APPENDIX A – TEST DATA OF CONDUCTED EMISSION

Duty Cycle

Test Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor(dB)
802.11a	5500	98.97%	0
802.11n HT20	5500	99.02%	0
802.11ac VHT20	5500	99.00%	0
802.11n HT40	5510	97.91%	0.09
802.11ac VHT40	5510	97.98%	0.09
802.11ac VHT80	5530	95.93%	0.18

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	5500	Chain0	11.27	12.67
802.11a	NA	5580	Chain0	11.41	12.81
802.11a	NA	5700	Chain0	11.37	12.77
802.11n HT20	NA	5500	Chain0	11.11	12.51
802.11n HT20	NA	5580	Chain0	11.31	12.71
802.11n HT20	NA	5700	Chain0	11.16	12.56
802.11ac VHT20	NA	5500	Chain0	10.91	12.31
802.11ac VHT20	NA	5580	Chain0	11.17	12.57
802.11ac VHT20	NA	5700	Chain0	11.17	12.57
802.11n HT40	NA	5510	Chain0	10.99	12.39
802.11n HT40	NA	5590	Chain0	11.21	12.61
802.11n HT40	NA	5670	Chain0	11.04	12.44
802.11ac VHT40	NA	5510	Chain0	11.06	12.46
802.11ac VHT40	NA	5590	Chain0	10.74	12.14
802.11ac VHT40	NA	5670	Chain0	11.05	12.45
802.11ac VHT80	NA	5530	Chain0	11.14	12.54
802.11ac VHT80	NA	5610	Chain0	10.90	12.30

Mode	Tones/ RUIndex	Freq (MHz)	Antenna	Conducted average power output(dBm)	EIRP (dBm)
802.11a	NA	5720	Chain0	10.97	12.47
802.11n HT20	NA	5720	Chain0	10.86	12.36
802.11ac VHT20	NA	5720	Chain0	10.92	12.42
802.11n HT40	NA	5710	Chain0	10.91	12.41
802.11ac VHT40	NA	5710	Chain0	10.93	12.43
802.11ac VHT80	NA	5690	Chain0	10.49	11.99

Emission Bandwidth

Offset 1.5dB = Attenuator + Temporary antenna connector loss + Cable loss

Test Mode	Antenna	26dB Bandwidth (MHz)		
		Channel No.618	Channel No.634	Channel No.658
		5500MHz	5580MHz	5700MHz
802.11a	Chain0	23.11	22.12	22.46
802.11n HT20	Chain0	24.02	24.03	23.09
802.11ac VHT20	Chain0	23.60	24.22	23.55

Test Mode	Antenna	26dB Bandwidth (MHz)		
		Channel No.620	Channel No.636	Channel No.652
		5510MHz	5590MHz	5670MHz
802.11n HT40	Chain0	40.56	40.48	41.28
802.11ac VHT40	Chain0	41.46	40.53	40.38

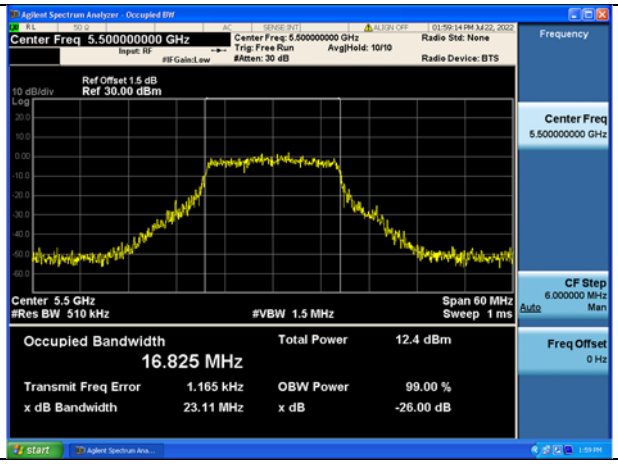
Test Mode	Antenna	26dB Bandwidth (MHz)		
		Channel No.624	---	Channel No.640
		5530MHz	---	5610MHz
802.11ac VHT80	Chain0	81.66	---	83.12

Test Mode	Antenna	26dB Bandwidth (MHz)
		Channel No.662
		5720MHz
802.11a	Chain0	21.86
802.11n HT20	Chain0	23.40
802.11ac VHT20	Chain0	22.63

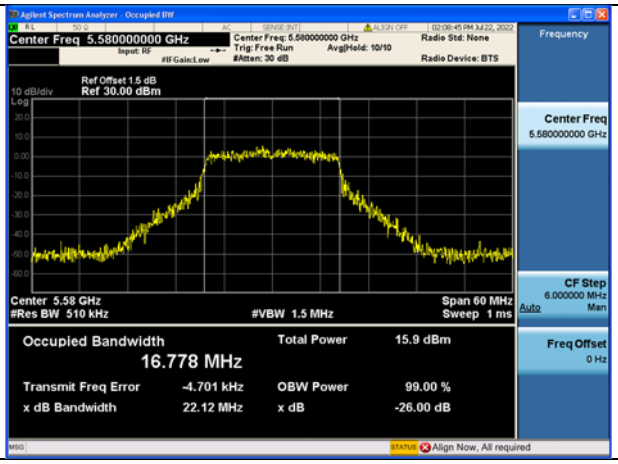
Test Mode	Antenna	26dB Bandwidth (MHz)
		Channel No.660
		5710MHz
802.11n HT40	Chain0	41.22
802.11ac VHT40	Chain0	40.99

Test Mode	Antenna	26dB Bandwidth (MHz)
		Channel No.656
		5690MHz
802.11ac VHT80	Chain0	81.86

