

APPENDIX A – TEST DATA OF CONDUCTED EMISSION

Duty Cycle

Test Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor(dB)
802.11a	5260	98.62%	0
802.11a	5260	98.63%	0
802.11n HT20	5260	98.49%	0
802.11n HT20	5260	98.54%	0
802.11ac VHT20	5260	97.24%	0.12
802.11ac VHT20	5260	97.25%	0.12
802.11n HT40	5270	97.10%	0.13
802.11n HT40	5270	97.28%	0.12
802.11ac VHT40	5270	94.97%	0.22
802.11ac VHT40	5270	95.07%	0.22
802.11ac VHT80	5290	91.55%	0.38
802.11ac VHT80	5290	91.66%	0.38

Note: Correction Factor=10*log (1/Duty Cycle)

Output Power

Mode	Tones/ RUIndex	Freq (MHz)	Antenna	Conducted average power output(dBm)	EIRP (dBm)
802.11a	NA	5260	Chain0	15.44	19.51
802.11a	NA	5260	Chain1	15.83	17.33
802.11a	NA	5280	Chain0	15.65	19.72
802.11a	NA	5280	Chain1	16.01	17.51
802.11a	NA	5320	Chain0	15.99	20.06
802.11a	NA	5320	Chain1	16.30	17.80
802.11n HT20	NA	5260	Chain0	14.44	18.51
802.11n HT20	NA	5260	Chain1	14.91	16.41
802.11n HT20	NA	5280	Chain0	14.53	18.60
802.11n HT20	NA	5280	Chain1	14.91	16.41
802.11n HT20	NA	5320	Chain0	14.96	19.03
802.11n HT20	NA	5320	Chain1	15.03	16.53
802.11ac VHT20	NA	5260	Chain0	13.98	18.05
802.11ac VHT20	NA	5260	Chain1	14.57	16.07
802.11ac VHT20	NA	5280	Chain0	14.05	18.12
802.11ac VHT20	NA	5280	Chain1	14.61	16.11
802.11ac VHT20	NA	5320	Chain0	14.34	18.41
802.11ac VHT20	NA	5320	Chain1	14.75	16.25
802.11n HT40	NA	5270	Chain0	14.49	18.56
802.11n HT40	NA	5270	Chain1	15.00	16.50
802.11n HT40	NA	5310	Chain0	14.79	18.86
802.11n HT40	NA	5310	Chain1	15.07	16.57
802.11ac VHT40	NA	5270	Chain0	13.65	17.72

802.11ac VHT40	NA	5270	Chain1	14.63	16.13
802.11ac VHT40	NA	5310	Chain0	13.72	17.79
802.11ac VHT40	NA	5310	Chain1	14.64	16.14
802.11ac VHT80	NA	5290	Chain0	13.48	17.55
802.11ac VHT80	NA	5290	Chain1	14.23	15.73

Emission Bandwidth

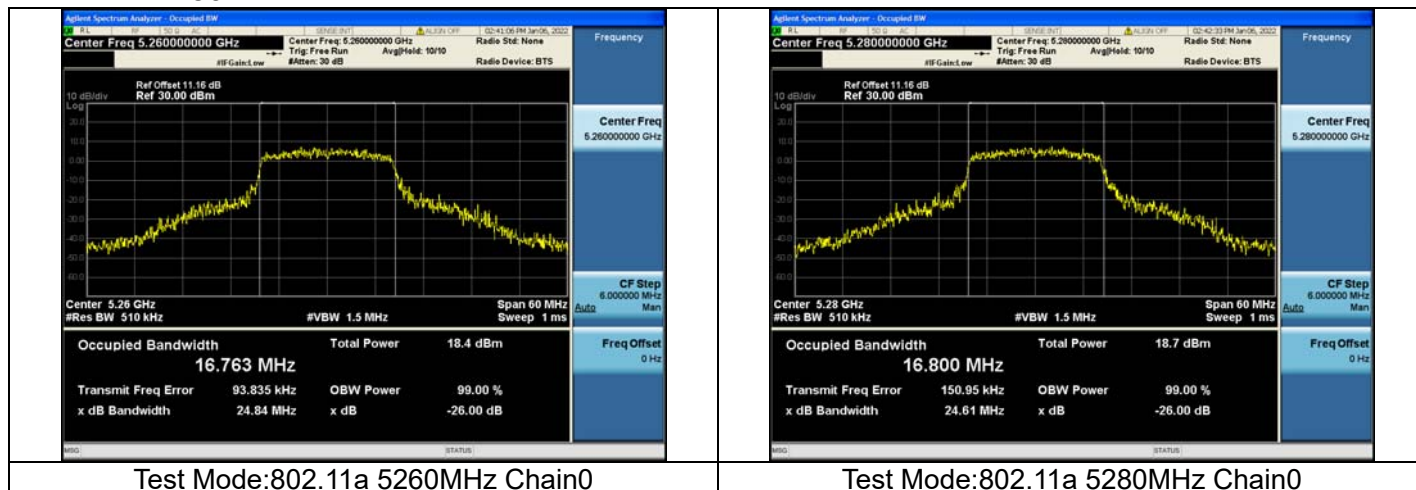
Offset 11.16dB = Attenuator 10dB+ Temporary antenna connector loss 0.2 dB + Cable loss 0.96 dB

Test Mode	Antenna	26dB Bandwidth (MHz)		
		Channel No.570	Channel No.574	Channel No.582
		5260MHz	5280MHz	5320MHz
802.11a	Chain0	24.84	24.61	20.07
802.11a	Chain1	19.74	20.48	20.09
802.11n HT20	Chain0	19.96	20.84	20.49
802.11n HT20	Chain1	20.10	20.06	20.07
802.11ac VHT20	Chain0	28.29	26.14	20.14
802.11ac VHT20	Chain1	20.07	20.25	19.92

Test Mode	Antenna	26dB Bandwidth (MHz)		
		Channel No.572	---	Channel No.580
		5270MHz	---	5310MHz
802.11n HT40	Chain0	44.14	---	40.14
802.11n HT40	Chain1	40.38	---	40.03
802.11ac VHT40	Chain0	47.77	---	40.68
802.11ac VHT40	Chain1	40.59	---	40.05

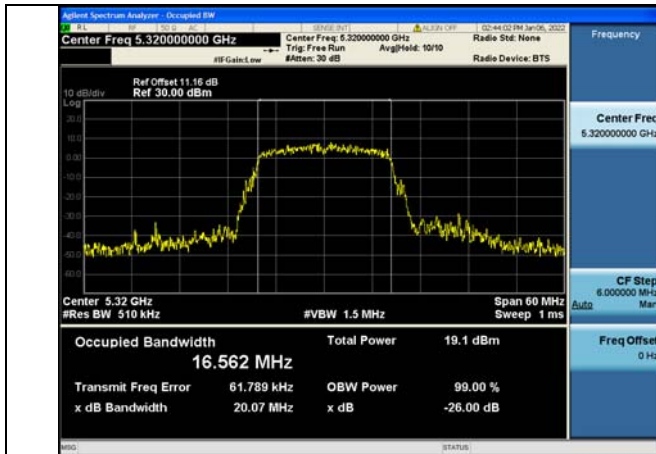
Test Mode	Antenna	26dB Bandwidth (MHz)		
		Channel No.576	---	---
		5290MHz	---	---
802.11ac VHT80	Chain0	81.23	---	---
802.11ac VHT80	Chain1	80.91	---	---

