

Appendix A4

5G WiFi Test Data

Conducted Test Data

Conducted Output Power

Test Result

U-NII-1&U-NII-2A&U-NII-2C

Mode	Channel	AVG Power Ant. 0 (dBm)	Corr'd Value Ant. 0 (dBm)	Limit (dBm)	Result
IEEE 802.11a	36	14.81	14.93	≤24	PASS
	48	14.62	14.75	≤24	PASS
	52	14.41	14.54	≤24	PASS
	64	14.26	14.39	≤24	PASS
	100	13.77	13.90	≤24	PASS
	140	13.76	13.89	≤24	PASS
IEEE 802.11n_20	36	14.33	14.46	≤24	PASS
	48	14.41	14.54	≤24	PASS
	52	14.35	14.48	≤24	PASS
	64	13.91	14.04	≤24	PASS
	100	13.66	13.80	≤24	PASS
	140	13.41	13.55	≤24	PASS
IEEE 802.11n_40	38	14.02	14.29	≤24	PASS
	46	14.17	14.44	≤24	PASS
	54	14.11	14.39	≤24	PASS
	62	13.75	14.03	≤24	PASS
	102	13.25	13.53	≤24	PASS
	134	13.32	13.60	≤24	PASS
IEEE 802.11ac_20	36	14.37	14.50	≤24	PASS
	48	14.41	14.55	≤24	PASS
	52	14.35	14.48	≤24	PASS
	64	13.97	14.10	≤24	PASS
	100	13.63	13.76	≤24	PASS
	140	13.72	13.86	≤24	PASS
IEEE 802.11ac_40	38	14.09	14.36	≤24	PASS
	46	14.11	14.38	≤24	PASS
	54	14.20	14.48	≤24	PASS
	62	14.45	14.72	≤24	PASS
	102	13.98	14.26	≤24	PASS
	134	13.98	14.26	≤24	PASS
IEEE 802.11ac_80	42	13.68	14.23	≤24	PASS
	58	13.54	14.09	≤24	PASS
	106	12.82	13.37	≤24	PASS
	122	12.96	13.51	≤24	PASS
	138	12.74	13.28	≤24	PASS

Note: Corrected Value = Antenna Power + Duty Cycle Factor.

U-NII-3

Mode	Channel	AVG Power Ant. 0 (dBm)	Corr'd Value Ant. 0 (dBm)	Limit (dBm)	Result
IEEE 802.11a	149	13.10	13.22	≤30	PASS
	157	13.02	13.15	≤30	PASS
	165	13.09	13.22	≤30	PASS
IEEE 802.11n_20	149	13.07	13.20	≤30	PASS
	157	12.69	12.83	≤30	PASS
	165	12.96	13.10	≤30	PASS
IEEE 802.11n_40	151	12.73	13.01	≤30	PASS
	159	12.46	12.74	≤30	PASS
IEEE 802.11ac_20	149	13.09	13.23	≤30	PASS
	157	12.76	12.90	≤30	PASS
	165	12.89	13.03	≤30	PASS
IEEE 802.11ac_40	151	12.82	13.09	≤30	PASS
	159	12.57	12.85	≤30	PASS
IEEE 802.11ac_80	155	12.08	12.63	≤30	PASS

Note: Corrected Value = Antenna Power + Duty Cycle Factor.

99% Bandwidth

Test Result

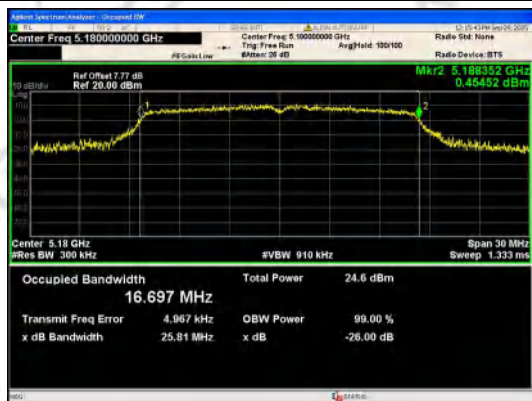
U-NII-1&U-NII-2A&U-NII-2C

Mode	Channel	Ant.	Center Frequency (MHz)	99% BW (MHz)
IEEE 802.11a	36	0	5180	16.697
	48		5240	16.555
	52		5260	16.506
	64		5320	16.505
	100		5500	16.505
	140		5700	16.480
IEEE 802.11n_20	36		5180	17.630
	48		5240	17.627
	52		5260	17.633
	64		5320	17.610
	100		5500	17.642
	140		5700	17.608
IEEE 802.11n_40	38		5190	35.977
	46		5230	35.992
	54		5270	35.995
	62		5310	35.963
	102		5510	36.025
	134		5670	36.019
IEEE 802.11ac_20	36		5180	17.637
	48		5240	17.669
	52		5260	17.624
	64		5320	17.611
	100		5500	17.635
	140		5700	17.594
IEEE 802.11ac_40	38		5190	35.968
	46		5230	35.980
	54		5270	35.961
	62		5310	35.907
	102		5510	35.981
	134		5670	35.996
IEEE 802.11ac_80	42		5210	75.233
	58		5290	75.242
	106		5530	75.240
	122		5610	75.282
	138		5690	75.195

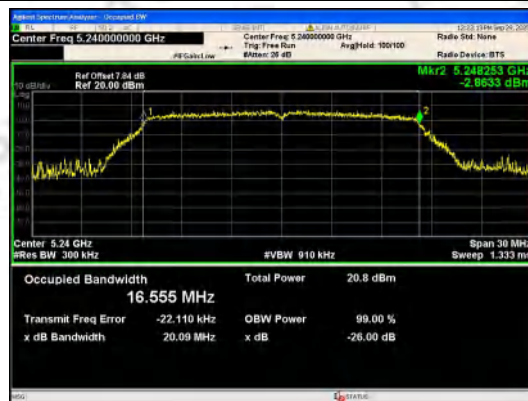
Mode	Channel	Ant.	Center Frequency (MHz)	99% BW (MHz)
IEEE 802.11a	149	0	5745	17.605
	157		5785	16.517
	165		5825	16.590
IEEE 802.11n_20	149		5745	18.251
	157		5785	17.579
	165		5825	17.661
IEEE 802.11n_40	151		5755	36.019
	159		5795	36.048
IEEE 802.11ac_20	149		5745	18.216
	157		5785	17.583
	165		5825	17.667
IEEE 802.11ac_40	151		5755	35.988
	159		5795	36.014
IEEE 802.11ac_80	155		5775	75.281

Test Graphs

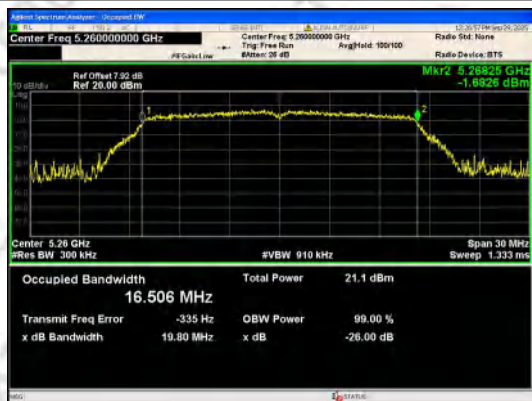
U-NII-1&U-NII-2A&U-NII-2C



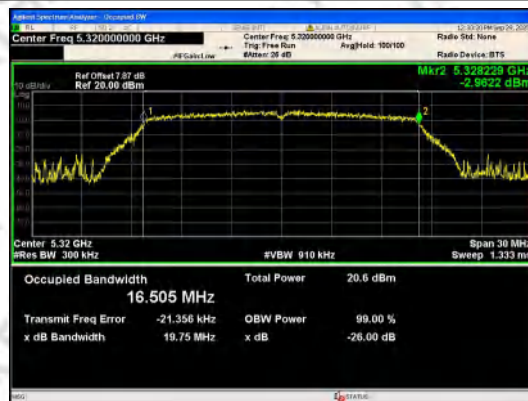
IEEE 802.11a_Channel 36_20MHz_Antenna 0



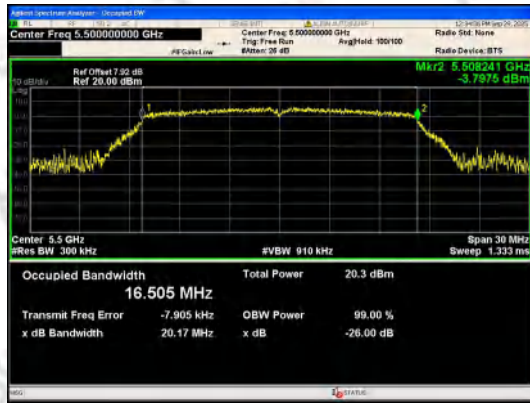
IEEE 802.11a_Channel 48_20MHz_Antenna 0



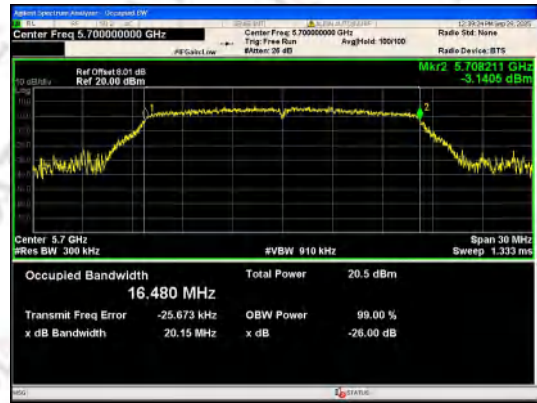
IEEE 802.11a_Channel 52_20MHz_Antenna 0



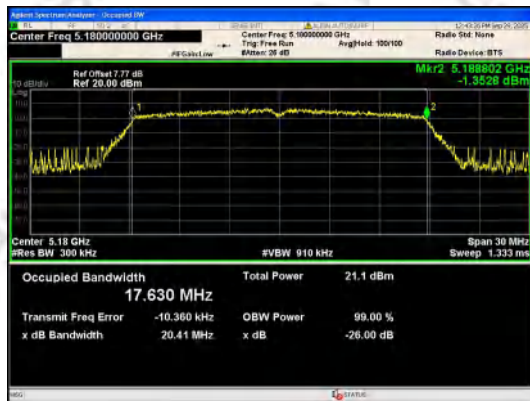
IEEE 802.11a_Channel 64_20MHz_Antenna 0



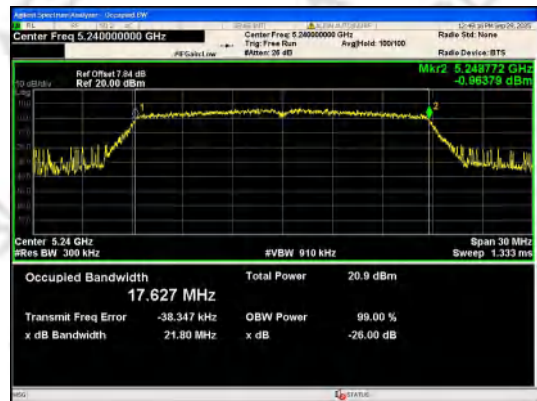
IEEE 802.11a_Channel 100_20MHz_Antenna 0



