

APPENIX FOR TEST DATA

Appendix D:Conducted Output Power

Test Result

Mode	Channel	Ant. 0 (dBm)	Ant. 1 (dBm)	Total (dBm)	Limit (dBm)	Result
IEEE 802.11a	36	12.99	13.68	N/A	30	PASS
	64	12.37	13.84	N/A	20	PASS
	100	12.38	13.74	N/A	23.97	PASS
	140	15.72	14.81	N/A		PASS
	149	15.34	14.34	N/A	30	PASS
	157	15.46	13.85	N/A		PASS
	165	16.2	14.95	N/A		PASS
IEEE 802.11n_20	36	13.22	14.67	17.016	27.99	PASS
	64	13.4	14.81	17.172	17.99	PASS
	100	13.69	13.07	16.401	21.96	PASS
	140	16.67	12.87	18.183		PASS
	149	16.31	13.12	18.012	27.99	PASS
	157	15.64	14.51	18.122		PASS
	165	16.32	13.54	18.159		PASS
IEEE 802.11n_40	38	13.07	13.64	16.375	27.99	PASS
	62	13.61	14.05	16.846	17.99	PASS
	102	13.34	13.41	16.385	21.96	PASS
	134	14.89	14.31	17.620		PASS
	151	16.71	14.36	18.702	27.99	PASS
	159	16.2	15.13	18.708		PASS
IEEE 802.11ac_20	36	12.13	13.45	15.850	27.99	PASS
	64	12.32	12.87	15.614	17.99	PASS
	100	12.53	13.64	16.131	21.96	PASS
	140	15.37	13.45	17.526		PASS
	149	16.58	13.67	18.375	27.99	PASS
	157	15.93	14.31	18.205		PASS
	165	16.63	14.36	18.652		PASS
IEEE 802.11ac_40	38	12.96	13.54	16.270	27.99	PASS
	62	13.6	13.87	16.747	17.99	PASS
	102	13.95	14.31	17.144	21.96	PASS
	134	14.88	13.87	17.415		PASS
	151	16.12	12.64	17.730	27.99	PASS
	159	15.57	13.87	17.813		PASS
IEEE 802.11ac_80	42	13.53	13.55	16.550	27.99	PASS
	58	13.19	14.36	16.825	17.99	PASS
	106	13.38	13.78	16.595	21.96	PASS
	122	13.8	15.35	17.654		PASS
	155	16.54	14.64	18.703	27.99	PASS

Note:

1. The power of antenna 0 and antenna 1 is converted into milliwatt units, and the added power is taken logarithmically and multiplied by 10.
2. For 802.11n/ac : Directional gain = $G_{ANT} + 10 \log(N_{ANT}) \text{dBi} = 5 + 10 \log(2) = 8.01 > 6 \text{dBi}$, so the power limit shall be reduced to $\text{Limit } 30 - (8.01 - 6) = 27.99 \text{dBm}$;
 $20 - (8.01 - 6) = 17.99 \text{dBm}$; $23.97 - (8.01 - 6) = 21.96 \text{dBm}$

EIRP						
Mode	Channel	Ant. 0 (dBm)	Ant. 1 (dBm)	Total (dBm)	Limit (dBm)	Result
IEEE 802.11a	36	17.99	18.68	N/A	/	PASS
	64	17.37	18.84	N/A	/	PASS
	100	17.38	18.74	N/A	/	PASS
	140	20.72	19.81	N/A	/	PASS
	149	20.34	19.34	N/A	/	PASS
	157	20.46	18.85	N/A	/	PASS
	165	21.2	19.95	N/A	/	PASS
IEEE 802.11n_20	36	18.22	19.67	22.016	/	PASS
	64	18.4	19.81	22.172	/	PASS
	100	18.69	18.07	21.401	/	PASS
	140	21.67	17.87	23.183	/	PASS
	149	21.31	18.12	23.012	/	PASS
	157	20.64	19.51	23.122	/	PASS
	165	21.32	18.54	23.159	/	PASS
IEEE 802.11n_40	38	18.07	18.64	21.375	/	PASS
	62	18.61	19.05	21.846	/	PASS
	102	18.34	18.41	21.385	/	PASS
	134	19.89	19.31	22.620	/	PASS
	151	21.71	19.36	23.702	/	PASS
	159	21.2	20.13	23.708	/	PASS
IEEE 802.11ac_20	36	17.13	18.45	20.850	/	PASS
	64	17.32	17.87	20.614	/	PASS
	100	17.53	18.64	21.131	/	PASS
	140	20.37	18.45	22.526	/	PASS
	149	21.58	18.67	23.375	/	PASS
	157	20.93	19.31	23.205	/	PASS
	165	21.63	19.36	23.652	/	PASS
IEEE 802.11ac_40	38	17.96	18.54	21.270	/	PASS
	62	18.6	18.87	21.747	/	PASS
	102	18.95	19.31	22.144	/	PASS
	134	19.88	18.87	22.415	/	PASS
	151	21.12	17.64	22.730	/	PASS
	159	20.57	18.87	22.813	/	PASS
IEEE 802.11ac_80	42	18.53	18.55	21.550	/	PASS
	58	18.19	19.36	21.825	/	PASS

