

APPENDIX A – TEST DATA OF CONDUCTED EMISSION

7663

Duty Cycle

Test Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor(dB)
802.11a	5180	98.67%	0
802.11a	5180	98.61%	0
802.11n HT20	5180	98.56%	0
802.11n HT20	5180	98.54%	0
802.11ac VHT20	5180	98.53%	0
802.11ac VHT20	5180	98.53%	0
802.11n HT40	5190	97.11%	0.13
802.11n HT40	5190	97.18%	0.12
802.11ac VHT40	5190	97.18%	0.12
802.11ac VHT40	5190	97.18%	0.12
802.11ac VHT80	5210	94.76%	0.23
802.11ac VHT80	5210	94.73%	0.24

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	5180	Chain0	15.44	15.94
802.11a	NA	5180	Chain1	15.21	15.66
802.11a	NA	5220	Chain0	15.37	15.87
802.11a	NA	5220	Chain1	15.04	15.49
802.11a	NA	5240	Chain0	15.45	15.95
802.11a	NA	5240	Chain1	15.03	15.48
802.11n HT20	NA	5180	Chain0	15.32	15.82
802.11n HT20	NA	5180	Chain1	14.77	15.22
802.11n HT20	NA	5180	MIMO	18.06	18.56
802.11n HT20	NA	5220	Chain0	15.20	15.70
802.11n HT20	NA	5220	Chain1	14.61	15.06
802.11n HT20	NA	5220	MIMO	17.93	18.43
802.11n HT20	NA	5240	Chain0	15.29	15.79
802.11n HT20	NA	5240	Chain1	14.94	15.39
802.11n HT20	NA	5240	MIMO	18.13	18.63
802.11ac VHT20	NA	5180	Chain0	15.20	15.70
802.11ac VHT20	NA	5180	Chain1	14.90	15.35
802.11ac VHT20	NA	5180	MIMO	18.06	18.56
802.11ac VHT20	NA	5220	Chain0	15.19	15.69
802.11ac VHT20	NA	5220	Chain1	14.93	15.38
802.11ac VHT20	NA	5220	MIMO	18.07	18.57
802.11ac VHT20	NA	5240	Chain0	15.27	15.77
802.11ac VHT20	NA	5240	Chain1	15.12	15.57
802.11ac VHT20	NA	5240	MIMO	18.21	18.71
802.11n HT40	NA	5190	Chain0	15.04	15.54

802.11n HT40	NA	5190	Chain1	14.79	15.24
802.11n HT40	NA	5190	MIMO	17.93	18.43
802.11n HT40	NA	5230	Chain0	15.11	15.61
802.11n HT40	NA	5230	Chain1	14.98	15.43
802.11n HT40	NA	5230	MIMO	18.06	18.56
802.11ac VHT40	NA	5190	Chain0	15.05	15.55
802.11ac VHT40	NA	5190	Chain1	14.79	15.24
802.11ac VHT40	NA	5190	MIMO	17.93	18.43
802.11ac VHT40	NA	5230	Chain0	15.16	15.66
802.11ac VHT40	NA	5230	Chain1	15.16	15.61
802.11ac VHT40	NA	5230	MIMO	18.17	18.67
802.11ac VHT80	NA	5210	Chain0	14.67	15.17
802.11ac VHT80	NA	5210	Chain1	14.65	15.10
802.11ac VHT80	NA	5210	MIMO	17.67	18.17

Emission Bandwidth

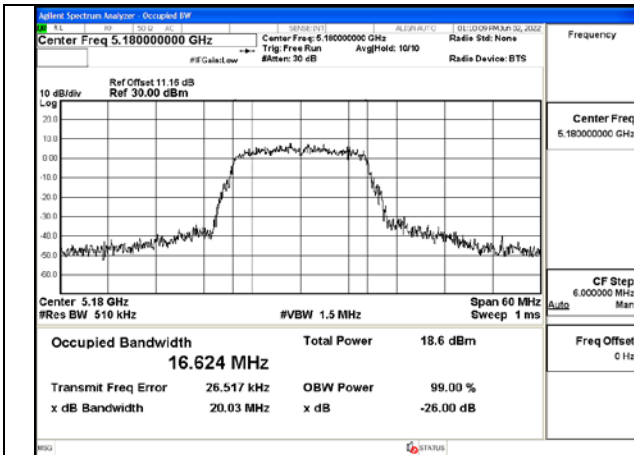
Offset 11.16dB = Attenuator + Temporary antenna connector loss + Cable loss

Test Mode	Antenna	26dB Bandwidth (MHz)		
		Channel No.554	Channel No.562	Channel No.566
		5180MHz	5220MHz	5240MHz
802.11a	Chain0	20.03	20.42	20.61
802.11a	Chain1	19.93	20.38	20.01
802.11n HT20	Chain0	20.00	20.32	20.21
802.11n HT20	Chain1	20.15	20.30	20.36
802.11ac VHT20	Chain0	20.36	20.47	20.53
802.11ac VHT20	Chain1	20.28	20.21	20.20

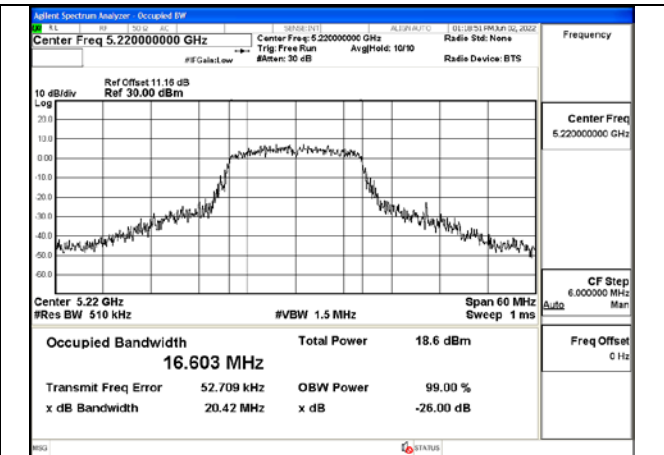
Test Mode	Antenna	26dB Bandwidth (MHz)		
		Channel No.556	---	Channel No.564
		5190MHz	---	5230MHz
802.11n HT40	Chain0	39.87	---	40.82
802.11n HT40	Chain1	40.47	---	40.59
802.11ac VHT40	Chain0	40.66	---	40.87
802.11ac VHT40	Chain1	40.39	---	41.64

Test Mode	Antenna	26dB Bandwidth (MHz)		
		Channel No.560	---	---
		5210MHz	---	---
802.11ac VHT80	Chain0	80.96	---	---
802.11ac VHT80	Chain1	81.14	---	---

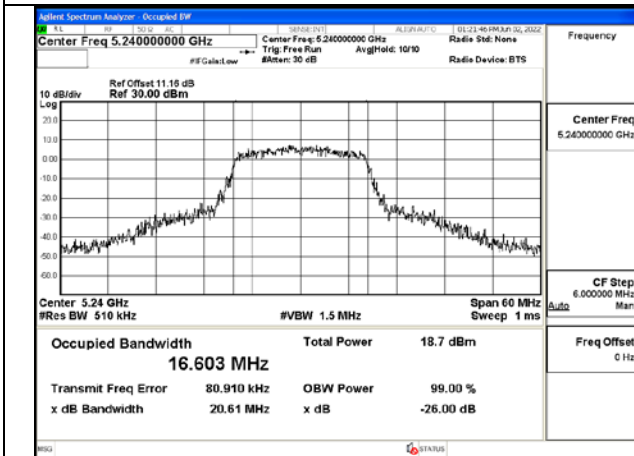
Test Mode: 802.11a



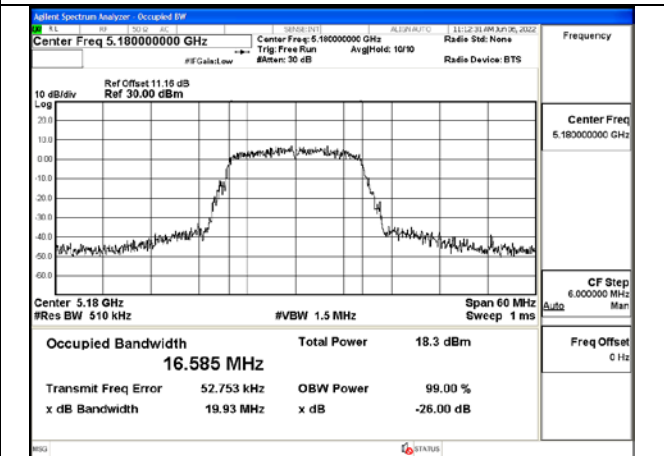
Test Mode:802.11a 5180MHz Chain0



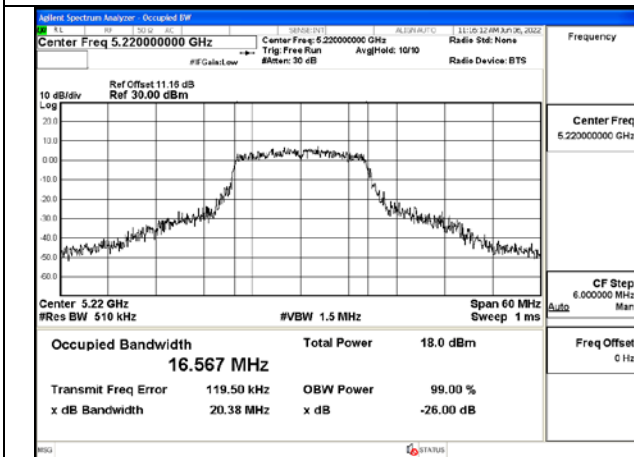
Test Mode:802.11a 5220MHz Chain0



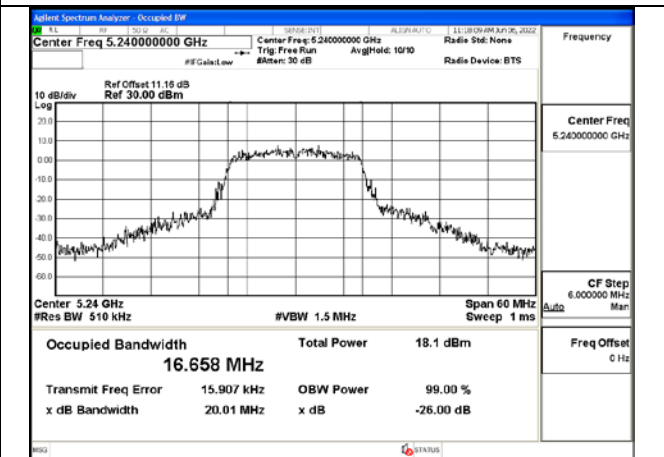
Test Mode:802.11a 5240MHz Chain0



Test Mode:802.11a 5180MHz Chain1

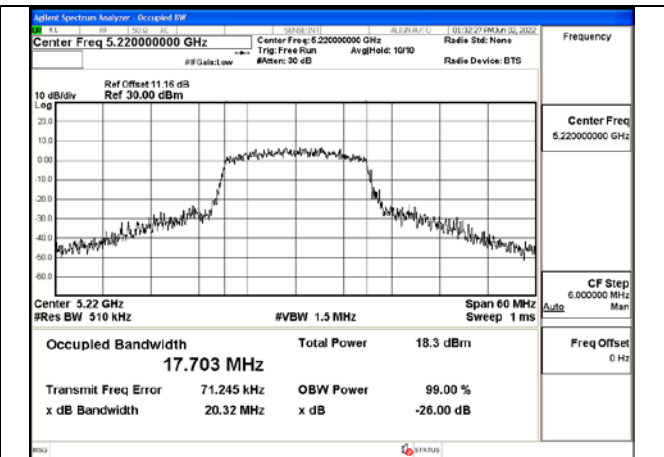
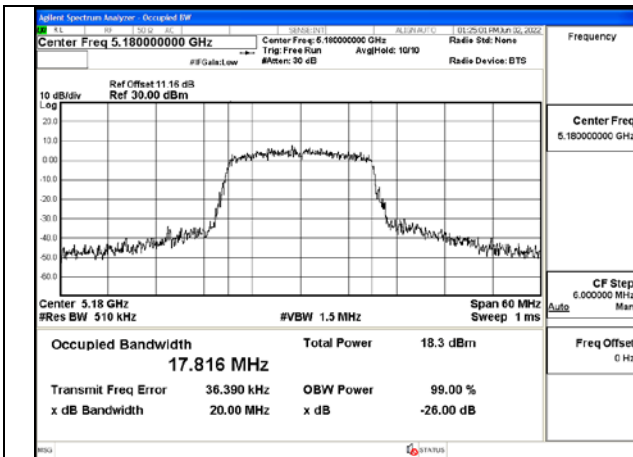


