Appendix C

RF Test Data for 5.8G WLAN (Conducted Measurement)

Product Name: Wireless AP/CPE/Access Point/Bridge Test Model: DIP9526K-H

Environmental Conditions

Temperature:	22.7 ° C					
Relative Humidity:	52.6%					
ATM Pressure:	100.0 kPa					
Test Engineer:	Wang Chuang					
Supervised by:	Tom Liu					

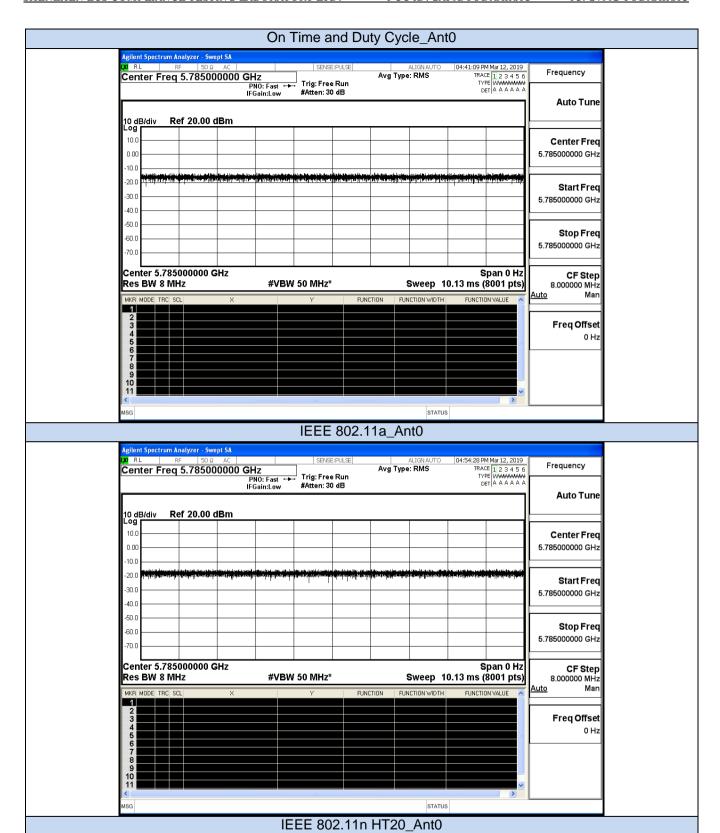
C.1 Duty Cycle

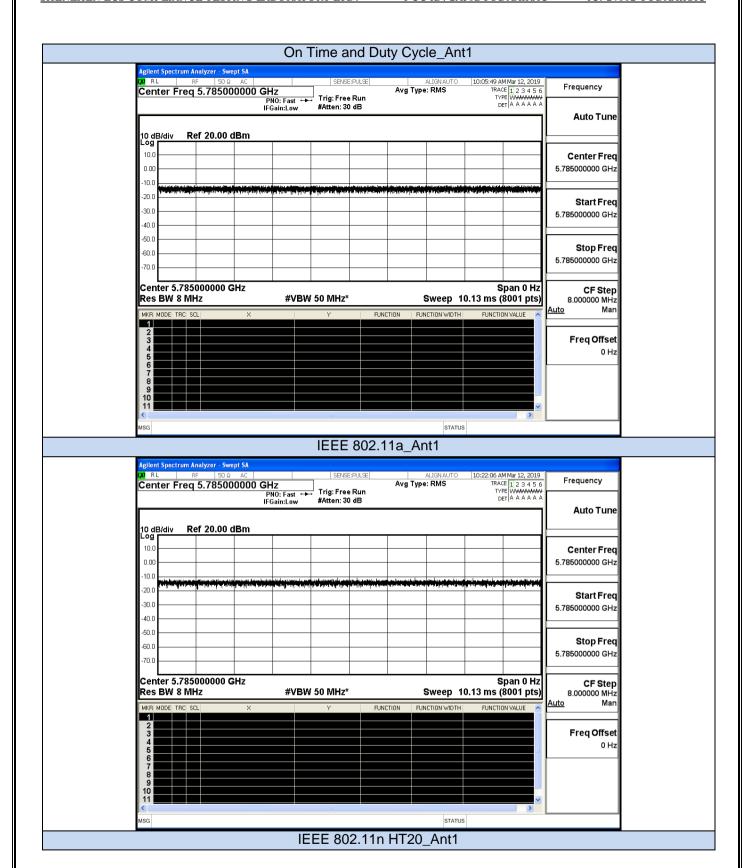
Ant0

Test Mode	Test Frequency (MHz)	Duty Cycle (%)	10log(1/x) Factor (dB)	1/B Minimum VBW(KHz)
11A	5785	100	0.00	0.01
11N20	5785	100	0.00	0.01
11N40	5755	100	0.00	0.01
11AC20	5785	100	0.00	0.01
11AC40	5755	100	0.00	0.01
11AC80	5775	100	0.00	0.01

Ant1

Test Mode	Test Frequency (MHz)	Duty Cycle (%)	10log(1/x) Factor (dB)	1/B Minimum VBW(KHz)
11A	5785	100	0.00	0.01
11N20	5785	100	0.00	0.01
11N40	5755	100	0.00	0.01
11AC20	5785	100	0.00	0.01
11AC40	5755	100	0.00	0.01
11AC80	5775	100	0.00	0.01





C.2 Maximum Conduct Output Power

Ant0

Test	Channel	Frequency	AVG Conducted	Duty Cycle	Report Conducted	Limit	Verdict
Mode	Chamilei	(MHz)	Power (dBm)	Factor(dB)	Power(dBm)	(dBm)	Verdict
	149	5745	0.76	0	0.76		Pass
11A	157	5785	1.56	0	1.56	24	Pass
	165	5825	1.85	0	1.85		Pass
	149	5745	1.81	0	1.81		Pass
11N20	157	5785	2.14	0	2.14	24	Pass
	165	5825	1.62	0	1.62		Pass
11N40	151	5755	1.87	0	1.87	24	Pass
111140	159	5795	2.44	0	2.44	24	Pass
	149	5745	2.45	0	2.45		Pass
11AC20	157	5785	1.74	0	1.74	24	Pass
	165	5825	2.24	0	2.24		Pass
11AC40	151	5755	1.98	0	1.98	24	Pass
114040	159	5795	1.87	0	1.87		Pass
11AC80	155	5775	1.12	0	1.12	24	Pass

Ant1

Test	Channel	Frequency	AVG Conducted	Duty Cycle	Report Conducted	Limit	Verdict	
Mode		(MHz)	Power (dBm)	Factor(dB)	Power(dBm)	(dBm)	Volum	
	149	5745	0.50	0	0.50		Pass	
11A	157	5785	1.68	0	1.68	24	Pass	
	165	5825	0.86	0	0.86		Pass	
	149	5745	1.02	0	1.02		Pass	
11N20	157	5785	2.12	0	2.12	24	Pass	
	165	5825	1.39	0	1.39		Pass	
11N40	151	5755	1.70	0	1.70	24	Pass	
111140	159	5795	2.13	0	2.13	24	Pass	
	149	5745	2.39	0	2.39		Pass	
11AC20	157	5785	1.68	0	1.68	24	Pass	
	165	5825	2.23	0	2.23		Pass	
1110010	151	5755	1.81	0	1.81	- 24	Pass	
11AC40	159	5795	1.67	0	1.67	7 24	Pass	
11AC80	155	5775	1.02	0	1.02	24	Pass	