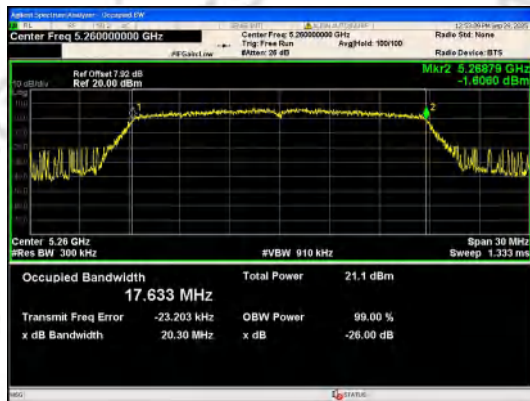
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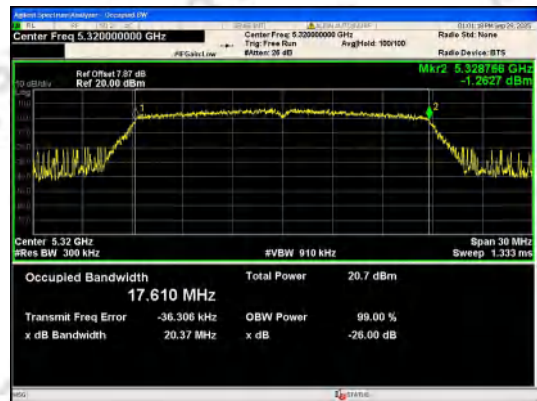
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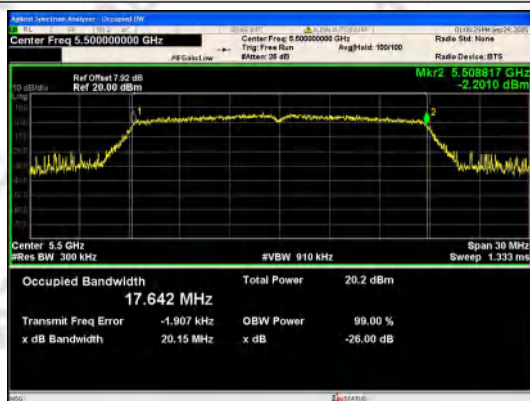
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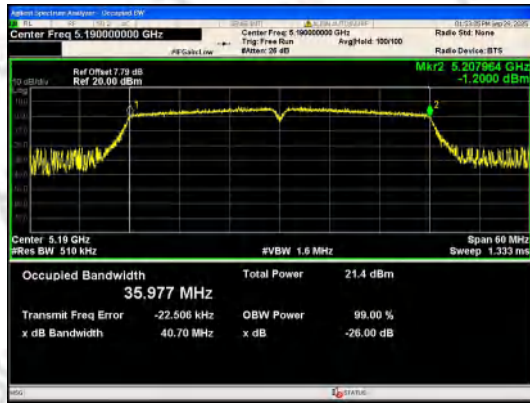
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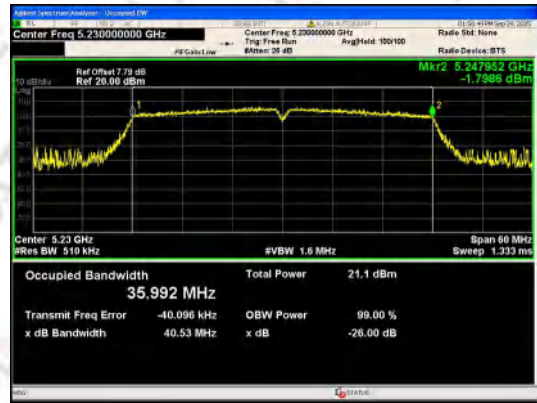
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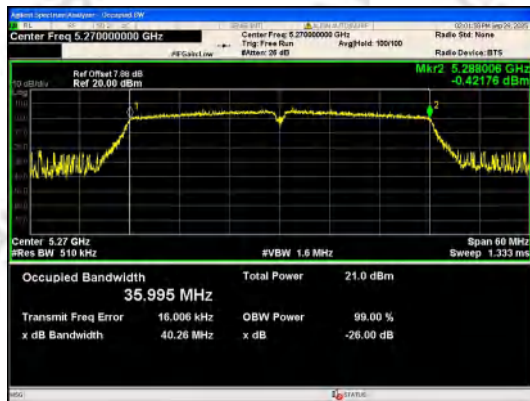
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IEEE 802.11n_Channel 38_40MHz_Antenna 0



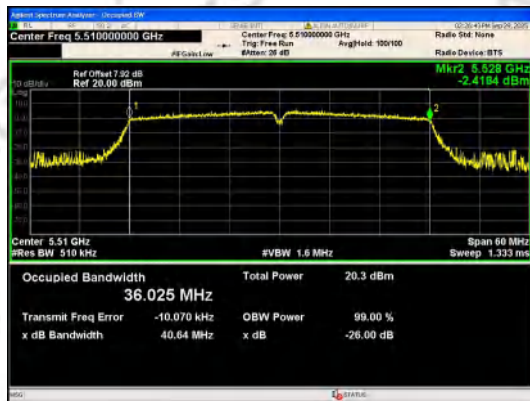
IEEE 802.11n_Channel 46_40MHz_Antenna 0



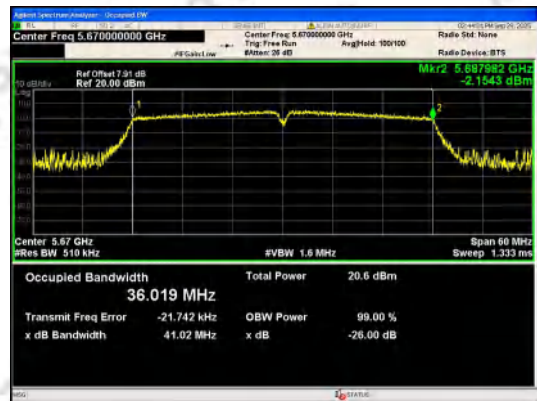
IEEE 802.11n_Channel 54_40MHz_Antenna 0



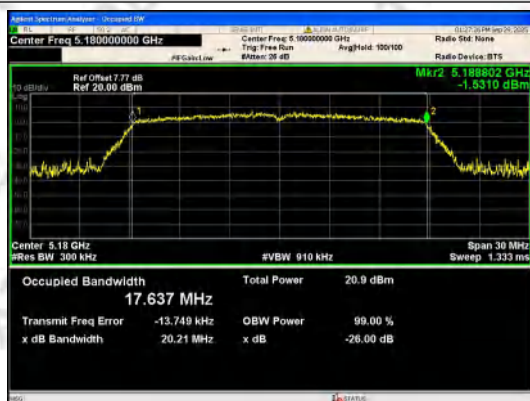
IEEE 802.11n_Channel 62_40MHz_Antenna 0



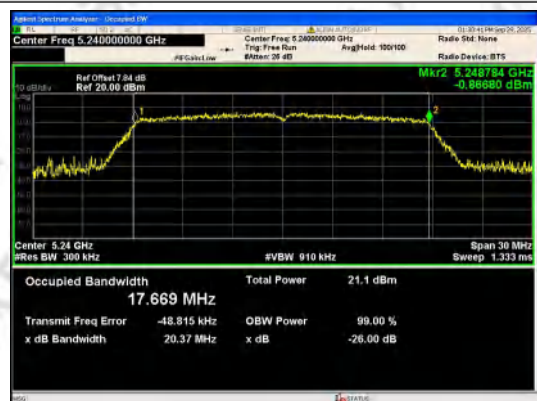
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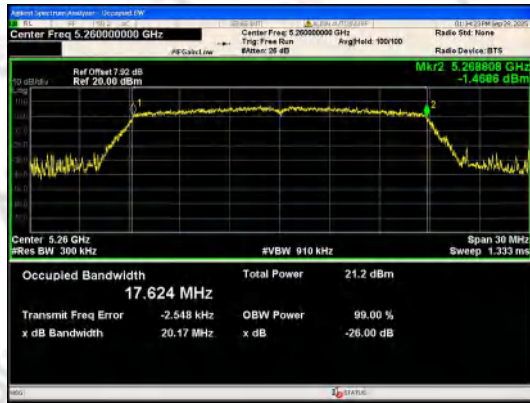
IEEE 802.11n_Channel 134_40MHz_Antenna 0



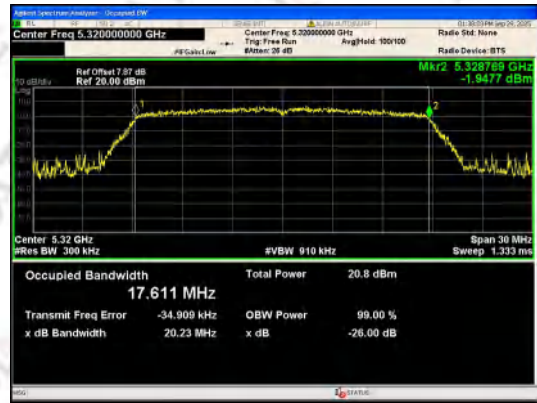
IEEE 802.11ac_Channel 36_20MHz_Antenna 0



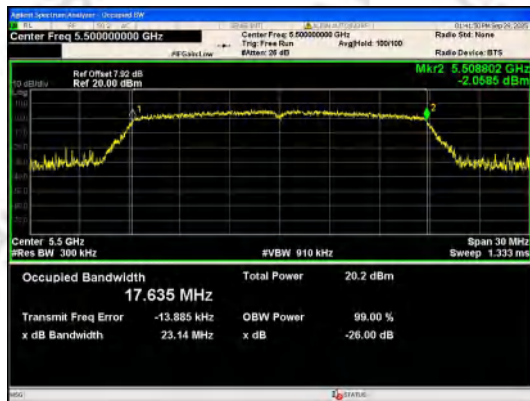
IEEE 802.11ac_Channel 48_20MHz_Antenna 0



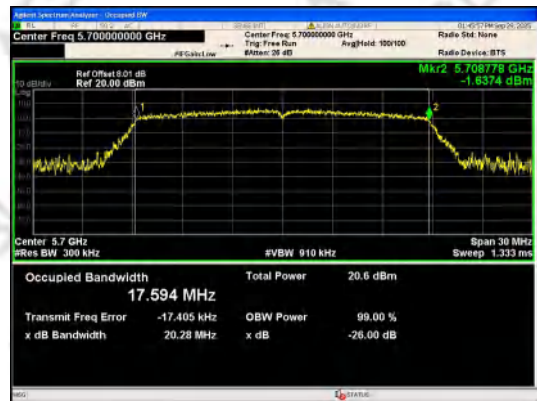
IEEE 802.11ac_Channel 52_20MHz_Antenna 0