Test Mode:802.11a 5220MHz Chain1



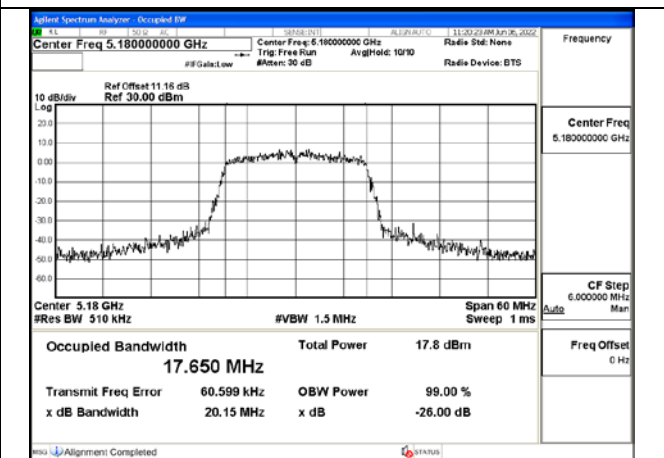
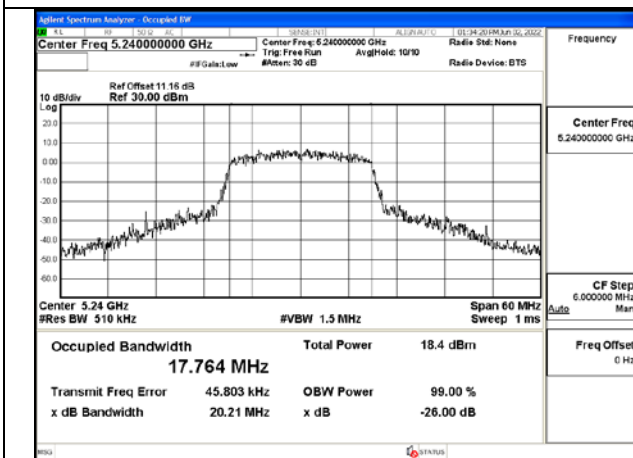
Test Mode:802.11a 5240MHz Chain1

Test Mode: 802.11n HT20



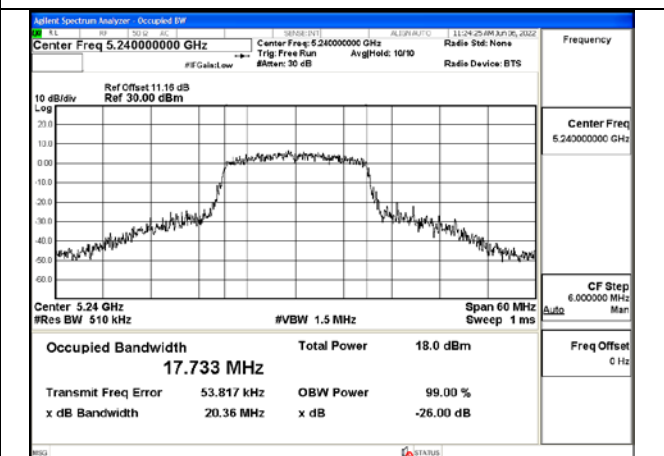
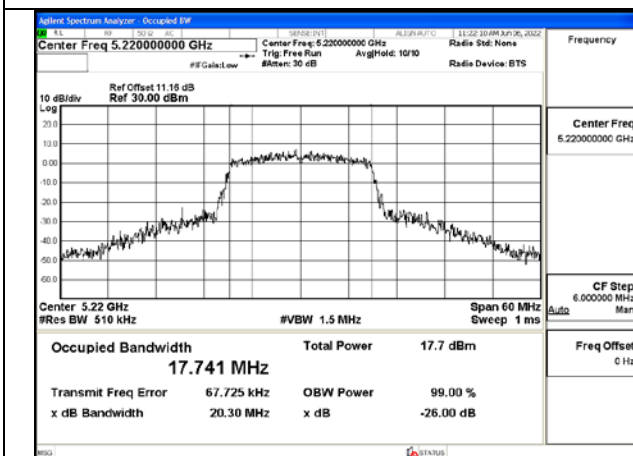
Test Mode:802.11n HT20 5180MHz Chain0

Test Mode:802.11n HT20 5220MHz Chain0



Test Mode:802.11n HT20 5240MHz Chain0

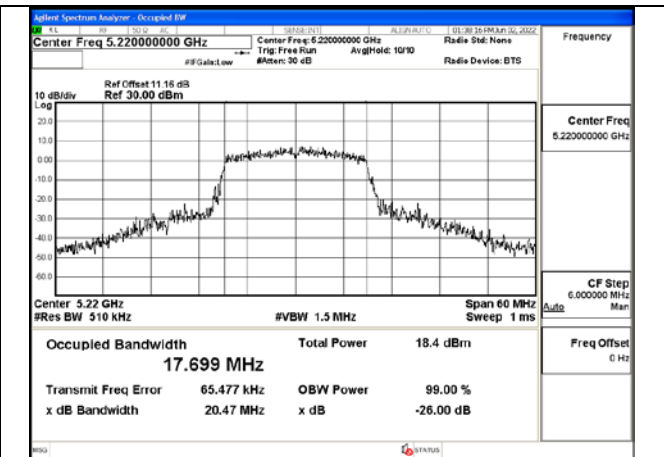
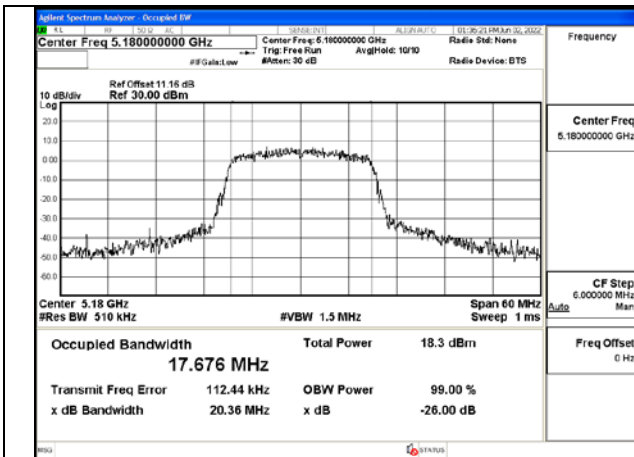
Test Mode:802.11n HT20 5180MHz Chain1



Test Mode:802.11n HT20 5220MHz Chain1

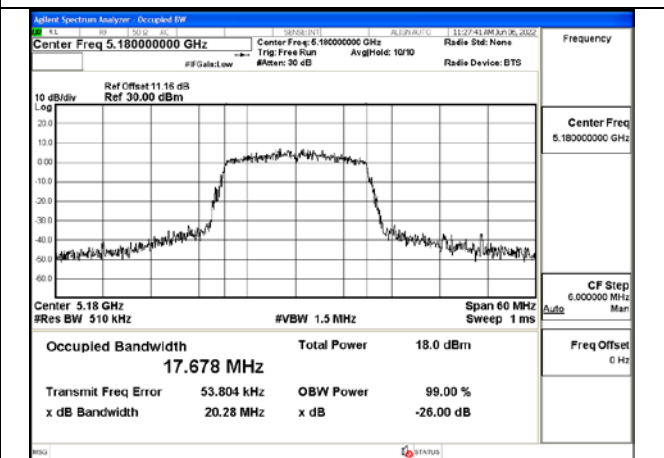
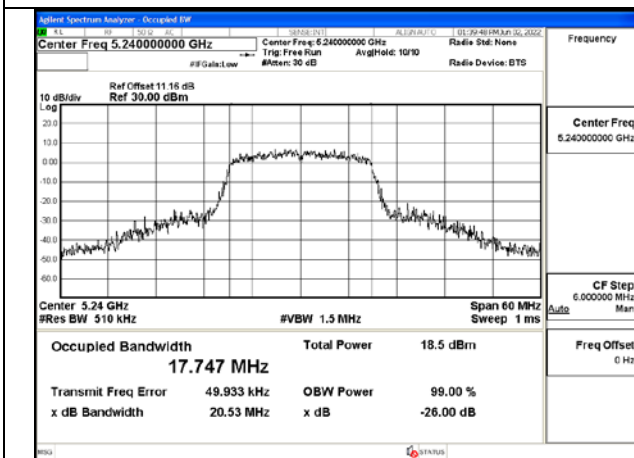
Test Mode:802.11n HT20 5240MHz Chain1

Test Mode: 802.11ac VHT20



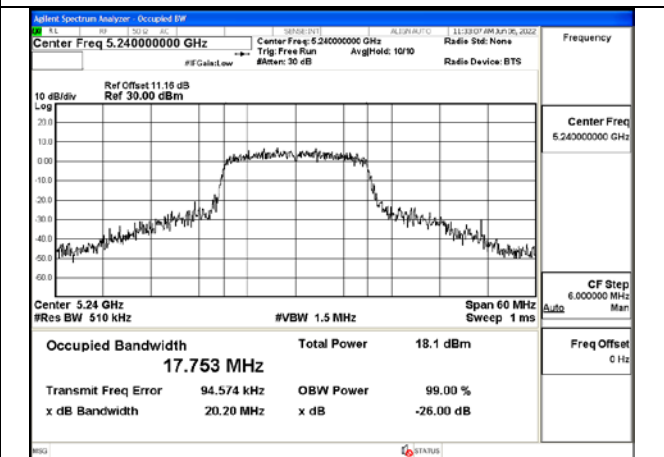
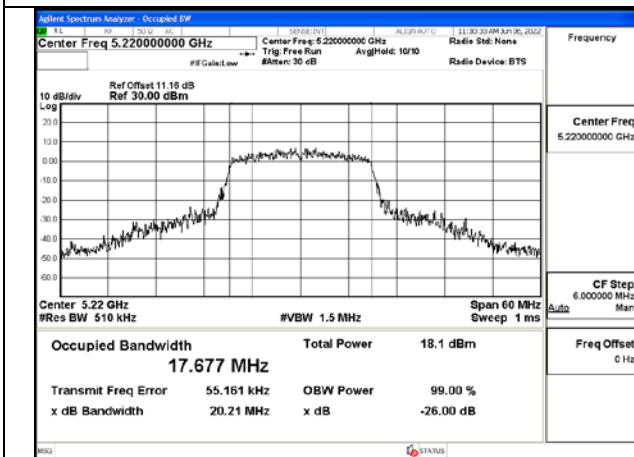
Test Mode:802.11ac VHT20 5180MHz Chain0

Test Mode:802.11ac VHT20 5220MHz Chain0



Test Mode:802.11ac VHT20 5240MHz Chain0

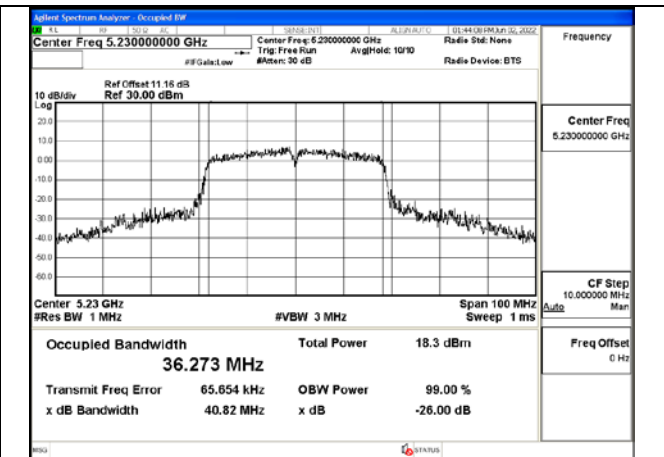
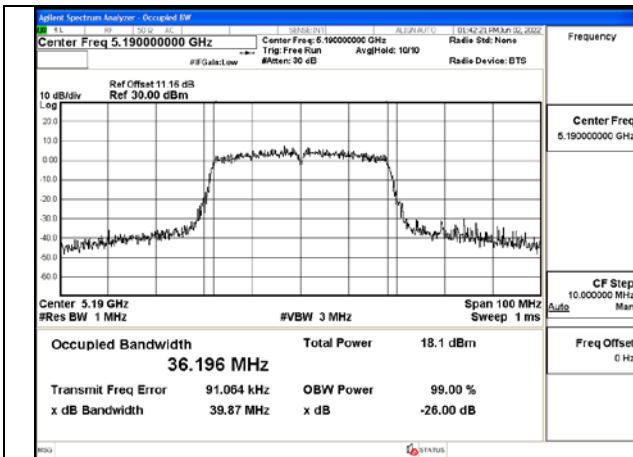
Test Mode:802.11ac VHT20 5180MHz Chain1



Test Mode:802.11ac VHT20 5220MHz Chain1

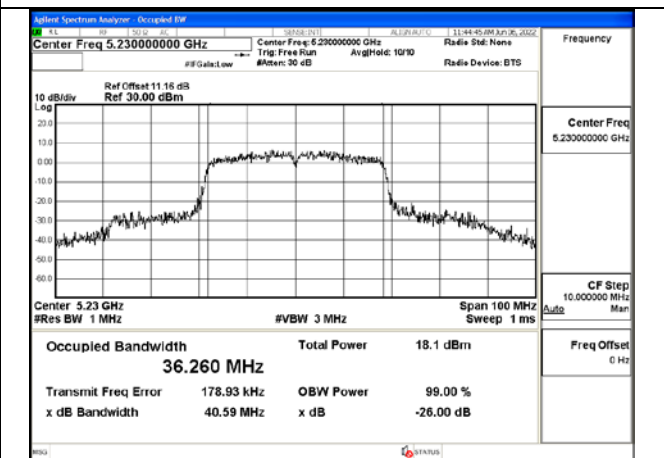
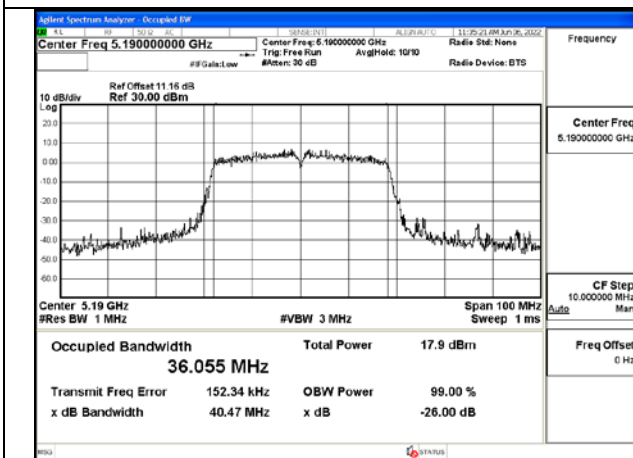
Test Mode:802.11ac VHT20 5240MHz Chain1