Ant0+Ant1

Test	Channel	Channel Frequency	AVG Conducted Power (dBm)			Duty Cycle	Report Conducted Power(dBm)			Limit
Mode	Gname	(MHz)	Ant0	Ant1	Sum	Factor (dB)	Ant0	Ant1	Sum	(dBm)
	149	5745	1.81	1.02	4.44	0	1.81	1.02	4.44	20.99
11N20	157	5785	2.14	2.12	5.14	0	2.14	2.12	5.14	
	165	5825	1.62	1.39	4.52	0	1.62	1.39	4.52	
11N40	151	5755	1.87	1.70	4.80	0	1.87	1.70	4.80	20.99
111140	159	5795	2.44	2.13	5.30	0	2.44	2.13	5.30	20.99
	149	5745	2.45	2.39	5.43	0	2.45	2.39	5.43	
11AC20	157	5785	1.74	1.68	4.72	0	1.74	1.68	4.72	20.99
	165	5825	2.24	2.23	5.25	0	2.24	2.23	5.25	
11AC40	151	5755	1.98	1.81	4.91	0	1.98	1.81	4.91	20.99
114040	159	5795	1.87	1.67	4.78	0	1.87	1.67	4.78	20.99
11AC80	155	5775	1.12	1.02	4.08	0	1.12	1.02	4.08	20.99

C.3 Power Spectral Density

Ant0

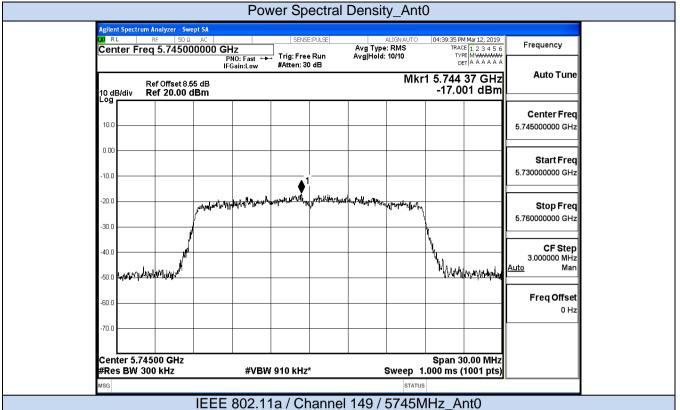
Test Mode	Channel	Frequency (MHz)	Power Density (dBm/300KHz)	Duty Cycle Factor (dB)	RBW Factor (dB)	Report Power Density (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
	149	5745	-17.00	0	2.218	-14.78		Pass
11A	157	5785	-14.14	0	2.218	-11.92	24	Pass
	165	5825	-11.66	0	2.218	-9.44		Pass
	149	5745	-16.08	0	2.218	-13.86		Pass
11N20	157	5785	-16.28	0	2.218	-14.06	24	Pass
	165	5825	-13.95	0	2.218	-11.73		Pass
11N40	151	5755	-21.10	0	2.218	-18.88	24	Pass
111140	159	5795	-18.18	0	2.218	-15.96	24	Pass
	149	5745	-16.42	0	2.218	-14.20		Pass
11AC20	157	5785	-14.67	0	2.218	-12.45	24	Pass
	165	5825	-13.44	0	2.218	-11.22		Pass
11AC40	151	5755	-19.59	0	2.218	-17.37	24	Pass
114040	159	5795	-19.37	0	2.218	-17.15	24	Pass
11AC80	155	5775	-19.73	0	2.218	-17.52	24	Pass

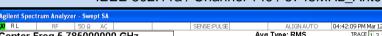
∆nt1

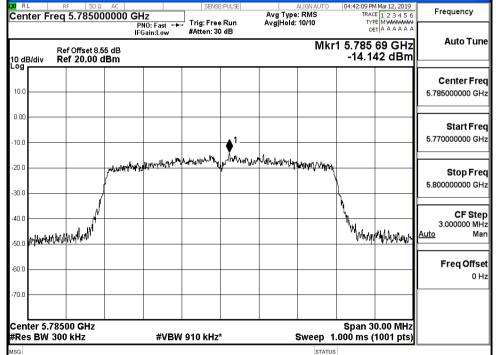
Anti								
Test Mode	Channel	Frequency (MHz)	Power Density (dBm/300KHz)	Duty Cycle Factor (dB)	RBW Factor (dB)	Report Power Density (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
	149	5745	-14.07	0	2.218	-11.85		Pass
11A	157	5785	-13.13	0	2.218	-10.91	24	Pass
	165	5825	-12.93	0	2.218	-10.71		Pass
	149	5745	-14.12	0	2.218	-11.90		Pass
11N20	157	5785	-11.45	0	2.218	-9.23	24	Pass
	165	5825	-12.79	0	2.218	-10.57		Pass
11N40	151	5755	-17.24	0	2.218	-15.02	24	Pass
11N4U	159	5795	-15.71	0	2.218	-13.49	24	Pass
	149	5745	-13.88	0	2.218	-11.66		Pass
11AC20	157	5785	-11.72	0	2.218	-9.50	24	Pass
	165	5825	-12.41	0	2.218	-10.19		Pass
11AC40	151	5755	-14.61	0	2.218	-12.39	24	Pass
114040	159	5795	-13.41	0	2.218	-11.19	24	Pass
11AC80	155	5775	-20.86	0	2.218	-18.65	24	Pass

Combined Ant0 and Ant1

	Combined Anto and Anti										
Test Channe	Channel	Frequency (MHz)	Power Density (dBm/300KHz)			Duty Cycle Factor	RBW Factor	Report Power Density (dBm/500KHz)			Limit (dBm/500
		, ,	Ant0	Ant1	Sum	(dB)	(dB)	Ant0	Ant1	Sum	KHz)
	149	5745	-16.08	-14.12	-11.98	0	2.218	-13.86	-11.90	-9.76	
11N20	157	5785	-16.28	-11.45	-10.22	0	2.218	-14.06	-9.23	-8.00	20.99
	165	5825	-13.95	-12.79	-10.32	0	2.218	-11.73	-10.57	-8.10	
11N40	151	5755	-21.10	-17.24	-15.74	0	2.218	-18.88	-15.02	-13.52	20.99
111140	159	5795	-18.18	-15.71	-13.76	0	2.218	-15.96	-13.49	-11.54	20.99
	149	5745	-16.42	-13.88	-11.96	0	2.218	-14.20	-11.66	-9.74	
11AC20	157	5785	-14.67	-11.72	-9.94	0	2.218	-12.45	-9.50	-7.72	20.99
	165	5825	-13.44	-12.41	-9.88	0	2.218	-11.22	-10.19	-7.66	
11AC40	151	5755	-19.59	-14.61	-13.41	0	2.218	-17.37	-12.39	-11.19	20.99
117040	159	5795	-19.37	-13.41	-12.43	0	2.218	-17.15	-11.19	-10.21	20.99
11AC80	155	5775	-19.73	-20.86	-17.25	0	2.218	-17.52	-18.65	-15.04	20.99