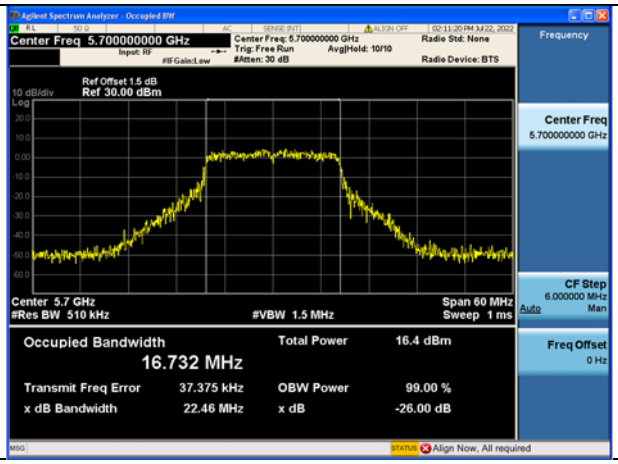
Test Mode: 802.11a



Test Mode:802.11a 5500MHz Chain0

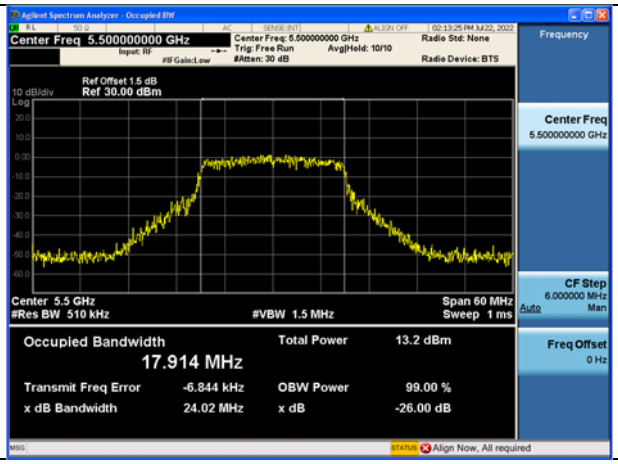


Test Mode:802.11a 5580MHz Chain0

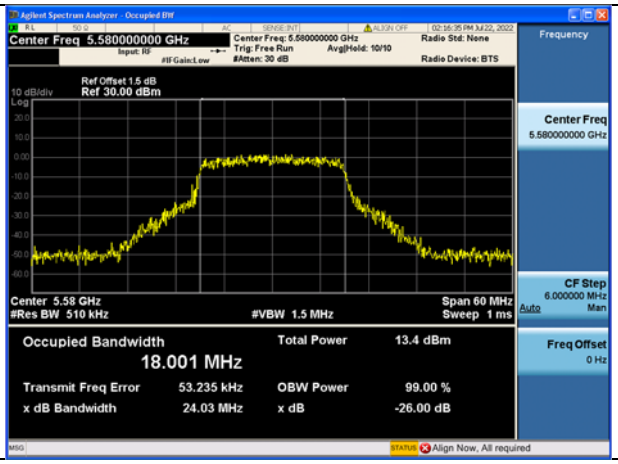


Test Mode:802.11a 5700MHz Chain0

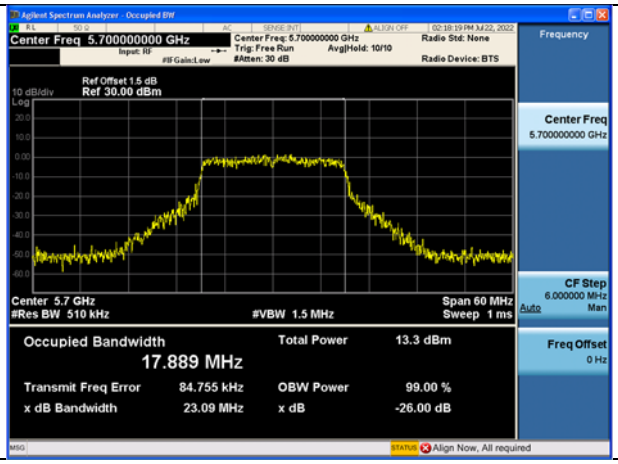
Test Mode: 802.11n HT20



Test Mode:802.11n HT20 5500MHz Chain0

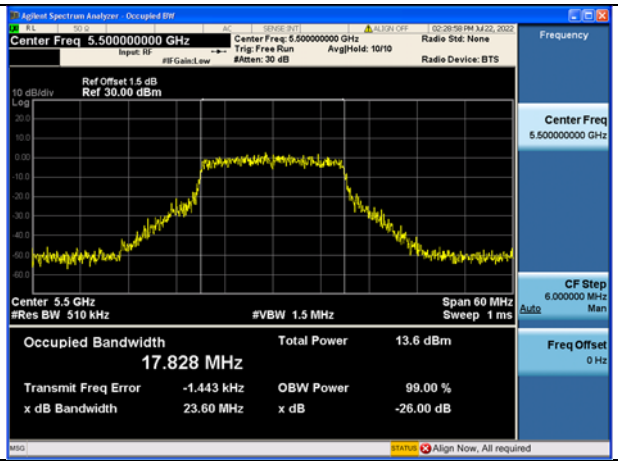


Test Mode:802.11n HT20 5580MHz Chain0

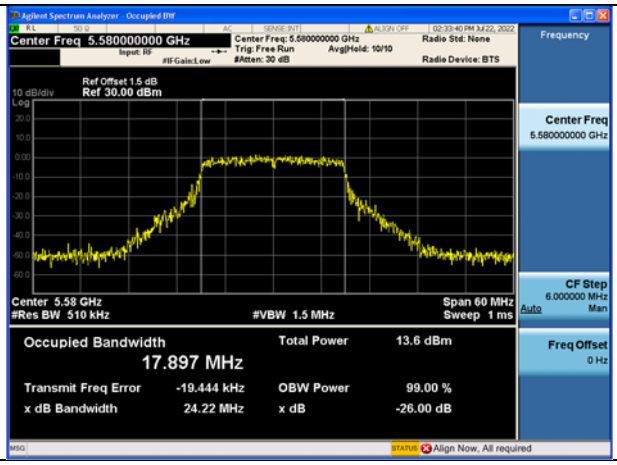


Test Mode:802.11n HT20 5700MHz Chain0

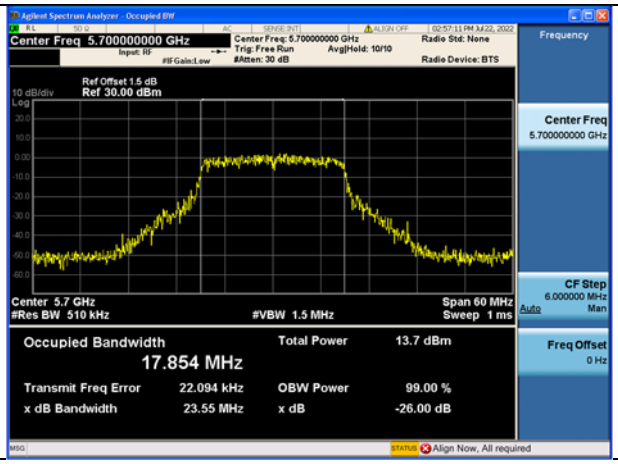
Test Mode: 802.11ac VHT20



Test Mode:802.11ac VHT20 5500MHz Chain0

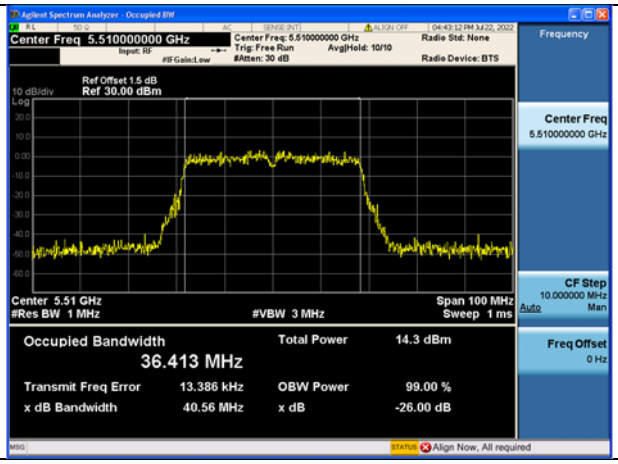


Test Mode:802.11ac VHT20 5580MHz Chain0

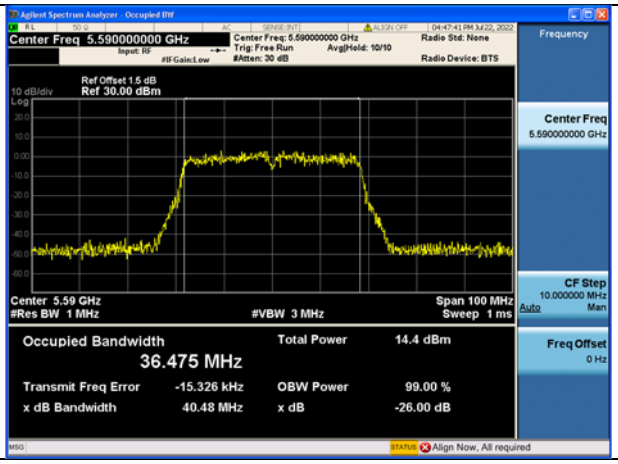


Test Mode:802.11ac VHT20 5700MHz Chain0

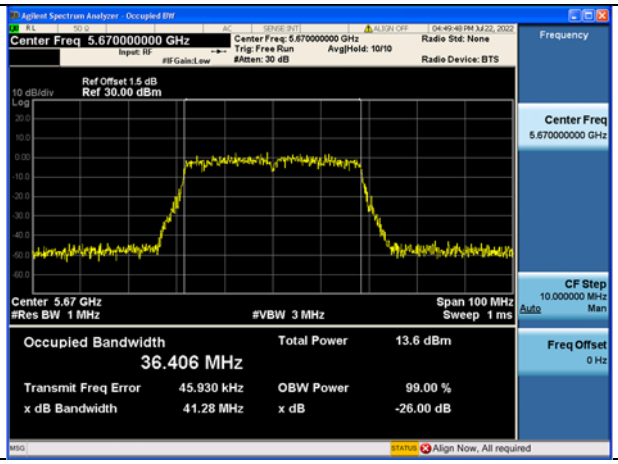
Test Mode: 802.11n HT40



Test Mode:802.11n HT40 5510MHz Chain0

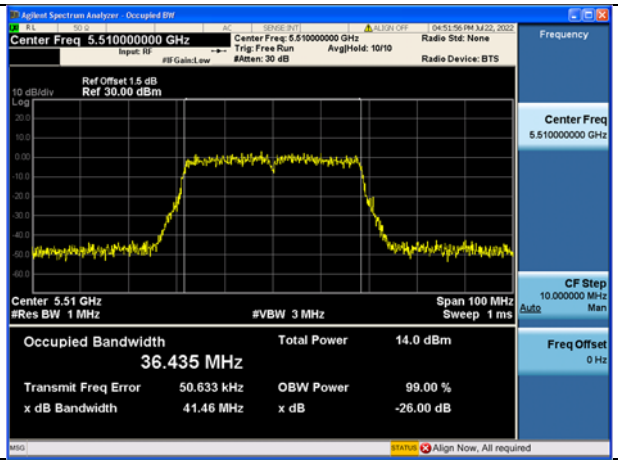


Test Mode:802.11n HT40 5590MHz Chain0

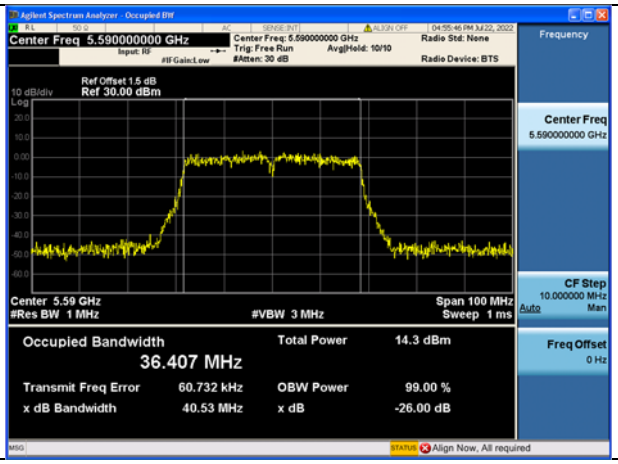


Test Mode:802.11n HT40 5670MHz Chain0

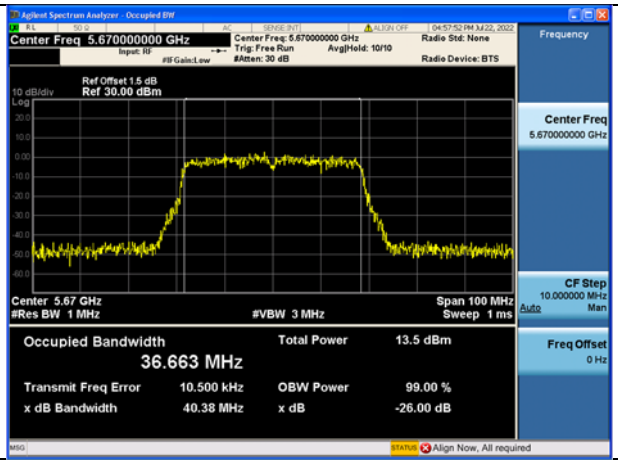
Test Mode: 802.11ac VHT40



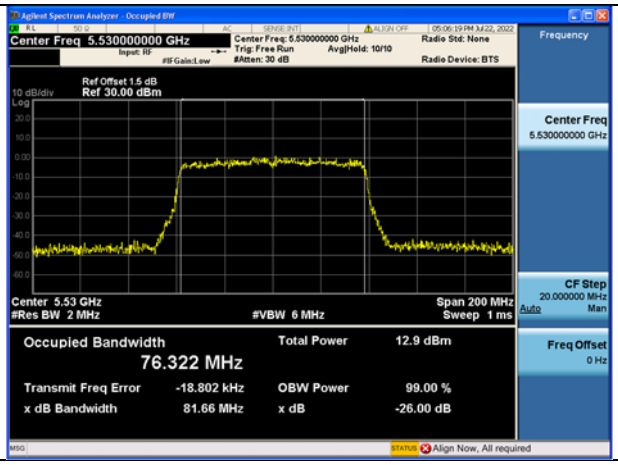
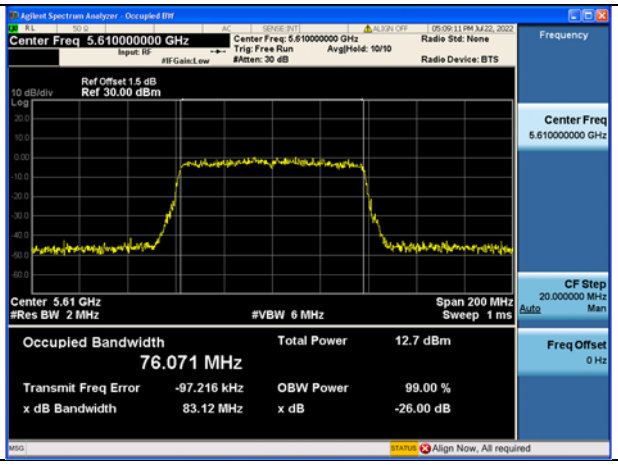
Test Mode:802.11ac VHT40 5510MHz Chain0



