

## 6 Test Setup Photos of the EUT



## **7 Photos of the EUT**

see photo report.

## APPENDIX I.Frequency Stability

### Test Result

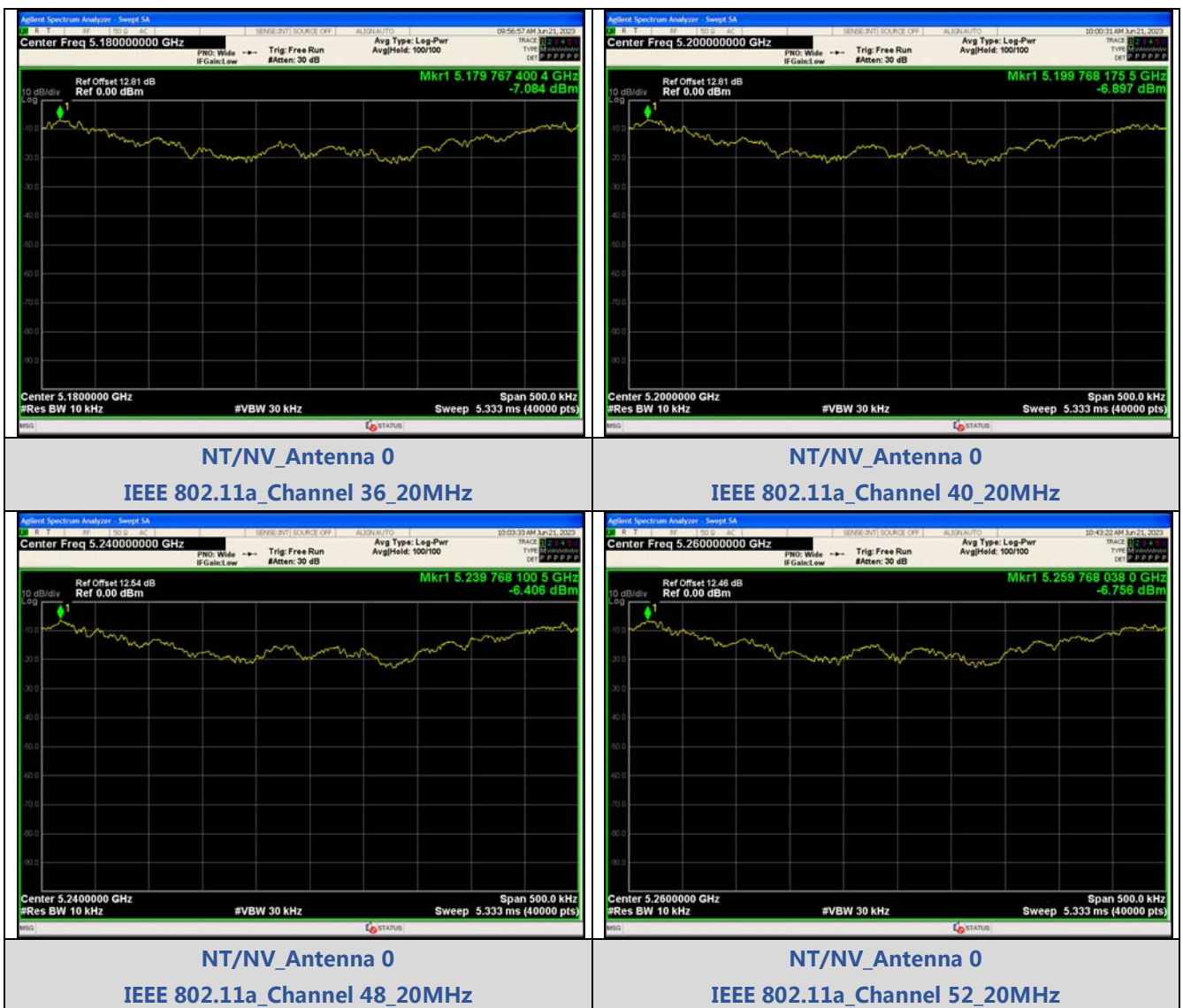
Condition	Mode	Ch.	Antenna	Center Frequency (MHz)	Calculated Value of Center Frequency(MHz)	Result (ppm)	Limit (ppm)	State
NT/NV	IEEE 802.11a	36	0	5180.0	5179.767400	-44.9	Within authorized band	PASS
		40		5200.0	5199.768175	-44.58		PASS
		48		5240.0	5239.768100	-44.26		PASS
		52		5260.0	5259.768038	-44.1		PASS
		56		5280.0	5279.769575	-43.64		PASS
		64		5320.0	5319.768650	-43.49		PASS
		100		5500.0	5499.768913	-42.02		PASS
		120		5600.0	5599.768413	-41.35		PASS
		140		5700.0	5699.770576	-40.25		PASS
	IEEE 802.11n_20	36		5180.0	5180.235725	45.51		PASS
		40		5200.0	5200.239350	46.03		PASS
		48		5240.0	5239.757688	-46.24		PASS
		52		5260.0	5260.237800	45.21		PASS
		56		5280.0	5279.754175	-46.56		PASS
		64		5320.0	5319.755125	-46.03		PASS
		100		5500.0	5500.239437	43.53		PASS
		120		5600.0	5599.755975	-43.58		PASS
		140		5700.0	5700.240462	42.19		PASS
	IEEE 802.11n_40	38		5190.0	5190.207274	39.94		PASS
		46		5230.0	5230.209761	40.11		PASS
		54		5270.0	5270.207899	39.45		PASS
		62		5310.0	5310.203749	38.37		PASS
		102		5510.0	5510.205649	37.32		PASS
		118		5590.0	5590.209524	37.48		PASS
		134		5670.0	5670.205436	36.23		PASS
	IEEE 802.11ac_20	36		5180.0	5180.246687	47.62		PASS
		40		5200.0	5200.243550	46.84		PASS
		48		5240.0	5240.244612	46.68		PASS
		52		5260.0	5260.243050	46.21		PASS
		56		5280.0	5280.242075	45.85		PASS
		64		5320.0	5320.244350	45.93		PASS
		100		5500.0	5500.245575	44.65		PASS
		120		5600.0	5600.243000	43.39		PASS
		140		5700.0	5699.750000	-43.86		PASS
	IEEE	38		5190.0	5189.996581	-0.66		PASS

802.11ac_40	46	5230.0	5229.790814	-40.0	PASS
	54	5270.0	5270.228862	43.43	
	62	5310.0	5310.228049	42.95	
	102	5510.0	5509.750000	-45.37	
	118	5590.0	5590.225649	40.37	
	134	5670.0	5670.000519	0.09	
IEEE 802.11ac_80	42	5210.0	5210.007556	1.45	PASS
	58	5290.0	5290.007419	1.4	PASS
	122	5610.0	5610.003019	0.54	PASS

Test Graphs

NT/NV

IEEE 802.11a





NT/NV\_Antenna 0  
IEEE 802.11a\_Channel 56\_20MHz



NT/NV\_Antenna 0  
IEEE 802.11a\_Channel 64\_20MHz



NT/NV\_Antenna 0  
IEEE 802.11a\_Channel 100\_20MHz



NT/NV\_Antenna 0  
IEEE 802.11a\_Channel 120\_20MHz



NT/NV\_Antenna 0  
IEEE 802.11a\_Channel 140\_20MHz

Void



NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 36\_20MHz



NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 40\_20MHz



NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 48\_20MHz



NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 52\_20MHz



NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 56\_20MHz



NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 64\_20MHz





NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 100\_20MHz



NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 120\_20MHz



NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 140\_20MHz

Void

IEEE 802.11n\_40



NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 38\_40MHz



NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 46\_40MHz



NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 54\_40MHz



NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 62\_40MHz



NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 102\_40MHz



NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 118\_40MHz



NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 134\_40MHz

Void





NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 36\_20MHz



NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 40\_20MHz



NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 48\_20MHz



NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 52\_20MHz



NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 56\_20MHz



NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 64\_20MHz



NT/NV\_Antenna 0  
 IEEE 802.11ac\_Channel 100\_20MHz



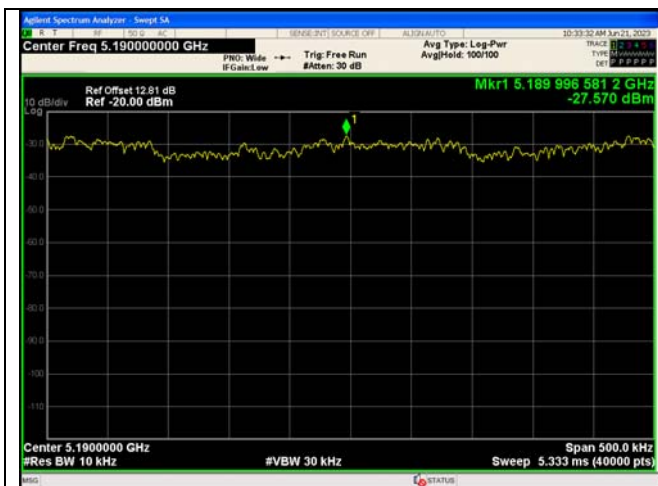
NT/NV\_Antenna 0  
 IEEE 802.11ac\_Channel 120\_20MHz



