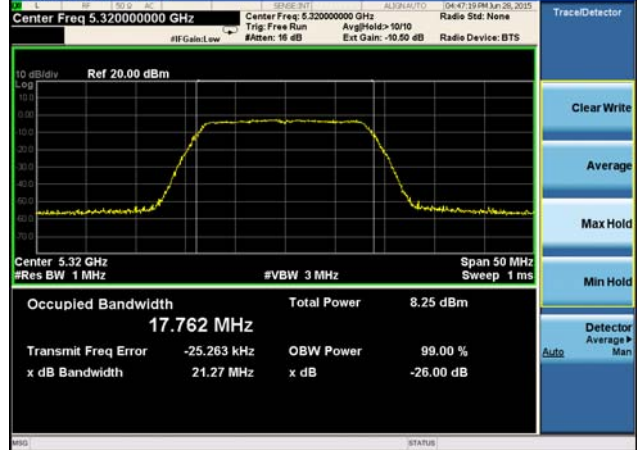
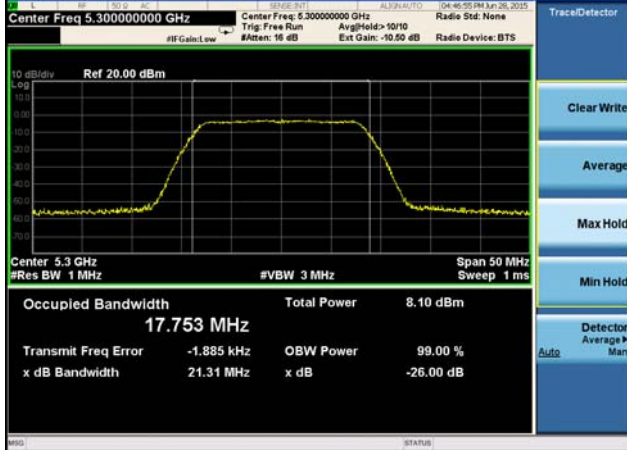
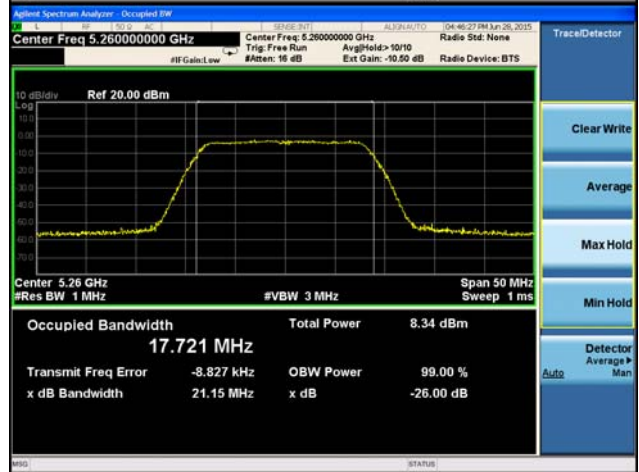
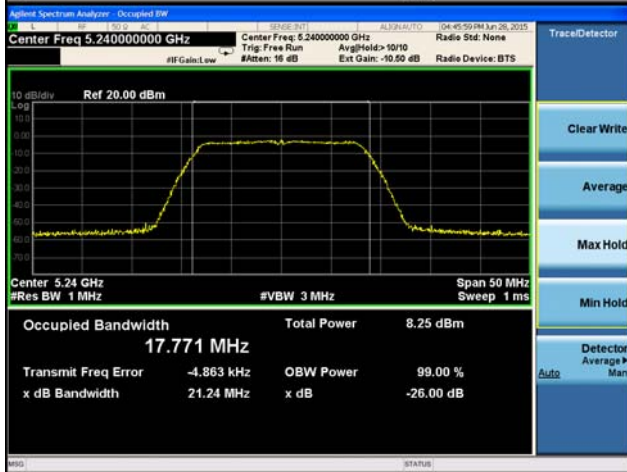
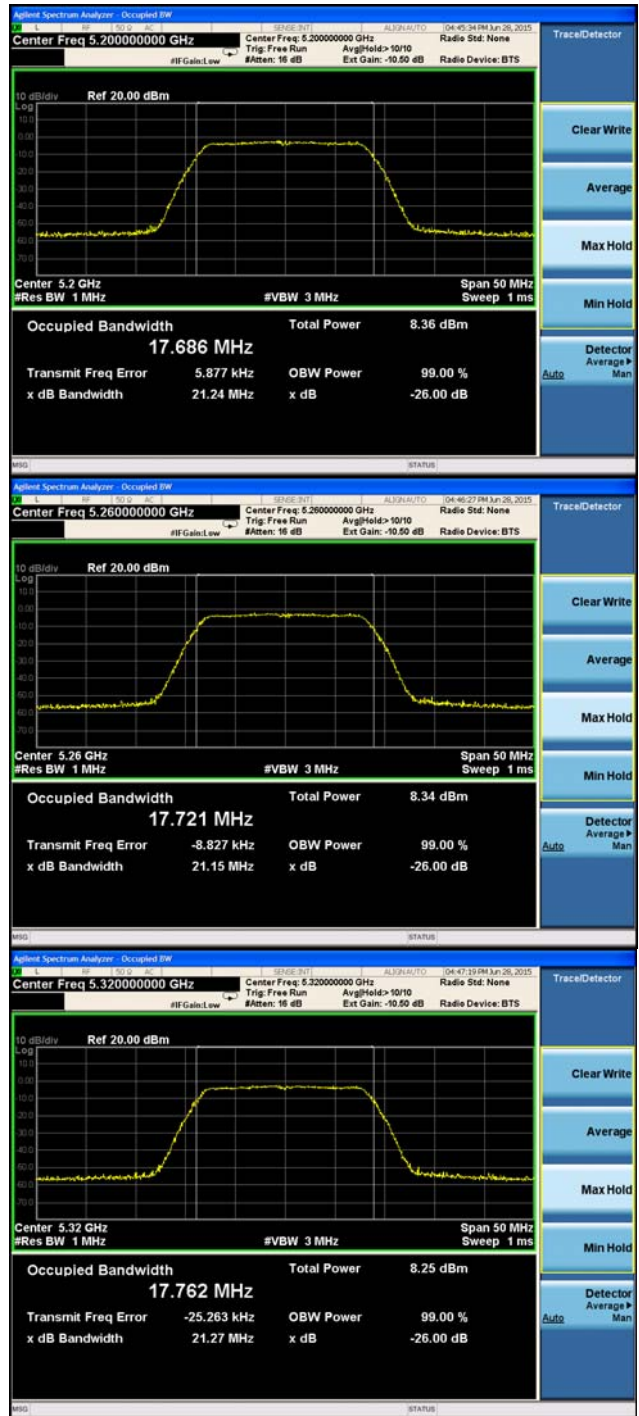
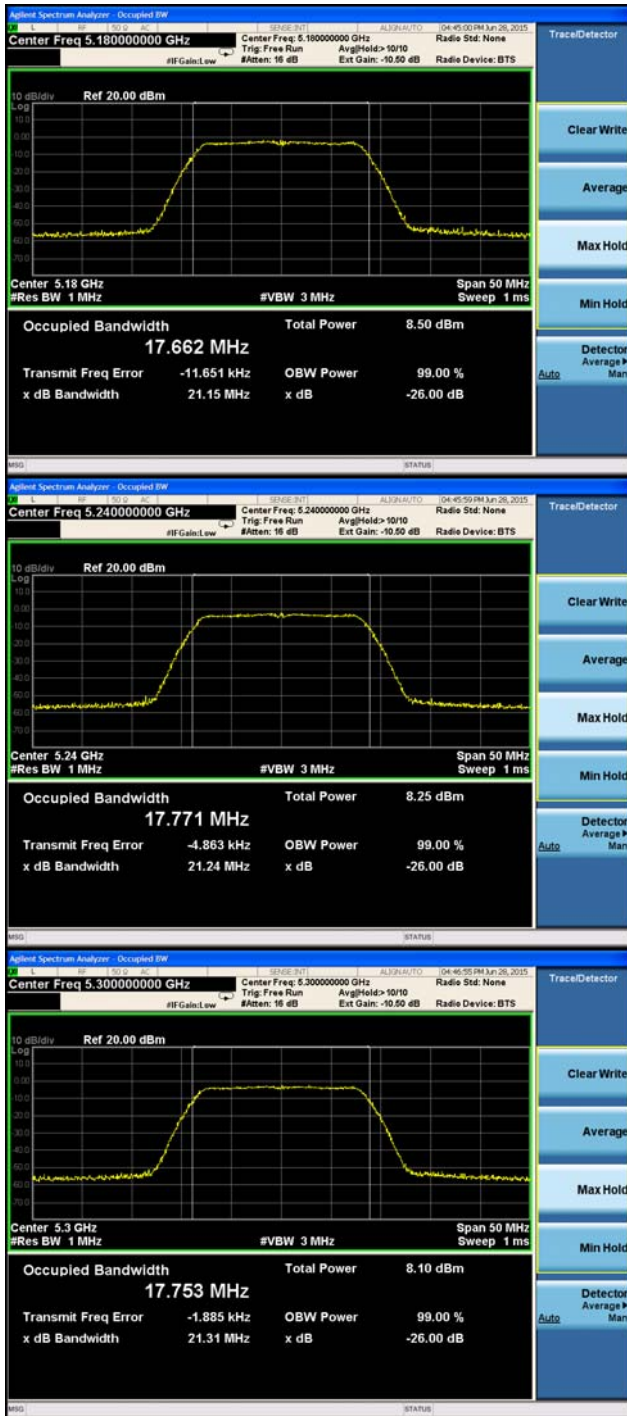
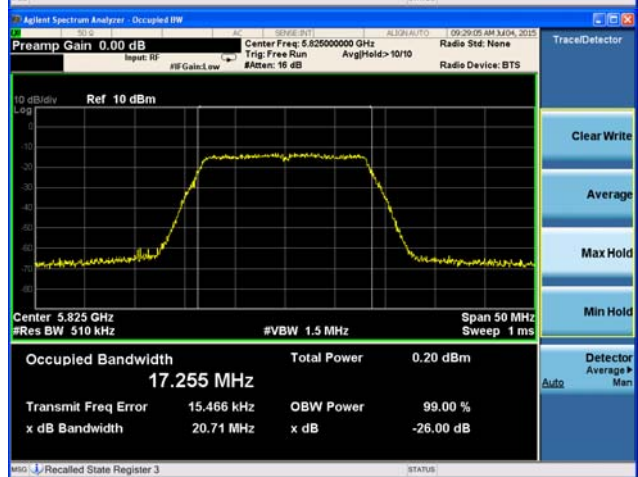
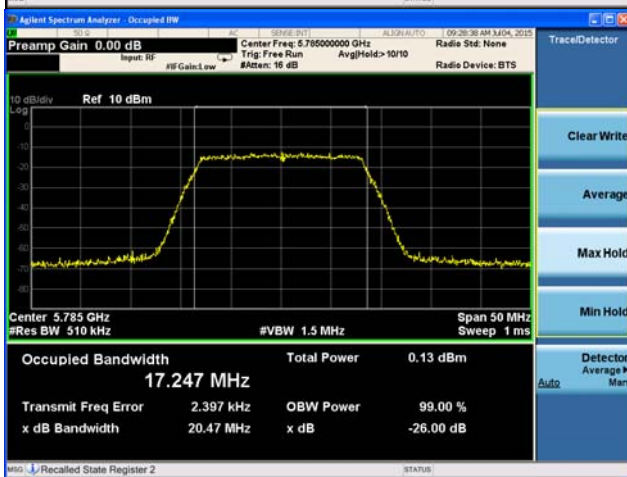
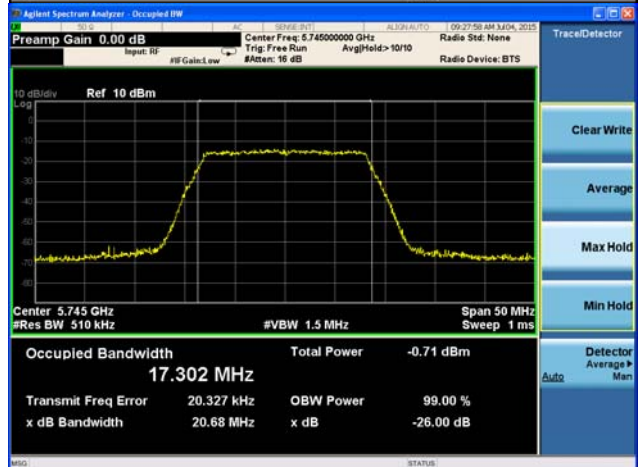
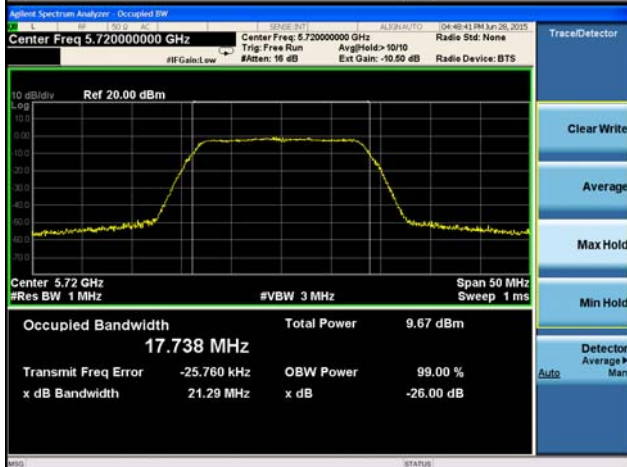
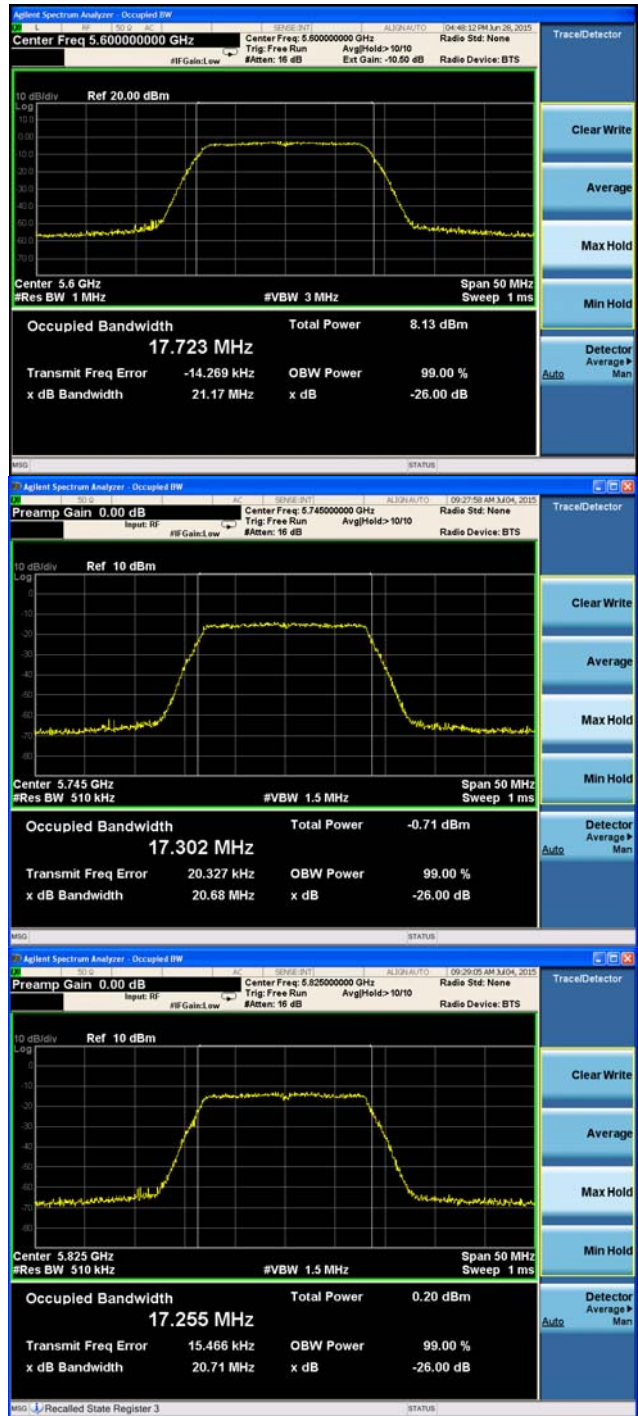
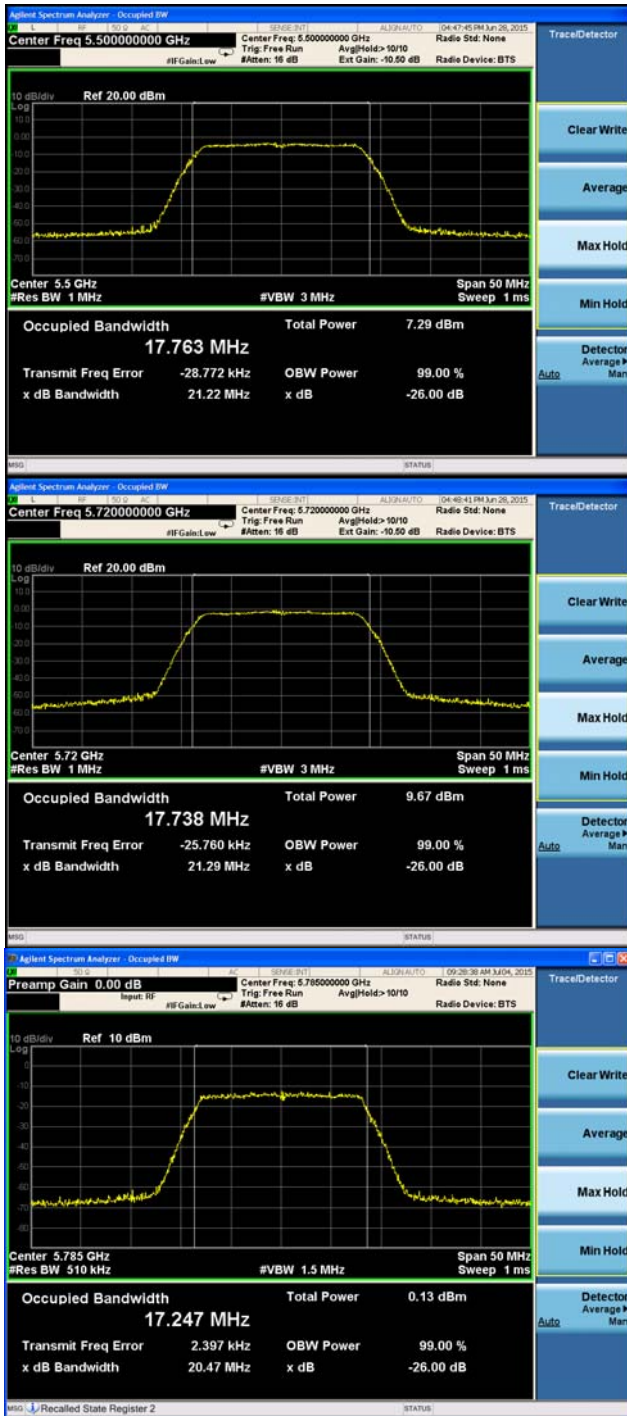
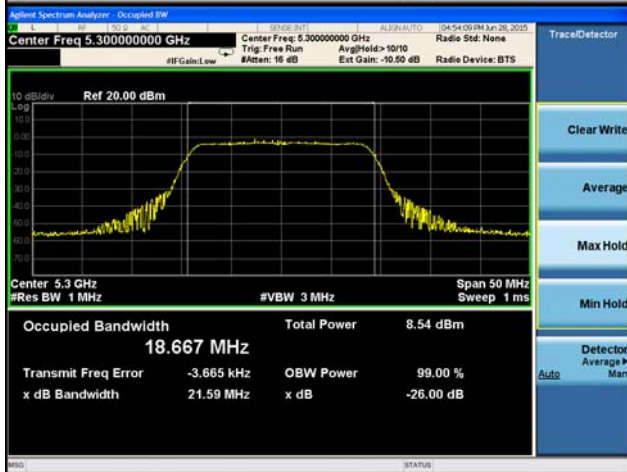
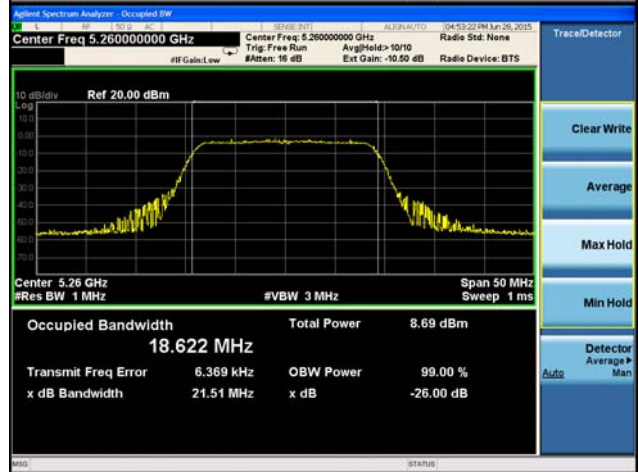
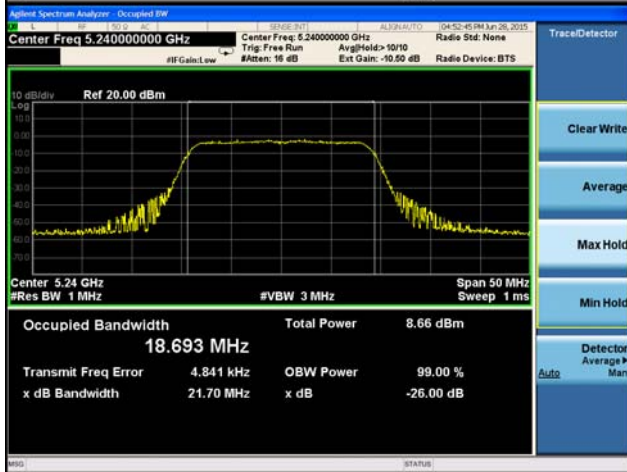
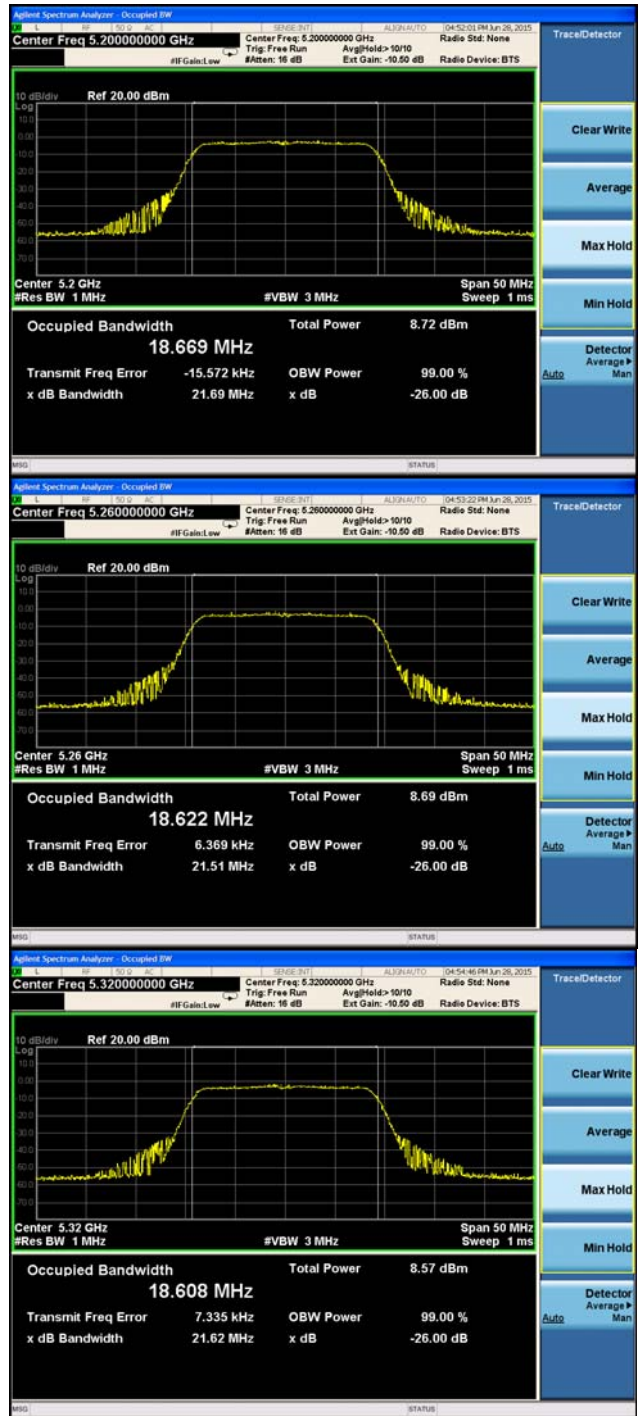
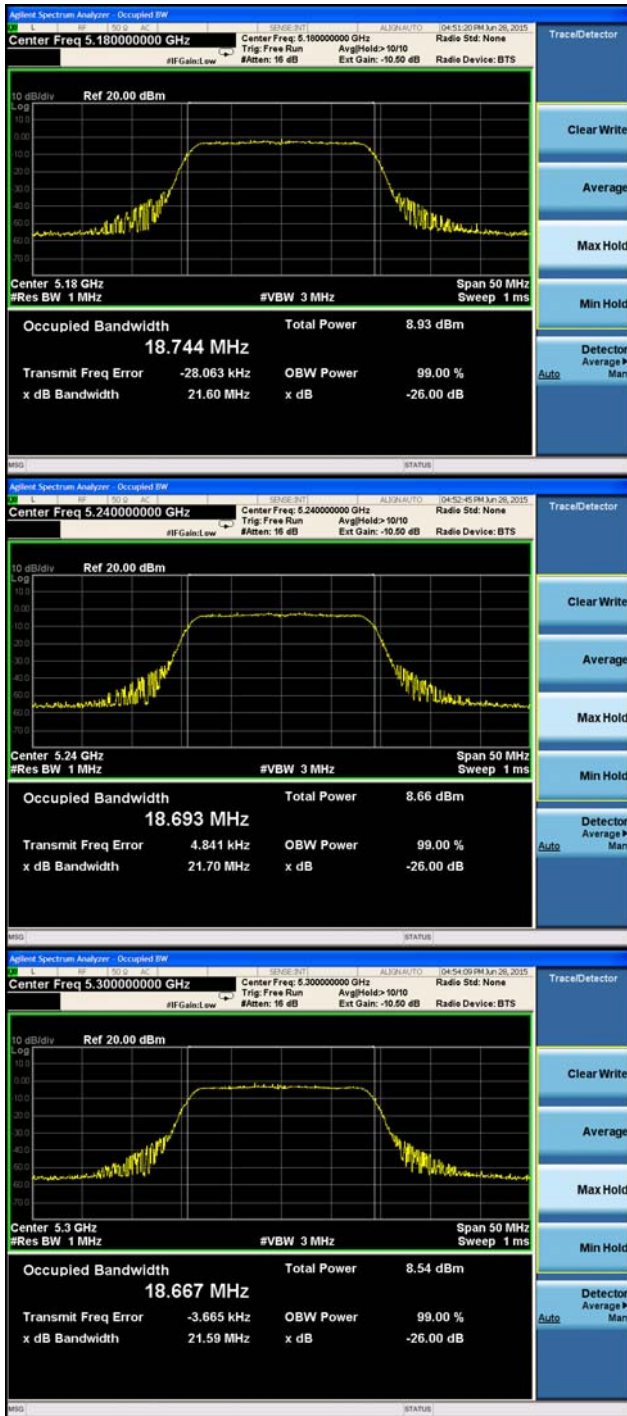




