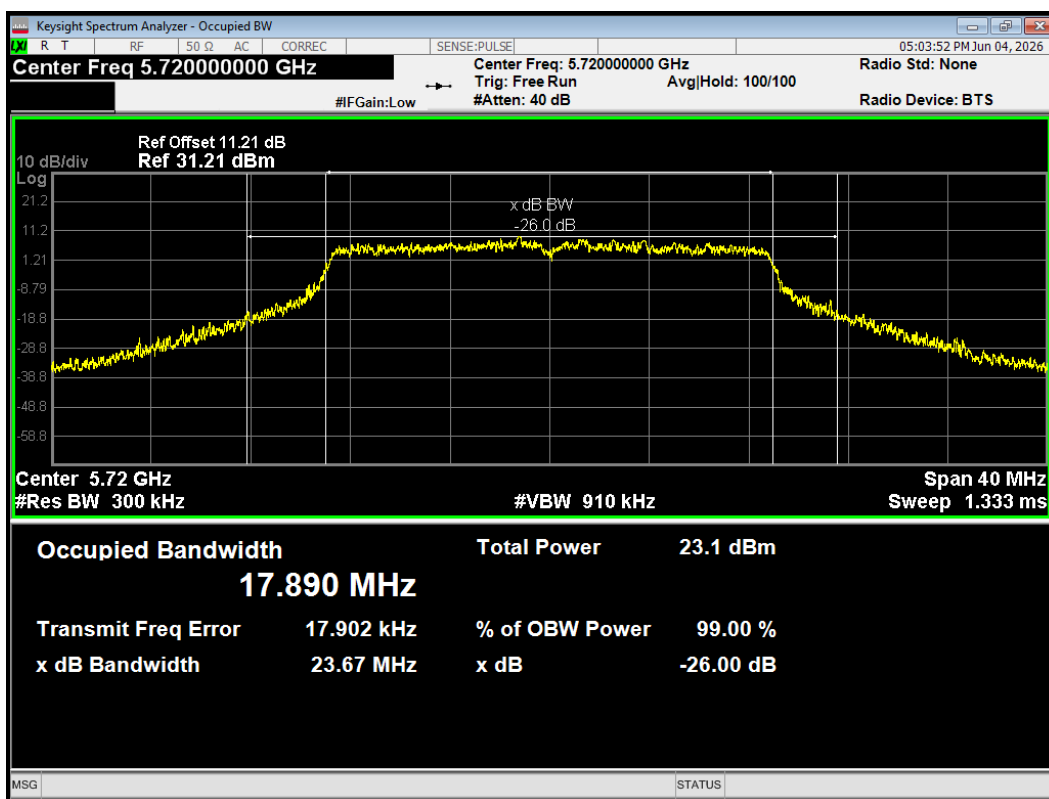
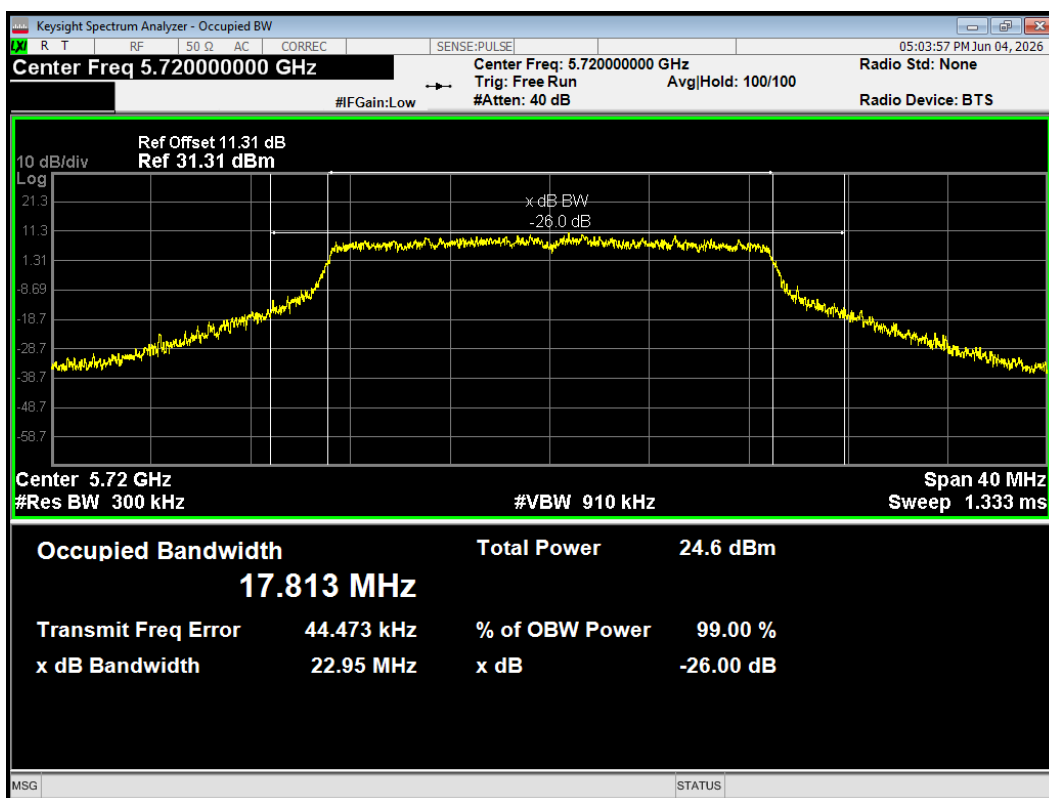


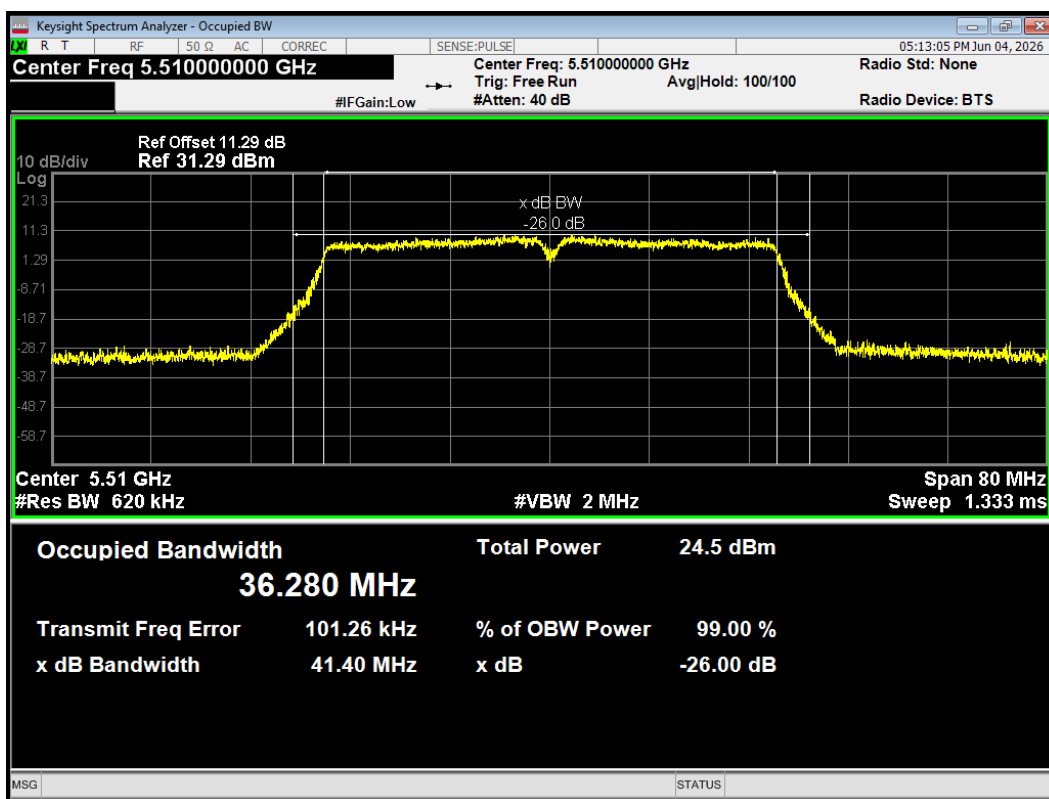
OBW 802.11ac(VHT20) 5720MHz Ant1



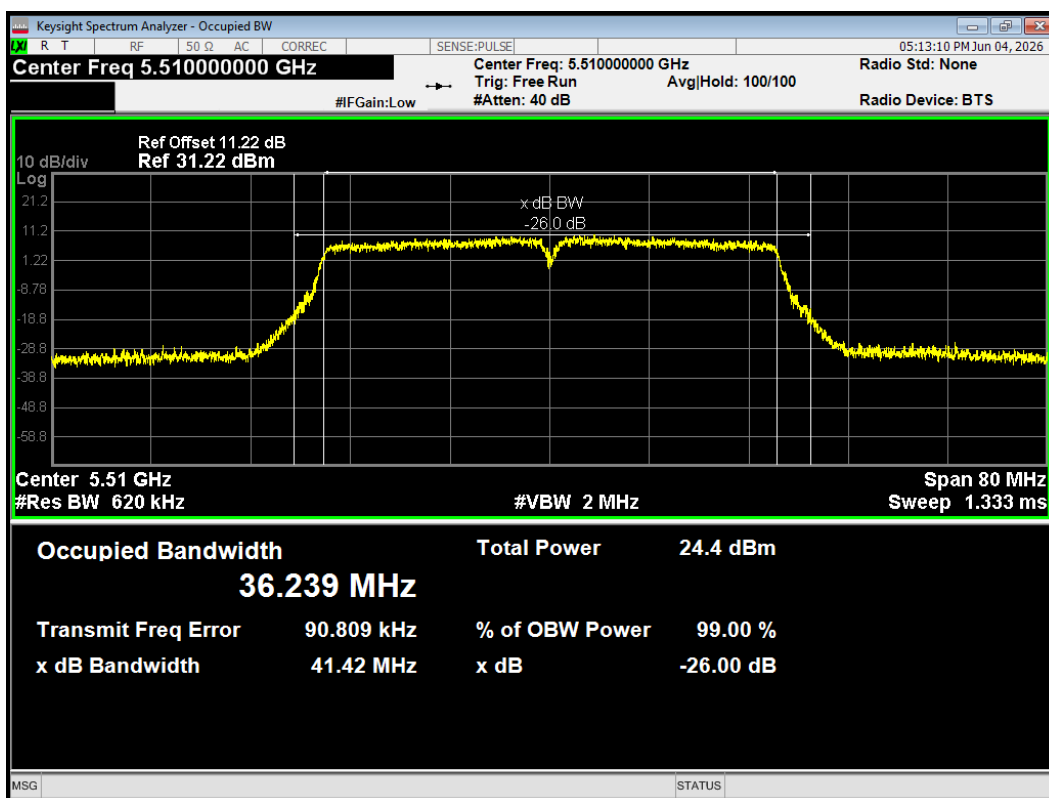
OBW 802.11ac(VHT20) 5720MHz Ant2



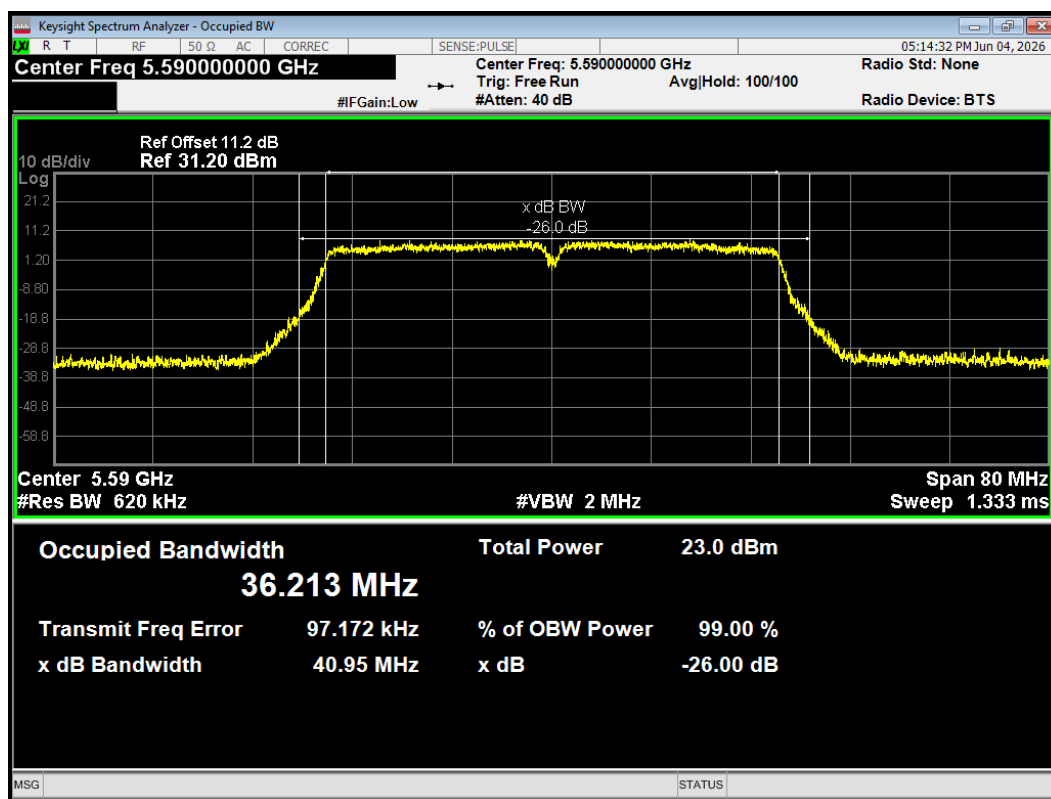
OBW 802.11ac(VHT40) 5510MHz Ant1



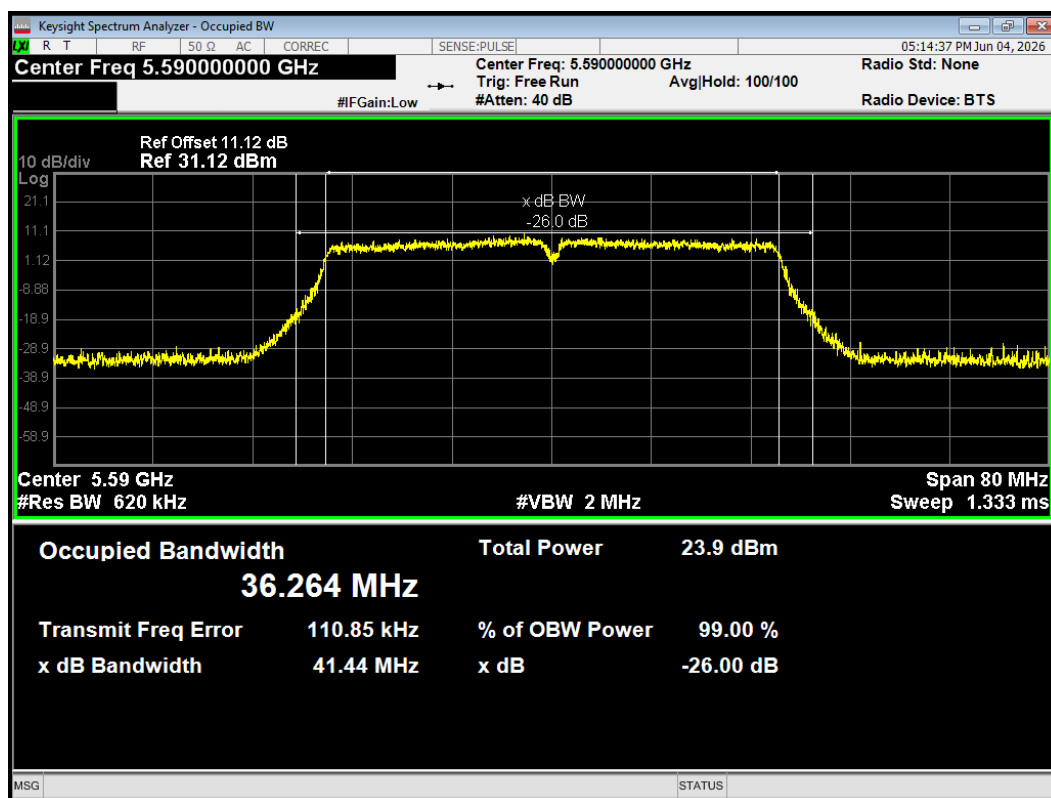
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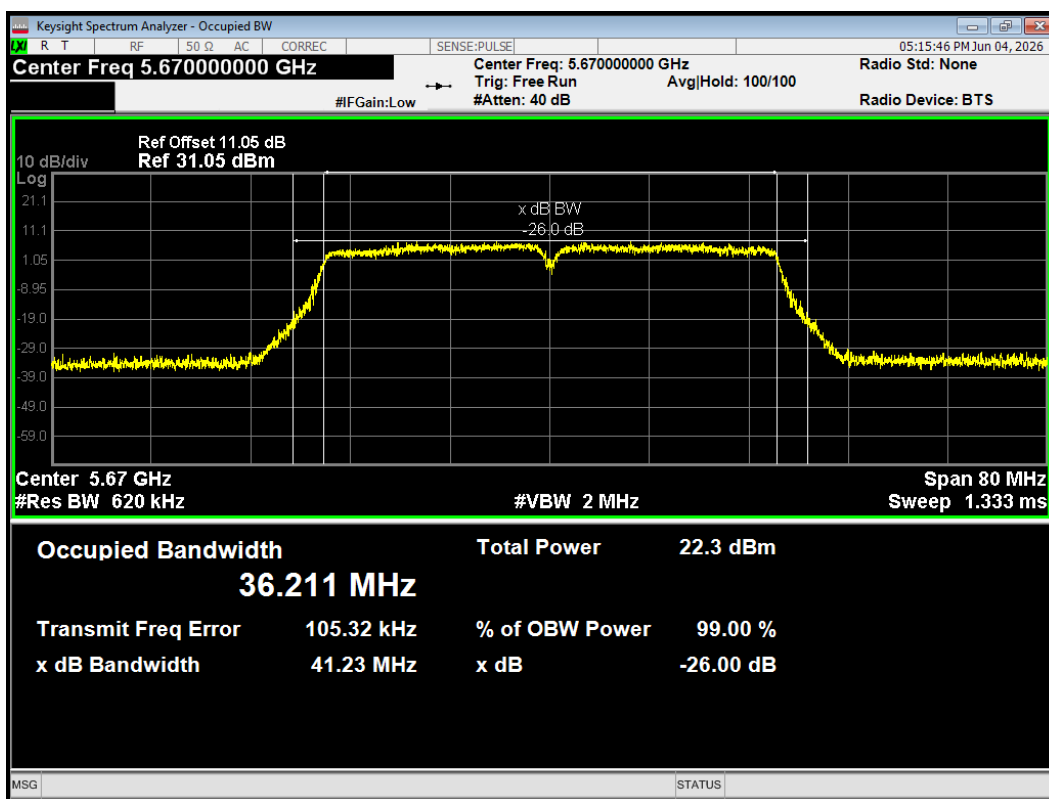
OBW 802.11ac(VHT40) 5590MHz Ant1



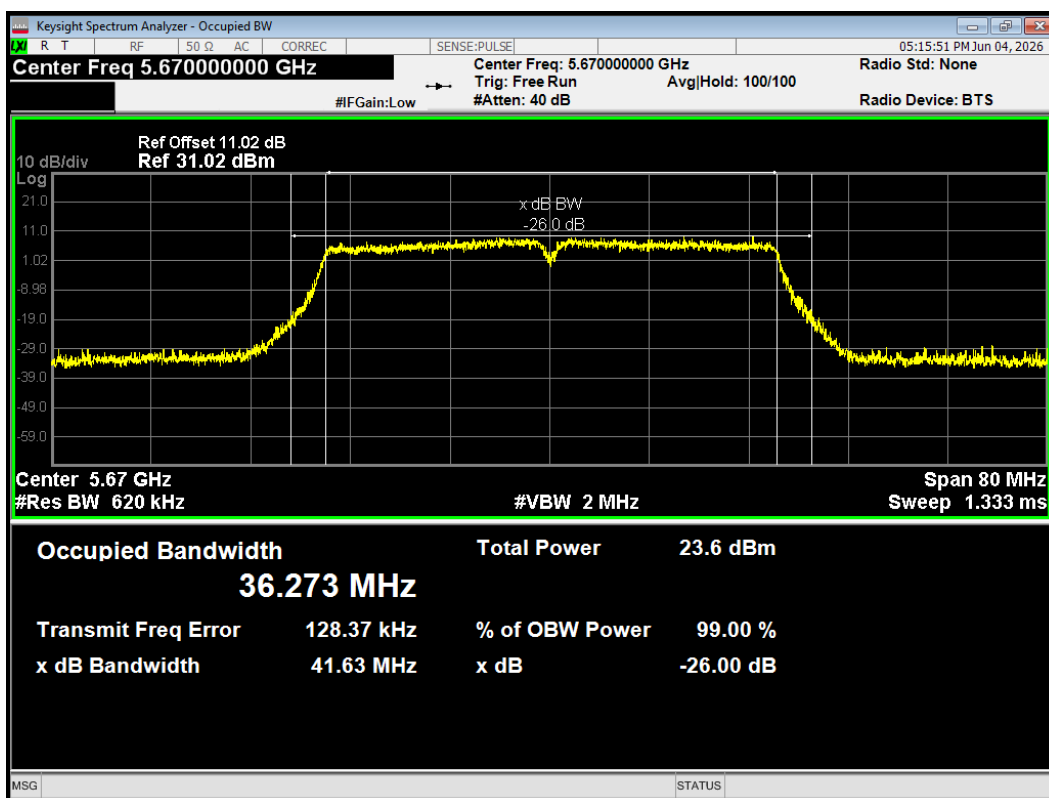
OBW 802.11ac(VHT40) 5590MHz Ant2



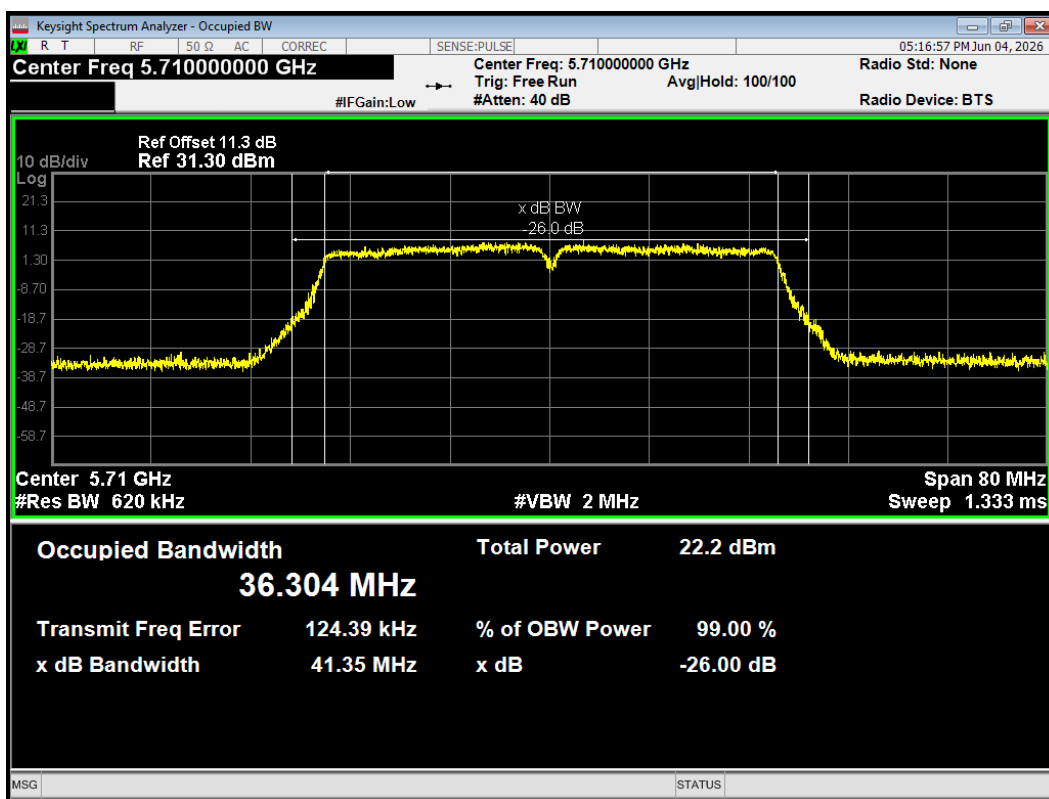
OBW 802.11ac(VHT40) 5670MHz Ant1



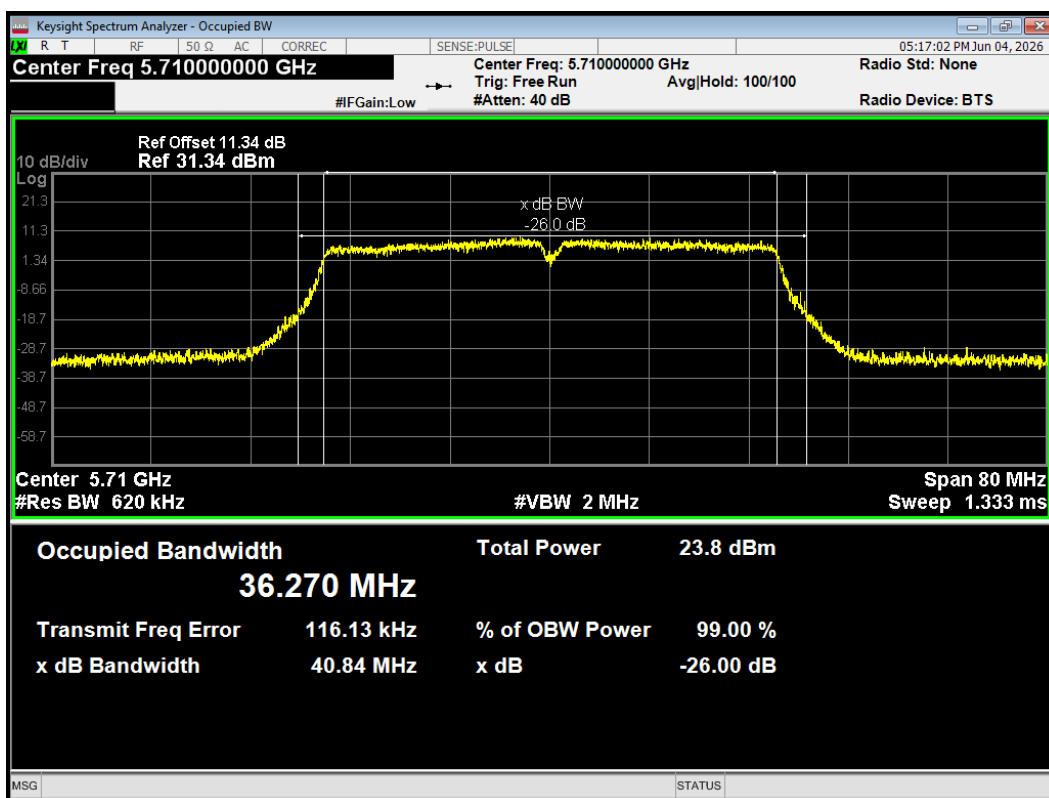
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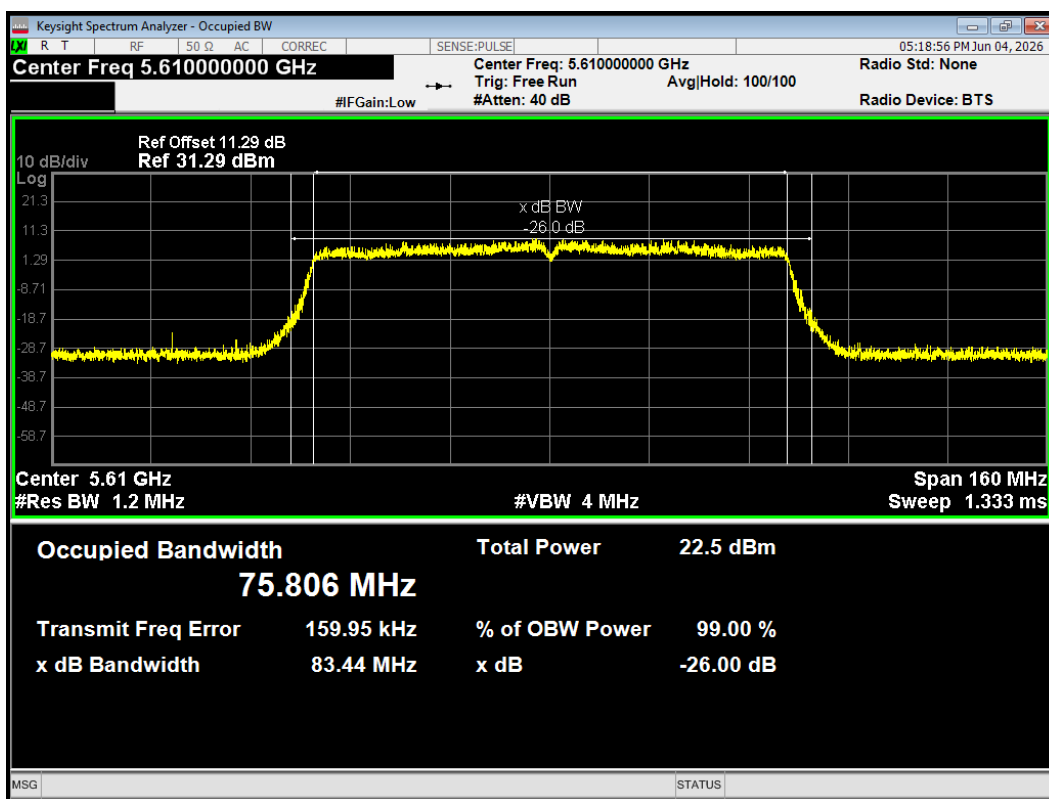
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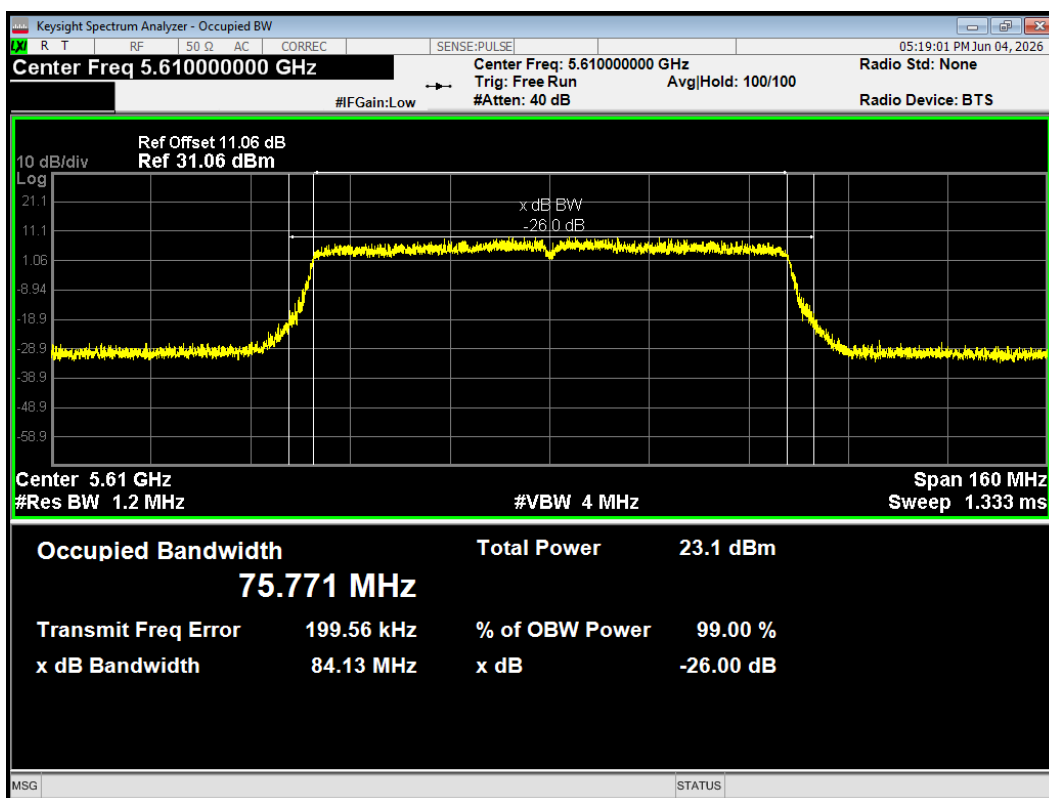
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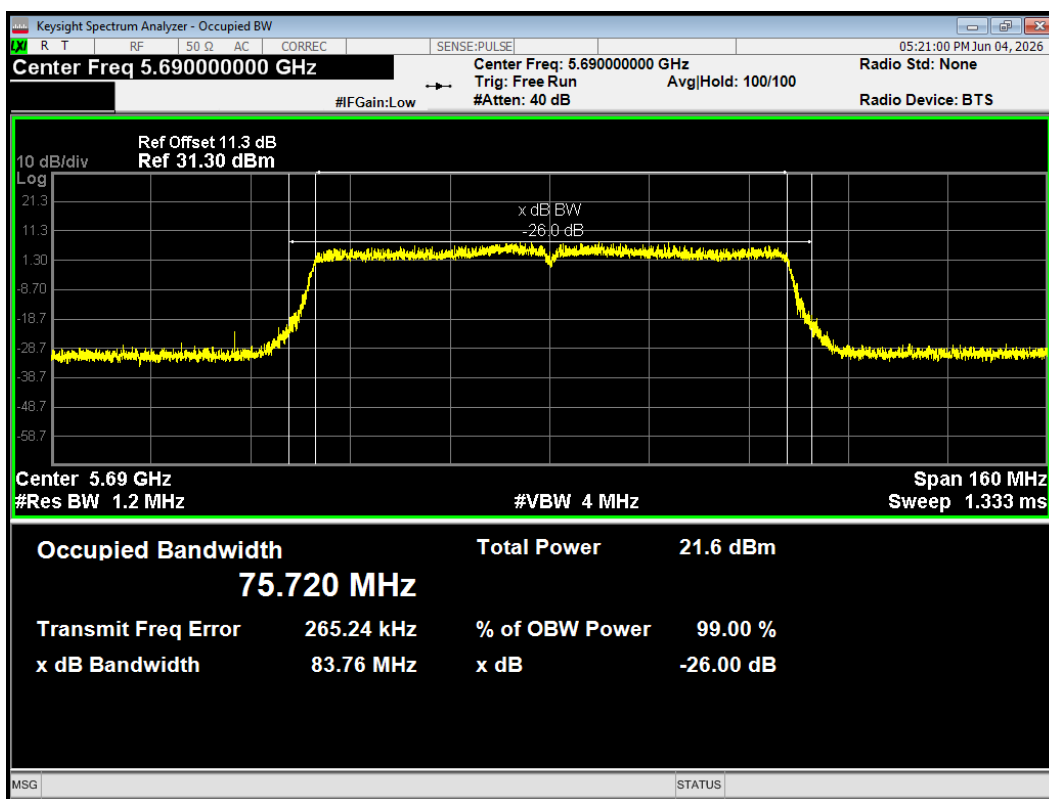
OBW 802.11ac(VHT80) 5610MHz Ant1



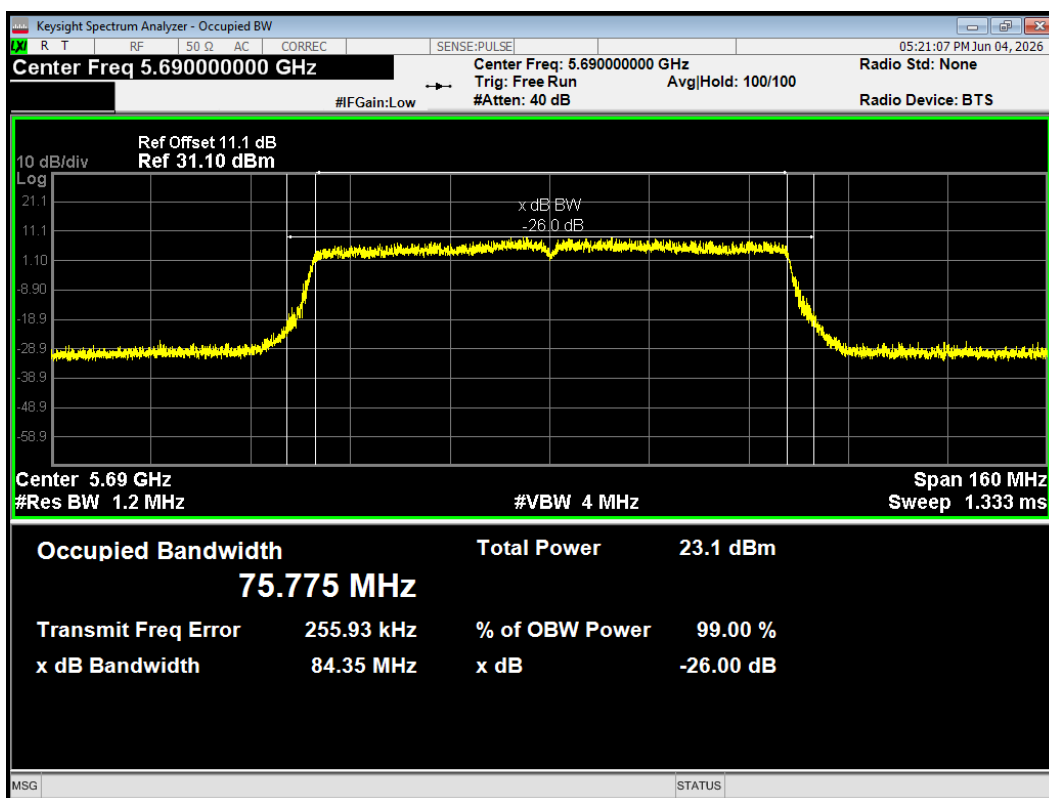
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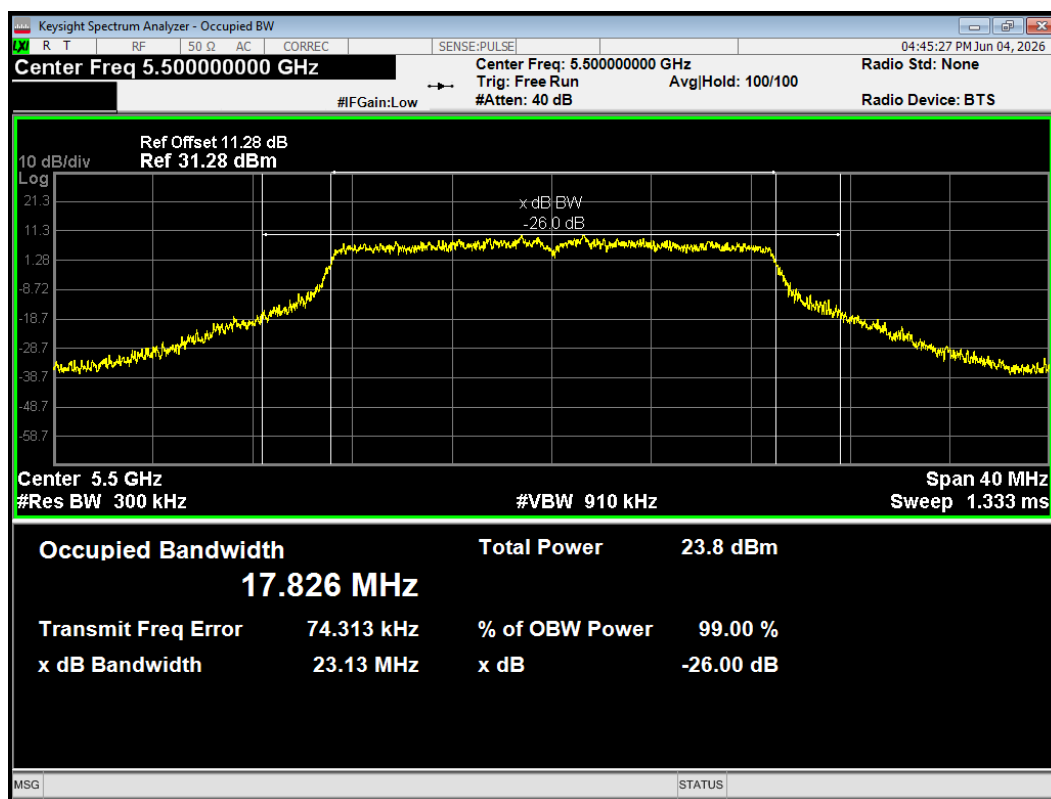
OBW 802.11ac(VHT80) 5690MHz Ant1



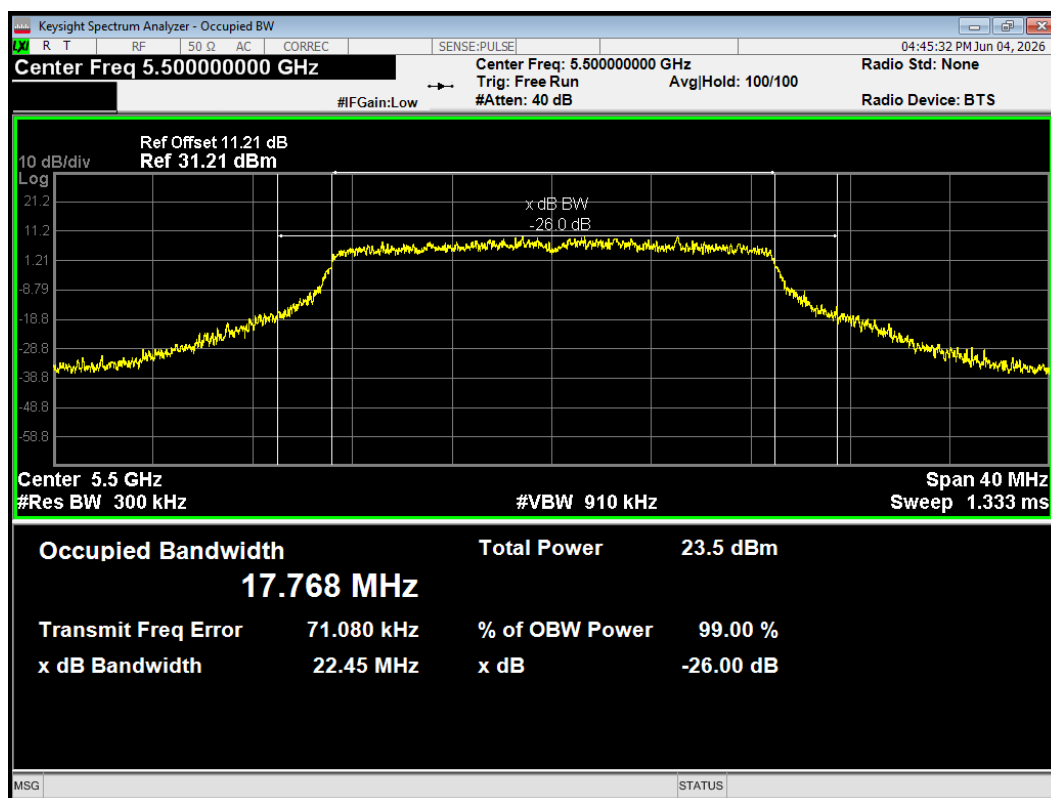
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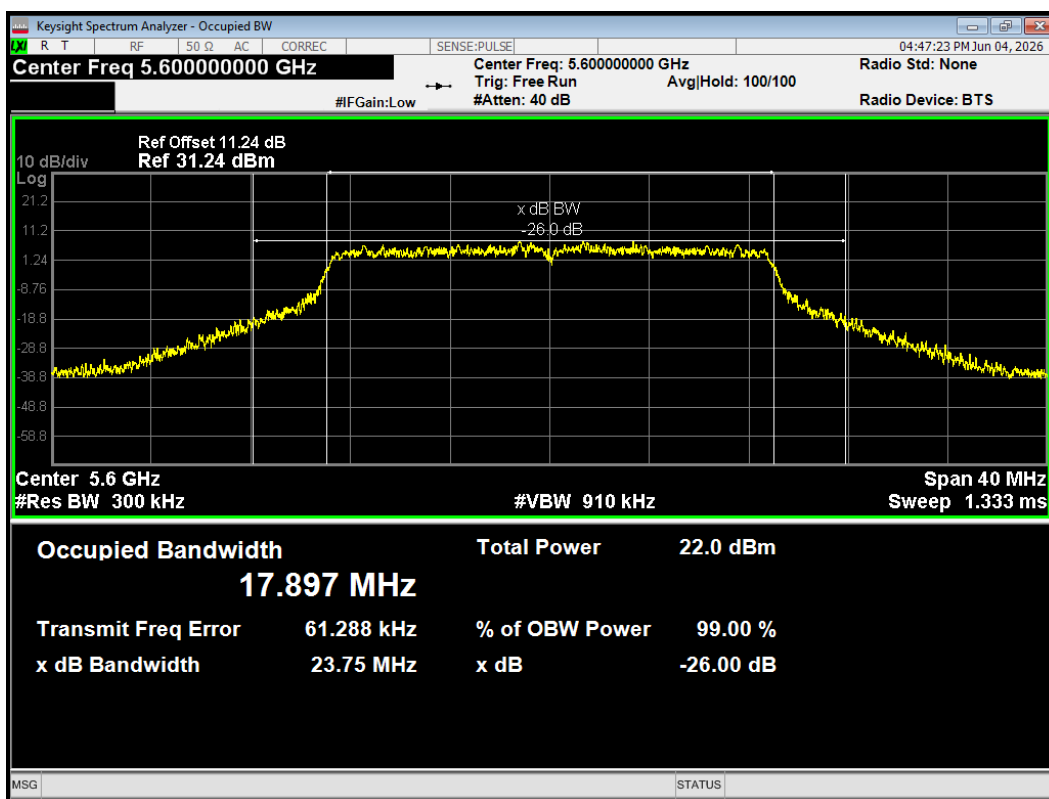
OBW 802.11n(HT20) 5500MHz Ant1



