

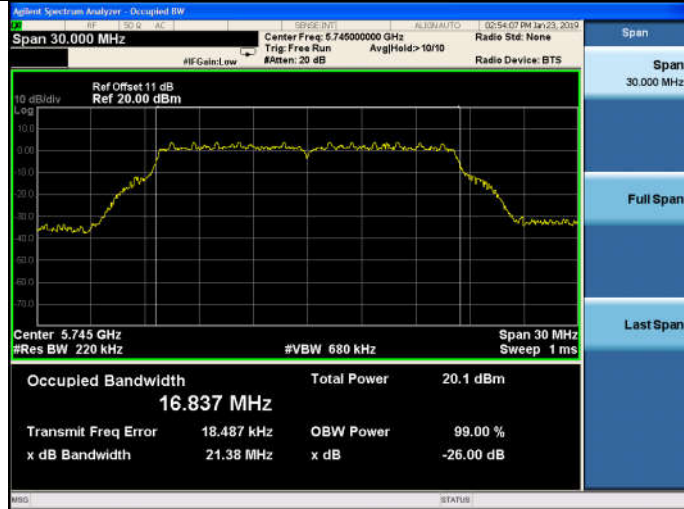
5745-5825MHz Band:

26dB bandwidth

ANT 0

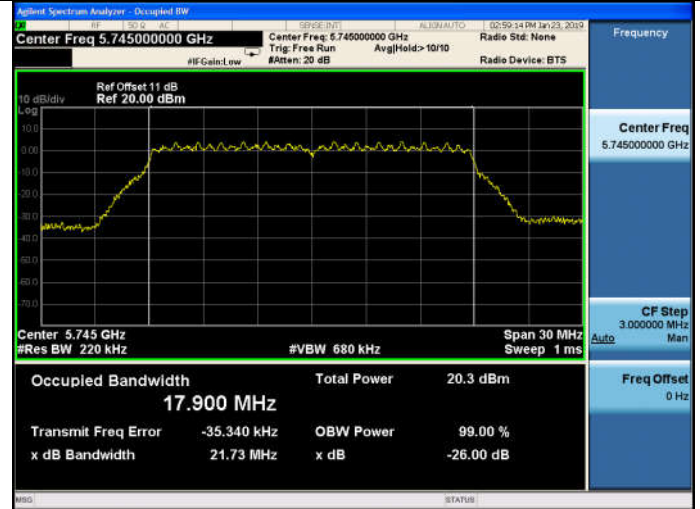
11a

5745MHz

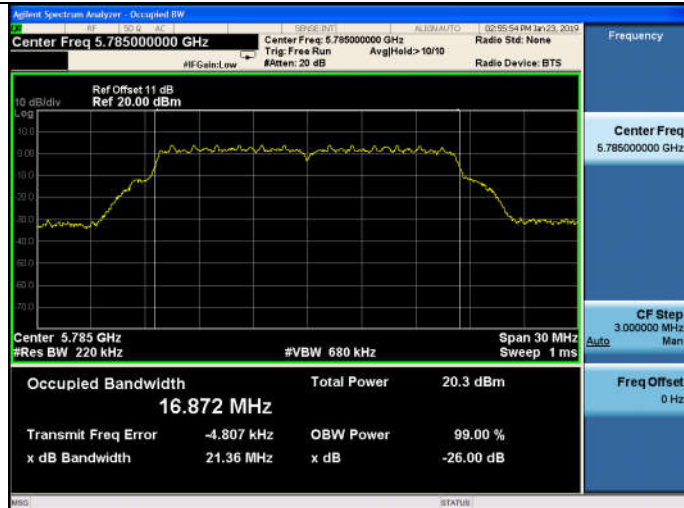


11n HT20

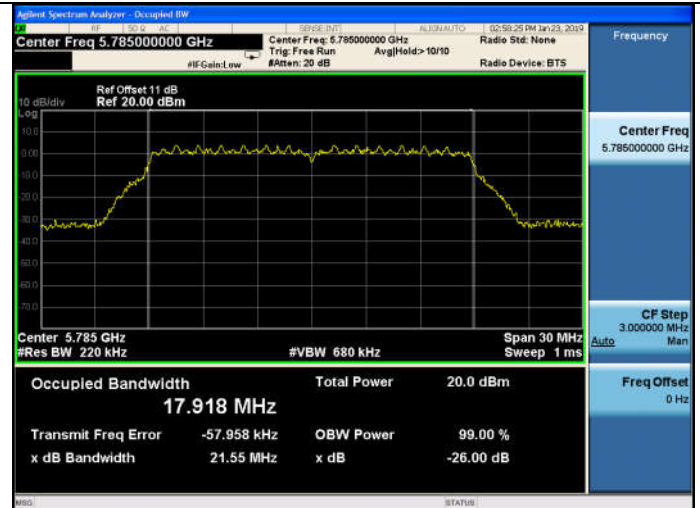
5745MHz



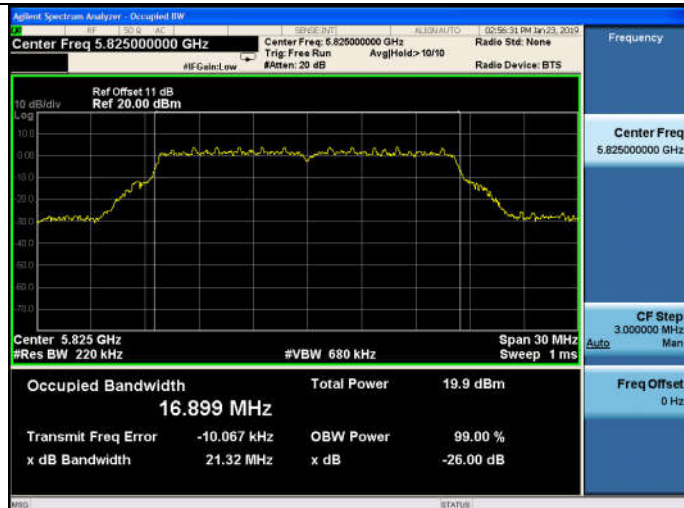
5785MHz



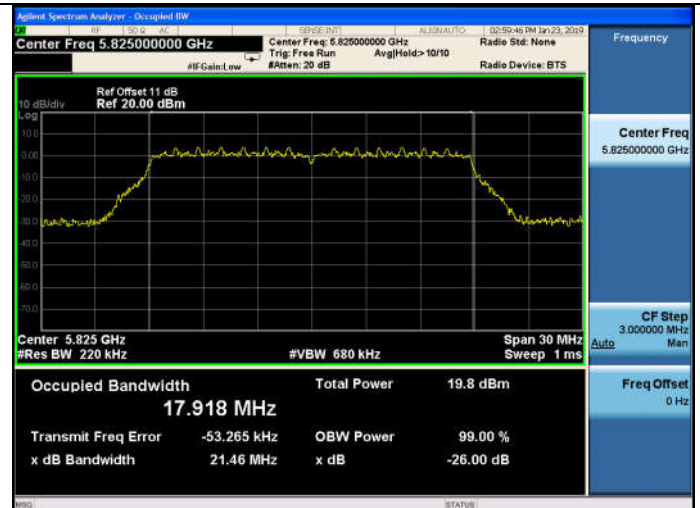
5785MHz



5825MHz

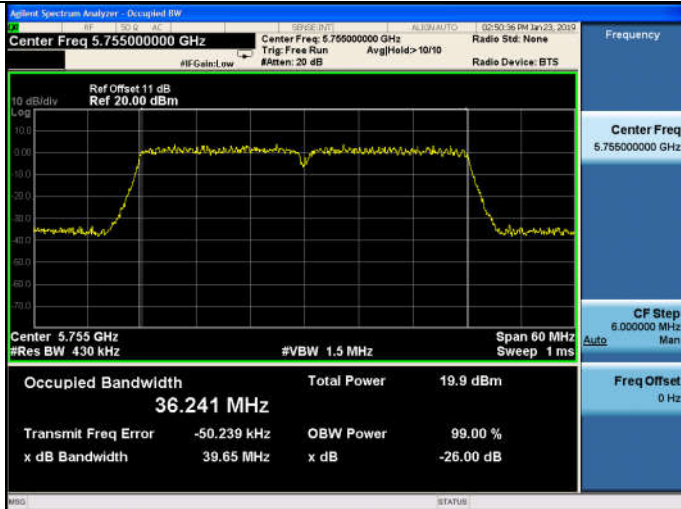


5825MHz

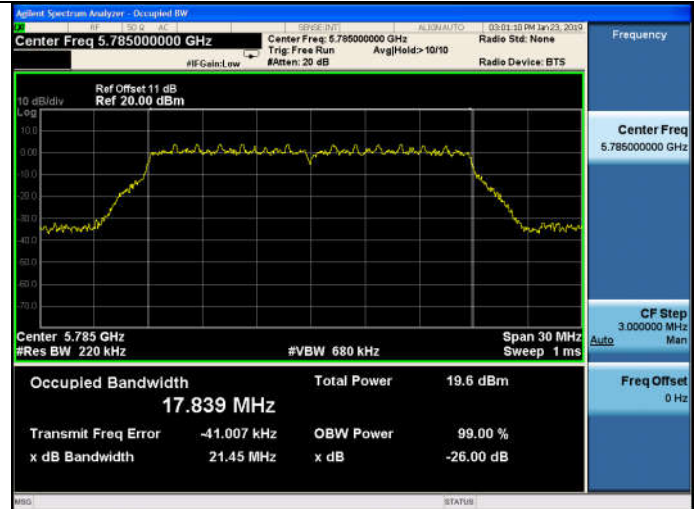


11n HT40

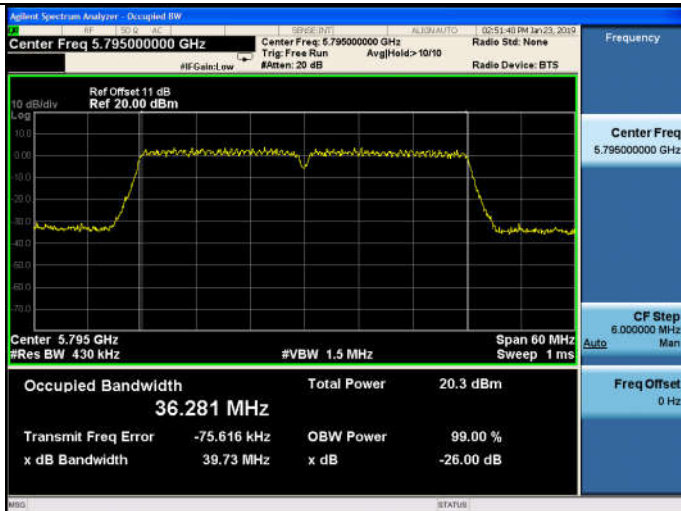
5755MHz