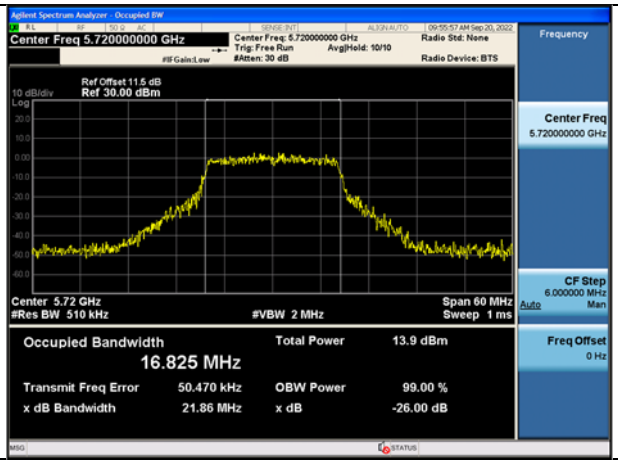
Test Mode:802.11ac VHT40 5590MHz Chain0

	
Test Mode:802.11ac VHT40 5670MHz Chain0	

Test Mode: 802.11ac VHT80

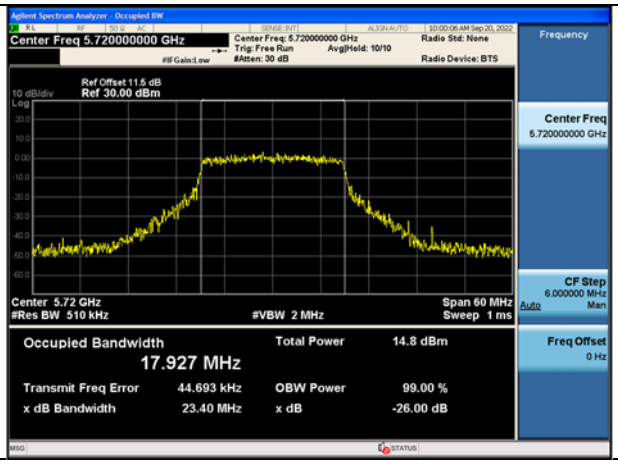
	
Test Mode:802.11ac VHT80 5530MHz Chain0	Test Mode:802.11ac VHT80 5610MHz Chain0

Test Mode: 802.11a



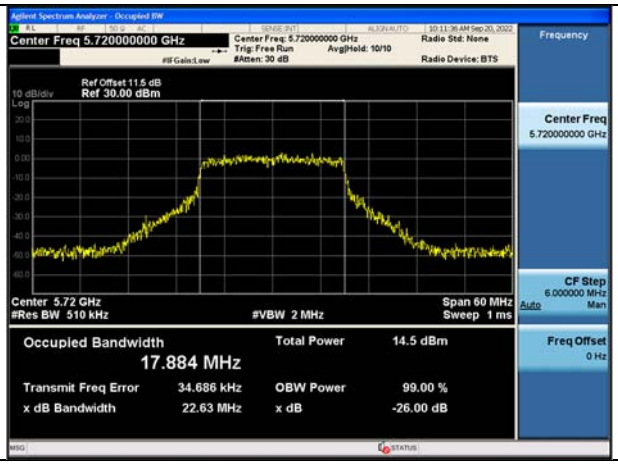
Test Mode:802.11a 5720MHz Chain0	

Test Mode: 802.11n HT20



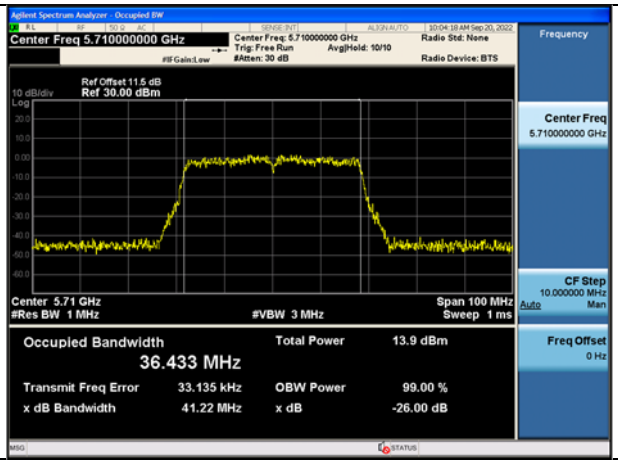
Test Mode:802.11n HT20 5720MHz Chain0	

Test Mode: 802.11ac VHT20



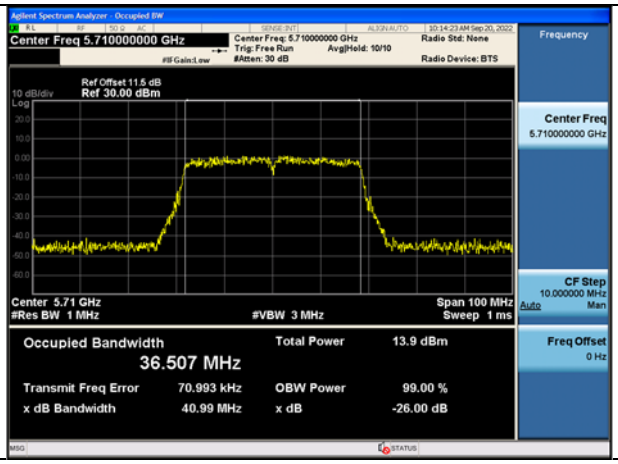
Test Mode:802.11ac VHT20 5720MHz Chain0	

Test Mode: 802.11n HT40



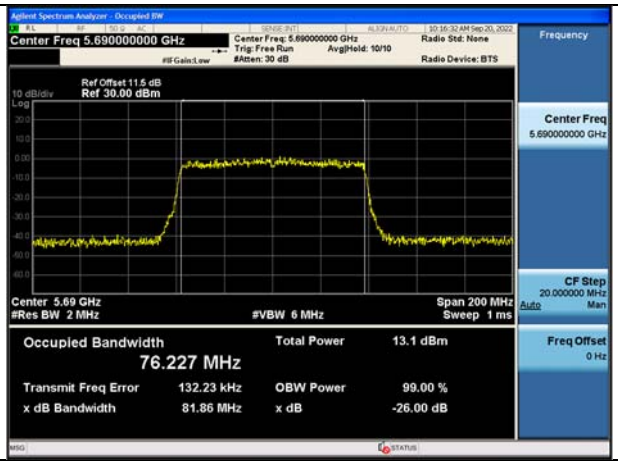
Test Mode:802.11n HT40 5710MHz Chain0	

Test Mode: 802.11ac VHT40



Test Mode:802.11ac VHT40 5710MHz Chain0	

Test Mode: 802.11ac VHT80



Test Mode:802.11ac VHT80 5690MHz Chain0	

Occupied Bandwidth

Offset 1.5dB = Attenuator + Temporary antenna connector loss + Cable loss

Test Mode	Antenna	Occupied Bandwidth (MHz)		
		Channel No.618	Channel No.634	Channel No.658
		5500MHz	5580MHz	5700MHz
802.11a	Chain0	16.700	16.690	16.675
802.11n HT20	Chain0	17.867	17.847	17.902
802.11ac VHT20	Chain0	17.940	17.847	17.897

Test Mode	Antenna	Occupied Bandwidth (MHz)		
		Channel No.620	Channel No.636	Channel No.652
		5510MHz	5590MHz	5670MHz
802.11n HT40	Chain0	36.464	36.504	36.433
802.11ac VHT40	Chain0	36.467	36.297	36.558

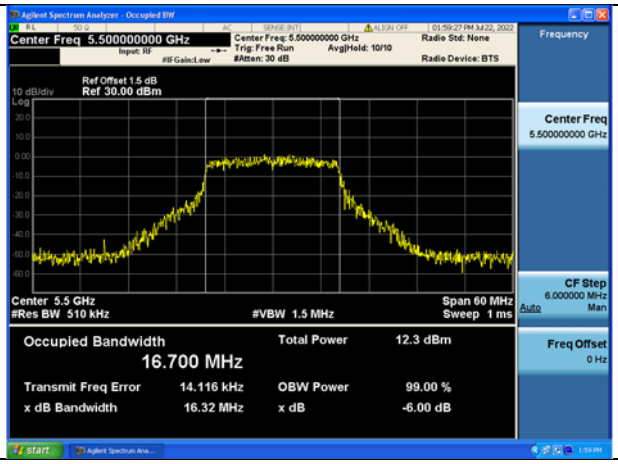
Test Mode	Antenna	Occupied Bandwidth (MHz)		
		Channel No.624	---	Channel No.640
		5530MHz	---	5610MHz
802.11ac VHT80	Chain0	76.238	---	76.190

Test Mode	Antenna	26dB Bandwidth (MHz)
		Channel No.662
		5720MHz
802.11a	Chain0	16.693
802.11n HT20	Chain0	18.039
802.11ac VHT20	Chain0	17.868

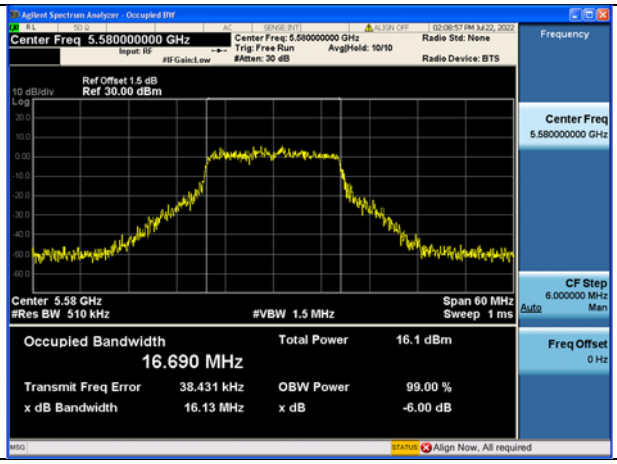
Test Mode	Antenna	26dB Bandwidth (MHz)
		Channel No.660
		5710MHz
802.11n HT40	Chain0	36.383
802.11ac VHT40	Chain0	36.419

Test Mode	Antenna	26dB Bandwidth (MHz)
		Channel No.656
		5690MHz
802.11ac VHT80	Chain0	76.268