Test Mode: 802.11n HT40



Test Mode:802.11n HT40 5190MHz Chain0

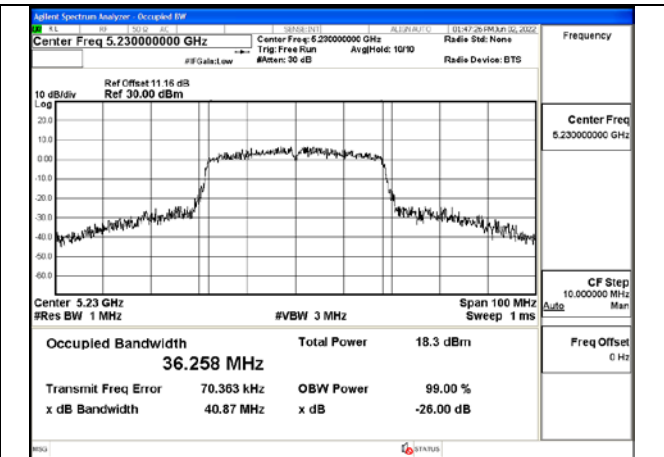
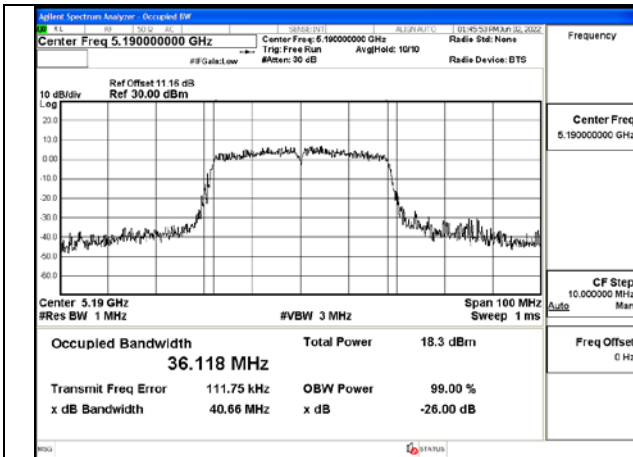
Test Mode:802.11n HT40 5230MHz Chain0



Test Mode:802.11n HT40 5190MHz Chain1

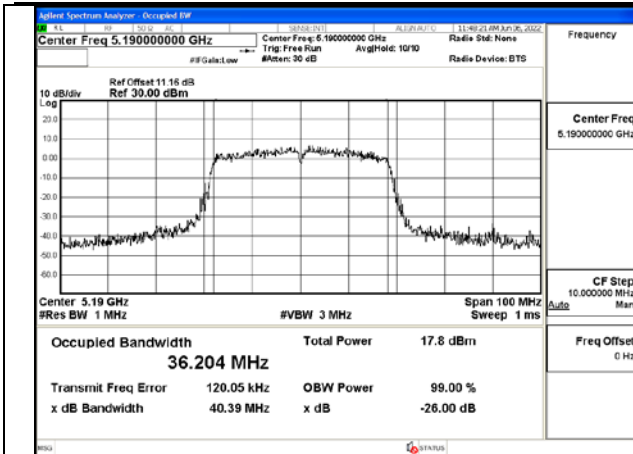
Test Mode:802.11n HT40 5230MHz Chain1

Test Mode: 802.11ac VHT40

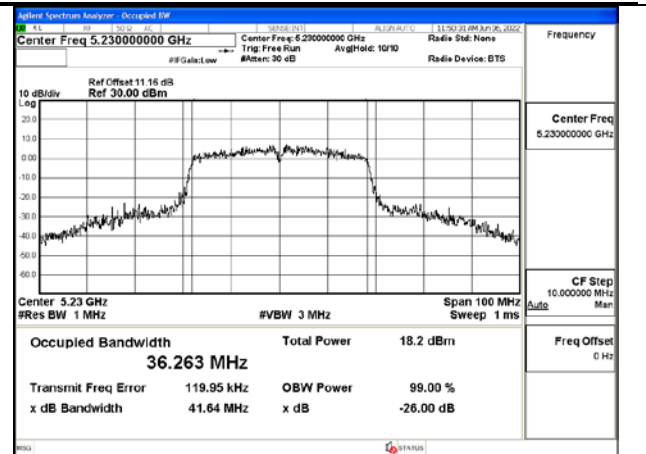


Test Mode:802.11ac VHT40 5190MHz Chain0

Test Mode:802.11ac VHT40 5230MHz Chain0

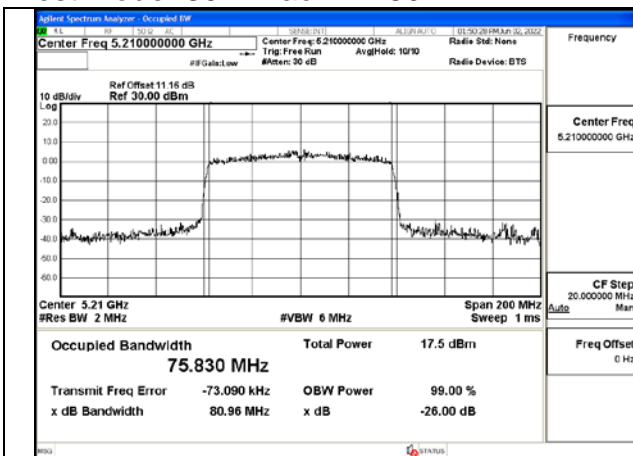


Test Mode:802.11ac VHT40 5190MHz Chain1

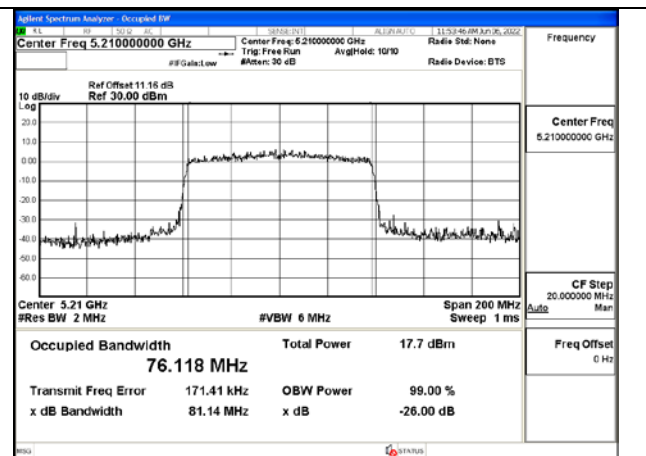


Test Mode:802.11ac VHT40 5230MHz Chain1

Test Mode: 802.11ac VHT80



Test Mode:802.11ac VHT80 5210MHz Chain0



Test Mode:802.11ac VHT80 5210MHz Chain1

Occupied Bandwidth

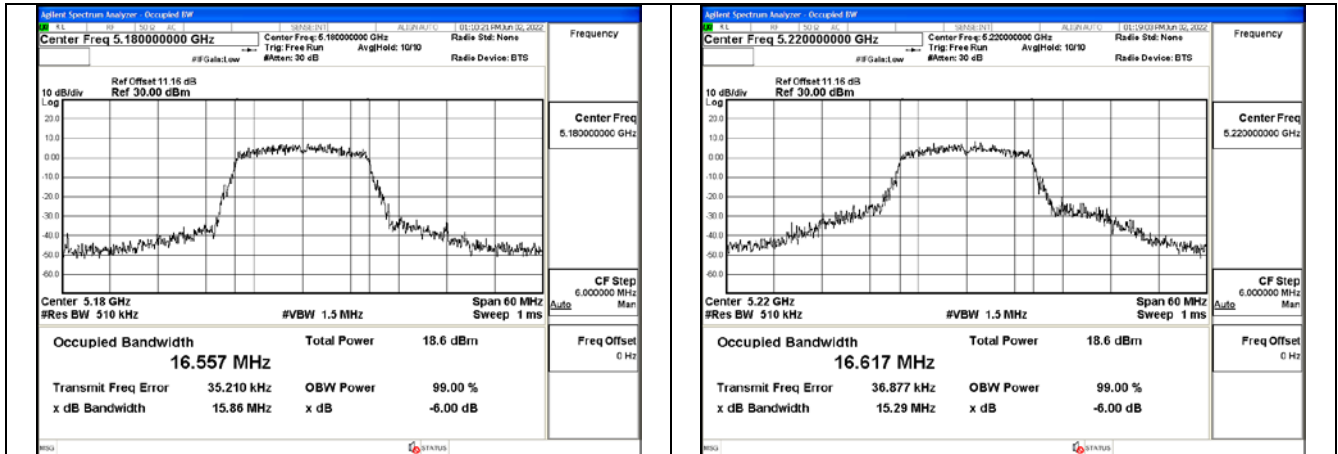
Offset 11.16dB = Attenuator + Temporary antenna connector loss + Cable loss

Test Mode	Antenna	Occupied Bandwidth (MHz)		
		Channel No.554	Channel No.562	Channel No.566
		5180MHz	5220MHz	5240MHz
802.11a	Chain0	16.557	16.617	16.680
802.11a	Chain1	16.560	16.570	16.668
802.11n HT20	Chain0	17.572	17.727	17.788
802.11n HT20	Chain1	17.671	17.729	17.671
802.11ac VHT20	Chain0	17.689	17.738	17.722
802.11ac VHT20	Chain1	17.715	17.795	17.752

Test Mode	Antenna	Occupied Bandwidth (MHz)		
		Channel No.556	---	Channel No.564
		5190MHz	---	5230MHz
802.11n HT40	Chain0	36.130	---	36.338
802.11n HT40	Chain1	36.244	---	36.243
802.11ac VHT40	Chain0	36.143	---	36.244
802.11ac VHT40	Chain1	36.327	---	36.309

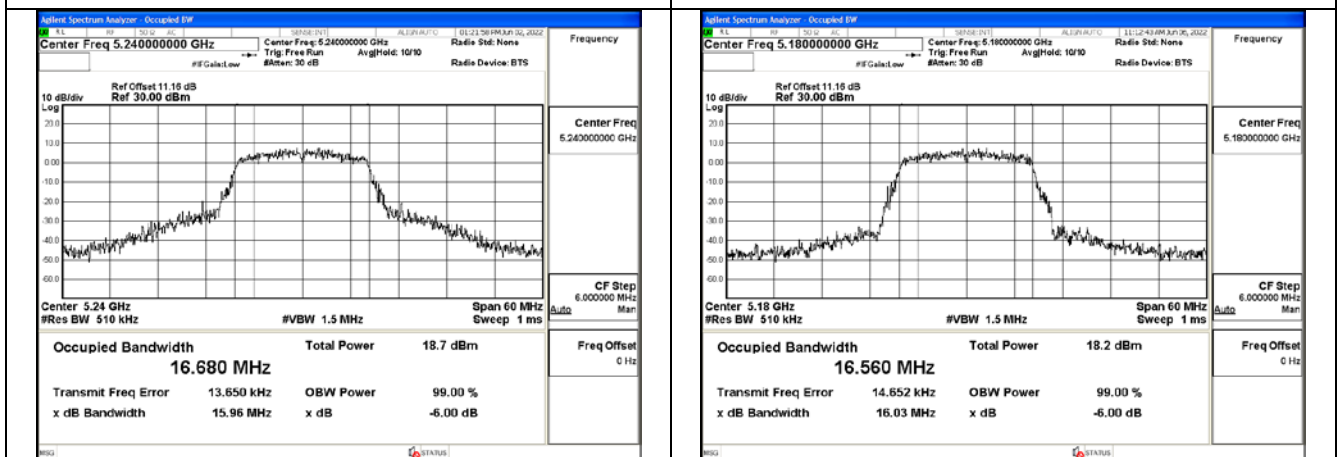
Test Mode	Antenna	Occupied Bandwidth (MHz)		
		Channel No.560	---	---
802.11ac VHT80	Chain0	75.972	---	---
802.11ac VHT80	Chain1	76.027	---	---

