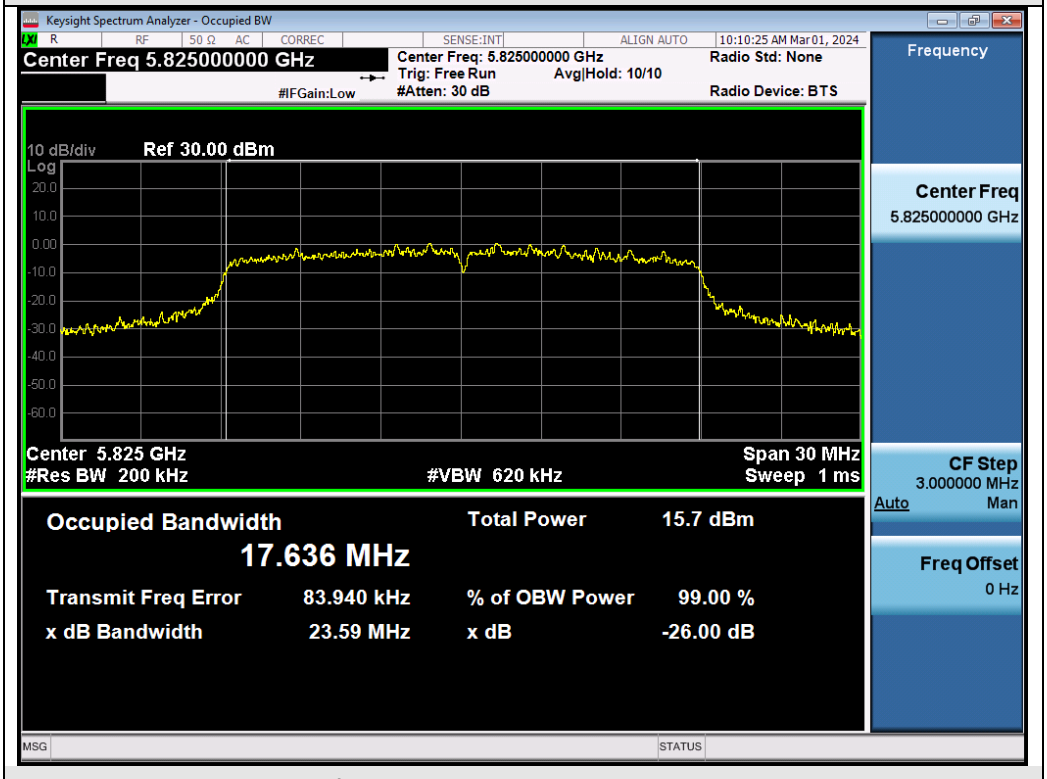
Test_Graph_802.11a_ANT2_5825_6Mbps_OBW



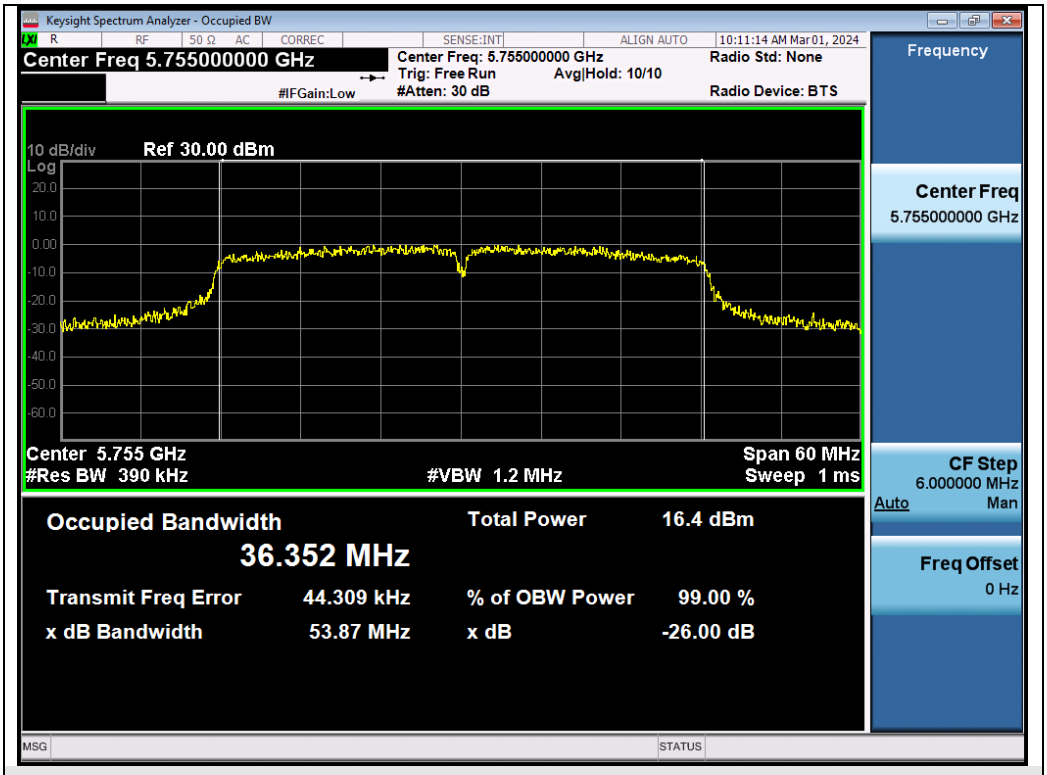
Test_Graph_802.11n20_ANT2_5745_MCS0_OBW



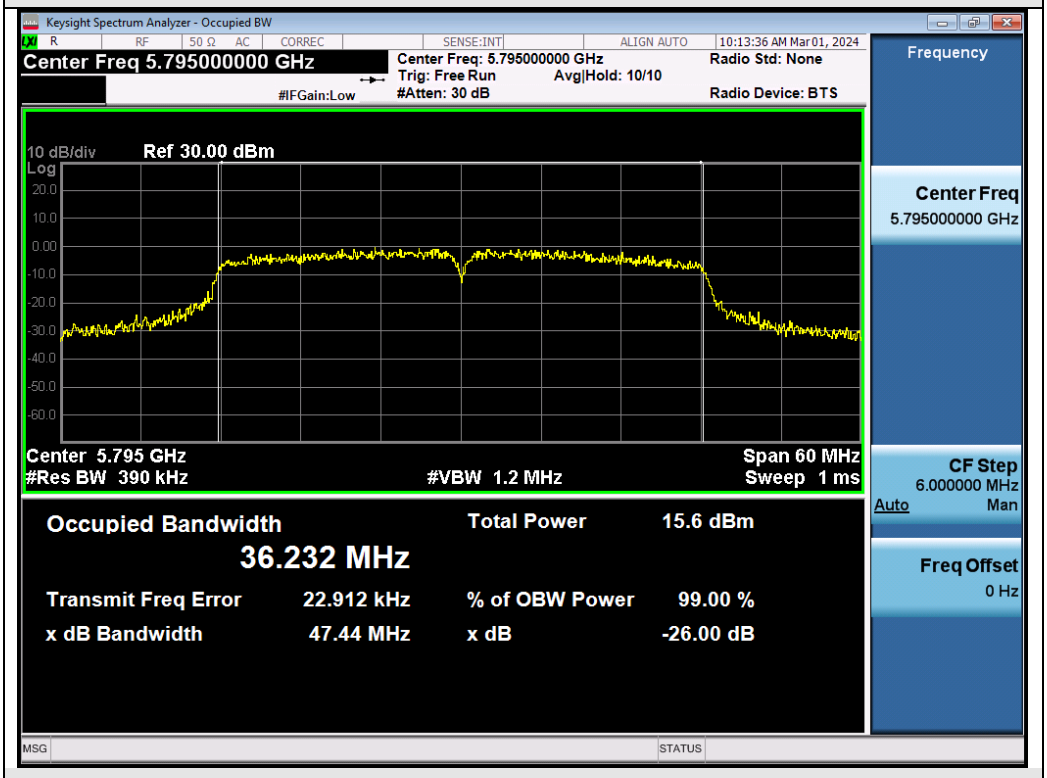
Test_Graph_802.11n20_ANT2_5785_MCS0_OBW



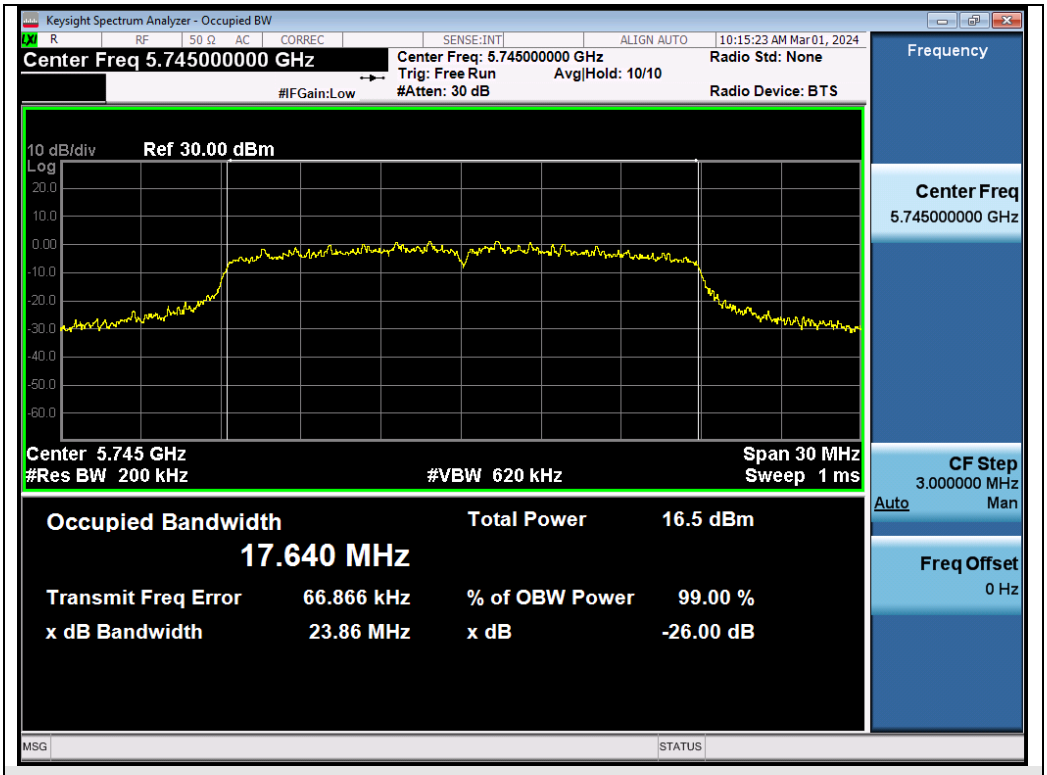
Test_Graph_802.11n20_ANT2_5825_MCS0_OBW



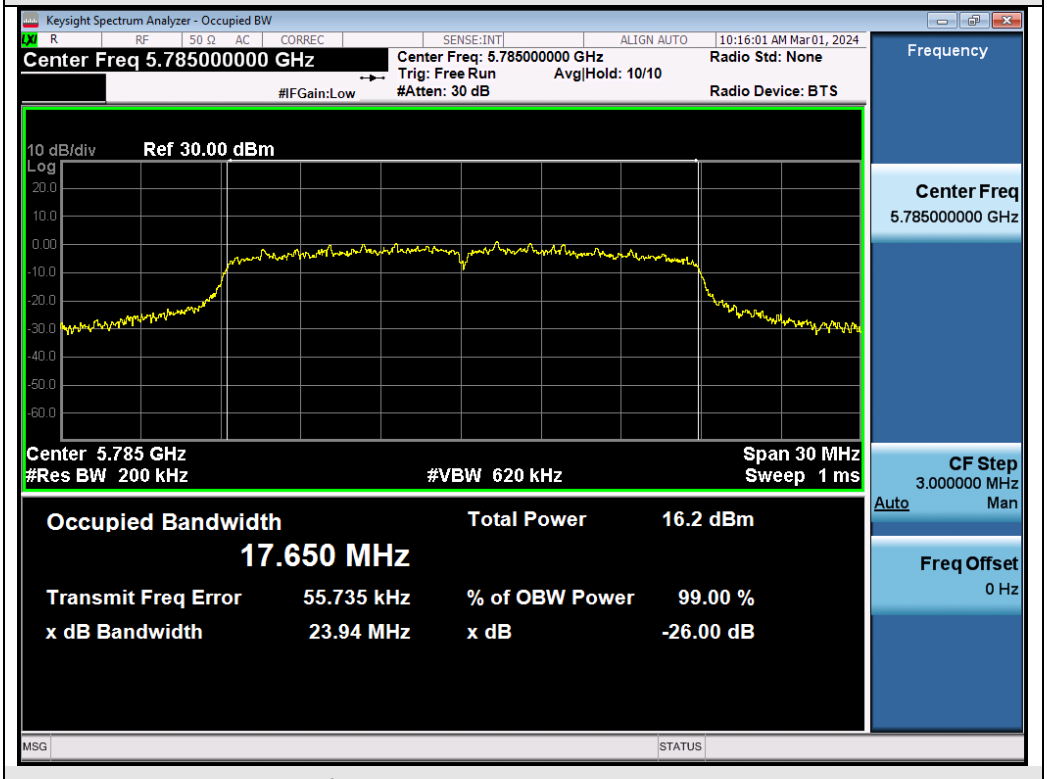
Test_Graph_802.11n40_ANT2_5755_MCS0_OBW



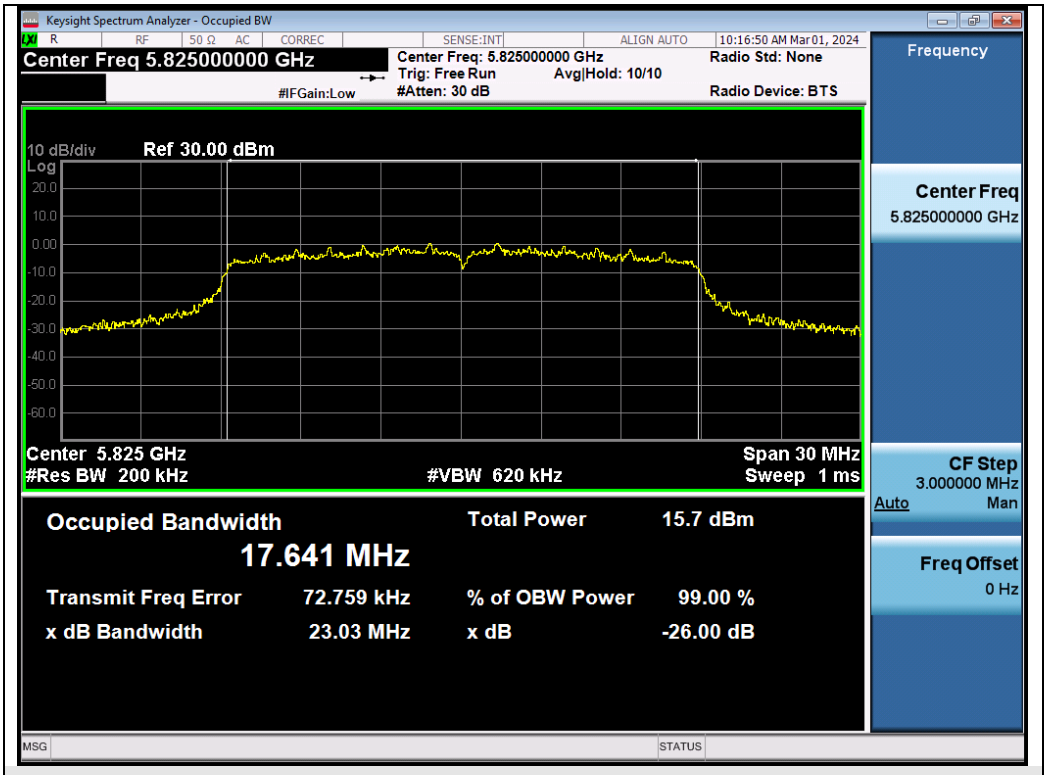
Test_Graph_802.11n40_ANT2_5795_MCS0_OBW



Test_Graph_802.11ac20_ANT2_5745_MCS0_OBW

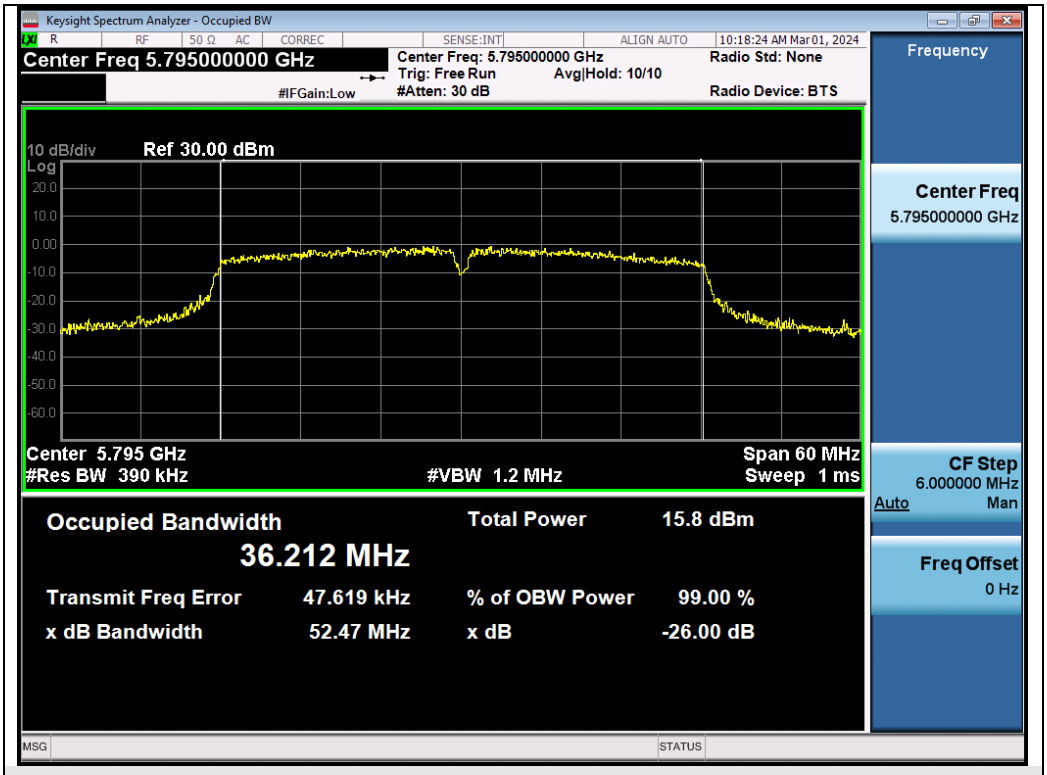