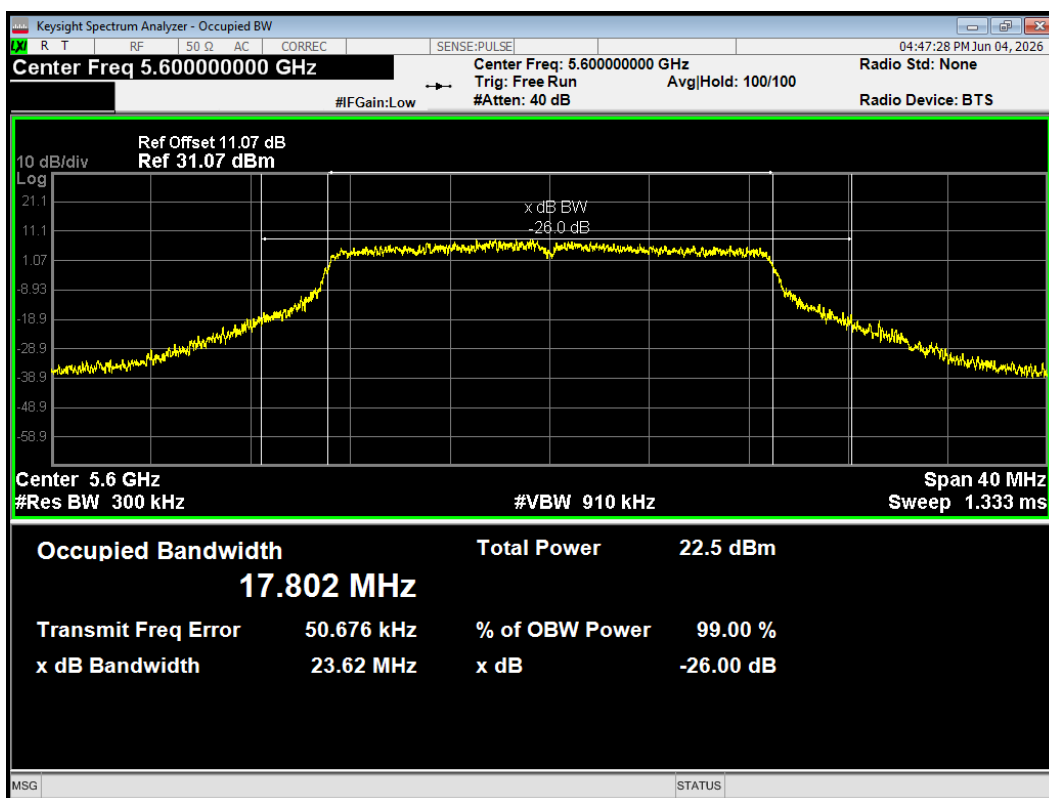
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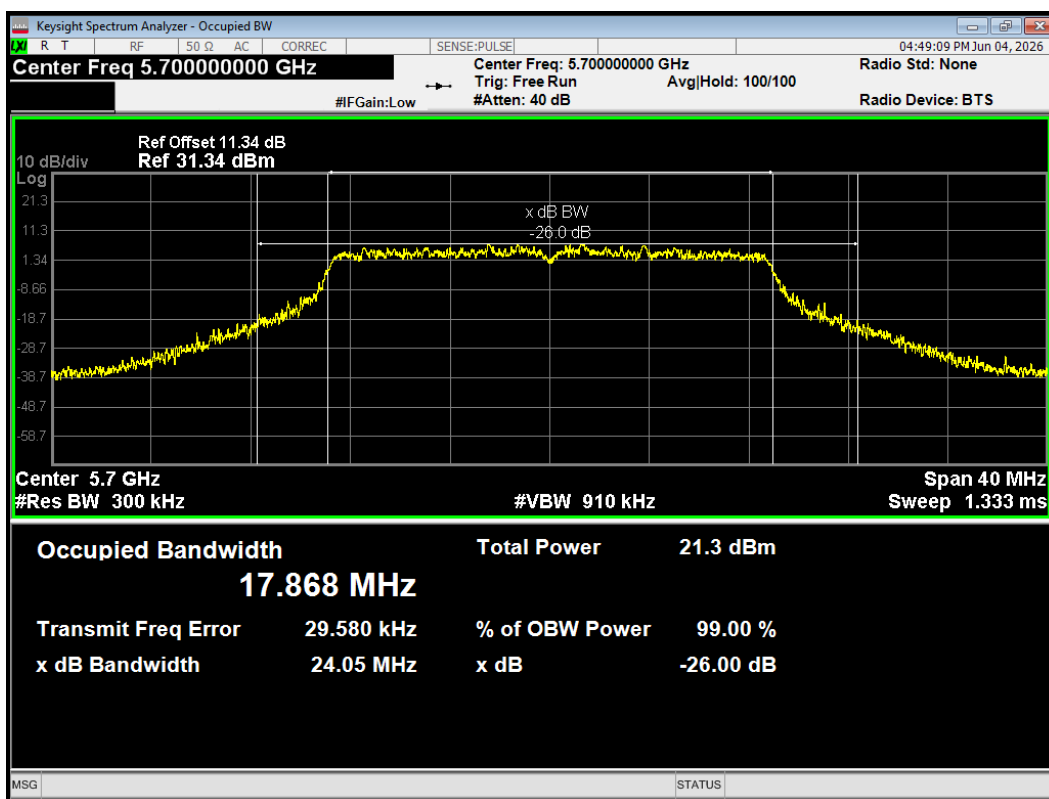
OBW 802.11n(HT20) 5600MHz Ant1



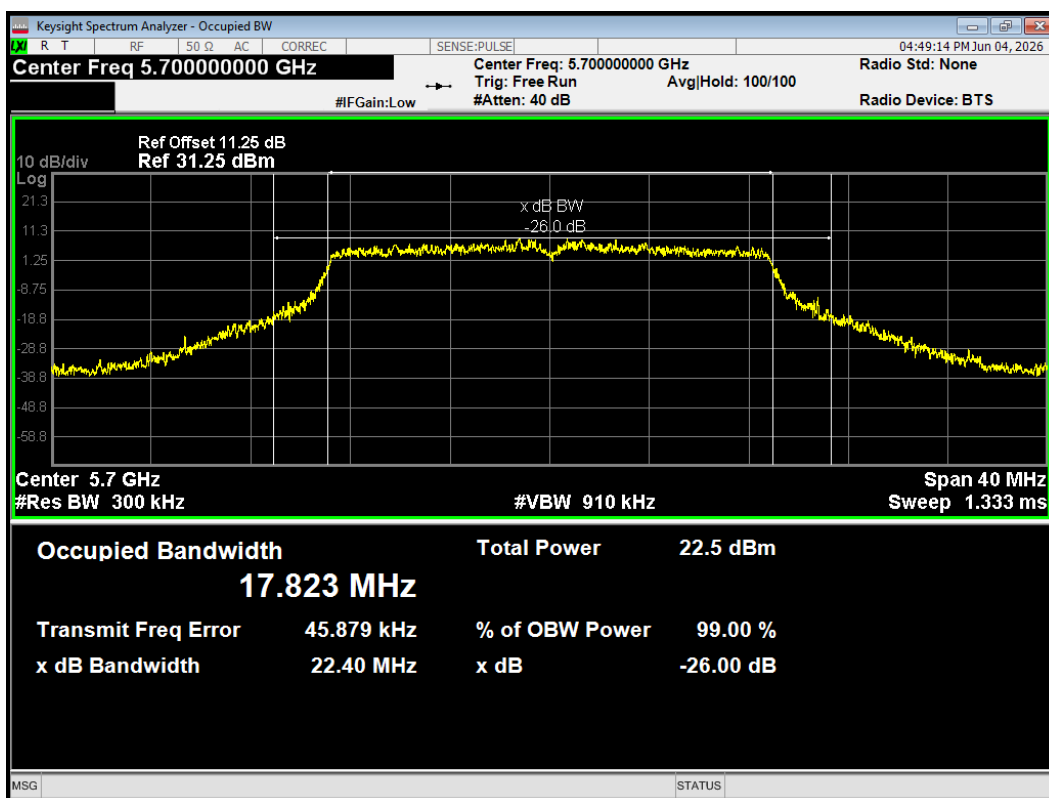
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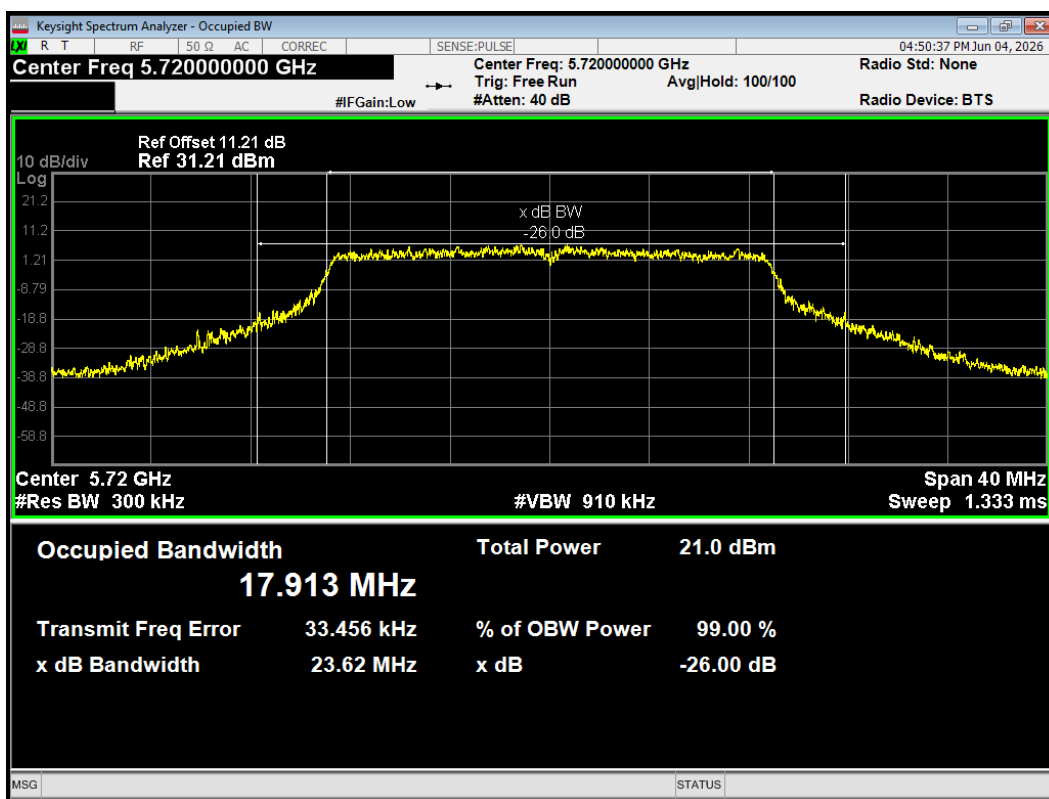
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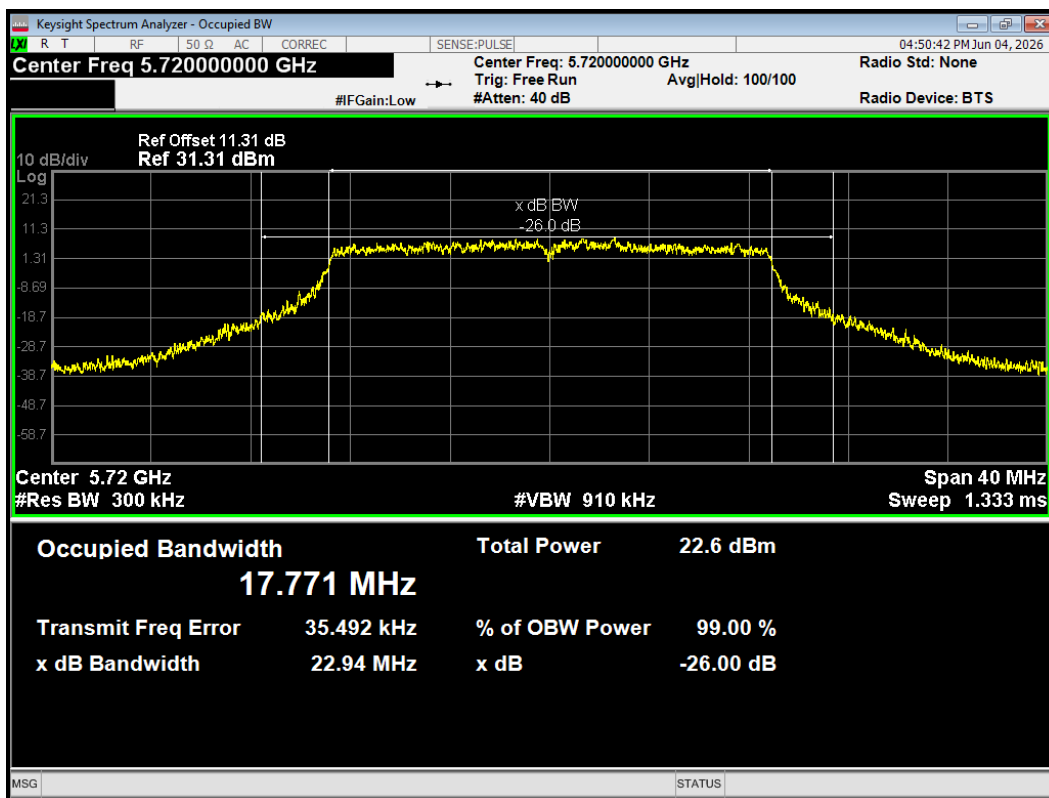
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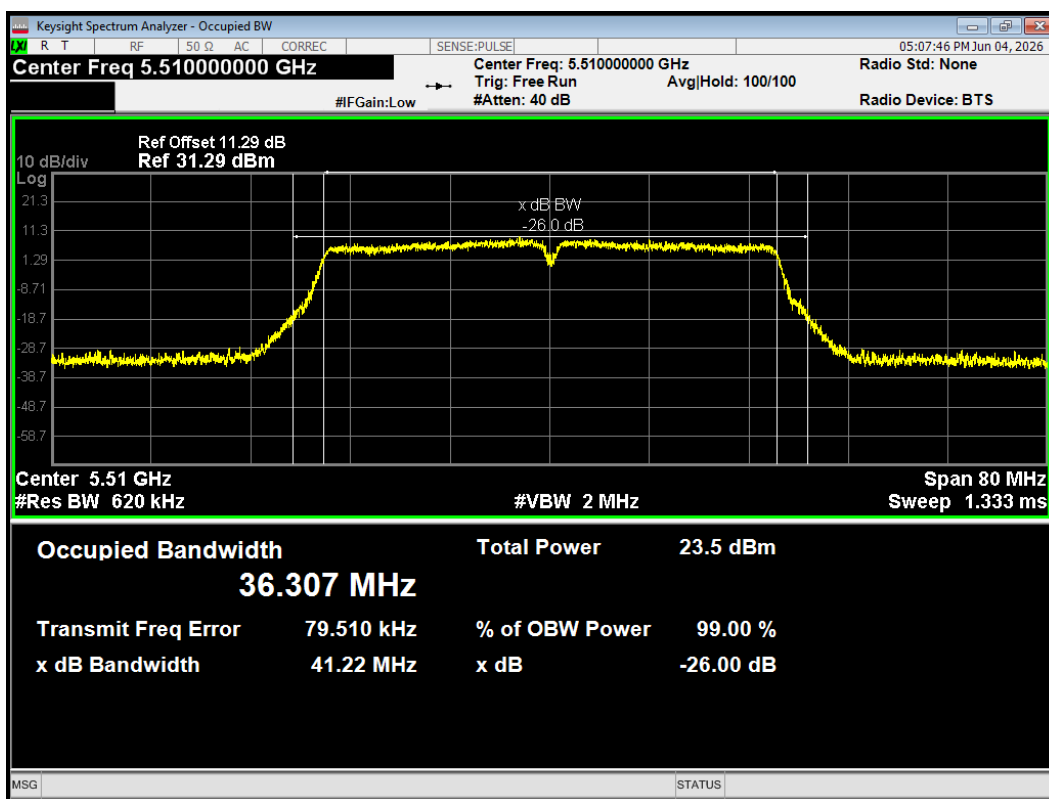
OBW 802.11n(HT20) 5720MHz Ant1



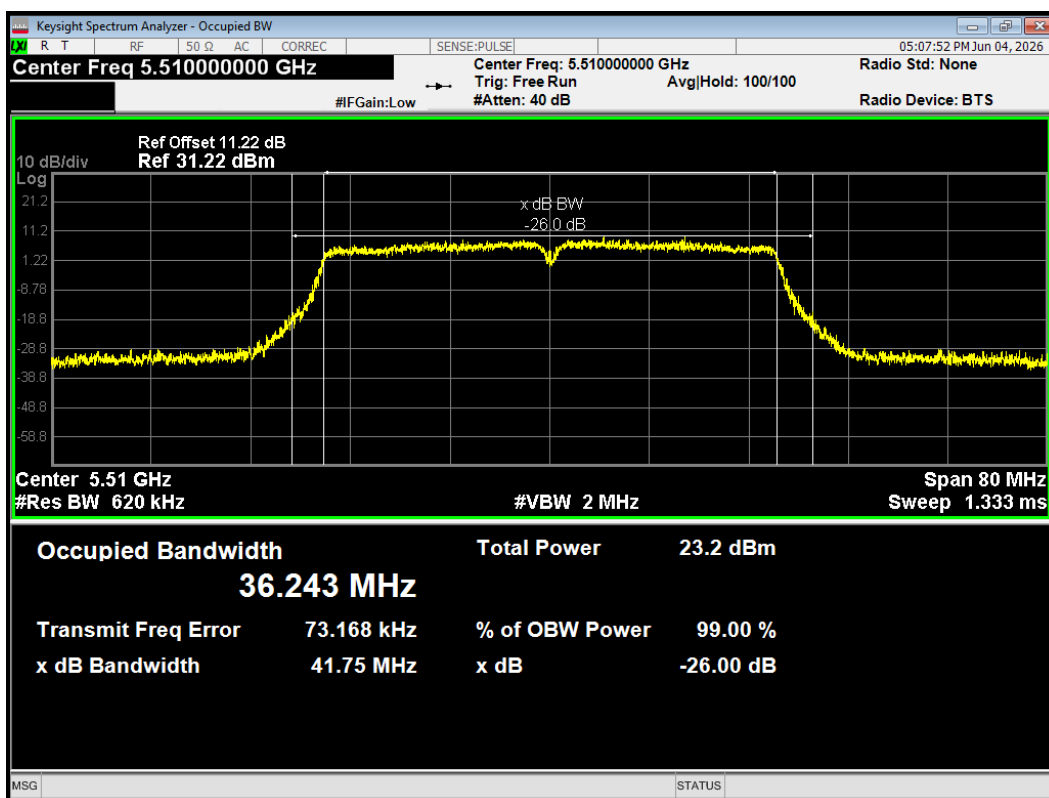
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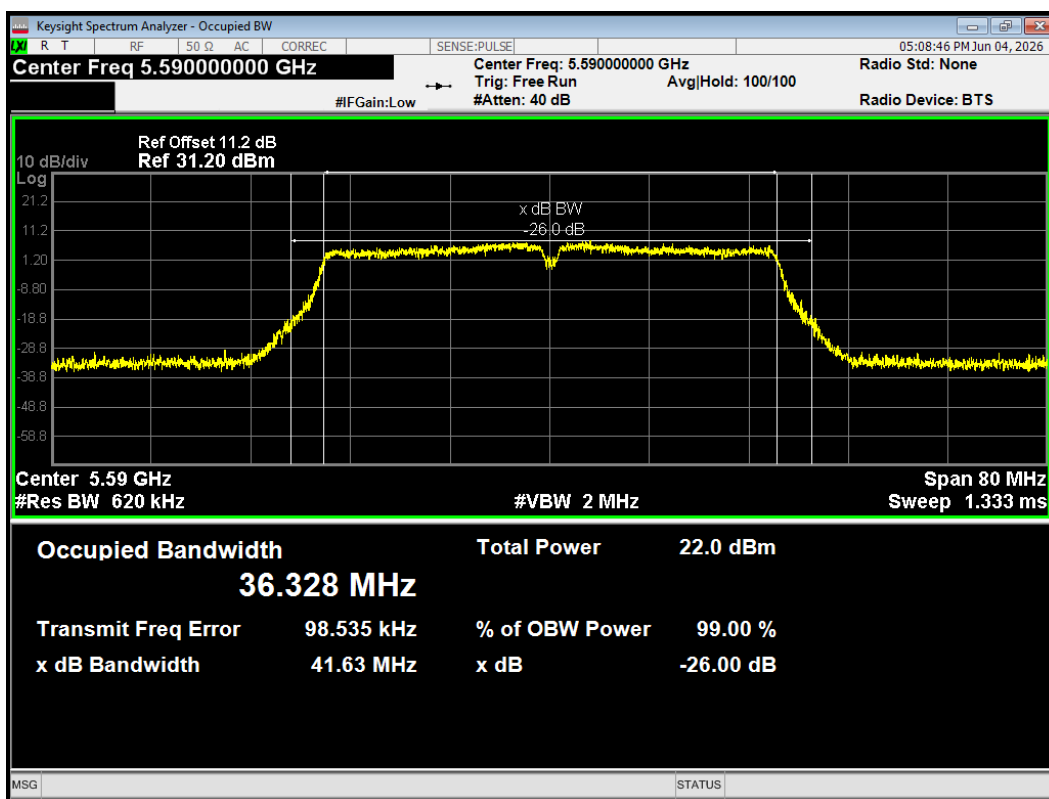
OBW 802.11n(HT40) 5510MHz Ant1



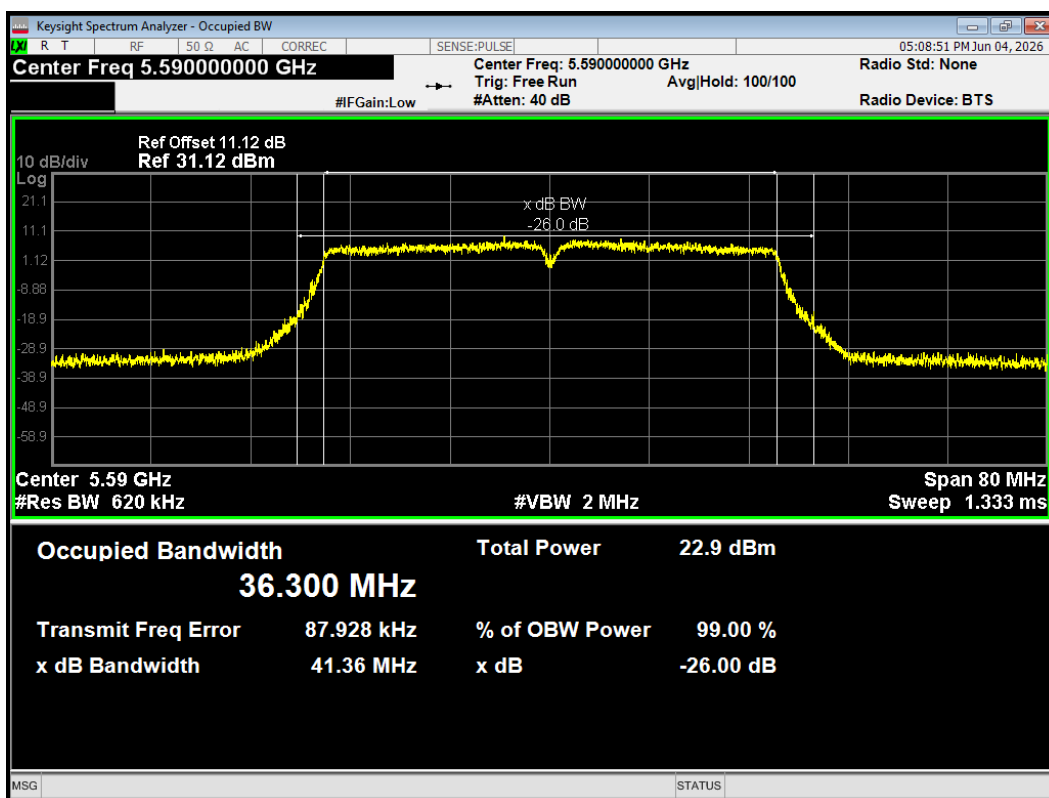
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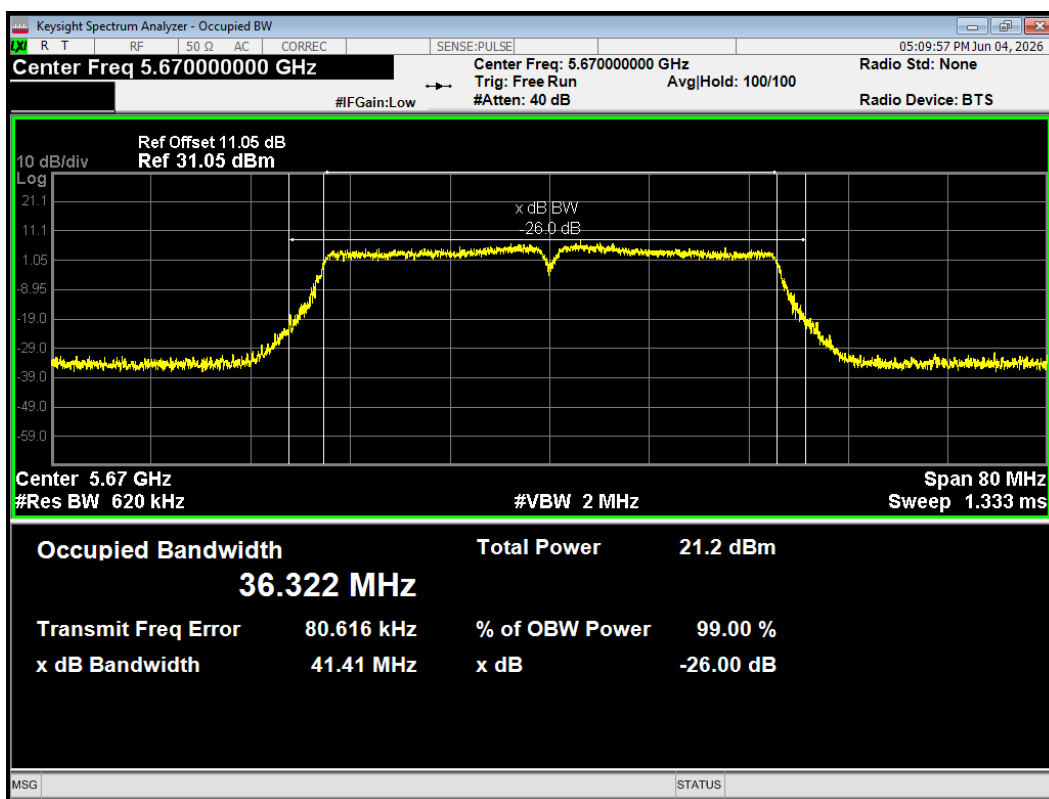
OBW 802.11n(HT40) 5590MHz Ant1



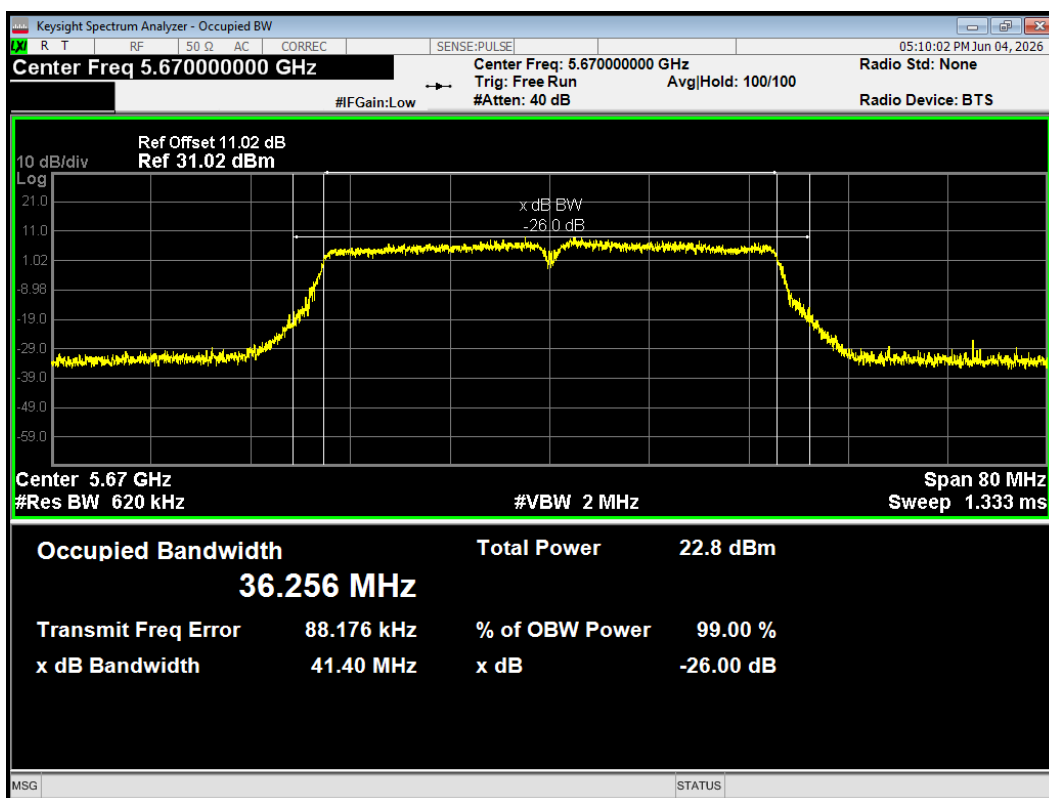
OBW 802.11n(HT40) 5590MHz Ant2



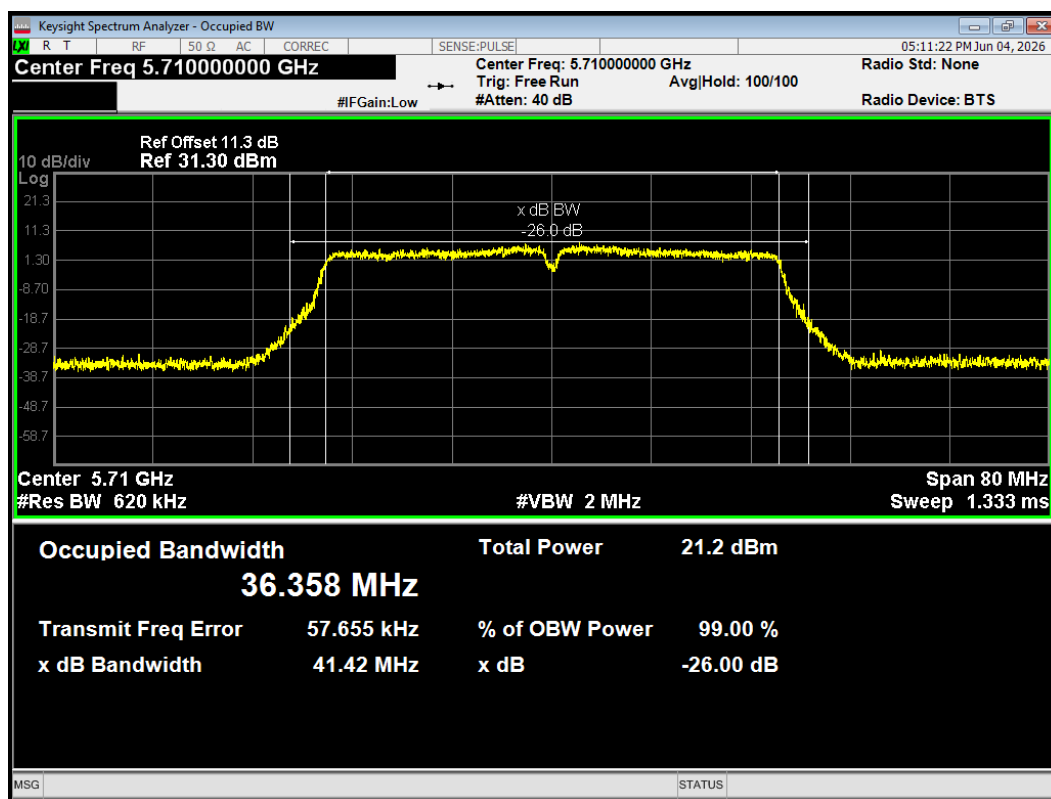
OBW 802.11n(HT40) 5670MHz Ant1



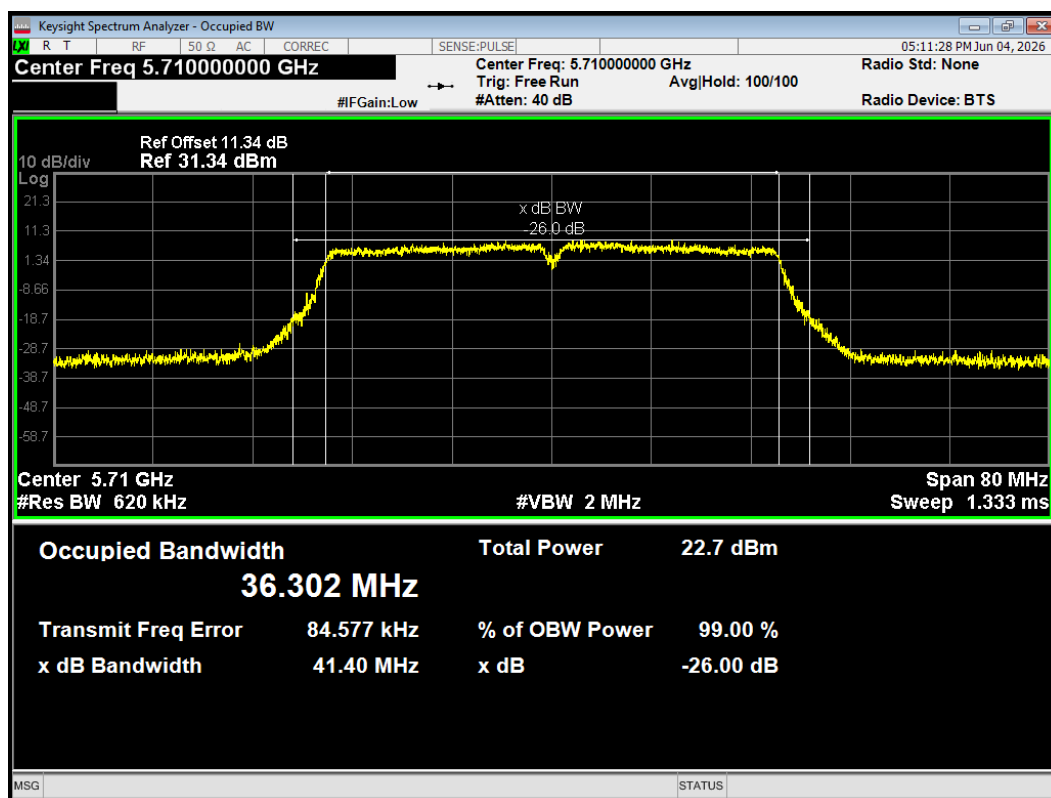
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OBW 802.11n(HT40) 5710MHz Ant1

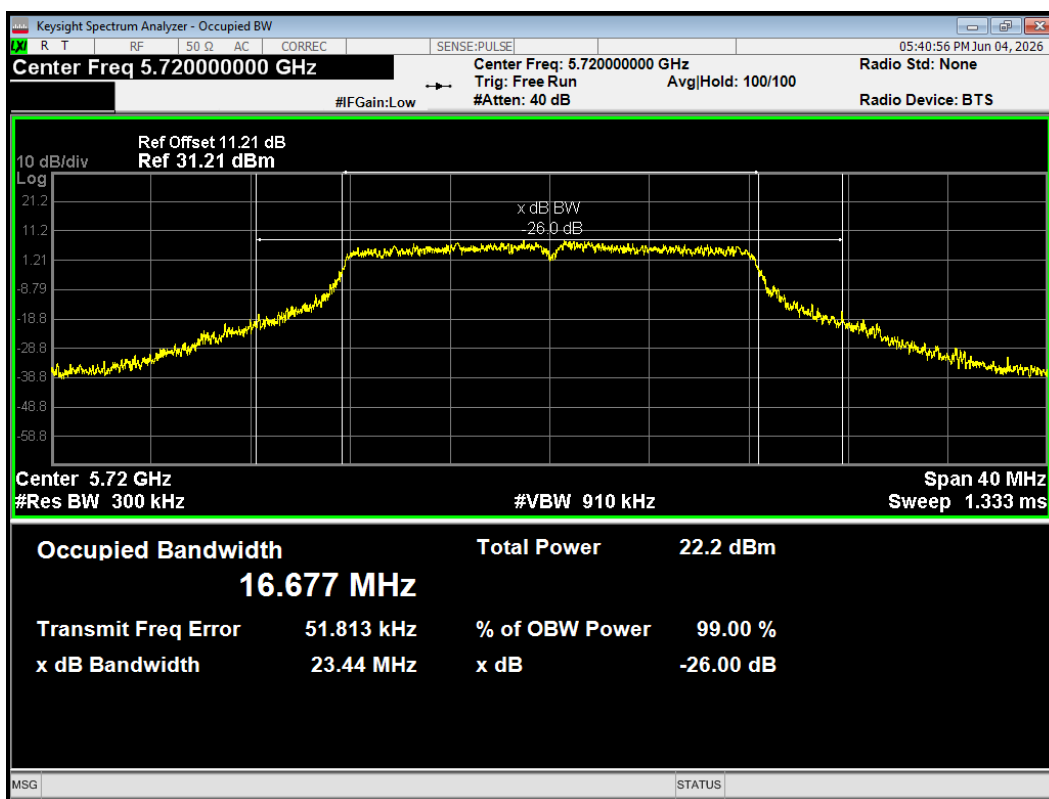


OBW 802.11n(HT40) 5710MHz Ant2

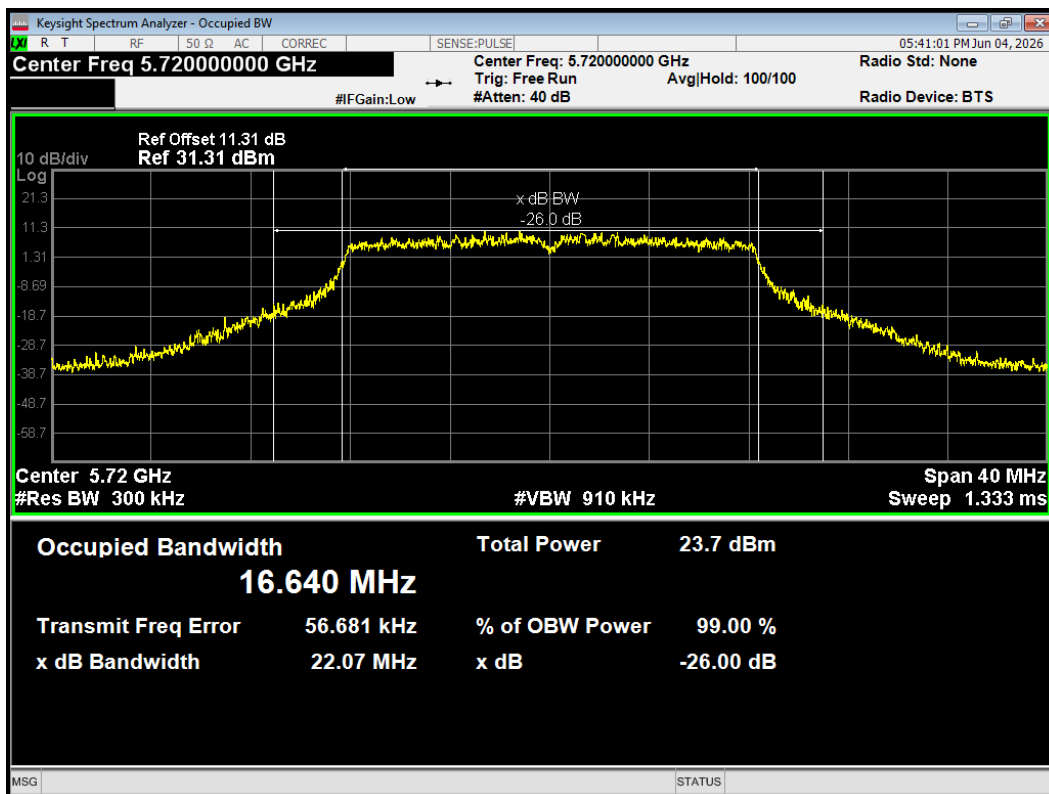


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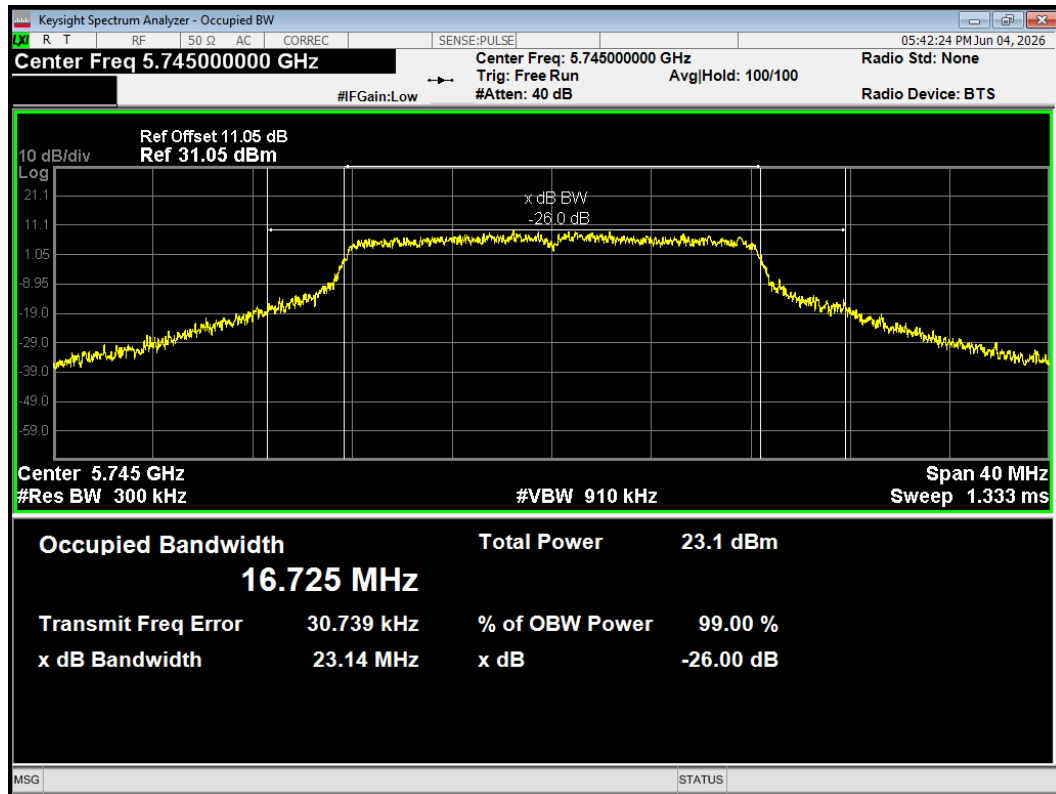
OBW 802.11a 5720MHz Ant1