Test Mode: 802.11a



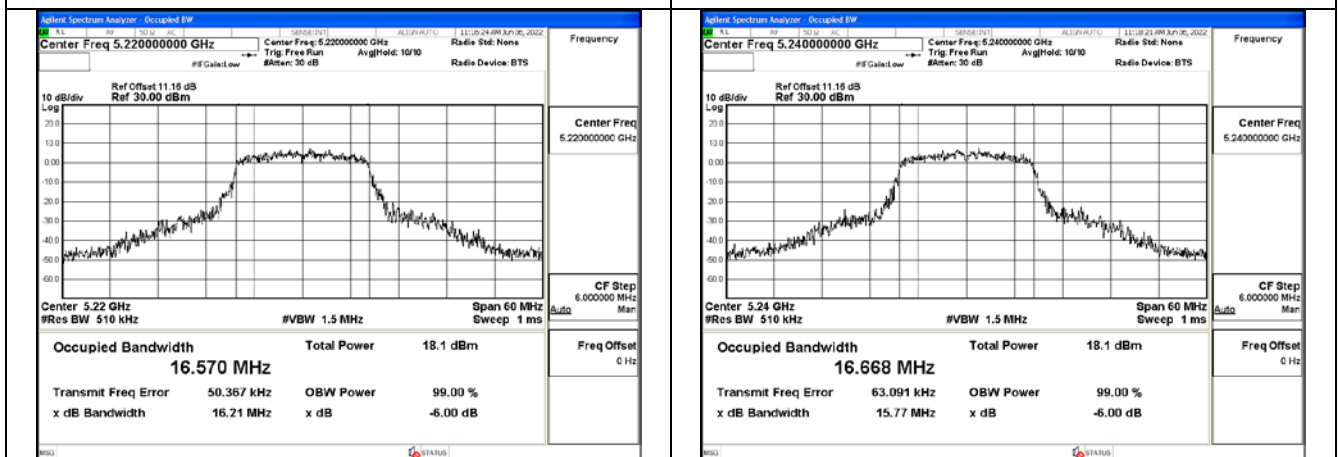
Test Mode:802.11a 5180MHz Chain0

Test Mode:802.11a 5220MHz Chain0



Test Mode:802.11a 5240MHz Chain0

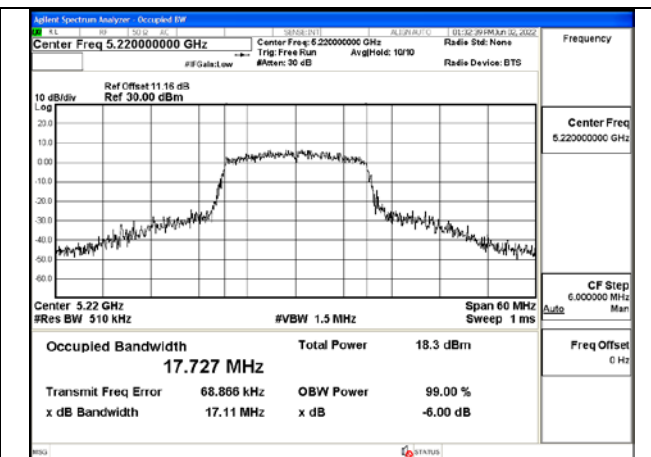
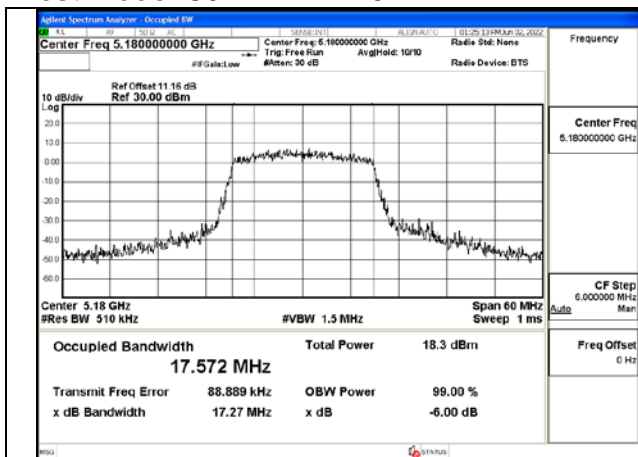
Test Mode:802.11a 5180MHz Chain1



Test Mode:802.11a 5220MHz Chain1

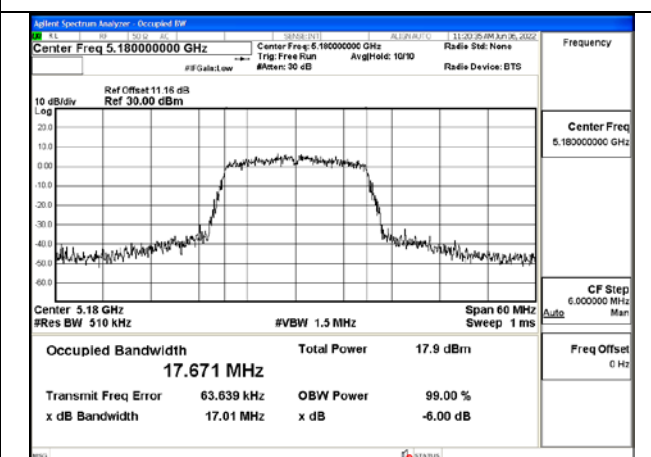
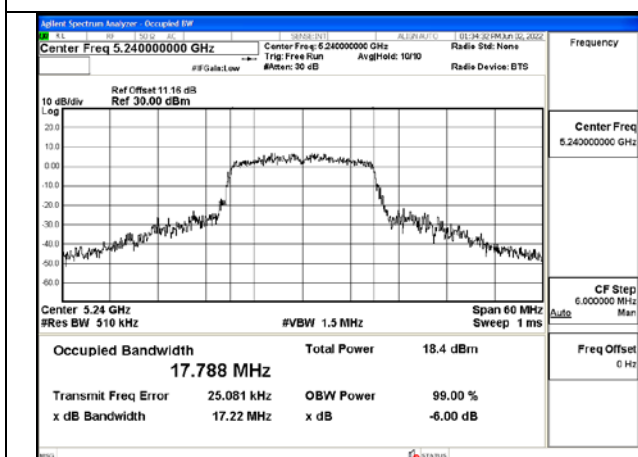
Test Mode:802.11a 5240MHz Chain1

Test Mode: 802.11n HT20



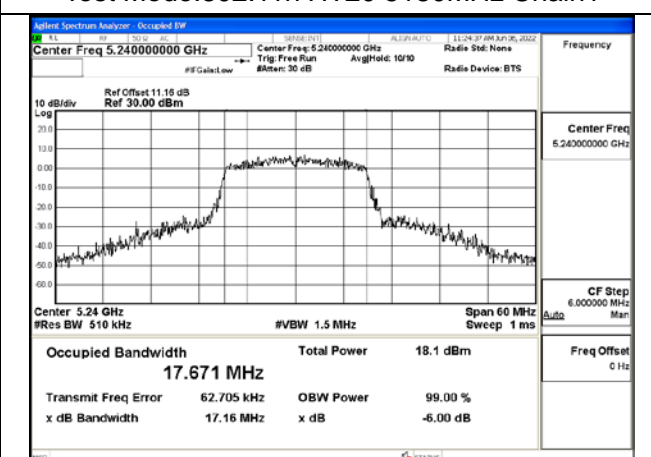
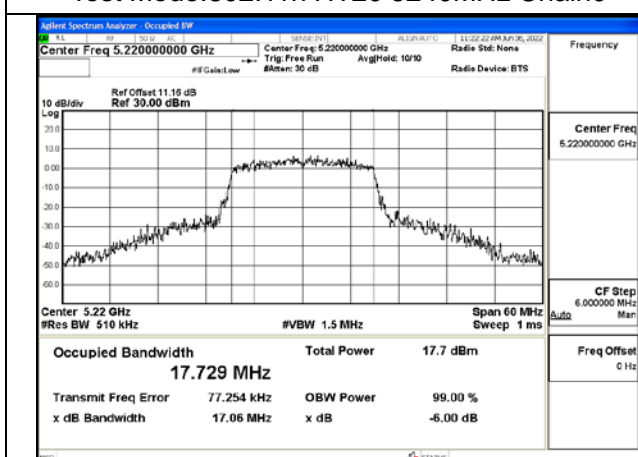
Test Mode:802.11n HT20 5180MHz Chain0

Test Mode:802.11n HT20 5220MHz Chain0



Test Mode:802.11n HT20 5240MHz Chain0

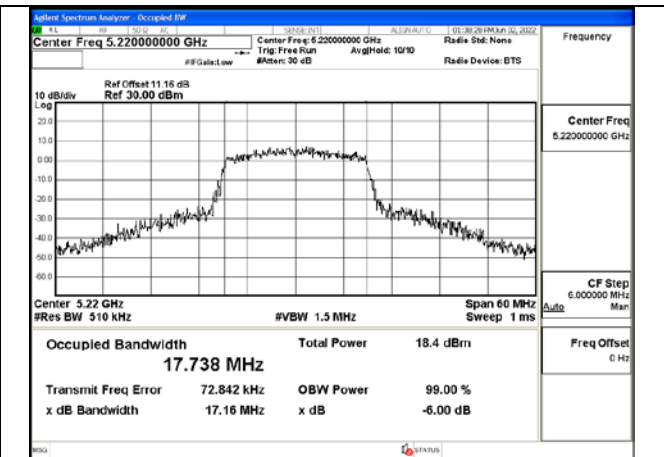
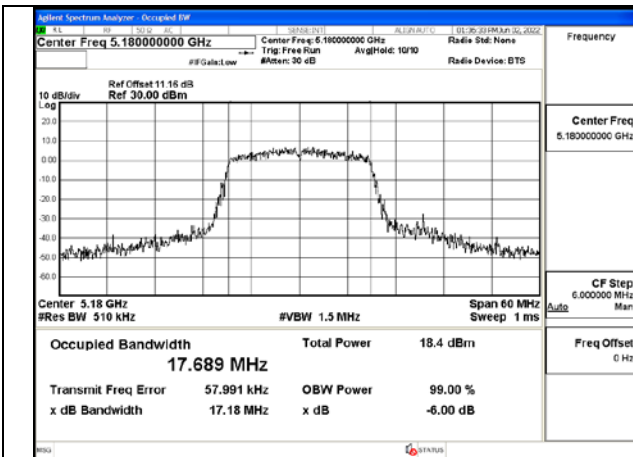
Test Mode:802.11n HT20 5180MHz Chain1



Test Mode:802.11n HT20 5220MHz Chain1

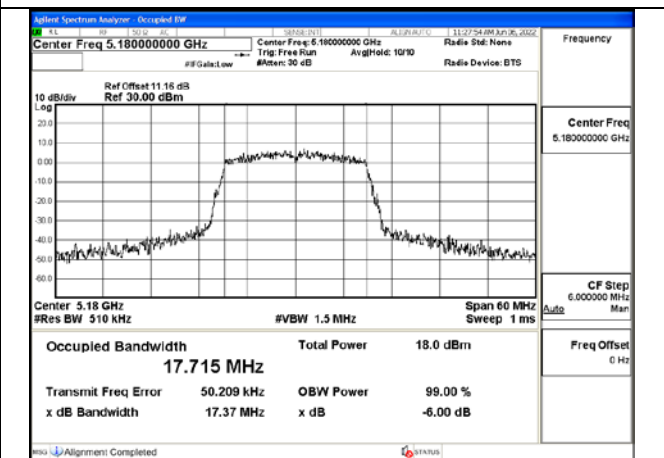
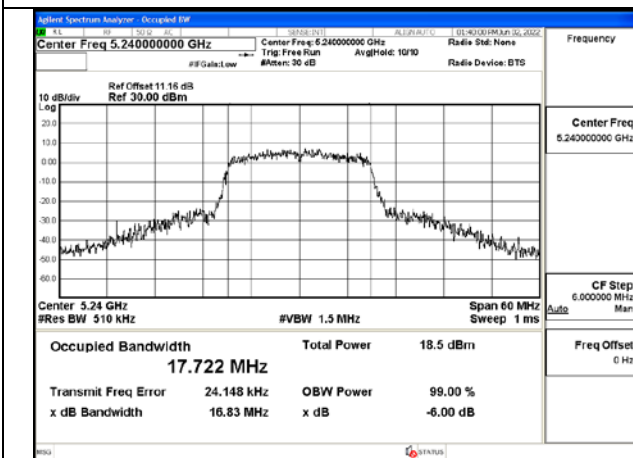
Test Mode:802.11n HT20 5240MHz Chain1

Test Mode: 802.11ac VHT20



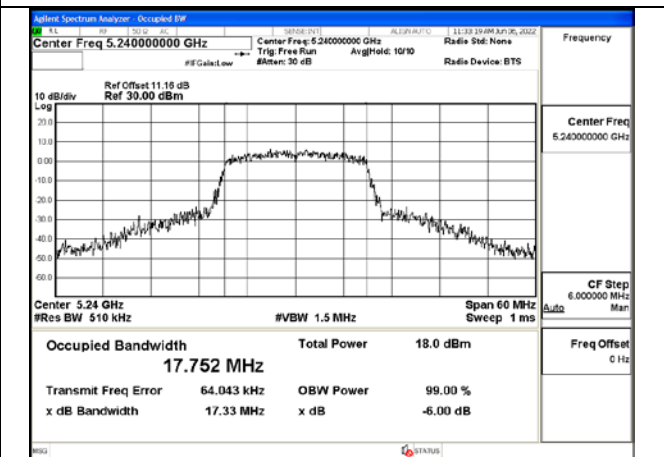
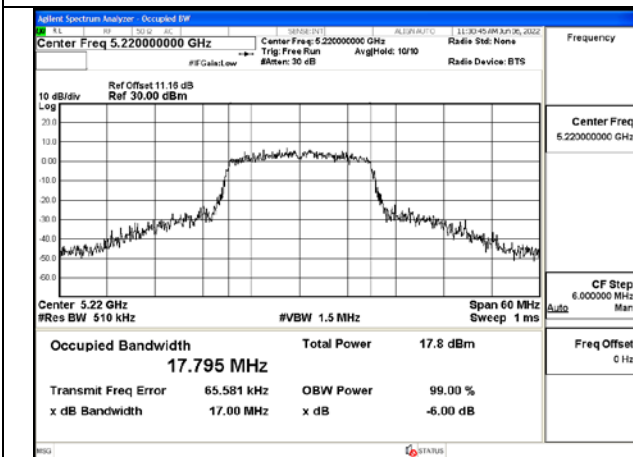
Test Mode:802.11ac VHT20 5180MHz Chain0

