

Annex I NII Band Bandwidth Test Result

Product	Wi-Fi AP 4x4 OD ext. antenna US	Temperature	25°C
Test Engineer	Johnson Liao	Relative Humidity	50 ~ 58%
Test Site	SR2	Test Date	2016/09/14
Test Item	26dB & 99% Bandwidth	Antenna Model No.	FPMI2458-DP2RPSMA

Test Mode	Data Rate (Mbps)	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Ant 0					
802.11a	6	52	5260	19.52	16.40
802.11a	6	60	5300	19.70	16.39
802.11a	6	64	5320	19.65	16.40
802.11a	6	100	5500	19.73	16.40
802.11a	6	116	5580	19.72	16.39
802.11a	6	120	5600	19.56	16.41
802.11a	6	140	5700	20.10	16.44
802.11n-HT20	6.5	52	5260	20.81	17.63
802.11n-HT20	6.5	60	5300	20.21	17.59
802.11n-HT20	6.5	64	5320	20.35	17.61
802.11n-HT20	6.5	100	5500	20.25	17.62
802.11n-HT20	6.5	116	5580	20.14	17.58
802.11n-HT20	6.5	120	5600	20.46	17.61
802.11n-HT20	6.5	140	5700	20.41	17.64
802.11n-HT40	13.5	54	5270	39.54	35.94
802.11n-HT40	13.5	62	5310	39.55	35.96
802.11n-HT40	13.5	102	5510	40.04	36.00
802.11n-HT40	13.5	110	5550	39.51	35.94
802.11n-HT40	13.5	118	5590	39.75	35.99
802.11n-HT40	13.5	134	5670	40.29	36.01

Test Mode	Data Rate (Mbps)	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Ant 0					
802.11ac-VHT20	6.5	52	5260	20.48	17.59
802.11ac-VHT20	6.5	60	5300	20.39	17.61
802.11ac-VHT20	6.5	64	5320	20.25	17.61
802.11ac-VHT20	6.5	100	5500	20.10	17.62
802.11ac-VHT20	6.5	116	5580	20.11	17.60
802.11ac-VHT20	6.5	120	5600	20.86	17.64
802.11ac-VHT20	6.5	140	5700	20.75	17.63
802.11ac-VHT20	6.5	144	5720	20.77	17.62
802.11ac-VHT40	13.5	54	5270	39.30	35.91
802.11ac-VHT40	13.5	62	5310	39.51	35.92
802.11ac-VHT40	13.5	102	5510	40.13	35.98
802.11ac-VHT40	13.5	110	5550	39.38	35.90
802.11ac-VHT40	13.5	118	5590	39.85	35.99
802.11ac-VHT40	13.5	134	5670	39.89	36.07
802.11ac-VHT40	13.5	142	5710	39.95	36.03
802.11ac-VHT80	29.3	58	5290	84.60	75.84
802.11ac-VHT80	29.3	106	5530	84.22	75.91
802.11ac-VHT80	29.3	122	5610	83.69	75.86
802.11ac-VHT80	29.3	138	5690	83.81	75.84

Test Mode	Data Rate (Mbps)	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Ant 1					
802.11a	6	52	5260	19.85	16.43
802.11a	6	60	5300	19.85	16.43
802.11a	6	64	5320	19.69	16.42
802.11a	6	100	5500	19.77	16.42
802.11a	6	116	5580	19.59	16.41
802.11a	6	120	5600	19.47	16.45
802.11a	6	140	5700	21.76	16.56
802.11n-HT20	6.5	52	5260	20.71	17.61
802.11n-HT20	6.5	60	5300	20.27	17.62
802.11n-HT20	6.5	64	5320	20.31	17.61
802.11n-HT20	6.5	100	5500	20.26	17.61
802.11n-HT20	6.5	116	5580	19.94	17.60
802.11n-HT20	6.5	120	5600	20.52	17.64
802.11n-HT20	6.5	140	5700	21.56	17.69
802.11n-HT40	13.5	54	5270	40.07	35.94
802.11n-HT40	13.5	62	5310	39.87	35.96
802.11n-HT40	13.5	102	5510	39.71	35.94
802.11n-HT40	13.5	110	5550	39.38	35.86
802.11n-HT40	13.5	118	5590	40.06	36.03
802.11n-HT40	13.5	134	5670	40.59	36.05
802.11ac-VHT20	6.5	52	5260	20.80	17.60
802.11ac-VHT20	6.5	60	5300	20.41	17.63
802.11ac-VHT20	6.5	64	5320	20.21	17.61
802.11ac-VHT20	6.5	100	5500	20.41	17.63
802.11ac-VHT20	6.5	116	5580	20.17	17.58
802.11ac-VHT20	6.5	120	5600	20.47	17.61
802.11ac-VHT20	6.5	140	5700	20.52	17.63
802.11ac-VHT20	6.5	144	5720	20.78	17.65

Test Mode	Data Rate (Mbps)	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Ant 1					
802.11ac-VHT40	13.5	54	5270	39.79	35.99
802.11ac-VHT40	13.5	62	5310	39.80	35.98
802.11ac-VHT40	13.5	102	5510	40.12	35.93
802.11ac-VHT40	13.5	110	5550	39.17	35.89
802.11ac-VHT40	13.5	118	5590	40.00	35.98
802.11ac-VHT40	13.5	134	5670	40.02	36.08
802.11ac-VHT40	13.5	142	5710	40.96	36.07
802.11ac-VHT80	29.3	58	5290	84.96	75.92
802.11ac-VHT80	29.3	106	5530	83.81	75.67
802.11ac-VHT80	29.3	122	5610	84.43	75.88
802.11ac-VHT80	29.3	138	5690	84.39	75.82

Test Mode	Data Rate (Mbps)	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Ant 2					
802.11a	6	52	5260	19.82	16.42
802.11a	6	60	5300	19.54	16.42
802.11a	6	64	5320	19.73	16.42
802.11a	6	100	5500	20.17	16.42
802.11a	6	116	5580	19.22	16.41
802.11a	6	120	5600	20.14	16.44
802.11a	6	140	5700	20.17	16.46
802.11n-HT20	6.5	52	5260	20.01	17.61
802.11n-HT20	6.5	60	5300	20.55	17.62
802.11n-HT20	6.5	64	5320	20.16	17.59
802.11n-HT20	6.5	100	5500	20.09	17.63
802.11n-HT20	6.5	116	5580	20.27	17.60
802.11n-HT20	6.5	120	5600	20.22	17.64
802.11n-HT20	6.5	140	5700	21.93	17.69
802.11n-HT40	13.5	54	5270	39.72	35.97
802.11n-HT40	13.5	62	5310	39.45	35.97
802.11n-HT40	13.5	102	5510	39.79	36.00
802.11n-HT40	13.5	110	5550	39.60	35.86
802.11n-HT40	13.5	118	5590	39.93	36.02
802.11n-HT40	13.5	134	5670	41.20	36.11
802.11ac-VHT20	6.5	52	5260	20.72	17.62
802.11ac-VHT20	6.5	60	5300	20.36	17.62
802.11ac-VHT20	6.5	64	5320	20.29	17.59
802.11ac-VHT20	6.5	100	5500	20.30	17.60
802.11ac-VHT20	6.5	116	5580	20.28	17.60
802.11ac-VHT20	6.5	120	5600	21.06	17.63
802.11ac-VHT20	6.5	140	5700	20.86	17.63
802.11ac-VHT20	6.5	144	5720	20.86	17.66

Test Mode	Data Rate (Mbps)	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Ant 2					
802.11ac-VHT40	13.5	54	5270	39.64	35.96
802.11ac-VHT40	13.5	62	5310	39.60	36.00
802.11ac-VHT40	13.5	102	5510	39.69	36.00
802.11ac-VHT40	13.5	110	5550	39.58	35.91
802.11ac-VHT40	13.5	118	5590	39.79	36.00
802.11ac-VHT40	13.5	134	5670	40.51	36.08
802.11ac-VHT40	13.5	142	5710	41.09	36.09
802.11ac-VHT80	29.3	58	5290	83.48	75.86
802.11ac-VHT80	29.3	106	5530	84.23	75.87
802.11ac-VHT80	29.3	122	5610	83.70	75.77
802.11ac-VHT80	29.3	138	5690	84.33	75.91