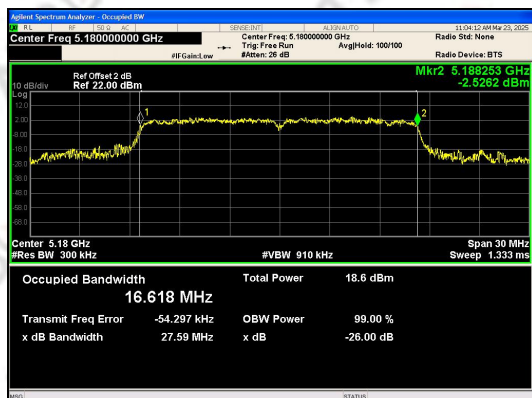
	106	18.38	18.78	21.595	/	PASS
	122	18.8	20.35	22.654	/	PASS
	155	21.54	19.64	23.703	/	PASS

99% Bandwidth

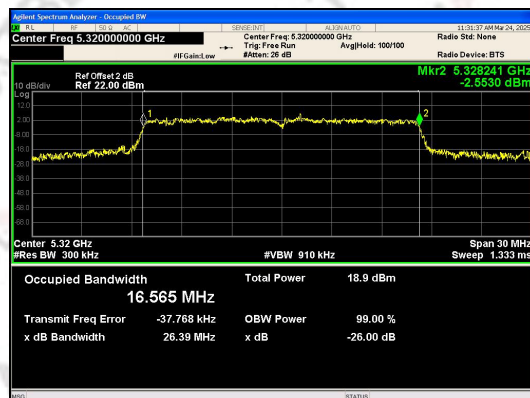
Test Result for Ant0

Mode	Channel	Ant.	Center Frequency (MHz)	99% BW (MHz)
IEEE 802.11a	36	0	5180	16.618
	64		5320	16.565
	100		5500	16.449
	140		5700	24.655
IEEE 802.11n_20	36	0	5180	17.601
	64		5320	17.757
	100		5500	18.849
	140		5700	24.549
IEEE 802.11n_40	38	0	5190	36.444
	62		5310	36.561
	102		5510	36.127
	134		5670	36.221
IEEE 802.11ac_20	36	0	5180	17.700
	64		5320	17.737
	100		5500	19.656
	140		5700	24.454
IEEE 802.11ac_40	38	0	5190	36.559
	62		5310	36.451
	102		5510	35.994
	134		5670	36.149
IEEE 802.11ac_80	42	0	5210	76.751
	58		5290	77.103
	106		5530	75.399
	122		5610	75.565
IEEE 802.11a	149	0	5745	16.651
	157		5785	16.972
	165		5825	16.483
IEEE 802.11n_20	149	0	5745	17.682
	157		5785	17.797
	165		5825	17.970
IEEE 802.11n_40	142	0	5710	33.329
	151		5755	36.402
	159		5795	37.644
IEEE 802.11ac_20	149	0	5745	17.751
	157		5785	17.786
	165		5825	17.794
IEEE 802.11ac_40	151	0	5755	36.353
	159		5795	36.809
IEEE 802.11ac_80	155	0	5775	79.062