NT/NV\_Antenna 0  
 IEEE 802.11ac\_Channel 140\_20MHz

Void

IEEE 802.11ac\_40



NT/NV\_Antenna 0  
 IEEE 802.11ac\_Channel 38\_40MHz



NT/NV\_Antenna 0  
 IEEE 802.11ac\_Channel 46\_40MHz



NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 54\_40MHz



NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 62\_40MHz



NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 102\_40MHz



NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 118\_40MHz

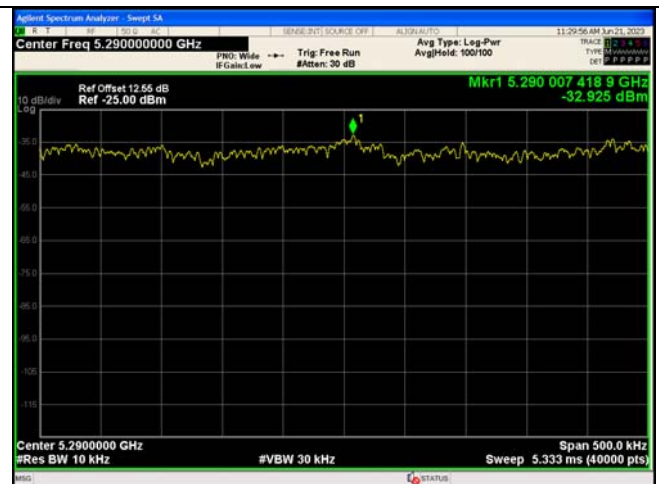


NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 134\_40MHz

Void



NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 42\_80MHz



NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 58\_80MHz



NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 122\_80MHz

Void

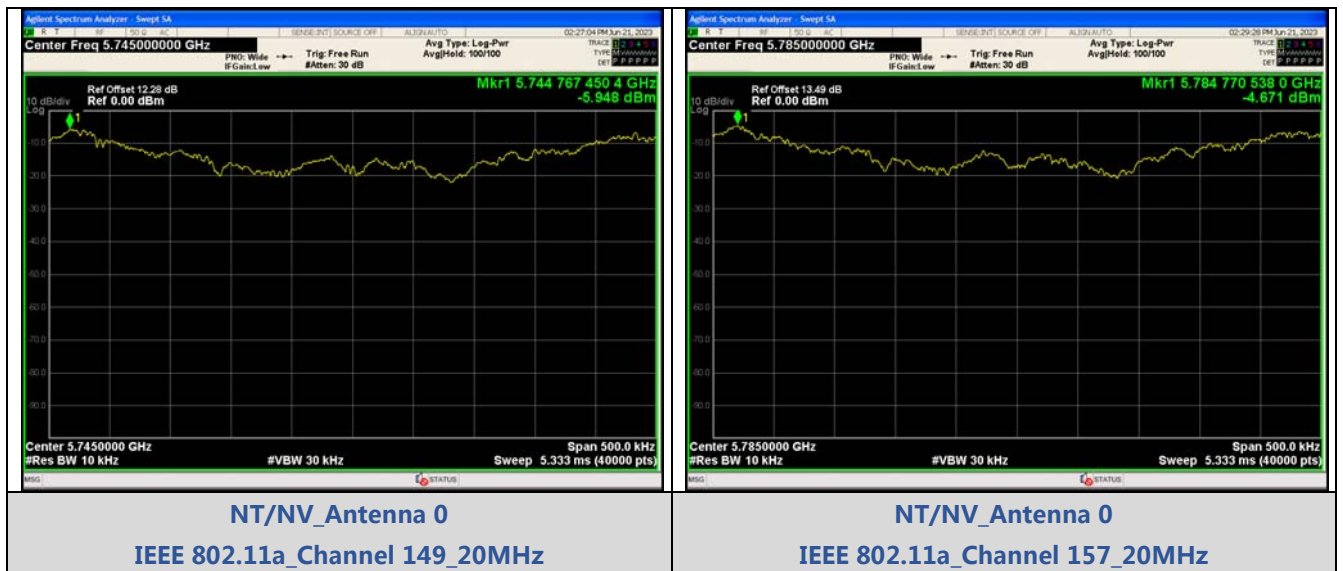
Test Result

Condition	Mode	Ch.	Antenna	Center Frequency (MHz)	Calculated Value of Center Frequency(MHz)	Result (ppm)	Limit (ppm)	State
NT/NV	IEEE 802.11a	149	0	5745.0	5744.767450	-40.48	Within authorized band	PASS
		157		5785.0	5784.770538	-39.66		PASS
		165		5825.0	5824.769088	-39.64		PASS
	IEEE 802.11n_20	149		5745.0	5745.240212	41.81		PASS
		157		5785.0	5784.757813	-41.86		PASS
		165		5825.0	5824.757813	-41.58		PASS
	IEEE 802.11n_40	151		5755.0	5755.213362	37.07		PASS
		159		5795.0	5795.205249	35.42		PASS
	IEEE 802.11ac_20	149		5745.0	5745.244775	42.61		PASS
		157		5785.0	5785.242887	41.99		PASS
		165		5825.0	5825.246337	42.29		PASS
	IEEE 802.11ac_40	151		5755.0	5755.242887	42.2		PASS
		159		5795.0	5794.995381	-0.8		PASS
	IEEE 802.11ac_80	155		5775.0	5775.003156	0.55		PASS

Test Graphs

NT/NV

IEEE 802.11a







Void

NT/NV\_Antenna 0  
IEEE 802.11a\_Channel 165\_20MHz

IEEE 802.11n\_20



NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 149\_20MHz

NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 157\_20MHz



Void

NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 165\_20MHz

IEEE 802.11n\_40



NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 151\_40MHz



NT/NV\_Antenna 0  
IEEE 802.11n\_Channel 159\_40MHz

IEEE 802.11ac\_20



NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 149\_20MHz



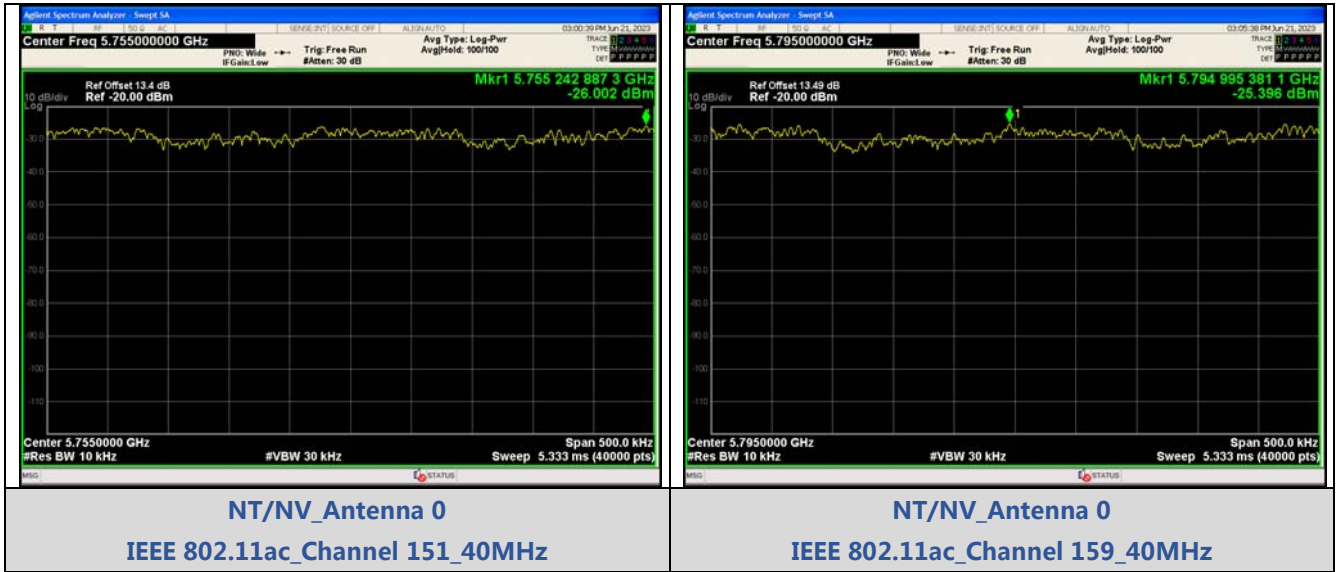
NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 157\_20MHz



NT/NV\_Antenna 0  
IEEE 802.11ac\_Channel 165\_20MHz

Void

IEEE 802.11ac\_40



IEEE 802.11ac\_80



## APPENDIX II. Conducted Peak Output Power

Mode	Channel	Ant. 0 (dBm)	Corr'd Value Ant. 0 (dBm)	Limit (dBm)	Result
IEEE 802.11a	36	14.286	16.53	24	PASS
	40	14.224	16.47	24	PASS
	48	14.587	16.83	24	PASS
	52	14.678	16.93	24	PASS
	56	15.188	17.44	24	PASS
	64	15.170	17.42	24	PASS
	100	14.583	16.83	24	PASS
	120	15.000	17.25	24	PASS
	140	14.801	17.05	24	PASS
IEEE 802.11n_20	36	14.296	16.81	24	PASS
	40	14.210	16.73	24	PASS
	48	14.551	17.07	24	PASS
	52	14.602	17.12	24	PASS
	56	15.107	17.63	24	PASS
	64	15.232	17.75	24	PASS
	100	14.432	16.95	24	PASS
	120	14.911	17.43	24	PASS
	140	14.495	17.01	24	PASS
IEEE 802.11n_40	38	10.066	14.7	24	PASS
	46	14.668	19.3	24	PASS
	54	15.090	19.72	24	PASS
	62	11.216	15.84	24	PASS
	102	10.112	14.74	24	PASS
	118	14.779	19.41	24	PASS
	134	14.425	19.05	24	PASS
IEEE 802.11ac_20	36	14.144	17.13	24	PASS
	40	18.455	21.44	24	PASS
	48	18.710	21.69	24	PASS
	52	18.708	21.69	24	PASS
	56	19.215	22.2	24	PASS
	64	16.044	19.03	24	PASS
	100	15.150	18.13	24	PASS
	120	13.680	16.66	24	PASS
	140	13.353	16.33	24	PASS
IEEE 802.11ac_40	38	10.026	15.22	24	PASS
	46	18.700	23.89	24	PASS
	54	18.920	23.86	24	PASS
	62	10.766	15.96	24	PASS

	102	9.967	15.16	24	PASS
	118	13.454	18.65	24	PASS
	134	10.254	15.45	24	PASS
IEEE 802.11ac_80	42	7.918	14.48	24	PASS
	58	8.722	15.28	24	PASS
	122	10.655	17.21	24	PASS