Test_Graph_802.11ac20_ANT2_5785_MCS0_OBW

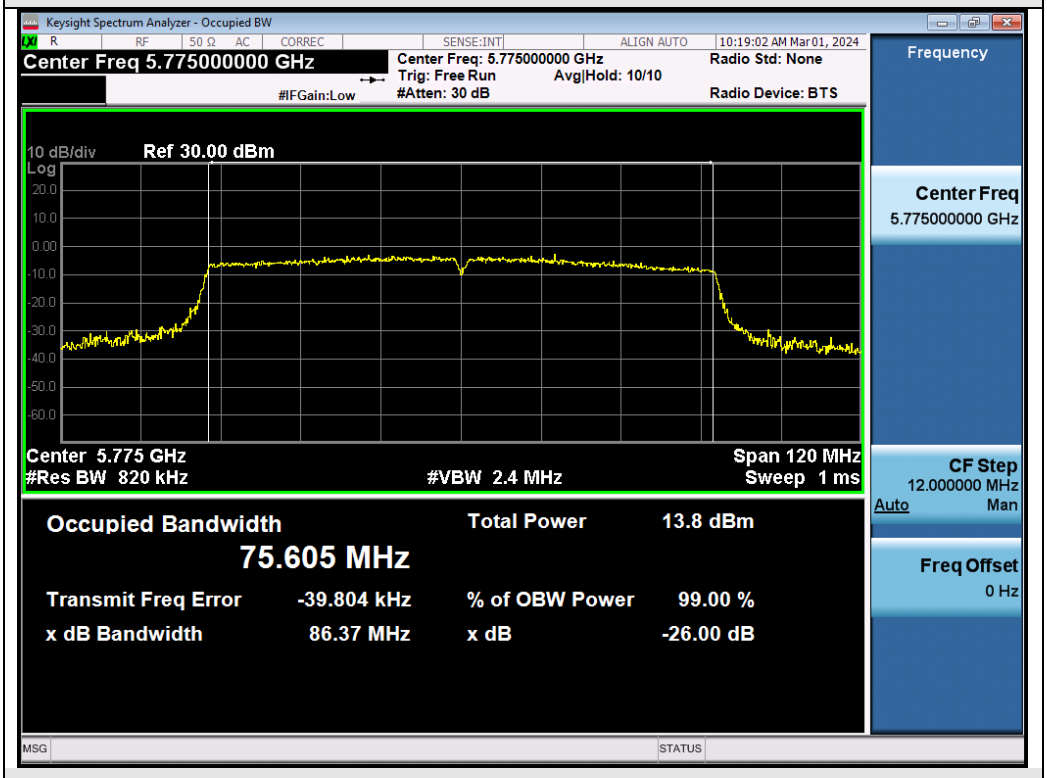


Test_Graph_802.11ac20_ANT2_5825_MCS9_OBW

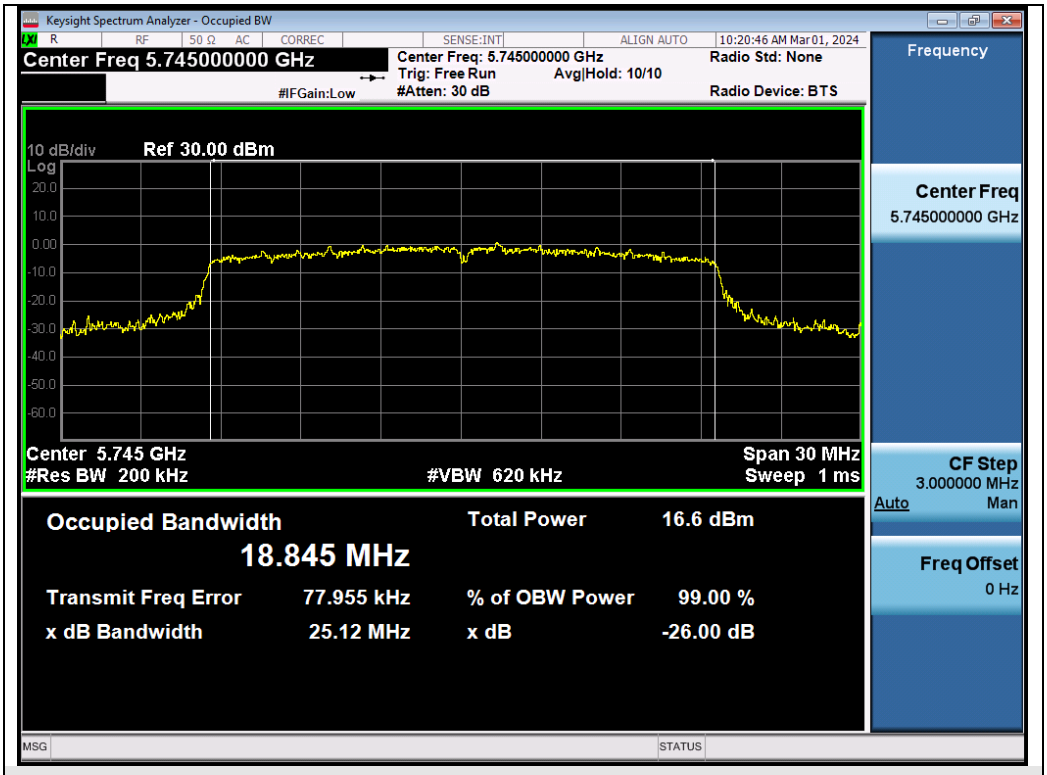
Test_Graph_802.11ac40_ANT2_5755_MCS9_OBW



Test_Graph_802.11ac40_ANT2_5795_MCS9_OBW

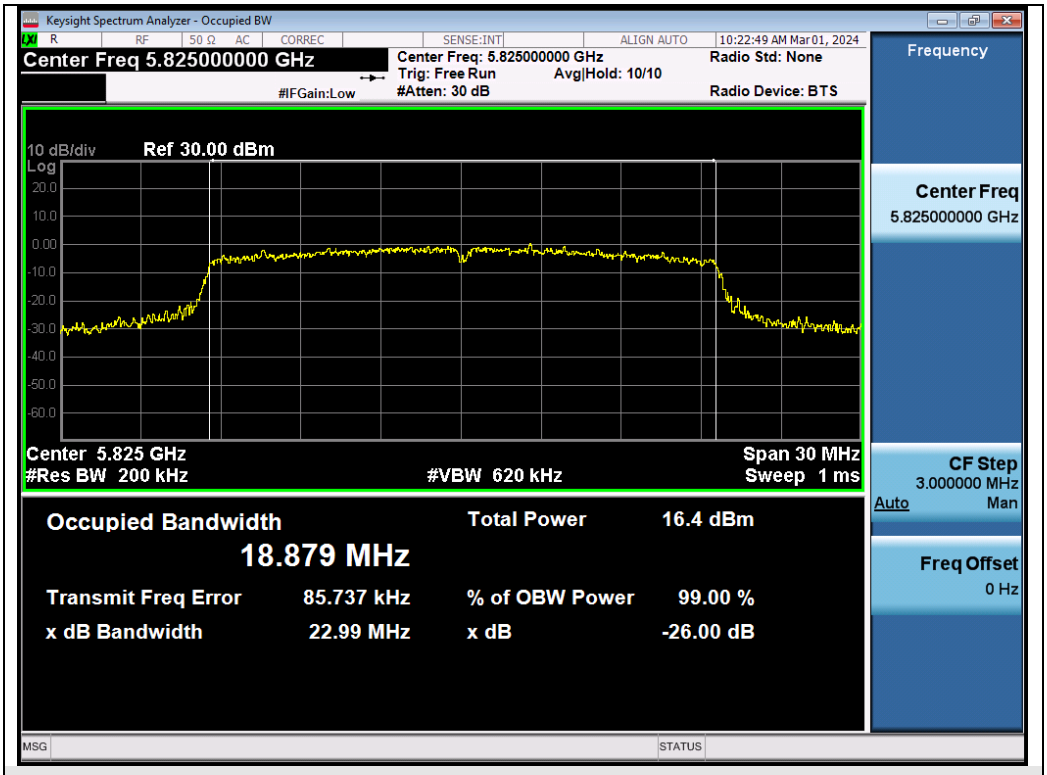


Test_Graph_802.11ac80_ANT2_5775_MCS9_OBW

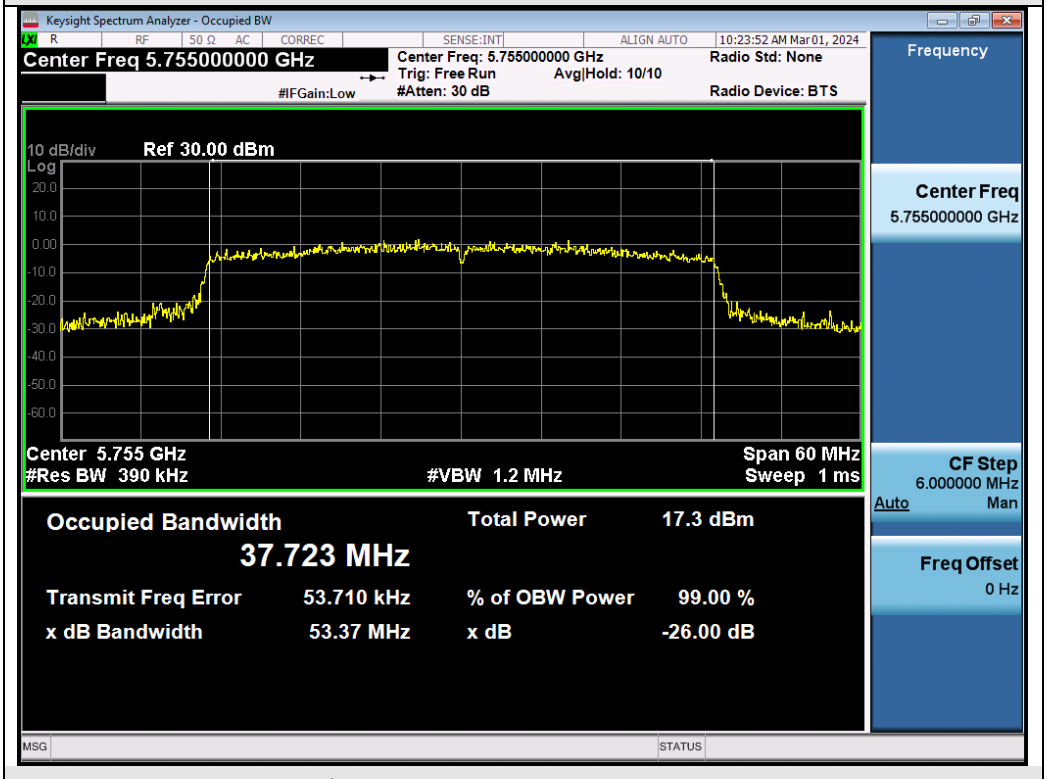


Test_Graph_802.11ax20_ANT2_5745_MCS0_OBW

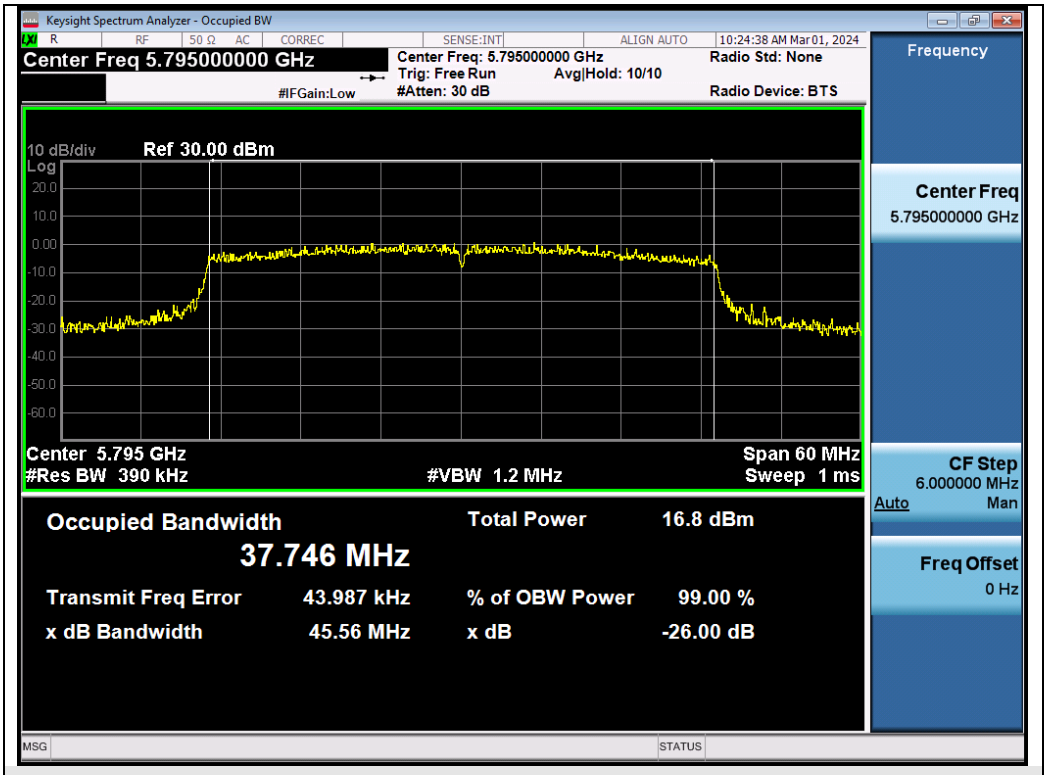
Test_Graph_802.11ax20_ANT2_5785_MCS0_OBW



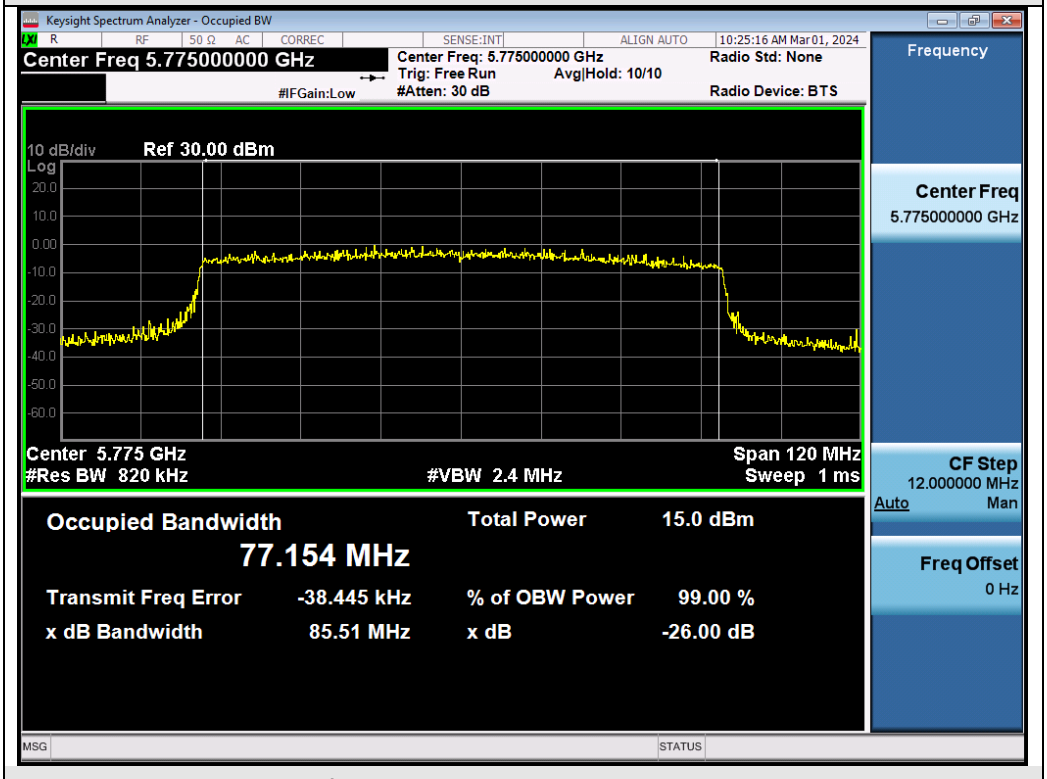
Test_Graph_802.11ax20_ANT2_5825_MCS0_OBW



