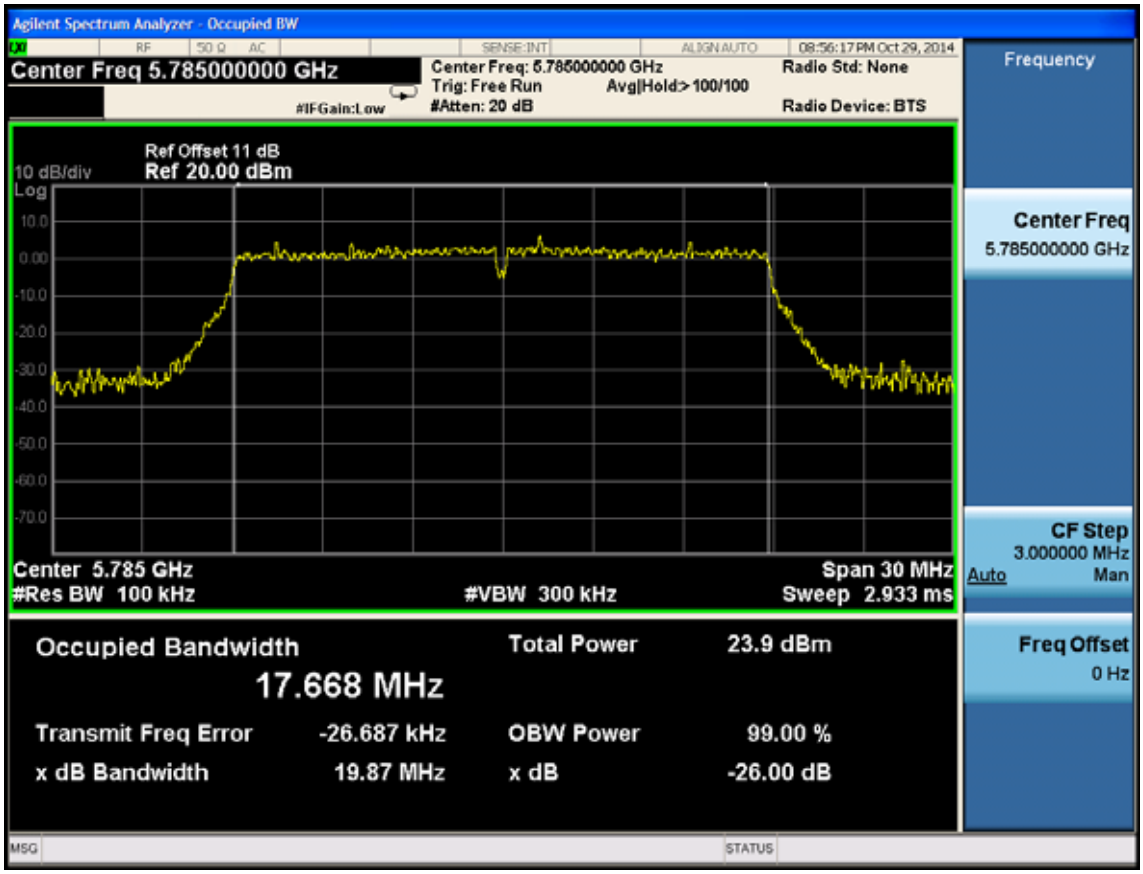
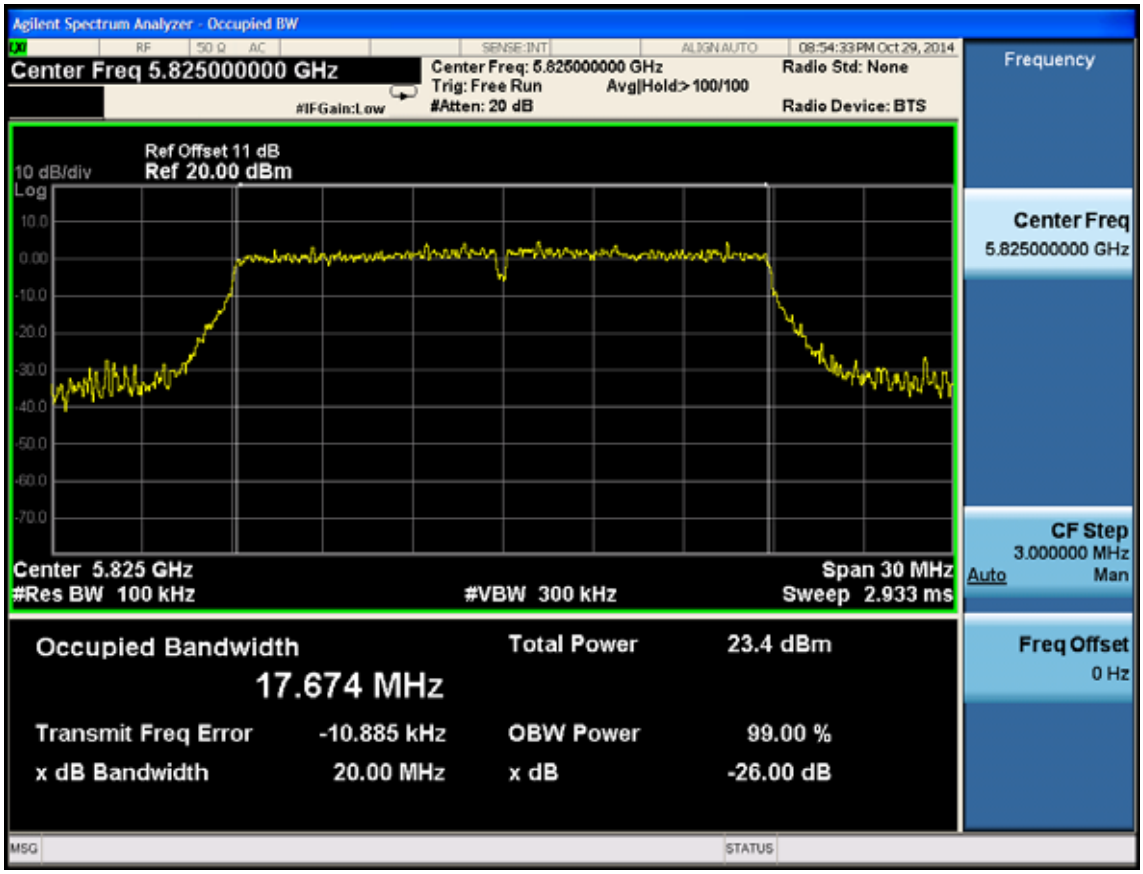
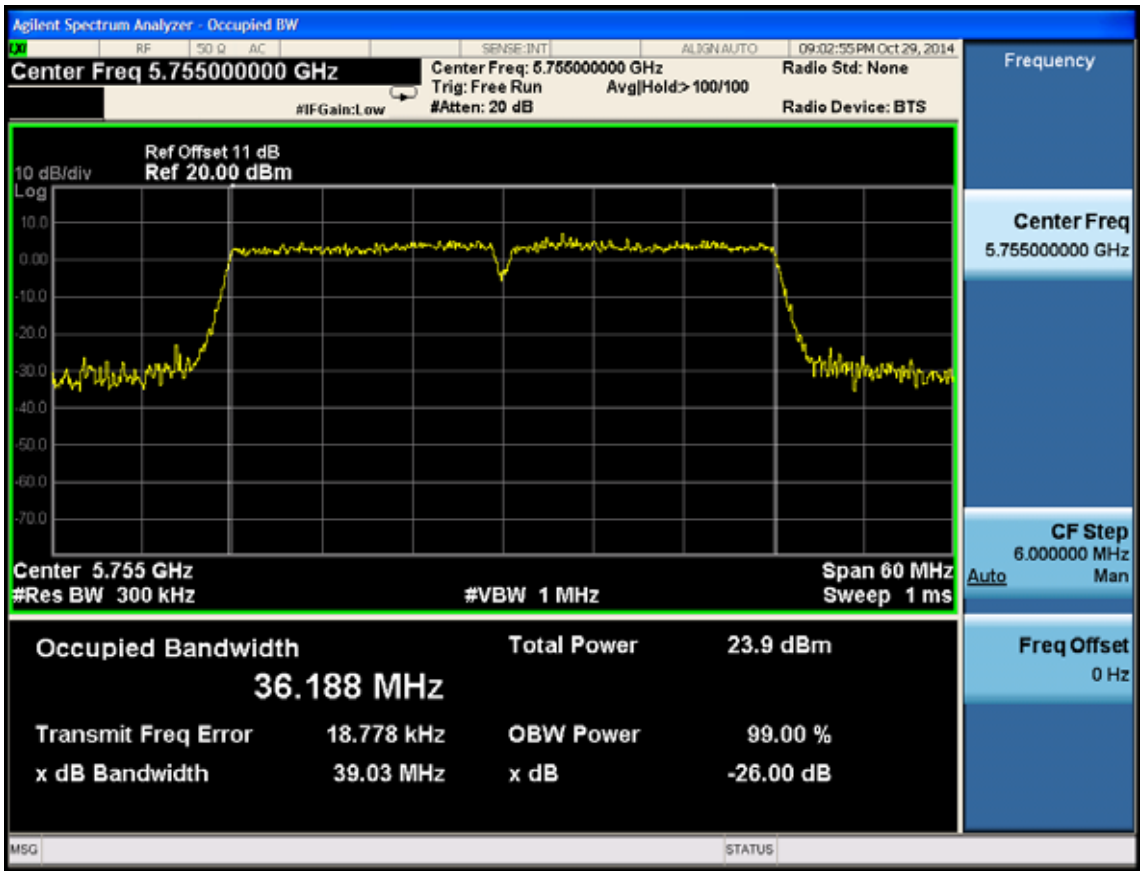
5785MHz



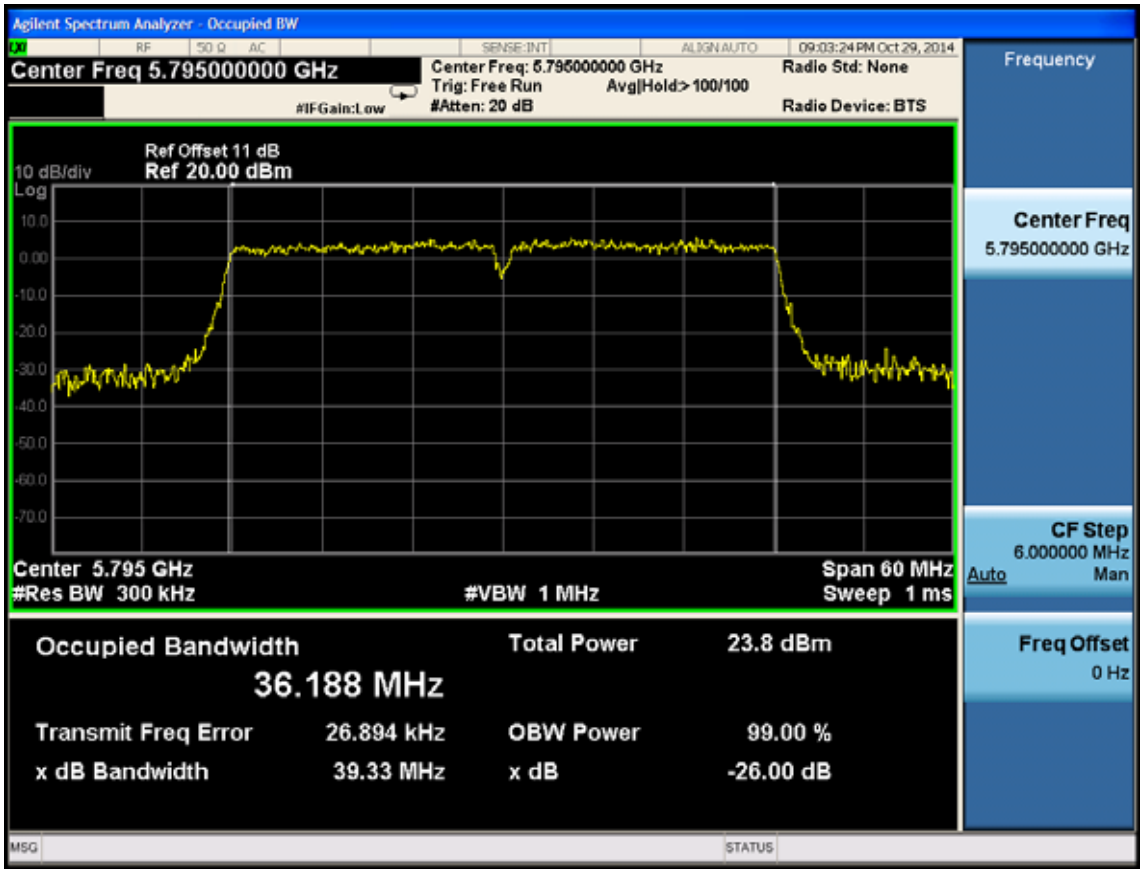
5825MHz



11n HT40
5755MHz



5795MHz



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.31, 13	1Year
2.	Power meter	Anritsu	ML2487A	6K00002472	April 28,14	1Year
3.	Power sensor	Anritsu	MA2491A	0033005	April 28,14	1Year
4.	Attenuator (20dB)	Agilent	8491B	MY39262165	April 28,14	1 Year
5.	RF Cable	Hubersuhner	SUCOFLEX102	28620/2	April 28,14	1 Year

7.2. Limit

For an access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi.
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 and 802.11ac VHT40 & 80 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.