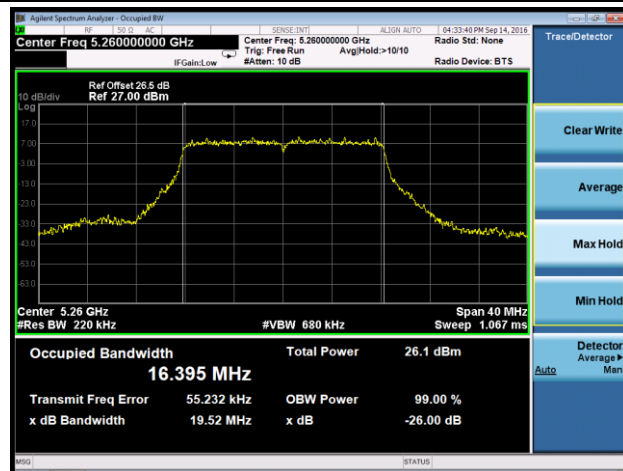
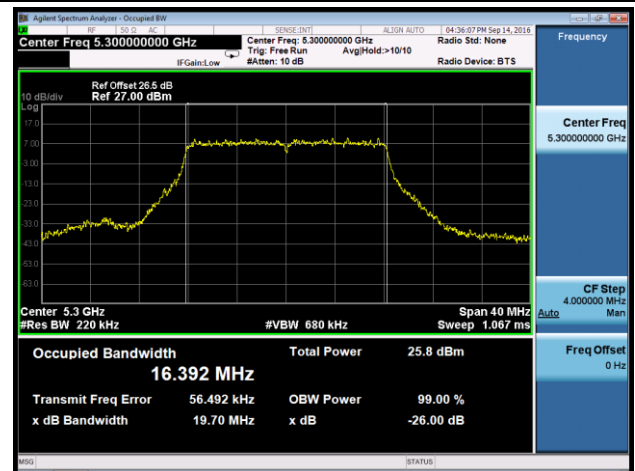
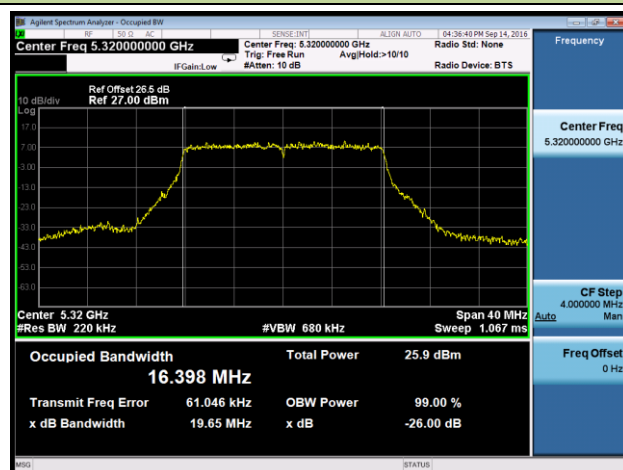
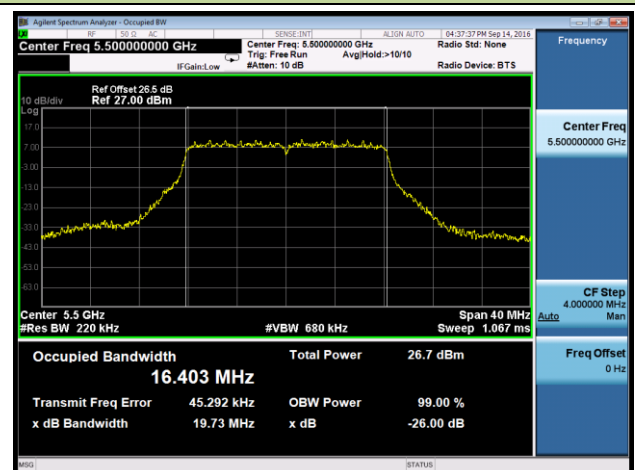
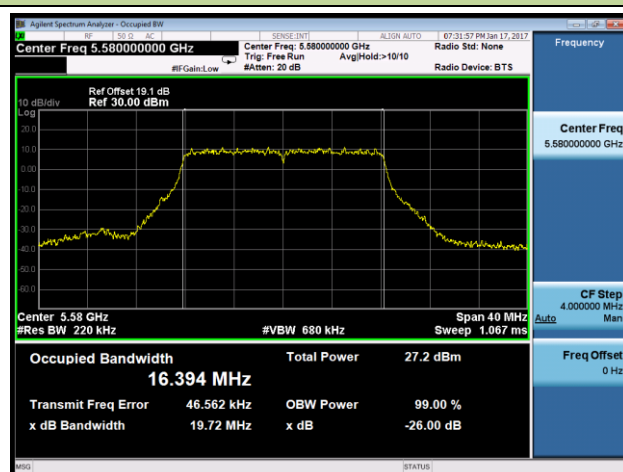
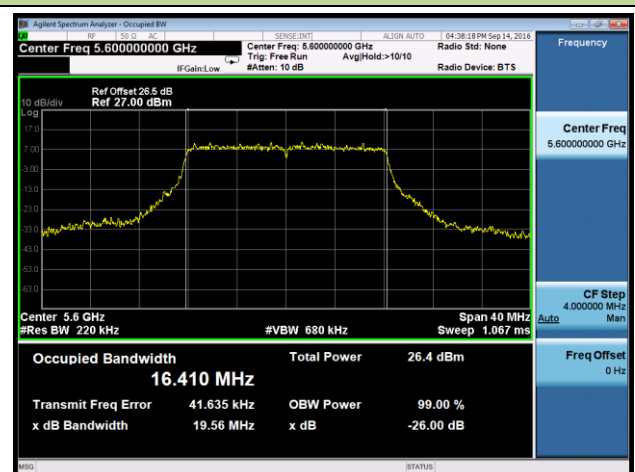


Test Mode	Data Rate (Mbps)	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Ant 3					
802.11a	6	52	5260	19.53	16.42
802.11a	6	60	5300	19.81	16.42.
802.11a	6	64	5320	19.78	16.44
802.11a	6	100	5500	19.61	16.43
802.11a	6	116	5580	19.68	16.40
802.11a	6	120	5600	20.27	16.44
802.11a	6	140	5700	20.00	16.42
802.11n-HT20	6.5	52	5260	20.11	17.60
802.11n-HT20	6.5	60	5300	20.10	17.61
802.11n-HT20	6.5	64	5320	20.45	17.61
802.11n-HT20	6.5	100	5500	20.33	17.63
802.11n-HT20	6.5	116	5580	20.27	17.60
802.11n-HT20	6.5	120	5600	20.39	17.62
802.11n-HT20	6.5	140	5700	20.47	17.62
802.11n-HT40	13.5	54	5270	39.71	35.95
802.11n-HT40	13.5	62	5310	39.79	35.97
802.11n-HT40	13.5	102	5510	39.61	35.95
802.11n-HT40	13.5	110	5550	40.03	35.90
802.11n-HT40	13.5	118	5590	40.22	36.00
802.11n-HT40	13.5	134	5670	40.07	36.00
802.11ac-VHT20	6.5	52	5260	20.22	17.59
802.11ac-VHT20	6.5	60	5300	20.08	17.60
802.11ac-VHT20	6.5	64	5320	20.01	17.60
802.11ac-VHT20	6.5	100	5500	20.35	17.61
802.11ac-VHT20	6.5	116	5580	20.17	17.60
802.11ac-VHT20	6.5	120	5600	20.24	17.62
802.11ac-VHT20	6.5	140	5700	20.26	17.64
802.11ac-VHT20	6.5	144	5720	20.09	17.66

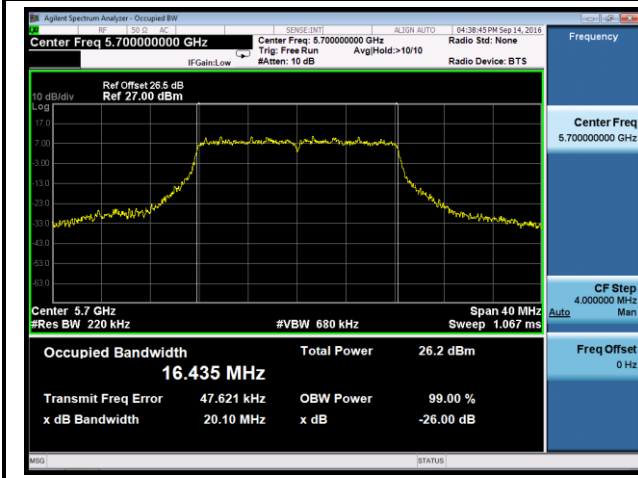
Test Mode	Data Rate (Mbps)	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Ant 3					
802.11ac-VHT40	13.5	54	5270	39.72	35.95
802.11ac-VHT40	13.5	62	5310	39.78	35.96
802.11ac-VHT40	13.5	102	5510	39.63	35.96
802.11ac-VHT40	13.5	110	5550	39.29	35.93
802.11ac-VHT40	13.5	118	5590	39.84	35.99
802.11ac-VHT40	13.5	134	5670	40.27	35.98
802.11ac-VHT40	13.5	142	5710	40.30	35.99
802.11ac-VHT80	29.3	58	5290	84.60	75.89
802.11ac-VHT80	29.3	106	5530	84.34	75.77
802.11ac-VHT80	29.3	122	5610	83.99	75.84
802.11ac-VHT80	29.3	138	5690	83.57	75.91