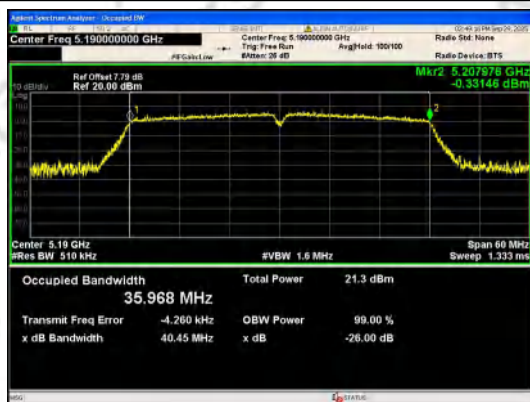
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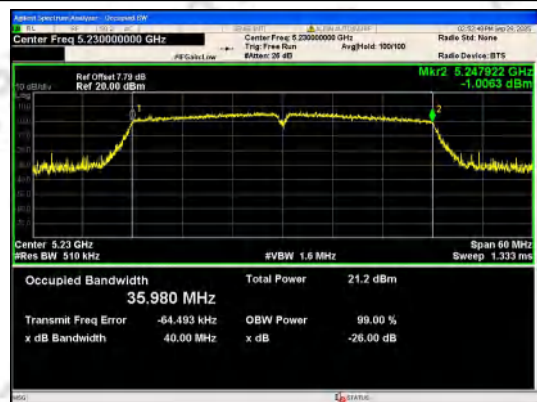
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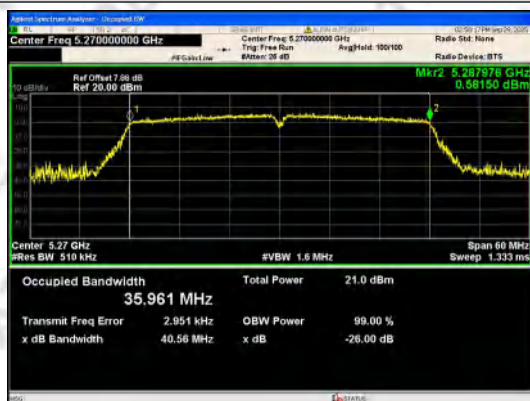
IEEE 802.11ac_Channel 140_20MHz_Antenna 0



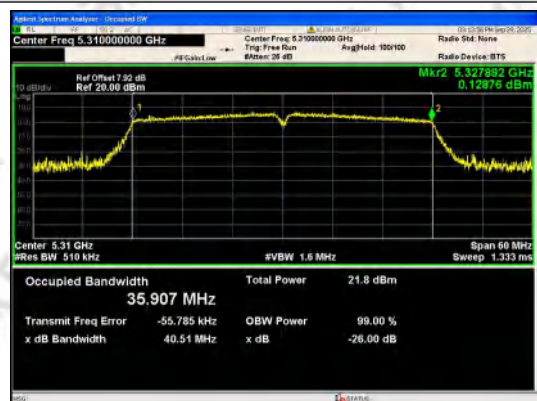
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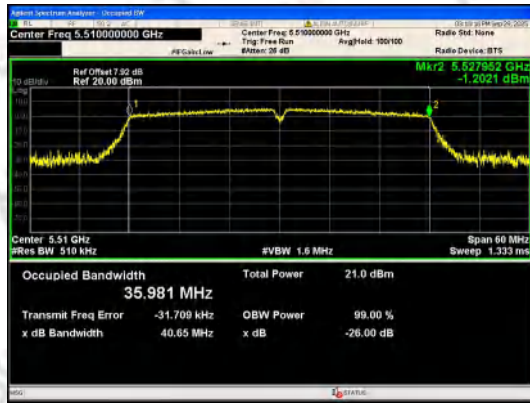
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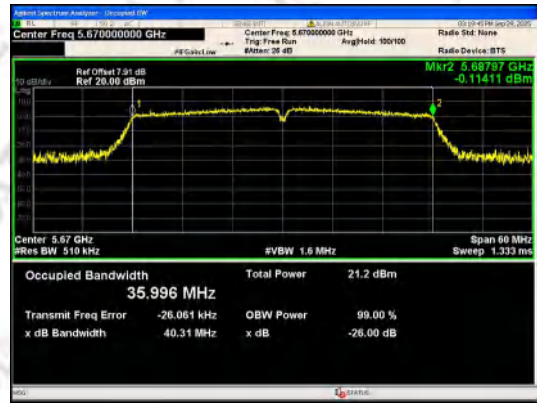
IEEE 802.11ac_Channel 54_40MHz_Antenna 0



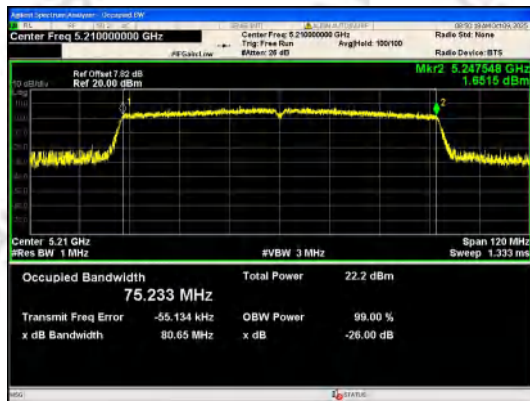
IEEE 802.11ac_Channel 62_40MHz_Antenna 0



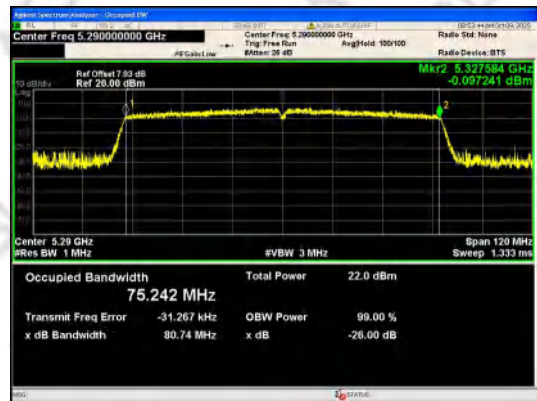
IEEE 802.11ac_Channel 102_40MHz_Antenna 0



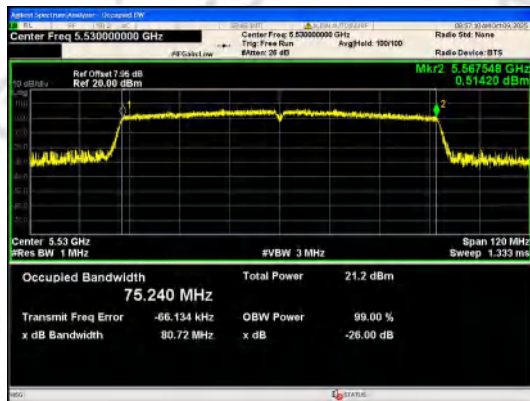
IEEE 802.11ac_Channel 134_40MHz_Antenna 0



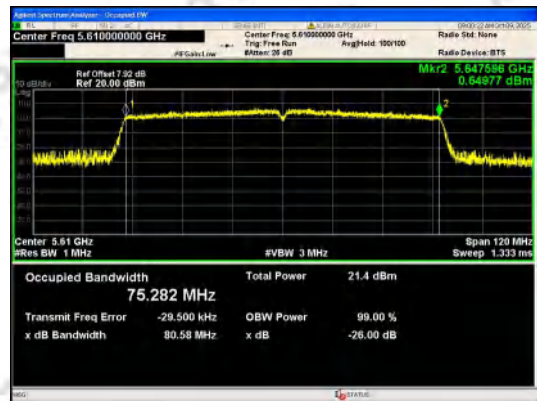
IEEE 802.11ac_Channel 42_80MHz_Antenna 0



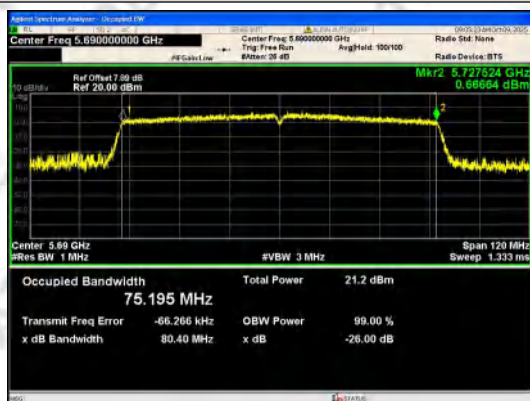
IEEE 802.11ac_Channel 58_80MHz_Antenna 0



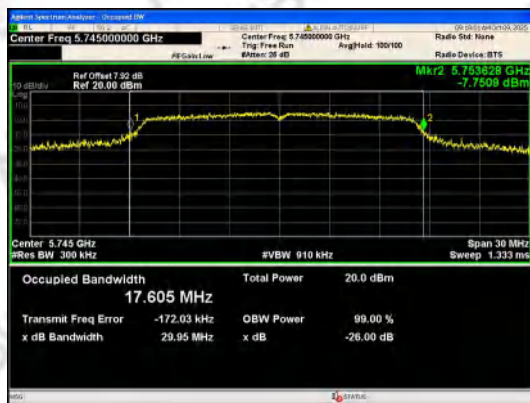
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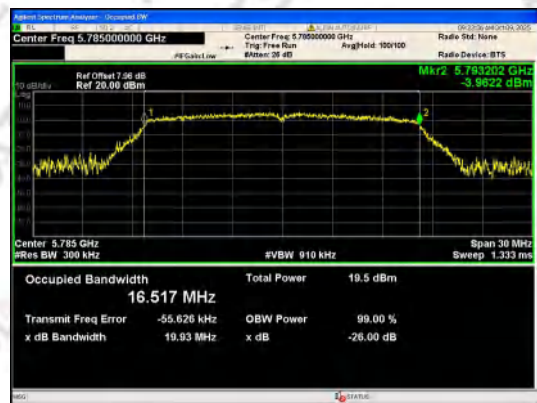
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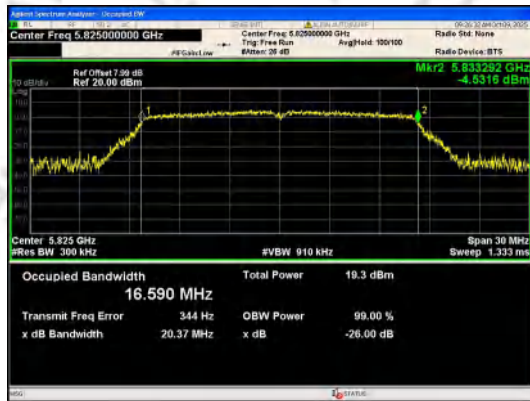
IEEE 802.11ac_Channel 138_80MHz_Antenna 0



IEEE 802.11a_Channel 149_20MHz_Antenna 0



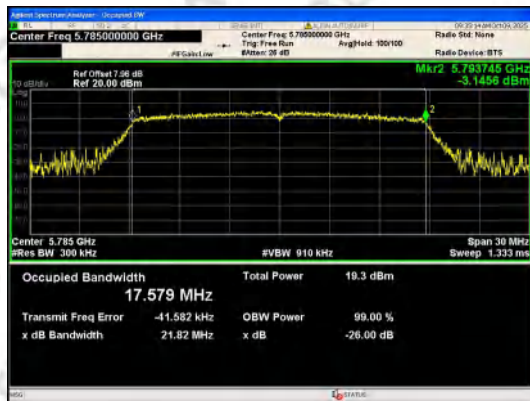
IEEE 802.11a_Channel 157_20MHz_Antenna 0