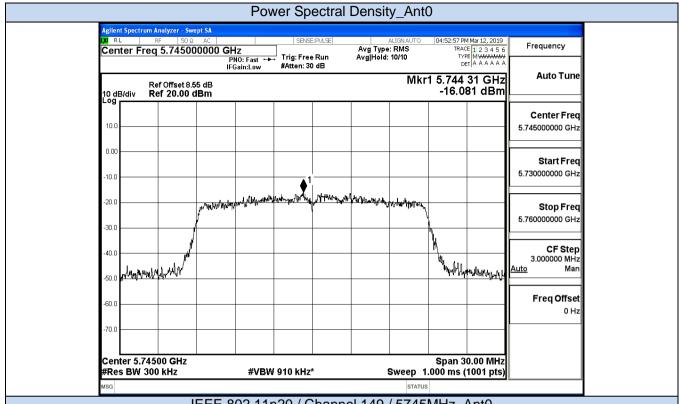
IEEE 802.11a / Channel 157 / 5785MHz_Ant0

#VBW 910 kHz*

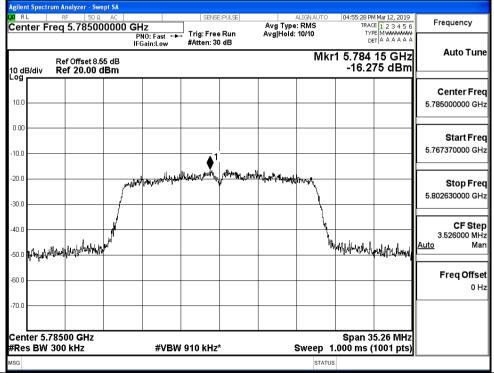
Span 30.00 MHz Sweep 1.000 ms (1001 pts)

STATUS

Center 5.82500 GHz #Res BW 300 kHz



IEEE 802.11n20 / Channel 149 / 5745MHz_Ant0



IEEE 802.11n20 / Channel 157 / 5785MHz_Ant0

IEEE 802.11n20 / Channel 165 / 5825MHz_Ant0

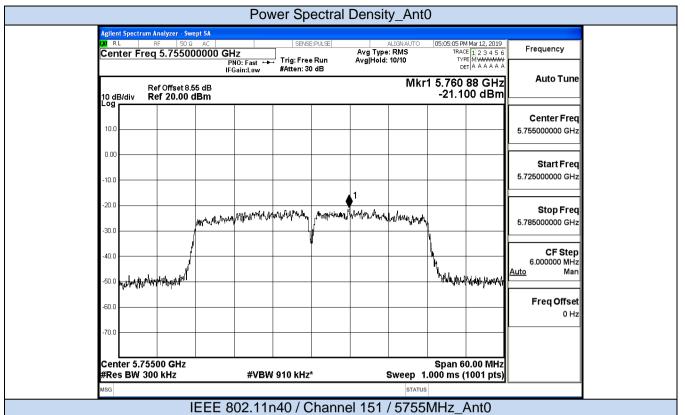
#VBW 910 kHz*

Span 30.00 MHz Sweep 1.000 ms (1001 pts)

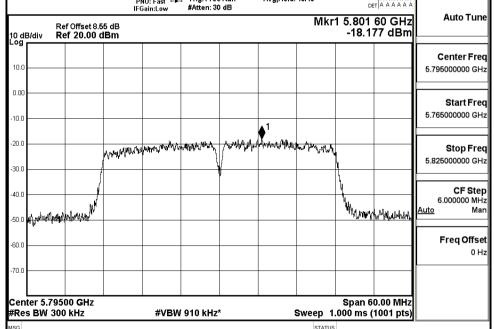
STATUS

Center 5.82500 GHz #Res BW 300 kHz

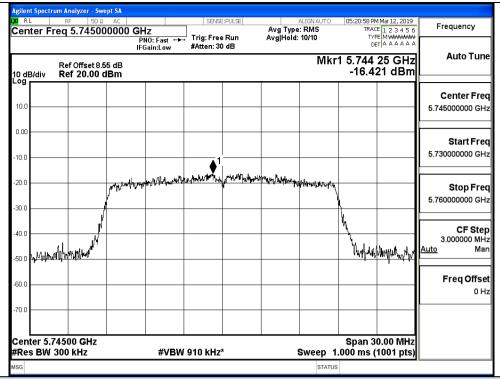
Frequency



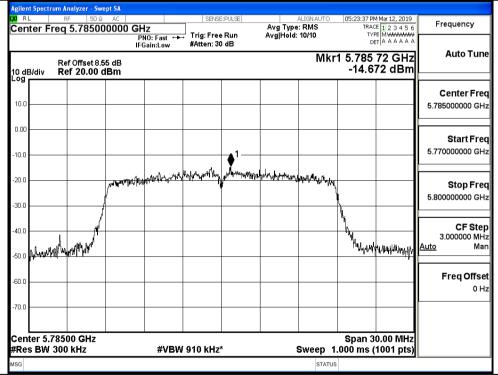
Agient Spectrum Analyzer - Swept SA V/2 RL RF 50.9 AC SENSE:PU.SE ALIGNAUTO 05:11:11 PM Mar 12, 2019 Center Freq 5.795000000 GHz FRO: Freat PNO: Fast PNO: Fast PNO: Fast Fee Run PAtten: 30 dB Avg Type: RMS Avg|Hold: 10/10 TRACE | 12.3 4 5.6



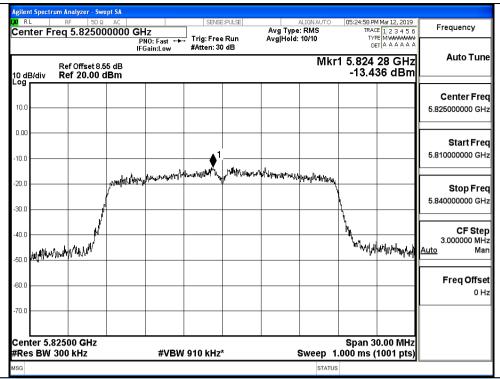
IEEE 802.11n40 / Channel 159 / 5795MHz_Ant0