Test_Graph_802.11ax40_ANT2_5755_MCS0_OBW

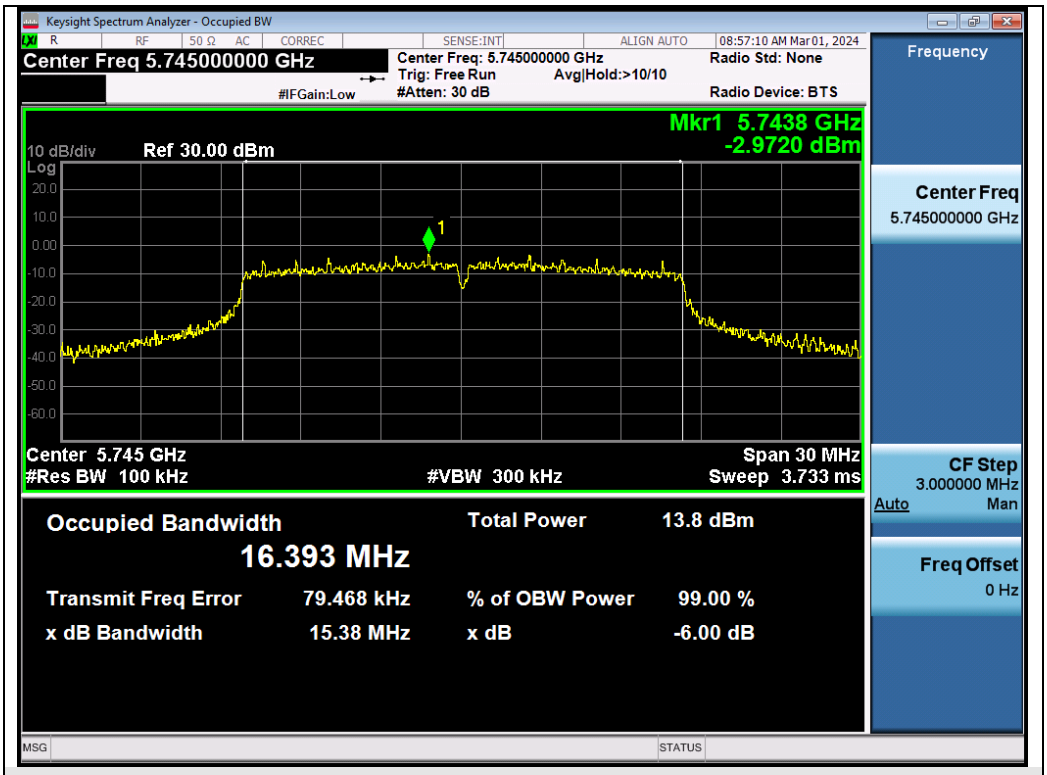


Test_Graph_802.11ax40_ANT2_5795_MCS0_OBW



Test_Graph_802.11ax80_ANT2_5775_MCS0_OBW

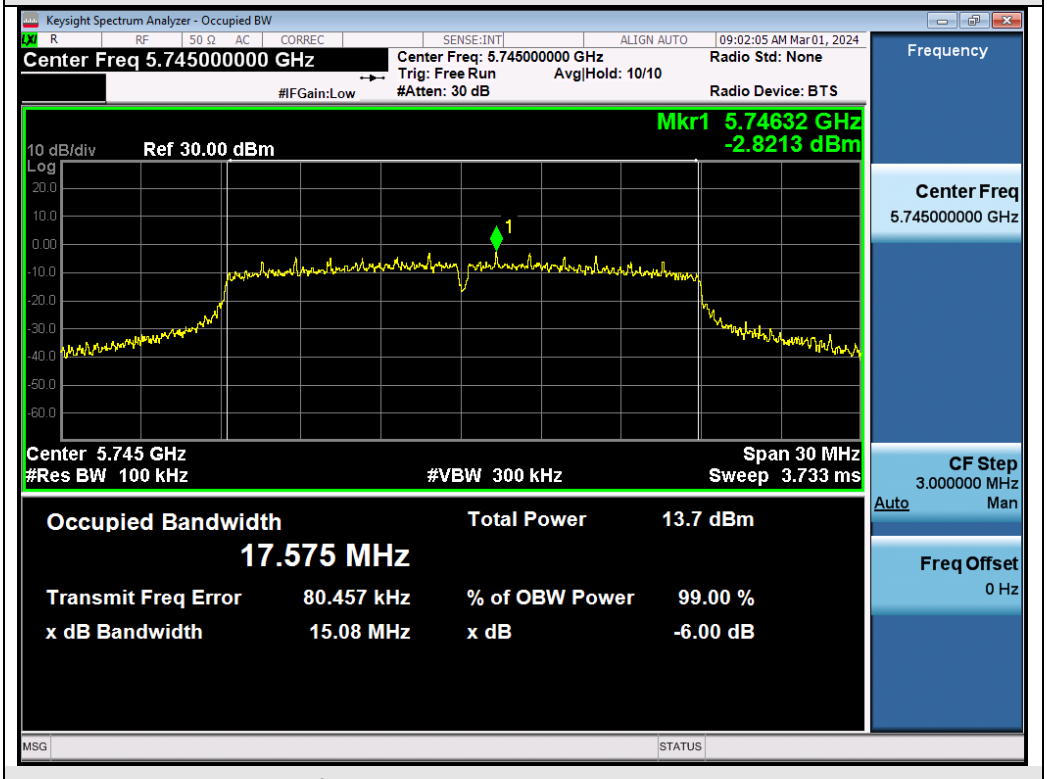
Test Graphs of DTS Bandwidth for band 5.725-5.85 GHz



Test_Graph_802.11a_ANT1_5745_6Mbps_DTSBW

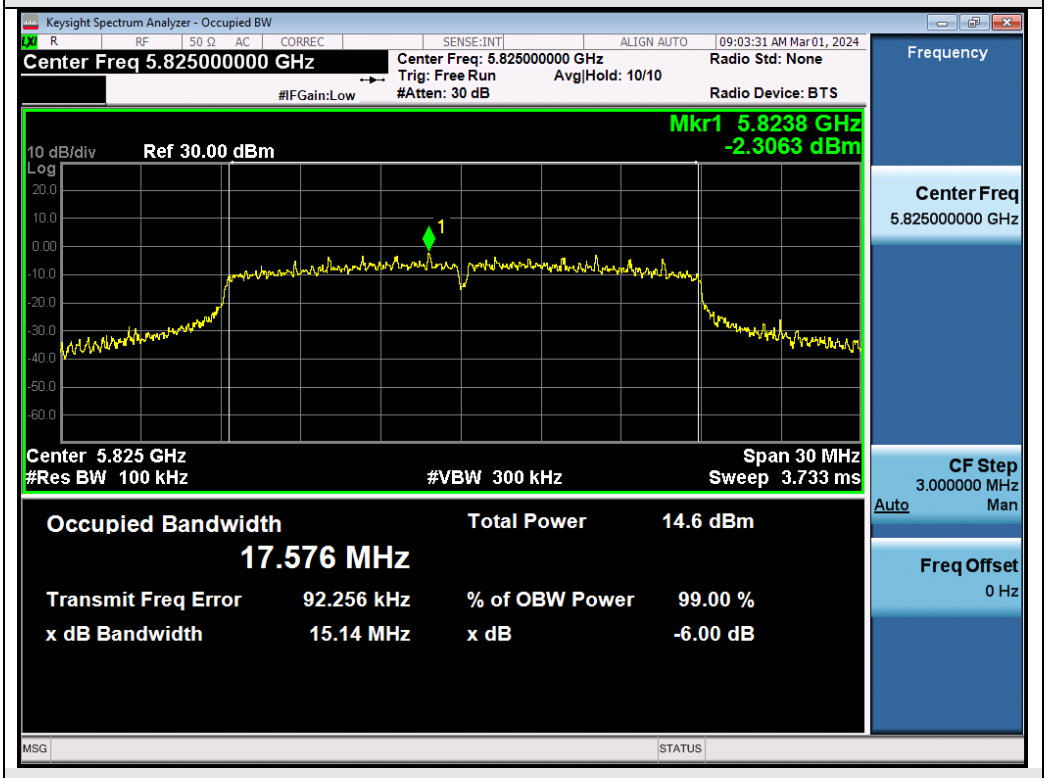
Test_Graph_802.11a_ANT1_5785_6Mbps_DTSBW

Test_Graph_802.11a_ANT1_5825_6Mbps_DTSBW

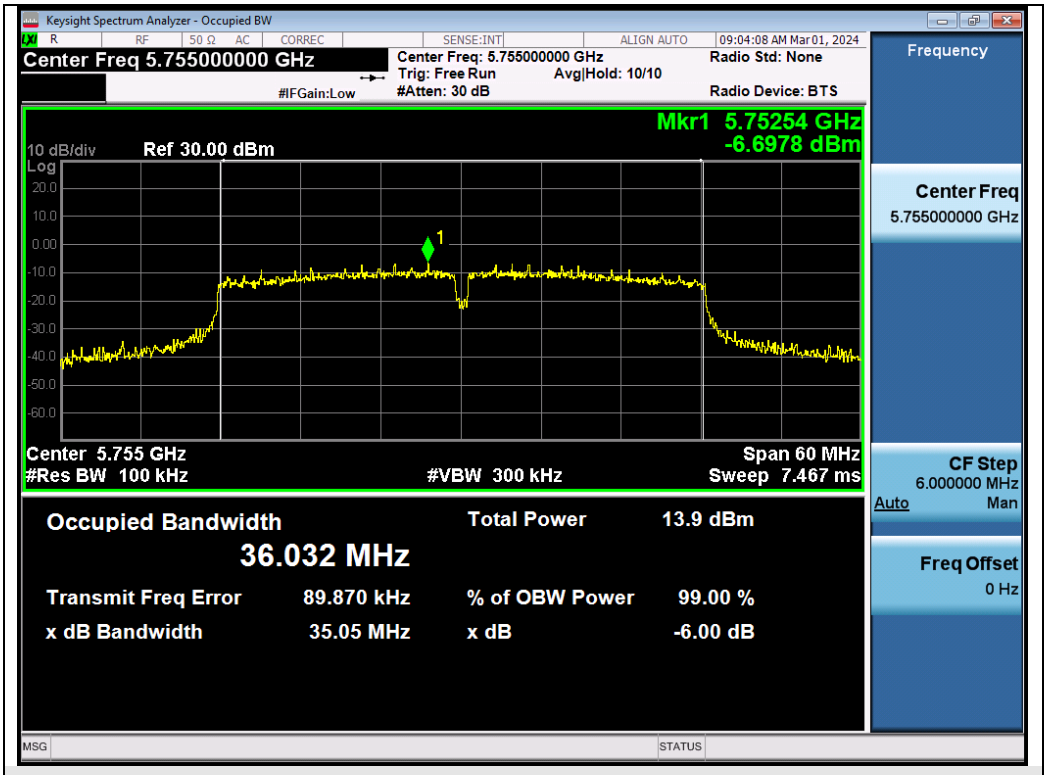


Test_Graph_802.11n20_ANT1_5745_MCS0_DTSBW

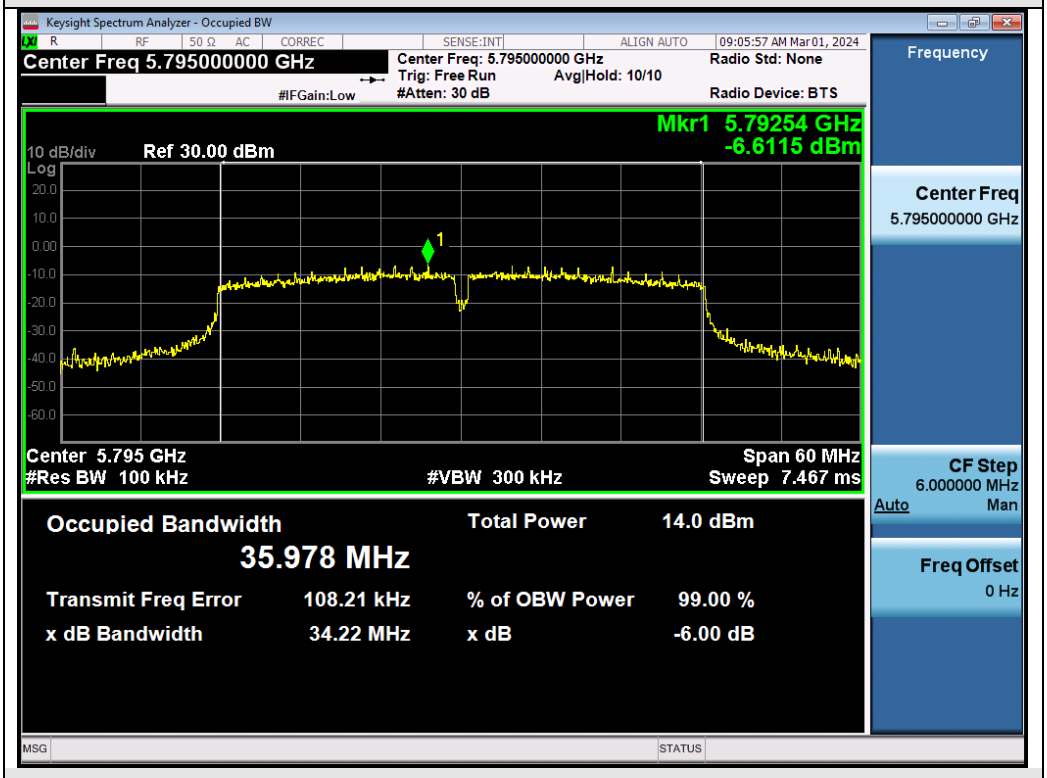
Test_Graph_802.11n20_ANT1_5785_MCS0_DTSBW



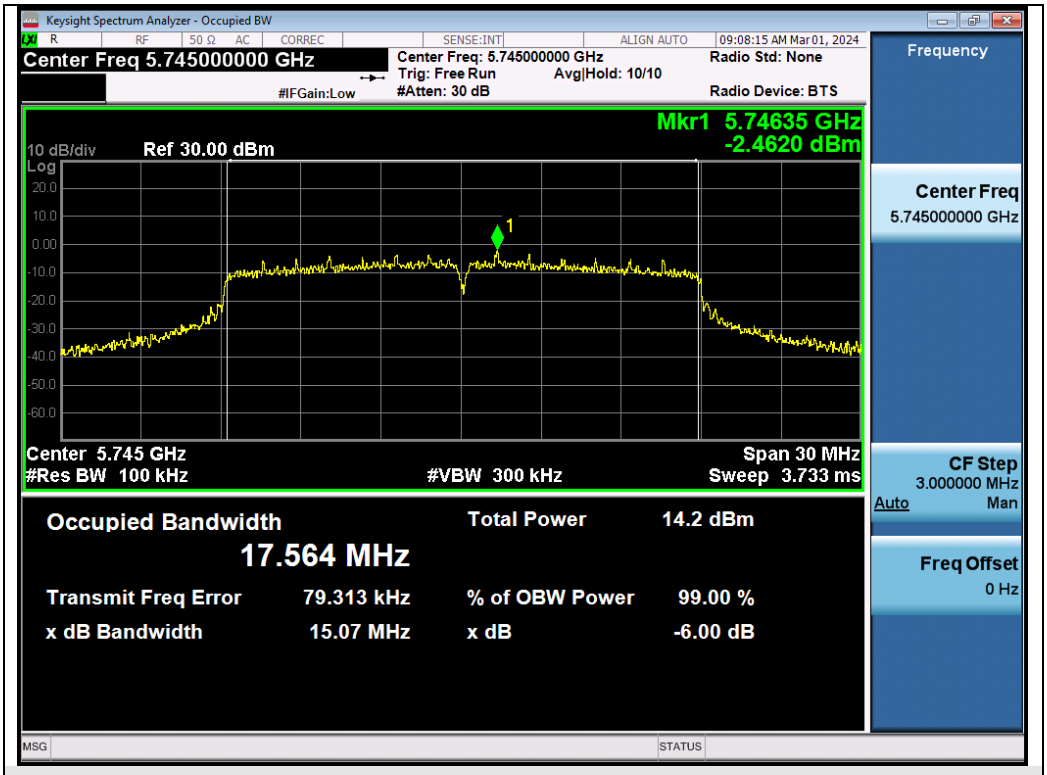
Test_Graph_802.11n20_ANT1_5825_MCS0_DTSBW



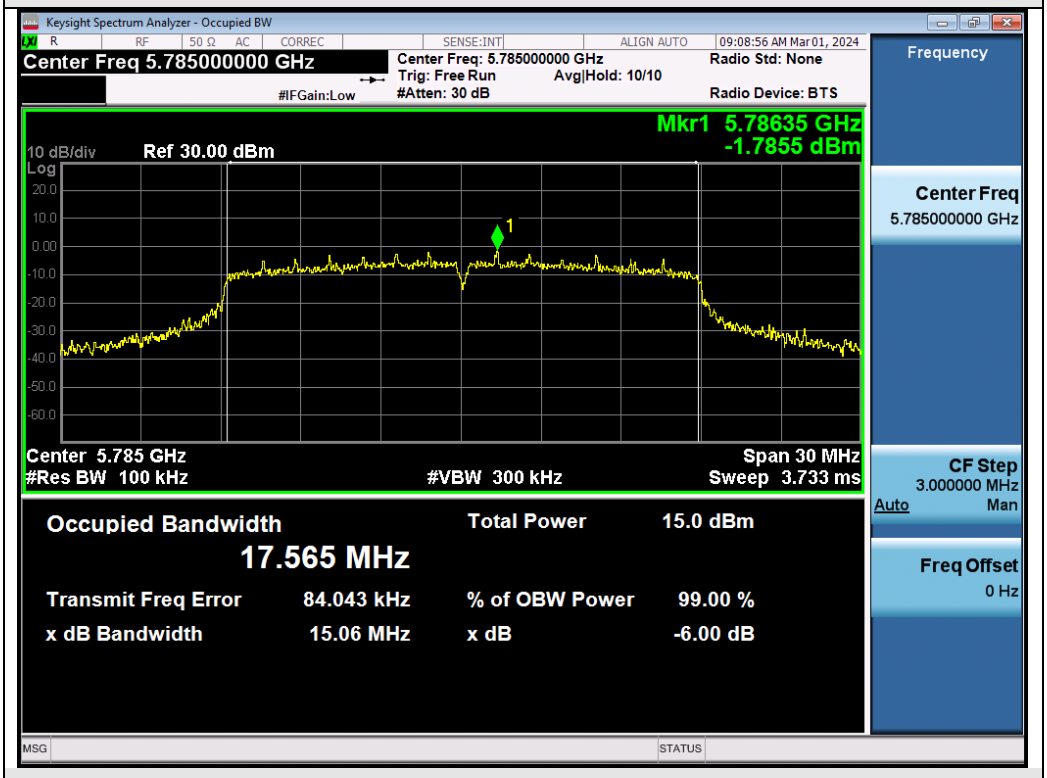
Test_Graph_802.11n40_ANT1_5755_MCS0_DTSBW



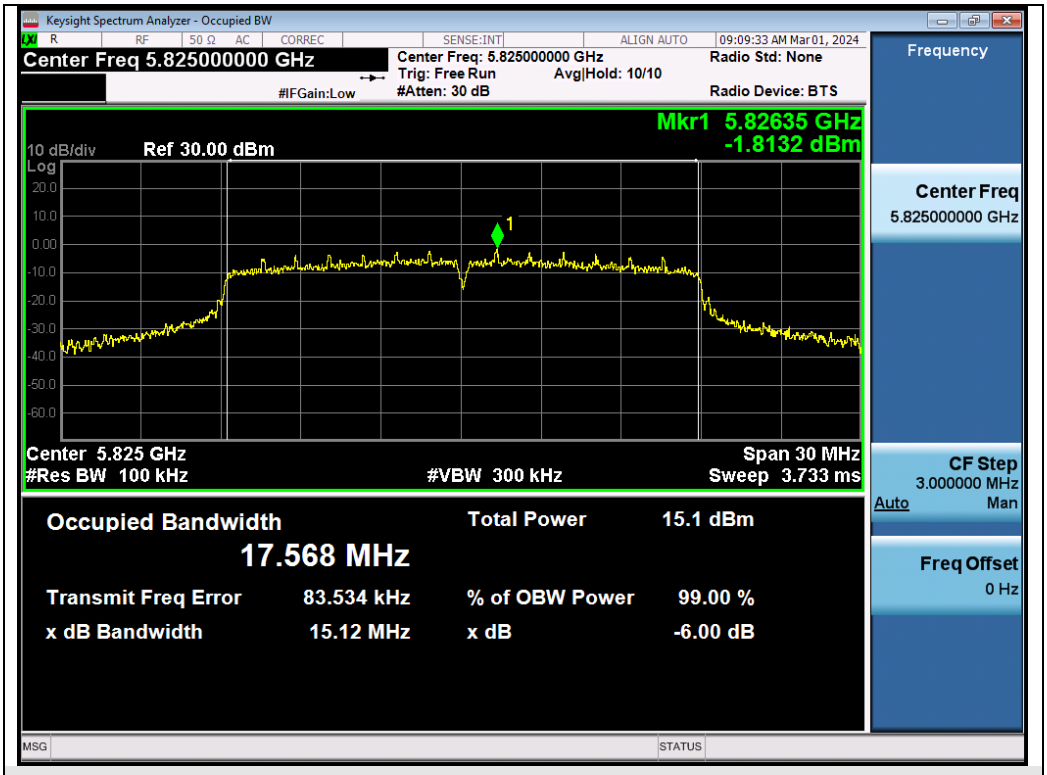
Test_Graph_802.11n40_ANT1_5795_MCS0_DTSBW



