	11ac VHT80
5310MHz	5290MHz

5260-5320MHz Band:

26dB bandwidth

ANT 2

11a	**11n HT20**
5260MHz	5260MHz
5300MHz	5300MHz
5320MHz	5320MHz

11n HT40

5270MHz

5300MHz

5310MHz

5320MHz

11ac VHT20

5260MHz

11ac VHT40

5270MHz

	11ac VHT80
5310MHz	5290MHz

5500-5700MHz Band:

6dB & 99% bandwidth

ANT 1

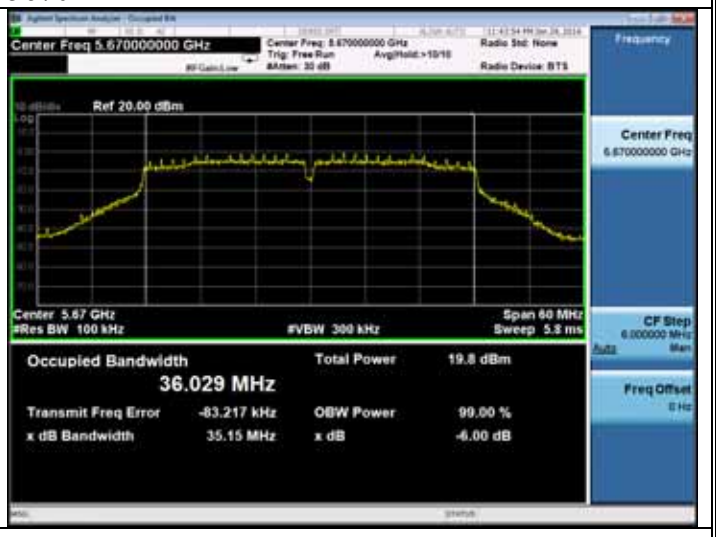
11a	**11n HT20**
5500MHz	5500MHz
5600MHz	5600MHz
5700MHz	5700MHz