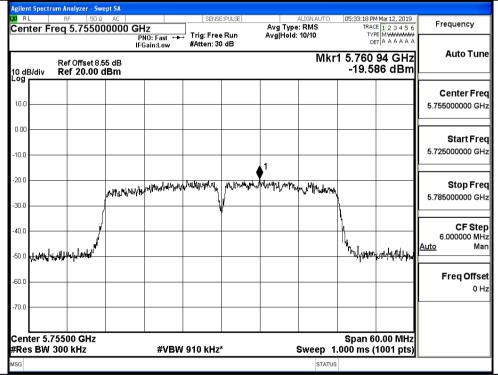
IEEE 802.11ac20 / Channel 149 / 5745MHz Ant0



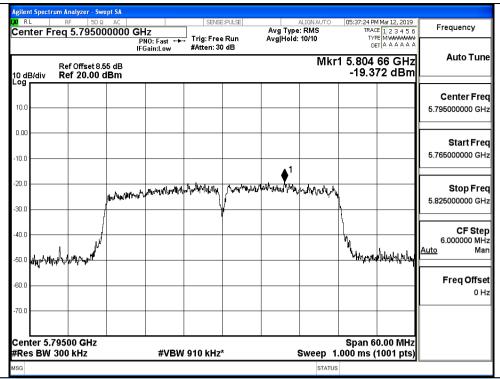
IEEE 802.11ac20 / Channel 157 / 5785MHz_Ant0



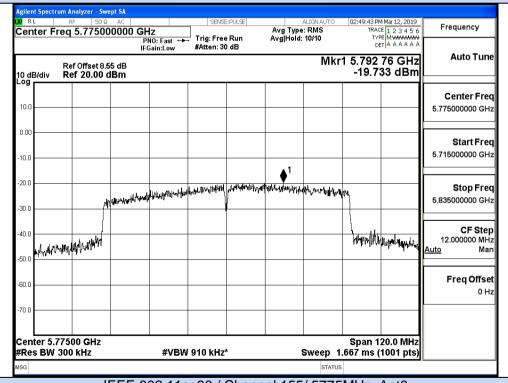
IEEE 802.11ac20 / Channel 165 / 5825MHz_Ant0



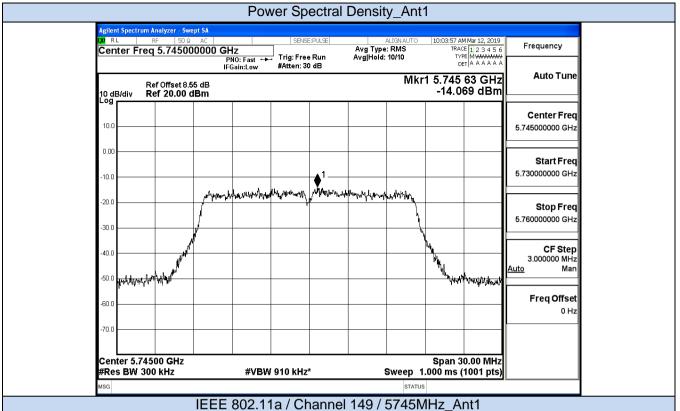
IEEE 802.11ac40 / Channel 151 / 5755MHz_Ant0

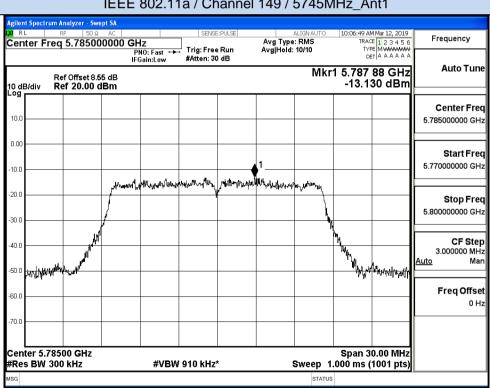


IEEE 802.11ac40 / Channel 159 / 5795MHz_Ant0



IEEE 802.11ac80 / Channel 155/ 5775MHz_Ant0





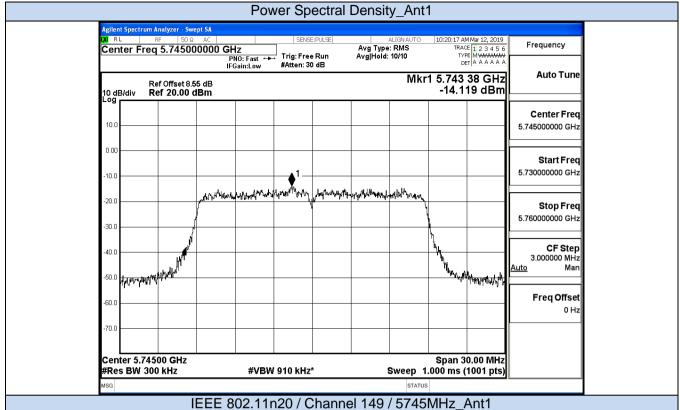
IEEE 802.11a / Channel 157 / 5785MHz_Ant1

#VBW 910 kHz*

Span 30.00 MHz Sweep 1.000 ms (1001 pts)

STATUS

Center 5.82500 GHz #Res BW 300 kHz



Agilent Spectrum Analyzer - Swept SA Frequency Center Freq 5.785000000 GHz PNO: Fast +-- Trig: Free Run IFGain:Low #Atten: 30 dB **Auto Tune** Mkr1 5.789 425 0 GHz Ref Offset 8.55 dB Ref 20.00 dBm 10 dB/div Log -11.448 dBm Center Freq 5.785000000 GHz 0.00 Start Freq 5.767300000 GHz -10.0 -20.0 Stop Freq 5.802700000 GHz CF Step -40.0 3.540000 MHz <u>Auto</u> Madel was different by the property of the pro -50.0 Freq Offset -60.0 0 Hz Center 5.78500 GHz #Res BW 300 kHz Span 35.40 MHz Sweep 1.000 ms (1001 pts) **#VBW** 910 kHz*

Page 20 of 87

IEEE 802.11n20 / Channel 157 / 5785MHz_Ant1

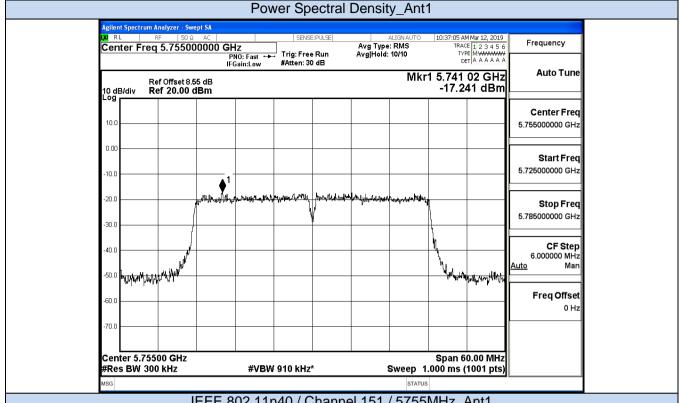
IEEE 802.11n20 / Channel 165 / 5825MHz_Ant1