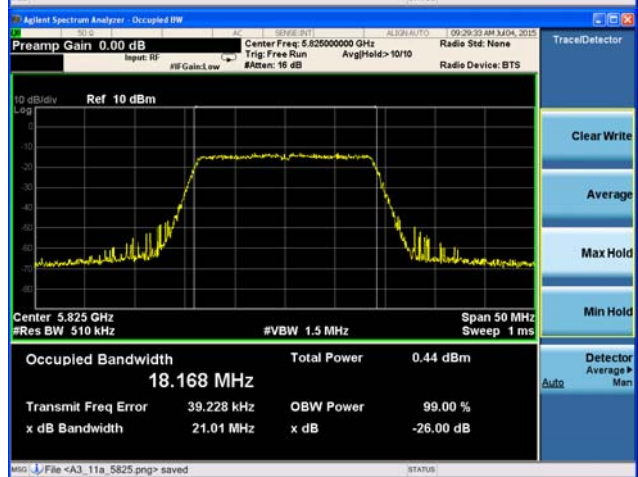
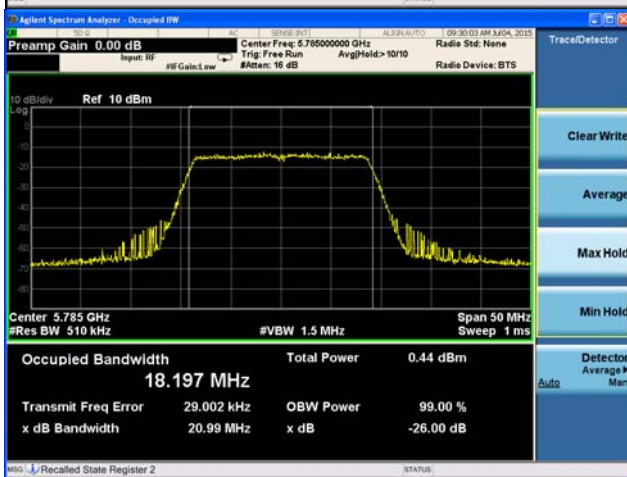
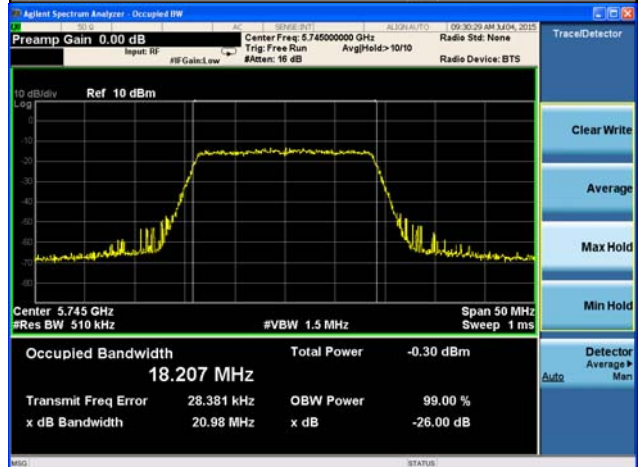
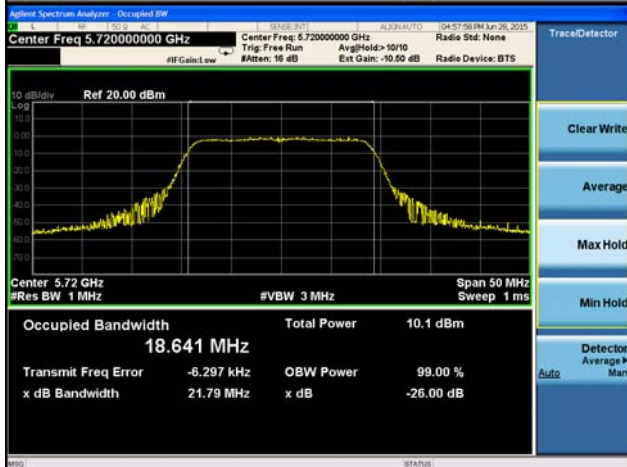
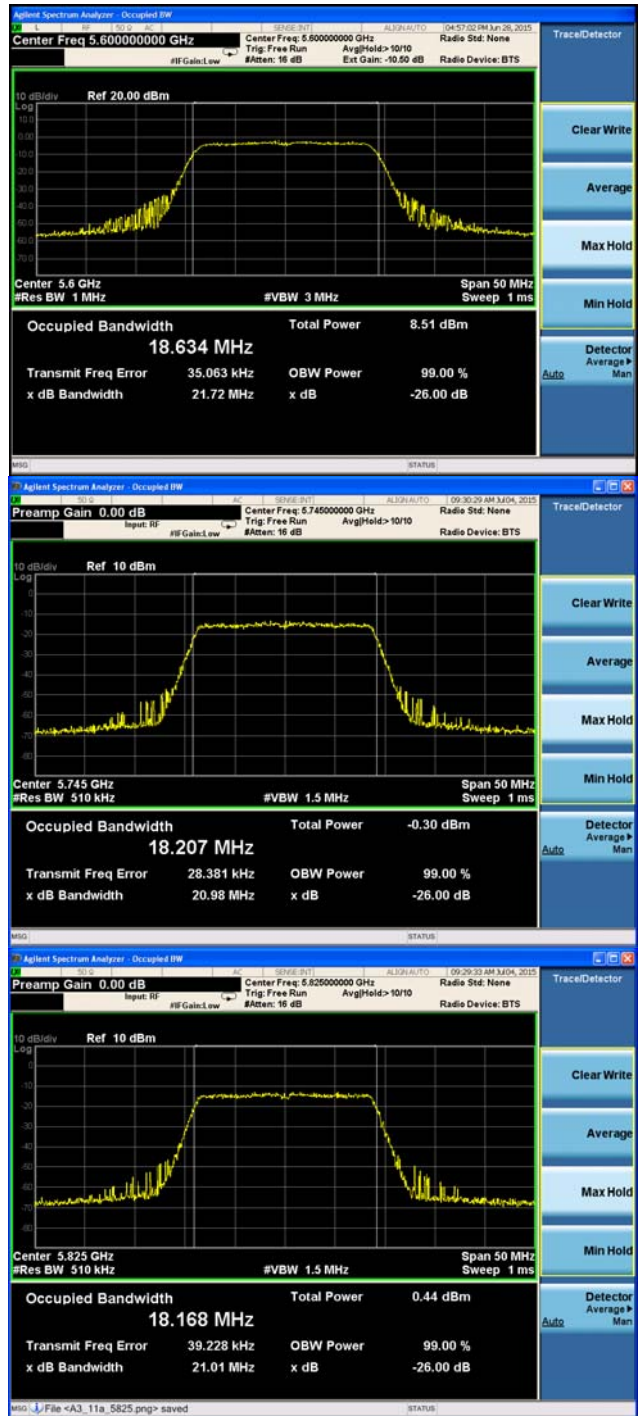
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Ant : A3_802.11a (2)



Ant : A3_802.11n_HT20 (1)



Ant : A3_802.11n_HT20 (2)



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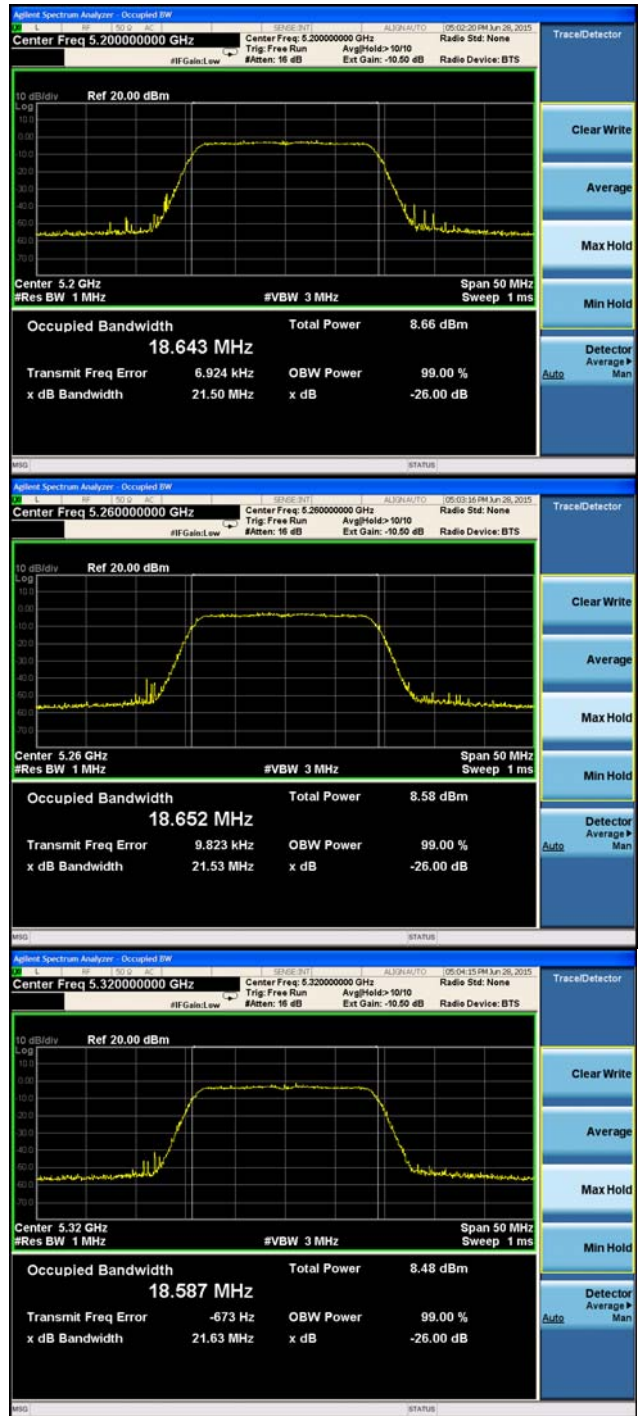
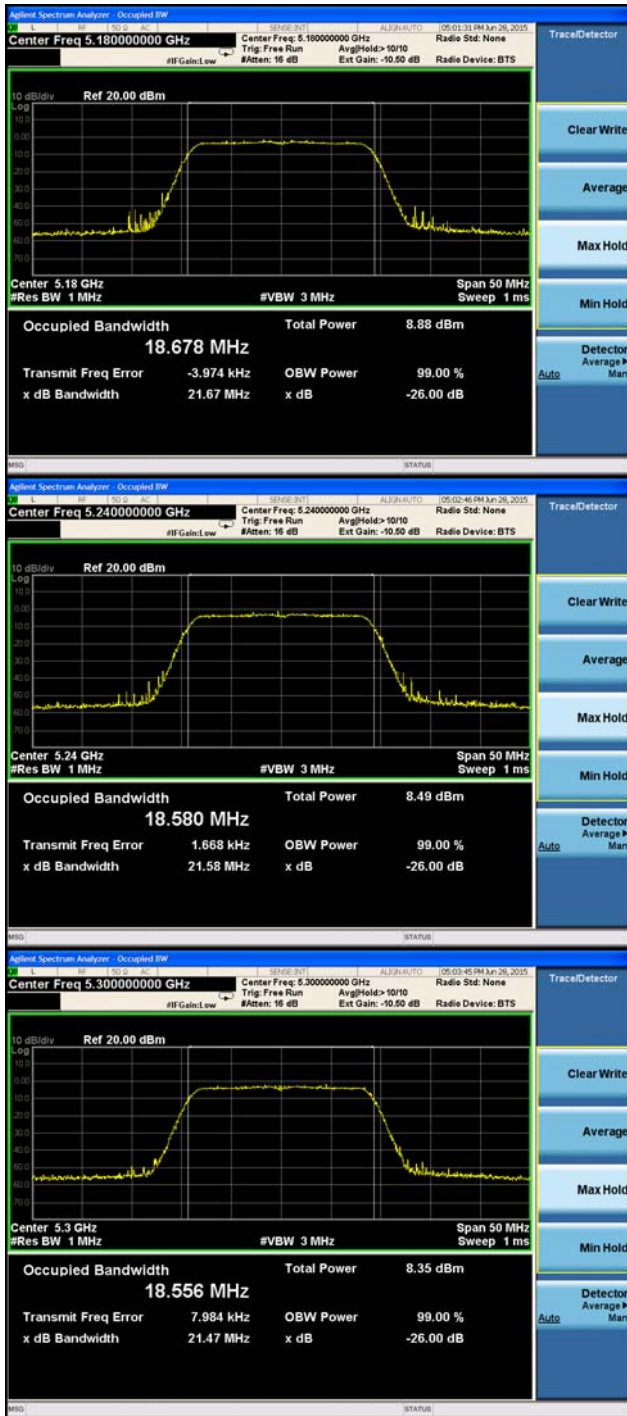
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Ant : A3_802.11ac_VHT20 (1)