11n HT40	11ac VHT20
5510MHz	5500MHz
5590MHz	5600MHz
5670MHz	5700MHz

11ac VHT40

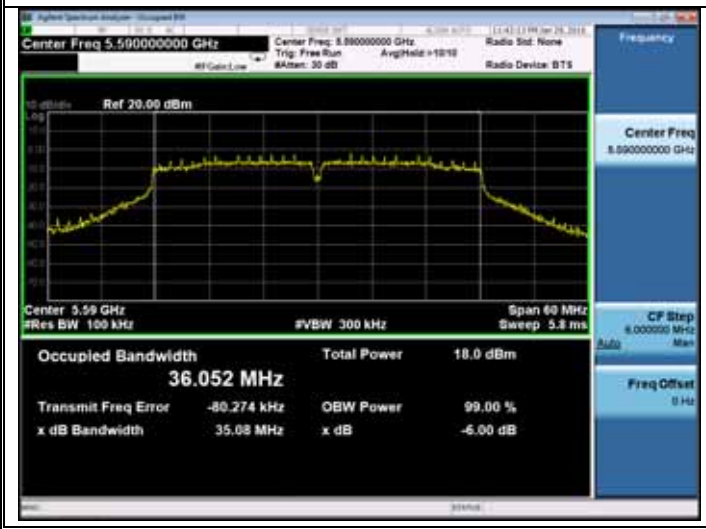
5510MHz

5670MHz

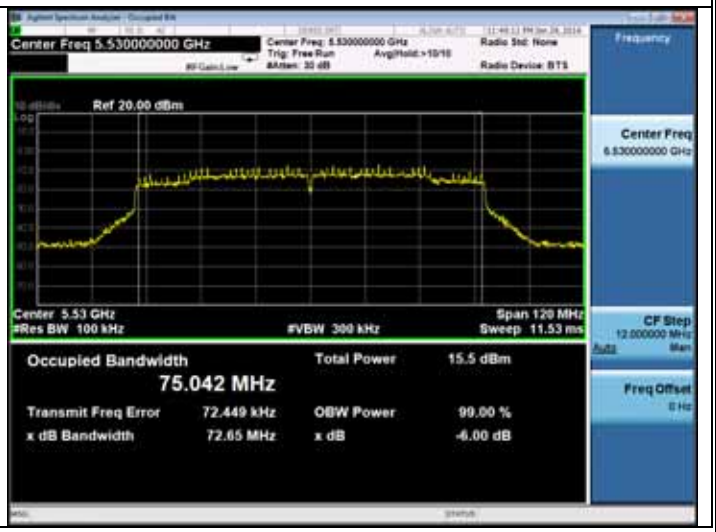


11ac VHT80

5590MHz



5530MHz

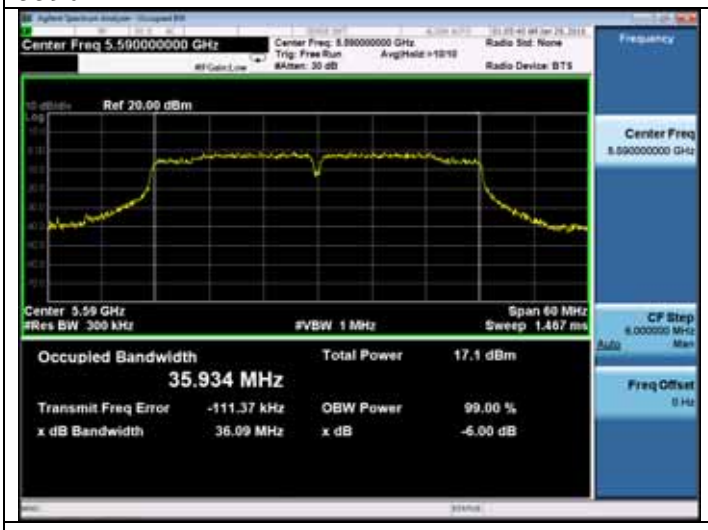
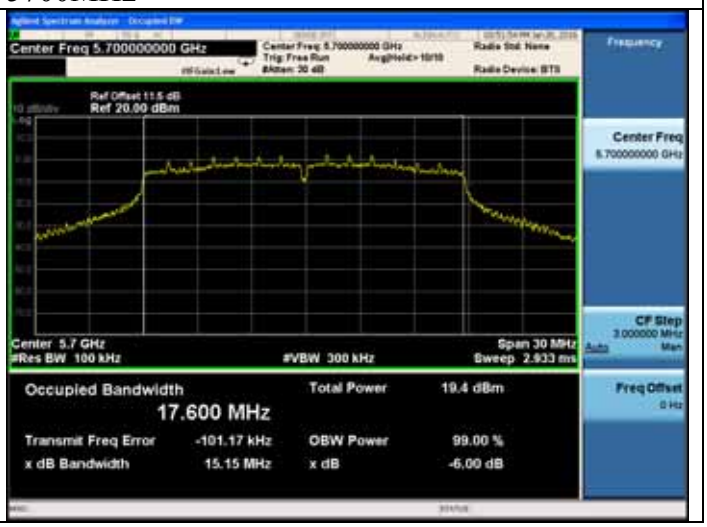


5500-5700MHz Band:

6dB & 99% bandwidth

ANT 2

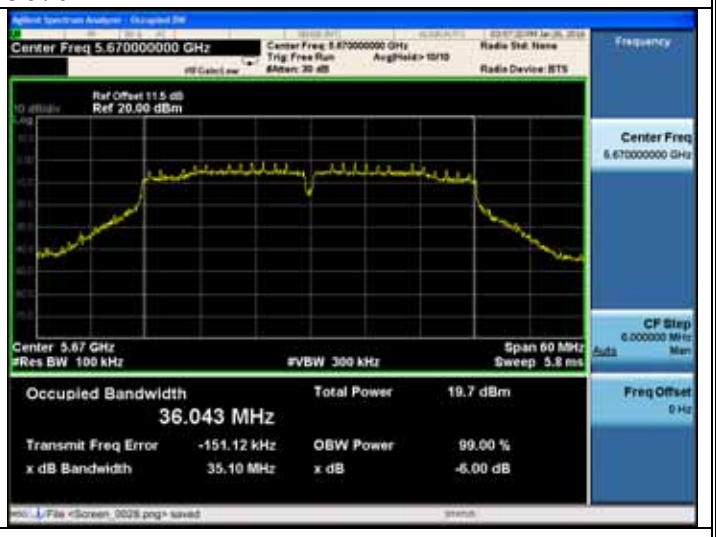
11a	**11n HT20**
5500MHz	5500MHz
5600MHz	5600MHz
5700MHz	5700MHz