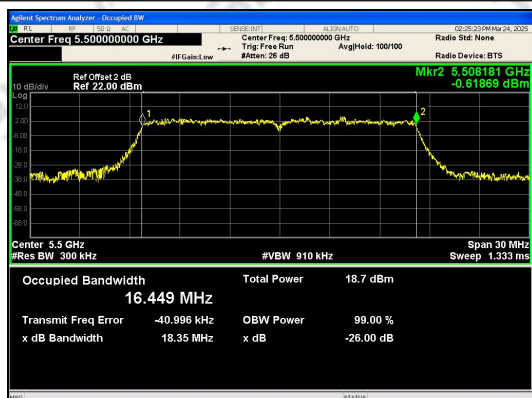
Test Graphs for Ant0



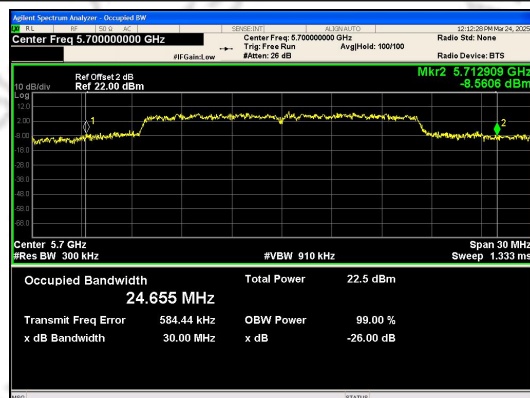
IEEE 802.11a_Channel 36_20MHz_Antenna 0



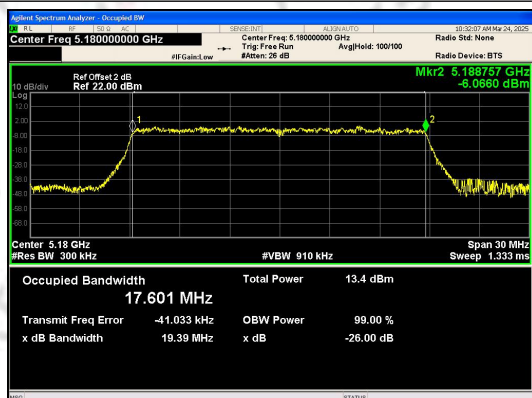
IEEE 802.11a_Channel 64_20MHz_Antenna 0



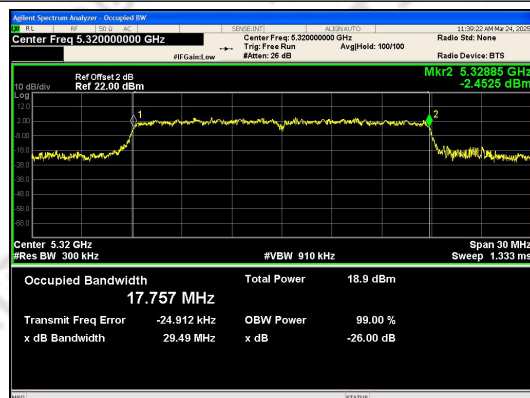
IEEE 802.11a_Channel 100_20MHz_Antenna 0



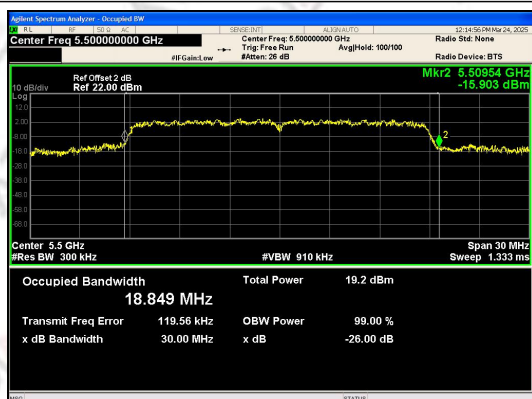
IEEE 802.11a_Channel 140_20MHz_Antenna 0



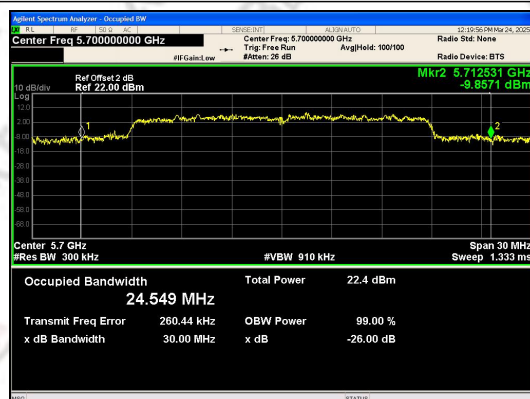
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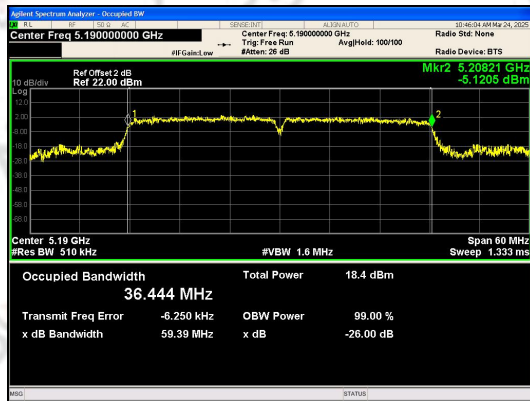


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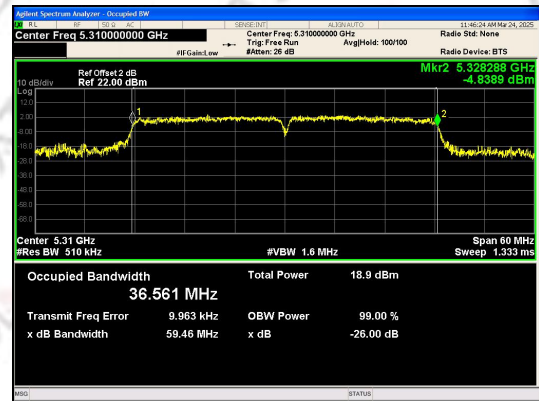