Test Mode: 802.11a

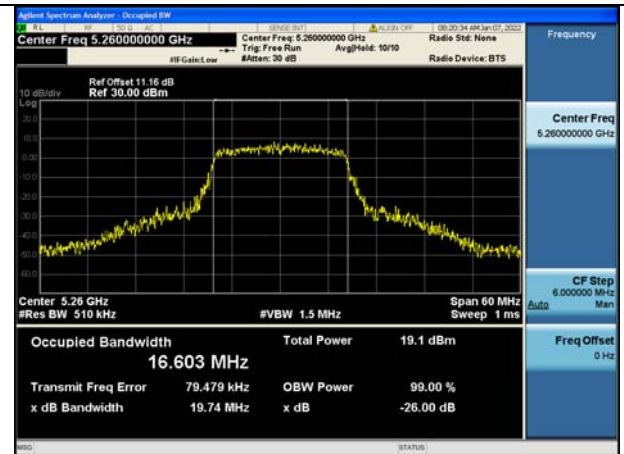


Test Mode:802.11a 5260MHz Chain0

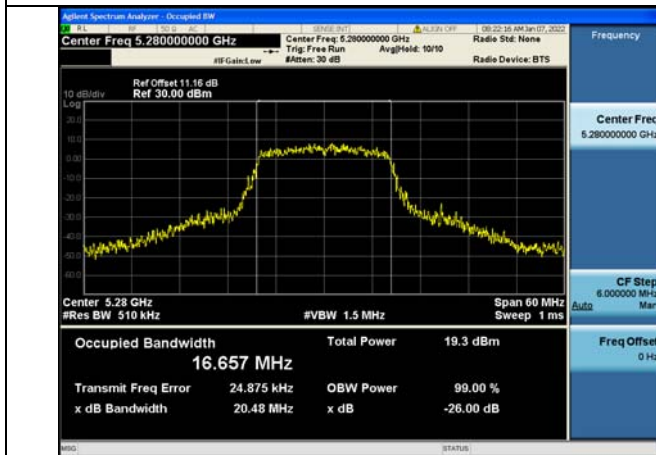
Test Mode:802.11a 5280MHz Chain0



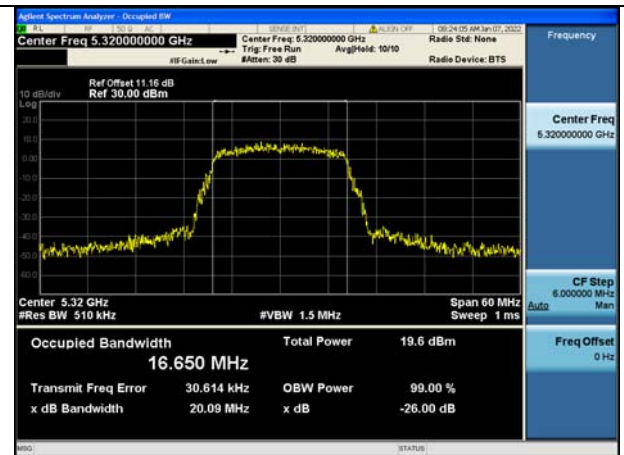
Test Mode:802.11a 5320MHz Chain0



Test Mode:802.11a 5260MHz Chain1

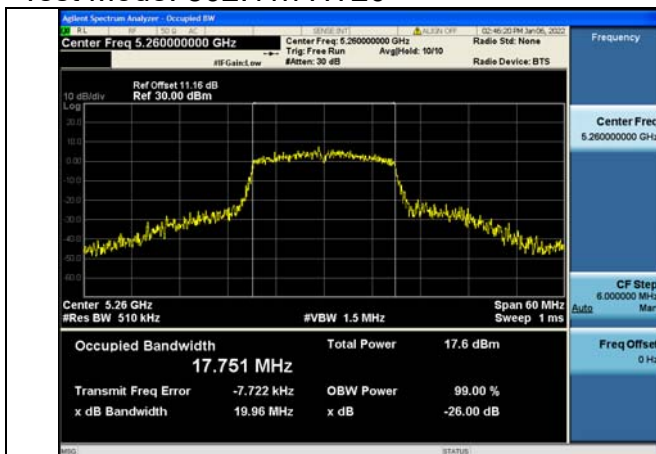


Test Mode:802.11a 5280MHz Chain1

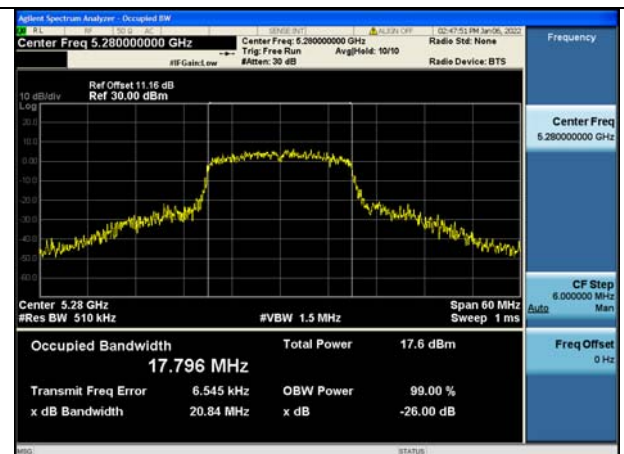


Test Mode:802.11a 5320MHz Chain1

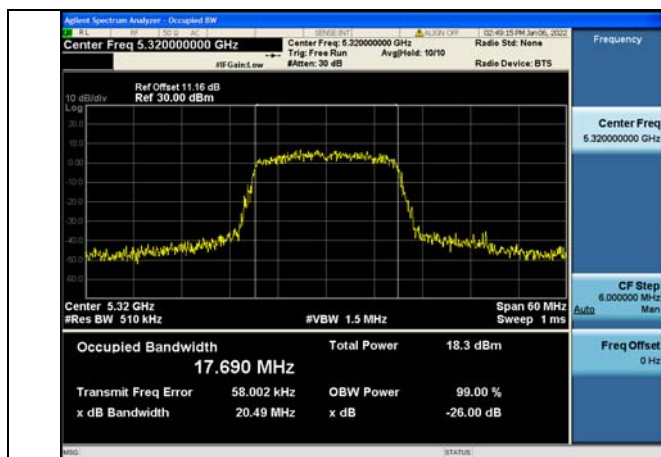
Test Mode: 802.11n HT20



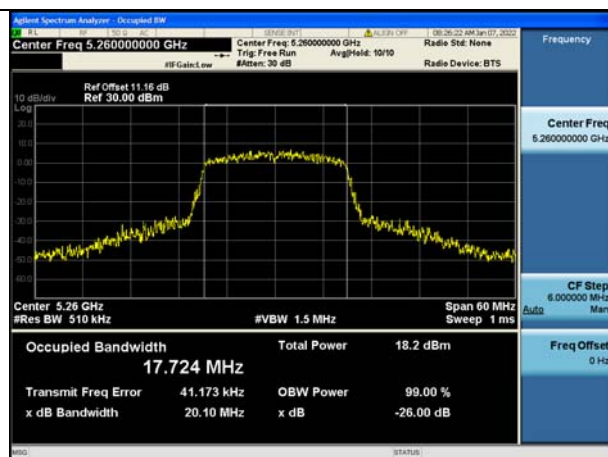
Test Mode:802.11n HT20 5260MHz Chain0



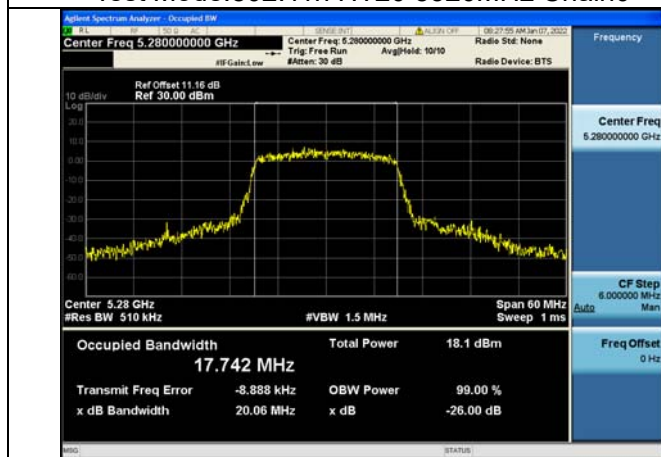
Test Mode:802.11n HT20 5280MHz Chain0



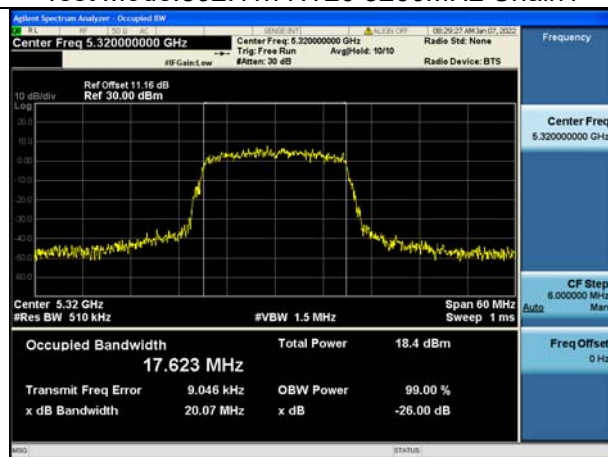
Test Mode:802.11n HT20 5320MHz Chain0



Test Mode:802.11n HT20 5260MHz Chain1

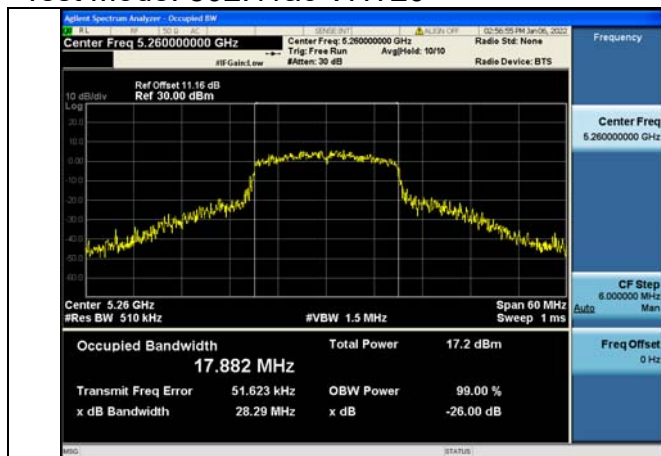


Test Mode:802.11n HT20 5280MHz Chain1

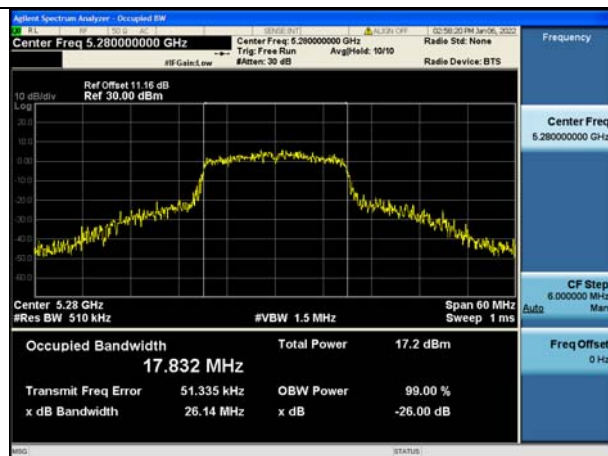


Test Mode:802.11n HT20 5320MHz Chain1

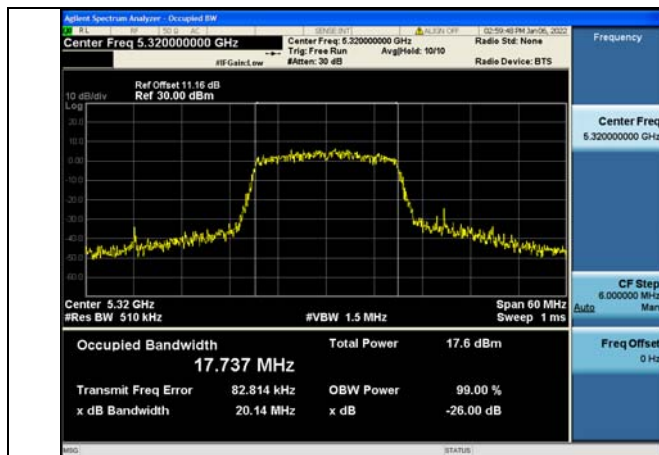
Test Mode: 802.11ac VHT20



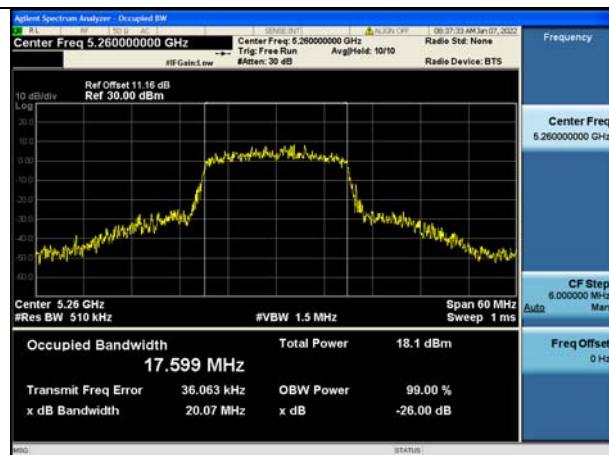
Test Mode:802.11ac VHT20 5260MHz Chain0



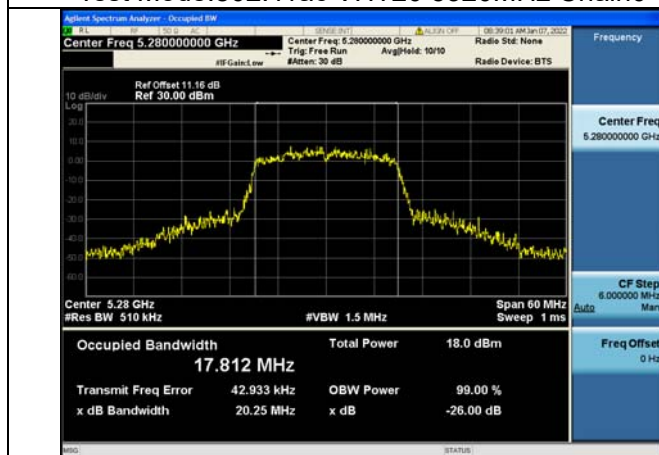
Test Mode:802.11ac VHT20 5280MHz Chain0



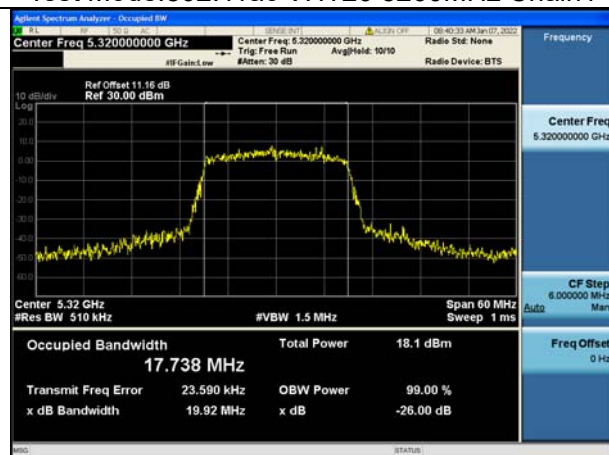
Test Mode:802.11ac VHT20 5320MHz Chain0



Test Mode:802.11ac VHT20 5260MHz Chain1

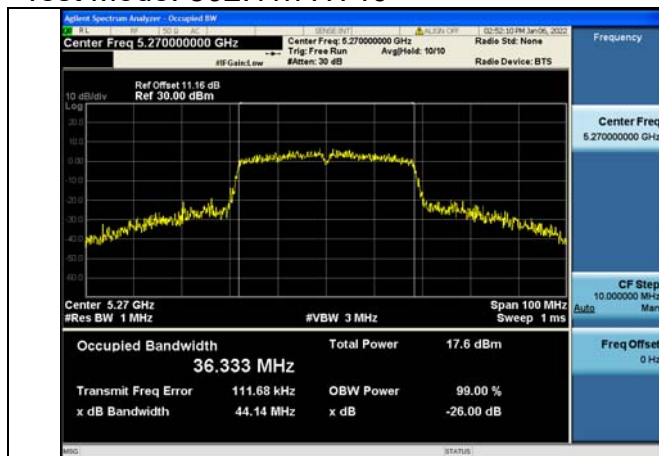


Test Mode:802.11ac VHT20 5280MHz Chain1

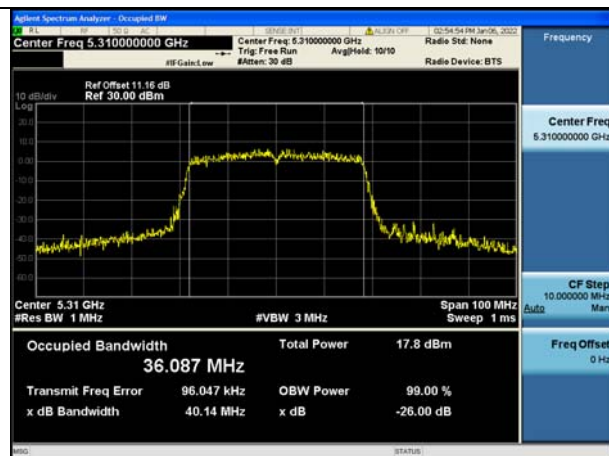


Test Mode:802.11ac VHT20 5320MHz Chain1