7.4.Test Results

UNII Band1:

EUT:AC1750 Wireless Dual Band PCI Express Adapter		
M/N: Archer T8E		
Test date: 2014-10-21	Pressure: 101.2±1.0 kpa	Humidity: 51.3±3.0%
Tested by: Kobe_Huang	Test site: RF site	Temperature:22.1±0.6 ℃

Test Mode	Frequency (MHz)	Maximum Conducted Output Power (dBm)				Limit (dBm)
		ANT0	ANT1	ANT2	Total	
11a	5180	16.95	17.44	17.41	22.04	30
	5200	18.02	18.84	18.51	22.04	30
	5240	12.27	12.45	12.13	17.06	30
11n HT20	5180	18.51	18.68	18.71	22.09	30
	5200	17.67	18.26	18.35	22.87	30
	5240	13.04	13.06	13.07	17.83	30
11n HT40	5190	12.54	13.23	13.22	17.78	30
	5230	13.28	13.87	14.44	18.66	30
11ac VHT20	5180	18.87	18.8	19.06	22.02	30
	5200	18.15	18.97	18.82	22.10	30
	5240	13.07	13.16	13.46	18.00	30
11ac VHT40	5190	13.21	13.46	13.5	18.16	30
	5230	13.61	14.27	14.69	18.98	30
11ac VHT80	5210	13.74	14.47	14.51	19.03	30
Conclusion: PASS						

Note:

11a/n/ac working at CDD mode which described in KDB662911.
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$

UNII Band4:

EUT: AC1750 Wireless Dual Band PCI Express Adapter		
M/N: Archer T8E		
Test date: 2014-10-21	Pressure: 101.1±1.0kpa	Humidity: 51.2±3.0%
Tested by: Kobe_Huang	Test site: RF site	Temperature:22.5±0.6℃

Test Mode	Frequency (MHz)	Peak Output Power (dBm)				Limit (dBm)
		ANT0	ANT1	ANT2	Total	
11a	5745	18.59	18.43	18.24	23.19	30
	5785	18.45	18.41	18.20	23.13	30
	5825	18.36	18.27	18.02	22.99	30
11n HT20	5745	18.24	18.26	17.91	22.91	30
	5785	17.63	17.86	17.37	22.40	30
	5825	18.02	18.20	17.73	22.76	30
11n HT40	5755	18.16	18.35	18.56	23.13	30
	5795	18.36	18.54	18.44	23.22	30
11ac VHT20	5745	18.31	18.39	17.84	22.96	30
	5785	17.88	18.00	17.79	22.66	30
	5825	18.41	18.28	17.71	22.92	30
11ac VHT40	5755	18.35	18.57	18.74	23.33	30
	5795	18.16	18.48	18.46	23.14	30
11ac VHT80	5775	18.10	17.96	17.98	22.78	30
Conclusion: PASS						

Note:

11a/n/ac working at CDD mode which described in KDB662911.

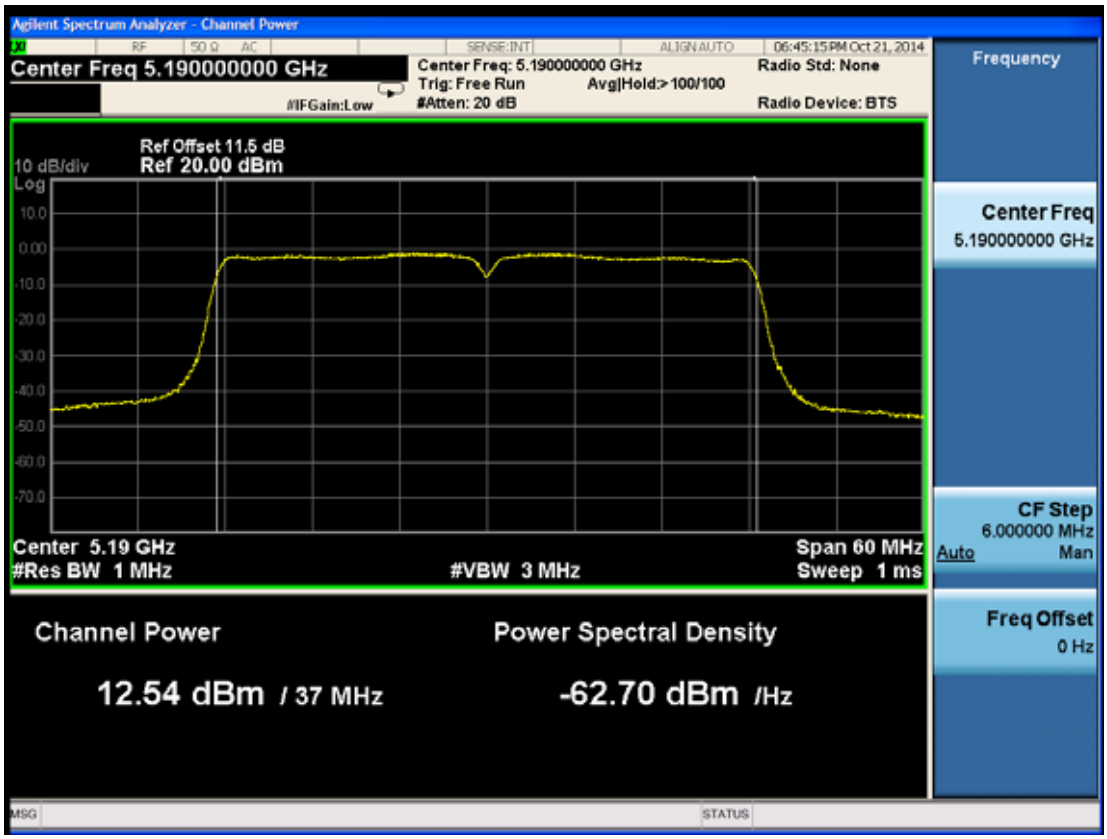
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$

UNII Band1:

ANT0

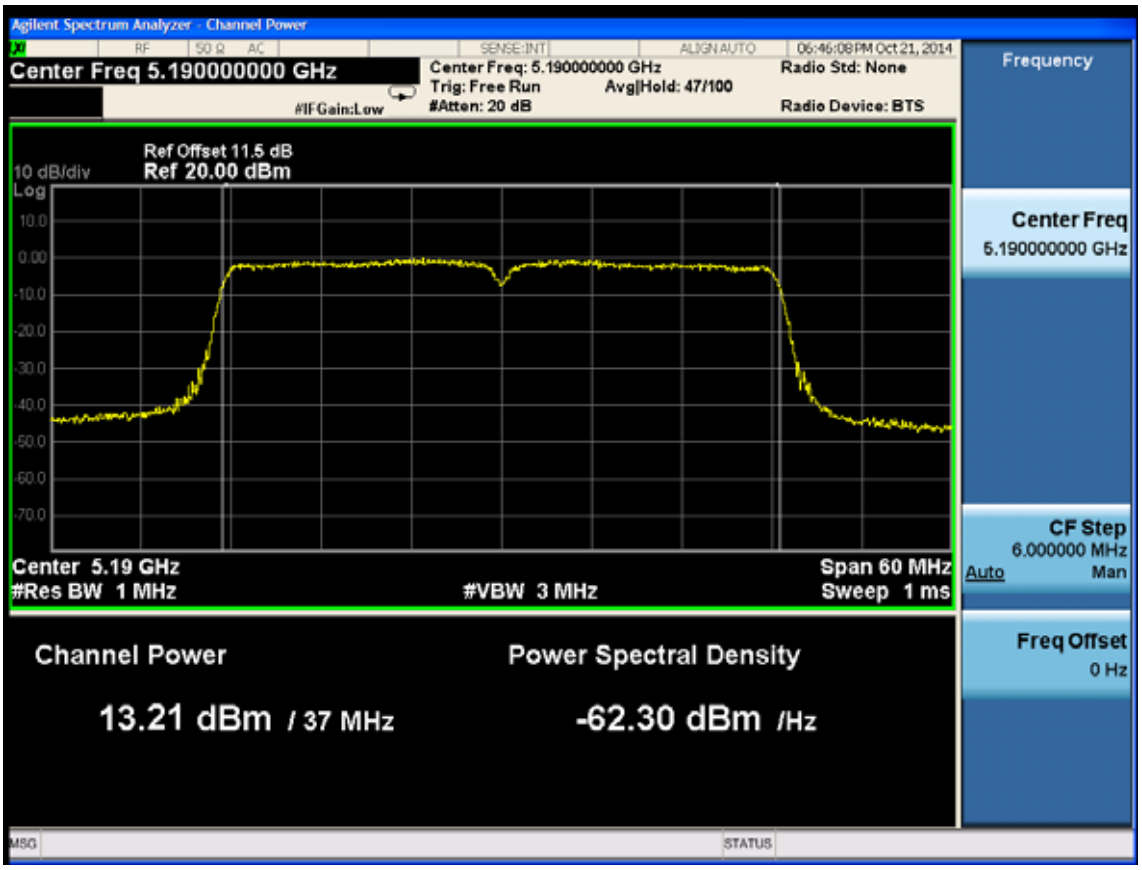
11n HT40

5190MHz

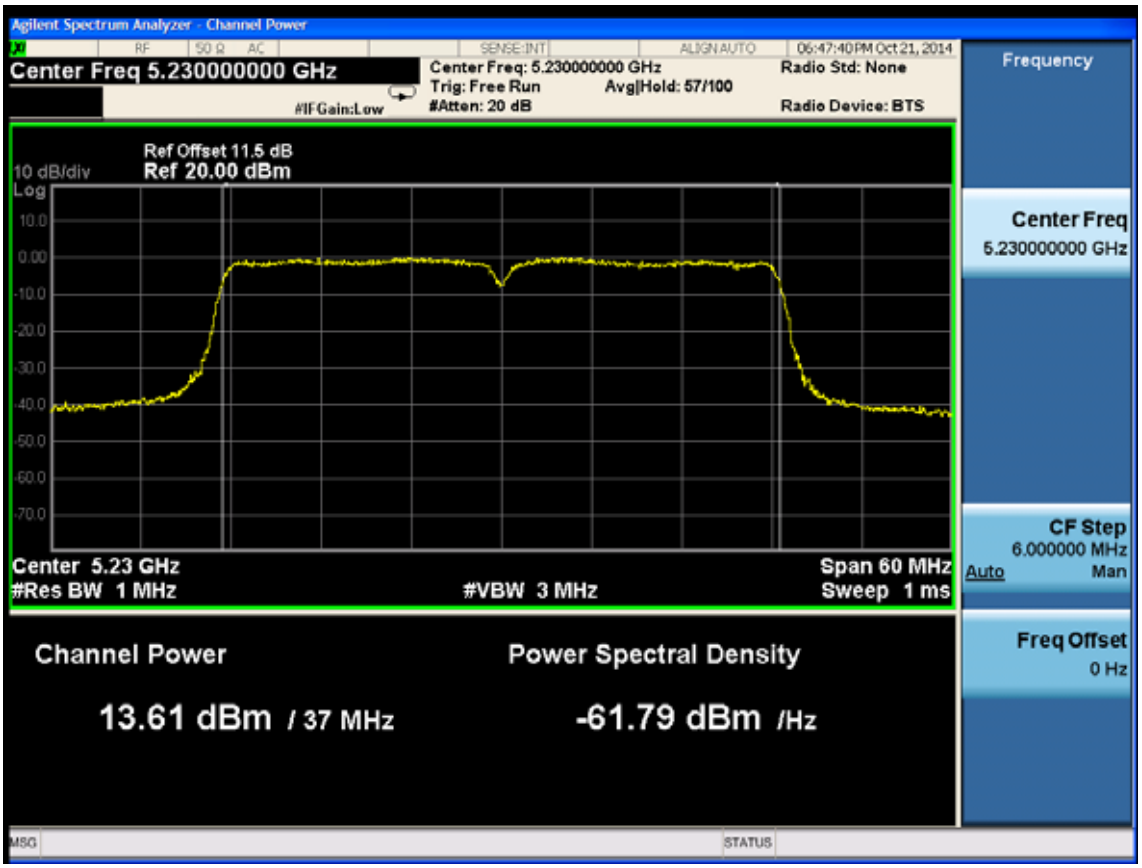


5230MHz

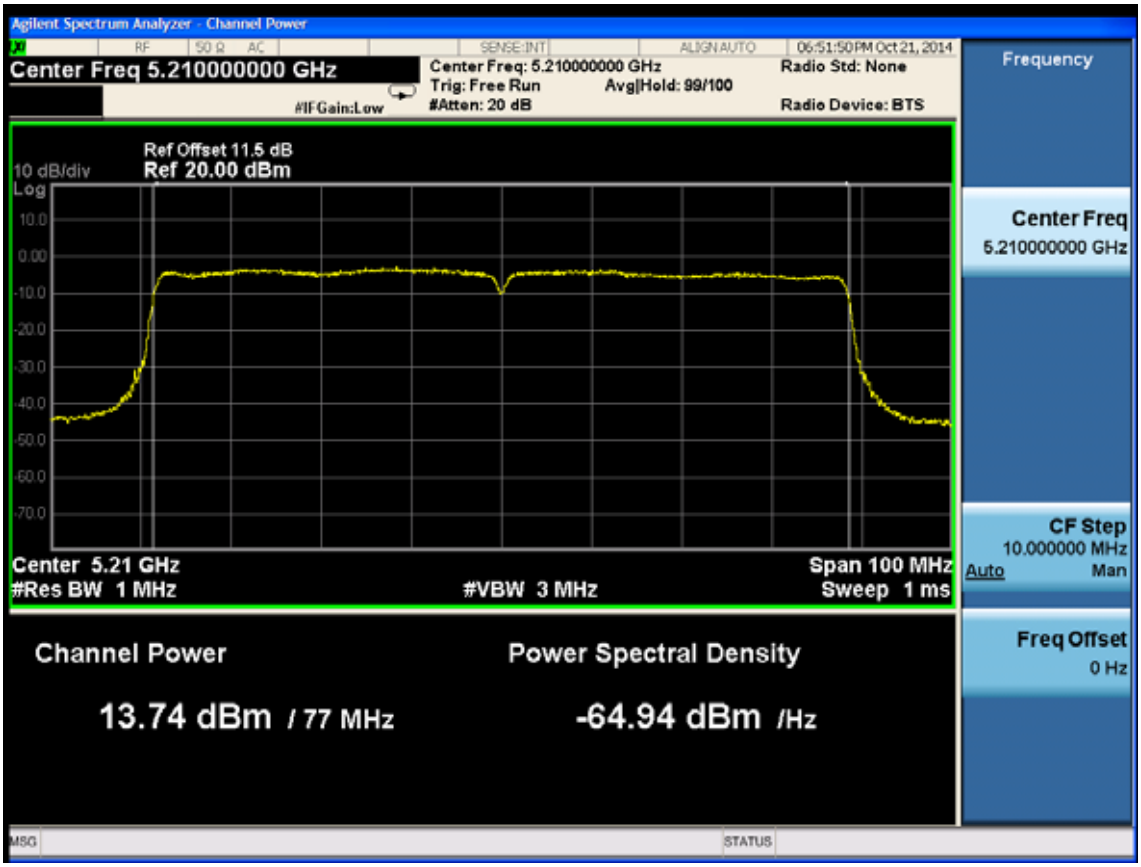
11ac VHT40
5190MHz



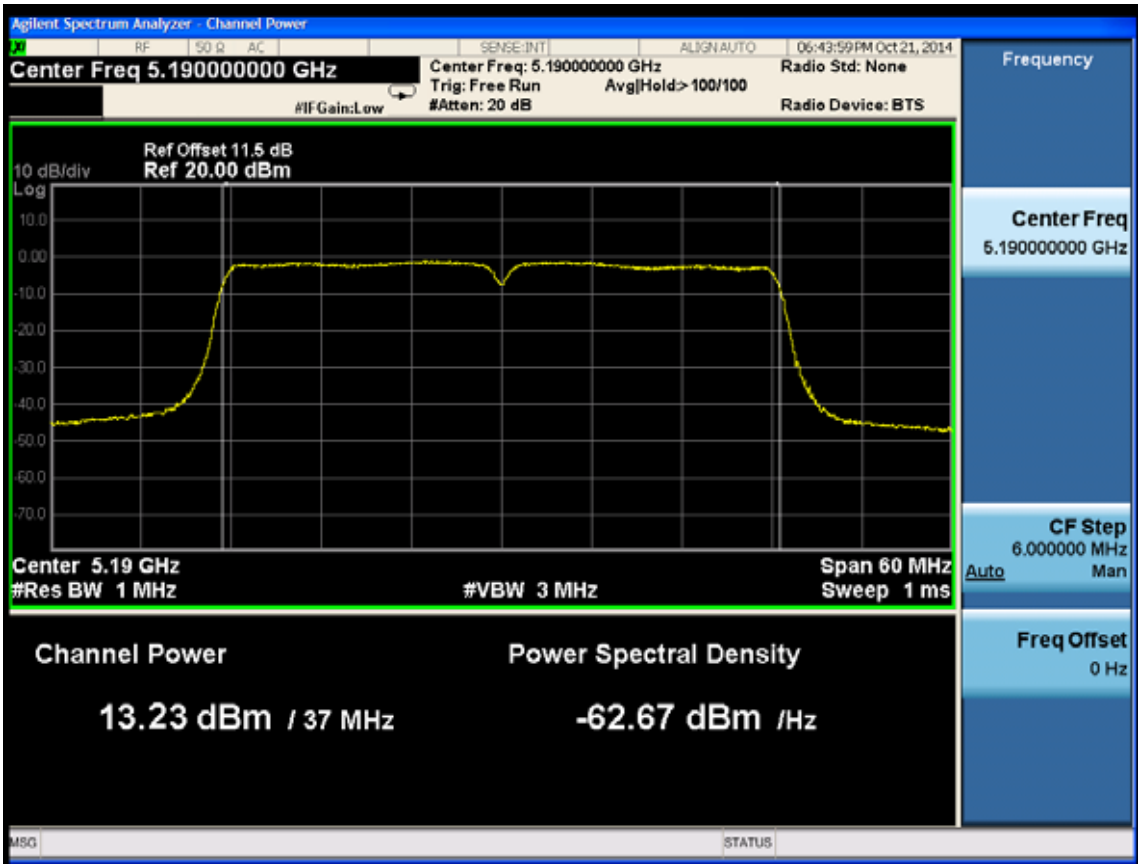
5230MHz



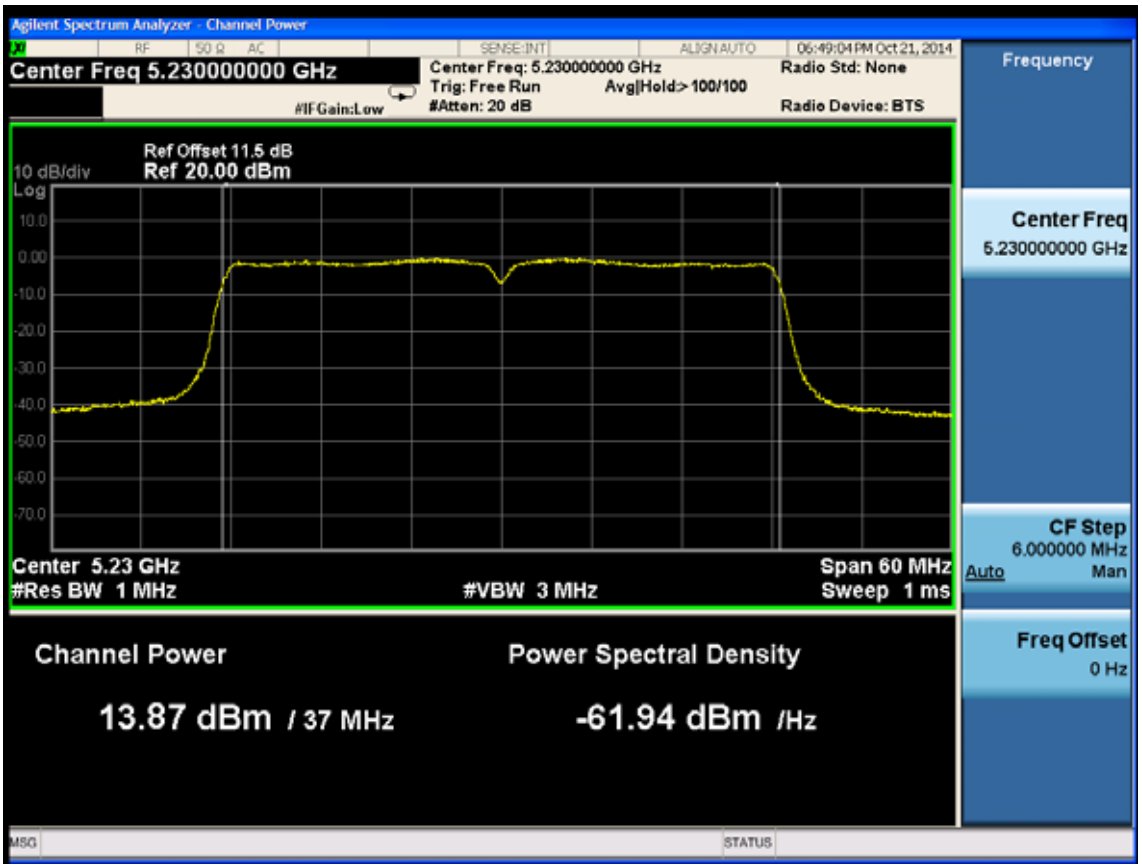
11ac VHT80
5210MHz



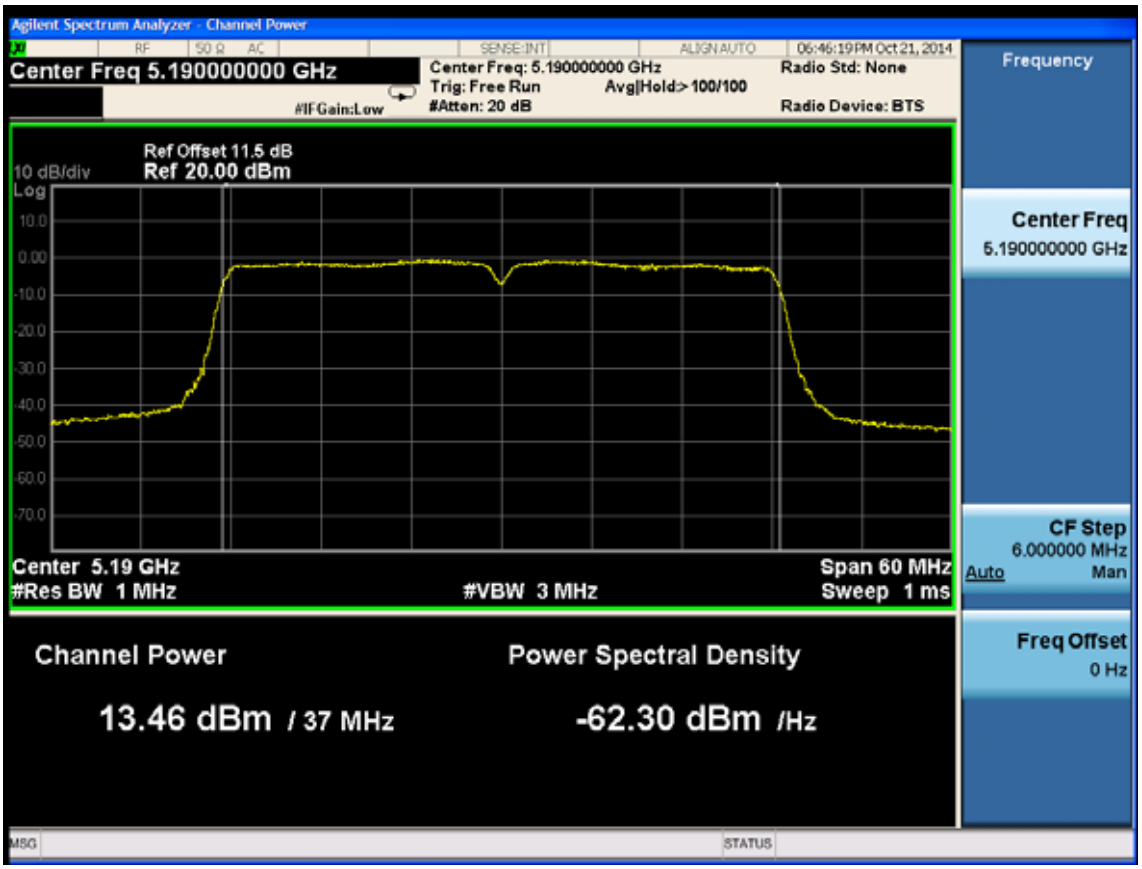
ANT1
11n HT40
5190MHz



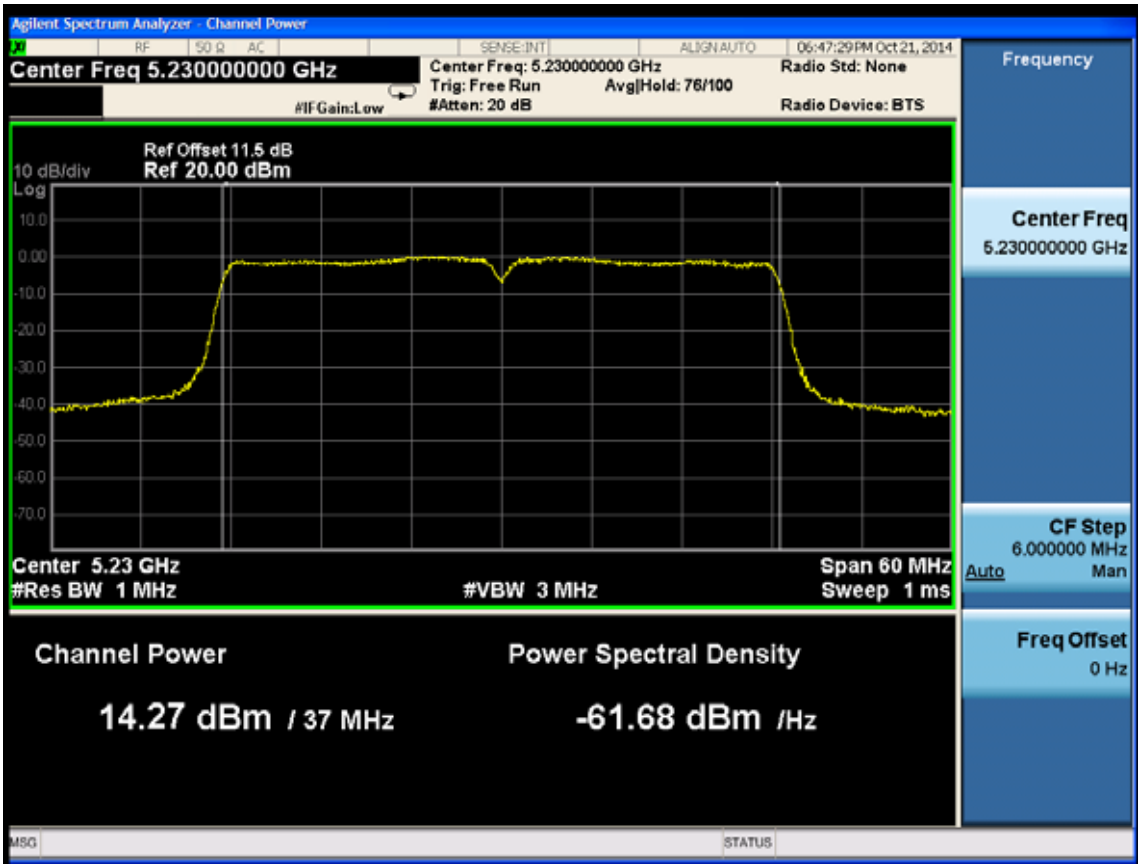
5230MHz



11ac VHT40
5190MHz



5230MHz

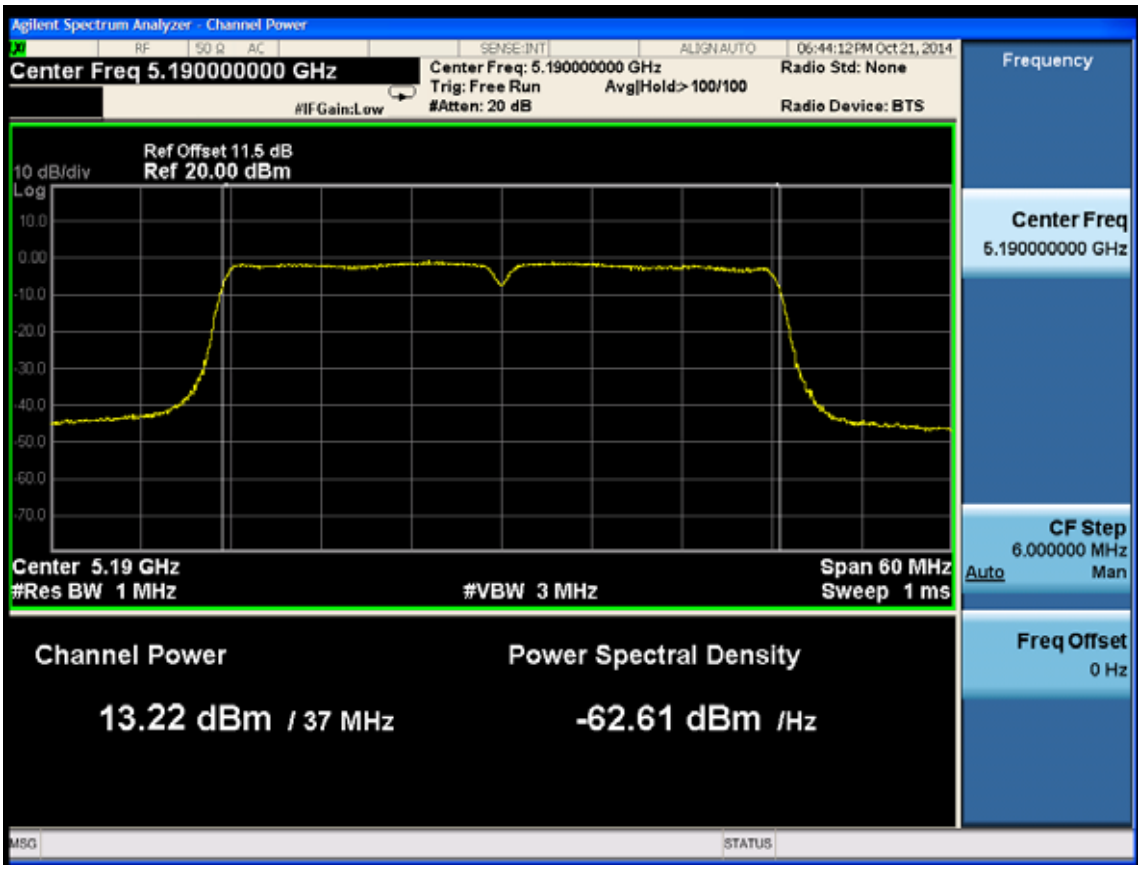


11ac VHT80
5210MHz

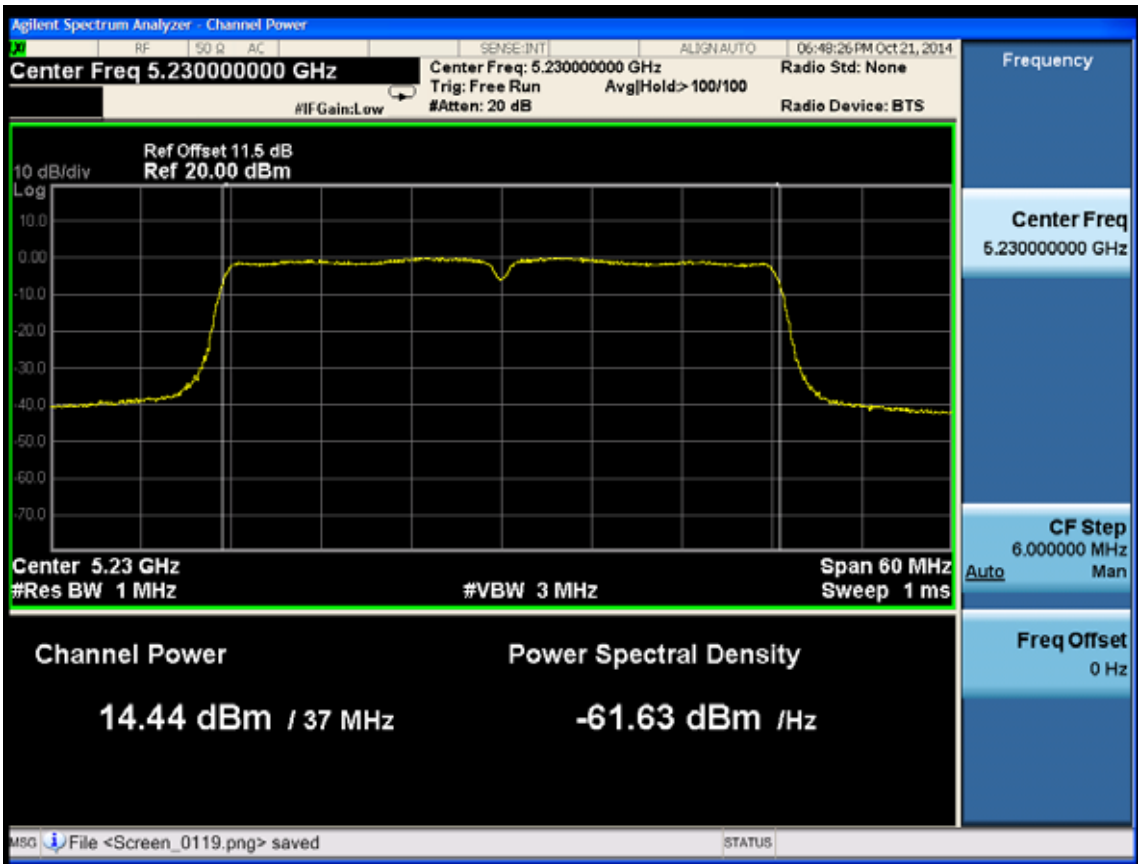
ANT2

11n HT40

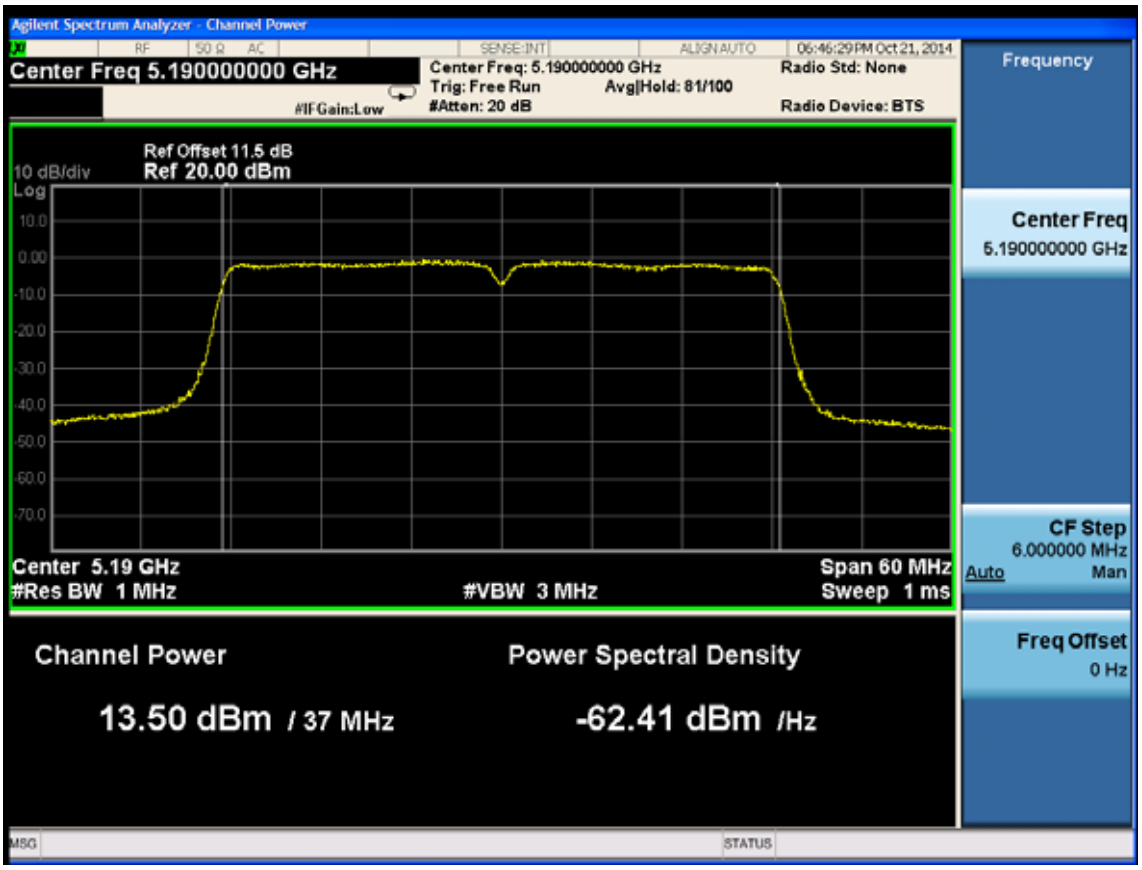
5190MHz



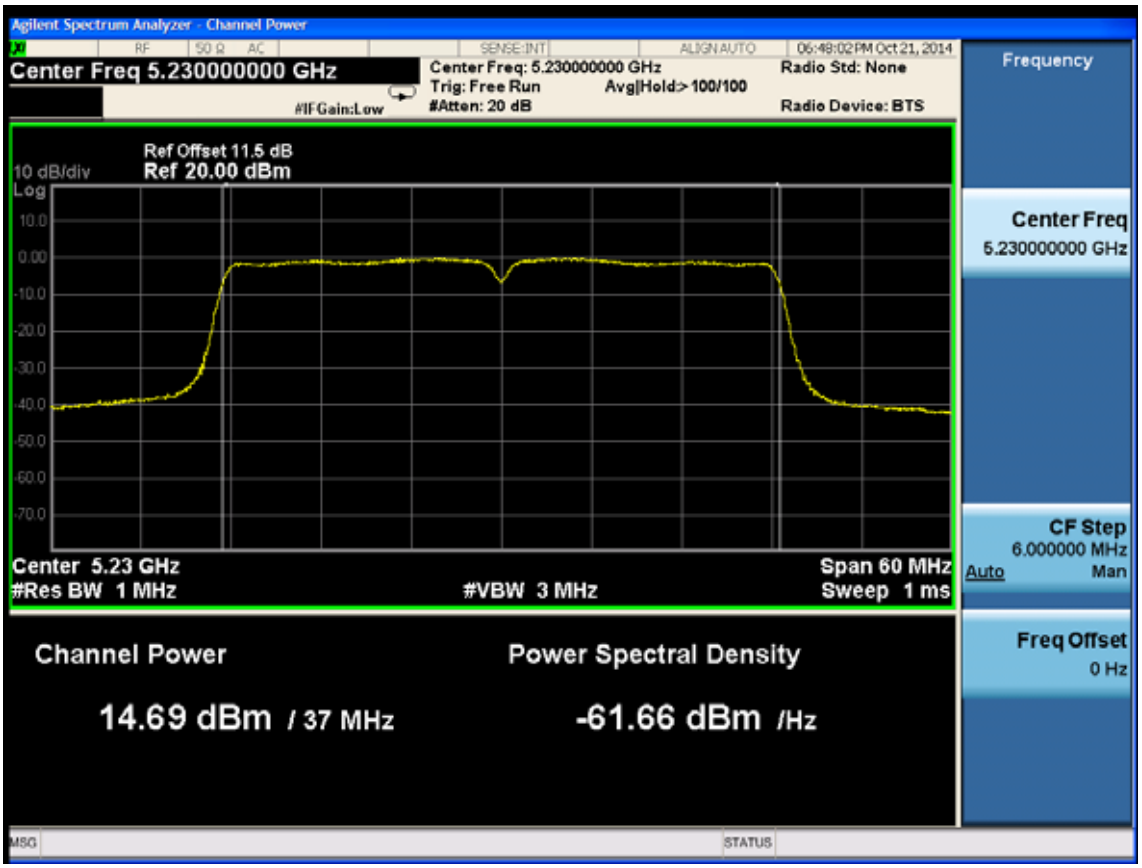
5230MHz



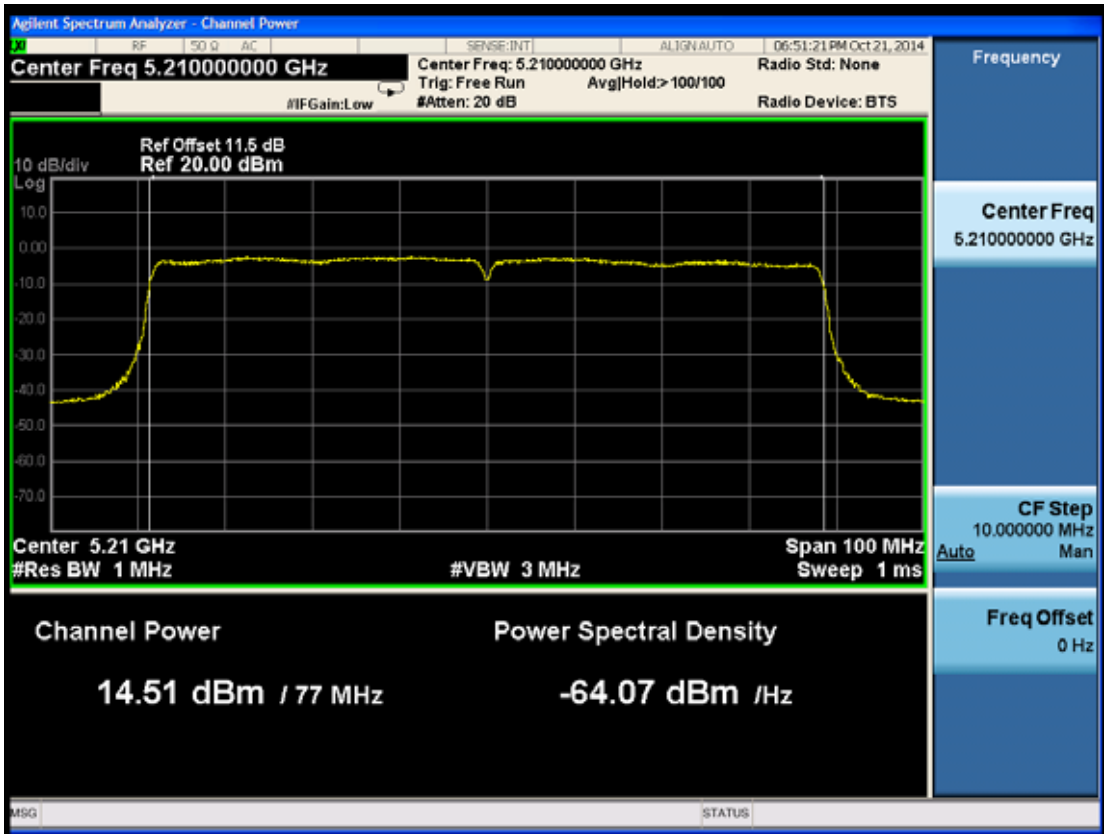
11ac VHT40
5190MHz



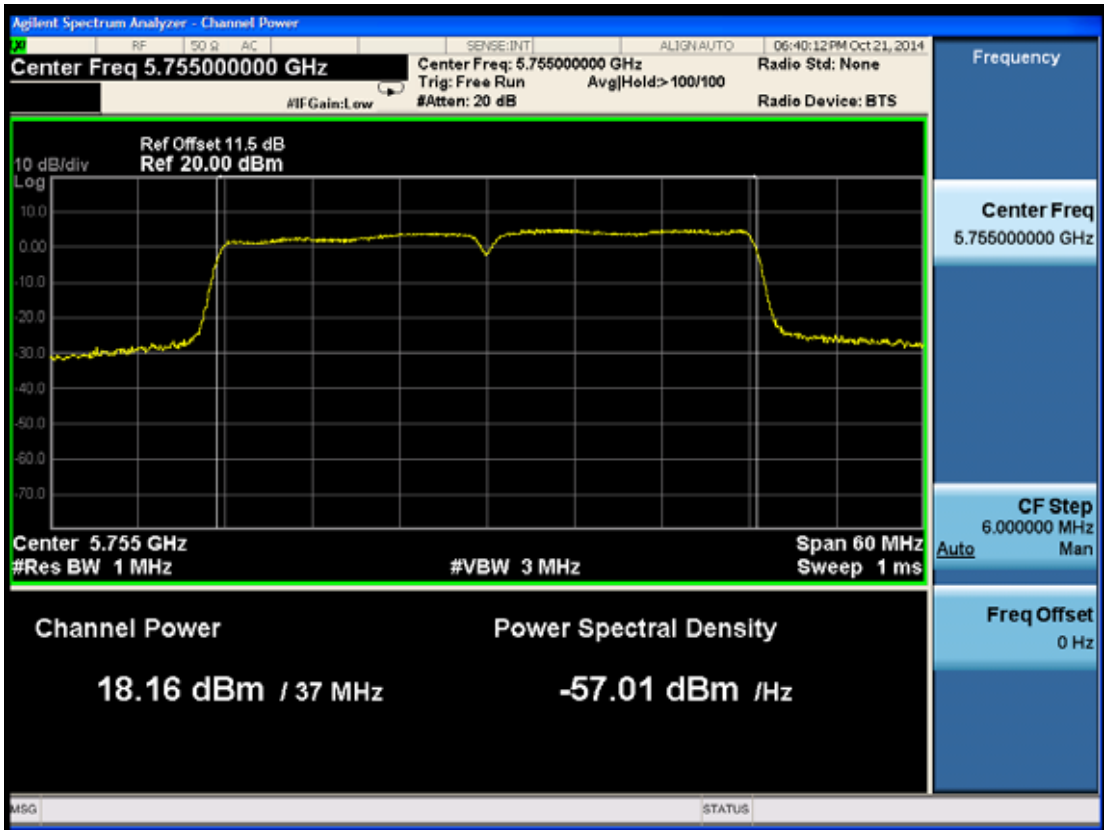
5230MHz



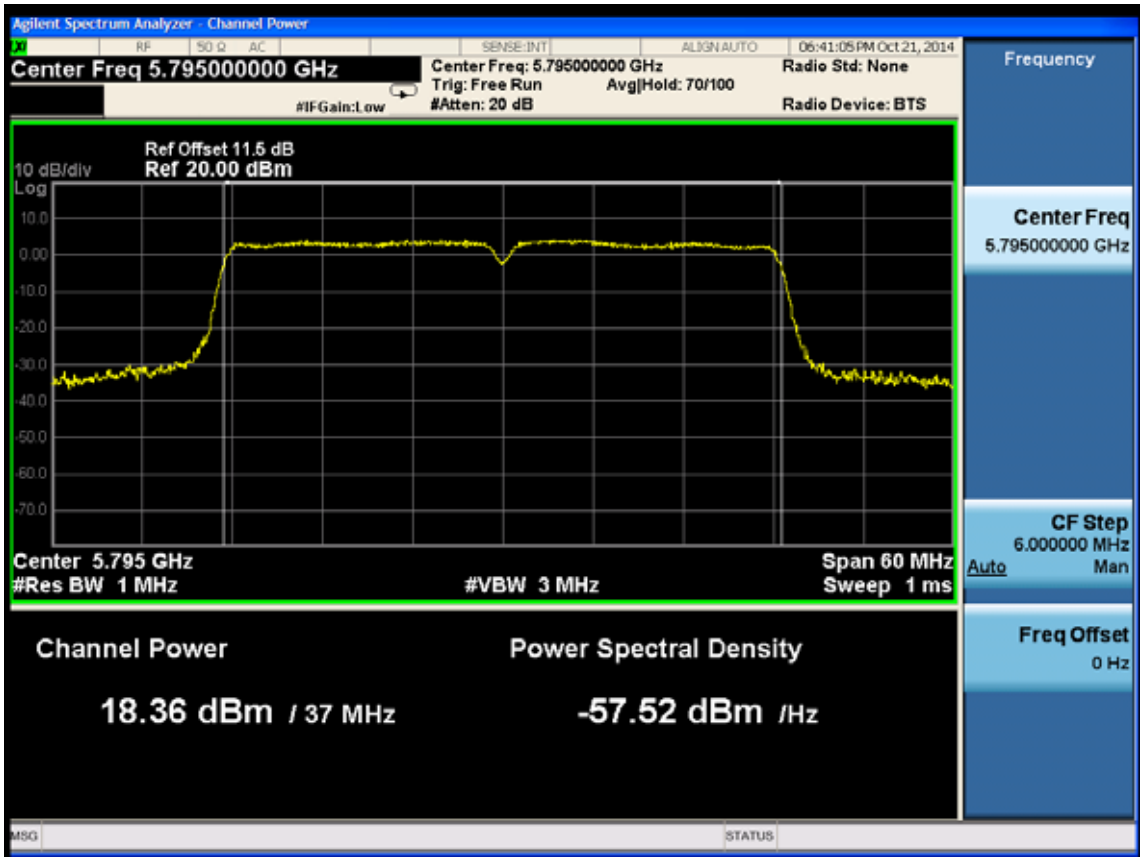
11ac VHT80
5210MHz