Mode	Channel	Ant. 0 (dBm)	Corr'd Value Ant. 0 (dBm)	Limit (dBm)	Result
IEEE 802.11a	149	15.560	18.31	30	PASS
	157	15.193	17.94	30	PASS
	165	15.165	17.91	30	PASS
IEEE 802.11n_20	149	15.348	17.87	30	PASS
	157	15.938	18.46	30	PASS
	165	14.466	16.98	30	PASS
IEEE 802.11n_40	151	15.417	20.13	30	PASS
	159	10.832	15.54	30	PASS
IEEE 802.11ac_20	149	14.376	17.36	30	PASS
	157	11.142	14.12	30	PASS
	165	10.386	13.37	30	PASS
IEEE 802.11ac_40	151	11.111	16.3	30	PASS
	159	10.851	16.04	30	PASS
IEEE 802.11ac_80	155	8.732	15.16	30	PASS



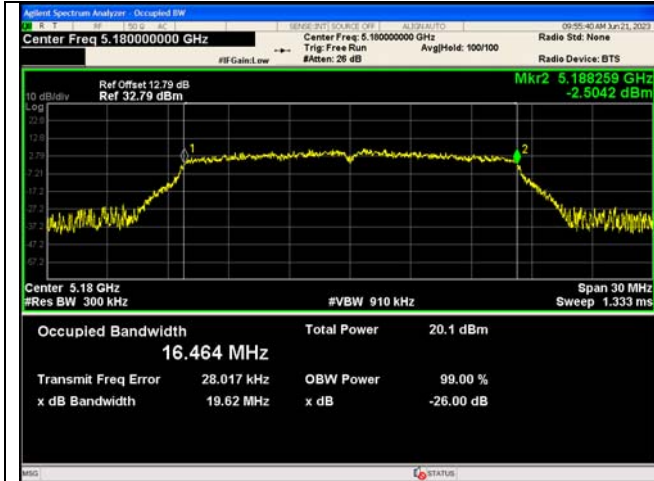
## APPENDIX III.99% Bandwidth

### Test Result

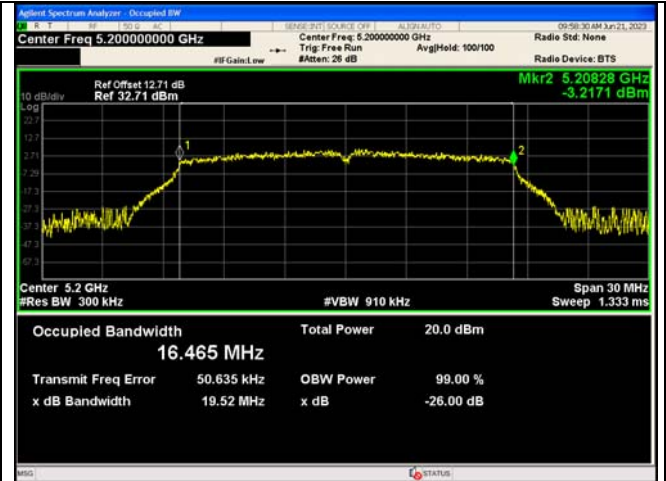
Mode	Channel	Ant.	99% BW (MHz)
IEEE 802.11a	36	0	16.464
	40		16.465
	48		16.457
	52		16.458
	56		16.454
	64		16.452
	100		16.430
	120		16.462
	140		16.465
IEEE 802.11n_20	36	0	17.547
	40		17.556
	48		17.561
	52		17.605
	56		17.564
	64		17.596
	100		17.582
	120		17.607
	140		17.591
IEEE 802.11n_40	38	0	35.937
	46		35.863
	54		35.920
	62		36.025
	102		35.878
	118		35.904
	134		35.976
IEEE 802.11ac_20	36	0	17.694
	40		17.827
	48		17.847
	52		17.815
	56		17.829
	64		17.739
	100		17.746
	120		17.712
	140		17.701
IEEE 802.11ac_40	38	0	36.262
	46		36.475
	54		36.624
	62		36.290
	102		36.232
	118		36.270
	134		36.276

IEEE 802.11ac_80	42	75.940
	58	75.810
	122	75.756

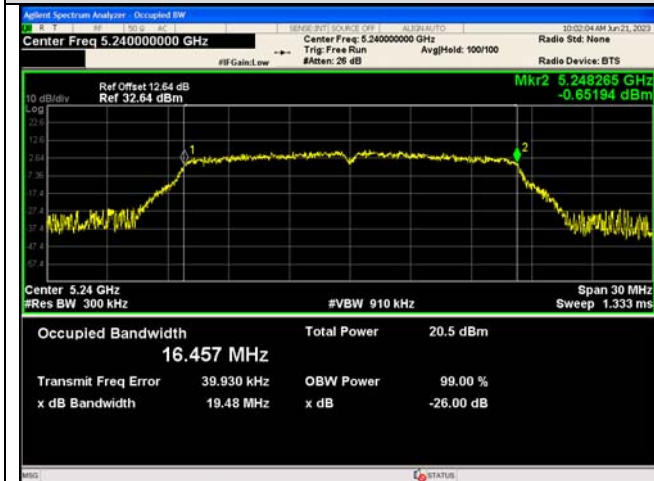
Test Graphs



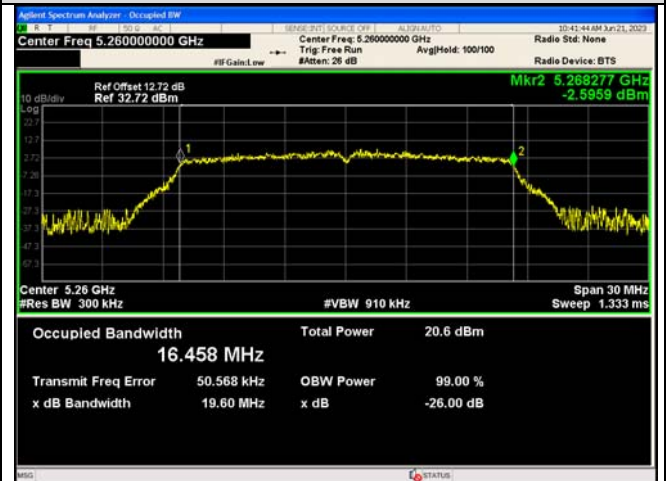
IEEE 802.11a\_Channel 36\_20MHz\_Antenna 0



IEEE 802.11a\_Channel 40\_20MHz\_Antenna 0



IEEE 802.11a\_Channel 48\_20MHz\_Antenna 0



IEEE 802.11a\_Channel 52\_20MHz\_Antenna 0



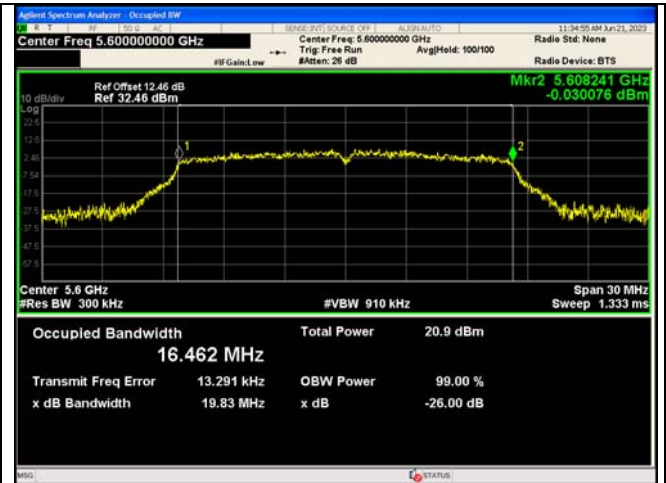
IEEE 802.11a\_Channel 56\_20MHz\_Antenna 0



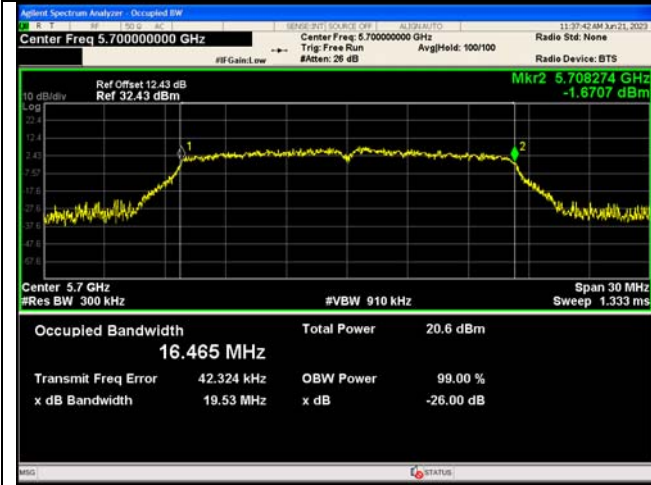
IEEE 802.11a\_Channel 64\_20MHz\_Antenna 0



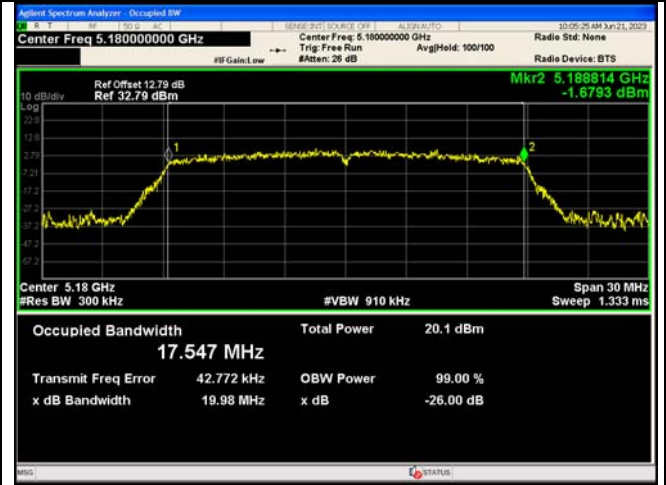
IEEE 802.11a\_Channel 100\_20MHz\_Antenna 0