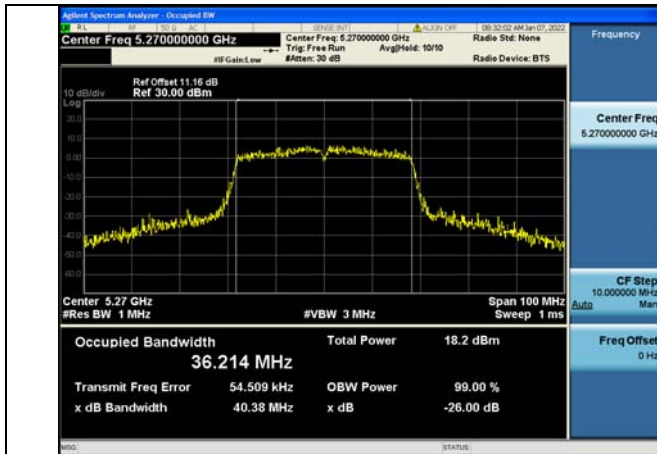
Test Mode: 802.11n HT40



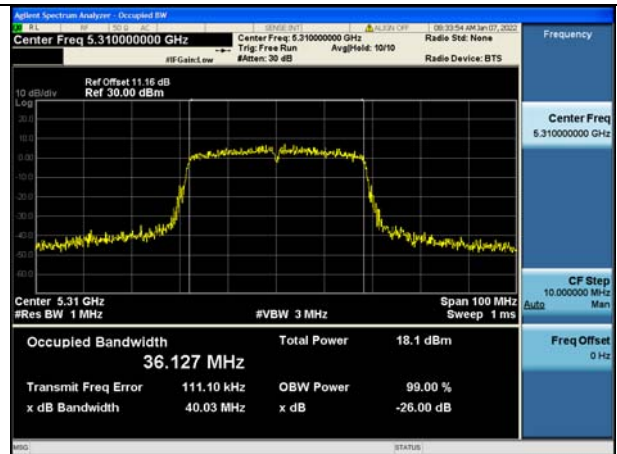
Test Mode:802.11n HT40 5270MHz Chain0



Test Mode:802.11n HT40 5310MHz Chain0



Test Mode:802.11n HT40 5270MHz Chain1

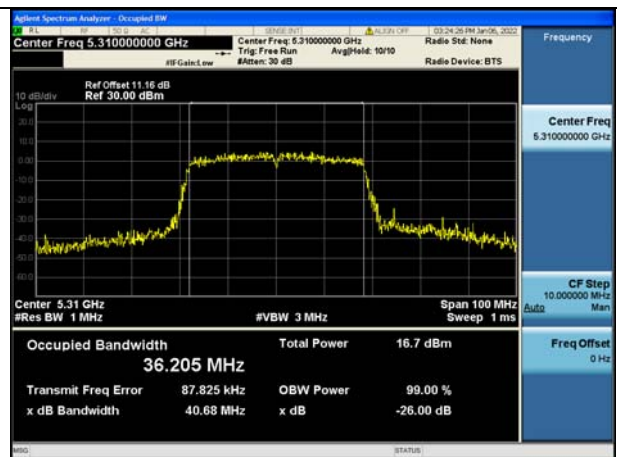


Test Mode:802.11n HT40 5310MHz Chain1

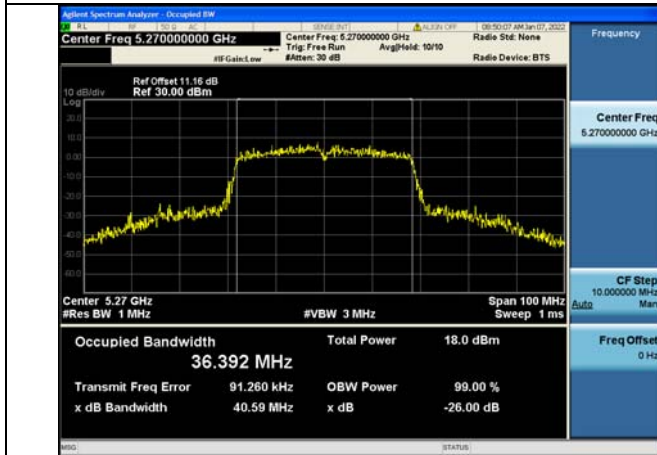
Test Mode: 802.11ac VHT40



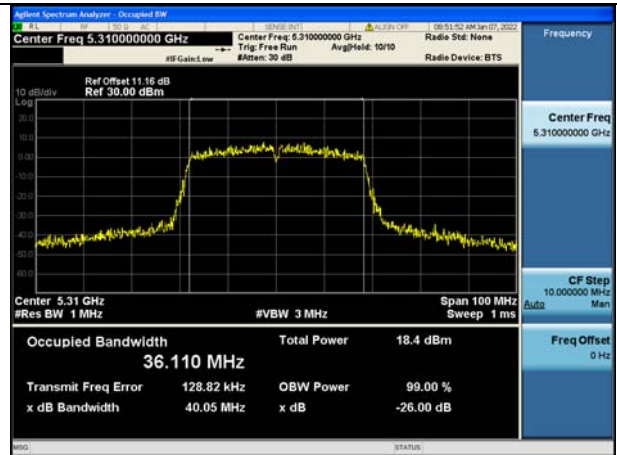
Test Mode:802.11ac VHT40 5270MHz Chain0



Test Mode:802.11ac VHT40 5310MHz Chain0

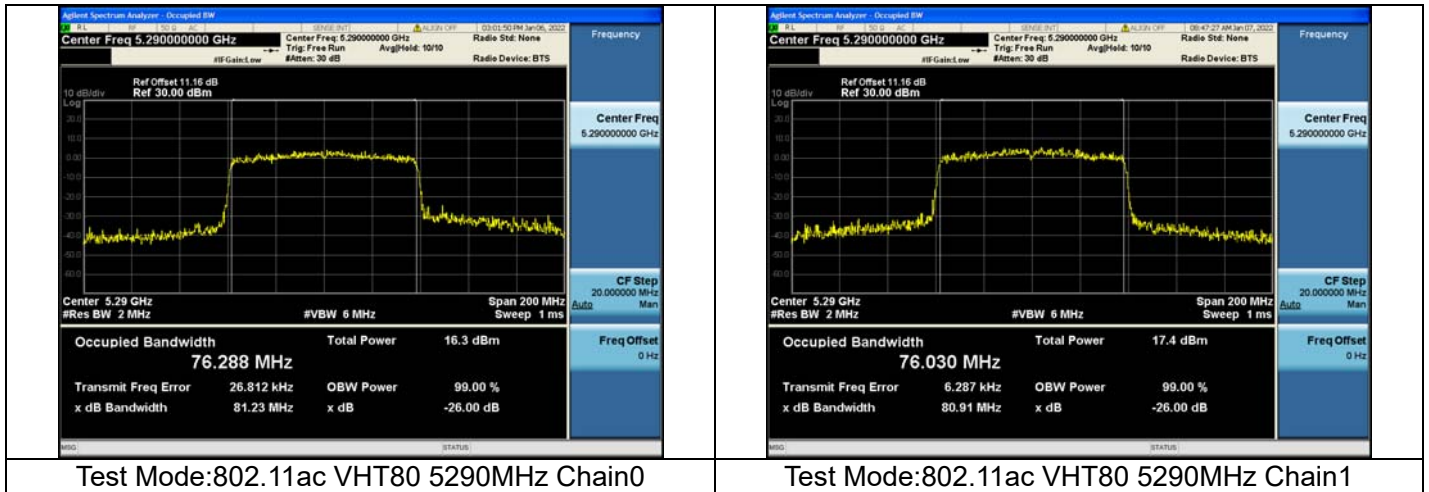


Test Mode:802.11ac VHT40 5270MHz Chain1



Test Mode:802.11ac VHT40 5310MHz Chain1

Test Mode: 802.11ac VHT80



Occupied Bandwidth

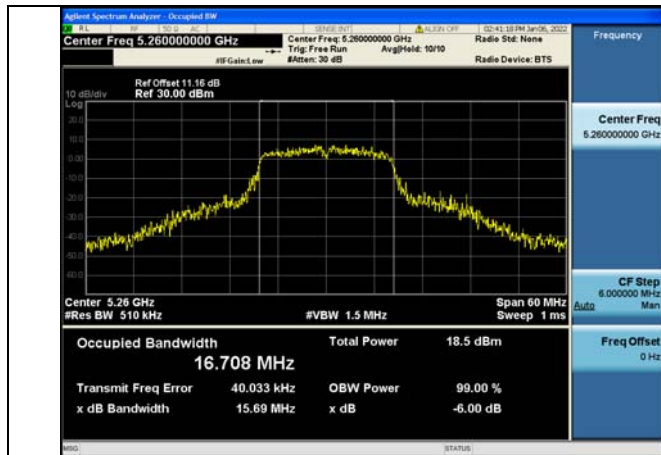
Offset 11.16dB = Attenuator 10dB+ Temporary antenna connector loss 0.2 dB + Cable loss 0.96 dB

Test Mode	Antenna	Occupied Bandwidth (MHz)		
		Channel No.570	Channel No.574	Channel No.582
		5260MHz	5280MHz	5320MHz
802.11a	Chain0	16.708	16.812	16.527
802.11a	Chain1	16.584	16.548	16.578
802.11n HT20	Chain0	17.776	17.743	17.669
802.11n HT20	Chain1	17.783	17.730	17.722
802.11ac VHT20	Chain0	17.889	17.764	17.741
802.11ac VHT20	Chain1	17.619	17.628	17.629

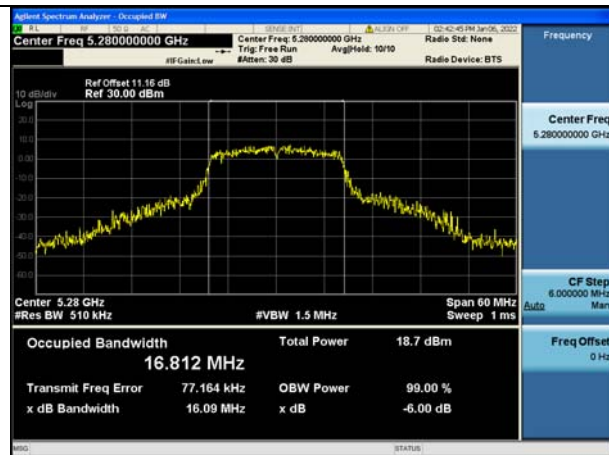
Test Mode	Antenna	Occupied Bandwidth (MHz)		
		Channel No.572	---	Channel No.580
		5270MHz	---	5310MHz
802.11n HT40	Chain0	36.355	---	36.126
802.11n HT40	Chain1	36.159	---	36.197
802.11ac VHT40	Chain0	36.405	---	36.158
802.11ac VHT40	Chain1	36.235	---	36.139