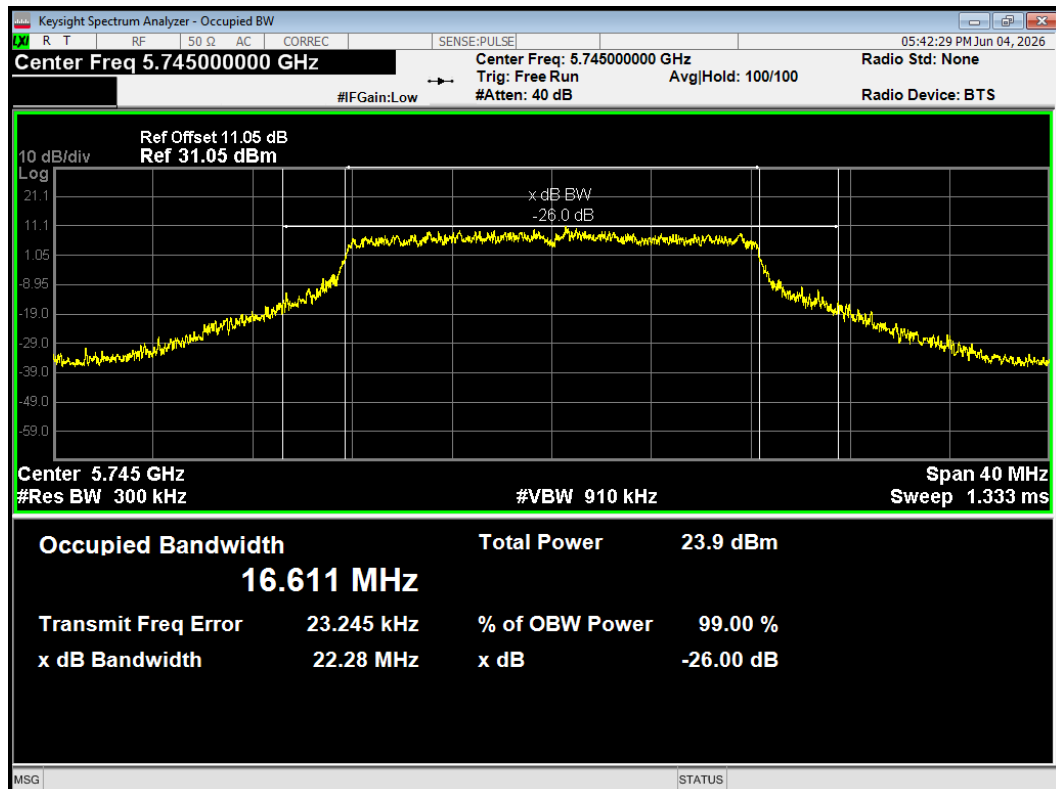
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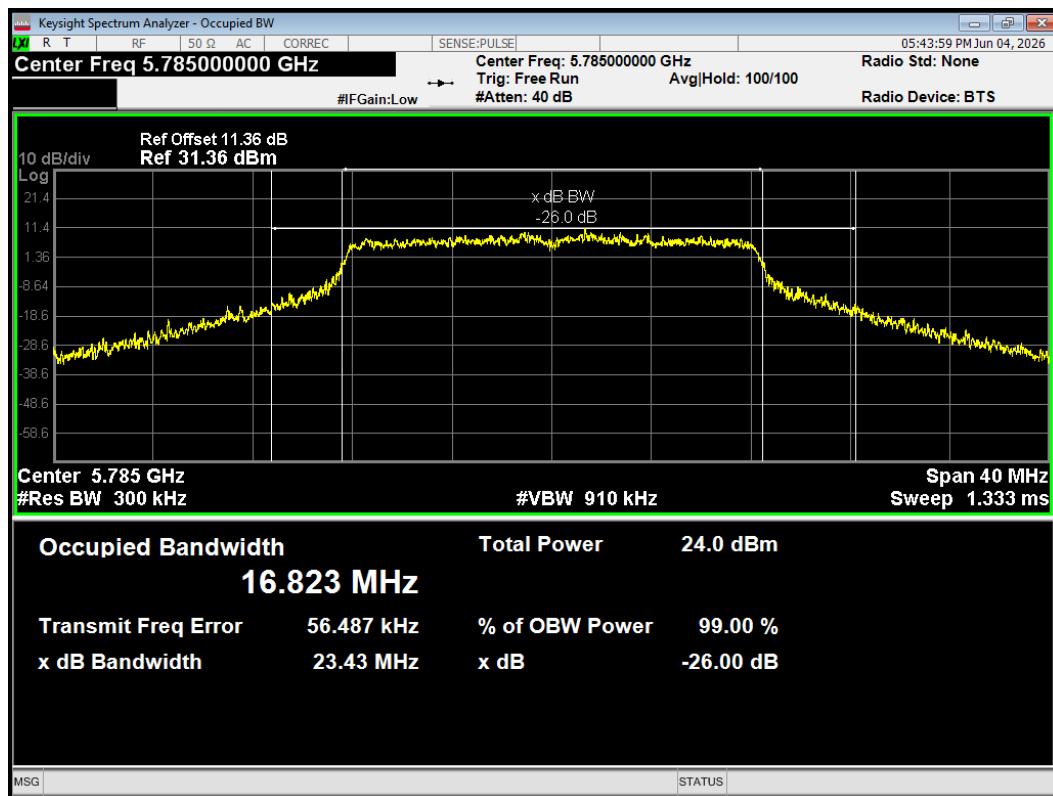
OBW 802.11a 5745MHz Ant1



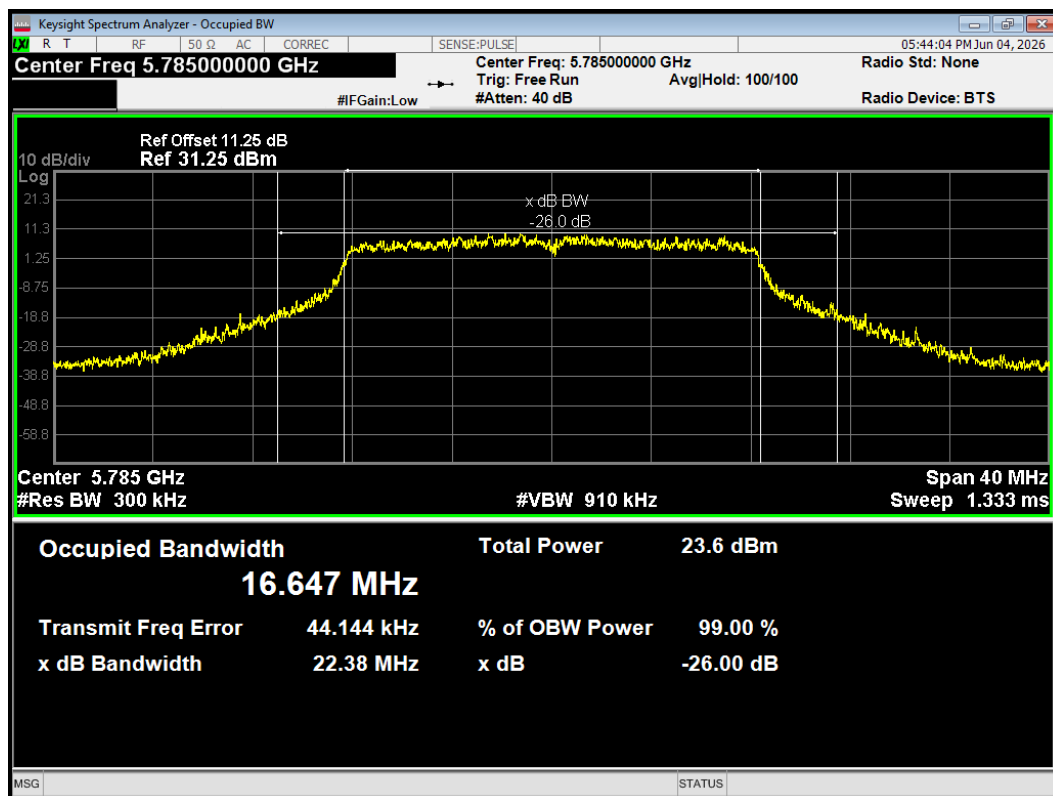
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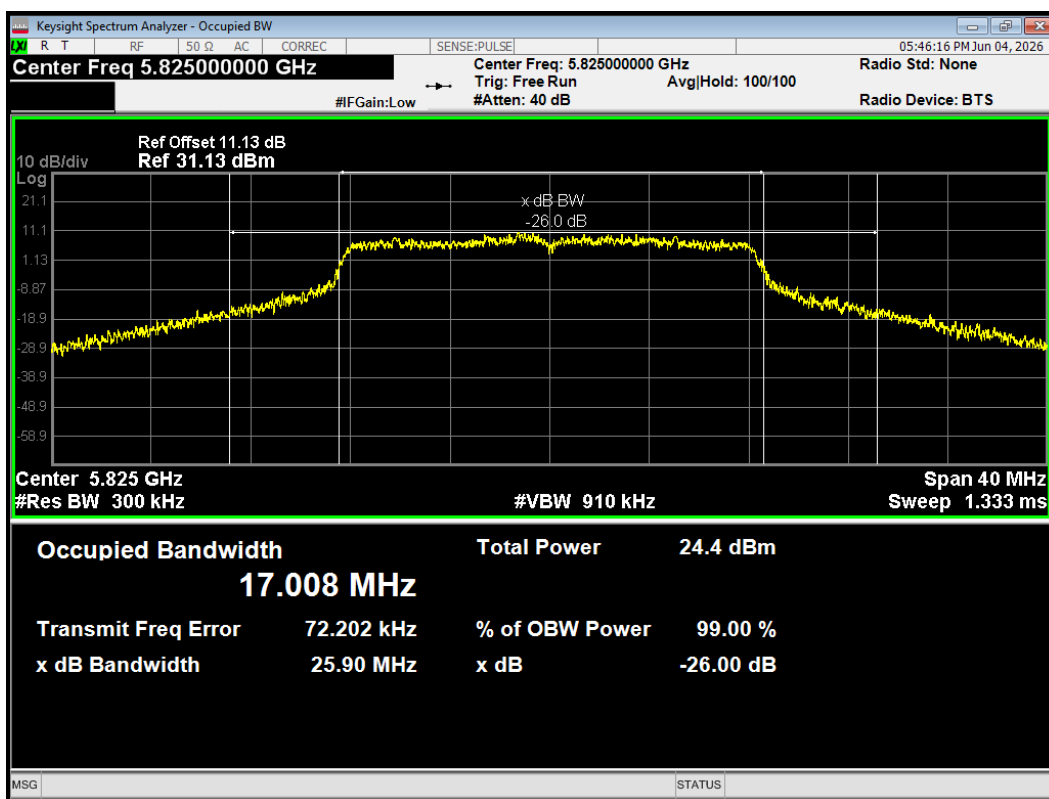
OBW 802.11a 5785MHz Ant1



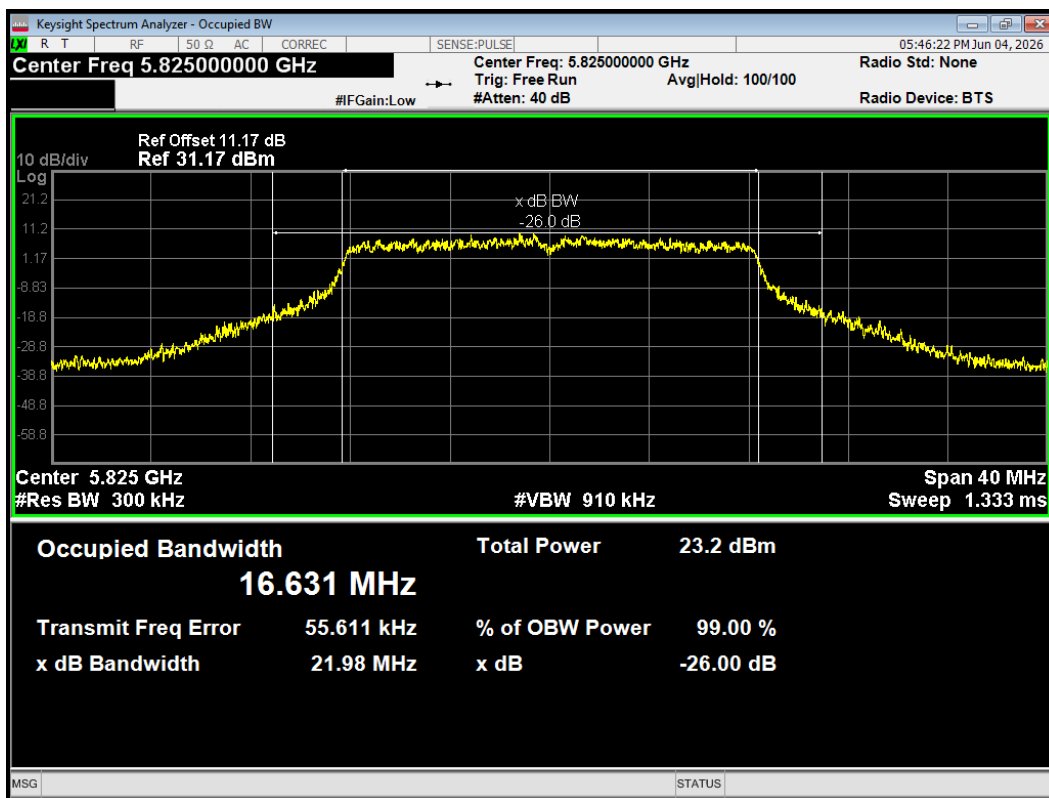
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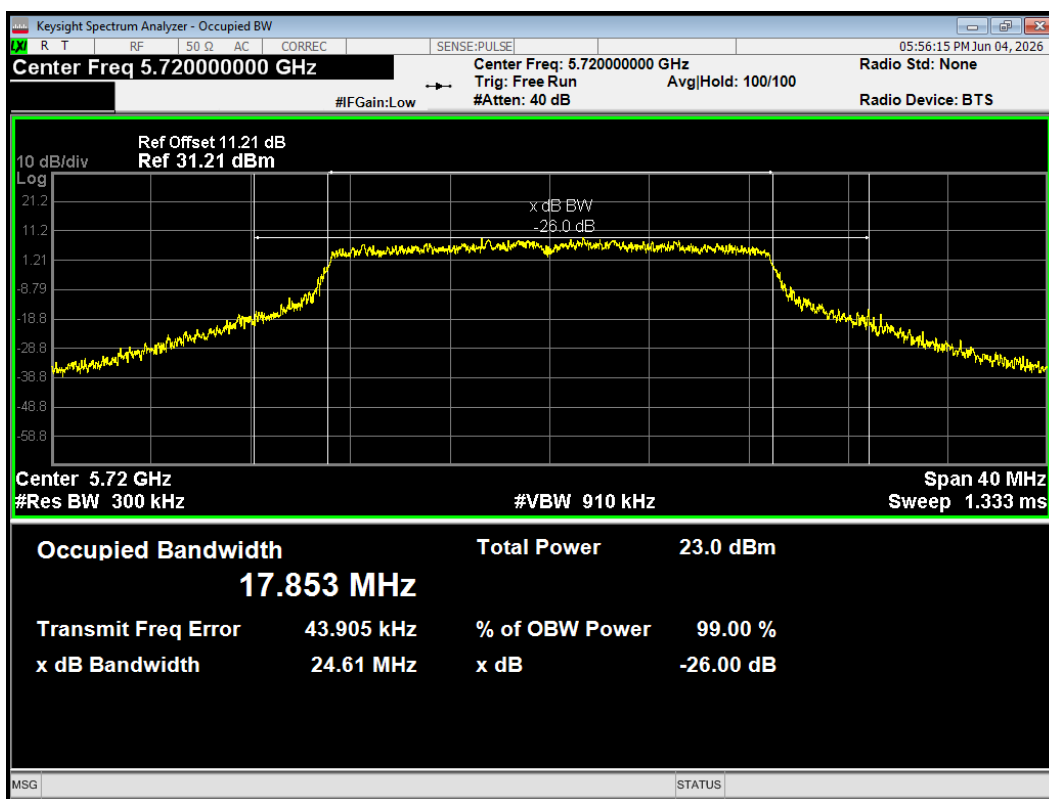
OBW 802.11a 5825MHz Ant1



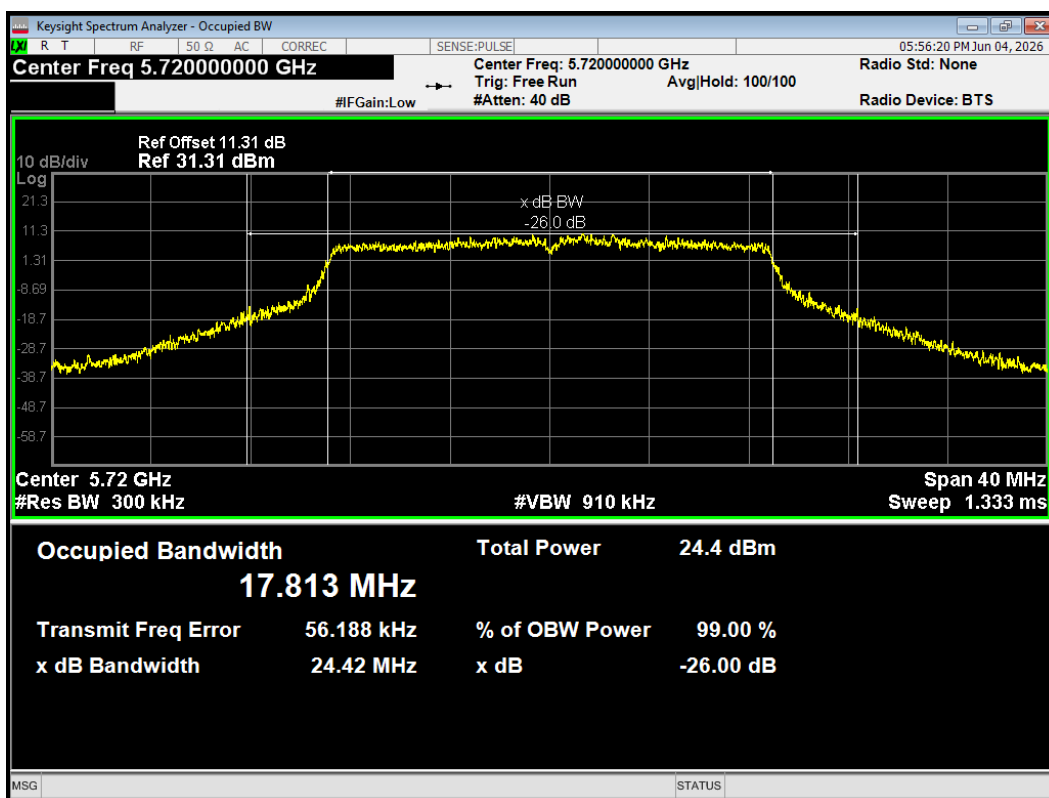
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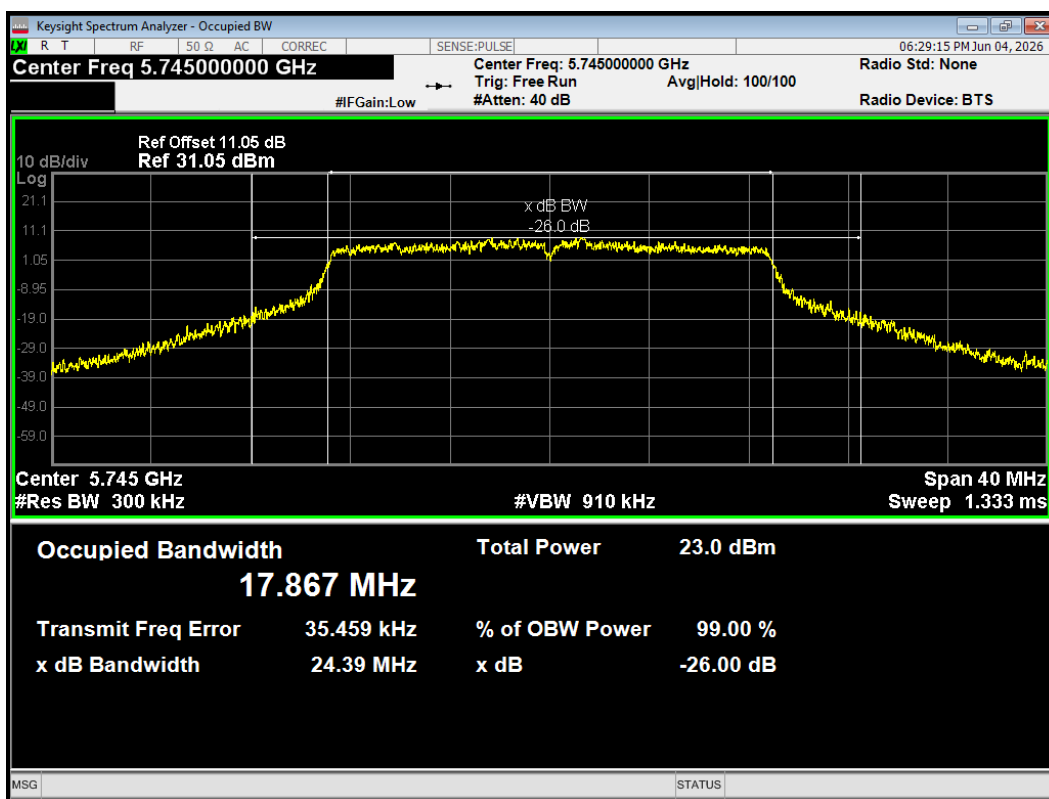
OBW 802.11ac(VHT20) 5720MHz Ant1



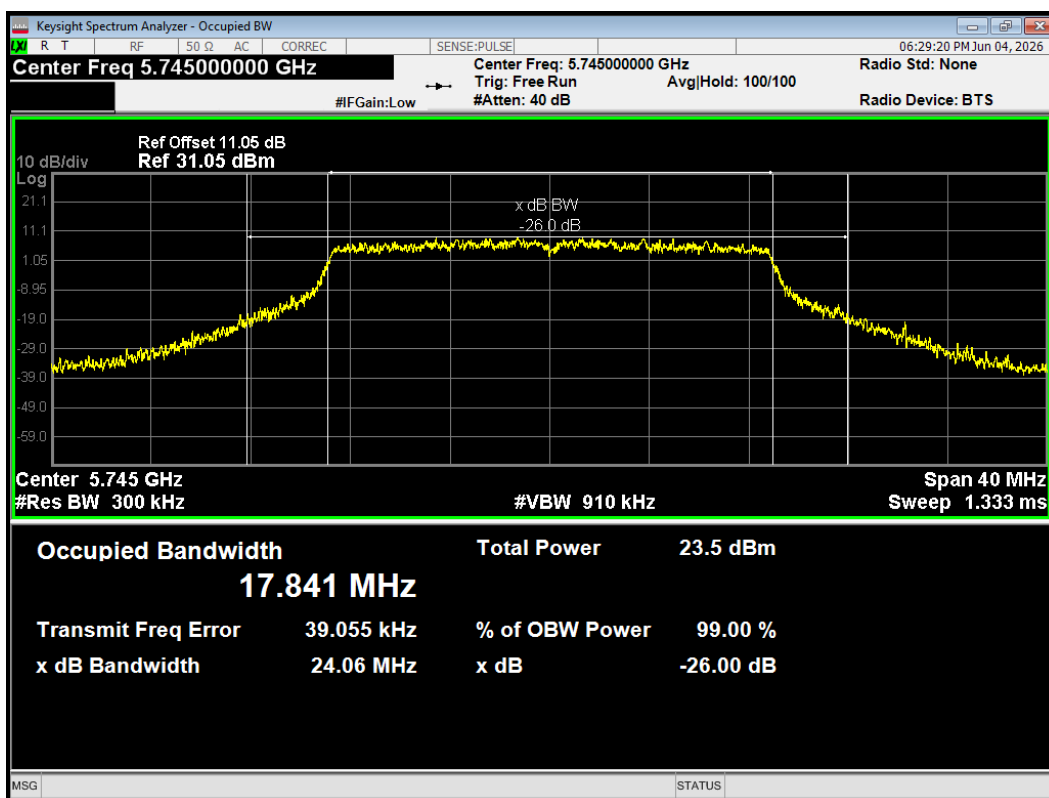
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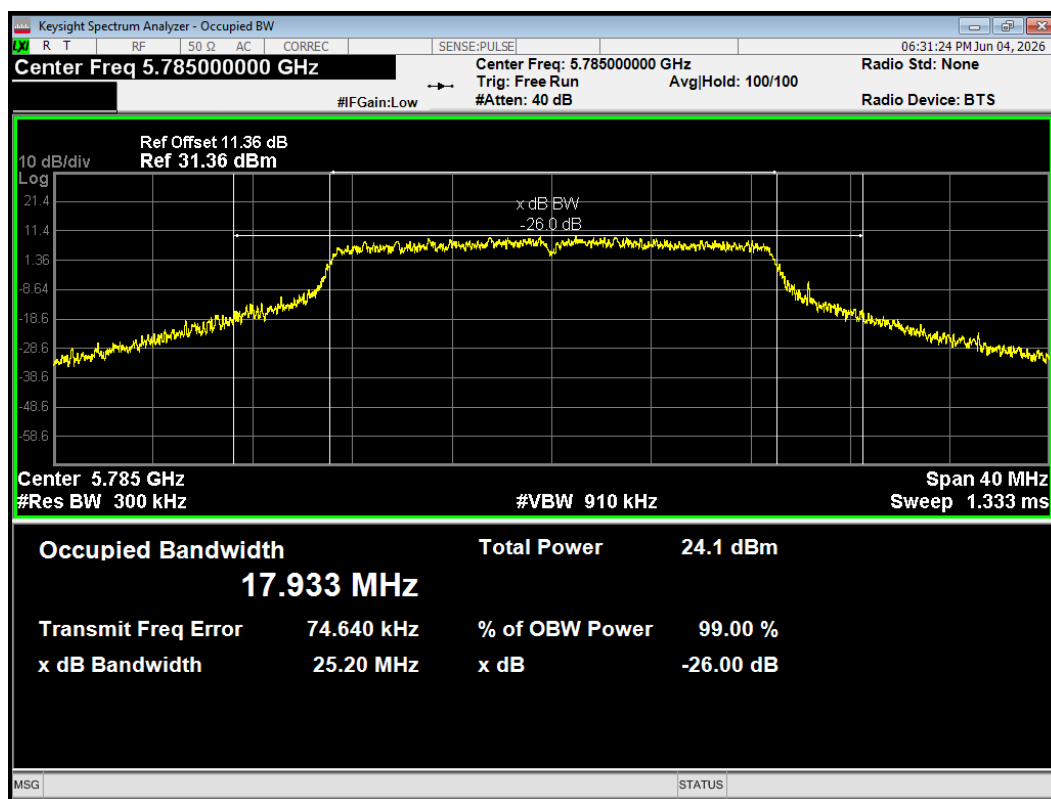
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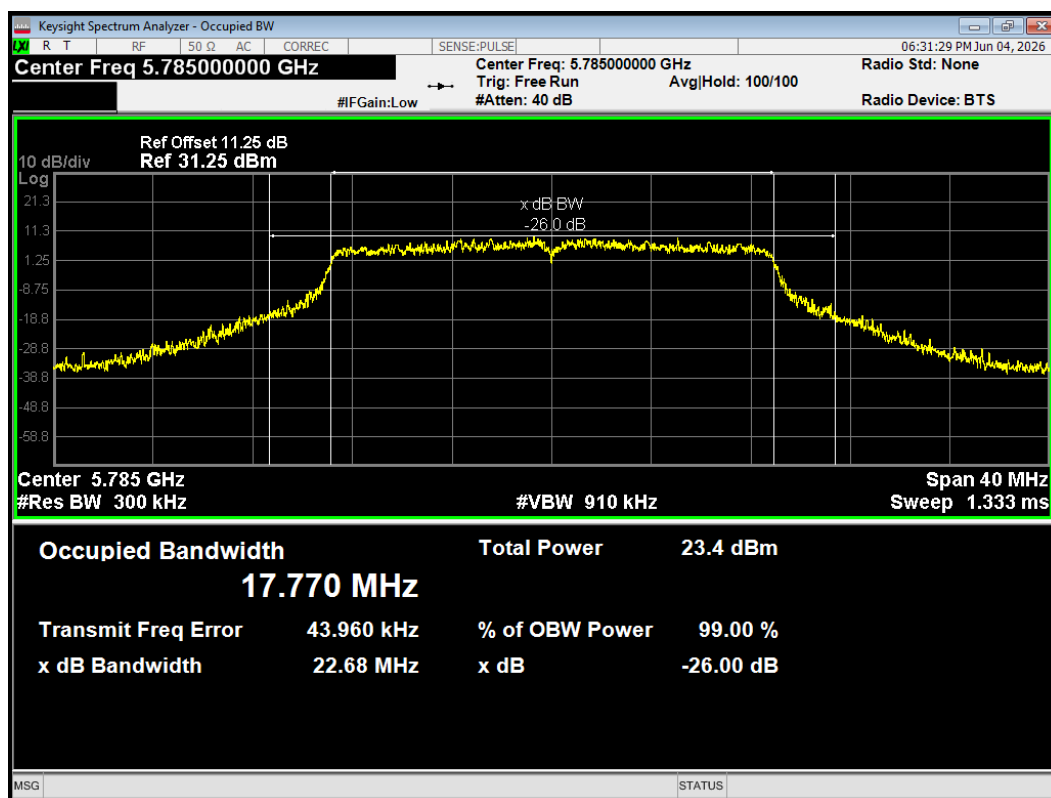
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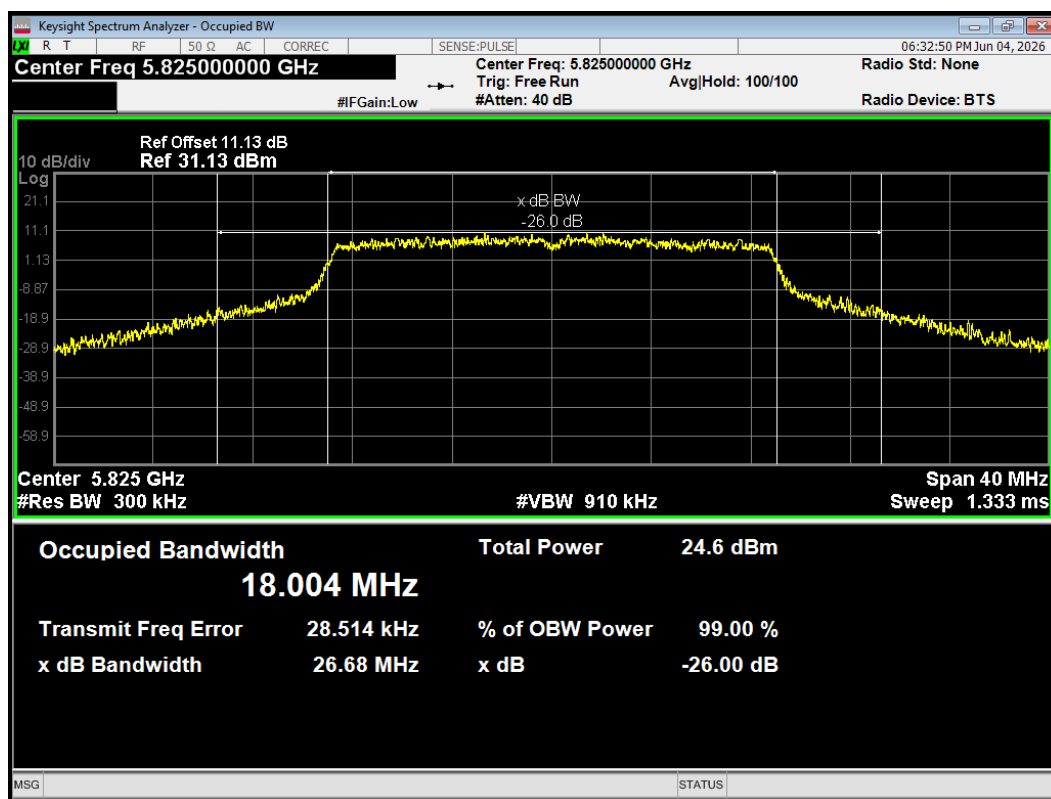
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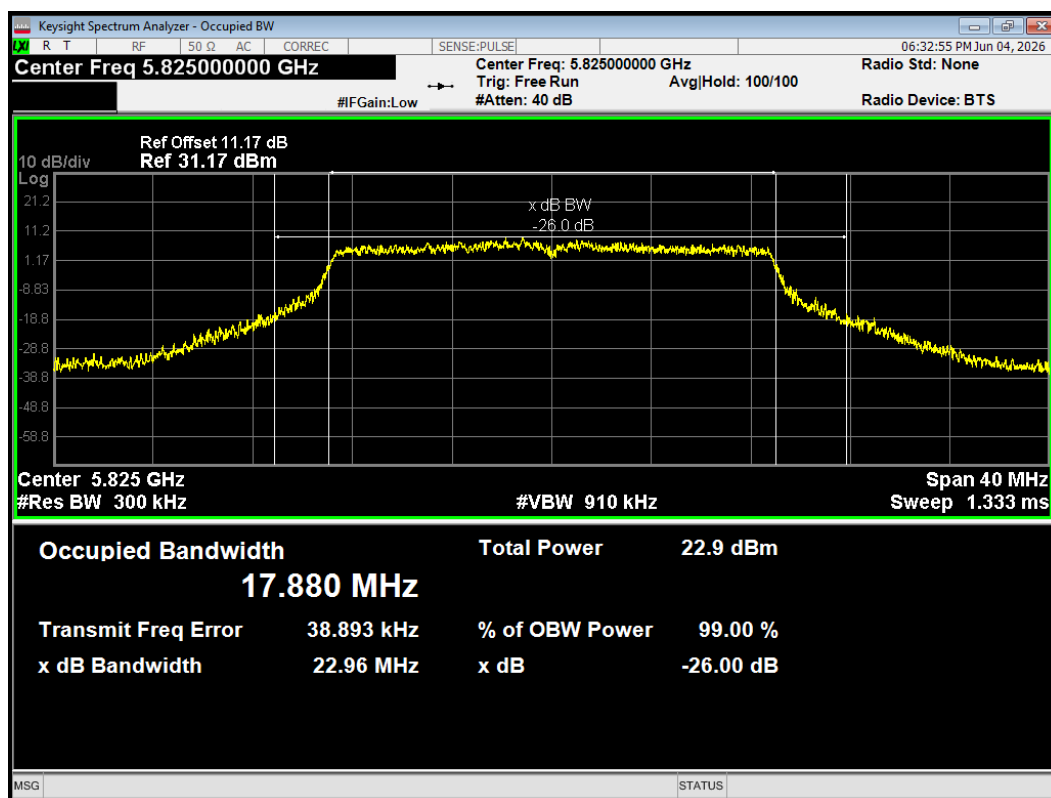
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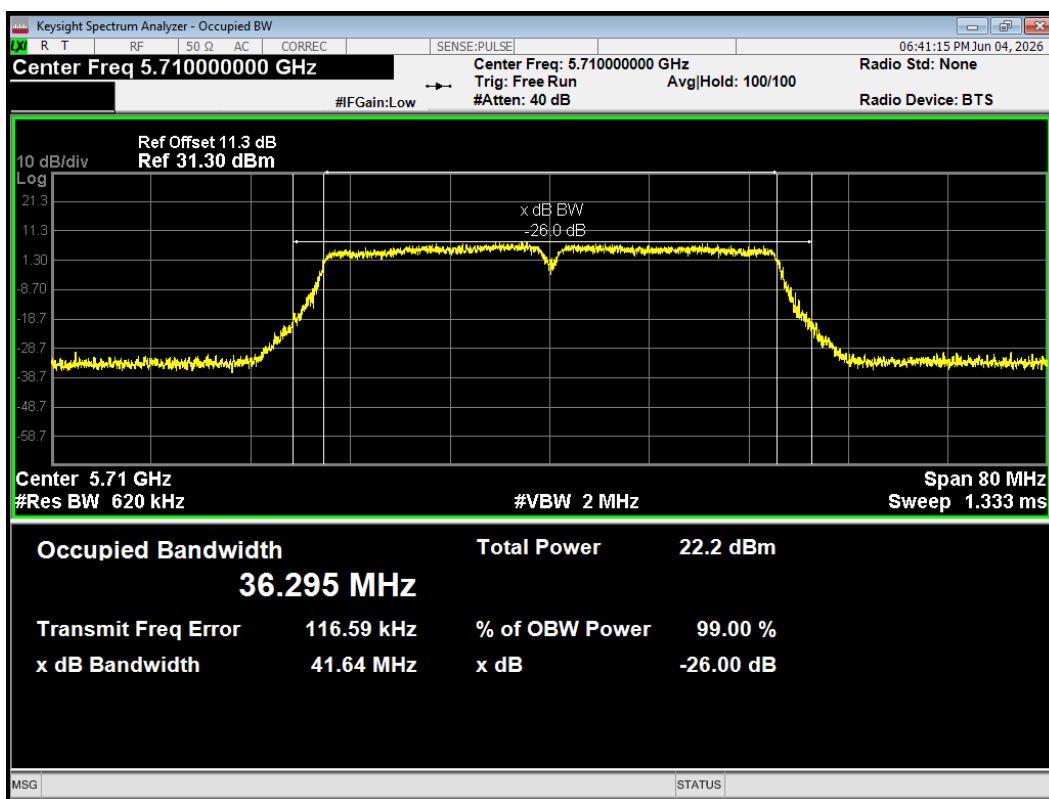
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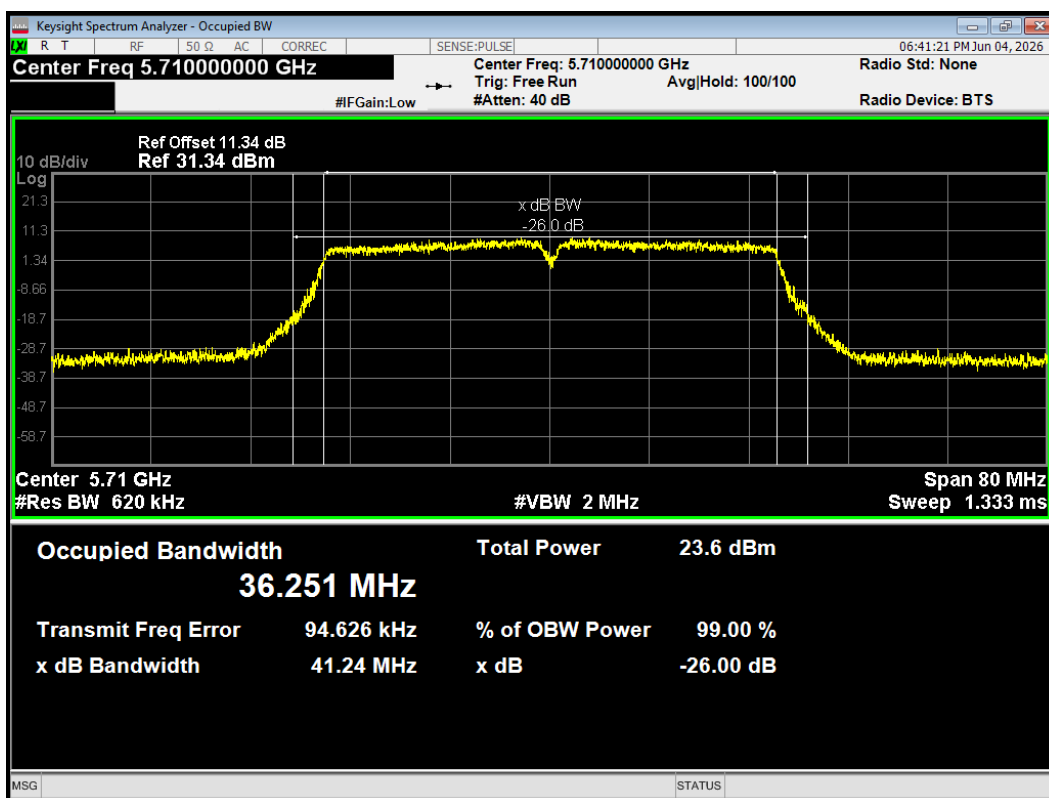
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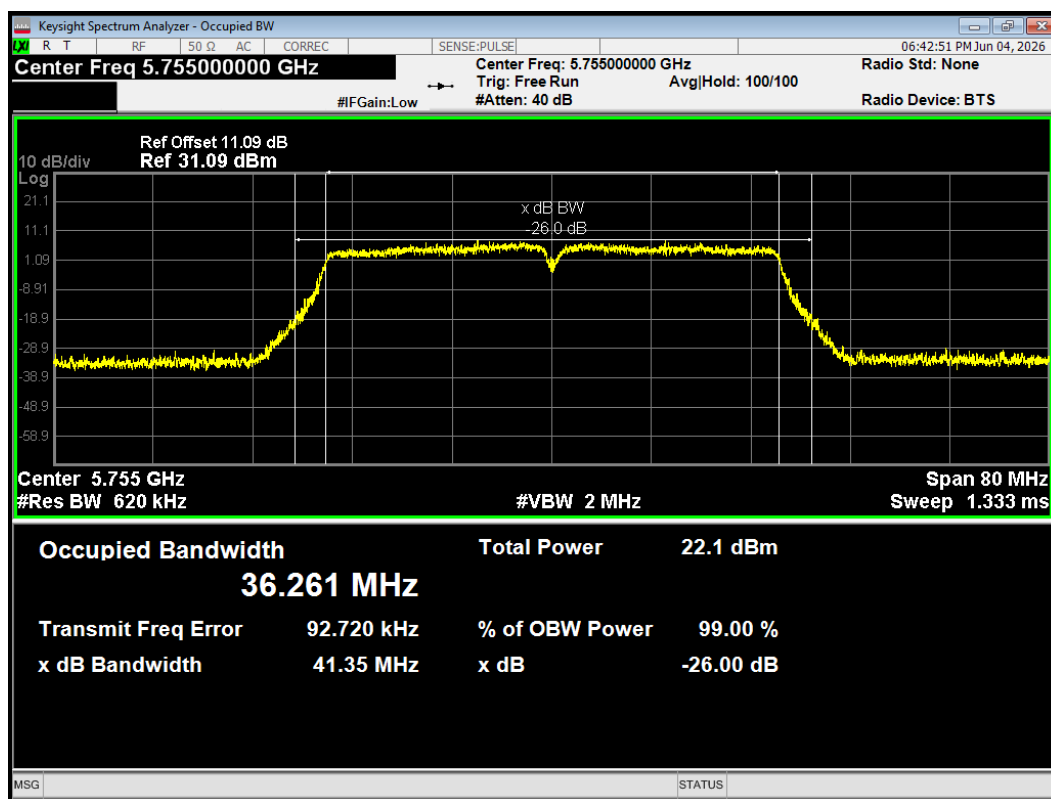
OBW 802.11ac(VHT40) 5710MHz Ant1