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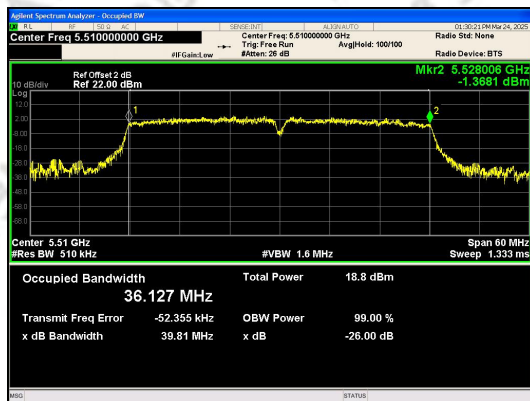
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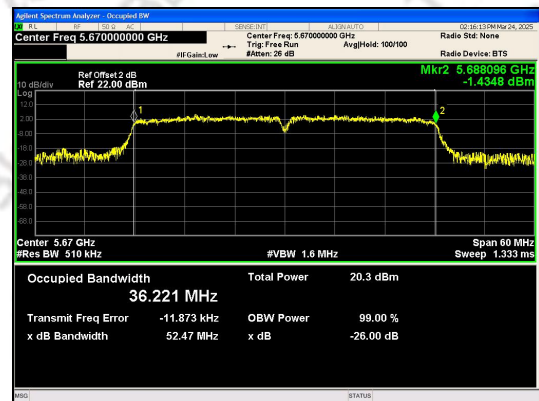
IEEE 802.11n_Channel 140_20MHz_Antenna 0



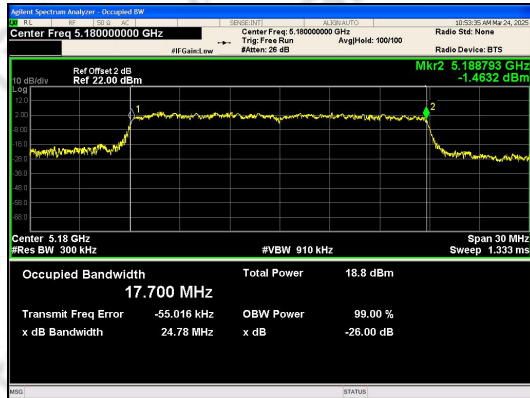
IEEE 802.11n_Channel 38_40MHz_Antenna 0



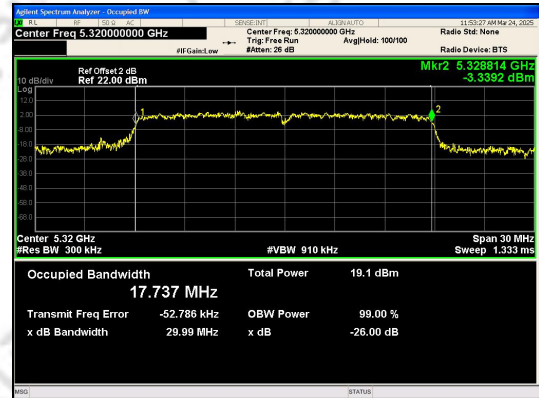
IEEE 802.11n_Channel 62_40MHz_Antenna 0



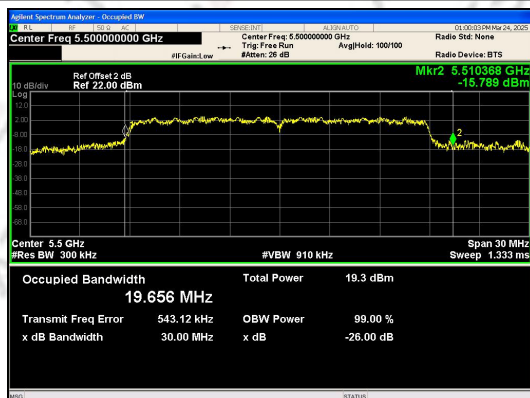
IEEE 802.11n_Channel 102_40MHz_Antenna 0



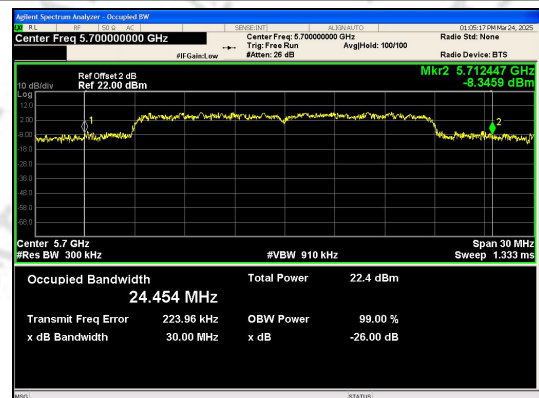
IEEE 802.11n_Channel 134_40MHz_Antenna 0