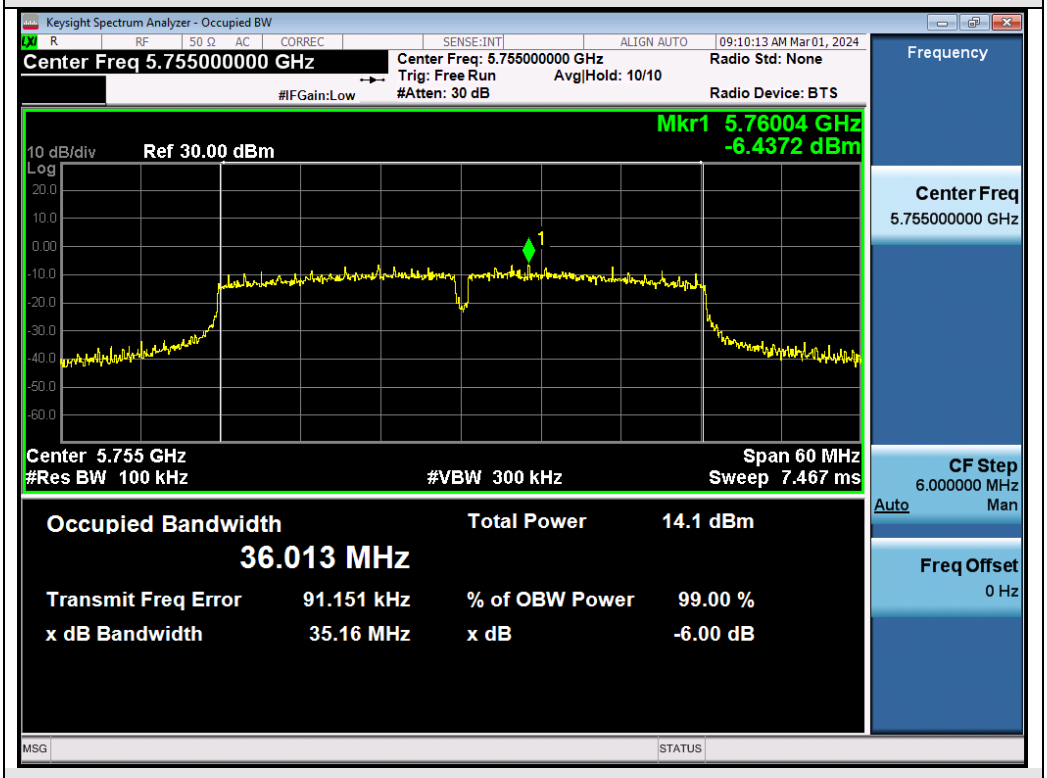
Test_Graph_802.11ac20_ANT1_5745_MCS0_DTSBW



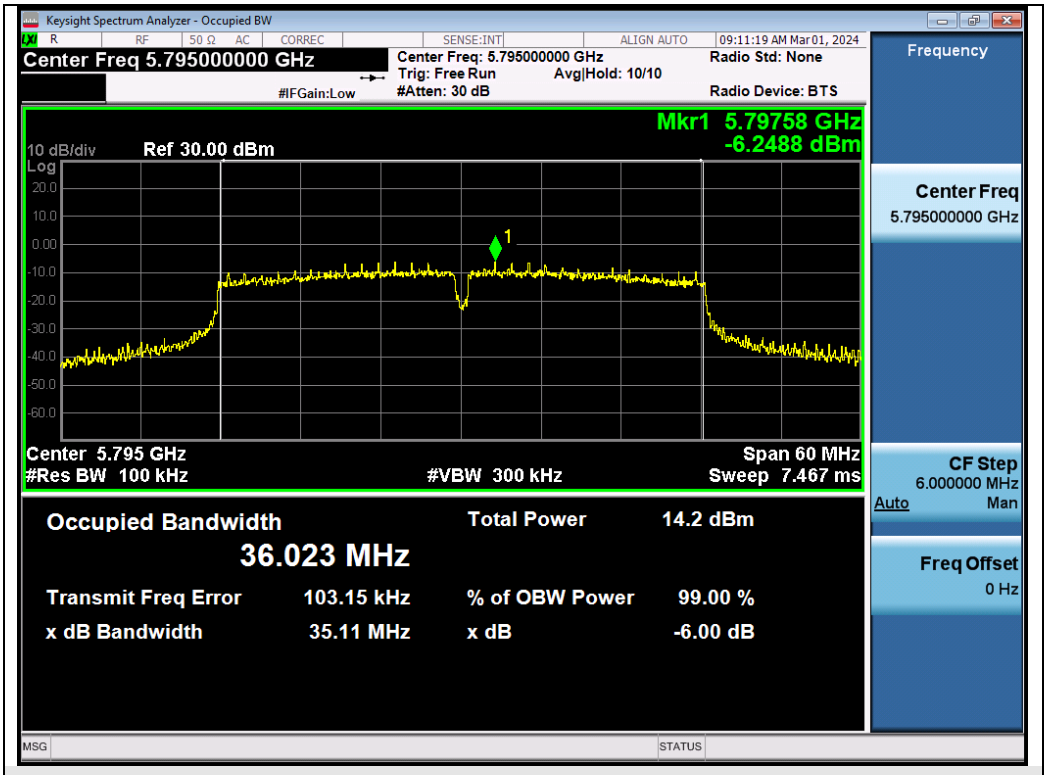
Test_Graph_802.11ac20_ANT1_5785_MCS0_DTSBW



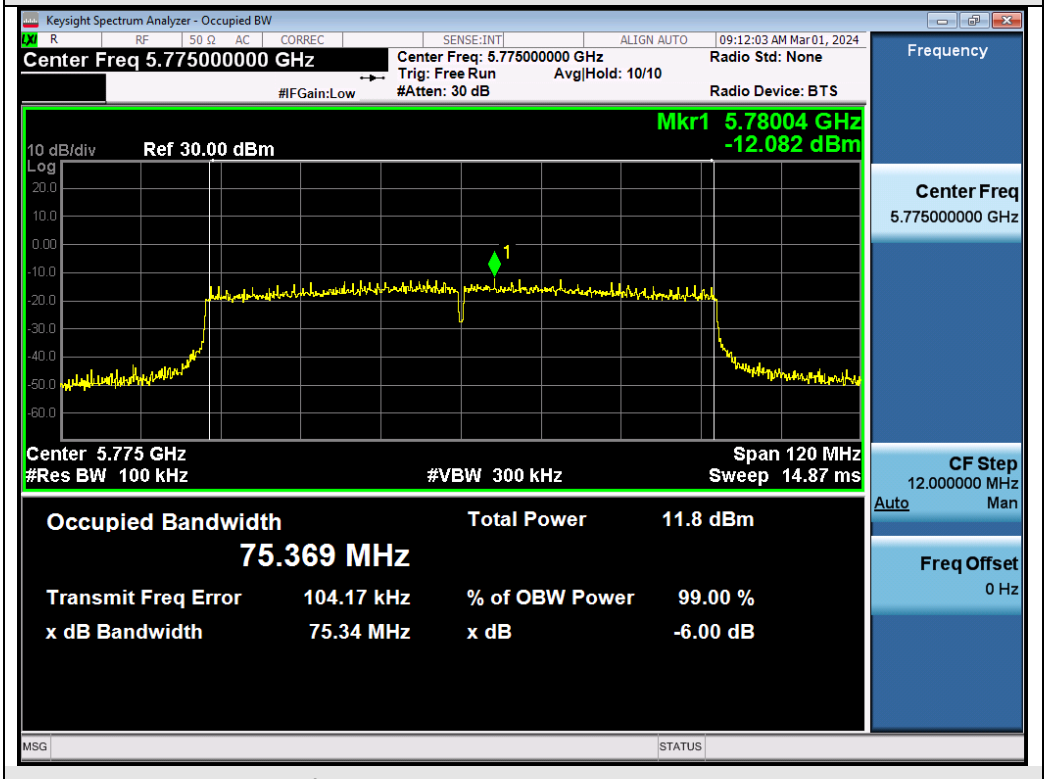
Test_Graph_802.11ac20_ANT1_5825_MCS9_DTSBW



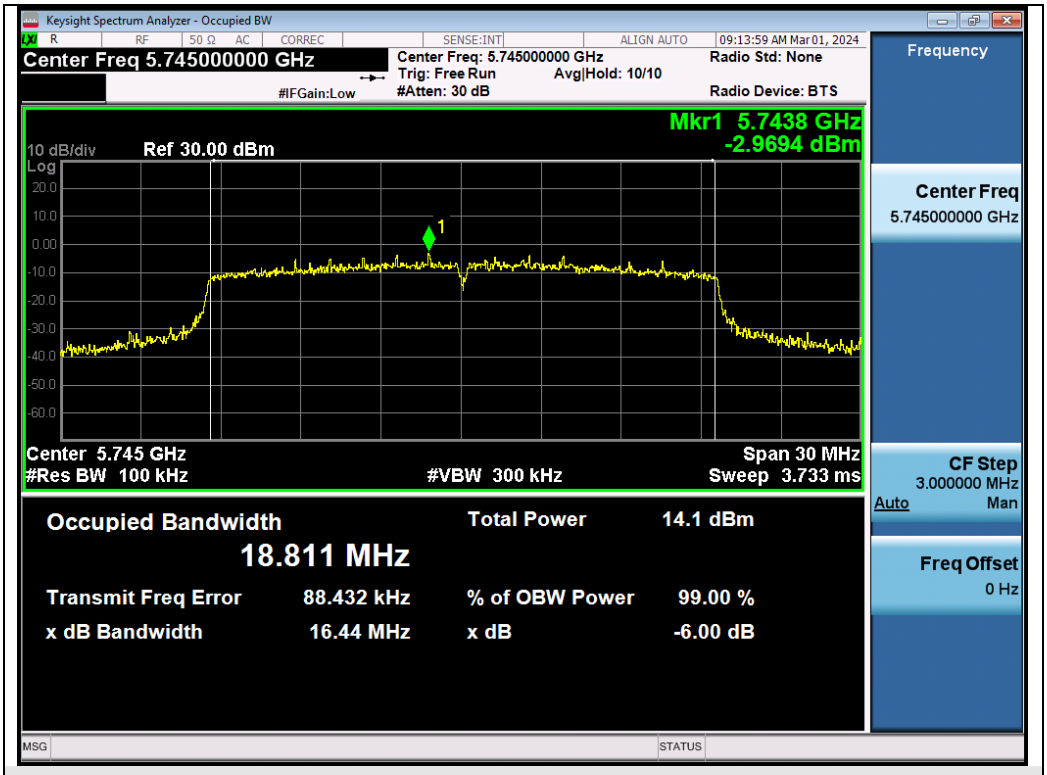
Test_Graph_802.11ac40_ANT1_5755_MCS9_DTSBW



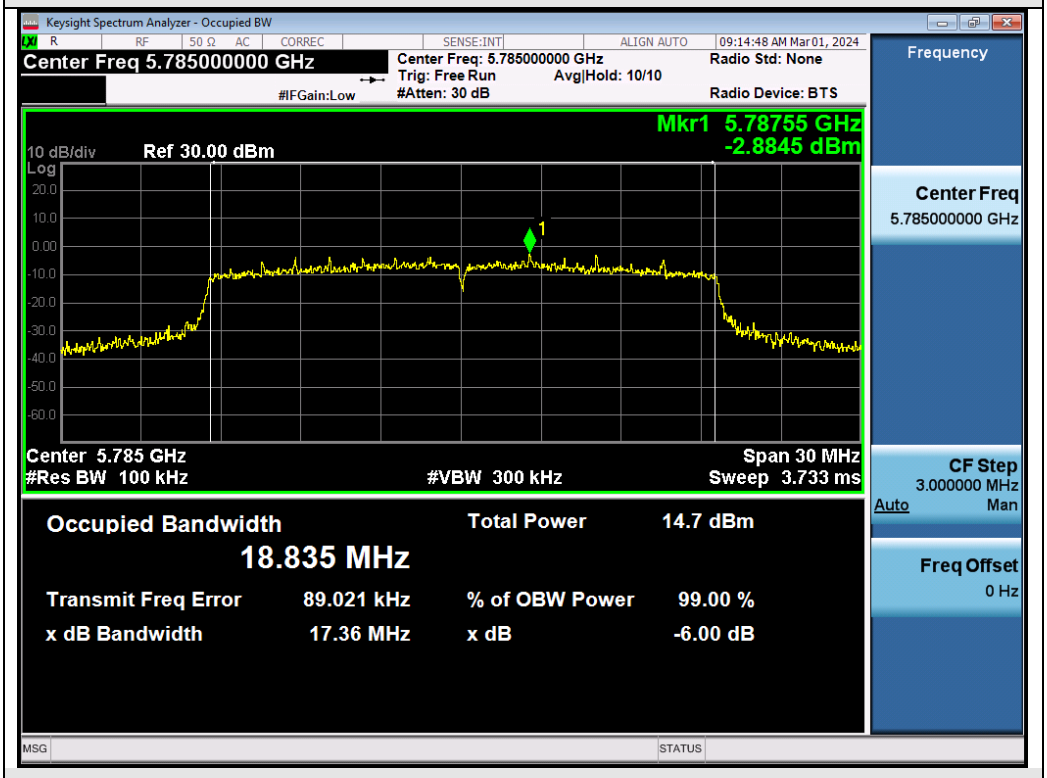
Test_Graph_802.11ac40_ANT1_5795_MCS9_DTSBW



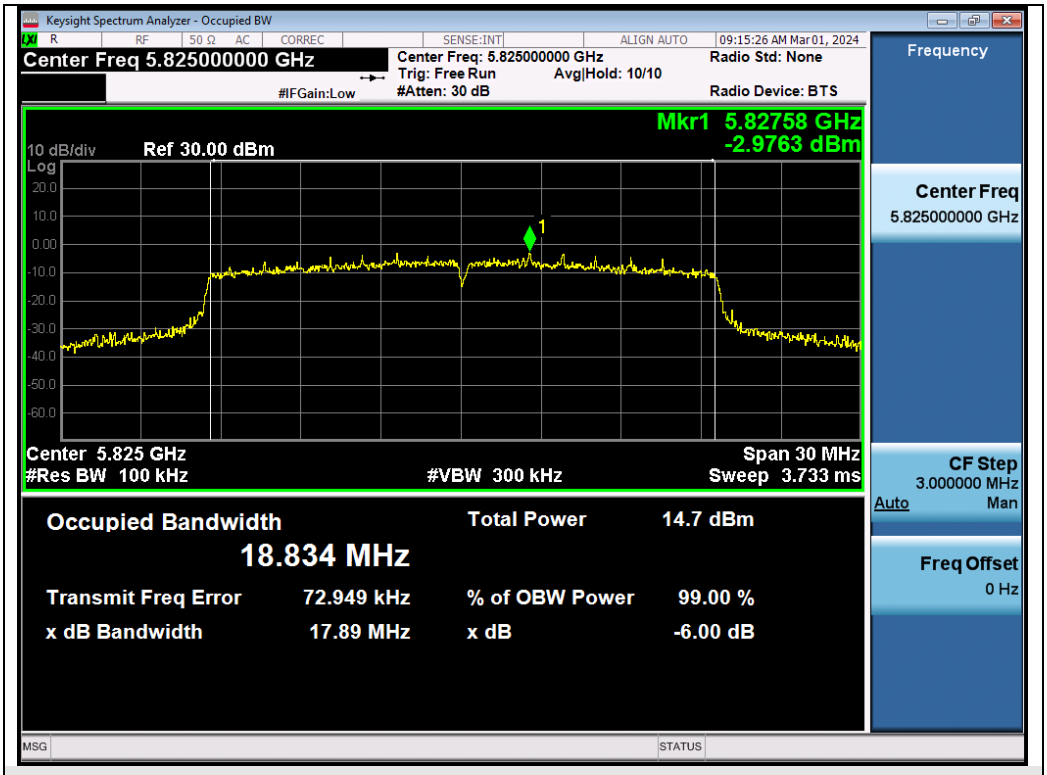
Test_Graph_802.11ac80_ANT1_5775_MCS9_DTSBW



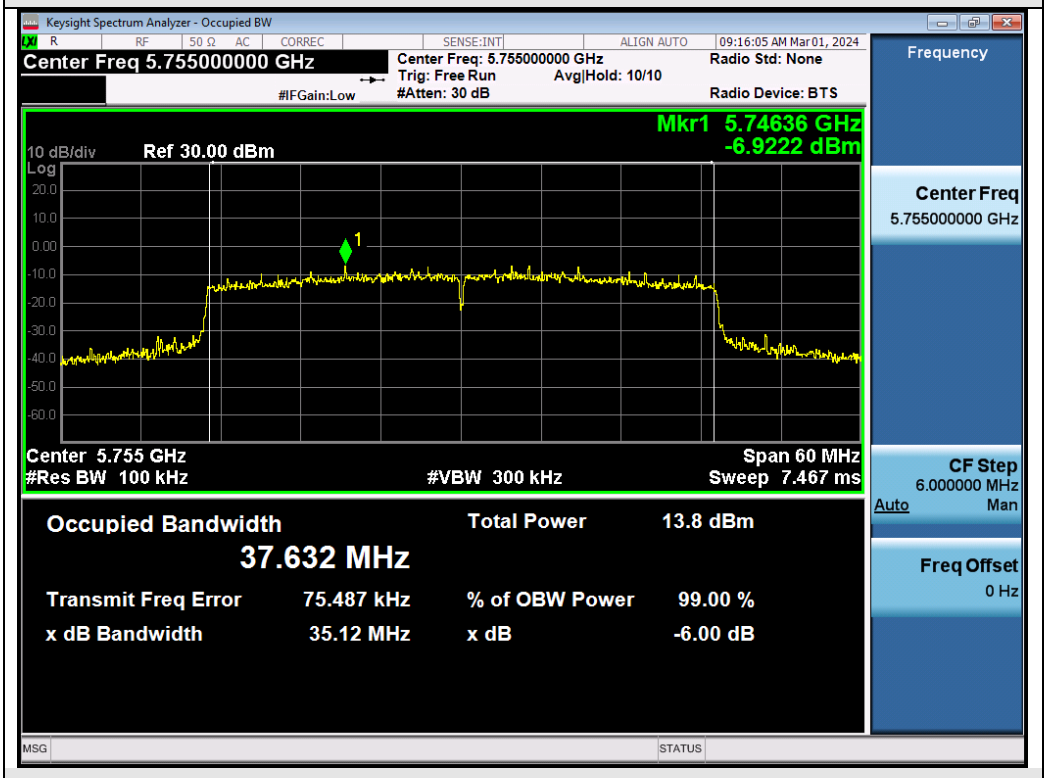
Test_Graph_802.11ax20_ANT1_5745_MCS0_DTSBW