11n HT40	11ac VHT20
5510MHz	5500MHz
5590MHz	5600MHz
	
5670MHz	5700MHz
	

11ac VHT40

5510MHz

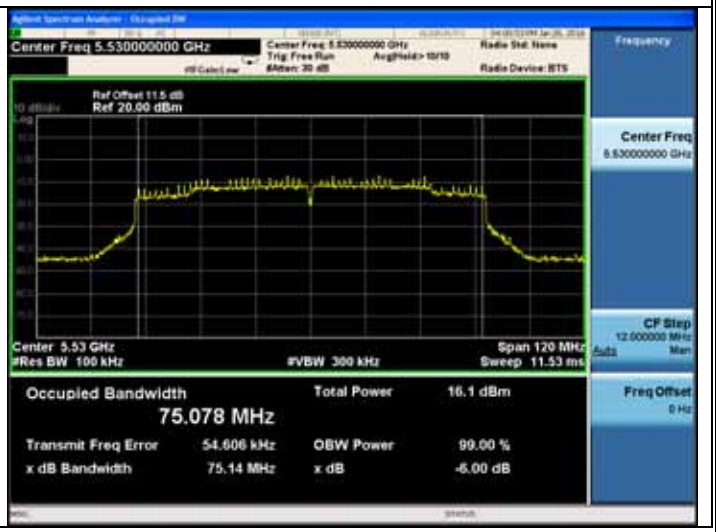
5670MHz



11ac VHT80

5590MHz

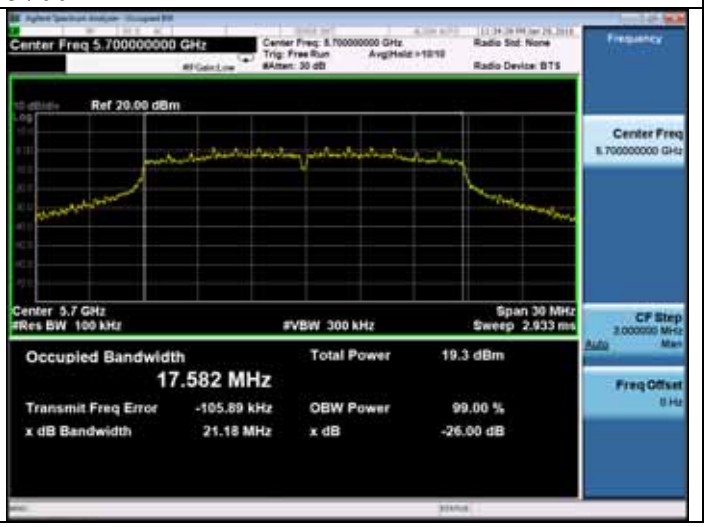
5530MHz



5500-5700MHz Band:

26dB bandwidth

ANT 1

11a	**11n HT20**
5500MHz	5500MHz
5600MHz	5600MHz
5700MHz	5700MHz
	

11n HT40	11ac VHT20
5510MHz	5500MHz
5590MHz	5600MHz
5670MHz	5700MHz

11ac VHT40

5510MHz

5670MHz

11ac VHT80

5590MHz

5530MHz

5500-5700MHz Band:

26dB bandwidth

ANT 2

11a	**11n HT20**
5500MHz	5500MHz
5600MHz	5600MHz
5700MHz	5700MHz

11n HT40	11ac VHT20
5510MHz	5500MHz
5590MHz	5600MHz
5670MHz	5700MHz

11ac VHT40

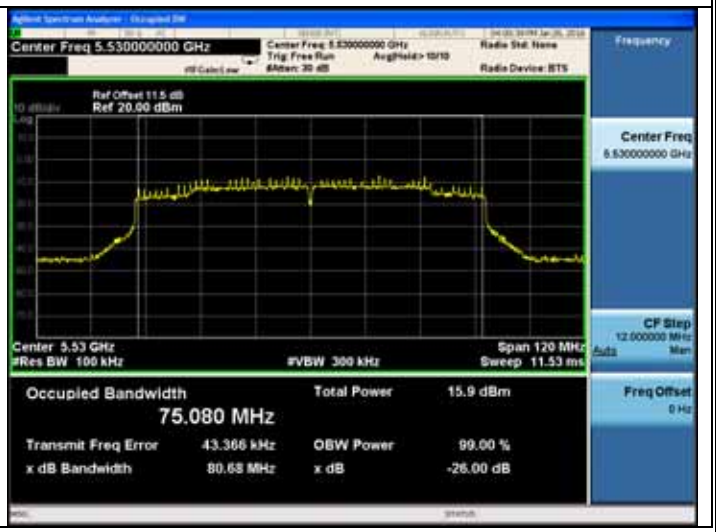
5510MHz

5670MHz

11ac VHT80

5590MHz

5530MHz



5745-5825MHz Band:

6dB & 99% bandwidth

ANT 1

11a	**11n HT20**
5745MHz	5745MHz
5785MHz	5785MHz
5825MHz	5825MHz

11n HT40

5755MHz

5785MHz

5795MHz

5825MHz

11ac VHT20

5745MHz

11ac VHT40

5755MHz

	11ac VHT80
5795MHz	5775MHz

5745-5825MHz Band:

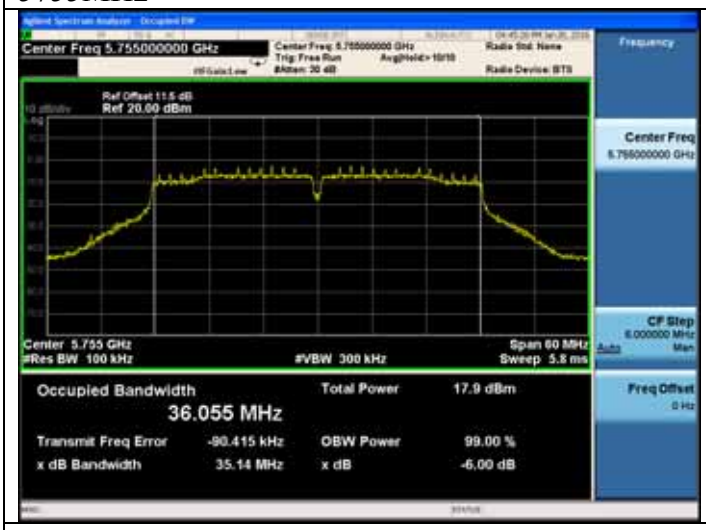
6dB & 99% bandwidth

ANT 2

11a	**11n HT20**
5745MHz	5745MHz
5785MHz	5785MHz
5825MHz	5825MHz

11n HT40

5755MHz



5785MHz

5795MHz

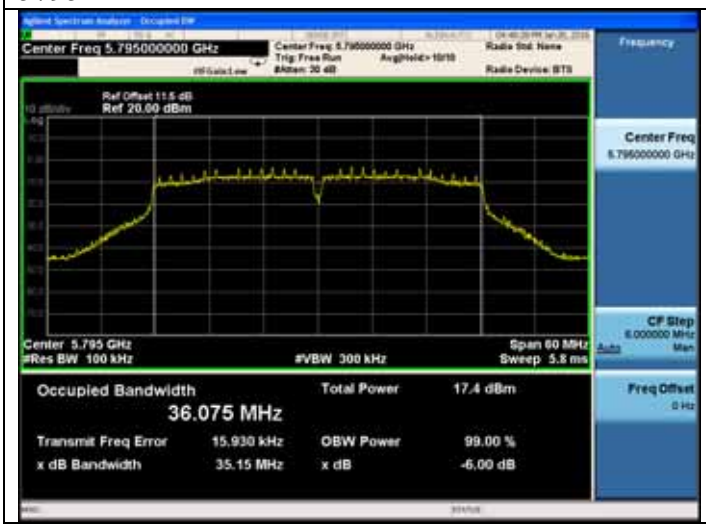
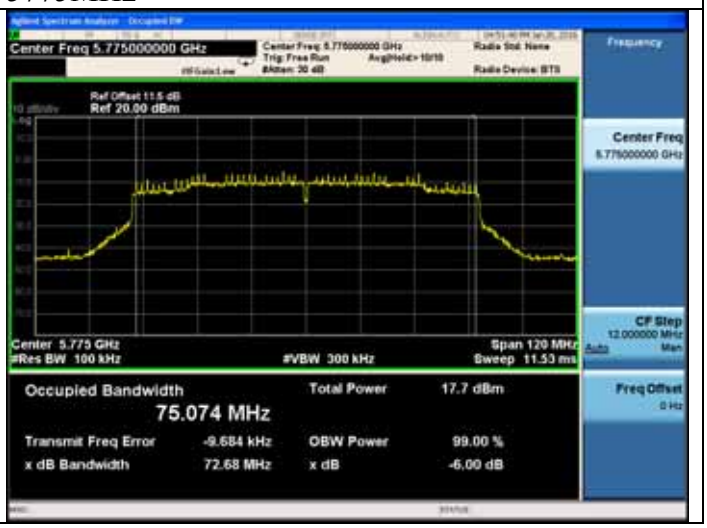
5825MHz