Test Mode	Antenna	Occupied Bandwidth (MHz)		
		Channel No.576	---	---
		5290MHz	---	---
802.11ac VHT80	Chain0	76.030	---	---
802.11ac VHT80	Chain1	76.015	---	---

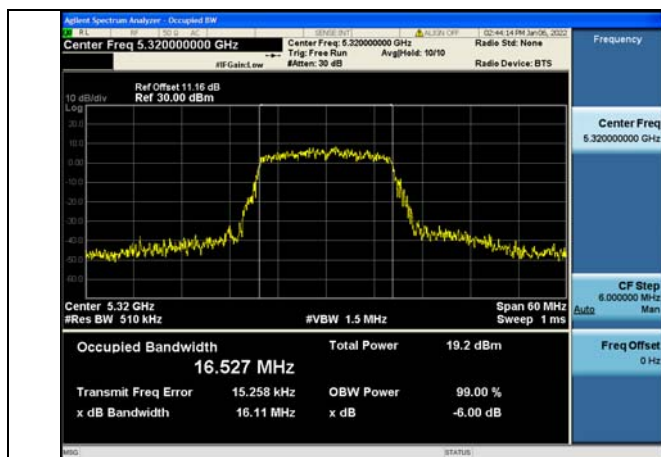
Test Mode: 802.11a



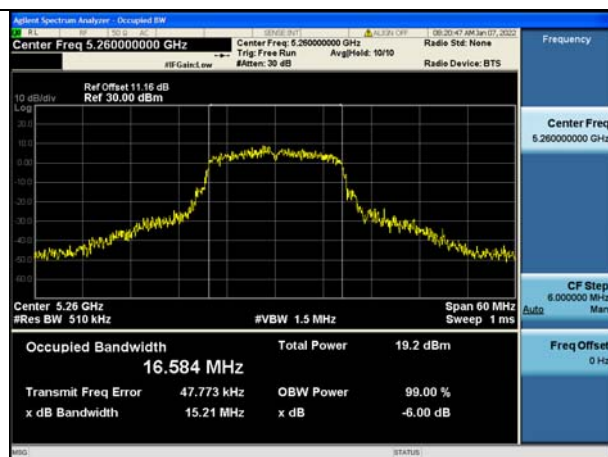
Test Mode:802.11a 5260MHz Chain0



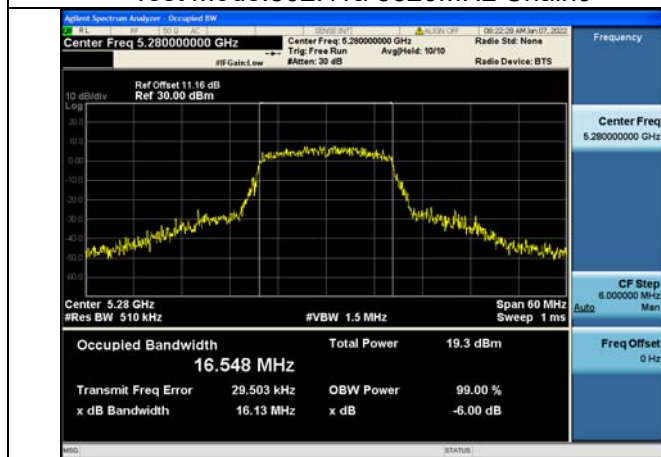
Test Mode:802.11a 5280MHz Chain0



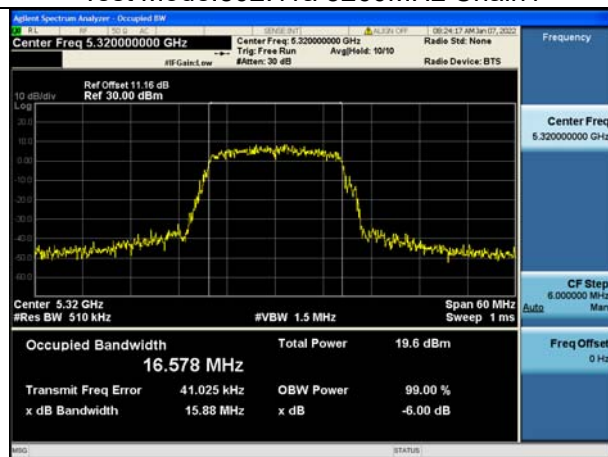
Test Mode:802.11a 5320MHz Chain0



Test Mode:802.11a 5260MHz Chain1

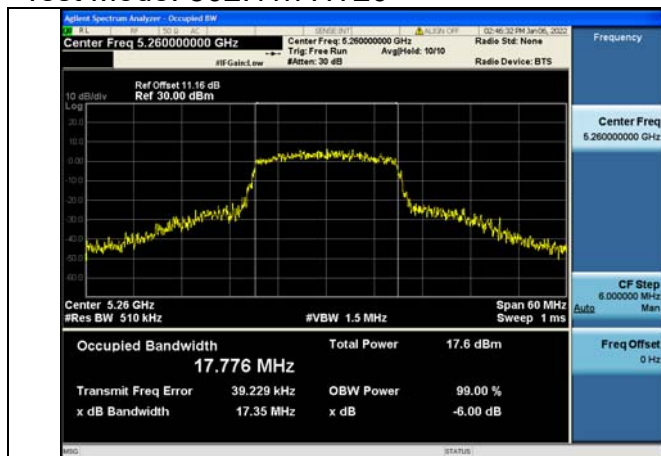


Test Mode:802.11a 5280MHz Chain1

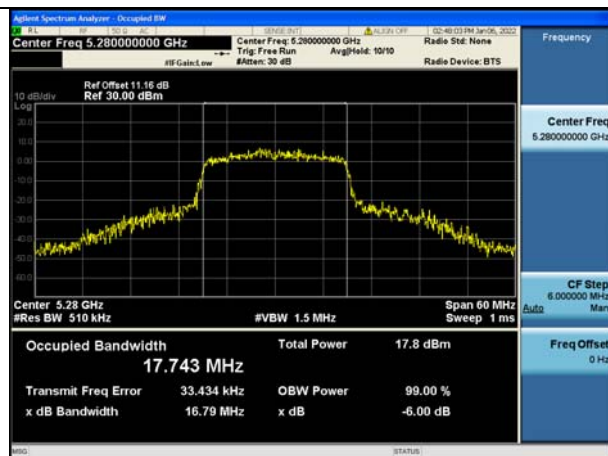


Test Mode:802.11a 5320MHz Chain1

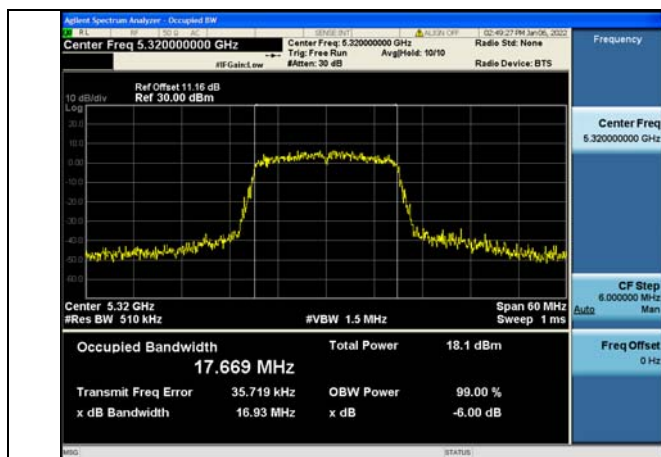
Test Mode: 802.11n HT20



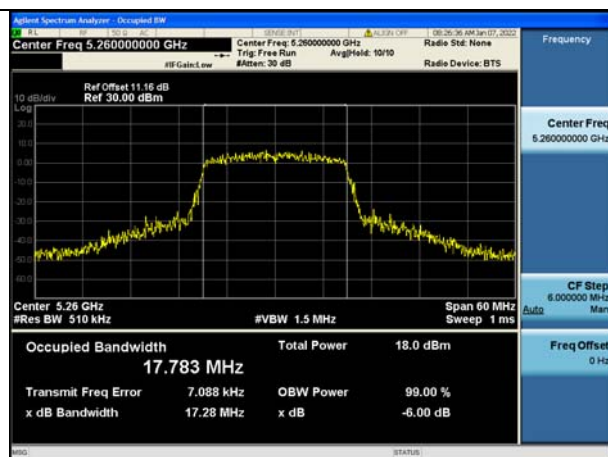
Test Mode:802.11n HT20 5260MHz Chain0



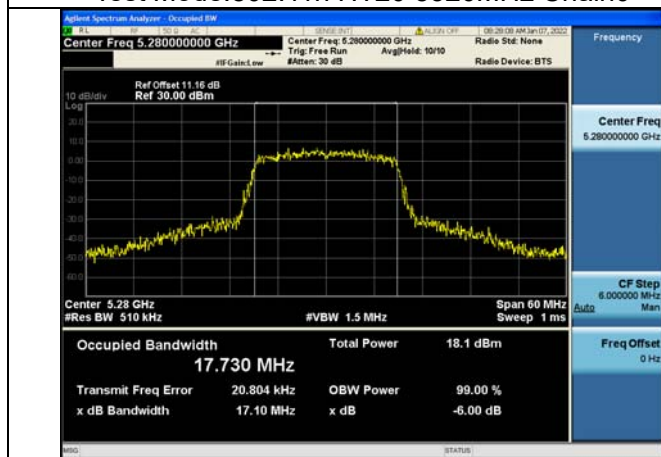
Test Mode:802.11n HT20 5280MHz Chain0



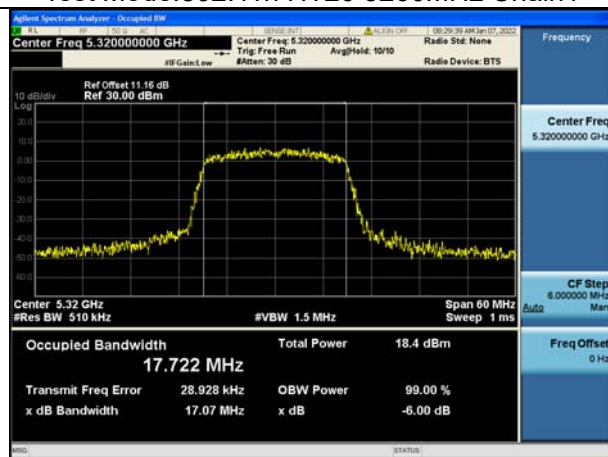
Test Mode:802.11n HT20 5320MHz Chain0



Test Mode:802.11n HT20 5260MHz Chain1

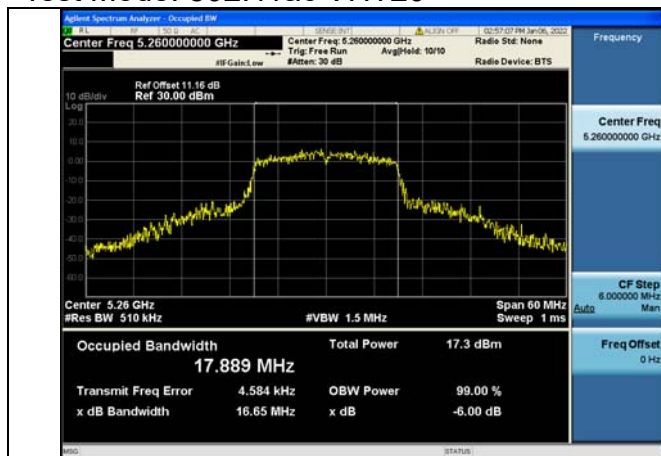


Test Mode:802.11n HT20 5280MHz Chain1

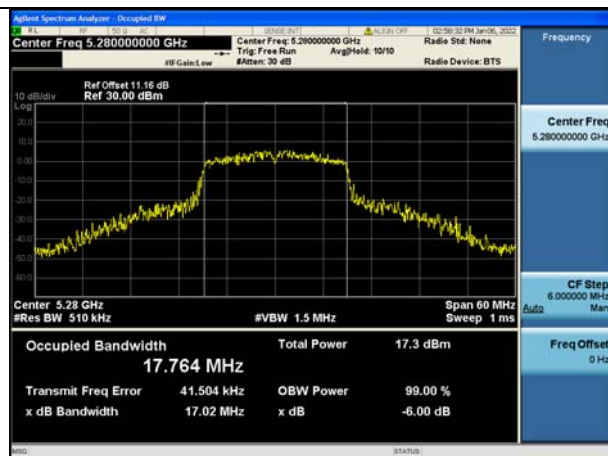


Test Mode:802.11n HT20 5320MHz Chain1

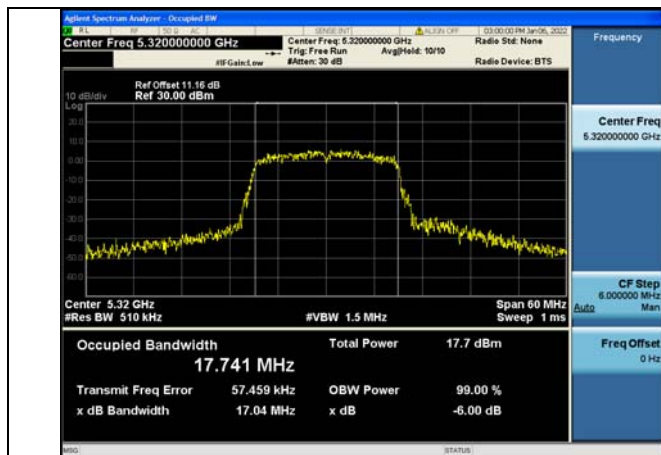
Test Mode: 802.11ac VHT20