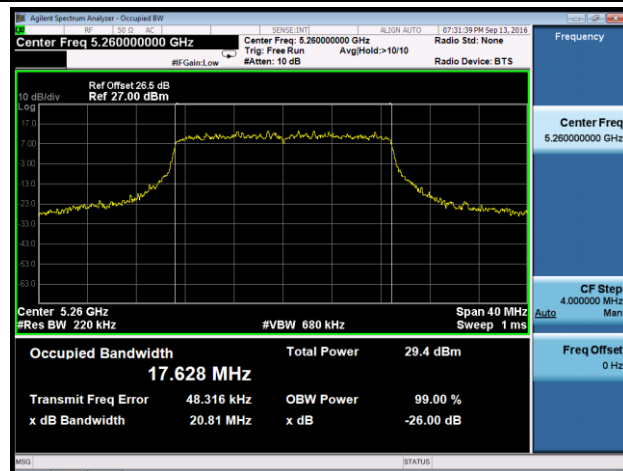
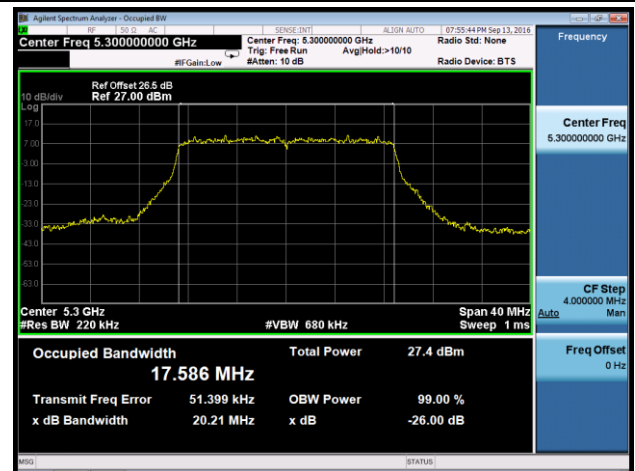
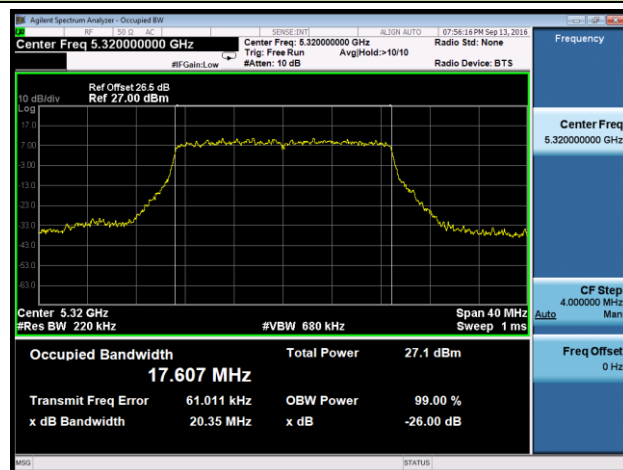
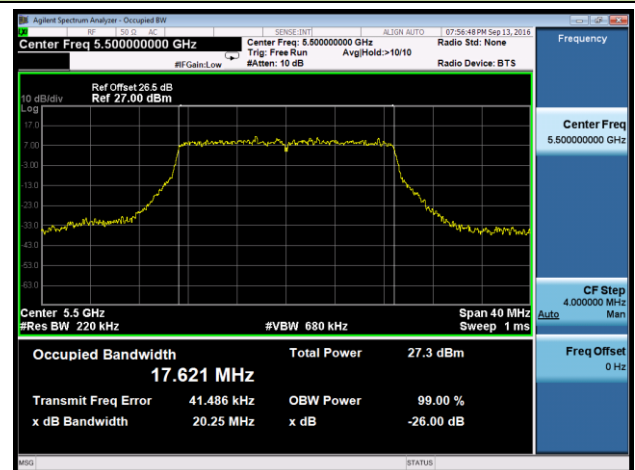
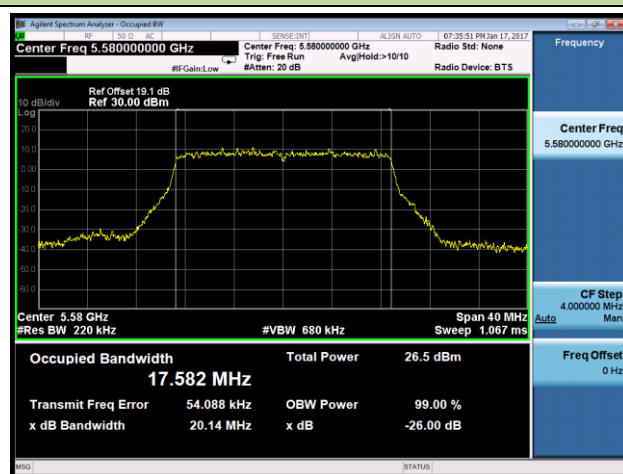
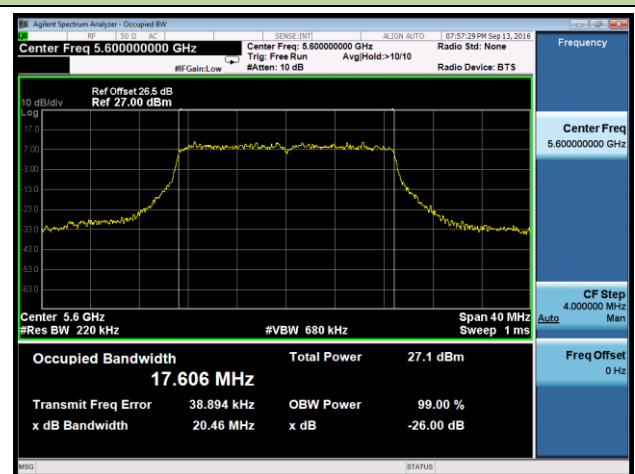
For 802.11ac-VHT 80 + 80 Mode Test Data

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0	Ant 1	Ant 2	Ant 3	Ant 0	Ant 1	Ant 2	Ant 3
				26dB	26dB	26dB	26dB	99%	99%	99%	99%
11ac-VHT 80+80	58.6	42	5210	85.90	85.00	--	--	75.90	75.86	--	--
	58.6	58	5290	--	--	85.46	85.74	--	--	75.87	75.92
11ac-VHT 80+80	58.6	42	5210	85.69	84.40	--	--	75.88	75.69	--	--
	58.6	106	5530	--	--	88.96	84.71	--	--	75.79	75.96
11ac-VHT 80+80	58.6	42	5210	85.64	85.07	--	--	75.81	75.90	--	--
	58.6	122	5610	--	--	84.51	84.95	--	--	75.78	75.87
11ac-VHT 80+80	58.6	42	5210	85.01	85.41	--	--	75.91	75.75	--	--
	58.6	138	5690	--	--	84.31	91.62	--	--	75.84	75.83
11ac-VHT 80+80	58.6	58	5290	85.33	85.36	--	--	75.78	75.87	--	--
	58.6	106	5530	--	--	85.74	85.26	--	--	75.84	76.01
11ac-VHT 80+80	58.6	58	5290	85.10	84.77	--	--	75.96	75.61	--	--
	58.6	122	5610	--	--	84.87	85.57	--	--	75.96	76.17
11ac-VHT 80+80	58.6	58	5290	85.54	85.29	--	--	75.83	75.69	--	--
	58.6	138	5690	--	--	84.65	85.09	--	--	75.71	75.99
11ac-VHT 80+80	58.6	58	5290	84.92	84.60	--	--	75.78	75.81	--	--
	58.6	155	5775	--	--	85.26	85.82	--	--	75.70	75.93
11ac-VHT 80+80	58.6	106	5530	85.07	84.78	--	--	75.76	75.91	--	--
	58.6	122	5610	--	--	83.93	84.73	--	--	75.82	75.92
11ac-VHT 80+80	58.6	106	5530	84.99	84.78	--	--	75.99	75.88	--	--
	58.6	138	5690	--	--	84.65	85.48	--	--	75.85	75.77
11ac-VHT 80+80	58.6	106	5530	85.56	85.28	--	--	75.88	75.82	--	--
	58.6	155	5775	--	--	84.98	85.44	--	--	75.83	76.11
11ac-VHT 80+80	58.6	122	5610	85.00	84.89	--	--	75.71	75.97	--	--
	58.6	138	5690	--	--	84.97	85.06	--	--	75.81	75.92
11ac-VHT 80+80	58.6	122	5610	85.46	85.97	--	--	75.95	75.72	--	--
	58.6	155	5775	--	--	84.96	84.82	--	--	75.81	76.26
11ac-VHT 80+80	58.6	138	5690	85.51	85.05	--	--	75.85	76.06	--	--
	58.6	155	5775	--	--	84.38	85.53	--	--	75.72	75.97

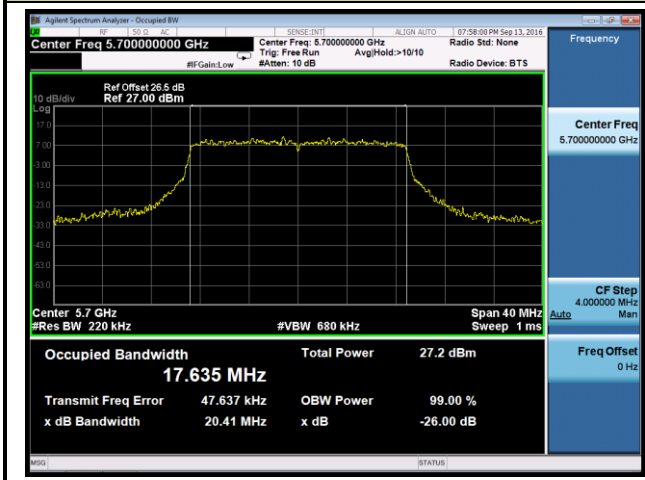
802.11a 26dB Bandwidth & 99% Bandwidth - Ant 0
Channel 52 (5260MHz)