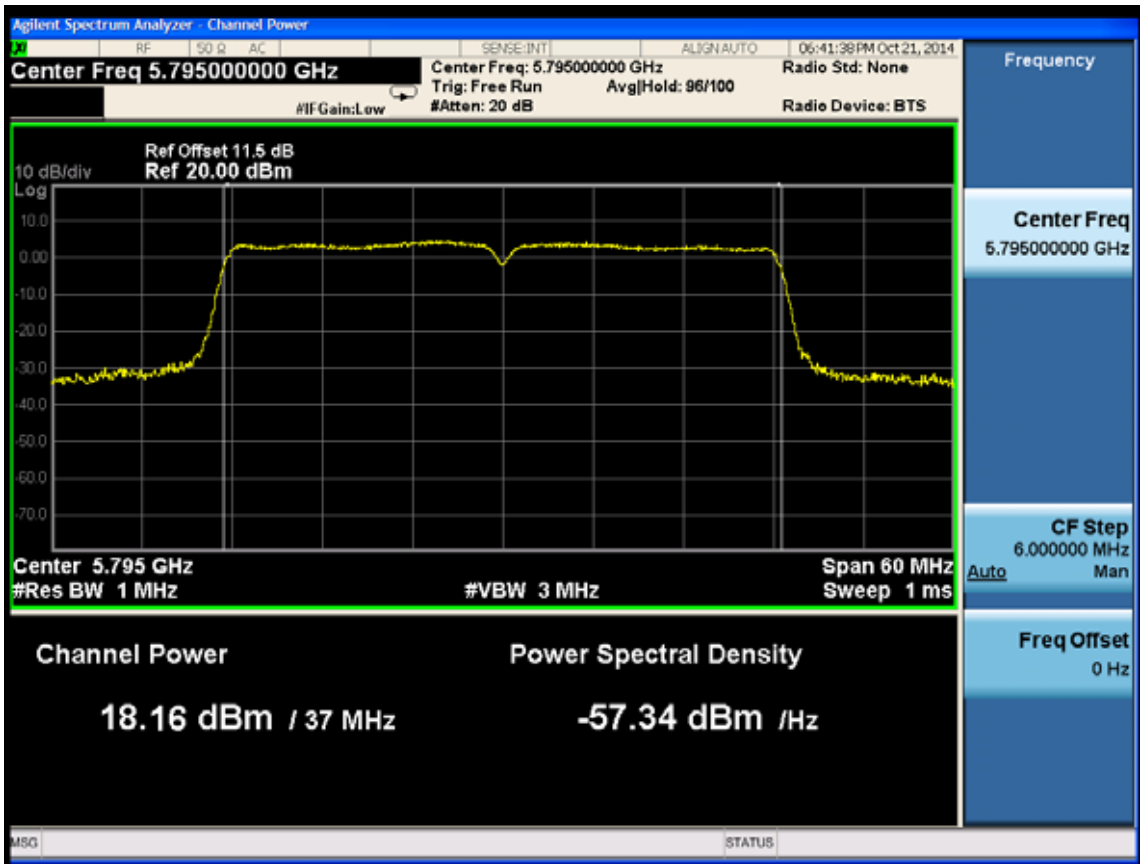
UNII Band4:
ANT 0:
11n HT40
5755MHz



5795MHz

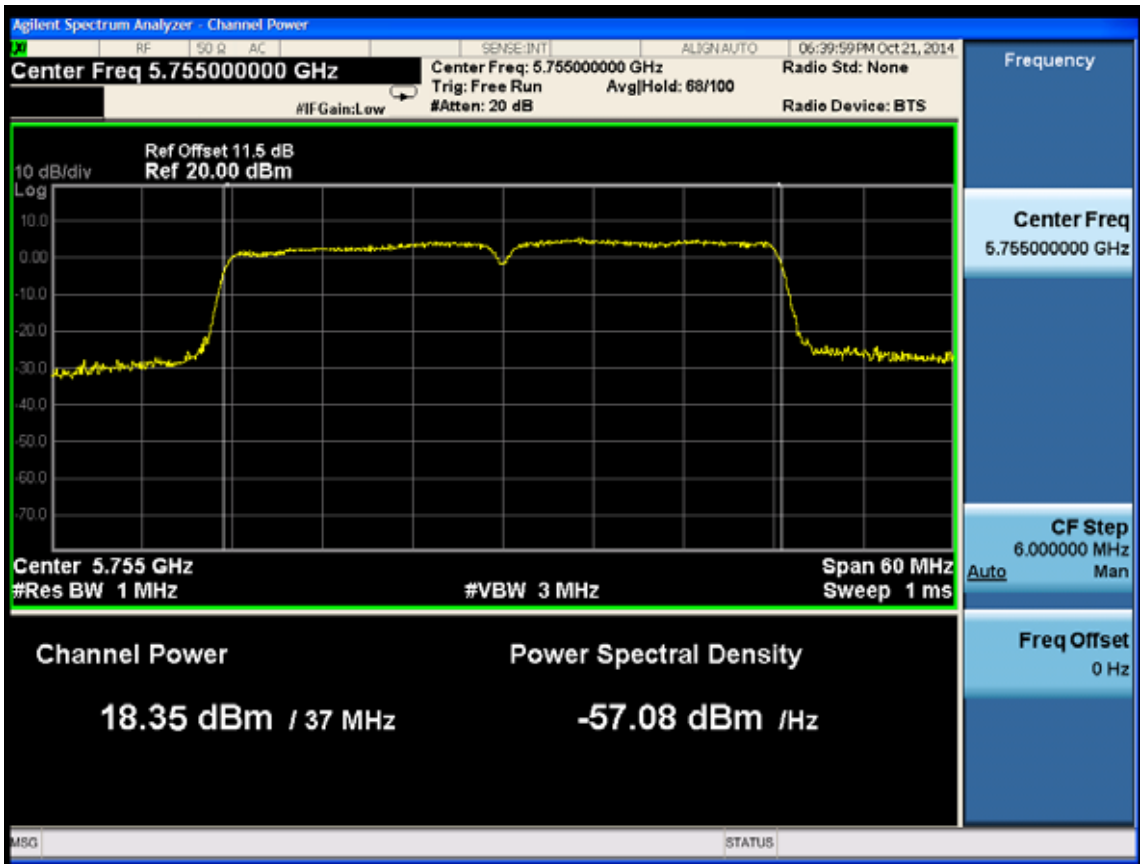


11ac VHT40
5755MHz

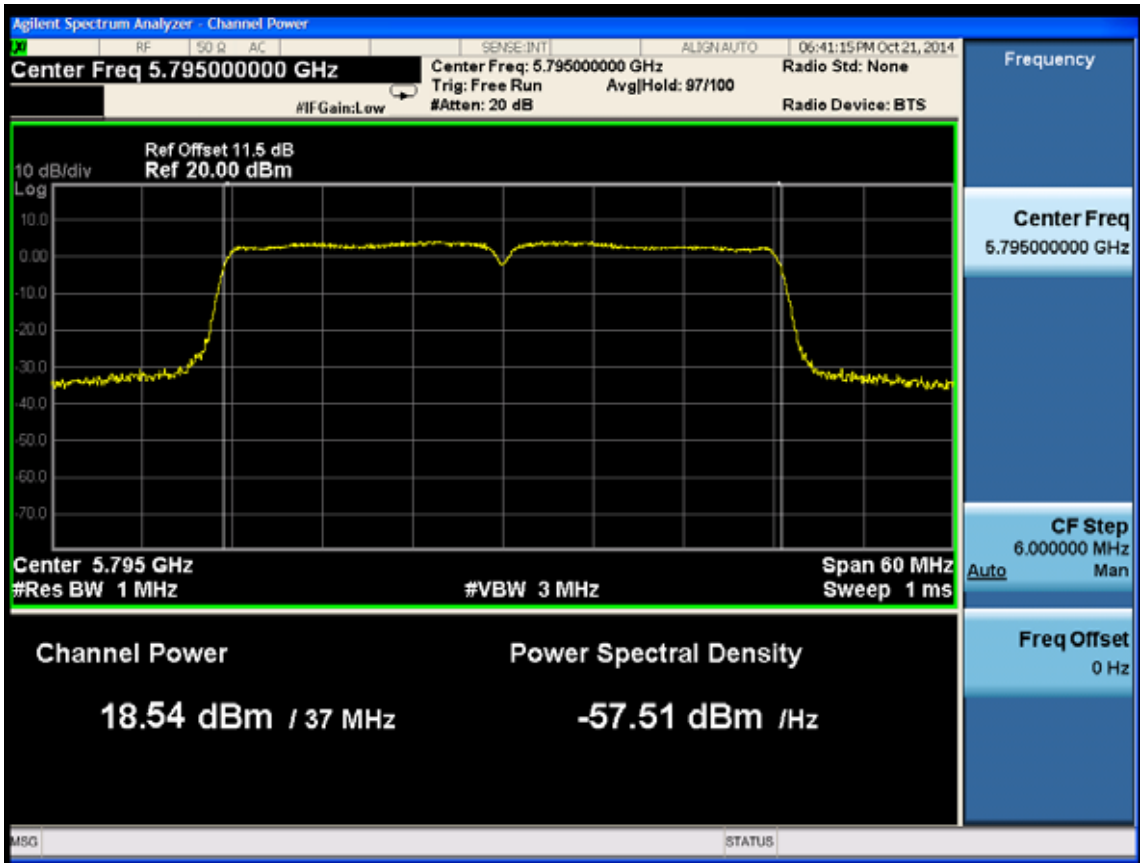


11ac VHT80
5775MHz

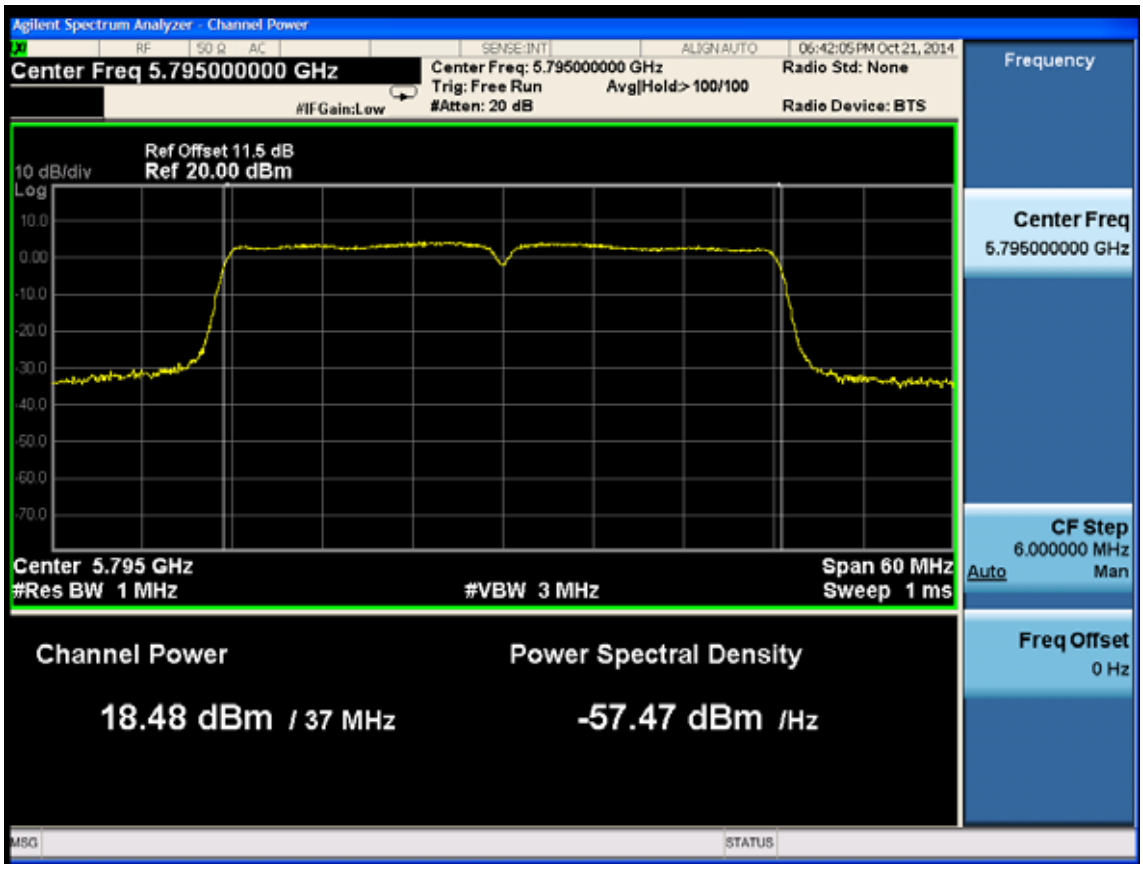
ANT 1:
11n HT40
5755MHz



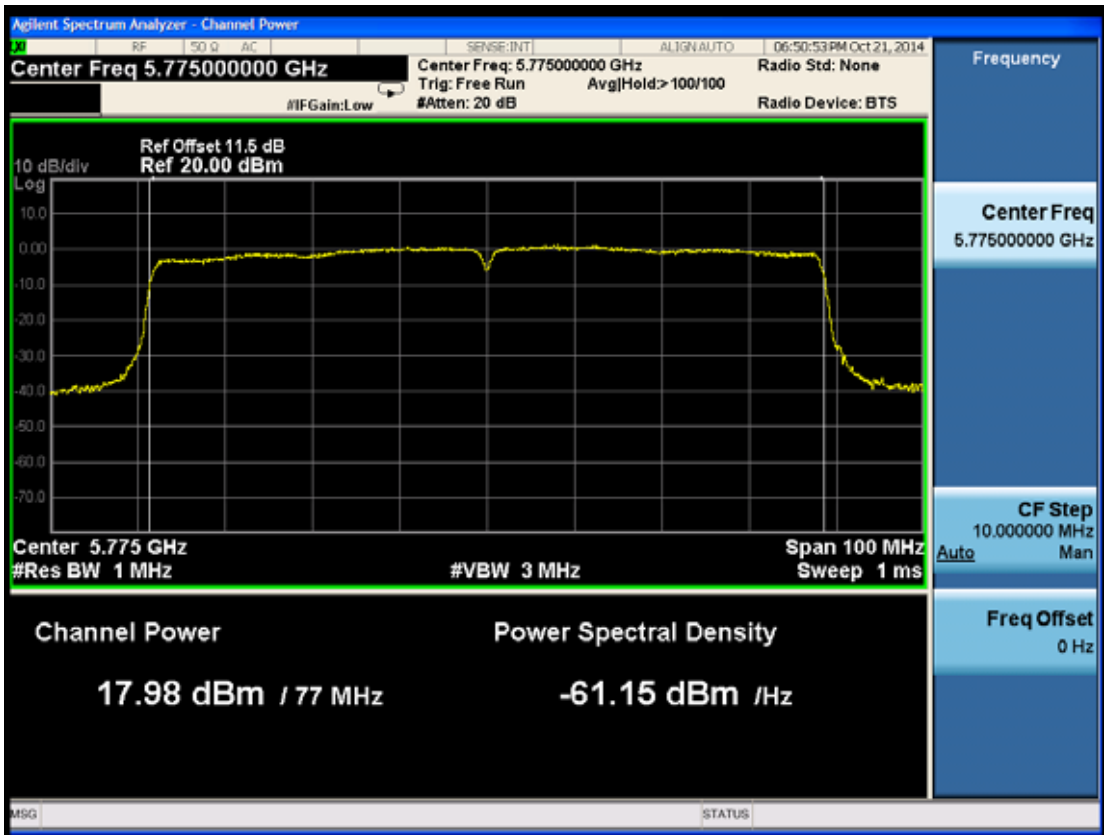
5795MHz



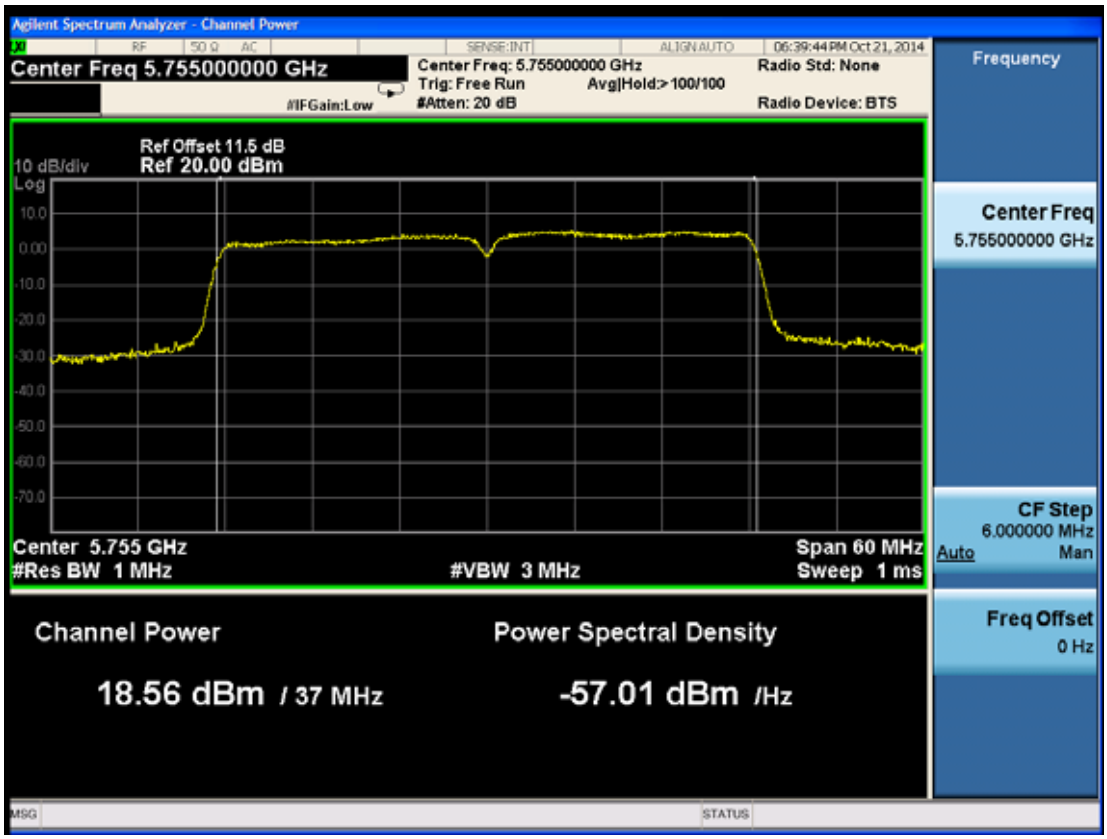
11ac VHT40
5755MHz



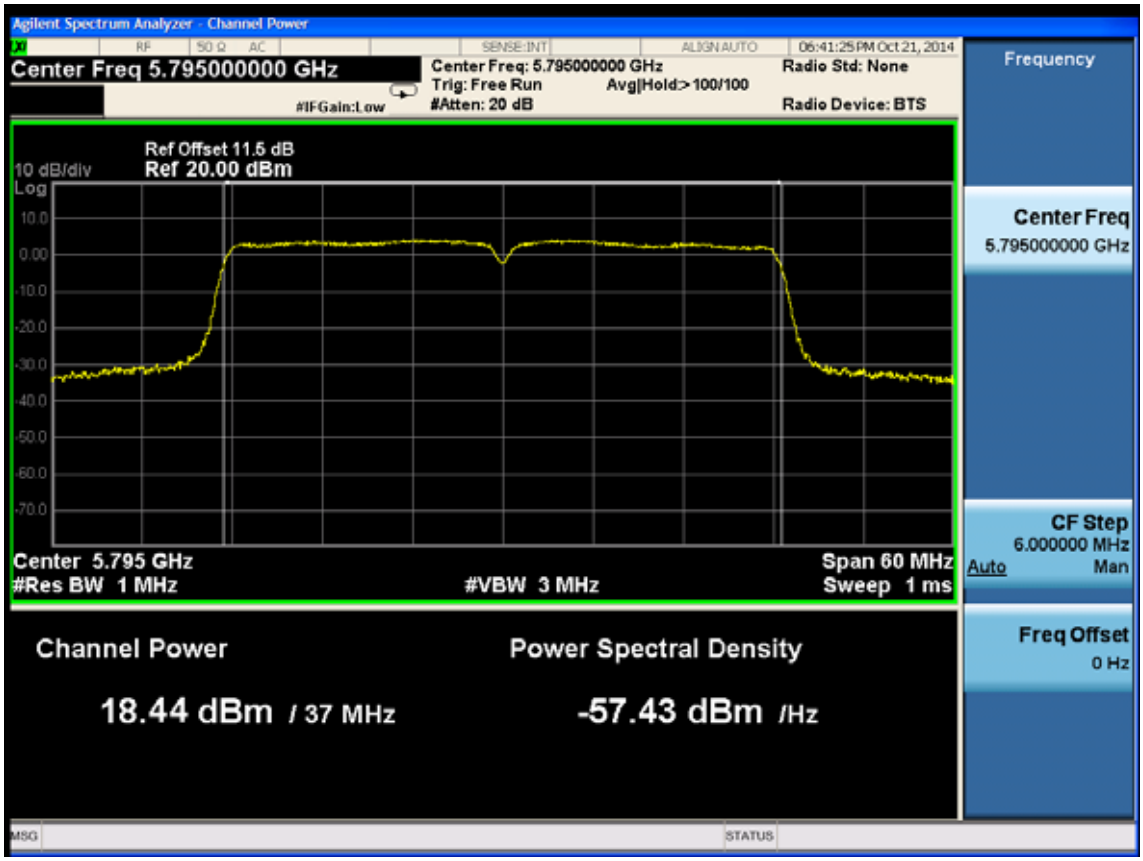
11ac VHT80
5775MHz



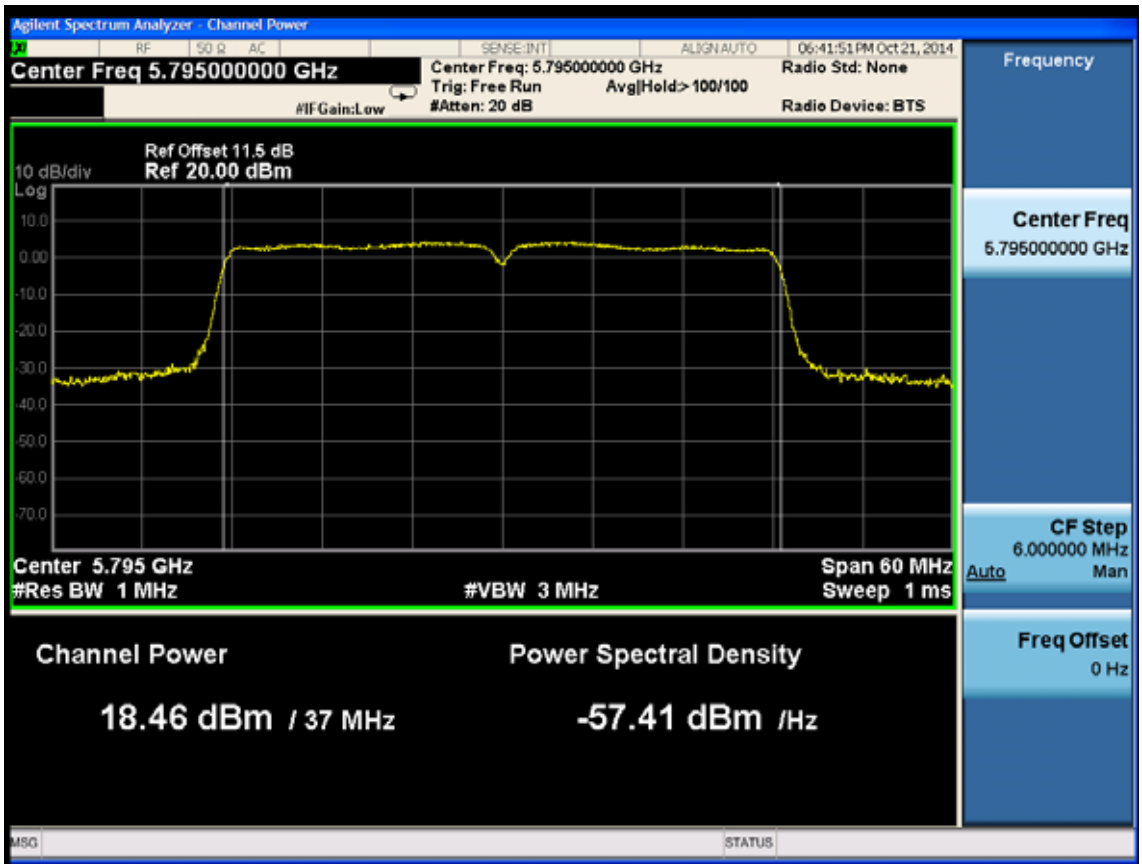
ANT 2:
11n HT40
5755MHz



5795MHz



11ac VHT40
5755MHz



11ac VHT80
5775MHz

8. SPECTRAL DENSITY TEST

8.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	US44300459	Apr. 28,14	1 Year
2.	Spectrum	Agilent	N9030A	MY51380221	Oct.31, 13	1Year
3.	Attenuator (20dB)	Agilent	8491B	MY39262165	Apr. 28,14	1 Year