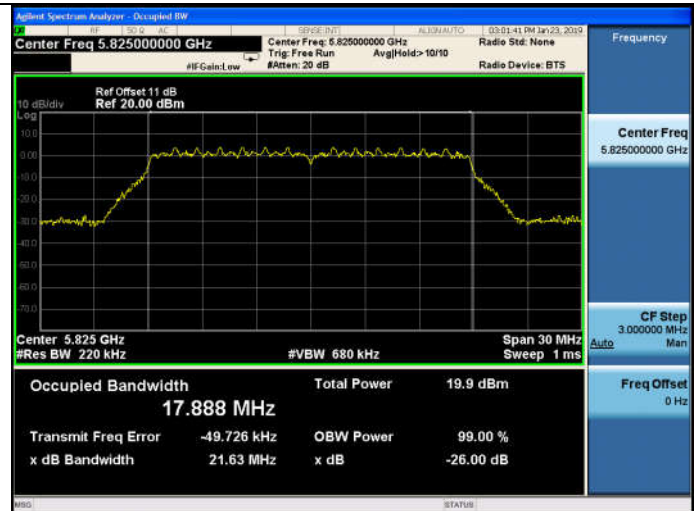
5785MHz



5795MHz

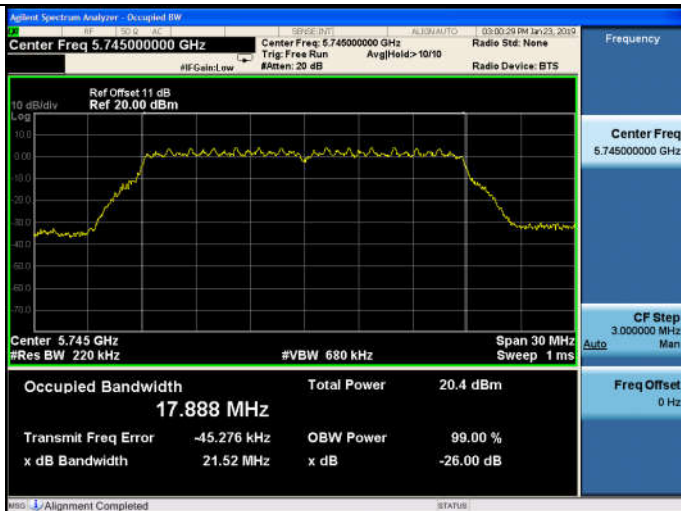


5825MHz



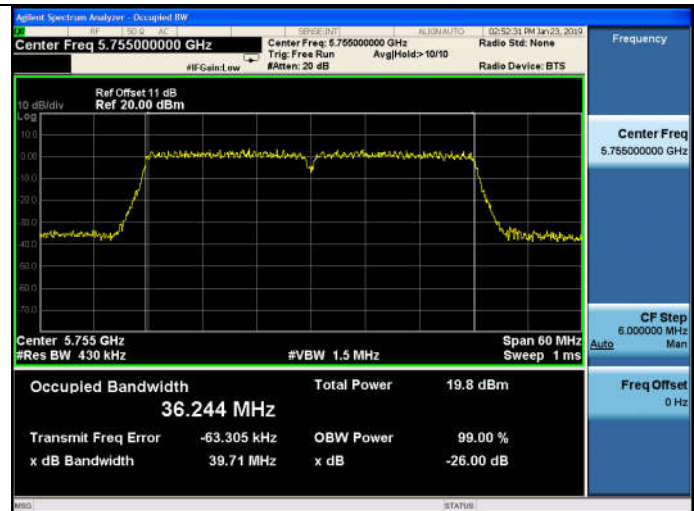
11ac VHT20

5745MHz

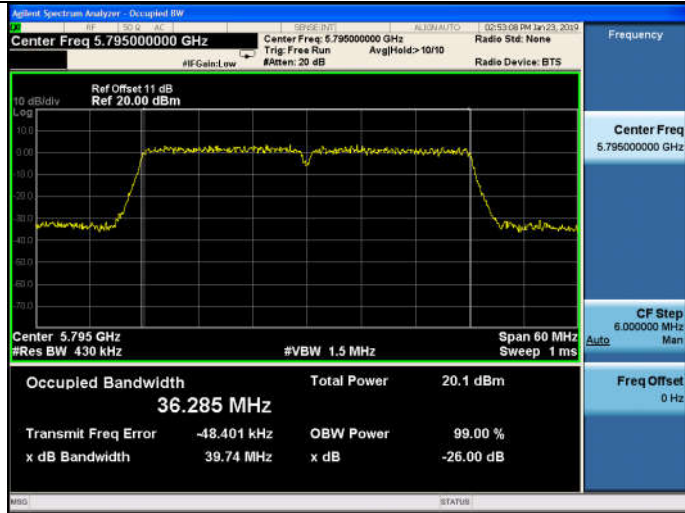


11ac VHT40

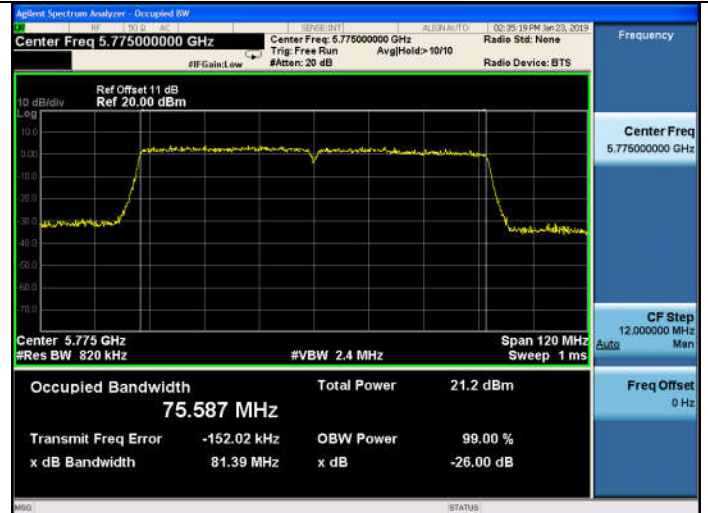
5755MHz



5795MHz



11ac VHT80
5775MHz



5745-5825MHz Band:

26dB bandwidth

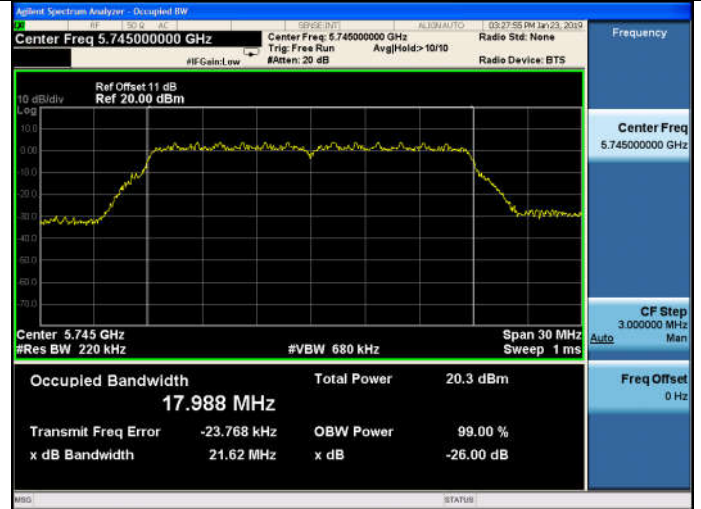
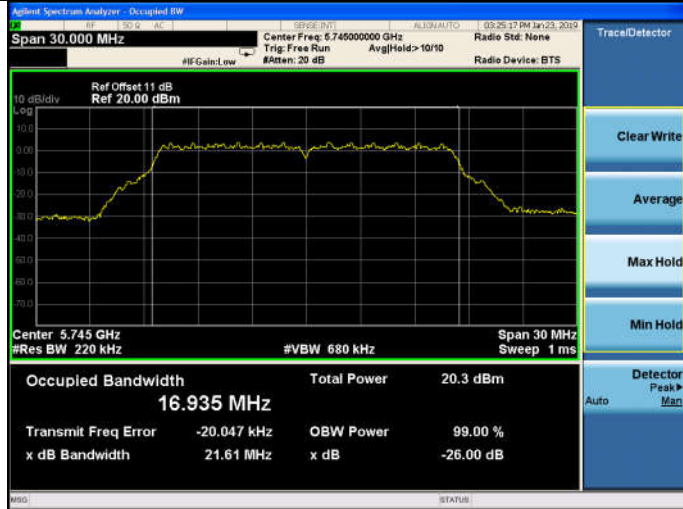
ANT 1

11a

5745MHz

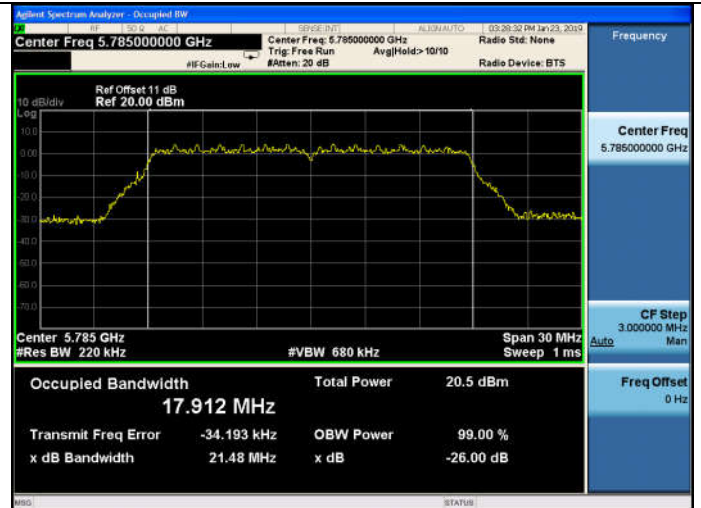
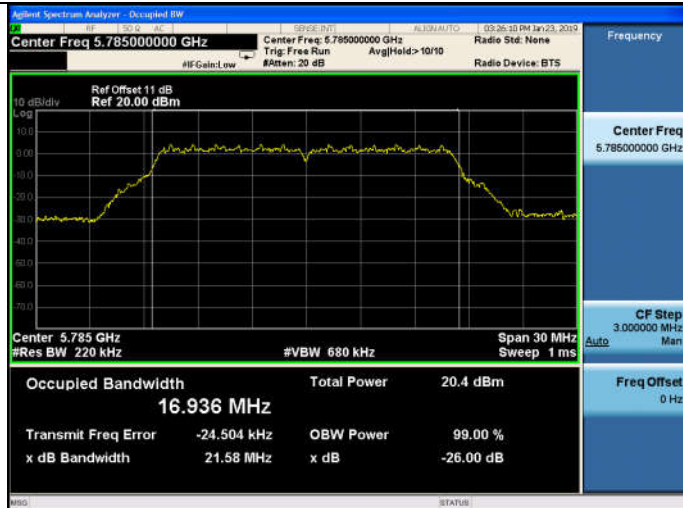
11n HT20