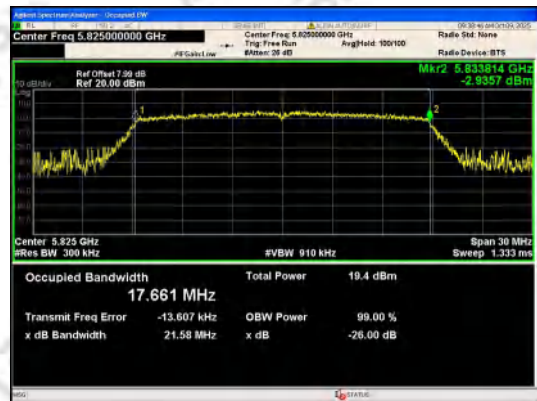
IEEE 802.11a_Channel 165_20MHz_Antenna 0



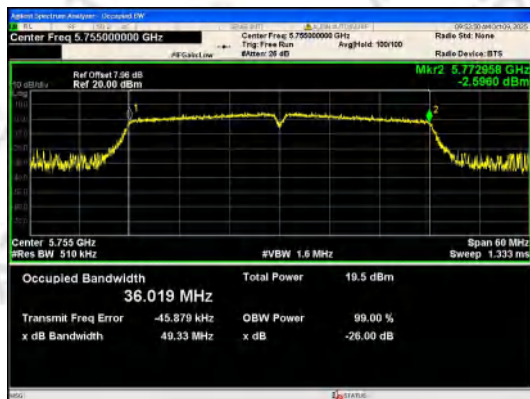
IEEE 802.11n_Channel 149_20MHz_Antenna 0



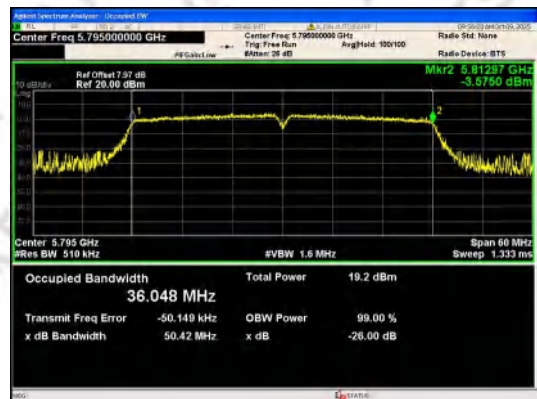
IEEE 802.11n_Channel 157_20MHz_Antenna 0



IEEE 802.11n_Channel 165_20MHz_Antenna 0



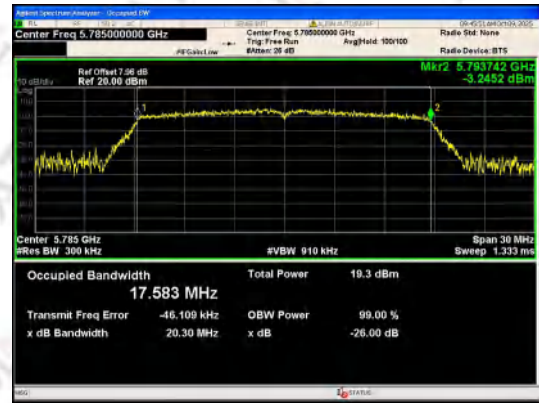
IEEE 802.11n_Channel 151_40MHz_Antenna 0



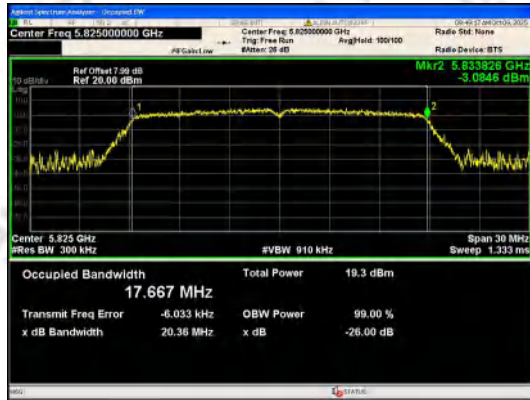
IEEE 802.11n_Channel 159_40MHz_Antenna 0



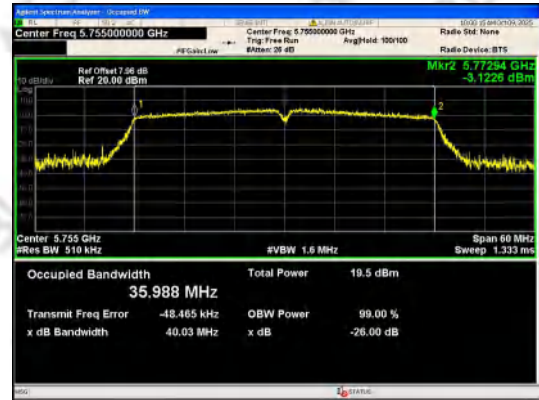
IEEE 802.11ac_Channel 149_20MHz_Antenna 0



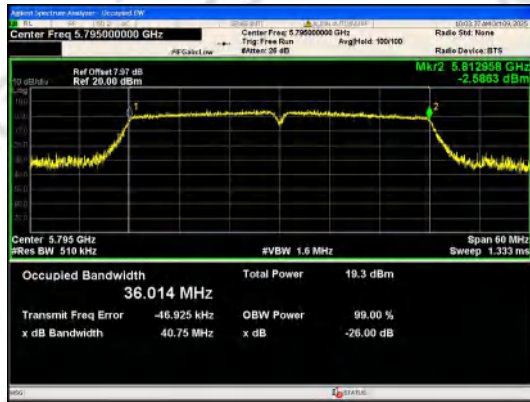
IEEE 802.11ac_Channel 157_20MHz_Antenna 0



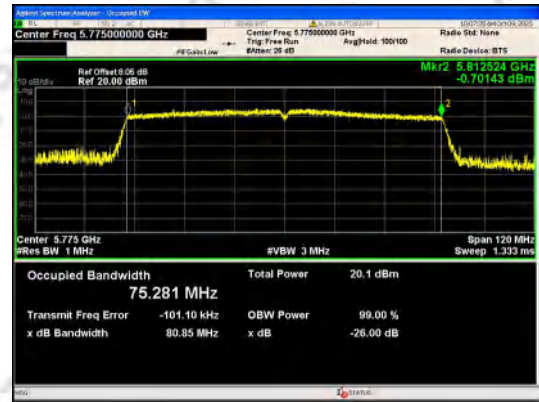
IEEE 802.11ac_Channel 165_20MHz_Antenna 0



IEEE 802.11ac_Channel 151_40MHz_Antenna 0



IEEE 802.11ac_Channel 159_40MHz_Antenna 0



IEEE 802.11ac_Channel 155_80MHz_Antenna 0

6dB Bandwidth

Test Result

U-NII-1&U-NII-2A&U-NII-2C

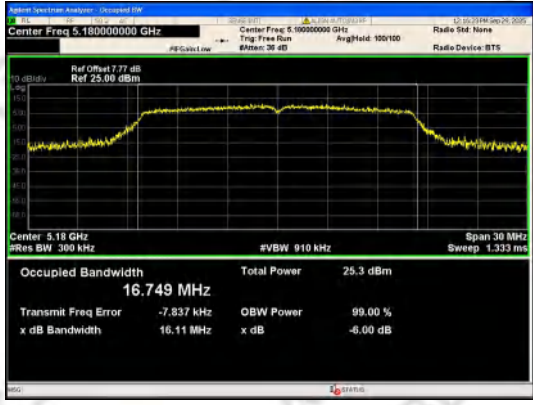
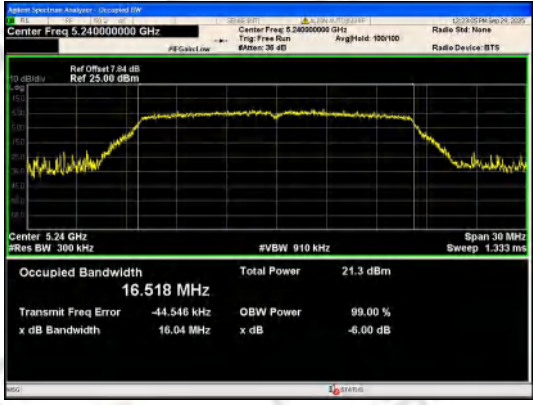
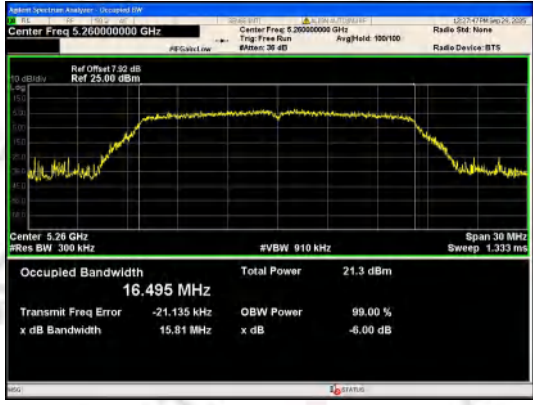
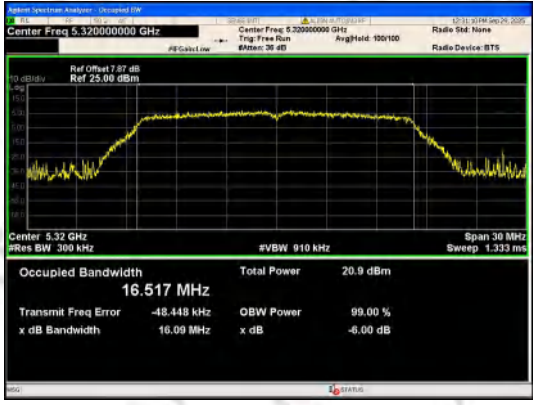
Mode	Channel	Ant.	Center Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
IEEE 802.11a	36	0	5180	16.11	≥0.5	PASS
	48		5240	16.04		PASS
	52		5260	15.81		PASS
	64		5320	16.09		PASS
	100		5500	16.13		PASS
	140		5700	15.88		PASS
IEEE 802.11n_20	36		5180	17.29		PASS
	48		5240	17.41		PASS
	52		5260	17.11		PASS
	64		5320	17.39		PASS
	100		5500	17.09		PASS
	140		5700	17.11		PASS
IEEE 802.11n_40	38		5190	35.79		PASS
	46		5230	34.16		PASS
	54		5270	35.56		PASS
	62		5310	35.57		PASS
	102		5510	34.62		PASS
	134		5670	35.74		PASS
IEEE 802.11ac_20	36		5180	16.91		PASS
	48		5240	17.34		PASS
	52		5260	17.06		PASS
	64		5320	16.98		PASS
	100		5500	17.07		PASS
	140		5700	17.28		PASS
IEEE 802.11ac_40	38		5190	35.95		PASS
	46		5230	34.48		PASS
	54		5270	35.48		PASS
	62		5310	34.51		PASS
	102		5510	35.58		PASS
	134		5670	35.56		PASS
IEEE 802.11ac_80	42		5210	75.34		PASS
	58		5290	74.82		PASS
	106		5530	74.99		PASS
	122		5610	75.36		PASS
	138		5690	75.36		PASS