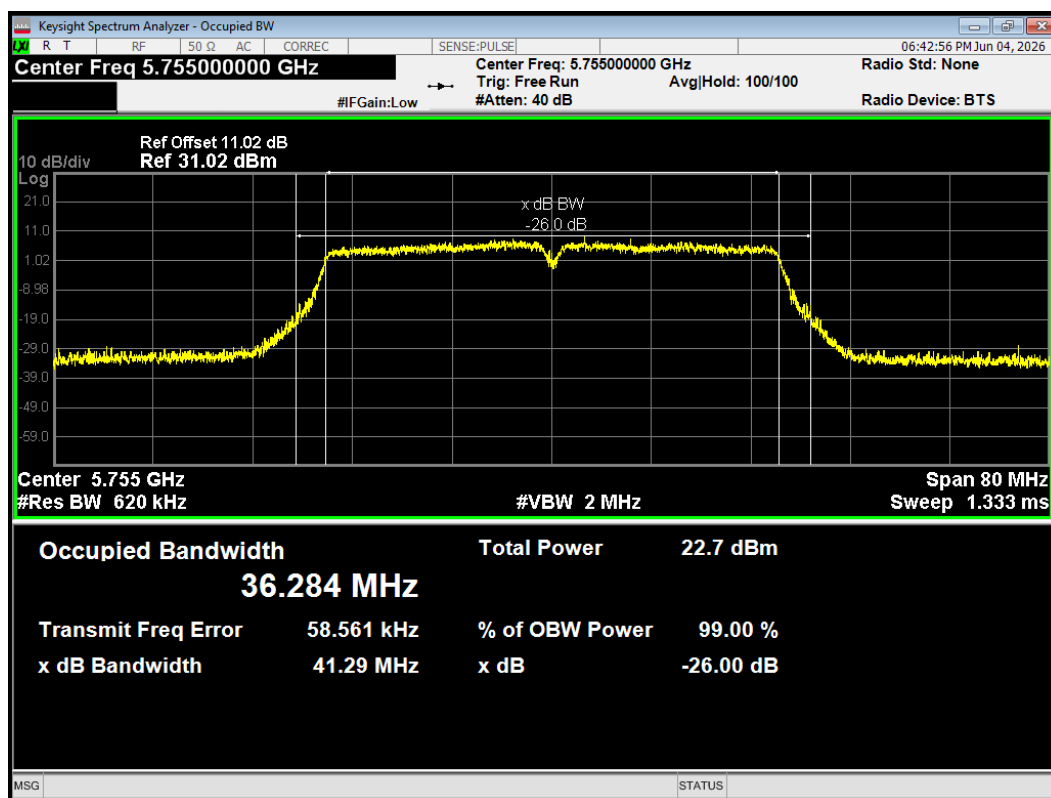
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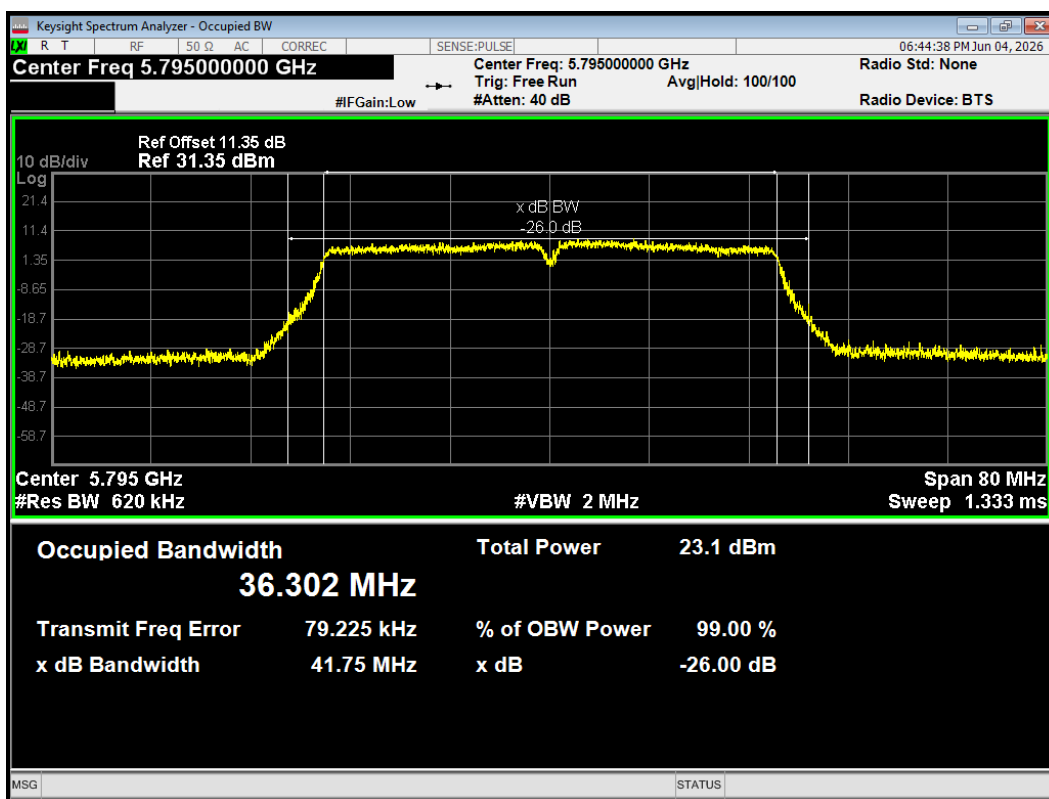
OBW 802.11ac(VHT40) 5755MHz Ant1



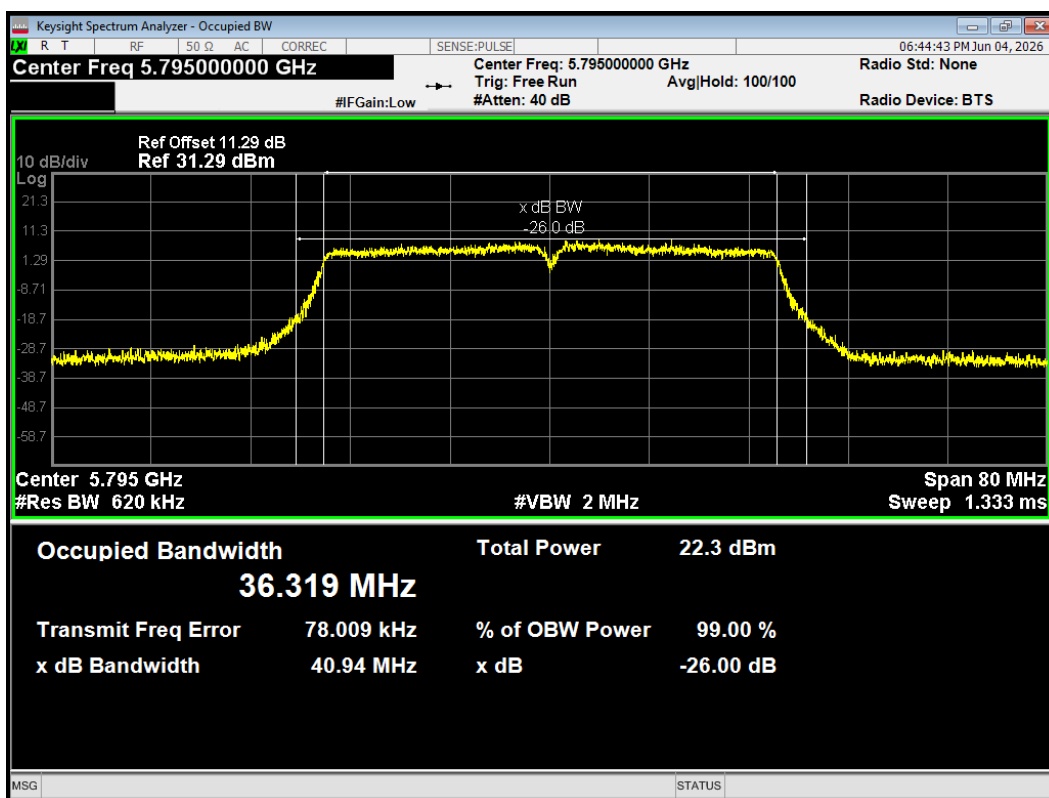
OBW 802.11ac(VHT40) 5755MHz Ant2



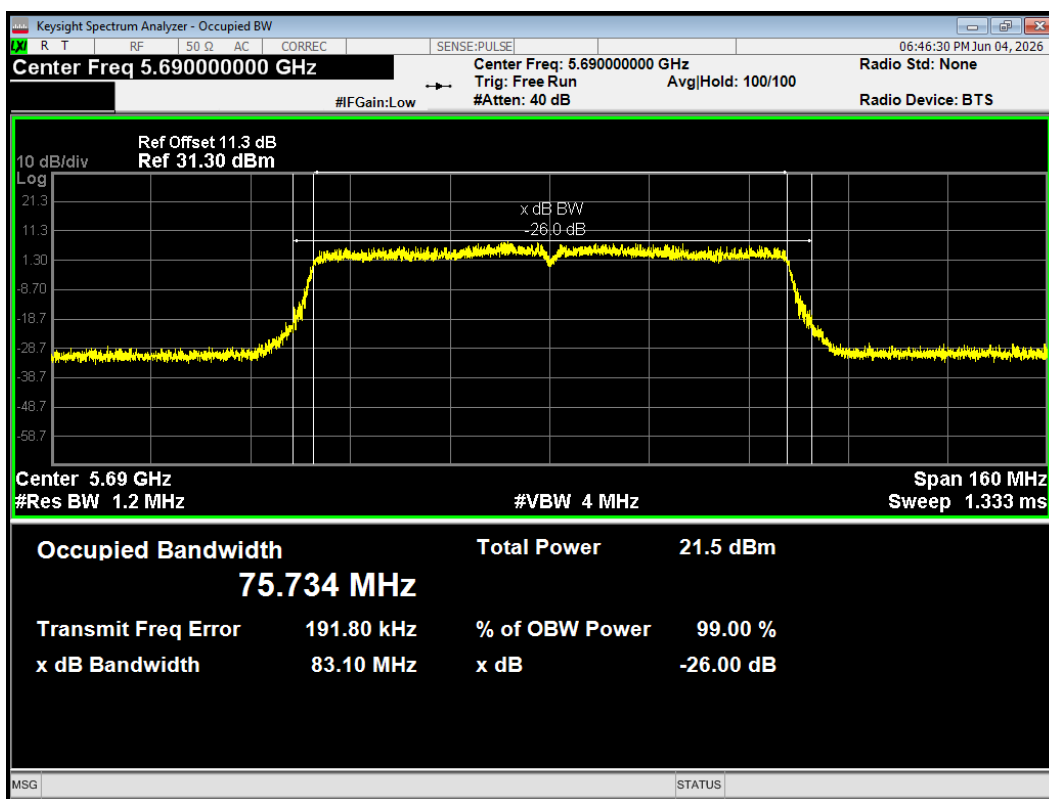
OBW 802.11ac(VHT40) 5795MHz Ant1



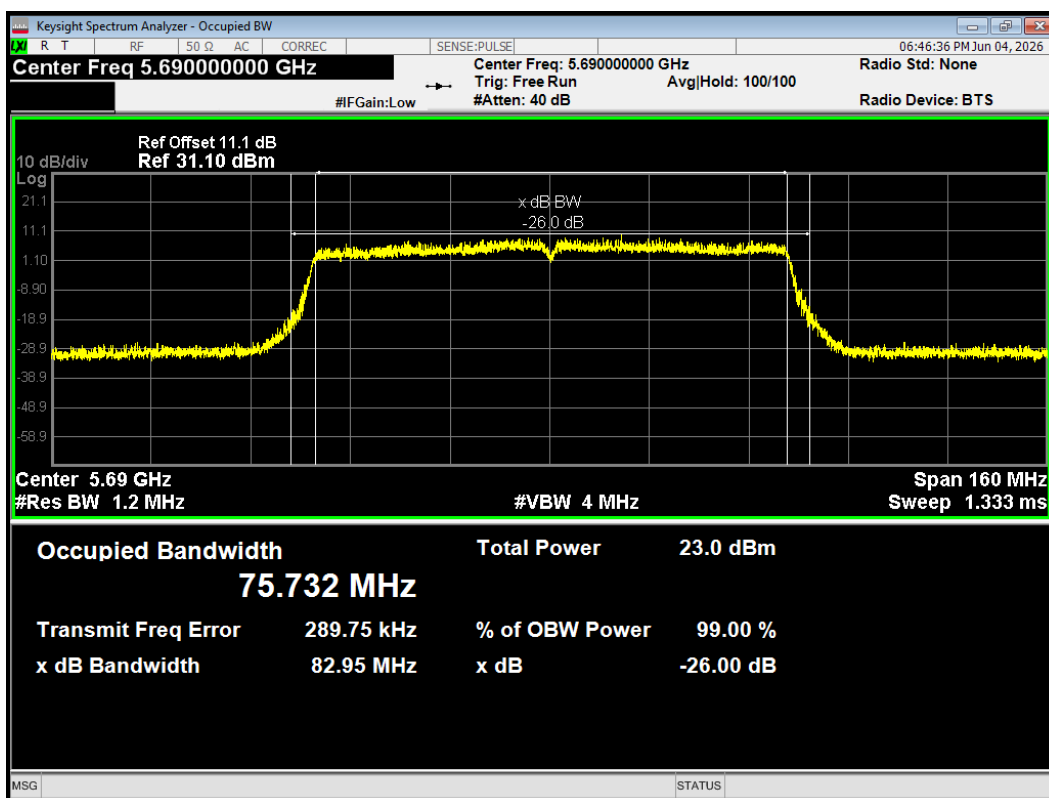
OBW 802.11ac(VHT40) 5795MHz Ant2



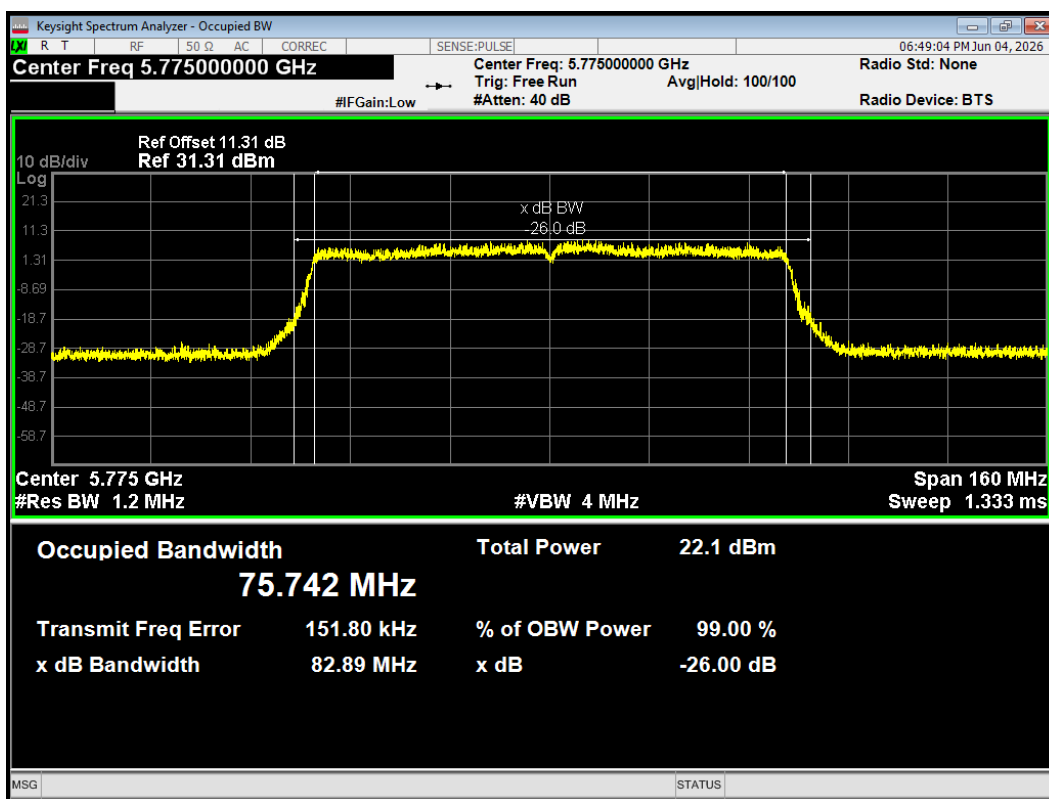
OBW 802.11ac(VHT80) 5690MHz Ant1



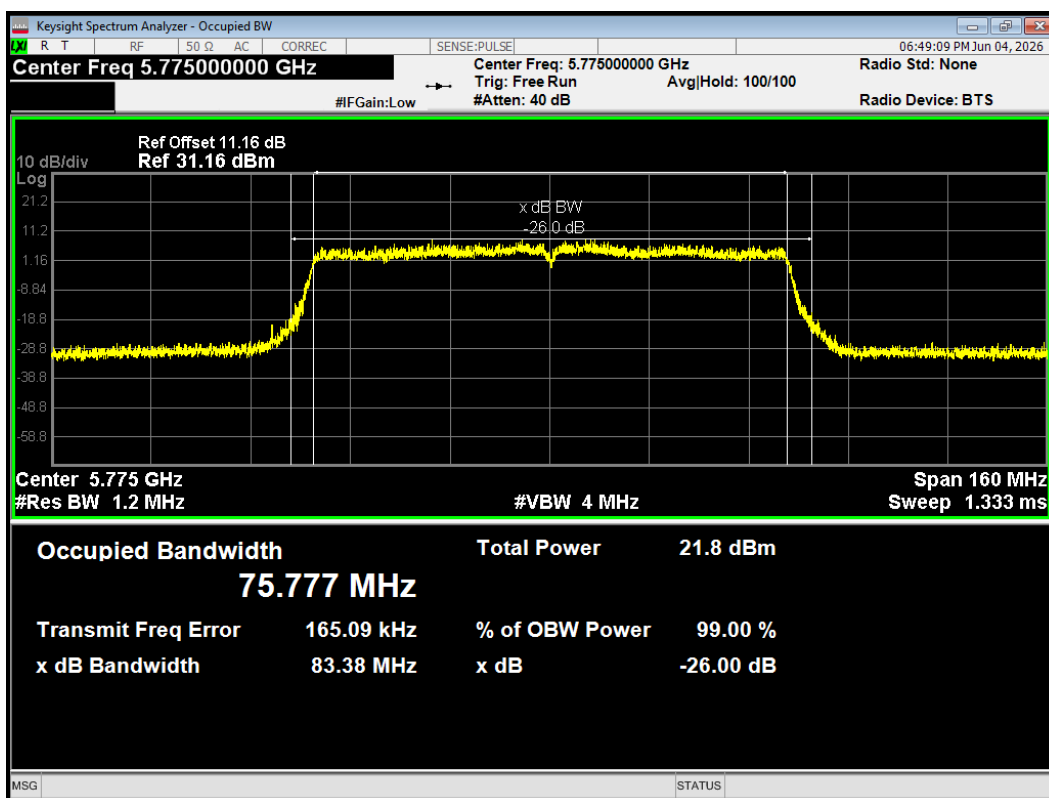
OBW 802.11ac(VHT80) 5690MHz Ant2



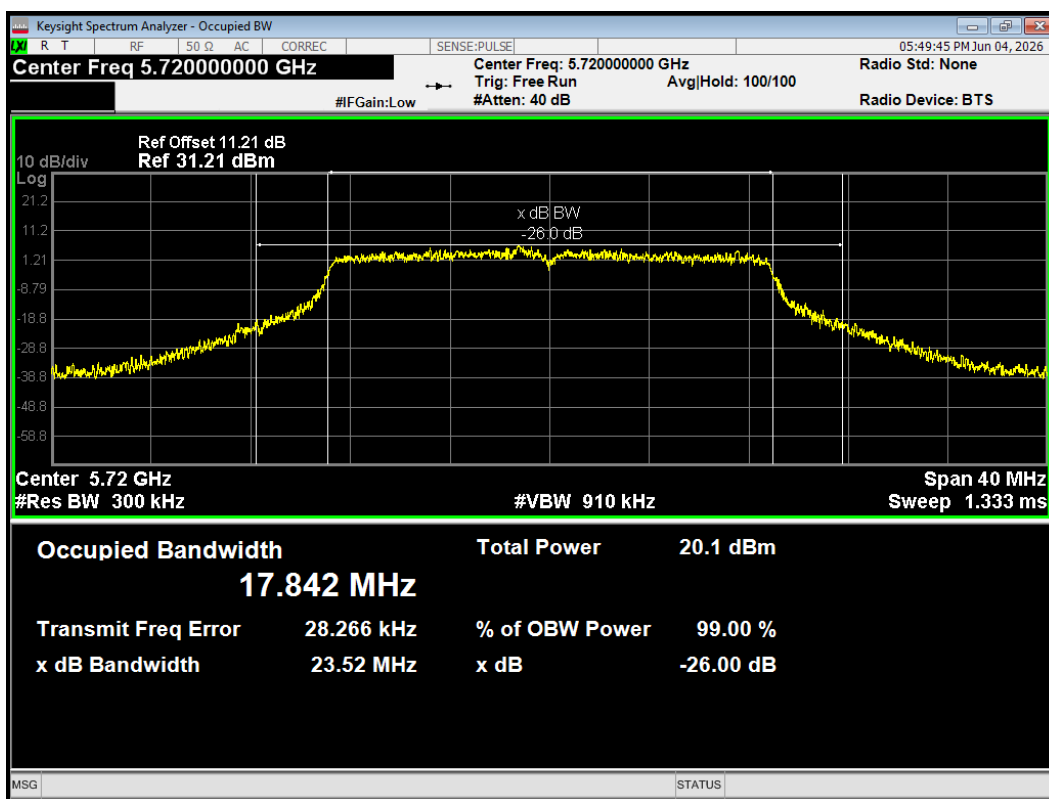
OBW 802.11ac(VHT80) 5775MHz Ant1



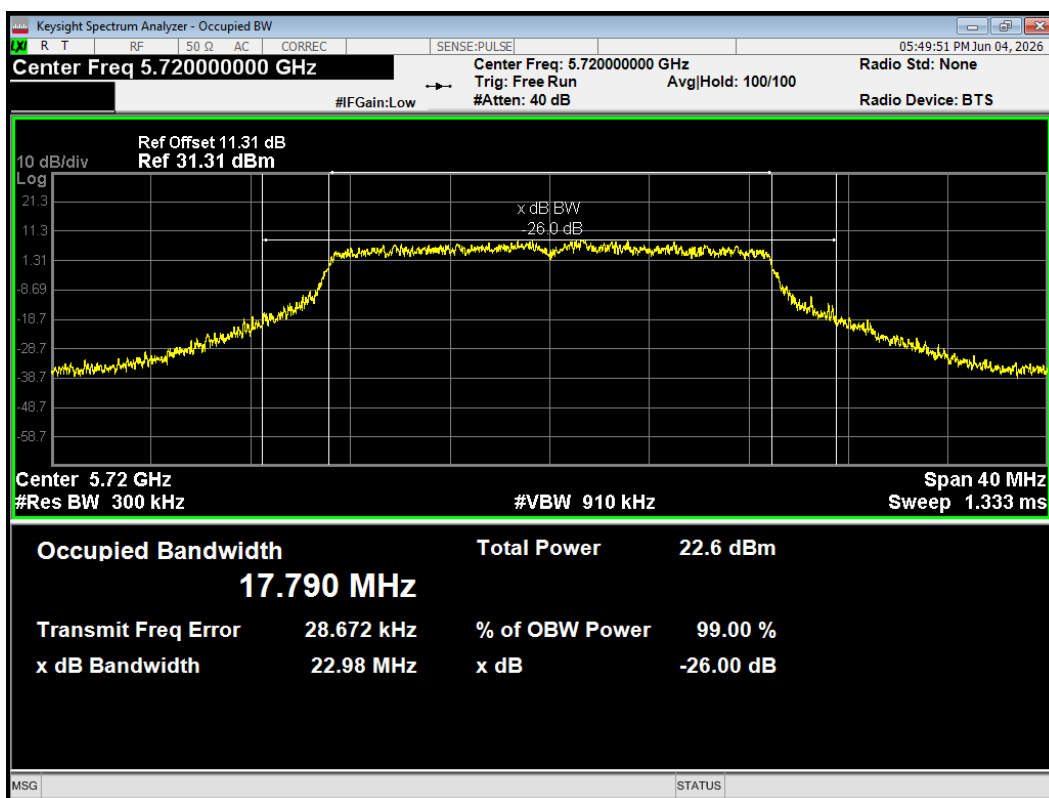
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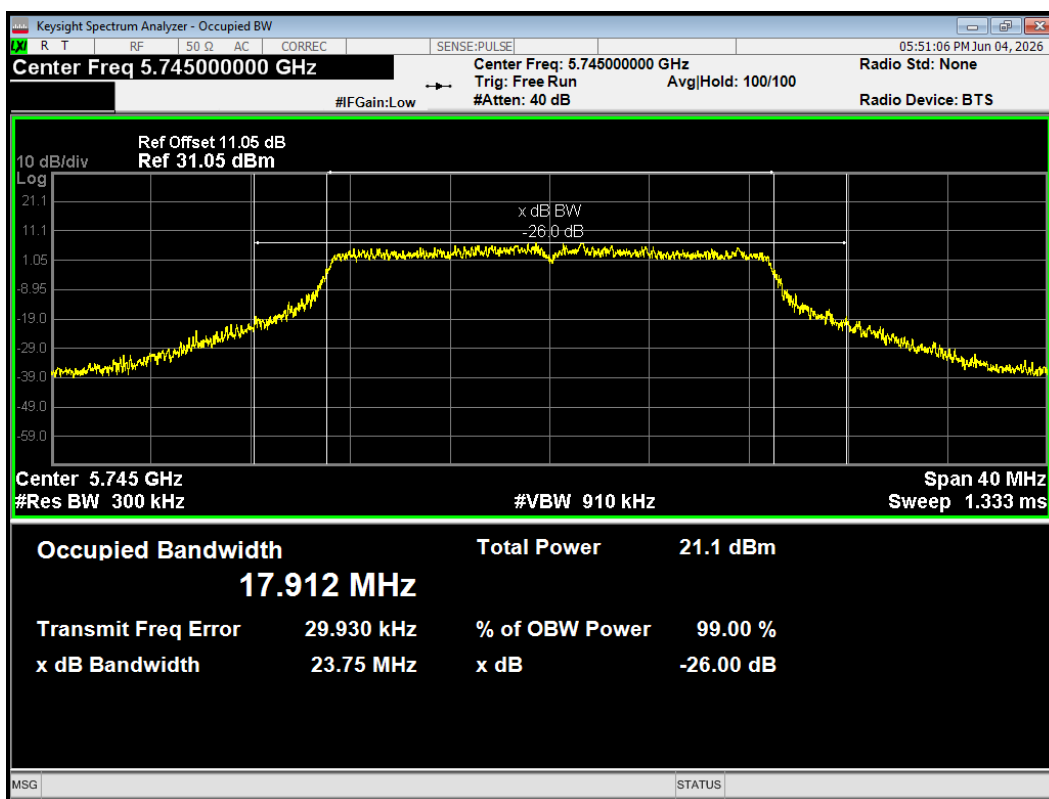
OBW 802.11n(HT20) 5720MHz Ant1