#VBW 910 kHz*

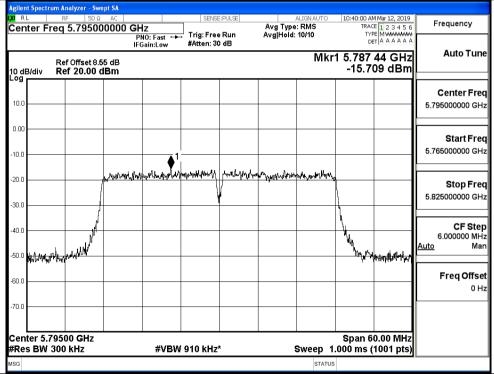
Span 30.00 MHz Sweep 1.000 ms (1001 pts)

STATUS

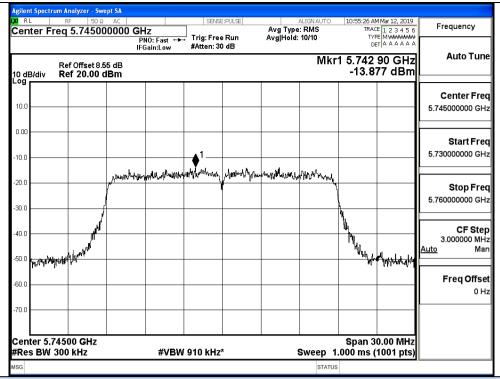
Center 5.82500 GHz #Res BW 300 kHz



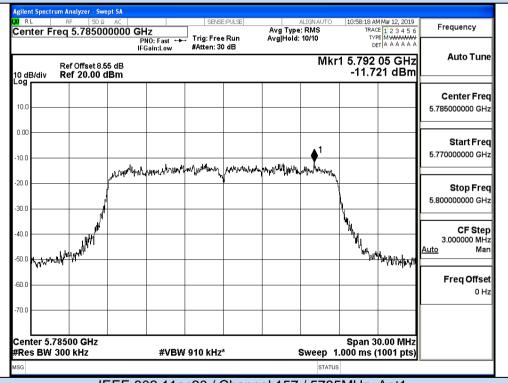




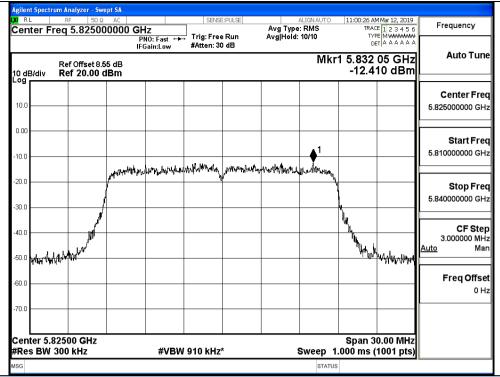
IEEE 802.11n40 / Channel 159 / 5795MHz_Ant1



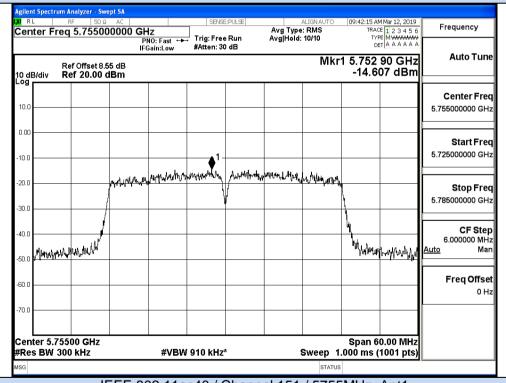
IEEE 802.11ac20 / Channel 149 / 5745MHz Ant1



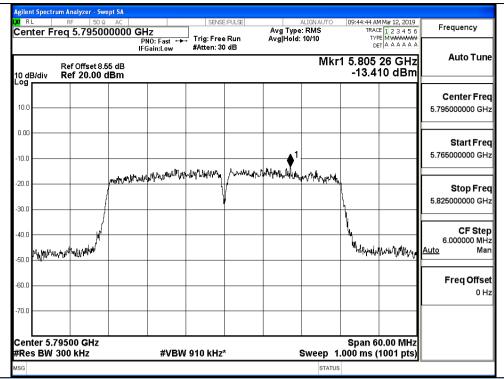
IEEE 802.11ac20 / Channel 157 / 5785MHz_Ant1



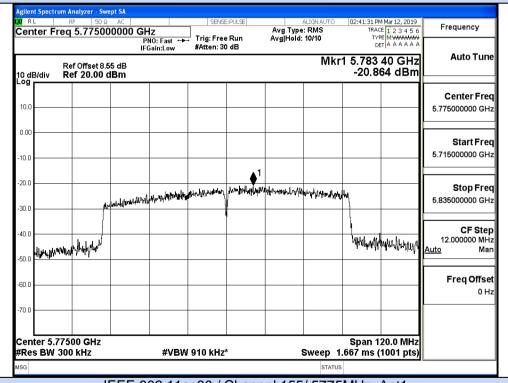
IEEE 802.11ac20 / Channel 165 / 5825MHz_Ant1



IEEE 802.11ac40 / Channel 151 / 5755MHz_Ant1



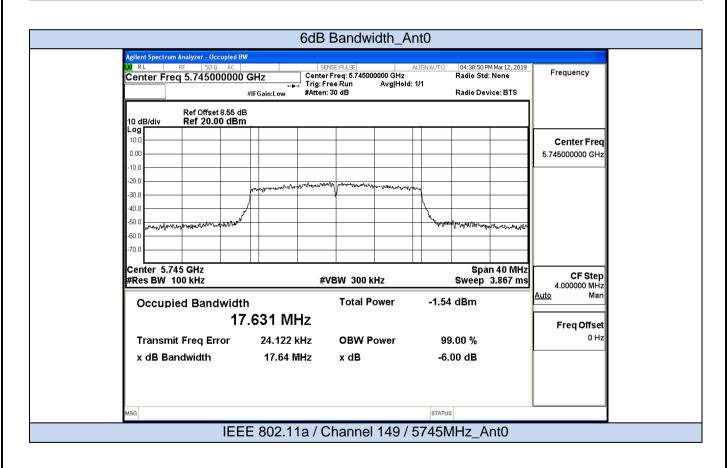
IEEE 802.11ac40 / Channel 159 / 5795MHz_Ant1