11ac VHT20

5745MHz

11ac VHT40

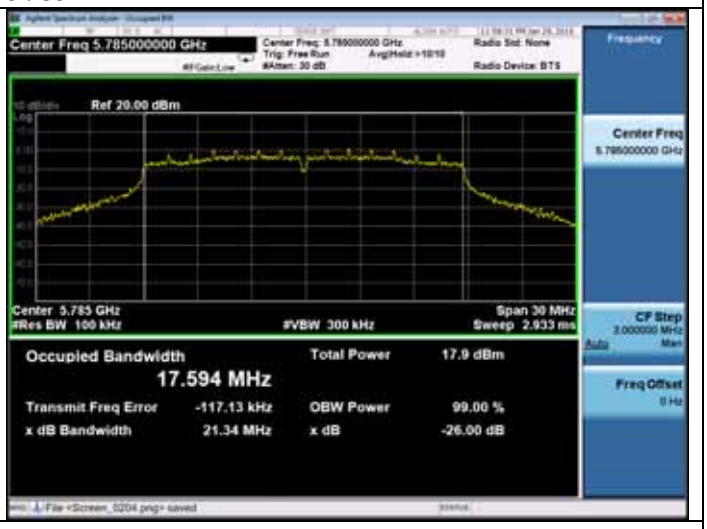
5755MHz

	11ac VHT80
5795MHz	5775MHz
	

5745-5825MHz Band:

26dB bandwidth

ANT 1

11a	**11n HT20**
5745MHz	5745MHz
5785MHz	5785MHz
	
5825MHz	5825MHz

11n HT40

5755MHz

5785MHz

5795MHz

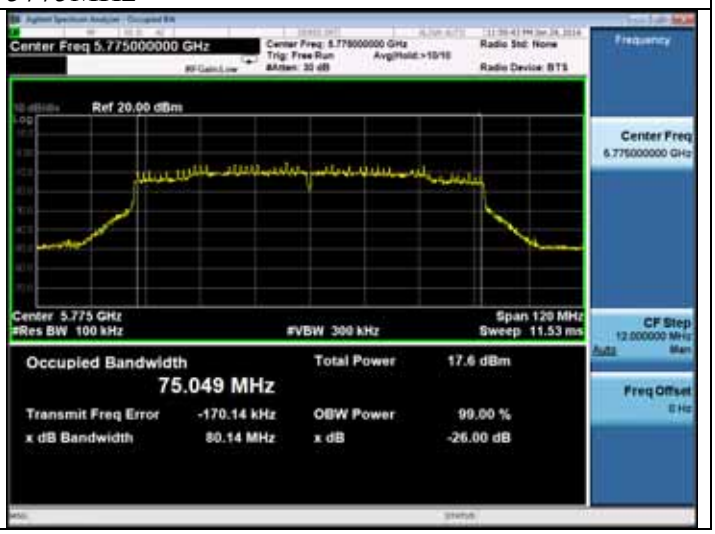
5825MHz

11ac VHT20

5745MHz

11ac VHT40

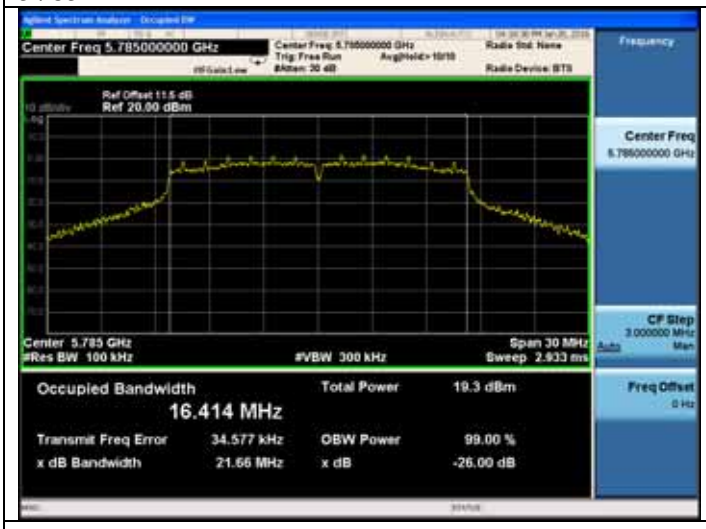
5755MHz

	11ac VHT80
5795MHz	5775MHz
	

5745-5825MHz Band:

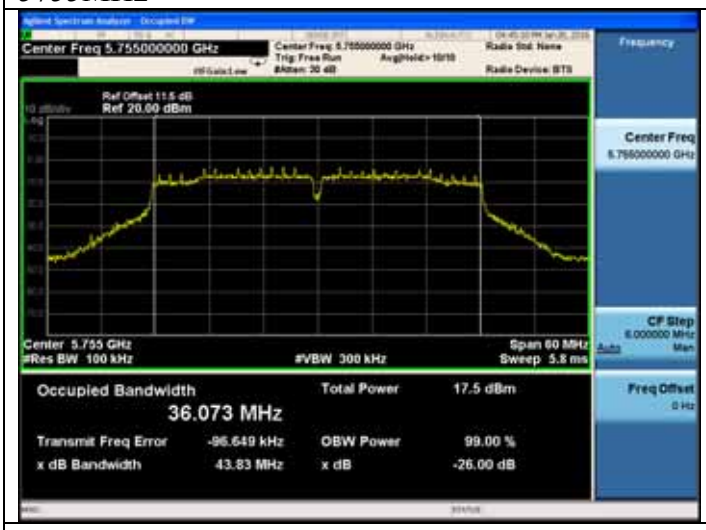
26dB bandwidth

ANT 2

11a	**11n HT20**
5745MHz	5745MHz
5785MHz	5785MHz
	
5825MHz	5825MHz

11n HT40

5755MHz



5785MHz

5795MHz

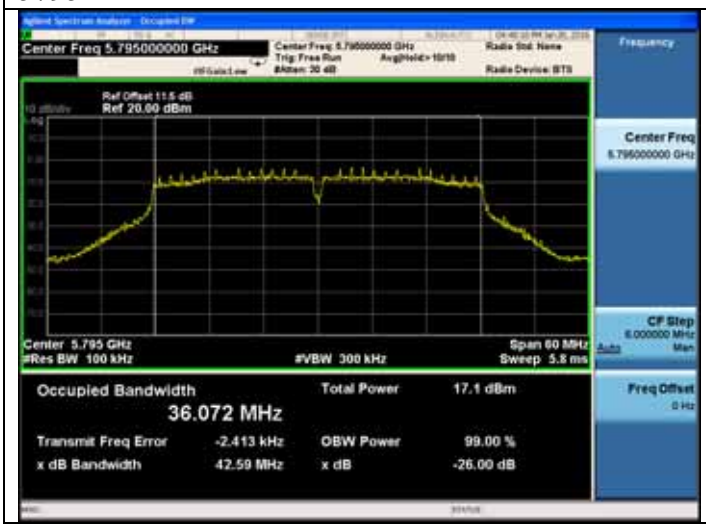
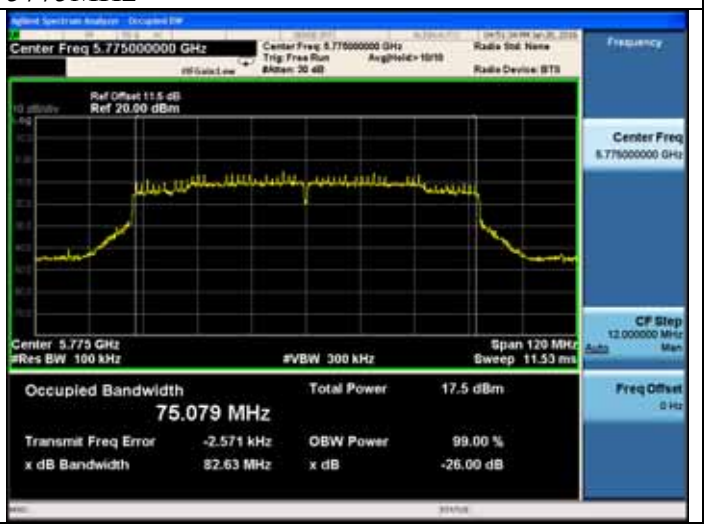
5825MHz

11ac VHT20

5745MHz

11ac VHT40

5755MHz

	11ac VHT80
5795MHz	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.18,15	1Year
2.	Power meter	Anritsu	ML2487A	6K00002472	Apr.28, 15	1Year
3.	Power sensor	Anritsu	MA2491A	0033005	Apr.28, 15	1Year
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 max-imum 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.

7.4.Test Results

5180-5240MHz Band:

EUT: Notebook					
M/N: RZ09-0184					
Test date: 2016-01-29		Pressure:101.8±1.0kPa		Humidity:53.3±3.0%	
Tested by: Alice_Yang		Test site: RF site		Temperature:2.7±0.6 ℃	
Test Mode	Frequency (MHz)	Maximum Conducted output power (dBm)			Limit (dBm)
		ANT1	ANT2	Total	
11a	5180	13.69	14.03	N/A	24
	5200	13.78	13.60	N/A	24
	5240	14.81	13.45	N/A	24
11n HT20	5180	12.25	12.09	15.18	22.79
	5200	12.48	11.58	15.06	22.79
	5240	13.07	11.63	15.42	22.79
11n HT40	5190	11.91	11.18	14.57	22.79
	5230	12.34	10.94	14.71	22.79
11ac VHT20	5180	12.35	12.10	15.24	22.79
	5200	12.40	11.74	15.09	22.79
	5240	13.11	11.61	15.43	22.79
11ac VHT40	5190	11.96	11.05	14.54	22.79
	5230	12.22	10.94	15.18	22.79
11ac VHT80	5210	10.81	10.07	15.06	22.79
Conclusion: PASS					

Note: 1. 11n/ac Mode

Directional Gain= $10 \log[(10^{4.3/20}+10^{4.1/20})^2/2]$dBi

= 7.21dBi>6dBi.