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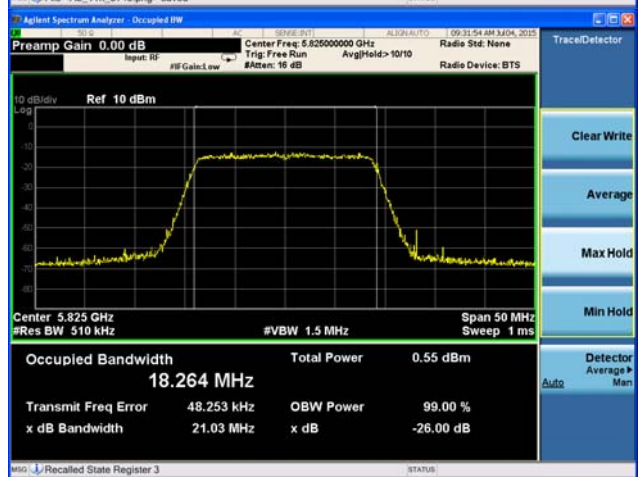
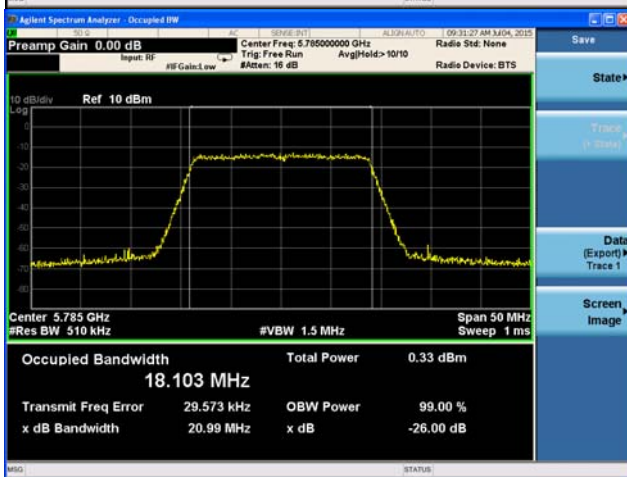
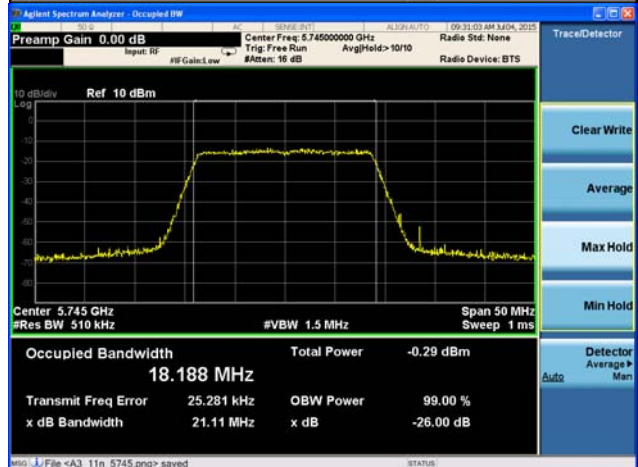
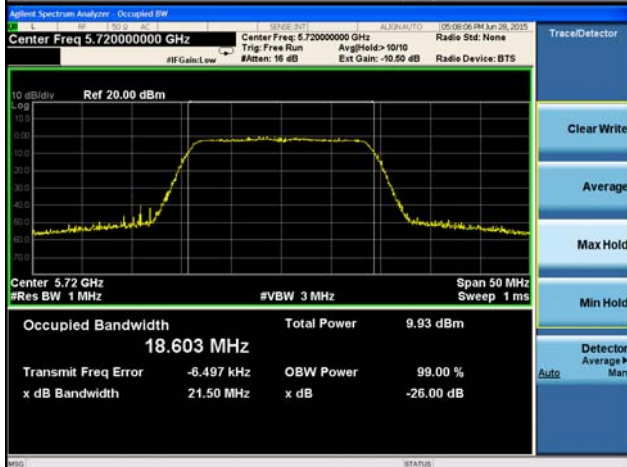
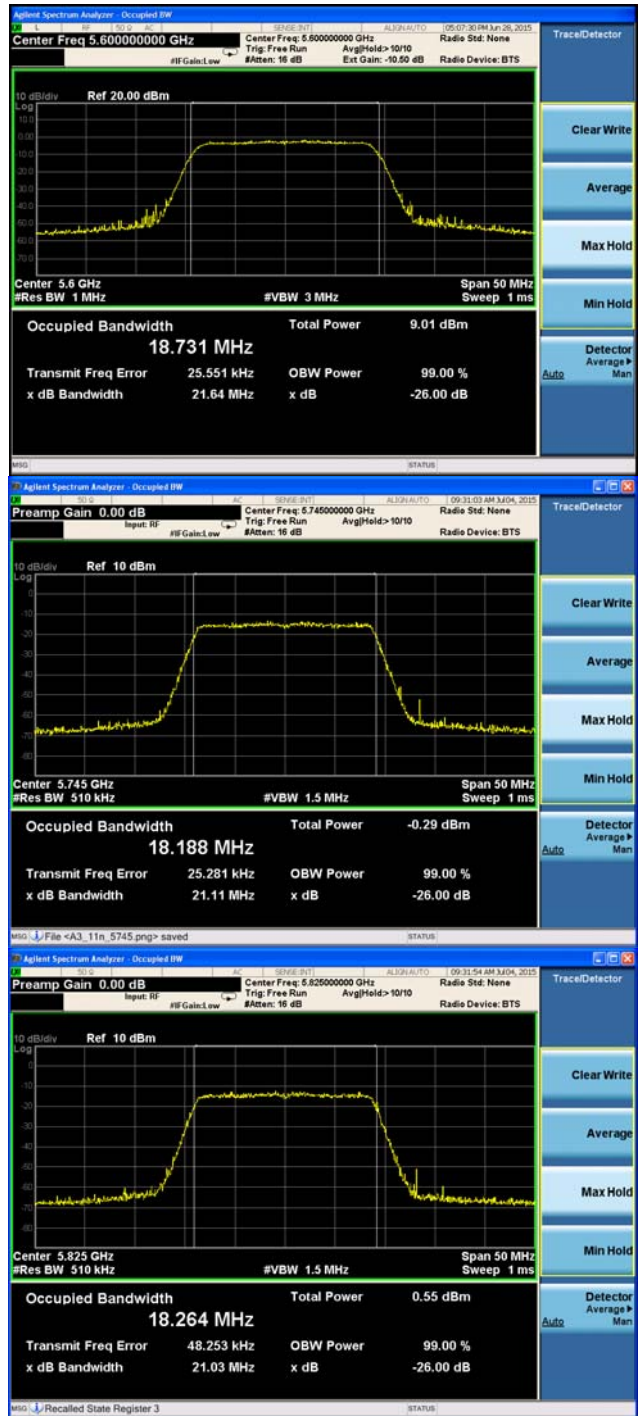
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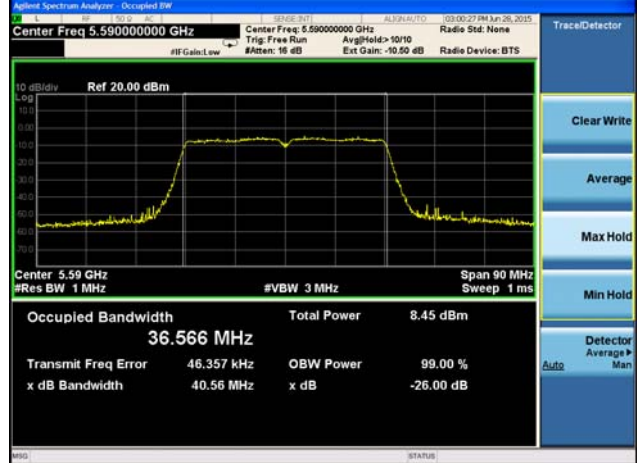
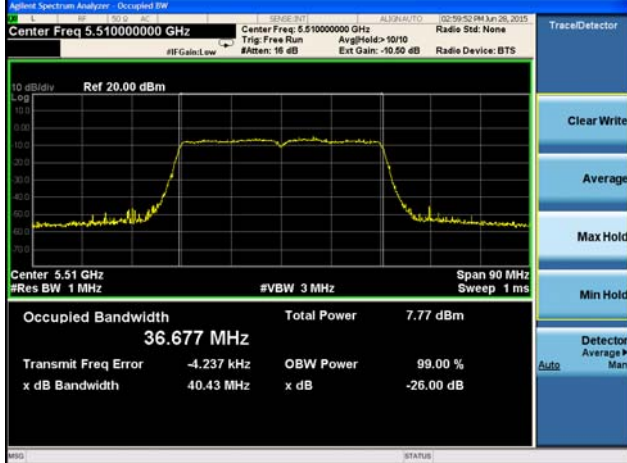
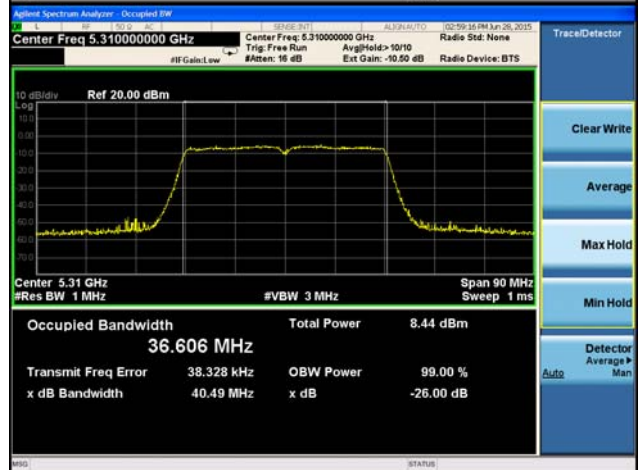
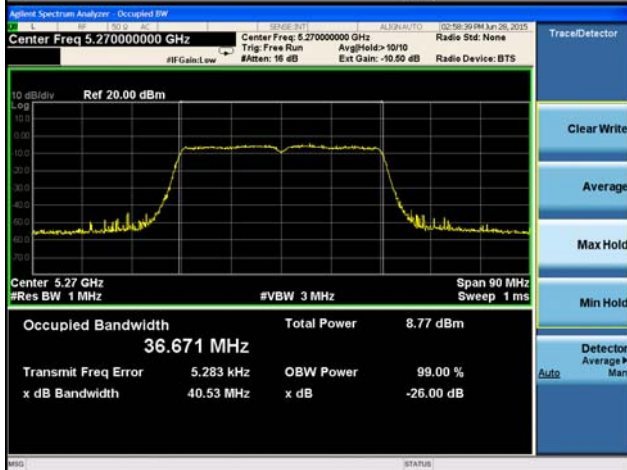
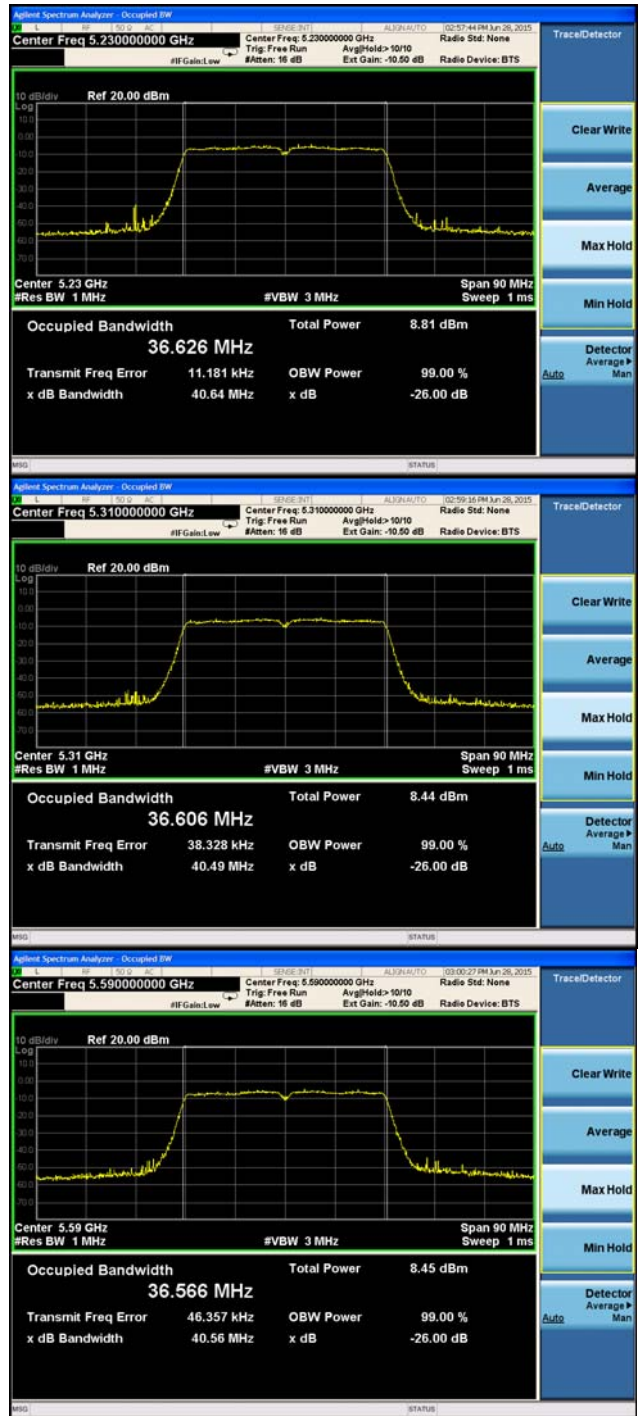
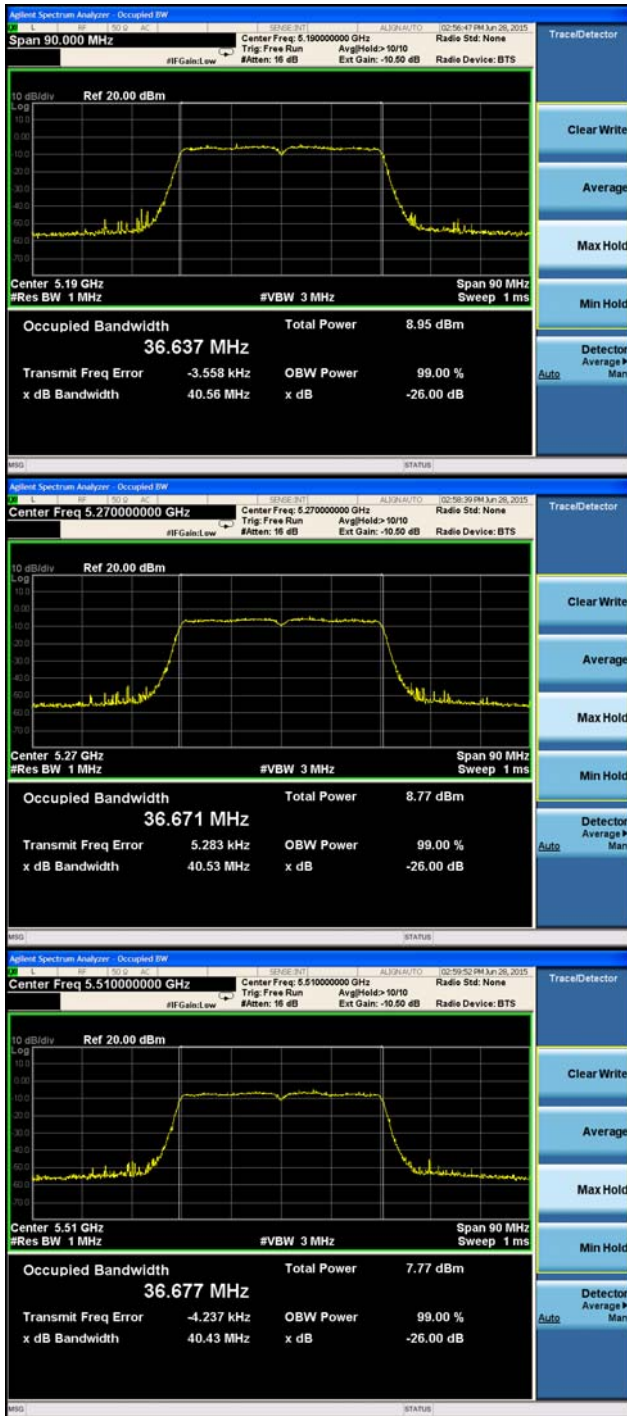
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Ant : A3_802.11ac_VHT20 (2)



Ant : A3_802.11n_HT40 (1)



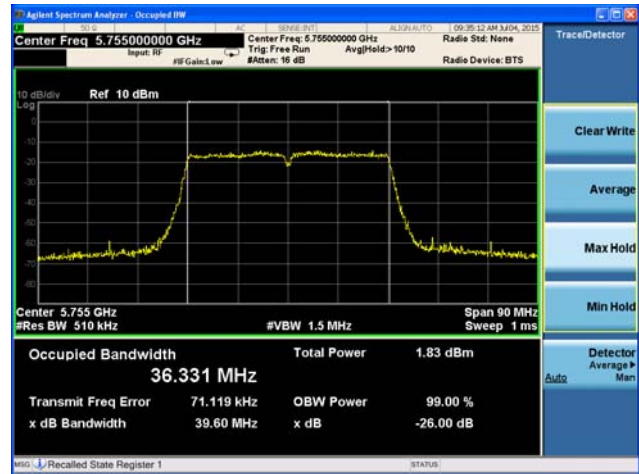
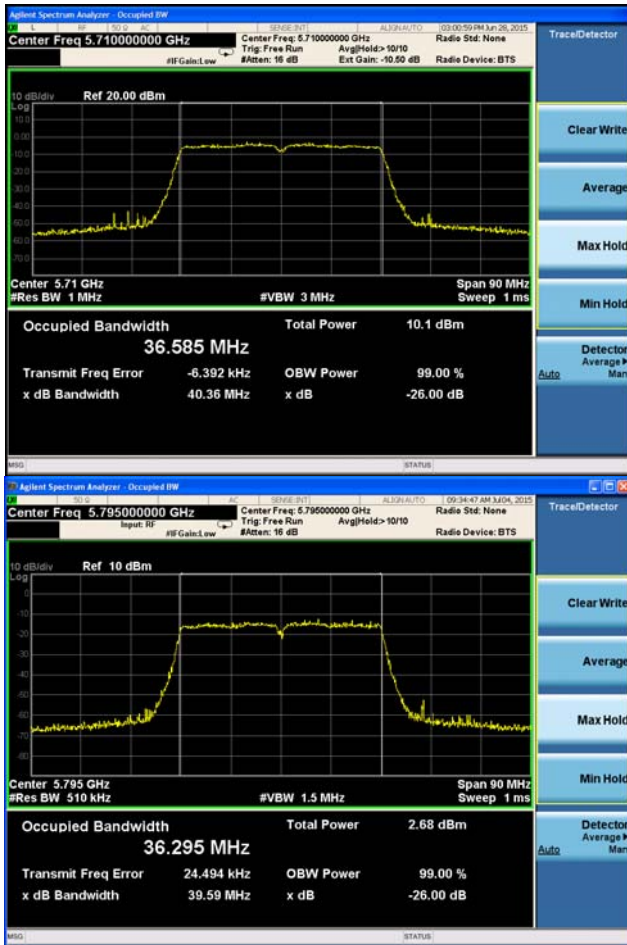
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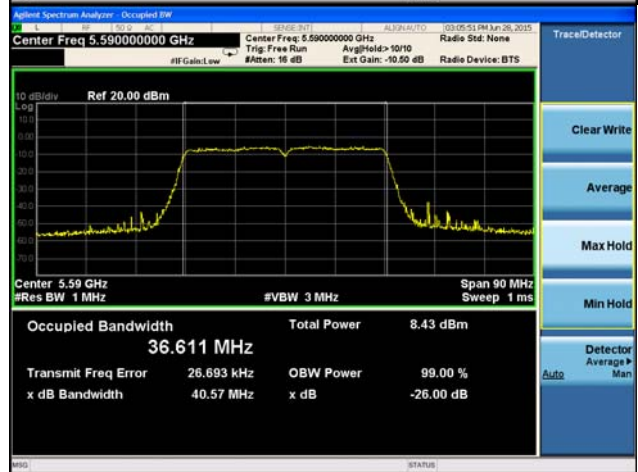
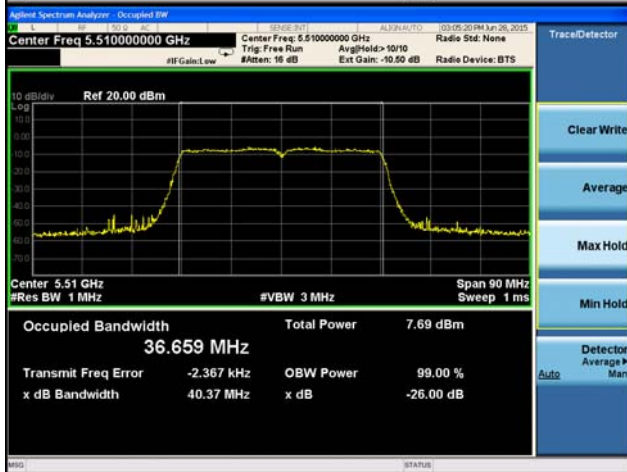
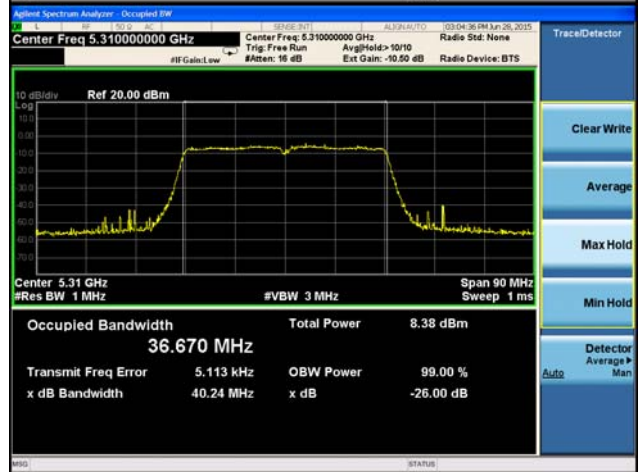
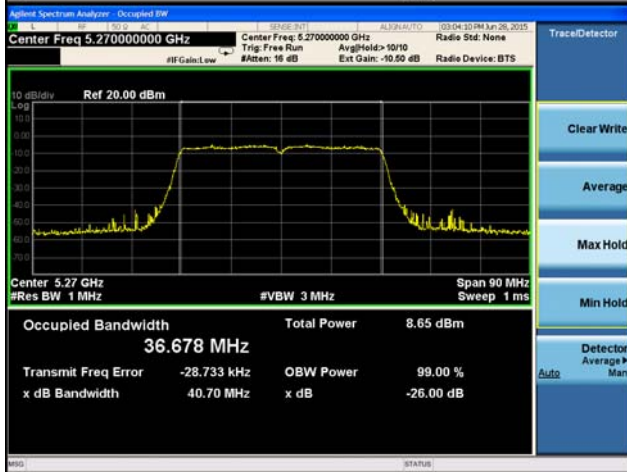
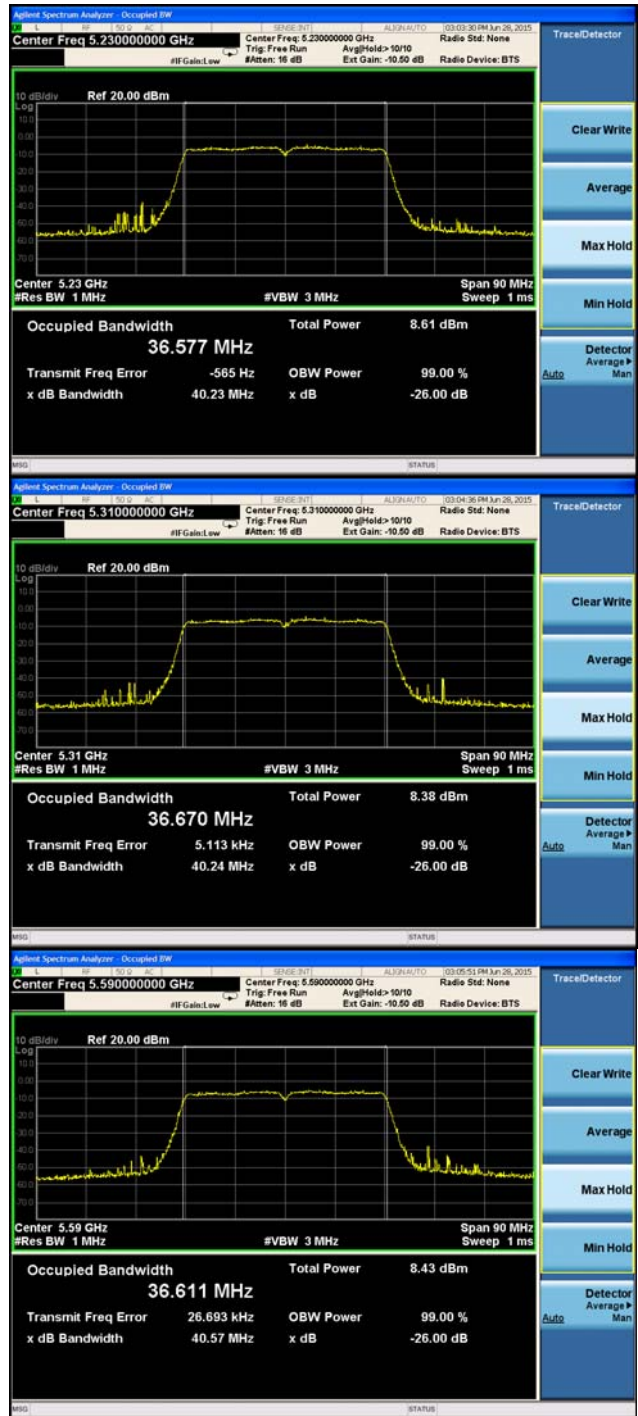
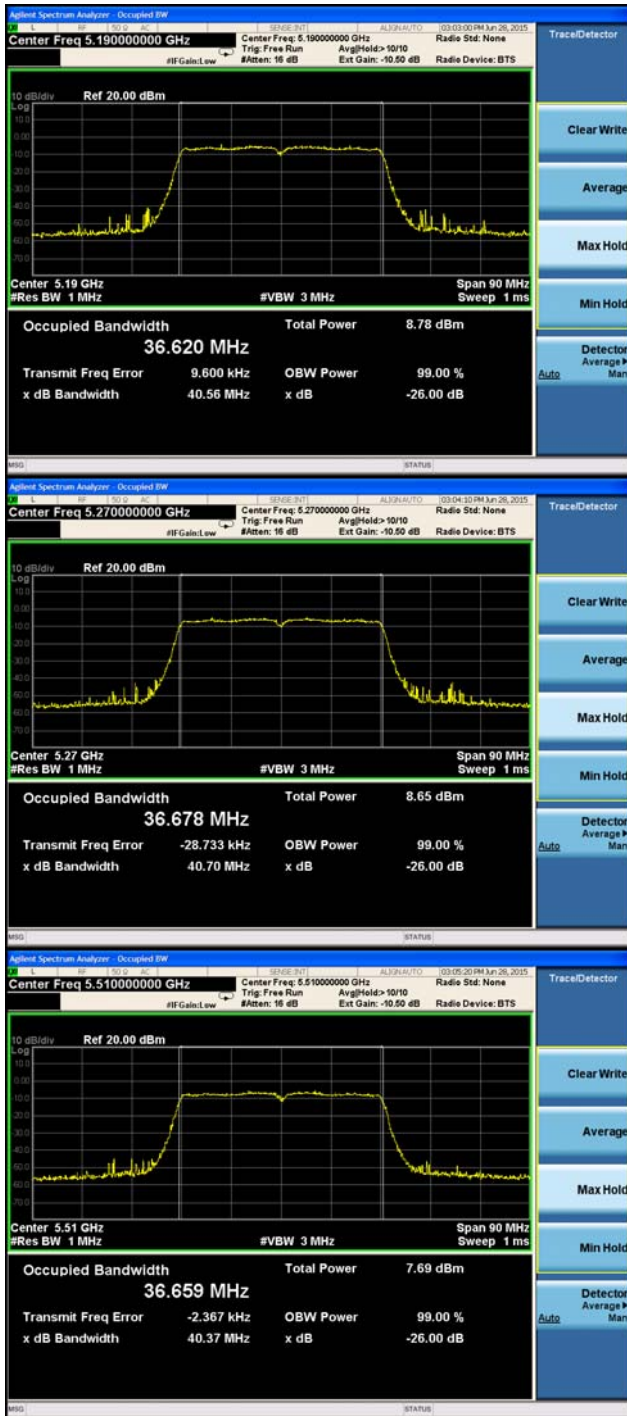
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Ant : A3_802.11n_HT40 (2)