Test Mode:802.11ac VHT20 5220MHz Chain0



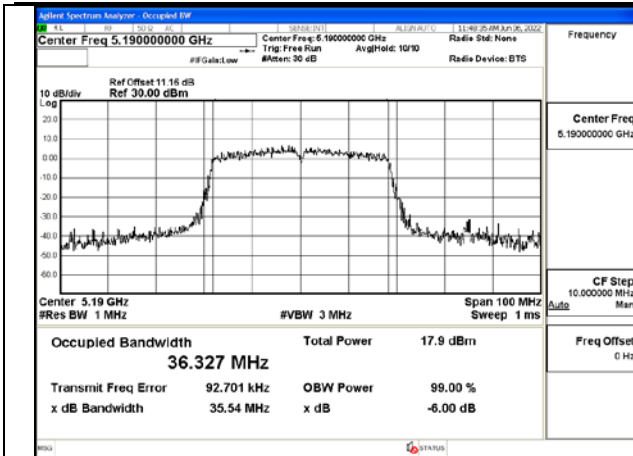
Test Mode:802.11ac VHT20 5240MHz Chain0

Test Mode:802.11ac VHT20 5180MHz Chain1

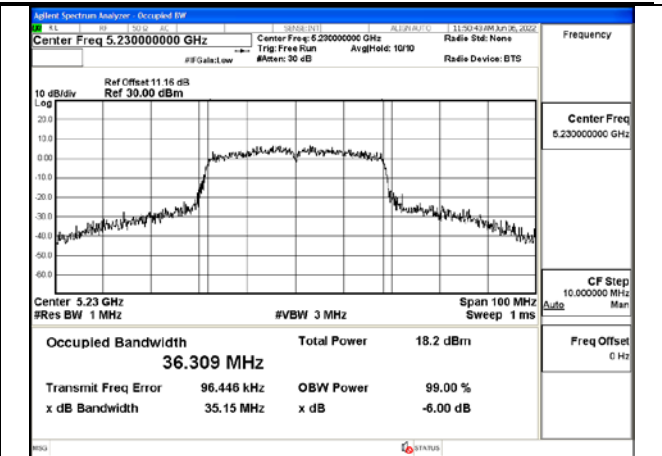


Test Mode:802.11ac VHT20 5220MHz Chain1

Test Mode:802.11ac VHT20 5240MHz Chain1

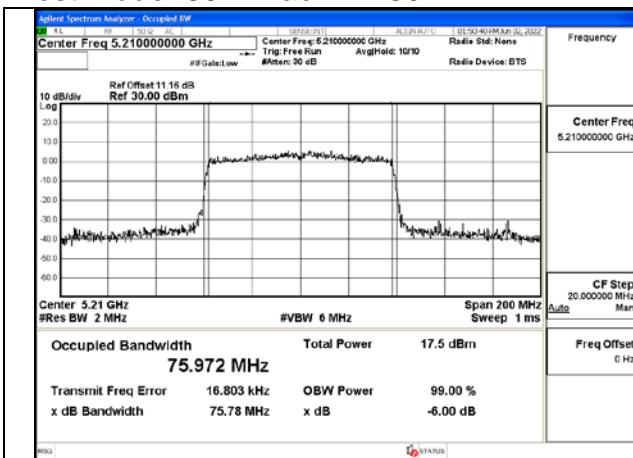


Test Mode:802.11ac VHT40 5190MHz Chain1

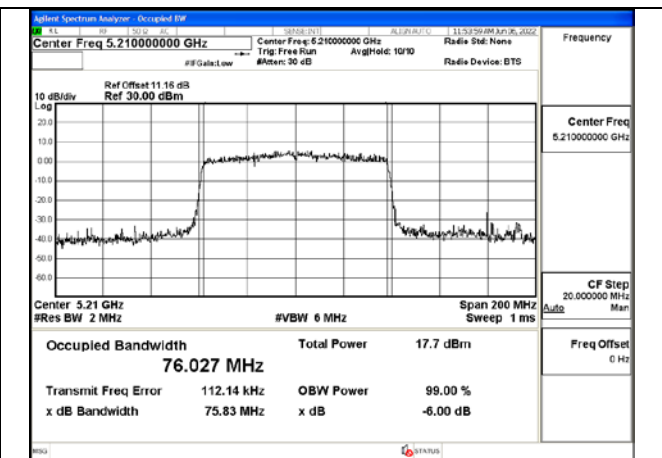


Test Mode:802.11ac VHT40 5230MHz Chain1

Test Mode: 802.11ac VHT80



Test Mode:802.11ac VHT80 5210MHz Chain0



Test Mode:802.11ac VHT80 5210MHz Chain1

Transmitter Power Spectral Density

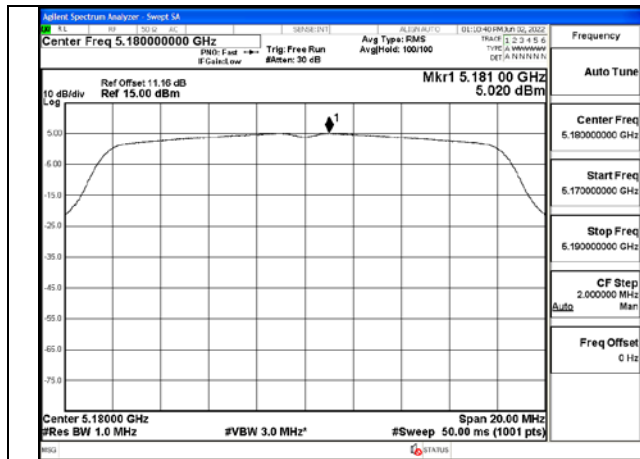
Offset 11.16dB = Attenuator + Temporary antenna connector loss + Cable loss

Test Mode	Antenna	5180MHz		5220MHz		5240MHz	
		Correction Factor(dB)	Power Density (dBm/MHz)	Correction(dB)	Power Density (dBm/MHz)	Correction(dB)	Power Density (dBm/MHz)
802.11a	Chain0	0	5.020	0	4.780	0	4.940
802.11a	Chain1	0	4.692	0	4.377	0	4.584
802.11n HT20	Chain0	0	4.553	0	4.446	0	4.532
802.11n HT20	Chain1	0	4.076	0	4.440	0	4.239
802.11n HT20	MIMO	0	7.331	0	7.453	0	7.398
802.11ac VHT20	Chain0	0	4.553	0	4.494	0	4.571
802.11ac VHT20	Chain1	0	4.129	0	4.188	0	4.369
802.11ac VHT20	MIMO	0	7.356	0	7.354	0	7.481

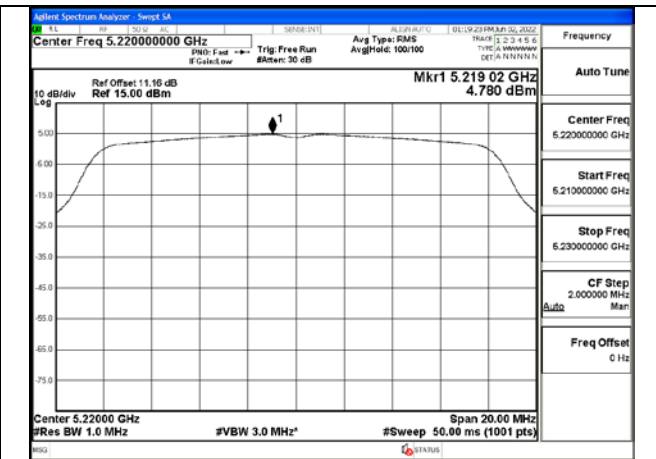
Test Mode	Antenna	5190MHz		---		5230MHz	
		Correction Factor(dB)	Power Density (dBm/MHz)	Correction Factor(dB)	Power Density (dBm/MHz)	Correction Factor(dB)	Power Density (dBm/MHz)
802.11n HT40	Chain0	0.13	1.384	---	---	0.13	1.435
802.11n HT40	Chain1	0.13	1.063	---	---	0.13	1.299
802.11n HT40	MIMO	0.13	4.237	---	---	0.13	4.378
802.11ac VHT40	Chain0	0.12	1.381	---	---	0.12	1.489
802.11ac VHT40	Chain1	0.12	1.122	---	---	0.12	1.439
802.11ac VHT40	MIMO	0.12	4.264	---	---	0.12	4.474

Test Mode	Antenna	5210MHz		---		---	
		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	0.23	-1.974	---	---	---	---
802.11ac VHT80	Chain1	0.23	-2.139	---	---	---	---
802.11ac VHT80	MIMO	0.23	0.955	---	---	---	---

