

APPENDIX A – TEST DATA OF CONDUCTED EMISSION

Duty Cycle

Test Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor(dB)	Plot
802.11a	5260	98.66%	0	Fig.1
802.11n HT20	5260	98.63%	0	Fig.2
802.11ac VHT20	5260	98.61%	0	Fig.3
802.11n HT40	5270	97.25%	0.12	Fig.4
802.11ac VHT40	5270	97.30%	0.12	Fig.5
802.11ac VHT80	5290	94.92%	0.23	Fig.6

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

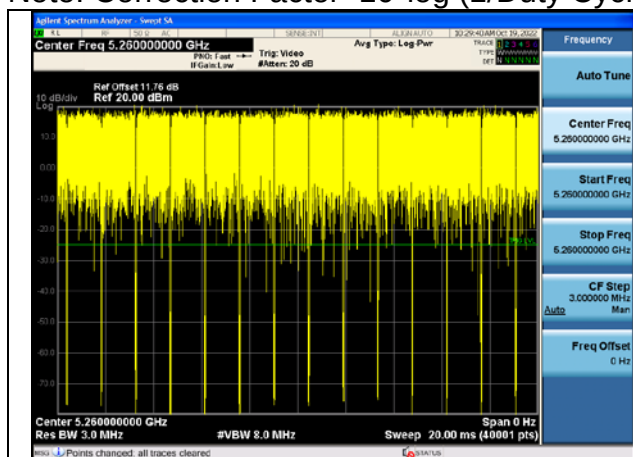


Fig.1

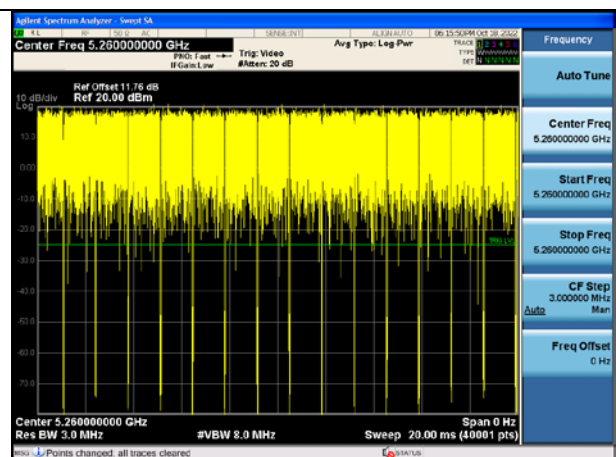


Fig.2

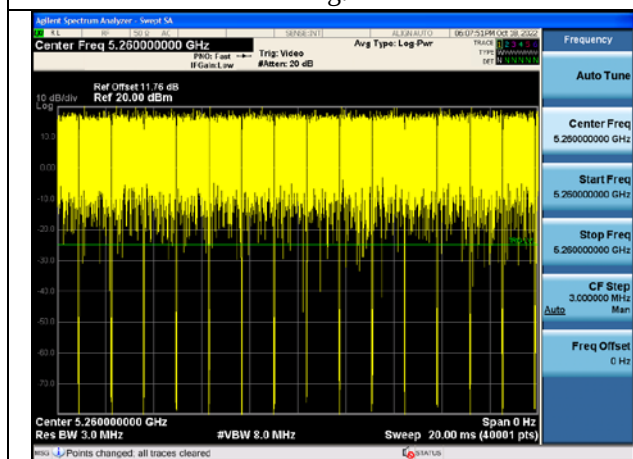


Fig.3

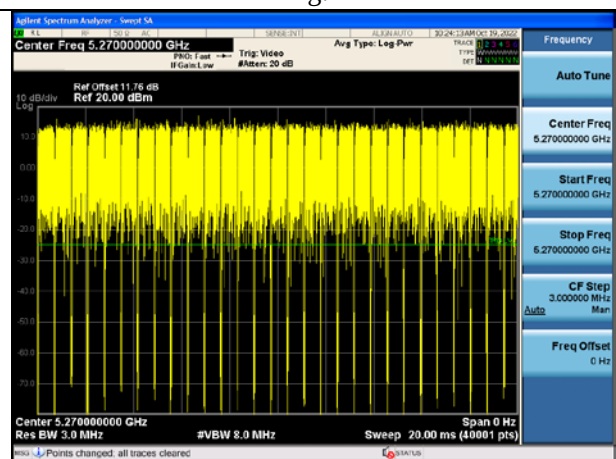


Fig.4

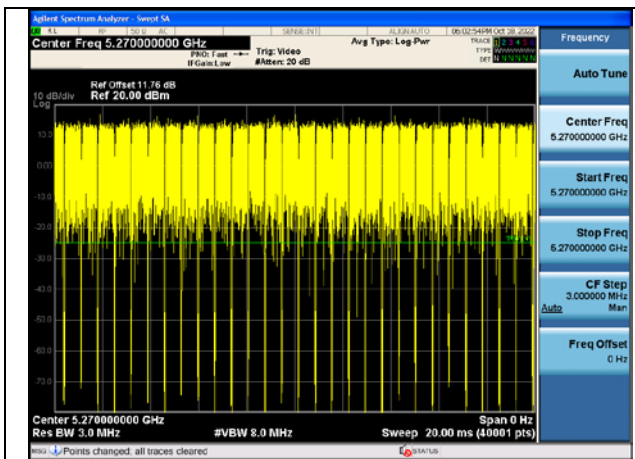


Fig.5



Fig.6

Output Power

Mode	Tones/ RUIndex	Freq (MHz)	Antenna	Conducted average power output(dBm)	EIRP (dBm)
802.11a	NA	5260	Chain0	15.67	14.47
802.11a	NA	5280	Chain0	15.80	14.60
802.11a	NA	5320	Chain0	13.33	12.13
802.11n HT20	NA	5260	Chain0	15.49	14.29
802.11n HT20	NA	5280	Chain0	15.60	14.40
802.11n HT20	NA	5320	Chain0	13.16	11.96
802.11ac VHT20	NA	5260	Chain0	15.49	14.29
802.11ac VHT20	NA	5280	Chain0	15.68	14.48
802.11ac VHT20	NA	5320	Chain0	13.35	12.15
802.11n HT40	NA	5270	Chain0	15.40	14.20
802.11n HT40	NA	5310	Chain0	10.43	9.23
802.11ac VHT40	NA	5270	Chain0	15.31	14.11
802.11ac VHT40	NA	5310	Chain0	10.39	9.19
802.11ac VHT80	NA	5290	Chain0	9.47	8.27

Emission Bandwidth

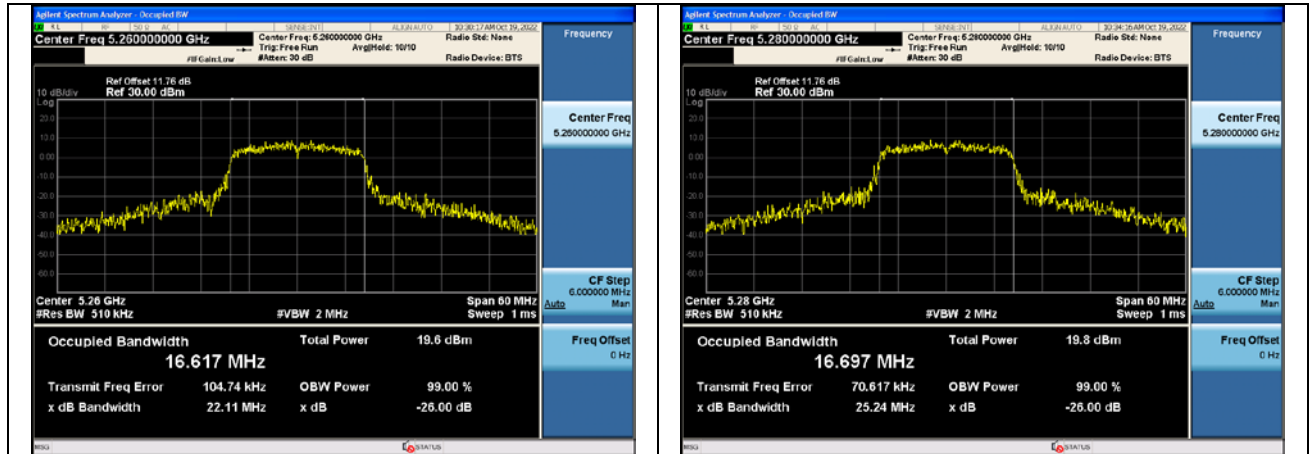
Offset 11.76dB = Attenuator + Temporary antenna connector loss + Cable loss

Test Mode	Antenna	26dB Bandwidth (MHz)		
		Channel No.570	Channel No.574	Channel No.582
		5260MHz	5280MHz	5320MHz
802.11a	Chain0	22.11	25.24	23.84
802.11n HT20	Chain0	29.79	28.42	25.94
802.11ac VHT20	Chain0	20.25	20.58	20.51

Test Mode	Antenna	26dB Bandwidth (MHz)		
		Channel No.572	---	Channel No.580
		5270MHz	---	5310MHz
802.11n HT40	Chain0	39.80	---	39.59
802.11ac VHT40	Chain0	41.57	---	40.74

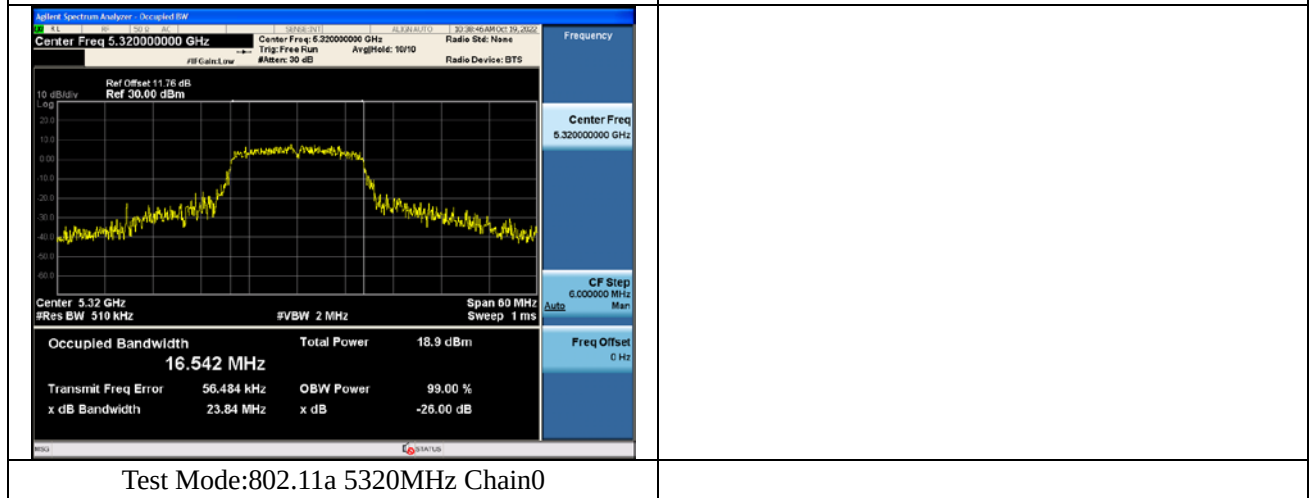
Test Mode	Antenna	26dB Bandwidth (MHz)		
		Channel No.576	---	---
		5290MHz	---	---
802.11ac VHT80	Chain0	87.46	---	---