2. The transmit signals are correlated.

5260-5320MHz Band:

EUT: Notebook					
M/N: RZ09-0184					
Test date: 2016-01-29	Pressure: 101.8±1.0 kpa		Humidity:53.2±3.0%		
Tested by: Alice_Yang	Test site: RF site		Temperature:22.9±0.6 ℃		
Test Mode	Frequency (MHz)	Maximum Conducted output power (dBm)			Limit (dBm)
		ANT1	ANT2	Total	
11a	5260	14.56	13.08	N/A	24
	5300	14.66	12.71	N/A	24
	5320	14.44	12.77	N/A	24
11n HT20	5260	11.65	10.10	13.95	22.79
	5300	11.51	9.74	13.72	22.79
	5320	11.22	9.72	13.54	22.79
11n HT40	5270	12.64	10.94	14.88	22.79
	5310	11.43	9.53	13.59	22.79
11ac VHT20	5260	11.74	10.17	14.04	22.79
	5300	11.56	9.80	13.78	22.79
	5320	11.25	9.87	13.62	22.79
11ac VHT40	5270	12.71	10.87	14.90	22.79
	5310	11.51	9.55	13.65	22.79
11ac VHT80	5290	8.61	7.20	10.97	22.79
Conclusion: PASS					

Note: 1. 11n/ac Mode

Directional Gain= $10 \log[(10^{4.3/20}+10^{4.1/20})^2/2]$dBi

= 7.21dBi>6dBi.

2. The transmit signals are correlated.

5500-5700MHz Band:

EUT: Notebook		
M/N: RZ09-0184		
Test date: 2016-01-29	Pressure: 101.6±1.0 kpa	Humidity:53.4±3.0%
Tested by: Alice_Yang	Test site: RF site	Temperature:22.1±0.6 ℃

Test Mode	Frequency (MHz)	Maximum Conducted output power (dBm)			Limit (dBm)
		ANT1	ANT2	Total	
11a	5500	12.65	13.88	N/A	24
	5600	13.52	15.40	N/A	24
	5700	14.13	15.51	N/A	24
11n HT20	5500	10.17	10.03	13.11	22.79
	5600	10.63	10.91	13.78	22.79
	5700	12.21	12.59	15.41	22.79
11n HT40	5510	9.33	9.33	12.34	22.79
	5590	10.76	11.48	14.15	22.79
	5670	12.34	12.15	15.26	22.79
11ac VHT20	5500	10.14	9.92	13.04	22.79
	5600	10.51	10.99	13.77	22.79
	5700	12.36	11.88	15.14	22.79
11ac VHT40	5510	9.43	9.39	12.42	22.79
	5590	10.76	11.73	14.28	22.79
	5670	12.36	12.11	15.25	22.79
11ac VHT80	5530	7.55	8.57	11.1	22.79
Conclusion: PASS					

Note: 1. 11n/ac Mode

Directional Gain= $10 \log[(10^{4.3/20}+10^{4.1/20})^2/2]$dBi

= 7.21dBi>6dBi.

2. The transmit signals are correlated.

5745-5825MHz Band:

EUT: Notebook					
M/N: RZ09-0184					
Test date: 2016-01-29		Pressure: 101.6±1.0kpa		Humidity:532.8±3.0%	
Tested by: Alice_Yang		Test site: RF site		Temperature:22.7±0.6 ℃	
Test Mode	Frequency (MHz)	Maximum Conducted output power (dBm)			Limit (dBm)
		ANT1	ANT2	Total	
11a	5745	12.75	11.84	N/A	30
	5785	12.94	11.76	N/A	30
	5825	12.96	12.13	N/A	30
11n HT20	5745	10.31	10.03	13.18	28.79
	5785	10.64	10.26	13.46	28.79
	5825	10.85	10.33	13.61	28.79
11n HT40	5755	10.11	10.03	13.08	28.79
	5790	9.96	9.61	12.80	28.79
11ac VHT20	5745	10.27	10.10	13.20	28.79
	5785	10.63	10.34	13.50	28.79
	5825	10.90	10.31	13.63	28.79
11ac VHT40	5755	10.09	10.02	13.07	28.79
	5795	9.95	9.64	12.81	28.79
11ac VHT80	5775	9.53	9.37	12.46	28.79
Conclusion: PASS					

Note: 1. 11n/ac Mode

Directional Gain= $10 \log[(10^{4.3/20}+10^{4.1/20})^2/2]$dBi

= 7.21dBi>6dBi.