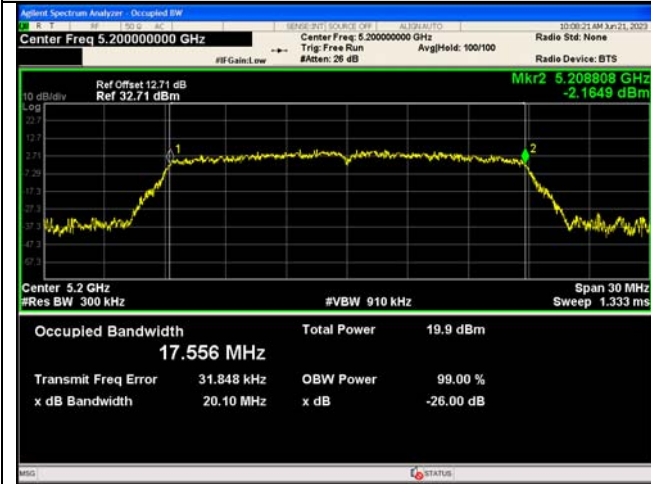
IEEE 802.11a\_Channel 120\_20MHz\_Antenna 0



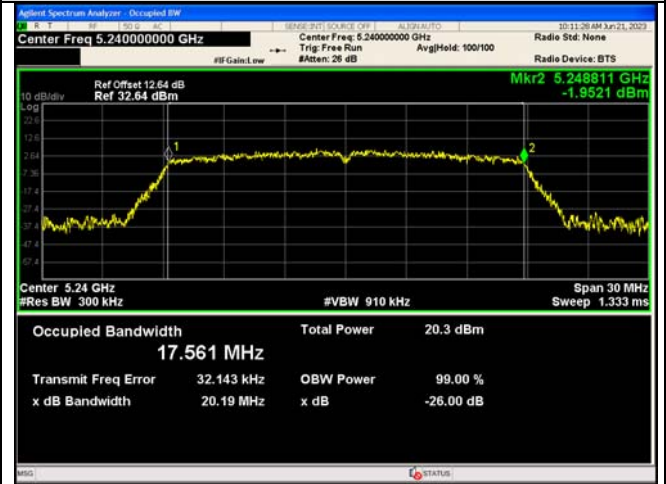
IEEE 802.11a\_Channel 140\_20MHz\_Antenna 0



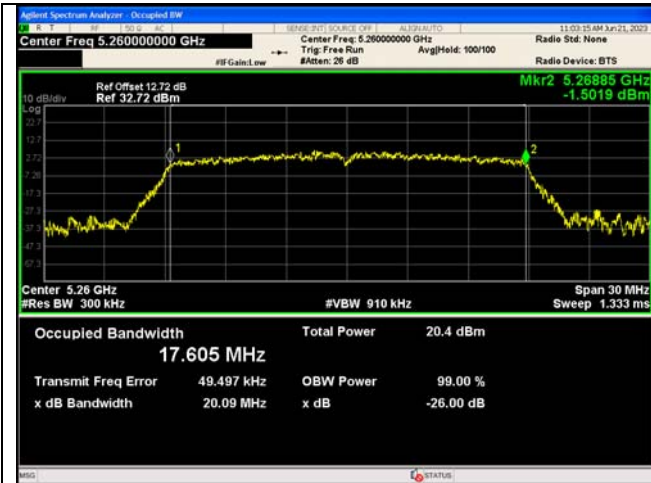
IEEE 802.11n\_Channel 36\_20MHz\_Antenna 0



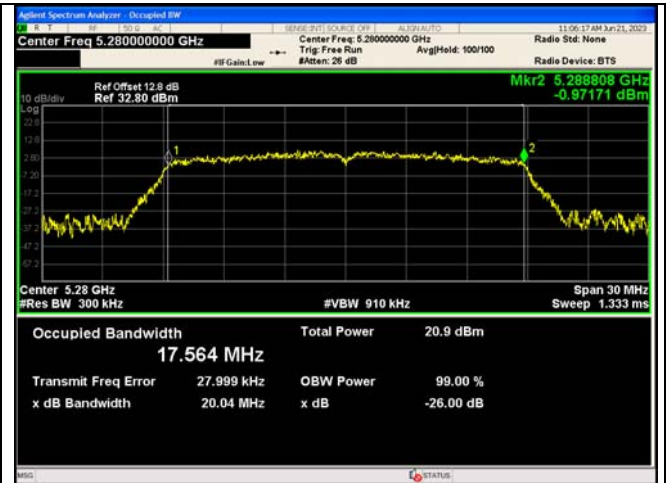
IEEE 802.11n\_Channel 40\_20MHz\_Antenna 0



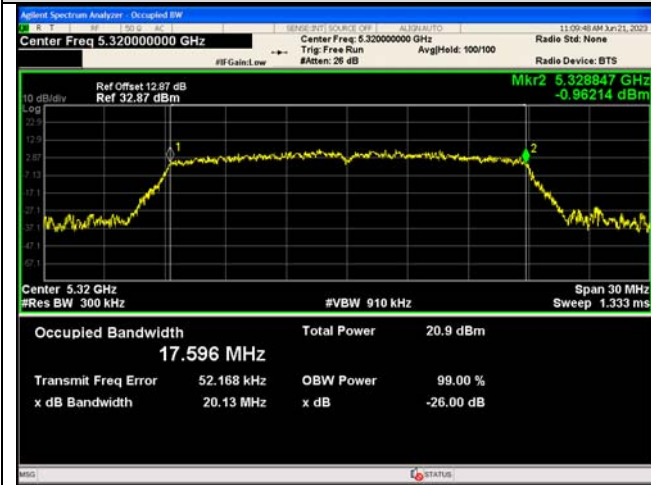
IEEE 802.11n\_Channel 48\_20MHz\_Antenna 0



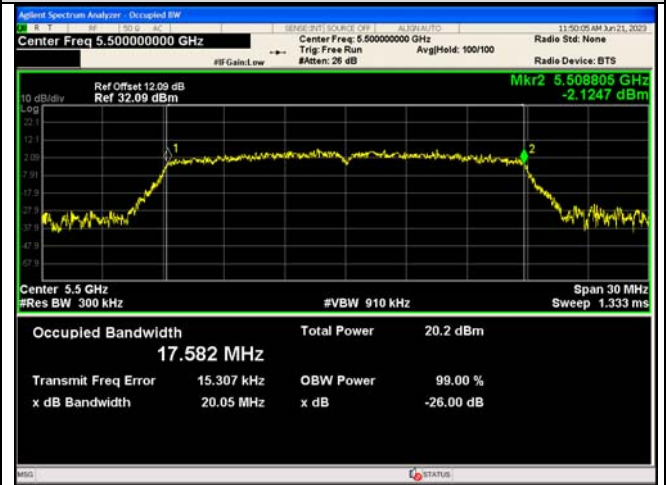
IEEE 802.11n\_Channel 52\_20MHz\_Antenna 0



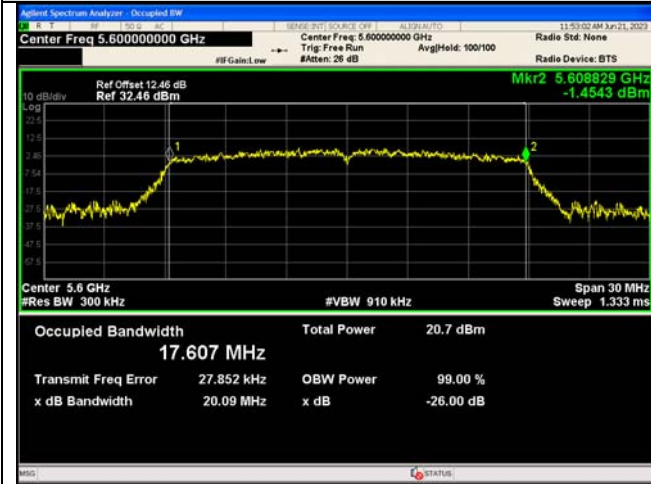
IEEE 802.11n\_Channel 56\_20MHz\_Antenna 0



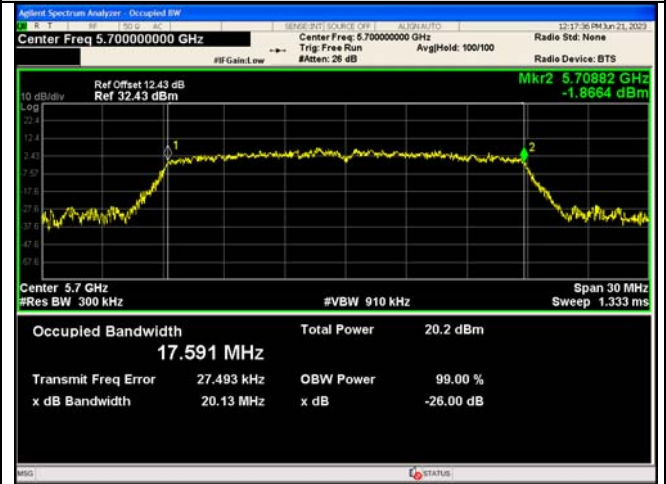
IEEE 802.11n\_Channel 64\_20MHz\_Antenna 0