Channel 60 (5300MHz)

Channel 64 (5320MHz)

Channel 100 (5500MHz)

Channel 116 (5580MHz)

Channel 120 (5600MHz)


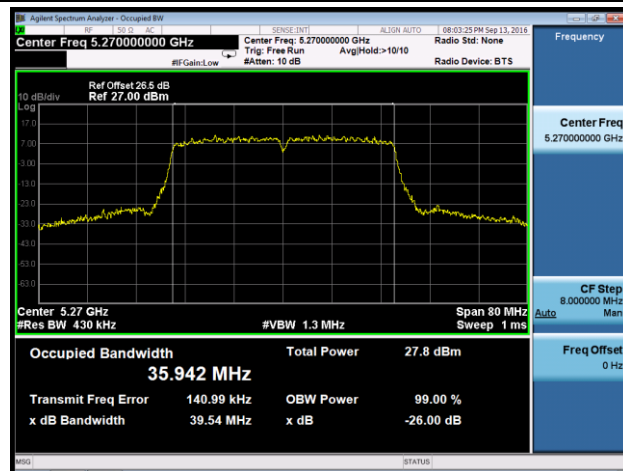
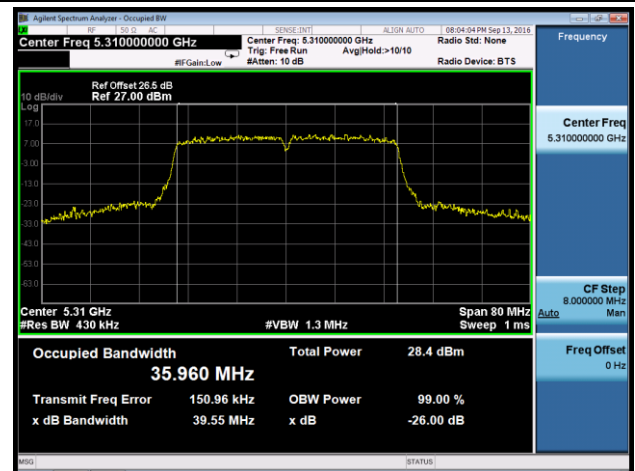
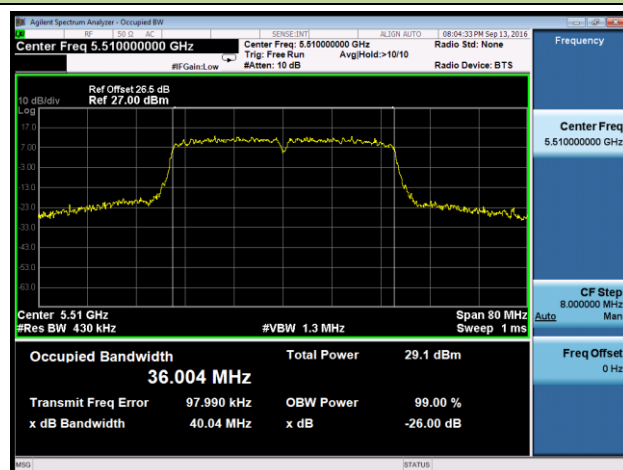
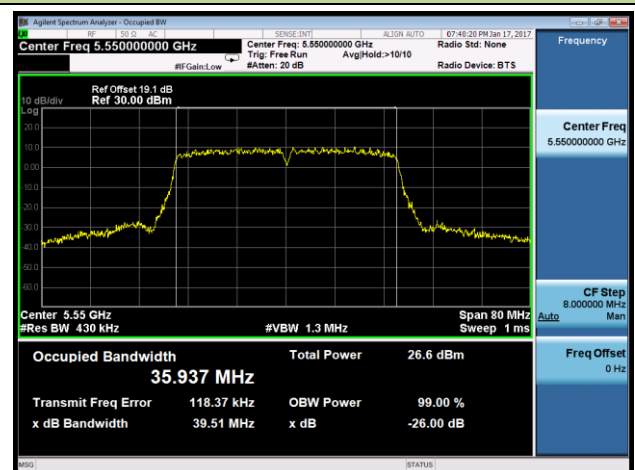
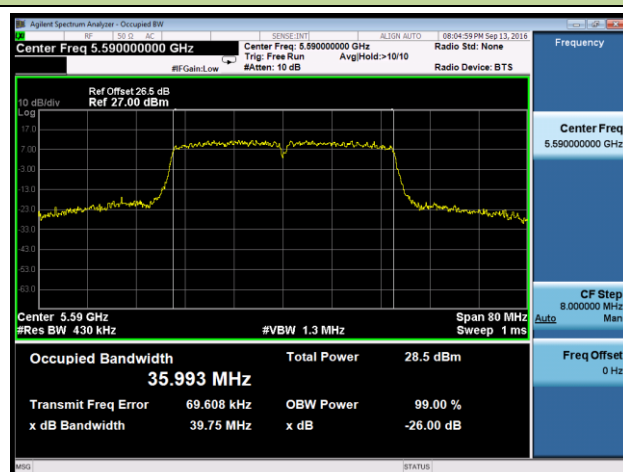
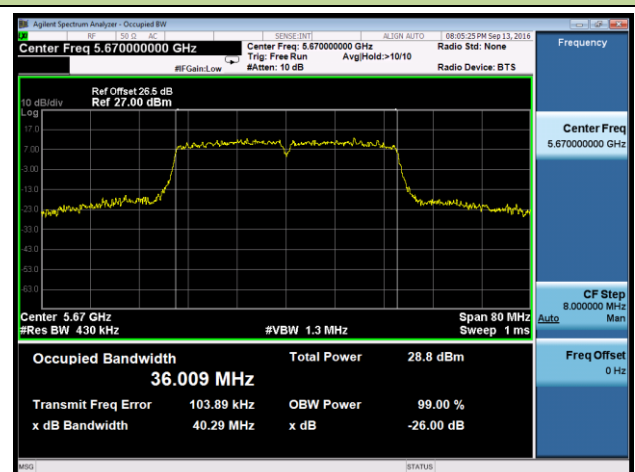
Channel 140 (5700MHz)

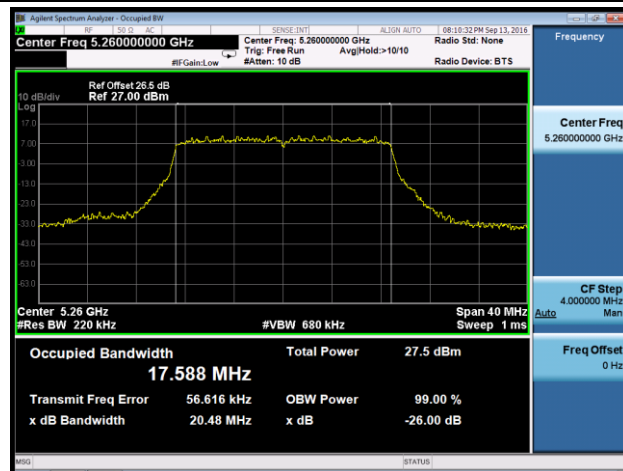
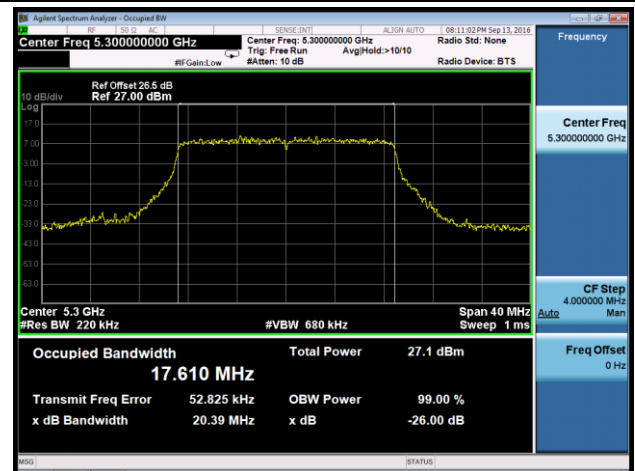
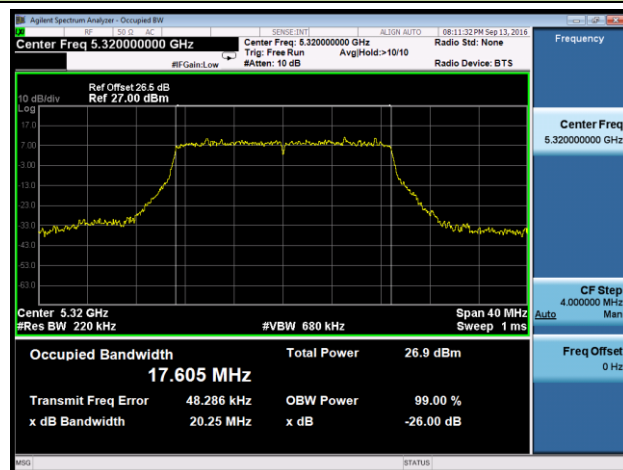
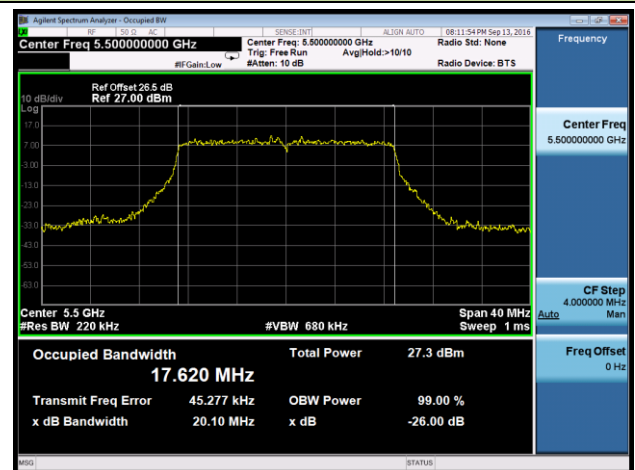
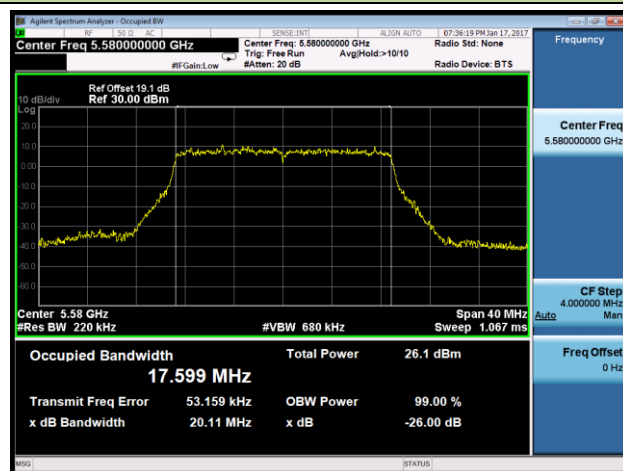
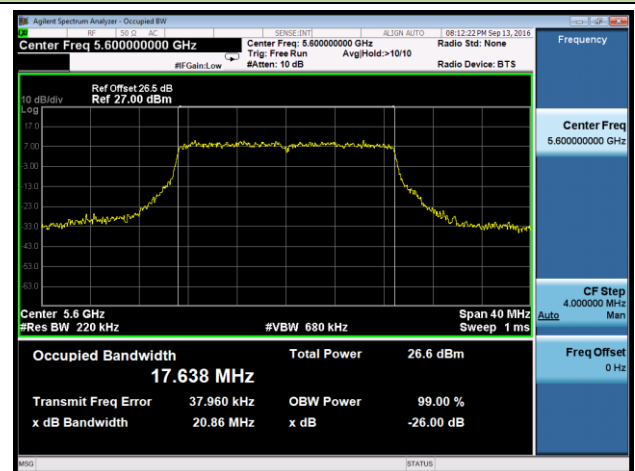