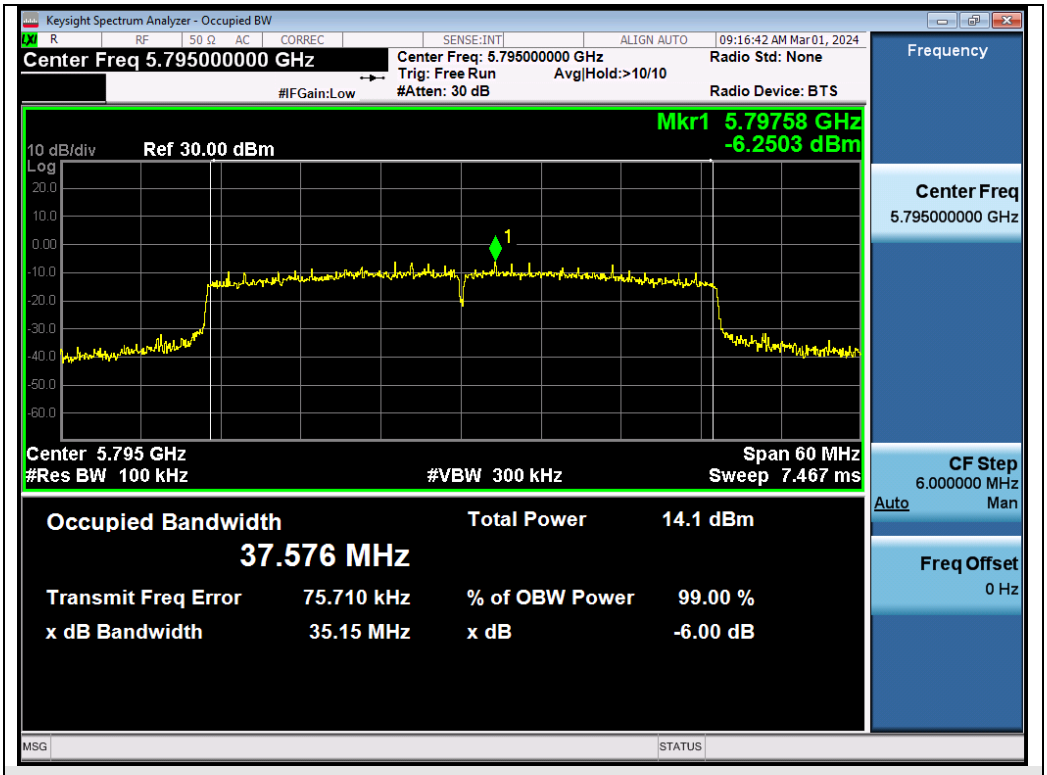
Test_Graph_802.11ax20_ANT1_5785_MCS0_DTSBW



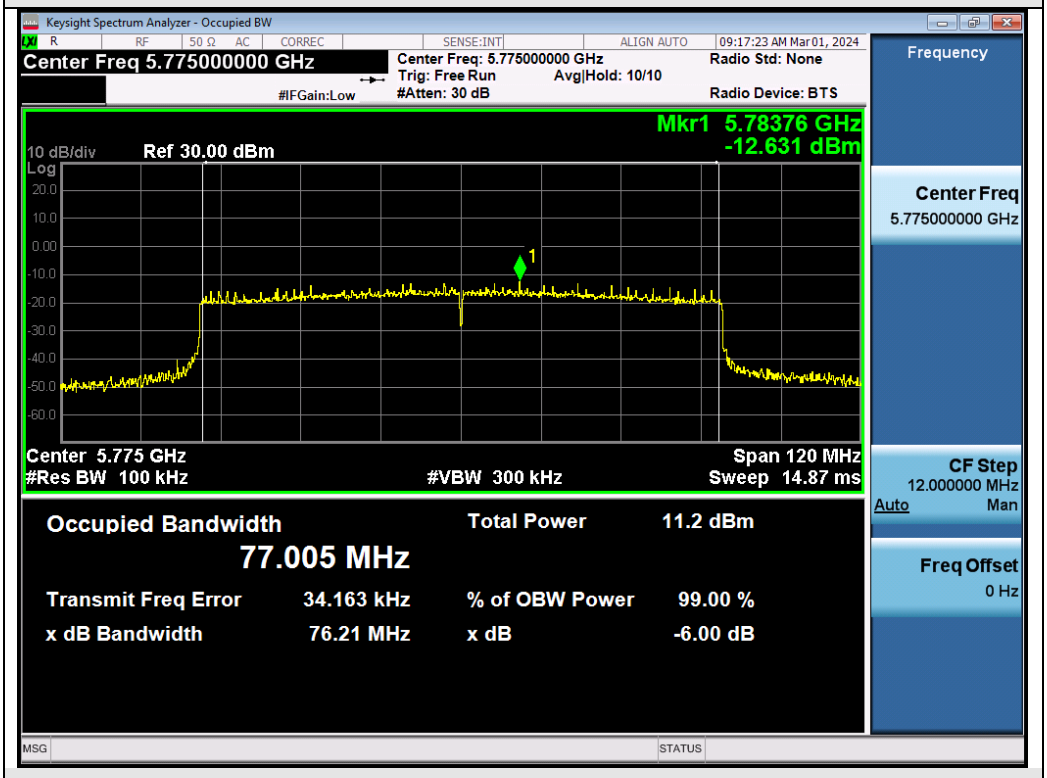
Test_Graph_802.11ax20_ANT1_5825_MCS0_DTSBW



Test_Graph_802.11ax40_ANT1_5755_MCS0_DTSBW



Test_Graph_802.11ax40_ANT1_5795_MCS0_DTSBW

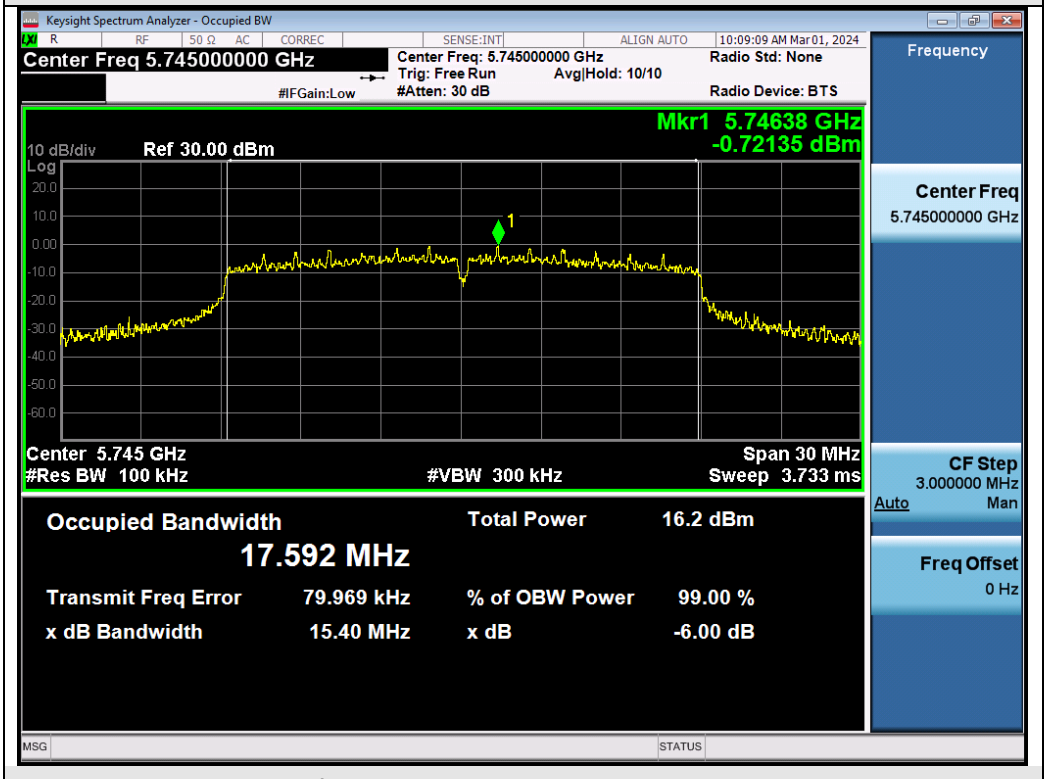


Test_Graph_802.11ax80_ANT1_5775_MCS0_DTSBW

Test_Graph_802.11a_ANT2_5745_6Mbps_DTSBW

Test_Graph_802.11a_ANT2_5785_6Mbps_DTSBW

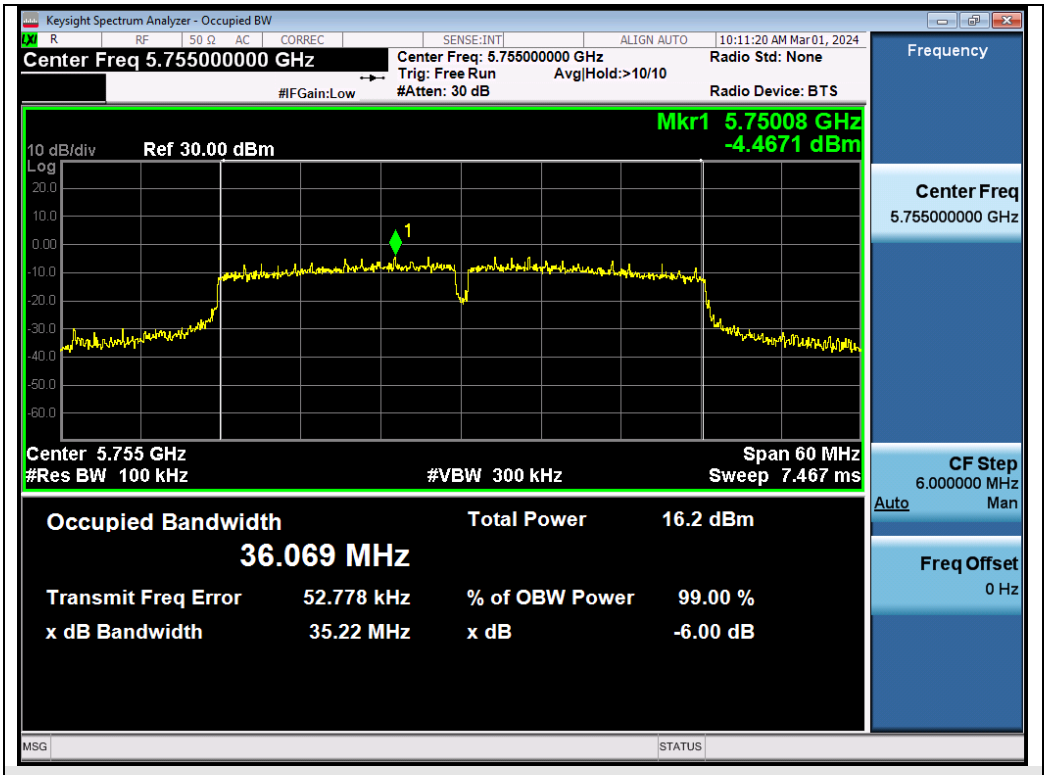
Test_Graph_802.11a_ANT2_5825_6Mbps_DTSBW



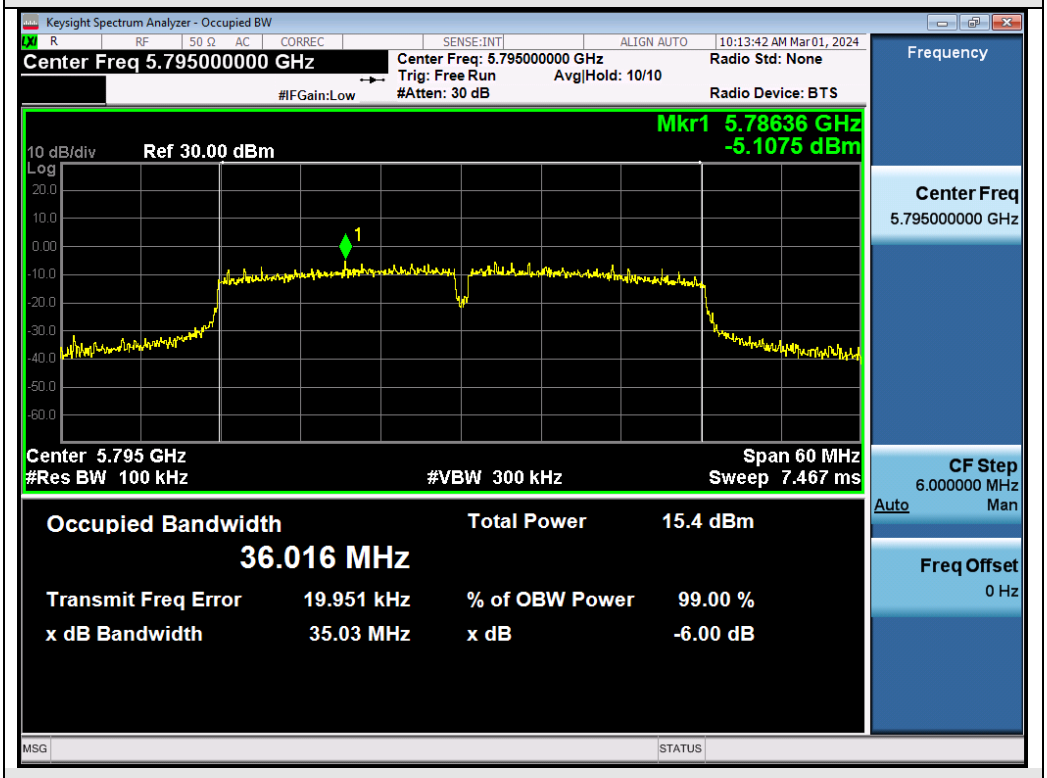
Test_Graph_802.11n20_ANT2_5745_MCS0_DTSBW

Test_Graph_802.11n20_ANT2_5785_MCS0_DTSBW

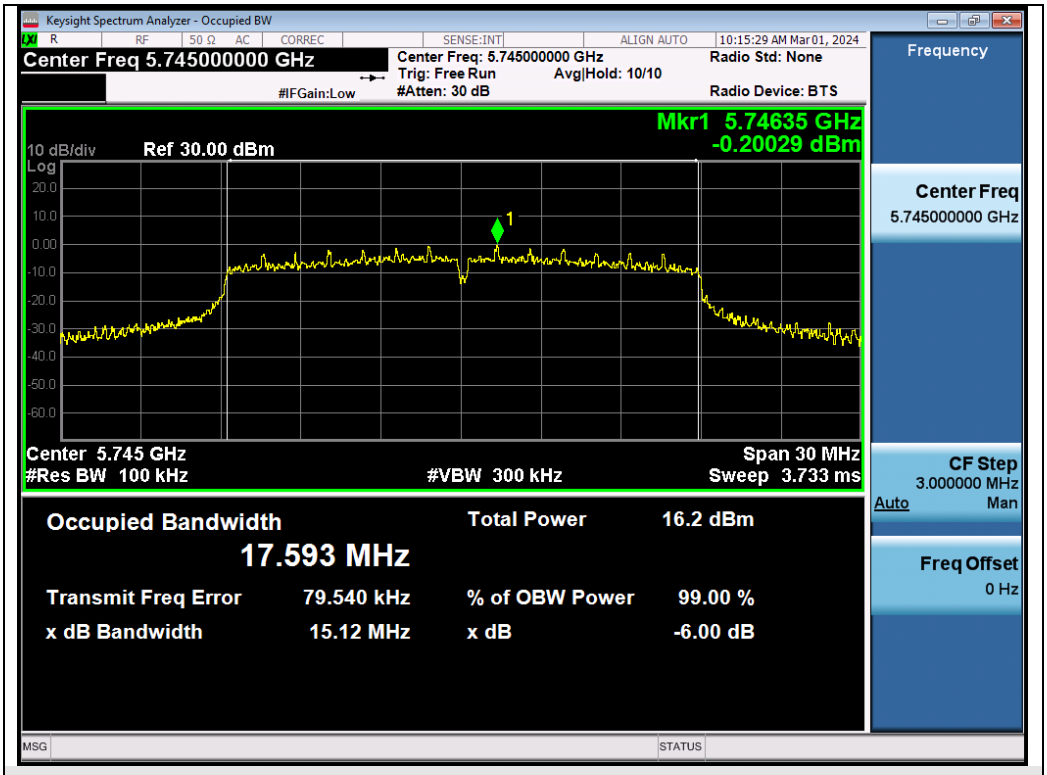
Test_Graph_802.11n20_ANT2_5825_MCS0_DTSBW



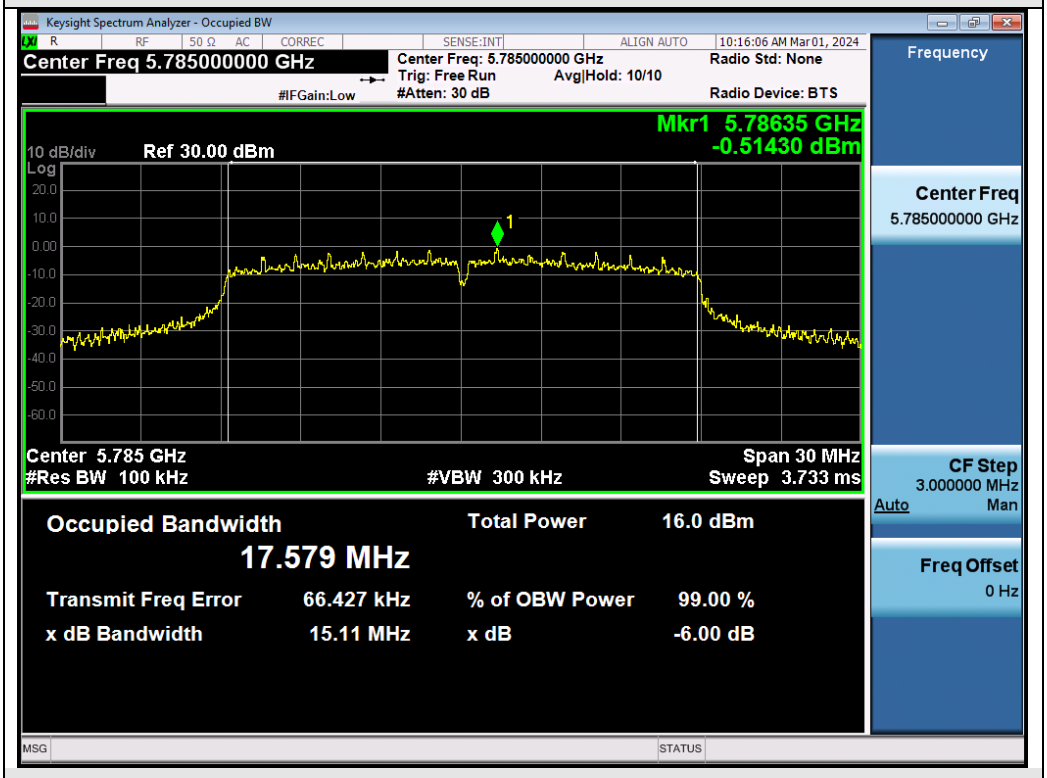
Test_Graph_802.11n40_ANT2_5755_MCS0_DTSBW