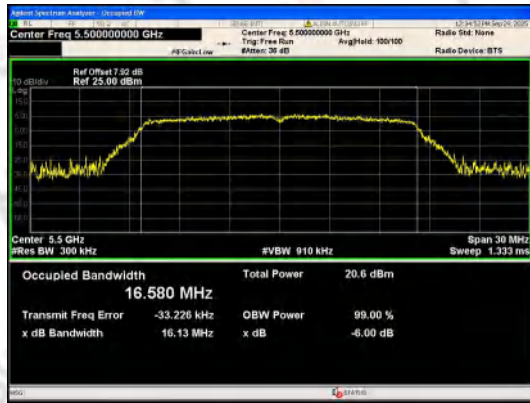
U-NII-3

Mode	Channel	Ant.	Center Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
IEEE 802.11a	149	0	5745	16.15	≥0.5	PASS
	157		5785	16.01		PASS
	165		5825	16.11		PASS
IEEE 802.11n_20	149		5745	17.37		PASS
	157		5785	17.19		PASS
	165		5825	16.89		PASS
IEEE 802.11n_40	151		5755	35.42		PASS
	159		5795	35.55		PASS
IEEE 802.11ac_20	149		5745	17.41		PASS
	157		5785	17.32		PASS
	165		5825	16.85		PASS
IEEE 802.11ac_40	151		5755	34.82		PASS
	159		5795	36.06		PASS
IEEE 802.11ac_80	155		5775	75.02		PASS

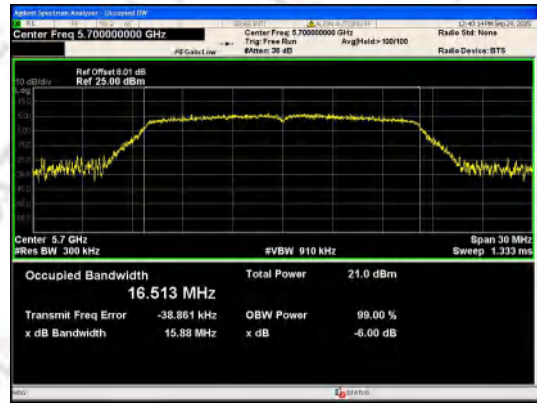
Test Graphs

U-NII-1&U-NII-2A&U-NII-2C

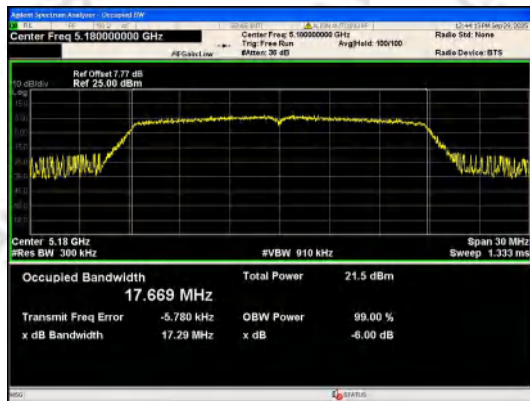
 Center Freq 5.18000000 GHz Ref Offset 7.77 dB Ref 25.00 dBm Center 5.18 GHz Res BW 300 kHz #VBW 910 kHz Span 30 MHz Sweep 1.333 ms Occupied Bandwidth 16.749 MHz Total Power 25.3 dBm Transmit Freq Error -7.837 kHz OBW Power 99.00 % x dB Bandwidth 16.11 MHz x dB -6.00 dB	 Center Freq 5.24000000 GHz Ref Offset 7.54 dB Ref 25.00 dBm Center 5.24 GHz Res BW 300 kHz #VBW 910 kHz Span 30 MHz Sweep 1.333 ms Occupied Bandwidth 16.518 MHz Total Power 21.3 dBm Transmit Freq Error -44.546 kHz OBW Power 99.00 % x dB Bandwidth 16.04 MHz x dB -6.00 dB
IEEE 802.11a_Channel 36_20MHz_Antenna 0	IEEE 802.11a_Channel 48_20MHz_Antenna 0
 Center Freq 5.26000000 GHz Ref Offset 7.32 dB Ref 25.00 dBm Center 5.26 GHz Res BW 300 kHz #VBW 910 kHz Span 30 MHz Sweep 1.333 ms Occupied Bandwidth 16.495 MHz Total Power 21.3 dBm Transmit Freq Error -21.135 kHz OBW Power 99.00 % x dB Bandwidth 15.81 MHz x dB -6.00 dB	 Center Freq 5.32000000 GHz Ref Offset 7.87 dB Ref 25.00 dBm Center 5.32 GHz Res BW 300 kHz #VBW 910 kHz Span 30 MHz Sweep 1.333 ms Occupied Bandwidth 16.517 MHz Total Power 20.9 dBm Transmit Freq Error -48.448 kHz OBW Power 99.00 % x dB Bandwidth 16.09 MHz x dB -6.00 dB
IEEE 802.11a_Channel 52_20MHz_Antenna 0	IEEE 802.11a_Channel 64_20MHz_Antenna 0



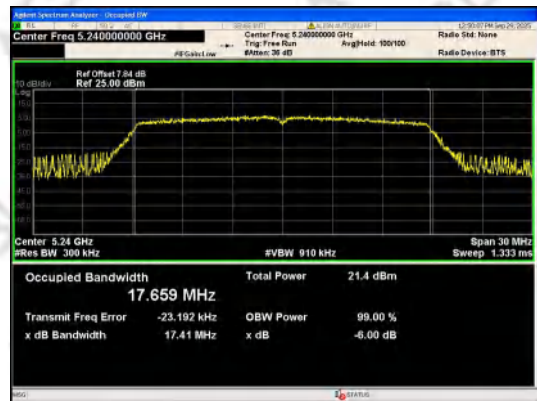
IEEE 802.11a_Channel 100_20MHz_Antenna 0



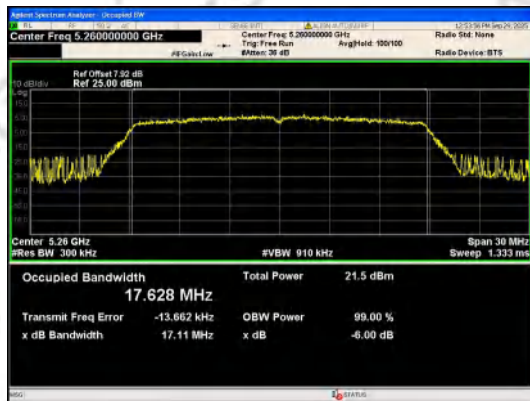
IEEE 802.11a_Channel 140_20MHz_Antenna 0



IEEE 802.11n_Channel 36_20MHz_Antenna 0



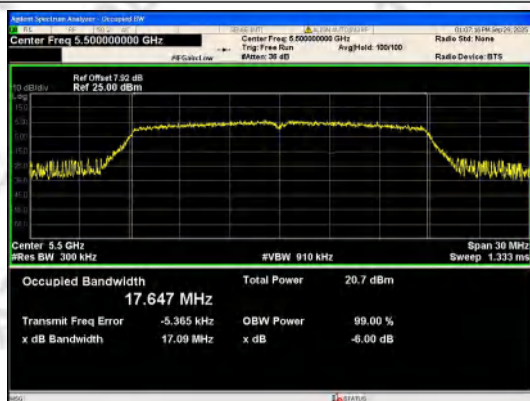
IEEE 802.11n_Channel 48_20MHz_Antenna 0



IEEE 802.11n_Channel 52_20MHz_Antenna 0



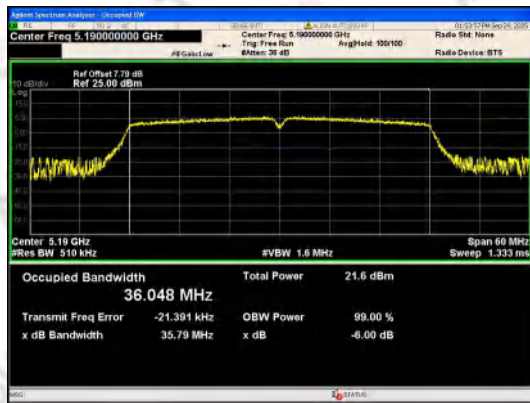
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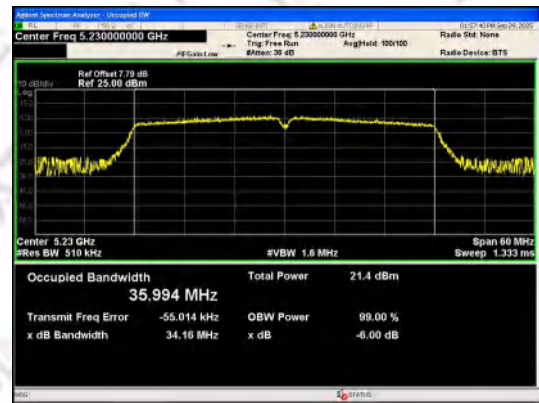
IEEE 802.11n_Channel 100_20MHz_Antenna 0



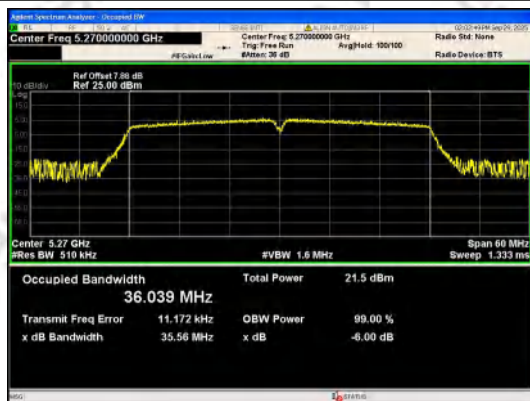
IEEE 802.11n_Channel 140_20MHz_Antenna 0