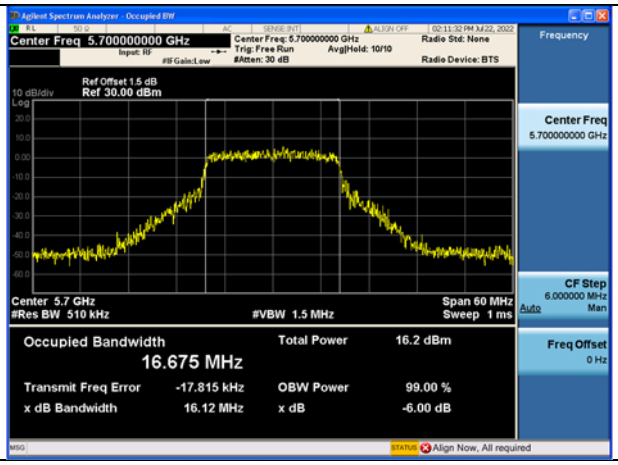
Test Mode: 802.11a



Test Mode:802.11a 5500MHz Chain0

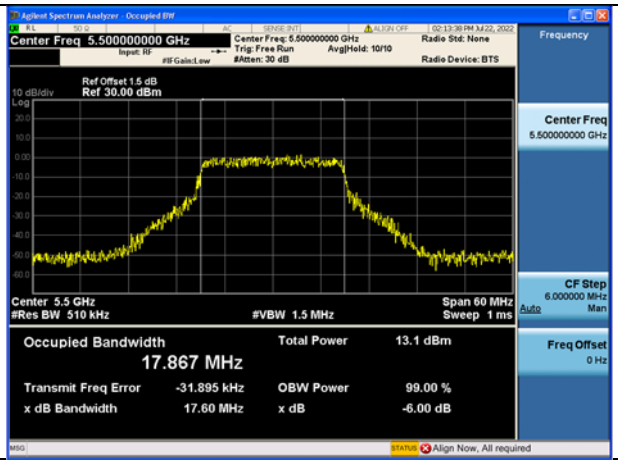


Test Mode:802.11a 5580MHz Chain0

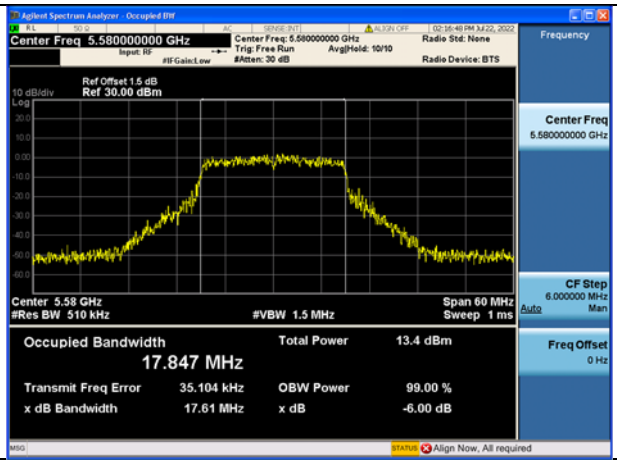


Test Mode:802.11a 5700MHz Chain0

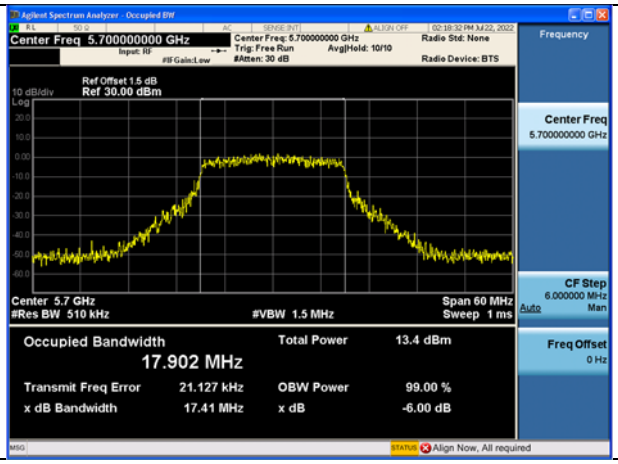
Test Mode: 802.11n HT20



Test Mode:802.11n HT20 5500MHz Chain0

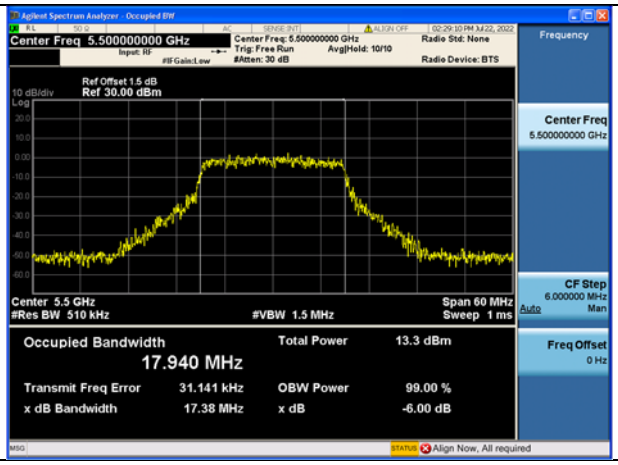


Test Mode:802.11n HT20 5580MHz Chain0

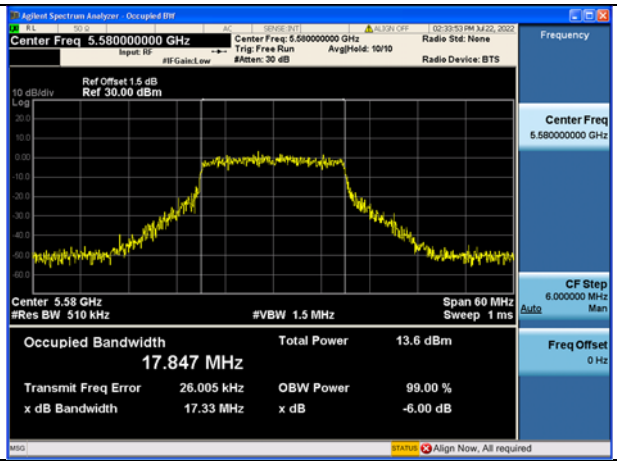


Test Mode:802.11n HT20 5700MHz Chain0

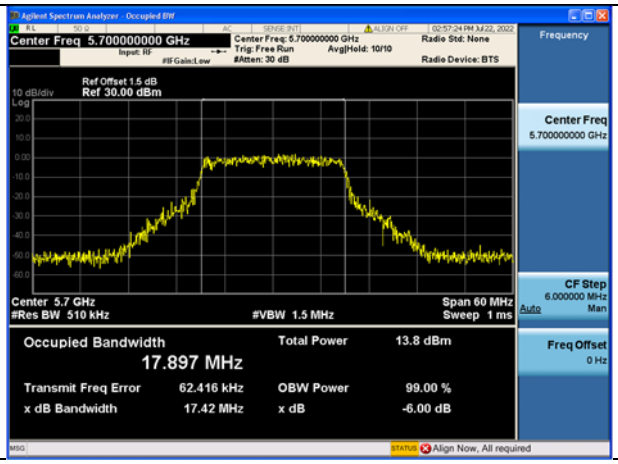
Test Mode: 802.11ac VHT20



Test Mode:802.11ac VHT20 5500MHz Chain0

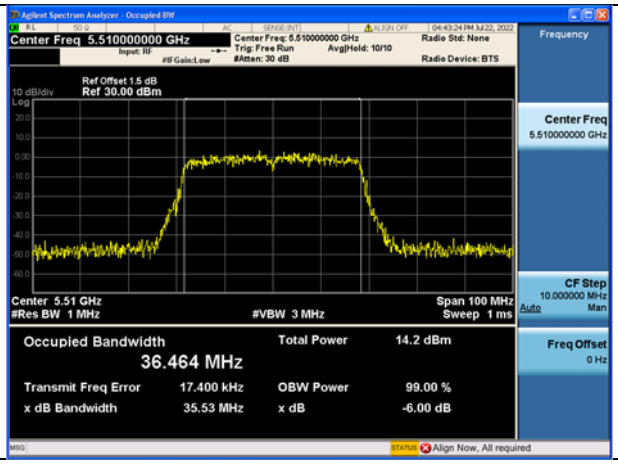


Test Mode:802.11ac VHT20 5580MHz Chain0

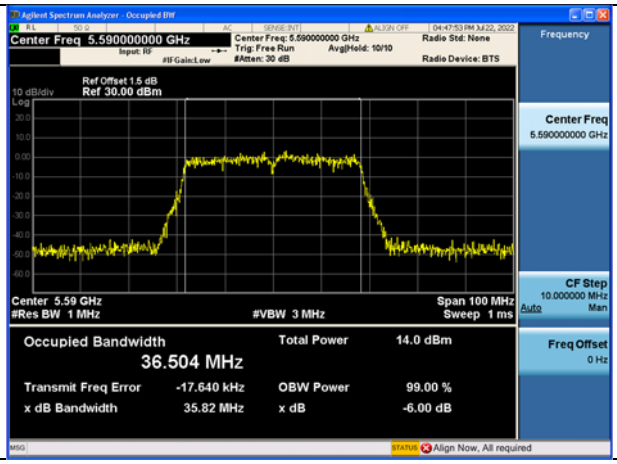


Test Mode:802.11ac VHT20 5700MHz Chain0

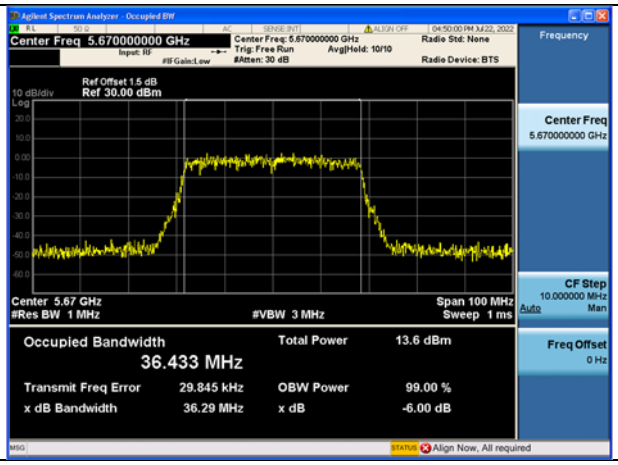
Test Mode: 802.11n HT40



Test Mode:802.11n HT40 5510MHz Chain0

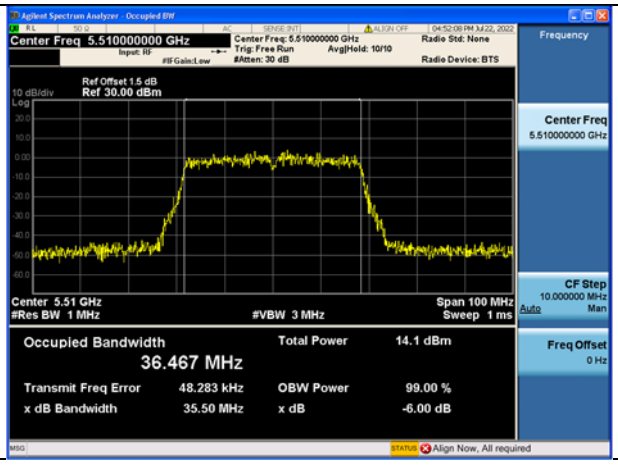


Test Mode:802.11n HT40 5590MHz Chain0

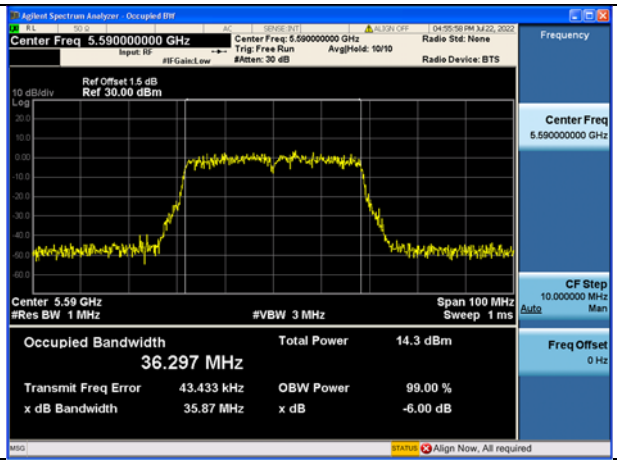


Test Mode:802.11n HT40 5670MHz Chain0

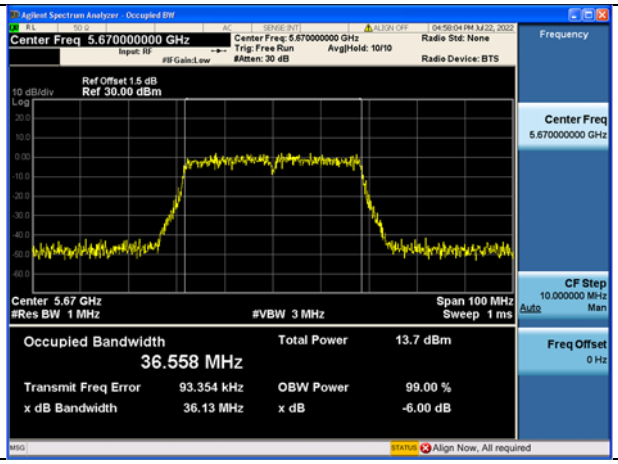
Test Mode: 802.11ac VHT40



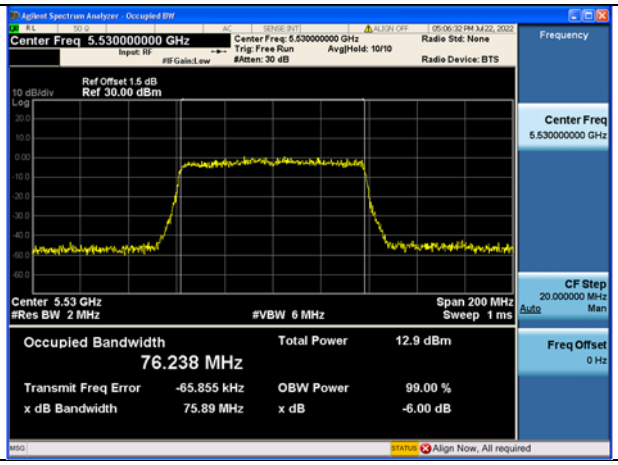
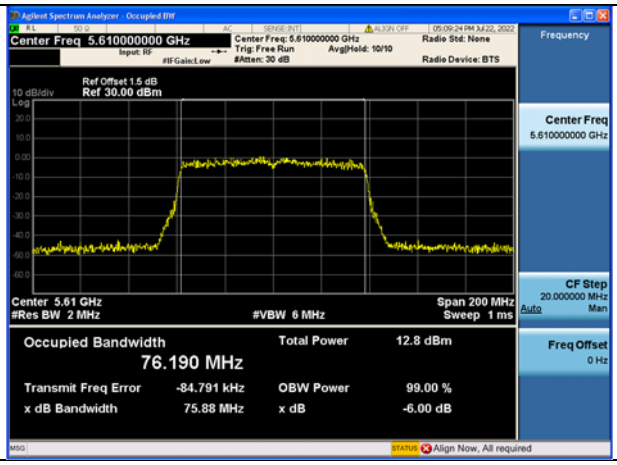
Test Mode:802.11ac VHT40 5510MHz Chain0