IEEE 802.11ac_Channel 36_20MHz_Antenna 0

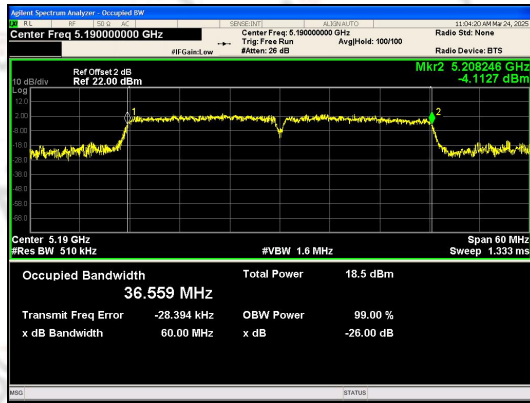


IEEE 802.11ac_Channel 64_20MHz_Antenna 0

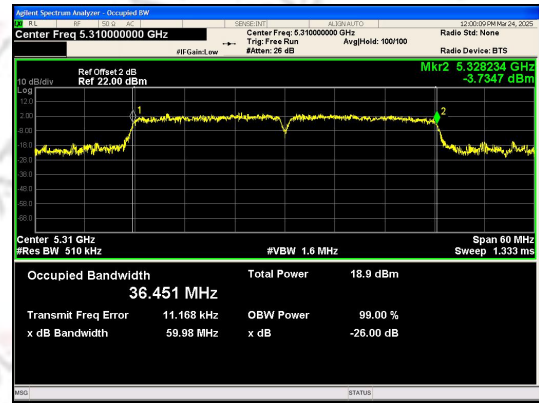


IEEE 802.11ac_Channel 100_20MHz_Antenna 0

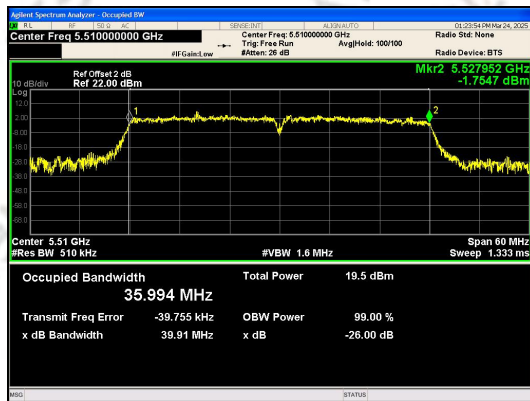
IEEE 802.11ac_Channel 140_20MHz_Antenna 0



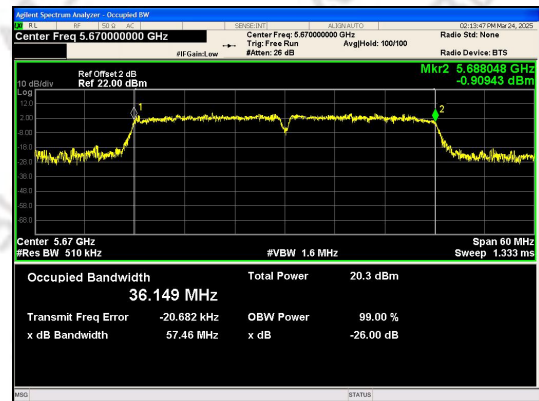
IEEE 802.11ac_Channel 38_40MHz_Antenna 0



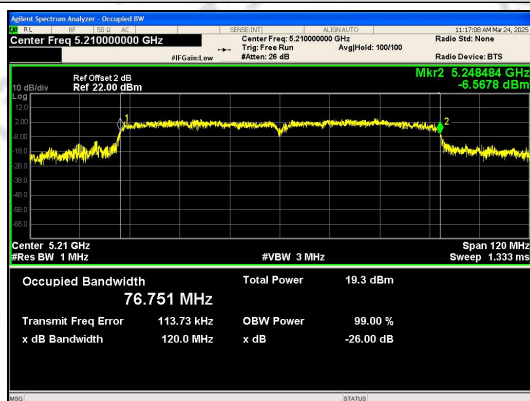
IEEE 802.11ac_Channel 62_40MHz_Antenna 0



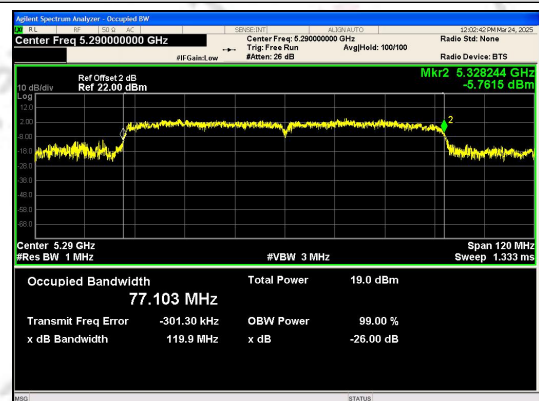
IEEE 802.11ac_Channel 102_40MHz_Antenna 0