Test Mode: 802.11a



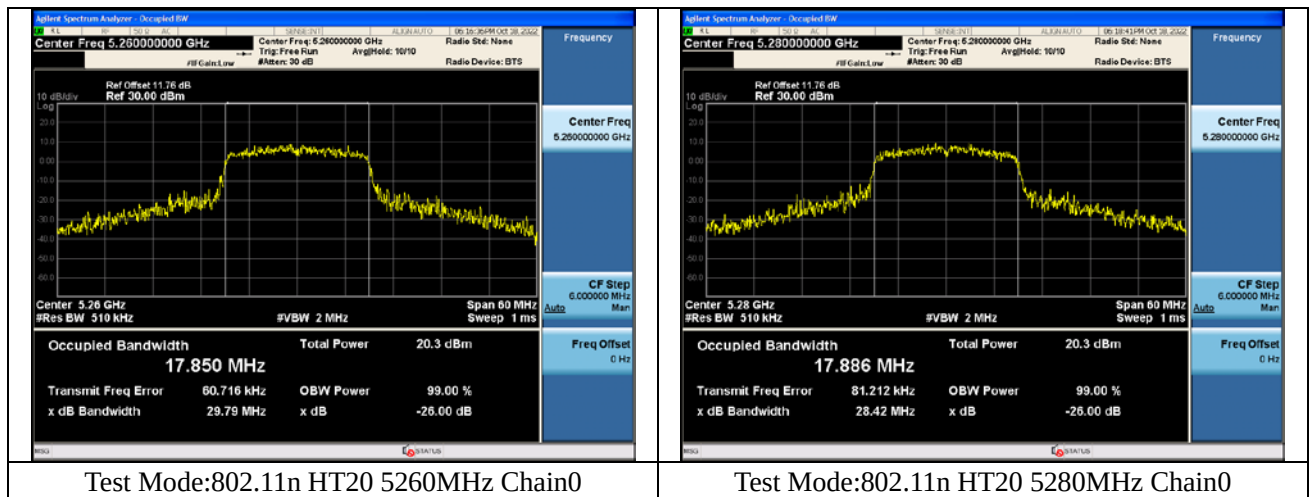
Test Mode:802.11a 5260MHz Chain0

Test Mode:802.11a 5280MHz Chain0



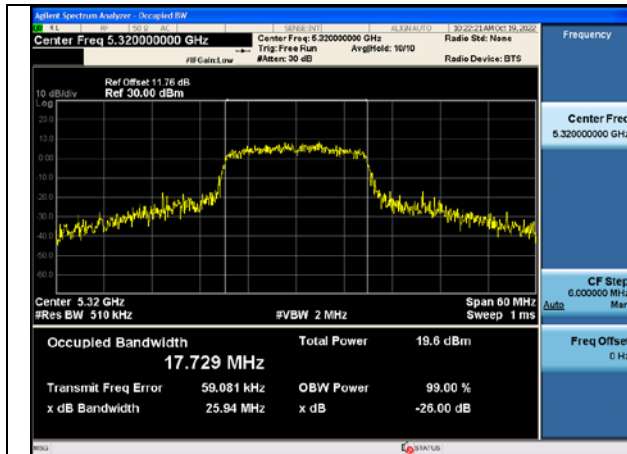
Test Mode:802.11a 5320MHz Chain0

Test Mode: 802.11n HT20



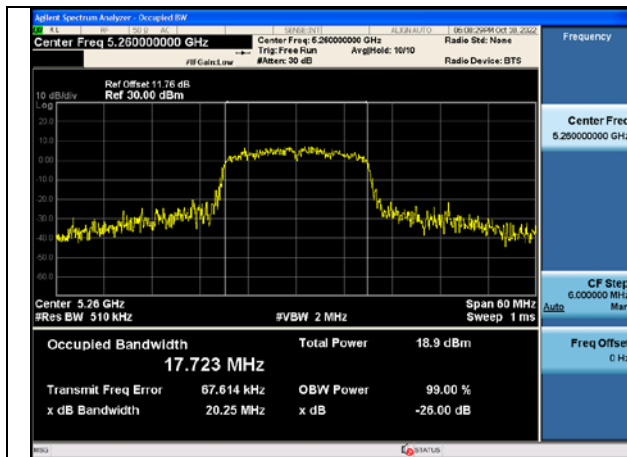
Test Mode:802.11n HT20 5260MHz Chain0

Test Mode:802.11n HT20 5280MHz Chain0

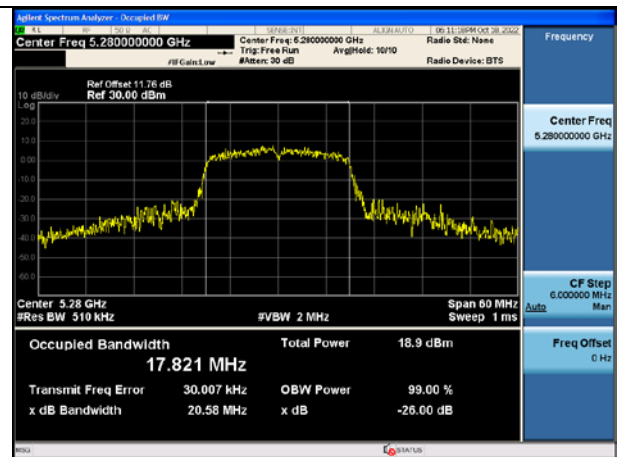


Test Mode:802.11n HT20 5320MHz Chain0

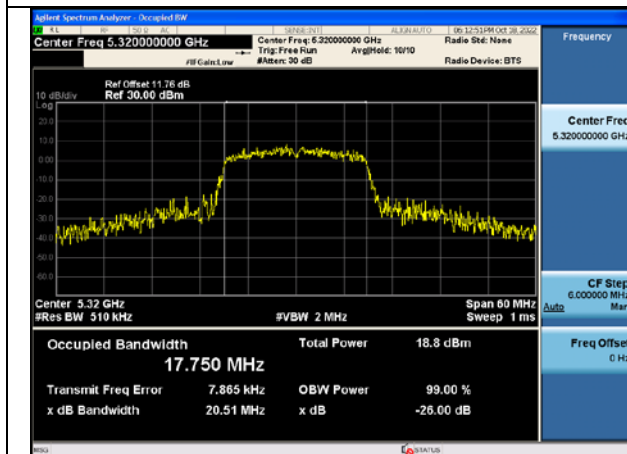
Test Mode: 802.11ac VHT20



Test Mode:802.11ac VHT20 5260MHz Chain0

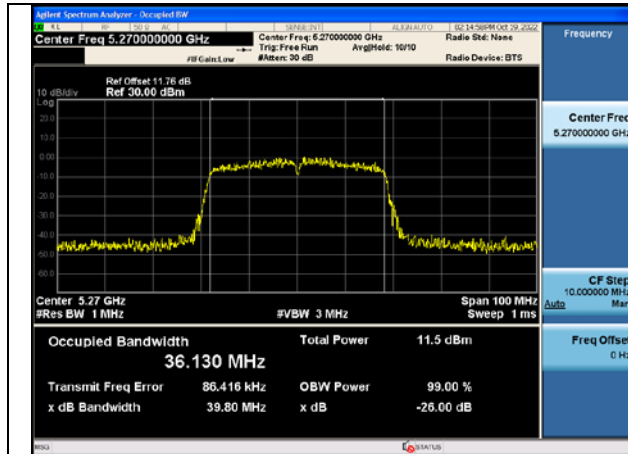


Test Mode:802.11ac VHT20 5280MHz Chain0

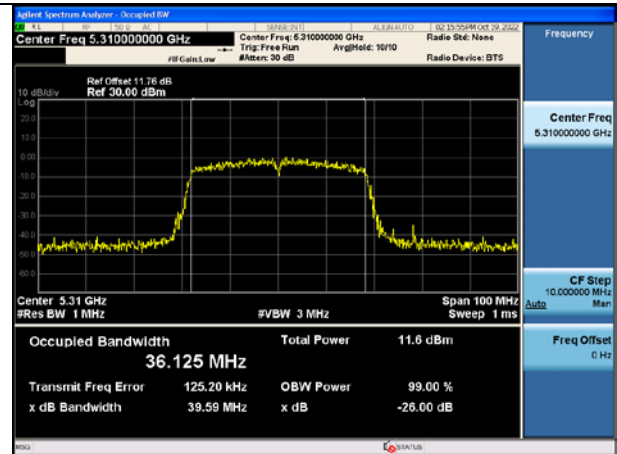


Test Mode:802.11ac VHT20 5320MHz Chain0

Test Mode: 802.11n HT40

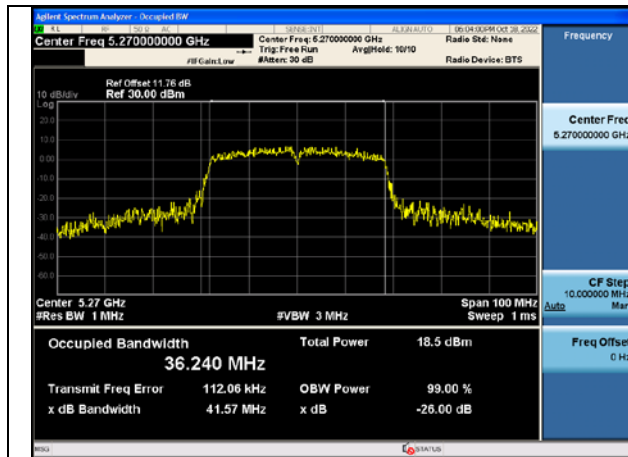


Test Mode:802.11n HT40 5270MHz Chain0

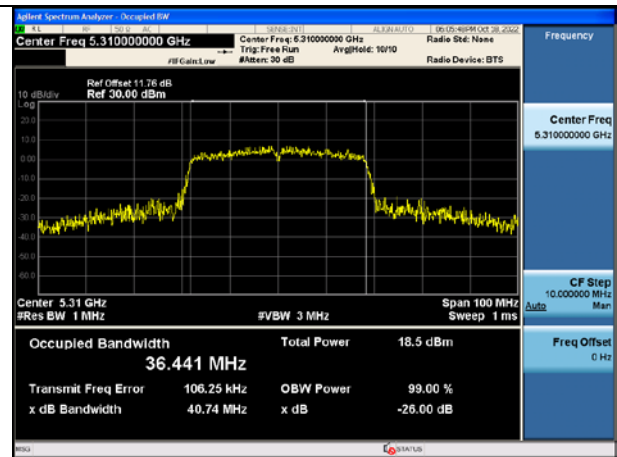


Test Mode:802.11n HT40 5310MHz Chain0

Test Mode: 802.11ac VHT40

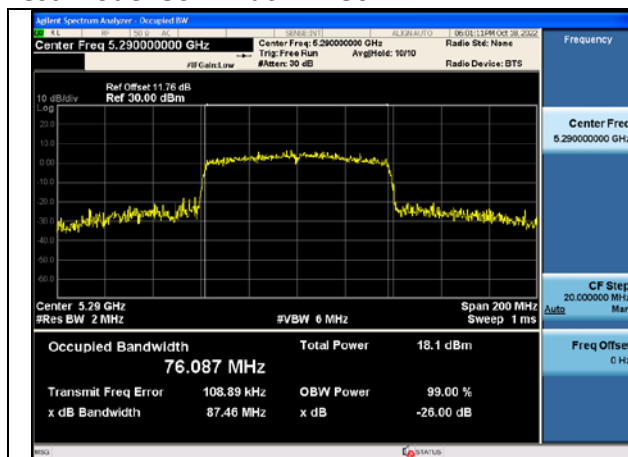