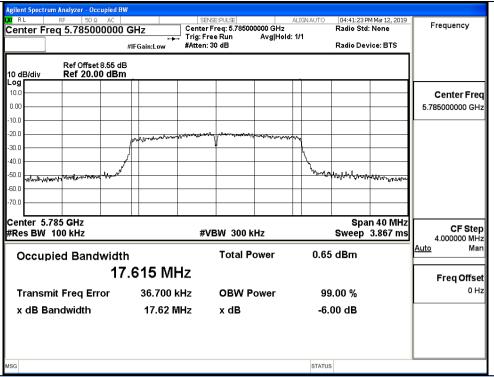


IEEE 802.11ac80 / Channel 155/ 5775MHz_Ant1

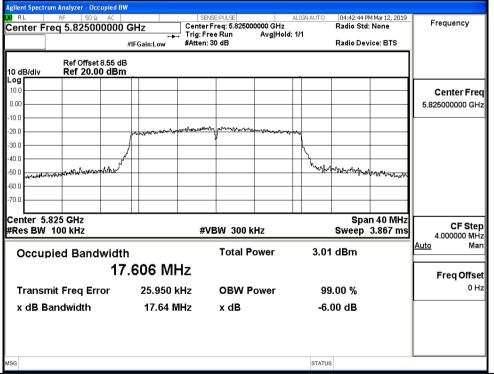
C.4 Emission Bandwidth

Test Mode	Channel	Frequency (MHz)	6dB Bandwidth (MHz)		99% Bar (Ml		Limit (MHz)	Verdict
		(IVITIZ)	Ant0	Ant1	Ant0	Ant1	(IVIIIZ)	
	149	5745	17.64	16.51	17.619	17.601		Pass
11A	157	5785	17.62	16.48	17.604	17.612	>=0.5	Pass
	165	5825	17.64	16.53	17.625	17.619		Pass
	149	5745	17.66	17.69	17.604	17.608	>=0.5	Pass
11N20	157	5785	17.63	17.70	17.605	17.616		Pass
	165	5825	17.64	17.68	17.622	17.638		Pass
11N40	151	5755	36.39	36.57	35.991	35.939	>=0.5	Pass
111140	159	5795	36.07	36.53	35.932	35.924	>=0.5	Pass
	149	5745	17.65	17.71	17.613	17.619		Pass
11AC20	157	5785	17.62	17.69	17.611	17.597	>=0.5	Pass
	165	5825	17.63	17.70	17.615	17.616		Pass
11AC40	151	5755	36.22	36.37	35.934	35.945	>=0.5	Pass
114040	159	5795	36.10	36.37	35.940	35.964	/_0.5	Pass
11AC80	155	5775	75.06	74.19	76.513	76.341	>=0.5	Pass

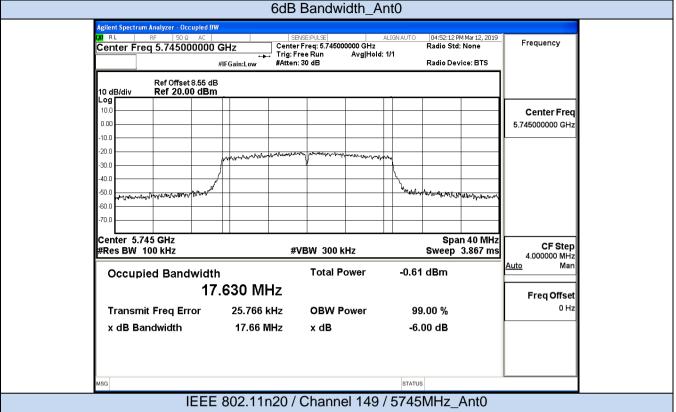




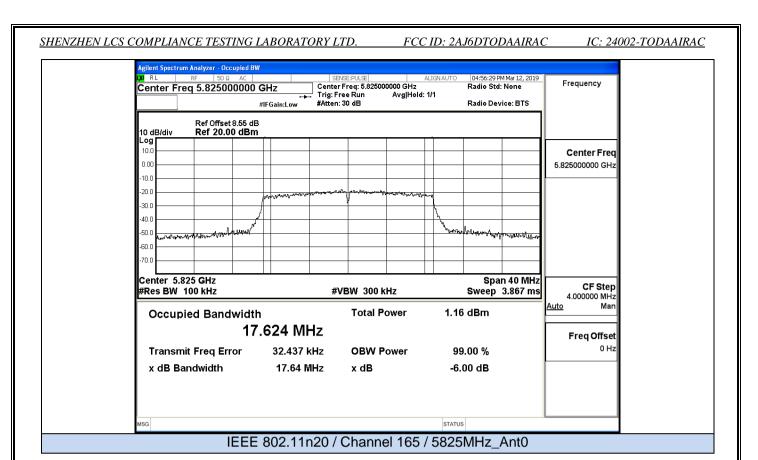
IEEE 802.11a / Channel 157 / 5785MHz_Ant0

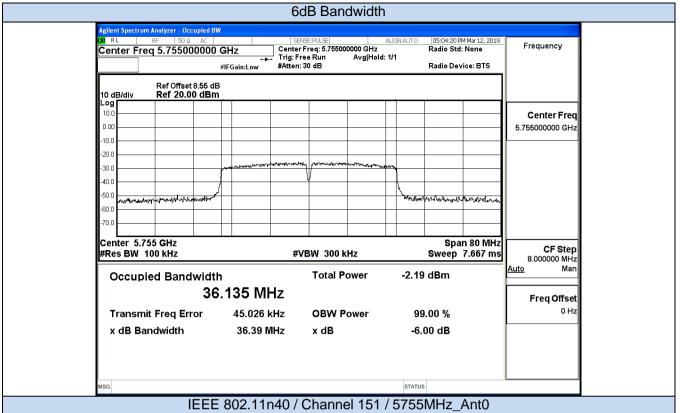


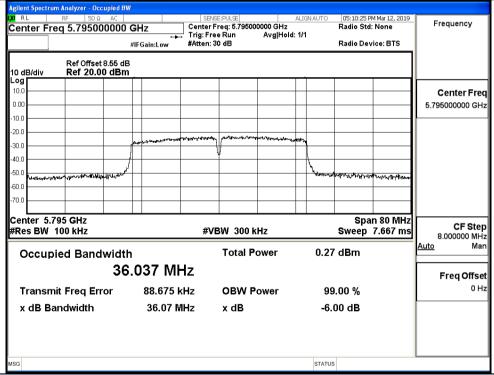
IEEE 802.11a / Channel 165 / 5825MHz_Ant0



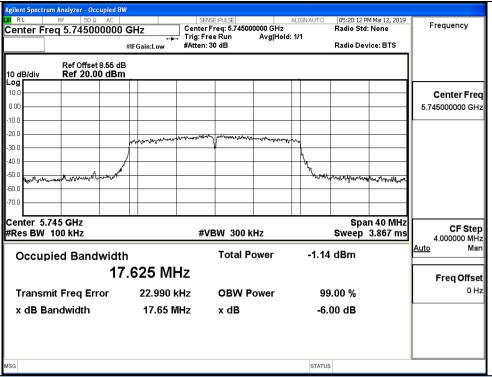
Agilent Spectrum Analyzer - Occupied BW 04:54:43 PM Mar 12, 2019 Radio Std: None SENSE:PULSE ALIGNAUTO Center Freq: 5.785000000 GHz Trig: Free Run Avg|Hold: 1/1 #Atten: 30 dB Frequency Center Freq 5.785000000 GHz Radio Device: BTS Ref Offset 8.55 dB Ref 20.00 dBm 10 dB/div Center Freq 0.00 5.785000000 GHz 10.0 -20.0 4n r -50.0 Center 5.785 GHz Span 40 MHz CF Step #Res BW 100 kHz **#VBW** 300 kHz Sweep 3.867 ms 4.000000 MHz <u>Auto</u> Occupied Bandwidth **Total Power** -0.99 dBm 17.641 MHz Freq Offset 0 Hz Transmit Freq Error 33.636 kHz **OBW Power** 99.00 % x dB -6.00 dB 17.63 MHz x dB Bandwidth STATUS