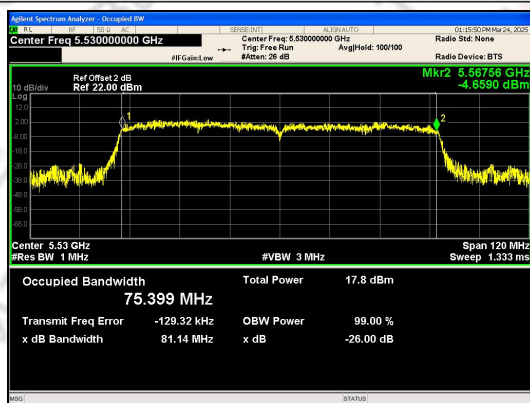
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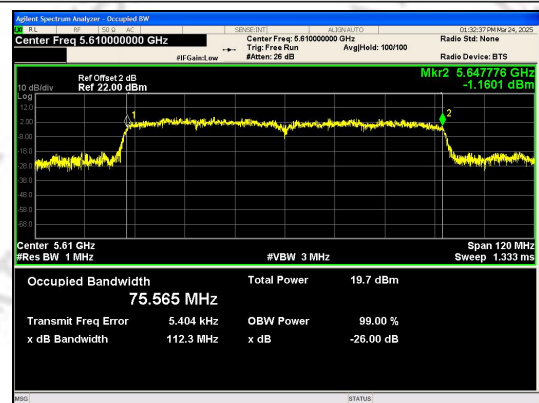
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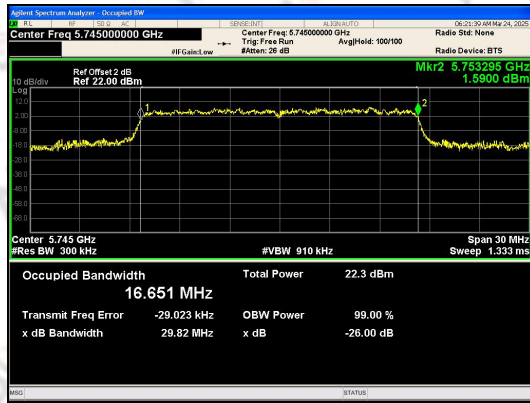
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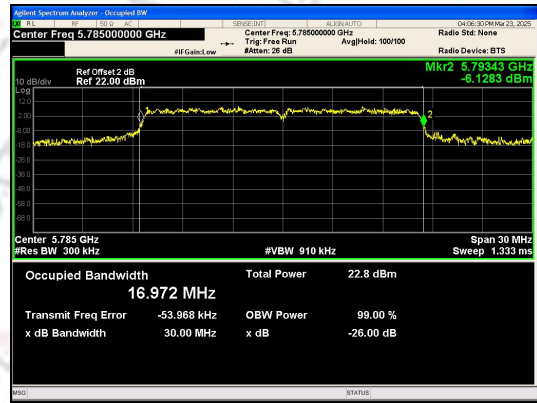
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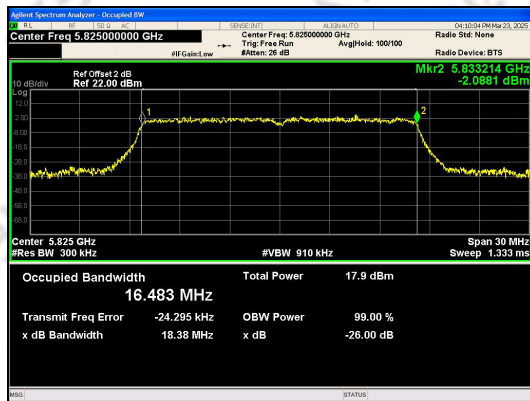
IEEE 802.11ac_Channel 122_80MHz_Antenna 0



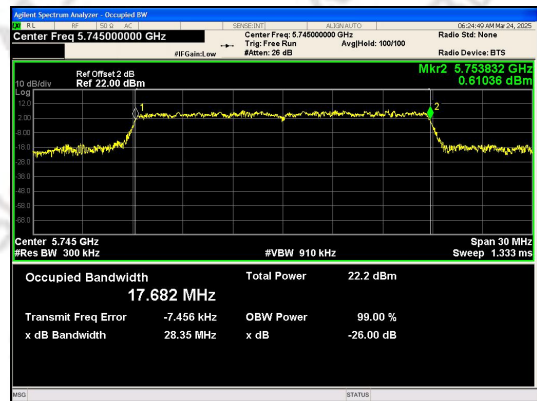
IEEE 802.11a_Channel 149_20MHz_Antenna 0