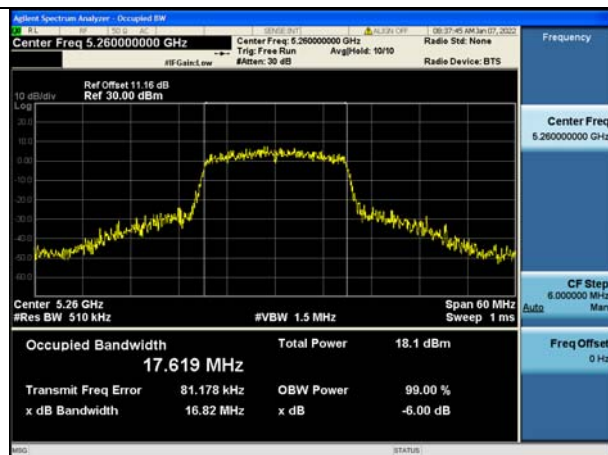
Test Mode:802.11ac VHT20 5260MHz Chain0



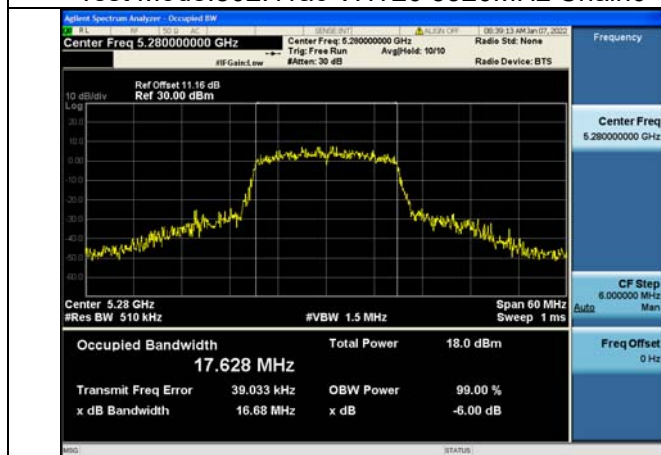
Test Mode:802.11ac VHT20 5280MHz Chain0



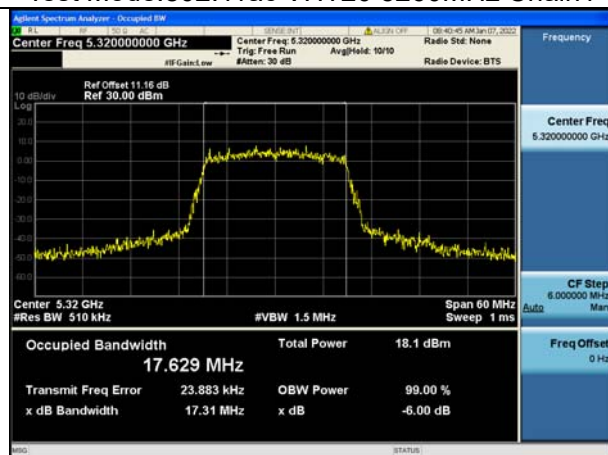
Test Mode:802.11ac VHT20 5320MHz Chain0



Test Mode:802.11ac VHT20 5260MHz Chain1

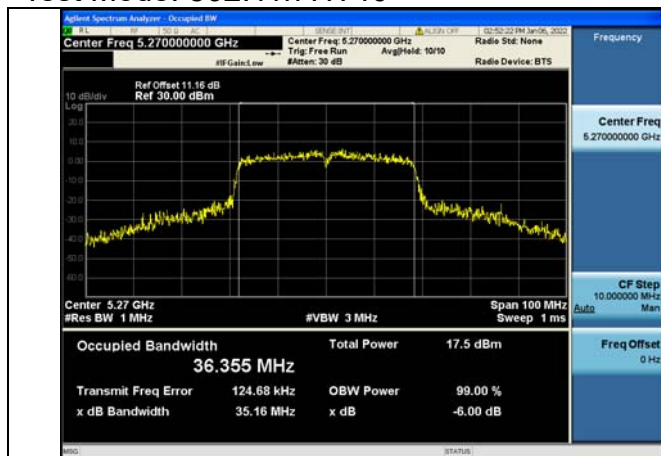


Test Mode:802.11ac VHT20 5280MHz Chain1

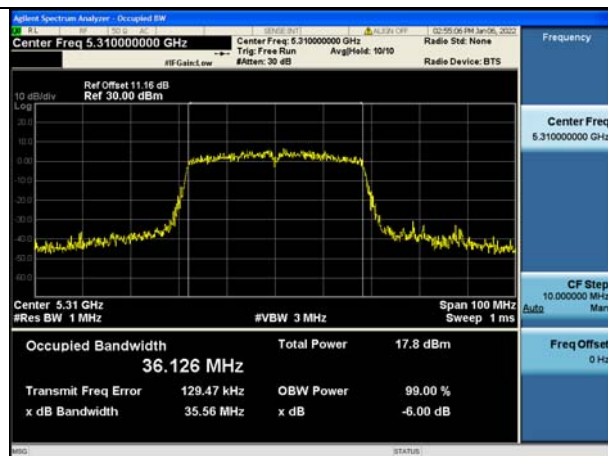


Test Mode:802.11ac VHT20 5320MHz Chain1

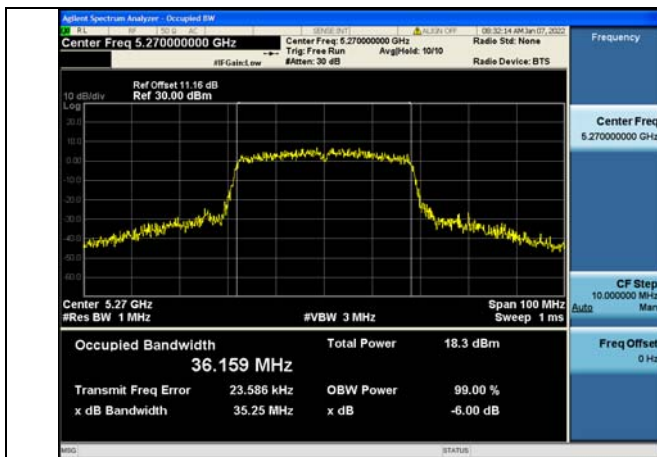
Test Mode: 802.11n HT40



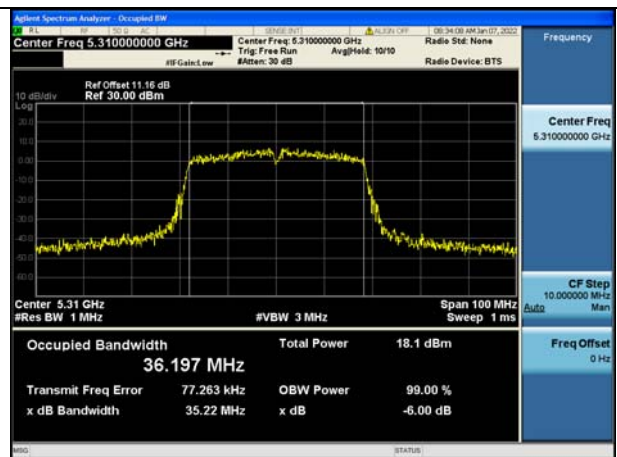
Test Mode:802.11n HT40 5270MHz Chain0



Test Mode:802.11n HT40 5310MHz Chain0

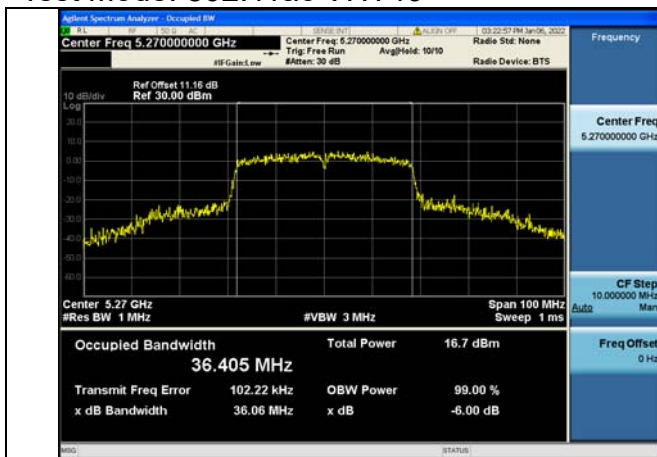


Test Mode:802.11n HT40 5270MHz Chain1

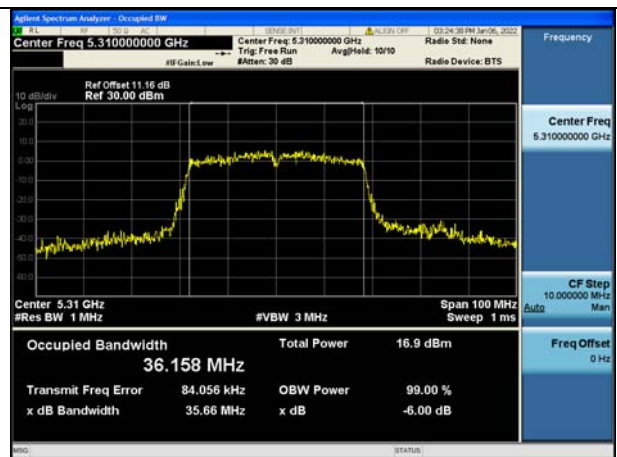


Test Mode:802.11n HT40 5310MHz Chain1

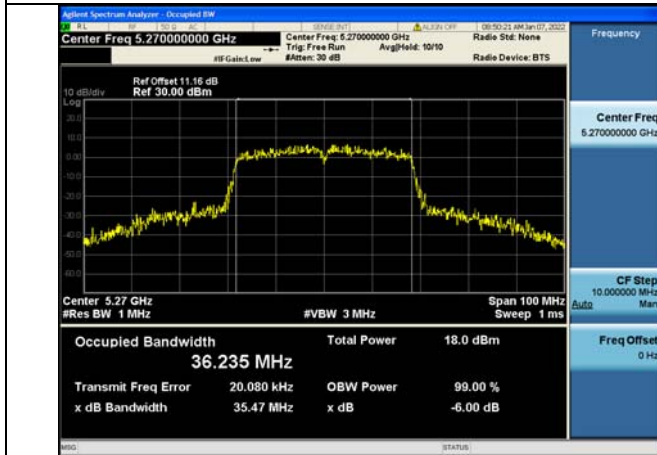
Test Mode: 802.11ac VHT40



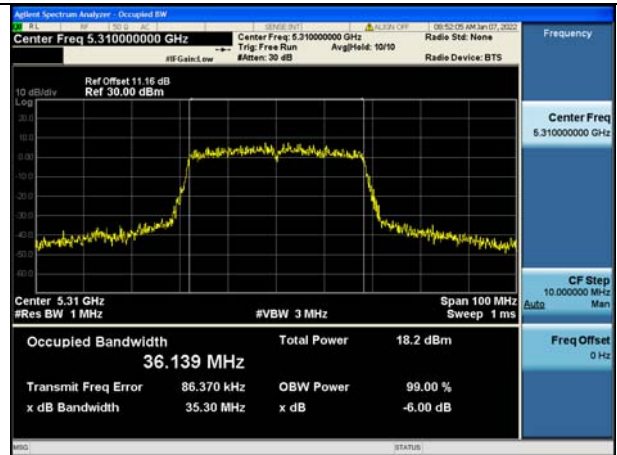
Test Mode:802.11ac VHT40 5270MHz Chain0



Test Mode:802.11ac VHT40 5310MHz Chain0

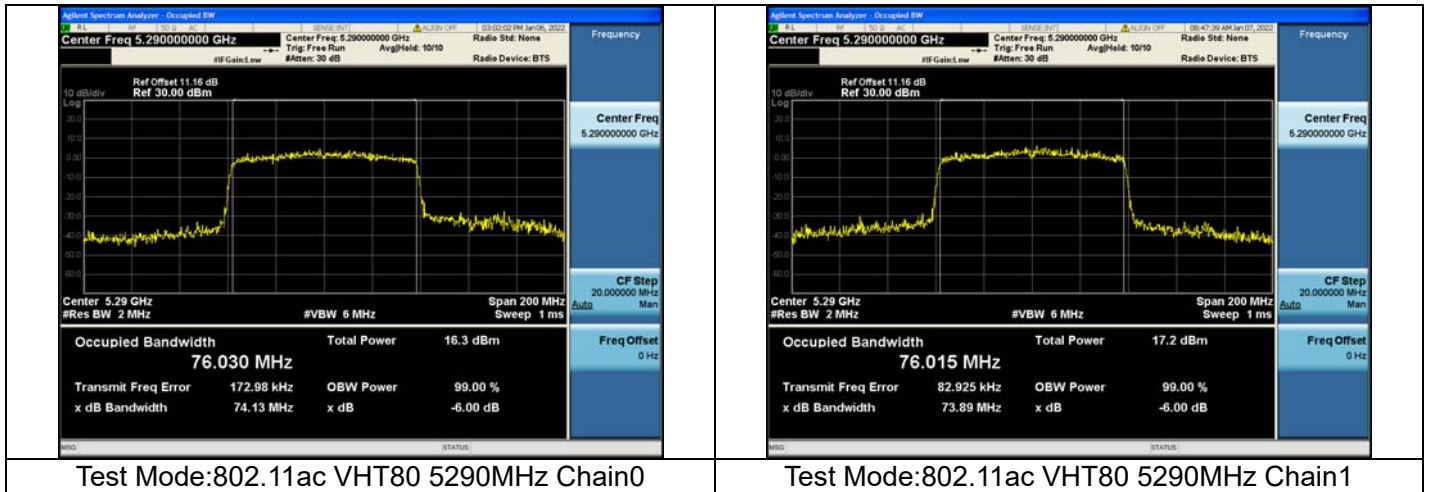


Test Mode:802.11ac VHT40 5270MHz Chain1



Test Mode:802.11ac VHT40 5310MHz Chain1

Test Mode: 802.11ac VHT80



Transmitter Power Spectral Density

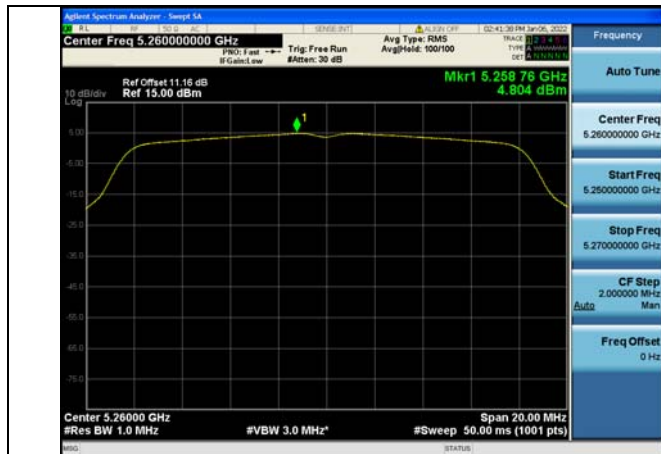