Ant : A3_802.11ac_VHT40 (1)



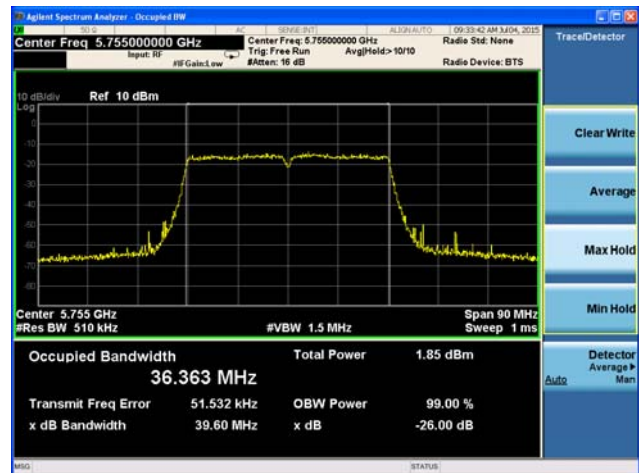
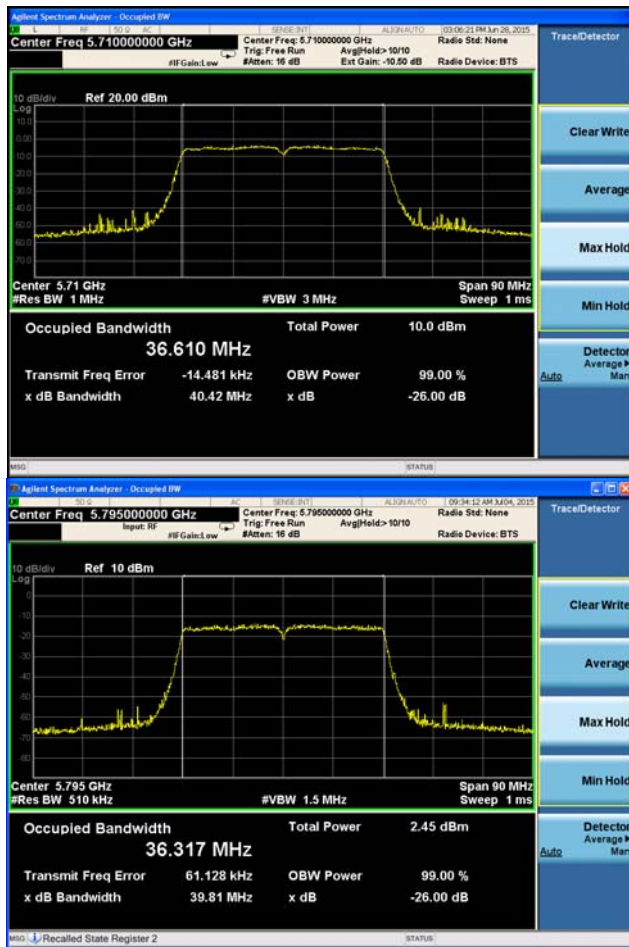
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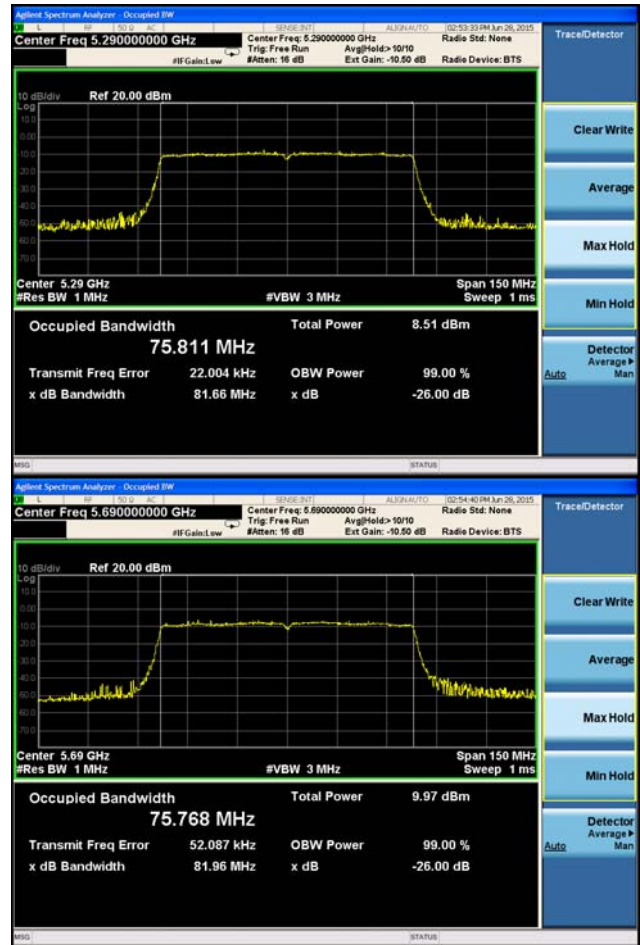
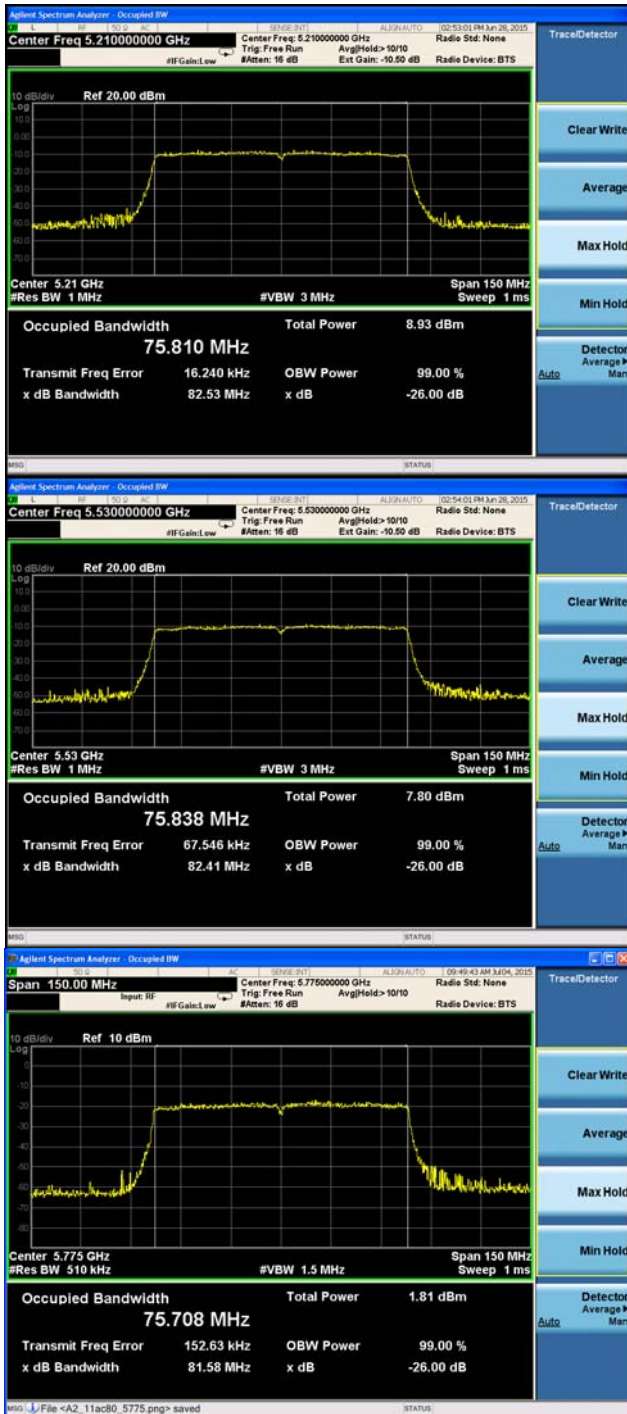
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Ant : A3_802.11ac_VHT40 (2)



Ant : A3_802.11ac_VHT80

2.1.4 OUTPUT POWER

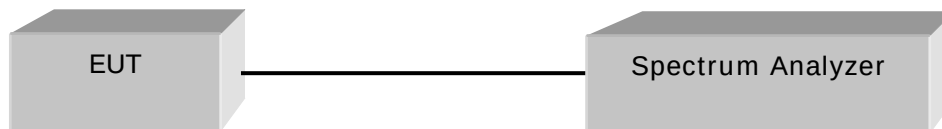
Test Location

RF Test Room

Test Procedures

Maximum Conducted Output Power(KDB 789033, Method SA-1)

The transmitter output is connected to a spectrum analyzer and the analyzer's internal channel power integration function is used to integrate the power over a bandwidth greater than or equal to the 99% bandwidth.



The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

RBW = 1 MHz

VBW = 3 MHz (3 x RBW)

Trace = average at least 100

Sweep = auto

Detector function = RMS

Limit

[Dipole ANT]

Operating Mode	Band	Mode	ANT Configuration	ANT Gain (dBi)	Limit (dBm)	
					FCC	IC
SISO	UNII 1	802.11a/n/ac	ANT1	8.0	28	21
			ANT2			
			ANT3			
	UNII 2A	802.11a/n/ac	ANT1		22	22
			ANT2			
			ANT3			
	UNII 2C	802.11a/n/ac	ANT1		22	22
			ANT2			
			ANT3			
	UNII 3	802.11a/n/ac	ANT1		28	28
			ANT2			
			ANT3			
MIMO (2Tx)	UNII 1	802.11a/n/ac	ANT1 + ANT2	11.01	24.99	17.99
	UNII 2A		ANT1 + ANT2		18.99	18.99
	UNII 2C		ANT1 + ANT2		18.99	18.99
	UNII 3		ANT1 + ANT2		24.99	24.99
MIMO (3Tx)	UNII 1	802.11a/n/ac	ANT1 + ANT2 + ANT3	12.77	23.23	16.23
	UNII 2A		ANT1 + ANT2 + ANT3		17.23	17.23
	UNII 2C		ANT1 + ANT2 + ANT3		17.23	17.23
	UNII 3		ANT1 + ANT2 + ANT3		23.23	23.23

[Patch ANT]

Operating Mode	Band	Mode	ANT Configuration	ANT Gain (dBi)	Limit (dBm)	
					FCC	IC
SISO	UNII 1	802.11a/n/ac	ANT1	13.138	22.86	15.86
			ANT2			
			ANT3			
	UNII 2A	802.11a/n/ac	ANT1		16.86	16.86
			ANT2			
			ANT3			
	UNII 2C	802.11a/n/ac	ANT1		16.86	16.86
			ANT2			
			ANT3			
	UNII 3	802.11a/n/ac	ANT1		22.86	22.86
			ANT2			
			ANT3			
MIMO (2Tx)	UNII 1	802.11a/n/ac	ANT1 + ANT2	16.148	19.85	12.85
	UNII 2A		ANT1 + ANT2		13.85	13.85
	UNII 2C		ANT1 + ANT2		13.85	13.85
	UNII 3		ANT1 + ANT2		19.85	19.85
MIMO (3Tx)	UNII 1	802.11a/n/ac	ANT1 + ANT2 + ANT3	17.909	18.09	11.09
	UNII 2A		ANT1 + ANT2 + ANT3		12.09	12.09
	UNII 2C		ANT1 + ANT2 + ANT3		12.09	12.09
	UNII 3		ANT1 + ANT2 + ANT3		18.09	18.09

Test Results

Ant : A1

	Measured Output Power (dBm)		
Mode	802.11a	802.11n_HT20	802.11ac_VHT20
Frequency			
5180 MHz	2.50	3.05	3.53
5200 MHz	2.71	3.07	3.57
5240 MHz	2.34	2.74	3.19
5260 MHz	2.22	2.60	3.11
5300 MHz	1.50	1.96	2.24
5320 MHz	1.25	1.87	1.89
5500 MHz	1.51	1.75	1.95
5600 MHz	2.34	2.64	2.61
5720 MHz	3.13	3.51	3.38
5745 MHz	4.31	4.47	4.45
5785 MHz	3.58	3.83	3.69
5825 MHz	3.15	3.31	3.26
Measurement uncertainty	± 3 dB		

Ant : A2

	Measured Output Power (dBm)		
Mode	802.11a	802.11n_HT20	802.11ac_VHT20
Frequency			
5180 MHz	2.43	2.96	2.93
5200 MHz	2.05	2.45	2.53
5240 MHz	1.42	1.93	2.05
5260 MHz	1.33	1.55	1.76
5300 MHz	1.54	1.85	1.84
5320 MHz	1.46	1.75	1.91
5500 MHz	0.63	1.03	1.08
5600 MHz	1.31	1.49	1.72
5720 MHz	2.34	2.54	2.58
5745 MHz	3.13	3.45	3.41
5785 MHz	2.88	3.24	3.19
5825 MHz	3.26	3.61	3.52
Measurement uncertainty	± 3 dB		

Ant : A3

	Measured Output Power (dBm)		
Mode	802.11a	802.11n_HT20	802.11ac_VHT20
Frequency			
5180 MHz	2.16	2.39	2.56
5200 MHz	2.03	2.15	2.39
5240 MHz	1.77	2.17	2.27
5260 MHz	1.75	2.17	2.11
5300 MHz	1.40	1.89	1.93
5320 MHz	1.56	2.00	2.10
5500 MHz	0.50	0.64	0.74
5600 MHz	1.45	1.88	1.61
5720 MHz	3.29	3.49	3.61
5745 MHz	3.53	3.79	3.76
5785 MHz	4.20	4.39	4.39
5825 MHz	4.40	4.68	4.60
Measurement uncertainty	± 3 dB		

Ant : A1 + A2

	Measured Output Power (dBm)		
Mode	802.11a	802.11n_HT20	802.11ac_VHT20
Frequency			
5180 MHz	5.48	6.02	6.25
5200 MHz	5.40	5.78	6.09
5240 MHz	4.91	5.36	5.67
5260 MHz	4.81	5.12	5.50
5300 MHz	4.53	4.92	5.05
5320 MHz	4.37	4.82	4.91
5500 MHz	4.10	4.42	4.55
5600 MHz	4.87	5.11	5.20
5720 MHz	5.76	6.06	6.01
5745 MHz	6.77	7.00	6.97
5785 MHz	6.25	6.56	6.46
5825 MHz	6.22	6.47	6.40
Measurement uncertainty	± 3 dB		

Ant : A1 + A2 + A3

	Measured Output Power (dBm)		
Mode	802.11a	802.11n_HT20	802.11ac_VHT20
Frequency			
5180 MHz	7.14	7.58	7.80
5200 MHz	7.05	7.34	7.63
5240 MHz	6.63	7.06	7.30
5260 MHz	6.55	6.90	7.14
5300 MHz	6.25	6.67	6.78
5320 MHz	6.20	6.65	6.74
5500 MHz	5.67	5.94	6.06
5600 MHz	6.50	6.80	6.77
5720 MHz	7.71	7.97	7.98
5745 MHz	8.46	8.70	8.67
5785 MHz	8.36	8.62	8.56
5825 MHz	8.41	8.68	8.60
Measurement uncertainty	± 3 dB		

Ant : A1

	Measured Output Power (dBm)	
Mode	802.11n_HT40	802.11ac_VHT40
Frequency		
5190 MHz	4.89	4.88
5230 MHz	4.73	4.71
5270 MHz	4.35	4.41
5310 MHz	3.85	3.79
5510 MHz	3.99	4.11
5590 MHz	4.49	4.47
5710 MHz	5.20	5.25
5755 MHz	6.08	6.16
5795 MHz	5.80	5.63
Measurement uncertainty	± 3 dB	

Ant : A2

	Measured Output Power (dBm)	
Mode	802.11n_HT40	802.11ac_VHT40
Frequency		
5190 MHz	4.73	4.67
5230 MHz	4.13	4.15
5270 MHz	3.84	3.93
5310 MHz	3.94	4.13
5510 MHz	3.36	3.42
5590 MHz	3.54	3.60
5710 MHz	4.53	4.43
5755 MHz	5.26	5.15
5795 MHz	5.18	5.19
Measurement uncertainty	± 3 dB	

Ant : A3

	Measured Output Power (dBm)	
Mode	802.11n_HT40	802.11ac_VHT40
Frequency		
5190 MHz	4.34	4.34
5230 MHz	4.27	4.20
5270 MHz	4.17	4.10
5310 MHz	4.01	3.95
5510 MHz	3.04	2.96
5590 MHz	3.70	3.62
5710 MHz	5.33	5.44
5755 MHz	5.74	5.69
5795 MHz	6.52	6.49
Measurement uncertainty	± 3 dB	

Ant : A1 + A2

	Measured Output Power (dBm)	
Mode	802.11n_HT40	802.11ac_VHT40
Frequency		
5190 MHz	7.82	7.79
5230 MHz	7.45	7.45
5270 MHz	7.11	7.19
5310 MHz	6.91	6.97
5510 MHz	6.70	6.79
5590 MHz	7.05	7.07
5710 MHz	7.89	7.87
5755 MHz	8.70	8.69
5795 MHz	8.51	8.43
Measurement uncertainty	± 3 dB	



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Ant : A1 + A2 + A3

	Measured Output Power (dBm)	
Mode	802.11n_HT40	802.11ac_VHT40
Frequency		
5190 MHz	9.43	9.41
5230 MHz	9.16	9.13
5270 MHz	8.90	8.92
5310 MHz	8.71	8.73
5510 MHz	8.25	8.29
5590 MHz	8.70	8.69
5710 MHz	9.81	9.83
5755 MHz	10.48	10.46
5795 MHz	10.64	10.58
Measurement uncertainty	± 3 dB	

Ant : A1, A2, A3

	Measured Output Power (dBm)		
Mode	Ant : A1	Ant : A2	Ant : A3
Frequency	802.11ac_VHT80	802.11ac_VHT80	802.11ac_VHT80
5210 MHz	4.49	4.26	4.09
5290 MHz	3.84	3.76	3.82
5530 MHz	4.16	3.14	2.82
5690 MHz	4.76	4.00	4.91
5775 MHz	5.61	4.97	5.84
Measurement uncertainty	± 3 dB		

Ant : A1 + A2

	Measured Output Power (dBm)
Mode	802.11ac_VHT80
Frequency	
5210 MHz	7.39
5290 MHz	6.81
5530 MHz	6.69
5690 MHz	7.41
5775 MHz	8.31
Measurement uncertainty	± 3 dB

Ant : A1 + A2 + A3

	Measured Output Power (dBm)
Mode	802.11ac_VHT80
Frequency	
5210 MHz	9.05
5290 MHz	8.58
5530 MHz	8.18
5690 MHz	9.35
5775 MHz	10.26
Measurement uncertainty	± 3 dB