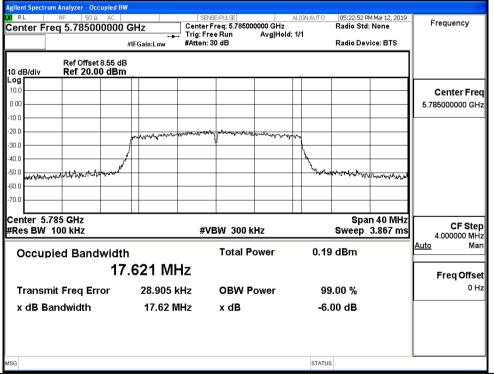




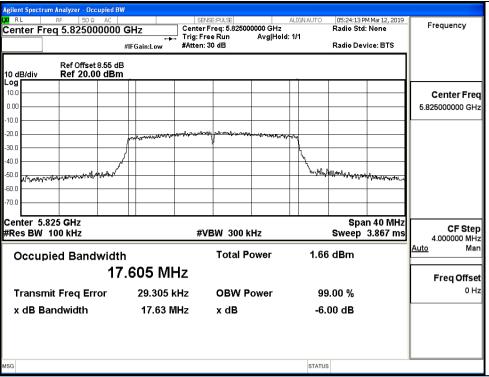
IEEE 802.11n40 / Channel 159 / 5795MHz_Ant0



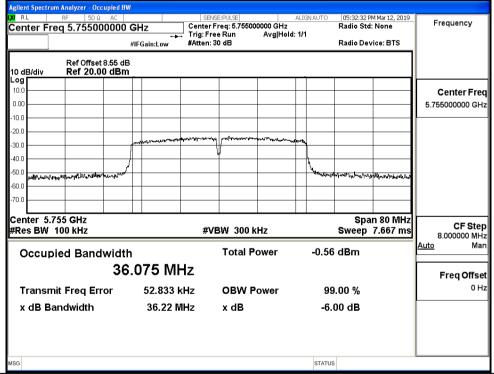
IEEE 802.11ac20 / Channel 149 / 5745MHz_Ant0



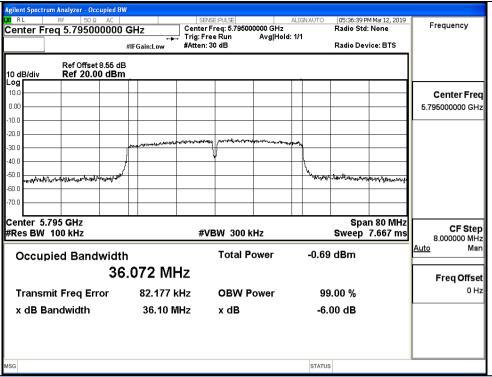
IEEE 802.11ac20 / Channel 157/ 5785MHz_Ant0



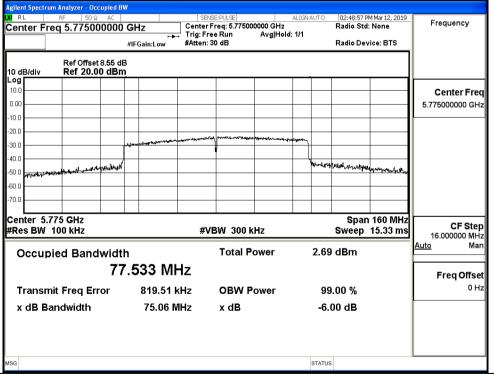
IEEE 802.11ac20 / Channel 165 / 5825MHz_Ant0



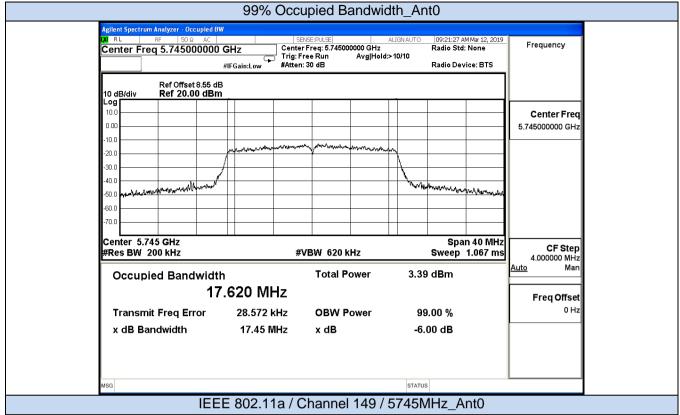
IEEE 802.11ac40 / Channel 151 / 5755MHz_Ant0



IEEE 802.11ac40 / Channel 159 / 5795MHz_Ant0

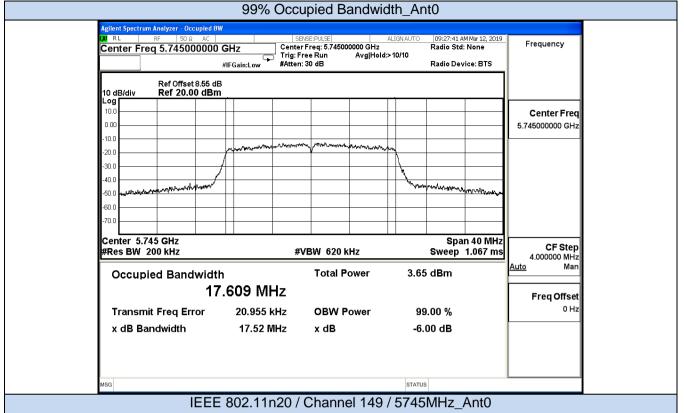


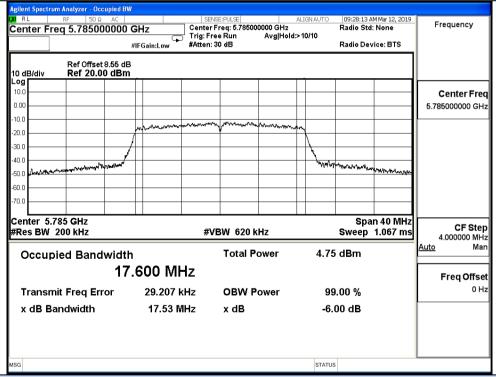
IEEE 802.11ac80 / Channel 155 / 5775MHz_Ant0