Test Mode:802.11ac VHT40 5270MHz Chain0



Test Mode:802.11ac VHT40 5310MHz Chain0

Test Mode: 802.11ac VHT80



Test Mode:802.11ac VHT80 5290MHz Chain0

Occupied Bandwidth

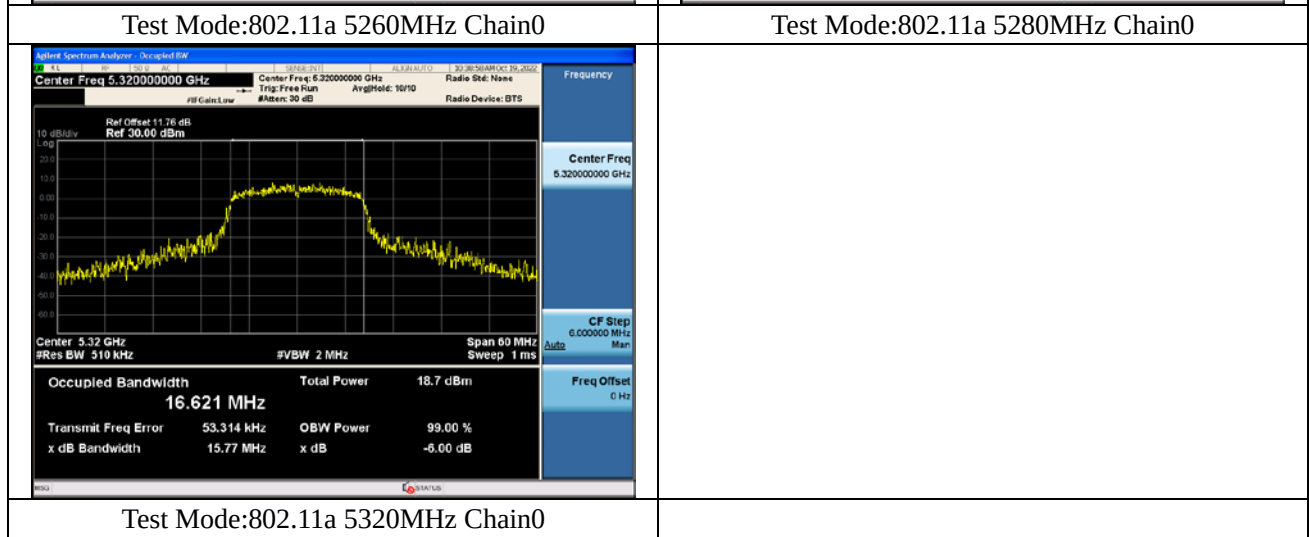
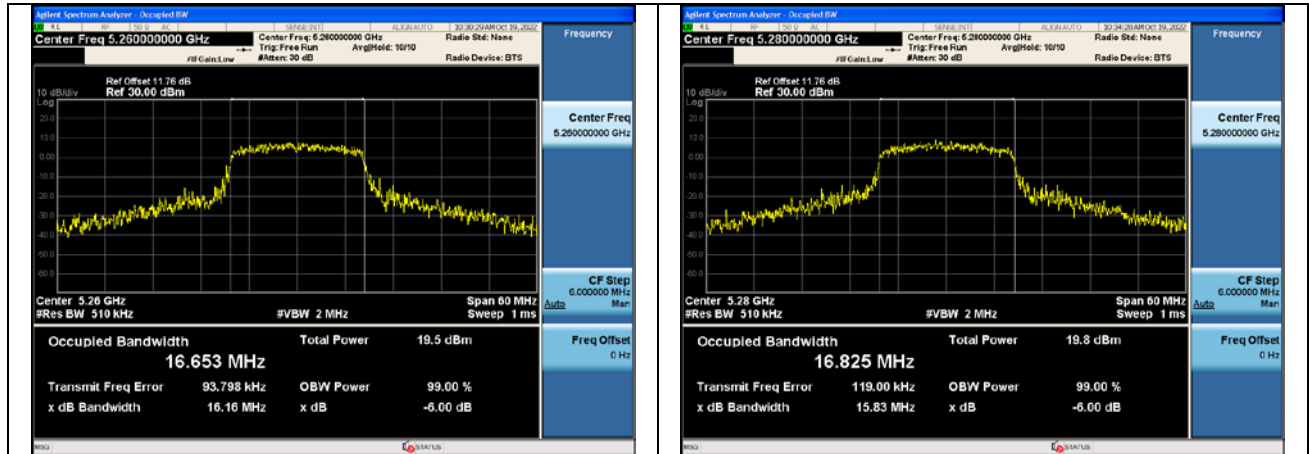
Offset 11.76dB = Attenuator + Temporary antenna connector loss + Cable loss

Test Mode	Antenna	Occupied Bandwidth (MHz)		
		Channel No.570	Channel No.574	Channel No.582
		5260MHz	5280MHz	5320MHz
802.11a	Chain0	16.653	16.825	16.621
802.11n HT20	Chain0	17.895	17.825	17.750
802.11ac VHT20	Chain0	17.645	17.651	17.820

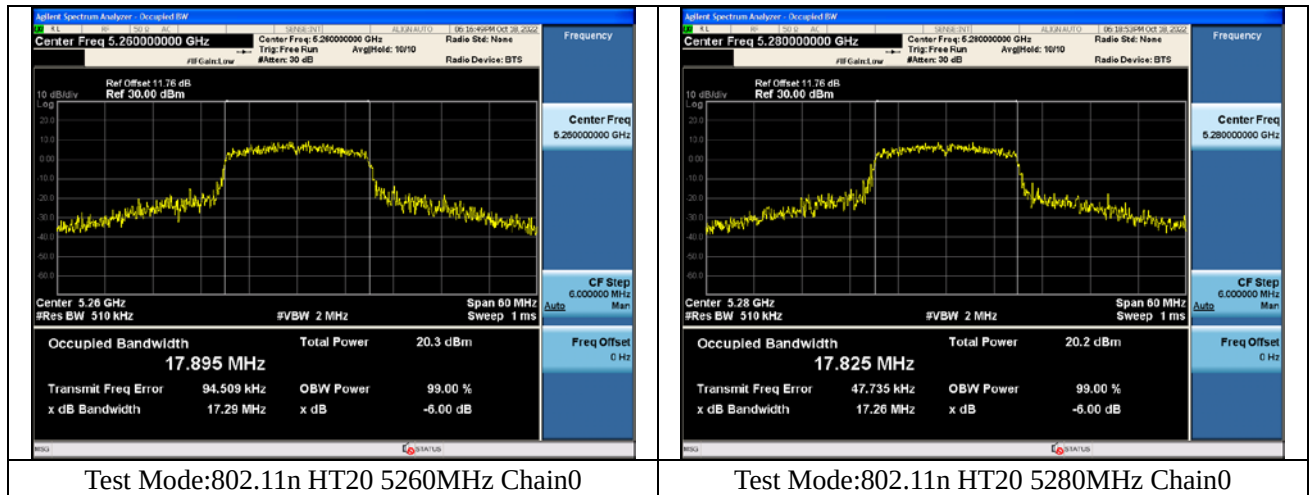
Test Mode	Antenna	Occupied Bandwidth (MHz)		
		Channel No.572	---	Channel No.580
		5270MHz	---	5310MHz
802.11n HT40	Chain0	36.140	---	36.137
802.11ac VHT40	Chain0	36.156	---	36.231

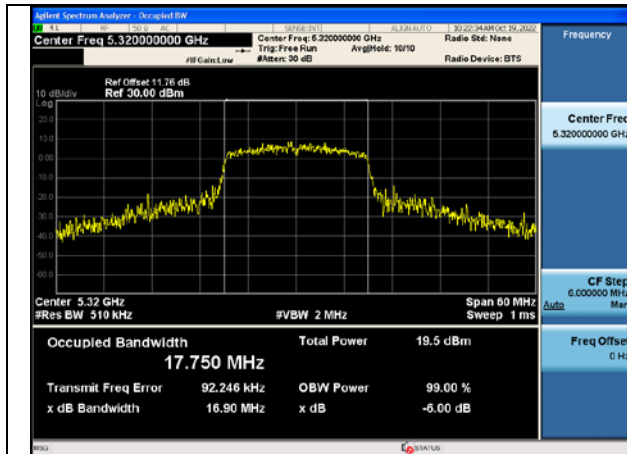
Test Mode	Antenna	Occupied Bandwidth (MHz)		
		Channel No.576	---	---
		5290MHz	---	---
802.11ac VHT80	Chain0	76.063	---	---