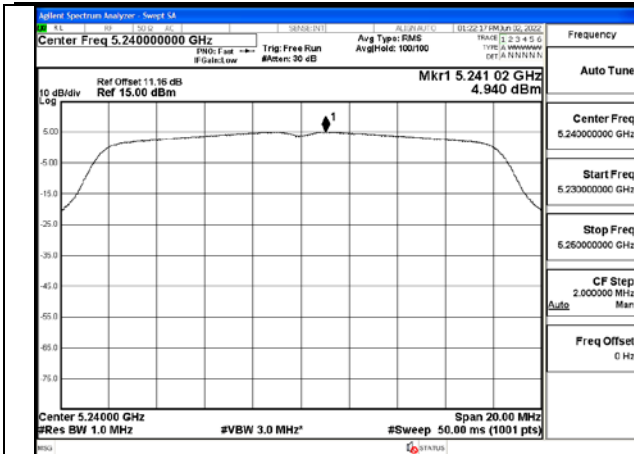
Test Mode: 802.11a



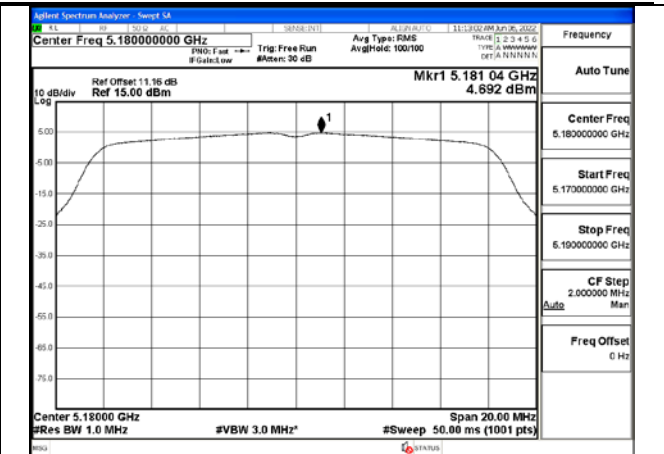
Test Mode:802.11a 5180MHz Chain0



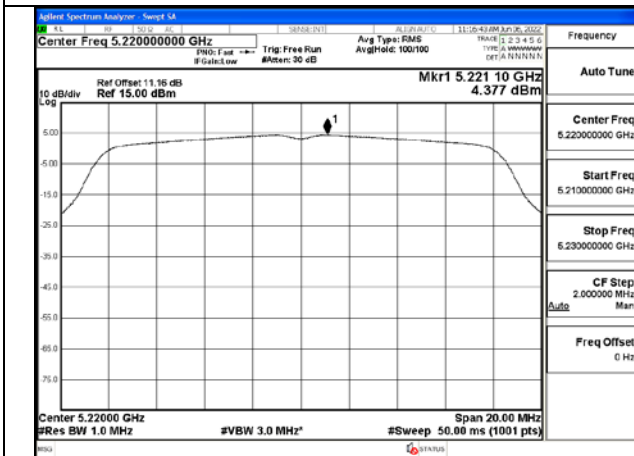
Test Mode:802.11a 5220MHz Chain0



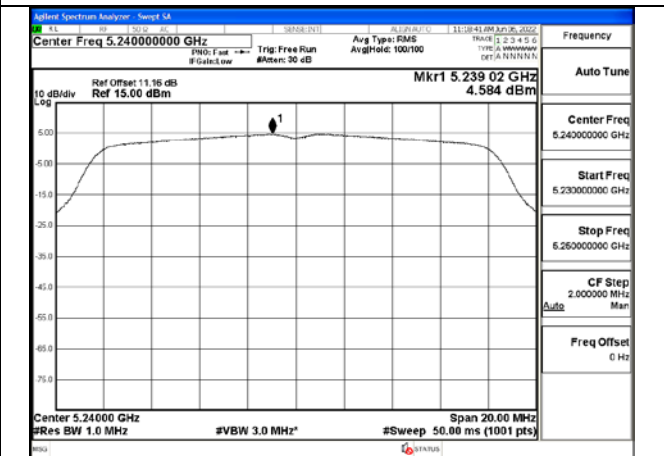
Test Mode:802.11a 5240MHz Chain0



Test Mode:802.11a 5180MHz Chain1

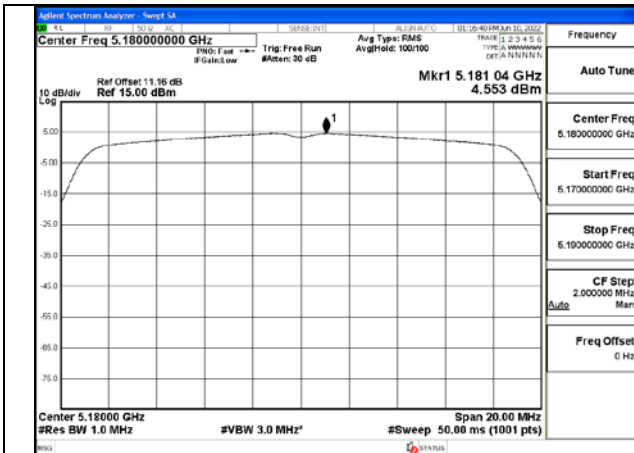


Test Mode:802.11a 5220MHz Chain1

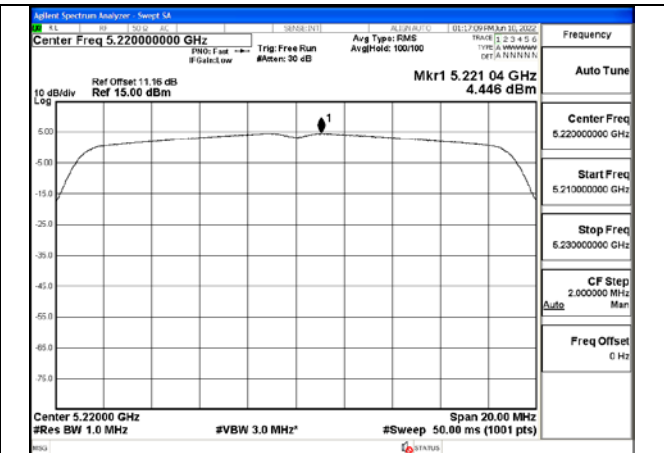


Test Mode:802.11a 5240MHz Chain1

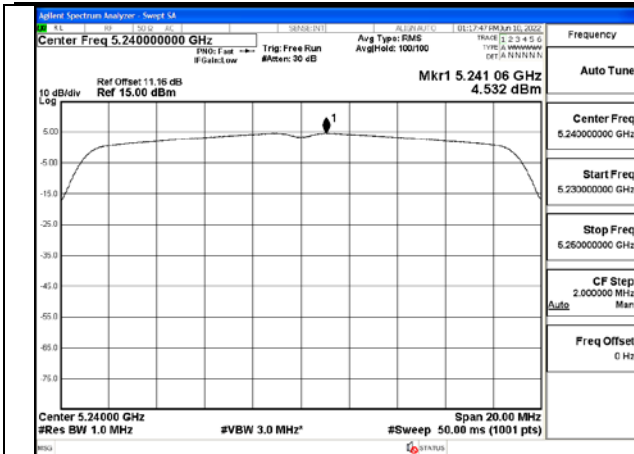
Test Mode: 802.11n HT20



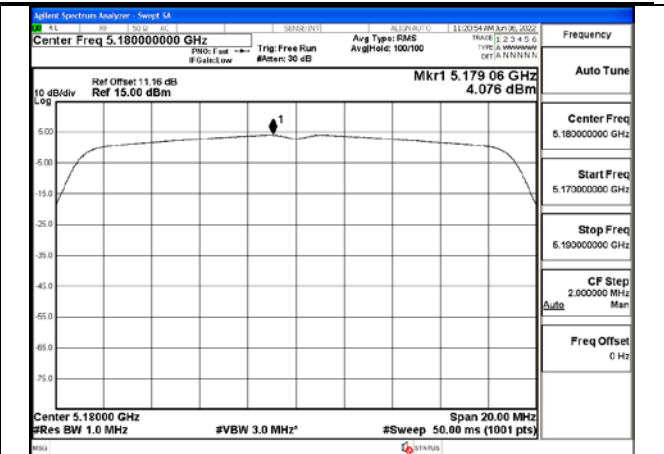
Test Mode:802.11n HT20 5180MHz Chain0



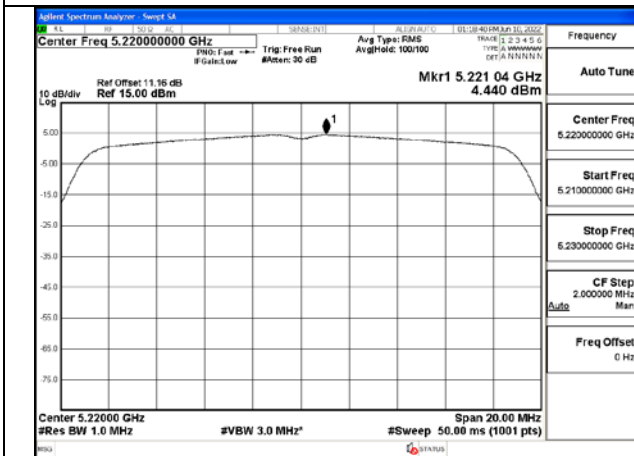
Test Mode:802.11n HT20 5220MHz Chain0



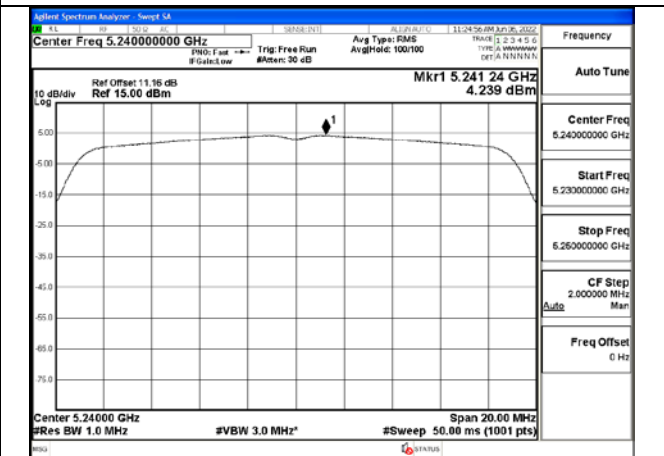
Test Mode:802.11n HT20 5240MHz Chain0



Test Mode:802.11n HT20 5180MHz Chain1

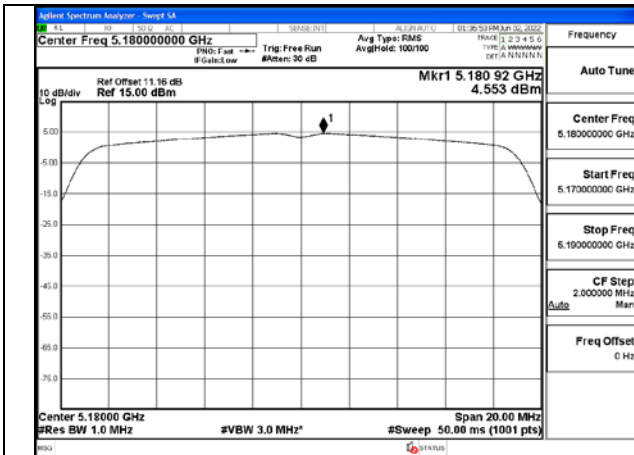


Test Mode:802.11n HT20 5220MHz Chain1

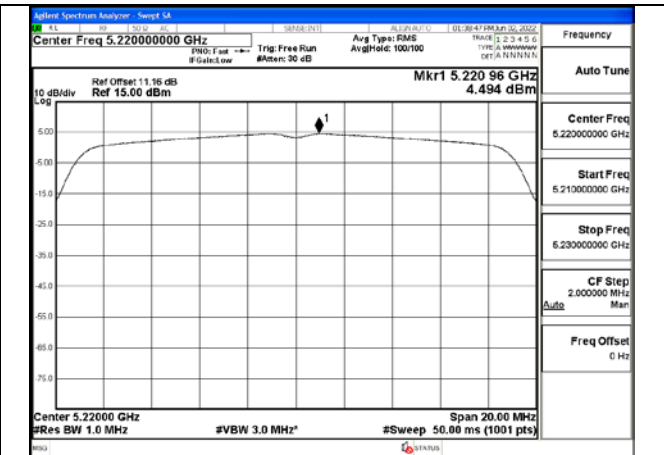


Test Mode:802.11n HT20 5240MHz Chain1

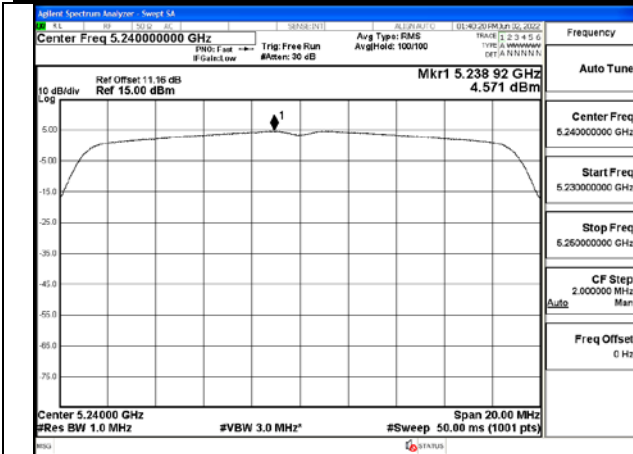
Test Mode: 802.11ac VHT20



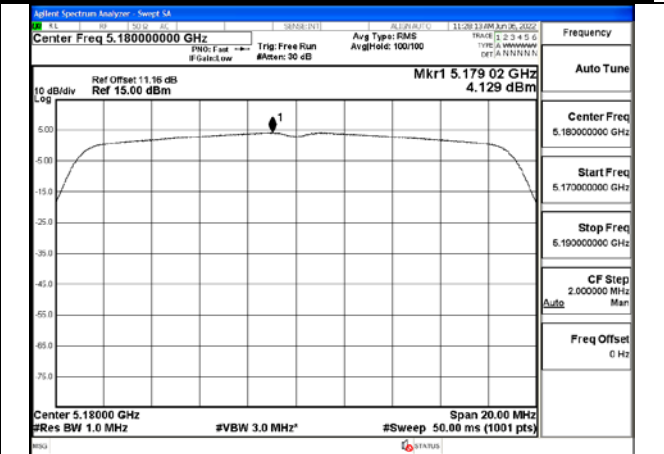
Test Mode:802.11ac VHT20 5180MHz Chain0



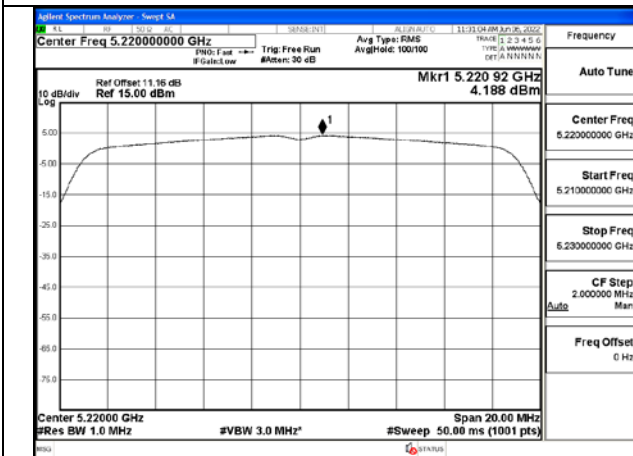
Test Mode:802.11ac VHT20 5220MHz Chain0



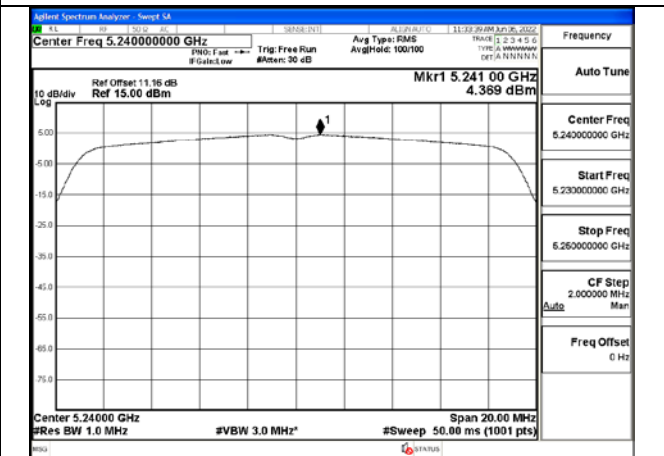
Test Mode:802.11ac VHT20 5240MHz Chain0



Test Mode:802.11ac VHT20 5180MHz Chain1

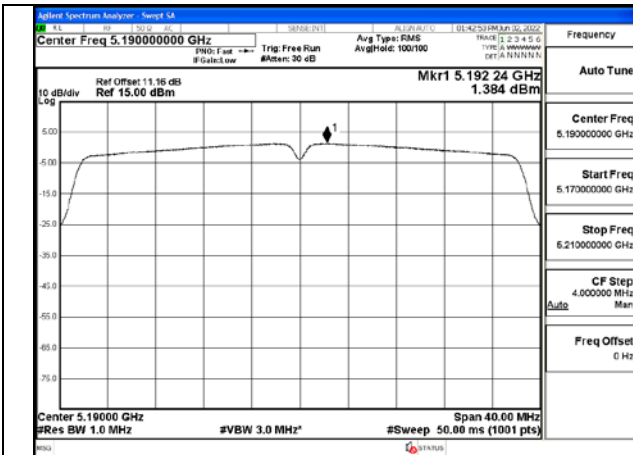


Test Mode:802.11ac VHT20 5220MHz Chain1

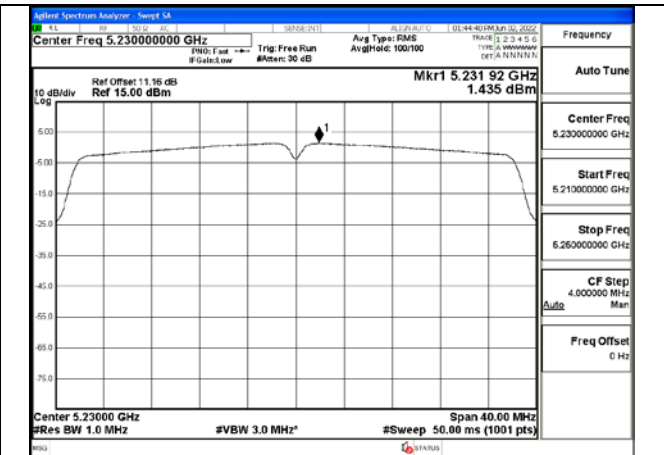


Test Mode:802.11ac VHT20 5240MHz Chain1

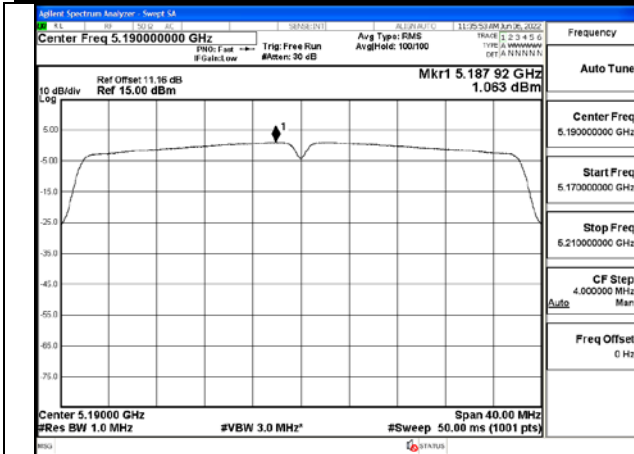
Test Mode: 802.11n HT40



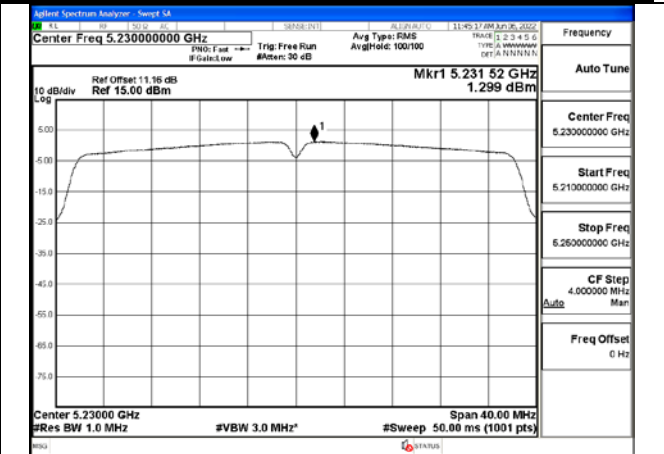
Test Mode:802.11n HT40 5190MHz Chain0



Test Mode:802.11n HT40 5230MHz Chain0

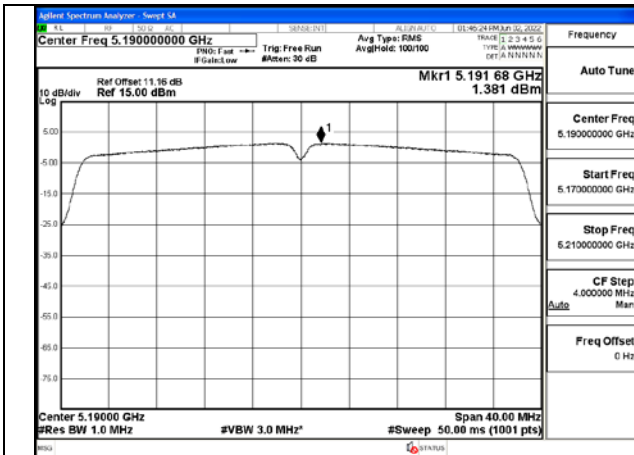


Test Mode:802.11n HT40 5190MHz Chain1

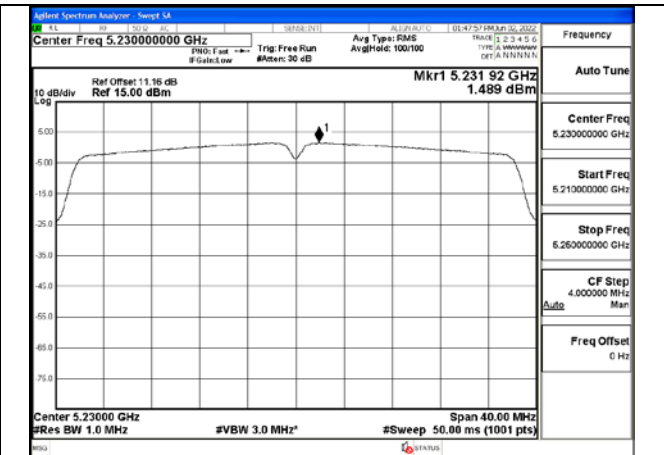


Test Mode:802.11n HT40 5230MHz Chain1

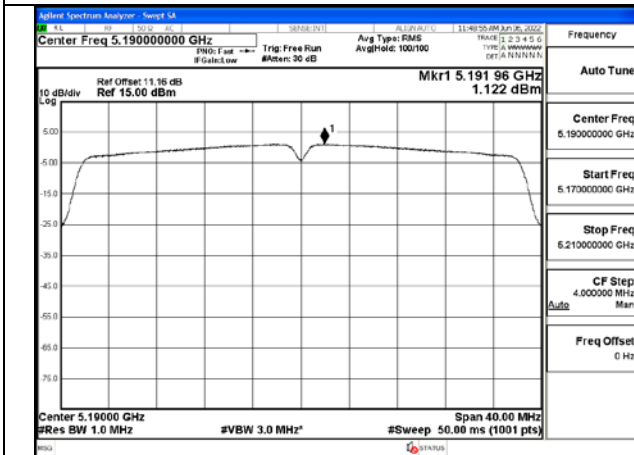
Test Mode: 802.11ac VHT40



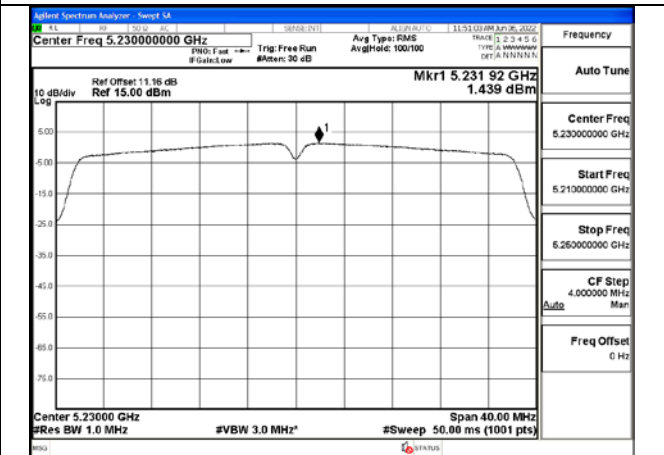
Test Mode:802.11ac VHT40 5190MHz Chain0



Test Mode:802.11ac VHT40 5230MHz Chain0

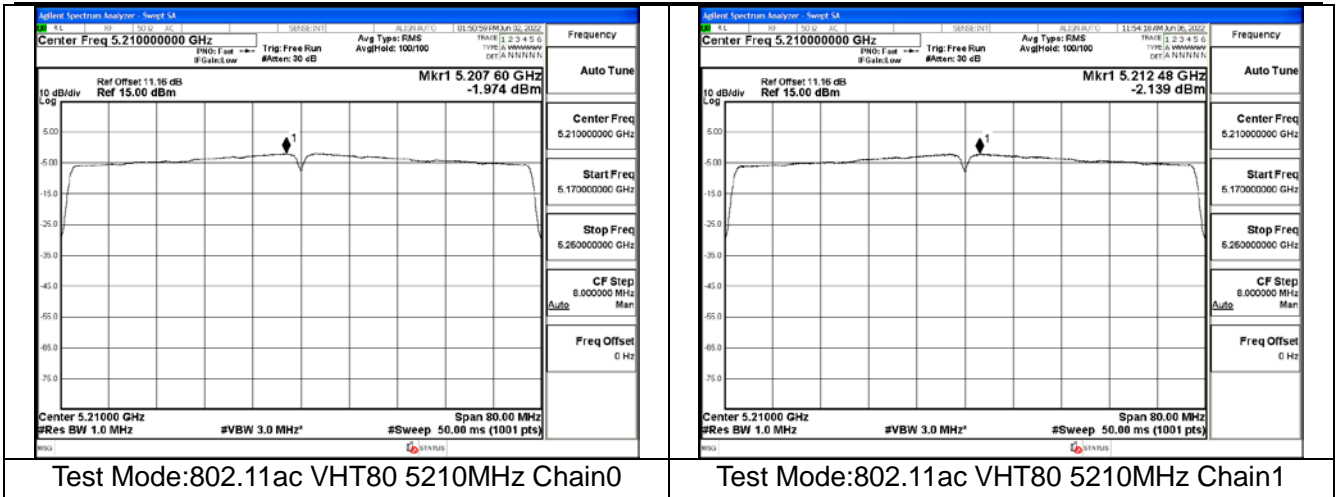


Test Mode:802.11ac VHT40 5190MHz Chain1



Test Mode:802.11ac VHT40 5230MHz Chain1