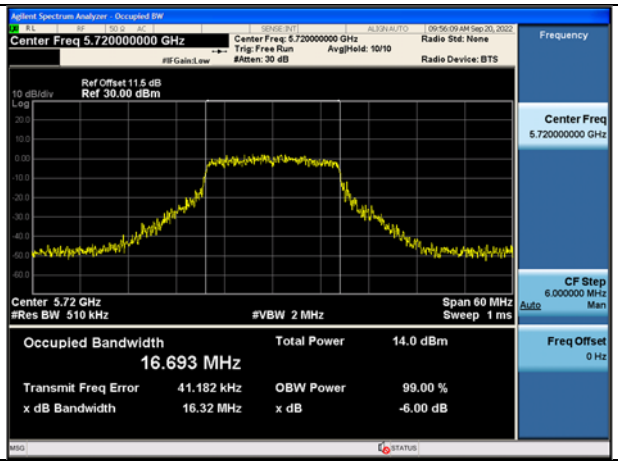
Test Mode:802.11ac VHT40 5590MHz Chain0

	
Test Mode:802.11ac VHT40 5670MHz Chain0	

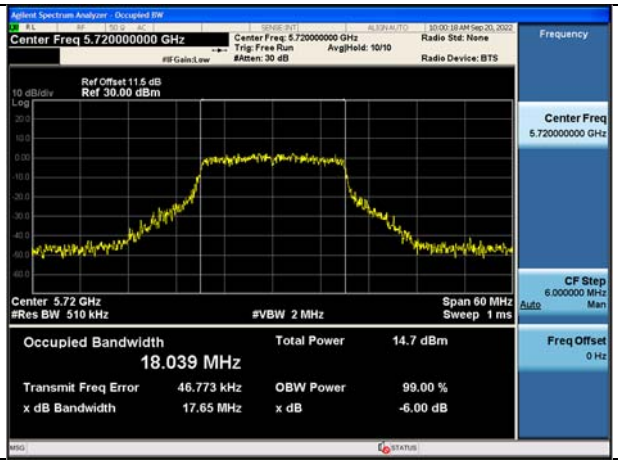
Test Mode: 802.11ac VHT80

	
Test Mode:802.11ac VHT80 5530MHz Chain0	Test Mode:802.11ac VHT80 5610MHz Chain0

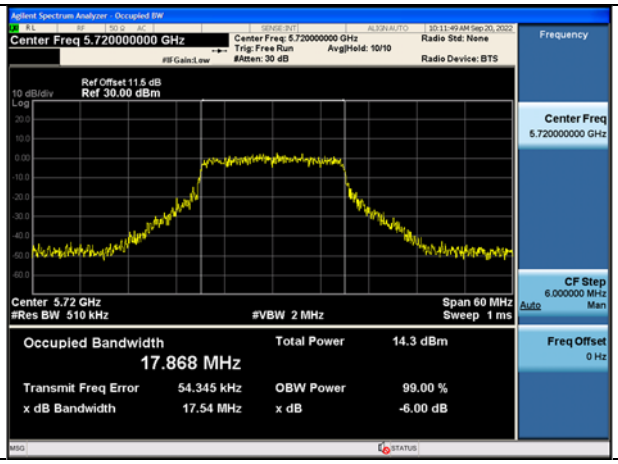
Test Mode: 802.11a

	
Test Mode:802.11a 5720MHz Chain0	

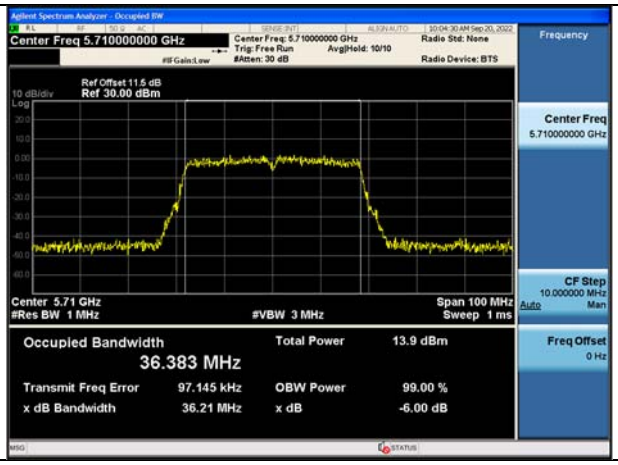
Test Mode: 802.11n HT20

	
Test Mode:802.11n HT20 5720MHz Chain0	

Test Mode: 802.11ac VHT20

	
Test Mode:802.11ac VHT20 5720MHz Chain0	

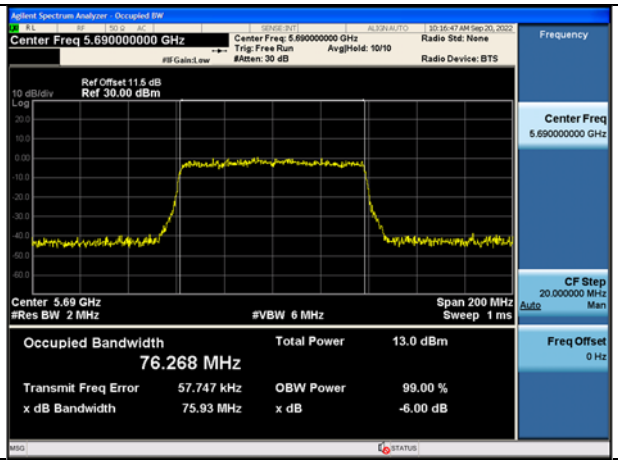
Test Mode: 802.11n HT40

	
Test Mode:802.11n HT40 5710MHz Chain0	

Test Mode: 802.11ac VHT40

	
Test Mode:802.11ac VHT40 5710MHz Chain0	

Test Mode: 802.11ac VHT80

	
Test Mode:802.11ac VHT80 5690MHz Chain0	

Transmitter Power Spectral Density

Offset 1.5dB = Attenuator + Temporary antenna connector loss + Cable loss

Test Mode	Antenna	5500MHz		5580MHz		5700MHz	
		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	-2.274	0	1.343	0	1.546
802.11n HT20	Chain0	0	-1.967	0	-1.552	0	-1.731
802.11ac VHT20	Chain0	0	-1.621	0	-1.315	0	-1.464

Test Mode	Antenna	5510MHz		5590MHz		5670MHz	
		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	0.09	-4.278	0.09	-4.113	0.09	-4.661
802.11ac VHT40	Chain0	0.09	-4.273	0.09	-4.087	0.09	-4.589

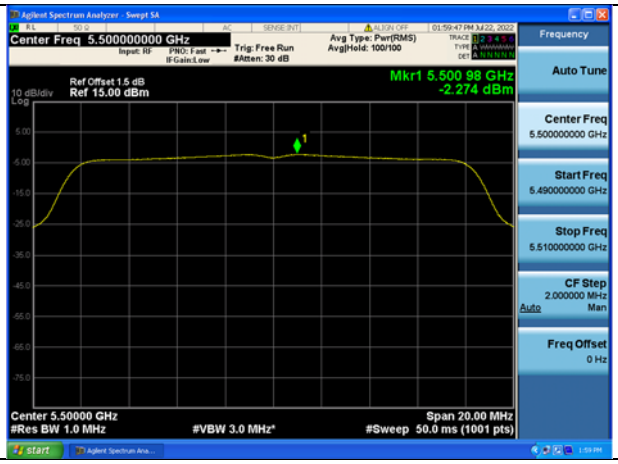
Test Mode	Antenna	5530MHz		---		5610MHz	
		Correction Factor(dB)	Power Density (dBm/MHz)	Correction Factor(dB)	Power Density (dBm/MHz)	Correction Factor(dB)	Power Density (dBm/MHz)
802.11ac VHT80	Chain0	0.18	-7.785	---	---	0.18	-7.839

Test Mode	Antenna	Tones	---		---		5720MHz	
			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	---	---	---	---	---	0.197
802.11n HT20	Chain0	NA	---	---	---	---	---	-0.178
802.11ac VHT20	Chain0	NA	---	---	---	---	---	-0.139

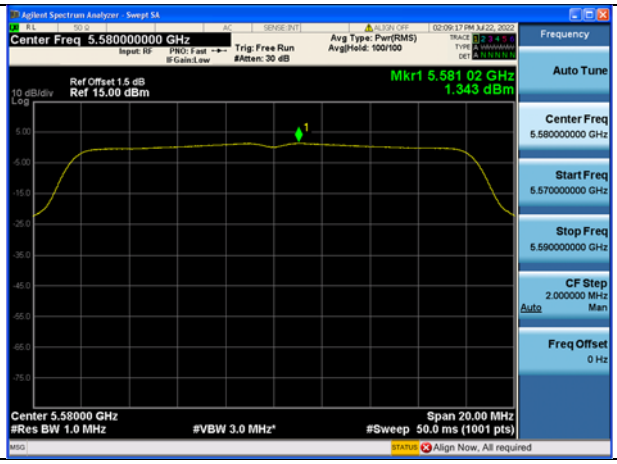
Test Mode	Antenna	Tones	---		---		5710MHz	
			Correction Factor(dB)	Power Density (dBm/MHz)	Correction Factor(dB)	Power Density (dBm/MHz)	Correction Factor(dB)	Power Density (dBm/MHz)
802.11n HT40	Chain0	NA	---	---	---	---	---	-3.138
802.11ac VHT40	Chain0	NA	---	---	---	---	---	-3.125

Test Mode	Antenna	Tones	---		---		5690MHz	
			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	---	---	---	---	---	-6.831