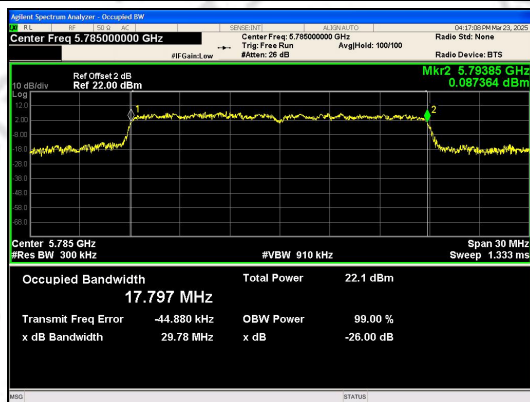
IEEE 802.11a_Channel 157_20MHz_Antenna 0



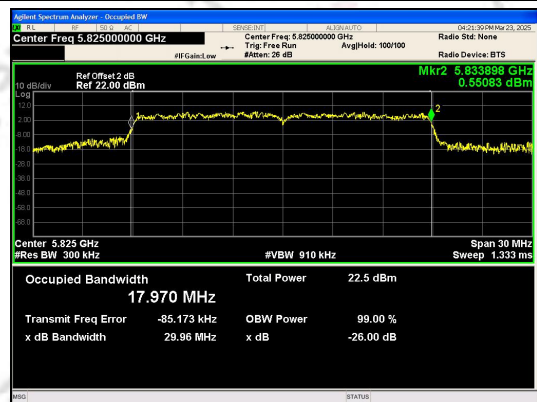
IEEE 802.11a_Channel 165_20MHz_Antenna 0



IEEE 802.11n_Channel 149_20MHz_Antenna 0

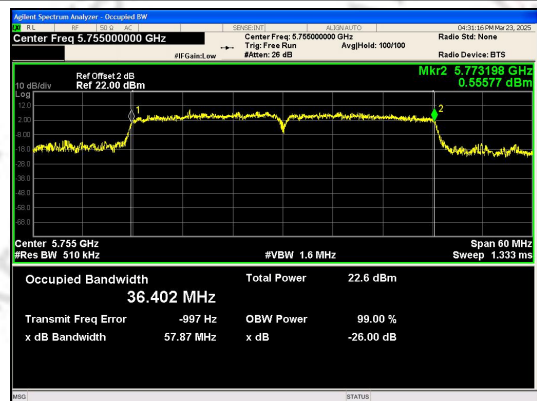


IEEE 802.11n_Channel 157_20MHz_Antenna 0



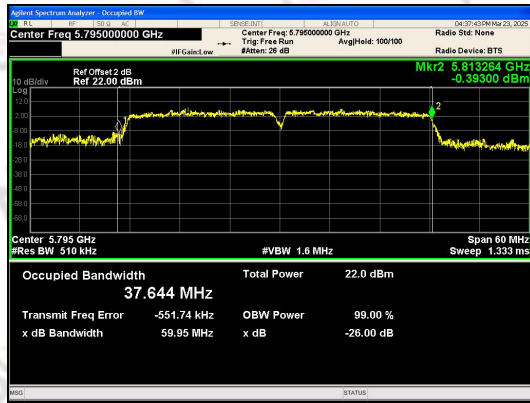
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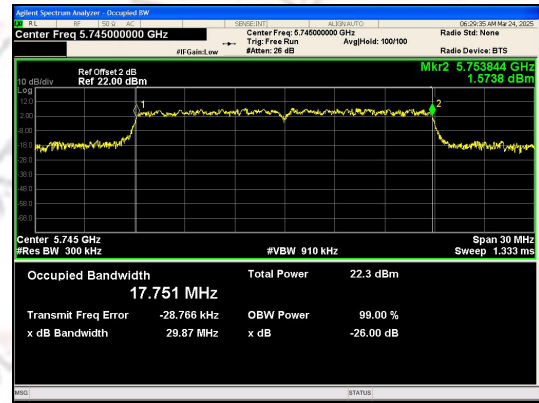


IEEE 802.11n_Channel 151_40MHz_Antenna 0

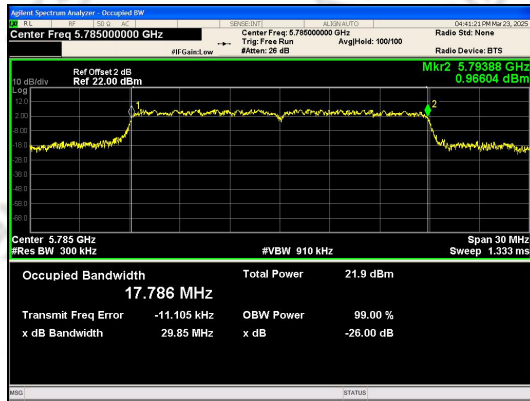
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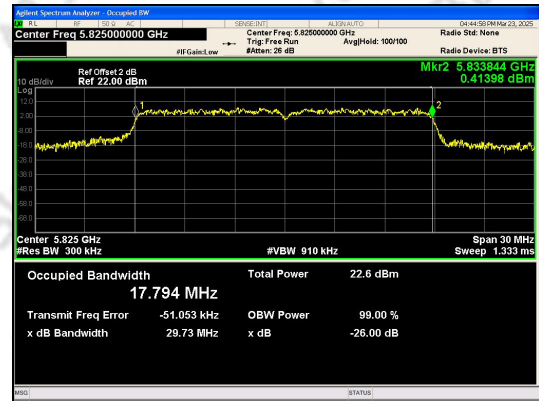
IEEE 802.11n_Channel 159_40MHz_Antenna 0



