

6. 6dB&26dB&99% Bandwidth Test

6.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	N9030A	MY51380221	Oct. 29, 14	1 Year
2.	Attenuator (20dB)	Agilent	8491B	MY39262165	Apr. 28,15	1 Year
3.	RF Cable	Hubersuhner	SUCOFLEX102	28620/2	Apr. 28,15	1 Year

6.2.Limit

6dB Bandwidth should be not less than 500kHz

6.3.Test Procedure

6dB Bandwidth:

The transmitter output was connected to a spectrum analyzer, The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 300 KHz VBW for signal width below 20MHz and 300KHz RBW ,1MHz VBW for Above 20MHz signal Bandwidth.

26dB Bandwidth:

The transmitter output was connected to a spectrum analyzer, The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 300 KHz VBW The 26dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 26dB.

6.4.Test Results

5180-5240MHz Band:
6dB bandwidth

EUT: Notebook		
M/N: RZ09-0168		
Test date: 2015-08-20	Pressure: 101.3±1.0 kpa	Humidity: 49.6±3.0%
Tested by: Alice_Yang	Test site: RF site	Temperature: 22.5±0.6 °C

Test Mode	CH	6dB bandwidth (MHz)		Limit (KHz)
		ANT0	ANT1	
11a	CH36	15.16	15.16	> 500
	CH40	15.30	14.48	> 500
	CH48	15.55	14.67	> 500
11n HT20	CH36	12.69	14.74	> 500
	CH40	14.71	16.57	> 500
	CH48	15.01	14.98	> 500
11n HT40	CH38	35.19	35.55	> 500
	CH46	35.41	35.59	> 500
11ac VHT20	CH36	16.56	15.12	> 500
	CH40	12.79	15.10	> 500
	CH48	12.18	15.10	> 500
11ac VHT40	CH38	35.29	35.54	> 500
	CH46	35.69	35.39	> 500
11ac VHT80	CH42	74.09	74.70	> 500

Conclusion : PASS

26dB bandwidth

EUT: Notebook		
M/N: RZ09-0168		
Test date: 2015-08-20	Pressure: 101.3±1.0 kpa	Humidity: 49.6±3.0%
Tested by: Alice_Yang	Test site: RF site	Temperature: 22.5±0.6 °C

Test Mode	CH	26dB bandwidth (MHz)		Limit (KHz)
		ANT0	ANT1	
11a	CH36	18.43	18.24	N/A
	CH40	18.36	18.96	N/A
	CH48	18.43	18.41	N/A
11n HT20	CH36	18.85	19.53	N/A
	CH40	18.83	18.81	N/A
	CH48	18.88	19.22	N/A
11n HT40	CH38	40.42	40.01	N/A
	CH46	39.97	39.58	N/A
11ac VHT20	CH36	18.87	19.51	N/A
	CH40	19.58	19.49	N/A
	CH48	19.94	19.87	N/A
11ac VHT40	CH38	39.59	39.62	N/A
	CH46	39.78	40.18	N/A
11ac VHT80	CH42	80.43	80.28	N/A

Conclusion : PASS

99% bandwidth

Test Mode	Frequency (MHz)	99% bandwidth (MHz)		Limit (KHz)
		ANT0	ANT1	
11a	5180	16.233	16.247	N/A
	5200	16.250	16.245	N/A
	5240	16.271	16.270	N/A
11n HT20	5180	17.450	17.458	N/A
	5200	17.429	17.456	N/A
	5240	17.459	17.459	N/A
11n HT40	5190	35.723	35.773	N/A
	5230	35.775	35.856	N/A
11ac VHT20	5180	17.467	17.456	N/A
	5200	17.427	17.449	N/A
	5240	17.455	17.468	N/A
11ac VHT40	5190	35.740	35.726	N/A
	5290	35.792	35.828	N/A
11ac VHT80	5210	74.892	74.941	N/A
Conclusion : PASS				

5260-5320MHz Band:
6dB bandwidth

EUT: Notebook		
M/N: RZ09-0168		
Test date: 2015-08-20	Pressure: 101.3±1.0 kpa	Humidity: 49.6±3.0%
Tested by: Alice_Yang	Test site: RF site	Temperature: 22.5±0.6 °C

Test Mode	CH	6dB bandwidth (MHz)		Limit (KHz)
		ANT0	ANT1	
11a	CH52	15.77	16.30	> 500
	CH60	14.70	14.38	> 500
	CH64	15.12	14.06	> 500
11n HT20	CH52	14.03	13.86	> 500
	CH60	15.70	16.41	> 500
	CH64	15.09	14.52	> 500
11n HT40	CH54	35.39	34.91	> 500
	CH62	35.49	35.59	> 500
11ac VHT20	CH52	14.23	15.03	> 500
	CH60	15.12	13.94	> 500
	CH64	14.43	15.92	> 500
11ac VHT40	CH54	35.27	35.41	> 500
	CH62	34.91	35.33	> 500
11ac VHT80	CH58	74.42	73.94	> 500
Conclusion : PASS				

26dB bandwidth

EUT: Notebook		
M/N: RZ09-0168		
Test date: 2015-08-20	Pressure: 101.3±1.0 kpa	Humidity: 49.6±3.0%
Tested by: Alice_Yang	Test site: RF site	Temperature: 22.5±0.6 °C

Test Mode	CH	26dB bandwidth (MHz)		Limit (KHz)
		ANT0	ANT1	
11a	CH52	18.32	18.48	N/A
	CH60	18.25	18.13	N/A
	CH64	18.53	18.43	N/A
11n HT20	CH52	18.84	19.11	N/A
	CH60	19.43	18.77	N/A
	CH64	19.28	19.05	N/A
11n HT40	CH54	39.90	40.66	N/A
	CH62	40.11	39.65	N/A
11ac VHT20	CH52	19.27	19.36	N/A
	CH60	18.79	18.76	N/A
	CH64	18.88	18.81	N/A
11ac VHT40	CH54	39.23	40.51	N/A
	CH62	39.59	40.11	N/A
11ac VHT80	CH58	79.08	81.00	N/A

Conclusion : PASS

99% bandwidth

Test Mode	Frequency (MHz)	99% bandwidth (MHz)		Limit (KHz)
		ANT0	ANT1	
11a	5260	16.268	16.282	N/A
	5300	16.252	16.257	N/A
	5320	16.244	16.284	N/A
11n HT20	5260	17.456	17.473	N/A
	5300	17.444	17.473	N/A
	5320	17.455	17.463	N/A
11n HT40	5270	35.737	35.767	N/A
	5310	35.724	35.783	N/A
11ac VHT20	5260	17.429	17.449	N/A
	5300	17.425	17.465	N/A
	5320	17.457	17.455	N/A
11ac VHT40	5270	35.713	35.777	N/A
	5310	35.733	35.765	N/A
11ac VHT80	5290	74.526	74.810	N/A
Conclusion : PASS				

5500-5700MHz Band:
6dB bandwidth

EUT: Notebook		
M/N: RZ09-0168		
Test date: 2015-08-20	Pressure: 101.3±1.0 kpa	Humidity: 49.6±3.0%
Tested by: Alice_Yang	Test site: RF site	Temperature: 22.5±0.6 °C

Test Mode	CH	6dB bandwidth (MHz)		Limit (KHz)
		ANT0	ANT1	
11a	CH100	14.95	14.66	> 500
	CH120	15.28	15.59	> 500
	CH140	14.48	15.35	> 500
11n HT20	CH100	15.45	15.04	> 500
	CH120	15.44	15.42	> 500
	CH140	14.14	15.01	> 500
11n HT40	CH102	35.59	35.54	> 500
	CH134	34.31	35.44	> 500
11ac VHT20	CH100	15.97	14.72	> 500
	CH120	14.64	14.20	> 500
	CH140	13.45	16.54	> 500
11ac VHT40	CH102	34.50	35.58	> 500
	CH134	35.55	35.49	> 500
11ac VHT80	CH106	75.79	76.01	> 500
Conclusion : PASS				

26dB bandwidth

EUT: Notebook		
M/N: RZ09-0168		
Test date: 2015-08-20	Pressure: 101.3±1.0 kpa	Humidity: 49.6±3.0%
Tested by: Alice_Yang	Test site: RF site	Temperature: 22.5±0.6 °C

Test Mode	CH	26dB bandwidth (MHz)		Limit (KHz)
		ANT0	ANT1	
11a	CH100	20.58	20.82	N/A
	CH120	18.30	18.30	N/A
	CH140	18.47	20.02	N/A
11n HT20	CH100	19.89	19.50	N/A
	CH120	19.02	19.34	N/A
	CH140	18.82	19.03	N/A
11n HT40	CH102	41.50	40.27	N/A
	CH134	39.66	39.74	N/A
11ac VHT20	CH100	20.64	19.29	N/A
	CH120	18.81	18.75	N/A
	CH140	18.84	18.81	N/A
11ac VHT40	CH102	42.40	41.34	N/A
	CH134	40.12	39.43	N/A
11ac VHT80	CH106	81.00	83.04	N/A
Conclusion : PASS				

99% bandwidth

Test Mode	Frequency (MHz)	99% bandwidth (MHz)		Limit (KHz)
		ANT0	ANT1	
11a	5500	16.302	16.302	N/A
	5600	16.261	16.279	N/A
	5700	16.275	16.235	N/A
11n HT20	5500	17.470	17.505	N/A
	5600	17.447	17.457	N/A
	5700	17.429	17.459	N/A
11n HT40	5510	35.857	35.789	N/A
	5670	35.843	35.779	N/A
11ac VHT20	5500	17.475	17.481	N/A
	5600	17.479	17.459	N/A
	5700	17.460	17.460	N/A
11ac VHT40	5510	35.829	35.863	N/A
	5670	35.803	35.752	N/A
11ac VHT80	5530	75.334	75.311	N/A
Conclusion : PASS				

**5745-5825MHz Band:
6dB bandwidth**

EUT: Notebook		
M/N: RZ09-0168		
Test date: 2015-08-20	Pressure: 101.3±1.0 kpa	Humidity: 49.6±3.0%
Tested by: Alice_Yang	Test site: RF site	Temperature: 22.5±0.6 °C

Test Mode	CH	6dB bandwidth (MHz)		Limit (KHz)
		ANT0	ANT1	
11a	CH149	15.34	16.06	> 500
	CH157	14.42	15.53	> 500
	CH165	13.82	14.36	> 500
11n HT20	CH149	15.11	15.29	> 500
	CH157	15.07	14.01	> 500
	CH165	15.05	15.43	> 500
11n HT40	CH151	35.17	35.35	> 500
	CH159	35.29	35.33	> 500
11ac VHT20	CH149	12.58	15.10	> 500
	CH157	13.88	16.84	> 500
	CH165	14.72	15.31	> 500
11ac VHT40	CH151	35.59	35.56	> 500
	CH159	35.47	35.23	> 500
11ac VHT80	CH155	75.47	75.23	> 500
Conclusion : PASS				

26dB bandwidth

EUT: Notebook		
M/N: RZ09-0168		
Test date: 2015-08-20	Pressure: 101.3±1.0 kpa	Humidity: 49.6±3.0%
Tested by: Alice_Yang	Test site: RF site	Temperature: 22.5±0.6 °C

Test Mode	CH	26dB bandwidth (MHz)		Limit (KHz)
		ANT0	ANT1	
11a	CH149	20.95	18.19	N/A
	CH157	19.16	17.81	N/A
	CH165	21.10	18.21	N/A
11n HT20	CH149	19.10	18.81	N/A
	CH157	20.39	18.76	N/A
	CH165	19.49	19.04	N/A
11n HT40	CH151	41.19	40.07	N/A
	CH159	43.52	39.80	N/A
11ac VHT20	CH149	19.07	18.86	N/A
	CH157	19.44	18.69	N/A
	CH165	19.29	19.50	N/A
11ac VHT40	CH151	41.08	39.99	N/A
	CH159	42.07	39.52	N/A
11ac VHT80	CH155	81.37	80.71	N/A
Conclusion : PASS				

99% bandwidth

Test Mode	Frequency (MHz)	99% bandwidth (MHz)		Limit (KHz)
		ANT0	ANT1	
11a	5745	16.259	16.288	N/A
	5785	16.298	16.252	N/A
	5825	16.319	16.299	N/A
11n HT20	5745	17.467	17.455	N/A
	5785	17.490	17.451	N/A
	5825	17.490	17.476	N/A
11n HT40	5755	35.829	35.789	N/A
	5795	35.836	35.736	N/A
11ac VHT20	5745	17.454	17.475	N/A
	5785	17.488	17.436	N/A
	5825	17.507	17.462	N/A
11ac VHT40	5755	35.851	35.767	N/A
	5795	35.817	35.762	N/A
11ac VHT80	5775	75.048	74.918	N/A
Conclusion : PASS				

5180-5240MHz Band:

6dB bandwidth

ANT 0

11a

5180MHz

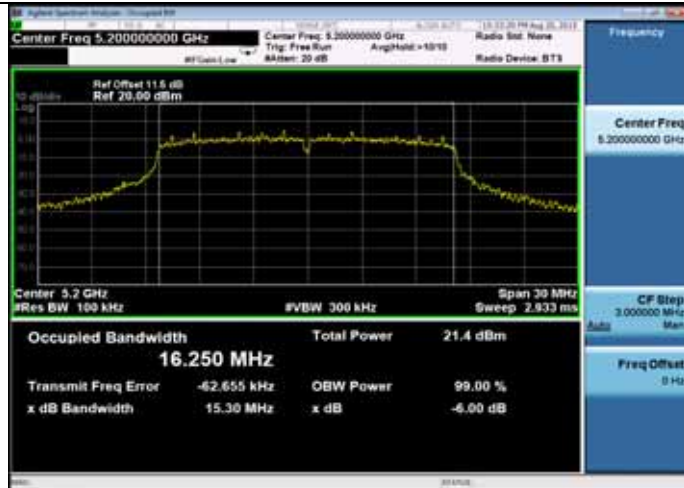


11n HT20

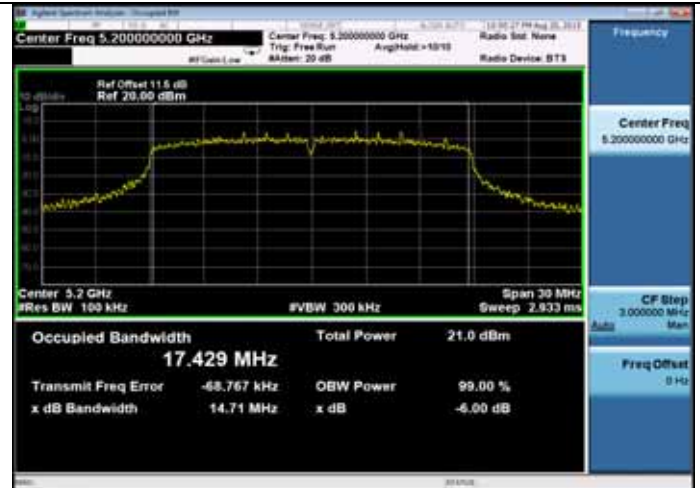
5180MHz



5200MHz



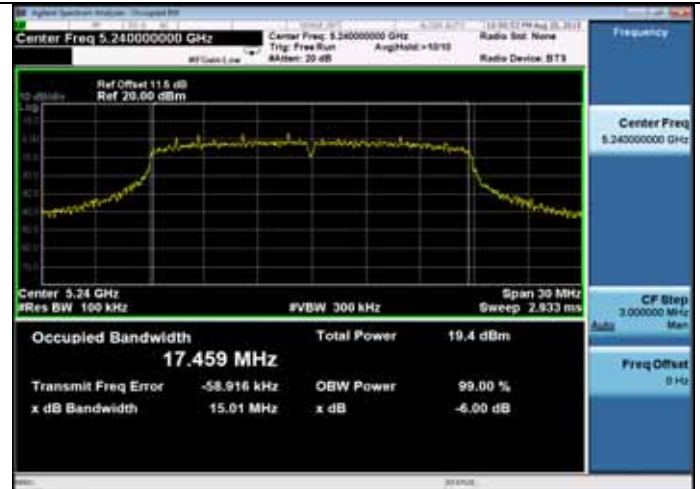
5200MHz



5240MHz

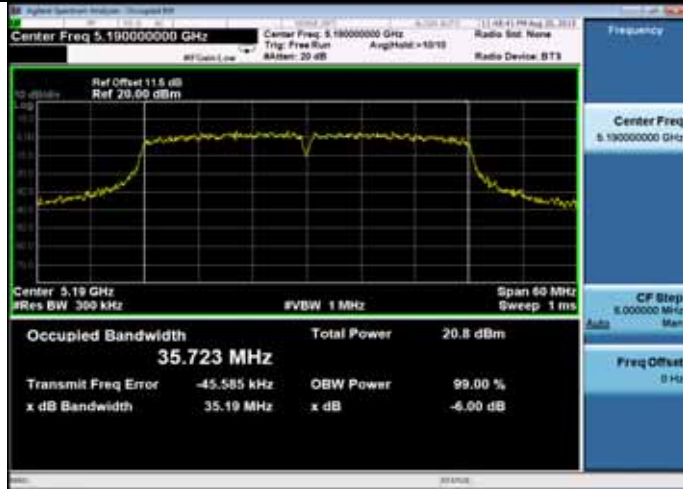


5240MHz

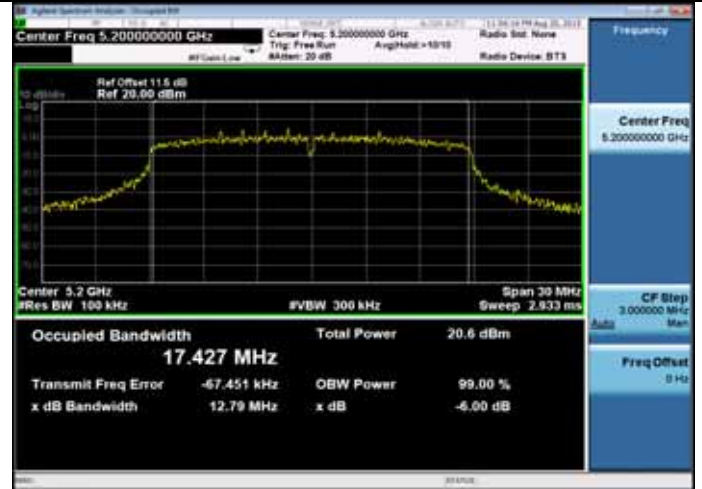


11n HT40

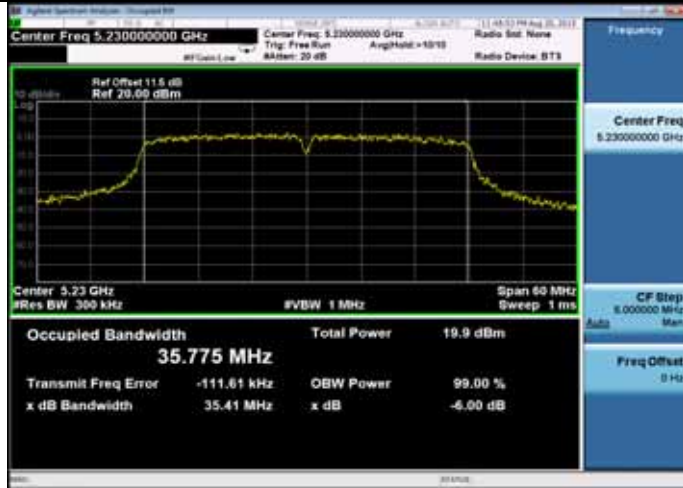
5190MHz



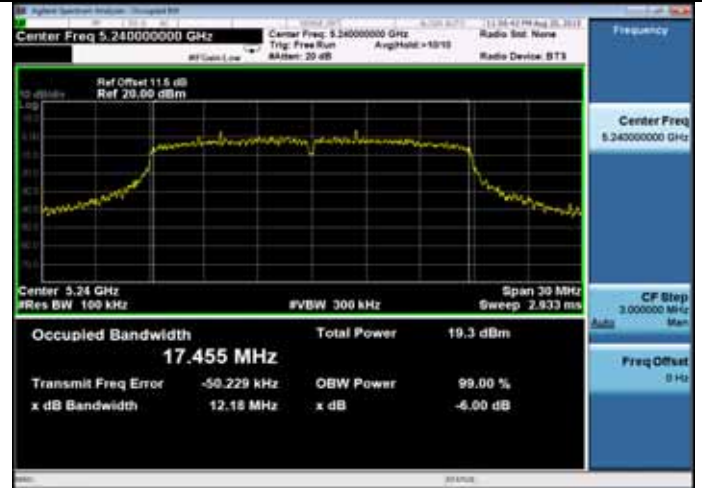
5200MHz



5230MHz

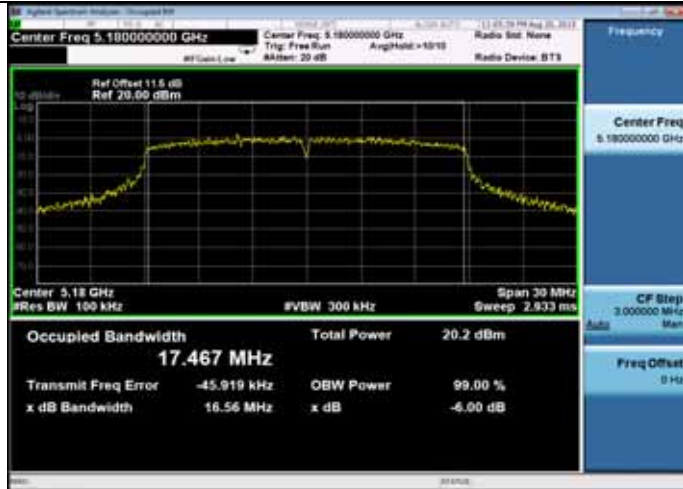


5240MHz



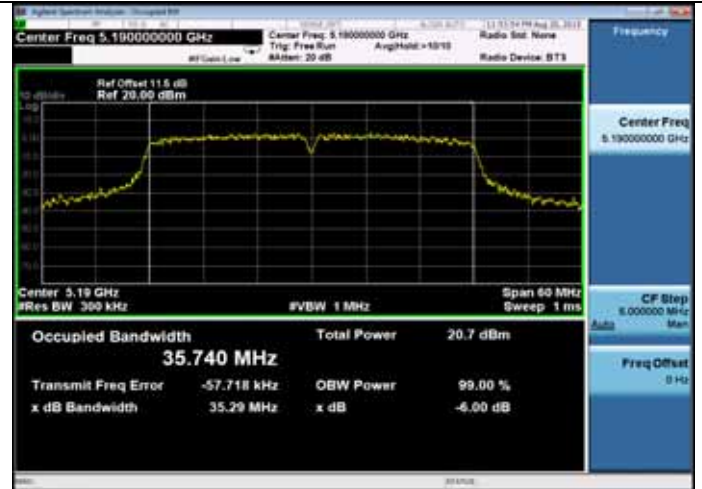
11ac VHT20

5180MHz

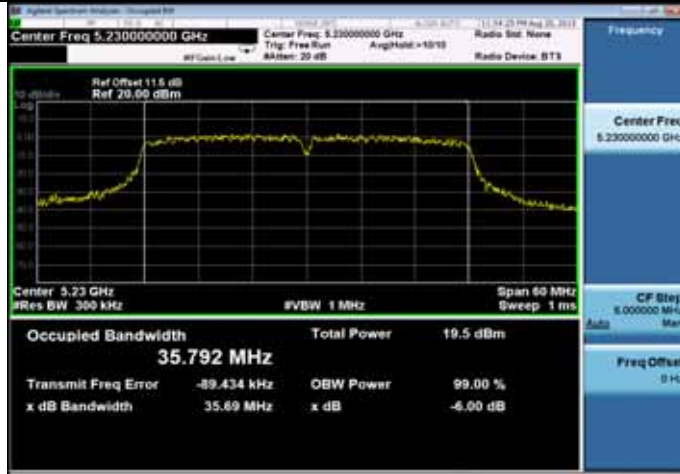


11ac VHT40

5190MHz

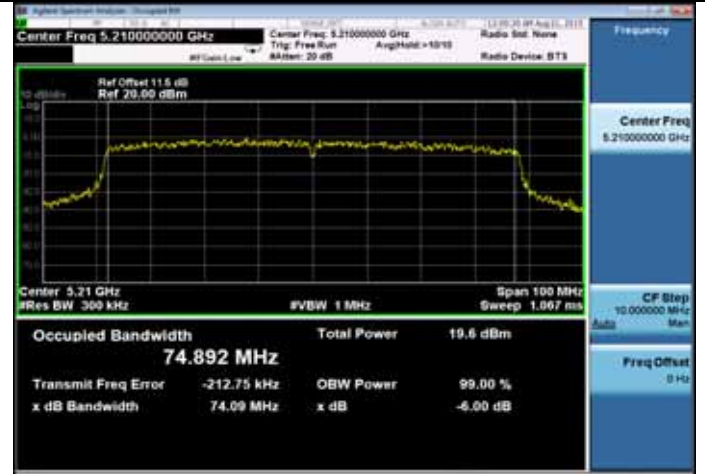


5230MHz



11ac VHT80

5210MHz



5180-5240MHz Band:

6dB bandwidth

ANT 1

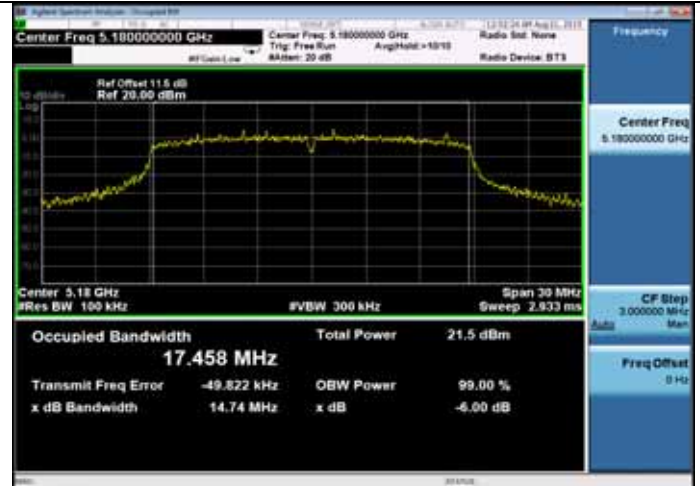
11a

5180MHz

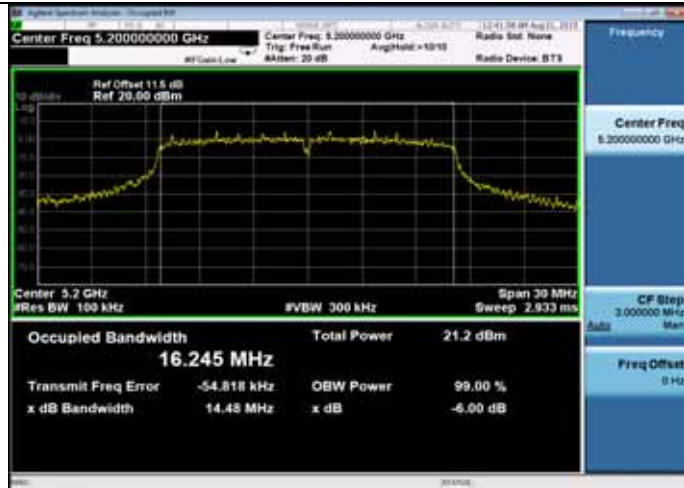


11n HT20

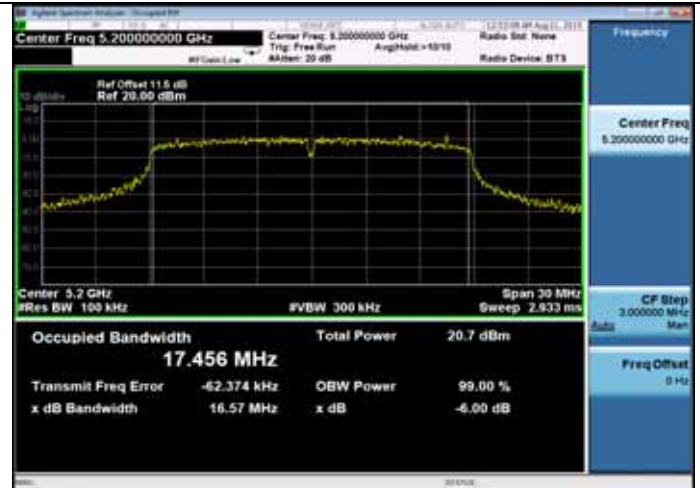
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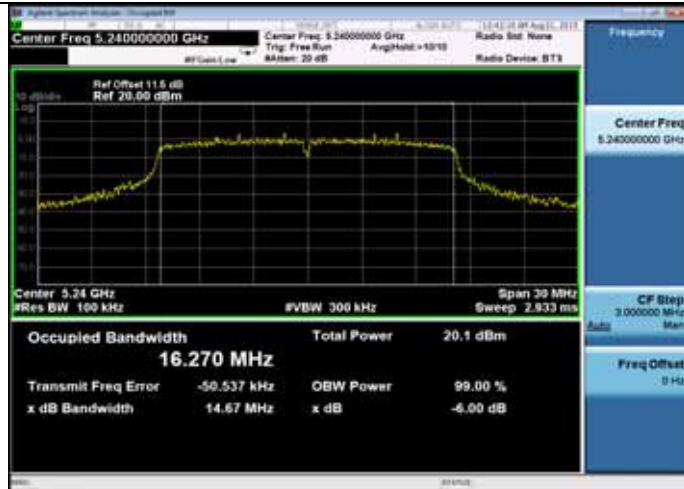
5200MHz