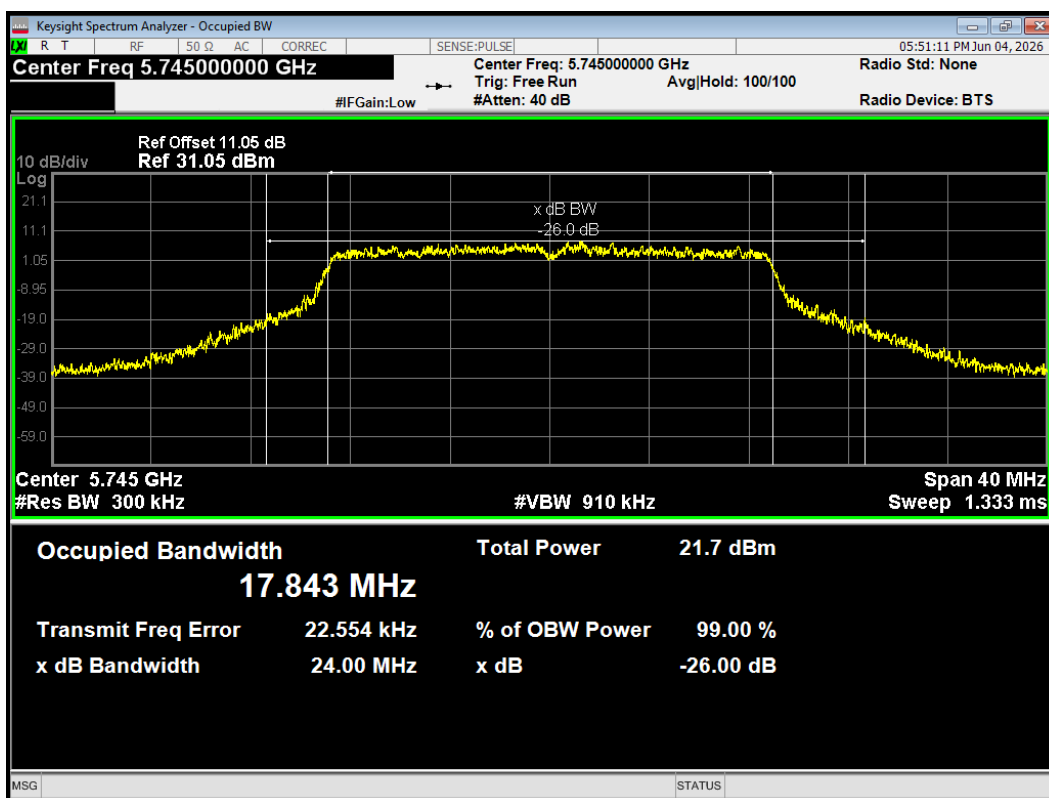
OBW 802.11n(HT20) 5720MHz Ant2



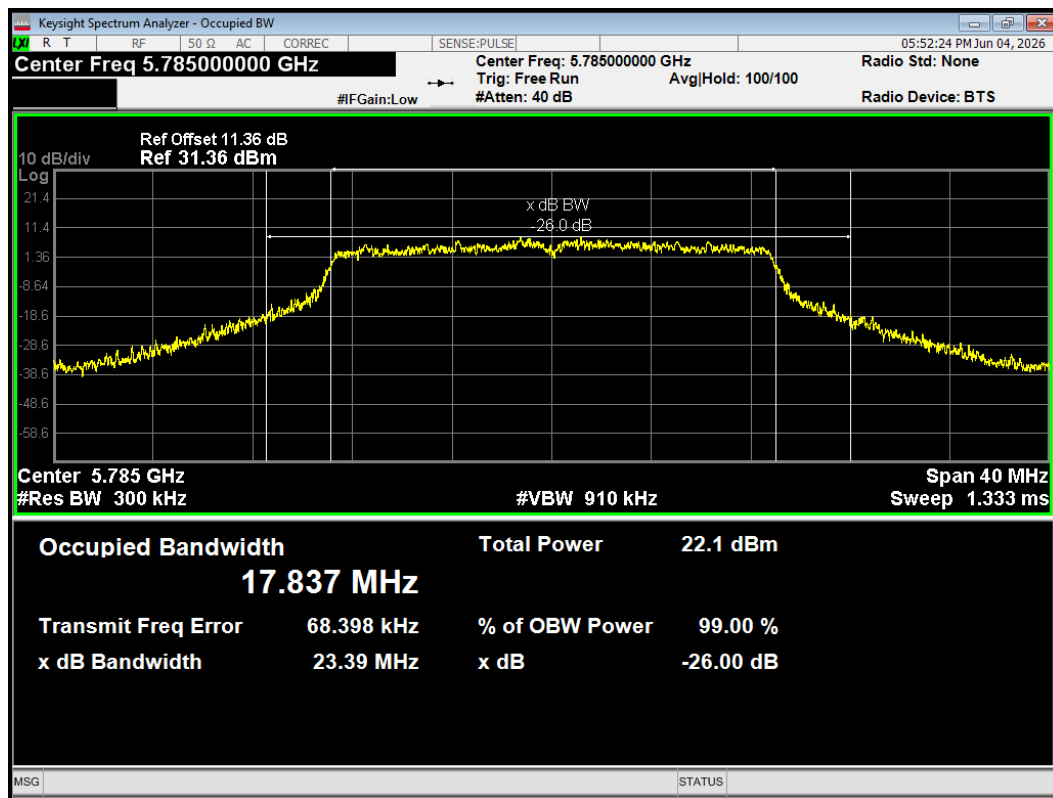
OBW 802.11n(HT20) 5745MHz Ant1



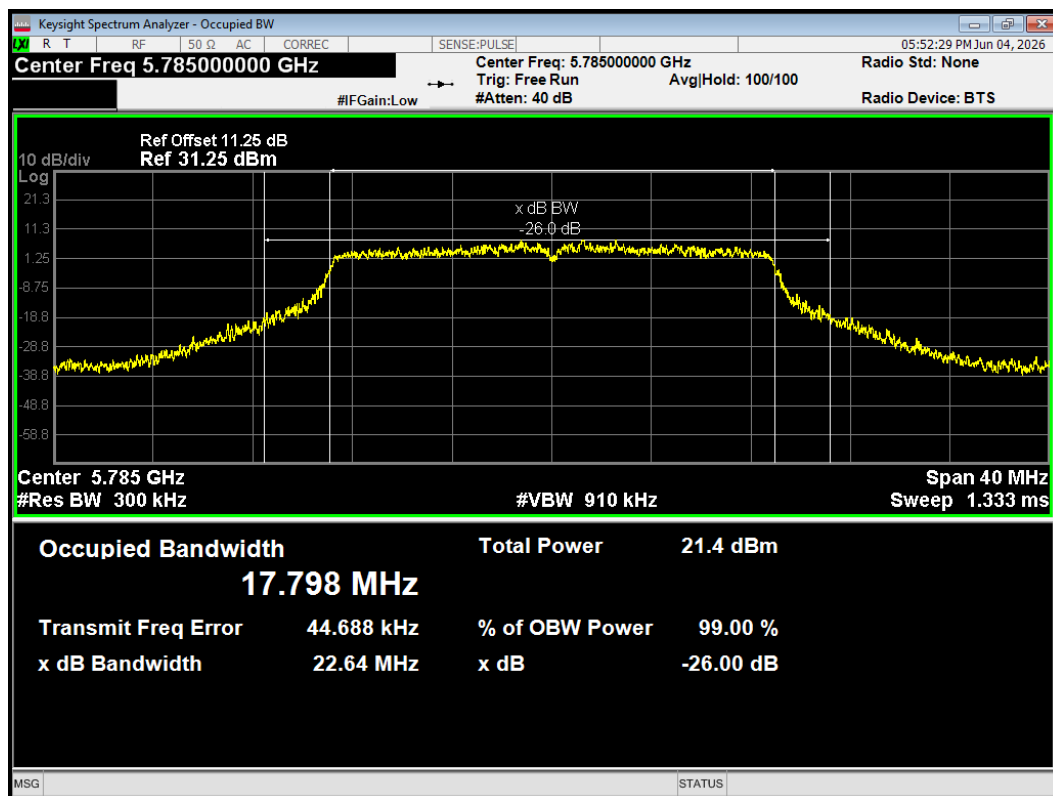
OBW 802.11n(HT20) 5745MHz Ant2



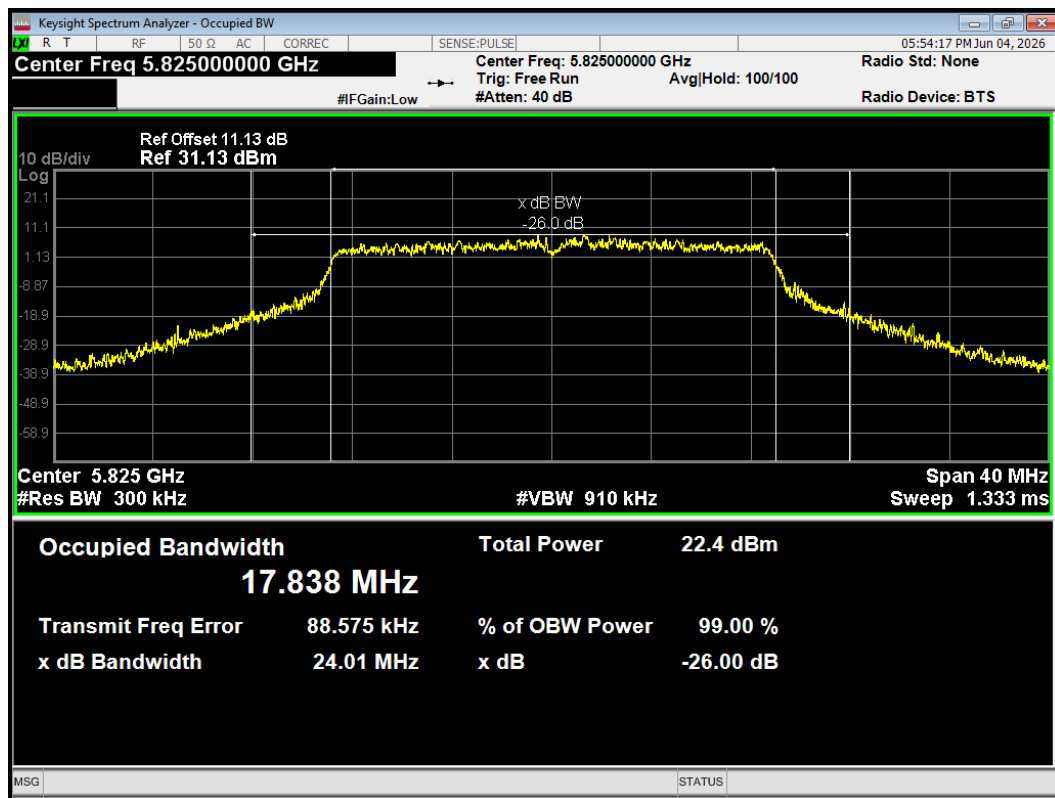
OBW 802.11n(HT20) 5785MHz Ant1



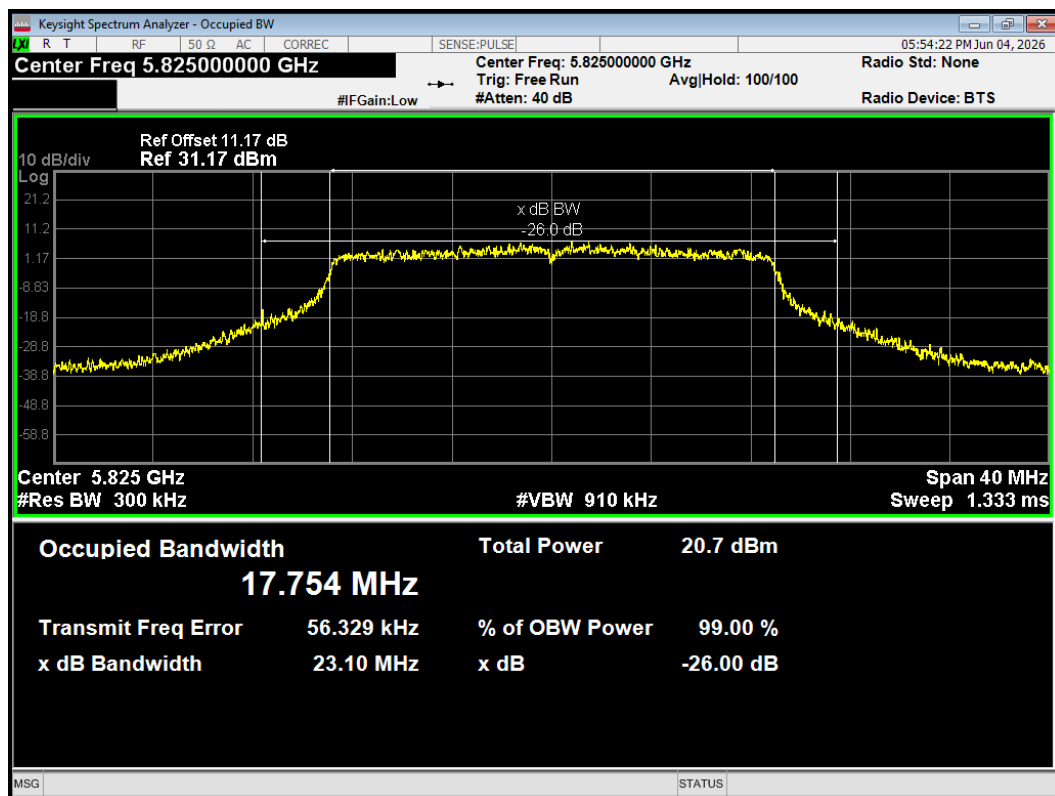
OBW 802.11n(HT20) 5785MHz Ant2



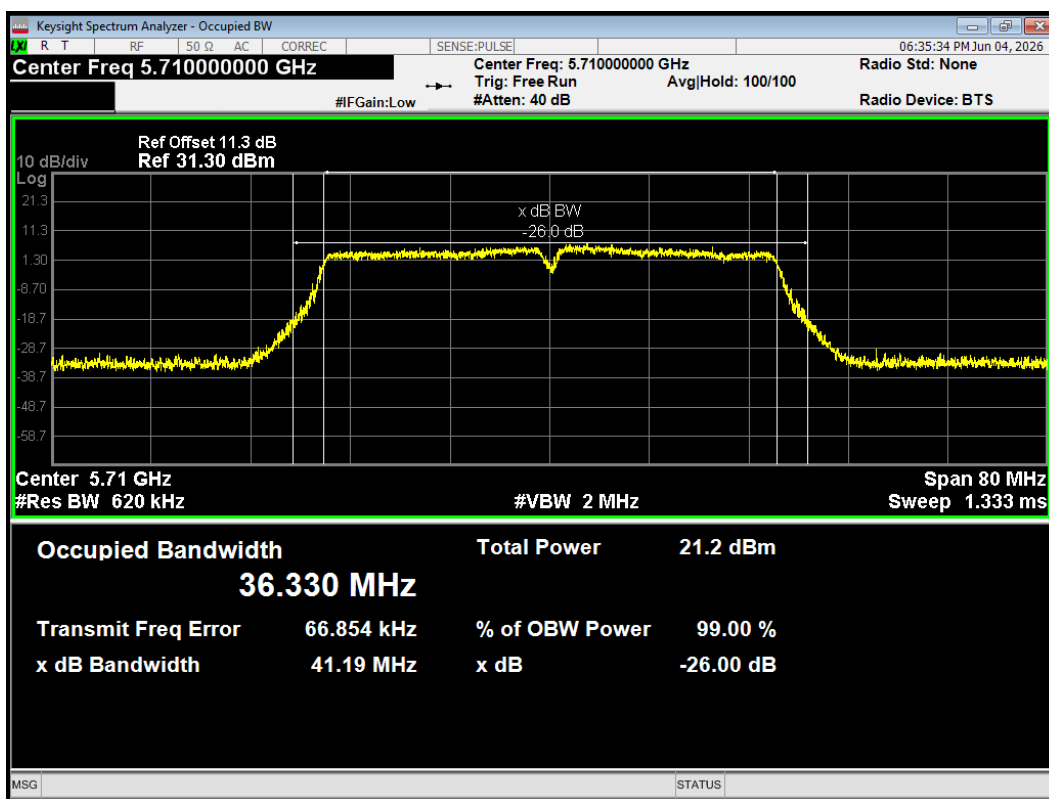
OBW 802.11n(HT20) 5825MHz Ant1



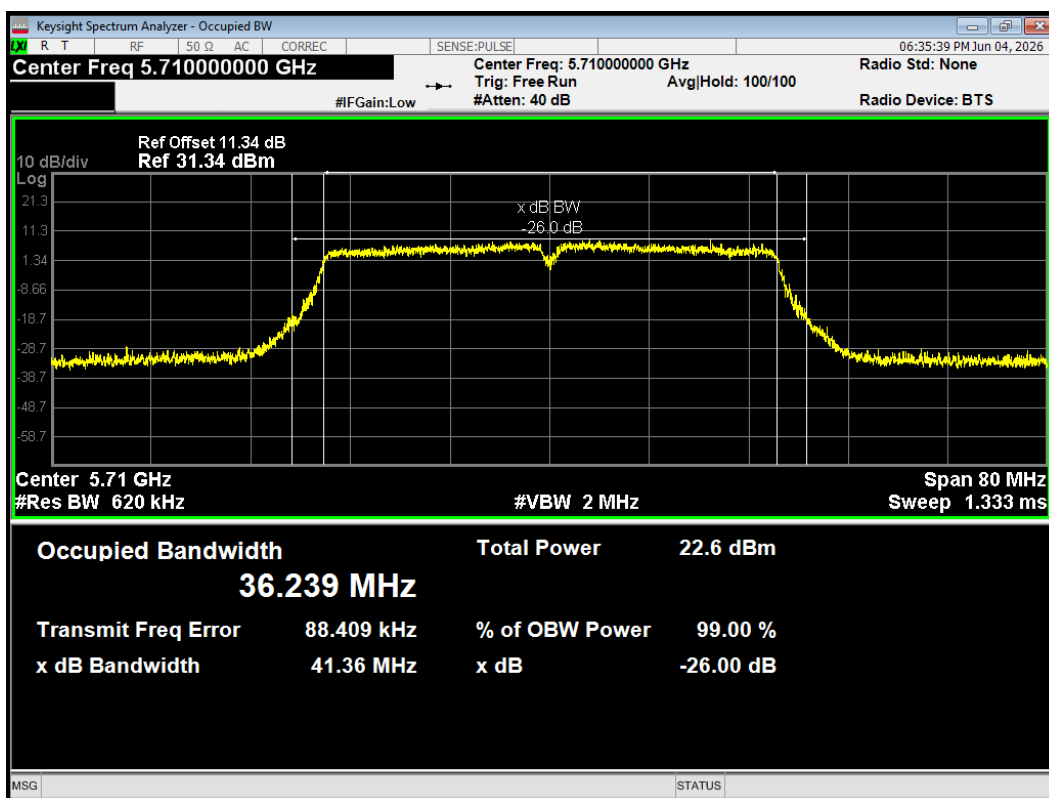
OBW 802.11n(HT20) 5825MHz Ant2



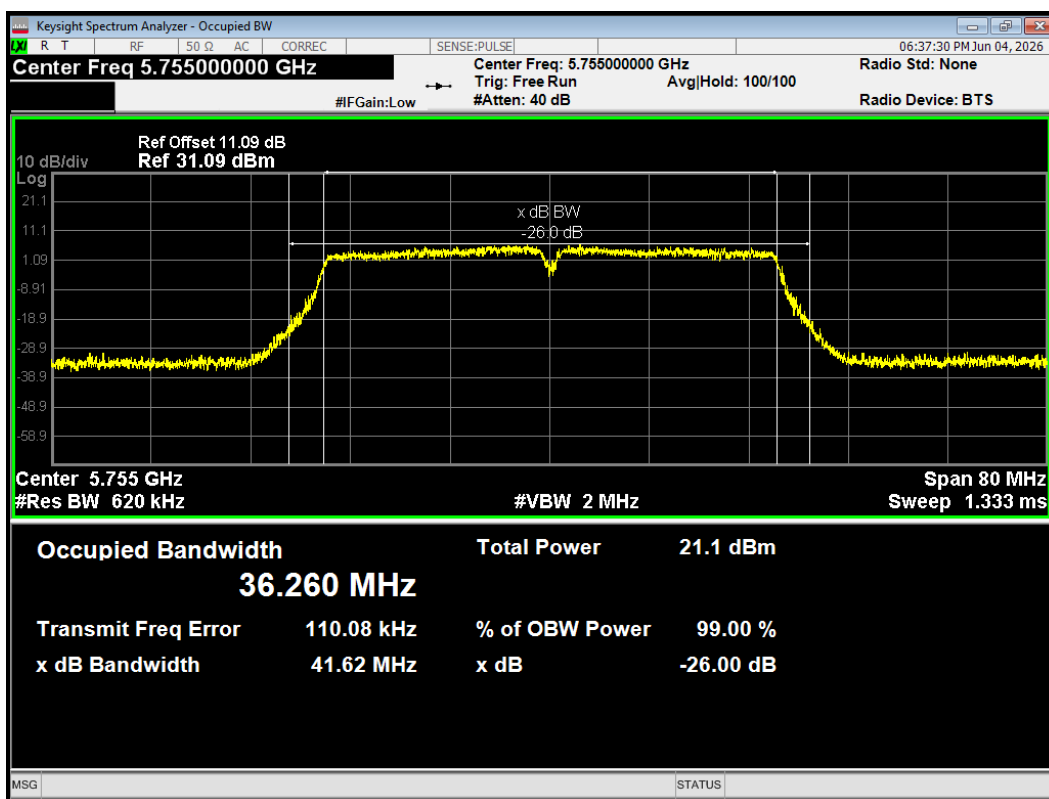
OBW 802.11n(HT40) 5710MHz Ant1



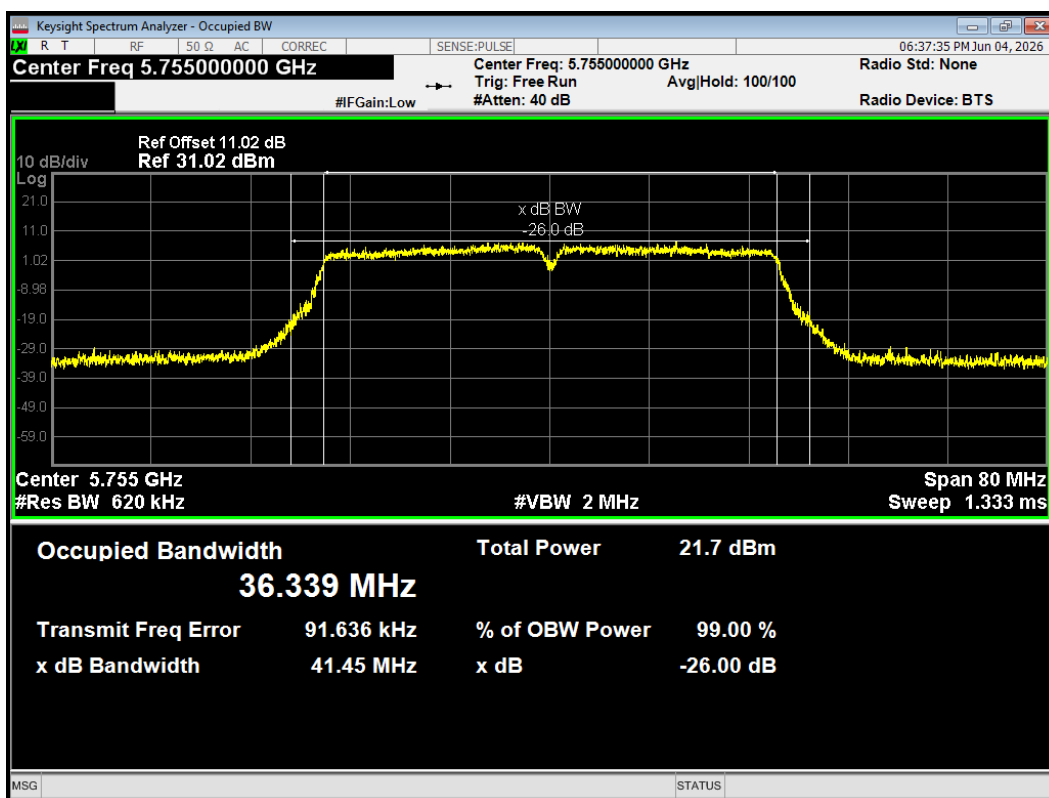
OBW 802.11n(HT40) 5710MHz Ant2



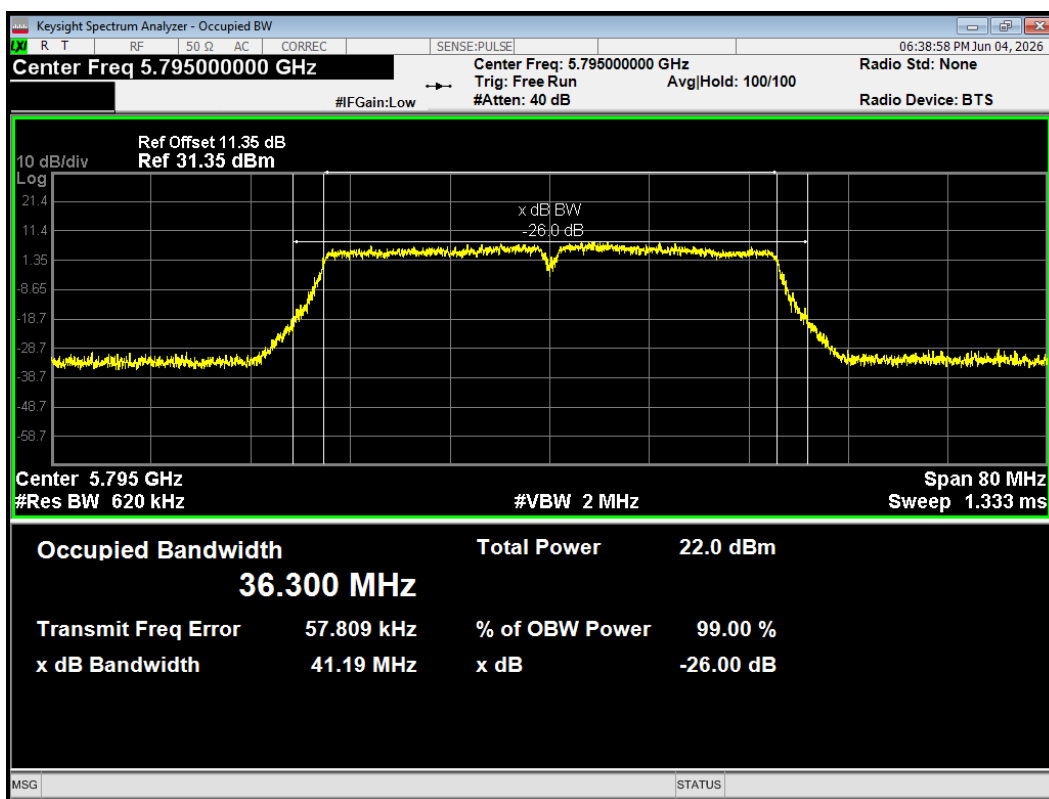
OBW 802.11n(HT40) 5755MHz Ant1



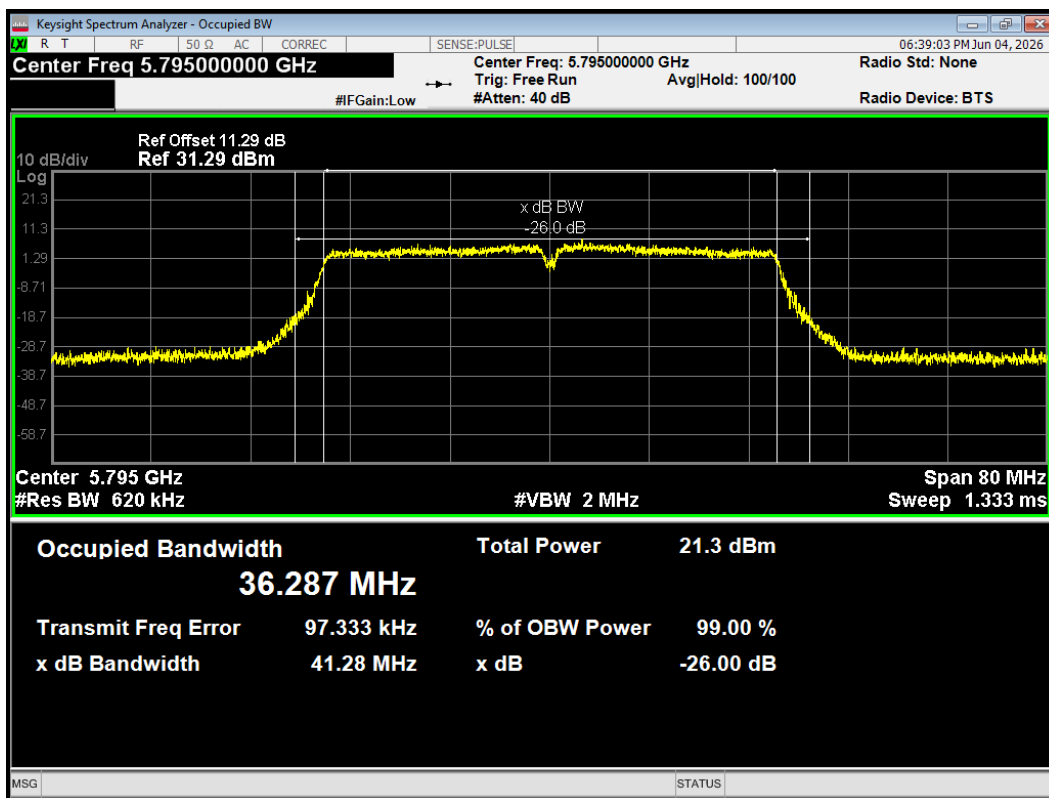
OBW 802.11n(HT40) 5755MHz Ant2



OBW 802.11n(HT40) 5795MHz Ant1



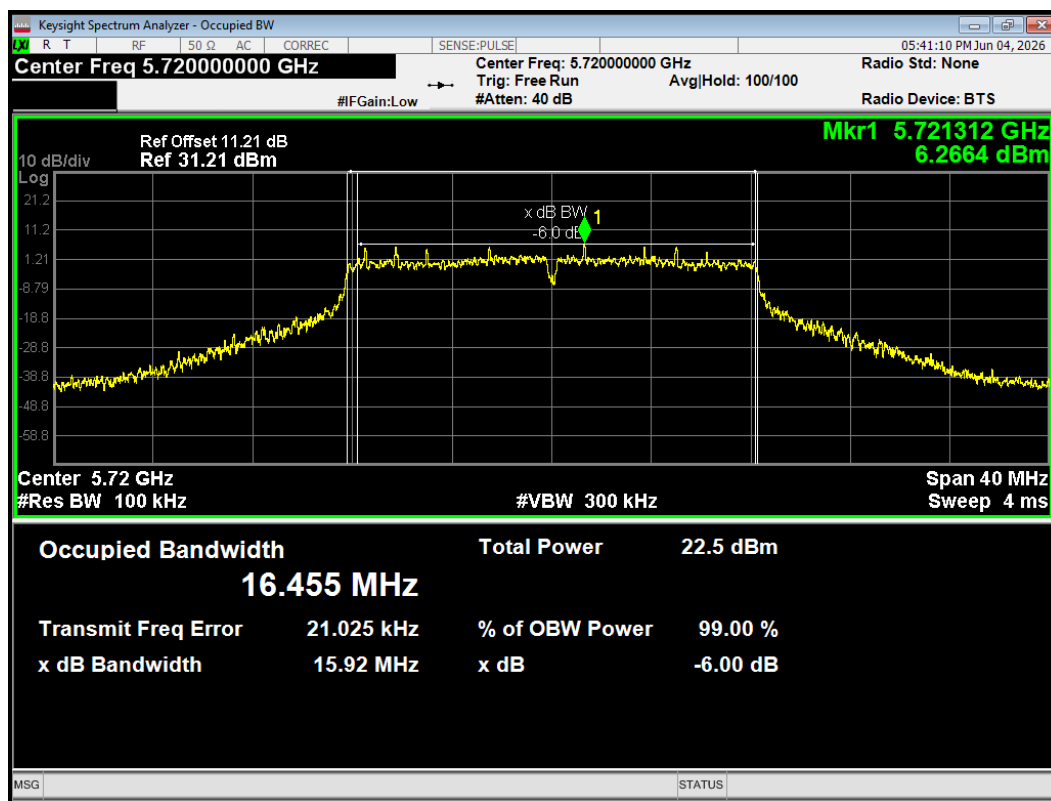
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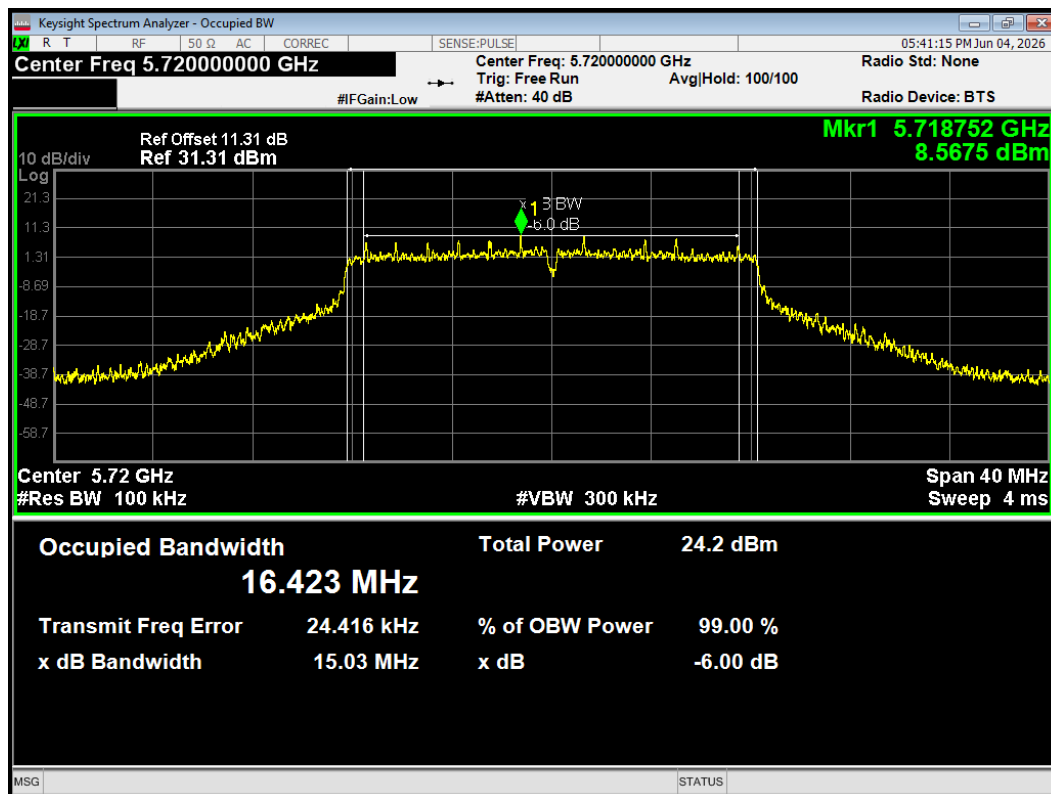
Minimum 6 dB bandwidth

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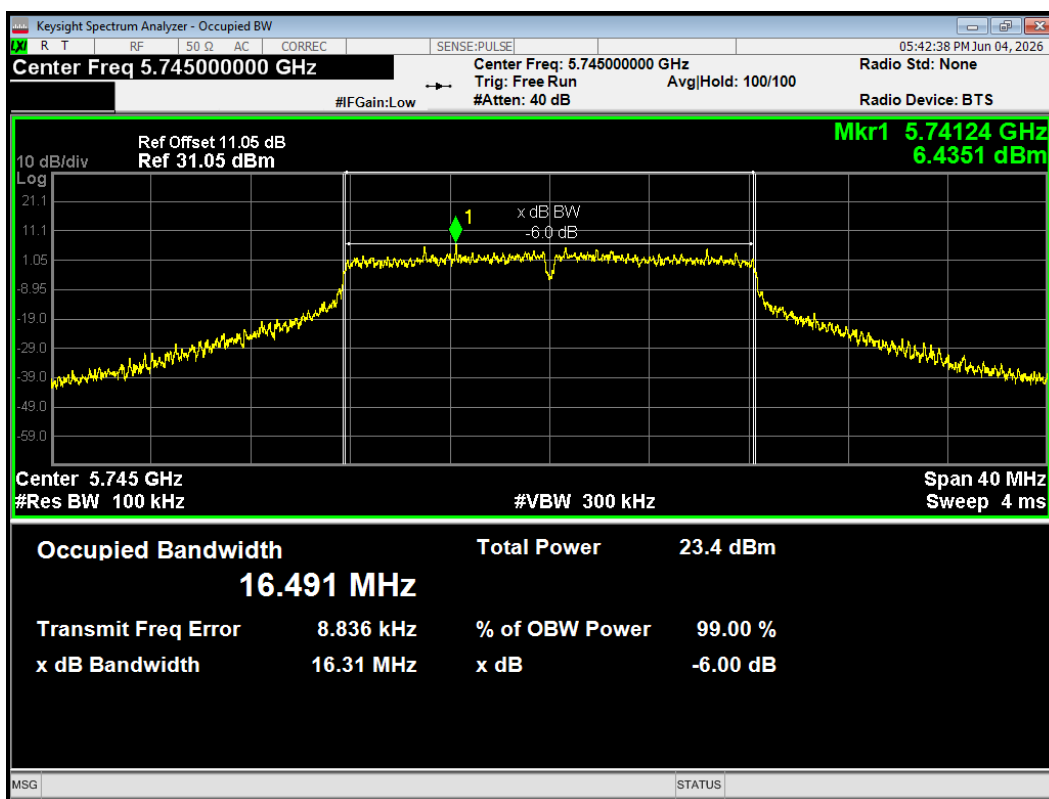
-6dB Bandwidth 802.11a 5720MHz Ant1



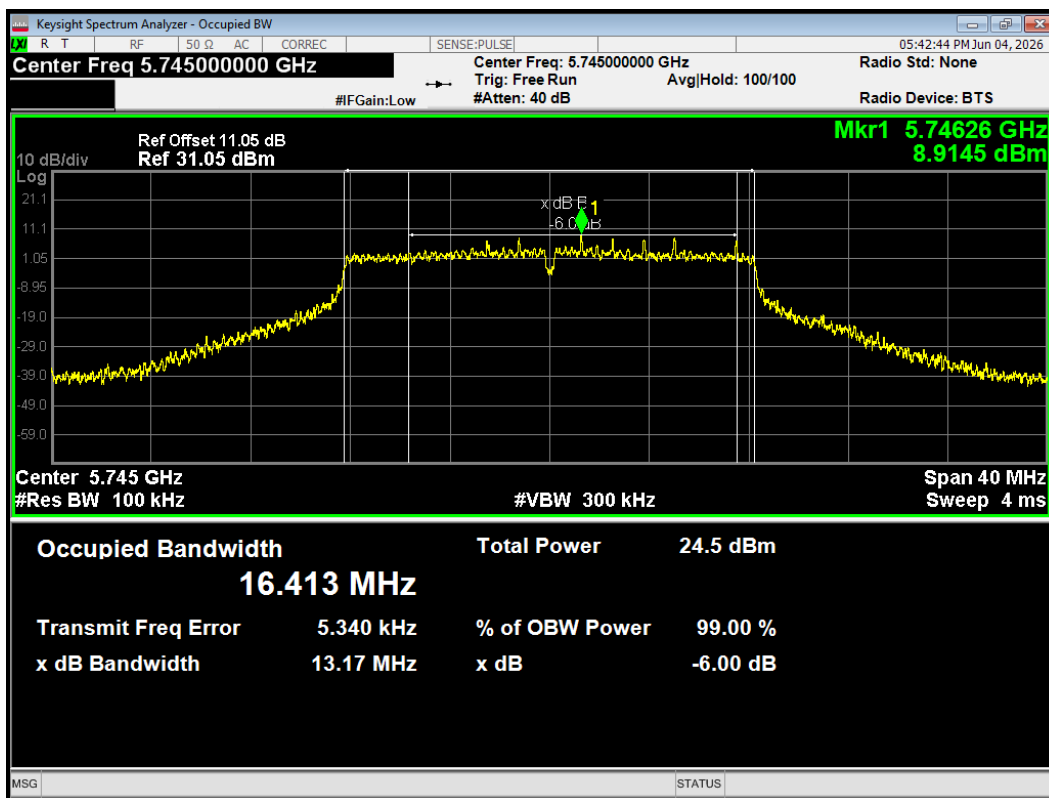
-6dB Bandwidth 802.11a 5720MHz Ant2



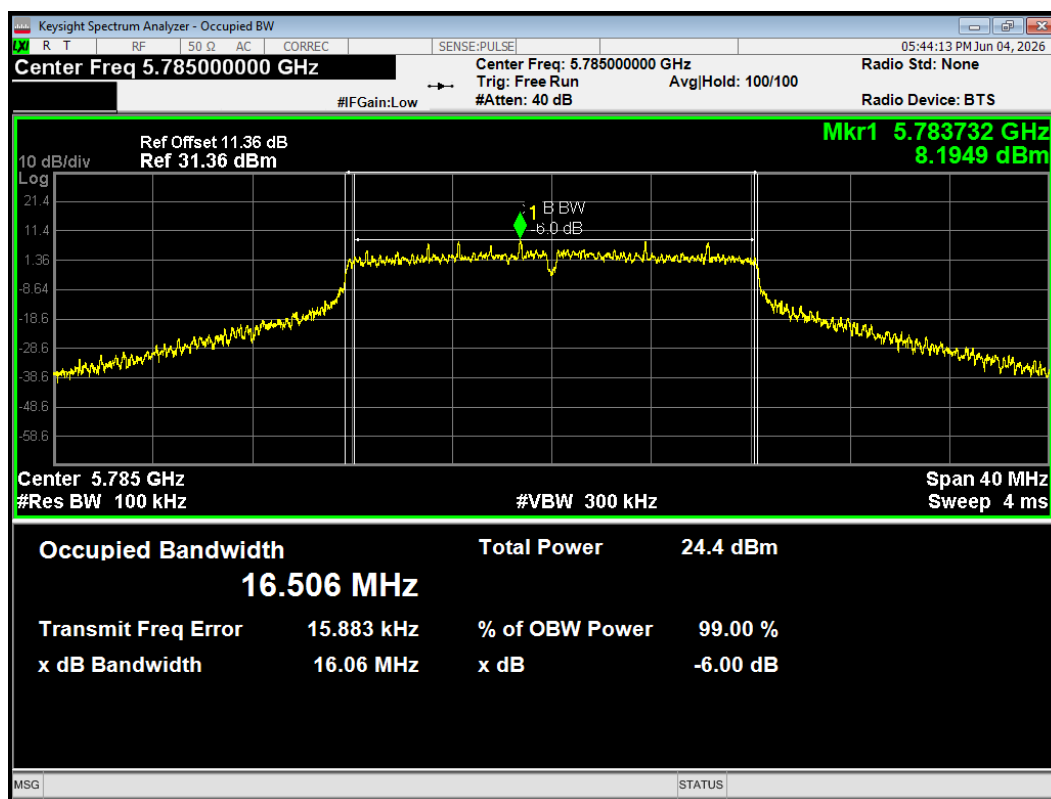
-6dB Bandwidth 802.11a 5745MHz Ant1



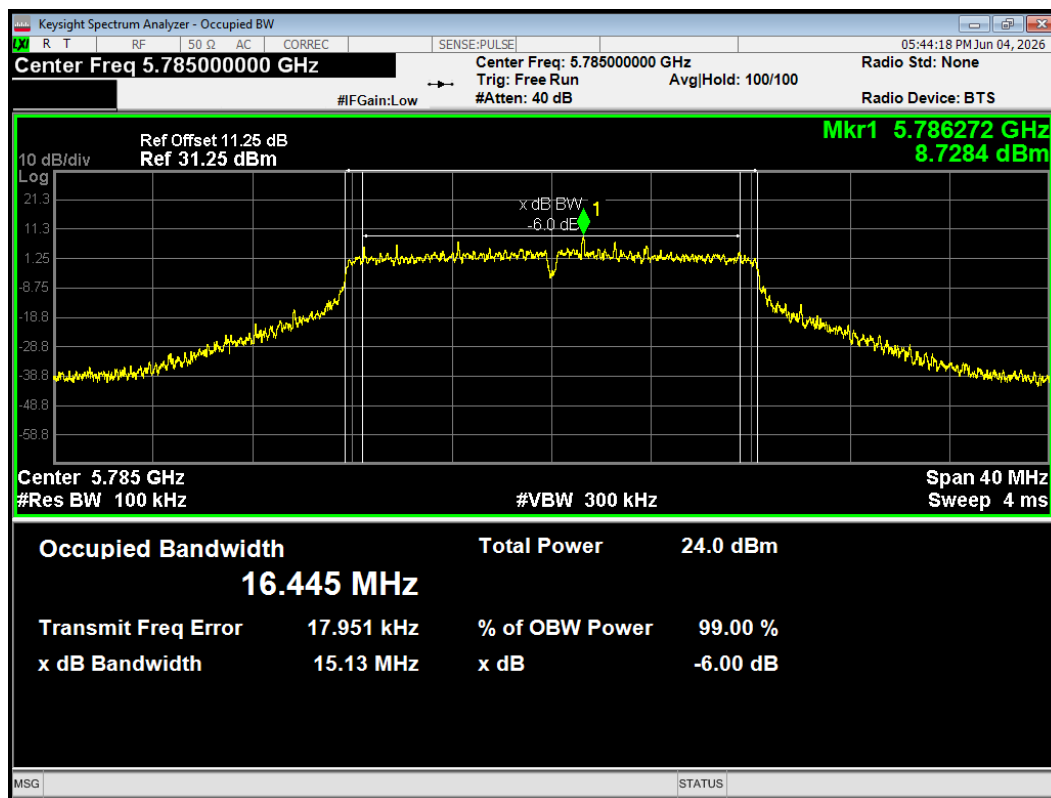
-6dB Bandwidth 802.11a 5745MHz Ant2



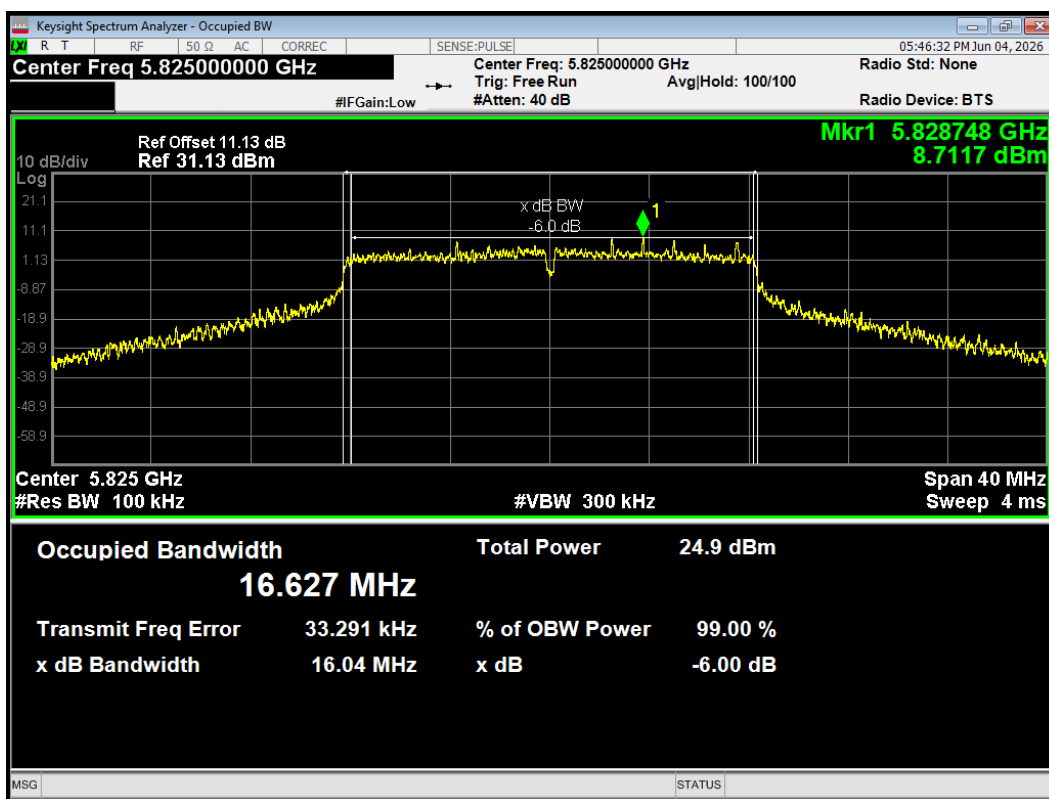
-6dB Bandwidth 802.11a 5785MHz Ant1



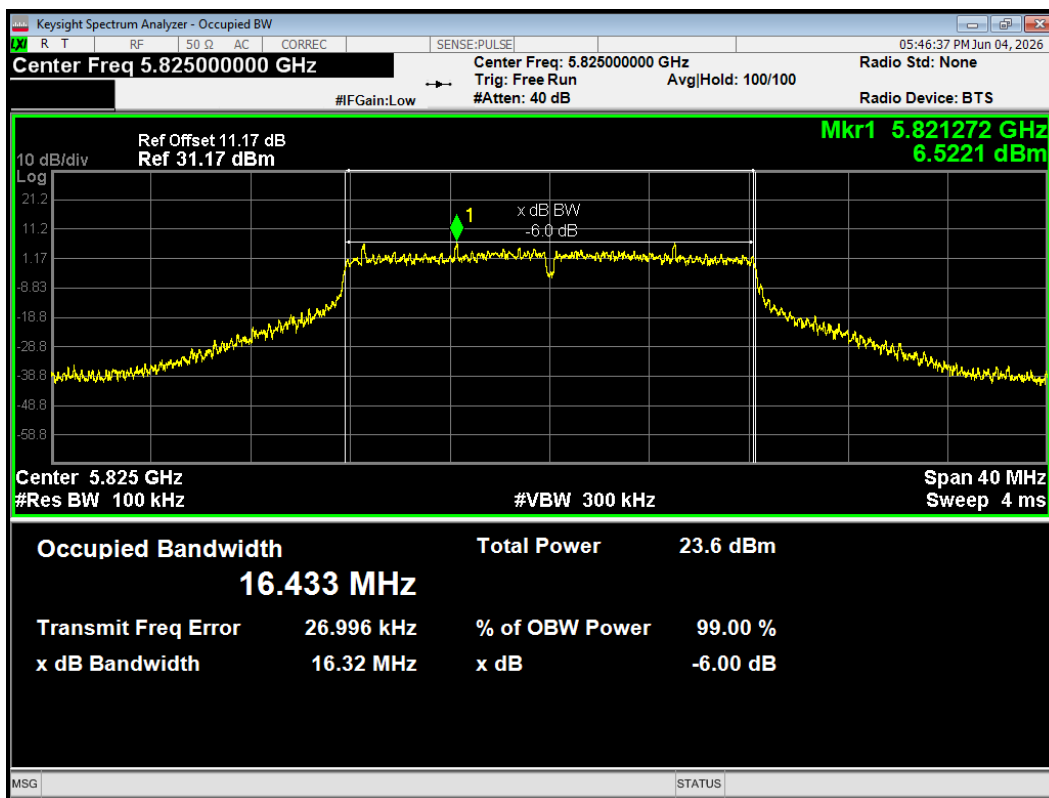
-6dB Bandwidth 802.11a 5785MHz Ant2



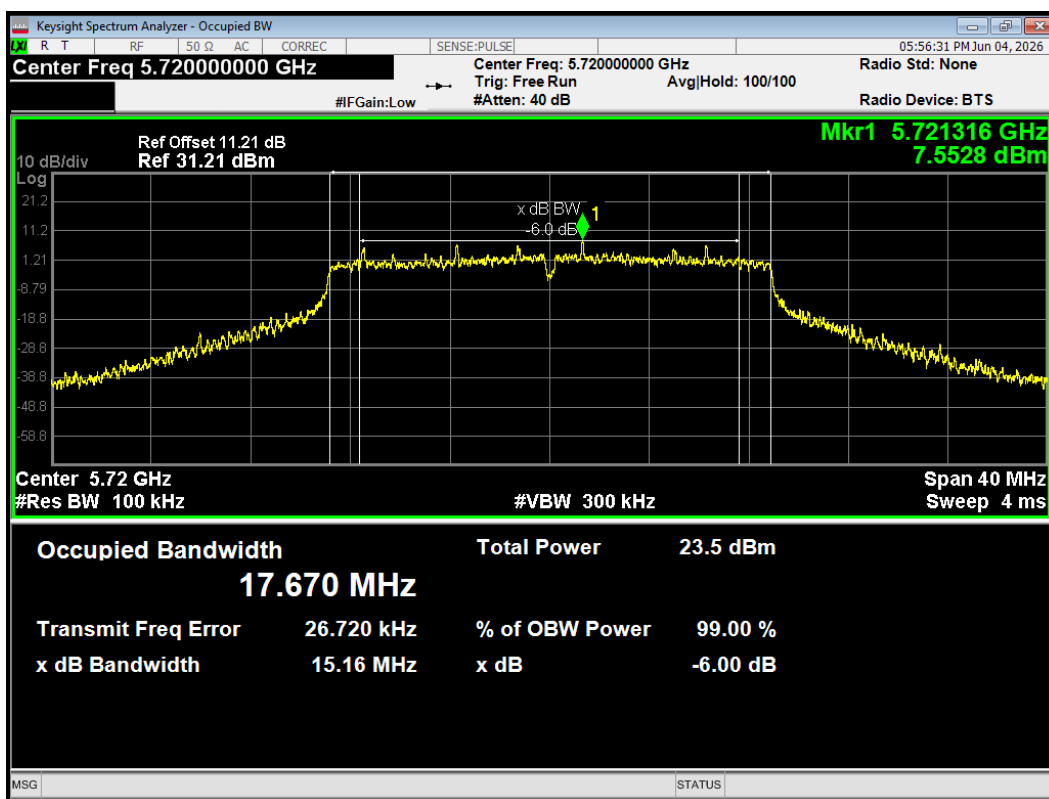
-6dB Bandwidth 802.11a 5825MHz Ant1



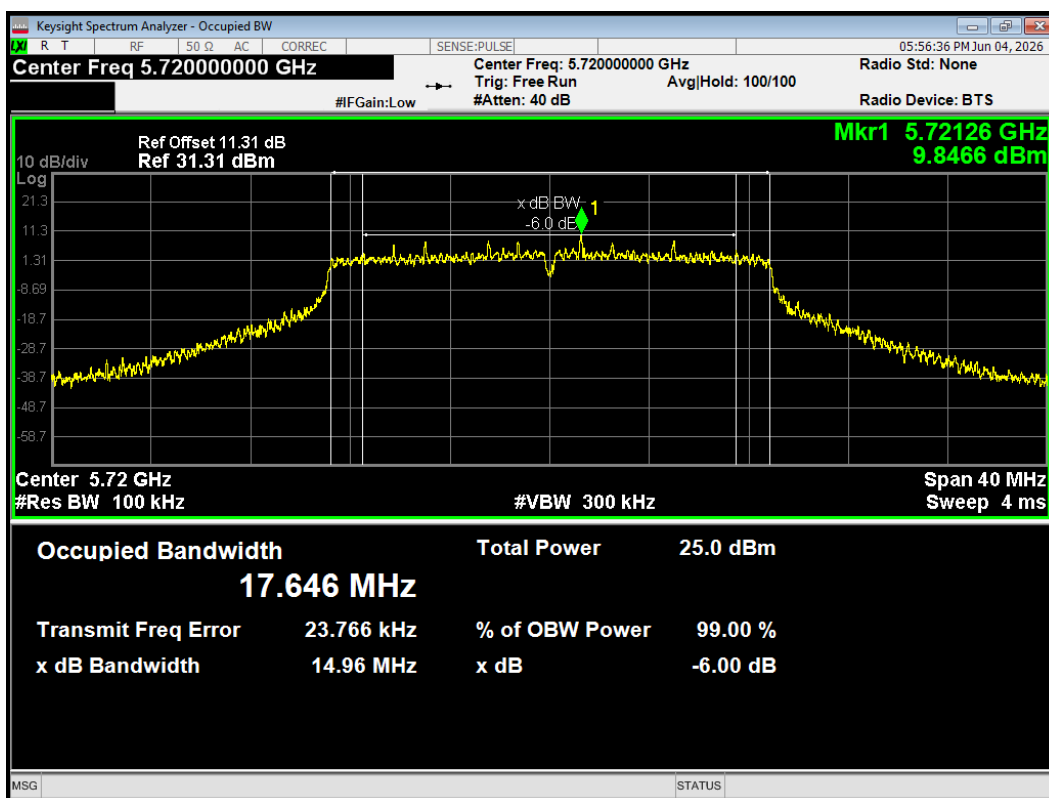
-6dB Bandwidth 802.11a 5825MHz Ant2



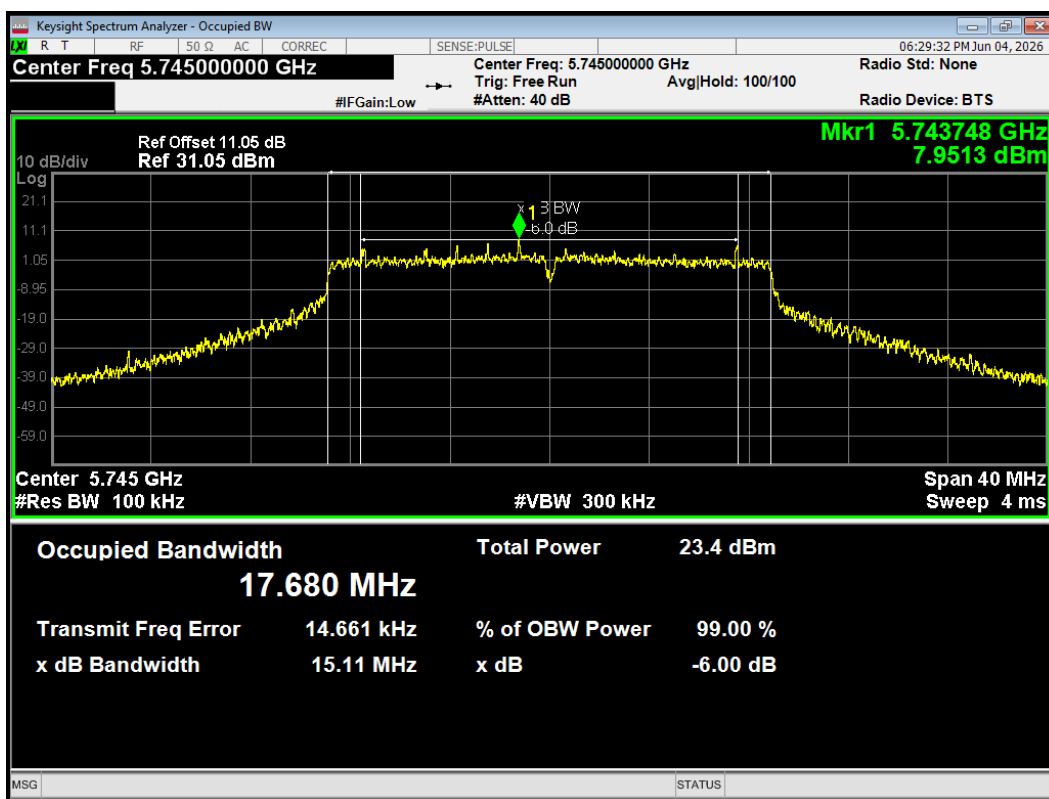
-6dB Bandwidth 802.11ac(VHT20) 5720MHz Ant1



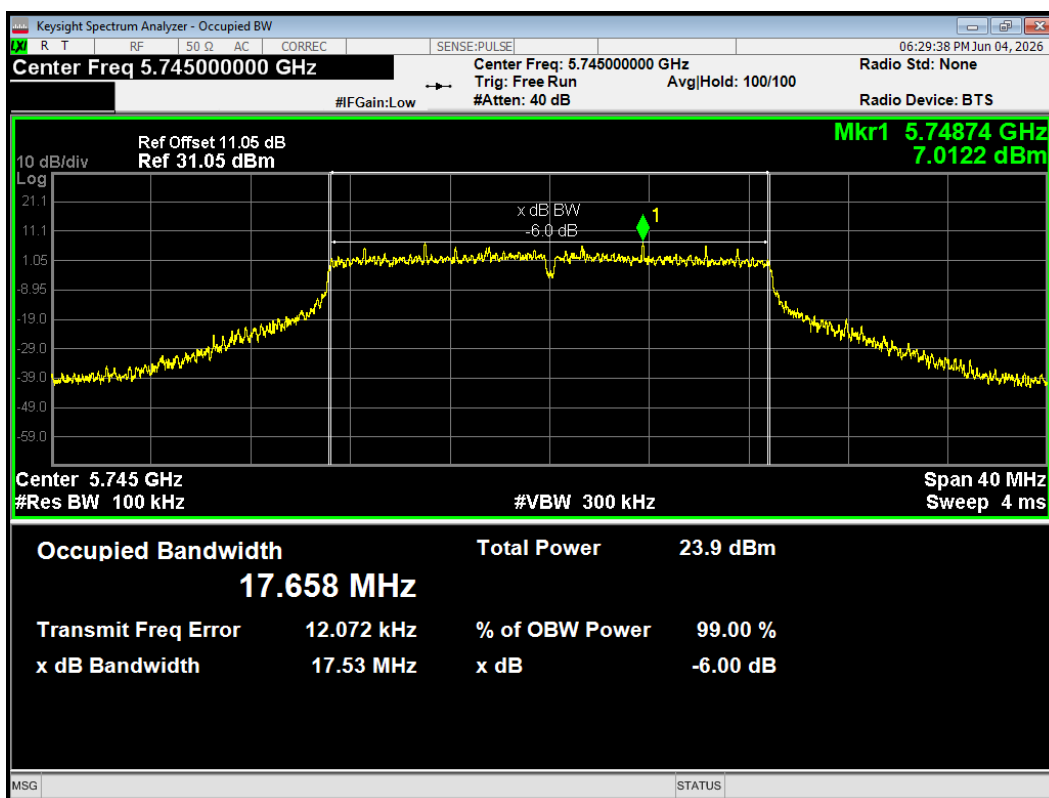
-6dB Bandwidth 802.11ac(VHT20) 5720MHz Ant2