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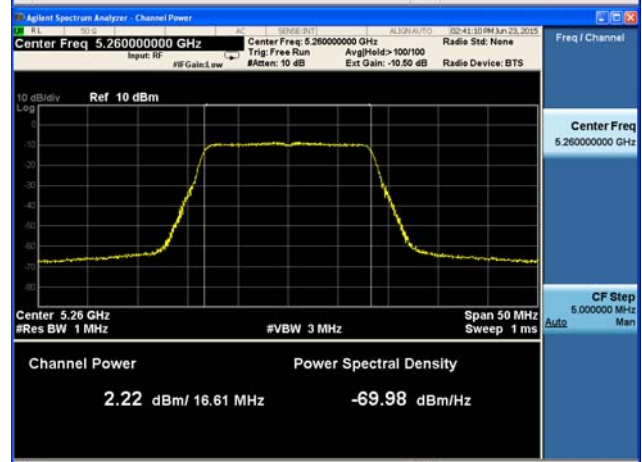
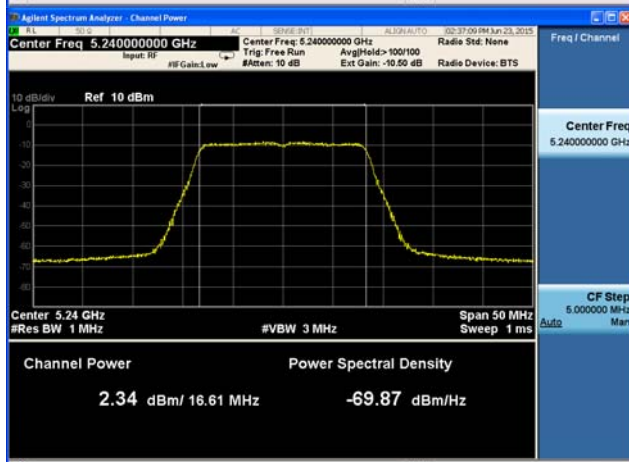
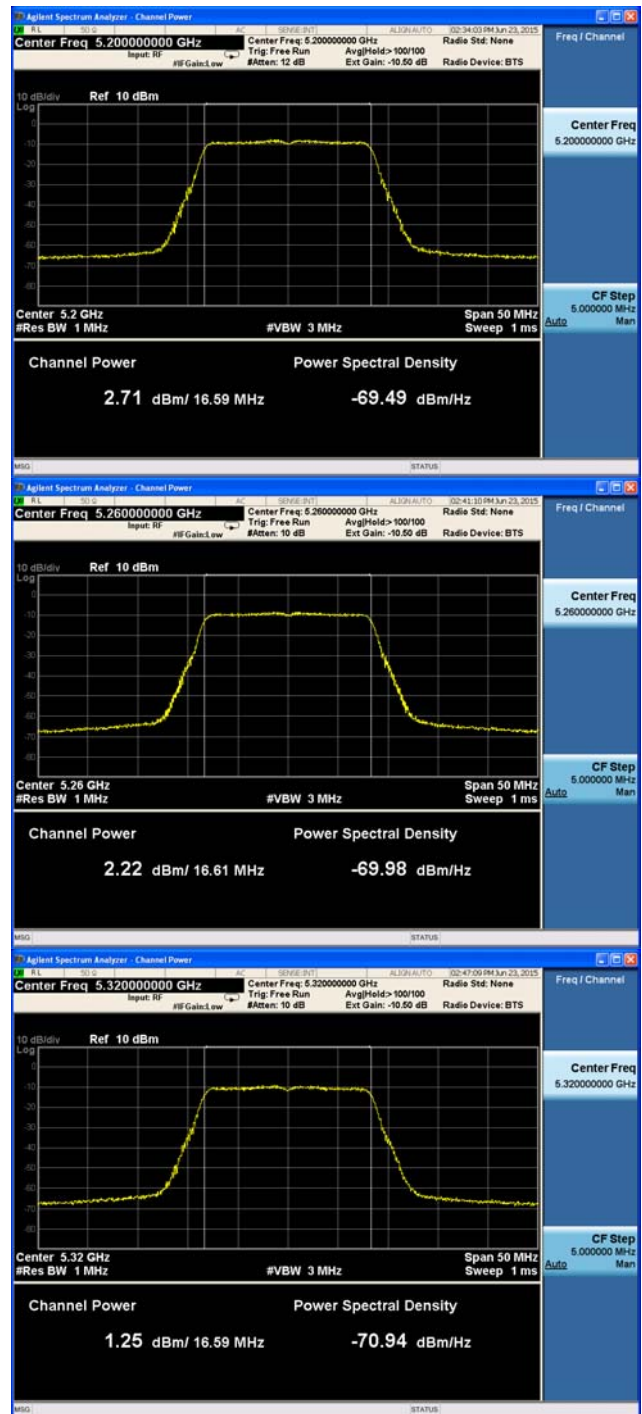
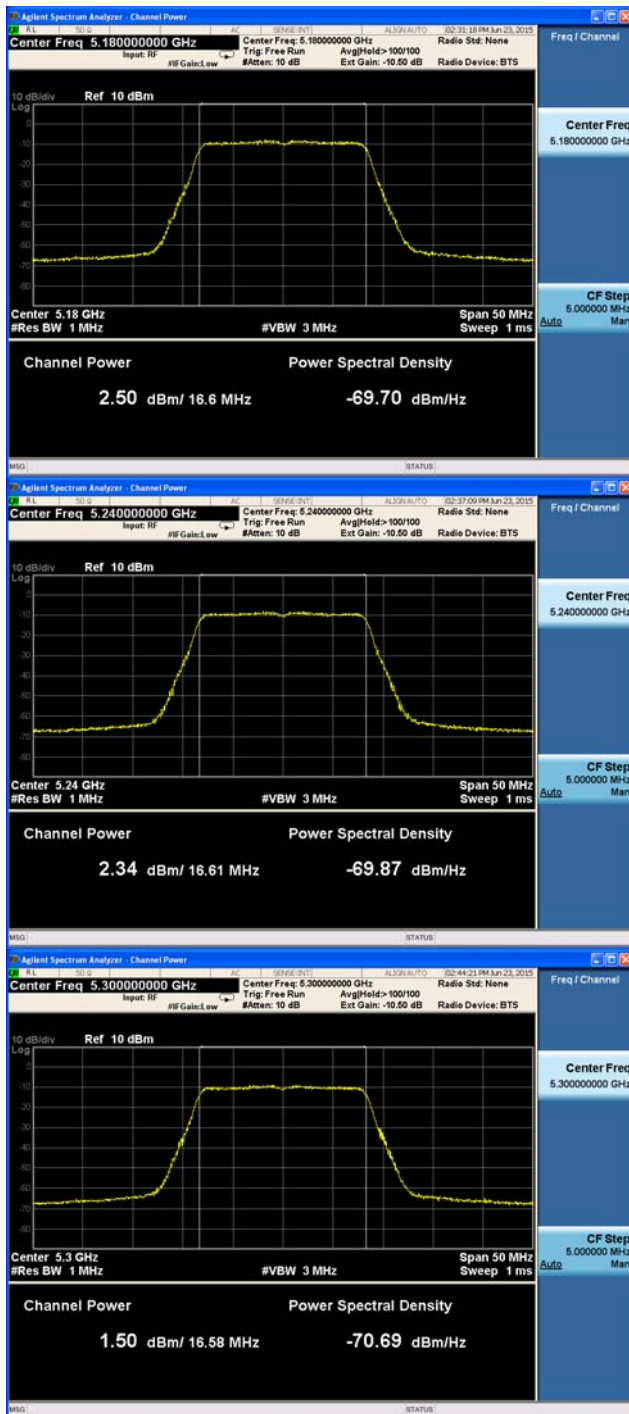
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Ant : A1_802.11a (1)



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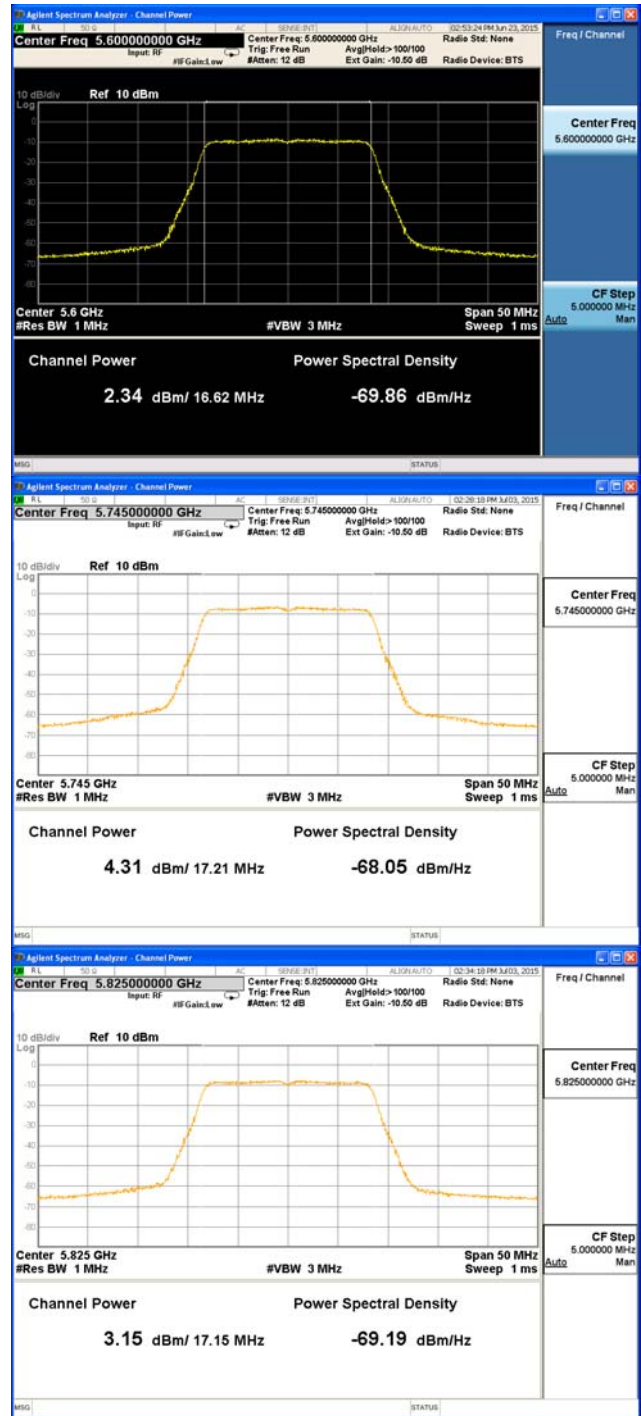
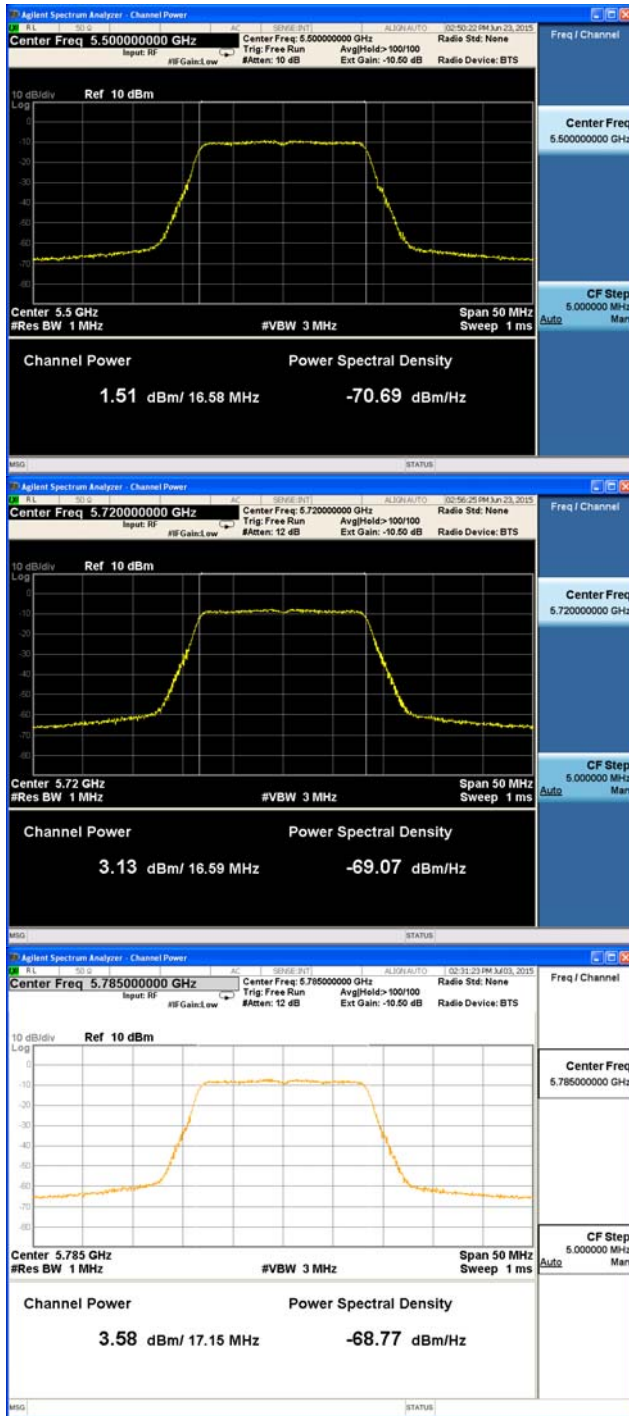
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Ant : A1_802.11a (2)



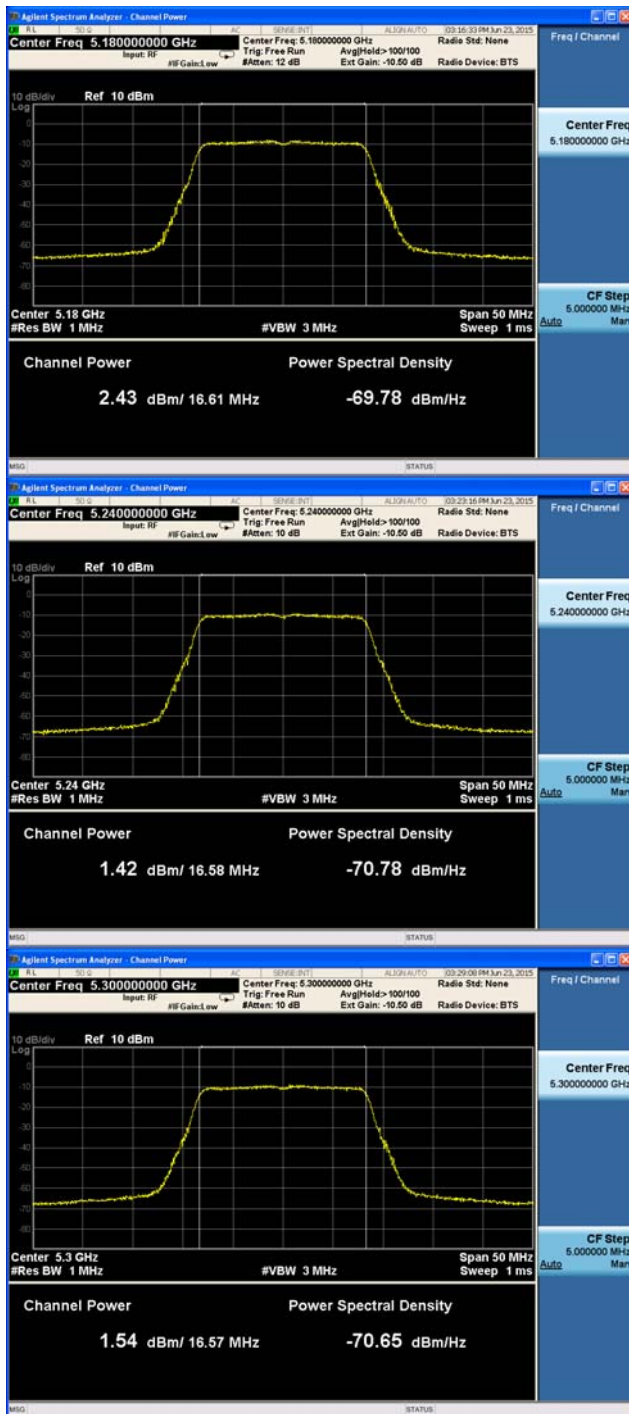
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Ant : A2_802.11a (1)