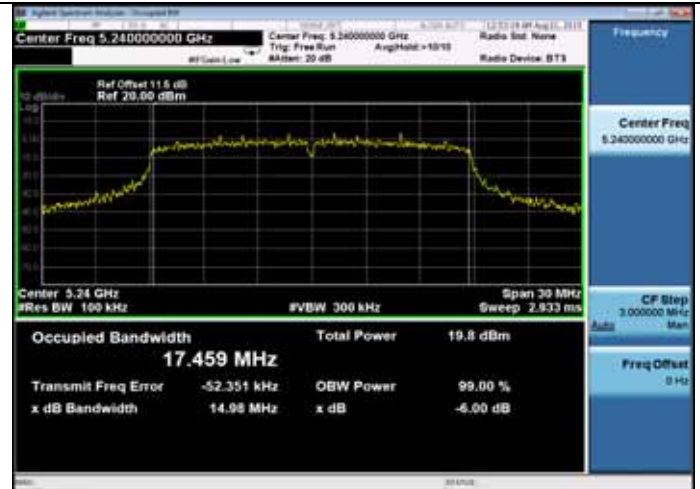
5200MHz



5240MHz

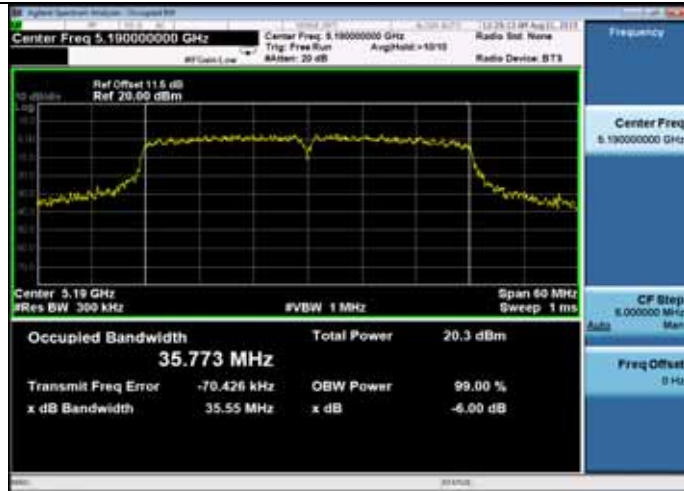


5240MHz

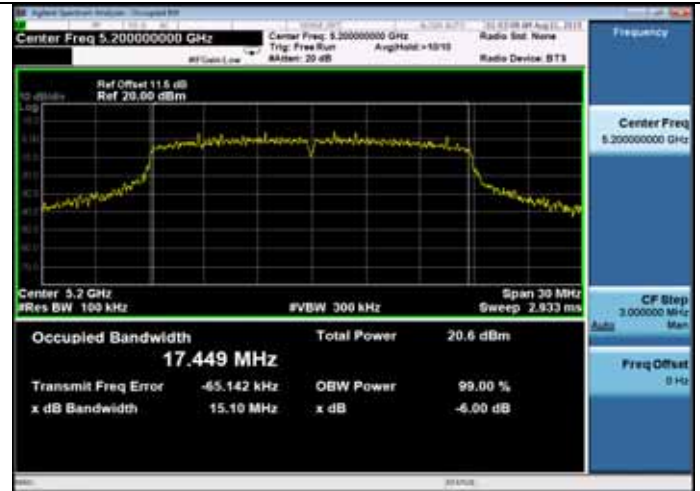


11n HT40

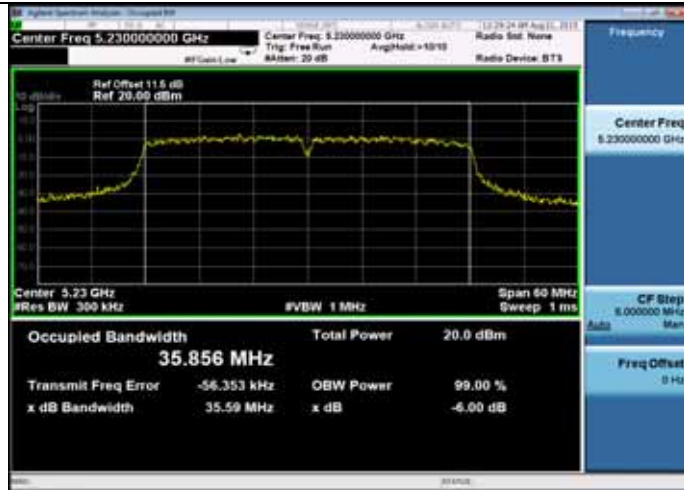
5190MHz



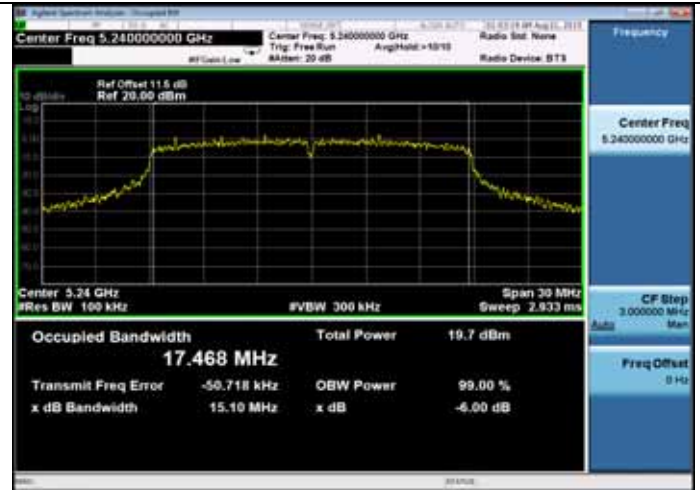
5200MHz



5230MHz

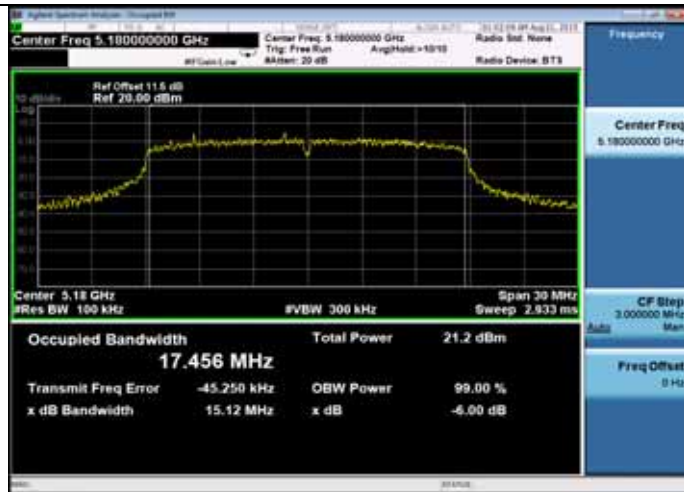


5240MHz



11ac VHT20

5180MHz

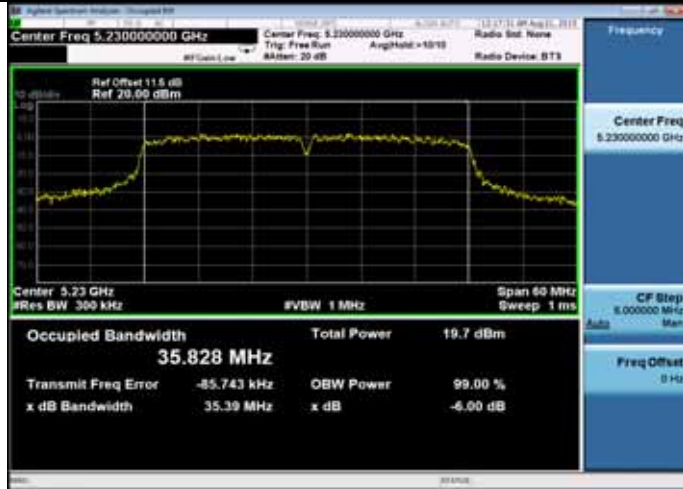


11ac VHT40

5190MHz

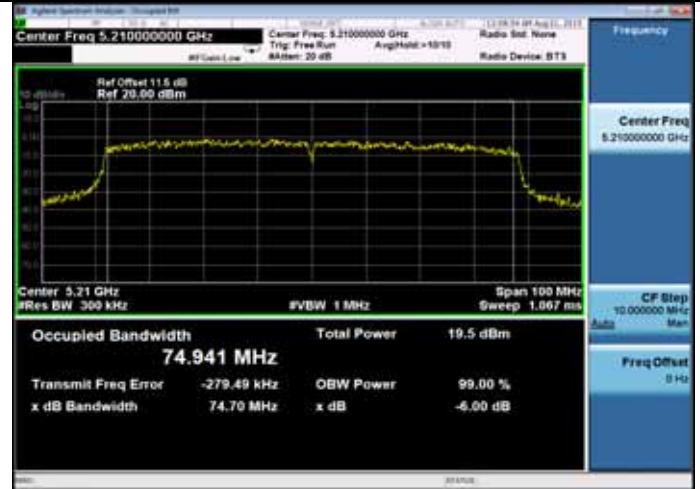


5230MHz



11ac VHT80

5210MHz



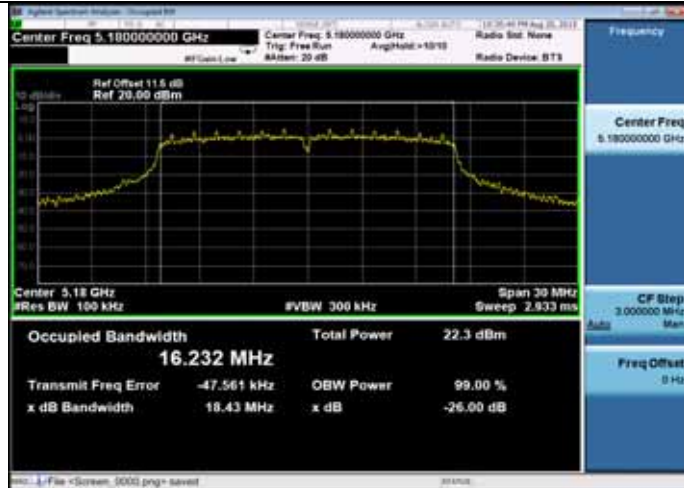
5180-5240MHz Band:

26dB bandwidth

ANT 0

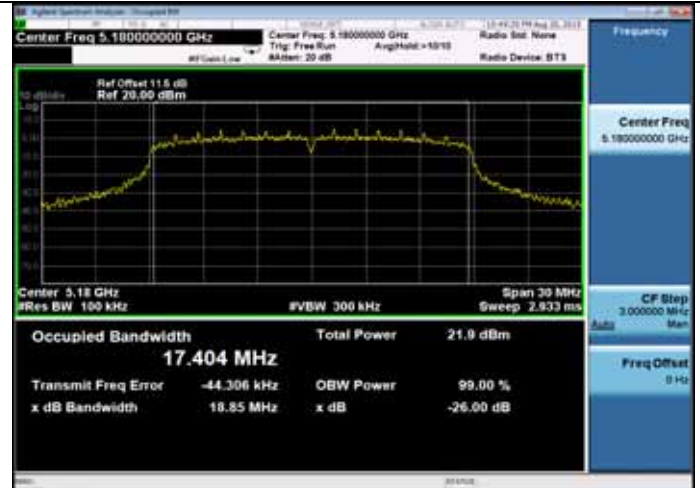
11a

5180MHz



11n HT20

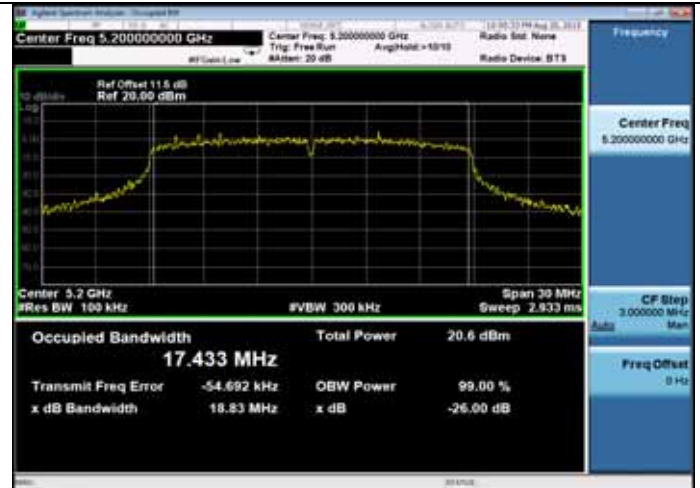
5180MHz



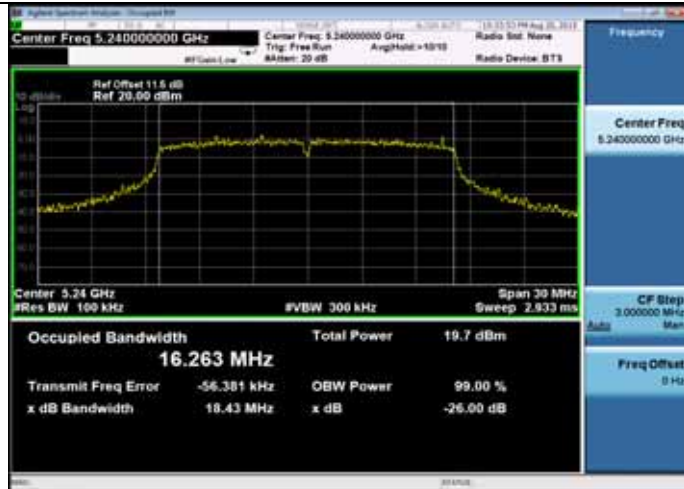
5200MHz



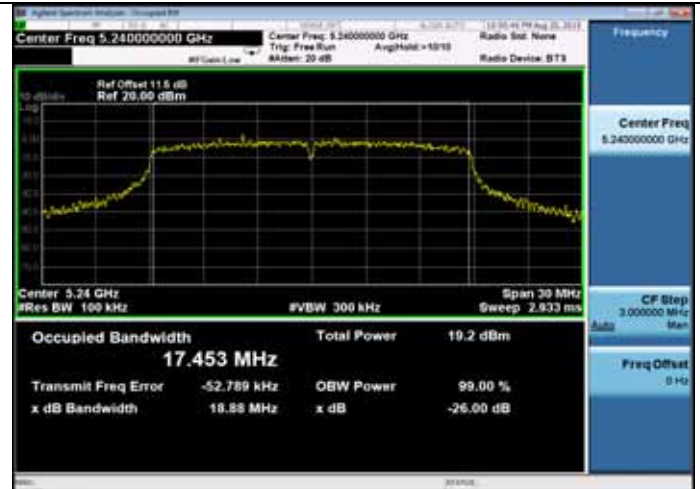
5200MHz



5240MHz

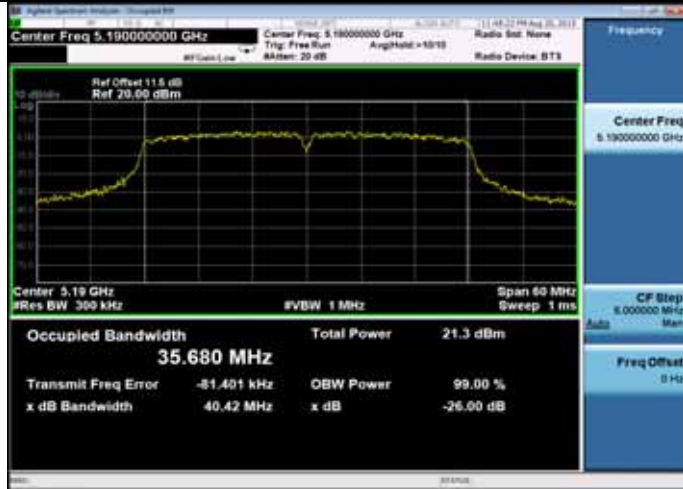


5240MHz

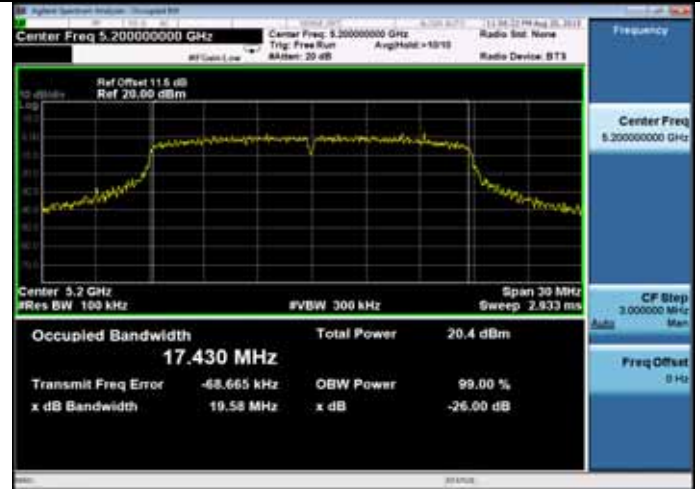


11n HT40

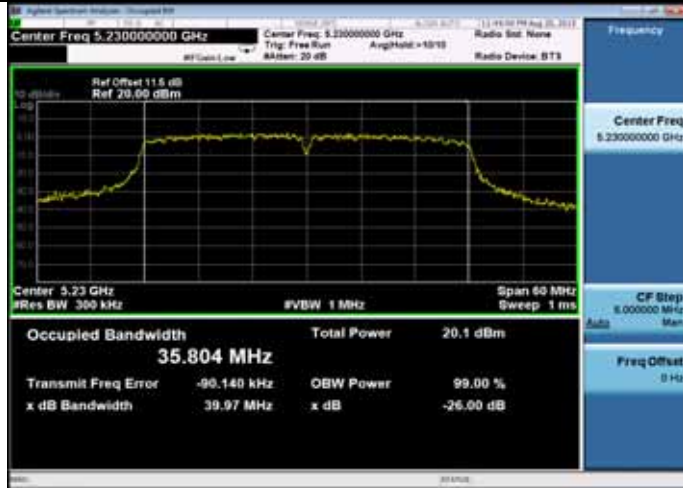
5190MHz



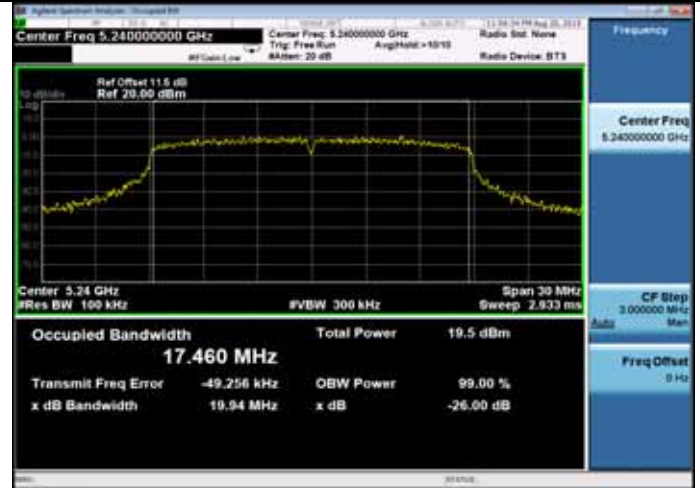
5200MHz



5230MHz

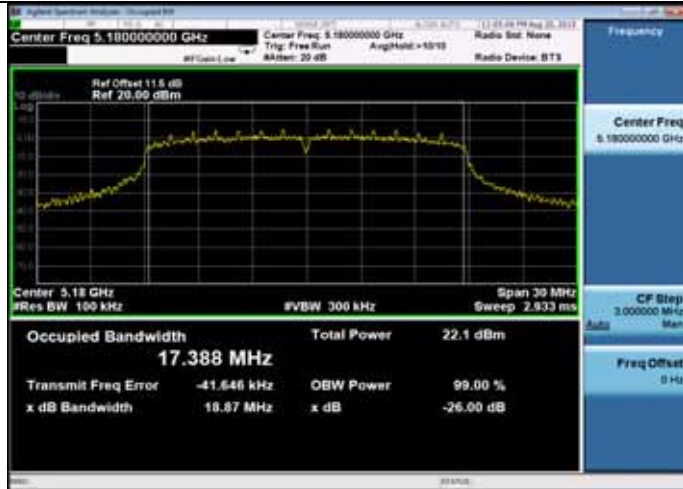


5240MHz



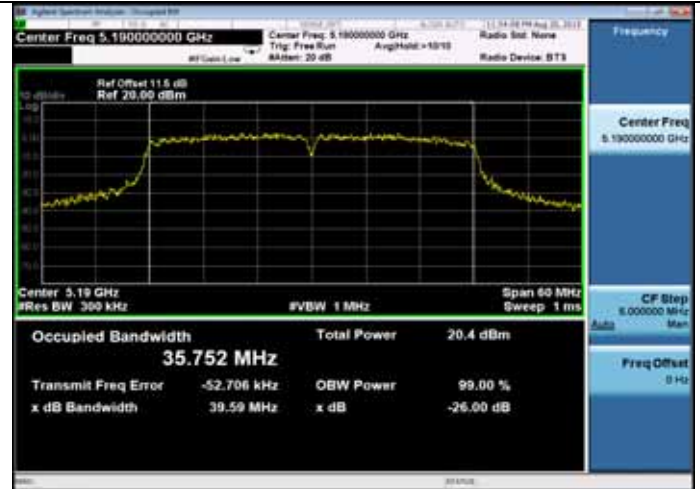
11ac VHT20

5180MHz

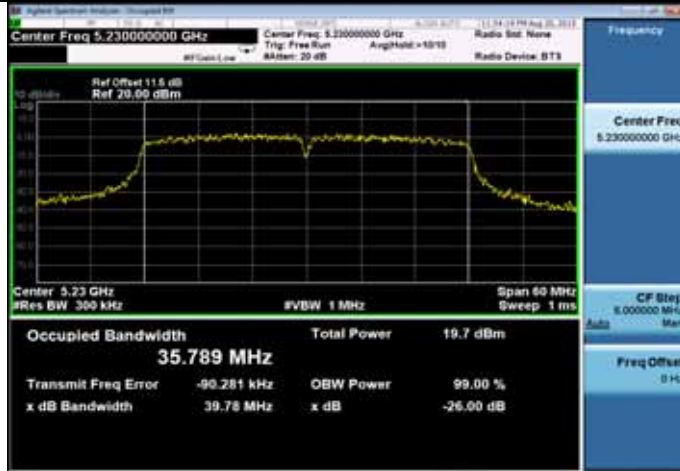


11ac VHT40

5190MHz

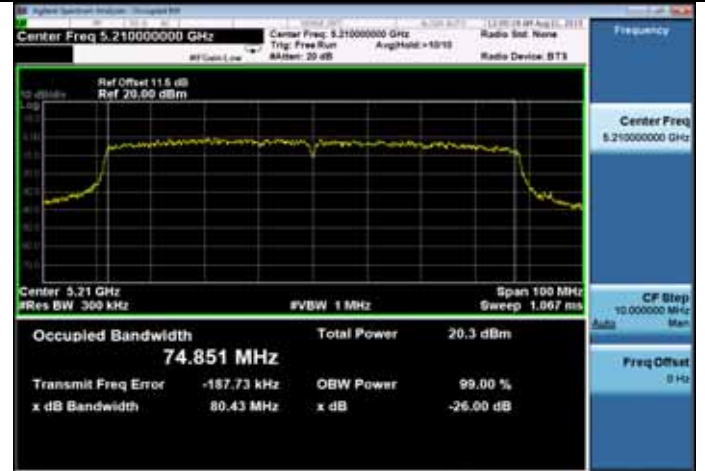


5230MHz



11ac VHT80

5210MHz



5180-5240MHz Band:

26dB bandwidth

ANT 1

11a

5180MHz



11n HT20

5180MHz



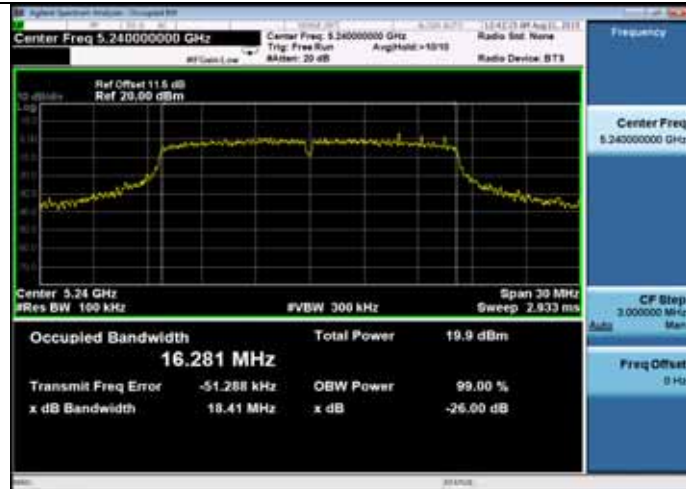
5200MHz



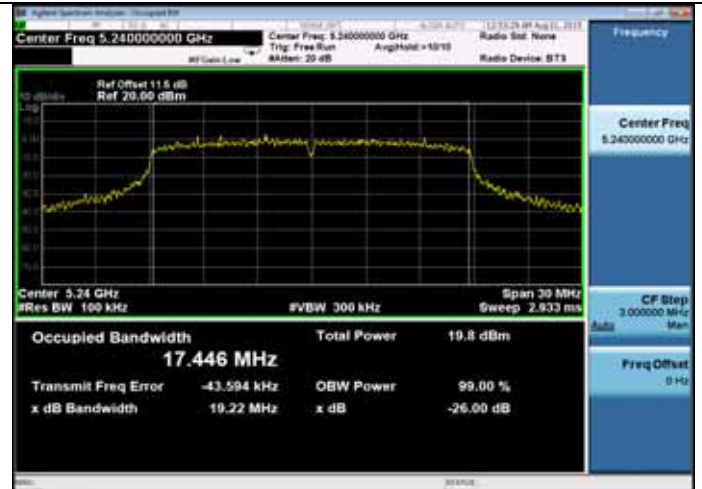
5200MHz



5240MHz

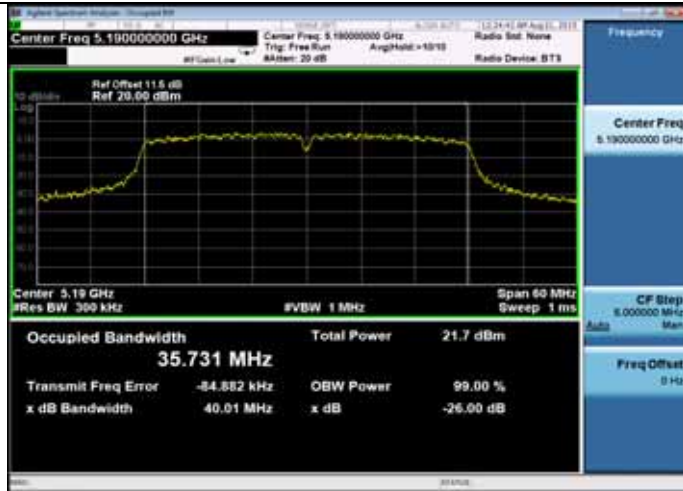


5240MHz

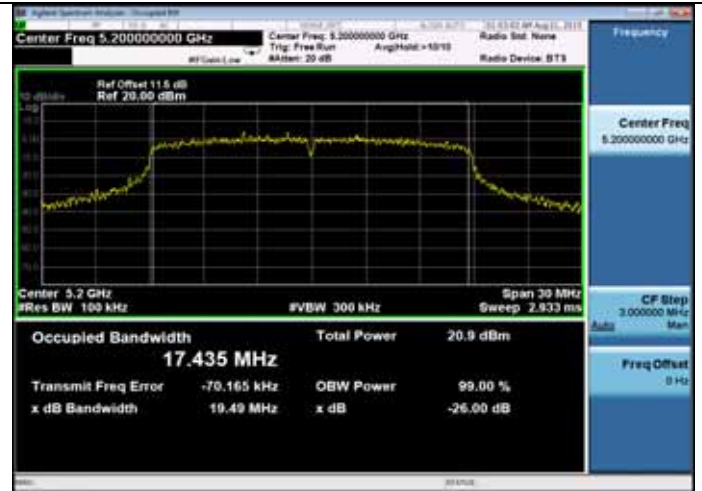


11n HT40

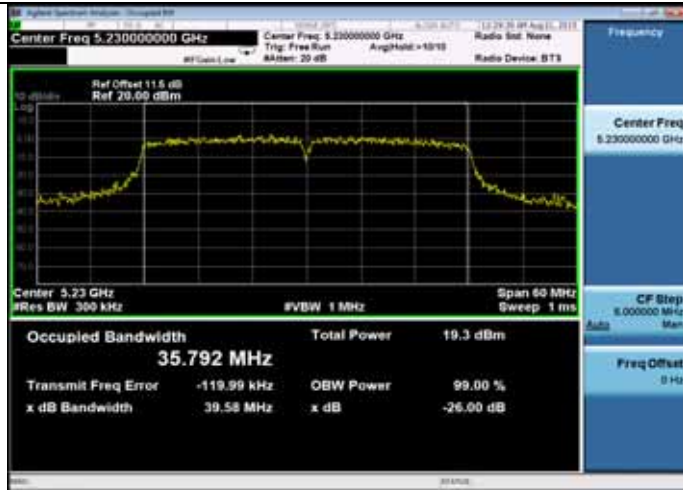
5190MHz



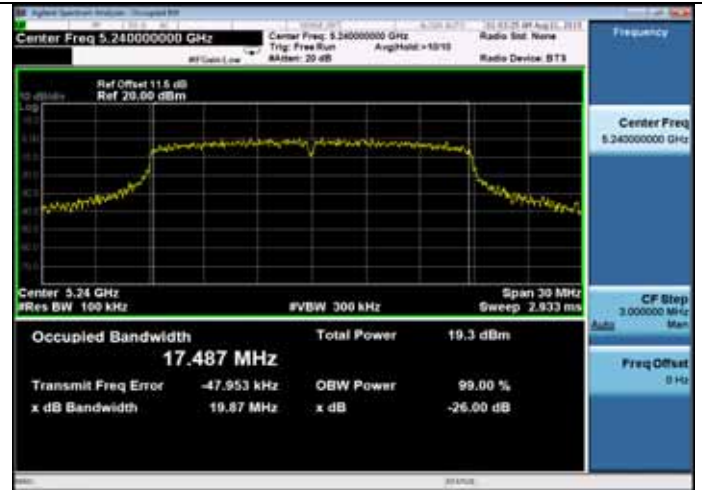
5200MHz



5230MHz

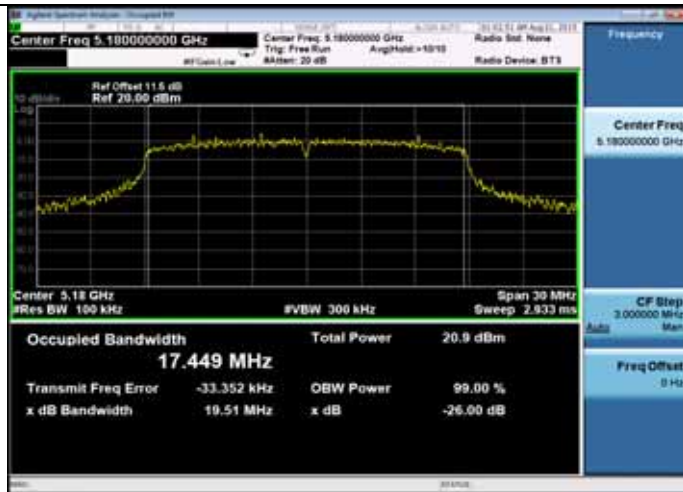


5240MHz



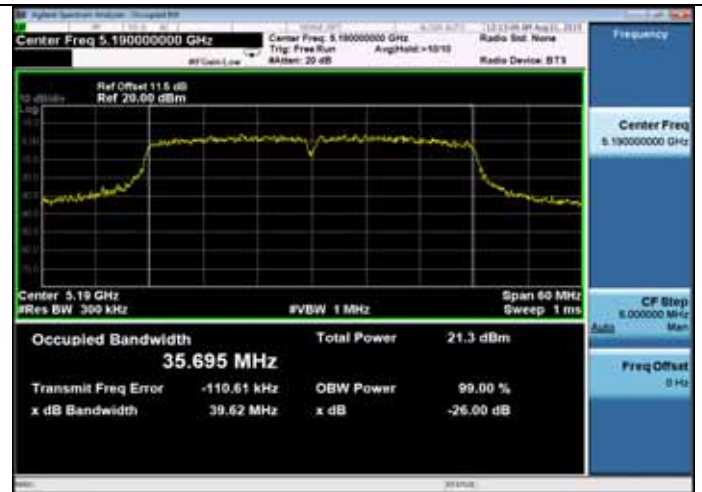
11ac VHT20

5180MHz

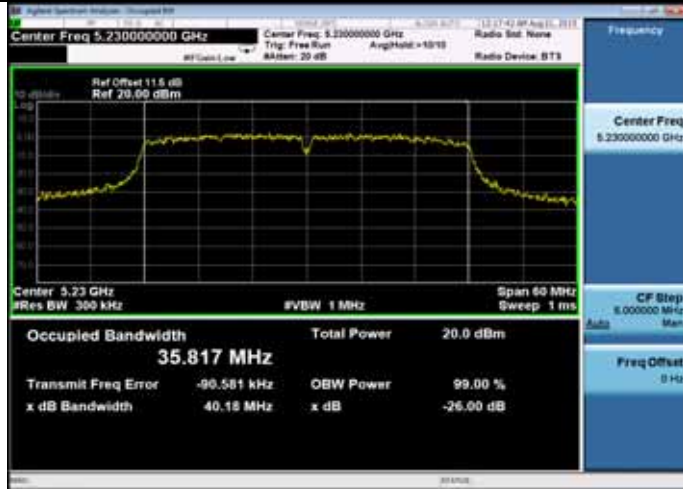


11ac VHT40

5190MHz

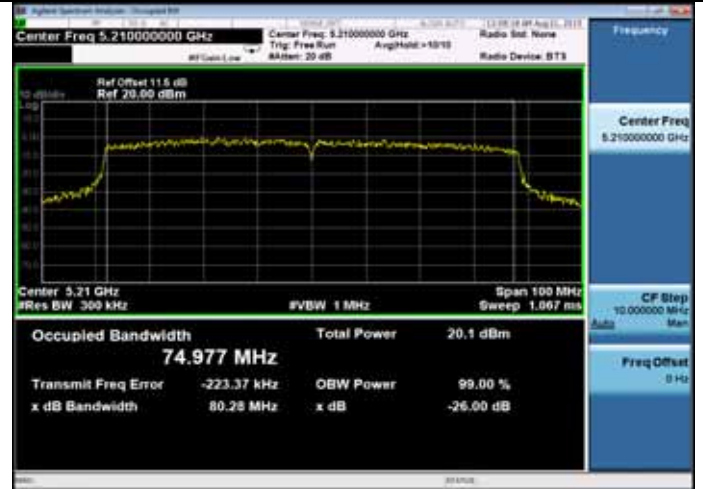


5230MHz



11ac VHT80

5210MHz



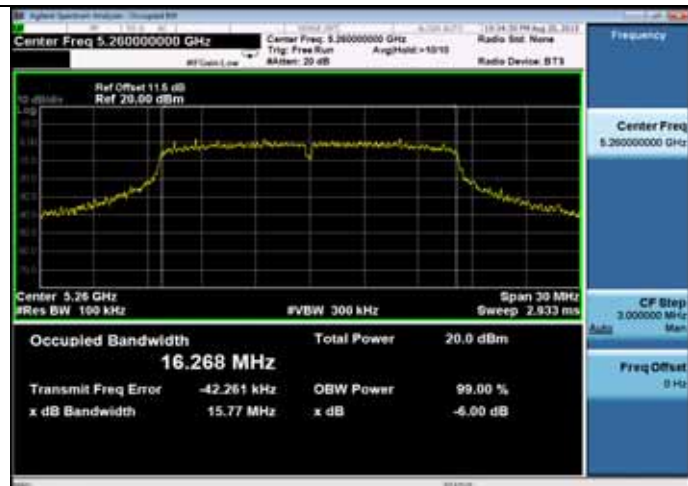
5260-5320MHz Band:

6dB bandwidth

ANT 0

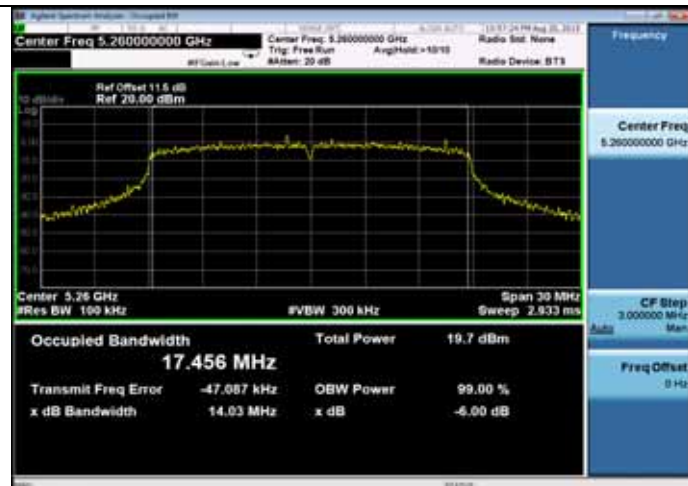
11a

5260MHz

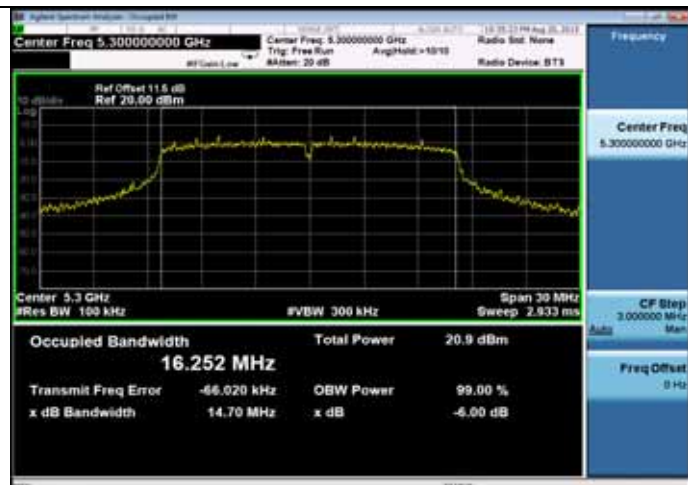


11n HT20

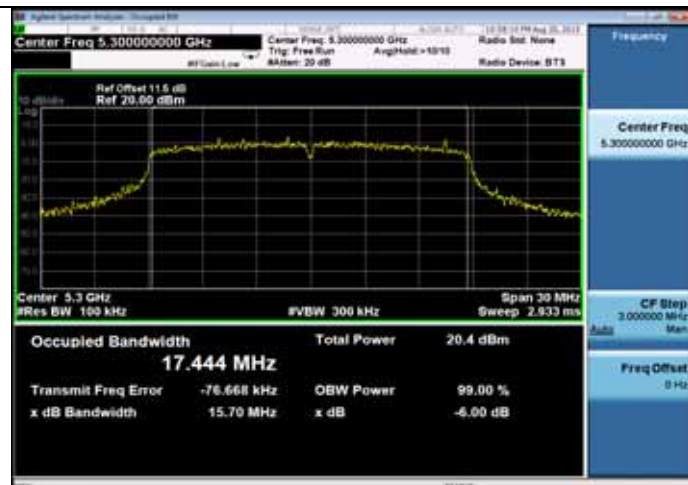
5260MHz



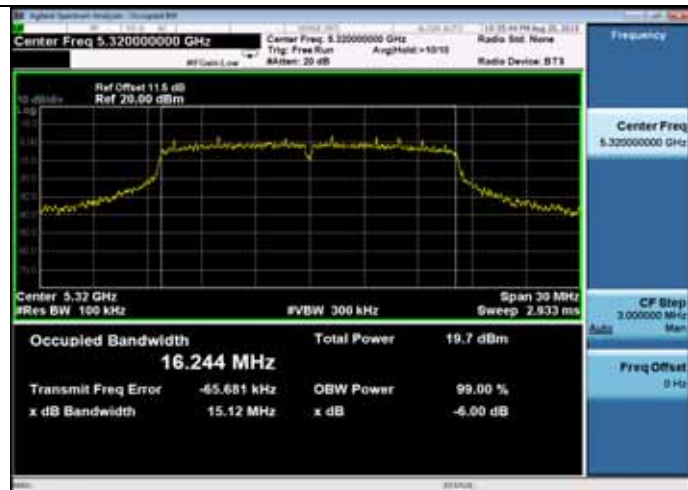
5300MHz



5300MHz



5320MHz

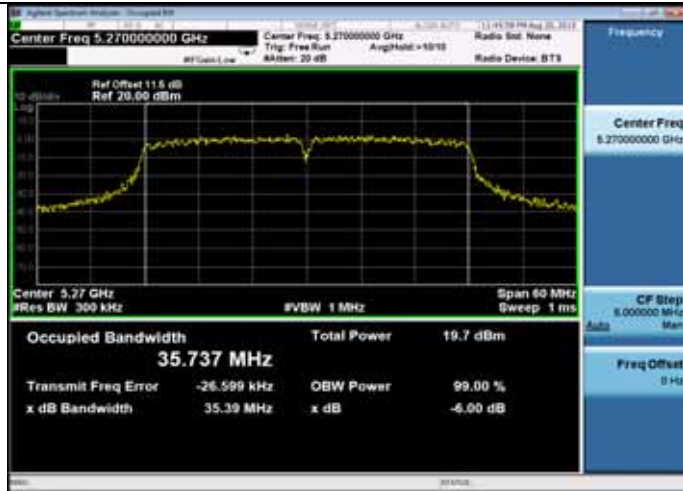


5320MHz

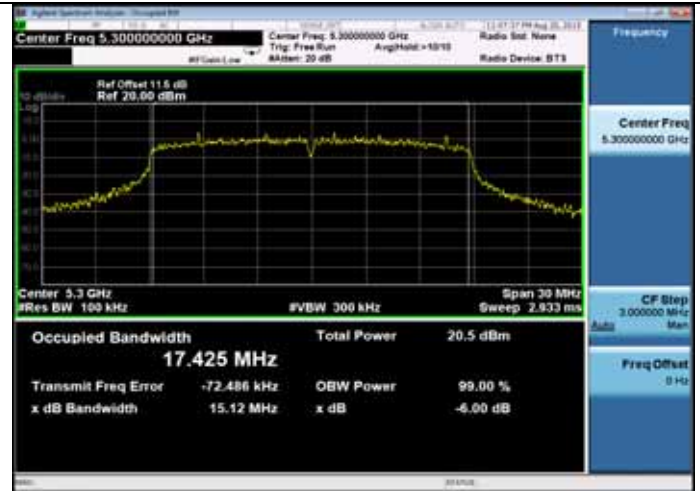


11n HT40

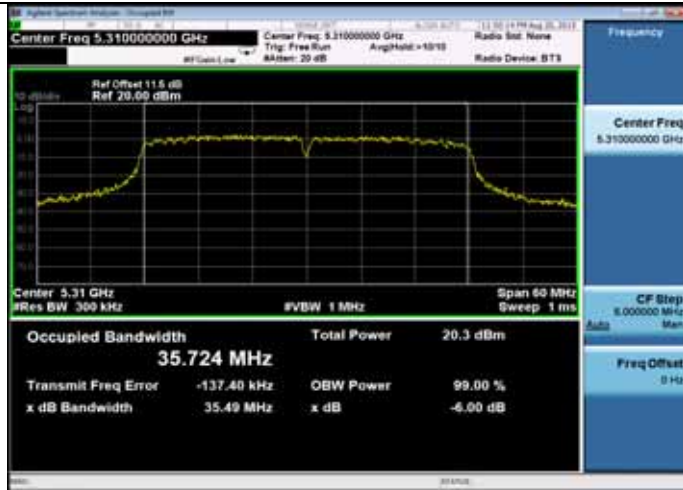
5270MHz



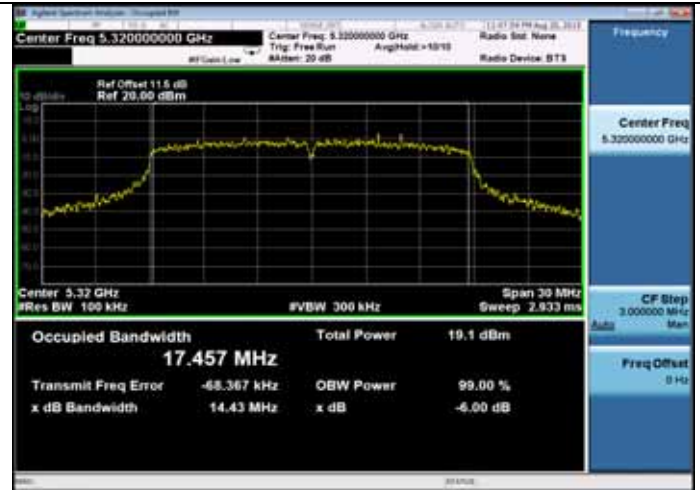
5300MHz



5310MHz

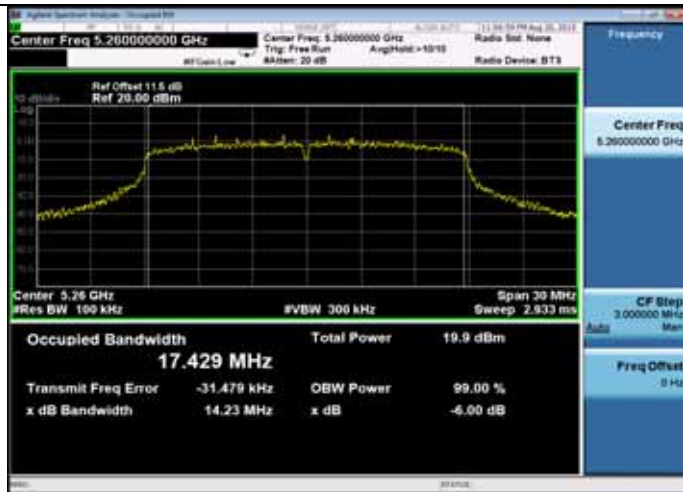


5320MHz



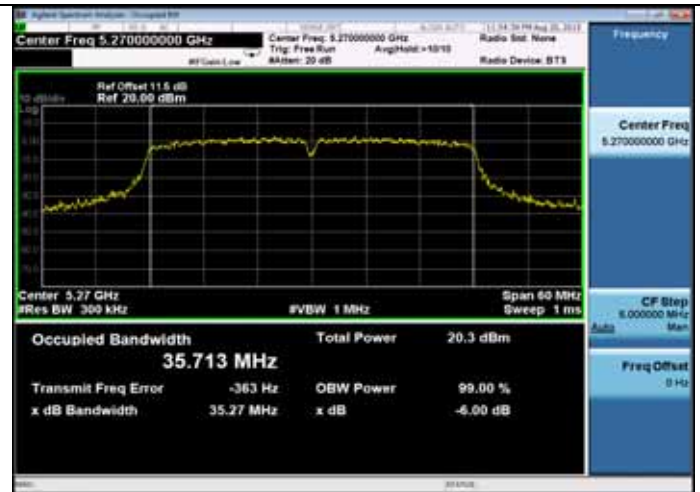
11ac VHT20

5260MHz

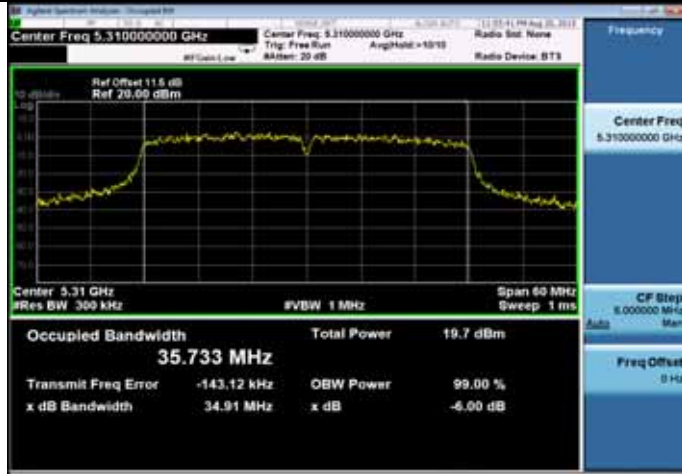


11ac VHT40

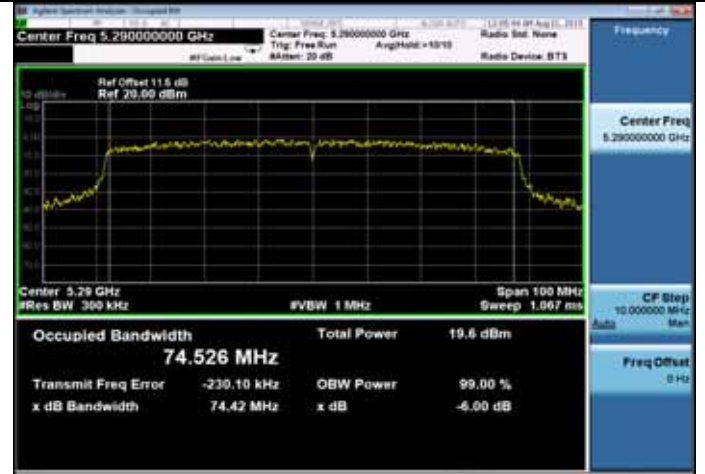
5270MHz



5310MHz



11ac VHT80
5290MHz



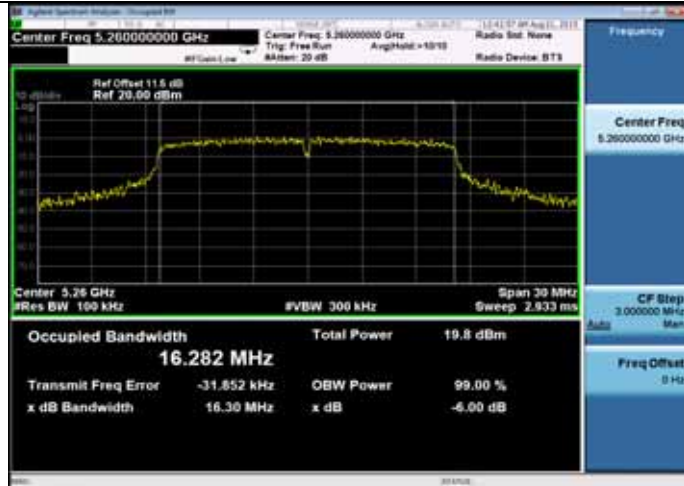
5260-5320MHz Band:

6dB bandwidth

ANT 1

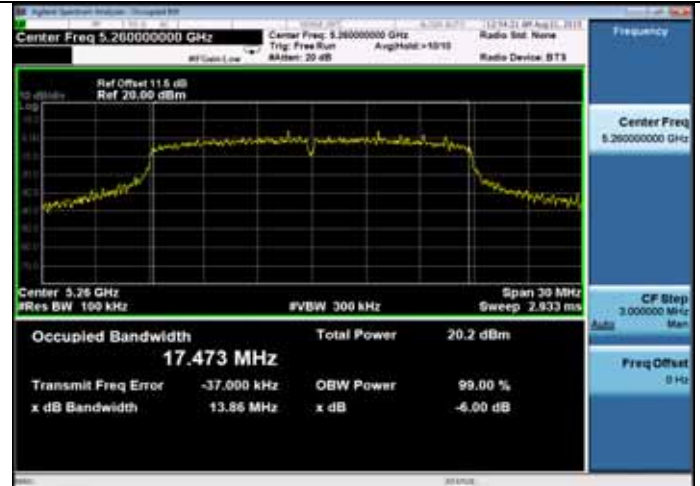
11a

5260MHz

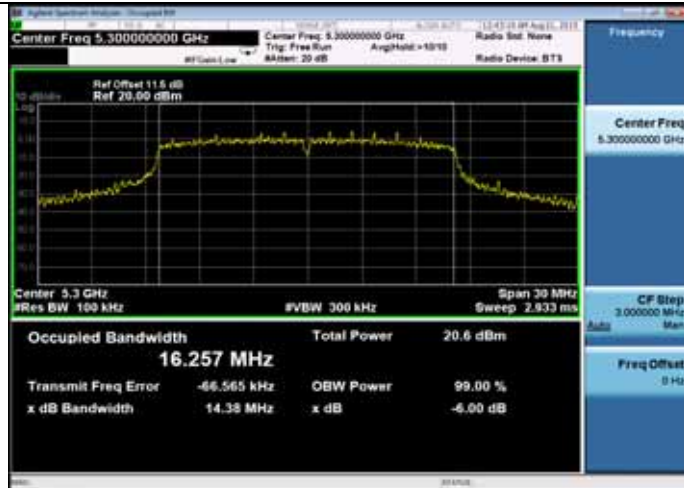


11n HT20

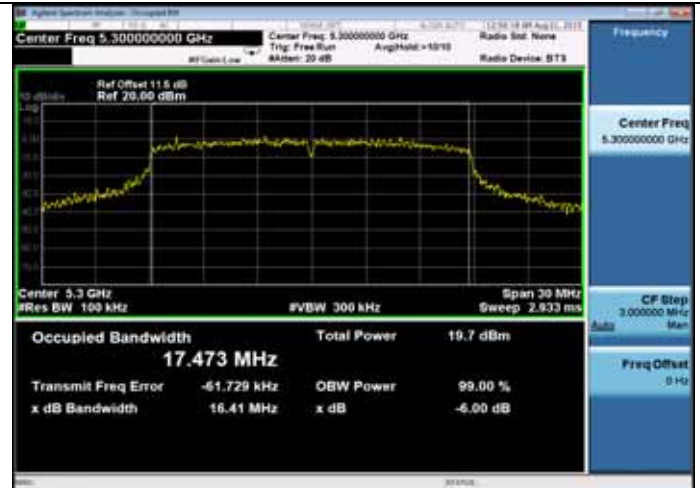
5260MHz



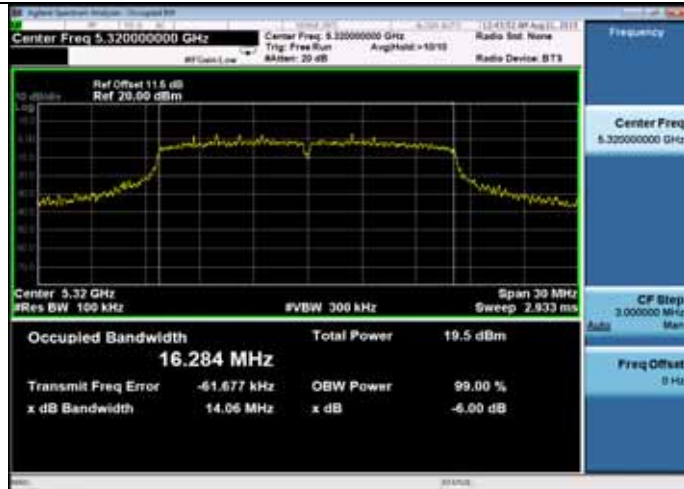
5300MHz



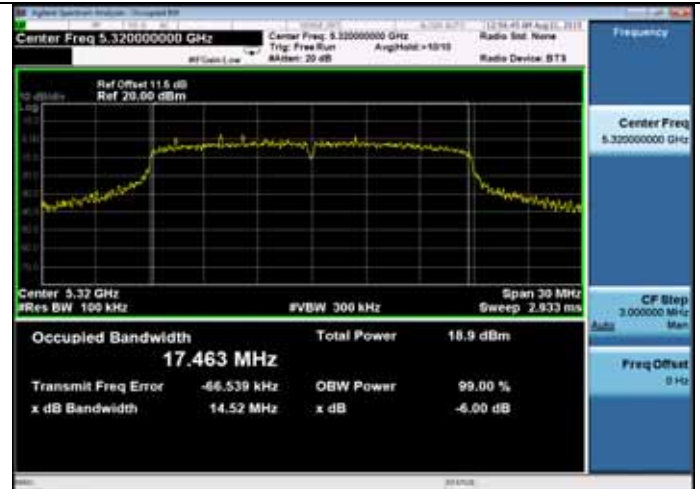
5300MHz



5320MHz

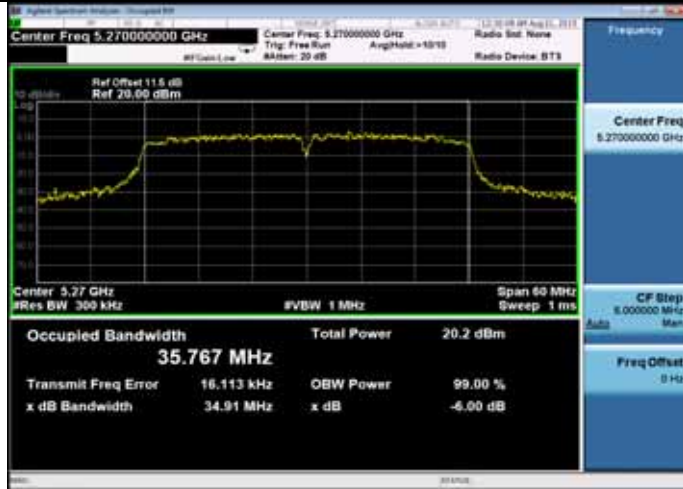


5320MHz

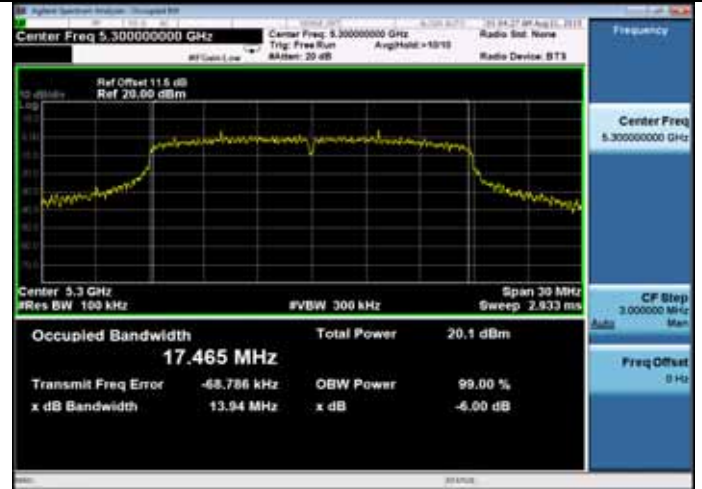


11n HT40

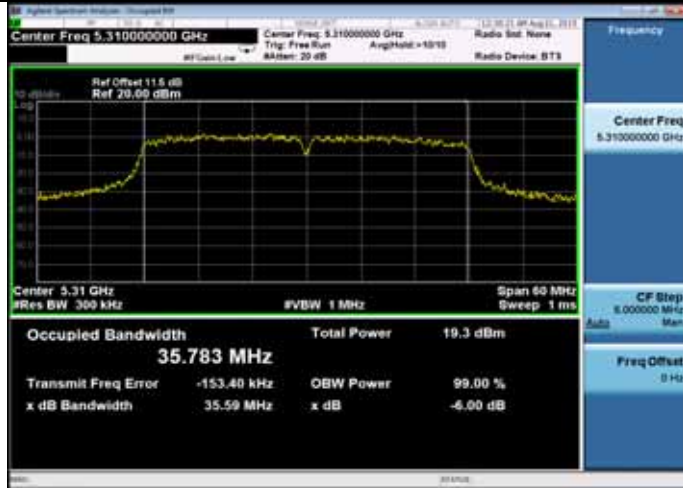
5270MHz



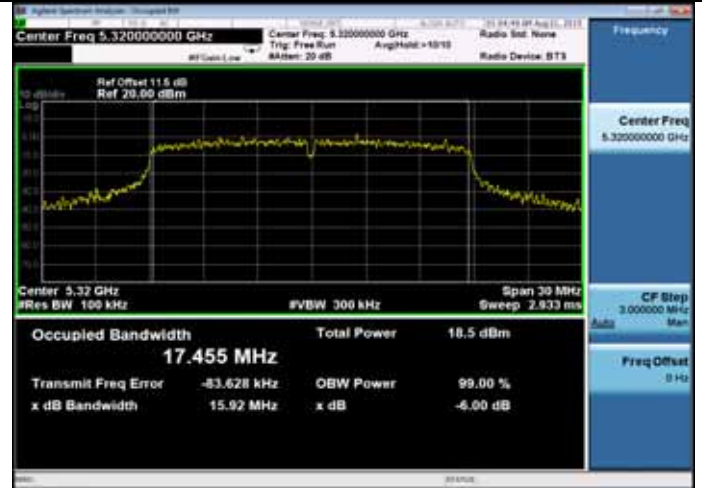
5300MHz



5310MHz

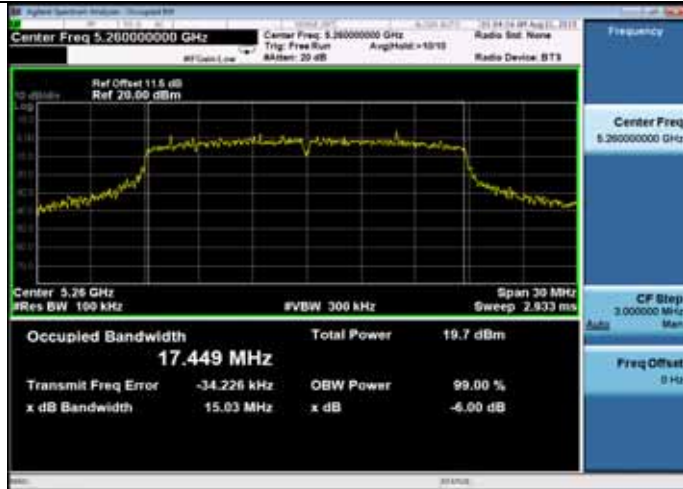


5320MHz



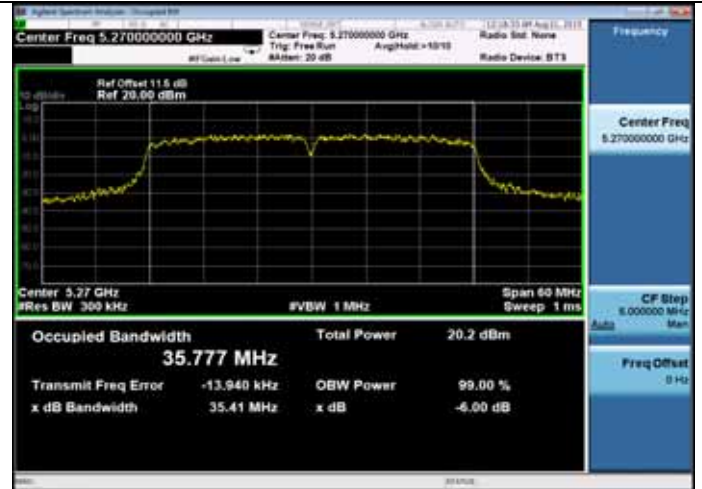
11ac VHT20

5260MHz

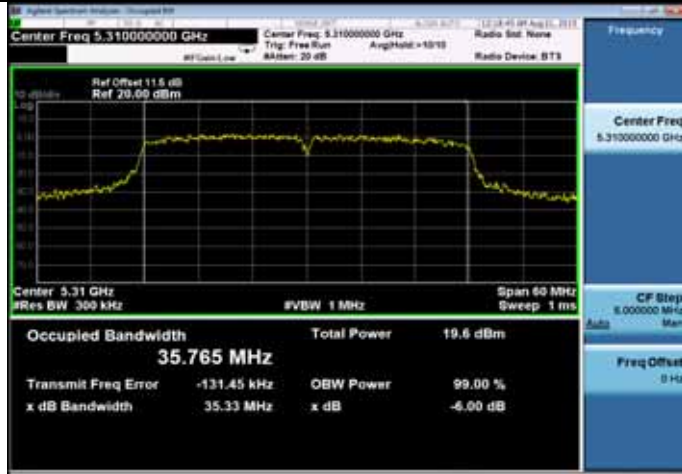


11ac VHT40

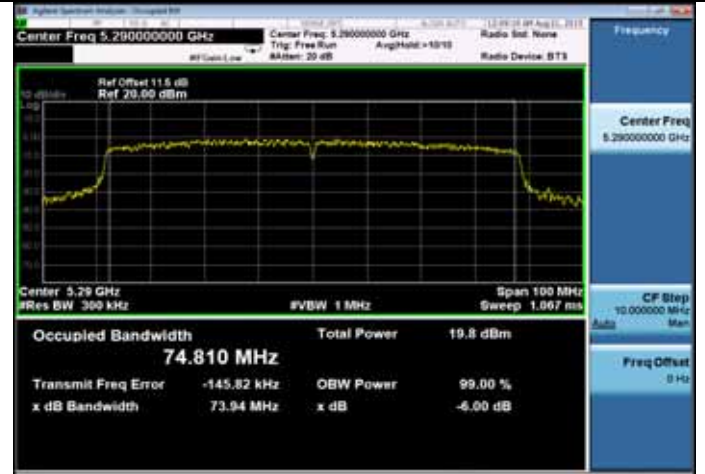
5270MHz



5310MHz



11ac VHT80
5290MHz



5260-5320MHz Band:

26dB bandwidth

ANT 0

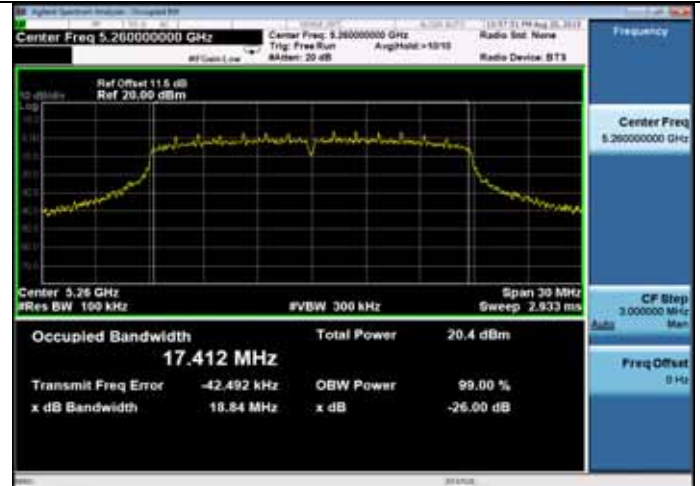
11a

5260MHz



11n HT20

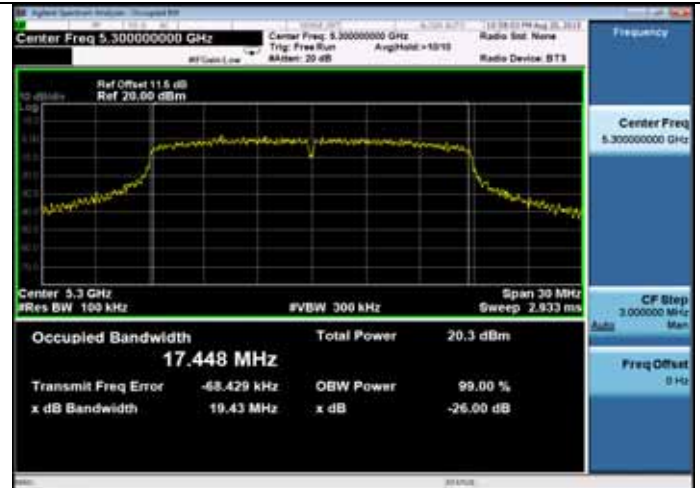
5260MHz



5300MHz



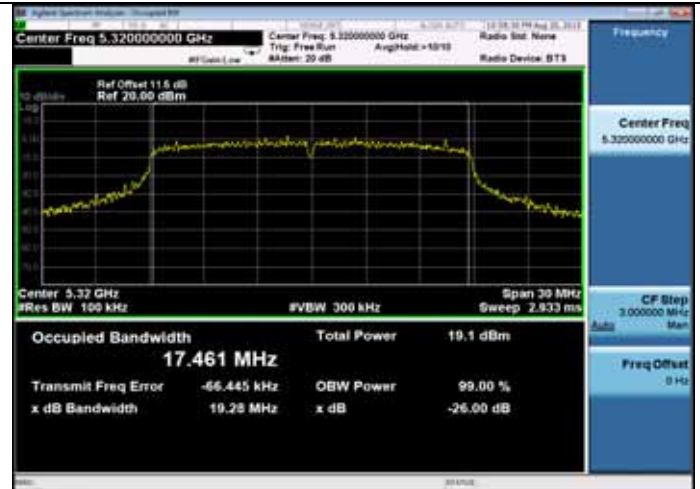
5300MHz



5320MHz

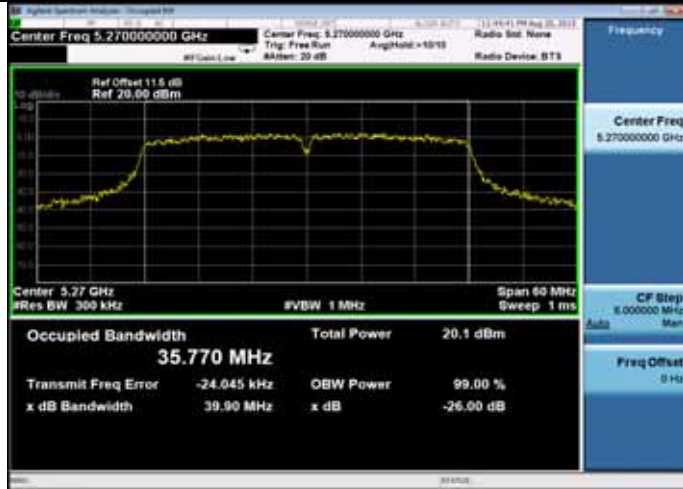


5320MHz

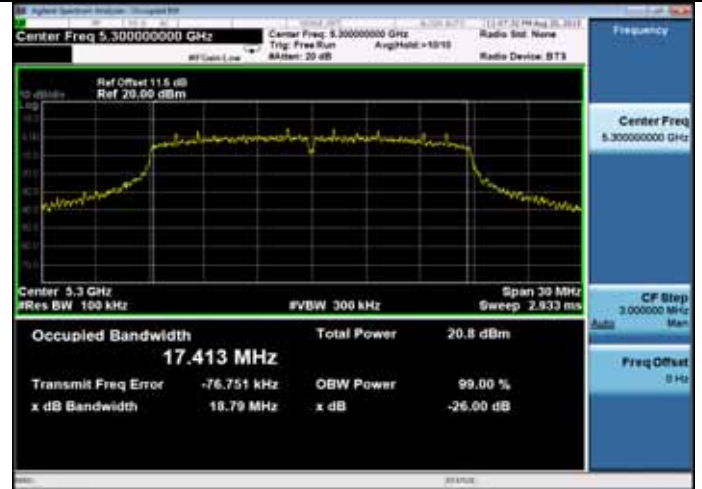


11n HT40

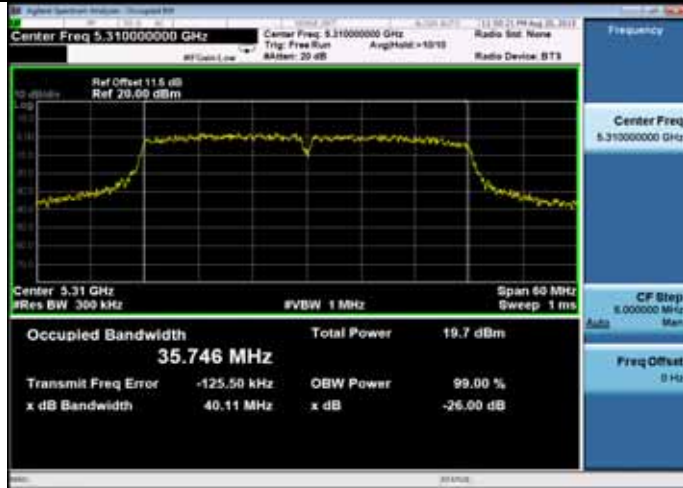
5270MHz



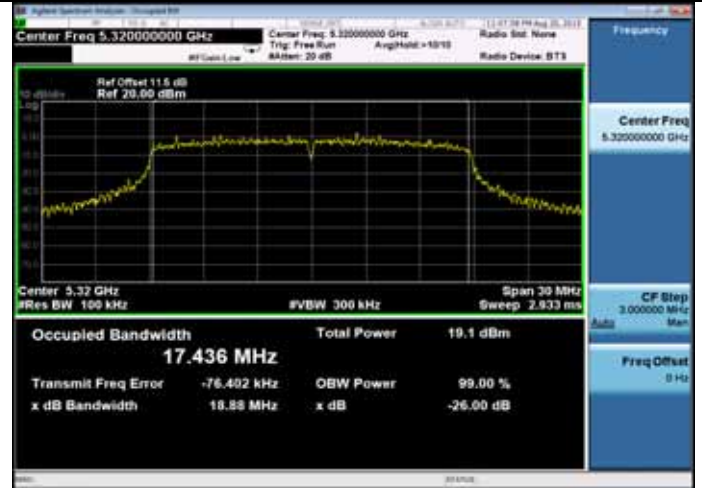
5300MHz



5310MHz

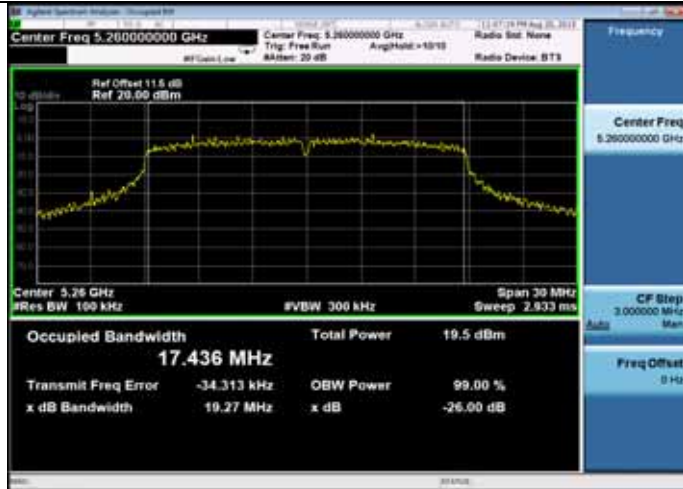


5320MHz



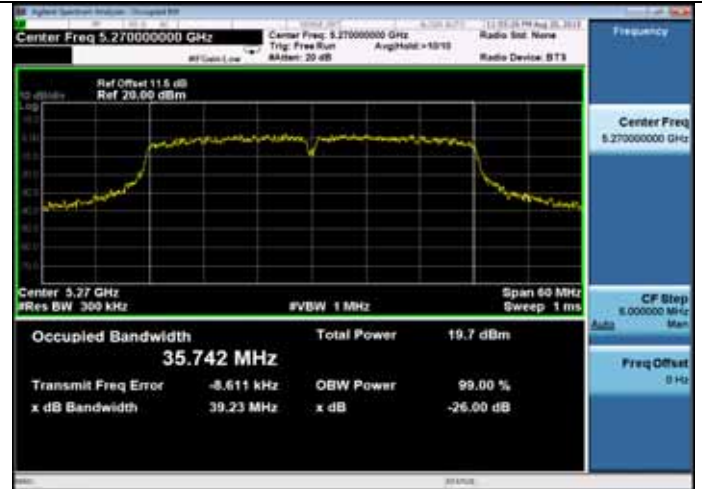
11ac VHT20

5260MHz

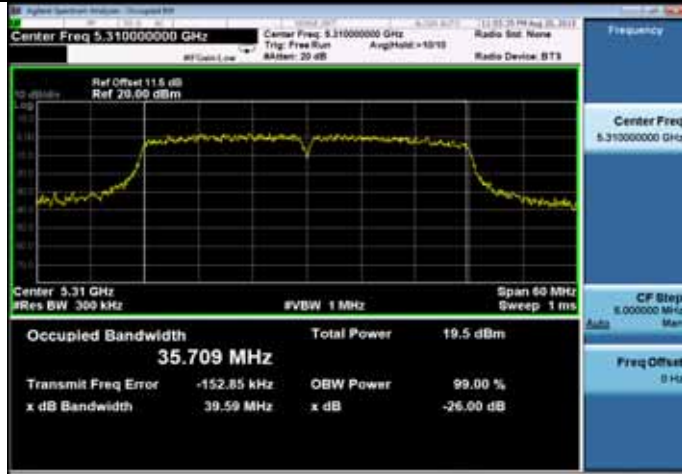


11ac VHT40

5270MHz

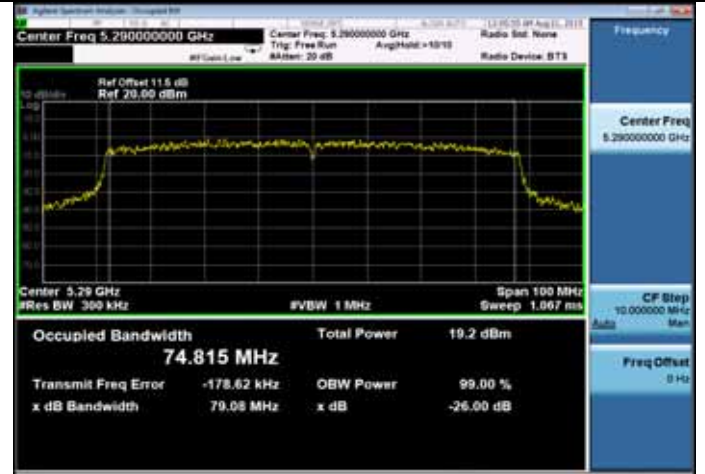


5310MHz



11ac VHT80

5290MHz



5260-5320MHz Band:

26dB bandwidth

ANT 1

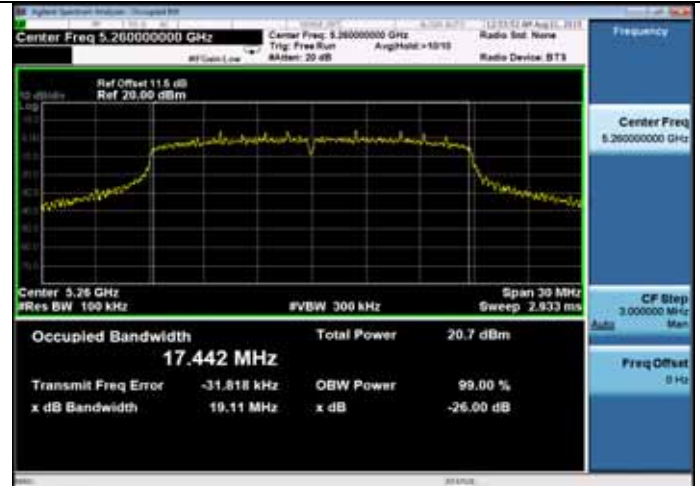
11a

5260MHz

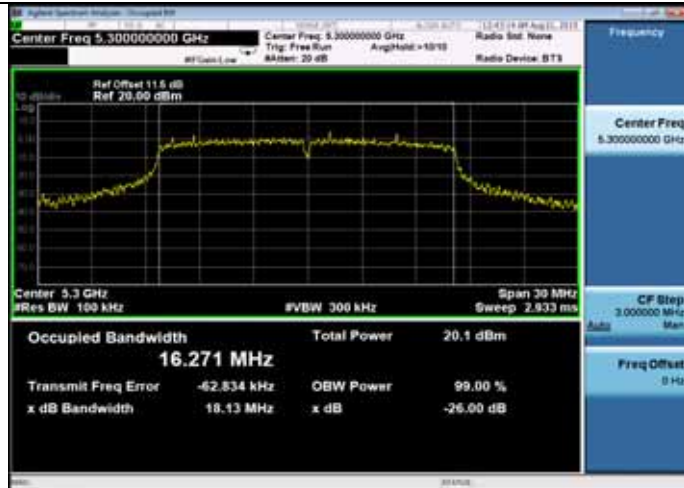


11n HT20

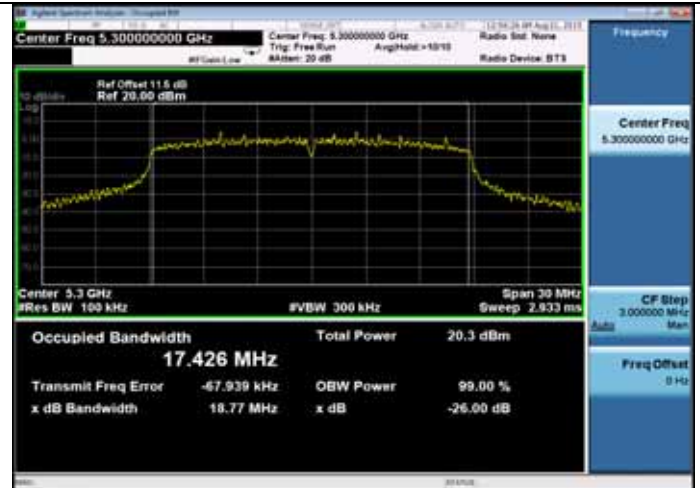
5260MHz



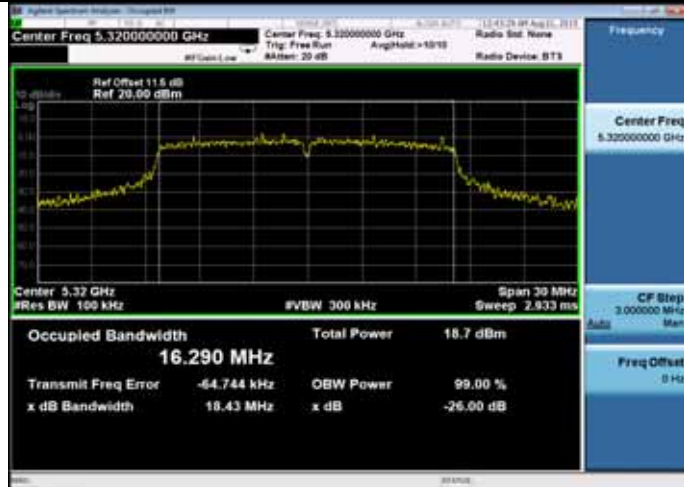
5300MHz



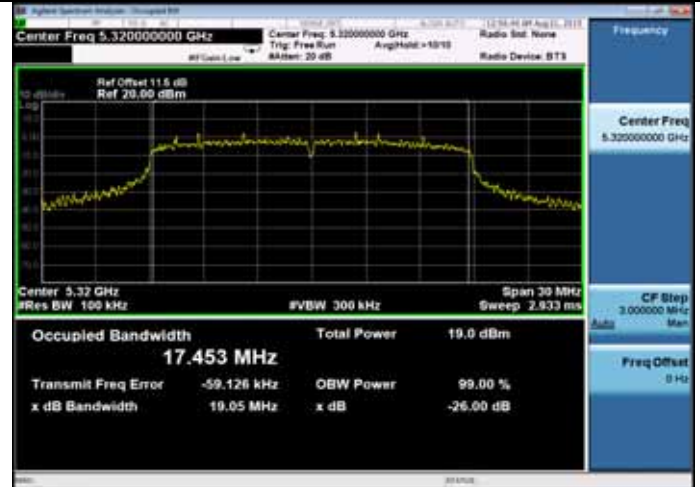
5300MHz



5320MHz

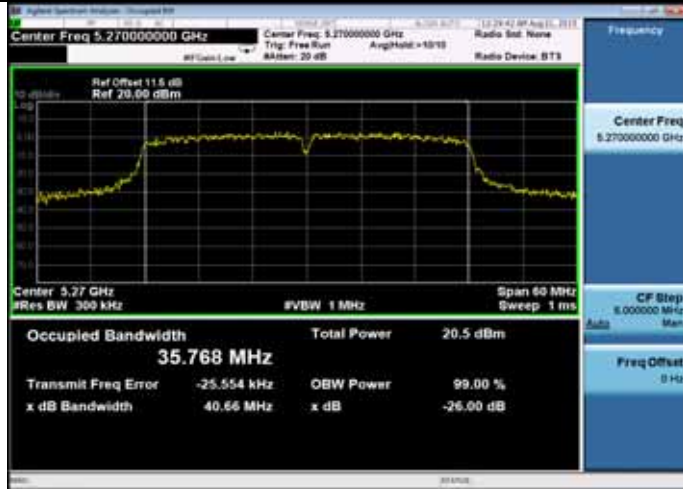


5320MHz

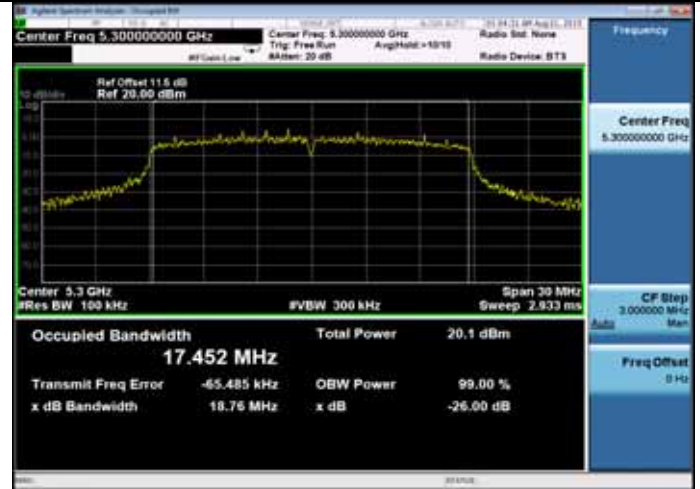


11n HT40

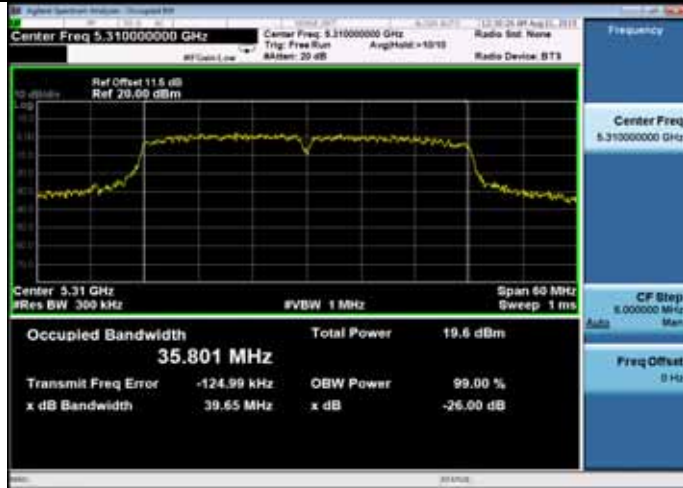
5270MHz



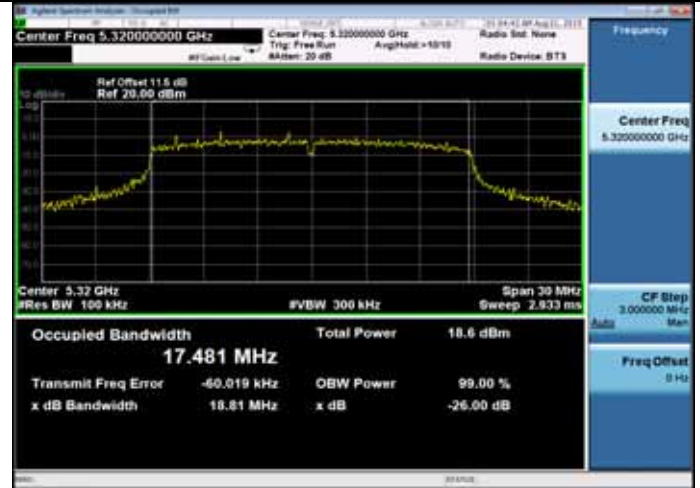
5300MHz



5310MHz

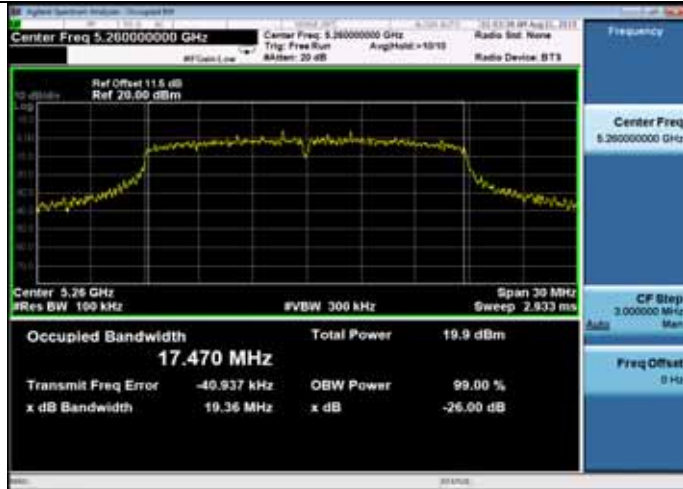


5320MHz



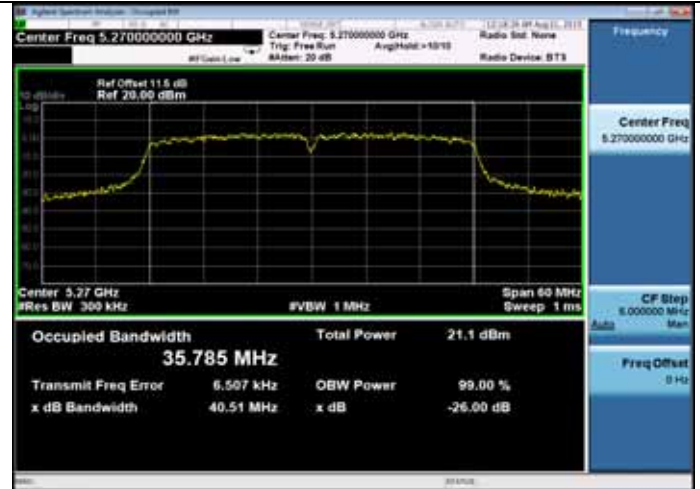
11ac VHT20

5260MHz

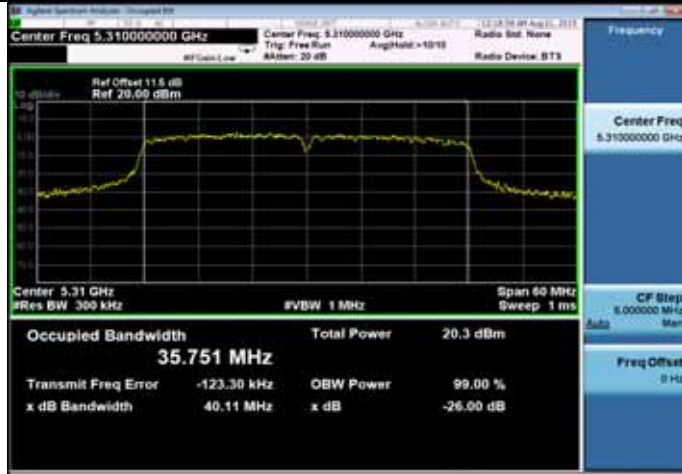


11ac VHT40

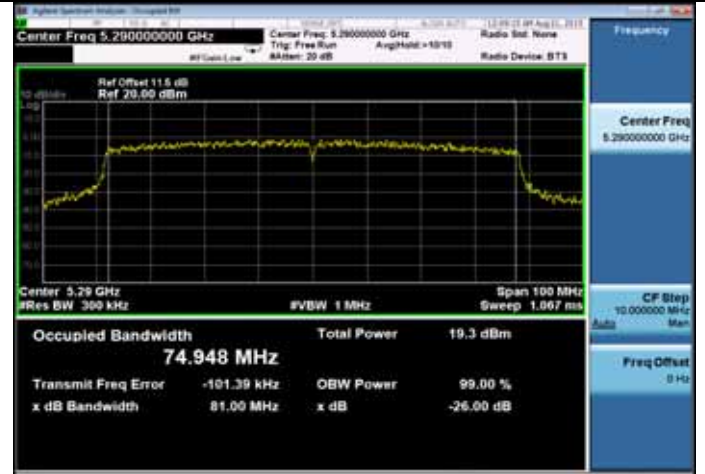
5270MHz



5310MHz



11ac VHT80
5290MHz



5500-5700MHz Band:

6dB bandwidth

ANT 0

11a

5500MHz

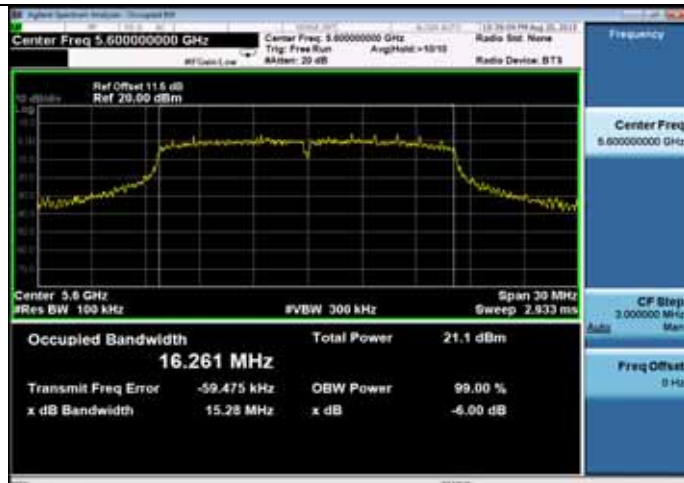


11n HT20

5500MHz



5600MHz



5600MHz



5700MHz

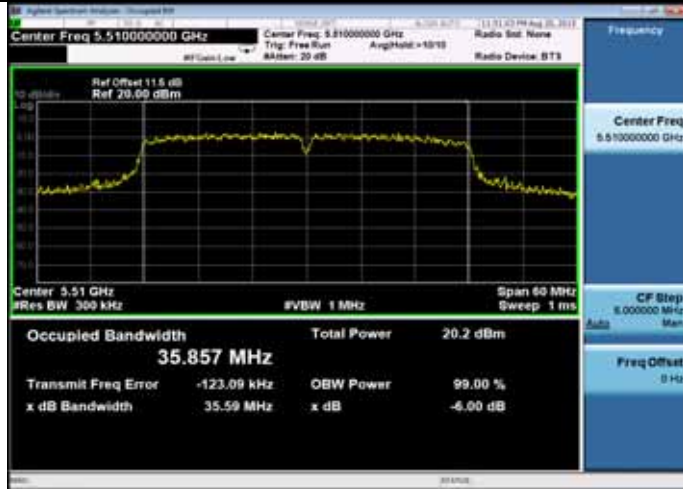


5700MHz

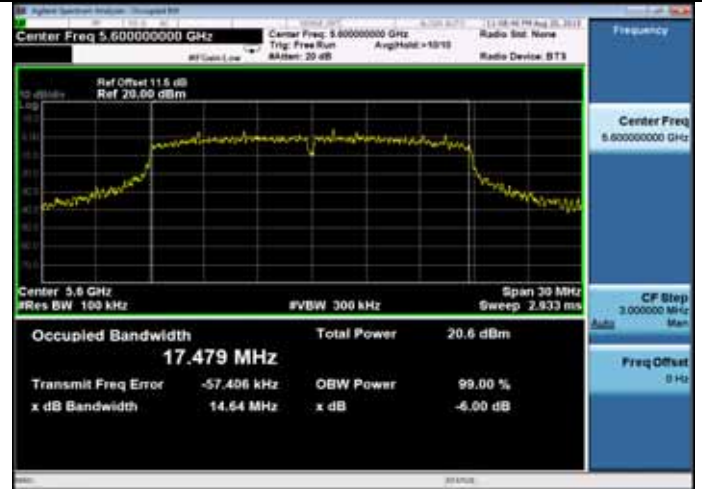


11n HT40

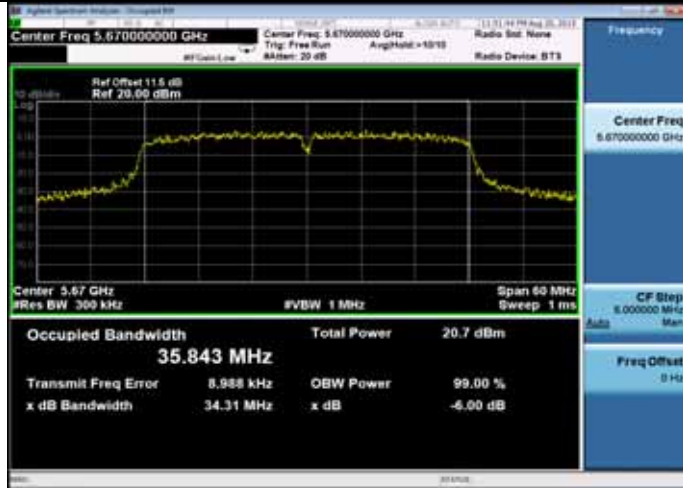
5510MHz



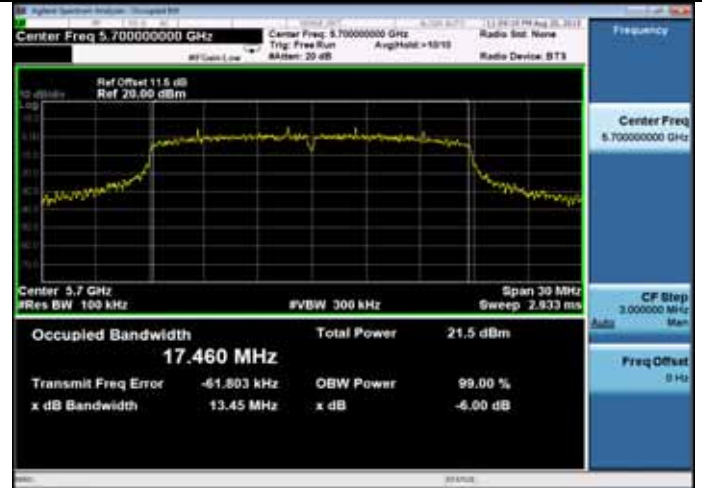
5600MHz



5670MHz

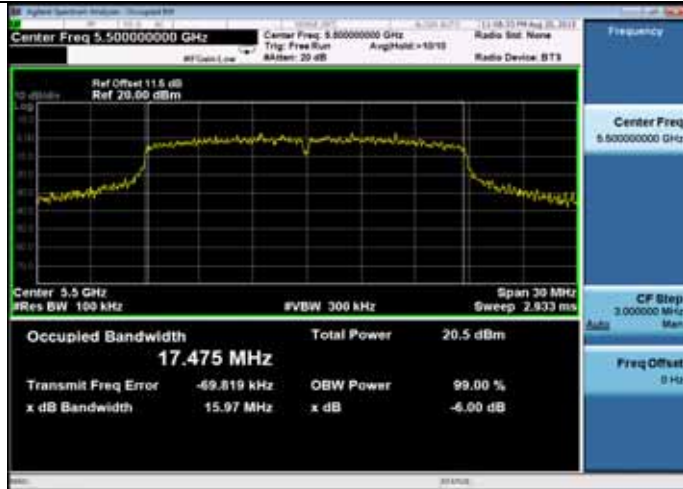


5700MHz



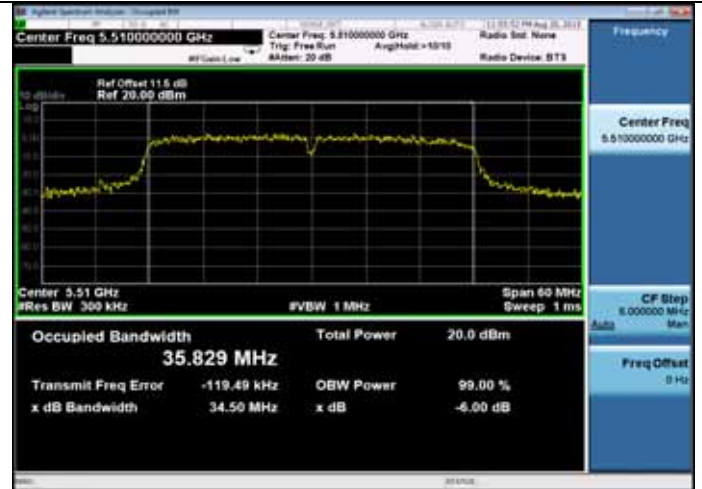
11ac VHT20

5500MHz

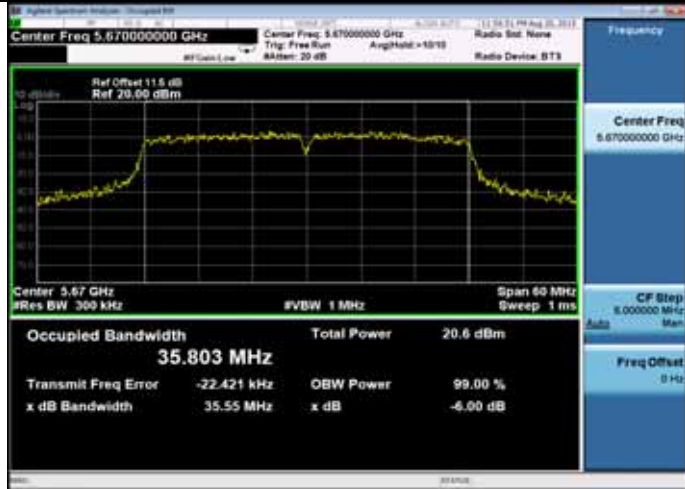


11ac VHT40

5510MHz

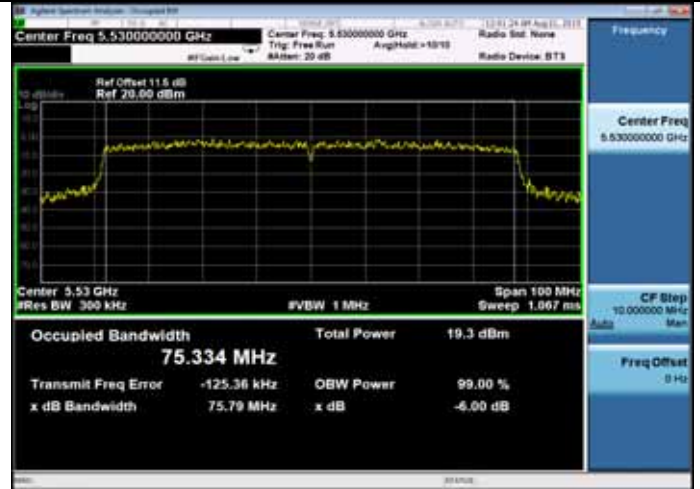


5670MHz



11ac VHT80

5530MHz



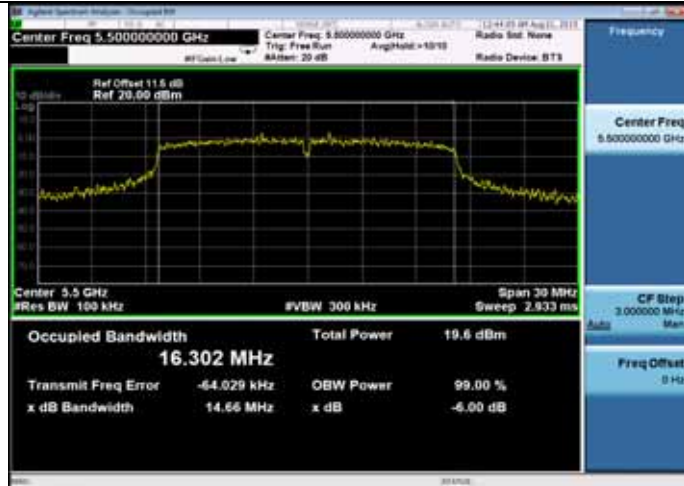
5500-5700MHz Band:

6dB bandwidth

ANT 1

11a

5500MHz



11n HT20

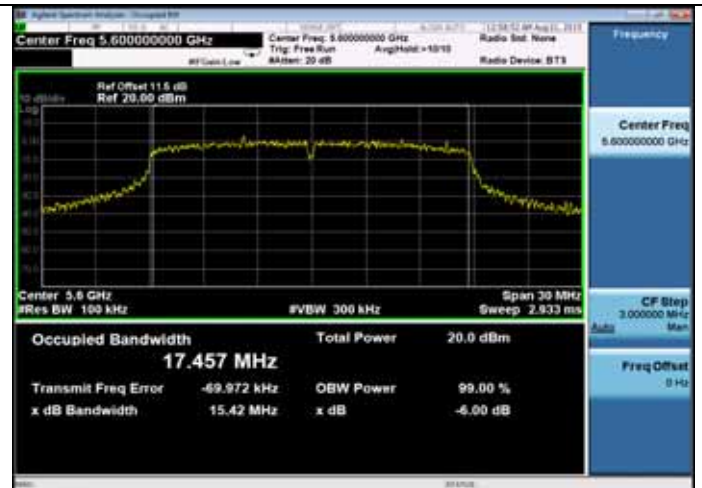
5500MHz



5600MHz



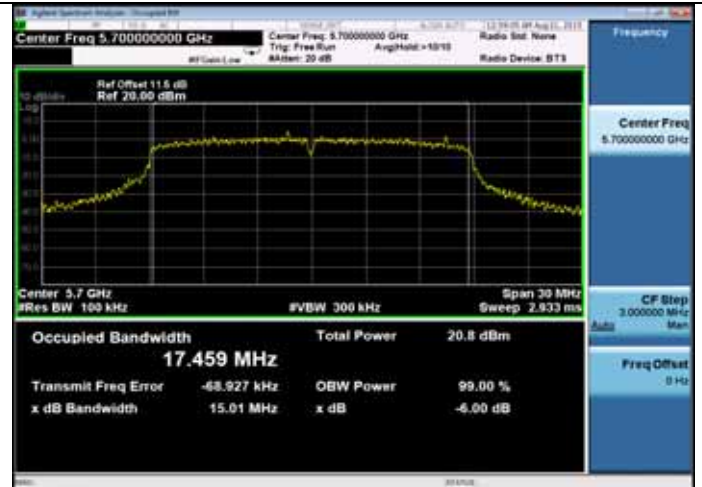
5600MHz



5700MHz

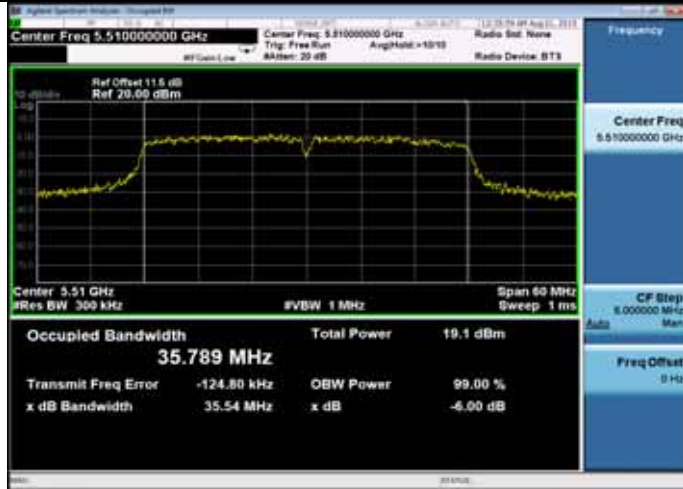


5700MHz

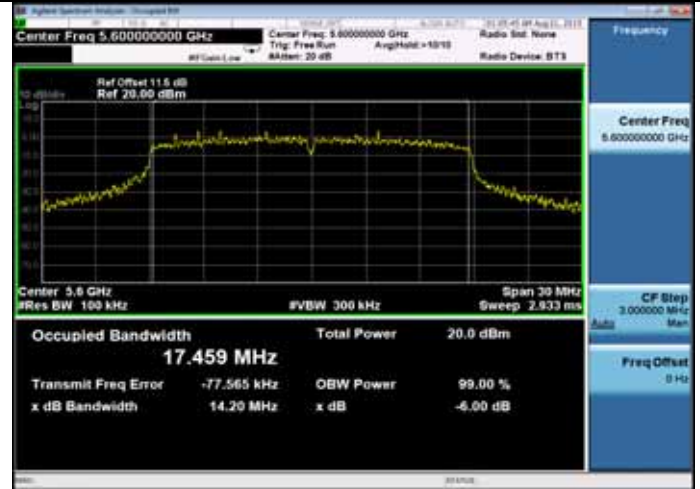


11n HT40

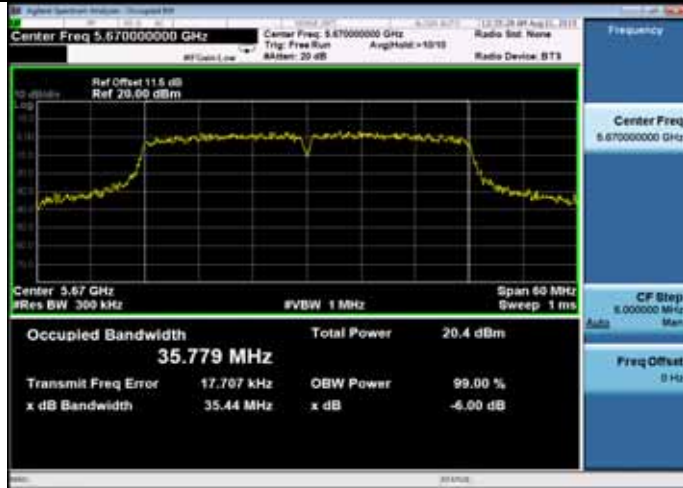
5510MHz



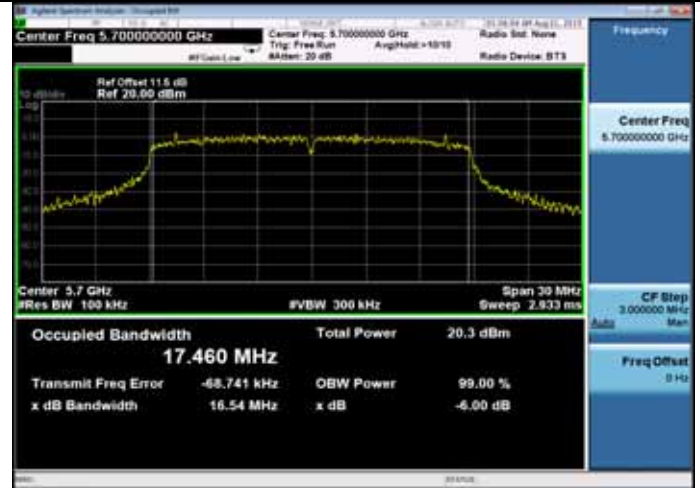
5600MHz



5670MHz

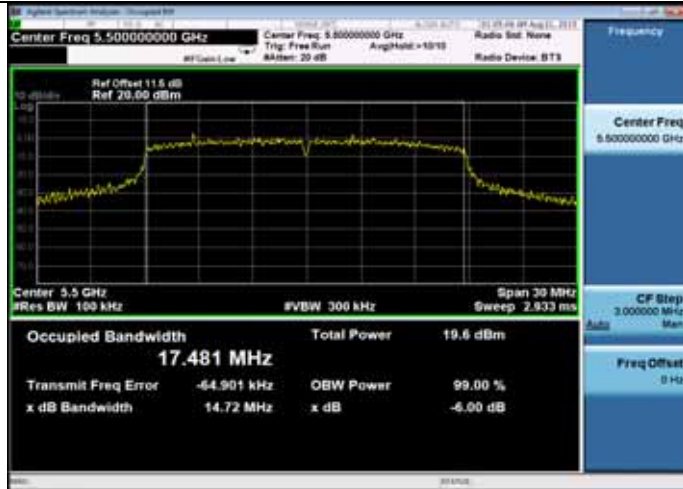


5700MHz



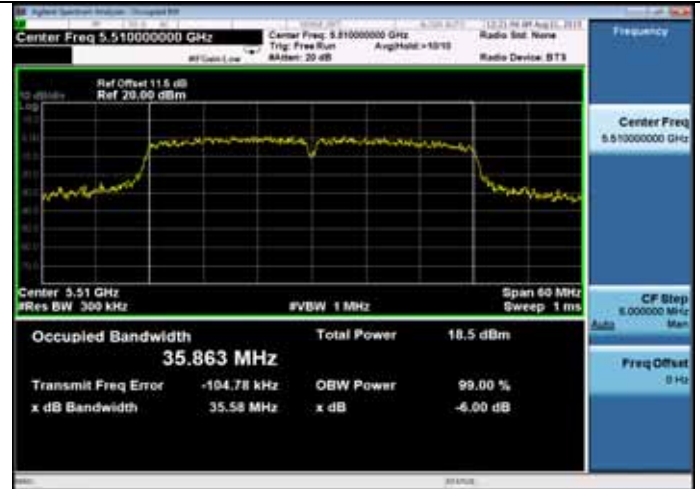
11ac VHT20

5500MHz

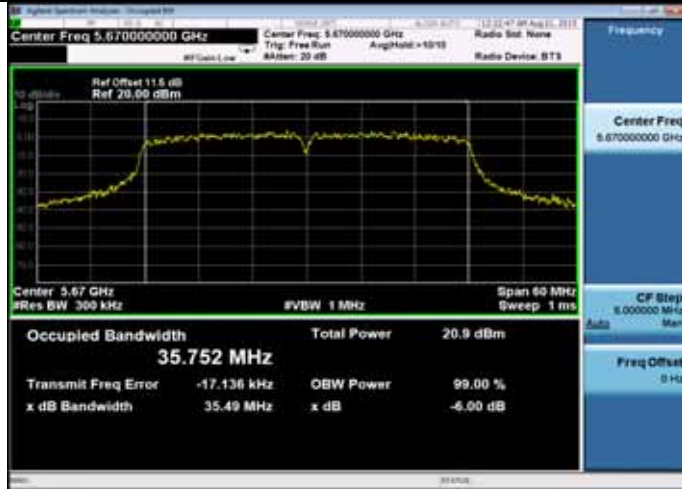


11ac VHT40

5510MHz

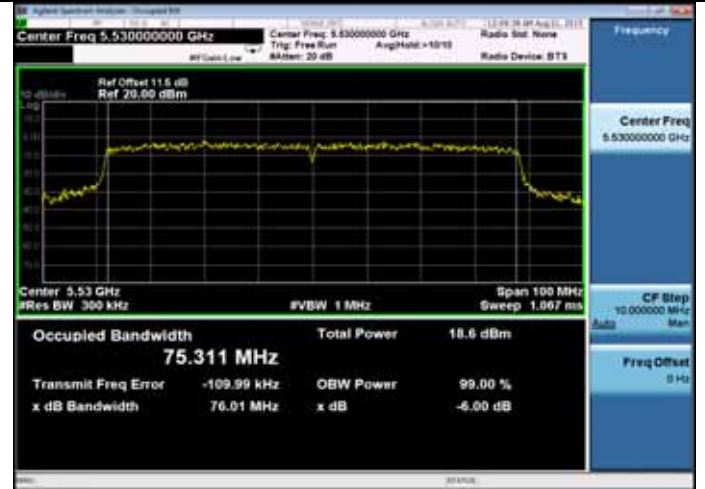


5670MHz



11ac VHT80

5530MHz



5500-5700MHz Band:

26dB bandwidth

ANT 0

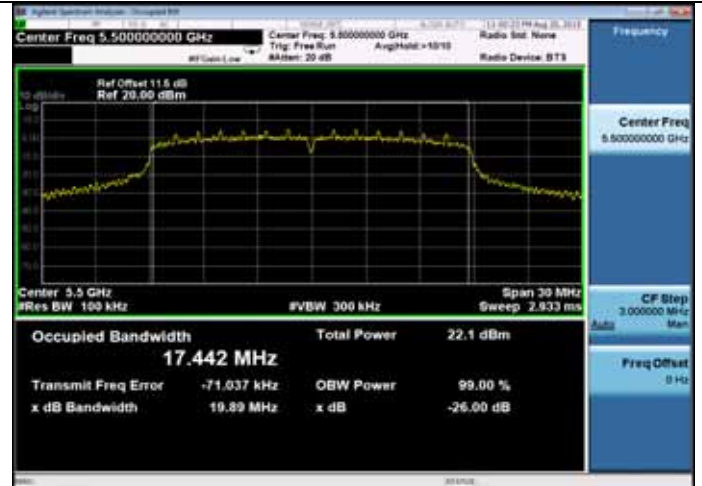
11a

5500MHz



11n HT20

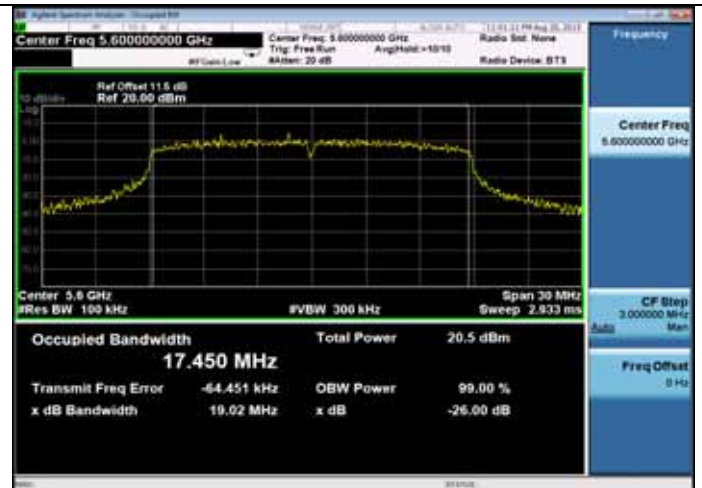
5500MHz



5600MHz



5600MHz



5700MHz

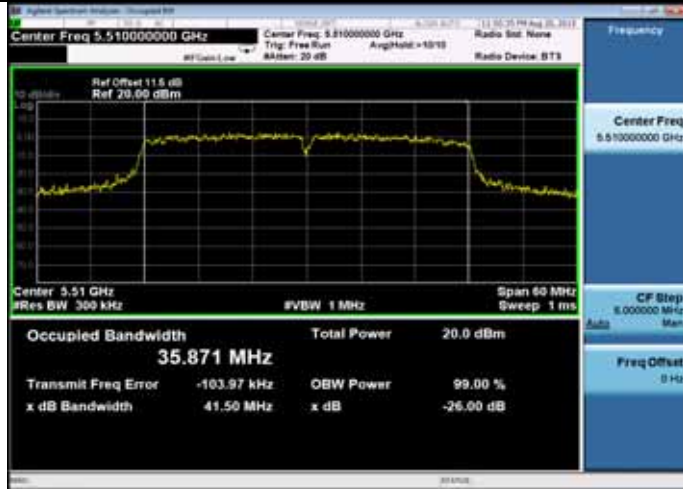


5700MHz

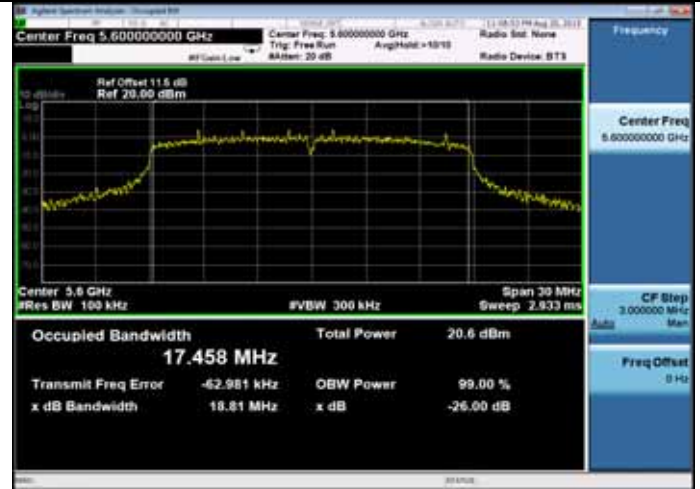


11n HT40

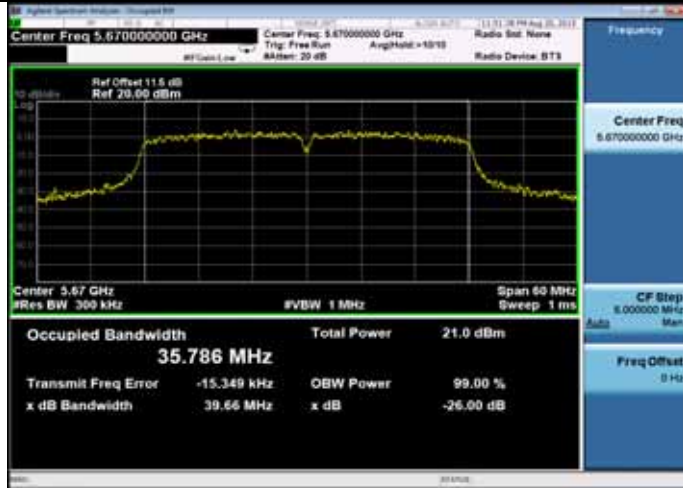
5510MHz



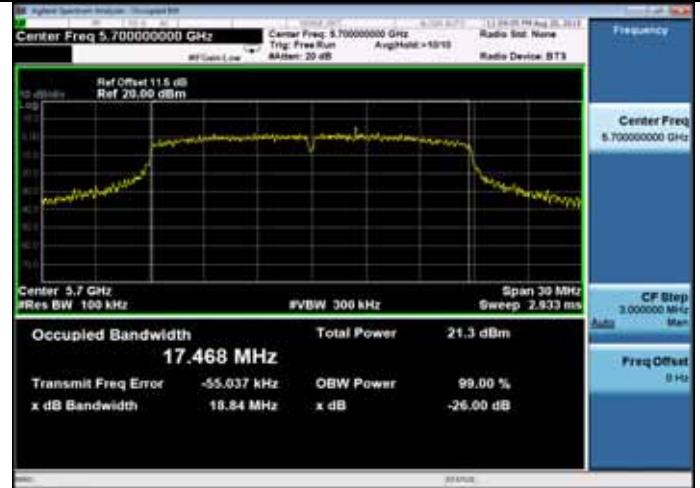
5600MHz



5670MHz

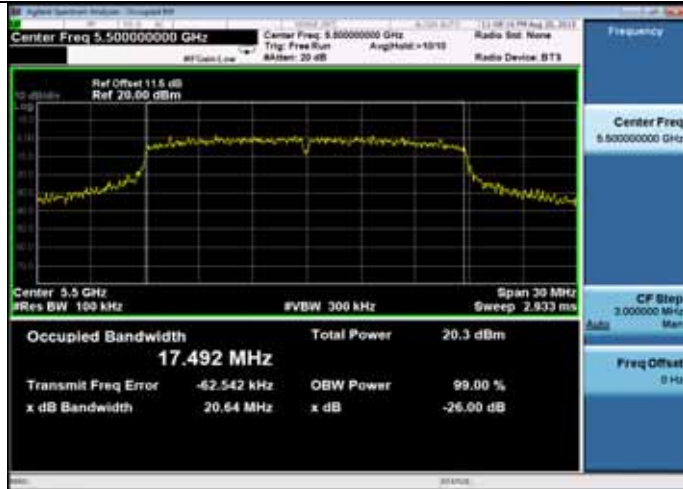


5700MHz



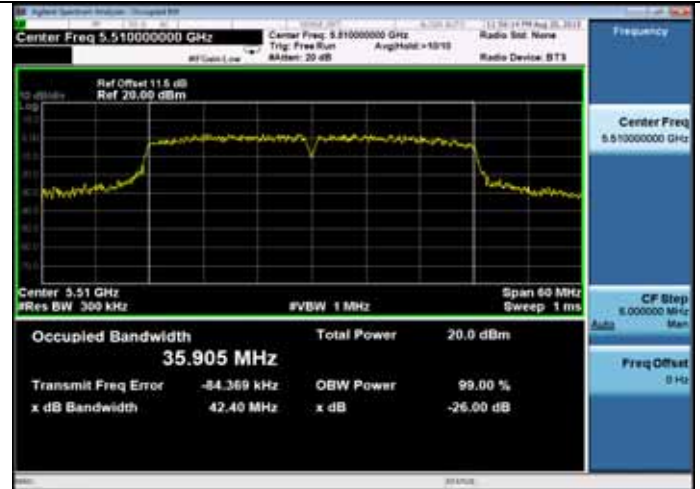
11ac VHT20

5500MHz



11ac VHT40

5510MHz

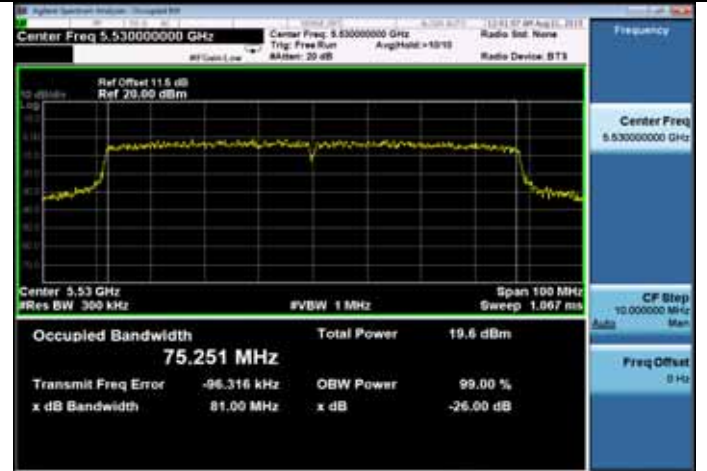


5670MHz



11ac VHT80

5530MHz



5500-5700MHz Band:

26dB bandwidth

ANT 1

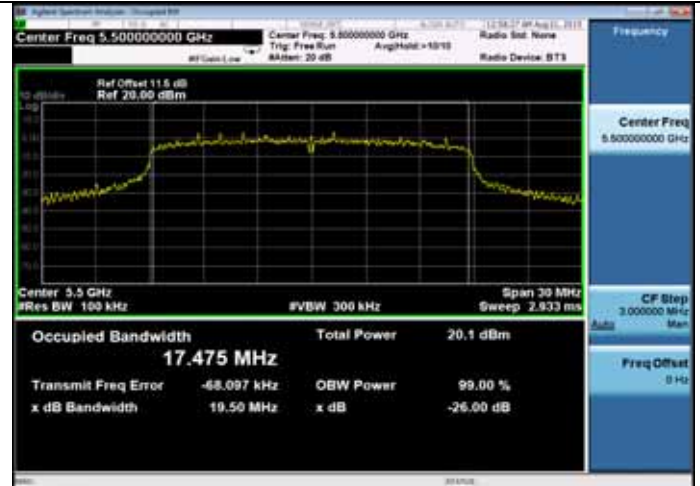
11a

5500MHz

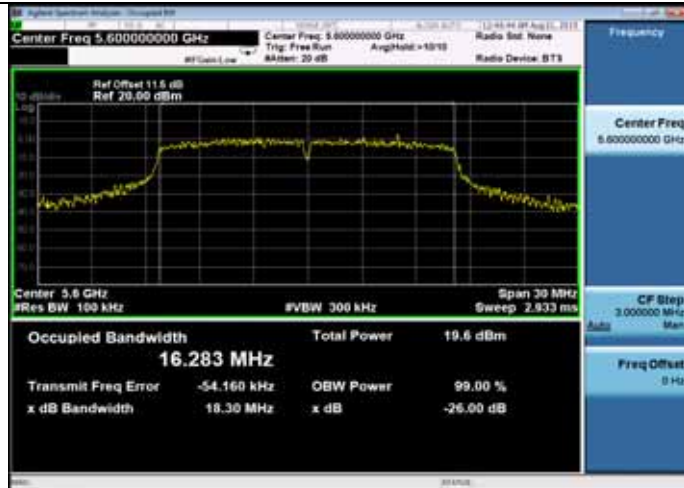


11n HT20

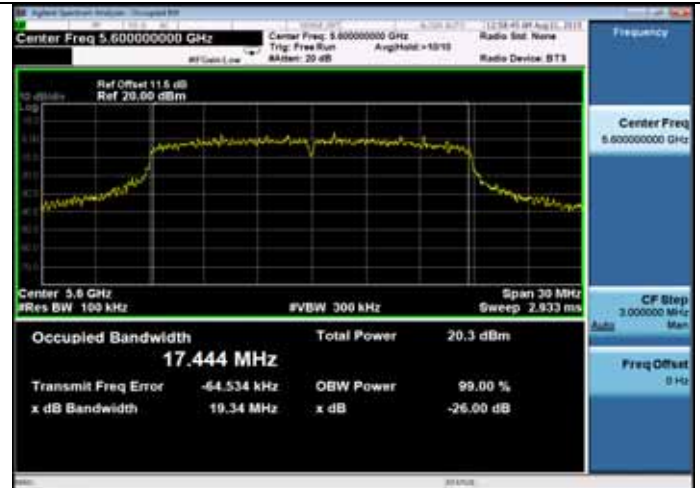
5500MHz



5600MHz



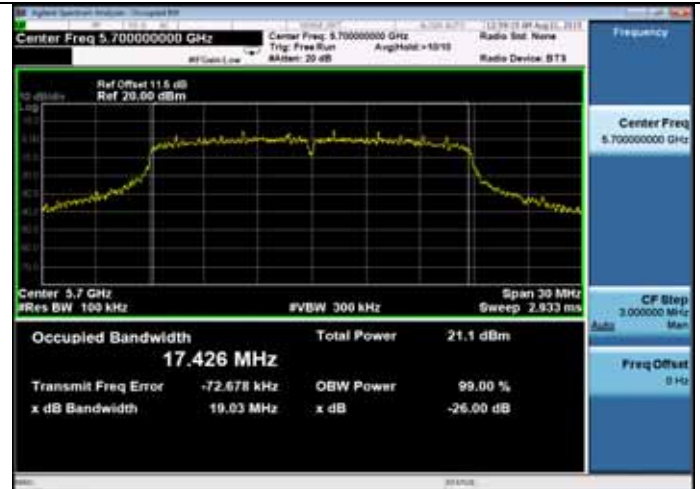
5600MHz



5700MHz

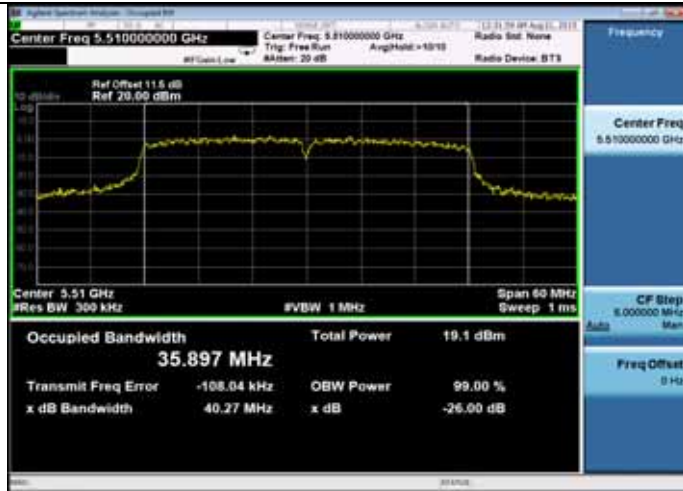


5700MHz

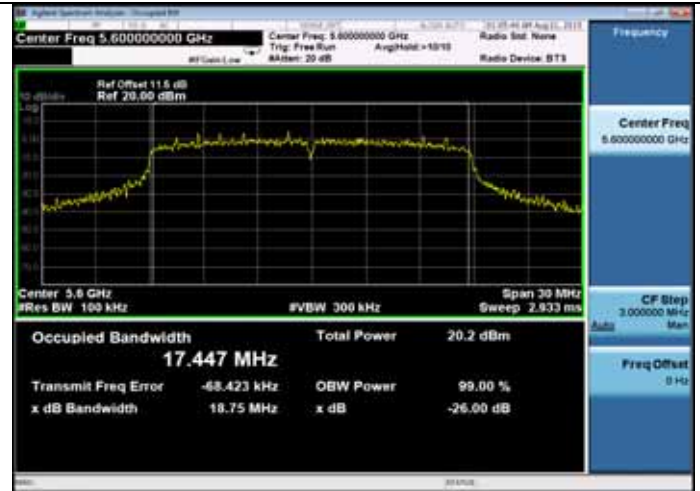


11n HT40

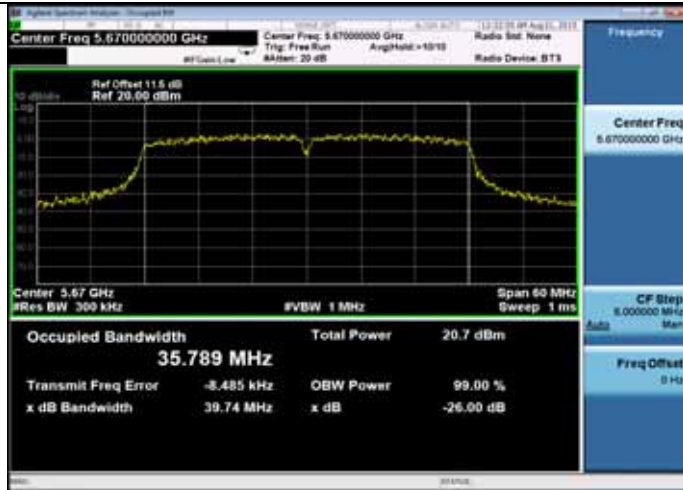
5510MHz



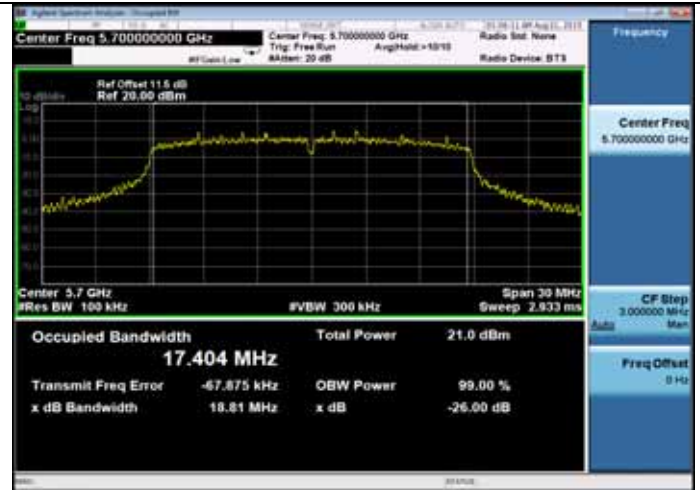
5600MHz



5670MHz

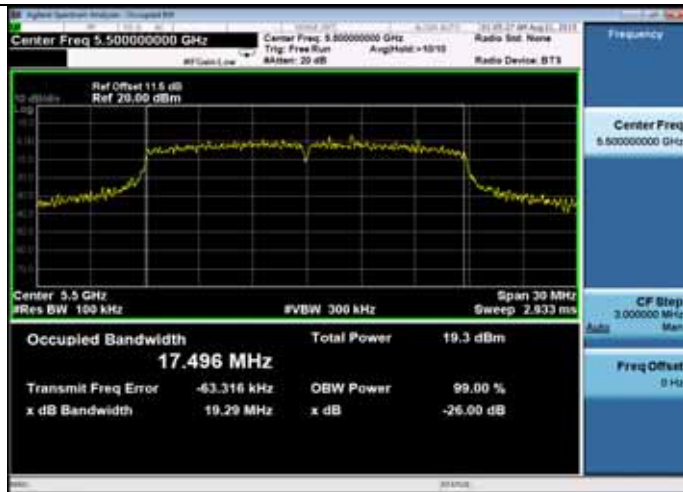


5700MHz



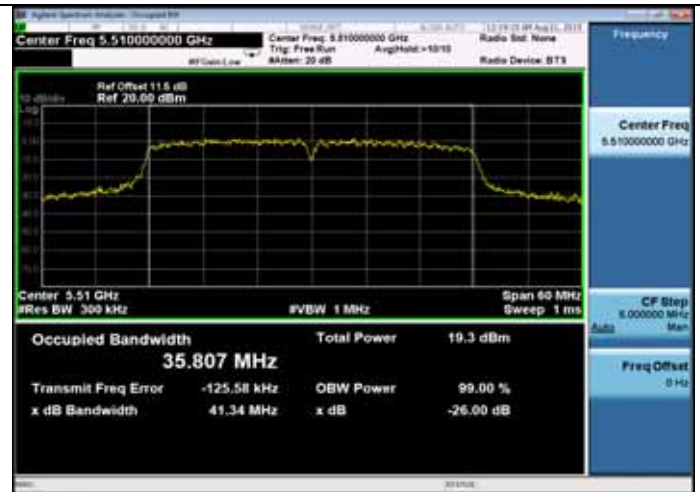
11ac VHT20

5500MHz

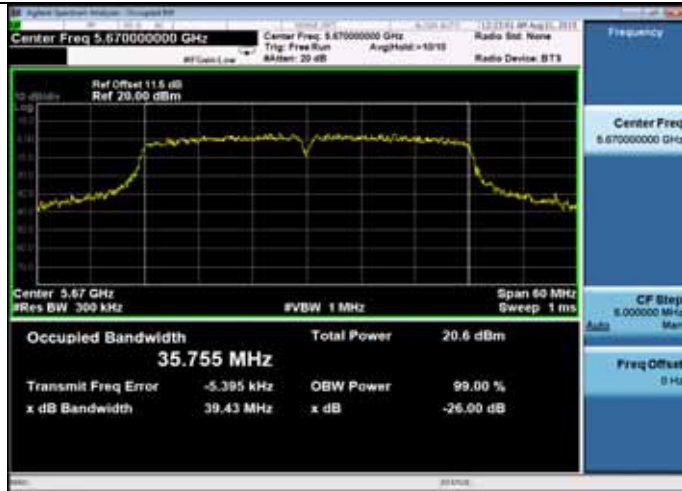


11ac VHT40

5510MHz

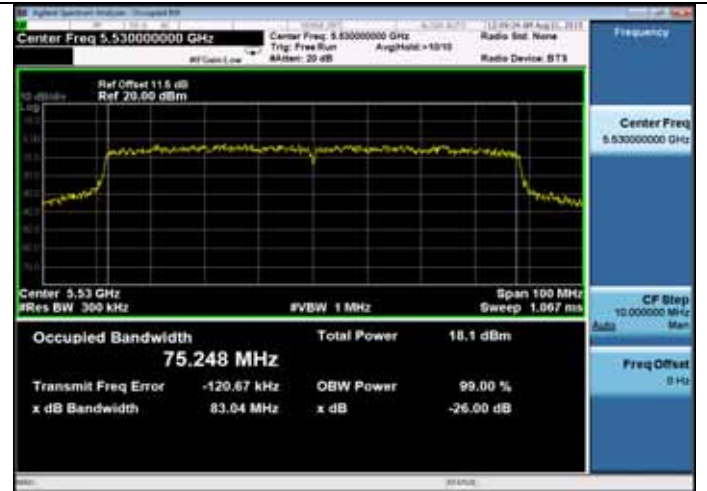


5670MHz



11ac VHT80

5530MHz



5745-5825MHz Band:

6dB bandwidth

ANT 0

11a

5745MHz

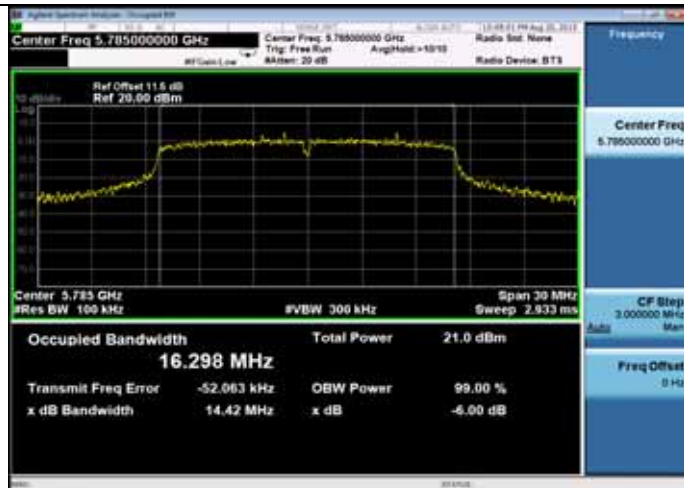


11n HT20

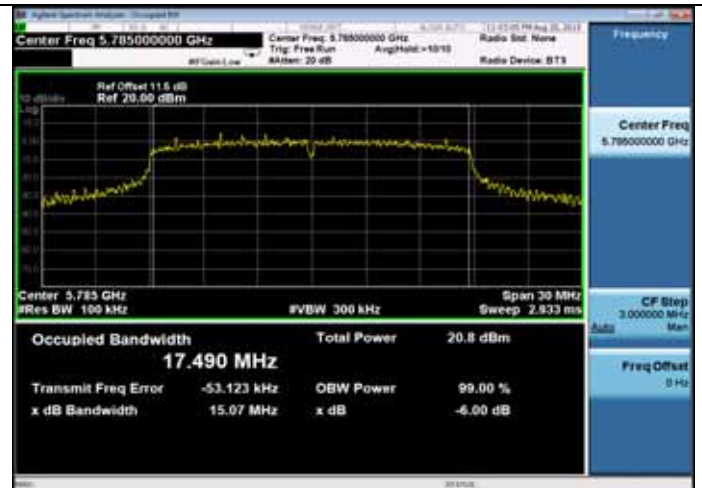
5745MHz



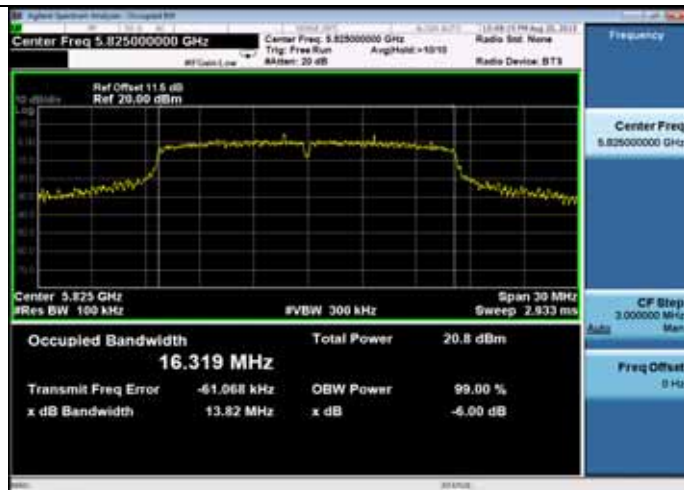
5785MHz



5785MHz



5825MHz

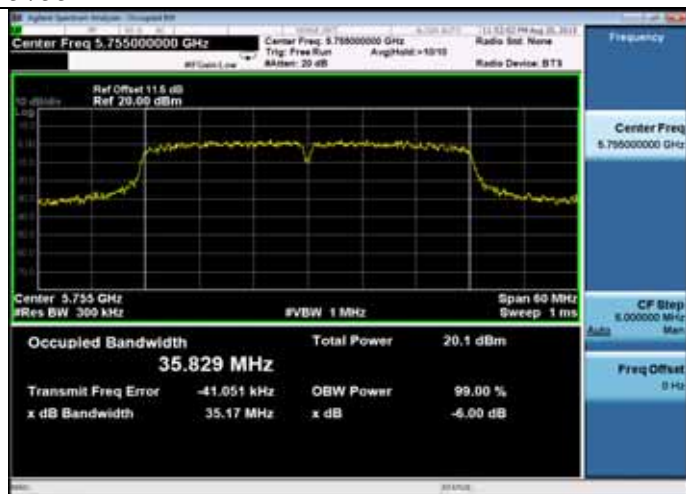


5825MHz

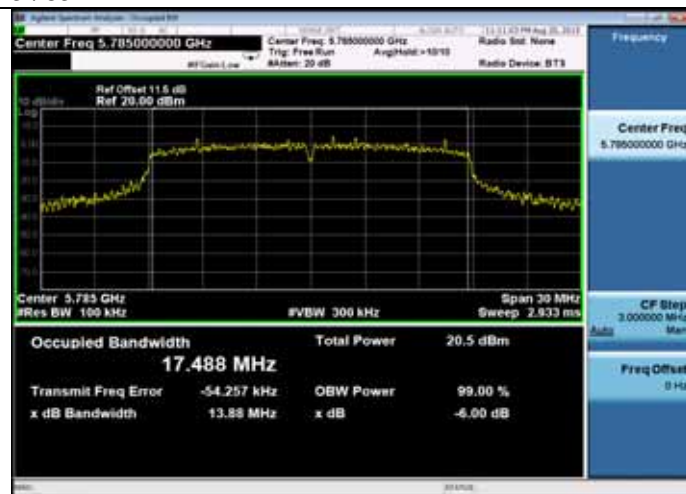


11n HT40

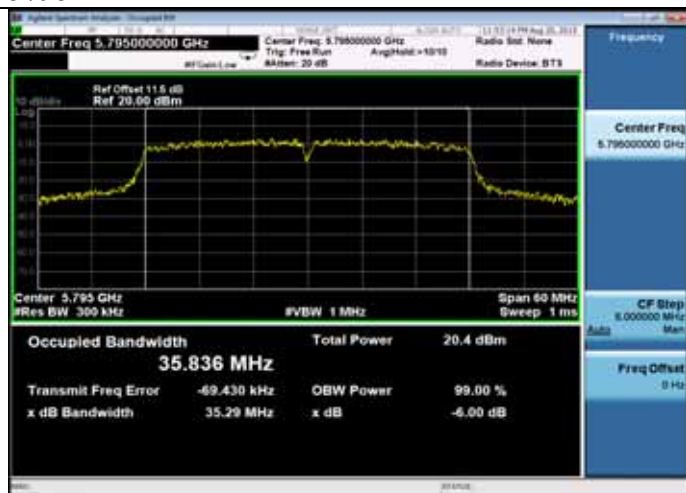
5755MHz



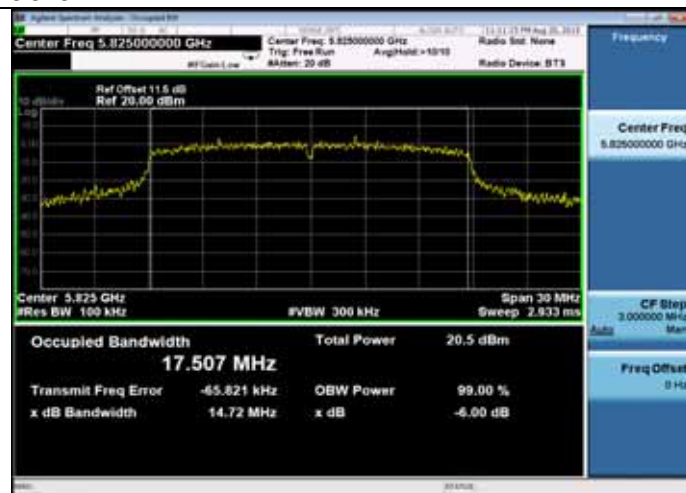
5785MHz



5795MHz

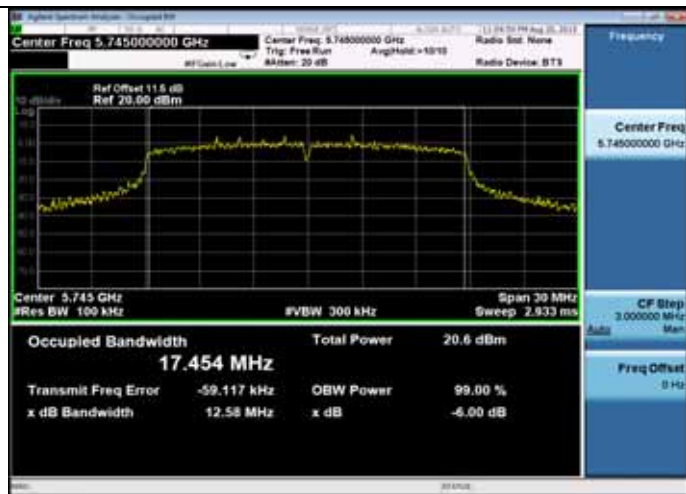


5825MHz



11ac VHT20

5745MHz



11ac VHT40

5755MHz

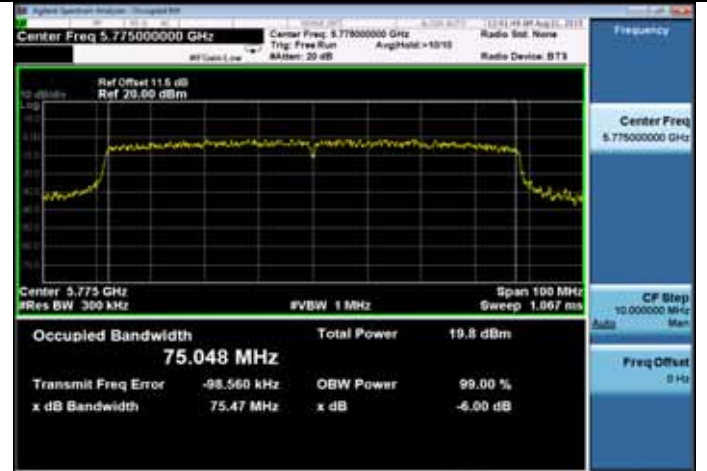


5795MHz



11ac VHT80

5775MHz



5745-5825MHz Band:

6dB bandwidth

ANT 1

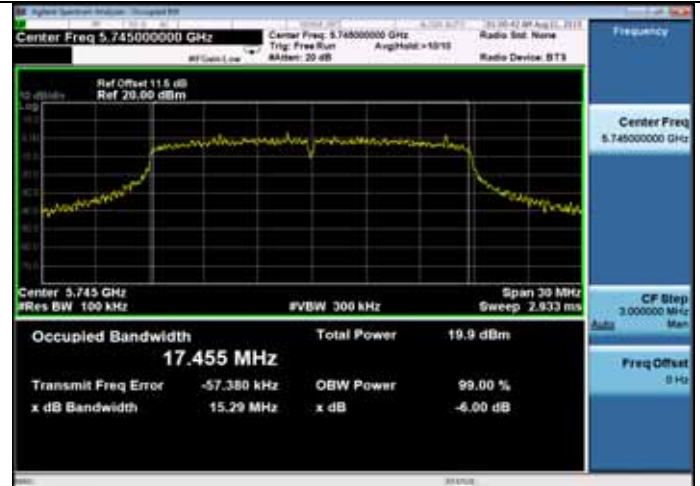
11a

5745MHz

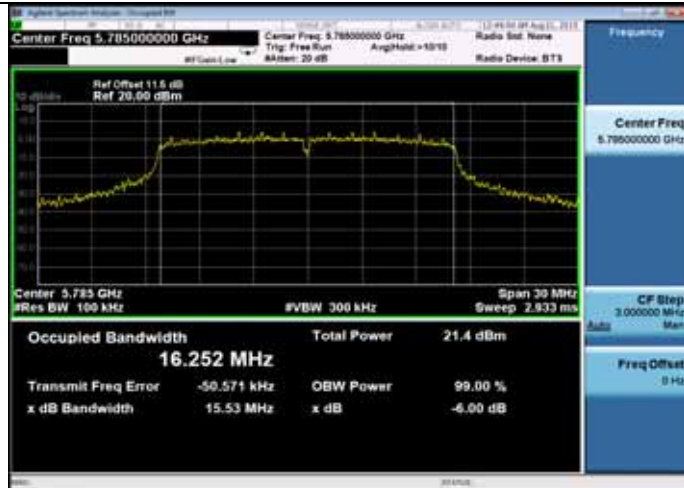


11n HT20

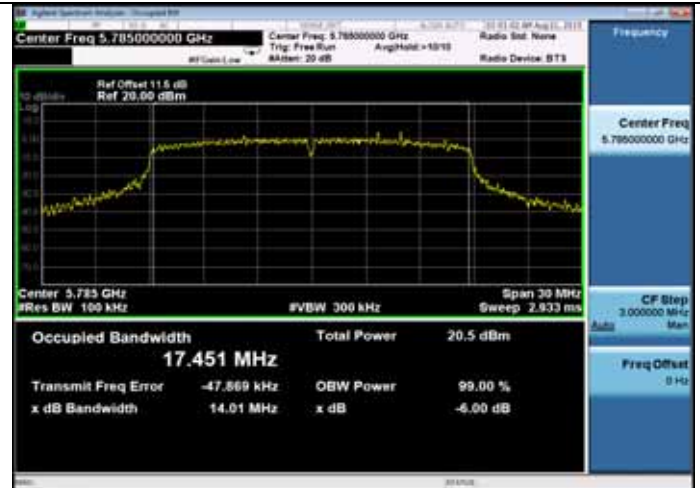
5745MHz



5785MHz



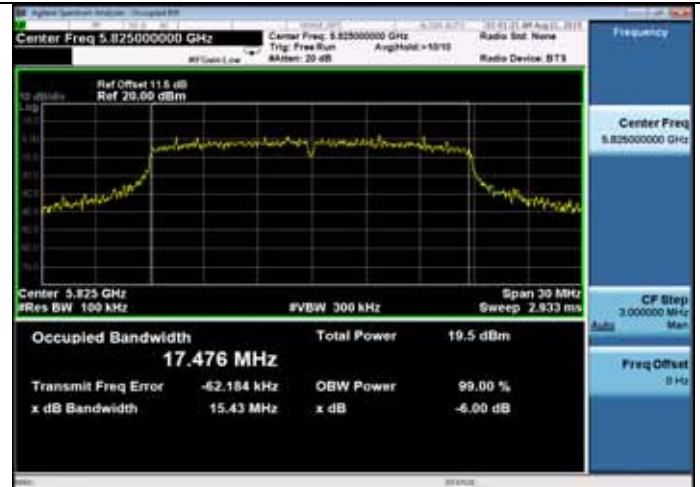
5785MHz



5825MHz

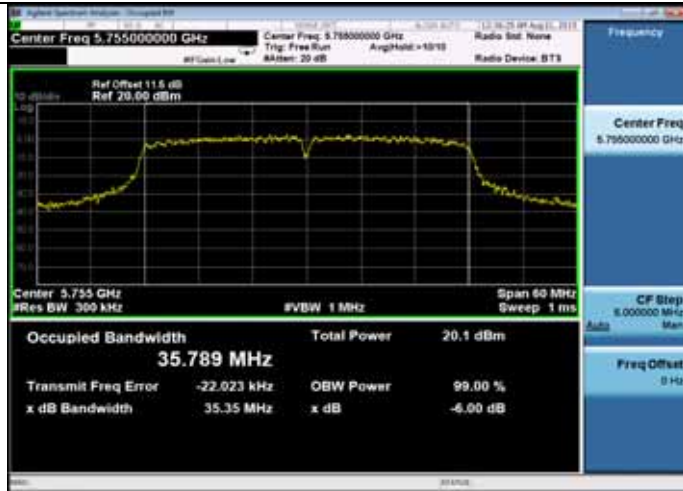


5825MHz

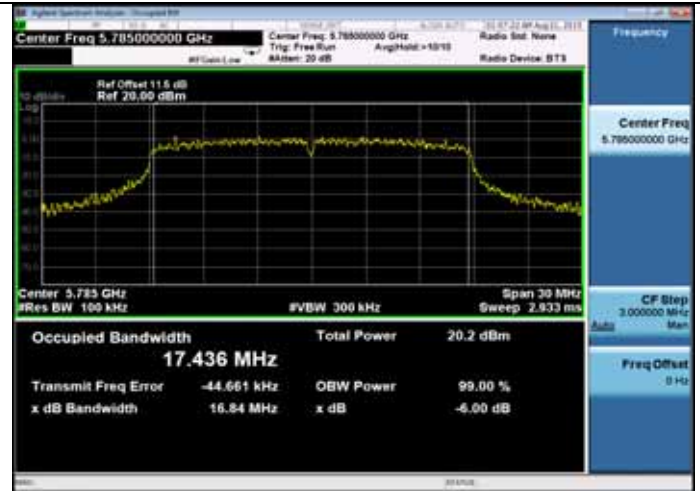


11n HT40

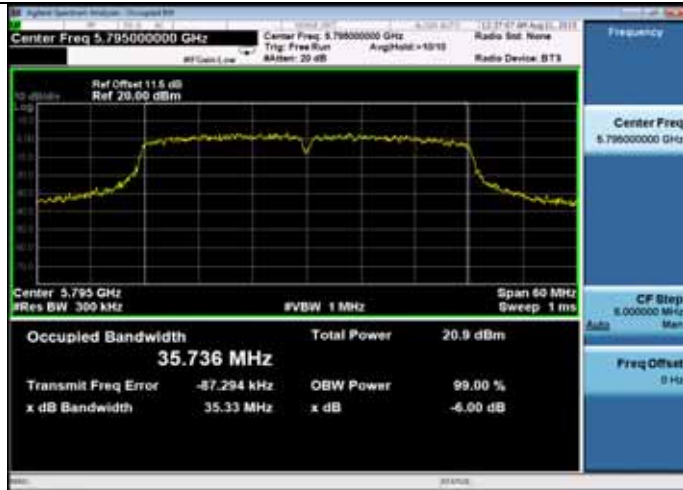
5755MHz



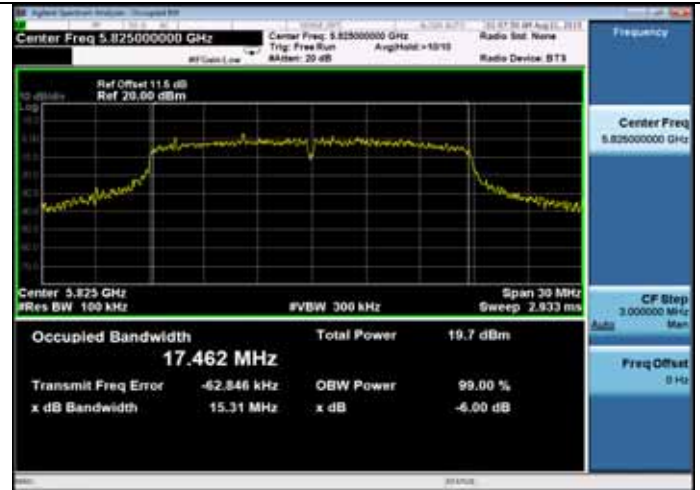
5785MHz



5795MHz

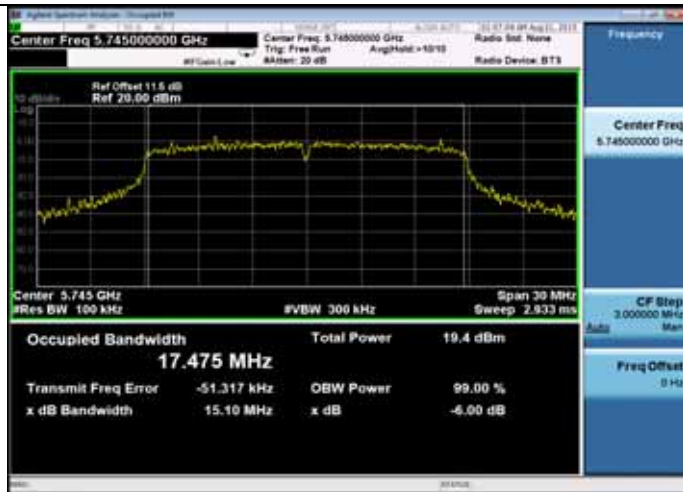


5825MHz



11ac VHT20

5745MHz

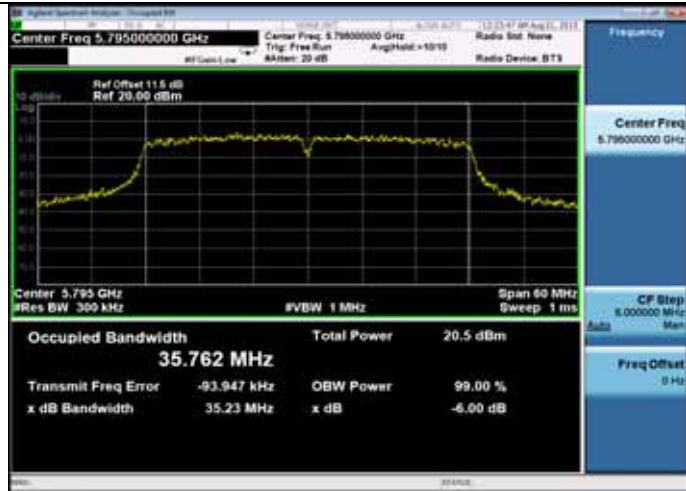


11ac VHT40

5755MHz

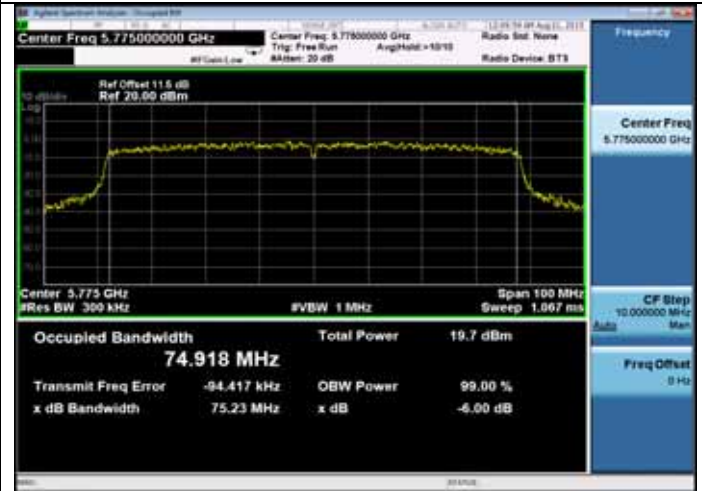


5795MHz



11ac VHT80

5775MHz



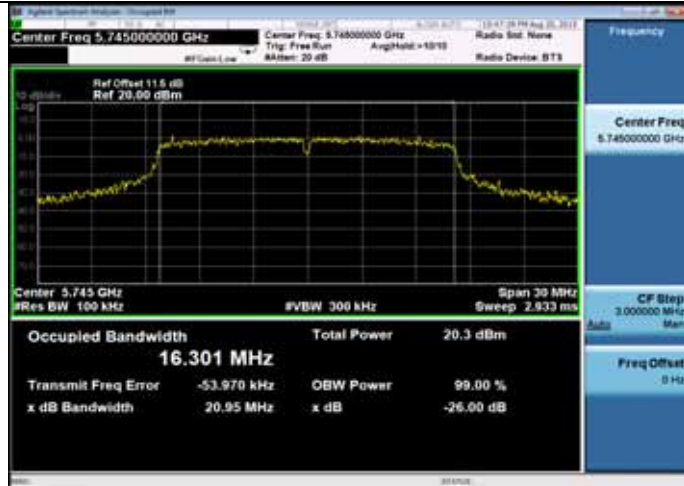
5745-5825MHz Band:

26dB bandwidth

ANT 0

11a

5745MHz



11n HT20

5745MHz



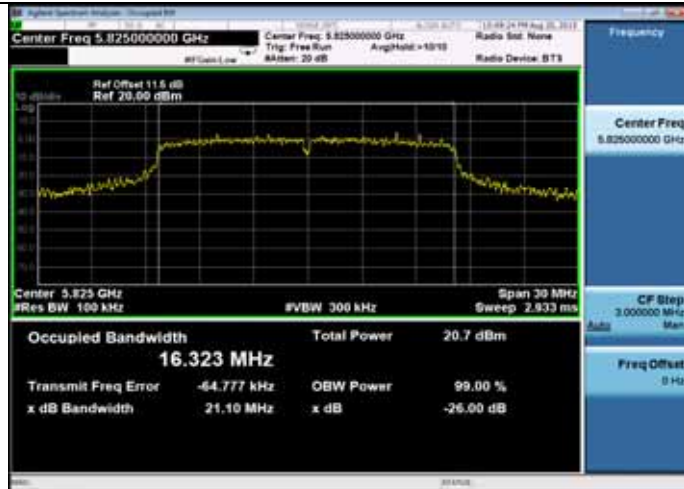
5785MHz



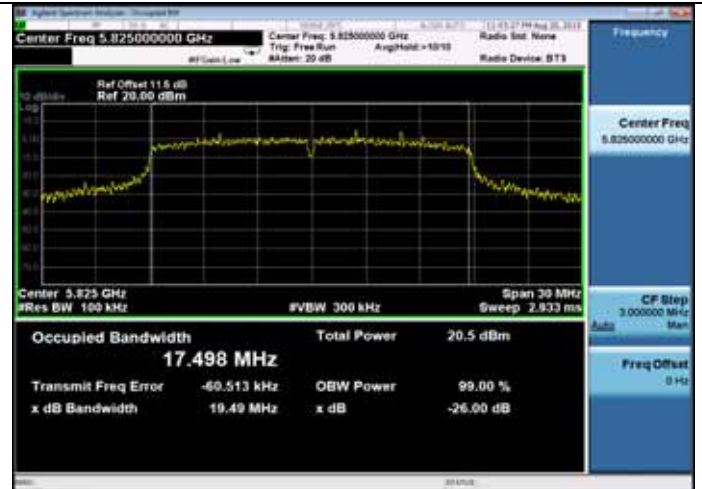
5785MHz



5825MHz



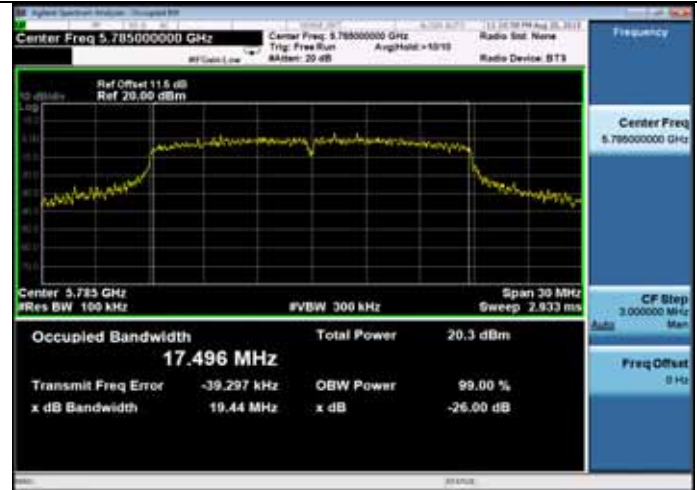
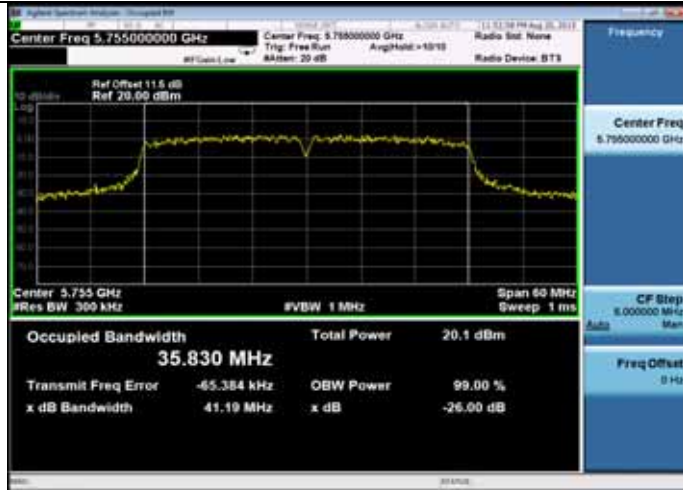
5825MHz



11n HT40

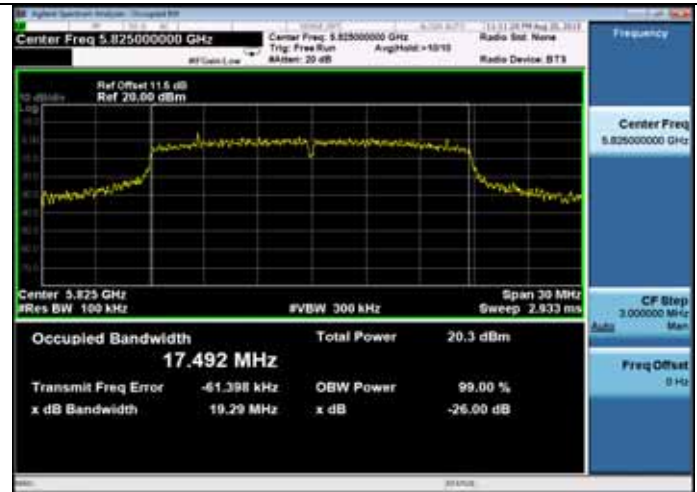
5755MHz

5785MHz



5795MHz

5825MHz

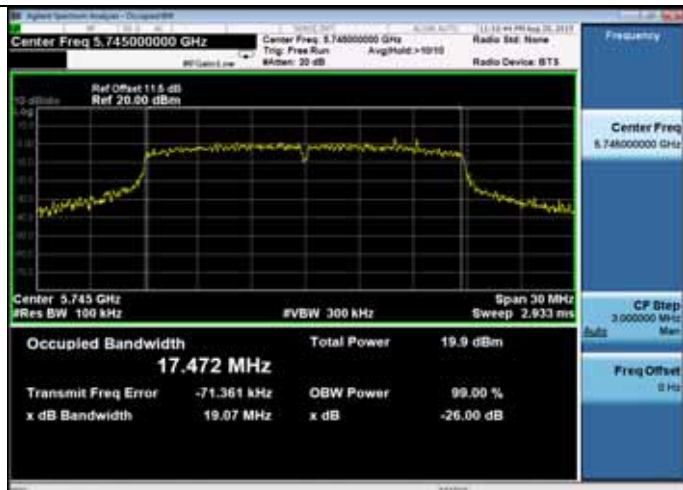


11ac VHT20

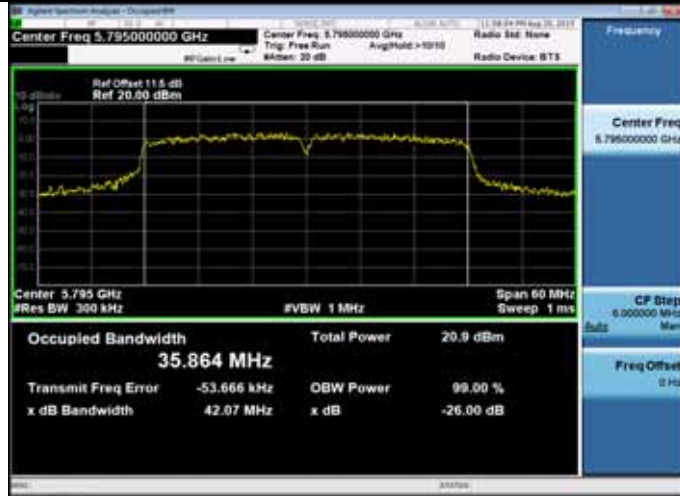
11ac VHT40

5745MHz

5755MHz

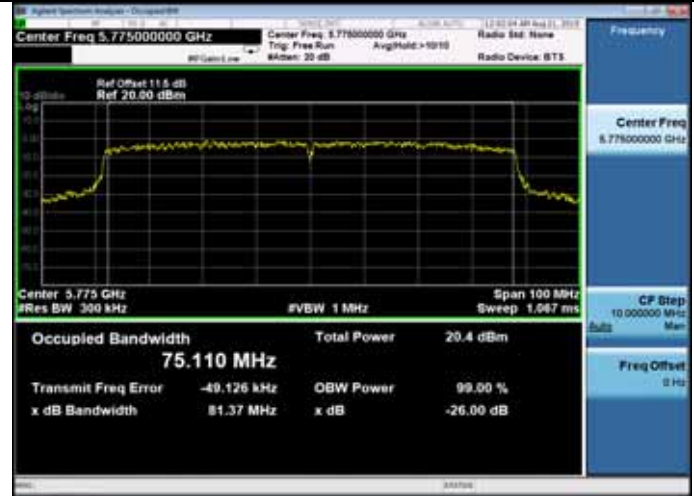


5795MHz



11ac VHT80

5775MHz



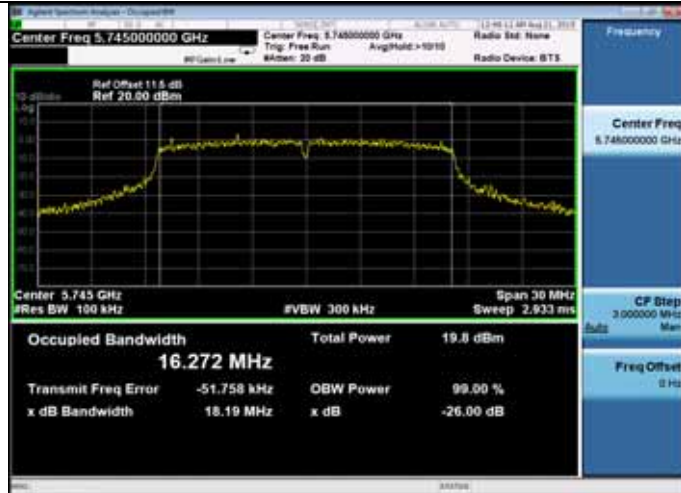
5745-5825MHz Band:

26dB bandwidth

ANT 1

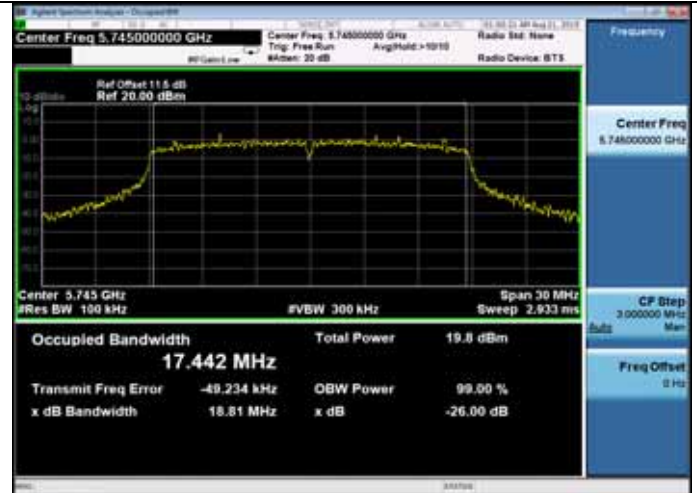
11a

5745MHz

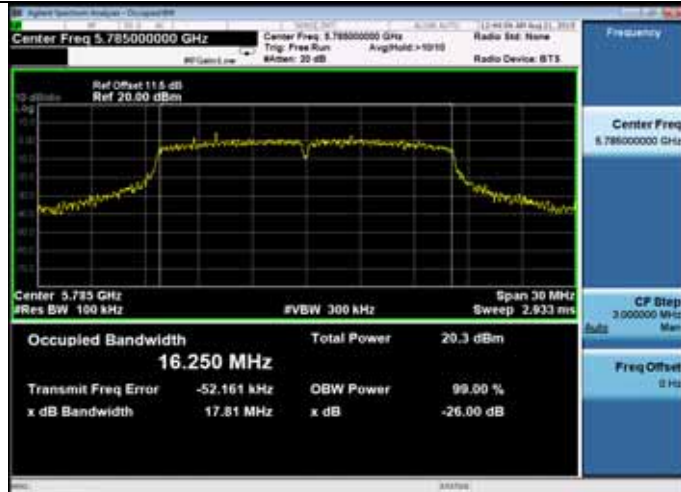


11n HT20

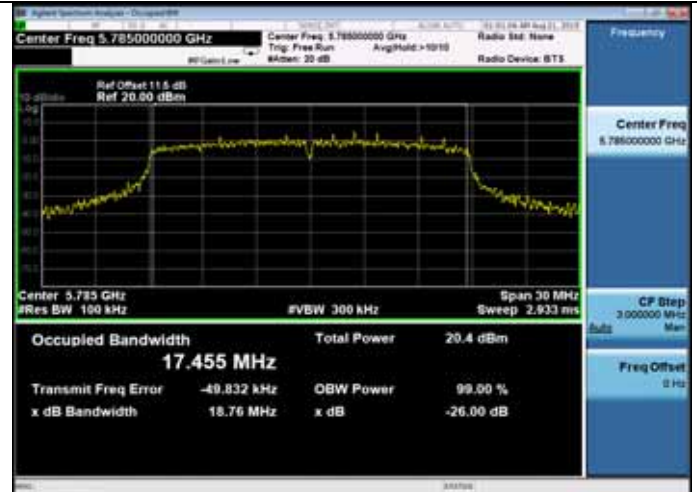
5745MHz



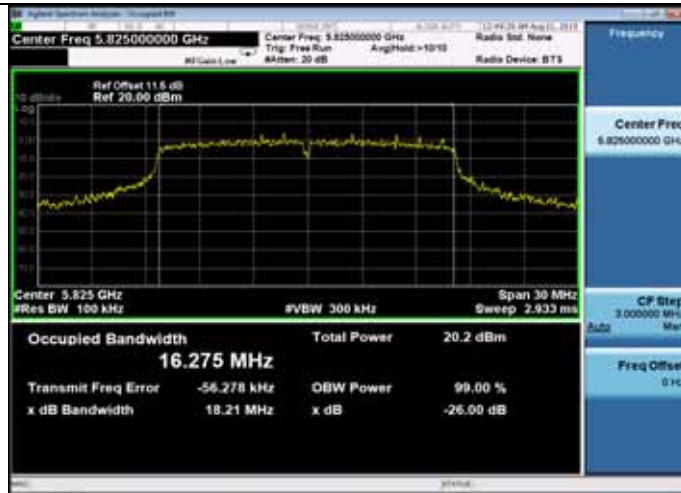
5785MHz



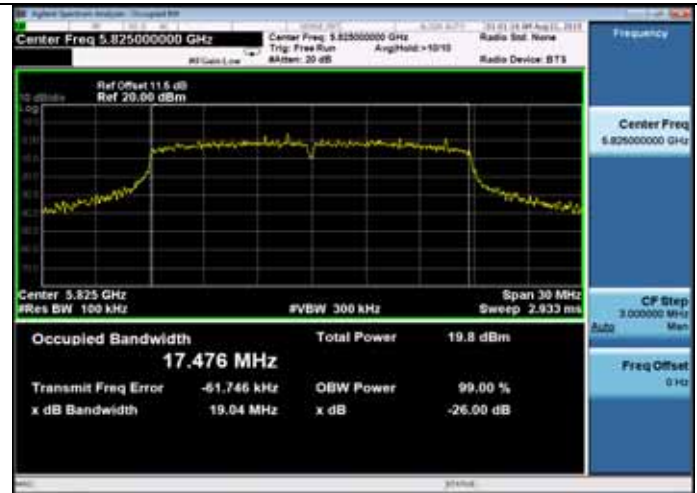
5785MHz



5825MHz

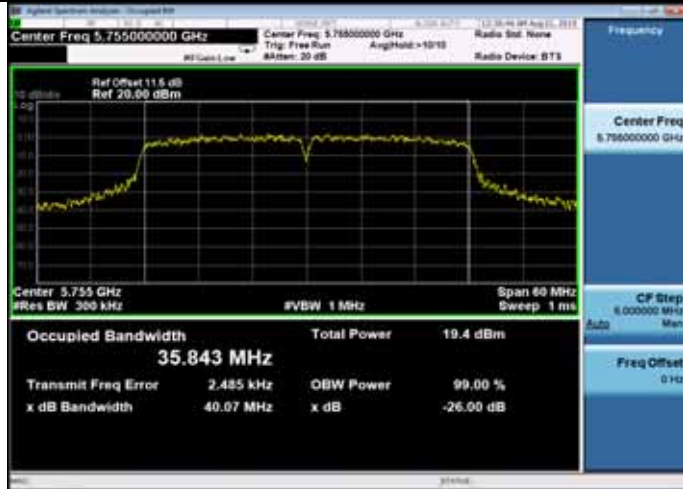


5825MHz

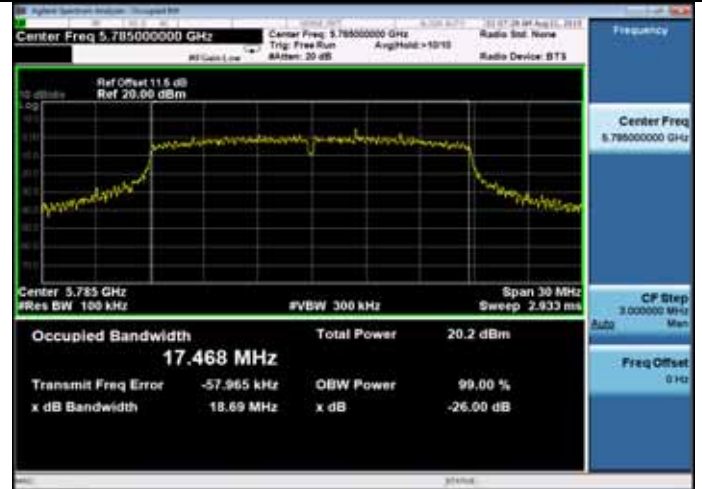


11n HT40

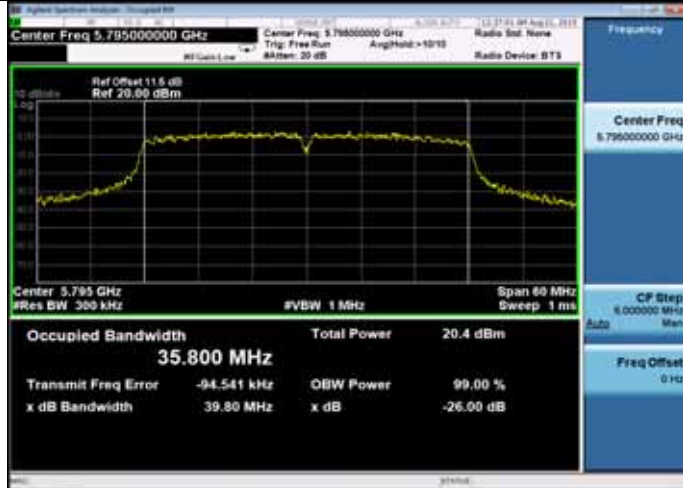
5755MHz



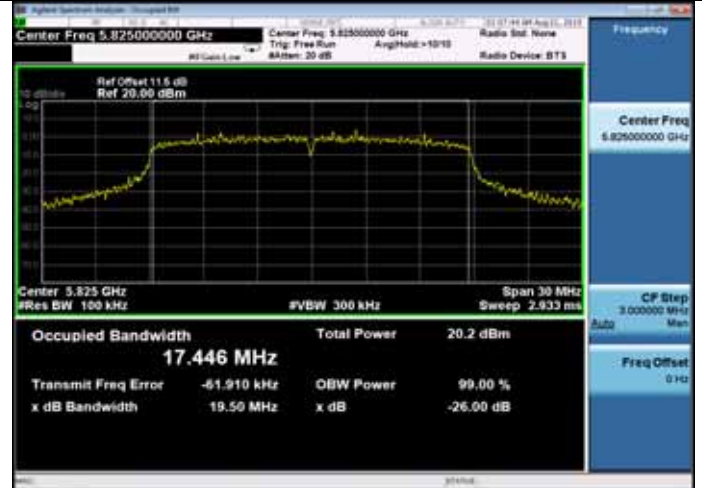
5785MHz



5795MHz

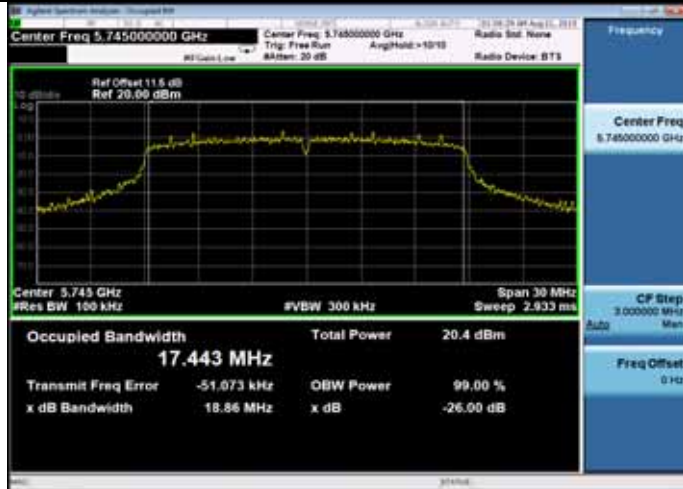


5825MHz



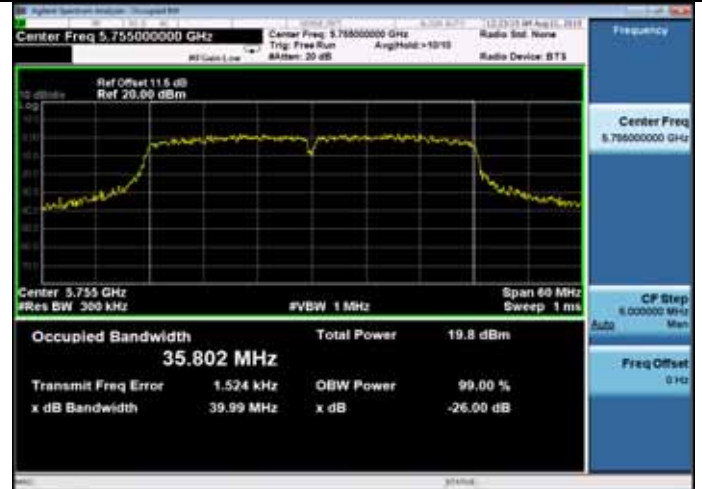
11ac VHT20

5745MHz

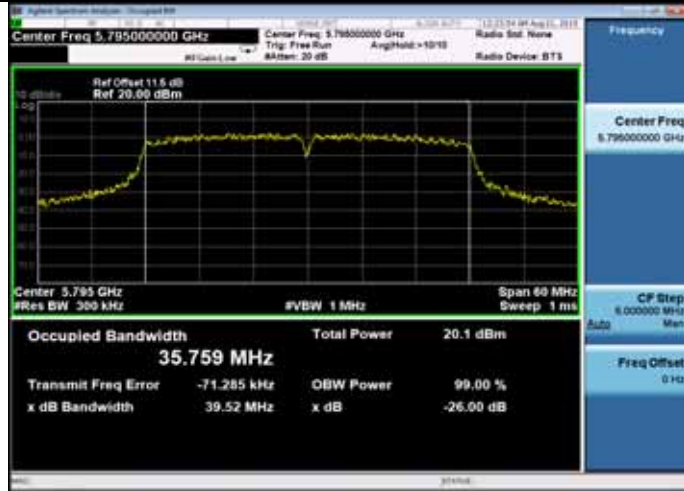


11ac VHT40

5755MHz

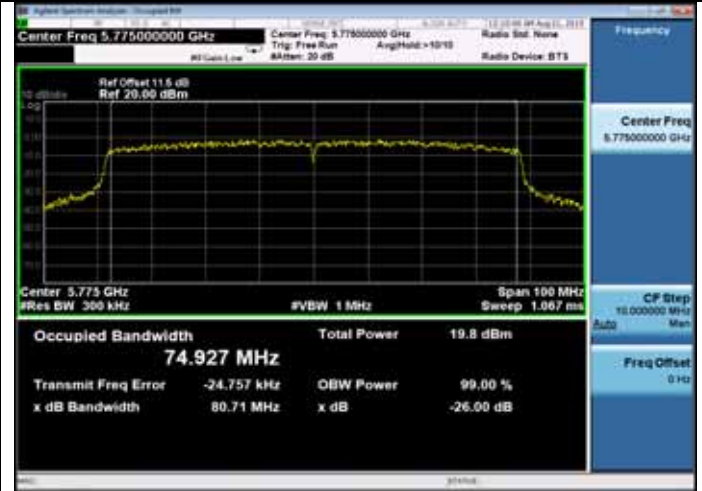


5795MHz



11ac VHT80

5775MHz



7. OUTPUT POWER TEST

7.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	N9030A	MY51380221	Oct.29, 14	1 Year
2.	Power meter	Anritsu	ML2487A	6K00002472	Apr.28, 15	1 Year
3.	Power sensor	Anritsu	MA2491A	0033005	Apr.28, 15	1 Year
4.	Attenuator (20dB)	Agilent	8491B	MY39262165	Apr.28, 15	1 Year
5.	RF Cable	Hubersuhner	SUCOFLEX102	28620/2	Apr.28, 15	1 Year

7.2. Limit

For the band 5.15–5.25 GHz.

For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi.

For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz.

For the band 5.725–5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

7.3. Test Procedure

1. Connected the EUT's antenna port to measure device by 26dB attenuator.
2. For IEEE 802.11a and IEEE802.11n HT20 and 802.11ac VHT20 mode, use a PK power meter which's bandwidth is 20MHz and above 26dB bandwidth of signal to measure out each test modes' PK output power.
3. For IEEE802.11n HT40 mode, because the signal's bandwidth is about 40MHz and above 20MHz bandwidth of power sensor ML2491A. So use the test method described in KBD789033 clause E Method SA-1
 - 1) Connect the antenna port to the spectrum analyzer and Set span of the spectrum to encompass the entire emission bandwidth (EBW) of the signal.
 - 2) Set the RBW=1MHz and VBW =3MHz
 - 3) Number of points in sweep ≥ 2 Span / RBW
 - 4) Detector = RMS
 - 5) Sweep time = auto couple
 - 6) Allow the sweep to "free run" and set the Trace average at least 100 traces in power averaging (i.e., RMS) mode.
 - 7) Compute power by integrating the spectrum across the 26 dB EBW of the signal using the instrument's band power measurement function with band limits set equal to the EBW band edges.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

5260-5320MHz Band:

EUT: Notebook					
M/N: RZ09-0168					
Test date: 2015-08-21		Pressure: 101.6±1.0 kpa		Humidity:53.0±3.0%	
Tested by: Alice_Yang		Test site: RF site		Temperature:22.1±0.6 °C	
Test Mode	Frequency (MHz)	Maximum Conducted output power (dBm)			Limit (dBm)
		ANT0	ANT1	Total	
11a	5260	13.73	14.32	N/A	24
	5300	14.61	14.33	N/A	24
	5320	13.52	13.01	N/A	24
11n HT20	5260	13.49	14.28	16.91	24
	5300	14.28	14.35	17.33	24
	5320	13.30	13.07	16.20	24
11n HT40	5270	12.89	14.46	16.76	24
	5310	12.87	13.49	16.20	24
11ac VHT20	5260	13.40	14.11	16.78	24
	5300	14.36	14.06	17.22	24
	5320	13.30	12.78	16.06	24
11ac VHT40	5270	12.66	14.38	16.61	24
	5310	13.38	13.49	16.45	24
11ac VHT80	5290	11.80	11.87	14.85	24
Conclusion: PASS					

5500-5700MHz Band:

EUT: Notebook					
M/N: RZ09-0168					
Test date: 2015-08-21		Pressure: 101.6±1.0 kpa		Humidity:53.0±3.0%	
Tested by: Alice_Yang		Test site: RF site		Temperature:22.1±0.6 °C	
Test Mode	Frequency (MHz)	Maximum Conducted output power (dBm)			Limit (dBm)
		ANT0	ANT1	Total	
11a	5500	14.81	13.64	N/A	23.7
	5600	14.97	14.38	N/A	23.7
	5700	15.48	14.94	N/A	23.7
11n HT20	5500	14.53	13.69	17.14	23.7
	5600	14.69	14.36	17.54	23.7
	5700	15.21	15.00	18.12	23.7
11n HT40	5510	14.17	12.89	16.59	23.7
	5670	14.54	14.62	17.59	23.7
11ac VHT20	5500	14.58	13.41	17.04	23.7
	5600	14.73	14.14	17.46	23.7
	5700	15.22	14.66	17.96	23.7
11ac VHT40	5510	13.73	12.95	16.37	23.7
	5670	14.11	14.73	17.44	23.7
11ac VHT80	5530	12.87	11.13	15.10	23.7
Conclusion: PASS					

Note: 11ac/n Mode

$$\begin{aligned} \text{Directional Gain} &= 10 \log[(10^{3.52/20} + 10^{3.07/20})^2 / 2] \text{dBi} \\ &= 6.3 \text{dBi} > 6 \text{dBi} \end{aligned}$$

5745-5825MHz Band:

EUT: Notebook					
M/N: RZ09-0168					
Test date: 2015-08-21		Pressure: 101.6±1.0 kpa		Humidity:53.0±3.0%	
Tested by: Alice_Yang		Test site: RF site		Temperature:22.1±0.6 °C	
Test Mode	Frequency (MHz)	Maximum Conducted output power (dBm)			Limit (dBm)
		ANT0	ANT1	Total	
11a	5745	14.48	13.54	N/A	29.7
	5785	14.89	14.38	N/A	29.7
	5825	14.88	13.96	N/A	29.7
11n HT20	5745	14.40	13.17	16.84	29.7
	5785	14.52	14.11	17.33	29.7
	5825	14.47	13.67	17.10	29.7
11n HT40	5755	14.09	13.20	16.68	29.7
	5790	14.61	14.15	17.40	29.7
11ac VHT20	5745	14.14	13.14	16.68	29.7
	5785	14.55	14.07	17.33	29.7
	5825	14.30	13.75	17.04	29.7
11ac VHT40	5755	13.96	13.17	16.59	29.7
	5790	14.88	14.15	17.54	29.7
11ac VHT80	5775	13.27	12.45	15.89	29.7
Conclusion: PASS					

Note: 11ac/n Mode

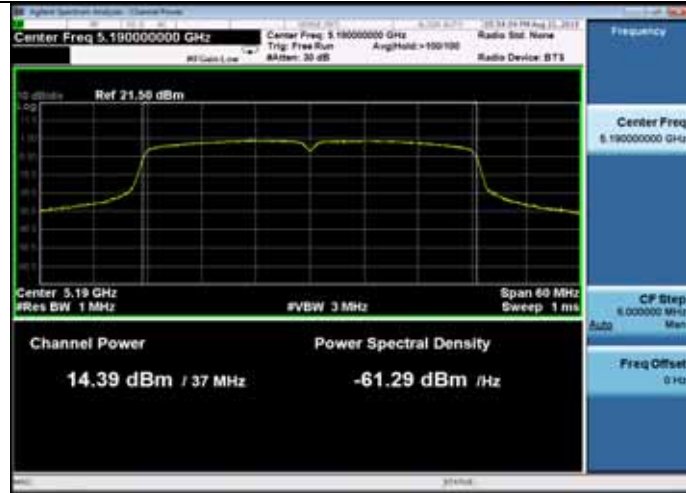
$$\begin{aligned} \text{Directional Gain} &= 10 \log[(10^{3.48/20} + 10^{3.18/20})^2 / 2] \text{dBi} \\ &= 6.3 \text{dBi} > 6 \text{dBi} \end{aligned}$$

5180-5240MHz Band:

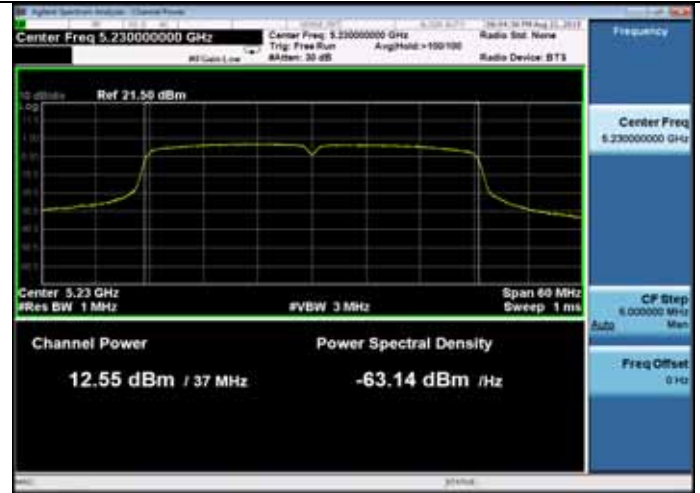
ANT 0

11n HT40

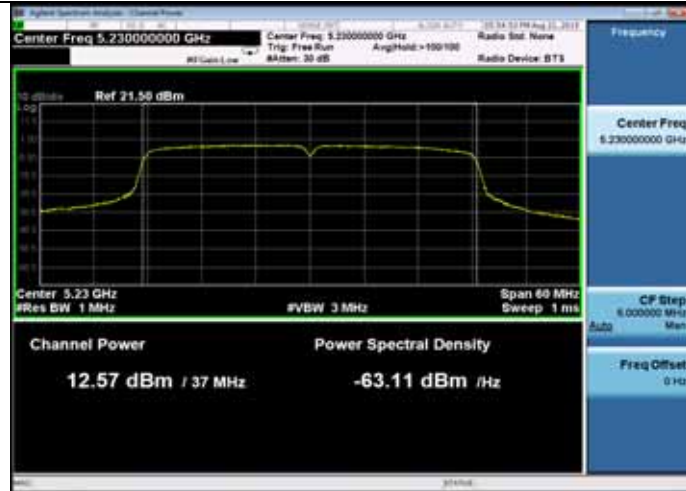
5190MHz



5230MHz

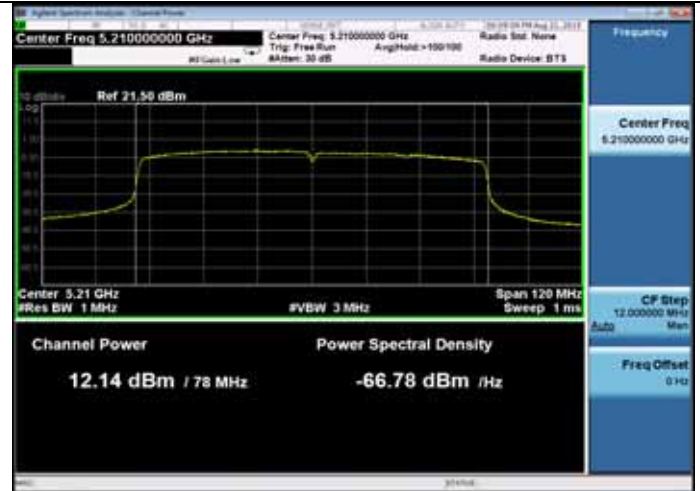


5230MHz



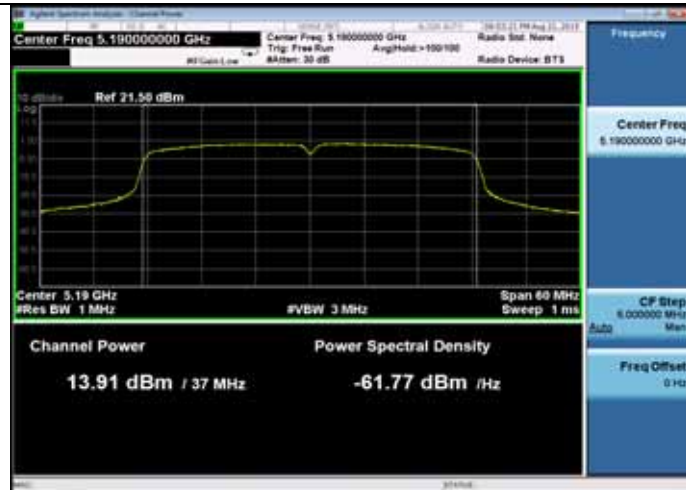
11ac VHT80

5210MHz



11acVHT40

5190MHz

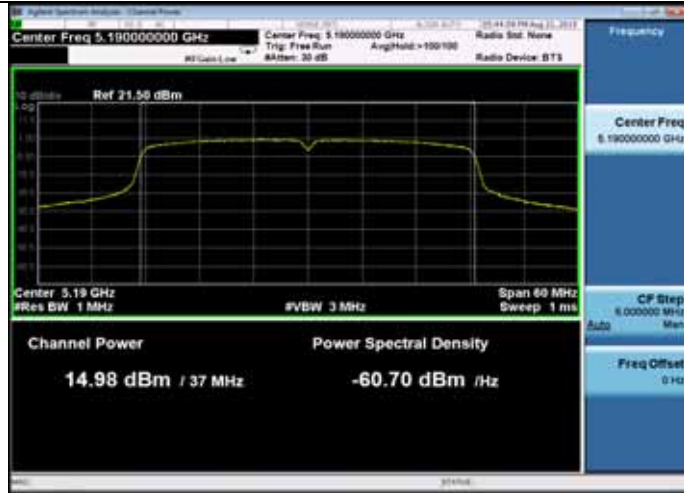


5180-5240MHz Band:

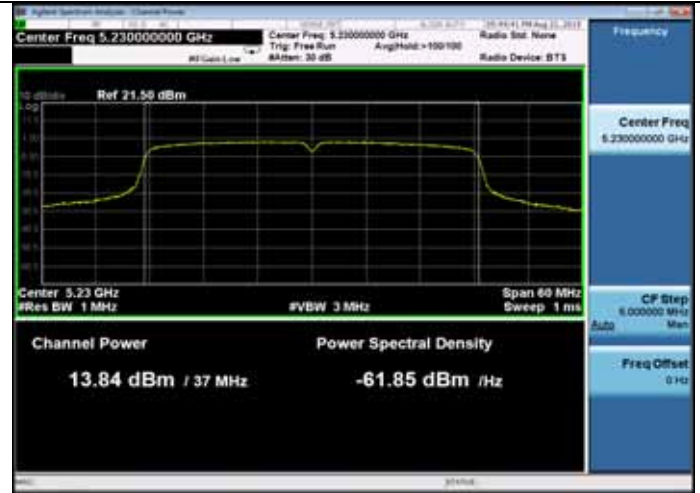
ANT 1

11n HT40

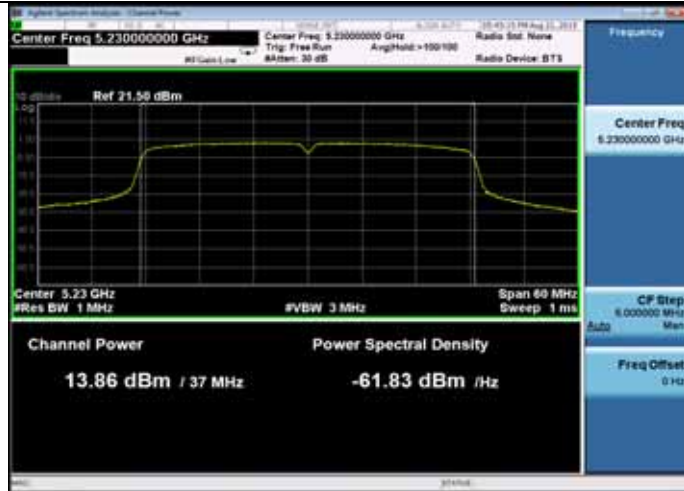
5190MHz



5230MHz

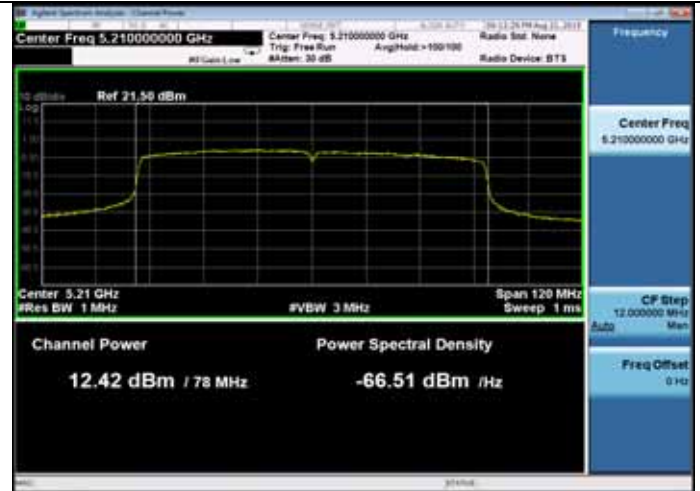


5230MHz



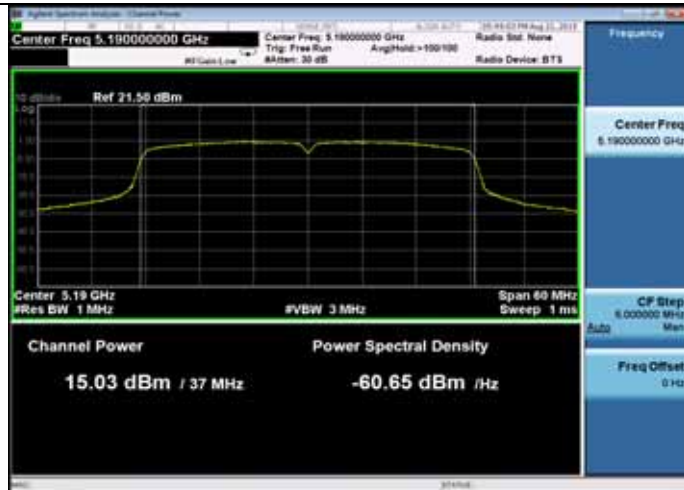
11ac VHT80

5210MHz



11acVHT40

5190MHz

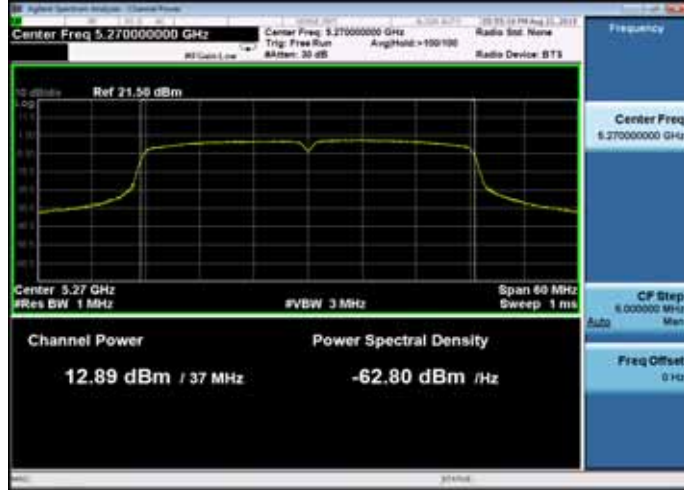


5260-5320MHz Band:

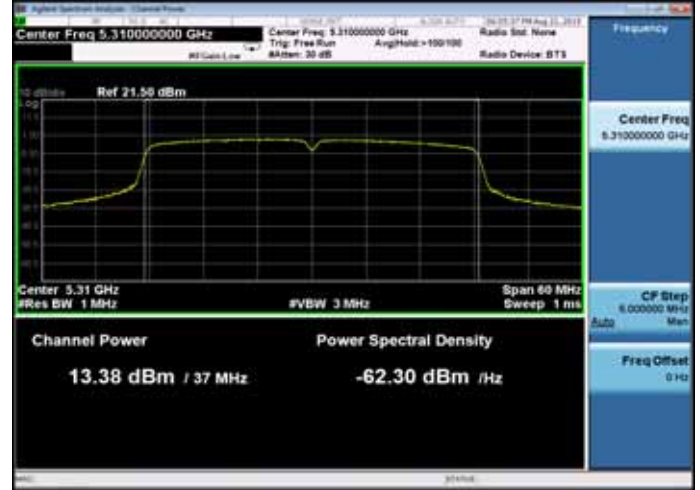
ANT 0

11n HT40

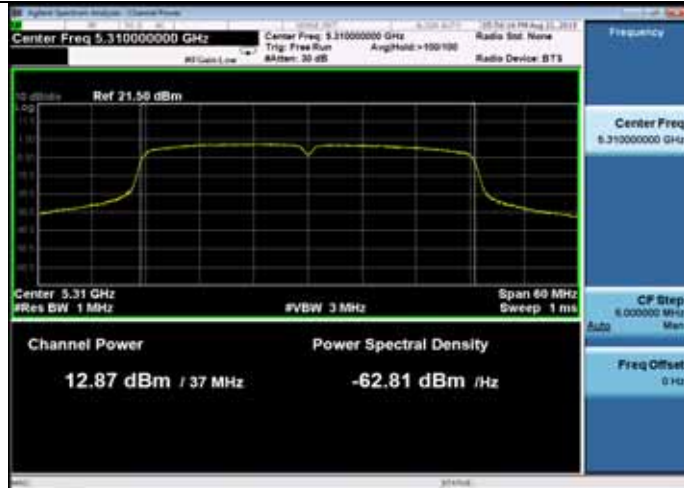
5270MHz



5310MHz

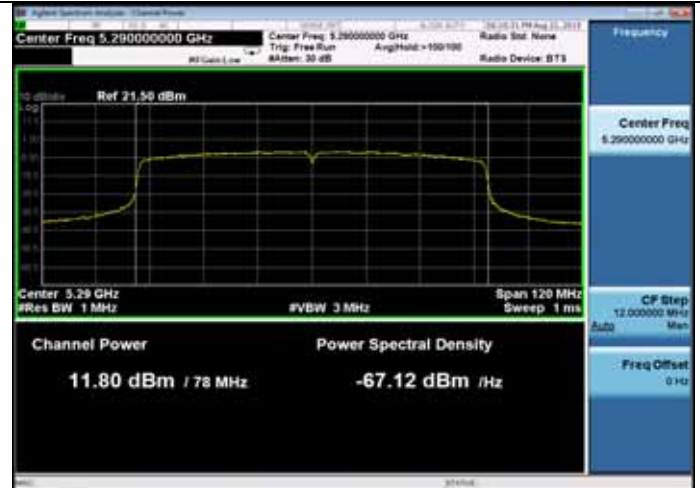


5310MHz



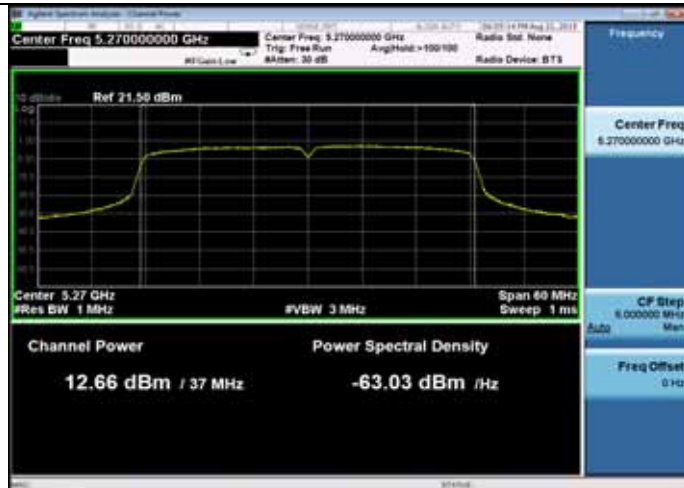
11ac VHT80

5290MHz



11acVHT40

5270MHz

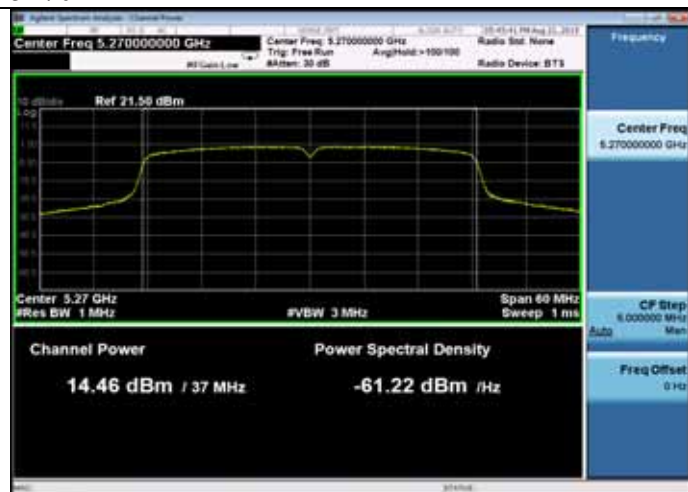


5260-5320MHz Band:

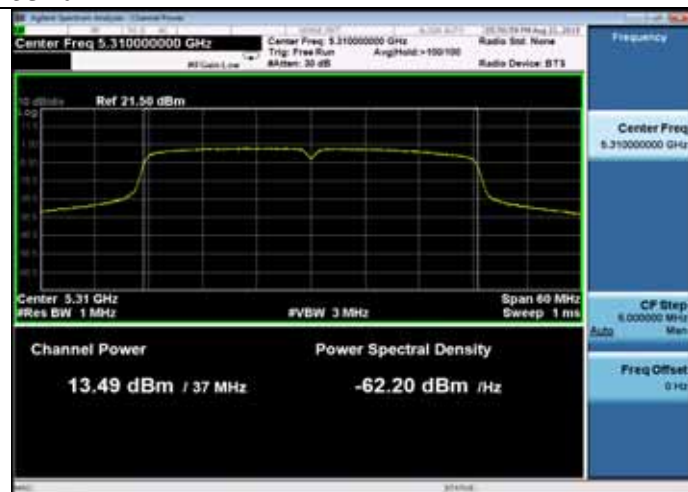
ANT 1

11n HT40

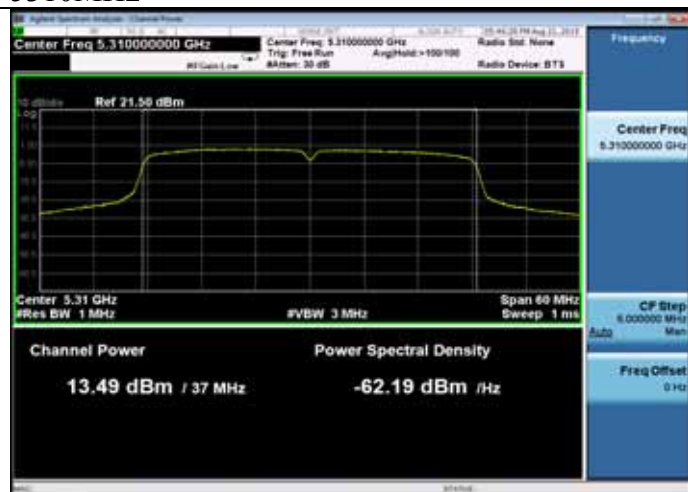
5270MHz



5310MHz

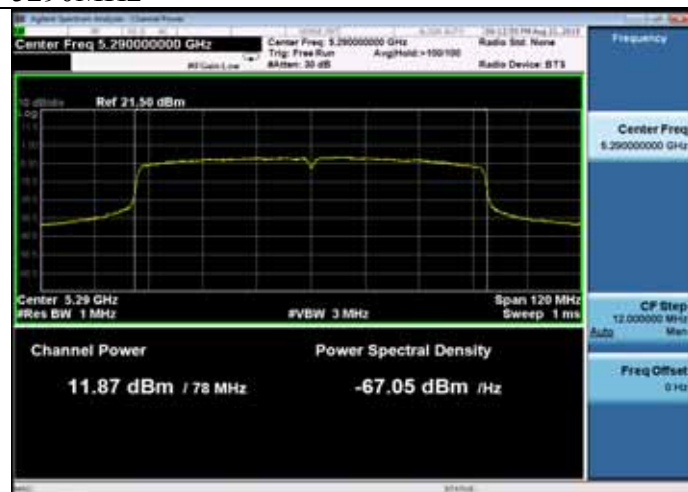


5310MHz



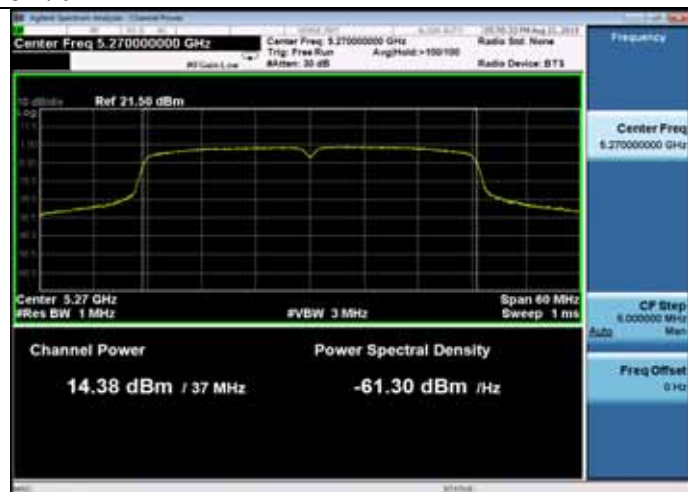
11ac VHT80

5290MHz



11acVHT40

5270MHz

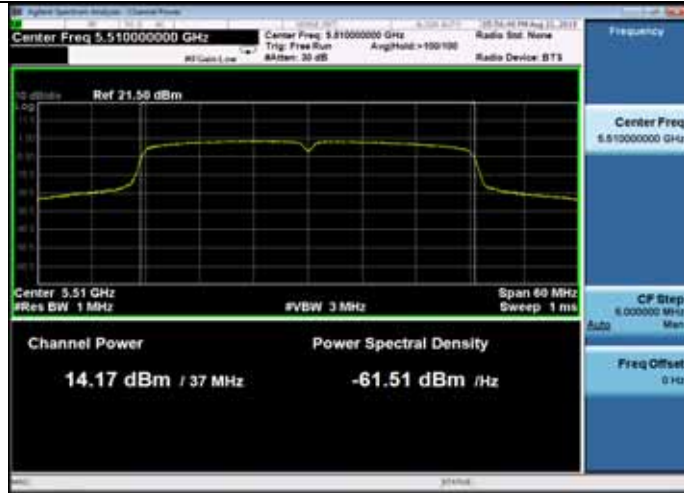


5500-5700MHz Band:

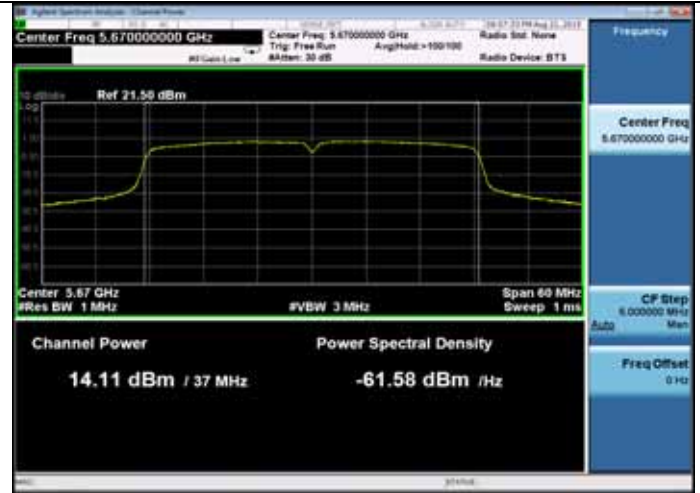
ANT 0

11n HT40

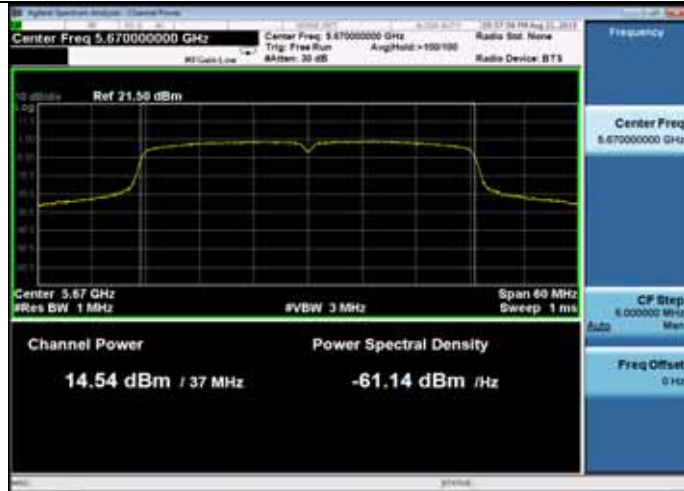
5510MHz



5670MHz

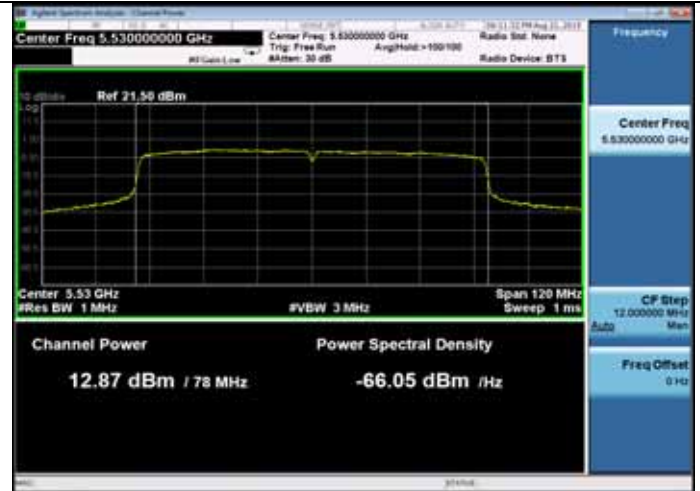


5670MHz



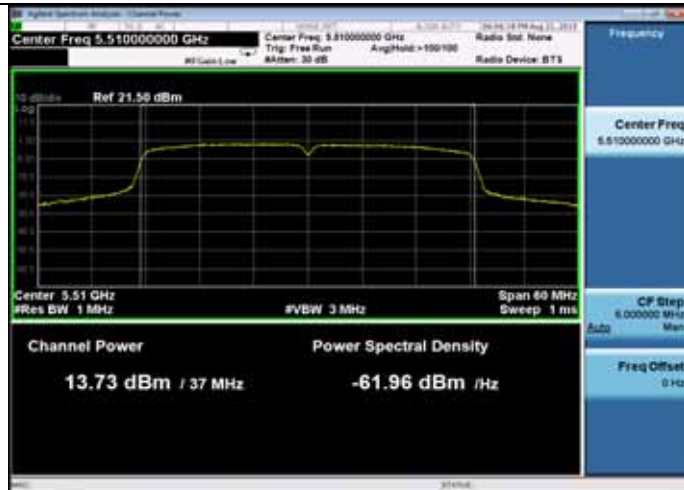
11ac VHT80

5530MHz



11acVHT40

5510MHz

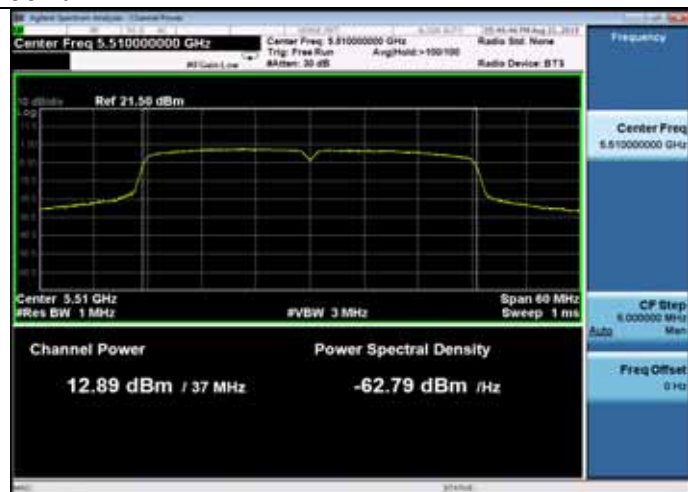


5500-5700MHz Band:

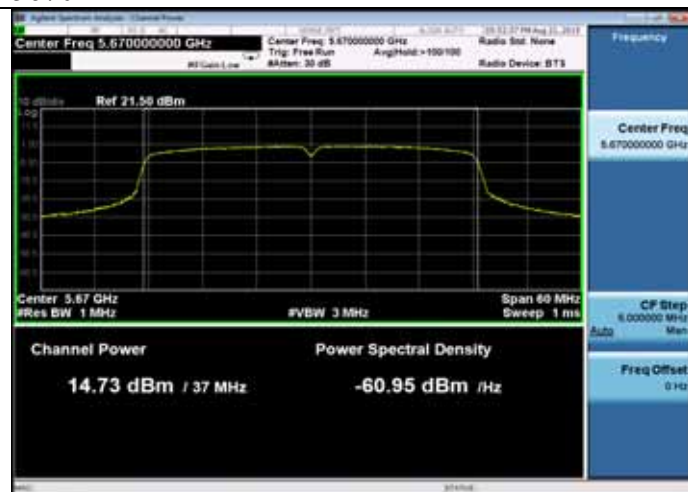
ANT 1

11n HT40

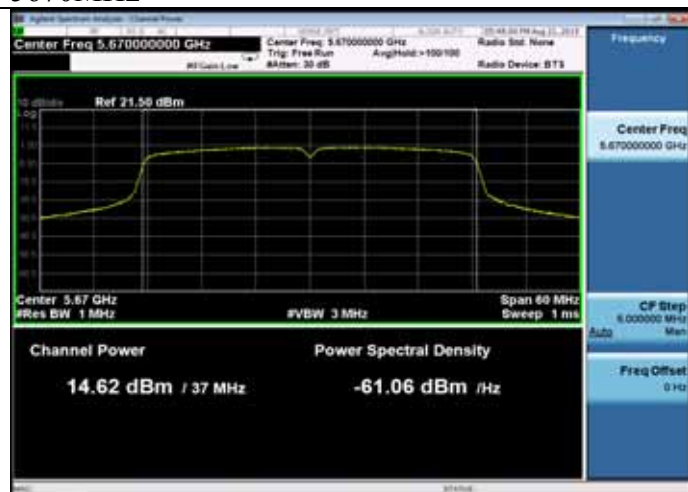
5510MHz



5670MHz

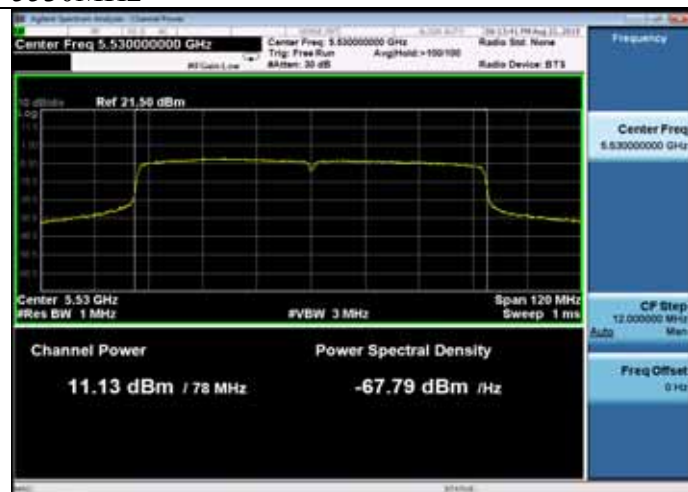


5670MHz



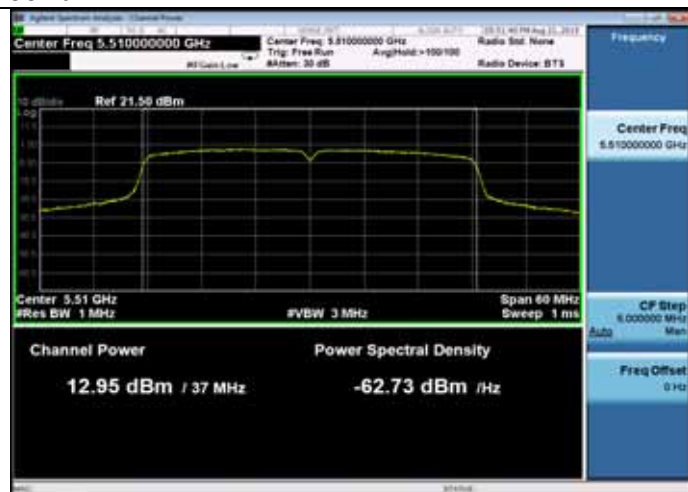
11ac VHT80

5530MHz



11acVHT40

5510MHz

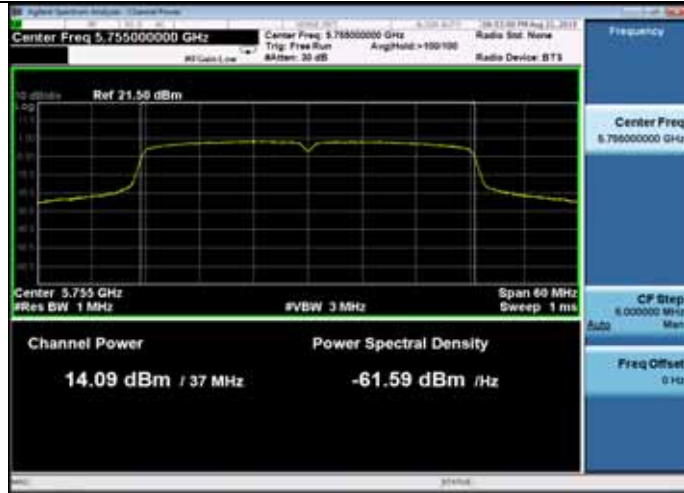


5745-5825MHz Band:

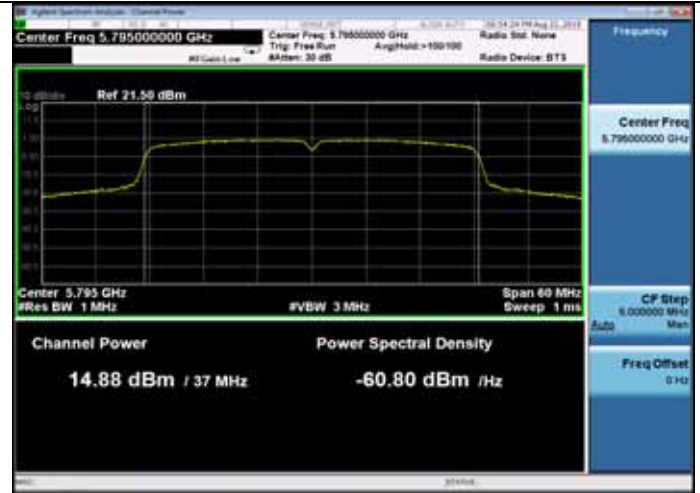
ANT 0

11n HT40

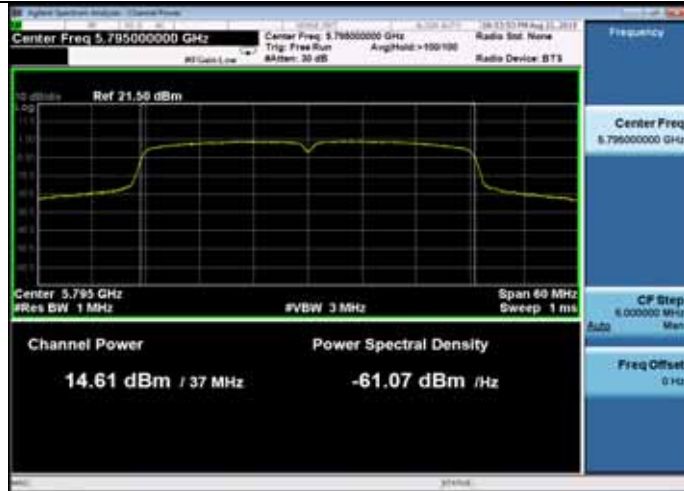
5755MHz



5795MHz

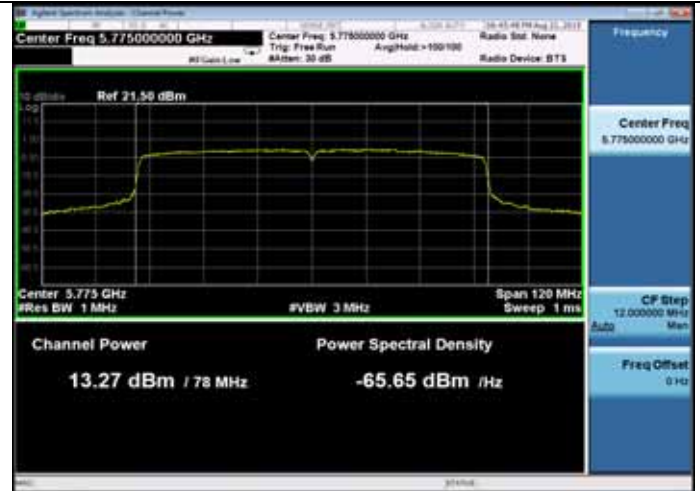


5795MHz



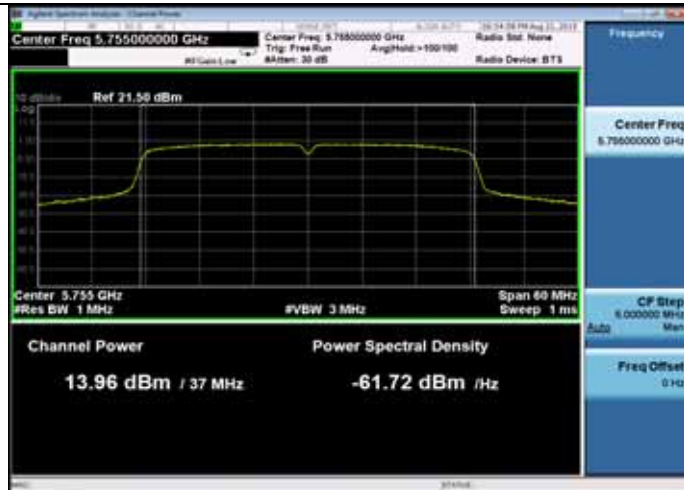
11ac VHT80

5775MHz



11acVHT40

5755MHz

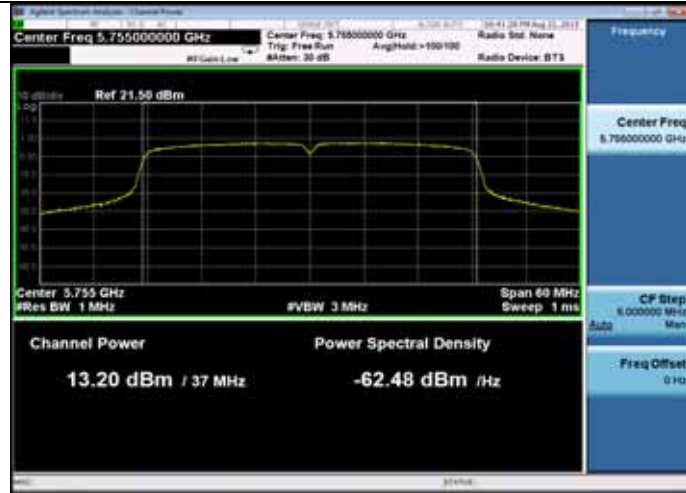


5745-5825MHz Band:

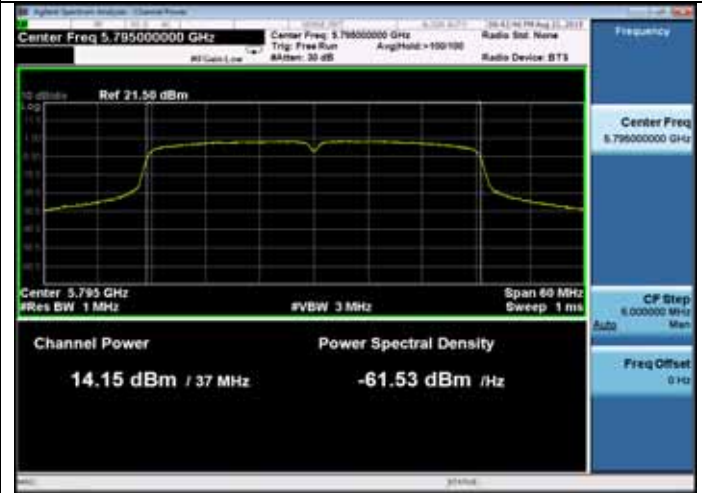
ANT 1

11n HT40

5755MHz

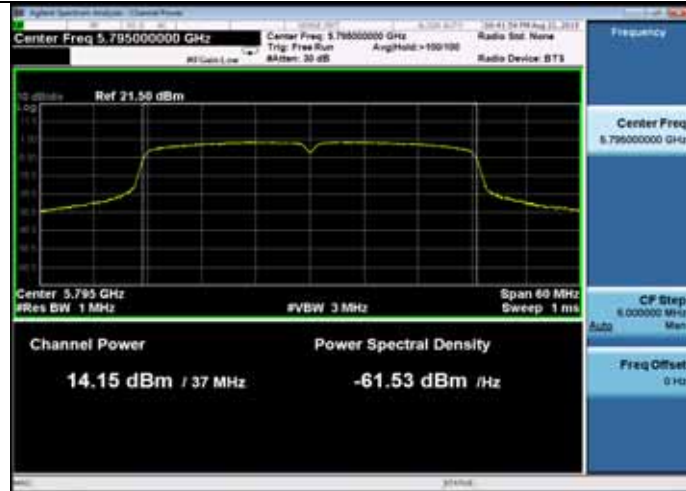


5795MHz

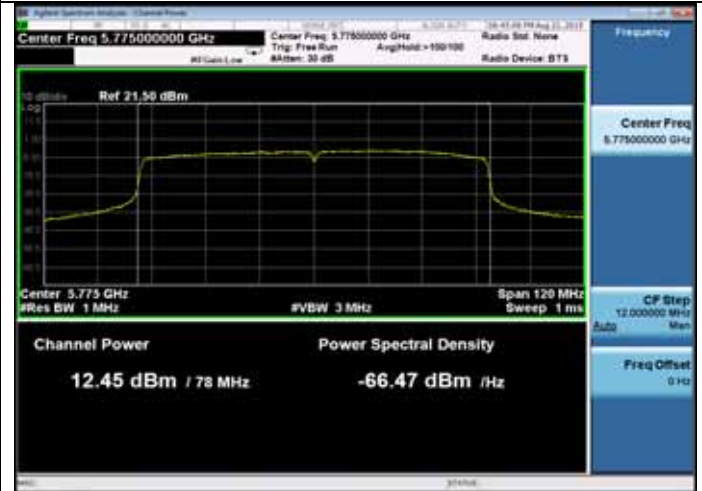


11ac VHT80

5795MHz



5775MHz



11acVHT40

5755MHz