Agilent Spectrum Analyzer - Occupied BW SENSE:PULSE ALIGN AUTO Center Freq: 5.785000000 GHz Trig: Free Run Avg|Hold:>10/10 #Atten: 30 dB Frequency Center Freq 5.785000000 GHz Radio Device: BTS Ref Offset 8.55 dB Ref 20.00 dBm 10 dB/div Center Freq 5.785000000 GHz 10.0 -20.0 -30.0 4n r municipal property -50.0 Center 5.785 GHz Span 40 MHz CF Step #Res BW 200 kHz **#VBW 620 kHz** Sweep 1.067 ms 4.000000 MHz <u>Auto</u> Occupied Bandwidth **Total Power** 4.07 dBm 17.603 MHz Freq Offset 0 Hz Transmit Freq Error 37.571 kHz **OBW Power** 99.00 % x dB 17.40 MHz -6.00 dB x dB Bandwidth STATUS IEEE 802.11a / Channel 157 / 5785MHz_Ant0

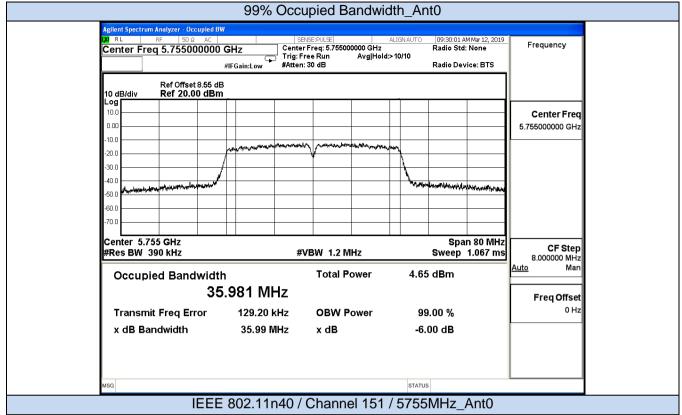
STATUS



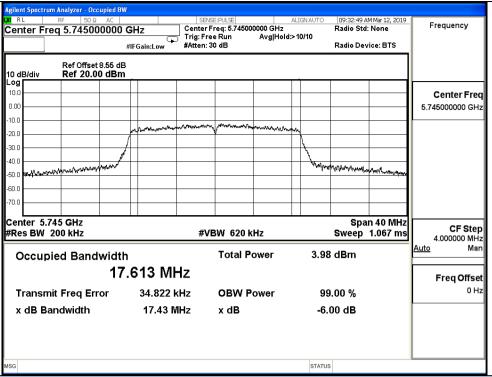


IEEE 802.11n20 / Channel 165 / 5825MHz_Ant0

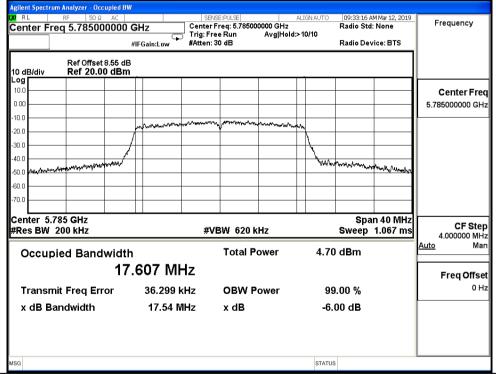
STATUS



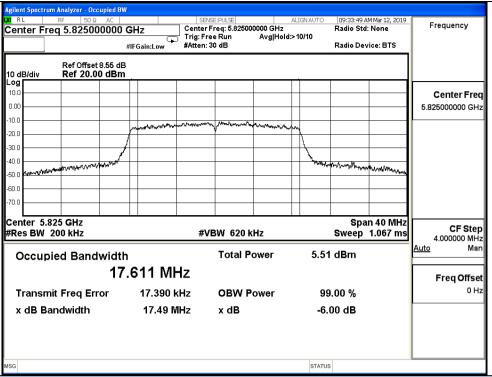
Agilent Spectrum Analyzer - Occupied BW SENSE:PULSE ALIGN AUTO Center Freq: 5.795000000 GHz Trig: Free Run Avg|Hold:>10/10 #Atten: 30 dB Frequency Center Freq 5.795000000 GHz Radio Device: BTS Ref Offset 8.55 dB Ref 20.00 dBm 10 dB/div Center Freq 0.00 5.795000000 GHz 10.0 -20.0 **4**0 f -50.0 Center 5.795 GHz Span 80 MHz CF Step 8.000000 MHz #Res BW 390 kHz **#VBW 1.2 MHz** Sweep 1.067 ms <u>Auto</u> Occupied Bandwidth **Total Power** 5.68 dBm 35.946 MHz Freq Offset 0 Hz Transmit Freq Error 128.99 kHz **OBW Power** 99.00 % x dB 35.94 MHz -6.00 dB x dB Bandwidth STATUS



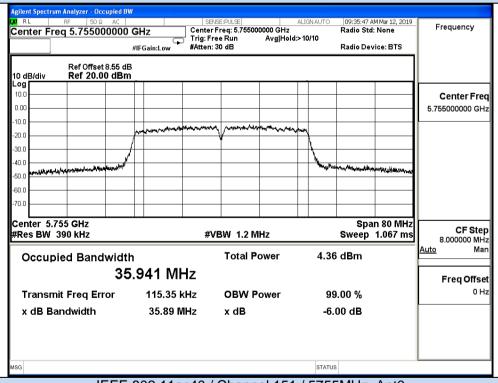
IEEE 802.11ac20 / Channel 149 / 5745MHz_Ant0



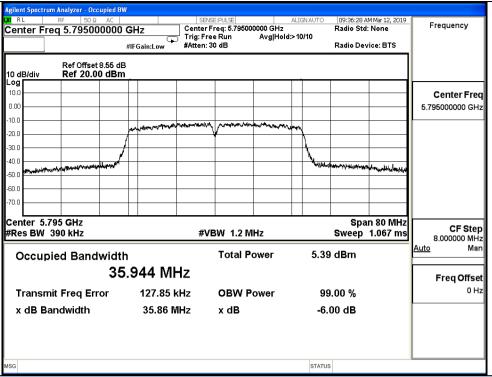
IEEE 802.11ac20 / Channel 157/ 5785MHz_Ant0



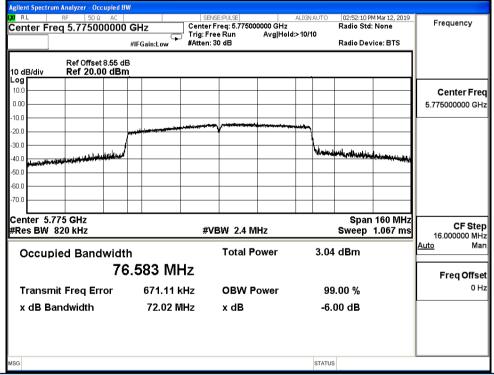
IEEE 802.11ac20 / Channel 165 / 5825MHz_Ant0



IEEE 802.11ac40 / Channel 151 / 5755MHz_Ant0



IEEE 802.11ac40 / Channel 159 / 5795MHz_Ant0



IEEE 802.11ac80 / Channel 155 / 5775MHz_Ant0