5745MHz



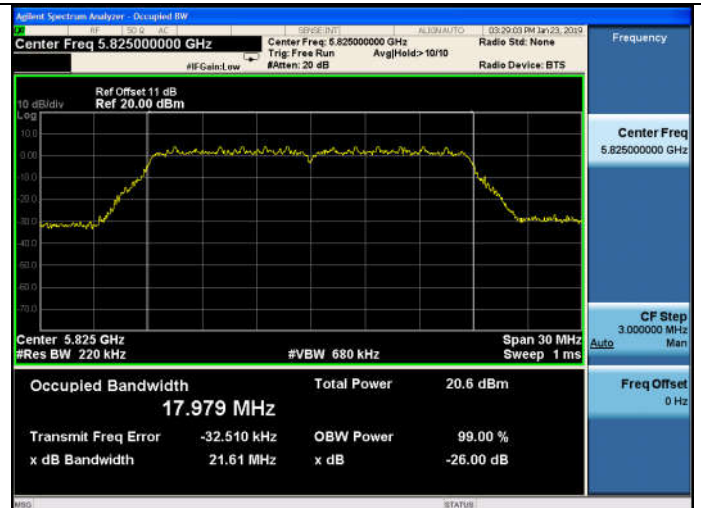
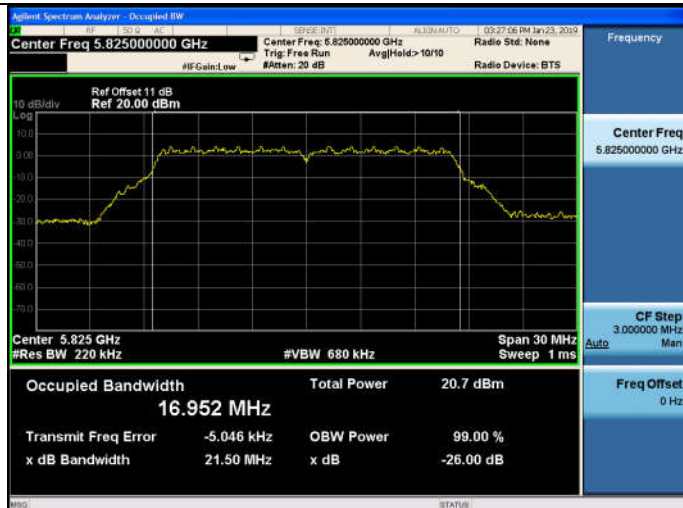
5785MHz