Offset 11.16dB = Attenuator 10dB+ Temporary antenna connector loss 0.2 dB + Cable loss 0.96 dB

Test Mode	Antenna	5260MHz		5280MHz		5320MHz	
		Correction Factor(dB)	Power Density (dBm/MHz)	Correction Factor(dB)	Power Density (dBm/MHz)	Correction Factor(dB)	Power Density (dBm/MHz)
802.11a	Chain0	0	4.804	0	5.054	0	5.439
802.11a	Chain1	0	5.363	0	5.581	0	5.800
802.11n HT20	Chain0	0	3.767	0	3.789	0	4.265
802.11n HT20	Chain1	0	4.248	0	4.242	0	4.532
802.11a c VHT20	Chain0	0.12	3.346	0.12	3.371	0.12	3.799
802.11a c VHT20	Chain1	0.12	4.018	0.12	4.034	0.12	4.213

Test Mode	Antenna	5270MHz		---		5310MHz	
		Correction Factor(dB)	Power Density (dBm/MHz)	Correction Factor(dB)	Power Density (dBm/MHz)	Correction Factor(dB)	Power Density (dBm/MHz)
802.11n HT40	Chain0	0.13	0.831	---	---	0.13	1.051
802.11n HT40	Chain1	0.13	1.436	---	---	0.13	1.520
802.11a c VHT40	Chain0	0.22	-0.161	---	---	0.22	0.043
802.11a c VHT40	Chain1	0.22	1.023	---	---	0.22	1.192

Test Mode	Antenna	5290MHz		---		---	
		Correction Factor(dB)	Power Density (dBm/MHz)	Correction Factor(dB)	Power Density (dBm/MHz)	Correction Factor(dB)	Power Density (dBm/MHz)
802.11a c VHT80	Chain0	0.38	-3.266	---	---	---	---
802.11a c VHT80	Chain1	0.38	-2.203	---	---	---	---