4	RF Cable	Hubersuhner	SUCOFLEX102	28610/2	Apr. 28,14	1 Year

8.2. Limit

For an access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band.
For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500kHz band.

8.3. Test Procedure

For the Band 5.15-5.25GHz:
The transmitter output was connected to a spectrum analyzer. Power density was measured by spectrum analyzer with 1MHz RBW and 3MHz VBW; Detector: RMS mode.

For the band 5.725-5.85 GHz:
The transmitter output was connected to a spectrum analyzer. Power density was measured by spectrum analyzer with 1MHz RBW and 3MHz VBW,RMS Detector.
So use the test method described in KDB789033 clause E

1) Set the RBW=100kHz and VBW =3MHz
2) Number of points in sweep ≥ 2 Span / RBW.(This ensures that bin-to-bin spacing is ≤ RBW/2, so that narrowband signals are not lost between frequency bins.)
3) Sweep time = auto
4) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
5) Use the “peak search” function of spectrum analyzer find the max value, then add 10log (500kHz/RBW) to the measured result.

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

8.4.Test Results

UNII Band1:

EUT:AC1750 Wireless Dual Band PCI Express Adapter		
M/N: Archer T8E		
Test date: 2014-10-25	Pressure: 101.1±1.0 kpa	Humidity:51.5±3.0%
Tested by: Kobe_Huang	Test site: RF site	Temperature:22.5±0.6 ℃

Test Mode	Frequency (MHz)	Power density (dBm/MHz)				Limit (dBm/MHz)
		ANT0	ANT1	ANT2	Total	
11a	5180	5.868	6.383	5.976	10.85	16.2
	5200	7.491	8.229	7.716	12.59	16.2
	5240	2.529	2.870	0.761	6.92	16.2
11n HT20	5180	7.829	7.494	7.514	12.39	16.2
	5200	7.110	8.267	7.606	12.46	16.2
	5240	3.284	2.706	2.393	7.58	16.2
11n HT40	5190	-0.960	0.570	0.482	4.86	16.2