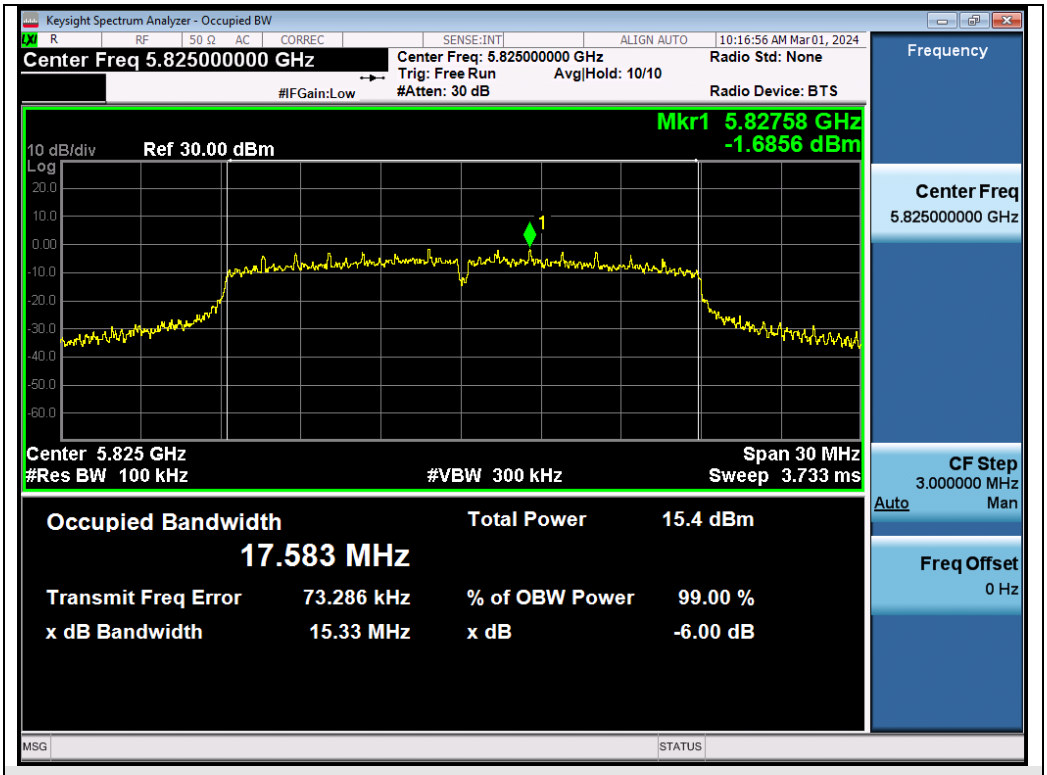
Test_Graph_802.11n40_ANT2_5795_MCS0_DTSBW



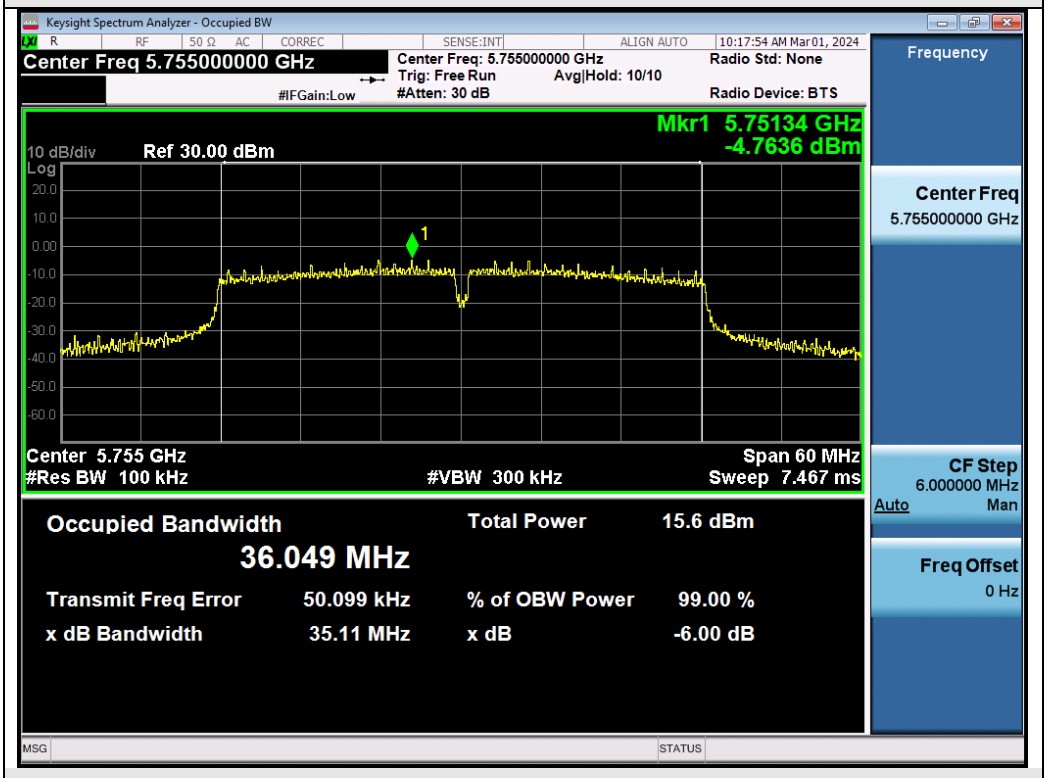
Test_Graph_802.11ac20_ANT2_5745_MCS0_DTSBW



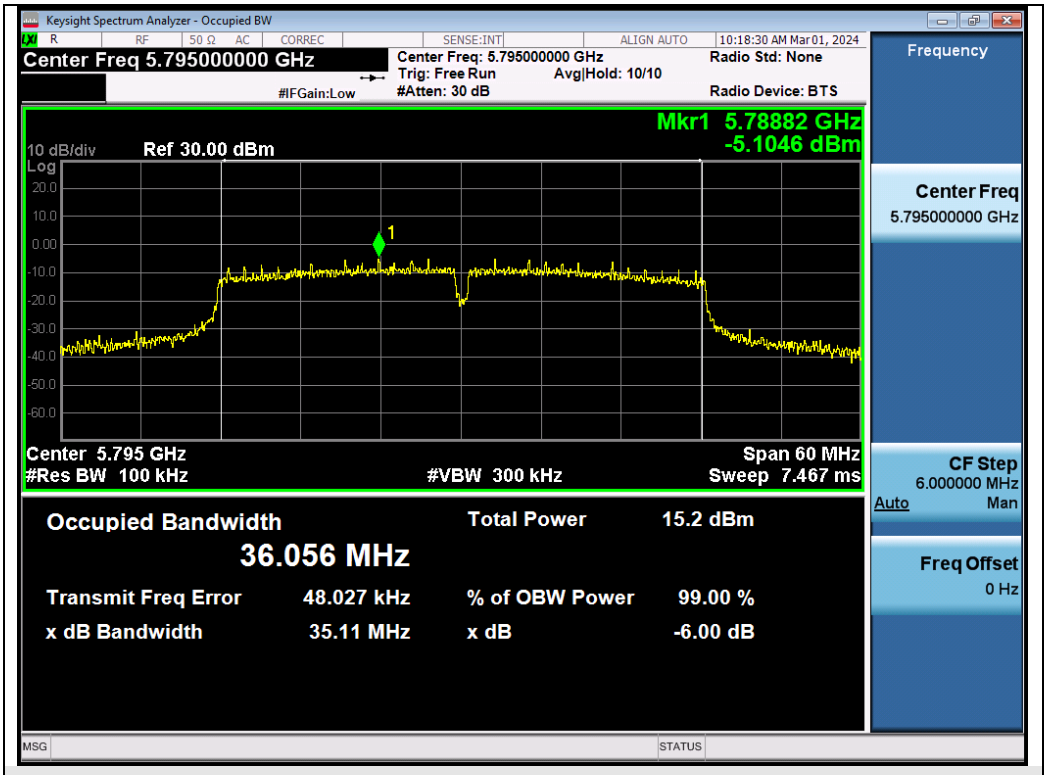
Test_Graph_802.11ac20_ANT2_5785_MCS0_DTSBW



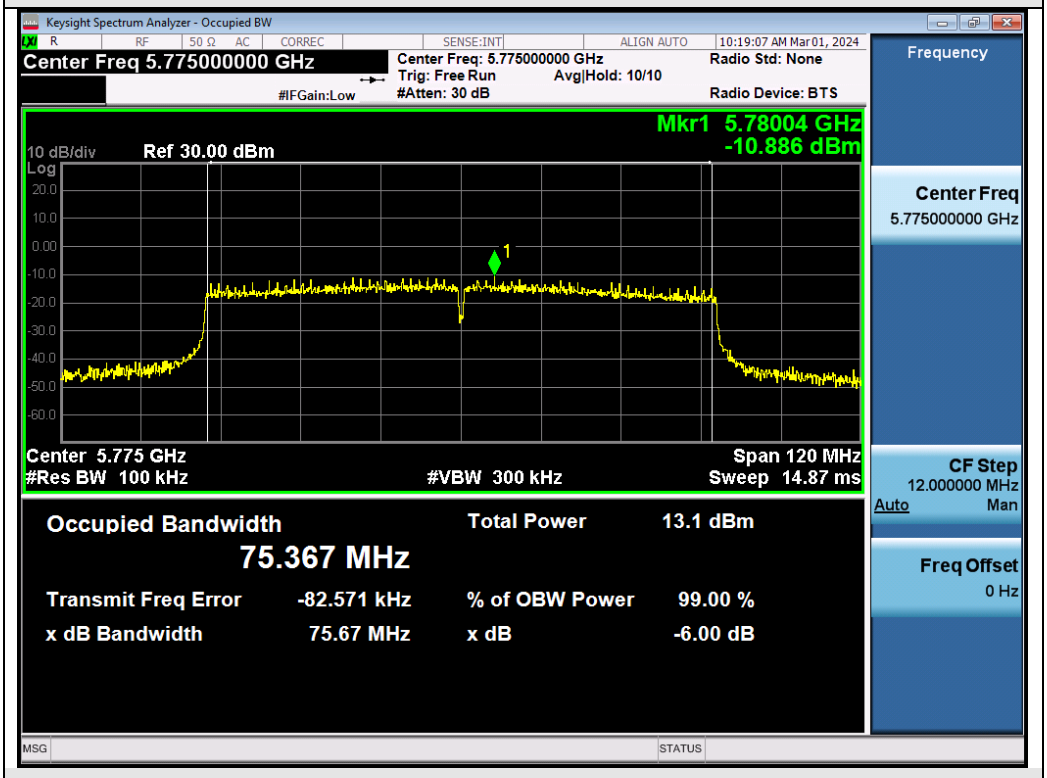
Test_Graph_802.11ac20_ANT2_5825_MCS9_DTSBW



Test_Graph_802.11ac40_ANT2_5755_MCS9_DTSBW

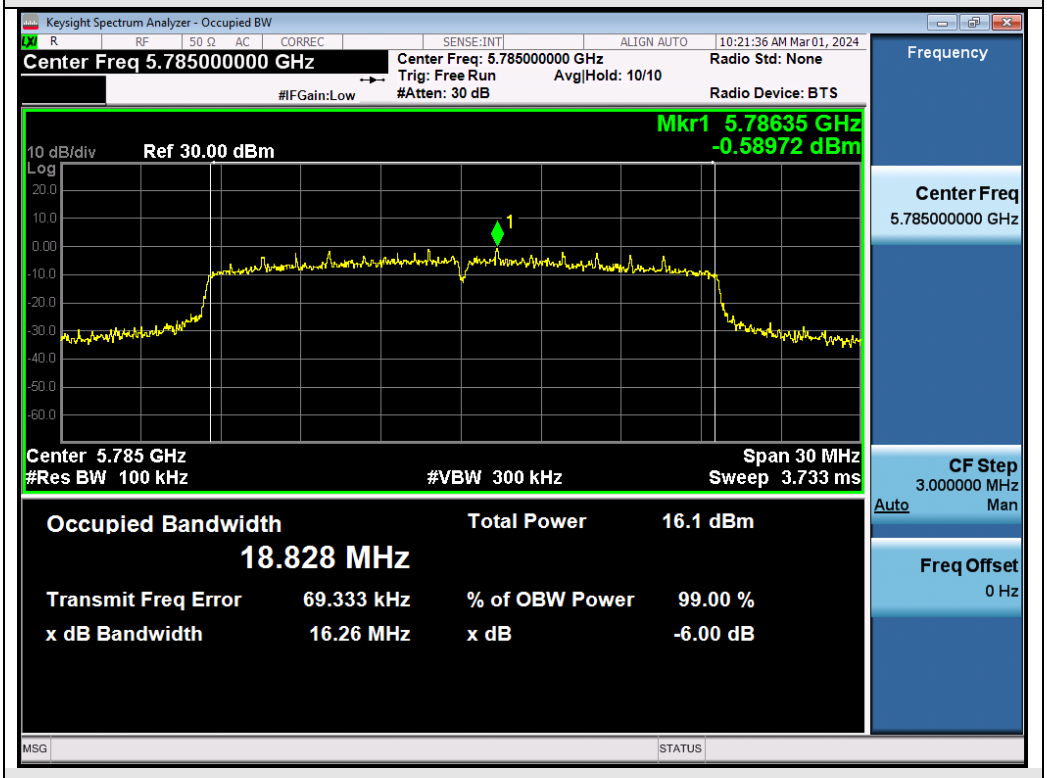


Test_Graph_802.11ac40_ANT2_5795_MCS9_DTSBW



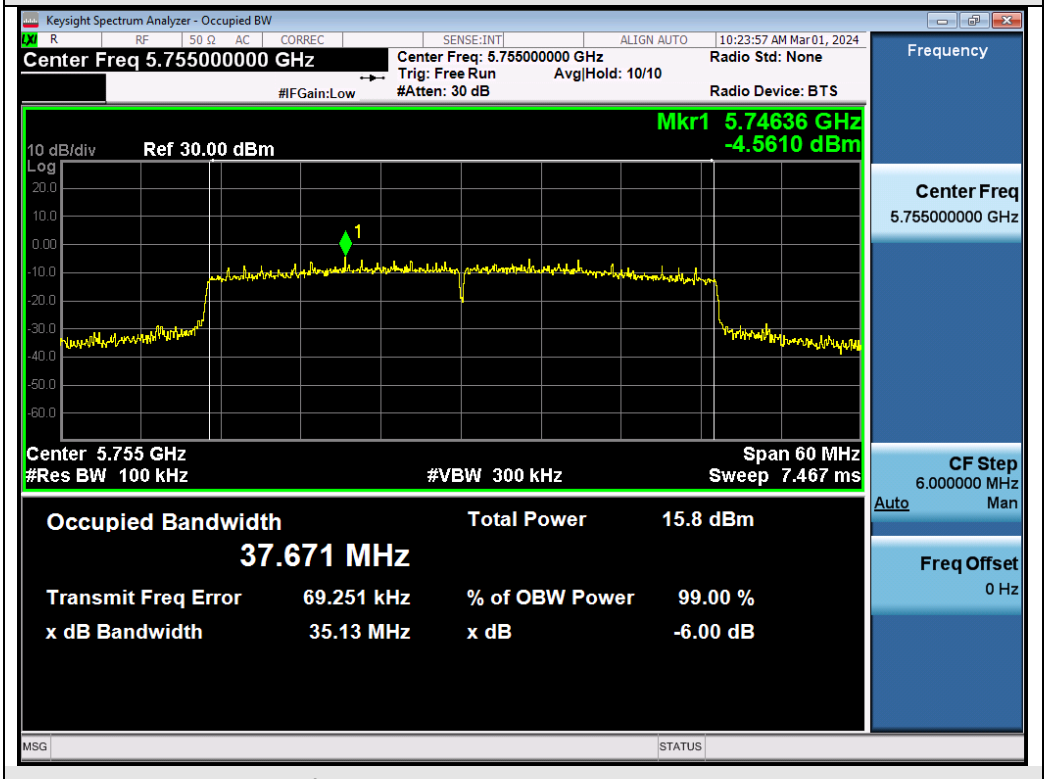
Test_Graph_802.11ac80_ANT2_5775_MCS9_DTSBW