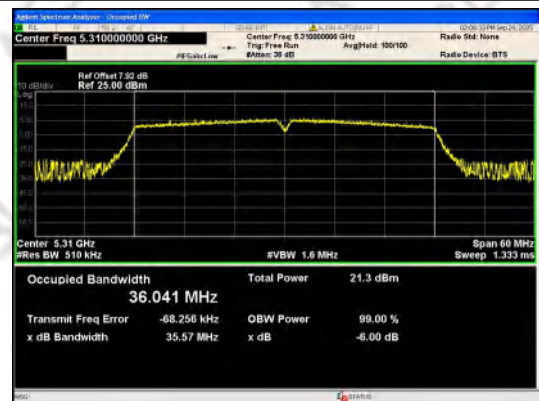
IEEE 802.11n_Channel 38_40MHz_Antenna 0



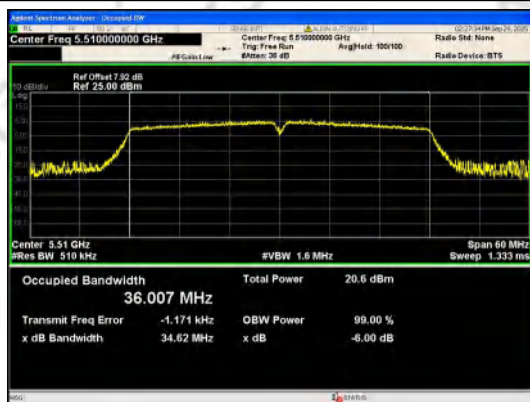
IEEE 802.11n_Channel 46_40MHz_Antenna 0



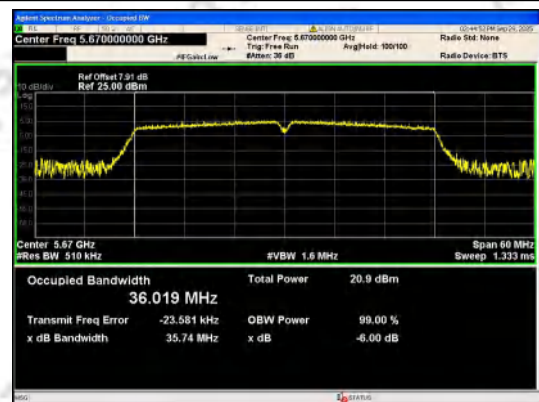
IEEE 802.11n_Channel 54_40MHz_Antenna 0



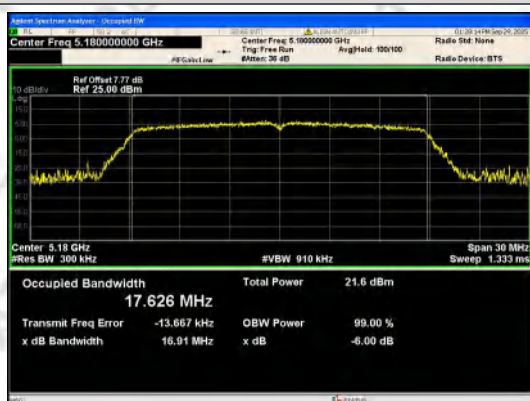
IEEE 802.11n_Channel 62_40MHz_Antenna 0



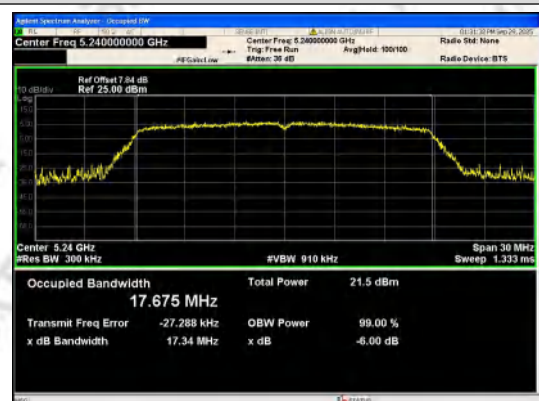
IEEE 802.11n_Channel 102_40MHz_Antenna 0



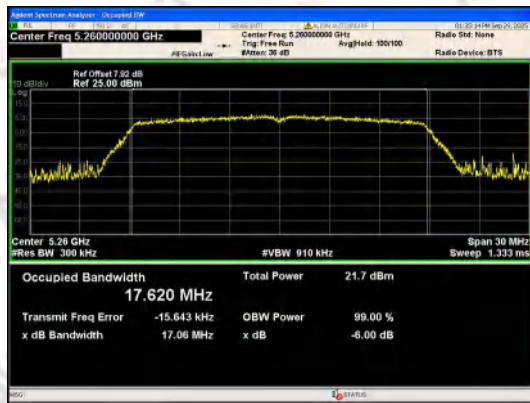
IEEE 802.11n_Channel 134_40MHz_Antenna 0



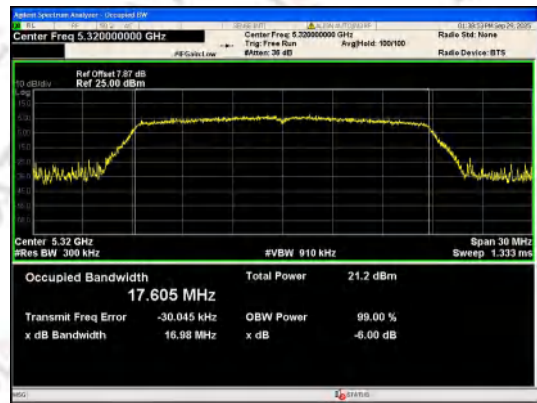
IEEE 802.11ac_Channel 36_20MHz_Antenna 0



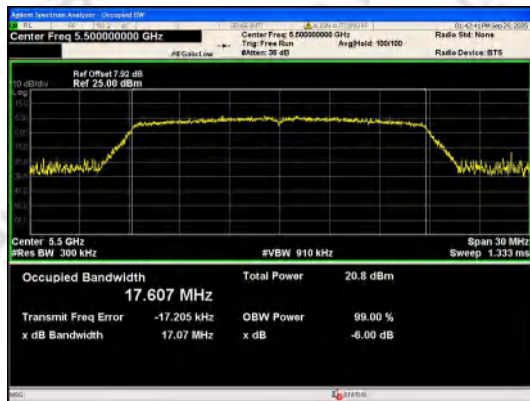
IEEE 802.11ac_Channel 48_20MHz_Antenna 0



IEEE 802.11ac_Channel 52_20MHz_Antenna 0



IEEE 802.11ac_Channel 64_20MHz_Antenna 0



IEEE 802.11ac_Channel 100_20MHz_Antenna 0



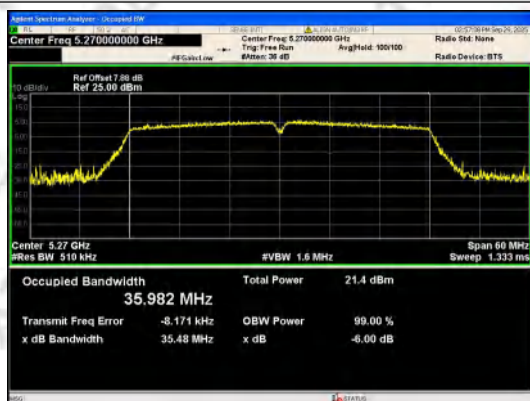
IEEE 802.11ac_Channel 140_20MHz_Antenna 0



IEEE 802.11ac_Channel 38_40MHz_Antenna 0



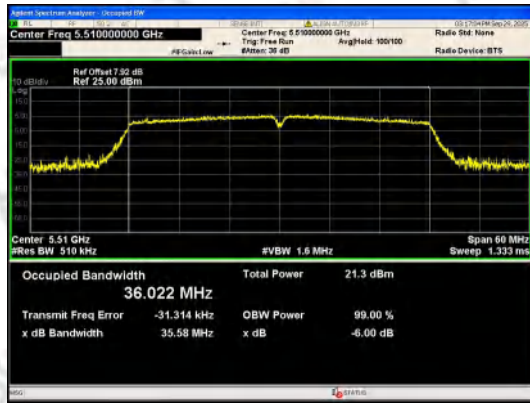
IEEE 802.11ac_Channel 46_40MHz_Antenna 0



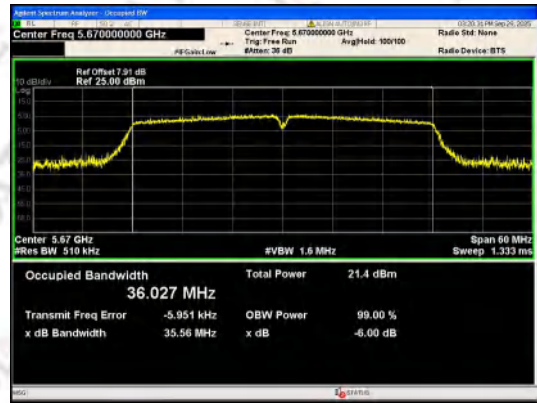
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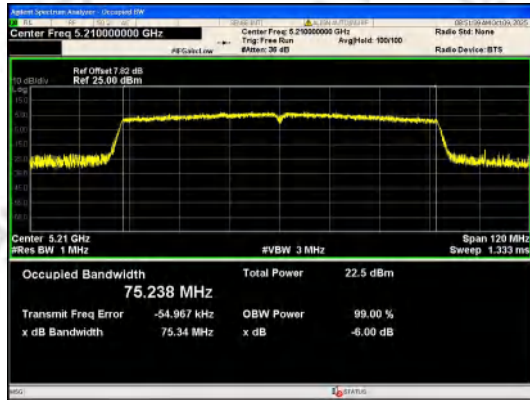
IEEE 802.11ac_Channel 62_40MHz_Antenna 0



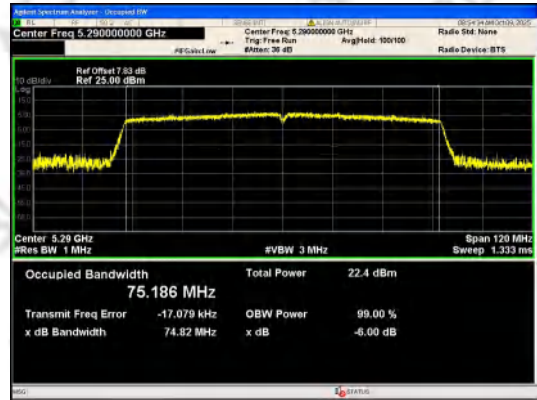
IEEE 802.11ac_Channel 102_40MHz_Antenna 0



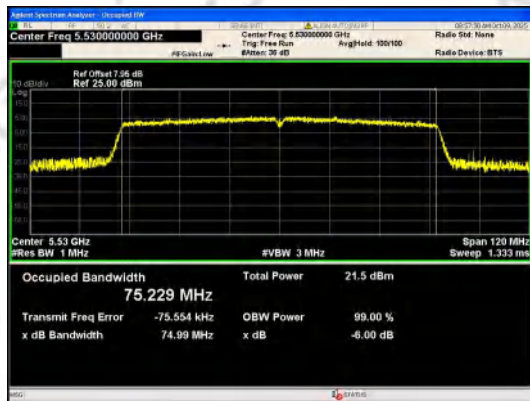
IEEE 802.11ac_Channel 134_40MHz_Antenna 0



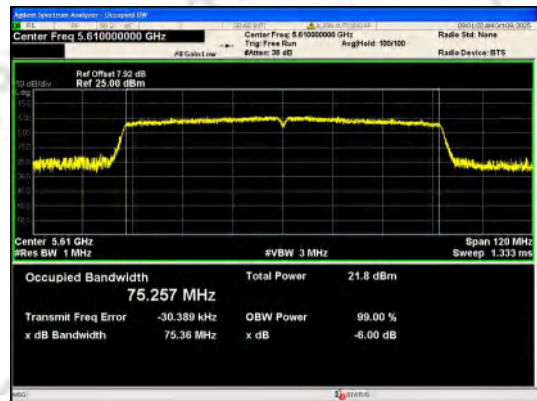
IEEE 802.11ac_Channel 42_80MHz_Antenna 0