	5230	-0.004	0.391	0.923	5.22	16.2
11ac VHT20	5180	8.176	8.307	8.584	13.13	16.2
	5200	7.947	7.894	7.712	12.62	16.2
	5240	2.278	2.470	3.326	7.49	16.2
11ac VHT40	5190	-0.553	0.205	0.586	4.88	16.2
	5230	0.551	1.020	1.075	5.66	16.2
11ac VHT80	5210	-2.159	-1.893	-1.997	2.76	16.2
Conclusion: PASS						

Note:
11a/n/ac working at CDD mode which described in KDB662911.
so directional Gain = 2 + Array Gain = 2 + 10log3 = 6.8dBi > 6dBi

UNII Band4:

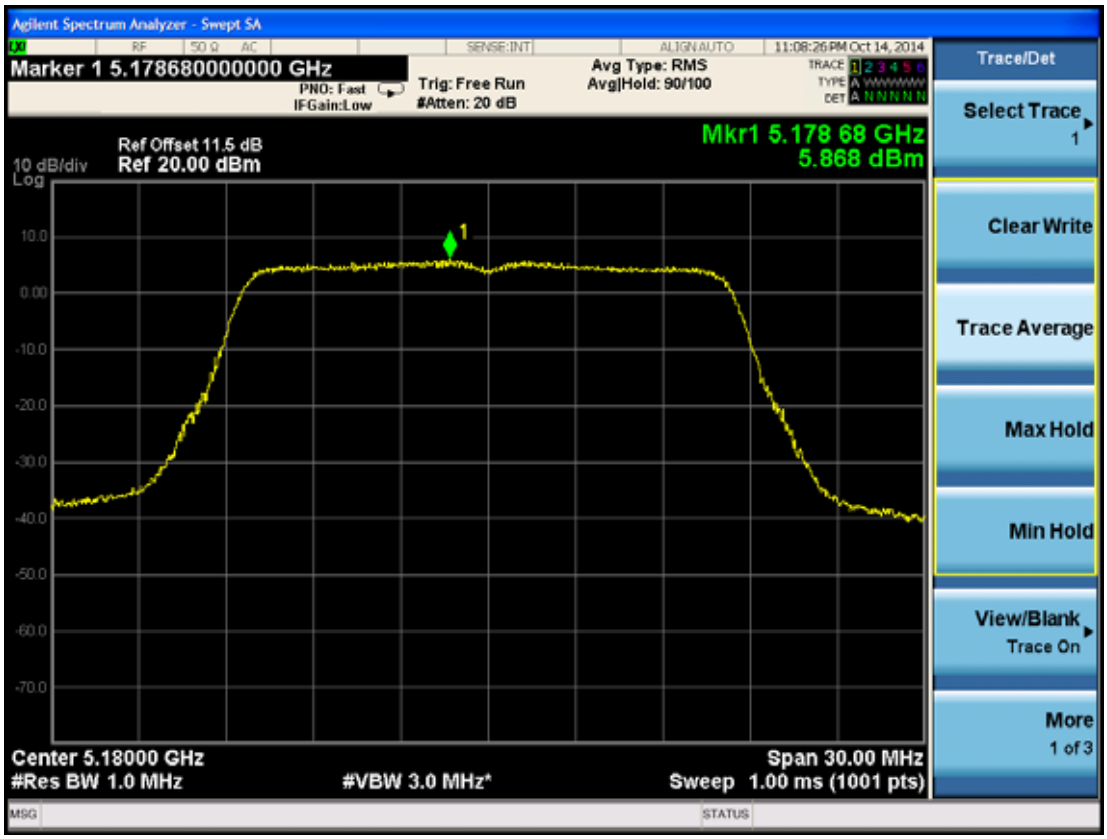
EUT: AC1750 Wireless Dual Band PCI Express Adapter		
M/N: Archer T8E		
Test date: 2014-10-26	Pressure: 101.2±1.0kpa	Humidity: 52.1±3.0%
Tested by: Kobe_Huang	Test site: RF site	Temperature: 22.1±0.6℃

Test Mode	Frequency (MHz)	Power Density (dBm/500kHz)				Limit (dBm/500kHz)
		ANT0	ANT1	ANT2	Total	
11a	5745	4.7577	4.2537	4.3687	9.24	29.2
	5785	4.8387	5.4307	4.3437	9.67	29.2