Test_Graph_802.11ax20_ANT2_5745_MCS0_DTSBW

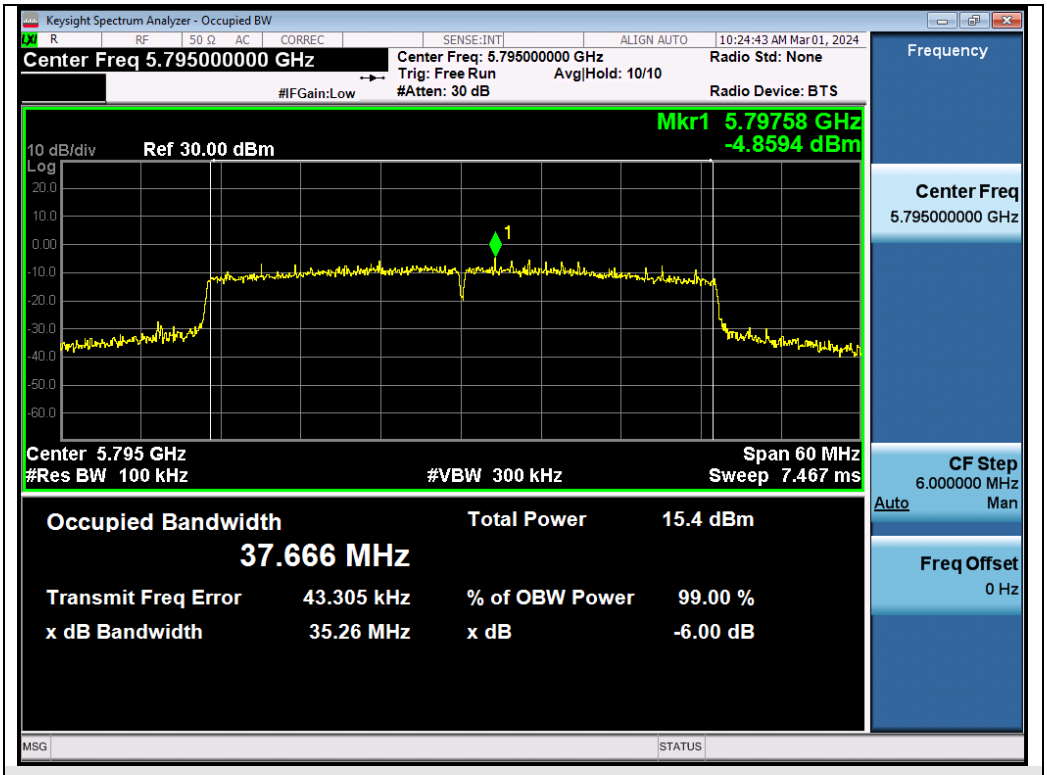


Test_Graph_802.11ax20_ANT2_5785_MCS0_DTSBW

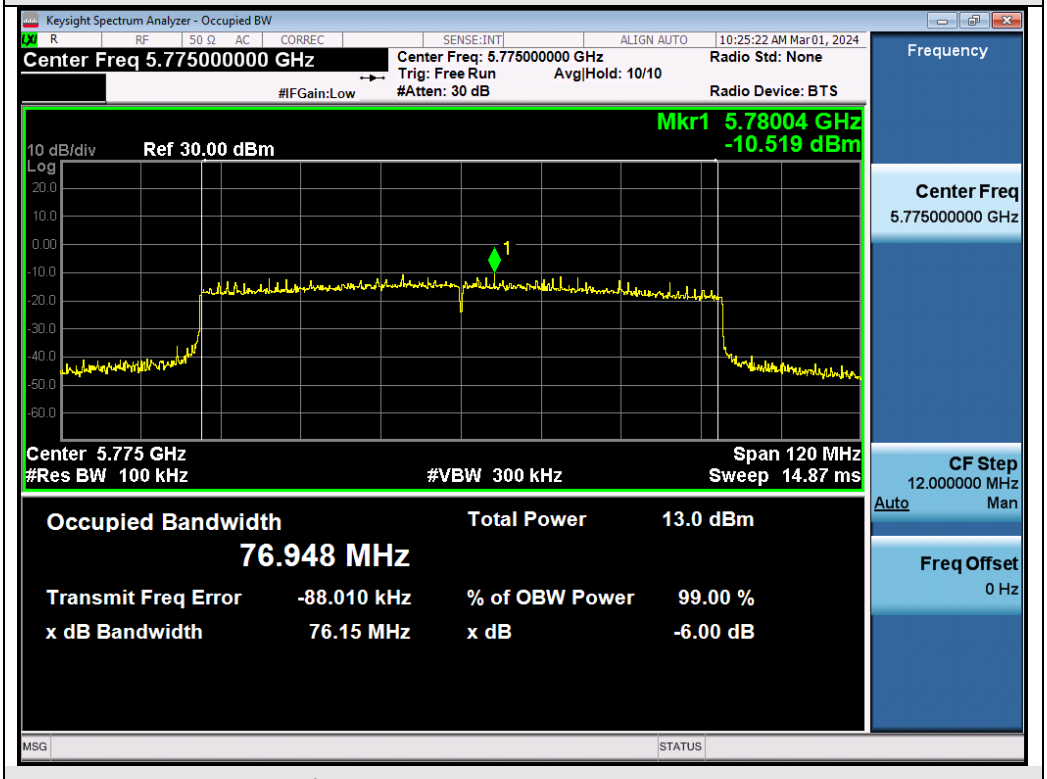
Test_Graph_802.11ax20_ANT2_5825_MCS0_DTSBW



Test_Graph_802.11ax40_ANT2_5755_MCS0_DTSBW



Test_Graph_802.11ax40_ANT2_5795_MCS0_DTSBW



Test_Graph_802.11ax80_ANT2_5775_MCS0_DTSBW

9. Power Spectral Density Measurement

9.1 Provisions Applicable

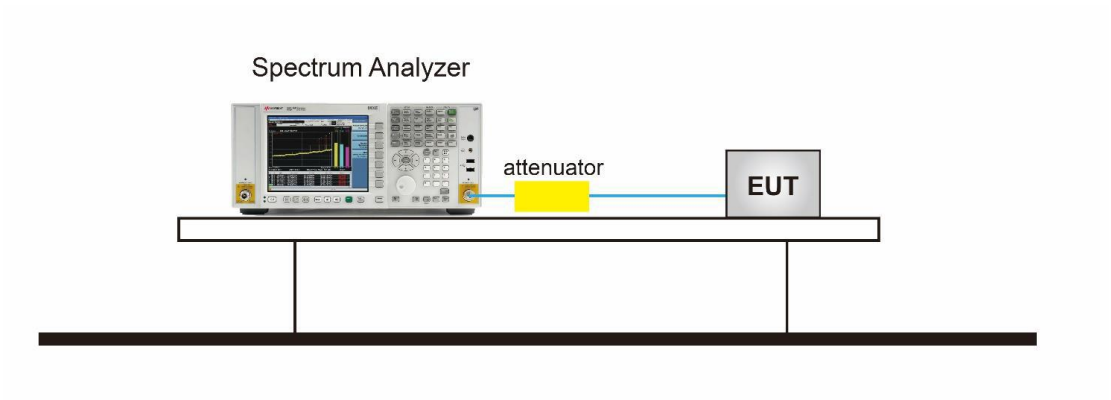
Operation Band	EUT Category		LIMIT
U-NII-1	☐	Outdoor Access Point	17dBm/ MHz
	☐	Fixed point-to-point Access Point	17dBm/ MHz
	☐	Indoor Access Point	17dBm/ MHz
	☒	Client devices	11dBm/ MHz
U-NII-2A	/		11dBm/ MHz
U-NII-2C	/		11dBm/ MHz
U-NII-3	/		30 dBm/500kHz

9.2 Measurement Procedure

☒For Average power spectral density test:

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator.
2. Span was set to encompass the entire 26dB EBW of the signal.
3. RBW = 1MHz.
4. If measurement bandwidth of Maximum PSD is specified in 500 kHz, RBW = 100KHz
5. Set VBW≥[3×RBW].
6. Sweep Time=Auto couple.
7. Detector function=RMS (i.e., power averaging).
8. Trace average at least 100 traces in power averaging (rms) mode.
9. When the measurement bandwidth of Maximum PSD is specified in 100 kHz, add a constant factor 10*log(500kHz/100kHz) = 6.99 dB to the measured result.
10. Determine according to the duty cycle of the equipment: when it is less than 98%, follow the steps below.
11. Add [10 log (1/D)], where D is the duty cycle, to the measured power to compute the average power during the actual transmission times (because the measurement represents an average over both the ON and OFF times of the transmission). For example, add [10 log (1/0.25)] = 6 dB if the duty cycle is 25%.
12. Record the test results in the report.

9.3 Measurement Setup (Block Diagram of Configuration)



9.4 Measurement Result

Test Data of Conducted Output Power Density for band 5.15-5.25 GHz-ANT 1				
Test Mode	Test Channel (MHz)	Average Power Density (dBm/MHz)	Limits (dBm/MHz)	Pass or Fail
802.11a	5180	1.299	11	Pass
	5200	1.183	11	Pass
	5240	1.156	11	Pass
802.11n20	5180	1.560	11	Pass
	5200	0.698	11	Pass
	5240	0.655	11	Pass
802.11n40	5190	-1.705	11	Pass
	5230	-2.283	11	Pass
802.11ac20	5180	1.419	11	Pass
	5200	0.831	11	Pass
	5240	1.323	11	Pass
802.11ac40	5190	-1.836	11	Pass
	5230	-1.350	11	Pass
802.11ac80	5210	-5.300	11	Pass
802.11ax20	5180	0.022	11	Pass
	5200	-0.630	11	Pass
	5240	-0.170	11	Pass
802.11ax40	5190	-3.125	11	Pass
	5230	-3.265	11	Pass
802.11ax80	5210	-7.788	11	Pass

Test Data of Conducted Output Power Density for band 5.15-5.25 GHz-ANT 2				
Test Mode	Test Channel (MHz)	Average Power Density (dBm/MHz)	Limits (dBm/MHz)	Pass or Fail
802.11a	5180	3.429	11	Pass
	5200	2.099	11	Pass
	5240	2.628	11	Pass
802.11n20	5180	2.014	11	Pass
	5200	2.116	11	Pass
	5240	2.169	11	Pass
802.11n40	5190	-0.842	11	Pass
	5230	-0.553	11	Pass
802.11ac20	5180	-0.324	11	Pass
	5200	-0.154	11	Pass
	5240	-0.367	11	Pass
802.11ac40	5190	-3.525	11	Pass
	5230	-3.752	11	Pass
802.11ac80	5210	-8.543	11	Pass
802.11ax20	5180	1.415	11	Pass
	5200	1.219	11	Pass
	5240	1.132	11	Pass
802.11ax40	5190	-1.537	11	Pass
	5230	-2.370	11	Pass
802.11ax80	5210	-6.761	11	Pass

Test Data of Conducted Output Power Density for band 5.725-5.85 GHz-ANT 1					
Test Mode	Test Channel (MHz)	Average Power Density (dBm/100kHz)	Average Power Density (dBm/500kHz)	Limits (dBm/500kHz)	Pass or Fail
802.11a	5745	-8.554	-1.564	30	Pass
	5785	-7.952	-0.962	30	Pass
	5825	-7.684	-0.694	30	Pass
802.11n20	5745	-8.262	-1.272	30	Pass
	5785	-8.057	-1.067	30	Pass
	5825	-7.532	-0.542	30	Pass
802.11n40	5755	-11.424	-4.434	30	Pass
	5795	-11.319	-4.329	30	Pass
802.11ac20	5745	-9.111	-2.121	30	Pass
	5785	-8.401	-1.411	30	Pass
	5825	-7.735	-0.745	30	Pass
802.11ac40	5755	-11.026	-4.036	30	Pass
	5795	-11.104	-4.114	30	Pass
802.11ac80	5775	-13.361	-6.371	30	Pass
802.11ax20	5745	-10.516	-3.526	30	Pass
	5785	-9.964	-2.974	30	Pass
	5825	-9.824	-2.834	30	Pass
802.11ax40	5755	-13.319	-6.329	30	Pass
	5795	-13.050	-6.060	30	Pass
802.11ax80	5775	-18.006	-11.016	30	Pass

Test Data of Conducted Output Power Density for band 5.725-5.85 GHz-ANT 2					
Test Mode	Test Channel (MHz)	Average Power Density (dBm/100kHz)	Average Power Density (dBm/500kHz)	Limits (dBm/500kHz)	Pass or Fail
802.11a	5745	-6.339	0.651	30	Pass
	5785	-6.339	0.651	30	Pass
	5825	-6.900	0.090	30	Pass
802.11n20	5745	-6.261	0.729	30	Pass
	5785	-6.053	0.937	30	Pass
	5825	-6.788	0.202	30	Pass
802.11n40	5755	-8.481	-1.491	30	Pass
	5795	-10.265	-3.275	30	Pass
802.11ac20	5745	-8.898	-1.908	30	Pass
	5785	-9.291	-2.301	30	Pass
	5825	-9.511	-2.521	30	Pass
802.11ac40	5755	-12.291	-5.301	30	Pass
	5795	-12.375	-5.385	30	Pass
802.11ac80	5775	-16.853	-9.863	30	Pass
802.11ax20	5745	-8.552	-1.562	30	Pass
	5785	-8.777	-1.787	30	Pass
	5825	-9.011	-2.021	30	Pass
802.11ax40	5755	-11.074	-4.084	30	Pass
	5795	-11.561	-4.571	30	Pass
802.11ax80	5775	-15.692	-8.702	30	Pass

Test Data of Conducted Output Power Density for band 5.15-5.25 GHz-MIMO				
Test Mode	Test Channel (MHz)	Average Power Density (dBm/MHz)	Limits (dBm/MHz)	Pass or Fail
802.11n20	5180	4.803	11	Pass
	5200	4.475	11	Pass
	5240	4.488	11	Pass
802.11n40	5190	1.758	11	Pass
	5230	1.678	11	Pass
802.11ac20	5180	3.645	11	Pass
	5200	3.377	11	Pass
	5240	3.570	11	Pass
802.11ac40	5190	0.411	11	Pass
	5230	0.623	11	Pass
802.11ac80	5210	-3.615	11	Pass
802.11ax20	5180	3.784	11	Pass
	5200	3.402	11	Pass
	5240	3.540	11	Pass
802.11ax40	5190	0.751	11	Pass
	5230	0.216	11	Pass
802.11ax80	5210	-4.234	11	Pass

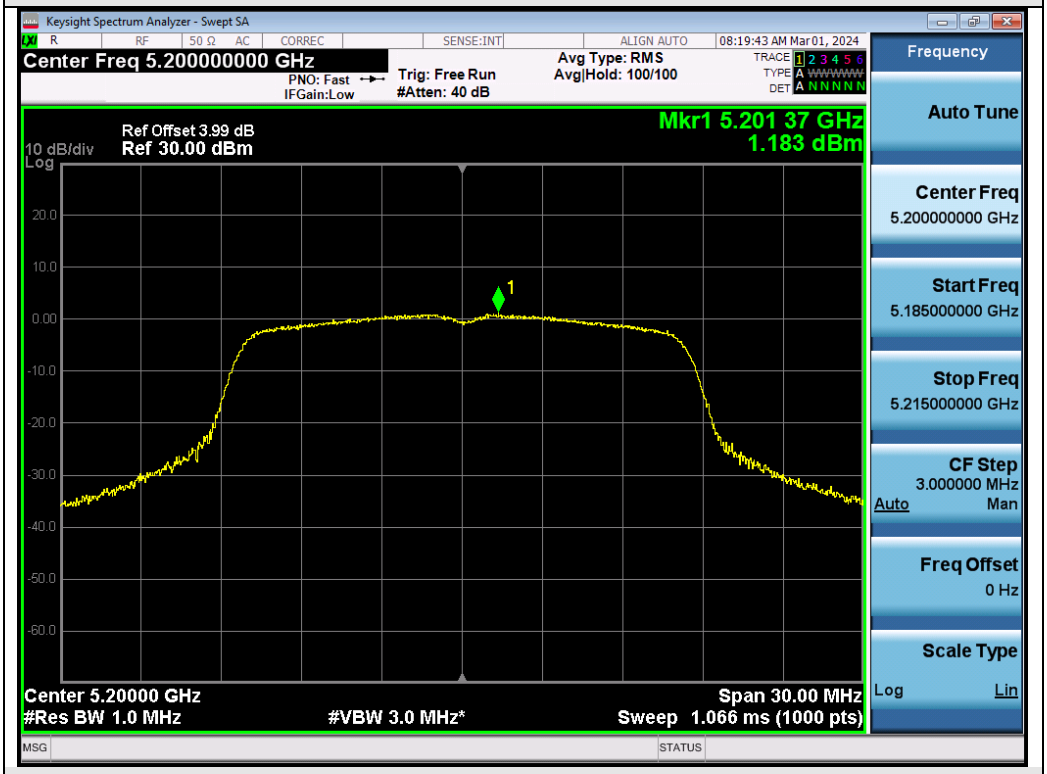
Test Data of Conducted Output Power Density for band 5.725-5.85 GHz-MIMO					
Test Mode	Test Channel (MHz)	Average Power Density (dBm/100kHz)	Average Power Density (dBm/500kHz)	Limits (dBm/500kHz)	Pass or Fail
802.11n20	5745	-4.137	2.853	30	Pass
	5785	-3.930	3.060	30	Pass
	5825	-4.134	2.856	30	Pass
802.11n40	5755	-6.698	0.292	30	Pass
	5795	-7.750	-0.760	30	Pass
802.11ac20	5745	-5.993	0.997	30	Pass
	5785	-5.813	1.177	30	Pass
	5825	-5.523	1.467	30	Pass
802.11ac40	5755	-8.602	-1.612	30	Pass
	5795	-8.683	-1.693	30	Pass
802.11ac80	5775	-11.755	-4.765	30	Pass
802.11ax20	5745	-6.414	0.576	30	Pass
	5785	-6.320	0.670	30	Pass
	5825	-6.388	0.602	30	Pass
802.11ax40	5755	-9.043	-2.053	30	Pass
	5795	-9.232	-2.242	30	Pass
802.11ax80	5775	-13.686	-6.696	30	Pass

Note:1.Power density(dBm/500kHz) = Power density(dBm/100kHz)+10*log(500/100).

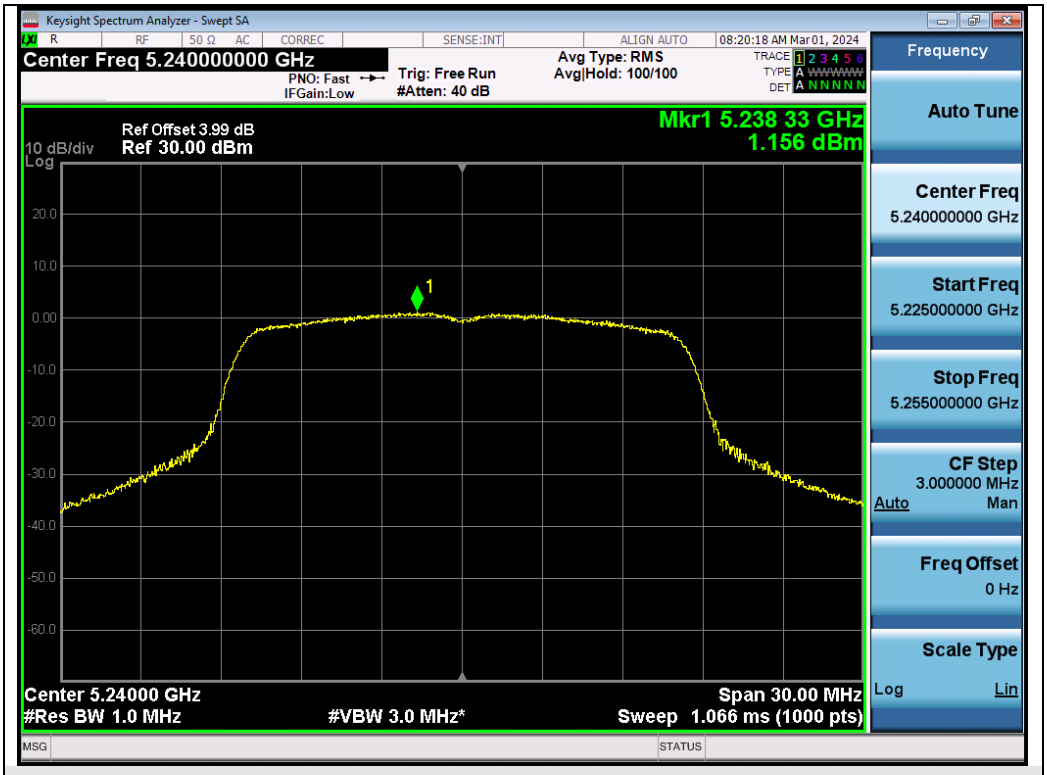
2.The Total PSD(dBm/500kHz) = 10*log $\{10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)}\}$(dBm/500kHz).