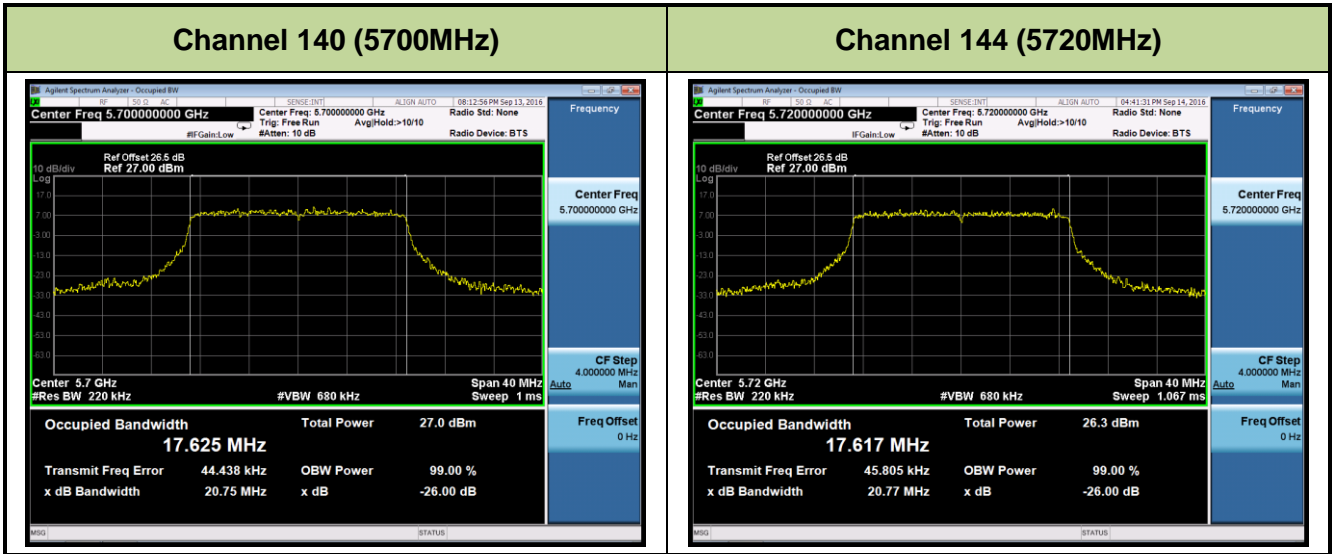
802.11n-HT20 26dB Bandwidth & 99% Bandwidth - Ant 0
Channel 52 (5260MHz)

Channel 60 (5300MHz)

Channel 64 (5320MHz)

Channel 100 (5500MHz)

Channel 116 (5580MHz)

Channel 120 (5600MHz)


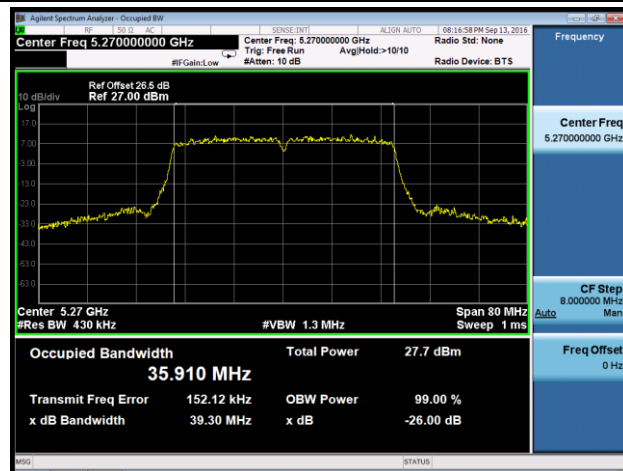
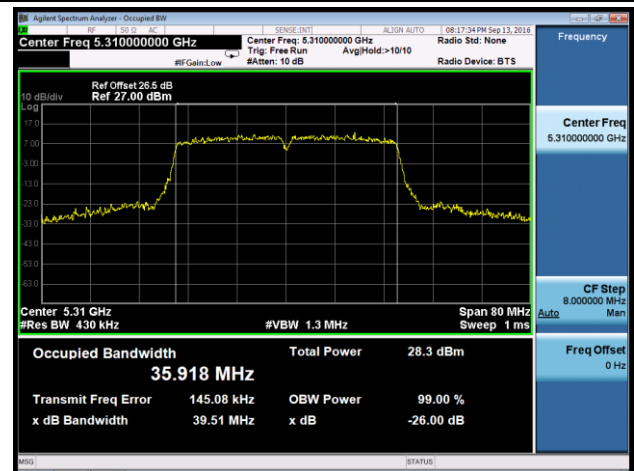
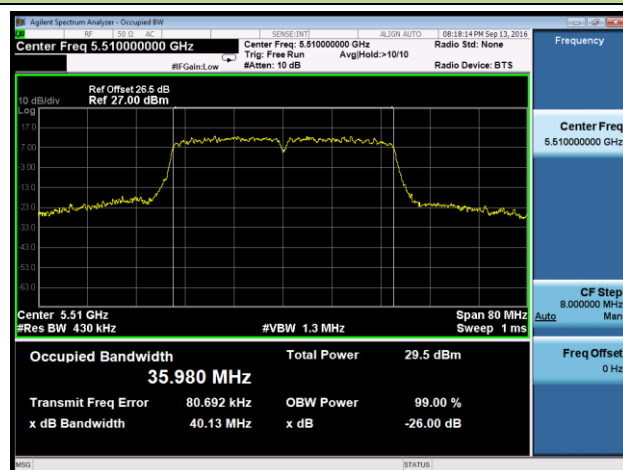
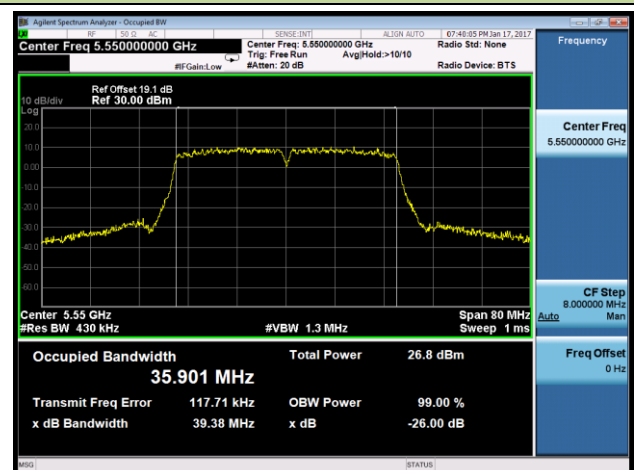
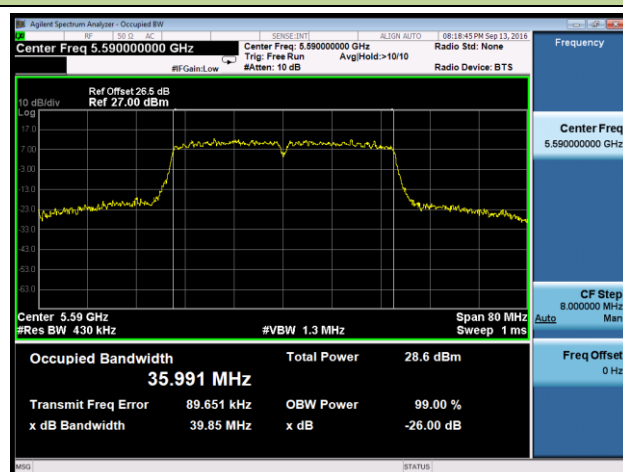
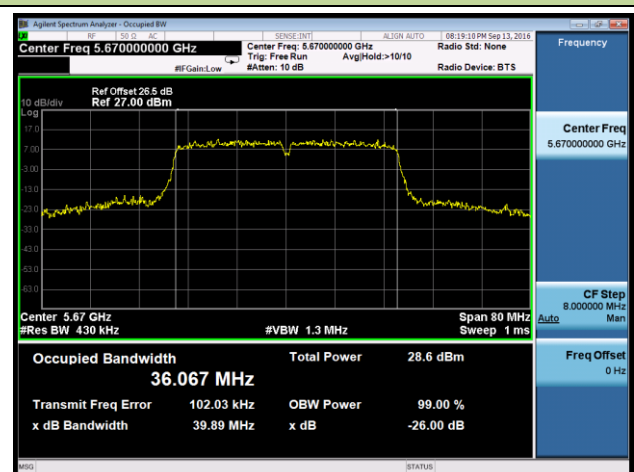
Channel 140 (5700MHz)