	5825	4.0767	5.0217	4.2927	9.25	29.2
11n HT20	5745	4.9747	4.2827	4.5737	9.39	29.2
	5785	4.3127	4.7517	4.5347	9.31	29.2
	5825	4.9887	4.6627	5.0067	9.66	29.2
11n HT40	5755	0.6257	0.8567	0.9807	5.59	29.2
	5795	1.4437	1.8347	1.7507	6.45	29.2
11ac VHT20	5745	4.2017	4.5727	4.7807	9.30	29.2
	5785	4.5407	4.3117	4.8947	9.36	29.2
	5825	4.7247	4.6057	4.0137	9.23	29.2
11ac VHT40	5755	1.6167	1.3317	1.1687	6.15	29.2
	5795	2.0537	1.1937	1.5547	6.39	29.2
11ac VHT80	5775	-1.8113	-1.1323	-1.6823	3.24	29.2
Conclusion: PASS						

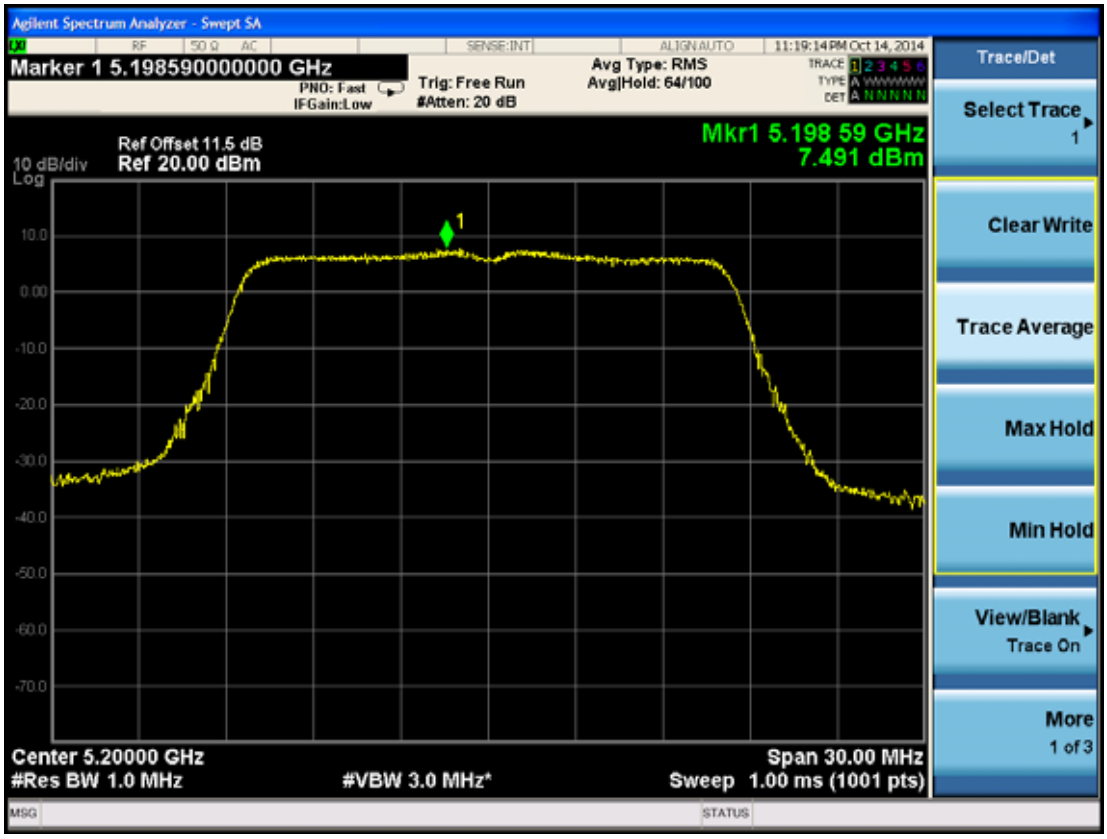
Note:

1. 11a/n/ac working at CDD mode which described in KDB662911.
   so directional Gain = 2 + Array Gain = 2 + 10log3 = 6.8dBi > 6dBi
2. Correction factor =10log(500kHz/100kHz)=6.9897

UNII Band1:
ANT0
11a
5180MHz



5210MHz



5240MHz

11nHT20

5180MHz

5210MHz

5240MHz