Test Mode: 802.11a



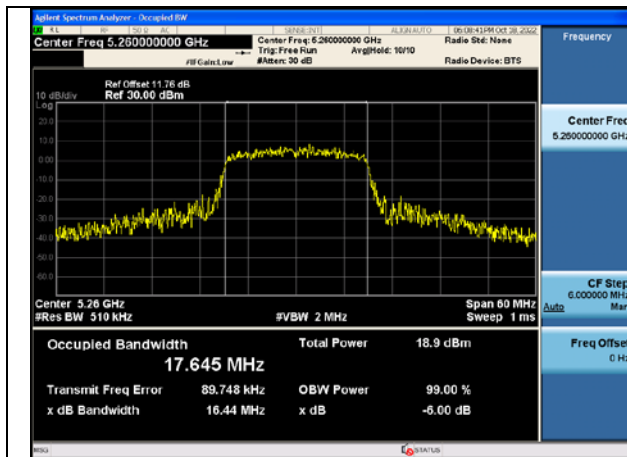
Test Mode: 802.11n HT20



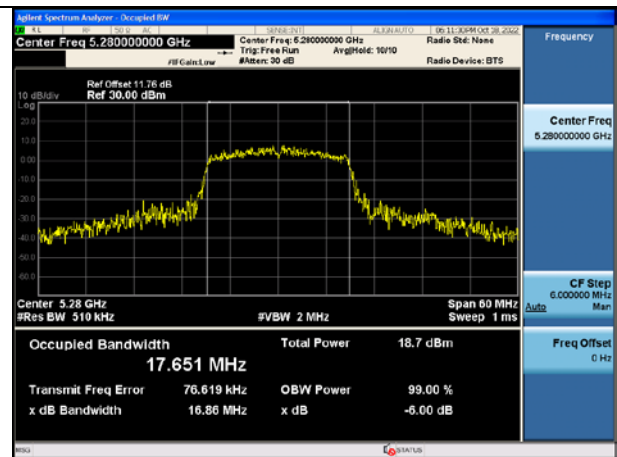


Test Mode:802.11n HT20 5320MHz Chain0

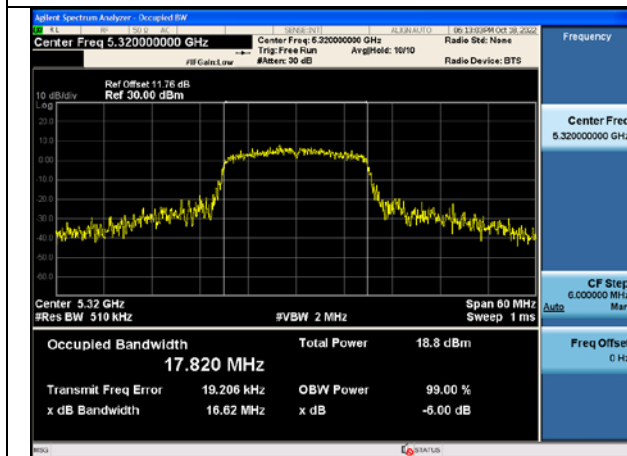
Test Mode: 802.11ac VHT20



Test Mode:802.11ac VHT20 5260MHz Chain0

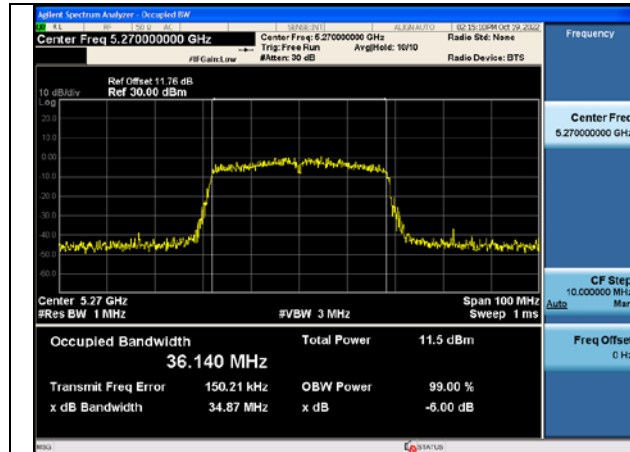


Test Mode:802.11ac VHT20 5280MHz Chain0

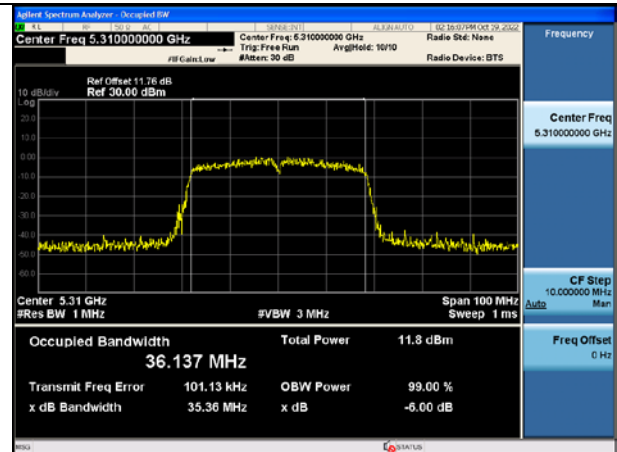


Test Mode:802.11ac VHT20 5320MHz Chain0

Test Mode: 802.11n HT40

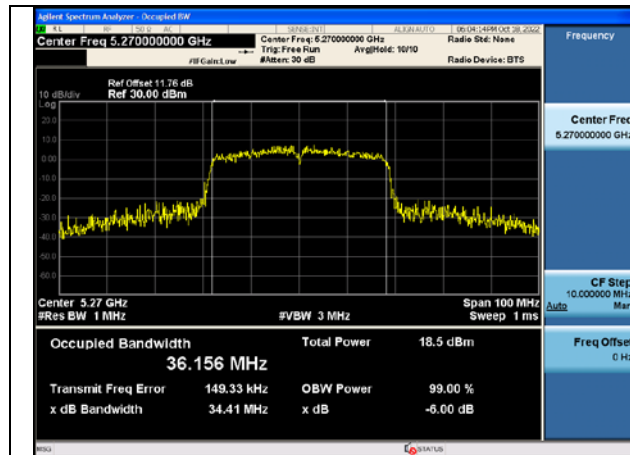


Test Mode:802.11n HT40 5270MHz Chain0

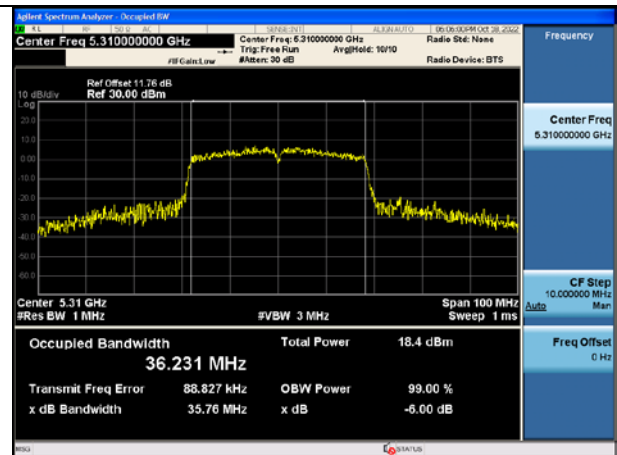


Test Mode:802.11n HT40 5310MHz Chain0

Test Mode: 802.11ac VHT40

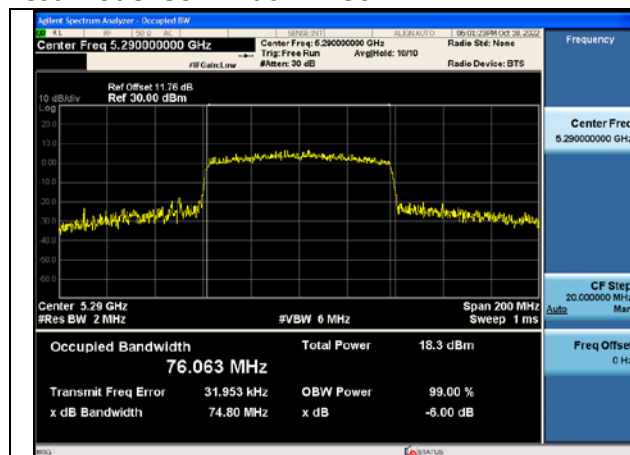


Test Mode:802.11ac VHT40 5270MHz Chain0



Test Mode:802.11ac VHT40 5310MHz Chain0

Test Mode: 802.11ac VHT80



Test Mode:802.11ac VHT80 5290MHz Chain0

Transmitter Power Spectral Density

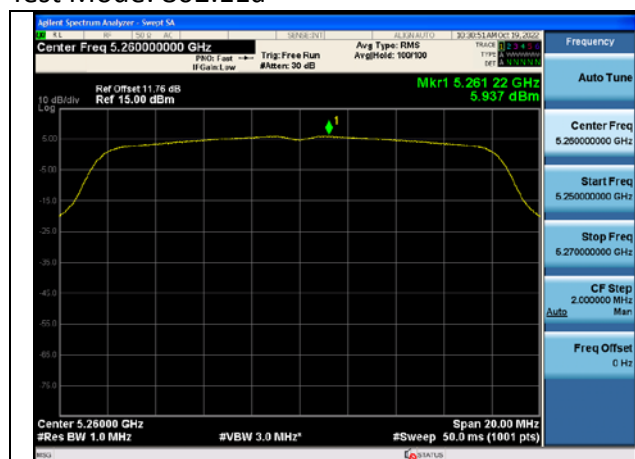
Offset 11.76dB = Attenuator + Temporary antenna connector loss + Cable loss

Test Mode	Antenna	Tones	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	NA	0	5.937		6.196		5.376
802.11n HT20	Chain0	NA	0	6.268		6.270		6.298
802.11ac VHT20	Chain0	NA	0	4.977		4.907		4.939

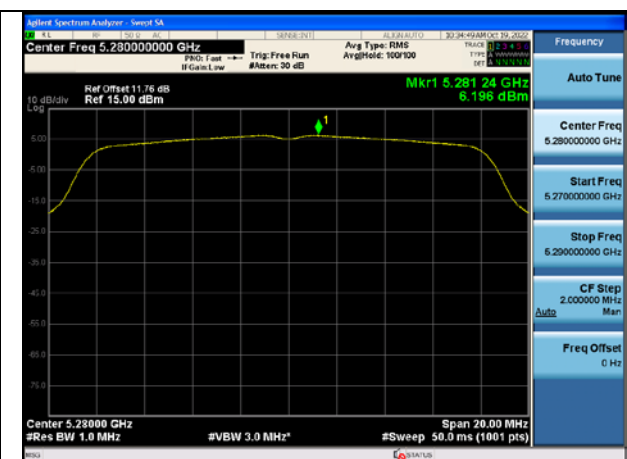
Test Mode	Antenna	Tones	5270MHz		---		5310MHz	
			Correction Factor(dB)	Power Density (dBm/MHz)	Correction Factor(dB)	Power Density (dBm/MHz)	Correction Factor(dB)	Power Density (dBm/MHz)
802.11n HT40	Chain0	NA	0.12	2.164	---	---		2.032
802.11ac VHT40	Chain0	NA	0.12	1.862	---	---		2.033