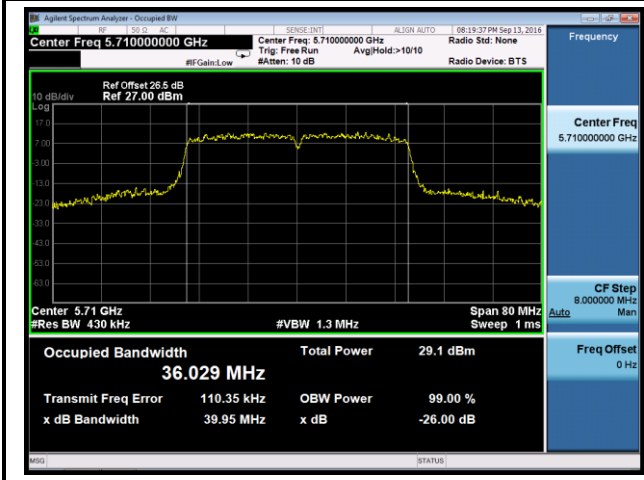
802.11n-HT40 26dB Bandwidth & 99% Bandwidth - Ant 0
Channel 54 (5270MHz)

Channel 62 (5310MHz)

Channel 102 (5510MHz)

Channel 110 (5550MHz)

Channel 118 (5590MHz)

Channel 134 (5670MHz)


802.11ac-VHT20 26dB Bandwidth & 99% Bandwidth - Ant 0
Channel 52 (5260MHz)

Channel 60 (5300MHz)

Channel 64 (5320MHz)

Channel 100 (5500MHz)

Channel 116 (5580MHz)

Channel 120 (5600MHz)




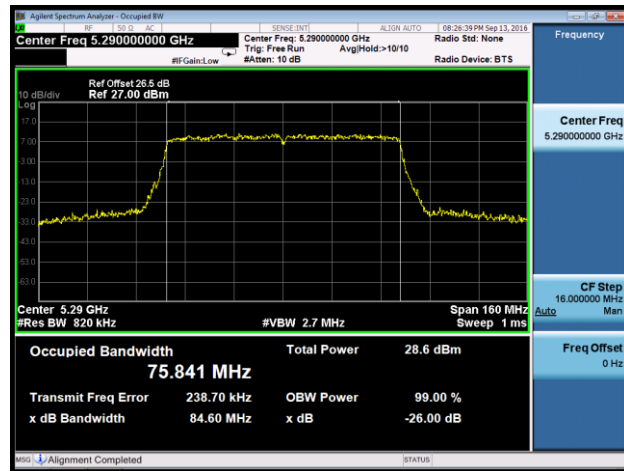
802.11ac-VHT40 26dB Bandwidth & 99% Bandwidth - Ant 0
Channel 54 (5270MHz)

Channel 62 (5310MHz)

Channel 102 (5510MHz)

Channel 110 (5550MHz)

Channel 118 (5590MHz)

Channel 134 (5670MHz)


Channel 142 (5710MHz)

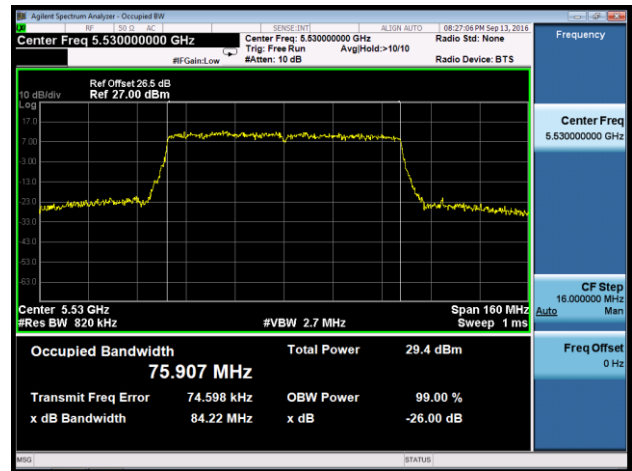


802.11ac-VHT80 26dB Bandwidth & 99% Bandwidth - Ant 0

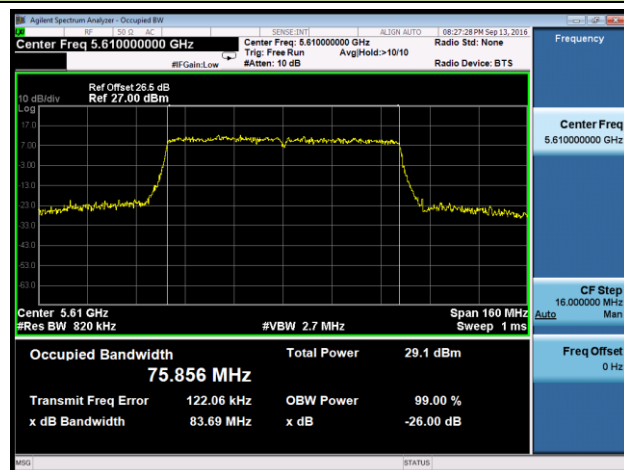
Channel 58 (5290MHz)



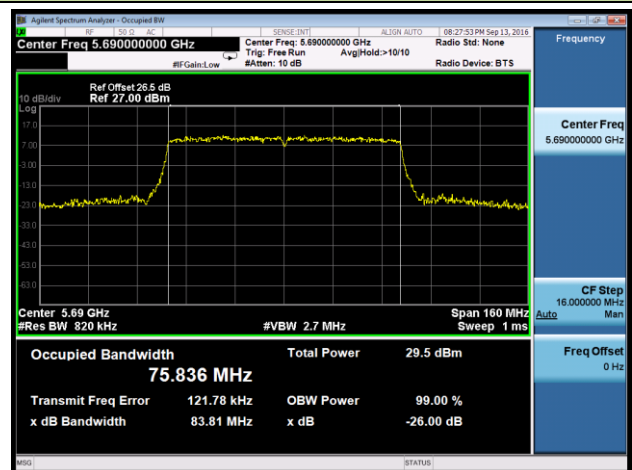
Channel 106 (5530MHz)