Test Mode: 802.11ac VHT80



8822 Duty Cycle

Test Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor(dB)
802.11a	5180	88.17%	0.55
802.11a	5180	88.12%	0.55
802.11n HT20	5180	86.18%	0.65
802.11n HT20	5180	87.01%	0.60
802.11ac VHT20	5180	86.94%	0.61
802.11ac VHT20	5180	86.93%	0.61
802.11n HT40	5190	78.11%	1.07
802.11n HT40	5190	79.83%	0.98
802.11ac VHT40	5190	79.96%	0.97
802.11ac VHT40	5190	79.11%	1.02
802.11ac VHT80	5210	70.61%	1.51
802.11ac VHT80	5210	71.74%	1.44

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	5180	Chain0	14.09	14.44
802.11a	NA	5180	Chain1	14.28	14.68
802.11a	NA	5220	Chain0	14.57	14.92
802.11a	NA	5220	Chain1	11.32	11.72
802.11a	NA	5240	Chain0	14.80	15.15
802.11a	NA	5240	Chain1	13.62	14.02
802.11n HT20	NA	5180	Chain0	13.79	14.14
802.11n HT20	NA	5180	Chain1	12.51	12.91
802.11n HT20	NA	5180	MIMO	16.21	16.61
802.11n HT20	NA	5220	Chain0	14.34	14.69
802.11n HT20	NA	5220	Chain1	13.06	13.46
802.11n HT20	NA	5220	MIMO	16.76	17.16
802.11n HT20	NA	5240	Chain0	14.69	15.04
802.11n HT20	NA	5240	Chain1	13.36	13.76
802.11n HT20	NA	5240	MIMO	17.09	17.49
802.11ac VHT20	NA	5180	Chain0	13.66	14.01
802.11ac VHT20	NA	5180	Chain1	12.38	12.78
802.11ac VHT20	NA	5180	MIMO	16.08	16.48
802.11ac VHT20	NA	5220	Chain0	14.32	14.67
802.11ac VHT20	NA	5220	Chain1	12.89	13.29
802.11ac VHT20	NA	5220	MIMO	16.67	17.07
802.11ac VHT20	NA	5240	Chain0	14.53	14.88
802.11ac VHT20	NA	5240	Chain1	13.29	13.69
802.11ac VHT20	NA	5240	MIMO	16.96	17.36
802.11n HT40	NA	5190	Chain0	12.63	12.98
802.11n HT40	NA	5190	Chain1	12.07	12.47
802.11n HT40	NA	5190	MIMO	15.37	15.77
802.11n HT40	NA	5230	Chain0	13.76	14.11
802.11n HT40	NA	5230	Chain1	12.26	12.66
802.11n HT40	NA	5230	MIMO	16.08	16.48
802.11ac VHT40	NA	5190	Chain0	12.61	12.96
802.11ac VHT40	NA	5190	Chain1	11.30	11.70
802.11ac VHT40	NA	5190	MIMO	15.01	15.41
802.11ac VHT40	NA	5230	Chain0	13.39	13.74
802.11ac VHT40	NA	5230	Chain1	11.90	12.30
802.11ac VHT40	NA	5230	MIMO	15.72	16.12
802.11ac VHT80	NA	5210	Chain0	11.37	11.72
802.11ac VHT80	NA	5210	Chain1	10.28	10.68
802.11ac VHT80	NA	5210	MIMO	13.87	14.27

Emission Bandwidth

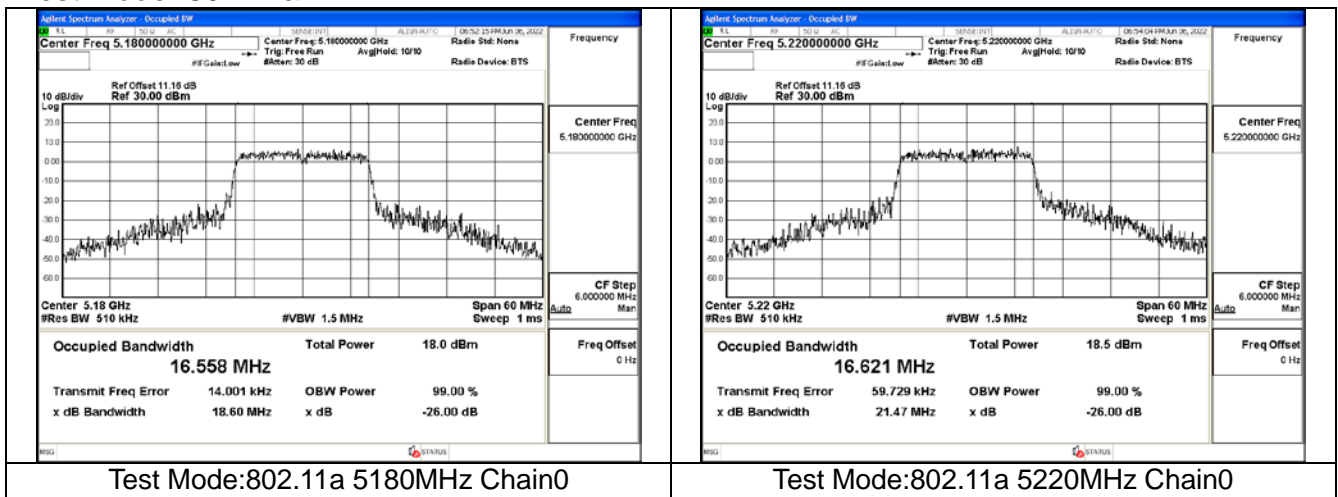
Offset 11.16dB = Attenuator + Temporary antenna connector loss + Cable loss