Test Mode	Antenna	Tones	5290MHz		---		---	
			Correction Factor(dB)	Power Density (dBm/MHz)	Correction Factor(dB)	Power Density (dBm/MHz)	Correction Factor(dB)	Power Density (dBm/MHz)
802.11ac VHT80	Chain0	NA	0.23	-0.987	---	---	---	---

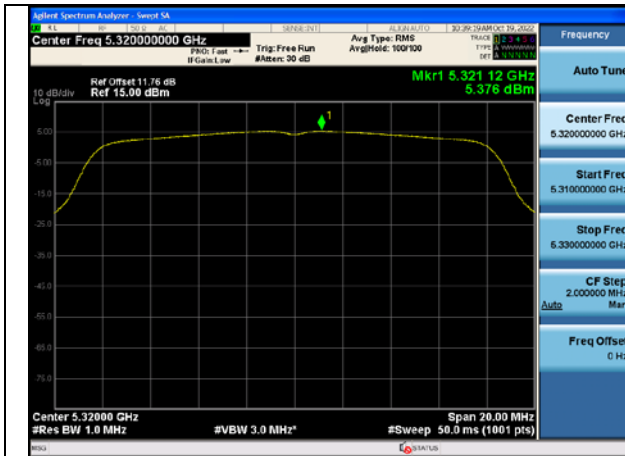
Test Mode: 802.11a



Test Mode:802.11a 5260MHz Chain0

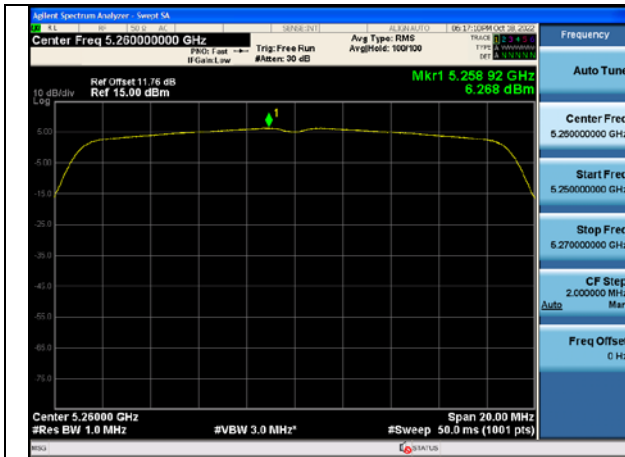


Test Mode:802.11a 5280MHz Chain0

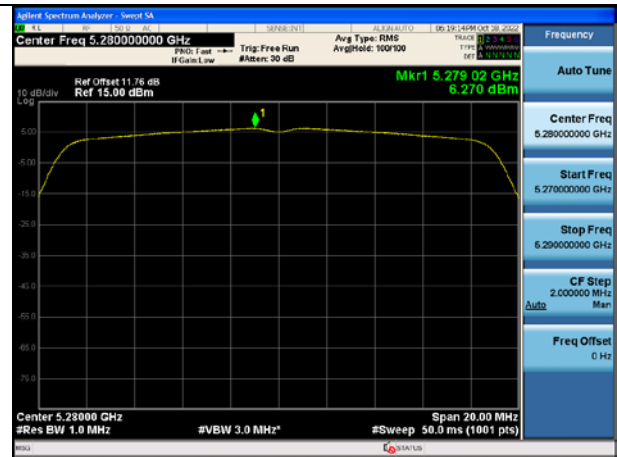


Test Mode:802.11a 5320MHz Chain0

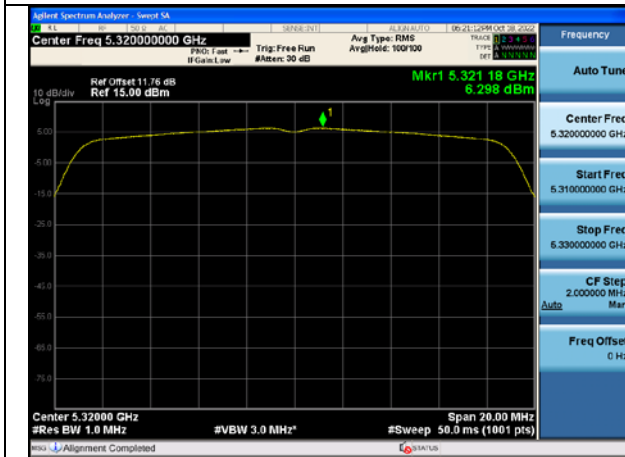
Test Mode: 802.11n HT20



Test Mode:802.11n HT20 5260MHz Chain0