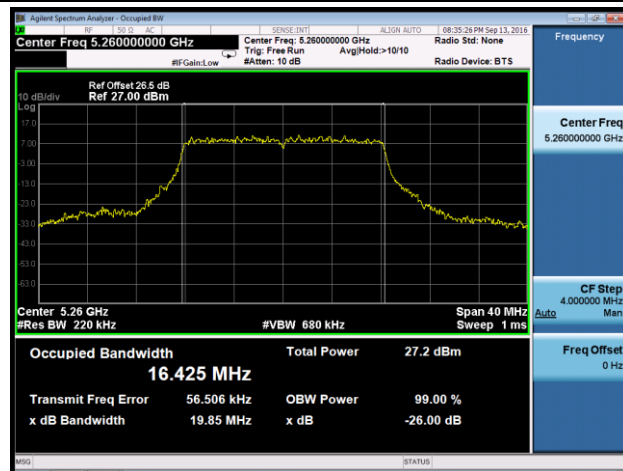
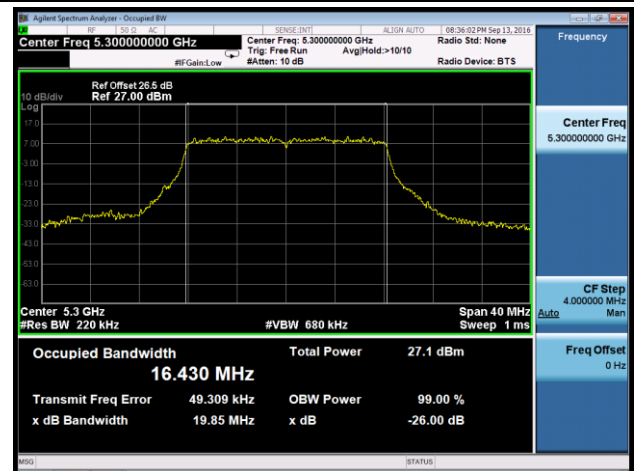
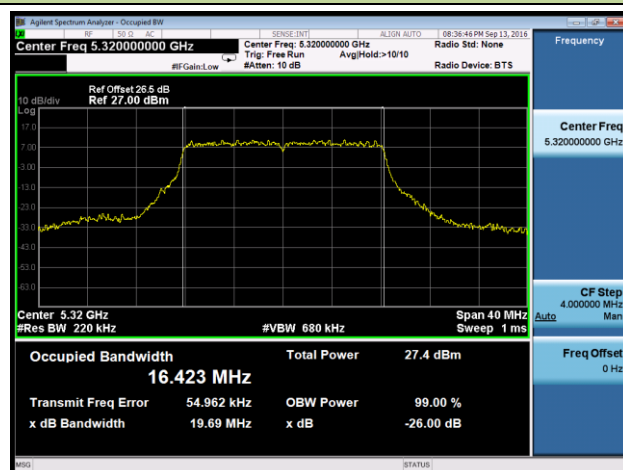
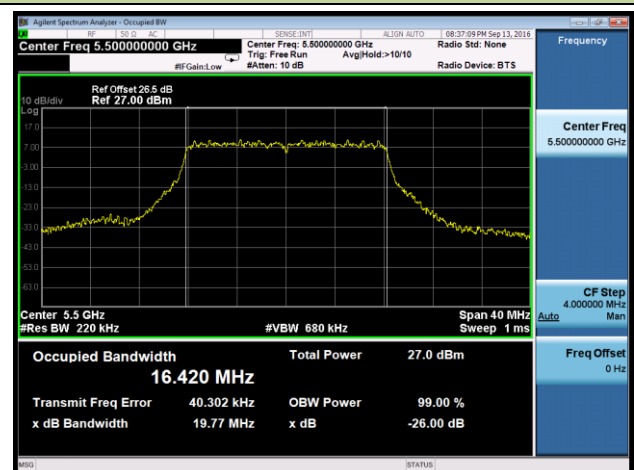
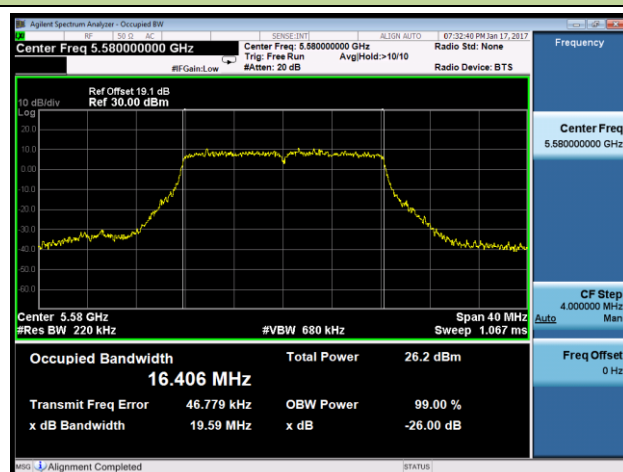
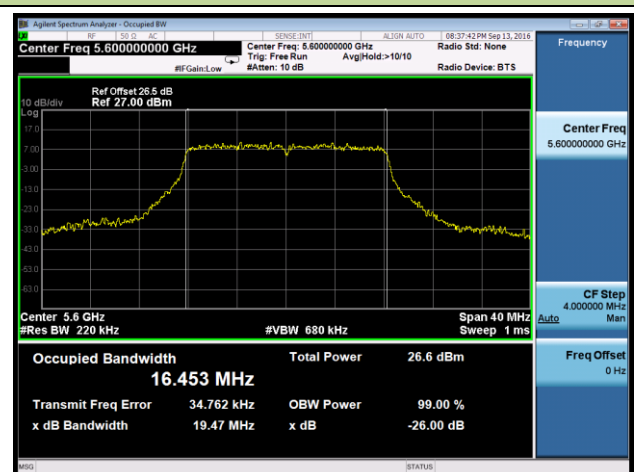


Channel 122 (5610MHz)

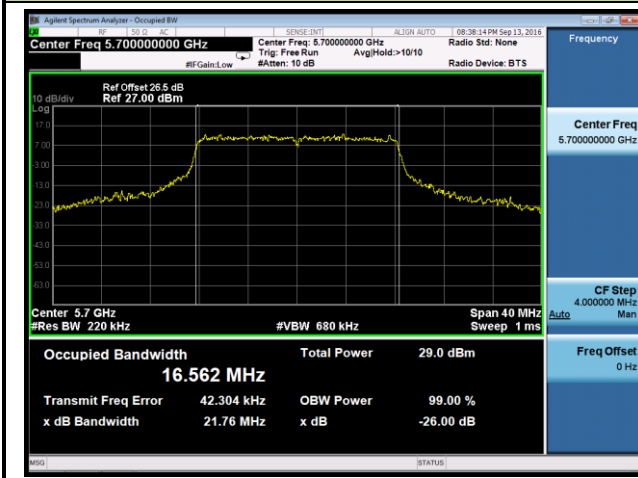


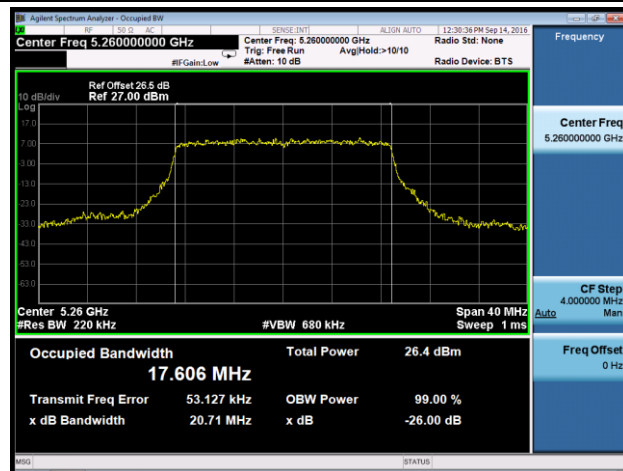
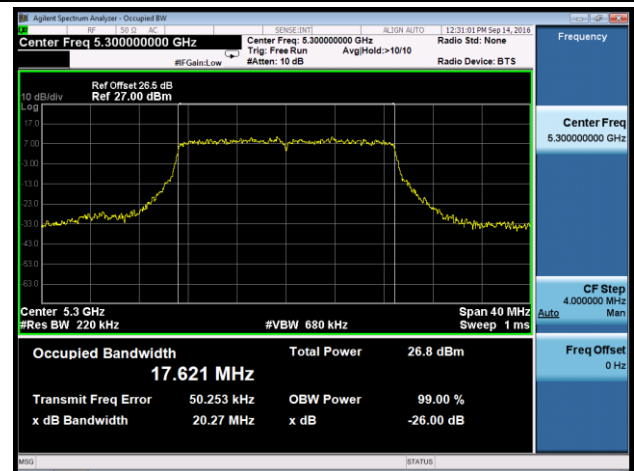
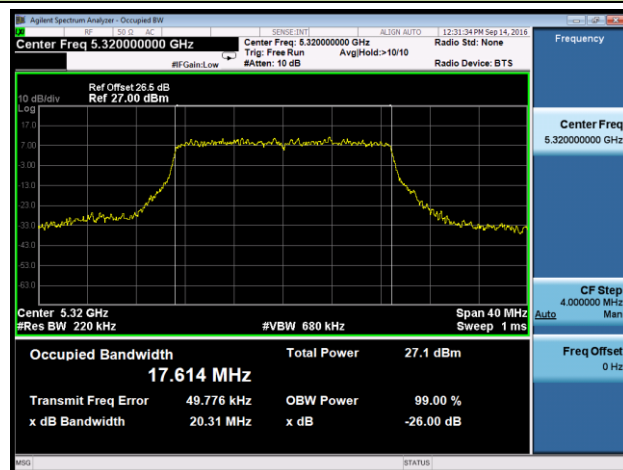
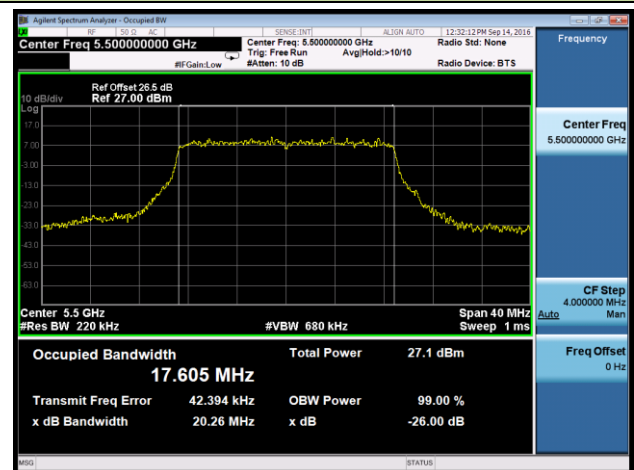
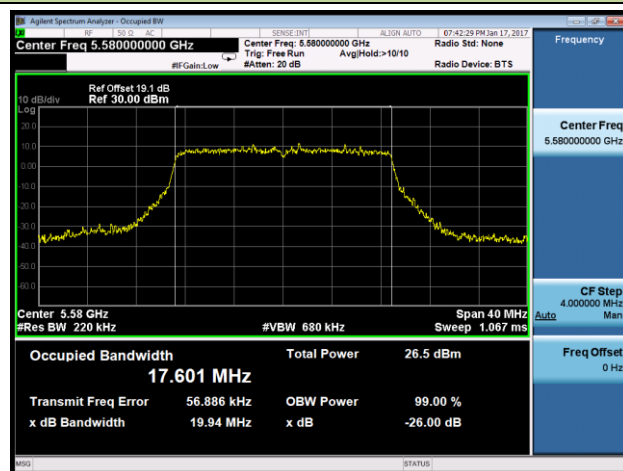
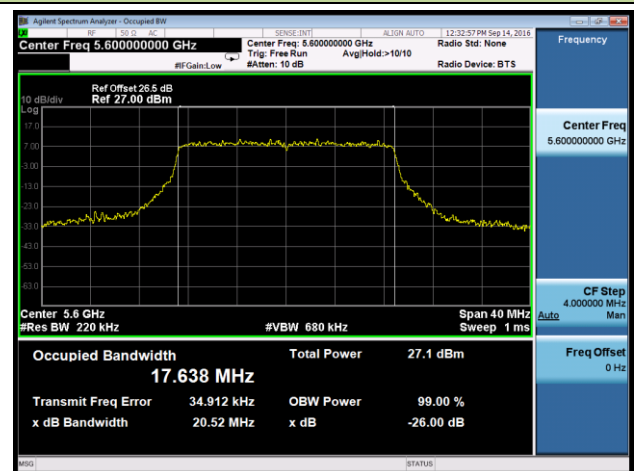
Channel 138 (5690MHz)