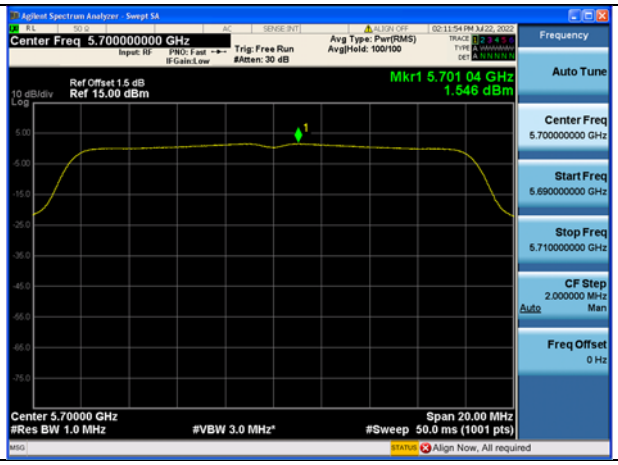
Test Mode: 802.11a



Test Mode:802.11a 5500MHz Chain0

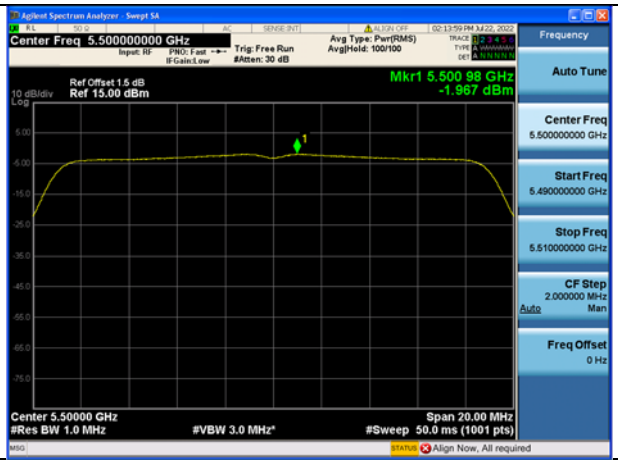


Test Mode:802.11a 5580MHz Chain0

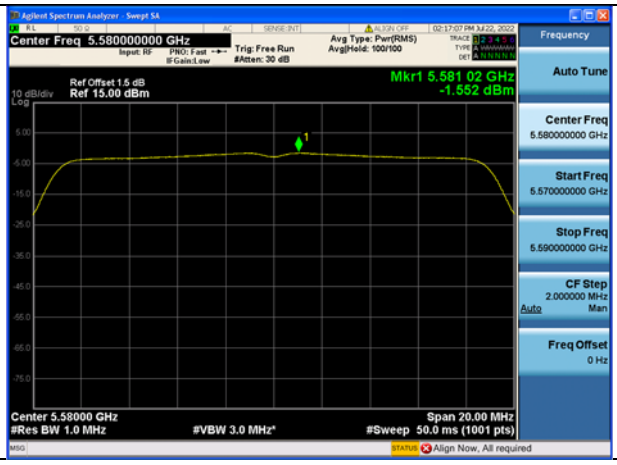


Test Mode:802.11a 5700MHz Chain0

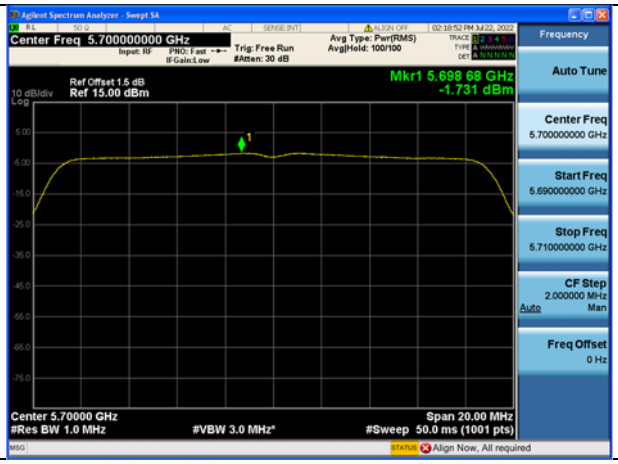
Test Mode: 802.11n HT20



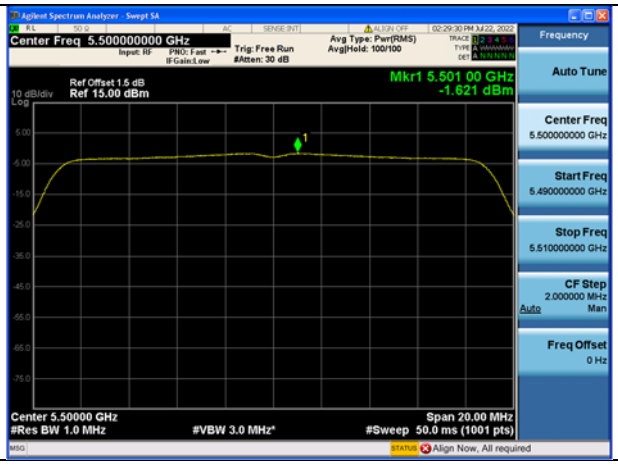
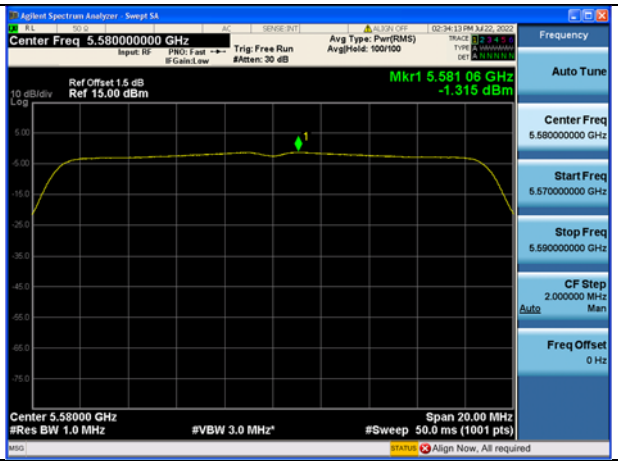
Test Mode:802.11n HT20 5500MHz Chain0

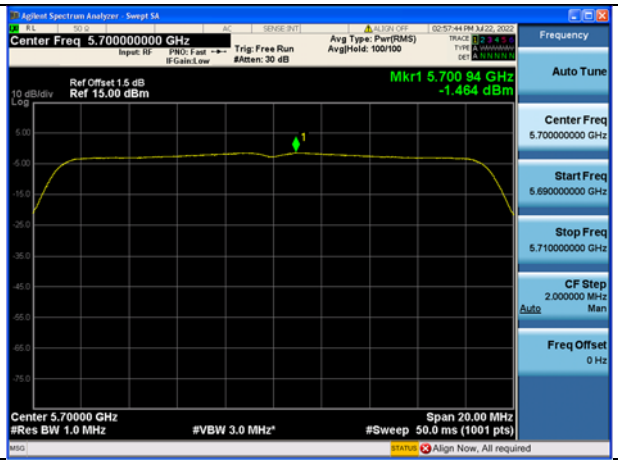


Test Mode:802.11n HT20 5580MHz Chain0

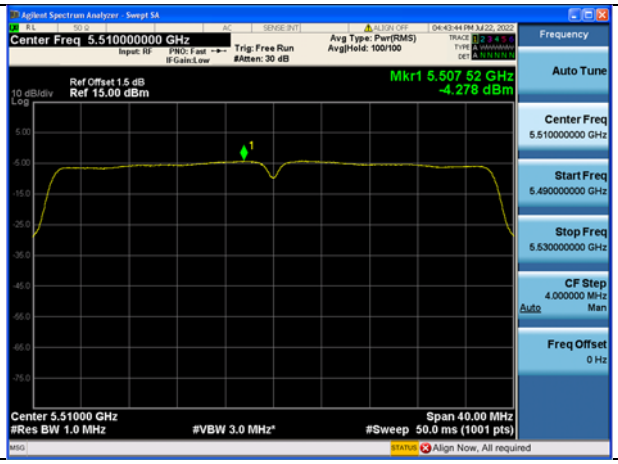
	
Test Mode:802.11n HT20 5700MHz Chain0	

Test Mode: 802.11ac VHT20

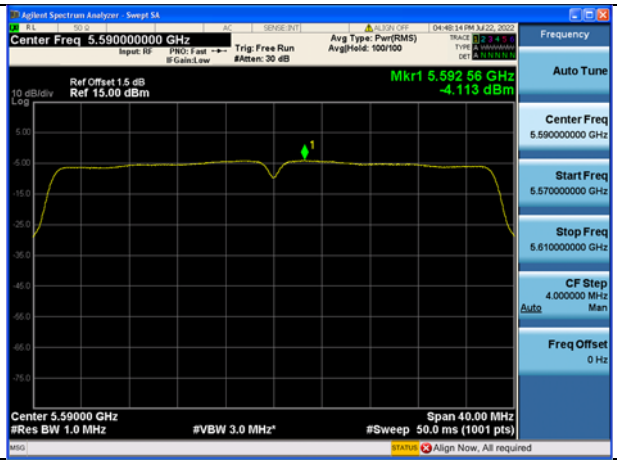
	
Test Mode:802.11ac VHT20 5500MHz Chain0	Test Mode:802.11ac VHT20 5580MHz Chain0

	
Test Mode:802.11ac VHT20 5700MHz Chain0	

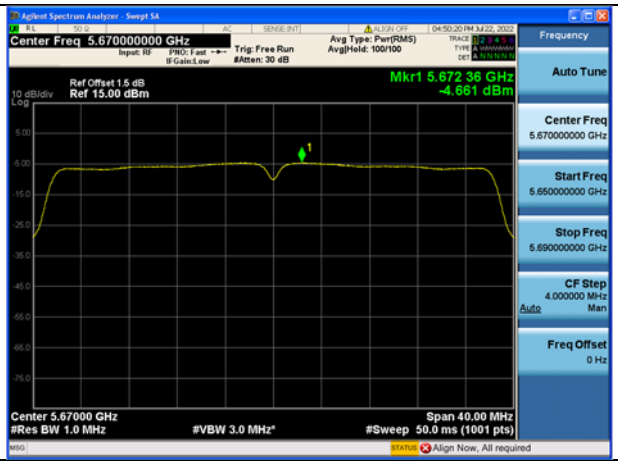
Test Mode: 802.11n HT40



Test Mode:802.11n HT40 5510MHz Chain0

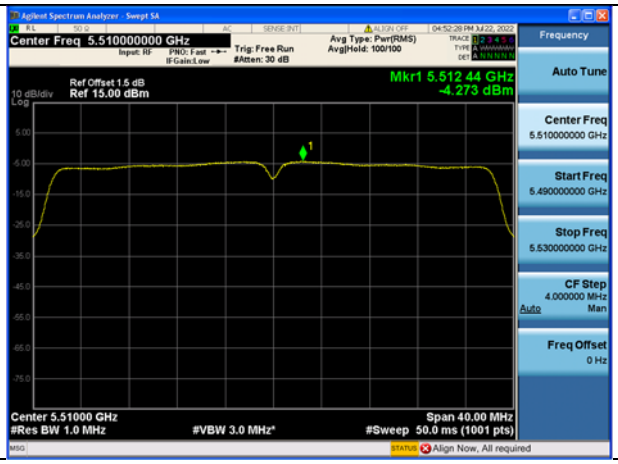


Test Mode:802.11n HT40 5590MHz Chain0

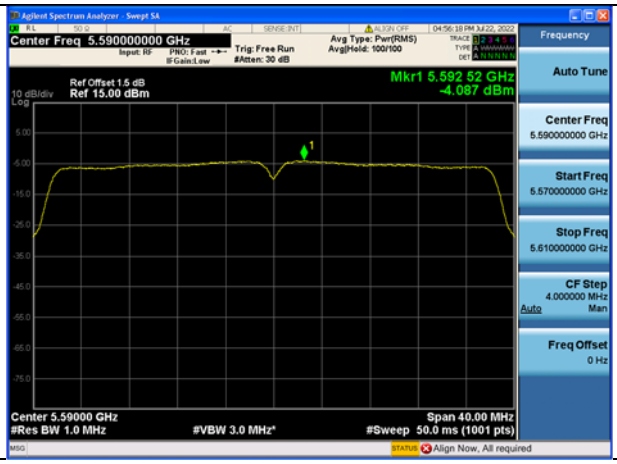


Test Mode:802.11n HT40 5670MHz Chain0

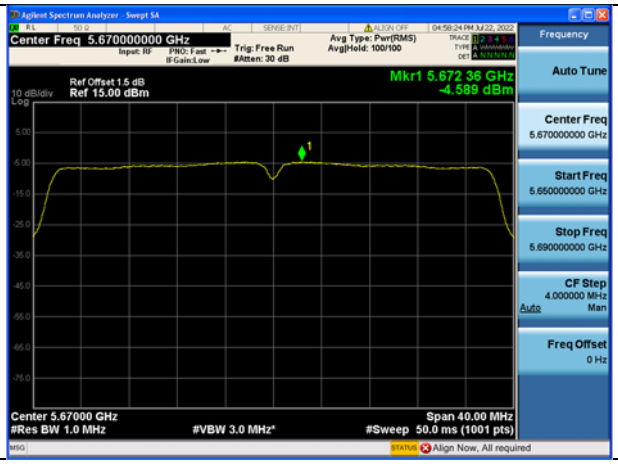
Test Mode: 802.11ac VHT40



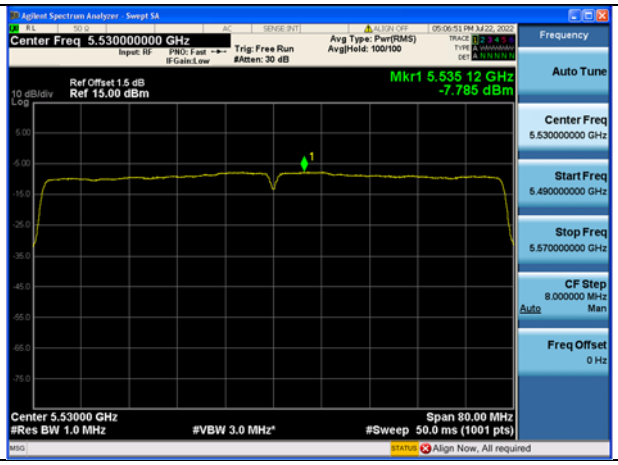
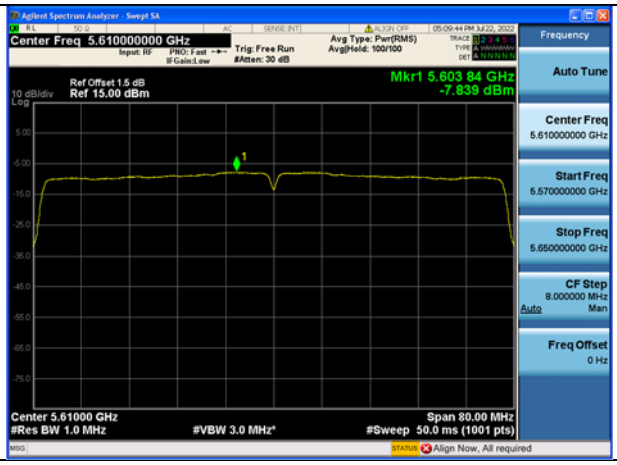
Test Mode:802.11ac VHT40 5510MHz Chain0