Test Graphs of Conducted Output Power Spectral Density for band 5.15-5.25 GHz

Test_Graph_802.11a_ANT1_5180_6Mbps_PSD



Test_Graph_802.11a_ANT1_5200_6Mbps_PSD



Test_Graph_802.11a_ANT1_5240_6Mbps_PSD

Test_Graph_802.11n20_ANT1_5180_MCS0_PSD

Test_Graph_802.11n20_ANT1_5200_MCS0_PSD

Test_Graph_802.11n20_ANT1_5240_MCS0_PSD

Test_Graph_802.11n40_ANT1_5190_MCS0_PSD

Test_Graph_802.11n40_ANT1_5230_MCS0_PSD

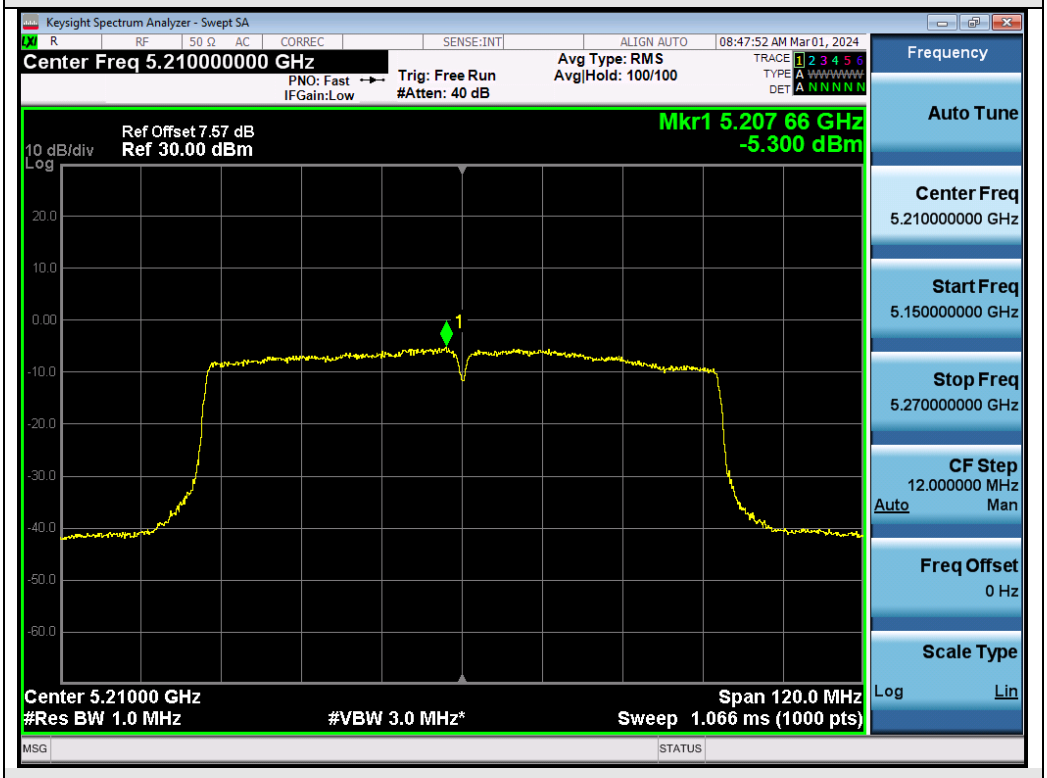
Test_Graph_802.11ac20_ANT1_5180_MCS0_PSD

Test_Graph_802.11ac20_ANT1_5200_MCS0_PSD

Test_Graph_802.11ac20_ANT1_5240_MCS9_PSD

Test_Graph_802.11ac40_ANT1_5190_MCS9_PSD

Test_Graph_802.11ac40_ANT1_5230_MCS9_PSD



Test_Graph_802.11ac80_ANT1_5210_MCS9_PSD

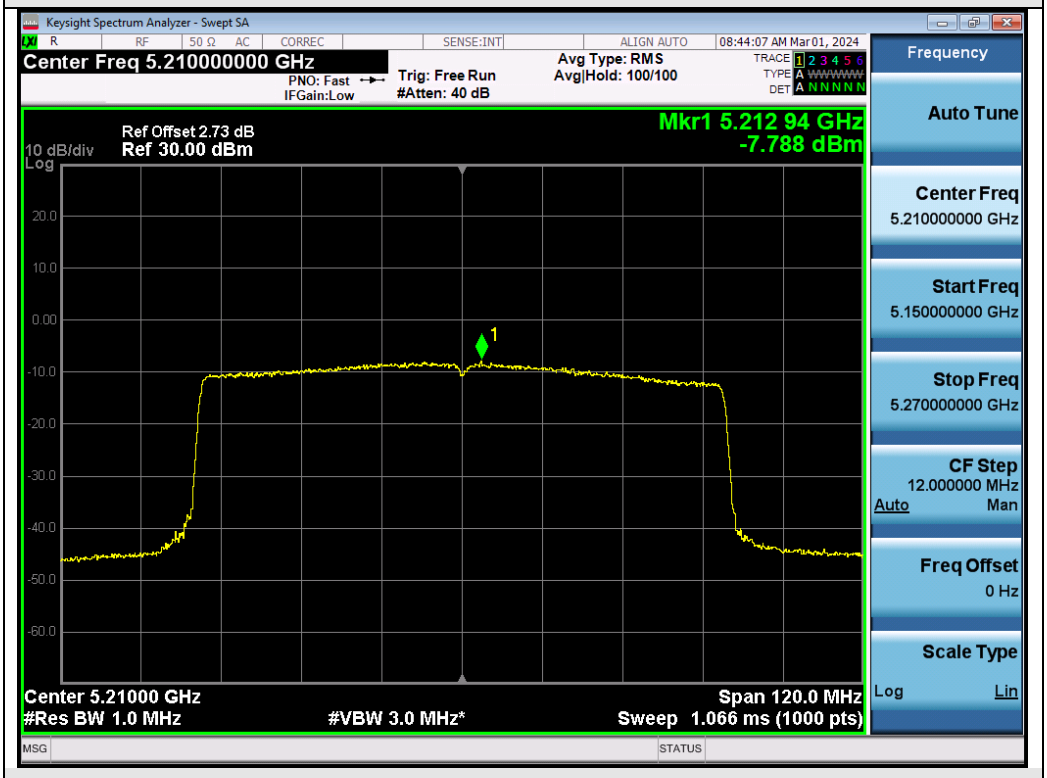
Test_Graph_802.11ax20_ANT1_5180_MCS0_PSD

Test_Graph_802.11ax20_ANT1_5200_MCS0_PSD

Test_Graph_802.11ax20_ANT1_5240_MCS9_PSD

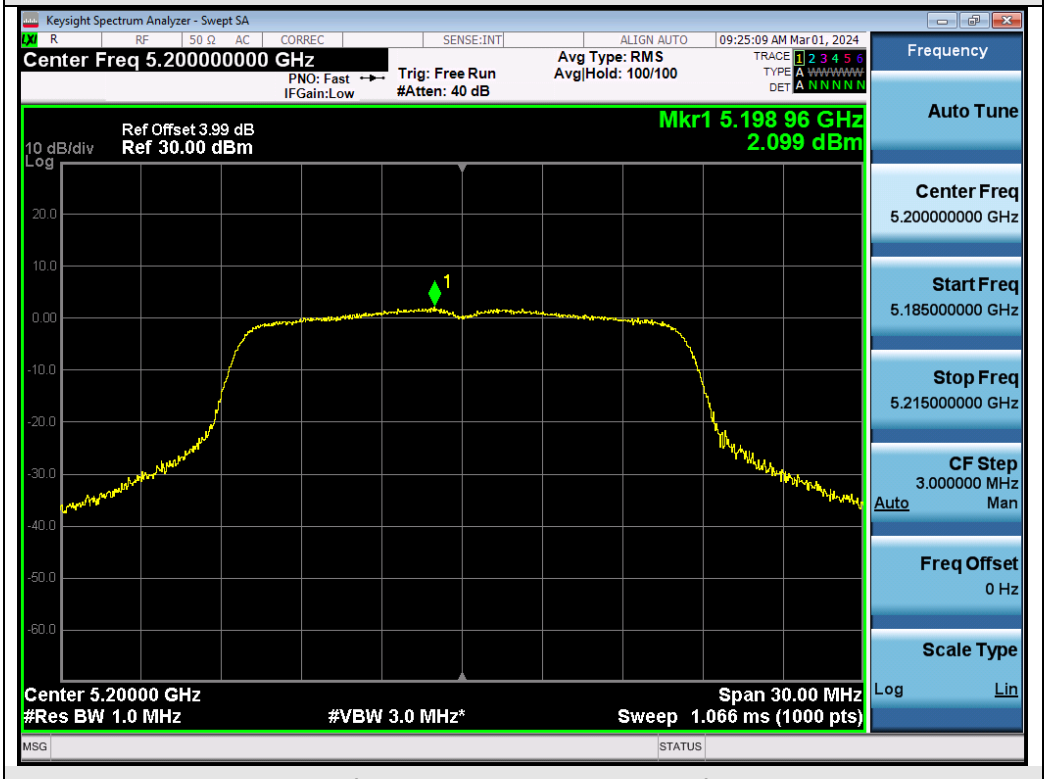
Test_Graph_802.11ax40_ANT1_5190_MCS9_PSD

Test_Graph_802.11ax40_ANT1_5230_MCS9_PSD

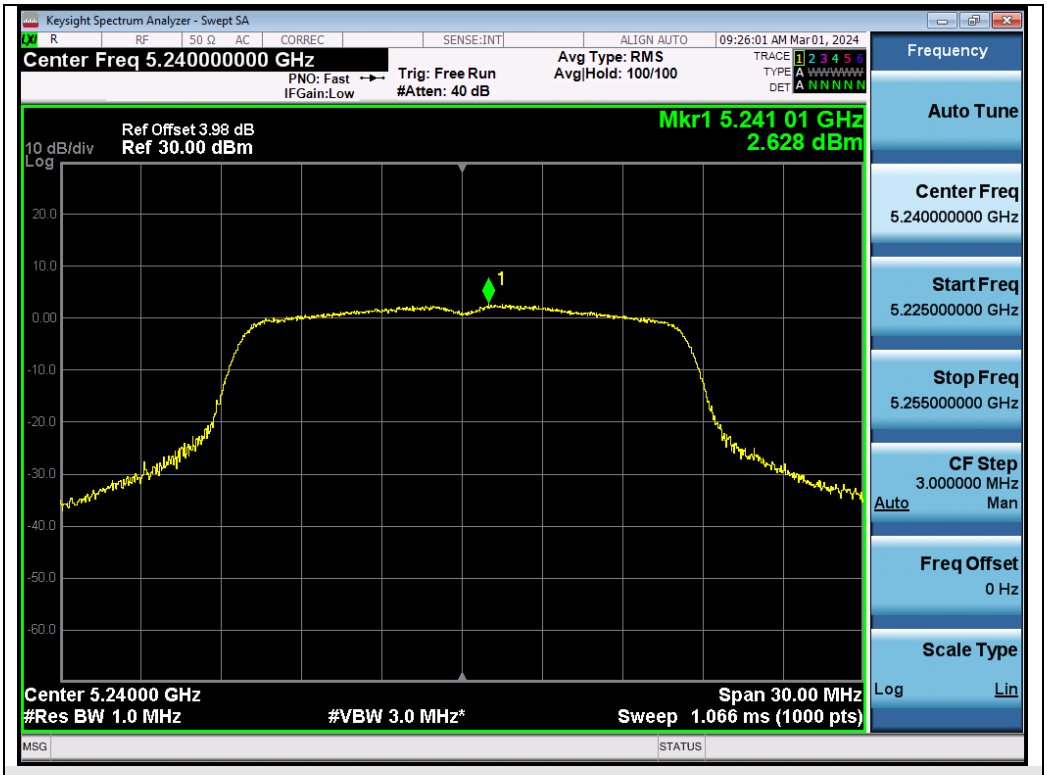


Test_Graph_802.11ax80_ANT1_5210_MCS9_PSD

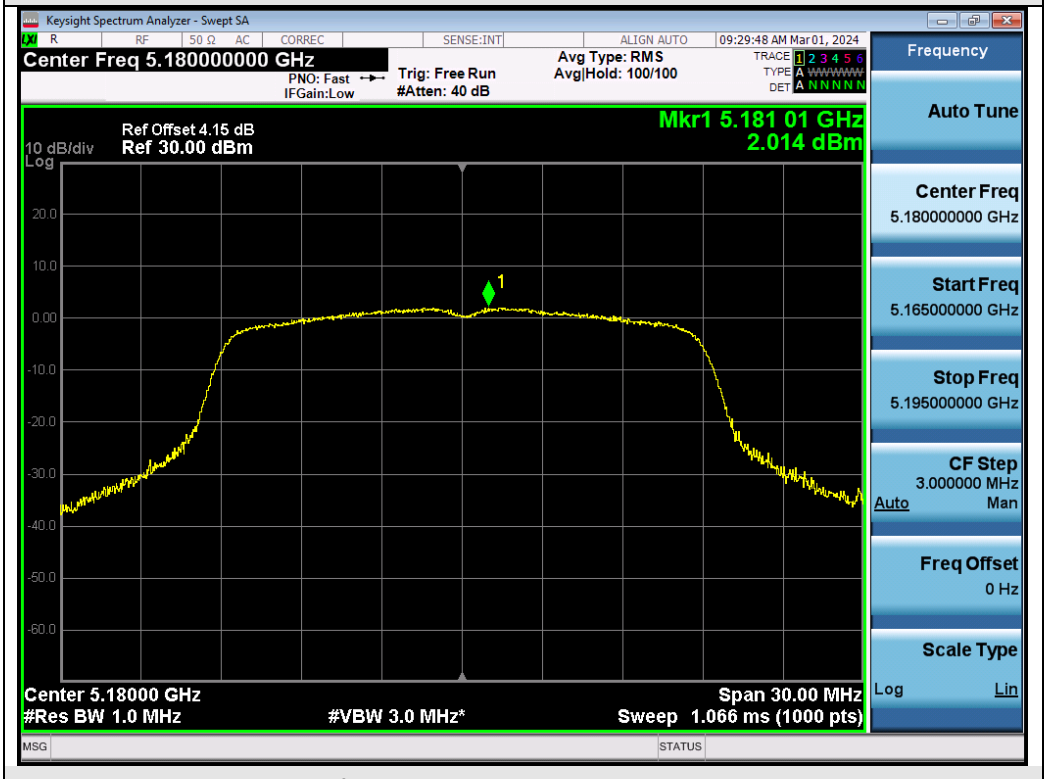
Test_Graph_802.11a_ANT2_5180_6Mbps_PSD



Test_Graph_802.11a_ANT2_5200_6Mbps_PSD

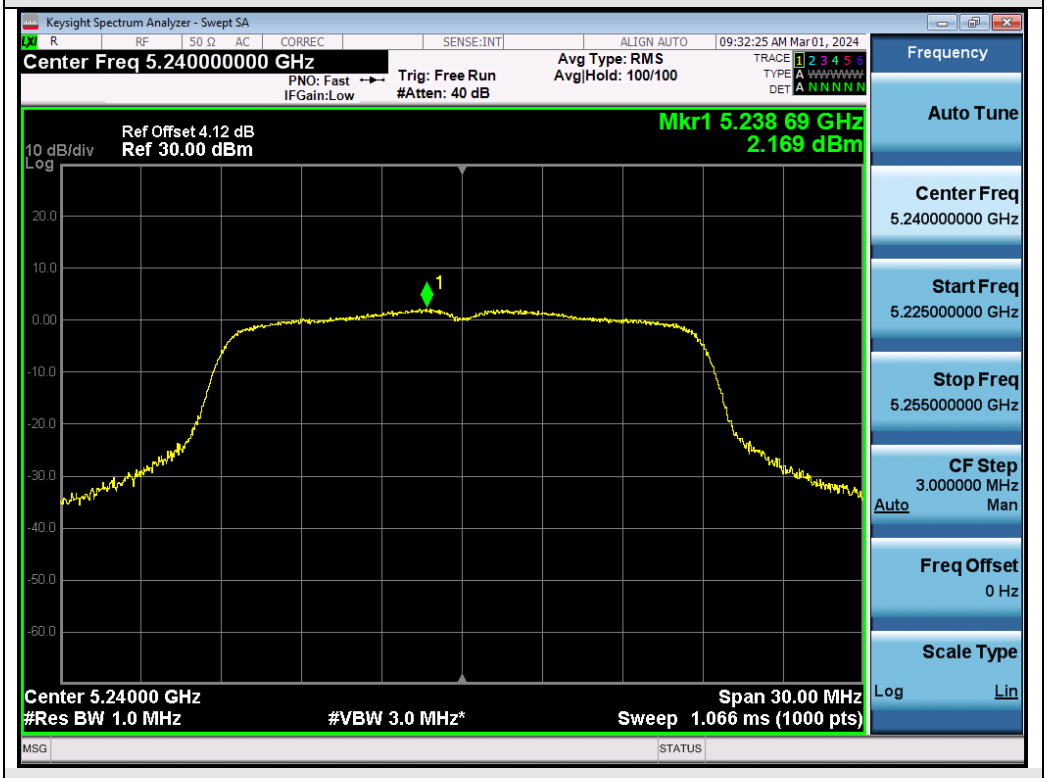


Test_Graph_802.11a_ANT2_5240_6Mbps_PSD



Test_Graph_802.11n20_ANT2_5180_MCS0_PSD

Test_Graph_802.11n20_ANT2_5200_MCS0_PSD



Test_Graph_802.11n20_ANT2_5240_MCS0_PSD

Test_Graph_802.11n40_ANT2_5190_MCS0_PSD

Test_Graph_802.11n40_ANT2_5230_MCS0_PSD