IEEE 802.11n\_Channel 100\_20MHz\_Antenna 0



IEEE 802.11n\_Channel 120\_20MHz\_Antenna 0

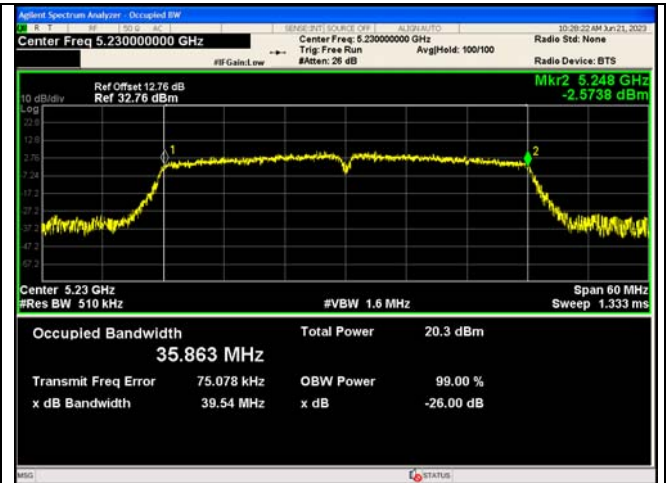


IEEE 802.11n\_Channel 140\_20MHz\_Antenna 0

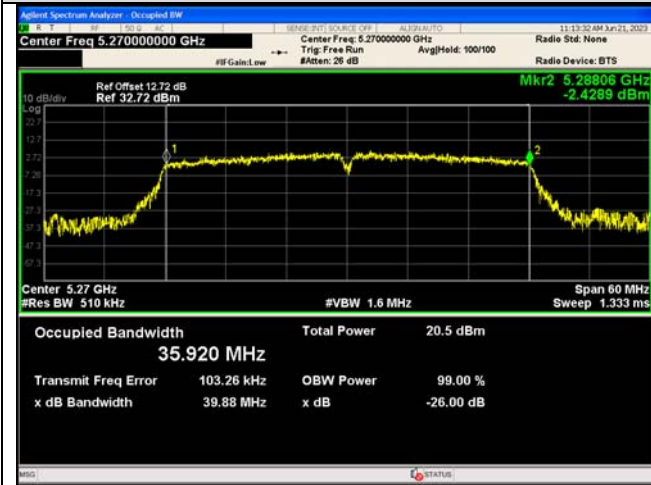




IEEE 802.11n\_Channel 38\_40MHz\_Antenna 0



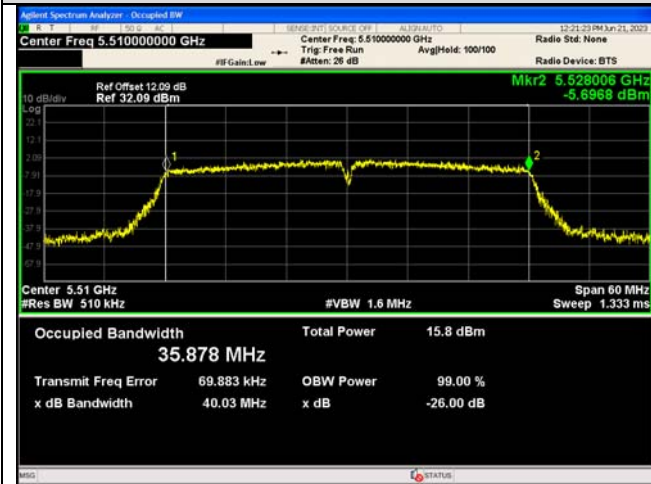
IEEE 802.11n\_Channel 46\_40MHz\_Antenna 0



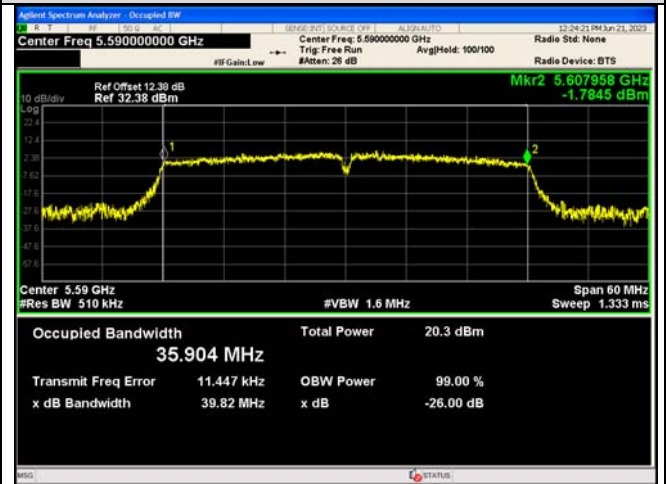
IEEE 802.11n\_Channel 54\_40MHz\_Antenna 0



IEEE 802.11n\_Channel 62\_40MHz\_Antenna 0

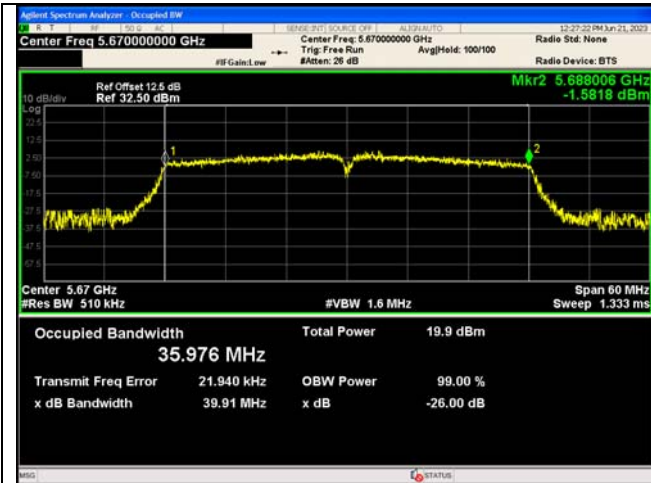


IEEE 802.11n\_Channel 102\_40MHz\_Antenna 0

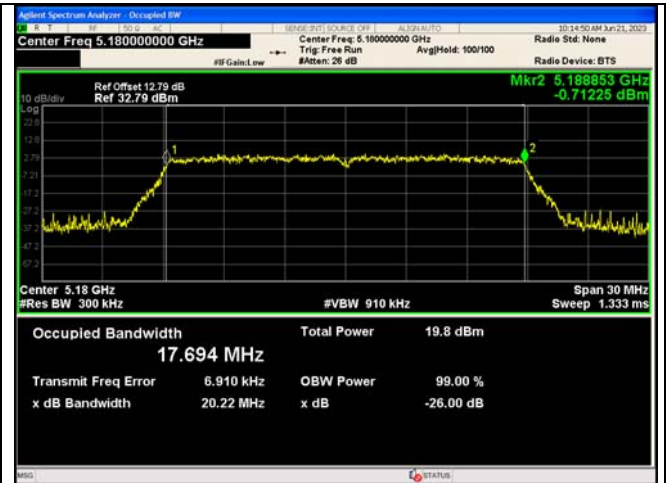


IEEE 802.11n\_Channel 118\_40MHz\_Antenna 0

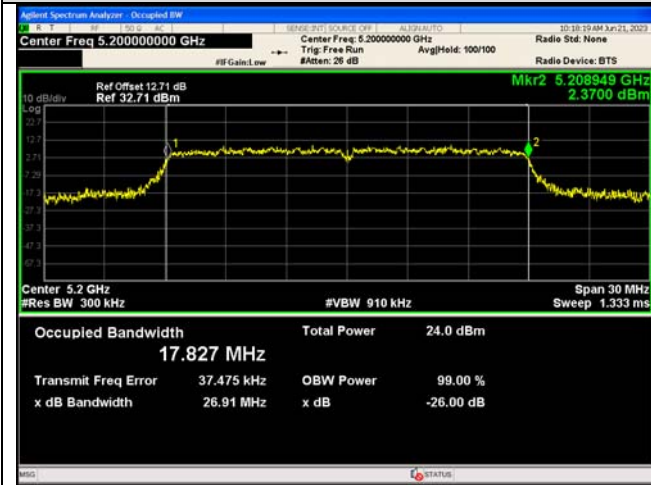




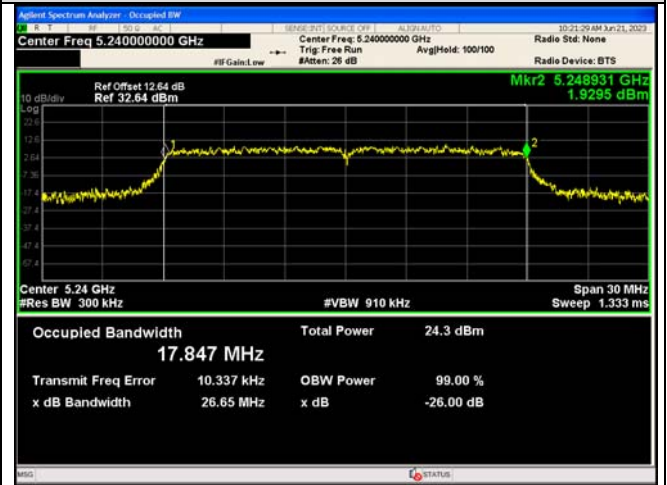
IEEE 802.11n\_Channel 134\_40MHz\_Antenna 0



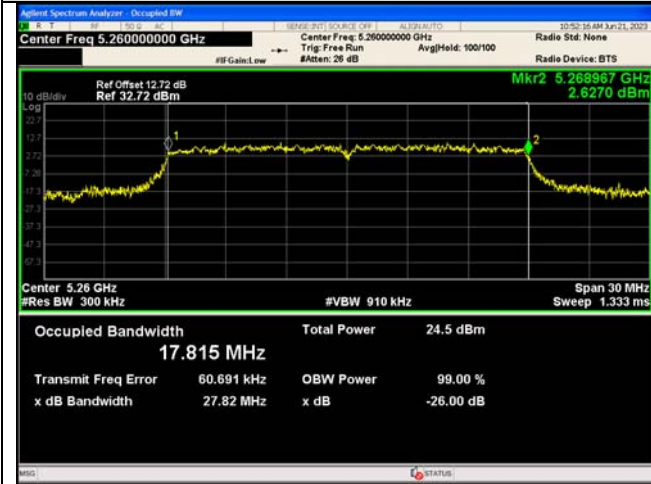
IEEE 802.11ac\_Channel 36\_20MHz\_Antenna 0