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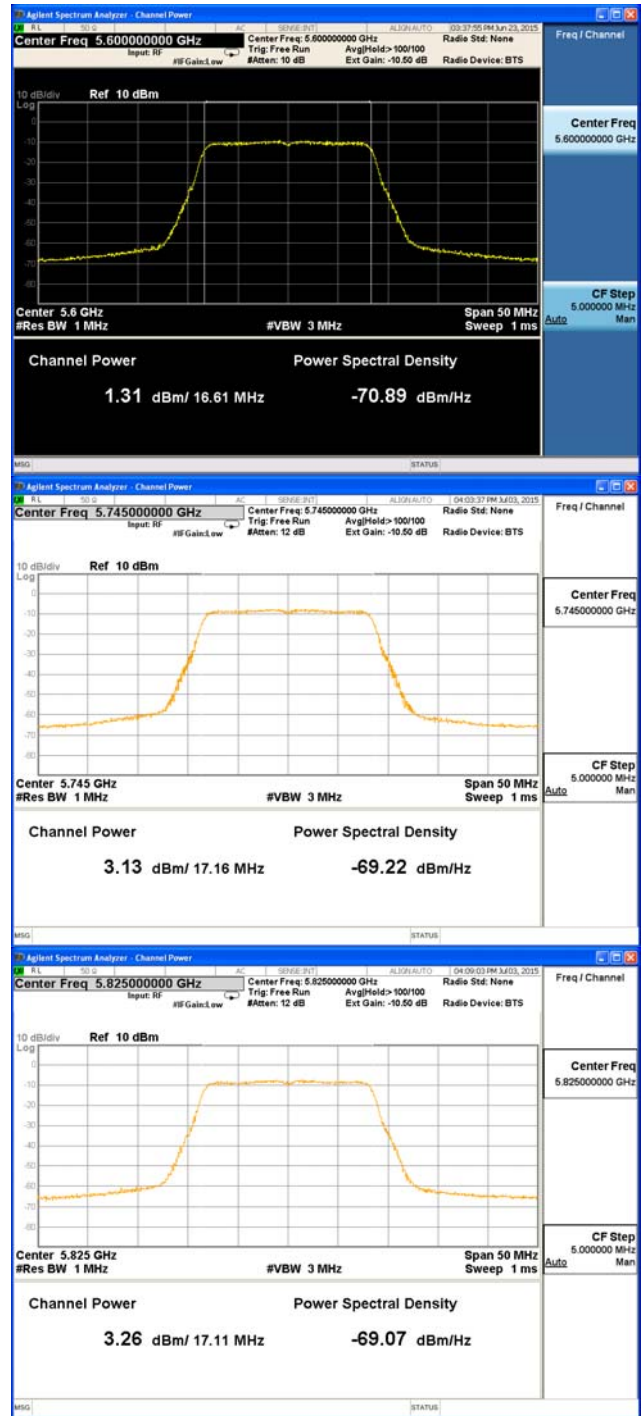
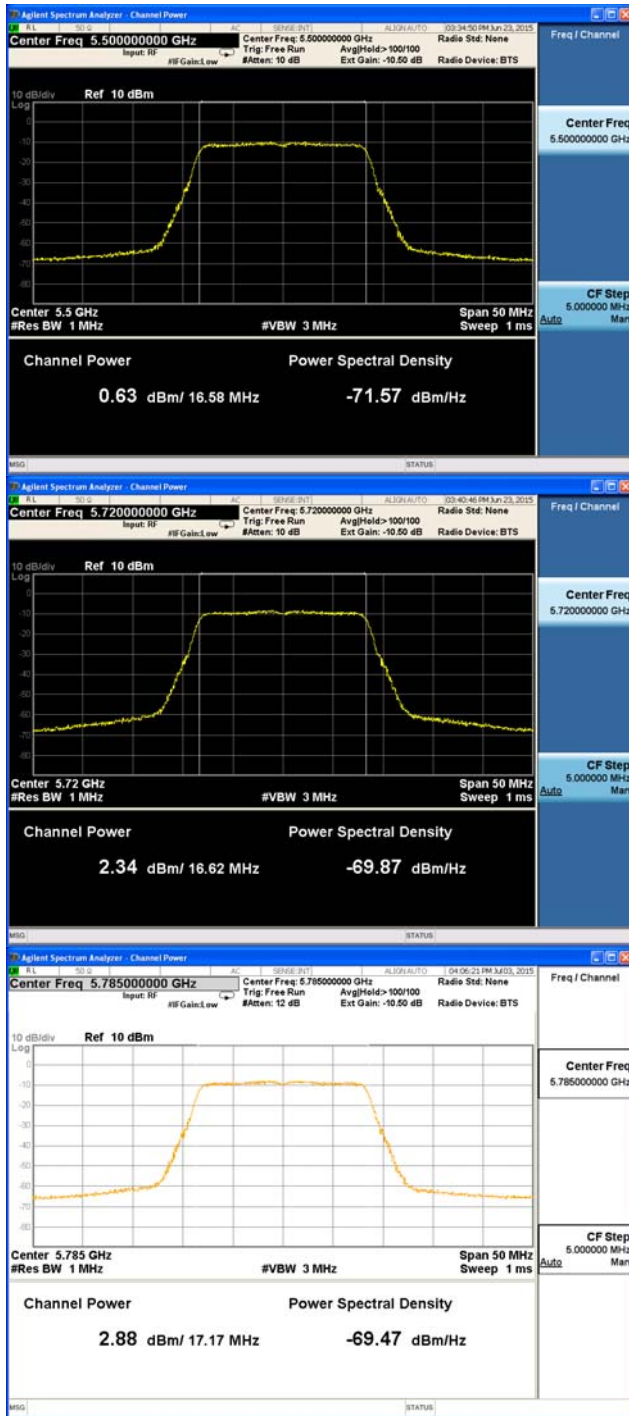
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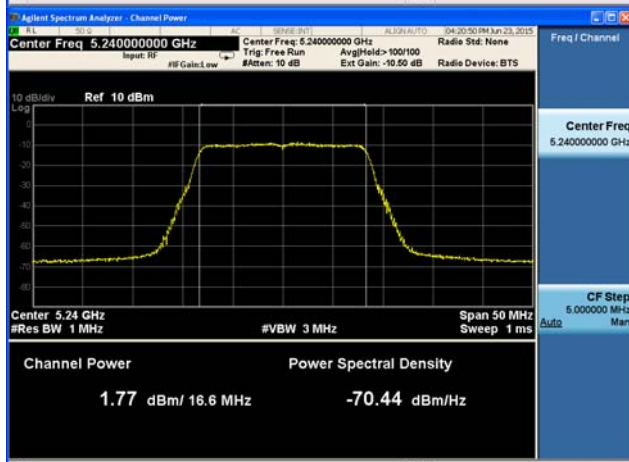
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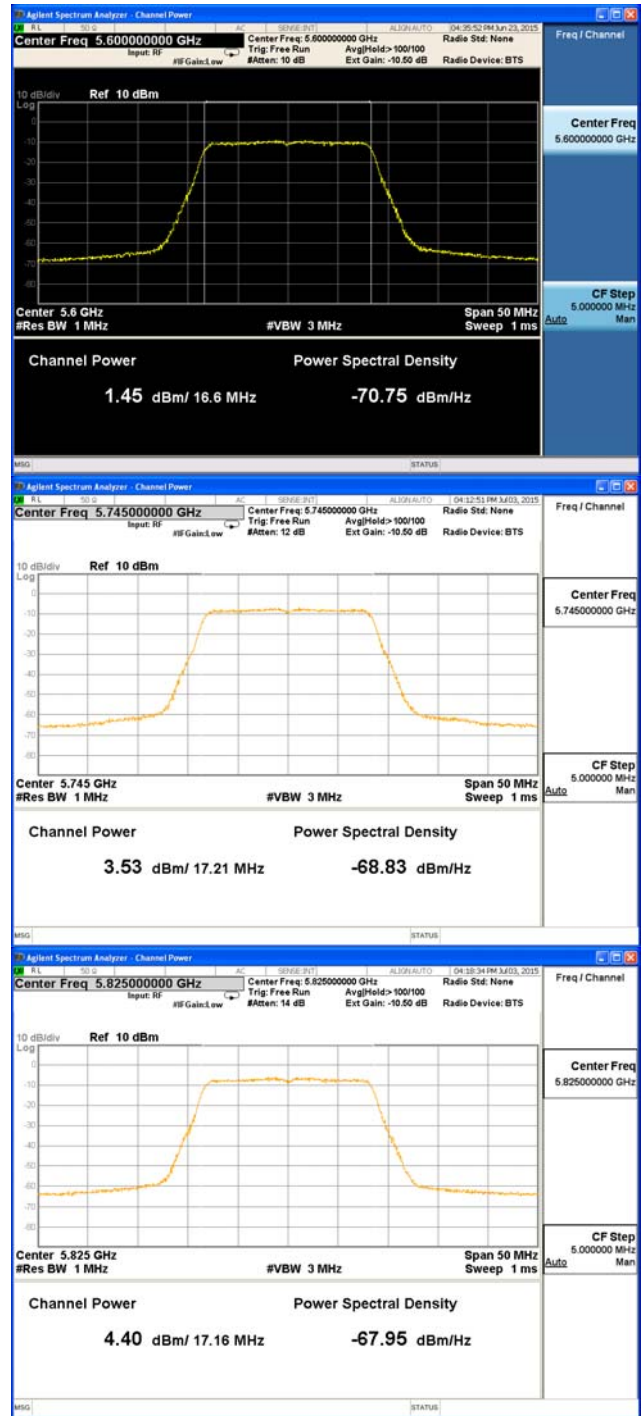
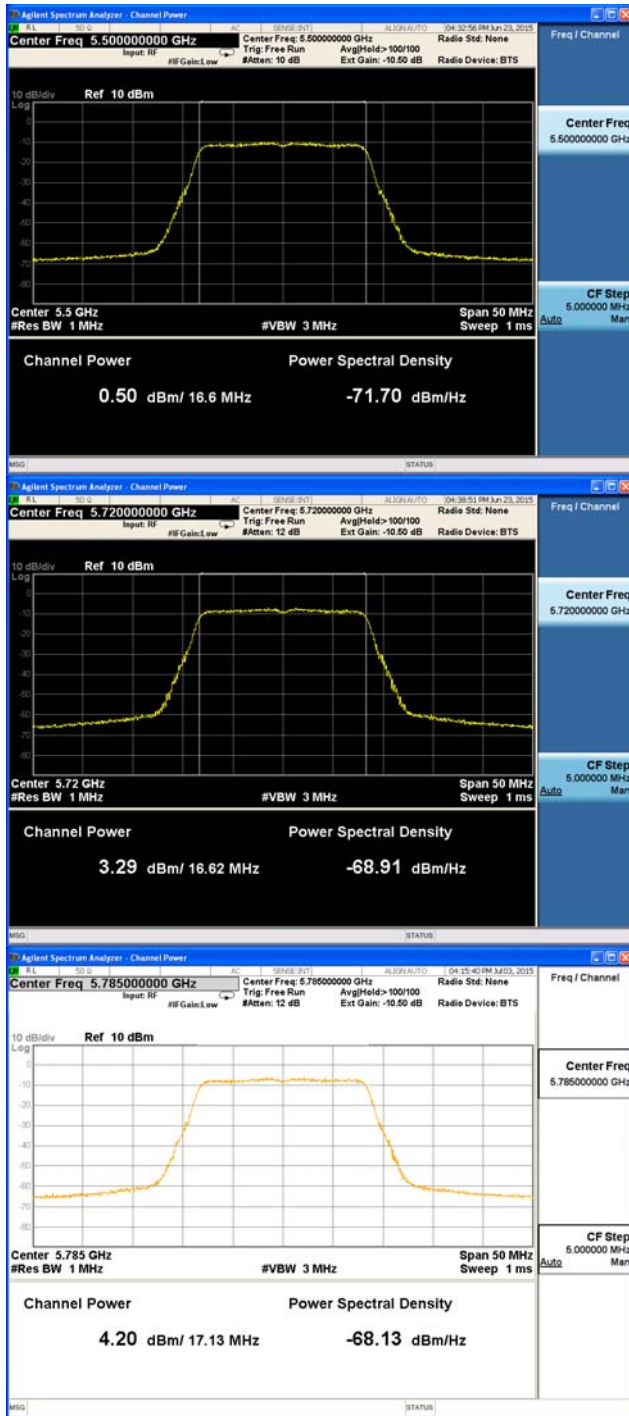
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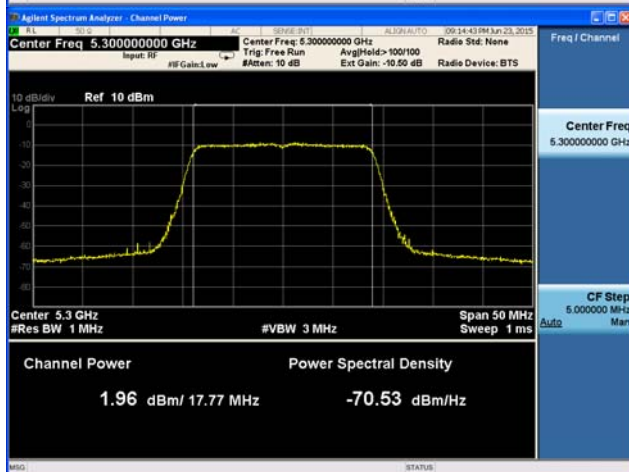
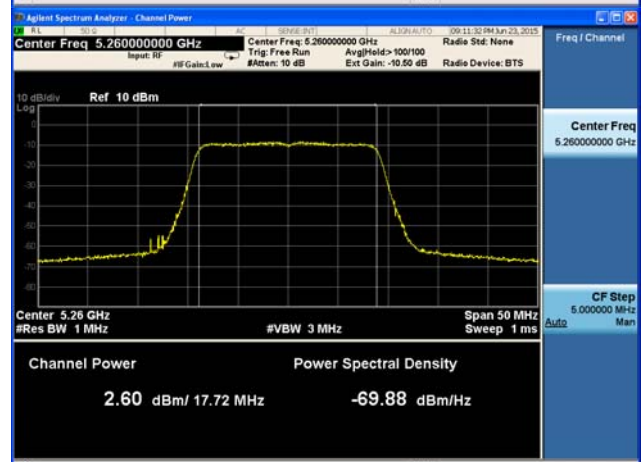
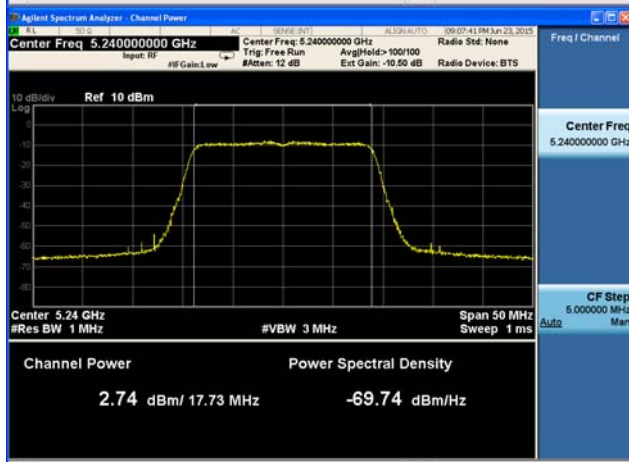
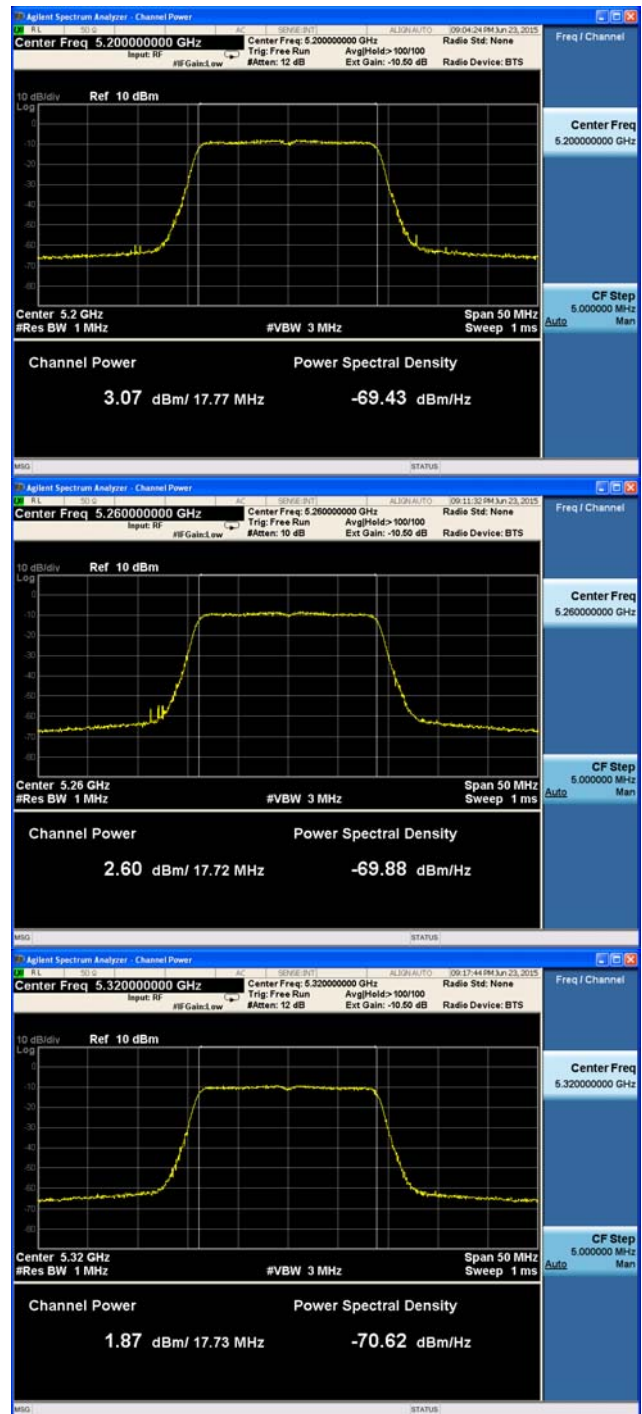
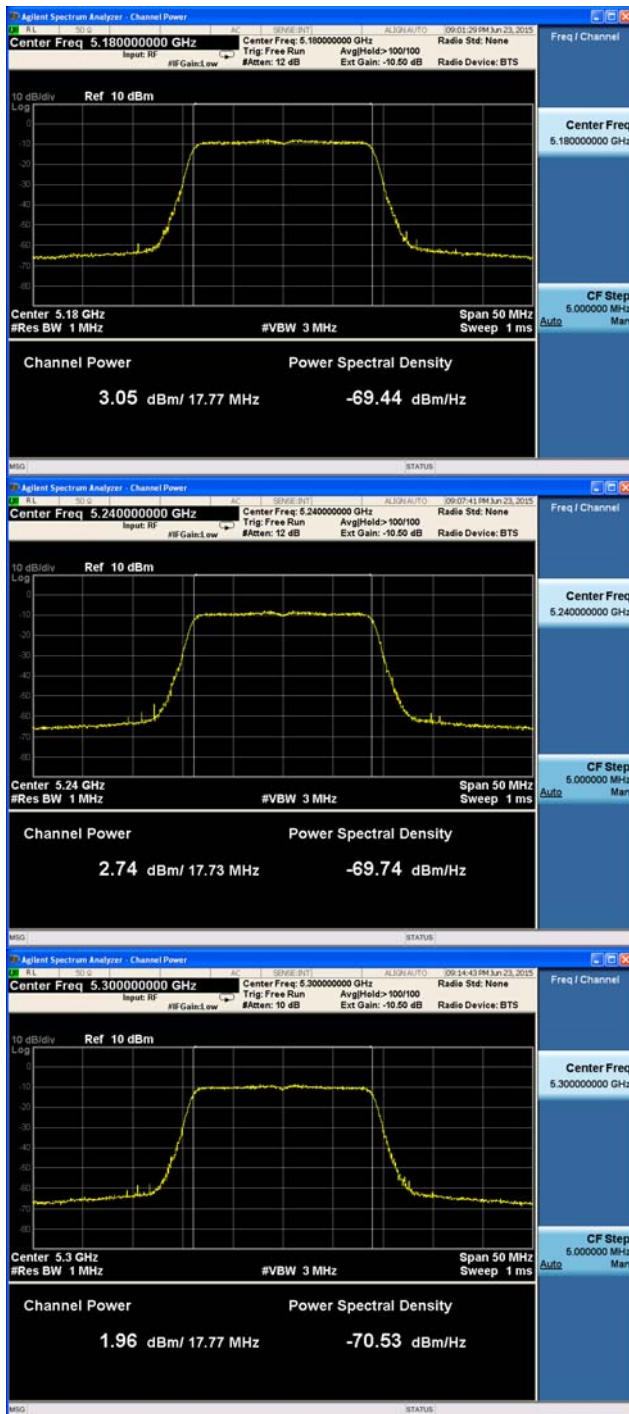
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Ant : A1_802.11n_HT20 (1)



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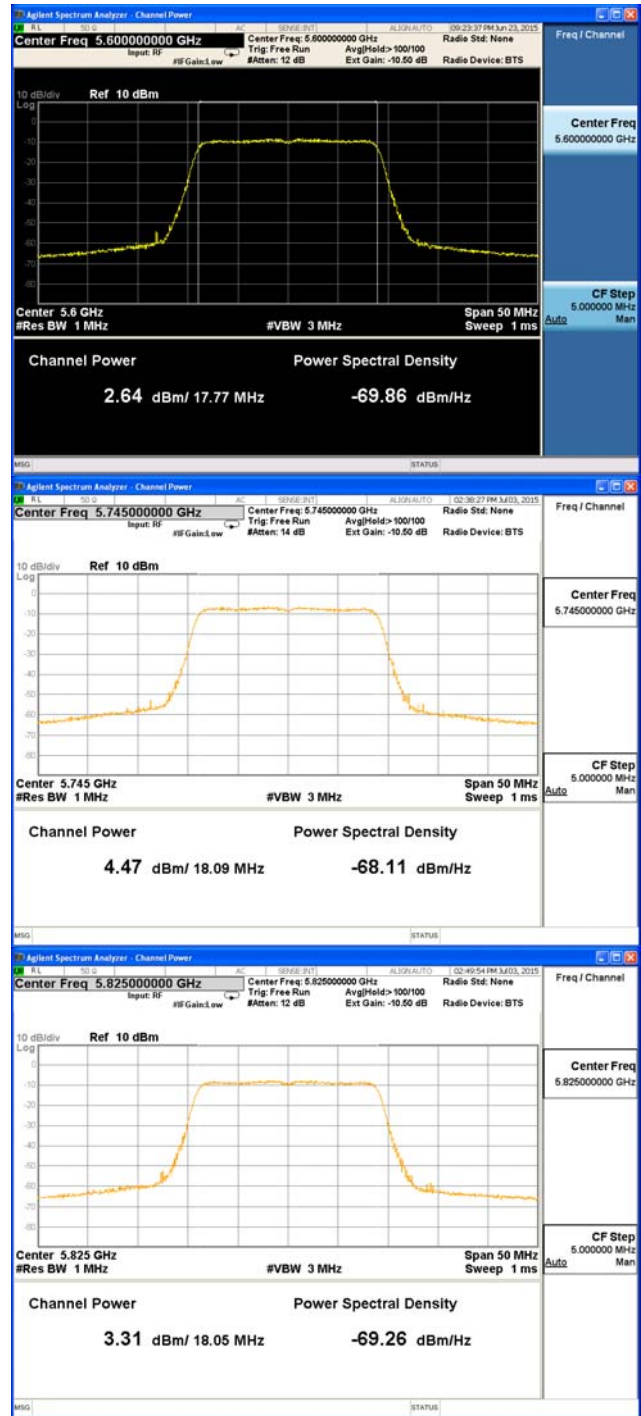
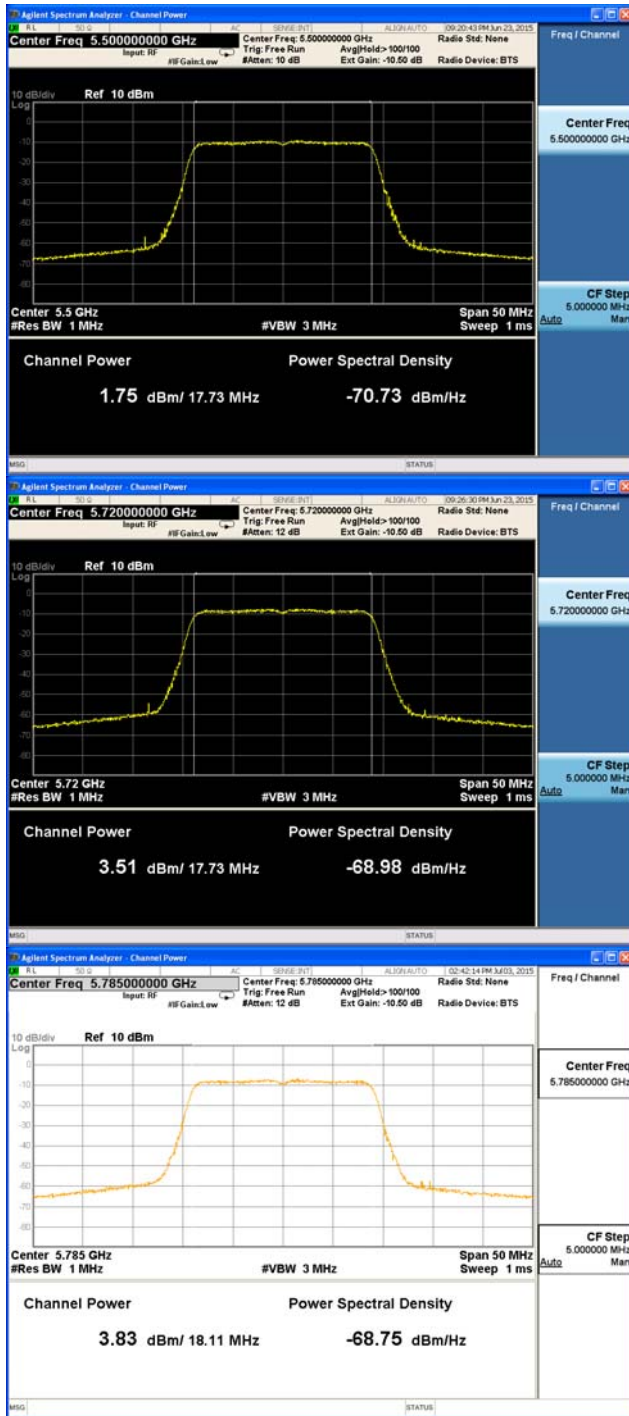
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Ant : A1_802.11n_HT20 (2)