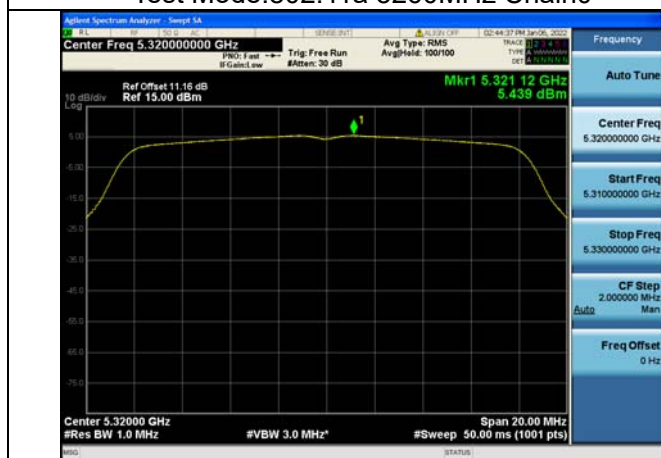
Test Mode: 802.11a



Test Mode:802.11a 5260MHz Chain0



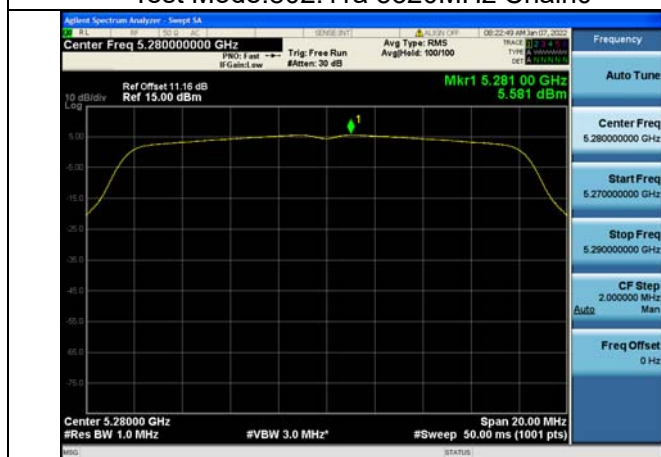
Test Mode:802.11a 5280MHz Chain0



Test Mode:802.11a 5320MHz Chain0



Test Mode:802.11a 5260MHz Chain1



Test Mode:802.11a 5280MHz Chain1



Test Mode:802.11a 5320MHz Chain1

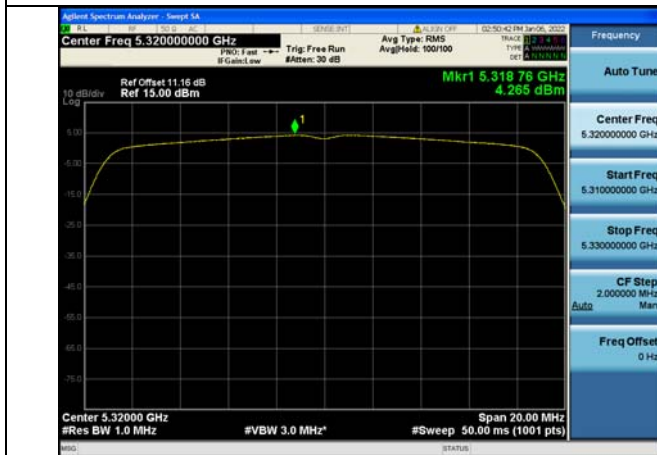
Test Mode: 802.11n HT20



Test Mode:802.11n HT20 5260MHz Chain0



Test Mode:802.11n HT20 5280MHz Chain0



Test Mode:802.11n HT20 5320MHz Chain0



Test Mode:802.11n HT20 5260MHz Chain1

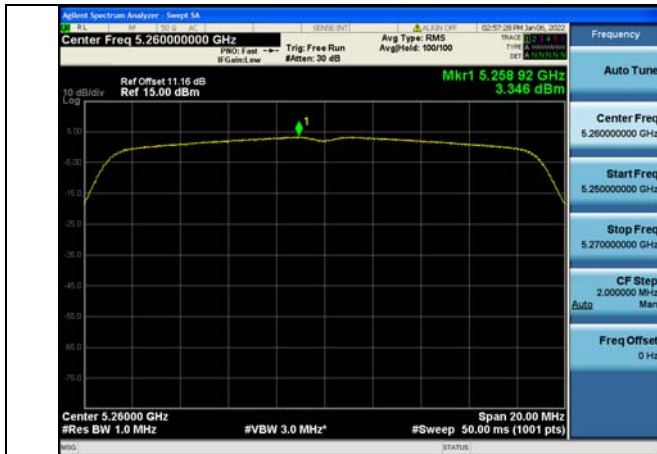


Test Mode:802.11n HT20 5280MHz Chain1



Test Mode:802.11n HT20 5320MHz Chain1

Test Mode: 802.11ac VHT20



Test Mode:802.11ac VHT20 5260MHz Chain0



Test Mode:802.11ac VHT20 5280MHz Chain0



Test Mode:802.11ac VHT20 5320MHz Chain0



Test Mode:802.11ac VHT20 5260MHz Chain1



Test Mode:802.11ac VHT20 5280MHz Chain1



Test Mode:802.11ac VHT20 5320MHz Chain1

Test Mode: 802.11n HT40



Test Mode:802.11n HT40 5270MHz Chain0



Test Mode:802.11n HT40 5310MHz Chain0



Test Mode:802.11n HT40 5270MHz Chain1



Test Mode:802.11n HT40 5310MHz Chain1

Test Mode: 802.11ac VHT40



Test Mode:802.11ac VHT40 5270MHz Chain0



Test Mode:802.11ac VHT40 5310MHz Chain0

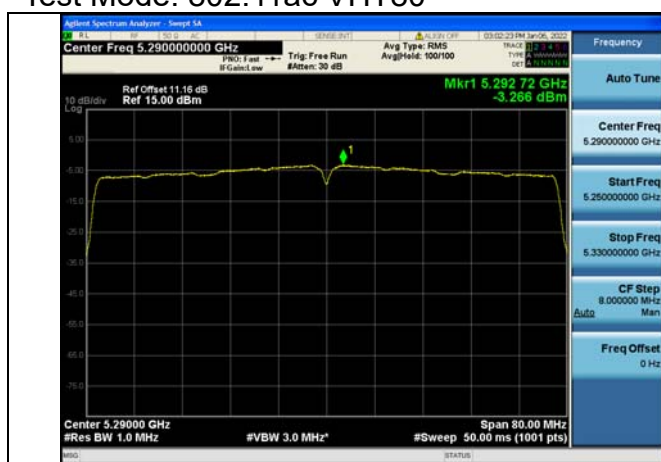


Test Mode:802.11ac VHT40 5270MHz Chain1

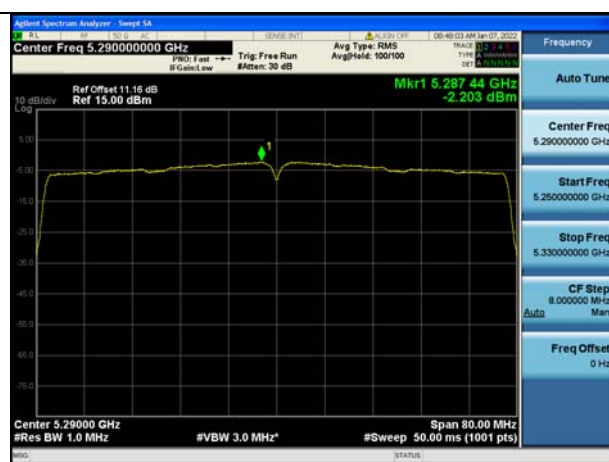


Test Mode:802.11ac VHT40 5310MHz Chain1

Test Mode: 802.11ac VHT80



Test Mode:802.11ac VHT80 5290MHz Chain0



Test Mode:802.11ac VHT80 5290MHz Chain1

Dynamic Frequency Selection

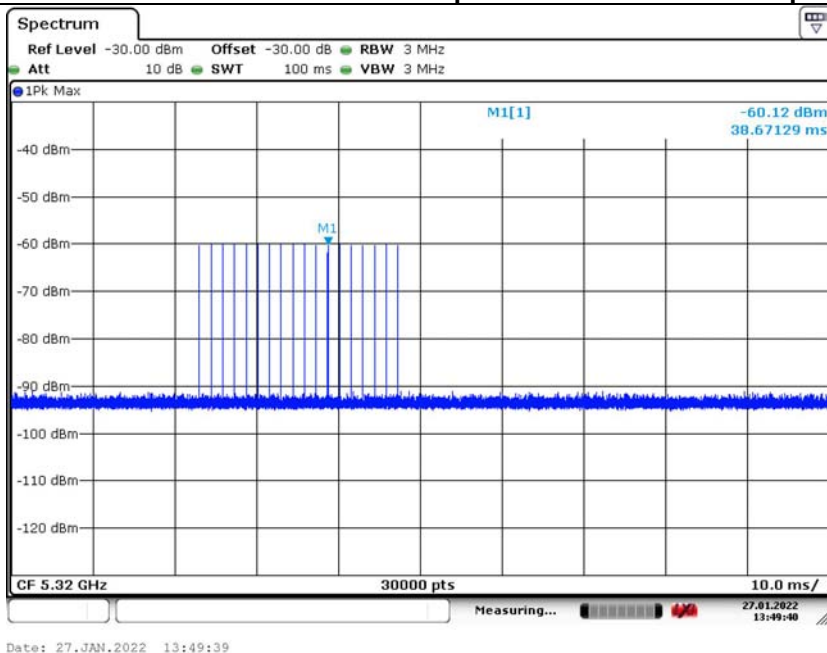
DESCRIPTION OF Master Device

The Master Device is a SKSpruce Technologies Co., Ltd., Indoor Access Point, FCC ID: 2AHKT-WIA3300-20. The rated output power of the Master unit is > 23dBm (EIRP). Therefore the required interference threshold level is -60 dBm.

Radar Waveform Calibration Result

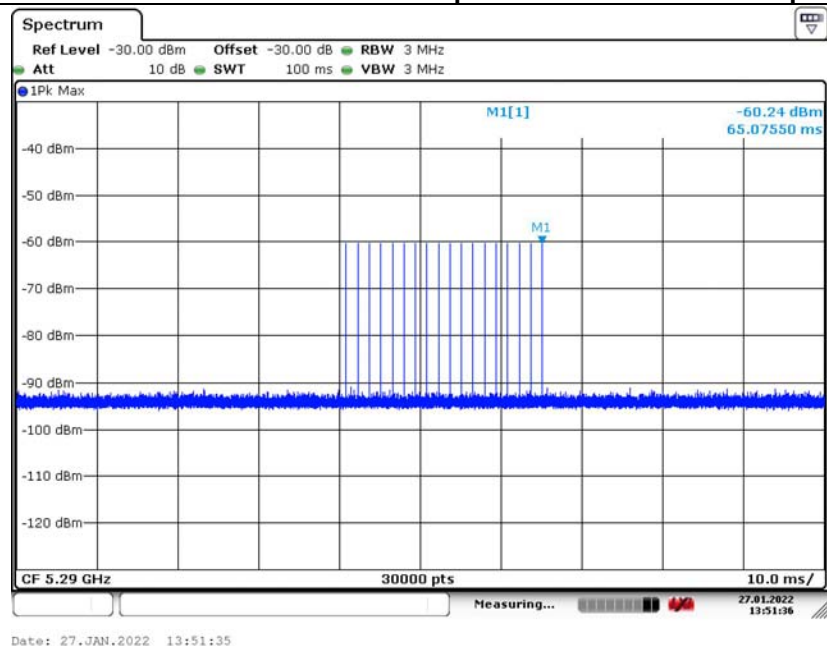
<20MHz / 5320 MHz> Radar Type 0

Radar / DFS detection threshold level and the burst of pulses on the Channel frequency

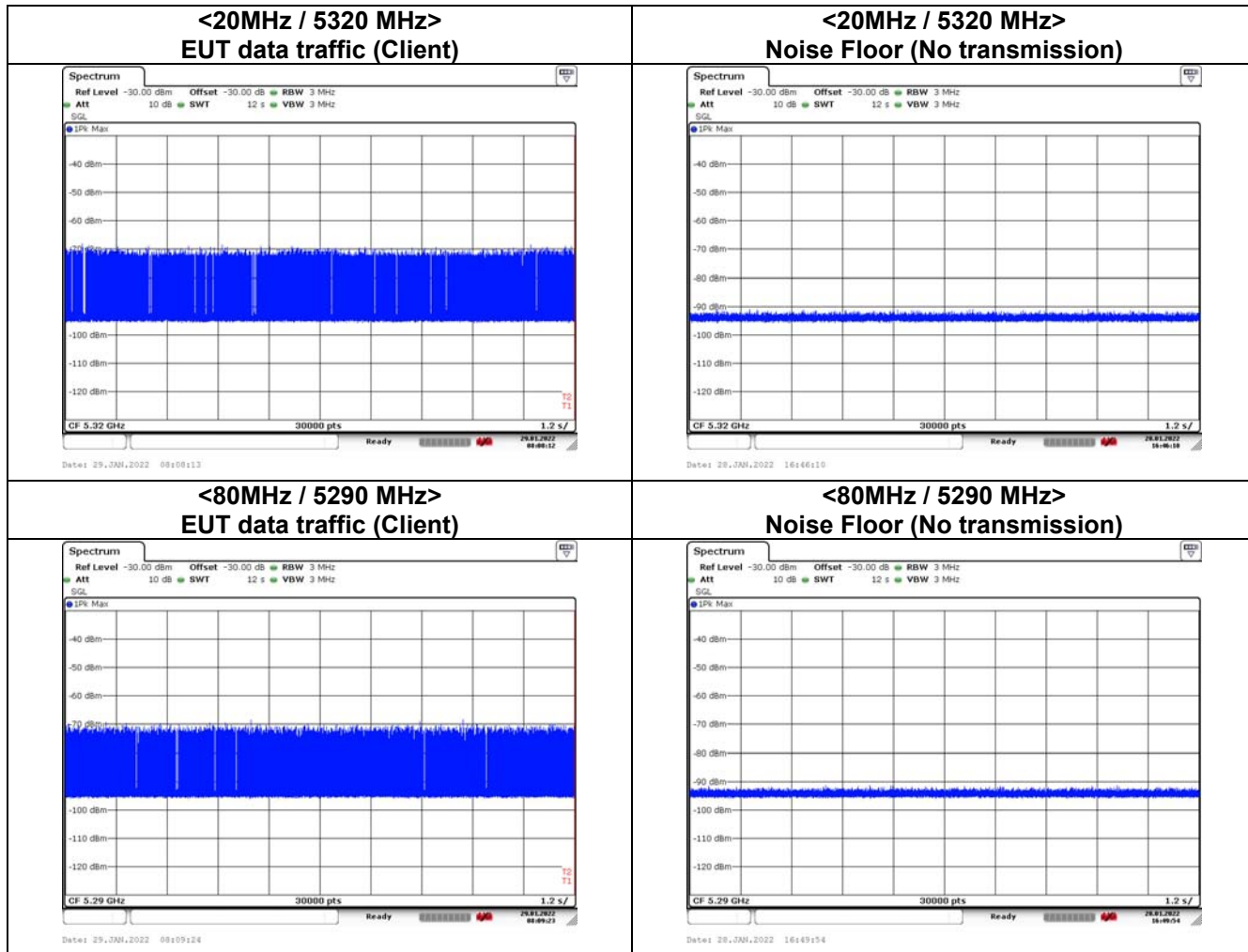


<80MHz / 5290 MHz> Radar Type 0

Radar / DFS detection threshold level and the burst of pulses on the Channel frequency