Test Mode	Antenna	26dB Bandwidth (MHz)		
		Channel No.554	Channel No.562	Channel No.566
		5180MHz	5220MHz	5240MHz
802.11a	Chain0	18.60	21.47	24.92
802.11a	Chain1	18.77	18.70	18.51
802.11n HT20	Chain0	20.75	23.30	22.59
802.11n HT20	Chain1	19.43	19.48	19.19
802.11ac VHT20	Chain0	19.78	22.41	23.76
802.11ac VHT20	Chain1	19.59	19.60	19.32

Test Mode	Antenna	26dB Bandwidth (MHz)		
		Channel No.556	---	Channel No.564
		5190MHz	---	5230MHz
802.11n HT40	Chain0	40.57	---	49.70
802.11n HT40	Chain1	39.57	---	40.06
802.11ac VHT40	Chain0	40.38	---	44.05
802.11ac VHT40	Chain1	41.76	---	39.92

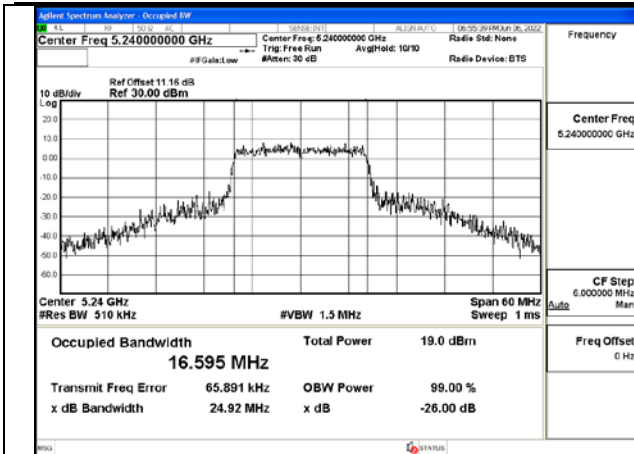
Test Mode	Antenna	26dB Bandwidth (MHz)		
		Channel No.560	---	---
		5210MHz	---	---
802.11ac VHT80	Chain0	81.29	---	---
802.11ac VHT80	Chain1	80.22	---	---

Test Mode: 802.11a

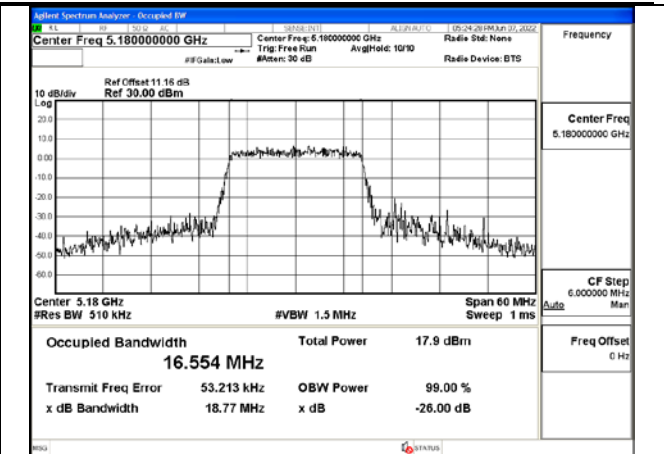


Test Mode:802.11a 5180MHz Chain0

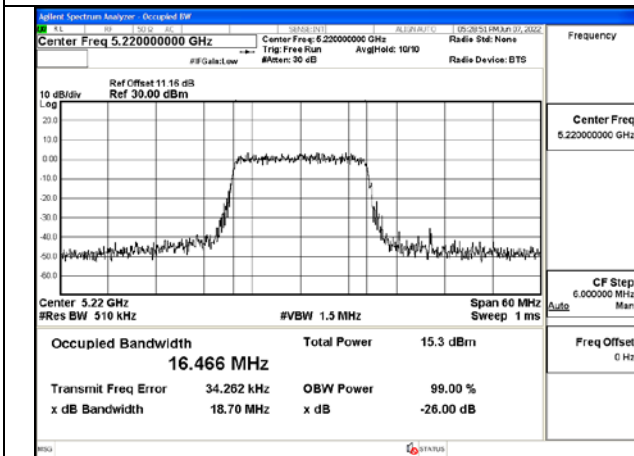
Test Mode:802.11a 5220MHz Chain0



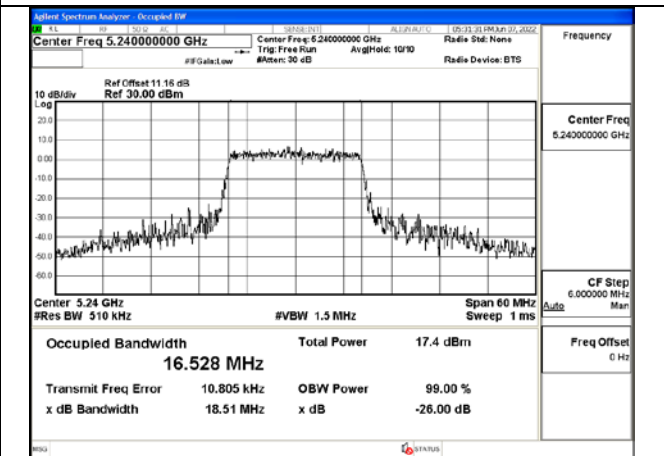
Test Mode:802.11a 5240MHz Chain0



Test Mode:802.11a 5180MHz Chain1

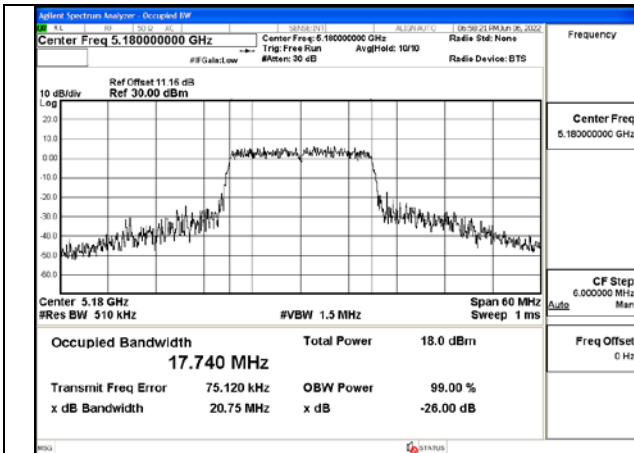


Test Mode:802.11a 5220MHz Chain1

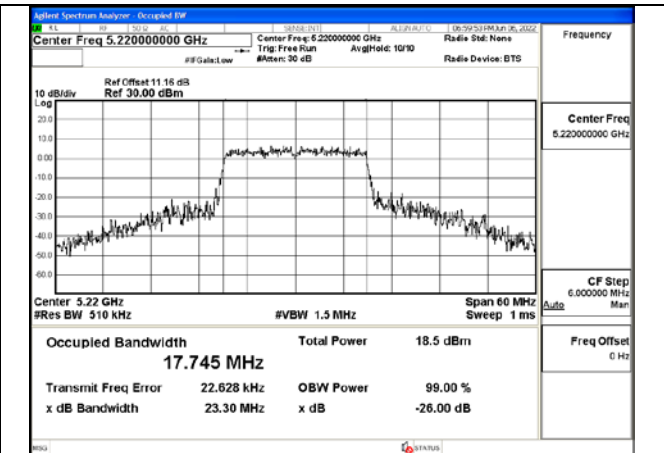


Test Mode:802.11a 5240MHz Chain1

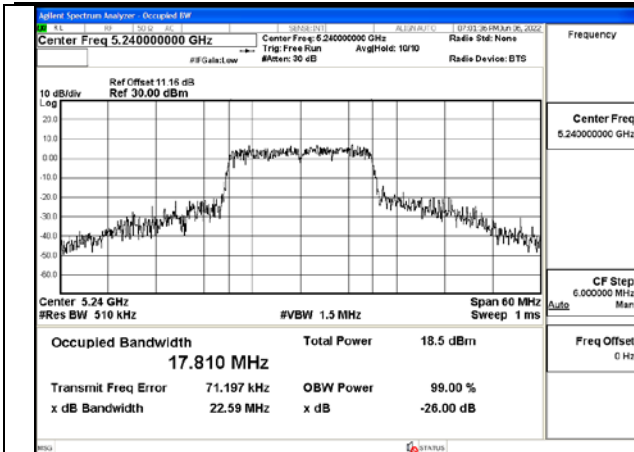
Test Mode: 802.11n HT20



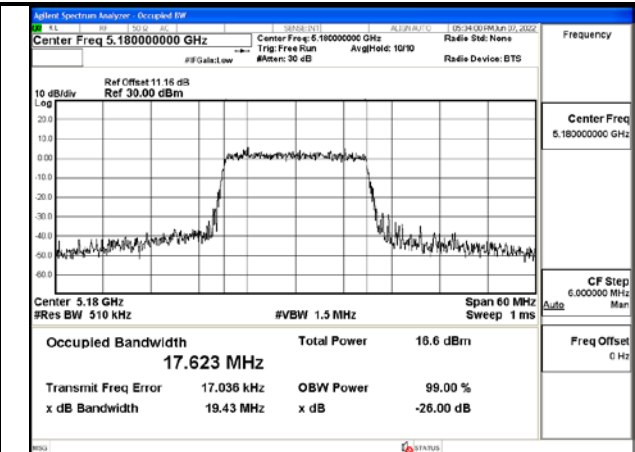
Test Mode:802.11n HT20 5180MHz Chain0



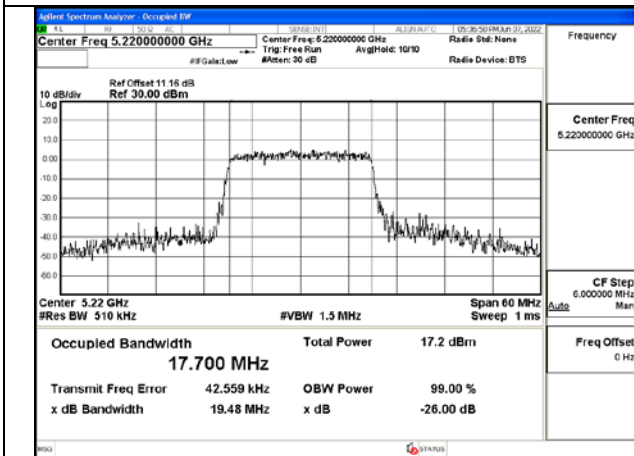
Test Mode:802.11n HT20 5220MHz Chain0



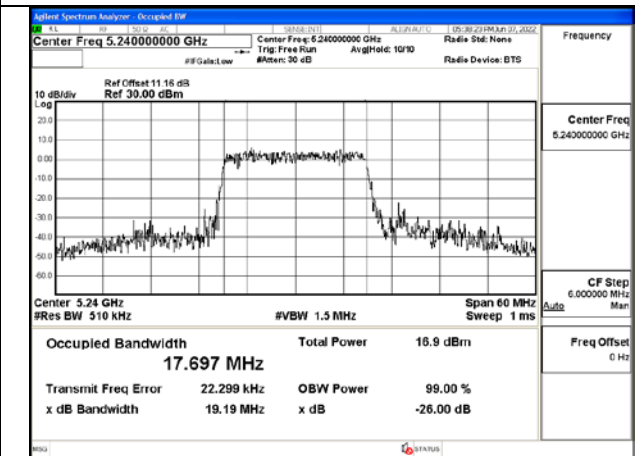
Test Mode:802.11n HT20 5240MHz Chain0



Test Mode:802.11n HT20 5180MHz Chain1

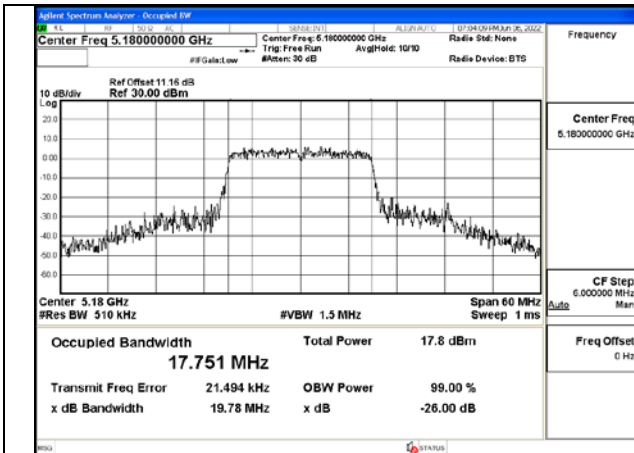


Test Mode:802.11n HT20 5220MHz Chain1

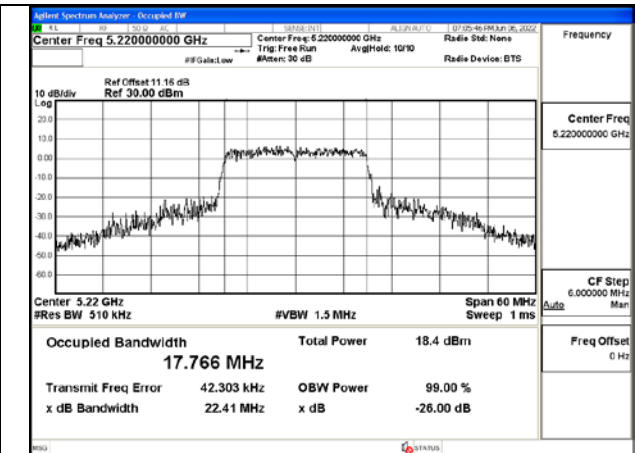


Test Mode:802.11n HT20 5240MHz Chain1

Test Mode: 802.11ac VHT20



Test Mode:802.11ac VHT20 5180MHz Chain0



Test Mode:802.11ac VHT20 5220MHz Chain0