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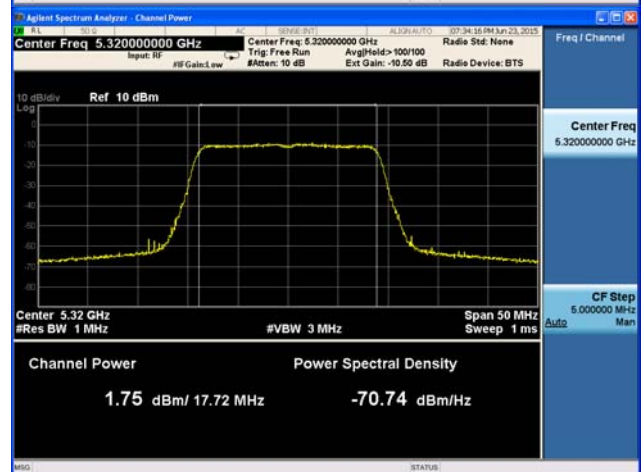
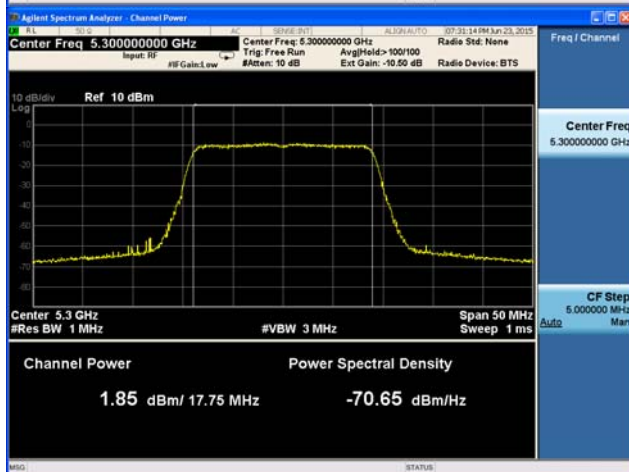
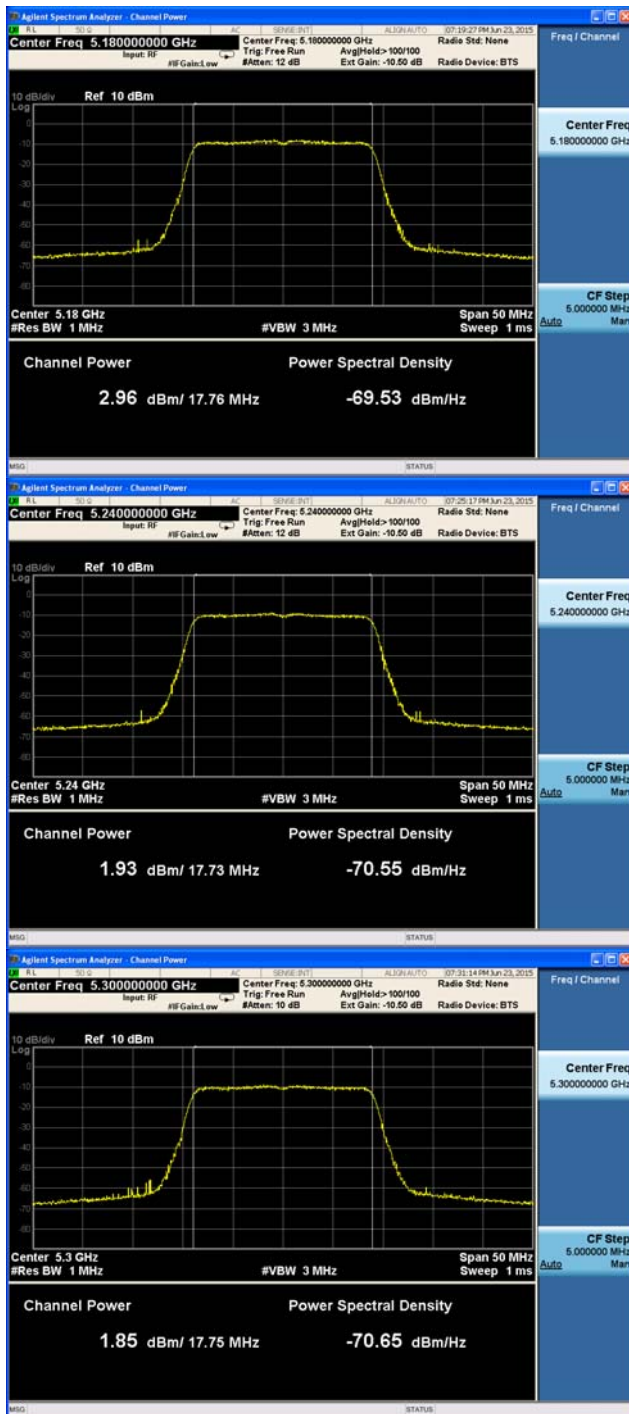
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Ant : A2_802.11n_HT20 (1)



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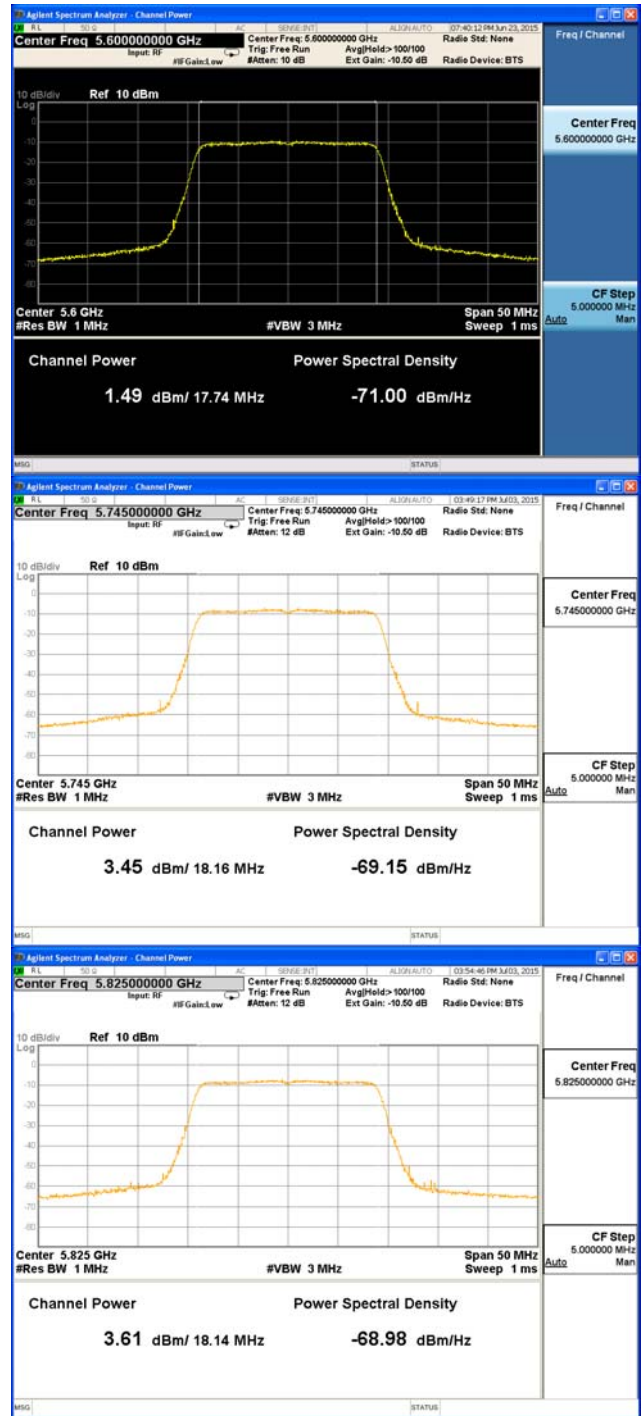
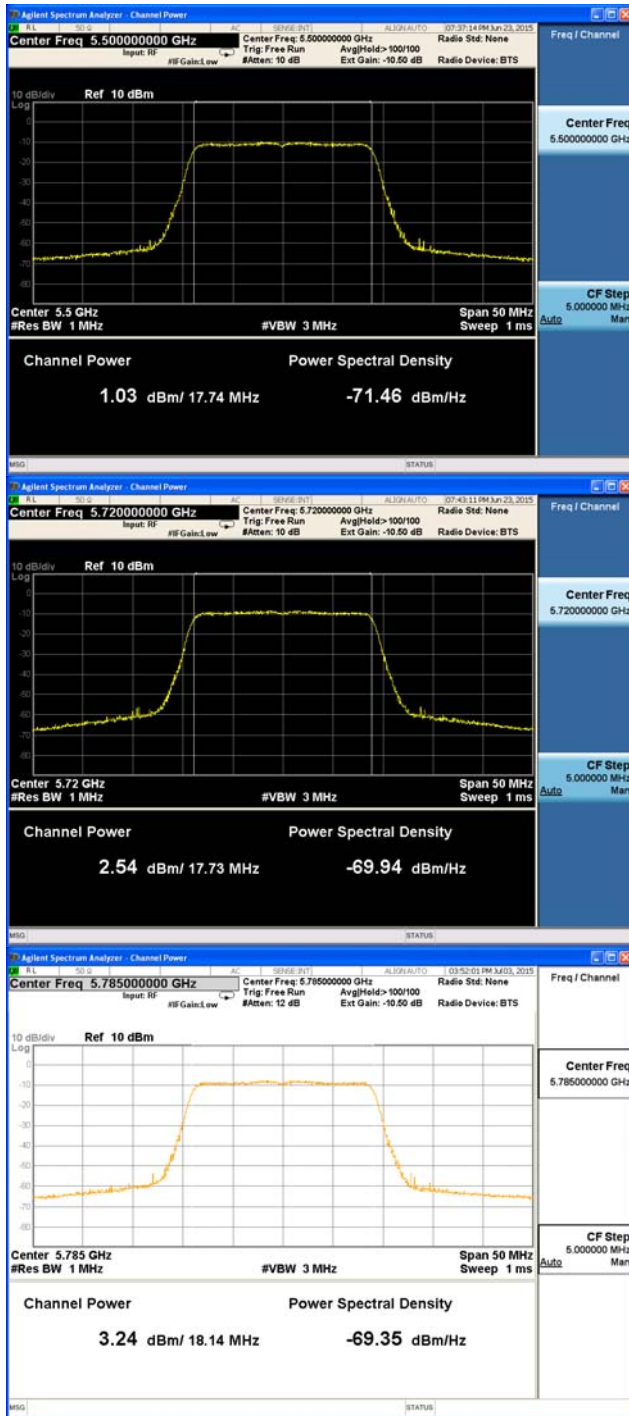
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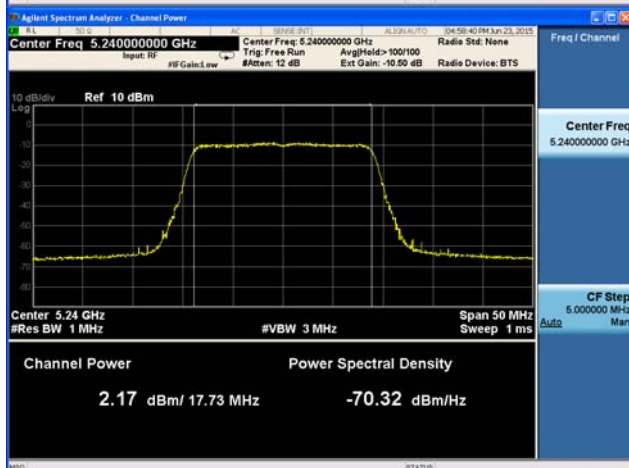
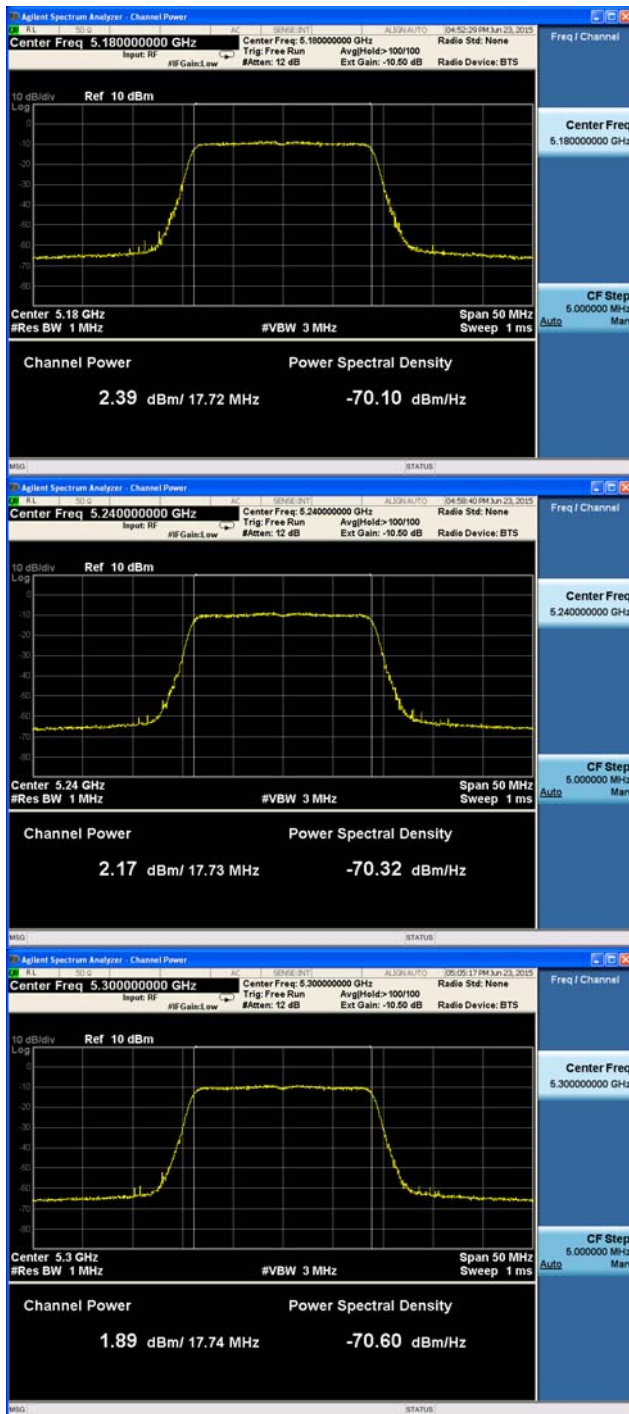
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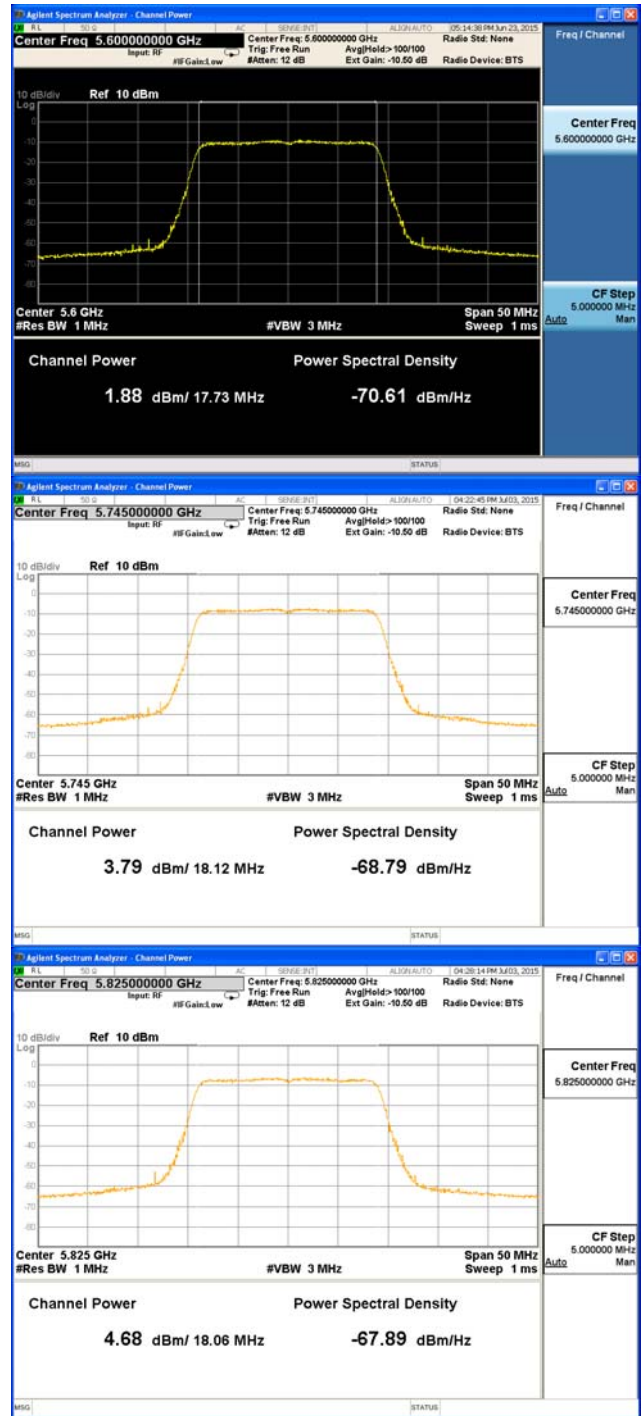
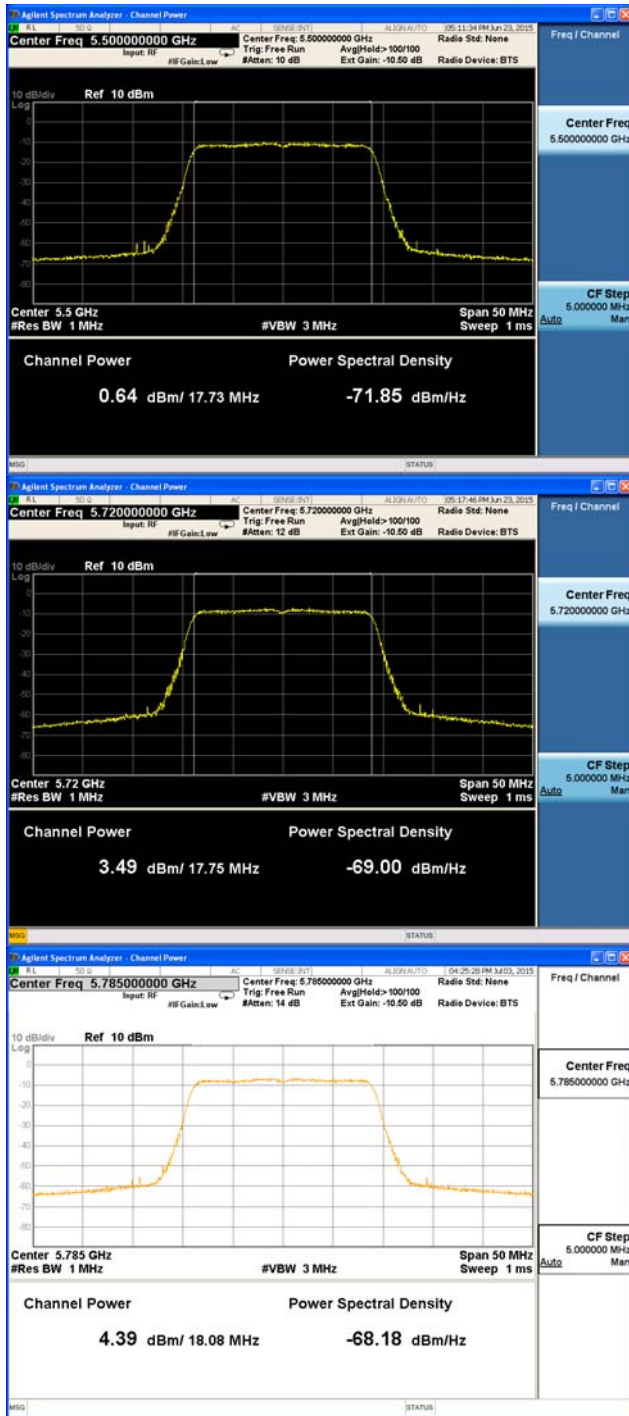
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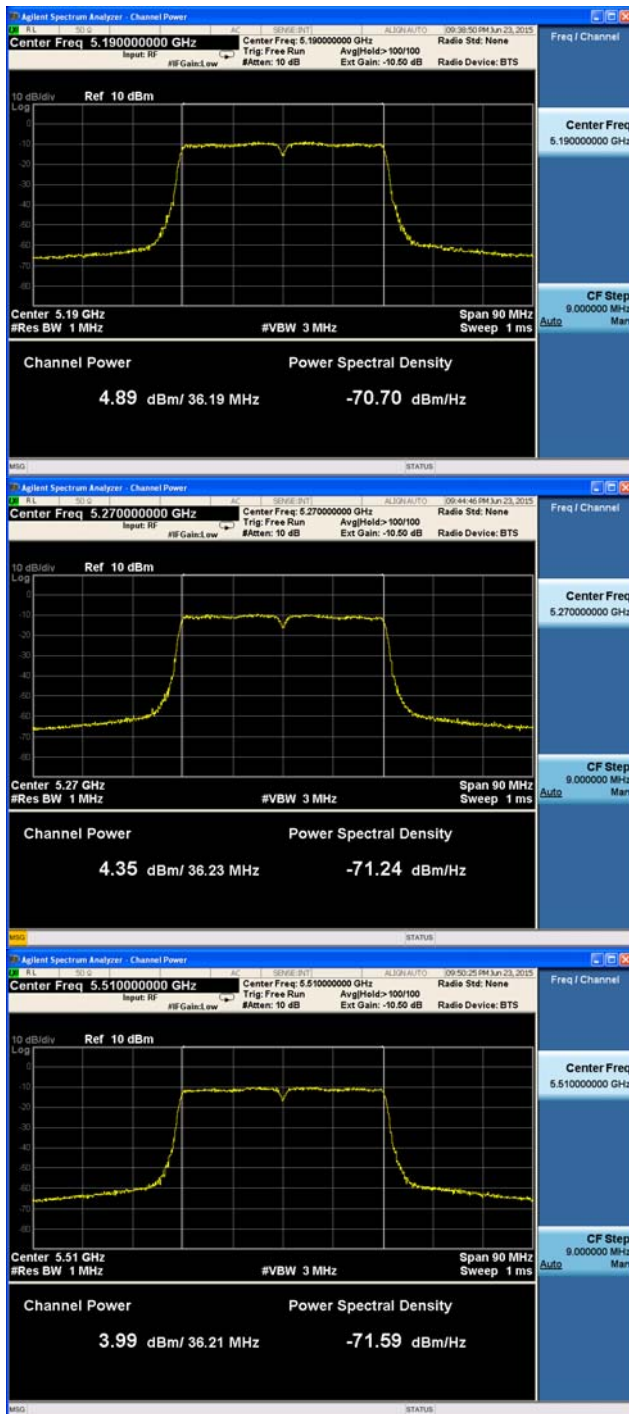
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Ant : A3_802.11n_HT20 (2)



Ant : A1_802.11n_HT40 (1)