5785MHz



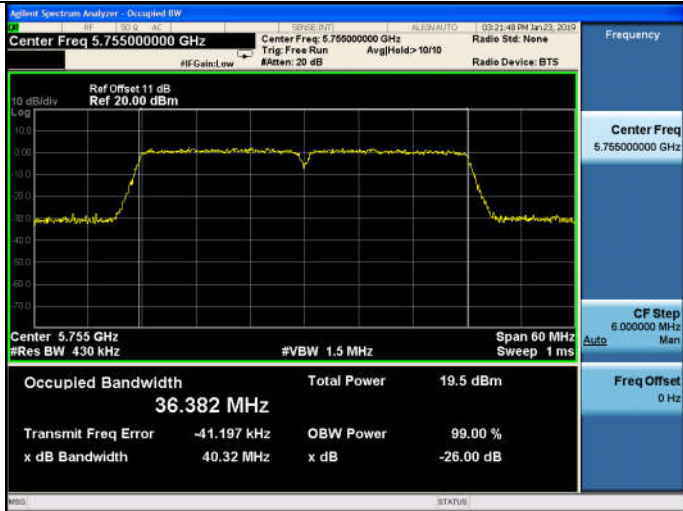
5825MHz

5825MHz

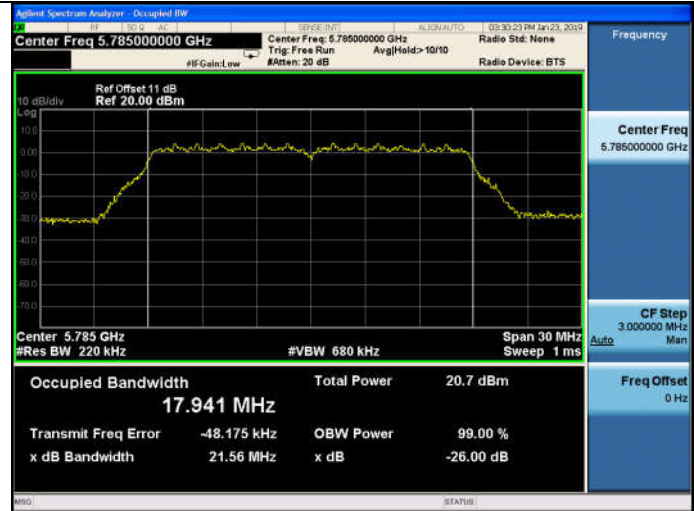


11n HT40

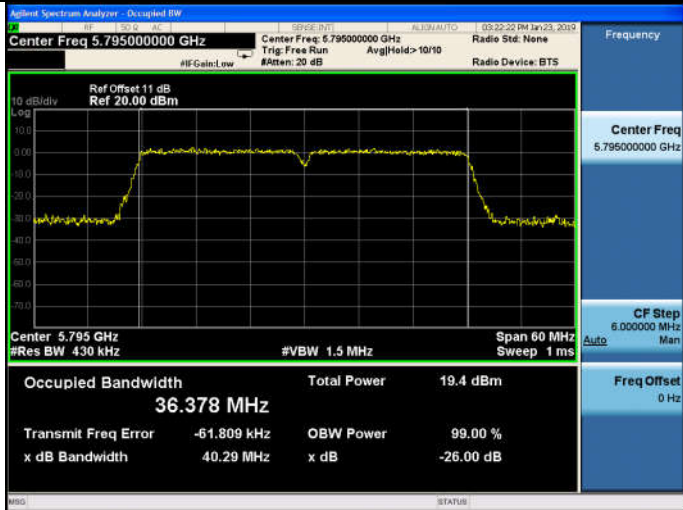
5755MHz



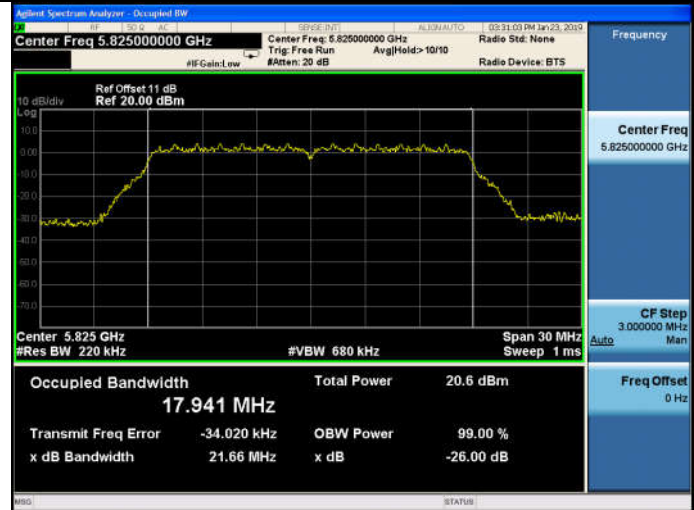
5785MHz



5795MHz

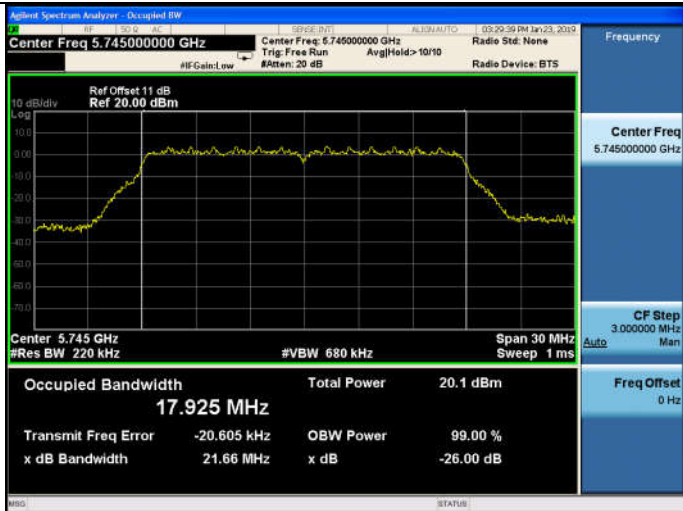


5825MHz



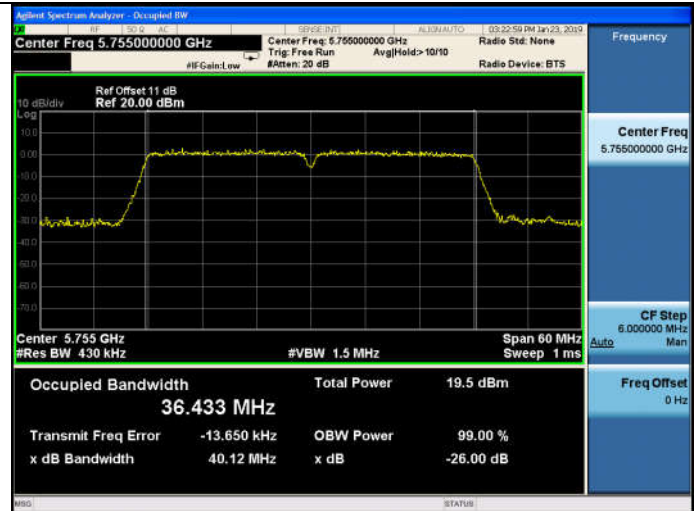
11ac VHT20

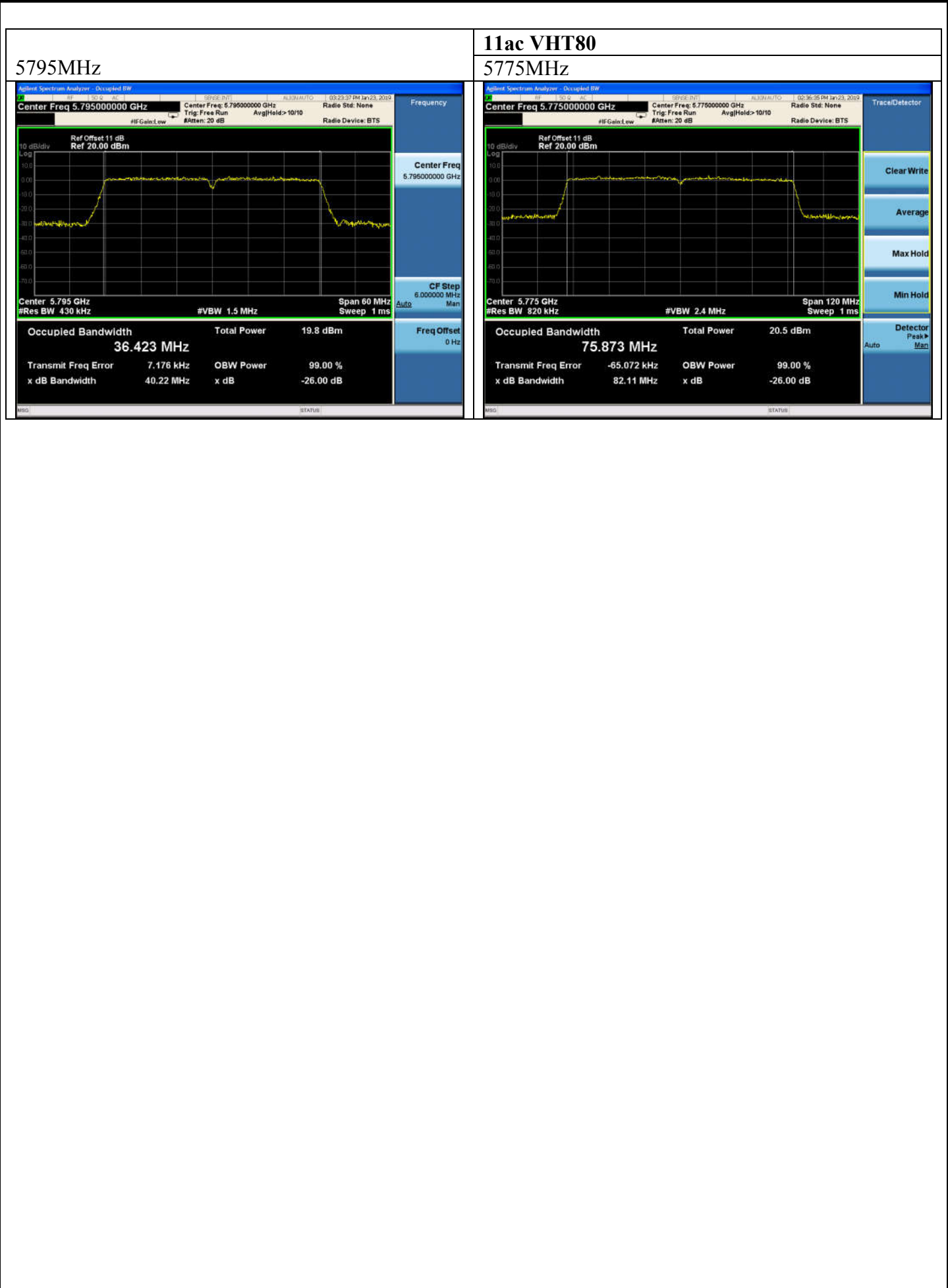
5745MHz



11ac VHT40

5755MHz





7. OUTPUT POWER TEST

7.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Sep.08,18	1Year
2.	Power meter	Anritsu	ML2487A	6K00002472	Apr.23,18	1Year
3.	Power sensor	Anritsu	MA2491A	033005	Apr.23,18	1Year
4.	Attenuator	Agilent	8491B	MY39269170	Oct.14,18	1 Year
5.	RF Cable	Hubersuhner	SUCOFLE X106	505239/6	Apr.23,18	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 20dB attenuator.
 - 1) Measure the duty cycle, x , of the transmitter output signal as described in II.B.
 - 2) Set span to encompass the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
 - 3) Set RBW = 1 MHz.
 - 4) Set VBW \geq 3 MHz.
 - 5) Number of points in sweep $\geq 2 \times \text{span} / \text{RBW}$. (This ensures that bin-to-bin spacing is $\leq \text{RBW}/2$, so that narrowband signals are not lost between frequency bins.)
 - 6) Sweep time = auto.
 - 7) Detector = power averaging (rms), if available. Otherwise, use sample detector mode.
 - 8) Do not use sweep triggering. Allow the sweep to "free run."
 - 9) Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed to ensure that the average accurately represents the true average over the on and off periods of the transmitter.
 - 10) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
 - 11) Add 10 log (1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times

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

7.4. Test Results

5180-5240MHz Band:

EUT: BCM dual band 2*2 WiFi		
M/N: 50-0102-BC-22		
Test date: 2019-01-18	Pressure: 102.1±1.0 kpa	Humidity: 51.1±3.0%
Tested by: Garry	Test site: RF site	Temperature: 22.8±0.6 °C

Test Mode	Frequency (MHz)	Maximum Conducted output power (dBm)			Limit (dBm)
		ANT0	ANT1	Total	
11a	5180	13.79	13.49	16.65	23.02
	5200	13.93	13.72	16.84	
	5240	14.56	14.43	17.51	
11n HT20	5180	13.35	13.07	16.22	23.02
	5200	13.49	13.20	16.36	
	5240	14.17	13.97	17.08	
11n HT40	5190	12.81	12.34	15.59	23.02
	5230	13.33	12.96	16.16	
11ac VHT20	5180	13.42	13.23	16.34	23.02
	5200	13.57	13.28	16.44	
	5240	14.18	14.01	17.11	
11ac VHT40	5190	12.85	12.34	15.61	23.02
	5230	13.34	13.01	16.19	
11ac VHT80	5210	13.12	12.82	15.98	23.02

Conclusion: PASS

Note: 1. Directional Gain= $10 \log[(10^{4.1/20} + 10^{3.8/20})^2 / 2]$ dBi
 = 6.96dBi > 6dBi.

2. The transmit signals are correlated.

5260-5320MHz Band:

EUT: BCM dual band 2*2 WiFi		
M/N: 50-0102-BC-22		
Test date: 2019-01-18	Pressure: 102.1±1.0 kpa	Humidity: 51.1±3.0%
Tested by: Garry	Test site: RF site	Temperature: 22.8±0.6 °C

Test Mode	Frequency (MHz)	Maximum Conducted output power (dBm)			Limit (dBm)
		ANT0	ANT1	Total	
11a	5260	15.11	14.20	17.69	23.02
	5300	15.29	14.22	17.80	
	5320	15.43	14.33	17.93	
11n HT20	5260	14.46	13.58	17.05	23.02
	5300	14.83	13.77	17.34	
	5320	14.79	13.82	17.34	
11n HT40	5270	14.04	13.36	16.72	23.02
	5310	14.09	13.45	16.79	
11ac VHT20	5260	14.81	14.10	17.48	23.02
	5300	14.77	14.24	17.52	
	5320	14.89	14.19	17.56	
11ac VHT40	5270	14.04	13.41	16.75	23.02
	5310	14.32	13.40	16.90	
11ac VHT80	5290	14.28	12.71	16.58	23.02

Conclusion: PASS

Note: 1. Directional Gain= $10 \log[(10^{4.1/20} + 10^{3.8/20})^2 / 2]$ dBm
 = 6.96dBm > 6dBm.

2. The transmit signals are correlated.

5500-5700MHz Band:

EUT: BCM dual band 2*2 WiFi		
M/N: 50-0102-BC-22		
Test date: 2019-01-18	Pressure: 102.1±1.0 kpa	Humidity: 51.1±3.0%
Tested by: Garry	Test site: RF site	Temperature: 22.8±0.6 °C

Test Mode	Frequency (MHz)	Maximum Conducted output power (dBm)			Limit (dBm)
		ANT0	ANT1	Total	
11a	5500	14.06	14.53	17.31	23.02
	5600	14.16	13.57	16.89	
	5700	14.19	13.21	16.74	
11n HT20	5500	13.49	13.97	16.75	23.02
	5600	13.67	13.05	16.38	
	5700	13.73	12.86	16.33	
11n HT40	5510	12.94	13.43	16.20	23.02
	5590	13.10	12.68	15.91	
	5670	12.96	11.92	15.48	
11ac VHT20	5500	13.51	14.38	16.98	23.02
	5600	13.76	13.30	16.55	
	5700	13.77	12.97	16.40	
11ac VHT40	5510	12.92	13.48	16.22	23.02
	5590	13.10	12.84	15.98	
	5670	12.99	12.19	15.62	
11ac VHT80	5530	13.00	13.23	16.13	23.02
	5610	13.15	12.35	15.78	

Conclusion: PASS

Note: 1. Directional Gain= $10 \log[(10^{4.1/20} + 10^{3.8/20})^2 / 2]$ dBi
 = 6.96dBi > 6dBi.