Data Traffic and Noise Floor Plots

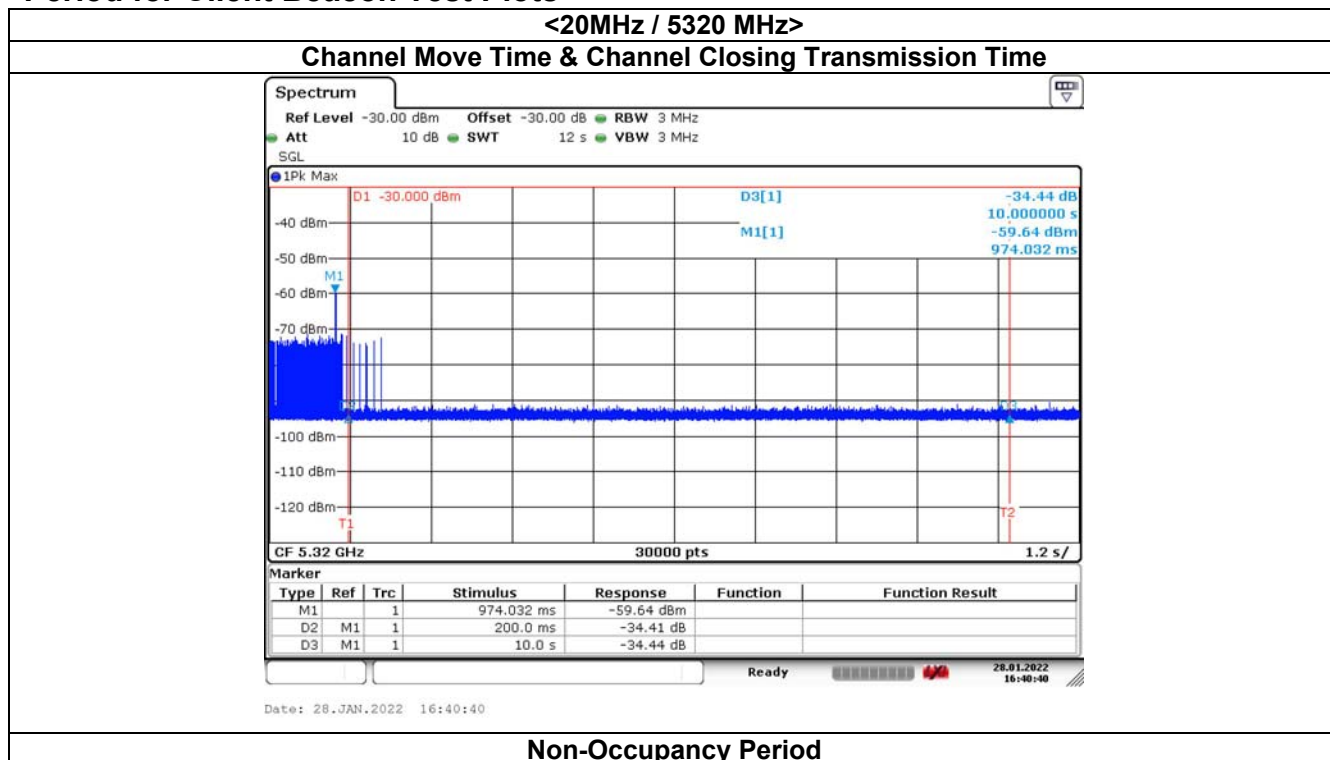


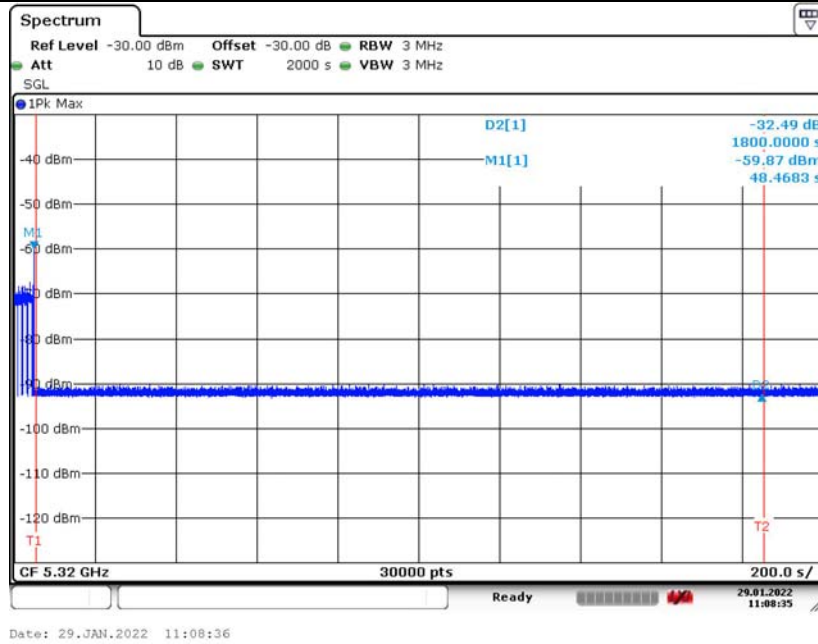
Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period for Client Beacon Test

Frequency	Test Item	Test Result	Limit	Pass/Fail
5320MHz	Channel Move Time	< 10s*	< 10s	Pass
	Channel Closing Transmission Time	200ms +2.4ms	< 260ms	Pass
	Non-Occupancy Period	≥ 30	≥ 30 min	Pass
5290MHz	Channel Move Time	< 10s*	< 10s	Pass
	Channel Closing Transmission Time	200ms +3.2ms	< 260ms	Pass
	Non-Occupancy Period	≥ 30	≥ 30 min	Pass

Note*: We notice clearly that “Channel Move Time” is less than 10s from the figure.
The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 seconds period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period for Client Beacon Test Plots

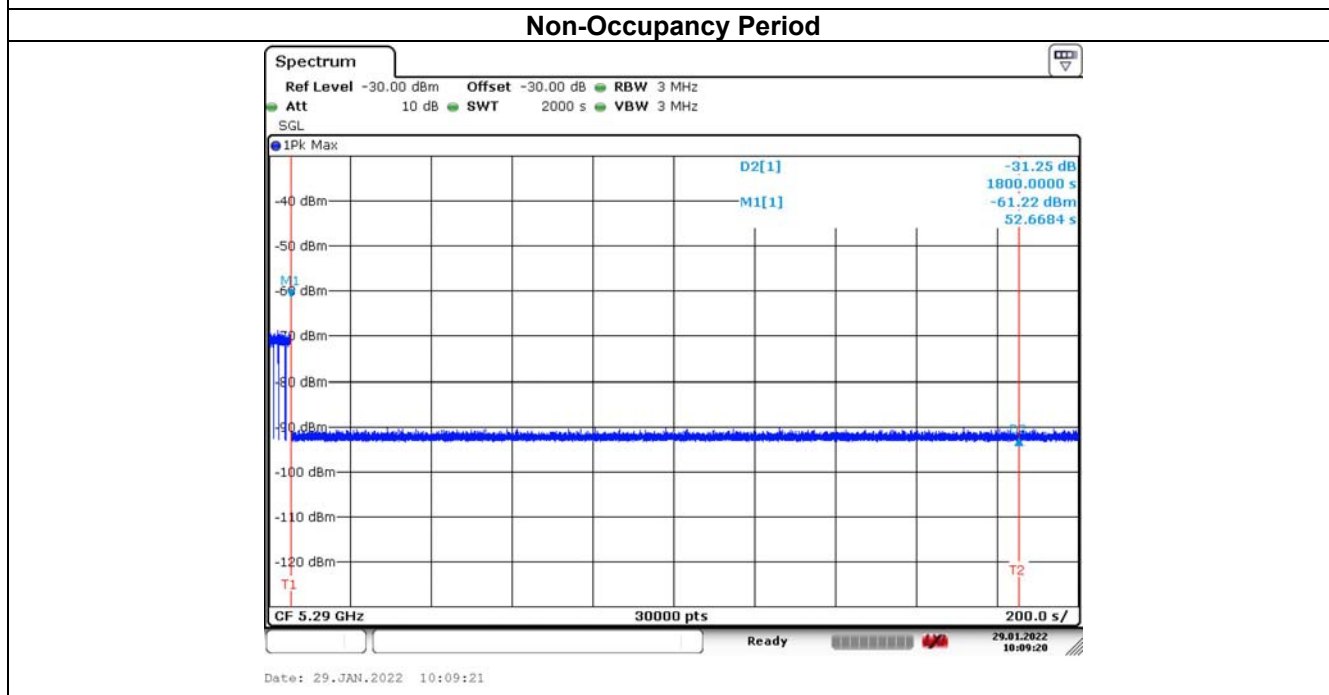
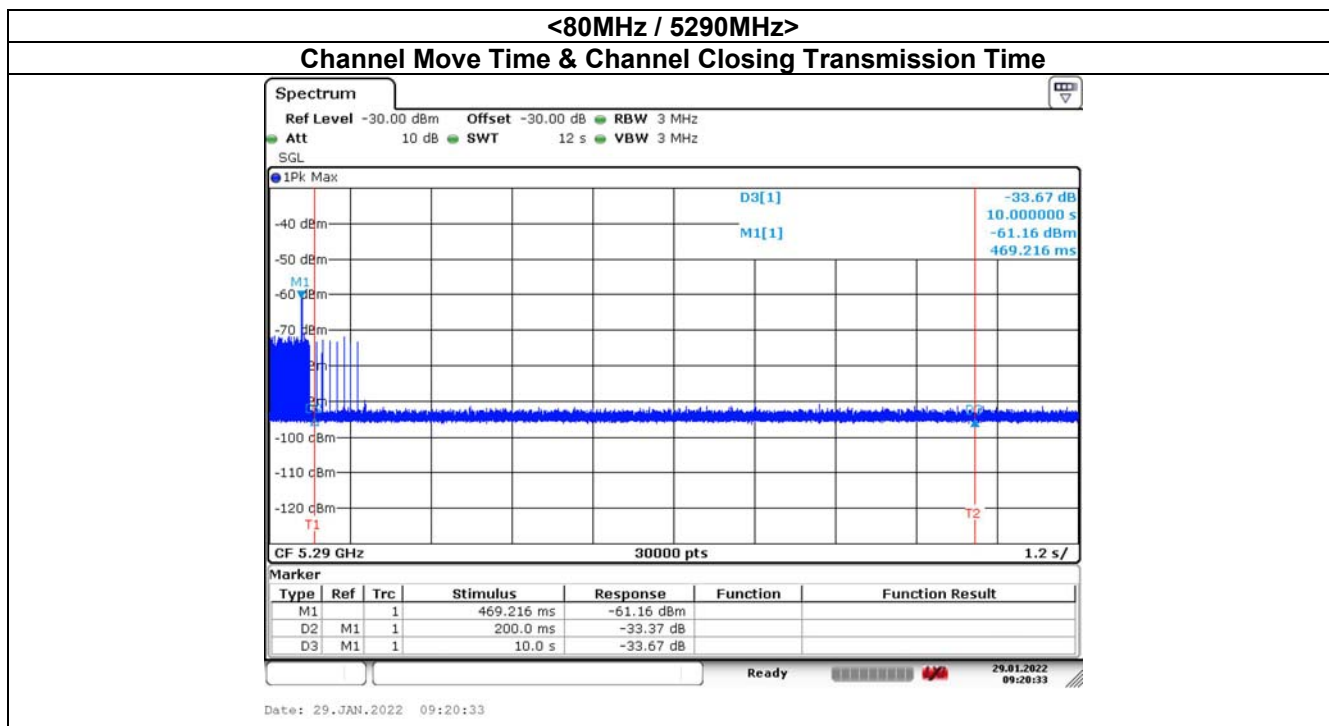




Note:

Dwell (0.4 ms)= Sweep Time (12000 ms) / Sweep Point Bins (30000)

Channel Closing Transmission Time (200 + 2.4 ms) = 200 + Number of beacon after 200ms(6) X Dwell (0.4 ms) < 260ms



Note:

Dwell (0.4 ms)= Sweep Time (12000 ms) / Sweep Point Bins (30000)

Channel Closing Transmission Time (200 + 3.2 ms) = 200 + Number of beacon after 200ms(8) X Dwell (0.4 ms) < 260ms