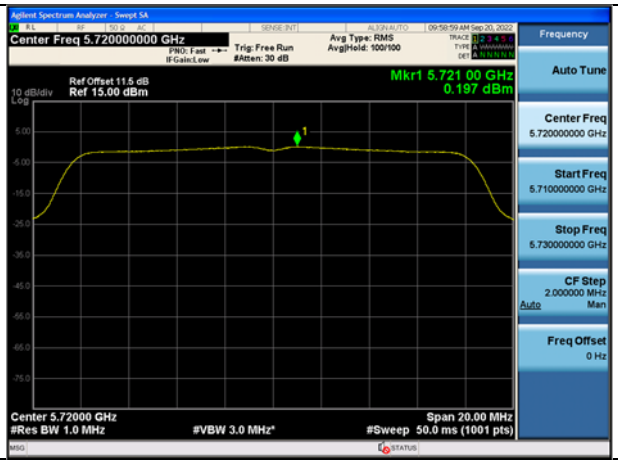
Test Mode:802.11ac VHT40 5590MHz Chain0

	
Test Mode:802.11ac VHT40 5670MHz Chain0	

Test Mode: 802.11ac VHT80

	
Test Mode:802.11ac VHT80 5530MHz Chain0	Test Mode:802.11ac VHT80 5610MHz Chain0

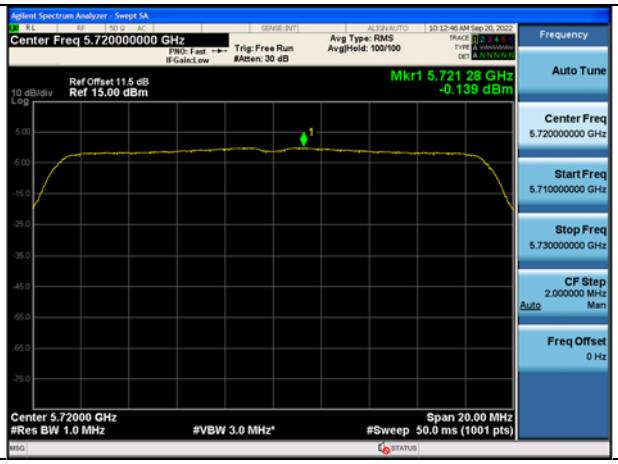
Test Mode: 802.11a

	
Test Mode:802.11a 5720MHz Chain0	

Test Mode: 802.11n HT20

	
Test Mode:802.11n HT20 5720MHz Chain0	

Test Mode: 802.11ac VHT20

	
Test Mode:802.11ac VHT20 5720MHz Chain0	

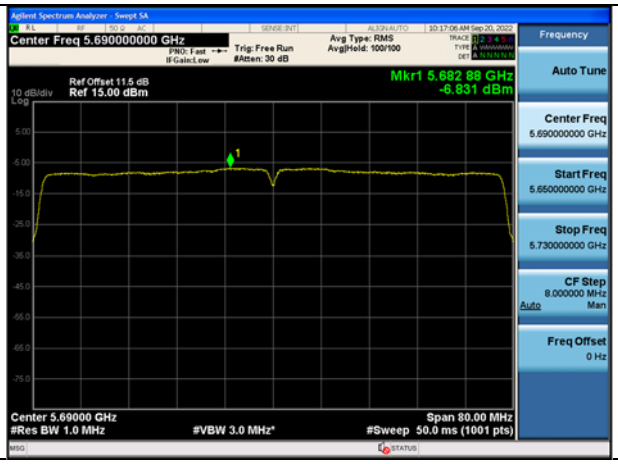
Test Mode: 802.11n HT40

	
Test Mode:802.11n HT40 5710MHz Chain0	

Test Mode: 802.11ac VHT40

	
Test Mode:802.11ac VHT40 5710MHz Chain0	

Test Mode: 802.11ac VHT80

	
Test Mode:802.11ac VHT80 5690MHz Chain0	

Dynamic Frequency Selection

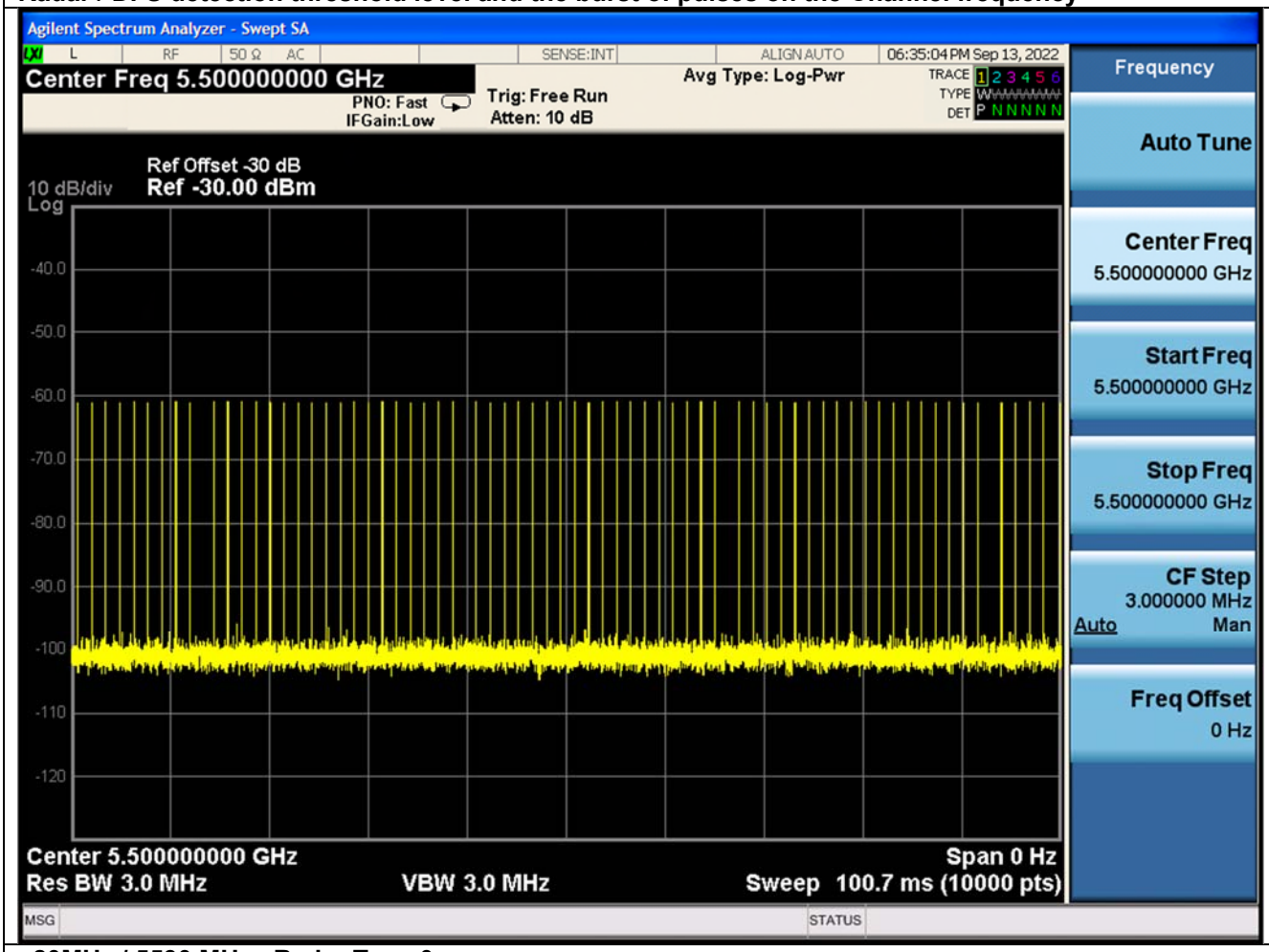
DESCRIPTION OF Master Device

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

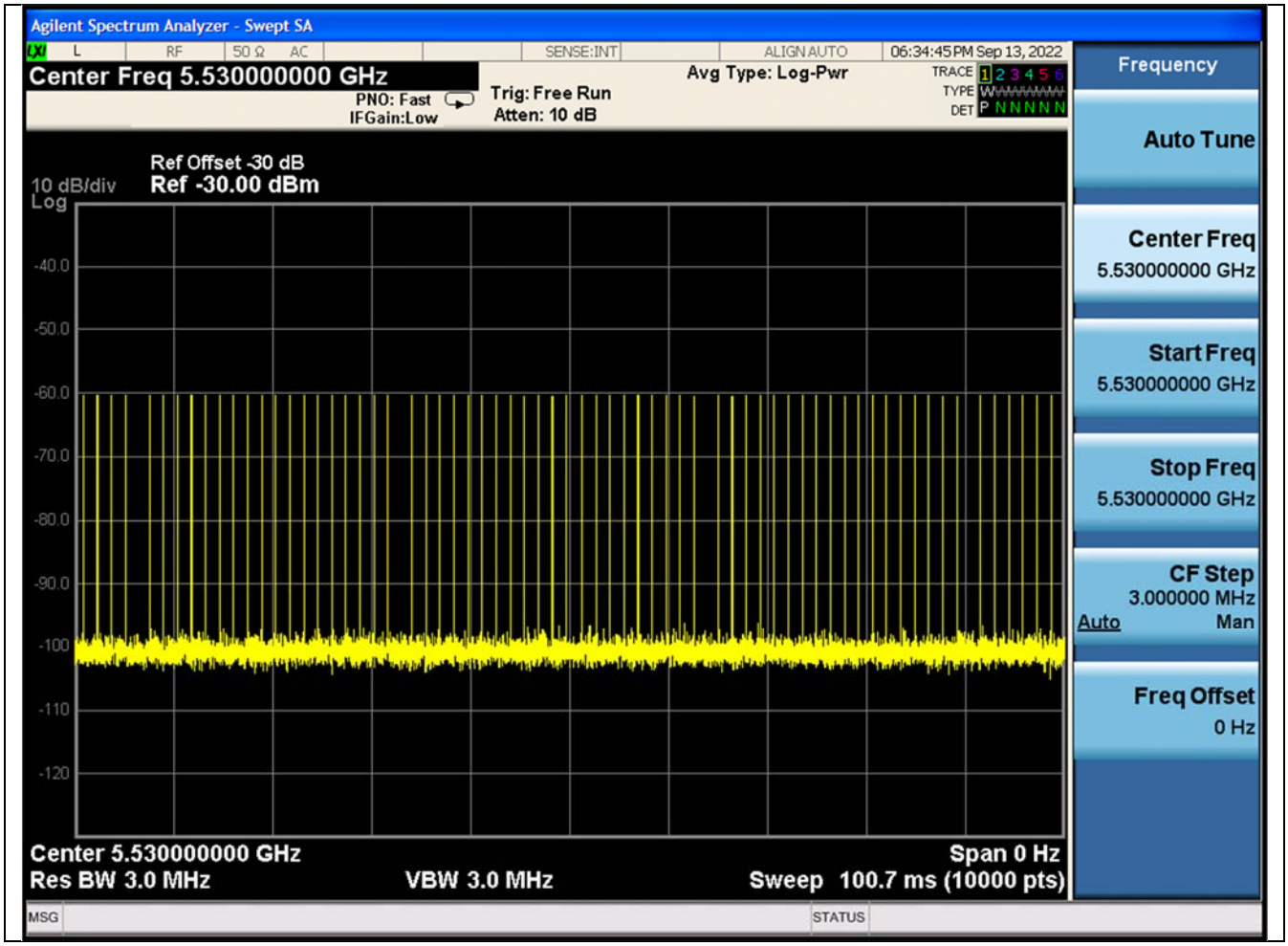
<20MHz / 5500 MHz> Radar Type 0

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

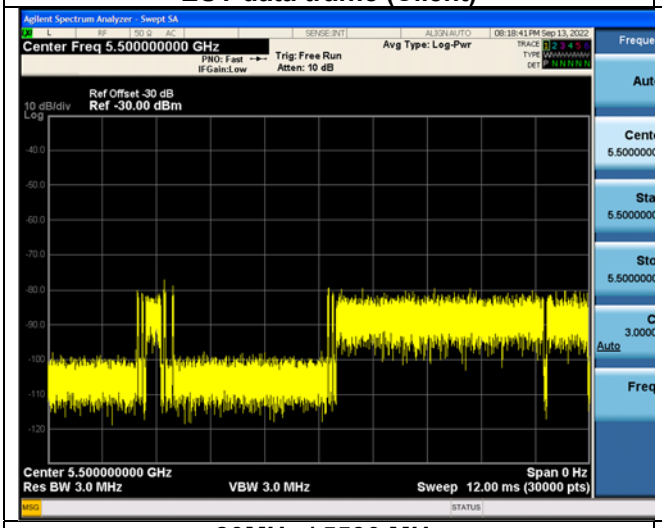
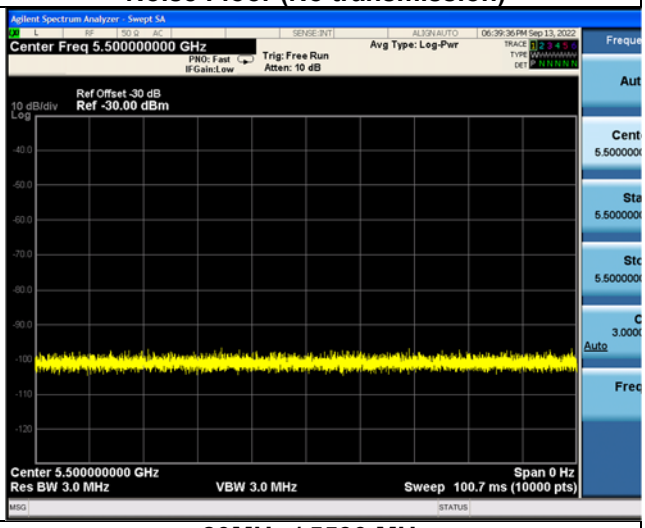
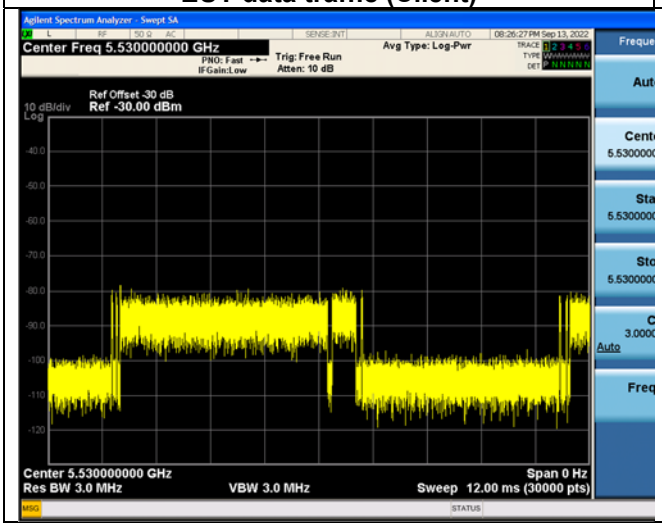
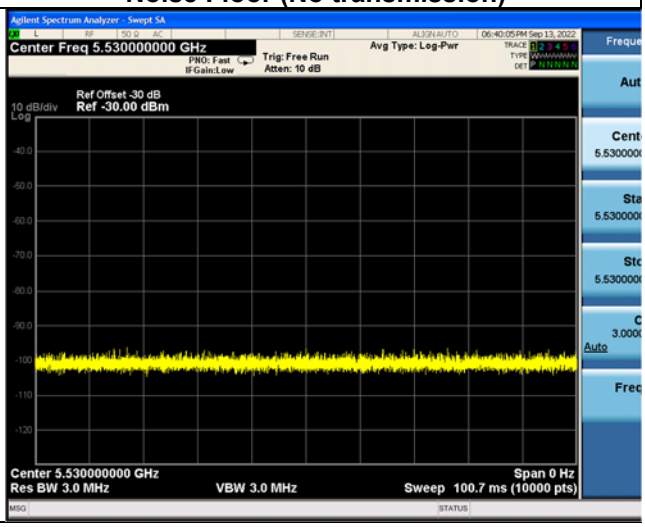


<80MHz / 5530 MHz> Radar Type 0

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


Agilent Spectrum Analyzer - Swept SA
L
RF
50 Ω
AC
SENSE:INT
ALIGN AUTO
06:34:45 PM Sep 13, 2022
Center Freq 5.530000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
TRACE 1 2 3 4 5 6