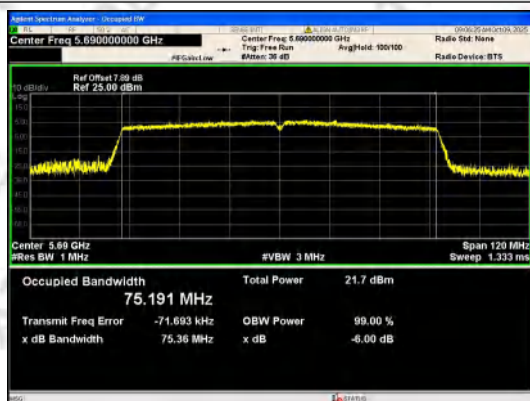
IEEE 802.11ac_Channel 58_80MHz_Antenna 0



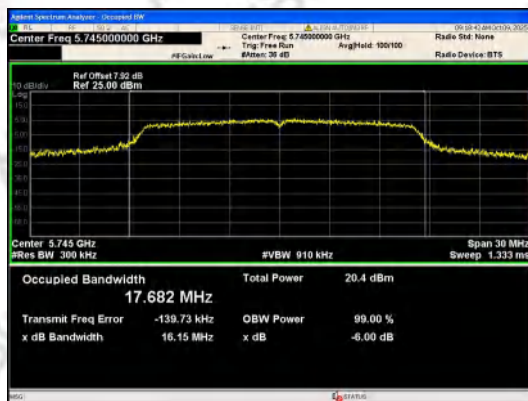
IEEE 802.11ac_Channel 106_80MHz_Antenna 0



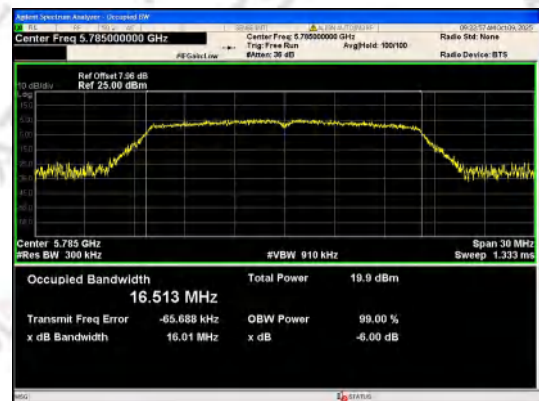
IEEE 802.11ac_Channel 122_80MHz_Antenna 0



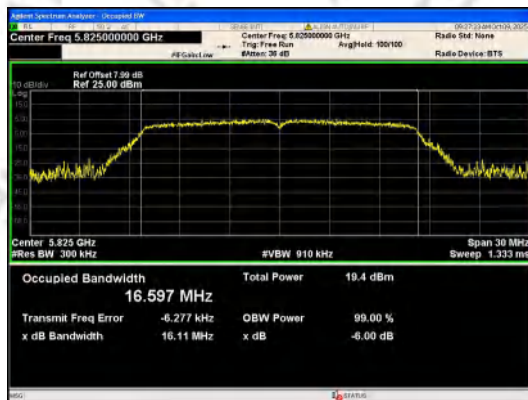
IEEE 802.11ac_Channel 138_80MHz_Antenna 0



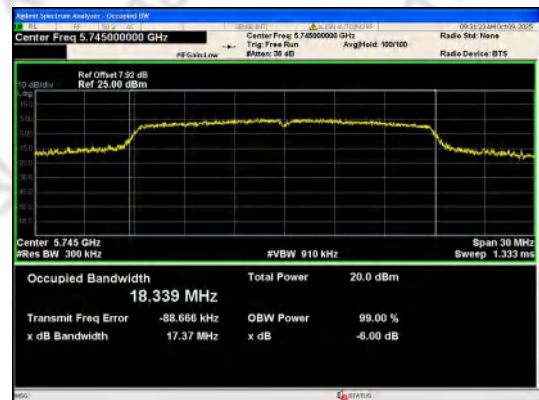
IEEE 802.11a_Channel 149_20MHz_Antenna 0



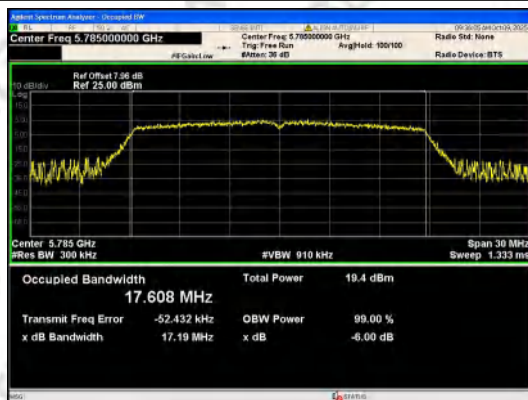
IEEE 802.11a_Channel 157_20MHz_Antenna 0



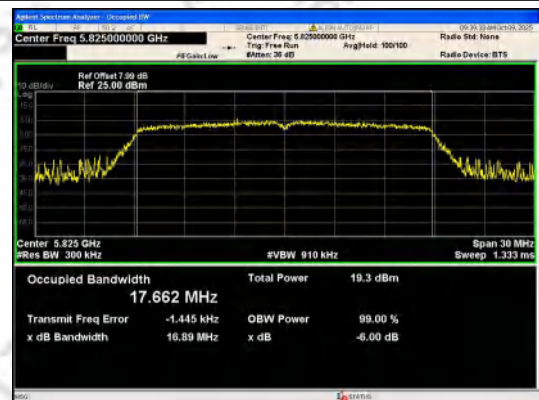
IEEE 802.11a_Channel 165_20MHz_Antenna 0



IEEE 802.11n_Channel 149_20MHz_Antenna 0



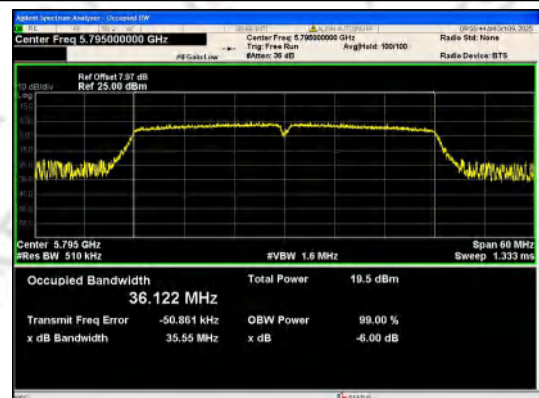
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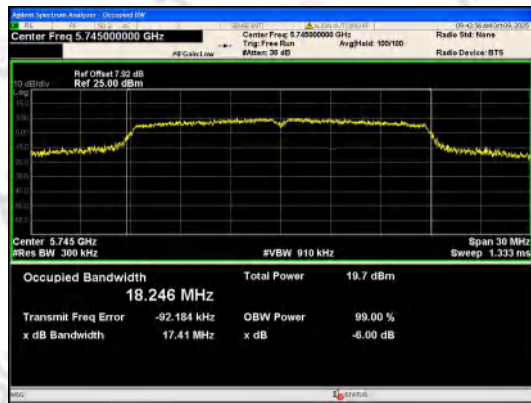
IEEE 802.11n_Channel 165_20MHz_Antenna 0



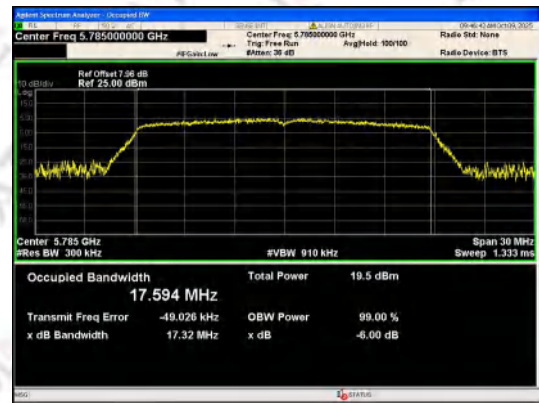
IEEE 802.11n_Channel 151_40MHz_Antenna 0



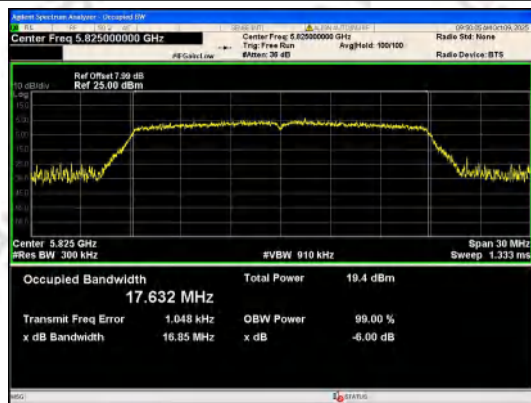
IEEE 802.11n_Channel 159_40MHz_Antenna 0



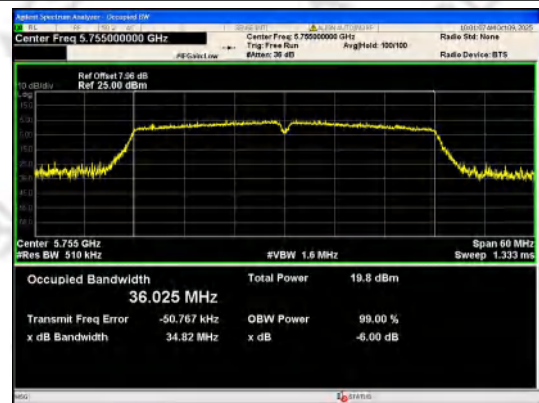
IEEE 802.11ac_Channel 149_20MHz_Antenna 0



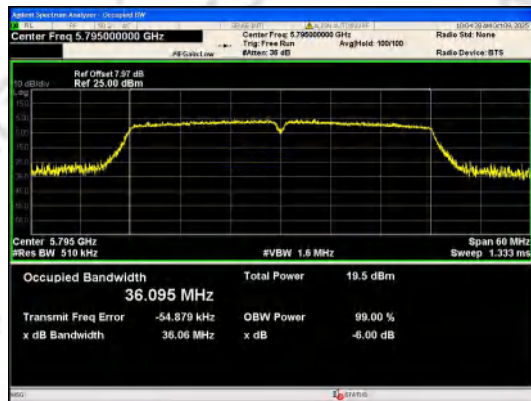
IEEE 802.11ac_Channel 157_20MHz_Antenna 0



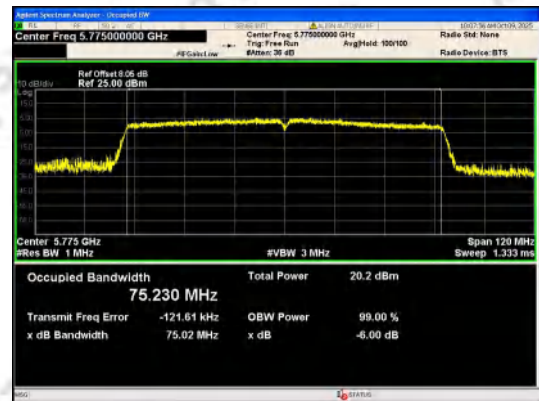
IEEE 802.11ac_Channel 165_20MHz_Antenna 0