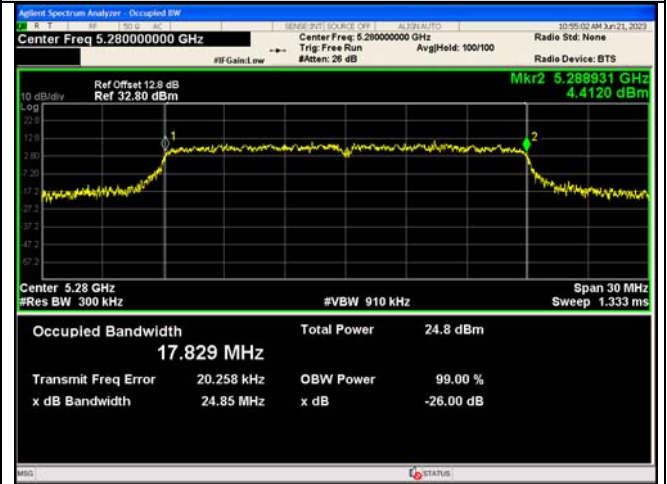
IEEE 802.11ac\_Channel 40\_20MHz\_Antenna 0



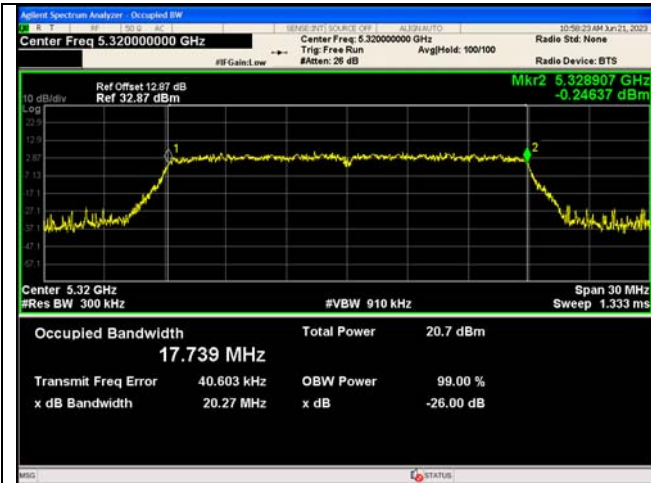
IEEE 802.11ac\_Channel 48\_20MHz\_Antenna 0



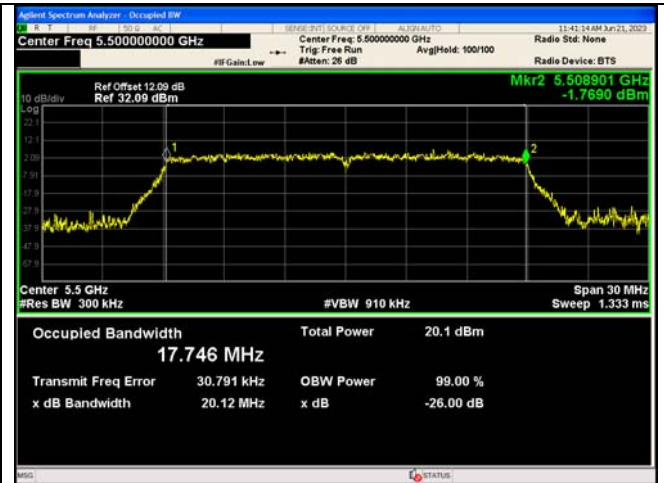
IEEE 802.11ac\_Channel 52\_20MHz\_Antenna 0



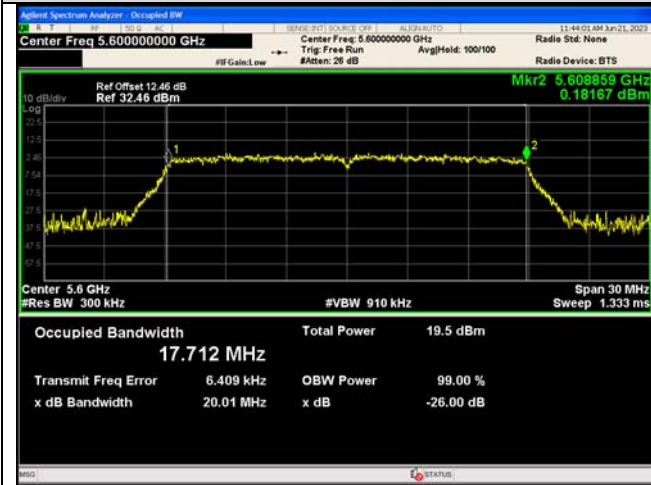
IEEE 802.11ac\_Channel 56\_20MHz\_Antenna 0



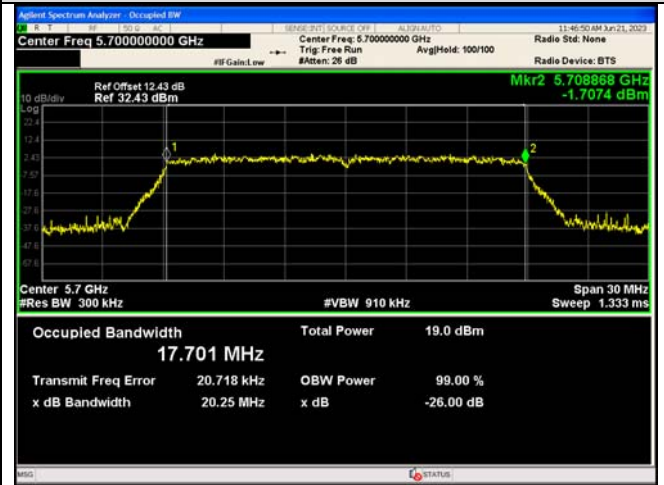
IEEE 802.11ac\_Channel 64\_20MHz\_Antenna 0



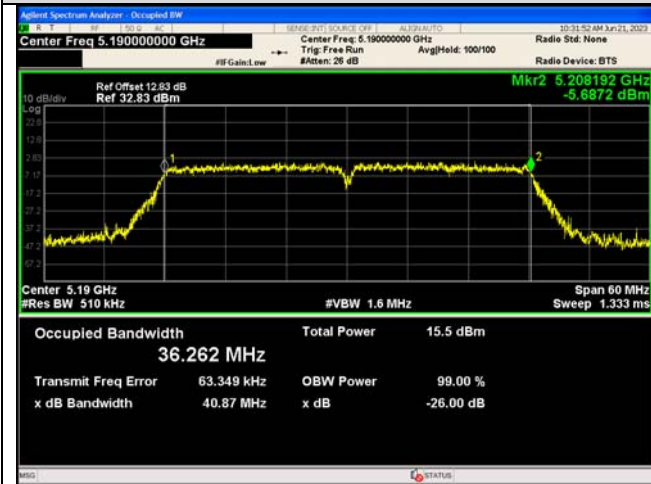
IEEE 802.11ac\_Channel 100\_20MHz\_Antenna 0



IEEE 802.11ac\_Channel 120\_20MHz\_Antenna 0



IEEE 802.11ac\_Channel 140\_20MHz\_Antenna 0



IEEE 802.11ac\_Channel 38\_40MHz\_Antenna 0



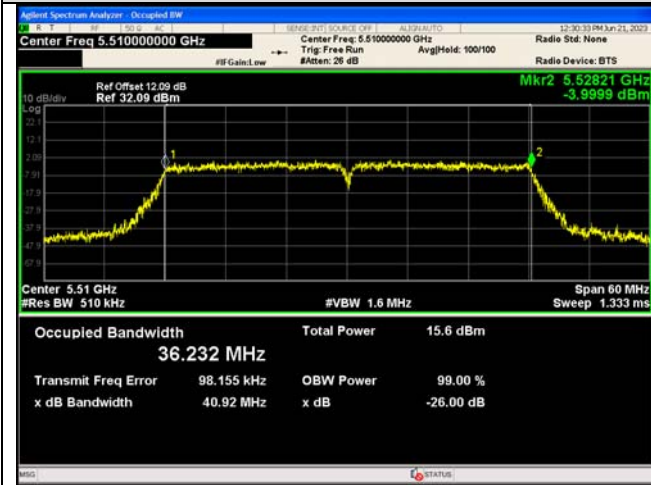
IEEE 802.11ac\_Channel 46\_40MHz\_Antenna 0



IEEE 802.11ac\_Channel 54\_40MHz\_Antenna 0



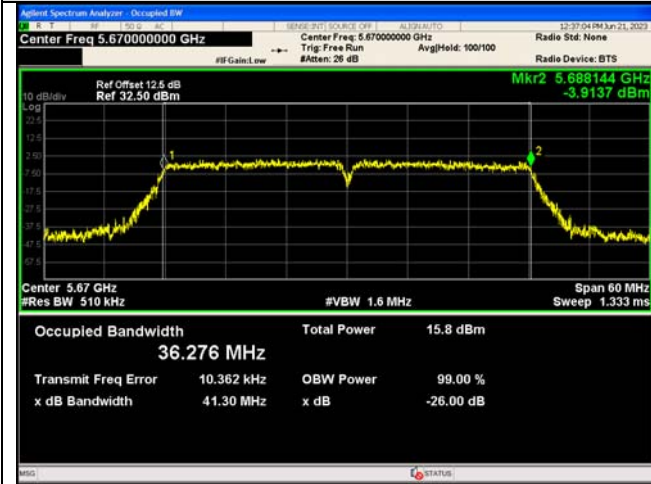
IEEE 802.11ac\_Channel 62\_40MHz\_Antenna 0



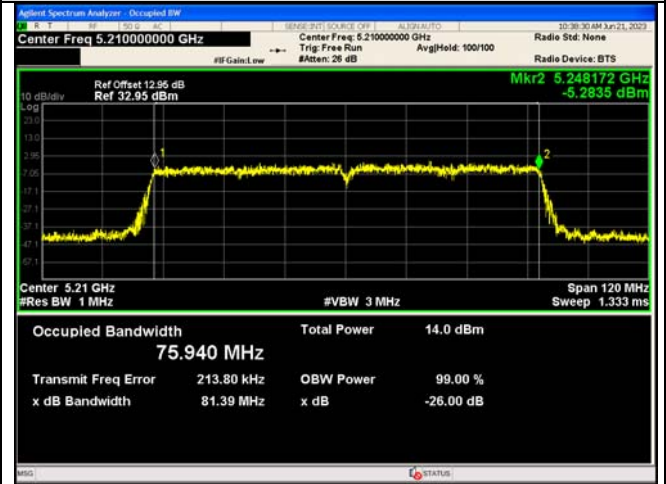
IEEE 802.11ac\_Channel 102\_40MHz\_Antenna 0