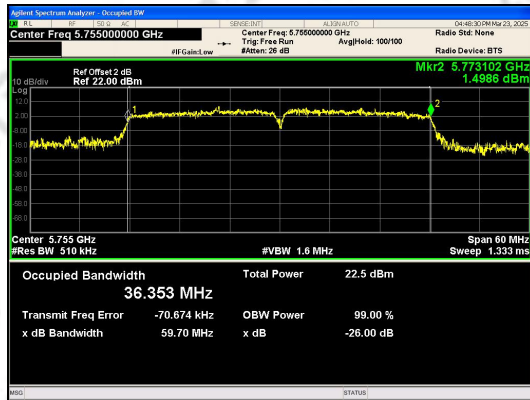
IEEE 802.11ac_Channel 149_20MHz_Antenna 0



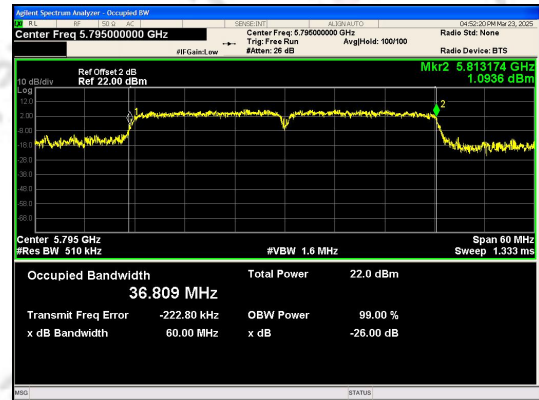
IEEE 802.11ac_Channel 157_20MHz_Antenna 0



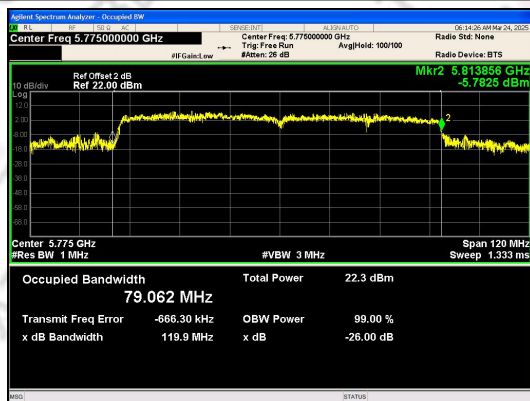
IEEE 802.11ac_Channel 165_20MHz_Antenna 0



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 for Ant0

Mode	Channel	Ant.	Center Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
IEEE 802.11a	36	0	5180	16.43	≥0.5	PASS
	64		5320	16.29		PASS
	100		5500	16.39		PASS
	140		5700	16.04		PASS
IEEE 802.11n_20	36		5180	17.57		PASS
	64		5320	17.28		PASS
	100		5500	17.07		PASS
	140		5700	16.34		PASS
IEEE 802.11n_40	38		5190	35.15		PASS
	62		5310	35.13		PASS
	102		5510	35.70		PASS
	134		5670	35.13		PASS
IEEE 802.11ac_20	36		5180	17.45		PASS
	64		5320	17.55		PASS
	100		5500	16.67		PASS
	140		5700	17.50		PASS
IEEE 802.11ac_40	38		5190	35.37		PASS
	62		5310	35.36		PASS
	102		5510	35.44		PASS
	134		5670	35.44		PASS
IEEE 802.11ac_80	42		5210	75.12		PASS
	58		5290	75.10		PASS
	106		5530	75.10		PASS
	122		5610	73.88		PASS
IEEE 802.11a	149		5745	16.30		PASS
	157		5785	16.36		PASS
	165		5825	16.44		PASS
IEEE 802.11n_20	149		5745	17.48		PASS
	157		5785	17.43		PASS
	165		5825	17.26		PASS
IEEE 802.11n_40	142		5755	3.120		PASS
	151		5755	35.75		PASS
	159		5795	36.31		PASS
IEEE 802.11ac_20	149		5745	17.57		PASS
	157		5785	17.58		PASS
	165		5825	17.55		PASS
IEEE 802.11ac_40	151		5755	35.14		PASS
	159		5795	35.15		PASS
IEEE 802.11ac_80	155		5775	75.11		PASS