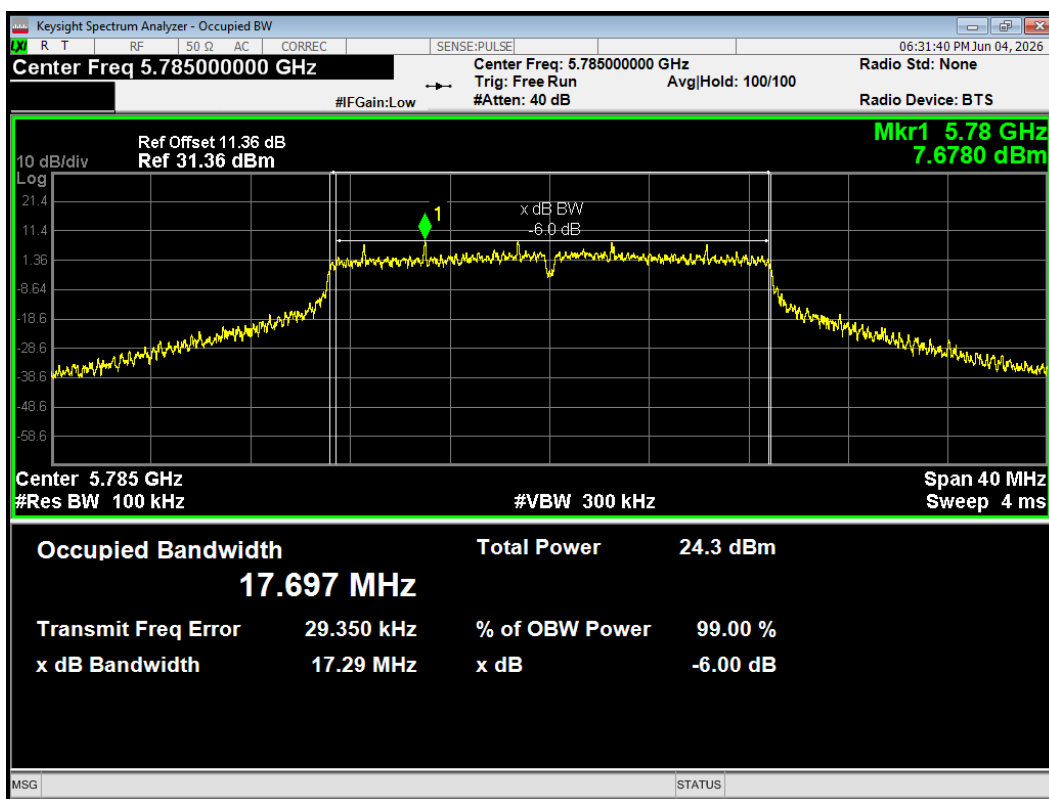
-6dB Bandwidth 802.11ac(VHT20) 5745MHz Ant1



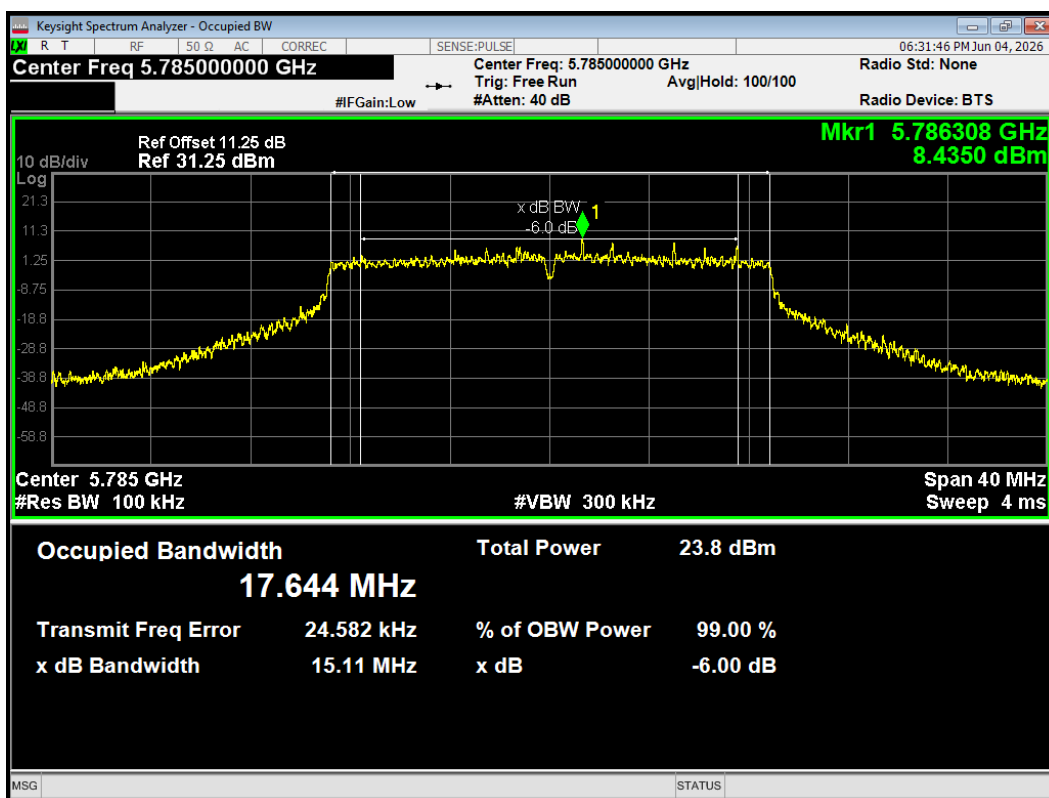
-6dB Bandwidth 802.11ac(VHT20) 5745MHz Ant2



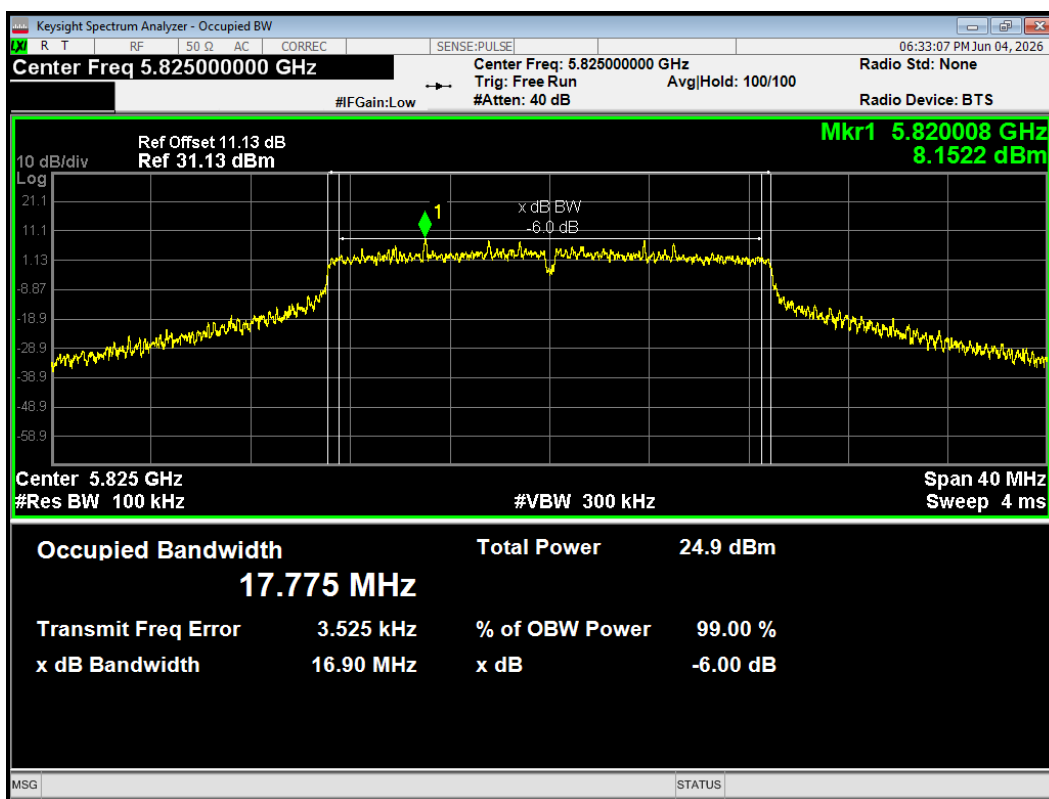
-6dB Bandwidth 802.11ac(VHT20) 5785MHz Ant1



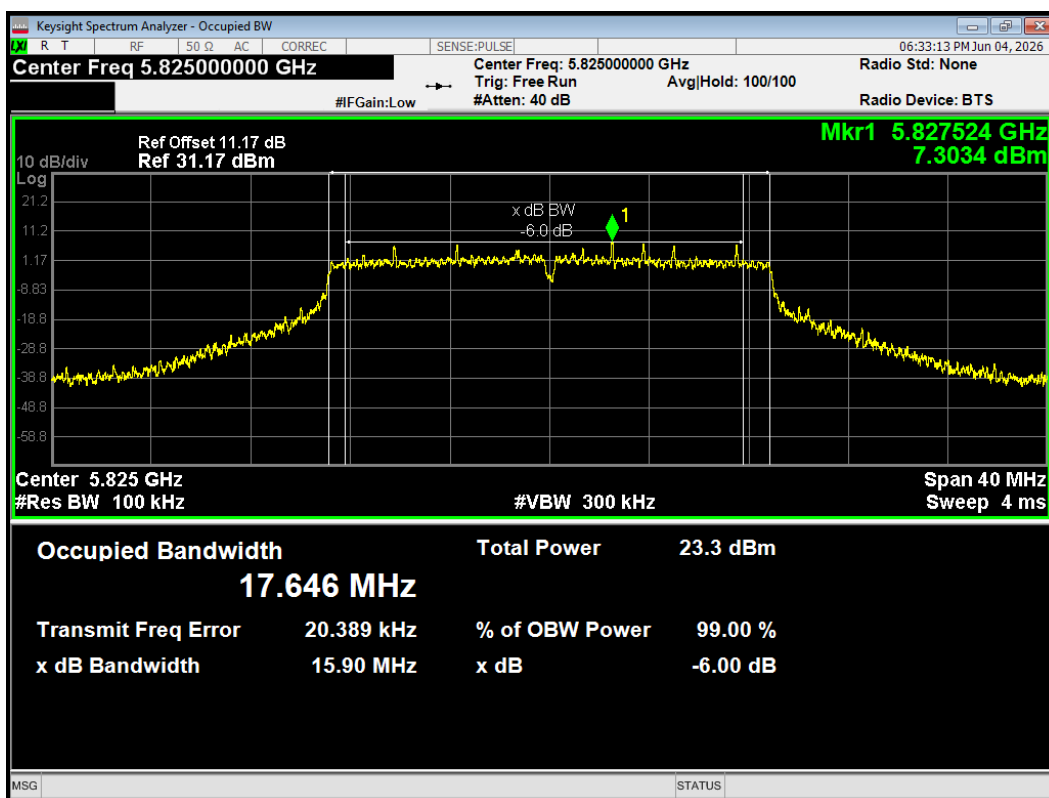
-6dB Bandwidth 802.11ac(VHT20) 5785MHz Ant2



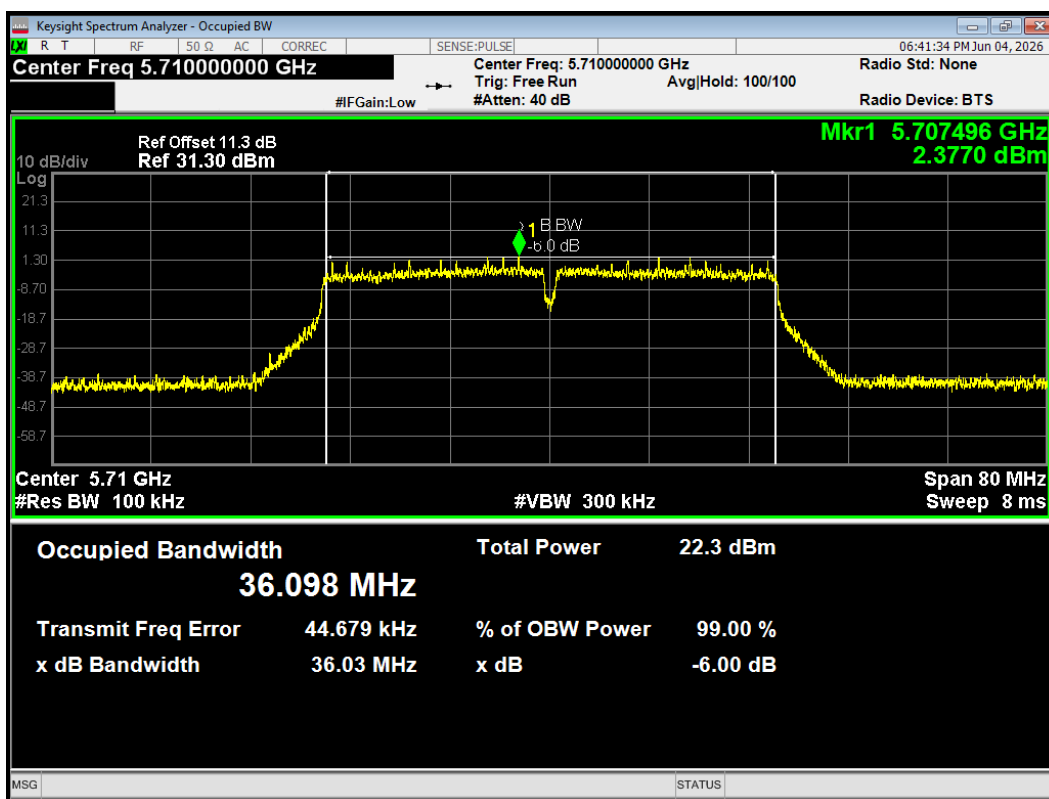
-6dB Bandwidth 802.11ac(VHT20) 5825MHz Ant1



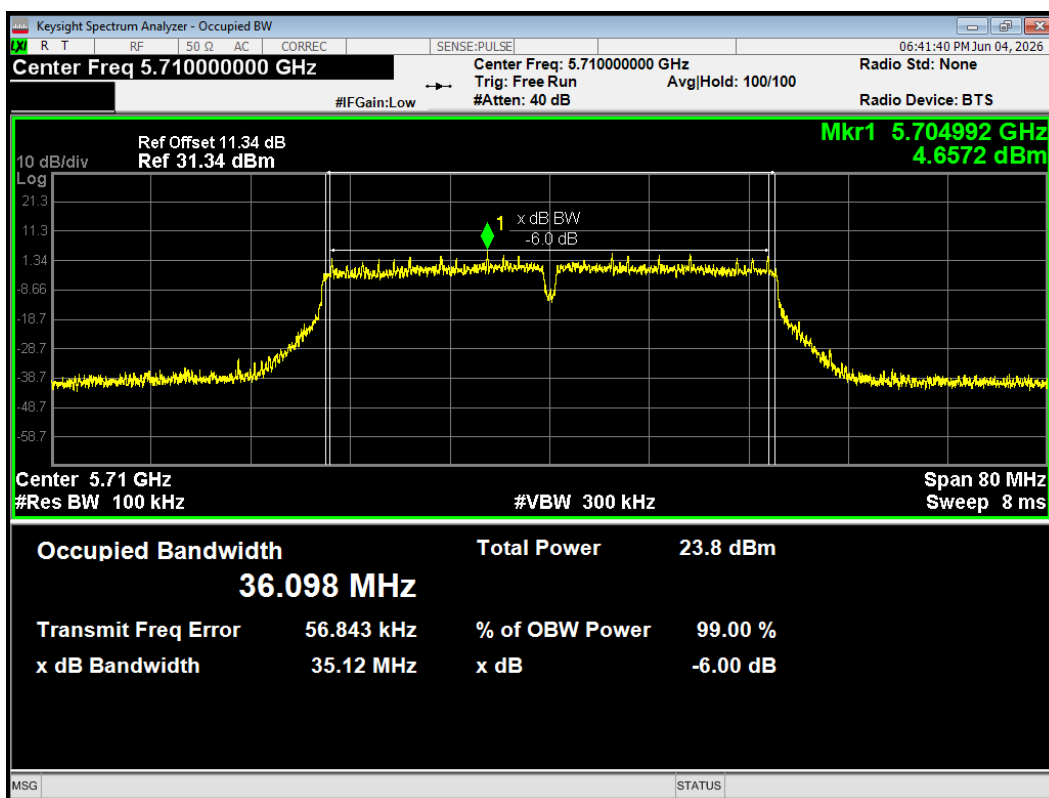
-6dB Bandwidth 802.11ac(VHT20) 5825MHz Ant2



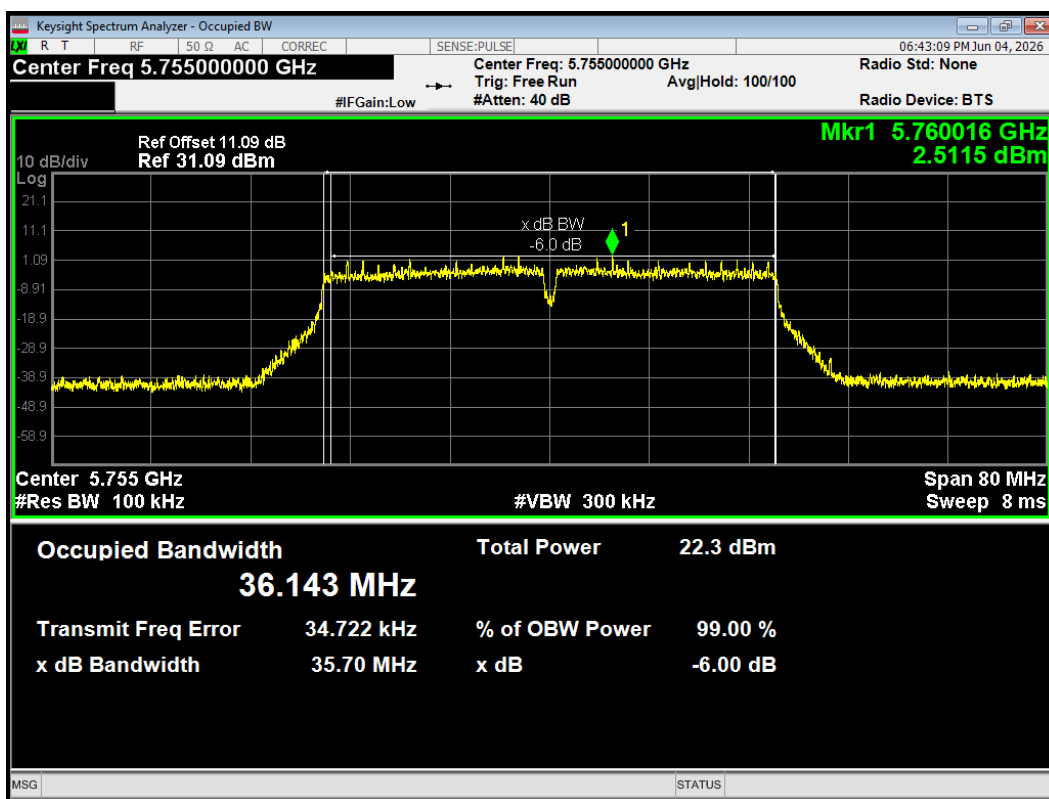
-6dB Bandwidth 802.11ac(VHT40) 5710MHz Ant1



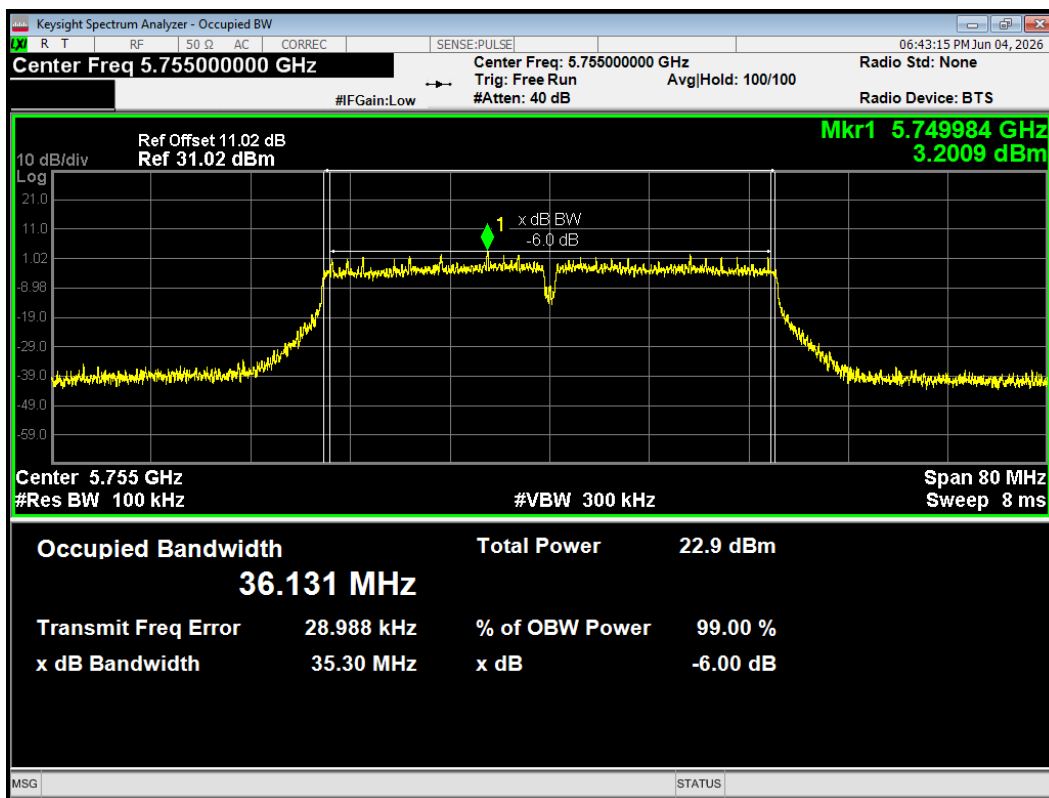
-6dB Bandwidth 802.11ac(VHT40) 5710MHz Ant2



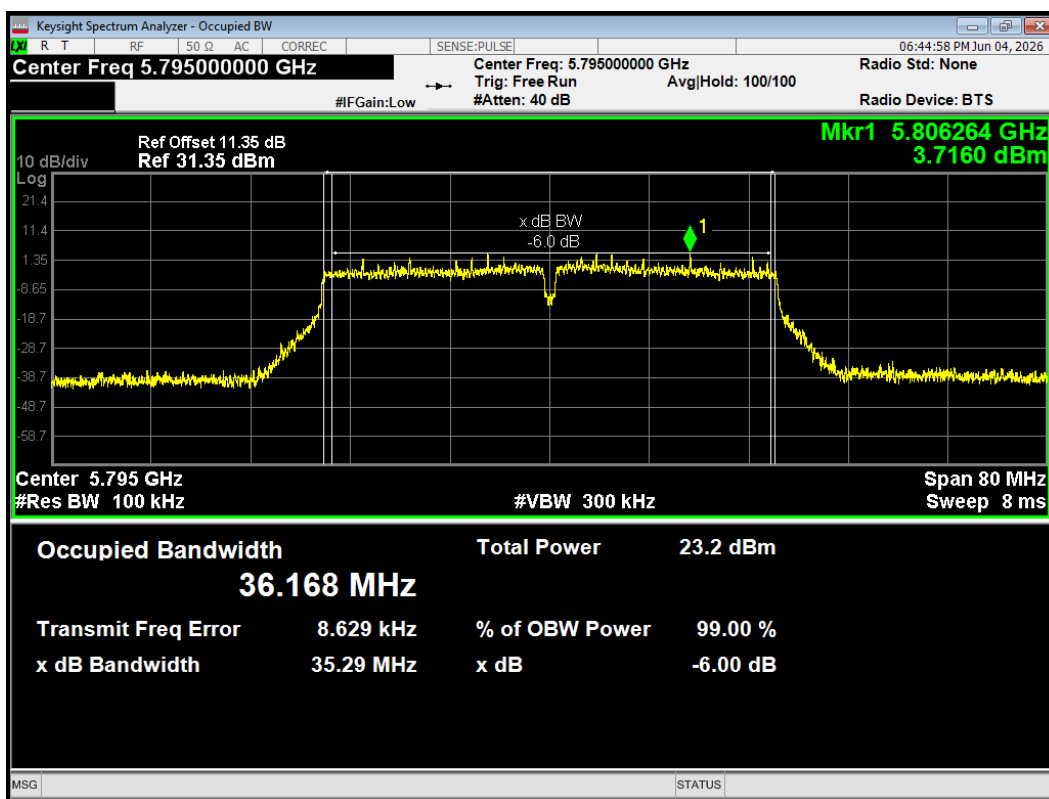
-6dB Bandwidth 802.11ac(VHT40) 5755MHz Ant1



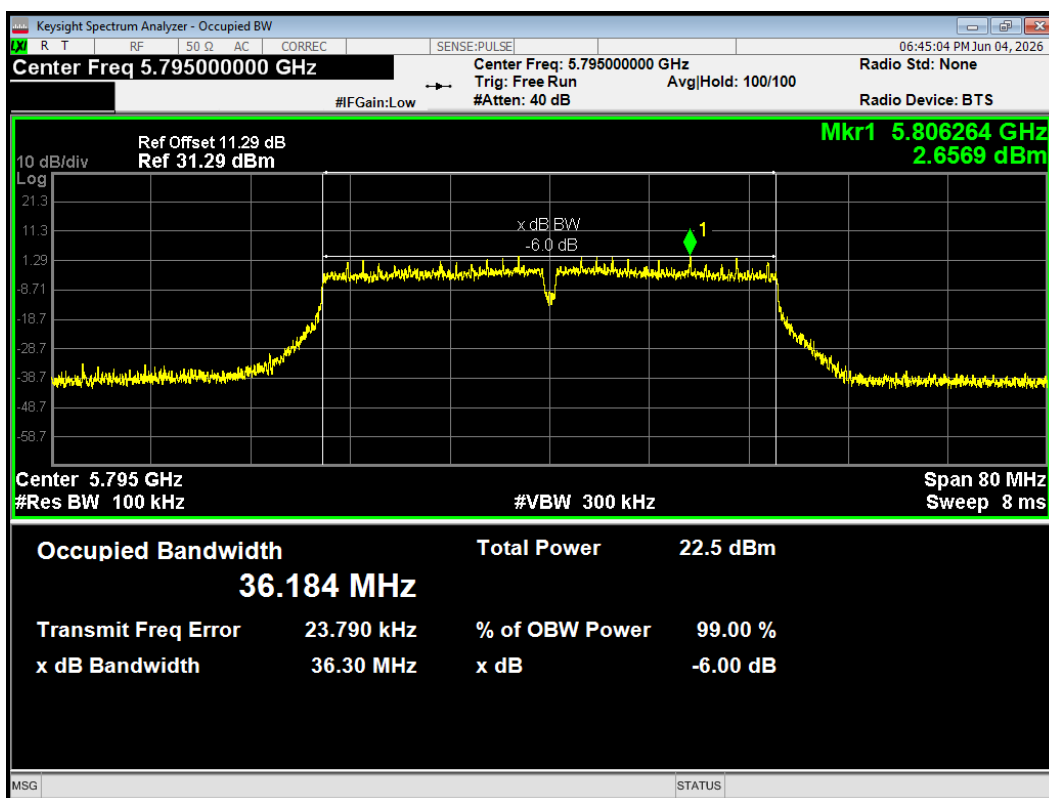
-6dB Bandwidth 802.11ac(VHT40) 5755MHz Ant2



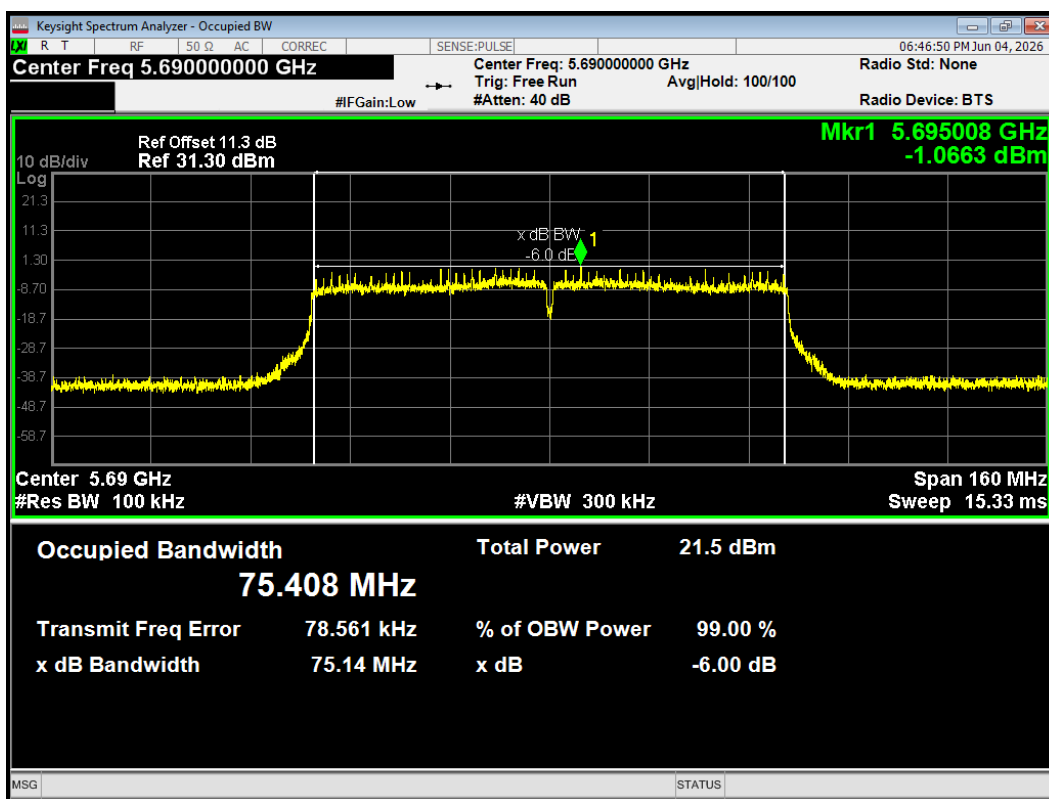
-6dB Bandwidth 802.11ac(VHT40) 5795MHz Ant1



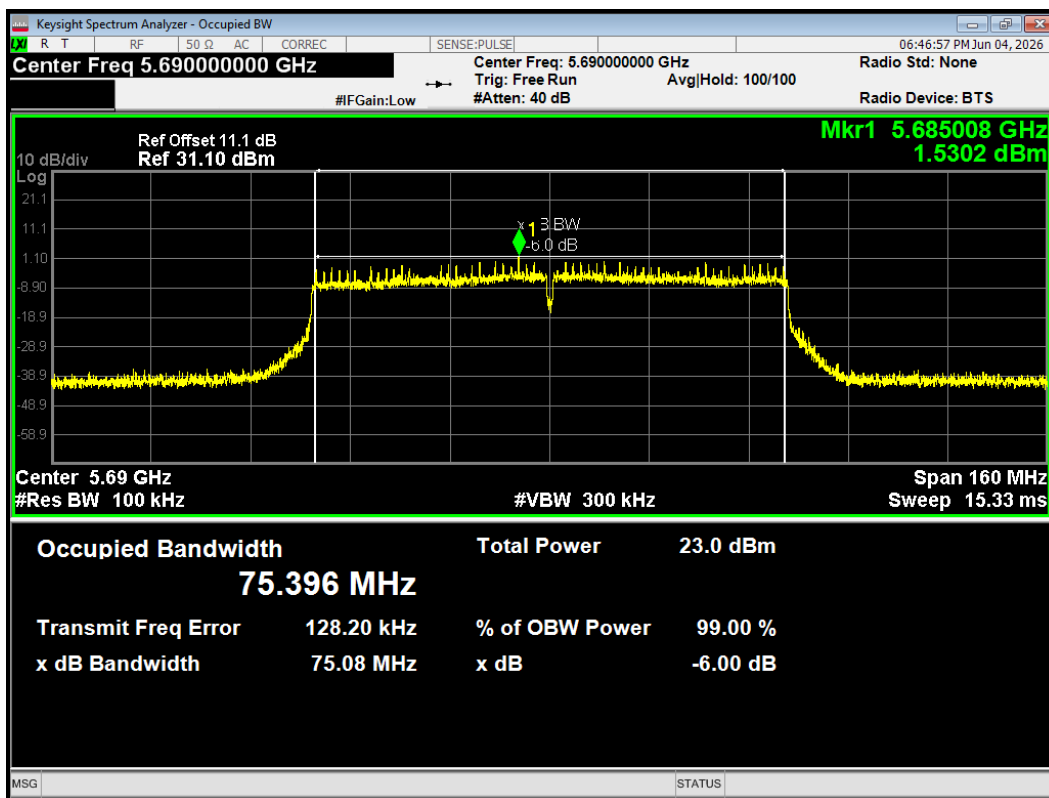
-6dB Bandwidth 802.11ac(VHT40) 5795MHz Ant2



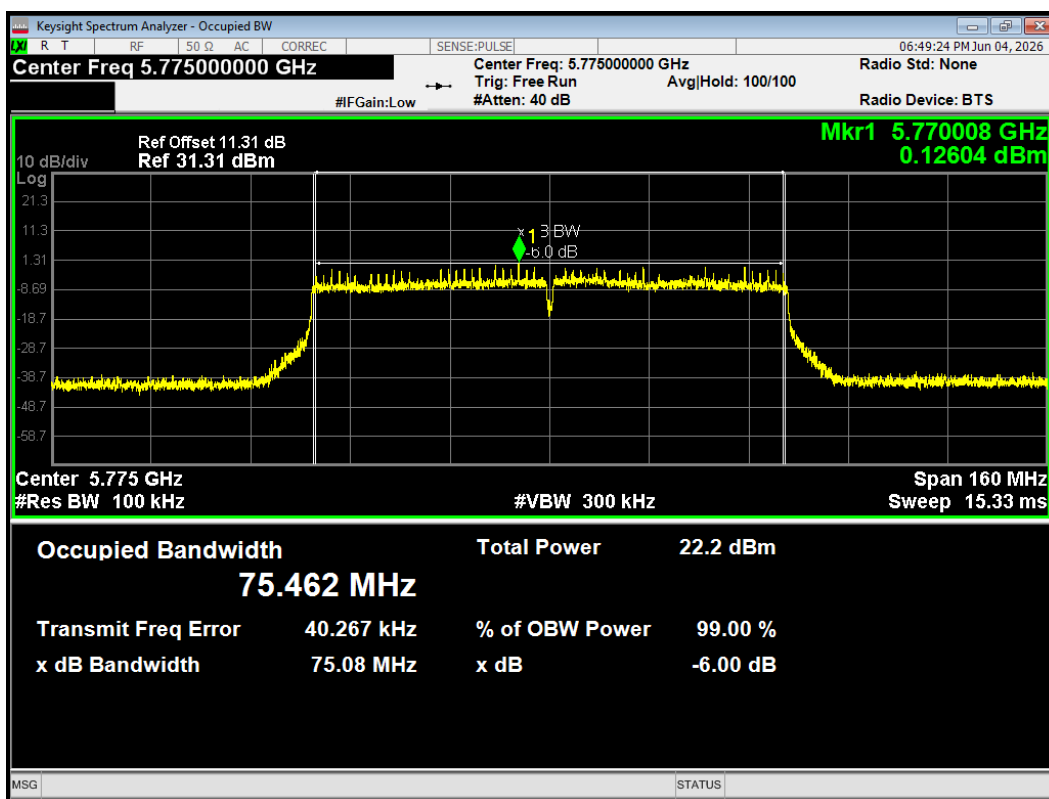
-6dB Bandwidth 802.11ac(VHT80) 5690MHz Ant1



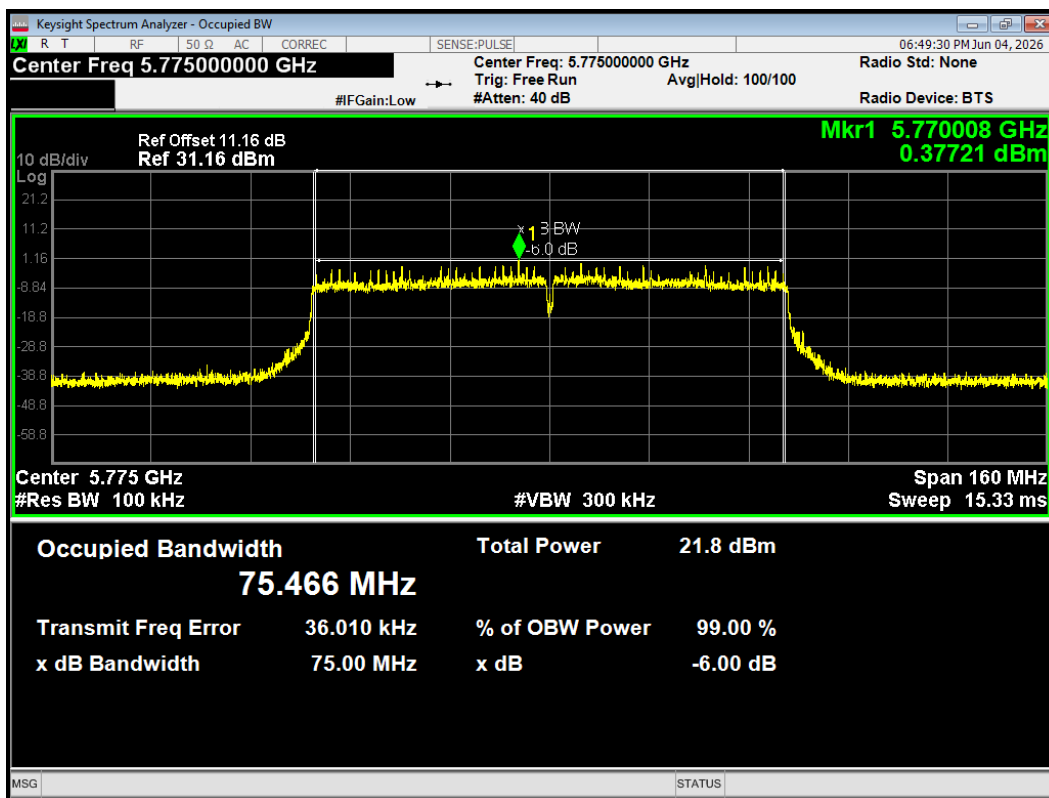
-6dB Bandwidth 802.11ac(VHT80) 5690MHz Ant2



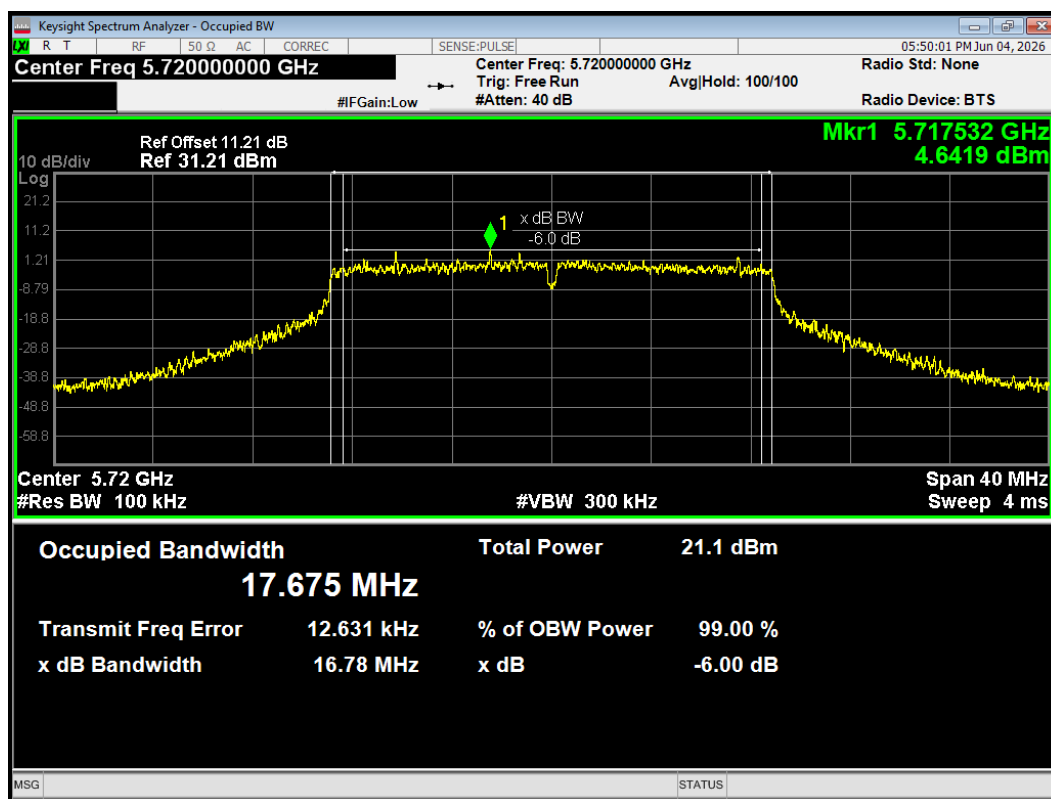
-6dB Bandwidth 802.11ac(VHT80) 5775MHz Ant1



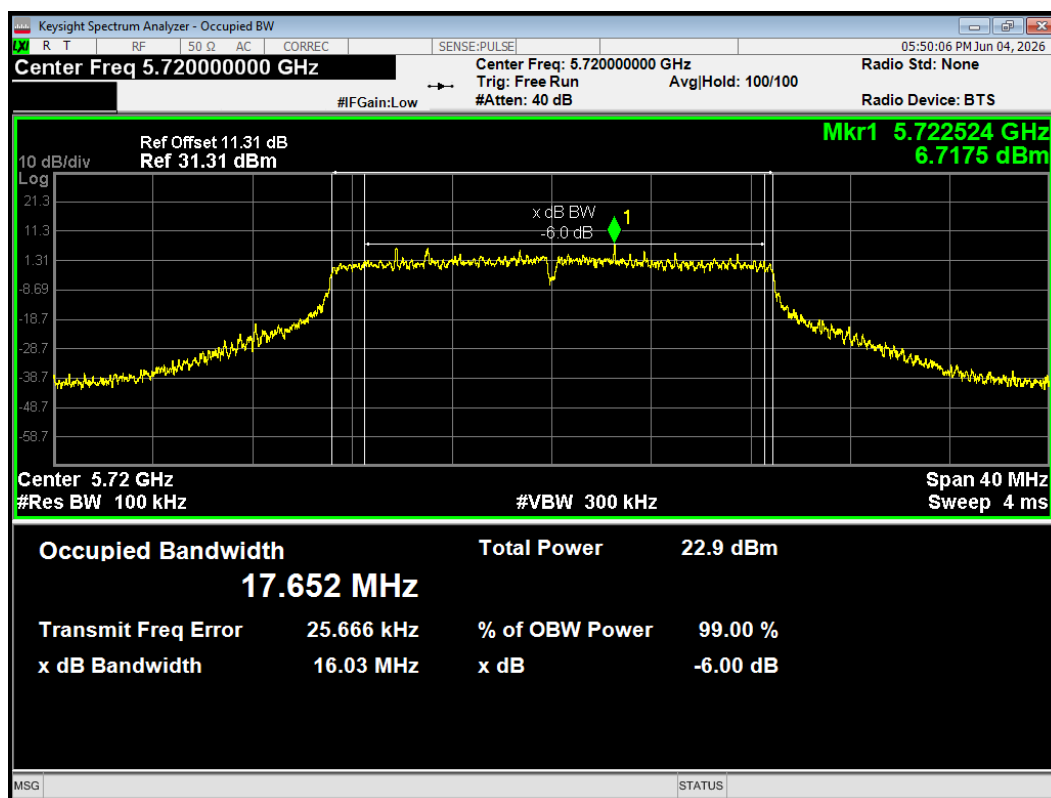
-6dB Bandwidth 802.11ac(VHT80) 5775MHz Ant2