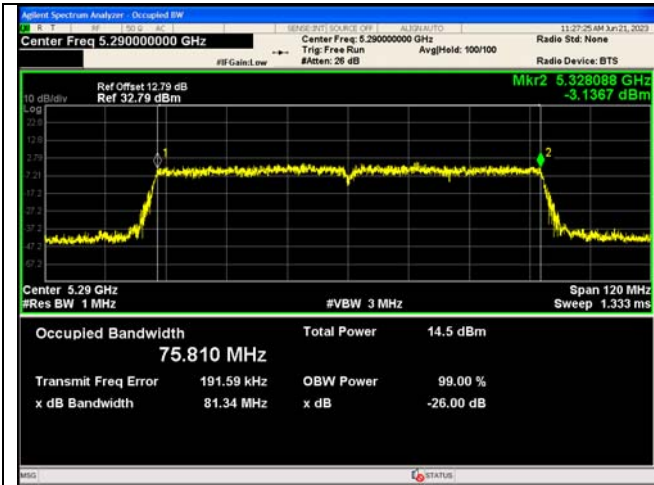
IEEE 802.11ac\_Channel 118\_40MHz\_Antenna 0



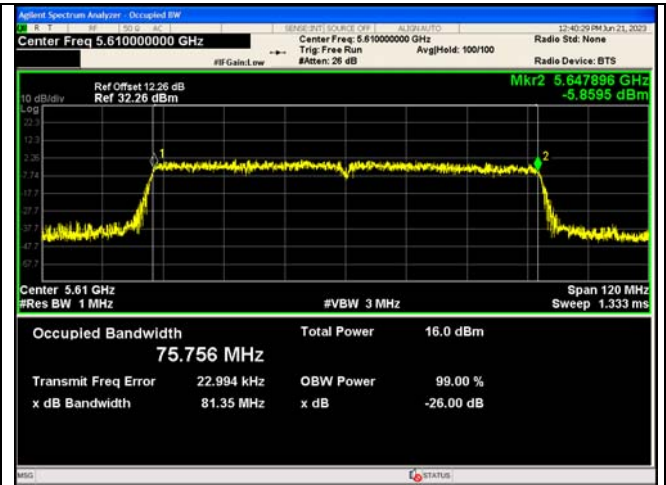
IEEE 802.11ac\_Channel 134\_40MHz\_Antenna 0



IEEE 802.11ac\_Channel 42\_80MHz\_Antenna 0



IEEE 802.11ac\_Channel 58\_80MHz\_Antenna 0



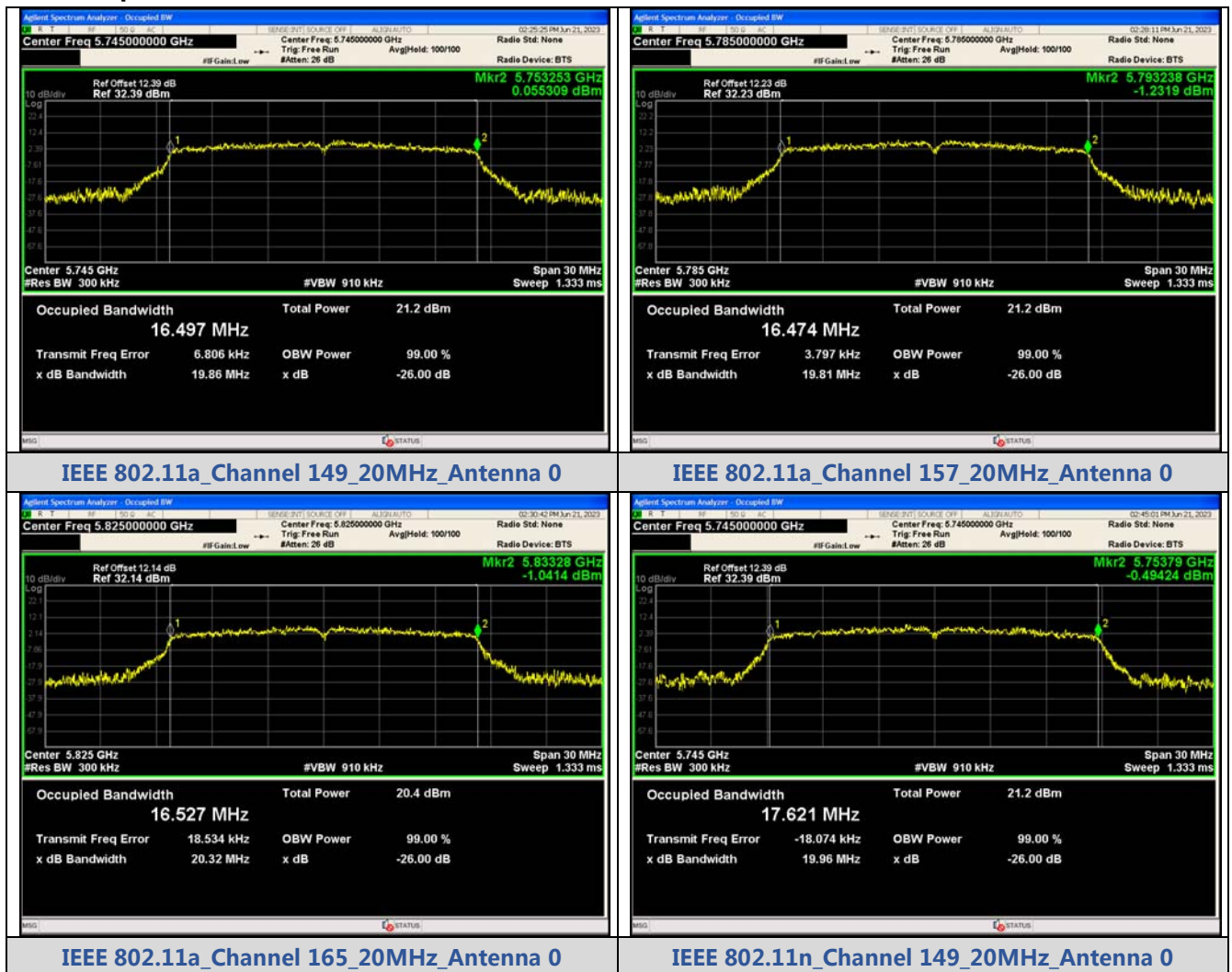
IEEE 802.11ac\_Channel 122\_80MHz\_Antenna 0

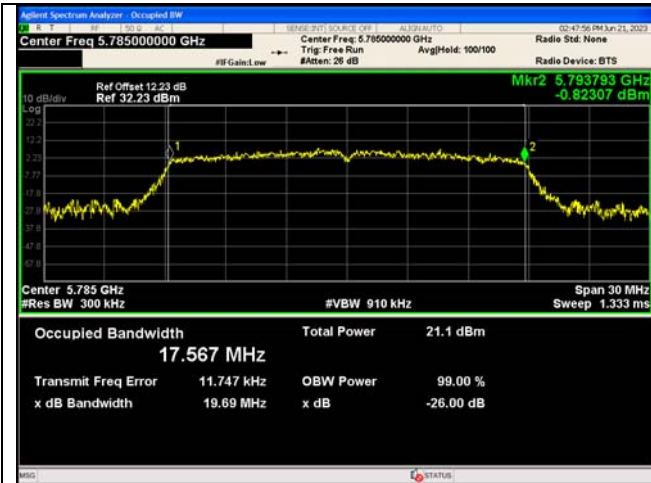


Test Result

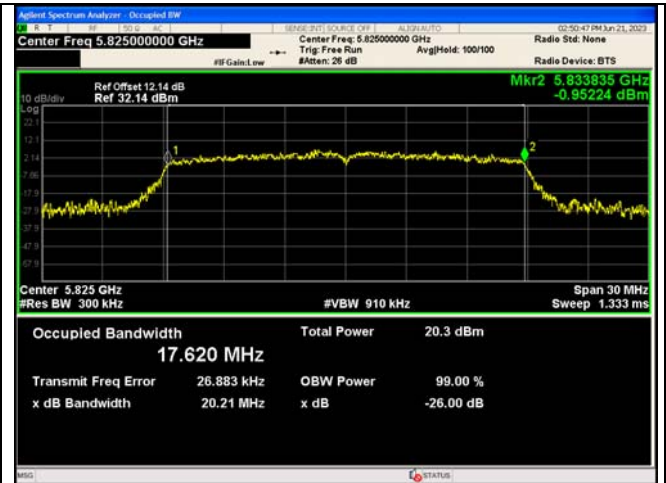
Mode	Channel	Ant.	99% BW (MHz)
IEEE 802.11a	149	0	16.497
	157		16.474
	165		16.527
IEEE 802.11n_20	149		17.621
	157		17.567
	165		17.620
IEEE 802.11n_40	151		35.920
	159		35.854
IEEE 802.11ac_20	149		17.749
	157		17.719
	165		17.723
IEEE 802.11ac_40	151		36.308
	159	36.249	
IEEE 802.11ac_80	155	75.767	