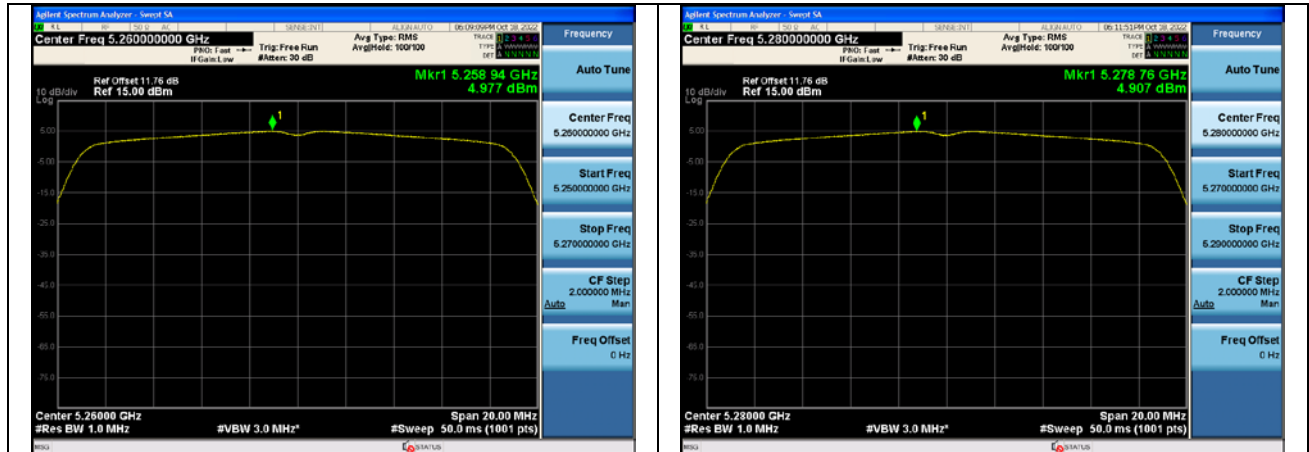


Test Mode:802.11n HT20 5280MHz Chain0



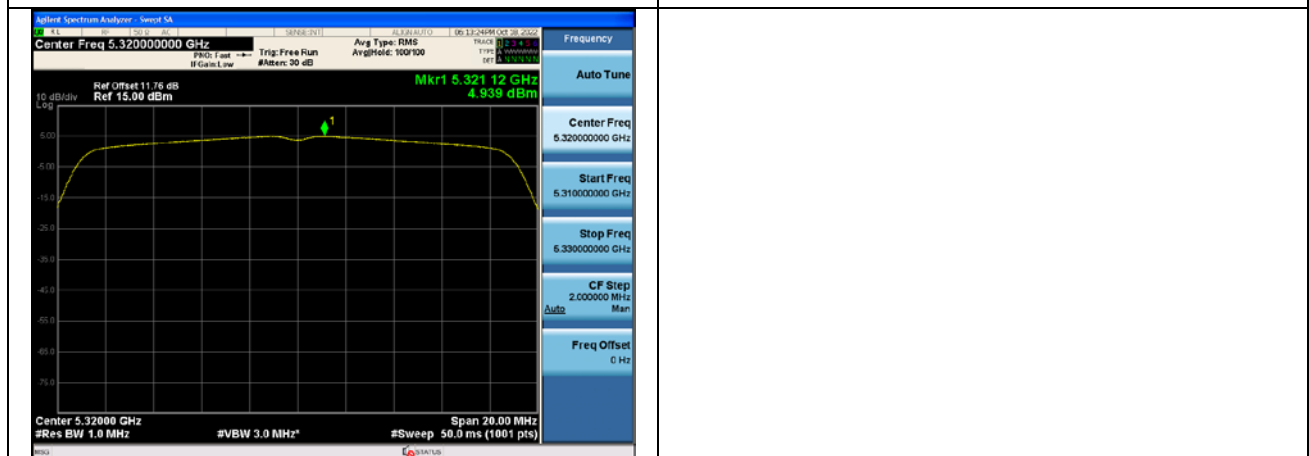
Test Mode:802.11n HT20 5320MHz Chain0

Test Mode: 802.11ac VHT20



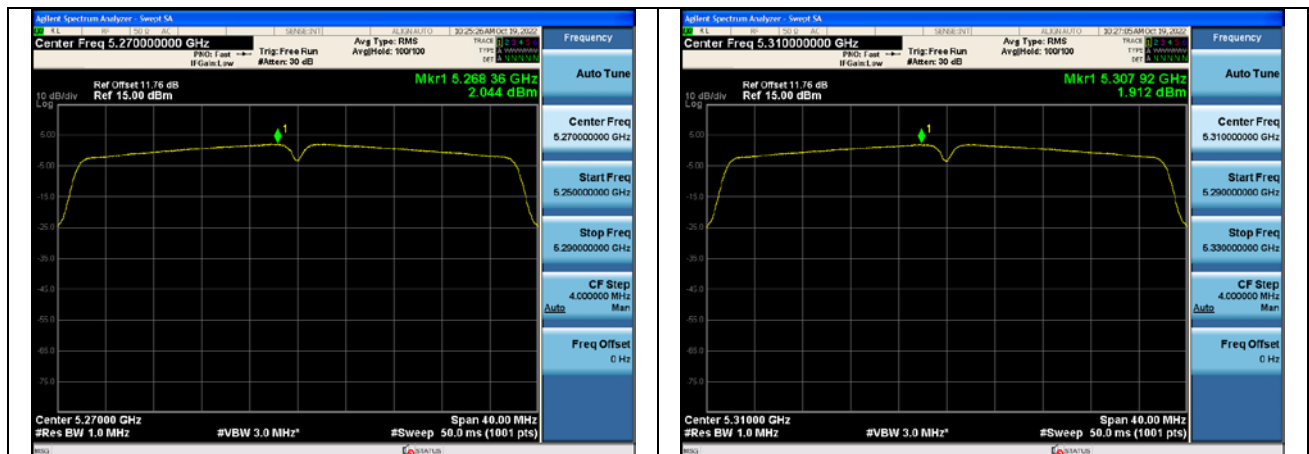
Test Mode:802.11ac VHT20 5260MHz Chain0

Test Mode:802.11ac VHT20 5280MHz Chain0



Test Mode:802.11ac VHT20 5320MHz Chain0

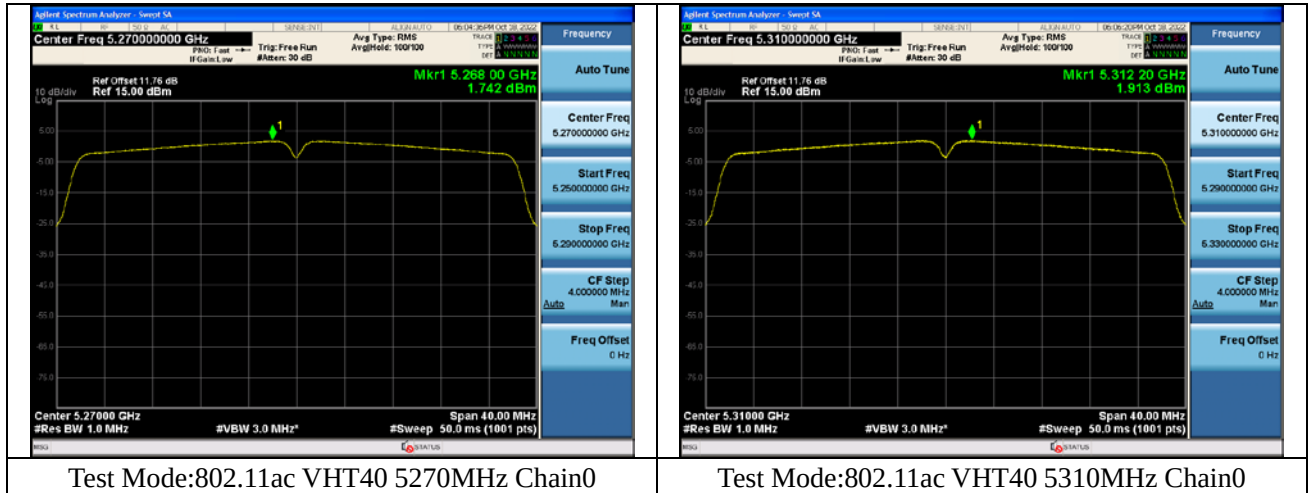
Test Mode: 802.11n HT40



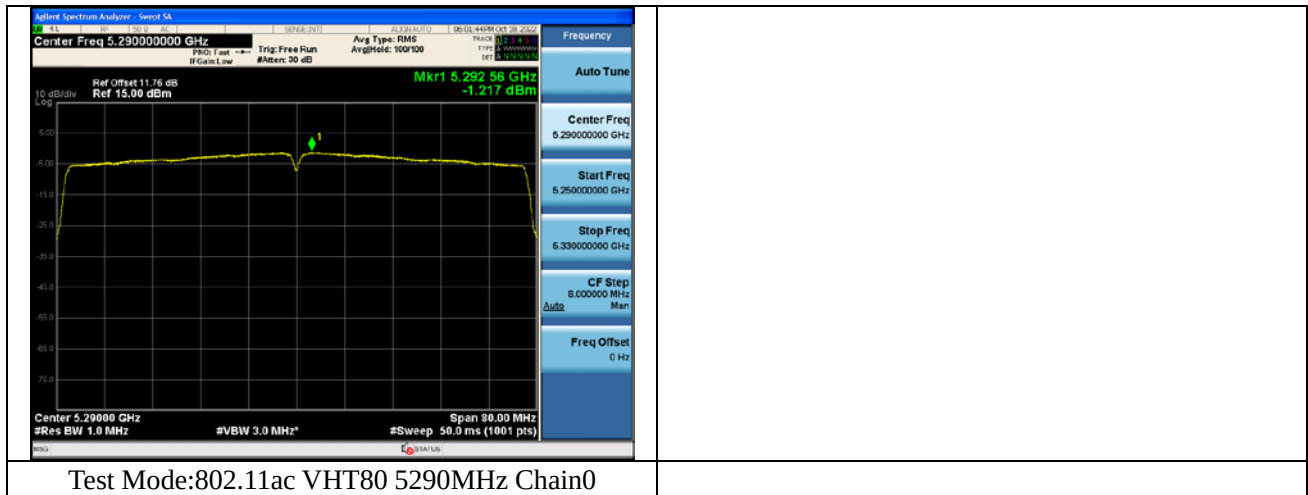
Test Mode:802.11n HT40 5270MHz Chain0

Test Mode:802.11n HT40 5310MHz Chain0

Test Mode: 802.11ac VHT40