IEEE 802.11ac_Channel 151_40MHz_Antenna 0



IEEE 802.11ac_Channel 159_40MHz_Antenna 0



IEEE 802.11ac_Channel 155_80MHz_Antenna 0

26dB Bandwidth

Test Result

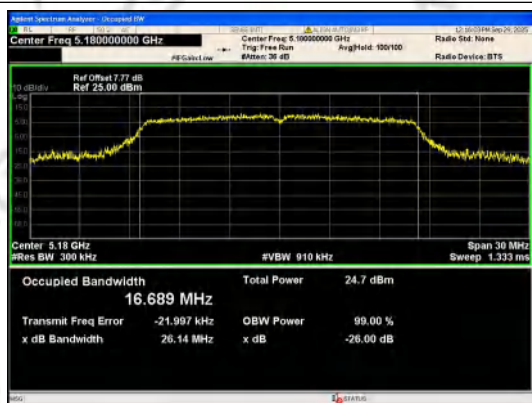
U-NII-1&U-NII-2A&U-NII-2C

Mode	Channel	Ant.	Center Frequency (MHz)	26 dB Bandwidth (MHz)	RBW/EBW
IEEE 802.11a	36	0	5180	26.14	1.15
	48		5240	19.79	1.11
	52		5260	20.00	1.1
	64		5320	19.65	1.12
	100		5500	19.80	1.11
	140		5700	19.95	1.1
IEEE 802.11n_20	36		5180	19.97	1.12
	48		5240	20.80	1.12
	52		5260	20.07	1.11
	64		5320	20.24	1.09
	100		5500	20.13	1.14
	140		5700	20.06	1.13
IEEE 802.11n_40	38		5190	40.45	1.04
	46		5230	40.21	1.06
	54		5270	40.38	1.05
	62		5310	40.46	1.04
	102		5510	40.17	1.07
	134		5670	40.66	1.04
IEEE 802.11ac_20	36		5180	20.04	1.1
	48		5240	20.35	1.1
	52		5260	20.09	1.11
	64		5320	20.08	1.11
	100		5500	20.31	1.11
	140		5700	19.92	1.18
IEEE 802.11ac_40	38		5190	40.22	1.06
	46		5230	39.73	1.07
	54		5270	39.95	1.06
	62		5310	40.00	1.05
	102		5510	40.13	1.06
	134		5670	40.29	1.06
IEEE 802.11ac_80	42		5210	80.22	1.03
	58		5290	80.14	1.03
	106		5530	85.14	1.17
	122		5610	86.35	1.16
	138		5690	81.82	1.07

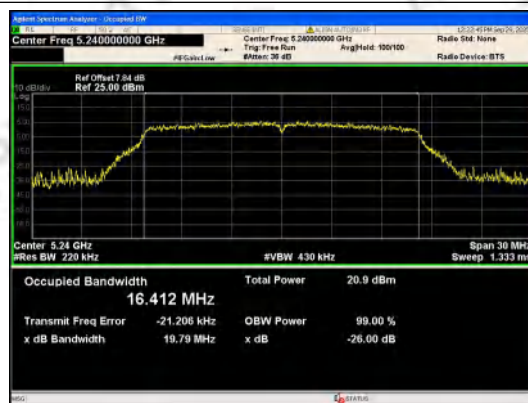
Mode	Channel	Ant.	Center Frequency (MHz)	26 dB Bandwidth (MHz)	RBW/EBW
IEEE 802.11a	149	0	5745	29.72	1.01
	157		5785	19.69	1.11
	165		5825	19.81	1.11
IEEE 802.11n_20	149		5745	30.00	1.0
	157		5785	19.94	1.15
	165		5825	20.03	1.18
IEEE 802.11n_40	151		5755	49.67	1.03
	159		5795	50.74	1.01
IEEE 802.11ac_20	149		5745	29.67	1.01
	157		5785	20.04	1.11
	165		5825	20.32	1.09
IEEE 802.11ac_40	151		5755	40.10	1.06
	159		5795	40.65	1.05
IEEE 802.11ac_80	155		5775	80.41	1.03

Test Graphs

U-NII-1&U-NII-2A&U-NII-2C



IEEE 802.11a_Channel 36_20MHz_Antenna 0



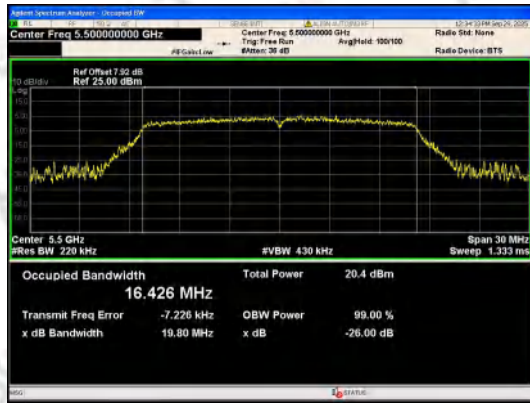
IEEE 802.11a_Channel 48_20MHz_Antenna 0



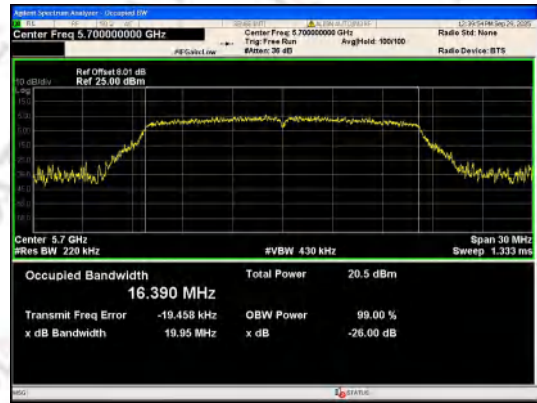
IEEE 802.11a_Channel 52_20MHz_Antenna 0



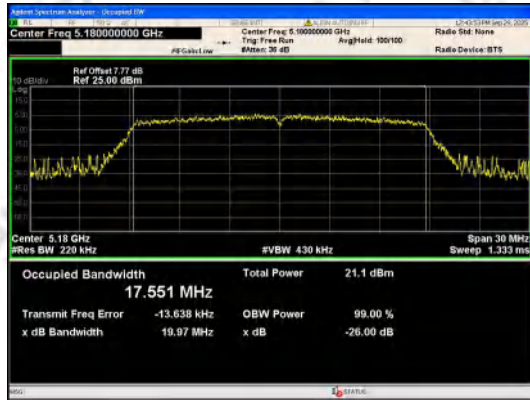
IEEE 802.11a_Channel 64_20MHz_Antenna 0



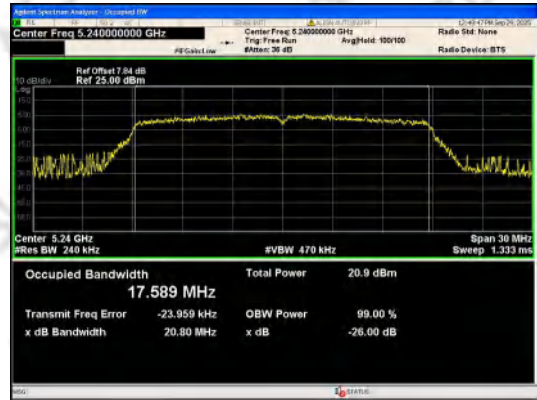
IEEE 802.11a_Channel 100_20MHz_Antenna 0



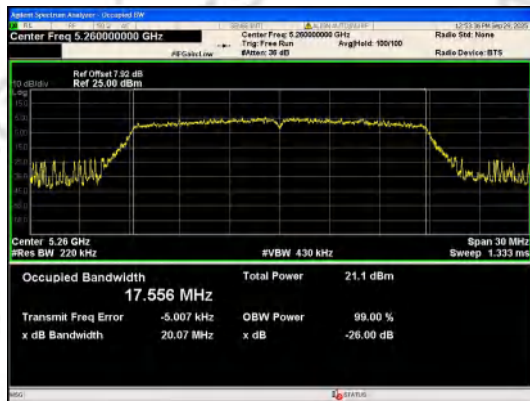
IEEE 802.11a_Channel 140_20MHz_Antenna 0



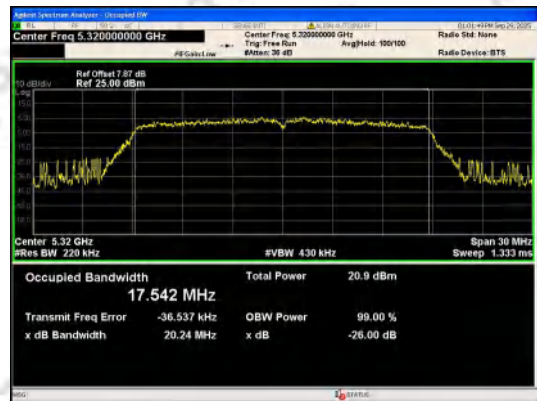
IEEE 802.11n_Channel 36_20MHz_Antenna 0



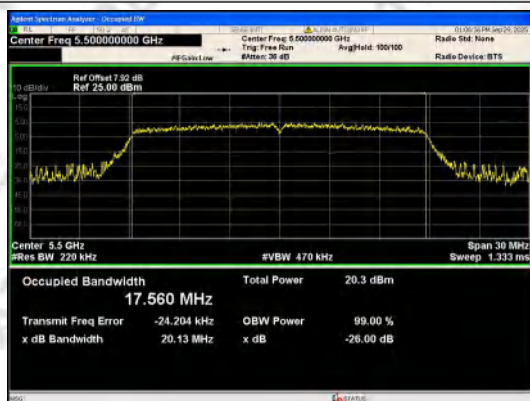
IEEE 802.11n_Channel 48_20MHz_Antenna 0



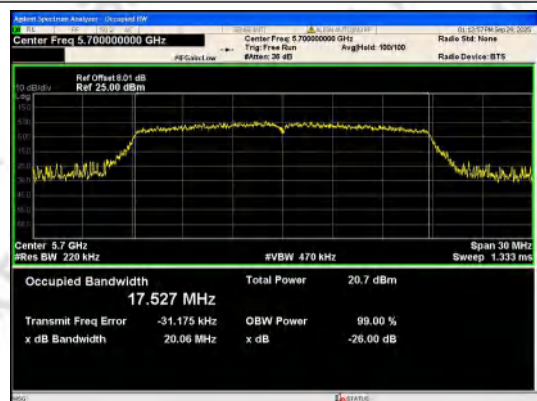
IEEE 802.11n_Channel 52_20MHz_Antenna 0



IEEE 802.11n_Channel 64_20MHz_Antenna 0



IEEE 802.11n_Channel 100_20MHz_Antenna 0



IEEE 802.11n_Channel 140_20MHz_Antenna 0