Test Graphs

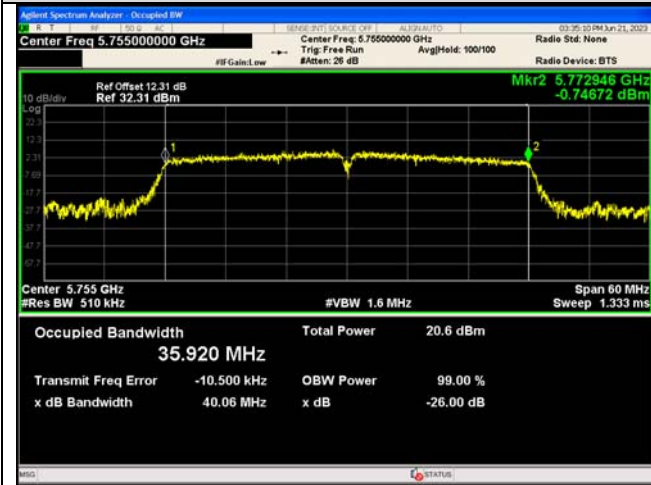




IEEE 802.11n\_Channel 157\_20MHz\_Antenna 0



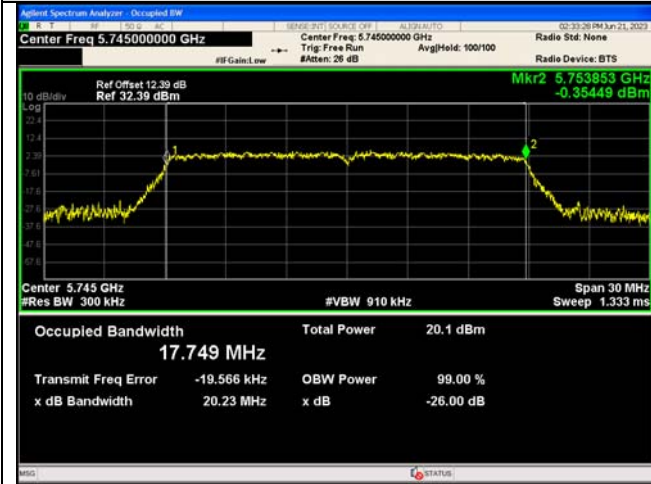
IEEE 802.11n\_Channel 165\_20MHz\_Antenna 0



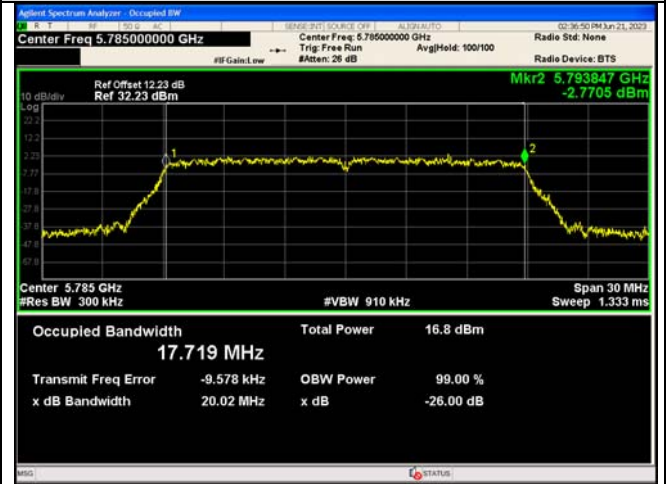
IEEE 802.11n\_Channel 151\_40MHz\_Antenna 0



IEEE 802.11n\_Channel 159\_40MHz\_Antenna 0

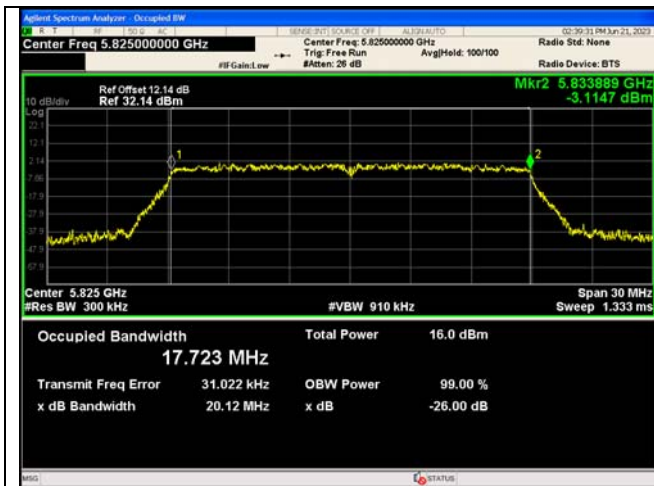


IEEE 802.11ac\_Channel 149\_20MHz\_Antenna 0

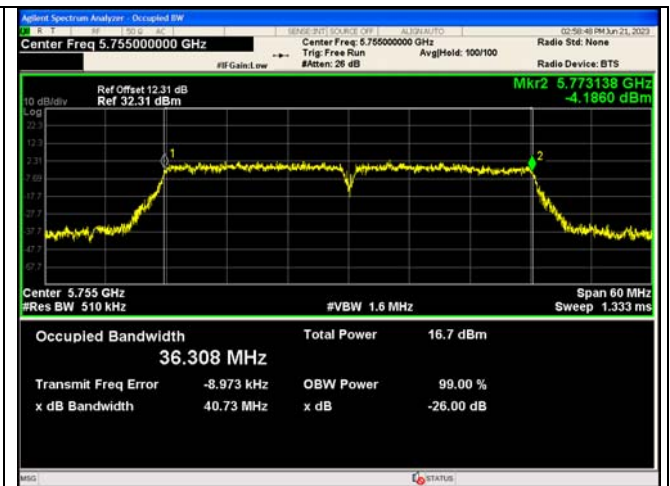


IEEE 802.11ac\_Channel 157\_20MHz\_Antenna 0

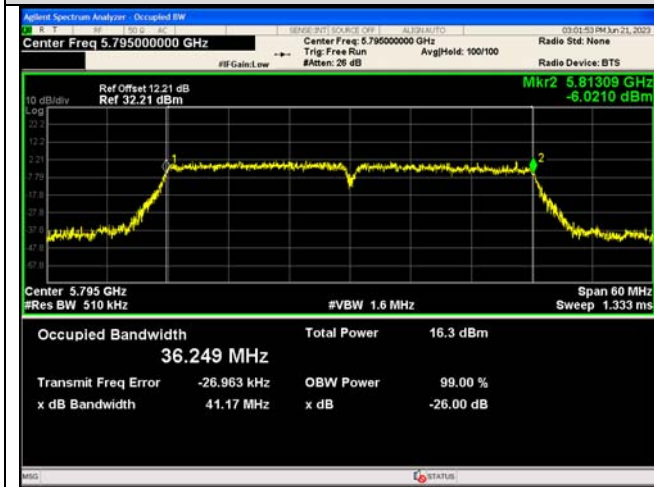




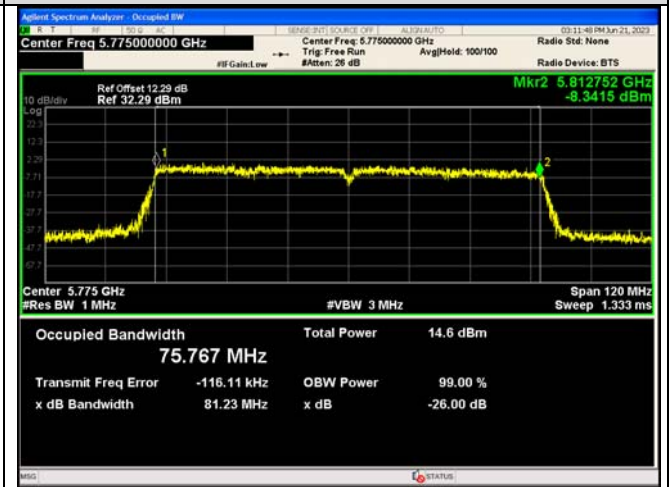
IEEE 802.11ac\_Channel 165\_20MHz\_Antenna 0



IEEE 802.11ac\_Channel 151\_40MHz\_Antenna 0



IEEE 802.11ac\_Channel 159\_40MHz\_Antenna 0



IEEE 802.11ac\_Channel 155\_80MHz\_Antenna 0

## APPENDIX IV.6dB Bandwidth

### Test Result

Mode	Channel	Ant.	Center Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
IEEE 802.11a	36	0	5180	15.46	0.5	PASS
	40		5200	15.11		PASS
	48		5240	15.11		PASS
	52		5260	15.11		PASS
	56		5280	15.07		PASS
	64		5320	15.10		PASS
	100		5500	15.69		PASS
	120		5600	15.41		PASS
	140		5700	15.42		PASS
IEEE 802.11n_20	36	0	5180	15.09	0.5	PASS
	40		5200	15.11		PASS
	48		5240	15.10		PASS
	52		5260	15.07		PASS
	56		5280	15.09		PASS
	64		5320	15.10		PASS
	100		5500	15.12		PASS
	120		5600	15.11		PASS
	140		5700	15.10		PASS
IEEE 802.11n_40	38	0	5190	35.06	0.5	PASS
	46		5230	35.04		PASS
	54		5270	35.09		PASS
	62		5310	35.06		PASS
	102		5510	35.04		PASS
	118		5590	35.09		PASS
	134		5670	35.09		PASS
	140		5700	35.09		PASS
IEEE 802.11ac_20	36	0	5180	17.66	0.5	PASS
	40		5200	17.36		PASS
	48		5240	17.59		PASS
	52		5260	17.08		PASS
	56		5280	17.10		PASS
	64		5320	17.60		PASS
	100		5500	17.64		PASS
	120		5600	17.53		PASS
	140		5700	17.53		PASS
IEEE 802.11ac_40	38	0	5190	35.61	0.5	PASS
	46		5230	35.63		PASS
	54		5270	35.68		PASS

	62		5310	36.32		PASS
	102		5510	35.69		PASS
	118		5590	35.64		PASS
	134		5670	35.61		PASS
IEEE 802.11ac_80	42		5210	75.41		PASS
	58		5290	75.44		PASS
	122		5610	75.67		PASS

Test Graphs

**IEEE 802.11a\_Channel 36\_20MHz\_Antenna 0**

**IEEE 802.11a\_Channel 40\_20MHz\_Antenna 0**

**IEEE 802.11a\_Channel 48\_20MHz\_Antenna 0**

**IEEE 802.11a\_Channel 52\_20MHz\_Antenna 0**

**IEEE 802.11a\_Channel 48\_20MHz\_Antenna 0**

**IEEE 802.11a\_Channel 56\_20MHz\_Antenna 0**

**IEEE 802.11a\_Channel 64\_20MHz\_Antenna 0**