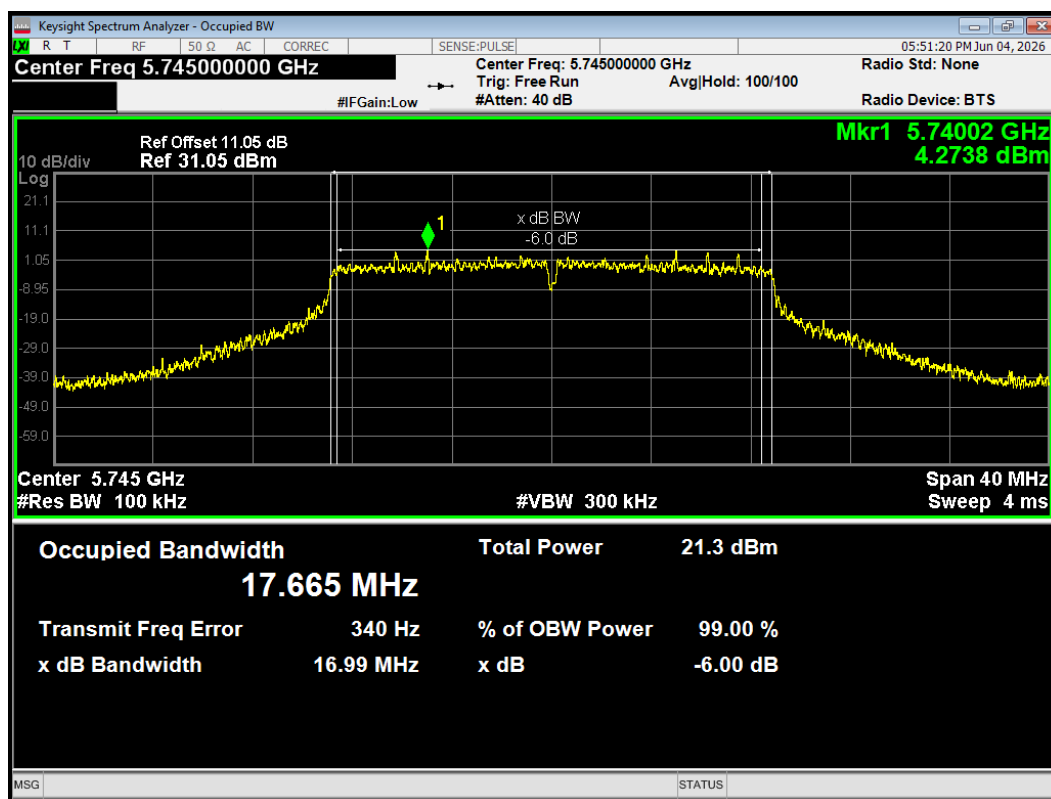
-6dB Bandwidth 802.11n(HT20) 5720MHz Ant1



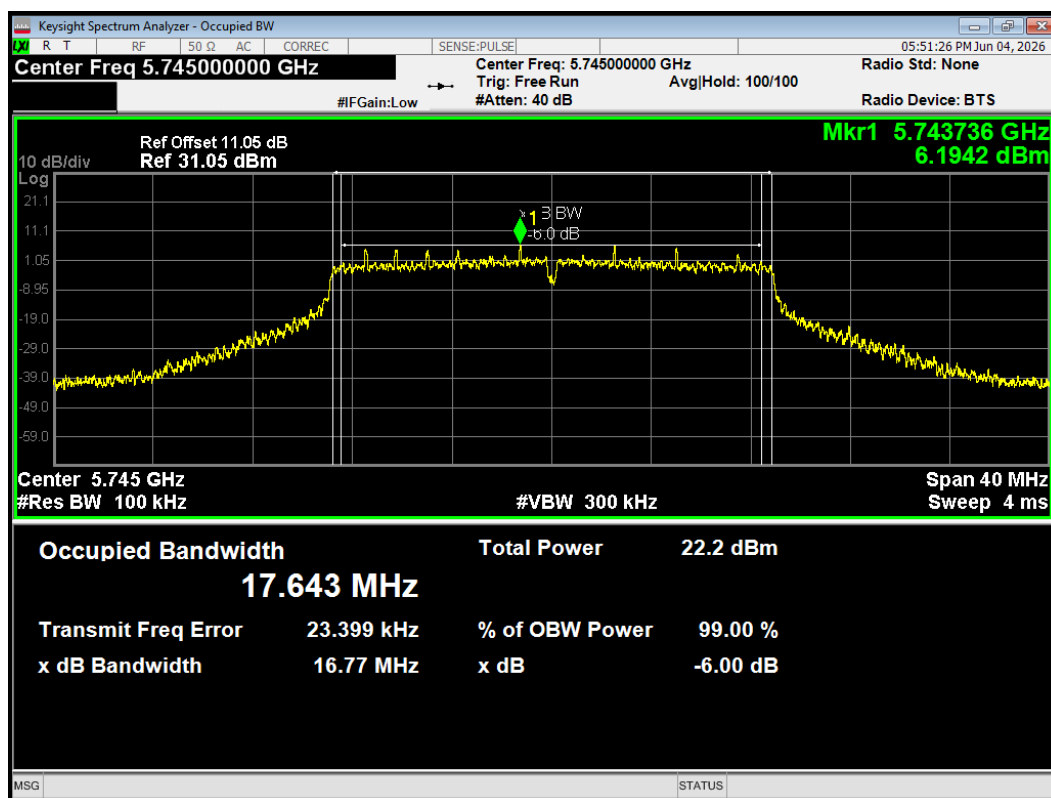
-6dB Bandwidth 802.11n(HT20) 5720MHz Ant2



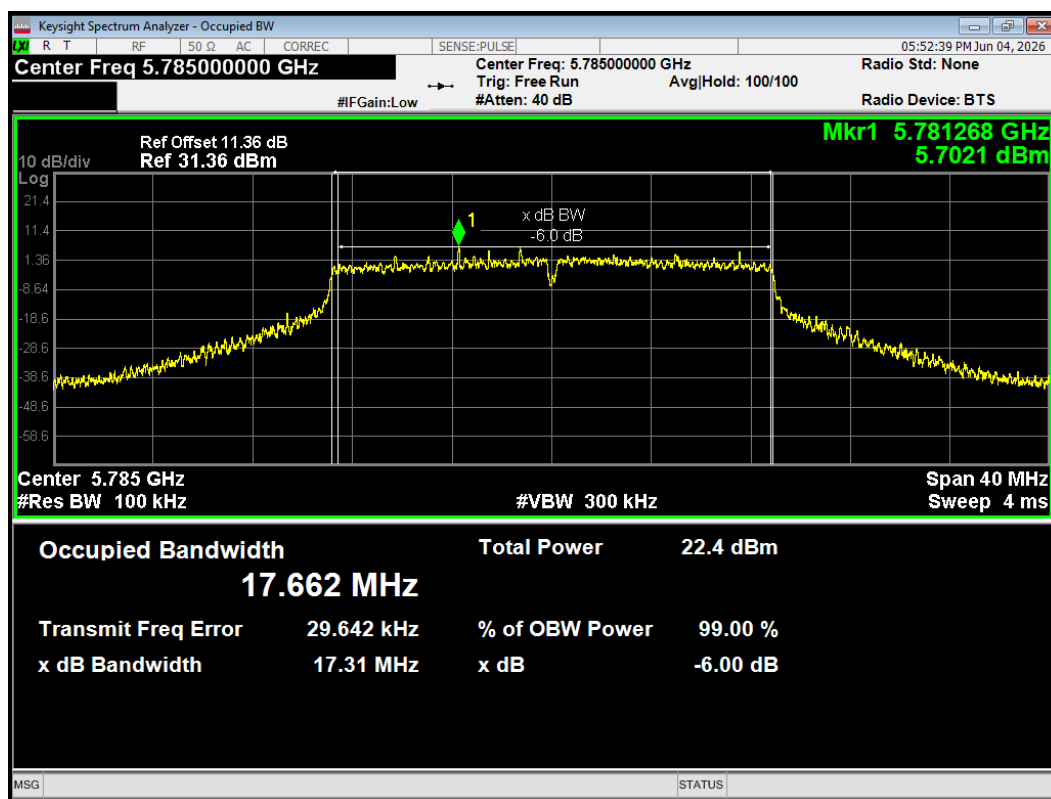
-6dB Bandwidth 802.11n(HT20) 5745MHz Ant1



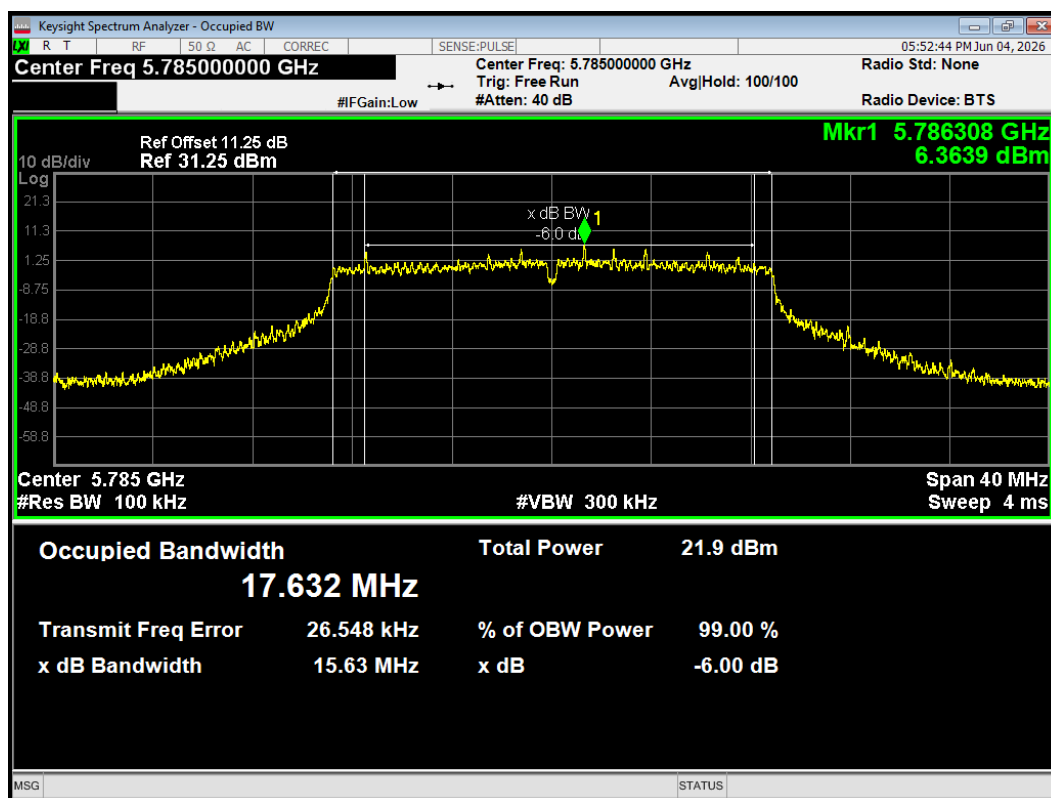
-6dB Bandwidth 802.11n(HT20) 5745MHz Ant2



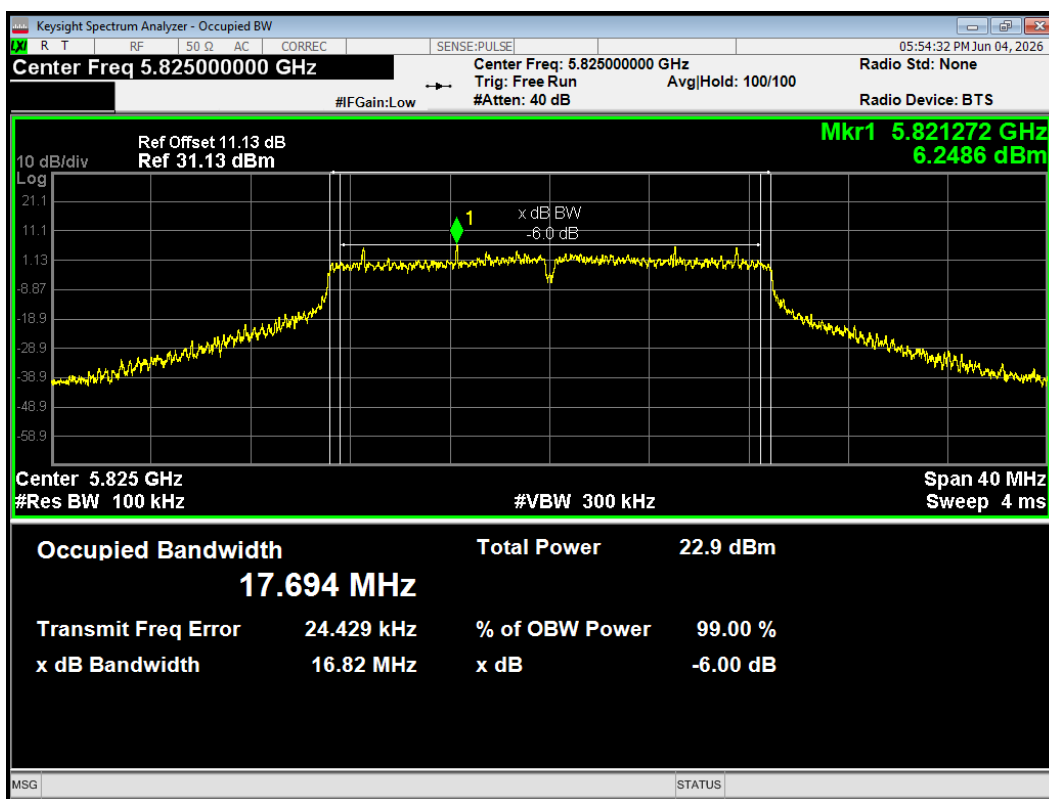
-6dB Bandwidth 802.11n(HT20) 5785MHz Ant1



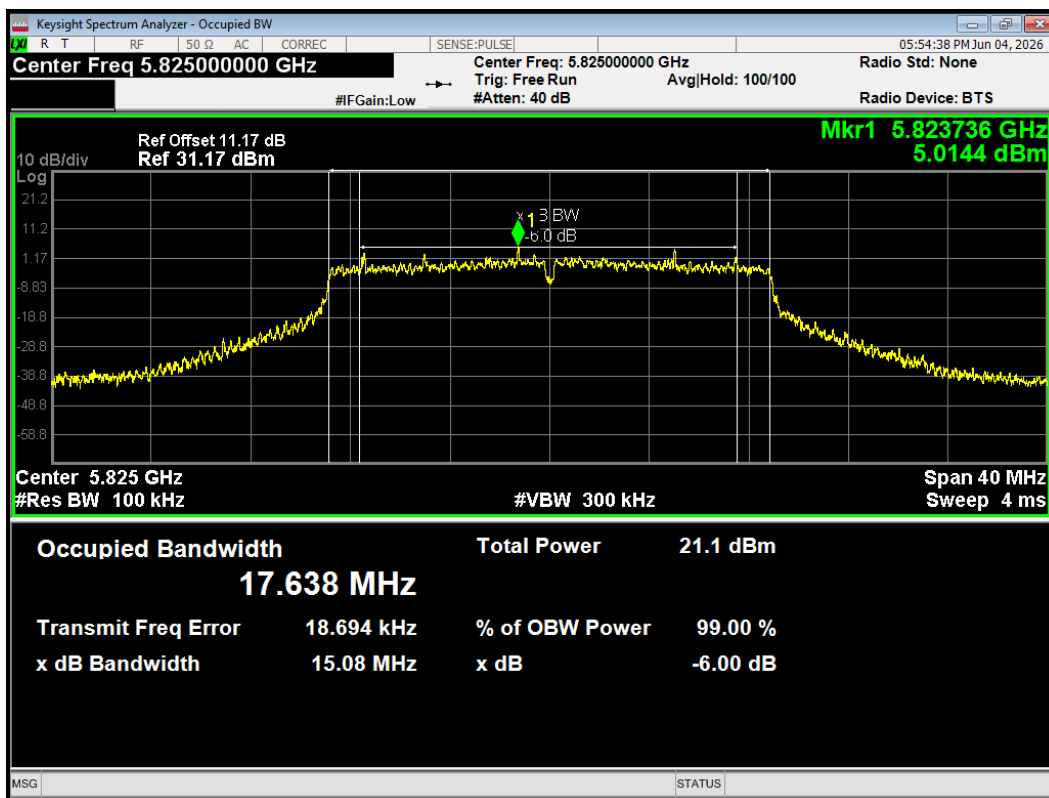
-6dB Bandwidth 802.11n(HT20) 5785MHz Ant2



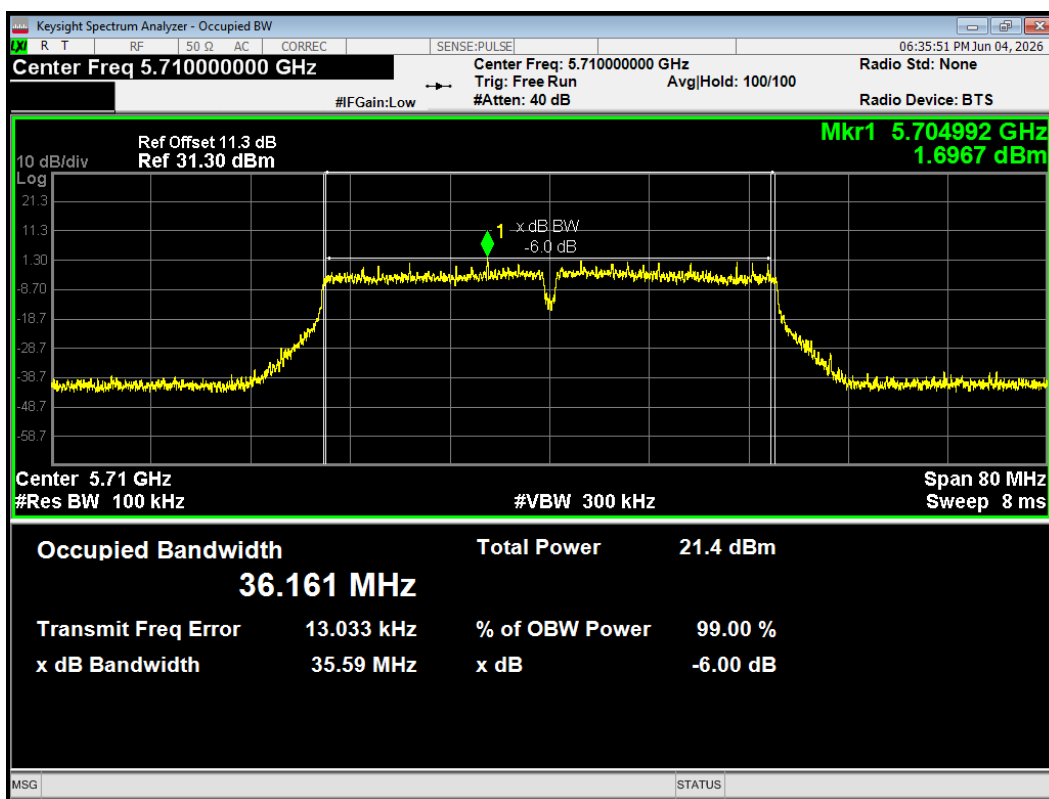
-6dB Bandwidth 802.11n(HT20) 5825MHz Ant1



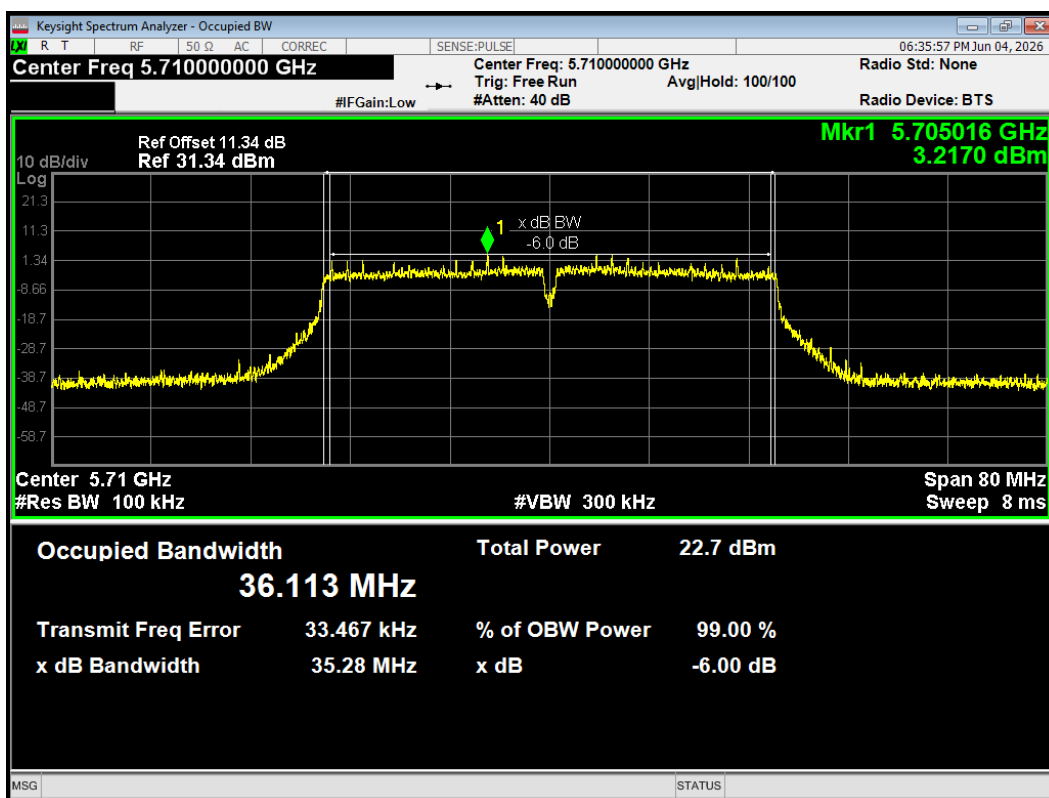
-6dB Bandwidth 802.11n(HT20) 5825MHz Ant2



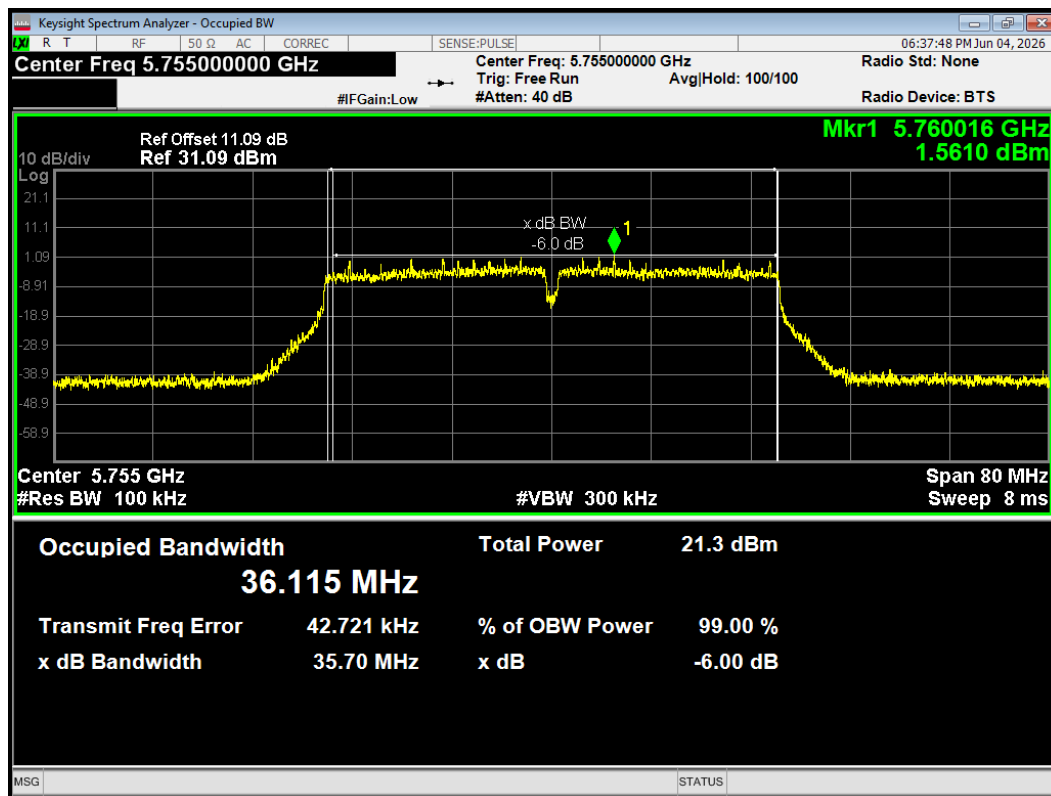
-6dB Bandwidth 802.11n(HT40) 5710MHz Ant1



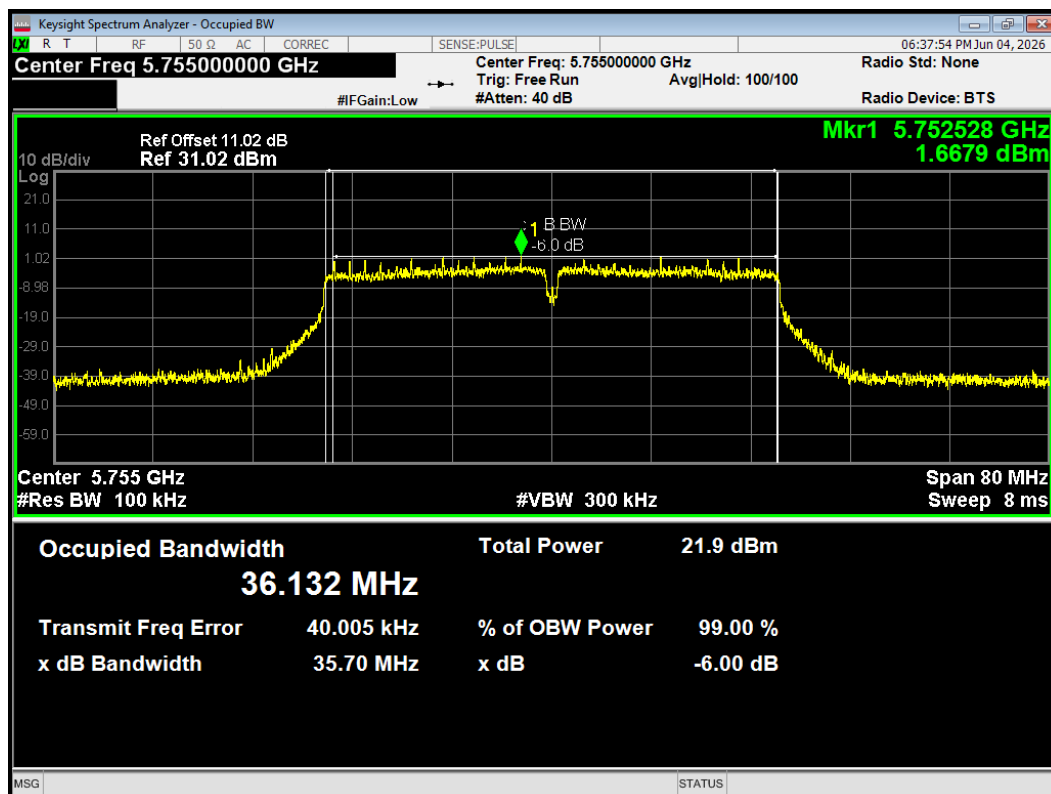
-6dB Bandwidth 802.11n(HT40) 5710MHz Ant2



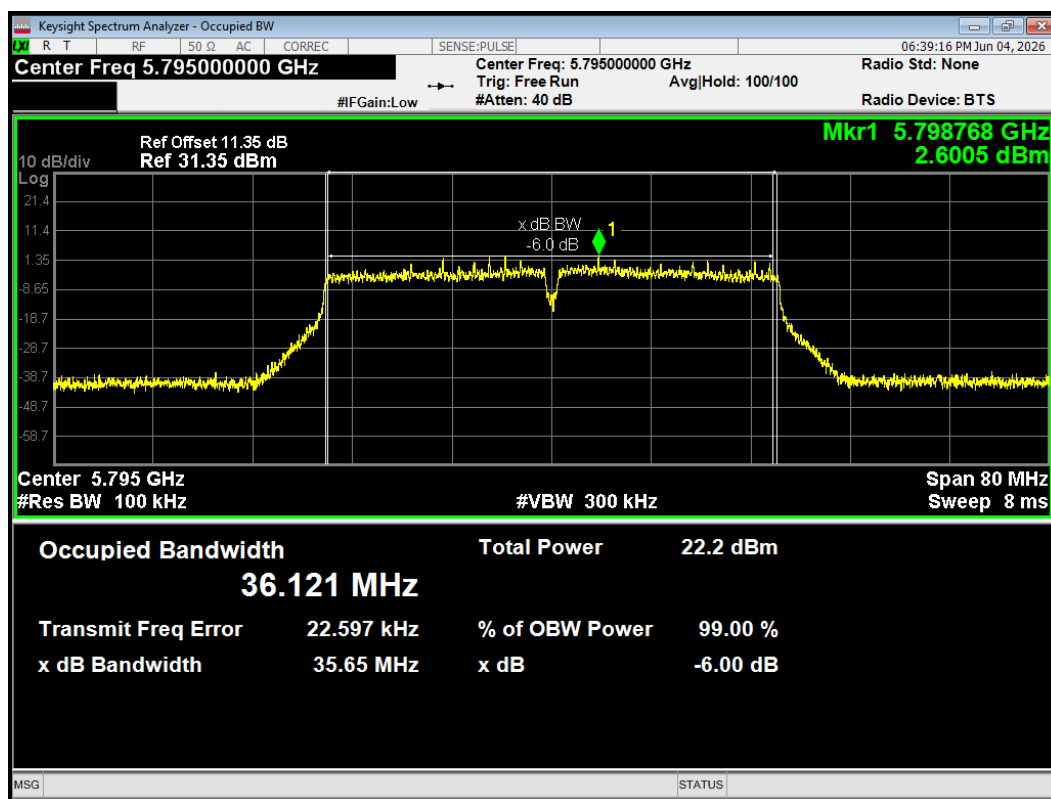
-6dB Bandwidth 802.11n(HT40) 5755MHz Ant1



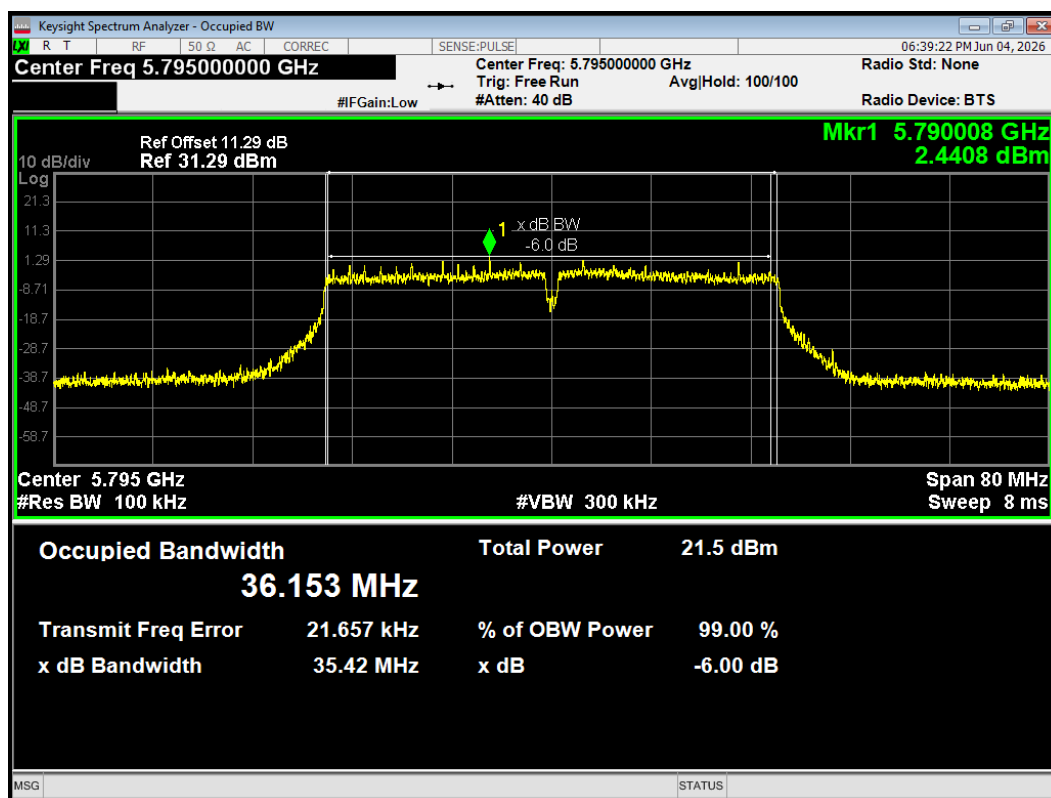
-6dB Bandwidth 802.11n(HT40) 5755MHz Ant2



-6dB Bandwidth 802.11n(HT40) 5795MHz Ant1



-6dB Bandwidth 802.11n(HT40) 5795MHz Ant2



6.2. Average Power Output

Mode	Duty cycle	Duty cycle correction Factor (dB)
802.11a	0.983	0.00
802.11n HT20	0.982	0.00
802.11n HT40	0.965	0.16
802.11ac VHT20	0.982	0.00
802.11ac VHT40	0.965	0.15
802.11ac VHT80	0.929	0.32
Note: when Duty cycle ≥ 0.98 , Duty cycle correction Factor not required.		

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Test Mode	Channel/ Frequency (MHz)	Power Index
802.11a	36/5180	13
	40/5200	13
	48/5240	13
802.11n HT20	36/5180	13
	40/5200	13
	48/5240	13
802.11n HT40	38/5190	12
	46/5230	12
802.11ac VHT20	36/5180	13
	40/5200	13
	48/5240	13
802.11ac VHT40	38/5190	13
	46/5230	13
802.11ac VHT80	42/5210	12

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Test Mode	Channel/ Frequency (MHz)	Power Index
802.11a	52/5260	14
	60/5300	14
	64/5320	14
802.11n HT20	52/5260	13
	60/5300	13
	64/5320	13
802.11n HT40	54/5270	12
	62/5310	12
802.11ac VHT20	52/5260	14
	60/5300	14
	64/5320	14
802.11ac VHT40	54/5270	13
	62/5310	13
802.11ac VHT80	58/5290	12

U-NII-2C

Test Mode	Channel/ Frequency (MHz)	Power Index
802.11a	100/5500	13
	120/5600	14
	140/5700	14
	144/5720	14
802.11n HT20	100/5500	13
	120/5600	13
	140/5700	13
	144/5720	13
802.11n HT40	102/5510	12
	118/5590	12
	134/5670	12
	142/5710	12
802.11ac VHT20	100/5500	13
	120/5600	14
	140/5700	14
	144/5720	15
802.11ac VHT40	102/5510	13
	118/5590	13
	134/5670	13
	142/5710	13
802.11ac VHT80	122/5610	12
	138/5690	12

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Test Mode	Channel/ Frequency (MHz)	Power Index
802.11a	144/5720	14
	149/5745	15
	157/5785	15
	165/5825	15
802.11n HT20	144/5720	13
	149/5745	13
	157/5785	13
	165/5825	13
802.11n HT40	142/5710	12
	151/5755	12
	159/5795	12
802.11ac VHT20	144/5720	15
	149/5745	15
	157/5785	15
	165/5825	15
802.11ac VHT40	142/5710	13
	151/5755	13
	159/5795	13
802.11ac VHT80	138/5690	12
	155/5775	12

Test Mode		Channel/ Frequency (MHz)	B=26 dB bandwidth (MHz)	Limit 11 dBm + 10 log B (dBm)	Final Limit (dBm)	
U-NII-2A	802.11a	52/5260	22.68	24.56	24.00	
		60/5300	22.06	24.44	24.00	
		64/5320	22.48	24.52	24.00	
	802.11n HT20	52/5260	23.52	24.71	24.00	
		60/5300	23.90	24.78	24.00	
		64/5320	22.94	24.61	24.00	
	802.11n HT40	54/5270	41.59	27.19	24.00	
		62/5310	41.69	27.20	24.00	
	802.11ac VHT20	52/5260	24.13	24.82	24.00	
		60/5300	23.99	24.80	24.00	
		64/5320	23.53	24.72	24.00	
	802.11ac VHT40	54/5270	41.93	27.23	24.00	
		62/5310	41.53	27.18	24.00	
802.11ac VHT80	58/5290	83.13	30.20	24.00		
U-NII-2C	802.11a	100/5500	22.83	24.59	24.00	
		120/5600	22.92	24.60	24.00	
		140/5700	22.82	24.58	24.00	
		144/5720	23.29	24.67	24.00	
	802.11n HT20	100/5500	23.13	24.64	24.00	
		120/5600	23.75	24.76	24.00	
		140/5700	24.05	24.81	24.00	
		144/5720	23.62	24.73	24.00	
	802.11n HT40	102/5510	41.22	27.15	24.00	
		118/5590	41.63	27.19	24.00	
		134/5670	41.41	27.17	24.00	
		142/5710	41.42	27.17	24.00	
	802.11ac VHT20	100/5500	23.09	24.63	24.00	
		120/5600	23.56	24.72	24.00	
		140/5700	24.34	24.86	24.00	
		144/5720	23.67	24.74	24.00	
	802.11ac VHT40	102/5510	41.40	27.17	24.00	
		118/5590	40.95	27.12	24.00	
		134/5670	41.23	27.15	24.00	
		142/5710	41.35	27.16	24.00	
	802.11ac VHT80	122/5610	83.45	30.21	24.00	
		138/5690	83.76	30.23	24.00	
	Note: 250mW=24dBm					

MIMO
U-NII-1

Test Mode	Channel/ Frequency (MHz)	MIMO Antenna 1		MIMO Antenna 2		Total Power (dBm)	Limit (dBm)	Conclusion
		Average Power Measured (dBm)	Average Power with duty factor (dBm)	Average Power Measured (dBm)	Average Power with duty factor (dBm)			
802.11a	36/5180	17.11	17.11	17.68	17.68	20.41	24.00	PASS
	40/5200	17.13	17.13	17.93	17.93	20.55	24.00	PASS
	48/5240	16.64	16.64	18.15	18.15	20.47	24.00	PASS
802.11n HT20	36/5180	17.13	17.13	17.43	17.43	20.29	24.00	PASS
	40/5200	16.75	16.75	17.84	17.84	20.34	24.00	PASS
	48/5240	16.40	16.40	17.97	17.97	20.27	24.00	PASS
802.11n HT40	38/5190	16.43	16.59	17.26	17.42	20.04	24.00	PASS
	46/5230	16.09	16.25	17.71	17.87	20.15	24.00	PASS
802.11ac VHT20	36/5180	16.94	16.94	17.54	17.54	20.26	24.00	PASS
	40/5200	16.98	16.98	17.76	17.76	20.40	24.00	PASS
	48/5240	16.41	16.41	17.97	17.97	20.27	24.00	PASS
802.11ac VHT40	38/5190	17.53	17.68	18.36	18.51	21.12	24.00	PASS
	46/5230	17.10	17.25	18.74	18.89	21.15	24.00	PASS
802.11ac VHT80	42/5210	16.30	16.62	17.37	17.69	20.20	24.00	PASS

Note: 1. For Total Power, according to KDB 662911 D01 Multiple Transmitter Output v02r01 1),

The Total Power = $10\log(10^{(\text{Power antenna1 in dBm}/10)} + 10^{(\text{Power antenna2 in dBm}/10)})$.

2. According to KDB 662911 D01 Multiple Transmitter Output v02r01 F)2)f)(i): If all antennas have the same gain, Directional gain = G_{ANT} + Array Gain,

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{\text{ANT}} \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

Array Gain = $5 \log(N_{\text{ANT}}/N_{\text{SS}})$ dB or 3 dB, whichever is less, for 20-MHz channel widths with $N_{\text{ANT}} \geq 5$.

So Directional gain = G_{ANT} + Array Gain = $2.70+0=2.70$ dBi < 6dBi. So the power limit is 24dBm.

U-NII-2A

Test Mode	Channel/ Frequency (MHz)	MIMO Antenna 1		MIMO Antenna 2		Total Power (dBm)	Limit (dBm)	Conclusion
		Average Power Measured (dBm)	Average Power with duty factor (dBm)	Average Power Measured (dBm)	Average Power with duty factor (dBm)			
802.11a	52/5260	16.71	16.71	18.26	18.26	20.57	24.00	PASS
	60/5300	16.76	16.76	17.59	17.59	20.21	24.00	PASS
	64/5320	16.92	16.92	17.23	17.23	20.09	24.00	PASS
802.11n HT20	52/5260	15.40	15.40	16.97	16.97	19.26	24.00	PASS
	60/5300	15.60	15.60	16.45	16.45	19.05	24.00	PASS
	64/5320	15.69	15.69	15.91	15.91	18.81	24.00	PASS
802.11n HT40	54/5270	15.31	15.47	16.61	16.77	19.18	24.00	PASS
	62/5310	15.10	15.26	16.00	16.16	18.74	24.00	PASS
802.11ac VHT20	52/5260	16.66	16.66	18.05	18.05	20.42	24.00	PASS
	60/5300	16.48	16.48	17.41	17.41	19.98	24.00	PASS
	64/5320	16.65	16.65	17.06	17.06	19.87	24.00	PASS
802.11ac VHT40	54/5270	16.34	16.49	17.71	17.86	20.24	24.00	PASS
	62/5310	16.12	16.27	16.92	17.07	19.70	24.00	PASS
802.11ac VHT80	58/5290	16.14	16.46	17.09	17.41	19.97	24.00	PASS

Note: 1. For Total Power, according to KDB 662911 D01 Multiple Transmitter Output v02r01 1),

The Total Power = $10\log(10^{(\text{Power antenna1 in dBm}/10)} + 10^{(\text{Power antenna2 in dBm}/10)})$.

2. According to KDB 662911 D01 Multiple Transmitter Output v02r01 F)2)f)(i): If all antennas have the same gain, Directional gain = G_{ANT} + Array Gain,

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{\text{ANT}} \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

Array Gain = $5 \log(N_{\text{ANT}}/N_{\text{SS}})$ dB or 3 dB, whichever is less, for 20-MHz channel widths with $N_{\text{ANT}} \geq 5$.

So Directional gain = $G_{\text{ANT}} + \text{Array Gain} = 2.07 + 0 = 2.07$ dBi < 6 dBi. So the power limit is 24 dBm.

U-NII-2C

Test Mode	Channel/ Frequency (MHz)	MIMO Antenna 1		MIMO Antenna 2		Total Power (dBm)	Limit (dBm)	Conclusion
		Average Power Measured (dBm)	Average Power with duty factor (dBm)	Average Power Measured (dBm)	Average Power with duty factor (dBm)			
802.11a	100/5500	18.02	18.02	17.68	17.68	20.87	24.00	PASS
	120/5600	17.11	17.11	17.85	17.85	20.51	24.00	PASS
	140/5700	16.47	16.47	17.82	17.82	20.21	24.00	PASS
	144/5720	15.51	15.51	17.02	17.02	19.34	24.00	PASS
802.11n HT20	100/5500	17.87	17.87	17.54	17.54	20.72	24.00	PASS
	120/5600	15.94	15.94	16.74	16.74	19.37	24.00	PASS
	140/5700	15.28	15.28	16.70	16.70	19.06	24.00	PASS
	144/5720	14.27	14.27	15.74	15.74	18.08	24.00	PASS
802.11n HT40	102/5510	17.24	17.40	16.92	17.08	20.25	24.00	PASS
	118/5590	15.80	15.96	16.65	16.81	19.42	24.00	PASS
	134/5670	14.94	15.10	16.52	16.68	18.97	24.00	PASS
	142/5710	14.68	14.84	15.98	16.14	18.55	24.00	PASS
802.11ac VHT20	100/5500	17.78	17.78	17.57	17.57	20.69	24.00	PASS
	120/5600	16.86	16.86	17.75	17.75	20.34	24.00	PASS
	140/5700	16.26	16.26	17.71	17.71	20.06	24.00	PASS
	144/5720	16.24	16.24	17.76	17.76	20.08	24.00	PASS
802.11ac VHT40	102/5510	18.26	18.41	18.12	18.27	21.35	24.00	PASS
	118/5590	16.81	16.96	17.60	17.75	20.38	24.00	PASS
	134/5670	16.14	16.29	17.27	17.42	19.90	24.00	PASS
	142/5710	15.58	15.73	17.03	17.18	19.52	24.00	PASS
802.11ac VHT80	122/5610	15.46	15.78	16.04	16.36	19.09	24.00	PASS
	138/5690	14.41	14.73	15.82	16.14	18.50	24.00	PASS

Note: 1. For Total Power, according to KDB 662911 D01 Multiple Transmitter Output v02r01 1),

The Total Power = $10\log(10^{(\text{Power antenna1 in dBm}/10)} + 10^{(\text{Power antenna2 in dBm}/10)})$.