TYPE WWWWW
DET P N N N N N
Ref Offset -30 dB
10 dB/div
Log
Ref -30.00 dBm
-40.0
-50.0
-60.0
-70.0
-80.0
-90.0
-100
-110
-120
Center 5.530000000 GHz
Res BW 3.0 MHz
VBW 3.0 MHz
Span 0 Hz
Sweep 100.7 ms (10000 pts)
MSG
STATUS
Frequency
Auto Tune
Center Freq
5.530000000 GHz
Start Freq
5.530000000 GHz
Stop Freq
5.530000000 GHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz

Data Traffic and Noise Floor Plots

<20MHz / 5500 MHz> EUT data traffic (Client)	<20MHz / 5500 MHz> Noise Floor (No transmission)
	
<80MHz / 5530 MHz> EUT data traffic (Client)	**<80MHz / 5530 MHz> Noise Floor (No transmission)**
	

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

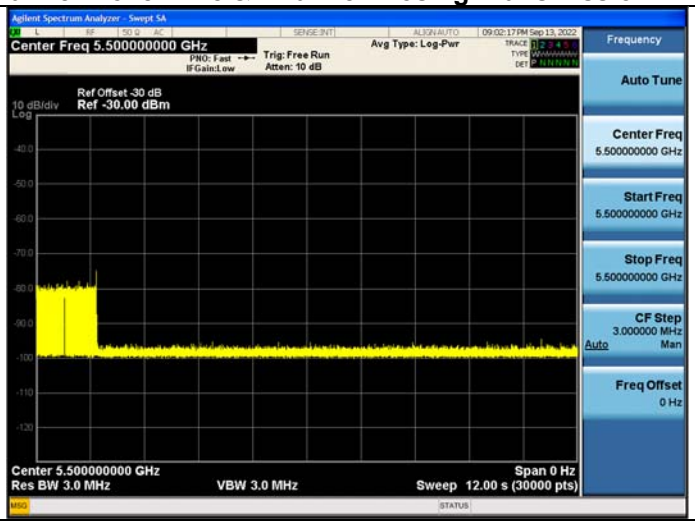
Frequency	Test Item	Test Result	Limit	Pass/Fail
5500MHz	Channel Move Time	＜ 10s*	＜ 10s	Pass
	Channel Closing Transmission Time	200ms	＜ 260ms	Pass
	Non-Occupancy Period	≥ 30	≥ 30 min	Pass
5530MHz	Channel Move Time	＜ 10s*	＜ 10s	Pass
	Channel Closing Transmission Time	200ms	＜ 260ms	Pass
	Non-Occupancy Period	≥ 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.

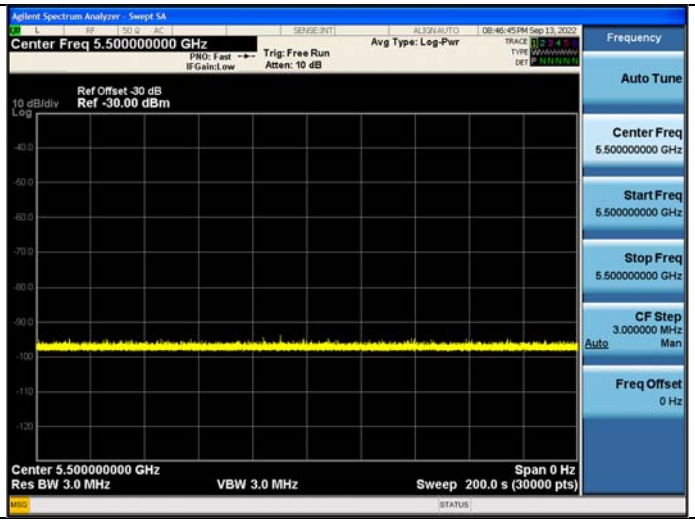
Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period for Client Beacon Test Plots

<20MHz / 5500 MHz>

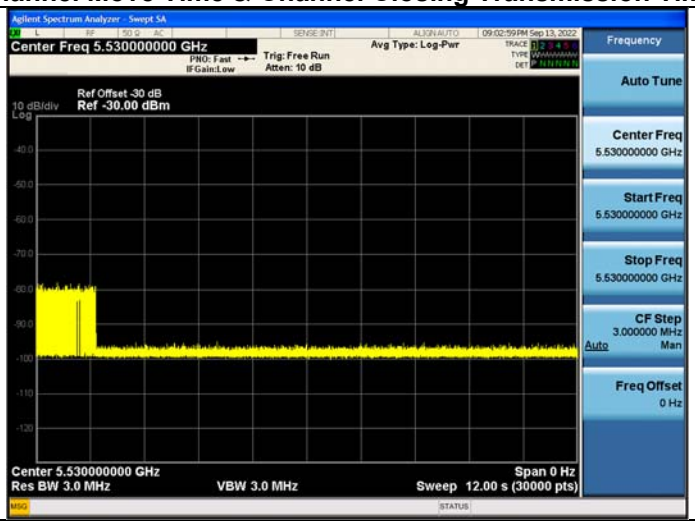
Channel Move Time & Channel Closing Transmission Time



Non-Occupancy Period



<80MHz / 5530MHz>
Channel Move Time & Channel Closing Transmission Time



Non-Occupancy Period