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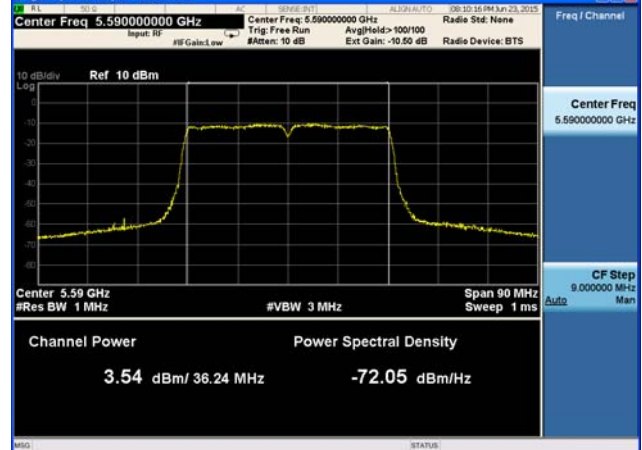
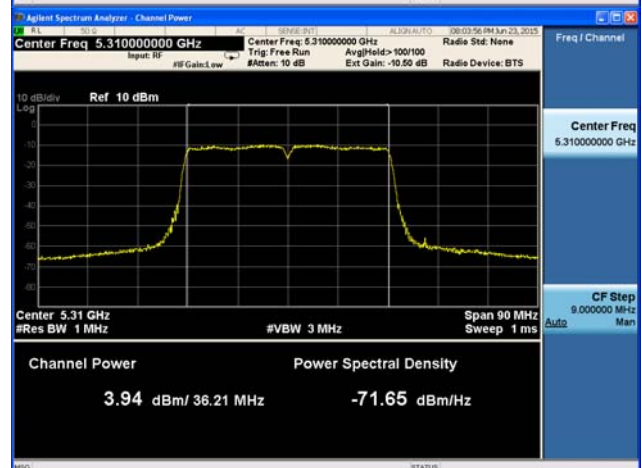
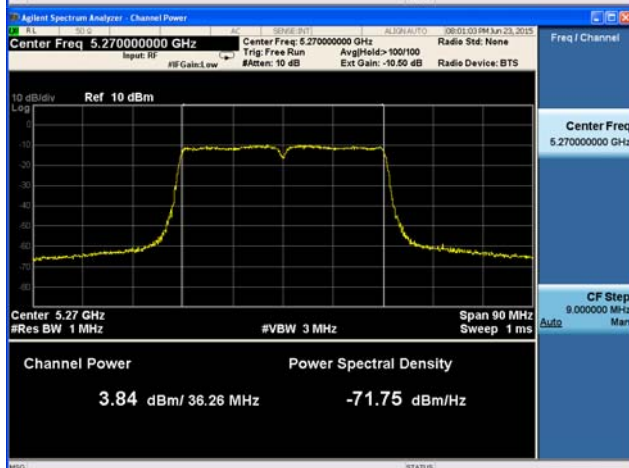
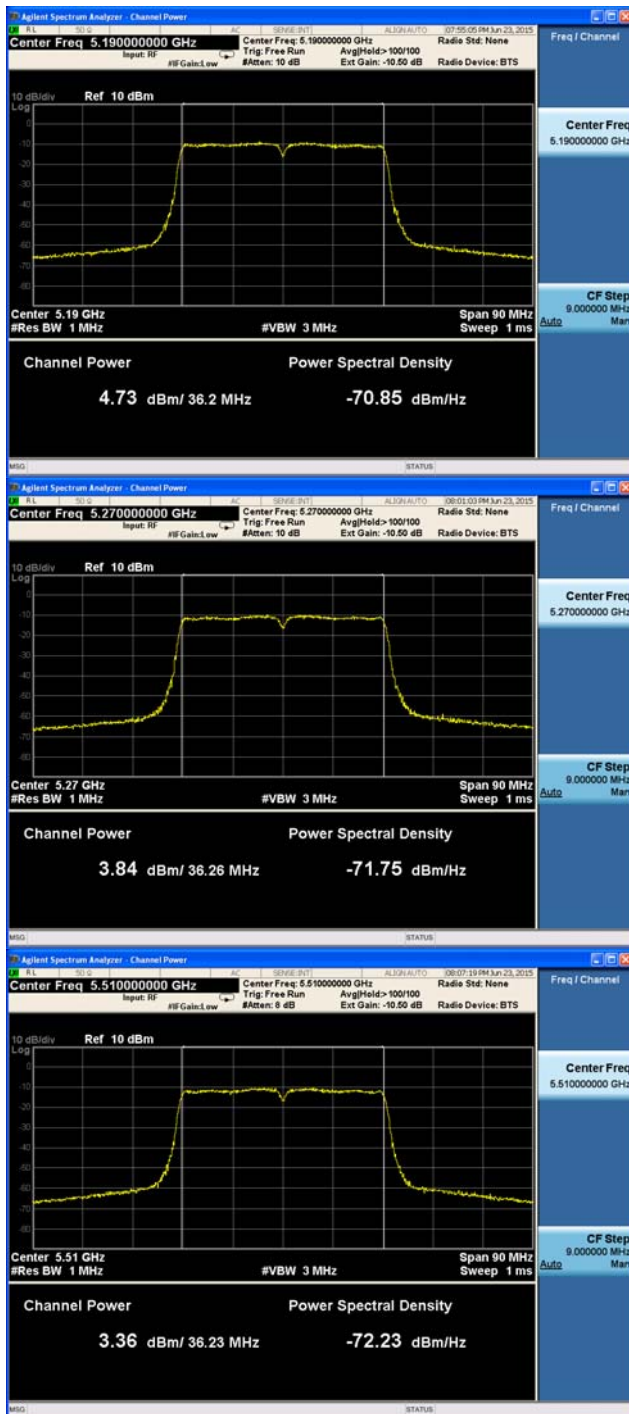
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Ant : A1_802.11n_HT40 (2)



Ant : A2_802.11n_HT40 (1)



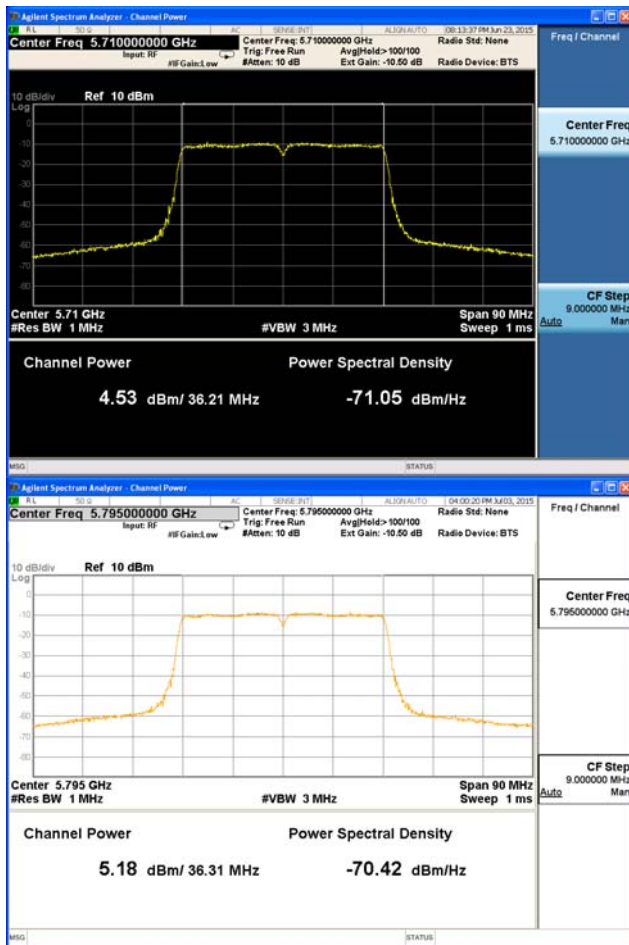
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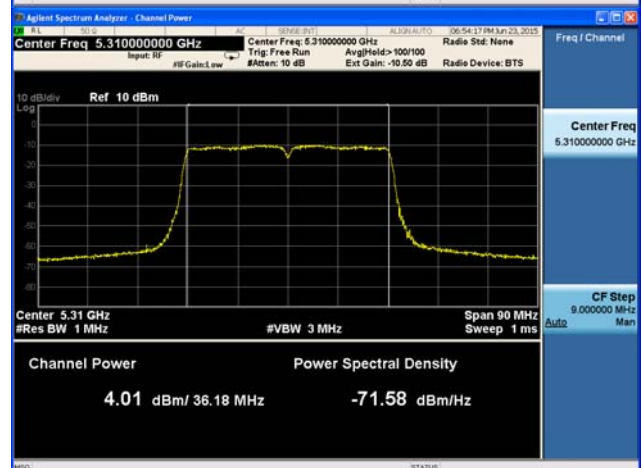
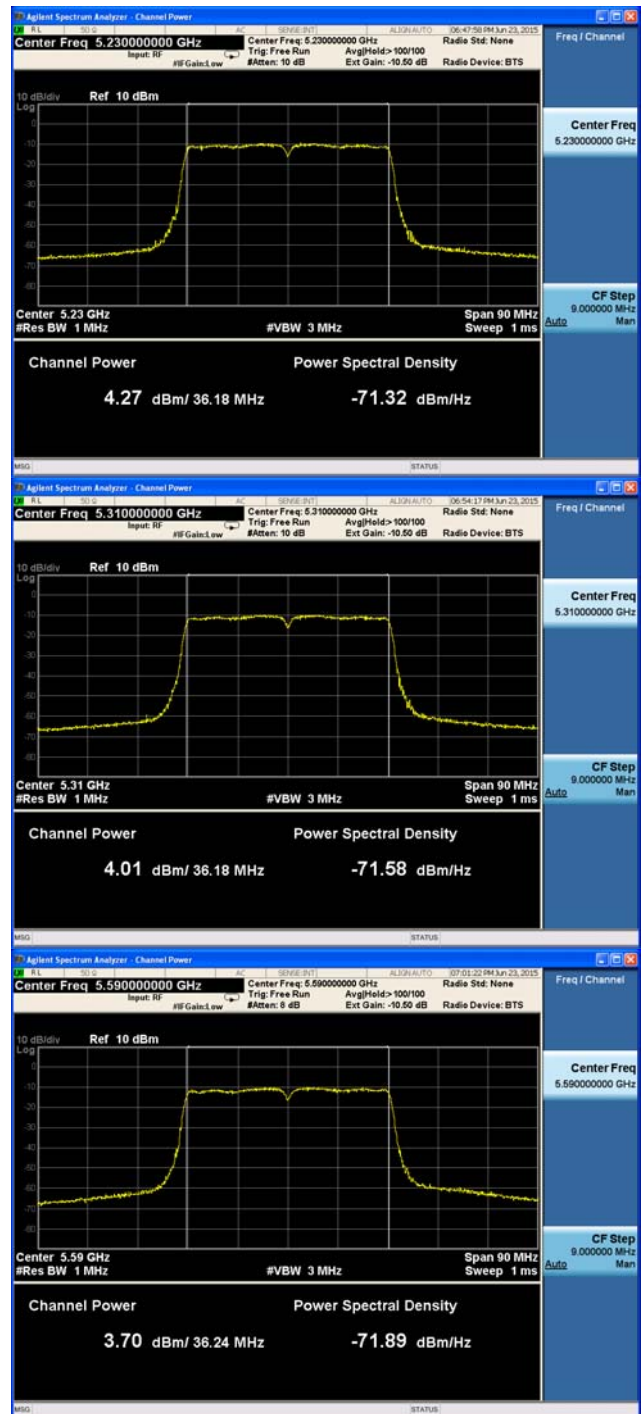
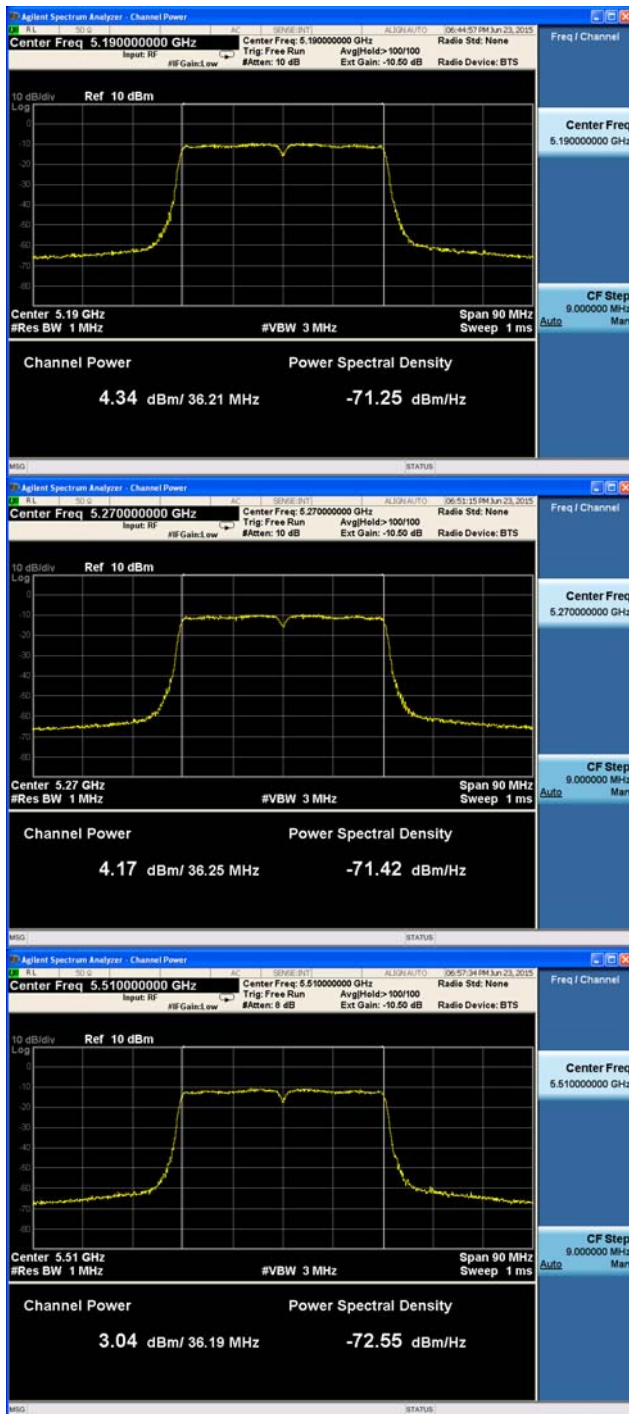
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Ant : A2_802.11n_HT40 (2)



Ant : A3_802.11n_HT40 (1)



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Ant : A3_802.11n_HT40 (2)



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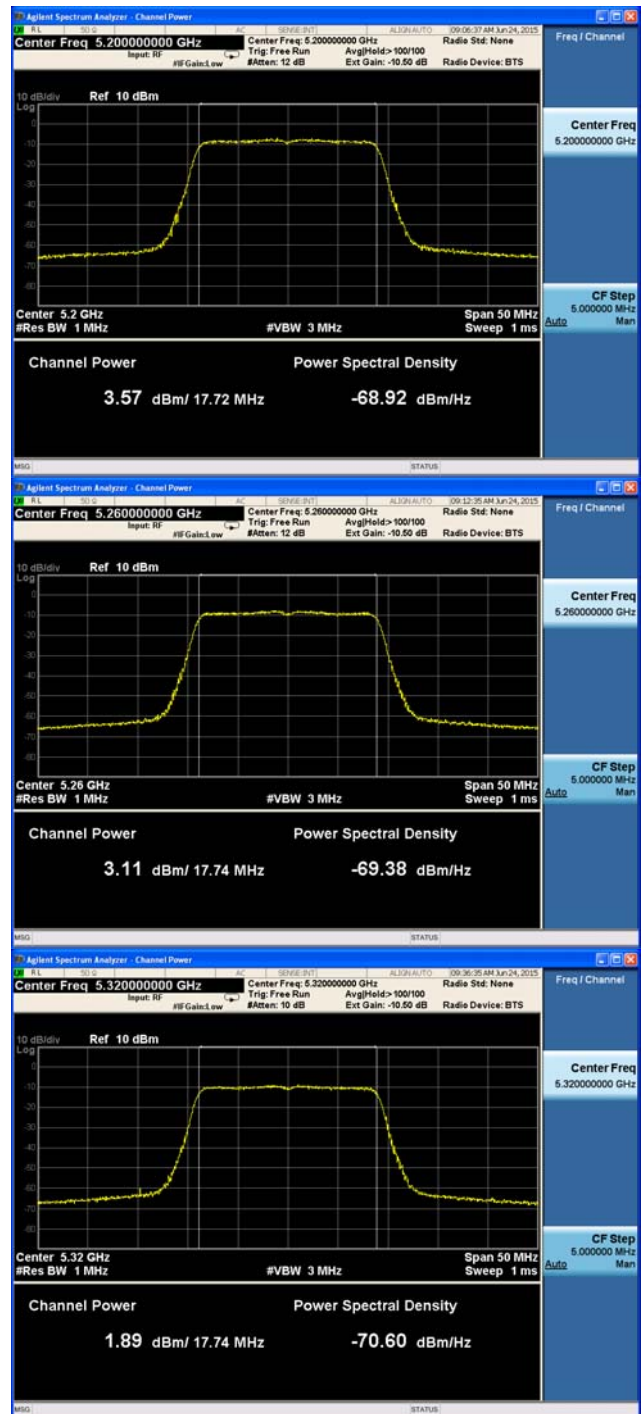
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Ant : A1_802.11ac_VHT20 (1)



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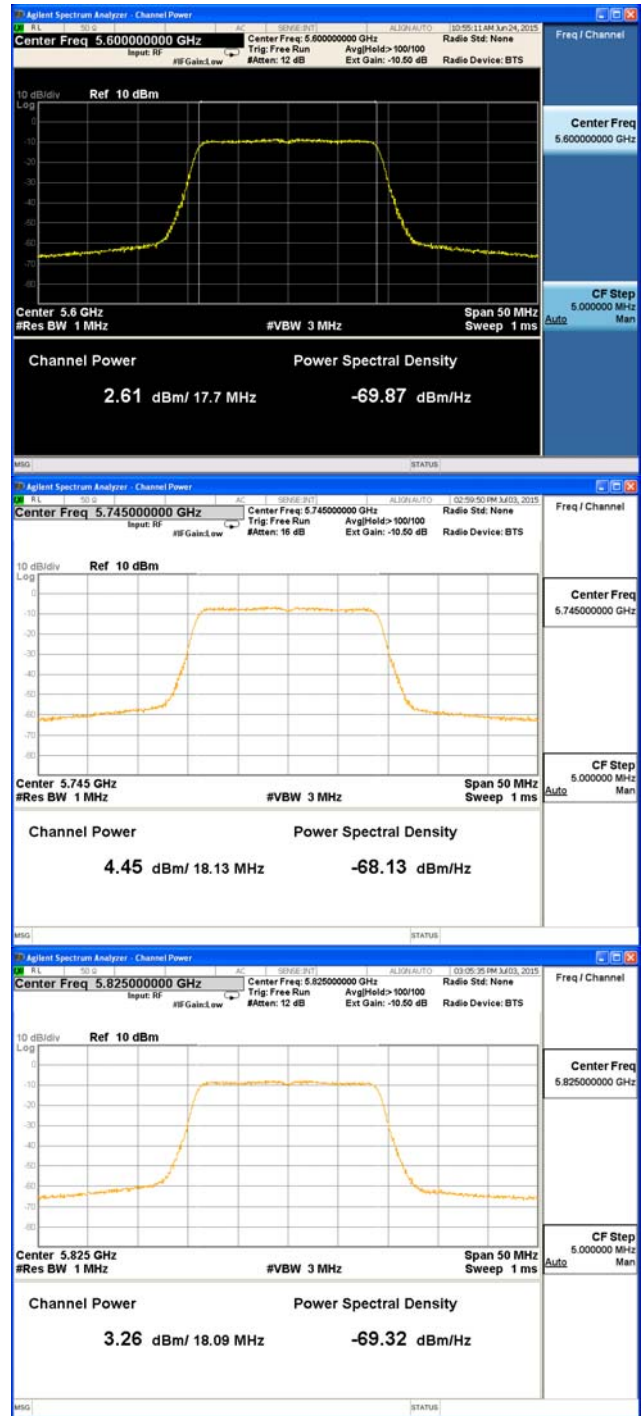
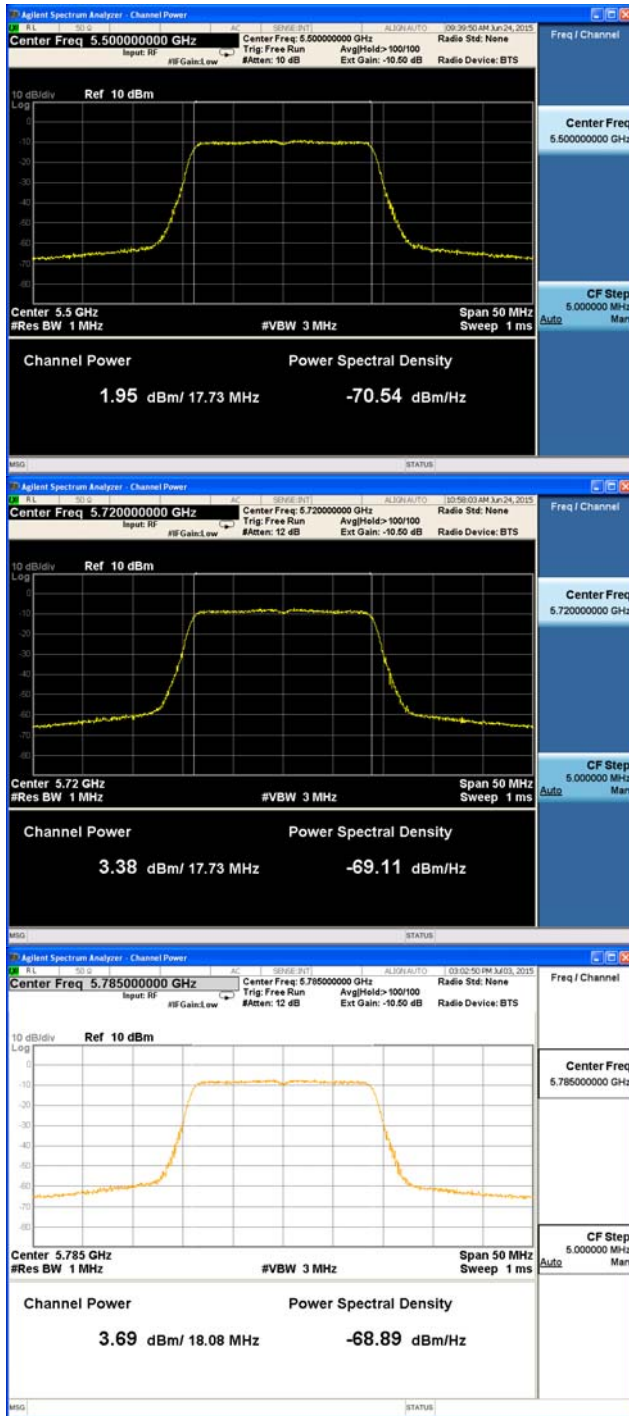
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