2. The transmit signals are correlated.

5745-5825MHz Band:

EUT: BCM dual band 2*2 WiFi		
M/N: 50-0102-BC-22		
Test date: 2019-01-18	Pressure: 102.1±1.0 kpa	Humidity: 51.1±3.0%
Tested by: Garry	Test site: RF site	Temperature: 22.8±0.6 °C

Test Mode	Frequency (MHz)	Maximum Conducted output power (dBm)			Limit (dBm)
		ANT0	ANT1	Total	
11a	5745	14.43	14.24	17.35	29.04
	5785	14.33	14.50	17.43	
	5825	14.07	14.75	17.43	
11n HT20	5745	14.06	13.88	16.98	29.04
	5785	13.90	14.16	17.04	
	5825	13.73	14.32	17.05	
11n HT40	5755	13.25	13.05	16.16	29.04
	5795	13.19	13.64	16.43	
11ac VHT20	5745	14.14	13.77	16.97	29.04
	5785	14.03	14.18	17.12	
	5825	13.79	14.23	17.03	
11ac VHT40	5755	13.27	13.32	16.31	29.04
	5795	13.23	13.53	16.39	
11ac VHT80	5775	13.42	13.47	16.46	29.04

Conclusion: PASS

Note: 1. Directional Gain= $10 \log[(10^{4.1/20} + 10^{3.8/20})^2 / 2]$ dBi
 = 6.96dBi > 6dBi.

2. The transmit signals are correlated.

FCC ID: XVG500102BC22

5180-5240MHz Band:

ANT 0

11a

5180MHz



11n HT20

5180MHz



5200MHz



5200MHz



5240MHz



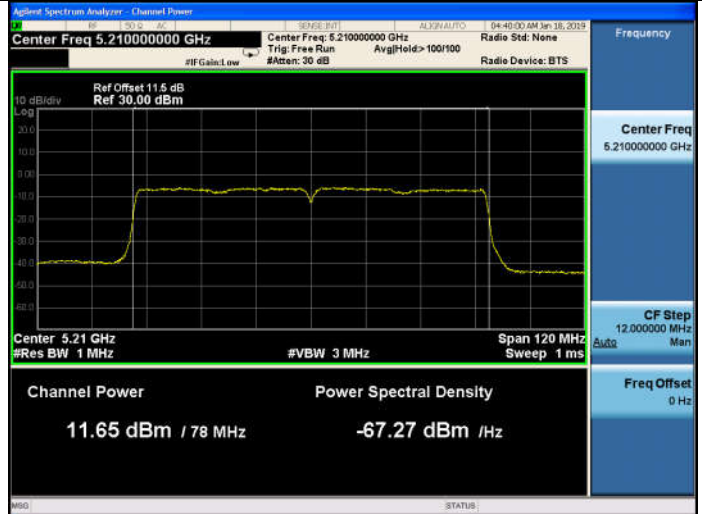
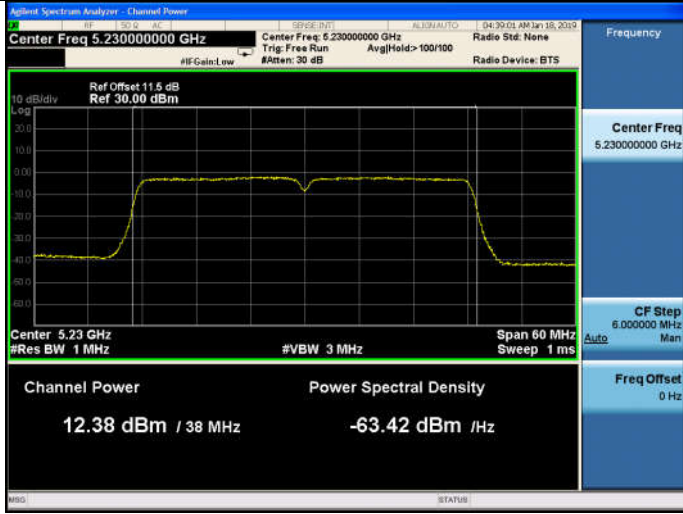
5240MHz



<p>11n HT40</p>	
<p>5190MHz</p>	<p>5200MHz</p>
<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq: 5.19000000 GHz</p> <p>Channel Power: 11.89 dBm / 38 MHz</p> <p>Power Spectral Density: -63.91 dBm / Hz</p>	<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq: 5.20000000 GHz</p> <p>Channel Power: 13.07 dBm / 18 MHz</p> <p>Power Spectral Density: -59.48 dBm / Hz</p>
<p>5230MHz</p>	<p>5240MHz</p>
<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq: 5.23000000 GHz</p> <p>Channel Power: 12.41 dBm / 38 MHz</p> <p>Power Spectral Density: -63.39 dBm / Hz</p>	<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq: 5.24000000 GHz</p> <p>Channel Power: 13.68 dBm / 18 MHz</p> <p>Power Spectral Density: -58.87 dBm / Hz</p>
<p>11ac VHT20</p>	<p>11ac VHT40</p>
<p>5180MHz</p>	<p>5190MHz</p>
<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq: 5.18000000 GHz</p> <p>Channel Power: 12.92 dBm / 18 MHz</p> <p>Power Spectral Density: -59.64 dBm / Hz</p>	<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq: 5.19000000 GHz</p> <p>Channel Power: 11.89 dBm / 38 MHz</p> <p>Power Spectral Density: -63.91 dBm / Hz</p>

11ac VHT80
5210MHz

5230MHz



FCC ID: XVG500102BC22

5180-5240MHz Band:

ANT 1

11a

5180MHz

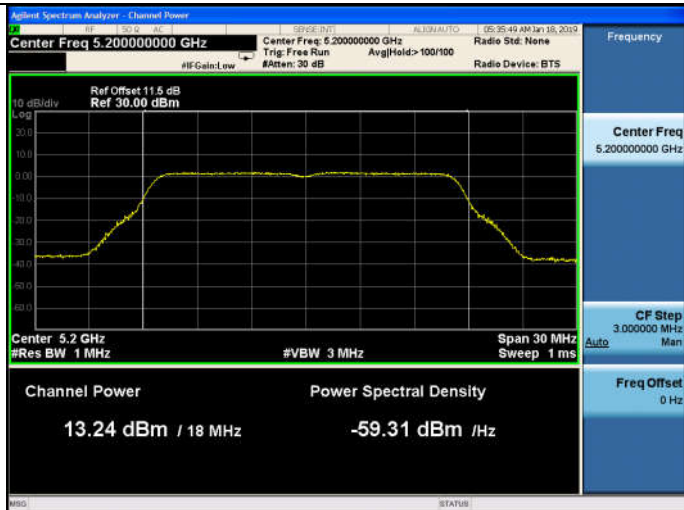


11n HT20

5180MHz



5200MHz



5200MHz



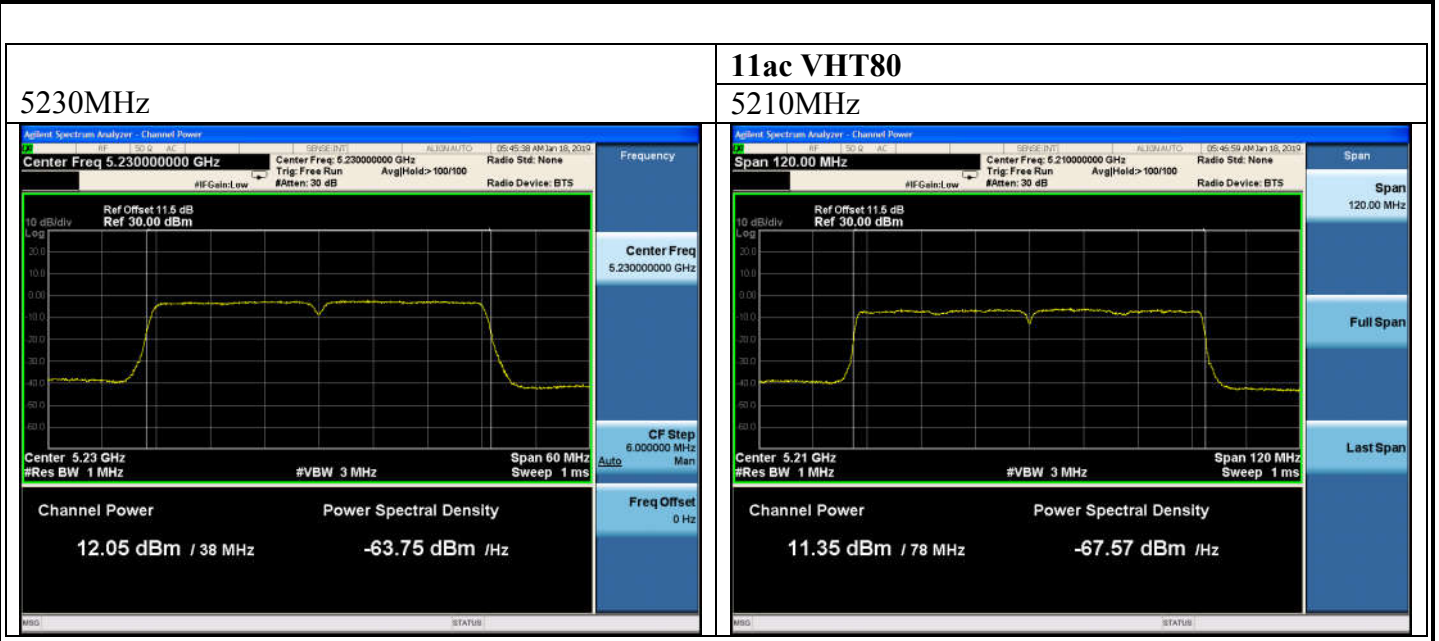
5240MHz



5240MHz



<p>11n HT40</p>	
<p>5190MHz</p>	<p>5200MHz</p>
<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq: 5.190000000 GHz</p> <p>Span: 60.000 MHz</p> <p>Channel Power: 11.42 dBm / 38 MHz</p> <p>Power Spectral Density: -64.38 dBm / Hz</p>	<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq: 5.200000000 GHz</p> <p>Span: 30 MHz</p> <p>Channel Power: 12.78 dBm / 18 MHz</p> <p>Power Spectral Density: -59.78 dBm / Hz</p>
<p>5230MHz</p>	<p>5240MHz</p>
<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq: 5.230000000 GHz</p> <p>Span: 60 MHz</p> <p>Channel Power: 12.04 dBm / 38 MHz</p> <p>Power Spectral Density: -63.76 dBm / Hz</p>	<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq: 5.240000000 GHz</p> <p>Span: 30 MHz</p> <p>Channel Power: 13.51 dBm / 18 MHz</p> <p>Power Spectral Density: -59.04 dBm / Hz</p>
<p>11ac VHT20</p>	<p>11ac VHT40</p>
<p>5180MHz</p>	<p>5190MHz</p>
<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq: 5.180000000 GHz</p> <p>Span: 30 MHz</p> <p>Channel Power: 12.73 dBm / 18 MHz</p> <p>Power Spectral Density: -59.83 dBm / Hz</p>	<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq: 5.190000000 GHz</p> <p>Span: 60 MHz</p> <p>Channel Power: 11.38 dBm / 38 MHz</p> <p>Power Spectral Density: -64.42 dBm / Hz</p>