2. According to KDB 662911 D01 Multiple Transmitter Output v02r01 F)2)f)(i): If all antennas have the same gain, Directional gain = G_{ANT} + Array Gain,

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{\text{ANT}} \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

Array Gain = $5 \log(N_{\text{ANT}}/N_{\text{SS}})$ dB or 3 dB, whichever is less, for 20-MHz channel widths with $N_{\text{ANT}} \geq 5$.

So Directional gain = $G_{\text{ANT}} + \text{Array Gain} = 1.48 + 0 = 1.48 \text{ dBi} < 6 \text{ dBi}$. So the power limit is 24dBm.

U-NII-3

Test Mode	Channel/ Frequency (MHz)	MIMO Antenna 1		MIMO Antenna 2		Total Power (dBm)	Limit (dBm)	Conclusion
		Average Power Measured (dBm)	Average Power with duty factor (dBm)	Average Power Measured (dBm)	Average Power with duty factor (dBm)			
802.11a	144/5720	8.74	8.74	10.24	10.24	12.56	30.00	PASS
	149/5745	17.23	17.23	18.11	18.11	20.70	30.00	PASS
	157/5785	18.22	18.22	17.72	17.72	20.99	30.00	PASS
	165/5825	18.66	18.66	17.34	17.34	21.06	30.00	PASS
802.11n HT20	144/5720	7.43	7.43	9.55	9.55	11.63	30.00	PASS
	149/5745	15.11	15.11	15.86	15.86	18.51	30.00	PASS
	157/5785	16.23	16.23	15.51	15.51	18.89	30.00	PASS
	165/5825	15.02	15.02	14.85	14.85	17.95	30.00	PASS
802.11n HT40	142/5710	3.56	3.72	5.05	5.21	7.54	30.00	PASS
	151/5755	14.88	15.04	15.40	15.56	18.32	30.00	PASS
	159/5795	15.79	15.95	15.02	15.18	18.59	30.00	PASS
802.11ac VHT20	144/5720	10.08	10.08	11.49	11.49	13.85	30.00	PASS
	149/5745	17.13	17.13	17.78	17.78	20.47	30.00	PASS
	157/5785	18.13	18.13	17.41	17.41	20.80	30.00	PASS
	165/5825	18.60	18.60	17.09	17.09	20.92	30.00	PASS
802.11ac VHT40	142/5710	4.63	4.78	6.44	6.59	8.79	30.00	PASS
	151/5755	15.91	16.06	16.38	16.53	19.31	30.00	PASS
	159/5795	16.87	17.02	16.00	16.15	19.62	30.00	PASS
802.11ac VHT80	138/5690	0.78	1.10	2.53	2.85	5.07	30.00	PASS
	155/5775	15.16	15.48	14.80	15.12	18.31	30.00	PASS

Note: 1. For Total Power, according to KDB 662911 D01 Multiple Transmitter Output v02r01 1),

The Total Power = $10\log(10^{(\text{Power antenna1 in dBm}/10)} + 10^{(\text{Power antenna2 in dBm}/10)})$.

2. According to KDB 662911 D01 Multiple Transmitter Output v02r01 F)2)f)(i): If all antennas have the same gain, Directional gain = G_{ANT} + Array Gain,

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{\text{ANT}} \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

Array Gain = $5 \log(N_{\text{ANT}}/N_{\text{SS}})$ dB or 3 dB, whichever is less, for 20-MHz channel widths with $N_{\text{ANT}} \geq 5$.

So Directional gain = $G_{\text{ANT}} + \text{Array Gain} = 1.48 + 0 = 1.48 \text{ dBi} < 6 \text{ dBi}$. So the power limit is 30dBm.

6.3. Frequency Stability

Voltage (V)	Temperature (°C)	U-NII-1 Test Results			
		5200MHz			
		1min	2min	5min	10min
3.8	-30	5199.996565	5199.990072	5199.983325	5199.976301
3.8	-20	5200.004980	5199.986880	5199.980477	5199.966556
3.8	-10	5200.012834	5199.979776	5199.973699	5199.964557
3.8	0	5200.004293	5199.977341	5199.972096	5199.962304
3.8	10	5199.997705	5199.970143	5199.963023	5199.956203
3.8	20	5199.988364	5199.969841	5199.960530	5199.950060
3.8	30	5199.978824	5199.968690	5199.951864	5199.940580
3.8	40	5199.974168	5199.961707	5199.945030	5199.932318
3.8	50	5199.971052	5199.960615	5199.941093	5199.927240
3.5	20	5199.965512	5199.956300	5199.934628	5199.924877
4.35	20	5199.965198	5199.951864	5199.926363	5199.917095
Max. ΔMHz		-0.034802	-0.048136	-0.073637	-0.082905
PPM		-6.692692	-9.256923	-14.160962	-15.943269

Voltage (V)	Temperature (°C)	U-NII-2A Test Results			
		5300MHz			
		1min	2min	5min	10min
3.8	-30	5300.001591	5299.995966	5299.993398	5299.990618
3.8	-20	5299.993204	5299.988628	5299.991022	5299.986896
3.8	-10	5299.990966	5299.983791	5299.981937	5299.985209
3.8	0	5299.992304	5299.979585	5299.988314	5299.982308
3.8	10	5299.985732	5299.970869	5299.981875	5299.974274
3.8	20	5299.977668	5299.960889	5299.972758	5299.974070
3.8	30	5299.969402	5299.959902	5299.970105	5299.971893
3.8	40	5299.961147	5299.950628	5299.962232	5299.968023
3.8	50	5299.954658	5299.943670	5299.960977	5299.961560
3.5	20	5299.953684	5299.936429	5299.957183	5299.961028
4.35	20	5299.944463	5299.934074	5299.952764	5299.954577
Max. ΔMHz		-0.055537	-0.065926	-0.047236	-0.045423
PPM		-10.478679	-12.438868	-8.912453	-8.570377

Voltage (V)	Temperature (°C)	U-NII-2C Test Results			
		5580MHz			
		1min	2min	5min	10min
3.8	-30	5579.993185	5579.990328	5579.984097	5579.977444
3.8	-20	5579.989591	5579.988911	5579.978253	5579.972991
3.8	-10	5579.979786	5579.985817	5579.968582	5579.971198
3.8	0	5579.989504	5579.985509	5579.974766	5579.965066
3.8	10	5579.984982	5579.979223	5579.965097	5579.957539
3.8	20	5579.984241	5579.975133	5579.958572	5579.949370
3.8	30	5579.977824	5579.967752	5579.951699	5579.942842
3.8	40	5579.970501	5579.959050	5579.947641	5579.939389
3.8	50	5579.967077	5579.954676	5579.945299	5579.936969
3.5	20	5579.963688	5579.953876	5579.944142	5579.929468
4.35	20	5579.962935	5579.944168	5579.941239	5579.924250
Max. ΔMHz		-0.037065	-0.055832	-0.058761	-0.075750
PPM		-6.642473	-10.005735	-10.530645	-13.575269

Voltage (V)	Temperature (°C)	U-NII-3 Test Results			
		5785MHz			
		1min	2min	5min	10min
3.8	-30	5784.994876	5784.993276	5784.984688	5784.977529
3.8	-20	5784.992585	5784.988991	5784.980661	5784.973441
3.8	-10	5784.990968	5784.981785	5784.971873	5784.967809
3.8	0	5784.986736	5784.979595	5784.972769	5784.972856
3.8	10	5784.984240	5784.973235	5784.970429	5784.972790
3.8	20	5784.974521	5784.963502	5784.964269	5784.968860
3.8	30	5784.965071	5784.962837	5784.956872	5784.959543
3.8	40	5784.957578	5784.956065	5784.952787	5784.951737
3.8	50	5784.953098	5784.949281	5784.950817	5784.944656
3.5	20	5784.944621	5784.941645	5784.948293	5784.942336
4.35	20	5784.939417	5784.937240	5784.938480	5784.935438
Max. ΔMHz		-0.060583	-0.062760	-0.061520	-0.064562
PPM		-10.472429	-10.848747	-10.634399	-11.160242

6.4. Power Spectral Density

MIMO

U-NII-1

Mode	Channel/ Frequency (MHz)	Power Spectral Density					Limit (dBm/MHz)	Conclusion
		Antenna 1		Antenna 2		Total PSD (dBm/MHz)		
		Read Value (dBm/MHz)	PSD (dBm/MHz)	Read Value (dBm/MHz)	PSD (dBm/MHz)			
802.11a	36/5180	7.56	7.56	7.84	7.84	10.71	11.00	PASS
	40/5200	7.31	7.31	8.10	8.10	10.73	11.00	PASS
	48/5240	7.04	7.04	8.69	8.69	10.95	11.00	PASS
802.11n HT20	36/5180	7.20	7.20	7.68	7.68	10.46	11.00	PASS
	40/5200	6.40	6.40	7.47	7.47	9.98	11.00	PASS
	48/5240	6.28	6.28	7.76	7.76	10.09	11.00	PASS
802.11n HT40	38/5190	3.40	3.56	3.95	4.11	6.85	11.00	PASS
	46/5230	3.07	3.23	4.65	4.81	7.10	11.00	PASS
802.11ac VHT20	36/5180	6.59	6.59	7.27	7.27	9.95	11.00	PASS
	40/5200	6.81	6.81	7.65	7.65	10.26	11.00	PASS
	48/5240	5.88	5.88	7.73	7.73	9.91	11.00	PASS
802.11ac VHT40	38/5190	4.17	4.32	4.94	5.09	7.73	11.00	PASS
	46/5230	3.65	3.80	5.51	5.66	7.84	11.00	PASS
802.11ac VHT80	42/5210	0.20	0.52	0.84	1.16	3.86	11.00	PASS

Note: 1. Power Spectral Density = Read Value + Duty cycle correction factor

2. For Total PSD, according to KDB 662911 D01 Multiple Transmitter Output v02r01 2)a),

the power spectral density = $10\log(10^{(\text{PSD antenna1 in dBm}/10)} + 10^{(\text{PSD antenna2 in dBm}/10)})$

3. According to KDB 662911 D01 Multiple Transmitter Output v02r01 F)2)f(i): If all antennas have the same gain, Directional gain = $G_{\text{ANT}} + \text{Array Gain}$, For PSD measurements on all devices, Array Gain = $10\log(N_{\text{ant}}/N_{\text{ss}})\text{dB}$, so Directional gain = $G_{\text{ANT}} + \text{Array Gain} = 2.70 + 10\log(2/1) = 5.71 < 6 \text{ dBi}$.

U-NII-2A

Mode	Channel /Frequency (MHz)	Power Spectral Density					Limit (dBm /MHz)	Conclusion
		Antenna 1		Antenna 2		Total PSD (dBm/MHz)		
		Read Value (dBm/MHz)	PSD (dBm/MHz)	Read Value (dBm/MHz)	PSD (dBm/MHz)			
802.11a	52/5260	6.78	6.78	8.43	8.43	10.69	11.00	PASS
	60/5300	6.94	6.94	7.77	7.77	10.39	11.00	PASS
	64/5320	7.18	7.18	7.26	7.26	10.23	11.00	PASS
802.11n HT20	52/5260	4.97	4.97	6.70	6.70	8.93	11.00	PASS
	60/5300	5.23	5.23	6.37	6.37	8.85	11.00	PASS
	64/5320	5.41	5.41	5.94	5.94	8.69	11.00	PASS
802.11n HT40	54/5270	2.18	2.34	3.46	3.62	6.04	11.00	PASS
	62/5310	2.07	2.23	2.79	2.95	5.62	11.00	PASS
802.11ac VHT20	52/5260	6.80	6.80	7.99	7.99	10.45	11.00	PASS
	60/5300	6.52	6.52	7.04	7.04	9.80	11.00	PASS
	64/5320	6.41	6.41	6.88	6.88	9.66	11.00	PASS
802.11ac VHT40	54/5270	2.87	3.02	4.51	4.66	6.93	11.00	PASS
	62/5310	3.06	3.21	3.89	4.04	6.66	11.00	PASS
802.11ac VHT80	58/5290	-0.03	0.29	0.64	0.96	3.65	11.00	PASS

Note: 1. Power Spectral Density =Read Value + Duty cycle correction factor

2. For Total PSD, according to KDB 662911 D01 Multiple Transmitter Output v02r01 2)a),

the power spectral density= $10\log(10^{(\text{PSD antenna1 in dBm}/10)} + 10^{(\text{PSD antenna2 in dBm}/10)})$

3. According to KDB 662911 D01 Multiple Transmitter Output v02r01 F)2)f(i): If all antennas have the same gain, Directional gain = $G_{\text{ANT}} + \text{Array Gain}$, For PSD measurements on all devices, Array Gain= $10\log(N_{\text{ant}}/N_{\text{ss}})\text{dB}$,

so Directional gain= $G_{\text{ANT}} + \text{Array Gain} = 2.07 + 10\log(2/1) = 5.08 < 6 \text{ dBi}$.

U-NII-2C

Mode	Channel /Frequency (MHz)	Power Spectral Density					Limit (dBm /MHz)	Conclusion
		Antenna 1		Antenna 2		Total PSD (dBm/MHz)		
		Read Value (dBm/MHz)	PSD (dBm/MHz)	Read Value (dBm/MHz)	PSD (dBm/MHz)			
802.11a	100/5500	8.17	8.17	7.75	7.75	10.98	11.00	PASS
	120/5600	7.06	7.06	8.25	8.25	10.71	11.00	PASS
	140/5700	6.77	6.77	8.00	8.00	10.44	11.00	PASS
	144/5720	6.31	6.31	7.90	7.90	10.19	11.00	PASS
802.11n HT20	100/5500	7.76	7.76	7.33	7.33	10.56	11.00	PASS
	120/5600	5.57	5.57	6.45	6.45	9.04	11.00	PASS
	140/5700	4.96	4.96	6.43	6.43	8.77	11.00	PASS
	144/5720	4.87	4.87	6.63	6.63	8.85	11.00	PASS
802.11n HT40	102/5510	3.81	3.97	3.89	4.05	7.02	11.00	PASS
	118/5590	2.89	3.05	3.79	3.95	6.53	11.00	PASS
	134/5670	1.97	2.13	3.30	3.46	5.86	11.00	PASS
	142/5710	1.88	2.04	3.30	3.46	5.82	11.00	PASS
802.11ac VHT20	100/5500	7.77	7.77	7.30	7.30	10.55	11.00	PASS
	120/5600	6.72	6.72	7.62	7.62	10.20	11.00	PASS
	140/5700	5.92	5.92	7.58	7.58	9.84	11.00	PASS
	144/5720	6.91	6.91	8.52	8.52	10.80	11.00	PASS
802.11ac VHT40	102/5510	5.07	5.22	4.99	5.14	8.19	11.00	PASS
	118/5590	3.42	3.57	4.55	4.70	7.18	11.00	PASS
	134/5670	2.75	2.90	4.16	4.31	6.67	11.00	PASS
	142/5710	2.67	2.82	4.03	4.18	6.56	11.00	PASS
802.11ac VHT80	122/5610	-0.93	-0.61	-0.22	0.10	2.77	11.00	PASS
	138/5690	-1.77	-1.45	-0.28	0.04	2.37	11.00	PASS

Note: 1. Power Spectral Density =Read Value+Duty cycle correction factor

2. For Total PSD, according to KDB 662911 D01 Multiple Transmitter Output v02r01 2)a),

the power spectral density= $10\log(10^{(\text{PSD antenna1 in dBm}/10)} + 10^{(\text{PSD antenna2 in dBm}/10)})$

3. According to KDB 662911 D01 Multiple Transmitter Output v02r01 F)2)f)(i): If all antennas have the same gain, Directional gain = $G_{\text{ANT}} + \text{Array Gain}$, For PSD measurements on all devices, Array Gain= $10\log(N_{\text{ant}}/N_{\text{ss}})\text{dB}$, so Directional gain= $G_{\text{ANT}} + \text{Array Gain} = 1.48 + 10\log(2/1) = 4.49 < 6 \text{ dBi}$.

U-NII-3

Mode	Channel /Frequency (MHz)	Power Spectral Density					Limit (dBm/ 500kHz)	Conclusion
		Antenna 1		Antenna 2		Total PSD (dBm/ 510kHz)		
		Read Value (dBm/ 510kHz)	PSD (dBm/ 510kHz)	Read Value (dBm/ 510kHz)	PSD (dBm/ 510kHz)			
802.11a	144/5720	1.65	1.65	3.42	3.42	5.63	30.00	PASS
	149/5745	4.51	4.51	5.56	5.56	8.08	30.00	PASS
	157/5785	5.69	5.69	5.33	5.33	8.52	30.00	PASS
	165/5825	6.51	6.51	4.75	4.75	8.73	30.00	PASS
802.11n HT20	144/5720	0.51	0.51	2.24	2.24	4.47	30.00	PASS
	149/5745	1.96	1.96	2.85	2.85	5.44	30.00	PASS
	157/5785	3.17	3.17	2.40	2.40	5.81	30.00	PASS
	165/5825	3.50	3.50	2.64	2.64	6.10	30.00	PASS
802.11n HT40	142/5710	-2.83	-2.67	-1.62	-1.46	0.99	30.00	PASS
	151/5755	-1.21	-1.05	-0.46	-0.30	2.35	30.00	PASS
	159/5795	0.08	0.24	-0.67	-0.51	2.89	30.00	PASS
802.11ac VHT20	144/5720	2.08	2.08	3.75	3.75	6.01	30.00	PASS
	149/5745	4.13	4.13	4.85	4.85	7.52	30.00	PASS
	157/5785	4.74	4.74	4.64	4.64	7.70	30.00	PASS
	165/5825	5.74	5.74	4.02	4.02	7.97	30.00	PASS
802.11ac VHT40	142/5710	-2.29	-2.14	-0.65	-0.50	1.77	30.00	PASS
	151/5755	0.10	0.25	0.61	0.76	3.52	30.00	PASS
	159/5795	1.14	1.29	0.11	0.26	3.82	30.00	PASS
802.11ac VHT80	138/5690	-5.94	-5.62	-3.95	-3.63	-1.50	30.00	PASS
	155/5775	-3.85	-3.53	-3.78	-3.46	-0.48	30.00	PASS

Note:1. Power Spectral Density =Read Value + Duty cycle correction factor.

2. For Total PSD, according to KDB 662911 D01 Multiple Transmitter Output v02r01 2)a),

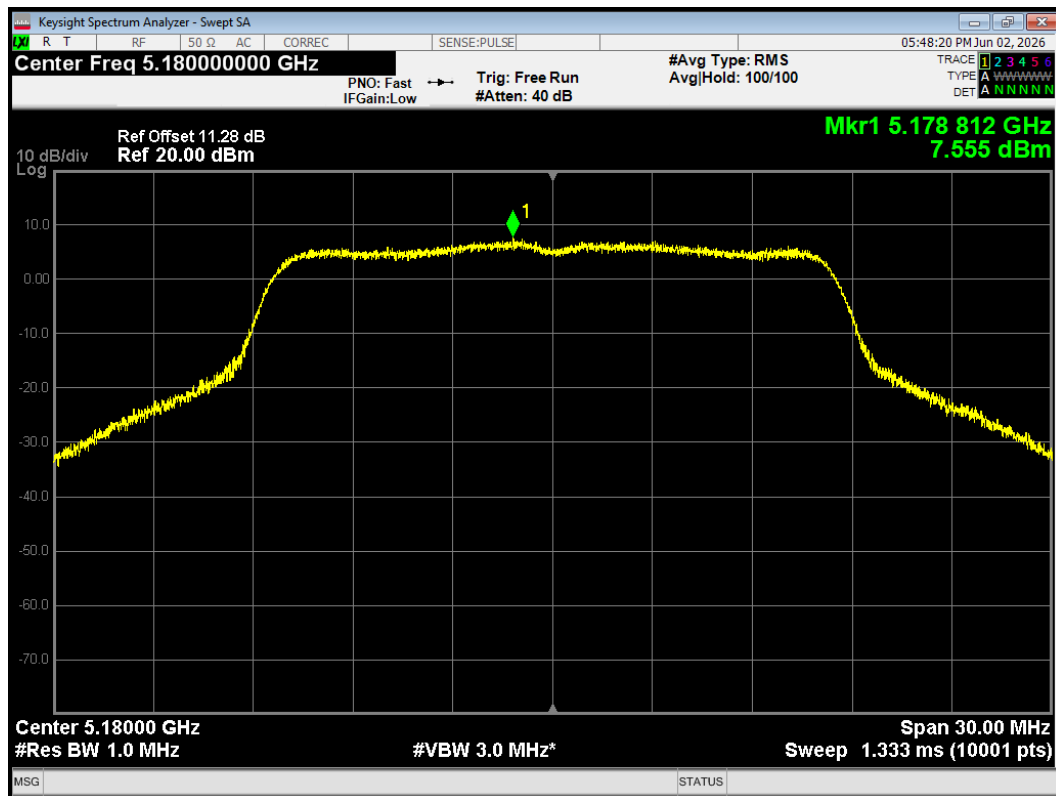
the power spectral density= $10\log(10^{(\text{PSD antenna1 in dBm}/10)}+10^{(\text{PSD antenna2 in dBm}/10)})$

3. According to KDB 662911 D01 Multiple Transmitter Output v02r01 F)2)f(i): If all antennas have the same gain, Directional gain = $G_{\text{ANT}} + \text{Array Gain}$, For PSD measurements on all devices, Array Gain= $10\log(N_{\text{ant}}/N_{\text{ss}})\text{dB}$,

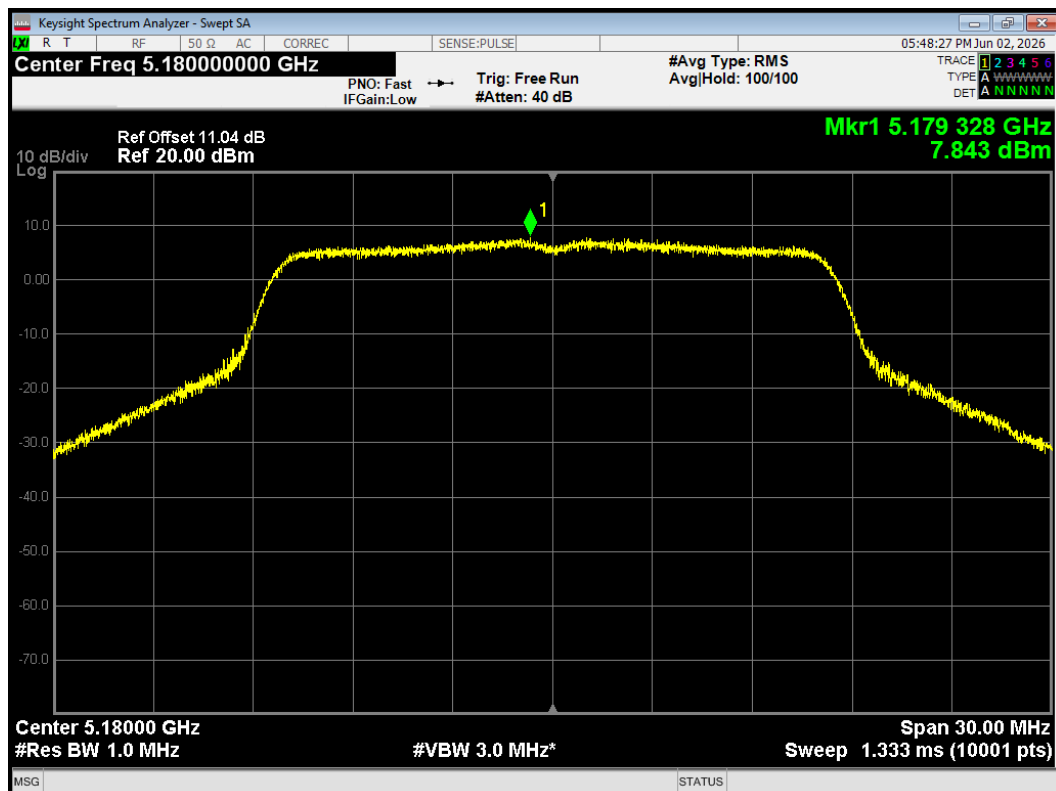
so Directional gain= $G_{\text{ANT}}+\text{Array Gain}=1.48+10\log(2/1)=4.49<6\text{ dBi}$.

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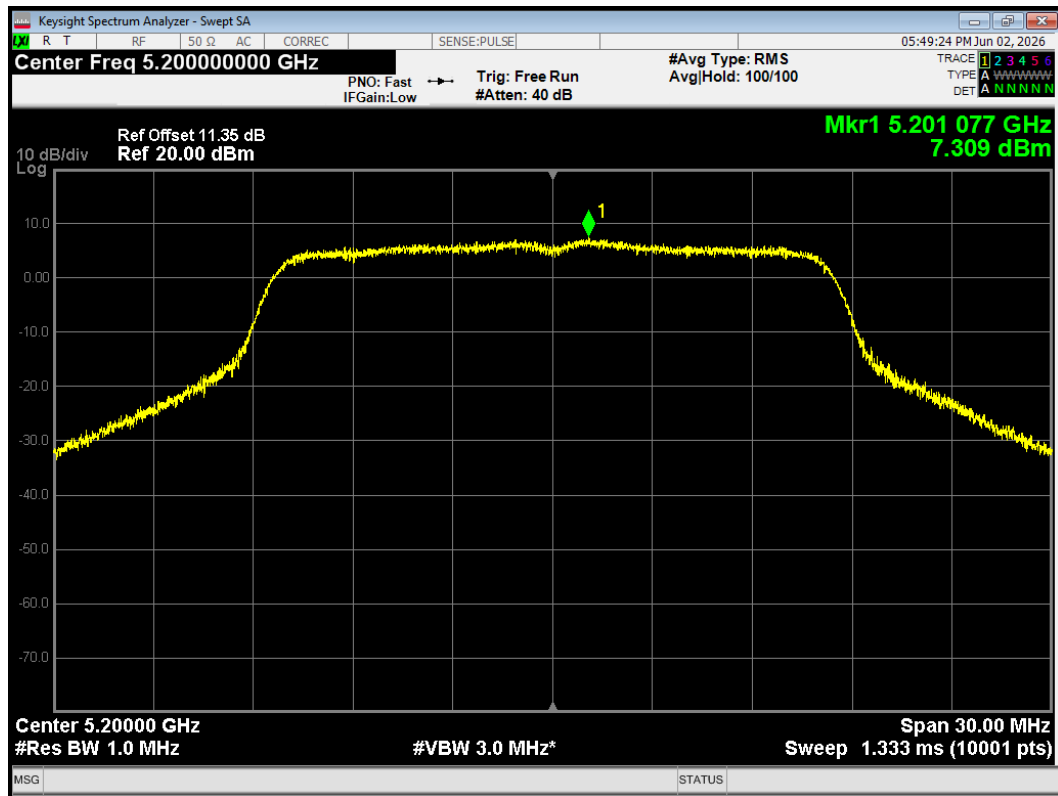
PSD 802.11a 5180MHz Ant1



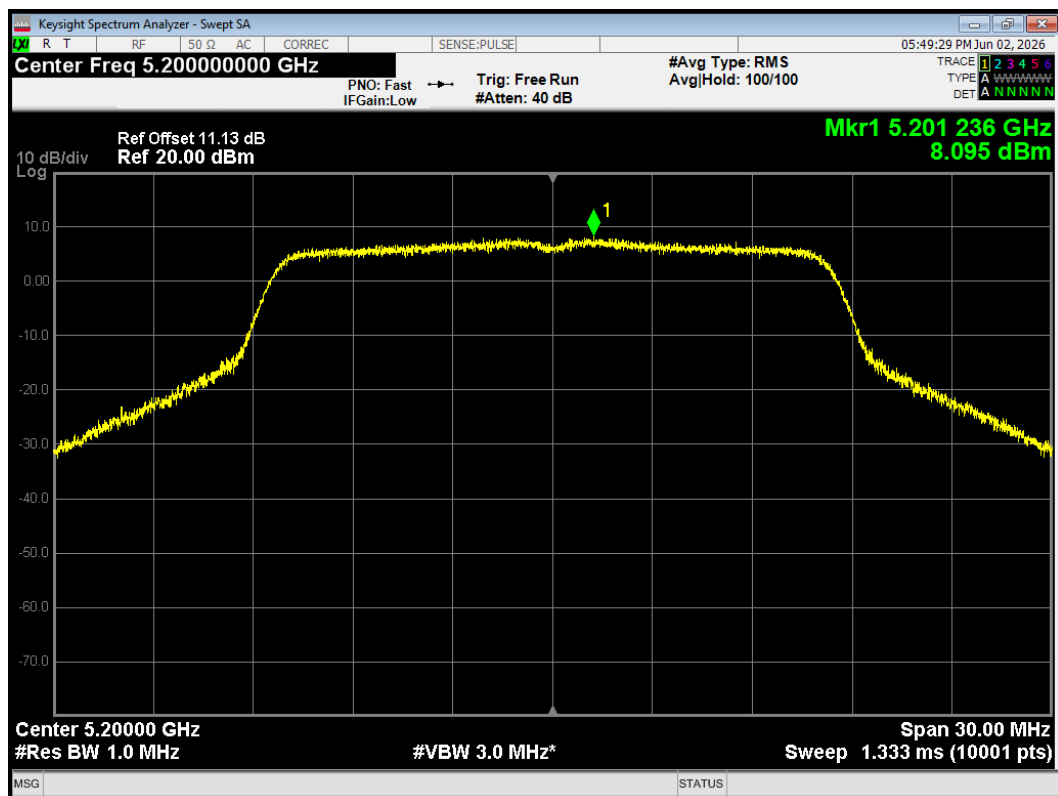
PSD 802.11a 5180MHz Ant2



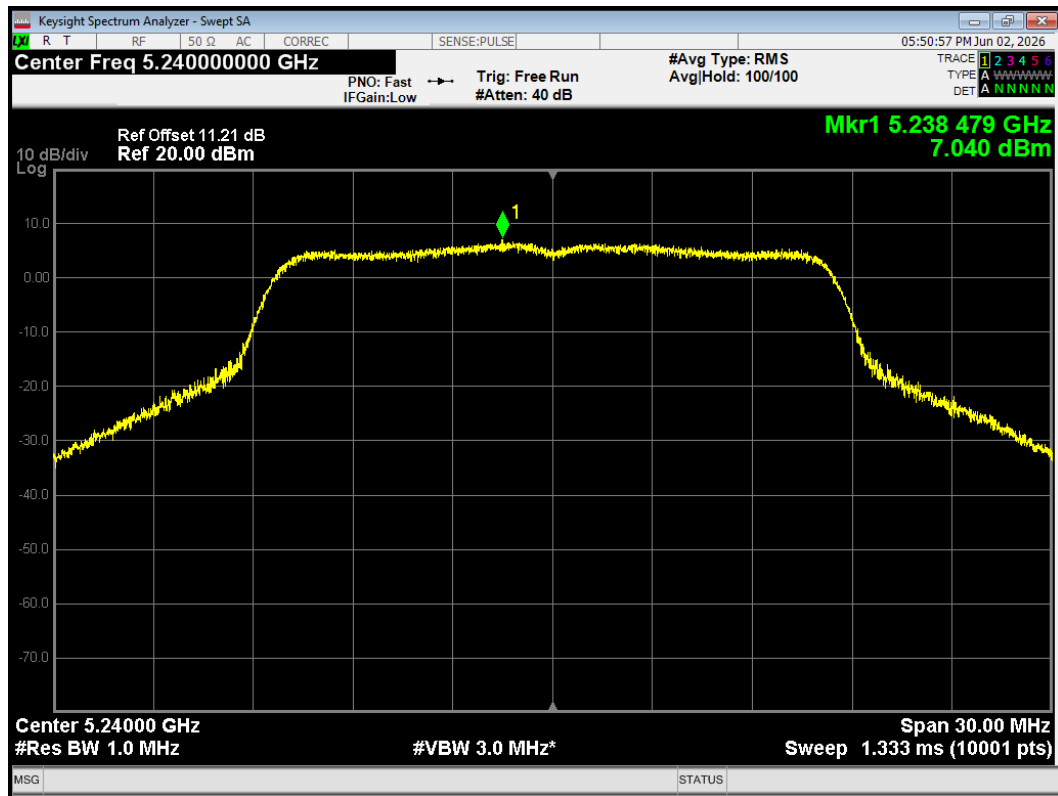
PSD 802.11a 5200MHz Ant1



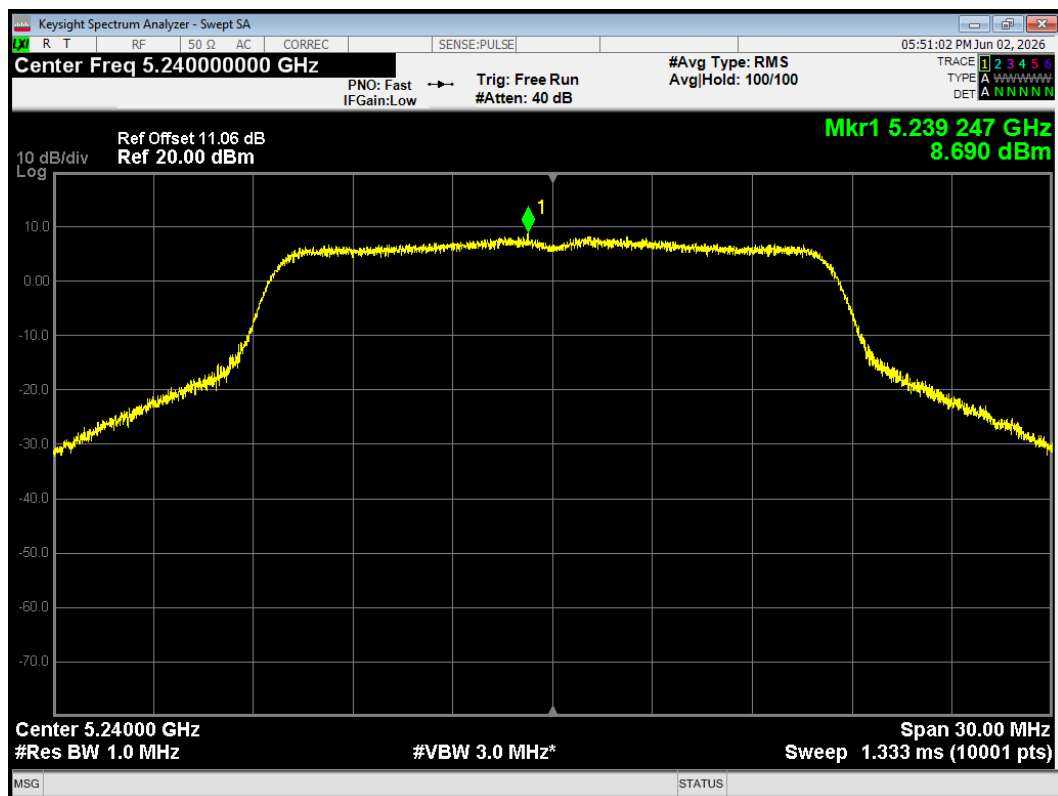
PSD 802.11a 5200MHz Ant2



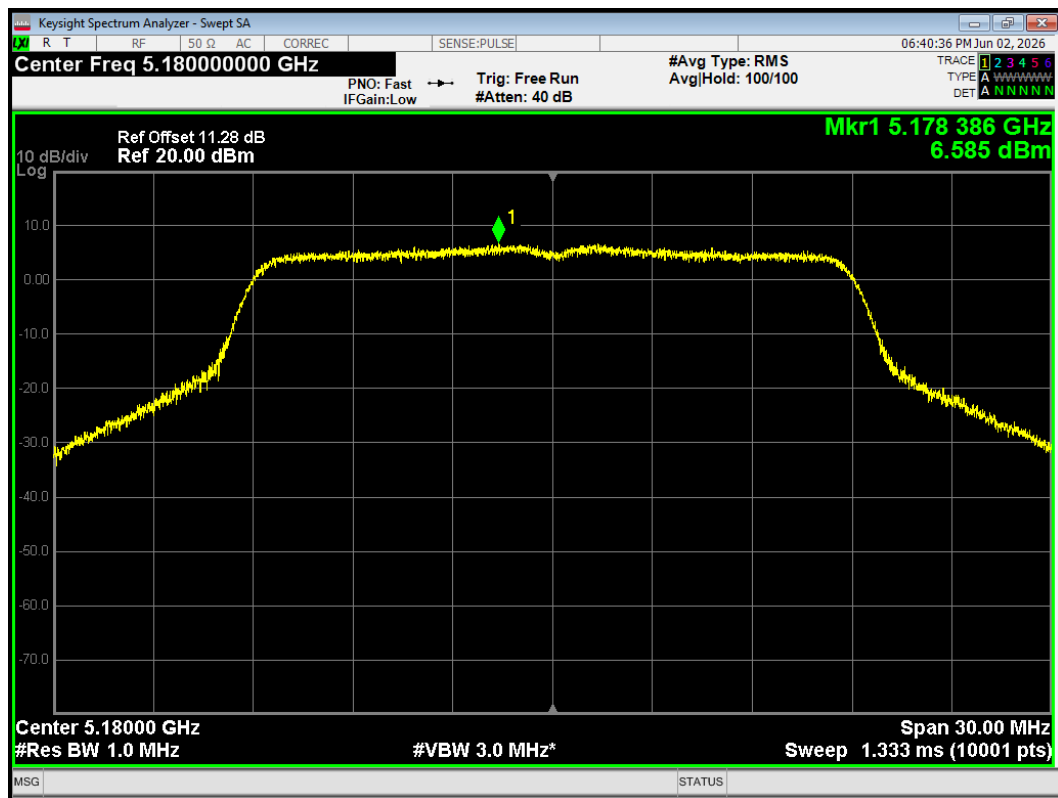
PSD 802.11a 5240MHz Ant1



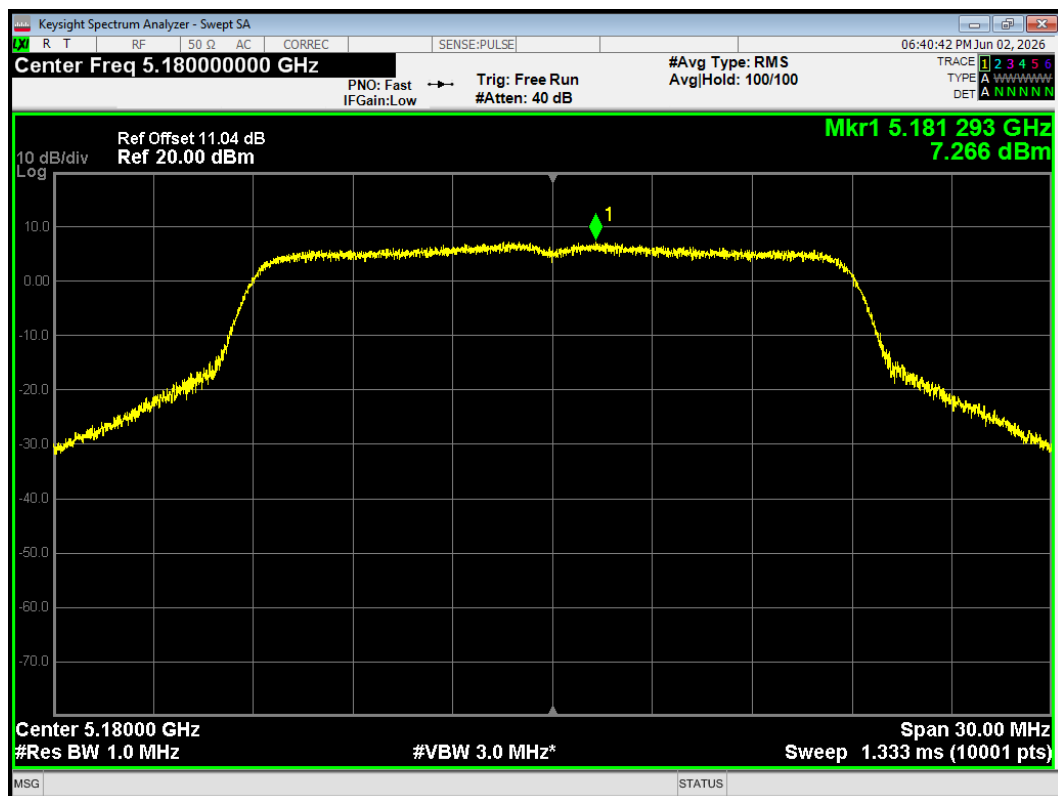
PSD 802.11a 5240MHz Ant2



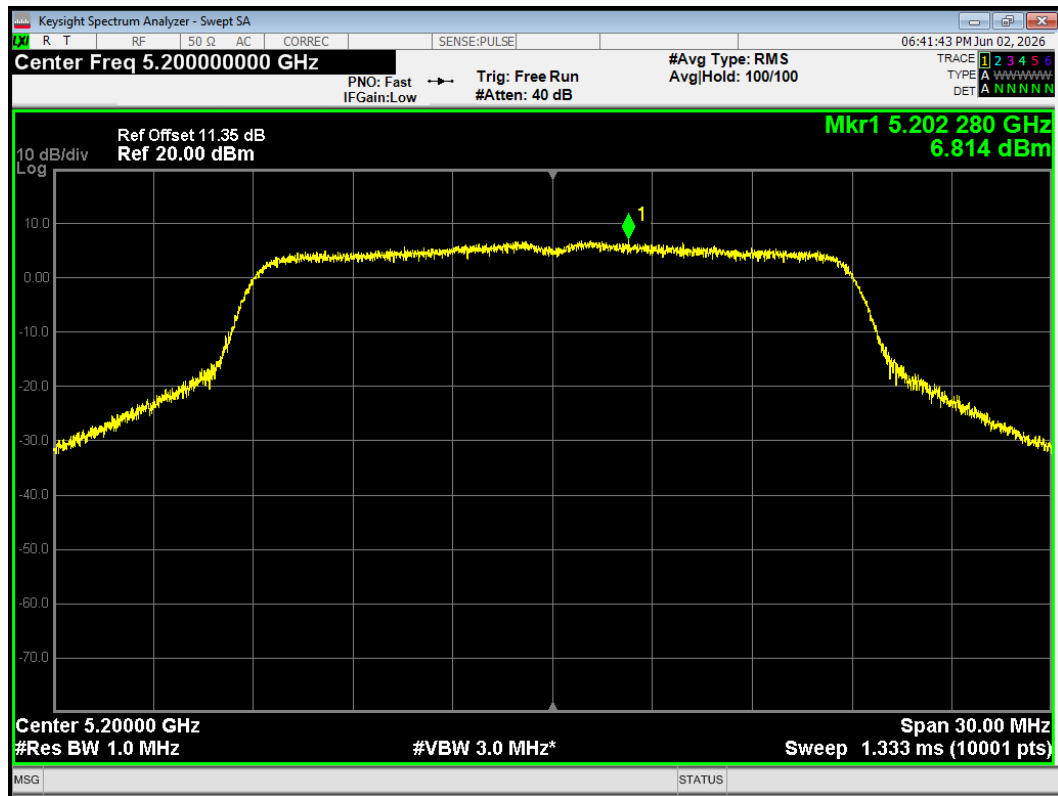
PSD 802.11ac(VHT20) 5180MHz Ant1



PSD 802.11ac(VHT20) 5180MHz Ant2



PSD 802.11ac(VHT20) 5200MHz Ant1



PSD 802.11ac(VHT20) 5200MHz Ant2