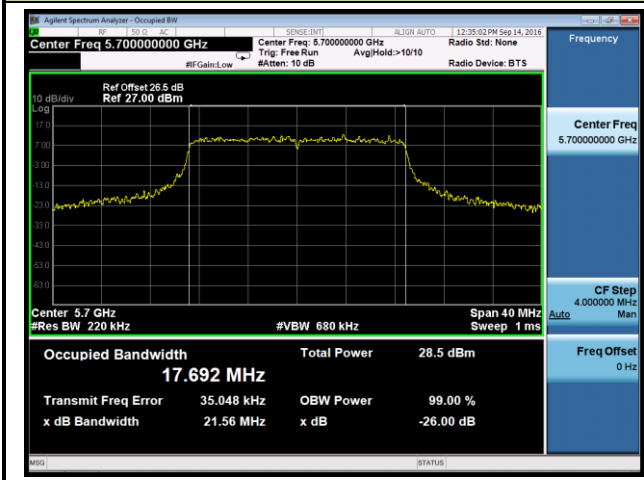
802.11a 26dB Bandwidth & 99% Bandwidth - Ant 1
Channel 52 (5260MHz)

Channel 60 (5300MHz)

Channel 64 (5320MHz)

Channel 100 (5500MHz)

Channel 116 (5580MHz)

Channel 120 (5600MHz)


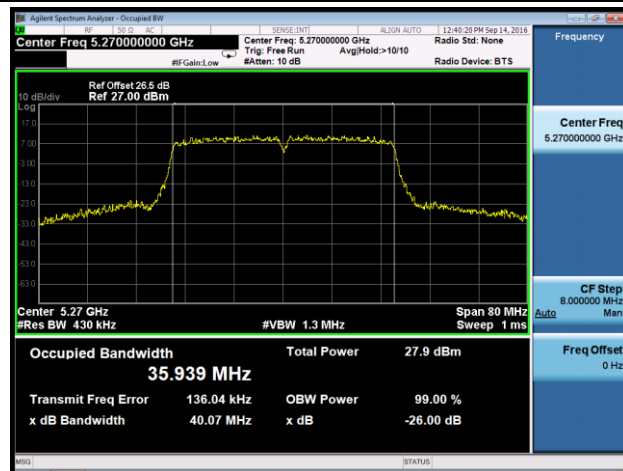
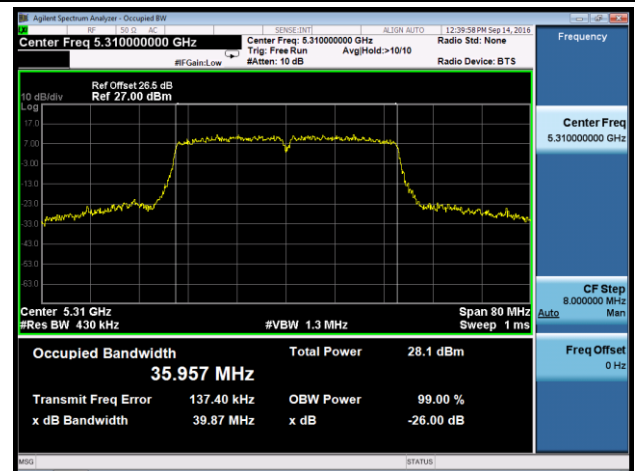
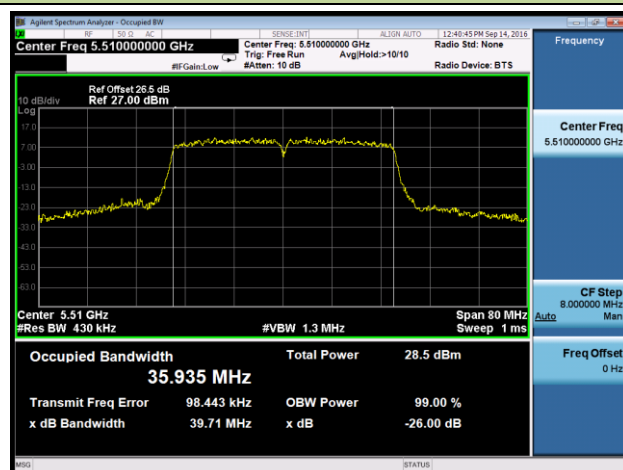
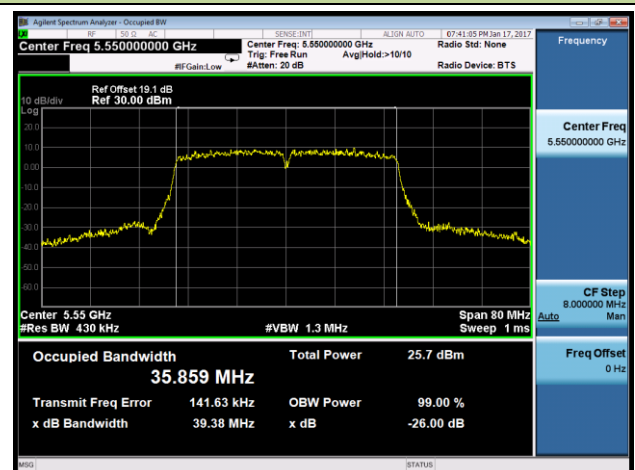
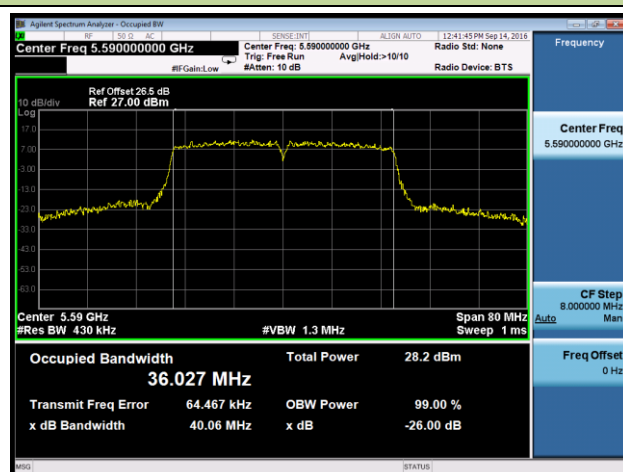
Channel 140 (5700MHz)



802.11n-HT20 26dB Bandwidth & 99% Bandwidth - Ant 1
Channel 52 (5260MHz)

Channel 60 (5300MHz)

Channel 64 (5320MHz)

Channel 100 (5500MHz)

Channel 116 (5580MHz)

Channel 120 (5600MHz)


Channel 140 (5700MHz)



802.11n-HT40 26dB Bandwidth & 99% Bandwidth - Ant 1
Channel 54 (5270MHz)

Channel 62 (5310MHz)

Channel 102 (5510MHz)

Channel 110 (5550MHz)

Channel 110 (5590MHz)

Channel 134 (5670MHz)