FCC ID: XVG500102BC22

5260-5320MHz Band:

ANT 0

11a

5260MHz

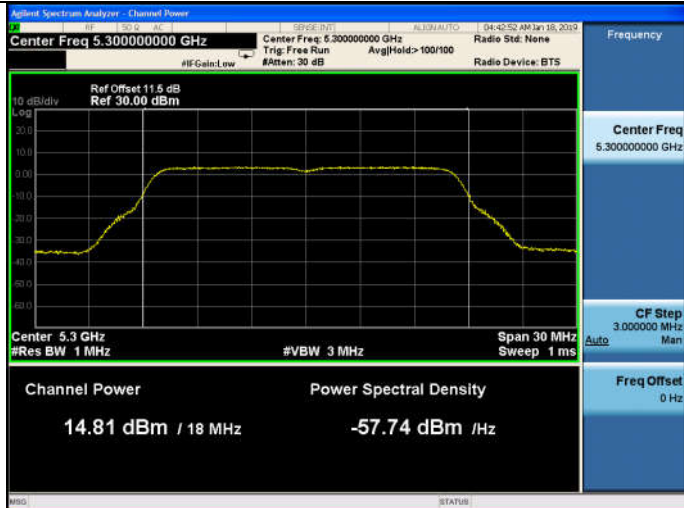


11n HT20

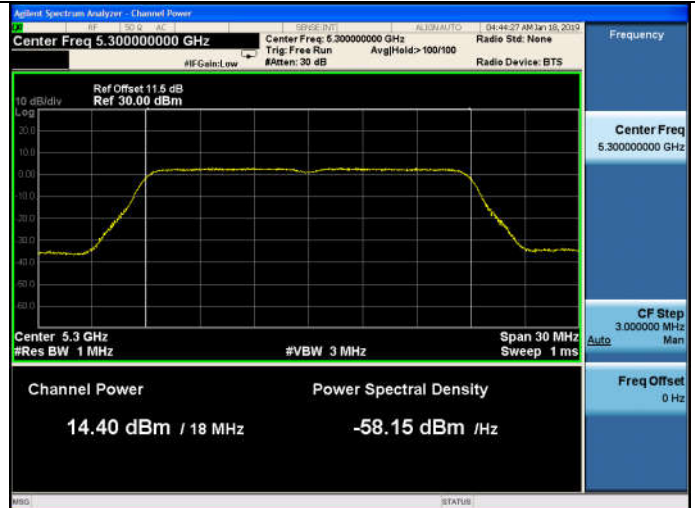
5260MHz



5300MHz



5300MHz



5320MHz



5320MHz



<p>11n HT40</p>	
<p>5270MHz</p>	<p>5300MHz</p>
<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq: 5.27000000 GHz</p> <p>Channel Power: 13.12 dBm / 38 MHz</p> <p>Power Spectral Density: -62.68 dBm / Hz</p>	<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq: 5.30000000 GHz</p> <p>Channel Power: 14.27 dBm / 18 MHz</p> <p>Power Spectral Density: -58.28 dBm / Hz</p>
<p>5310MHz</p>	<p>5320MHz</p>
<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq: 5.31000000 GHz</p> <p>Channel Power: 13.17 dBm / 38 MHz</p> <p>Power Spectral Density: -62.63 dBm / Hz</p>	<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq: 5.32000000 GHz</p> <p>Channel Power: 14.39 dBm / 18 MHz</p> <p>Power Spectral Density: -58.16 dBm / Hz</p>
<p>11ac VHT20</p>	<p>11ac VHT40</p>
<p>5260MHz</p>	<p>5270MHz</p>
<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq: 5.26000000 GHz</p> <p>Channel Power: 14.31 dBm / 18 MHz</p> <p>Power Spectral Density: -58.25 dBm / Hz</p>	<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq: 5.27000000 GHz</p> <p>Channel Power: 13.08 dBm / 38 MHz</p> <p>Power Spectral Density: -62.72 dBm / Hz</p>

5310MHz

11ac VHT80
5290MHz



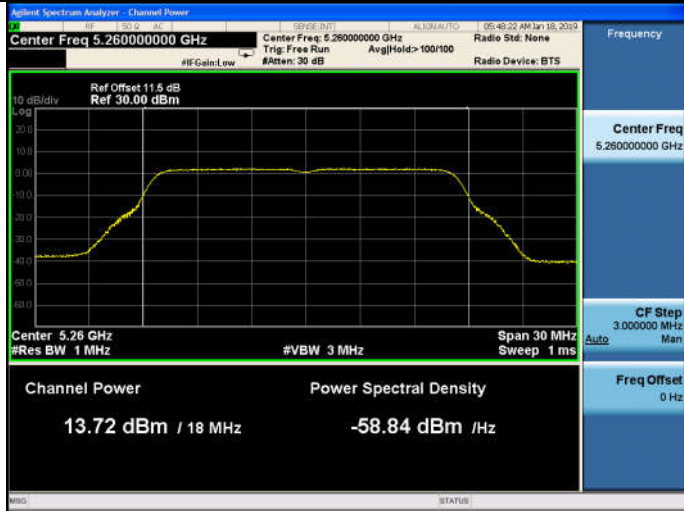
FCC ID: XVG500102BC22

5260-5320MHz Band:

ANT 1

11a

5260MHz



11n HT20

5260MHz



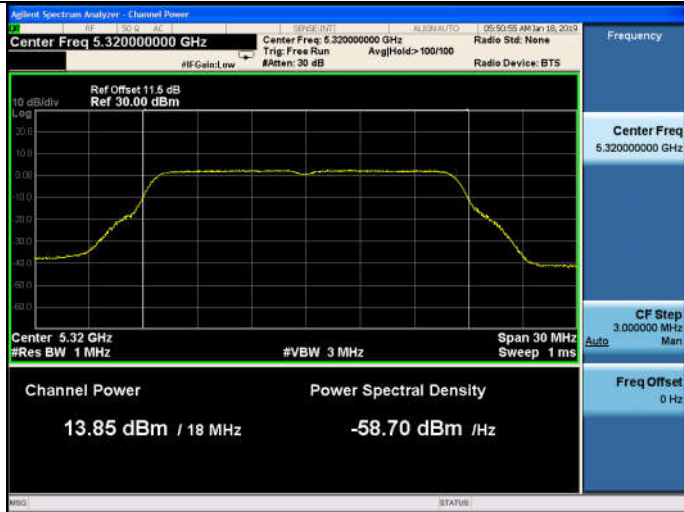
5300MHz



5300MHz



5320MHz



5320MHz



<p>11n HT40</p>	
<p>5270MHz</p>	<p>5300MHz</p>
<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Span 60.000 MHz Center Freq 5.270000000 GHz</p> <p>Channel Power: 12.44 dBm / 38 MHz</p> <p>Power Spectral Density: -63.36 dBm / Hz</p>	<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq 5.300000000 GHz</p> <p>Channel Power: 13.74 dBm / 18 MHz</p> <p>Power Spectral Density: -58.81 dBm / Hz</p>
<p>5310MHz</p>	<p>5320MHz</p>
<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq 5.310000000 GHz</p> <p>Channel Power: 12.53 dBm / 38 MHz</p> <p>Power Spectral Density: -63.27 dBm / Hz</p>	<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq 5.320000000 GHz</p> <p>Channel Power: 13.69 dBm / 18 MHz</p> <p>Power Spectral Density: -58.86 dBm / Hz</p>
<p>11ac VHT20</p>	<p>11ac VHT40</p>
<p>5260MHz</p>	<p>5270MHz</p>
<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq 5.260000000 GHz</p> <p>Channel Power: 13.60 dBm / 18 MHz</p> <p>Power Spectral Density: -58.95 dBm / Hz</p>	<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq 5.270000000 GHz</p> <p>Channel Power: 12.45 dBm / 38 MHz</p> <p>Power Spectral Density: -63.34 dBm / Hz</p>

5310MHz

11ac VHT80
5290MHz



5500-5700MHz Band:

ANT 0

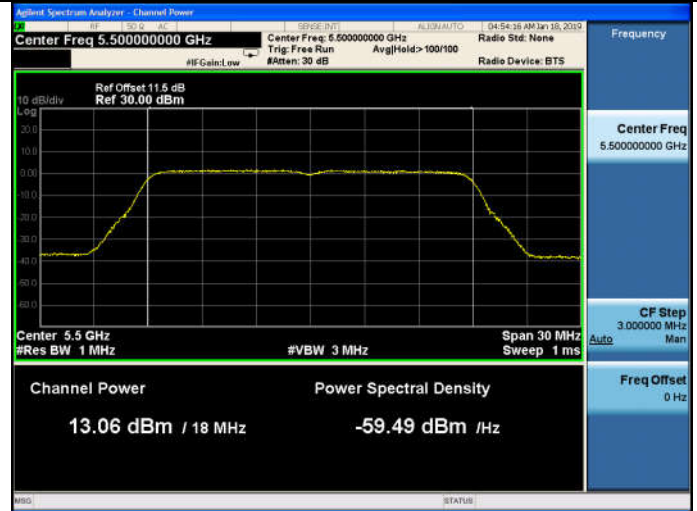
11a

5500MHz



11n HT20

5500MHz



5600MHz



5600MHz

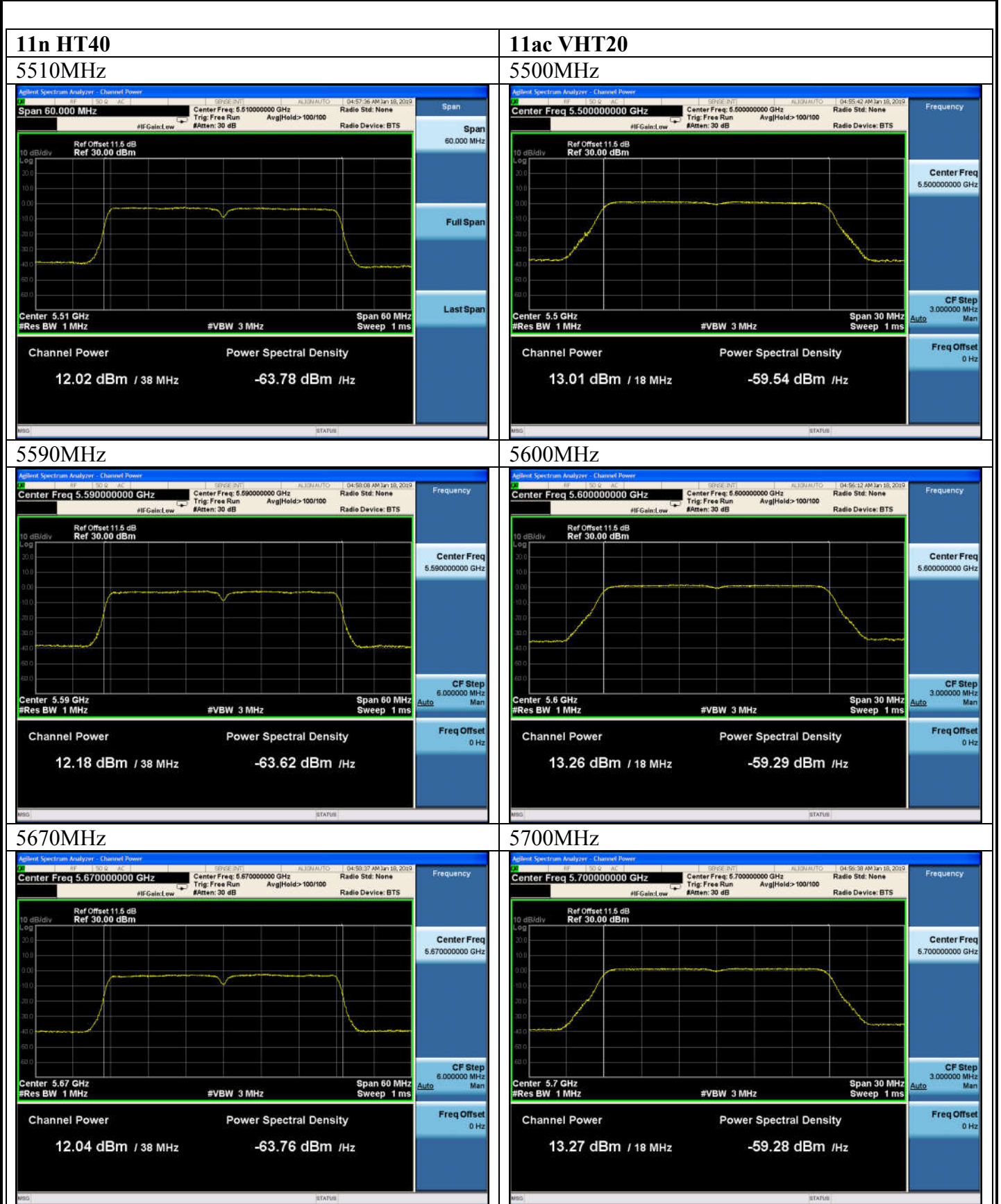


5700MHz

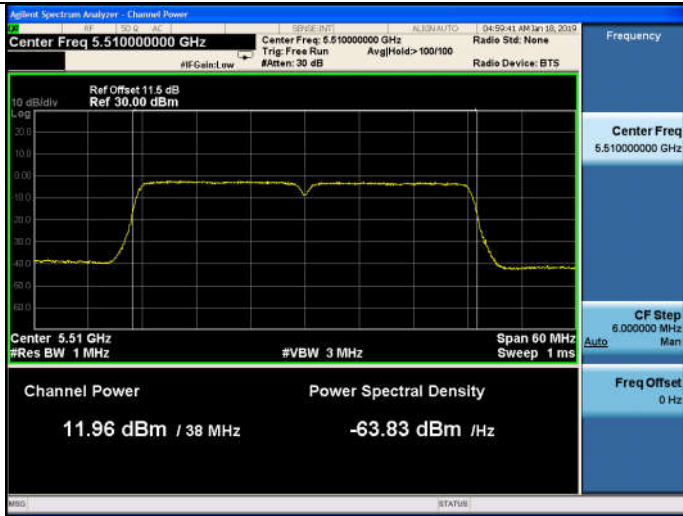


5700MHz





11ac VHT40
5510MHz



11ac VHT80
5530MHz



5590MHz



5610MHz



5670MHz



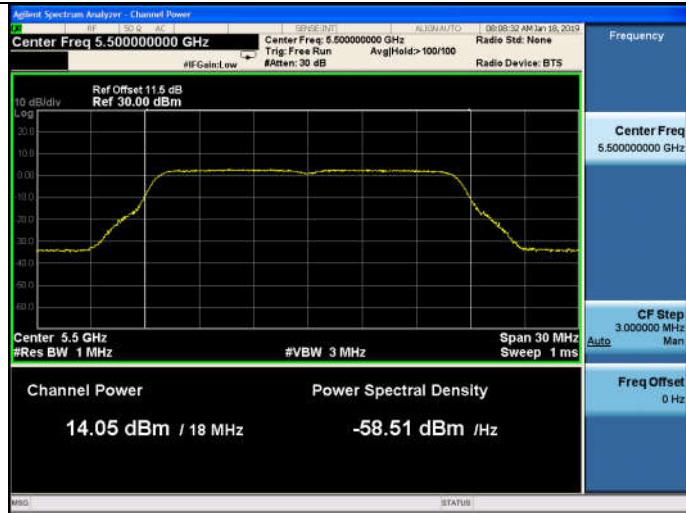
FCC ID: XVG500102BC22

5500-5700MHz Band:

ANT 1

11a

5500MHz



11n HT20

5500MHz



5600MHz



5600MHz

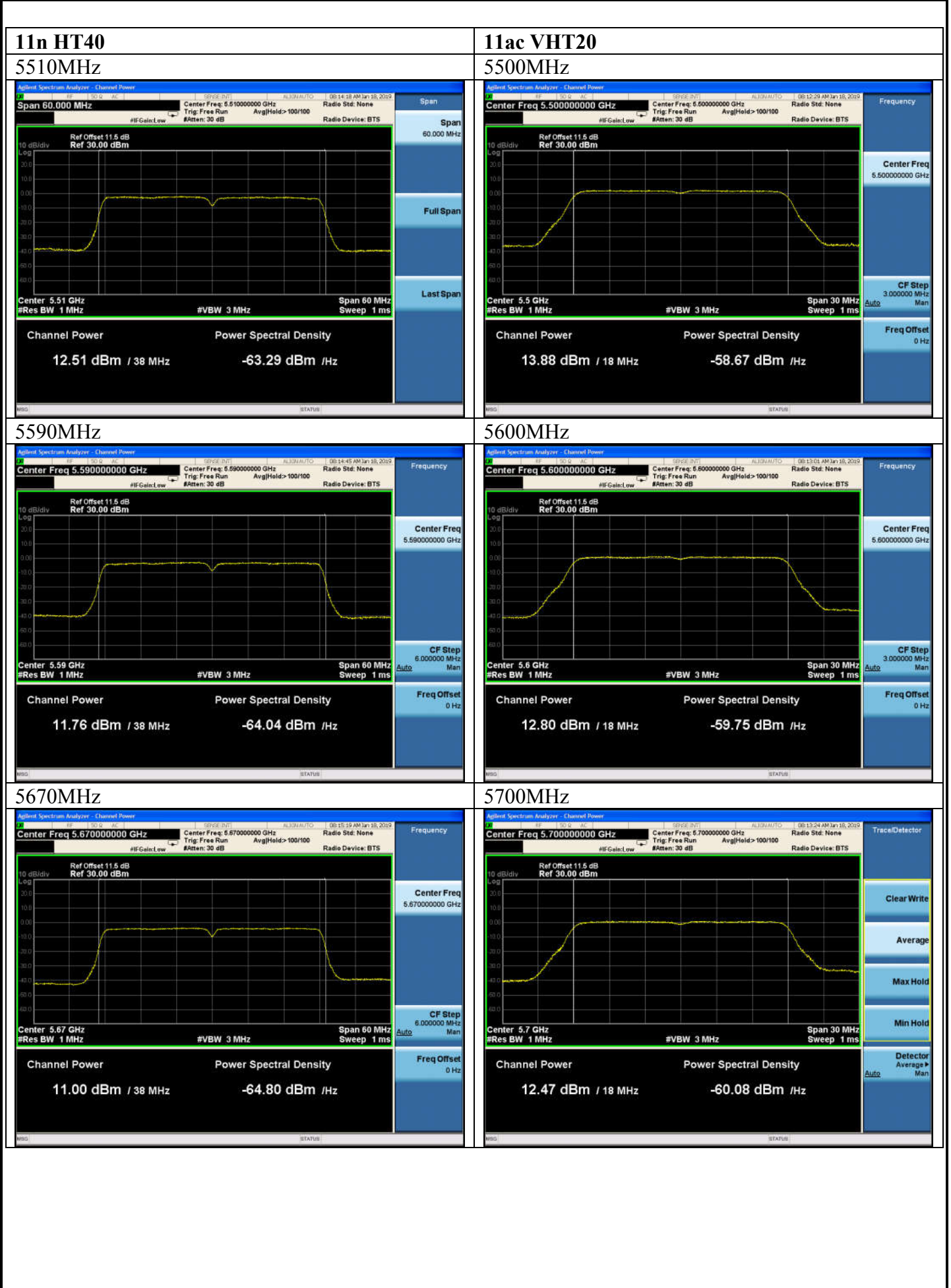


5700MHz

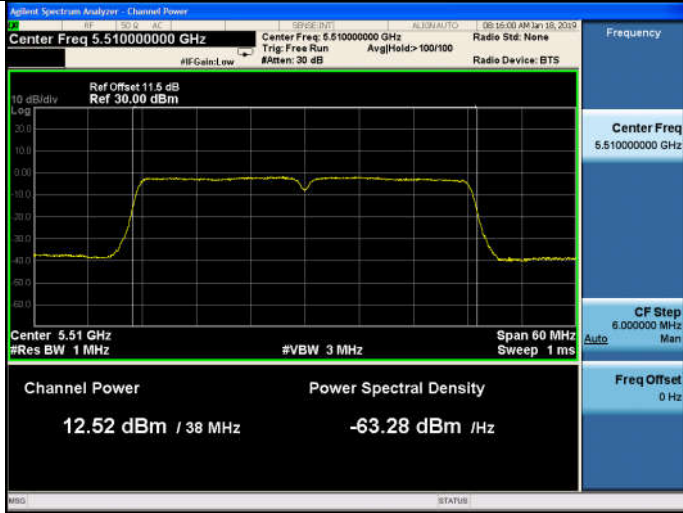


5700MHz

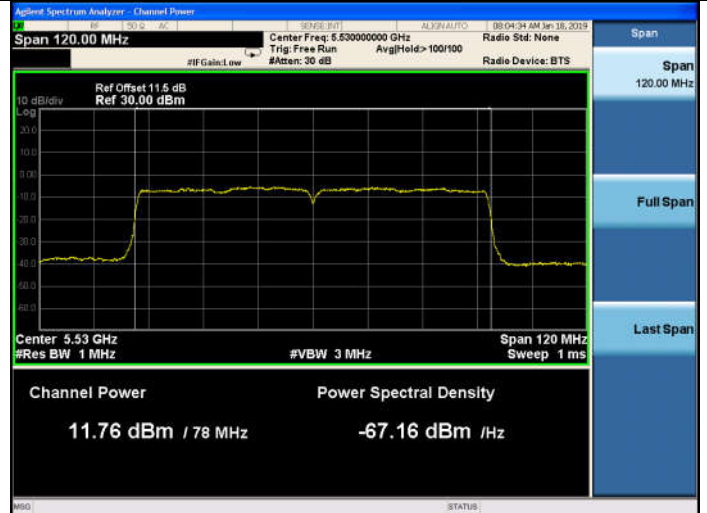




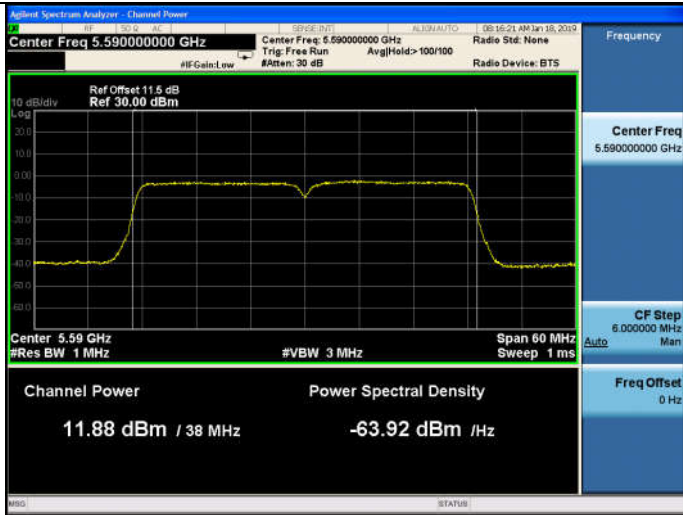
11ac VHT40 5510MHz



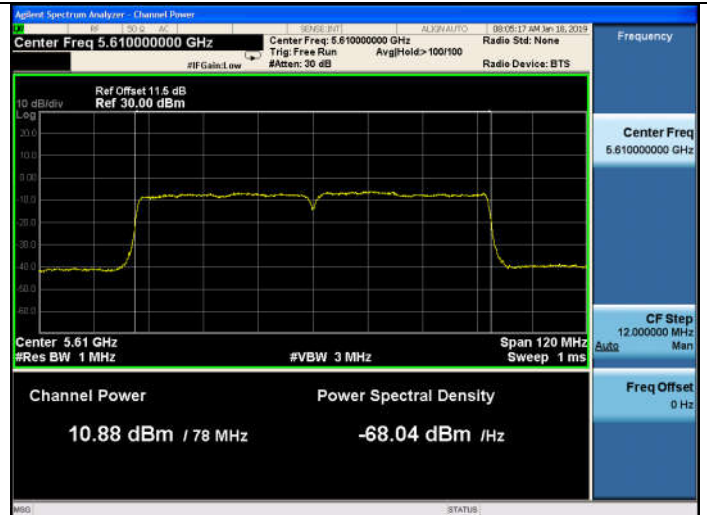
11ac VHT80 5530MHz



5590MHz



5610MHz



5670MHz



FCC ID: XVG500102BC22

5745-5825MHz Band:

ANT 0

11a

5745MHz

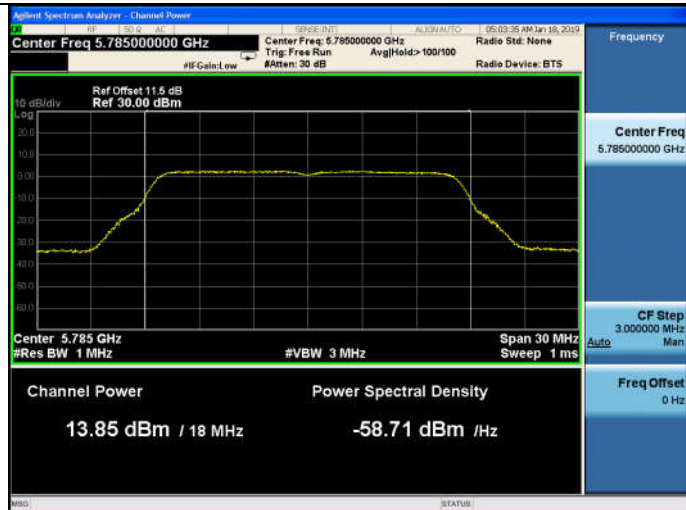


11n HT20

5745MHz



5785MHz



5785MHz

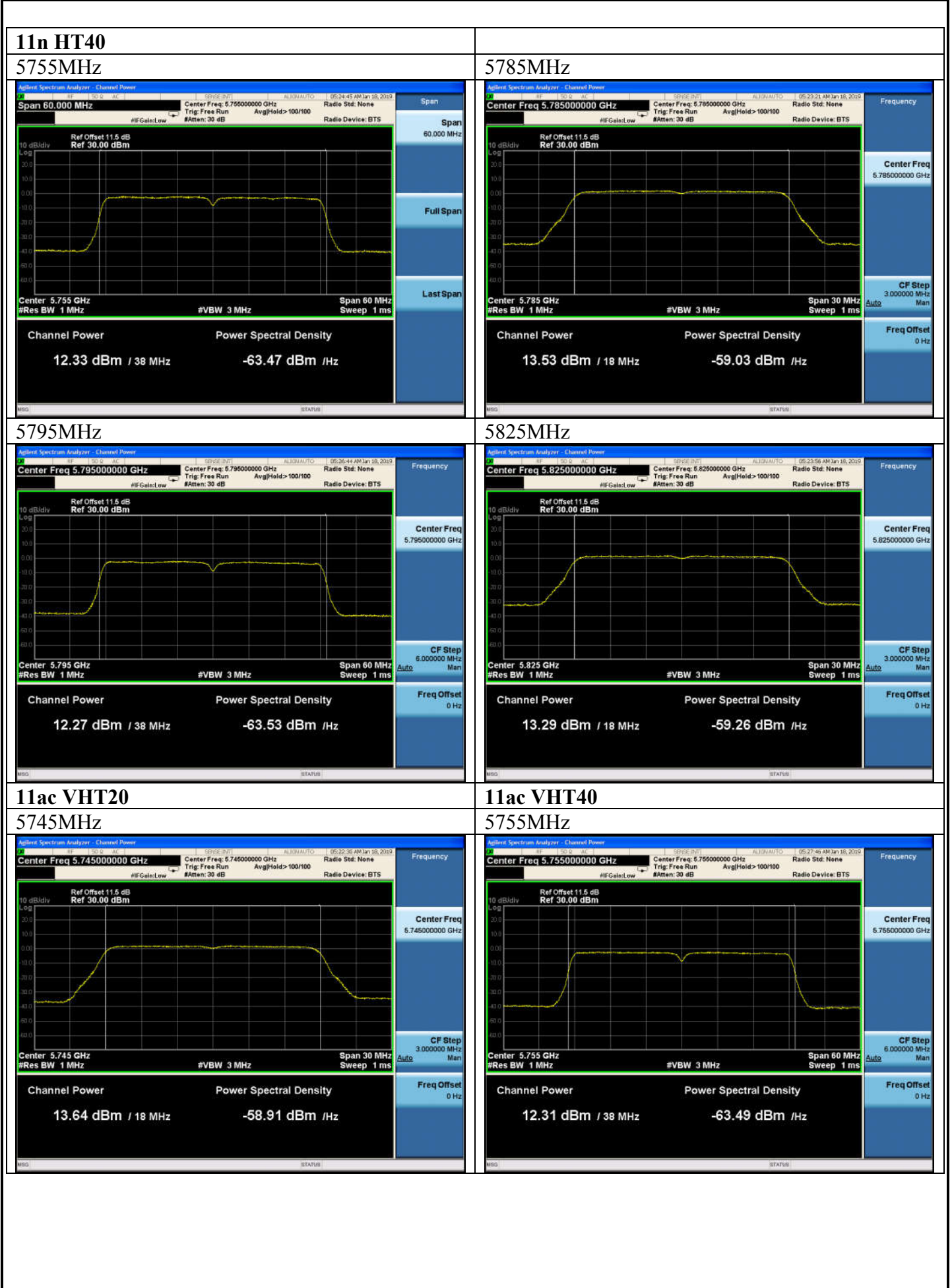


5825MHz

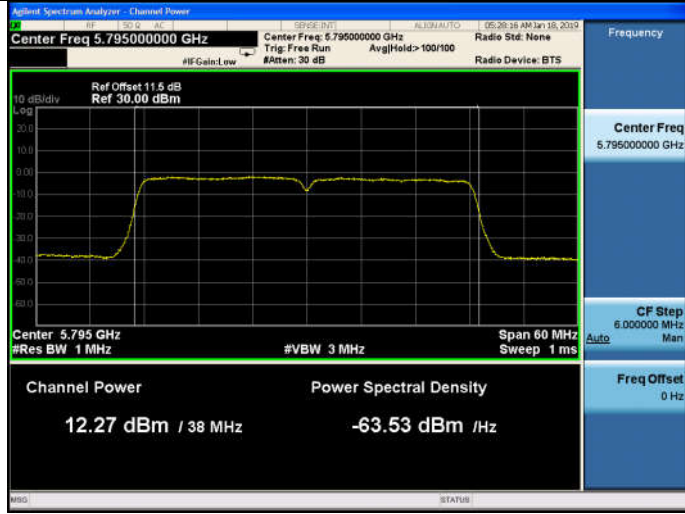


5825MHz





5795MHz



11ac VHT80 5775MHz