Test Mode: 802.11ac VHT80

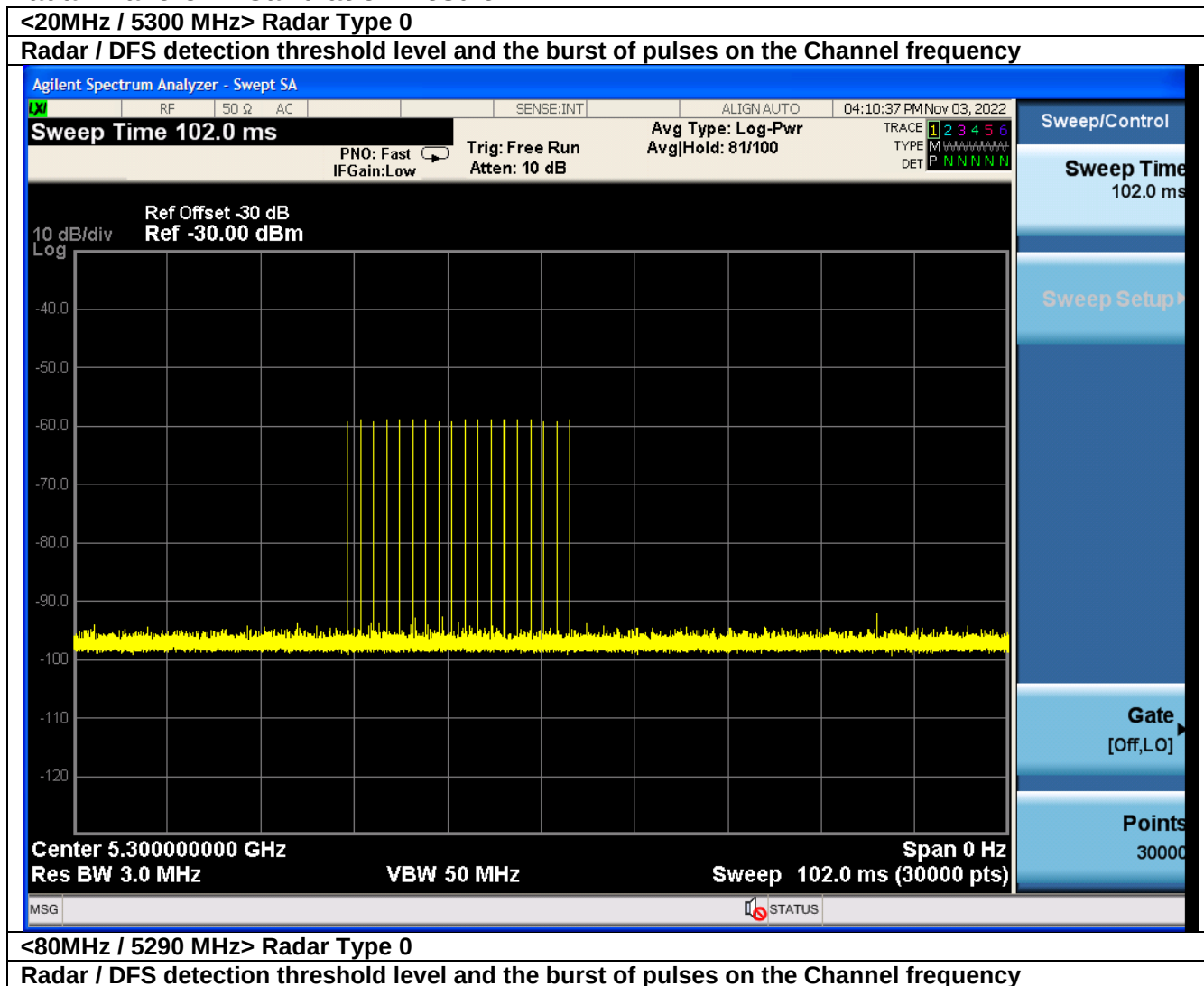


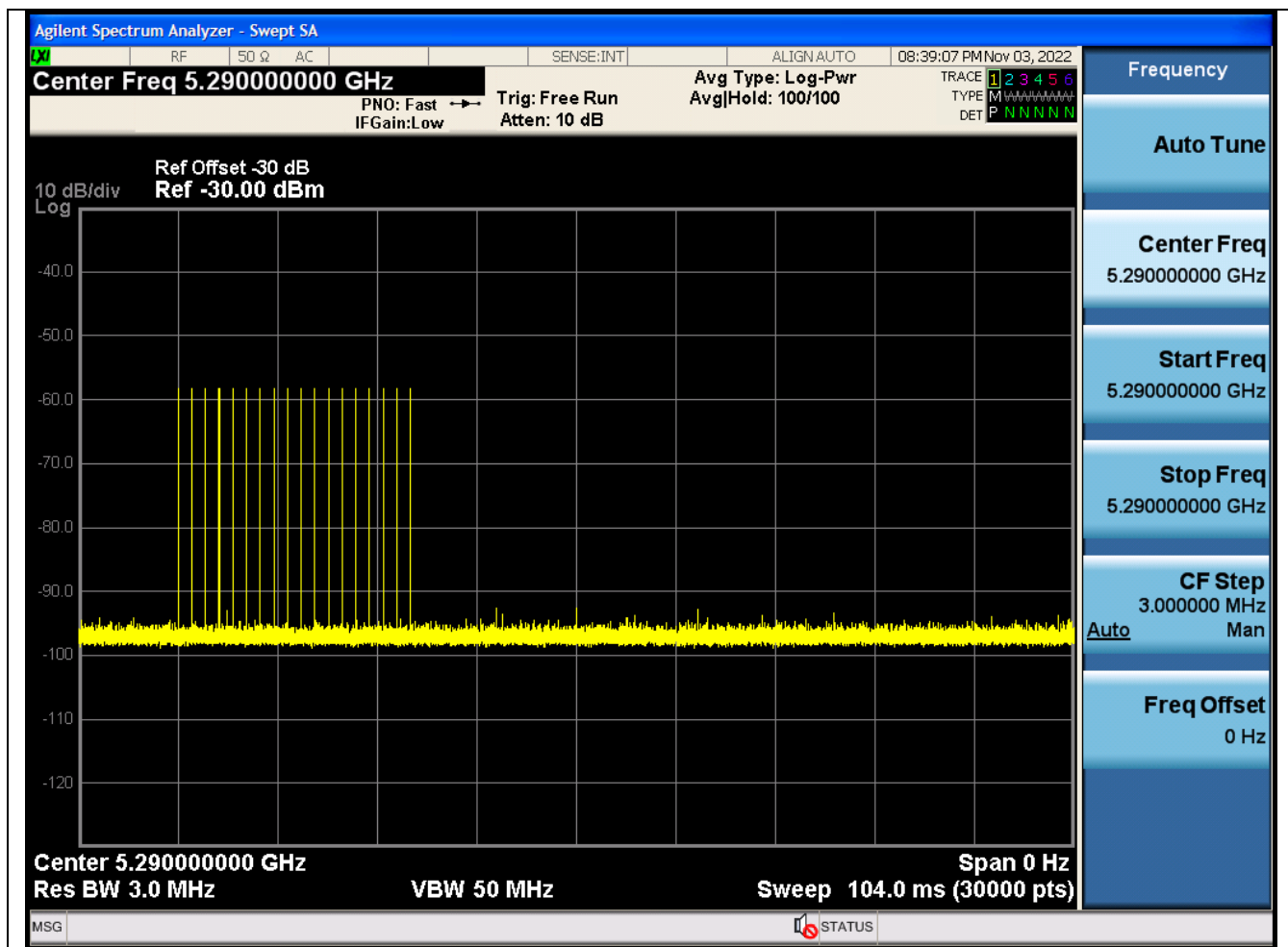
Dynamic Frequency Selection

DESCRIPTION OF Master Device

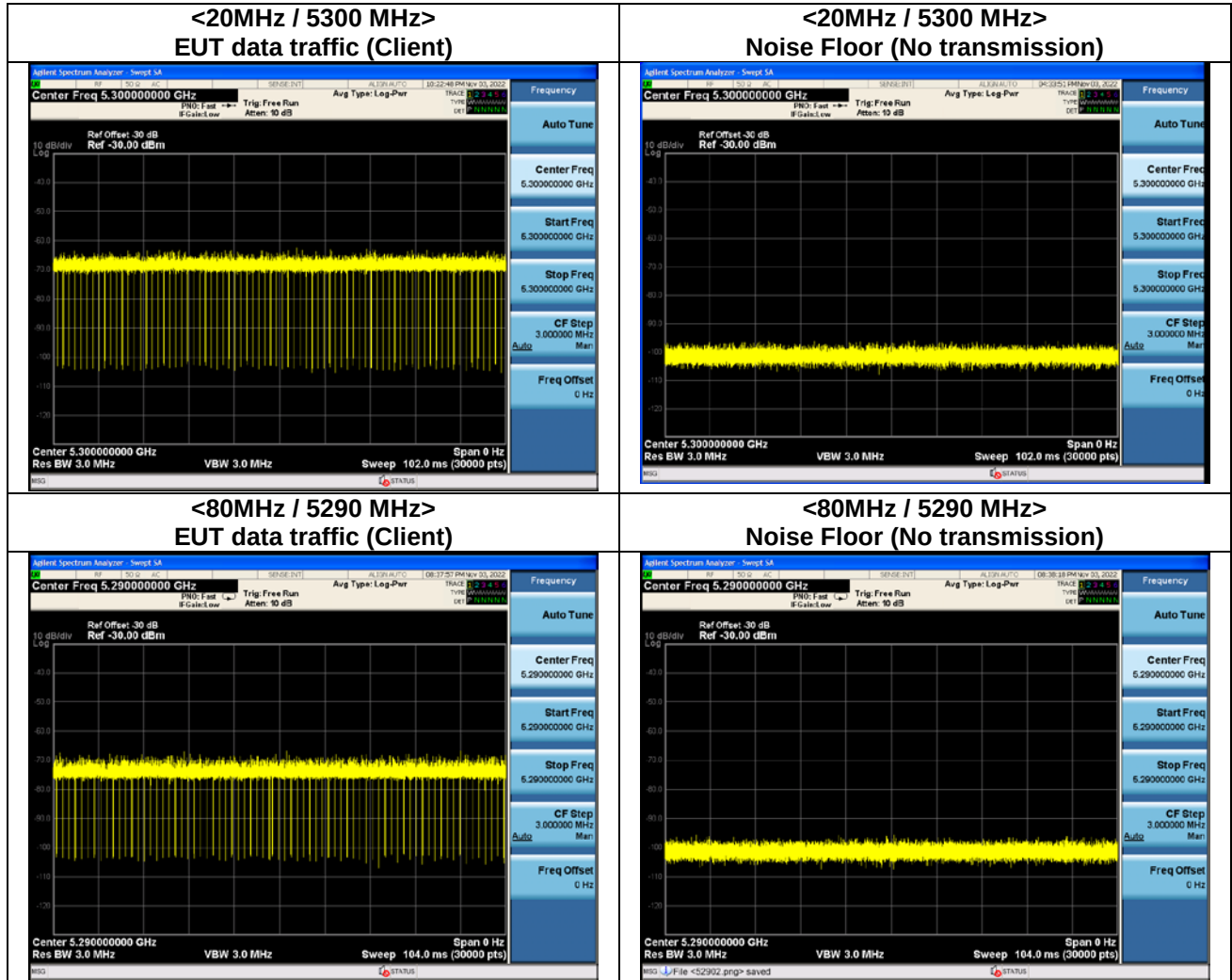
The Master Device is a SKSpruce Technologies Co., Ltd., Indoor Access Point, FCC ID: 2AHKT-WIA3300-20. The rated output power of the Master unit is > 23dBm (EIRP). Therefore the required interference threshold level is -60 dBm.

Radar Waveform Calibration Result





Data Traffic and Noise Floor Plots

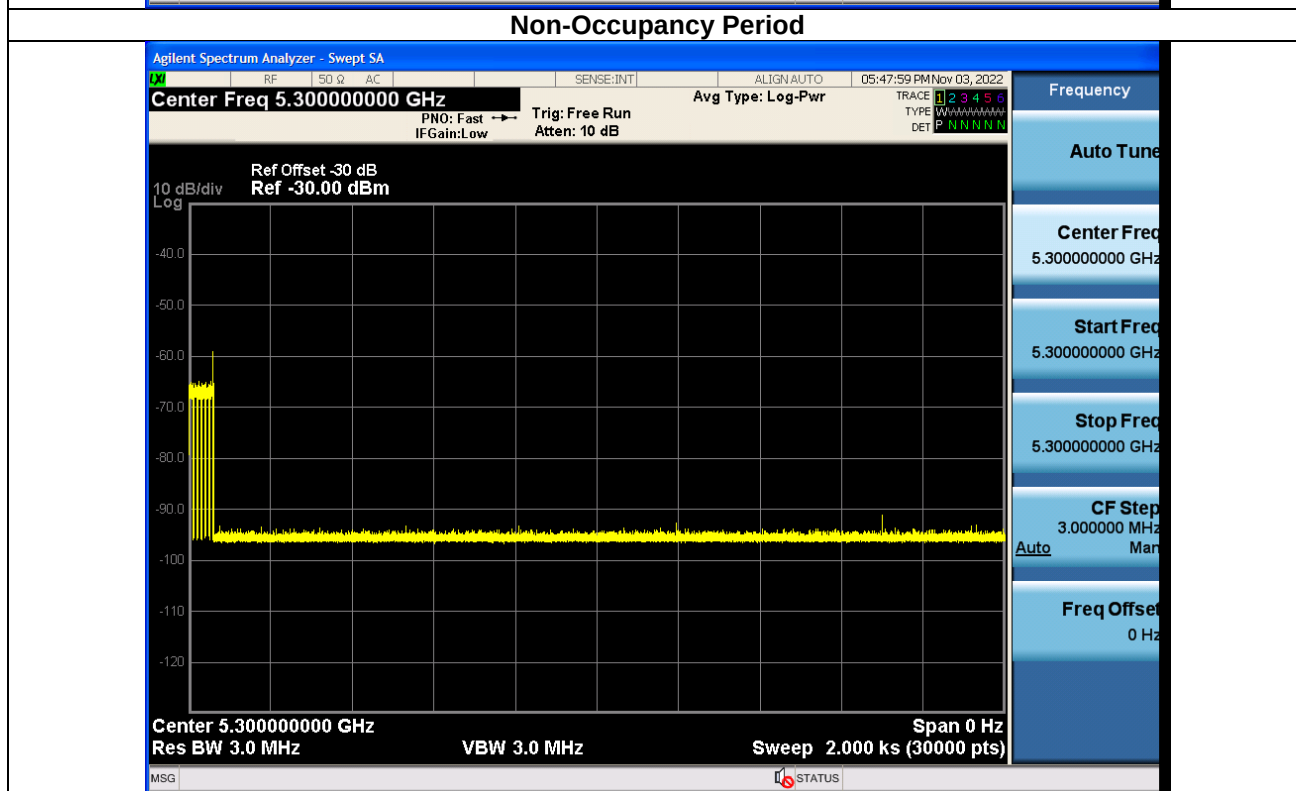
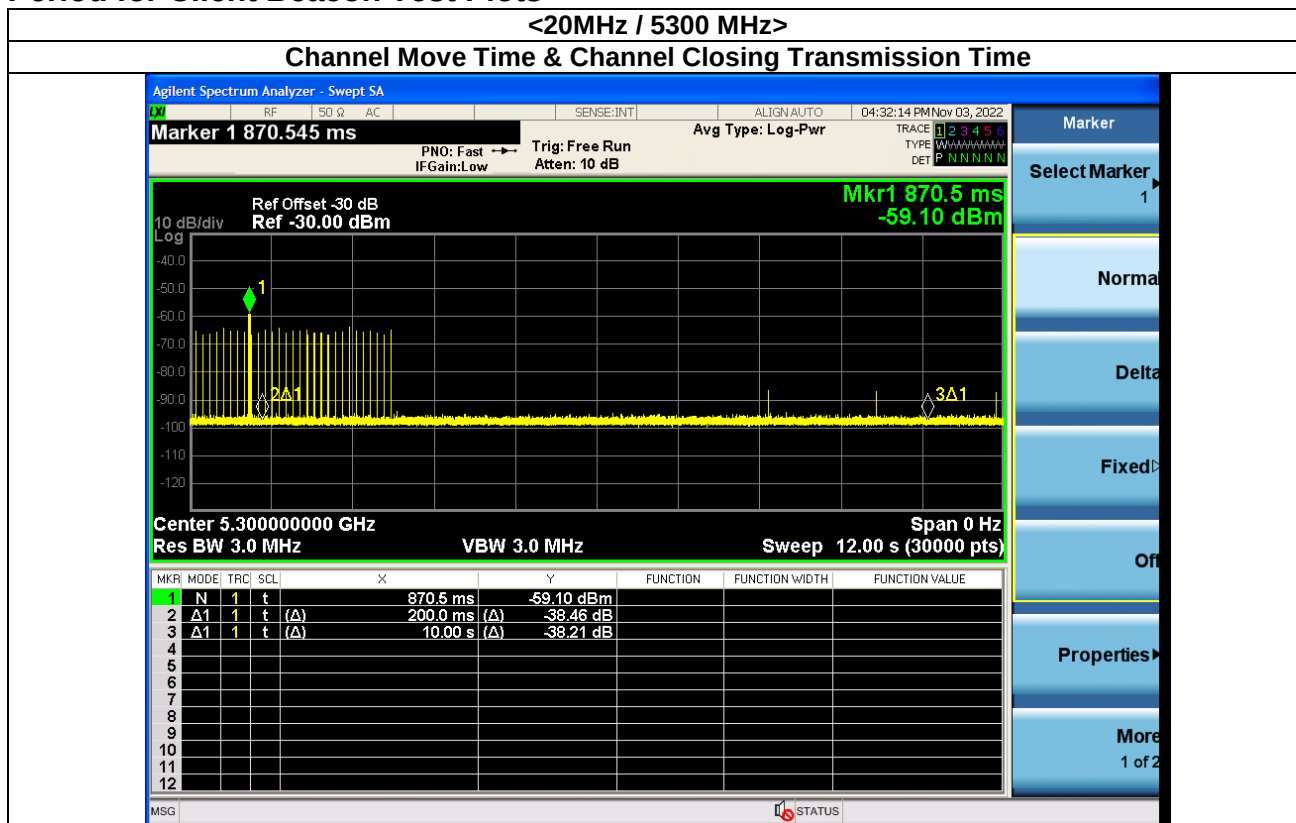


Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period for Client Beacon Test

Frequency	Test Item	Test Result	Limit	Pass/Fail
5300MHz	Channel Move Time	< 10s*	< 10s	Pass
	Channel Closing Transmission Time	207.6ms	< 260ms	Pass
	Non-Occupancy Period	≥ 30	≥ 30 min	Pass
5290MHz	Channel Move Time	< 10s*	< 10s	Pass
	Channel Closing Transmission Time	200ms	< 260ms	Pass
	Non-Occupancy Period	≥ 30	≥ 30 min	Pass

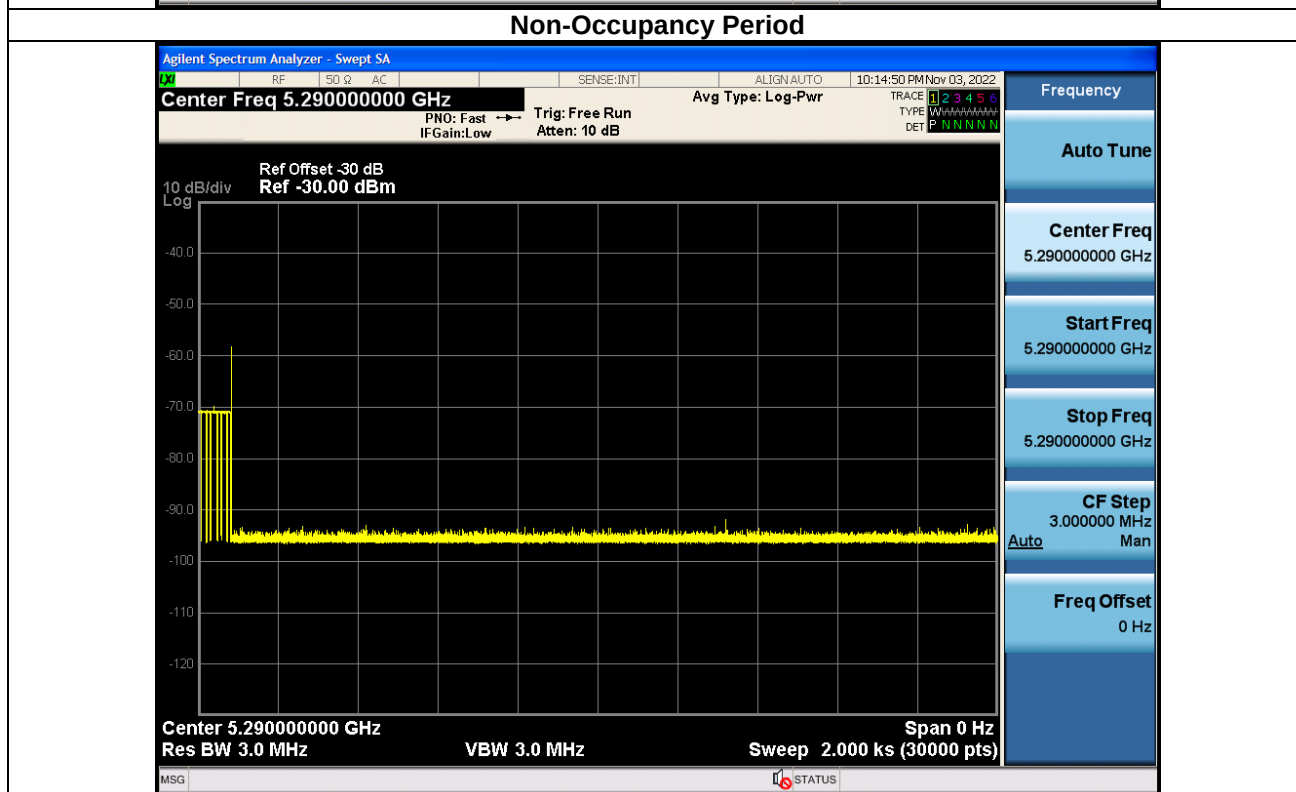
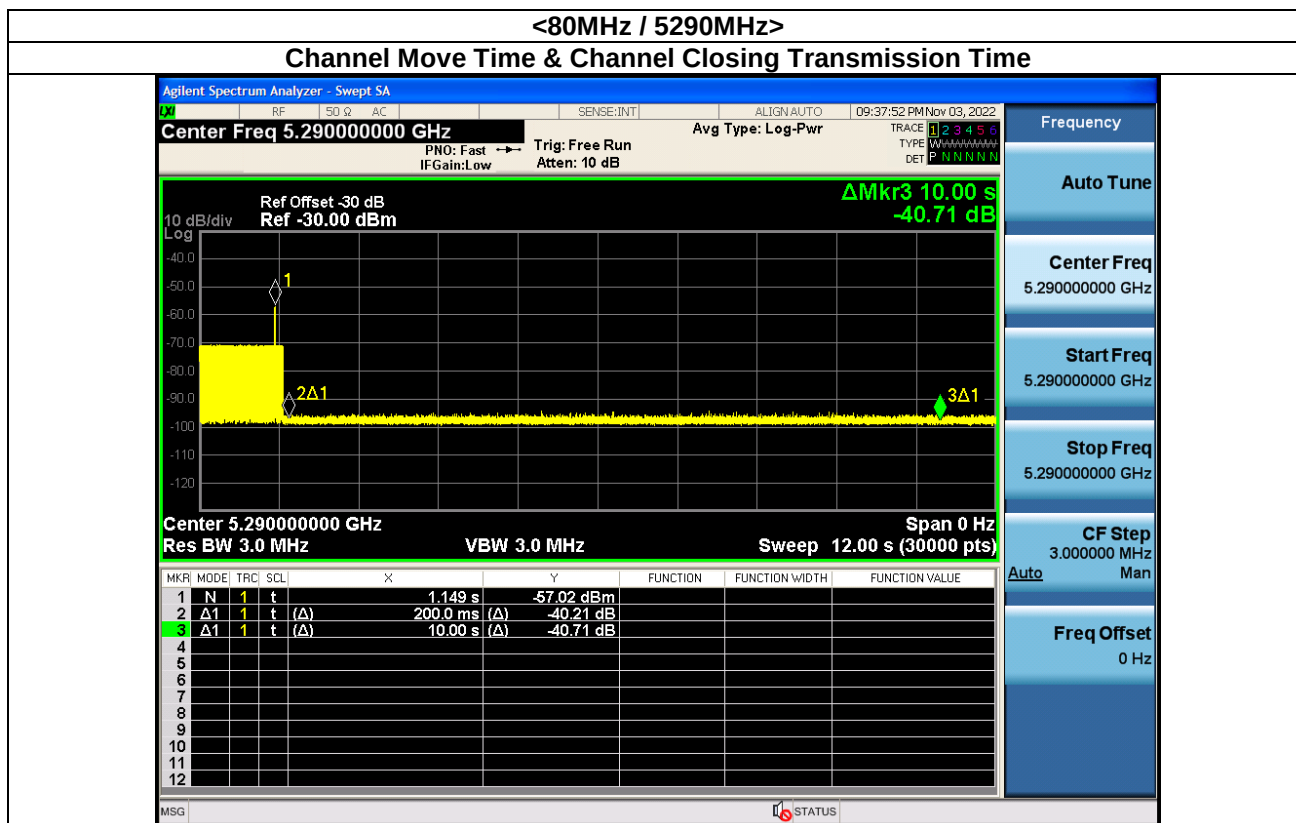
Note*: We notice clearly that “Channel Move Time” is less than 10s from the figure. The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate 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 + 7.6 ms) = 200 + Number of beacon after 200ms(19) X Dwell
(0.4 ms) < 260ms



Note:

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

Channel Closing Transmission Time (200ms) = 200 + Number of beacon after 200ms(0) X Dwell (0.4 ms) < 260ms