2. The transmit signals are correlated.

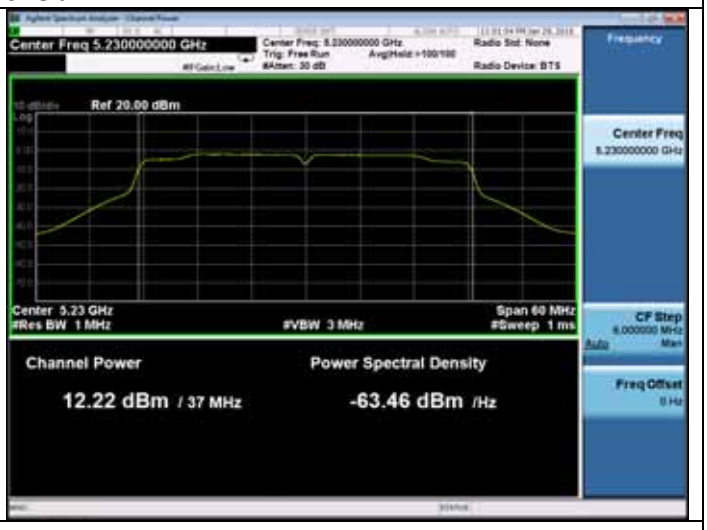
5180-5240MHz Band:

ANT 1

11n HT40

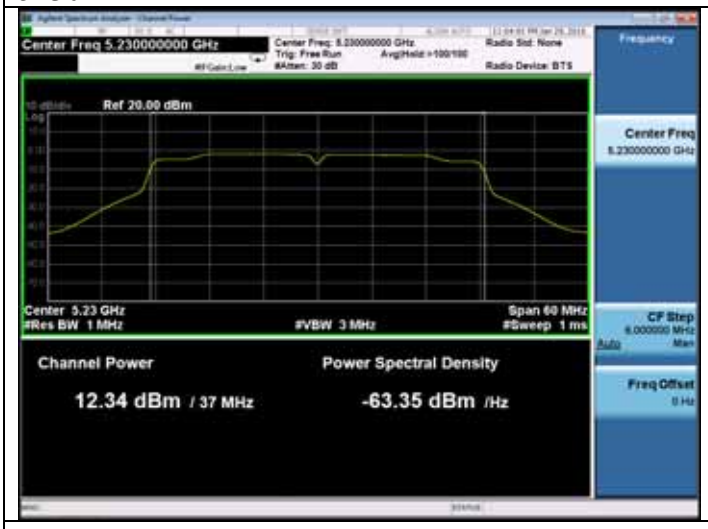
5190MHz

5230MHz



11ac VHT80

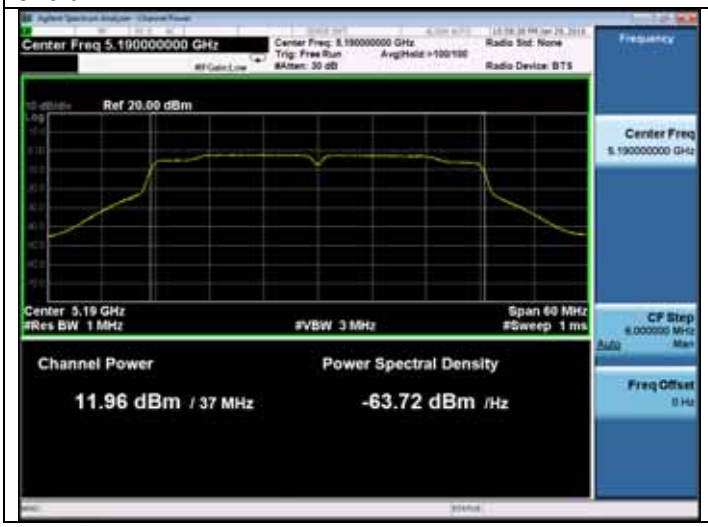
5230MHz



5210MHz

11acVHT40

5190MHz



5180-5240MHz Band:

ANT 2

11n HT40

5190MHz

5230MHz

11ac VHT80

5230MHz

5210MHz

11acVHT40

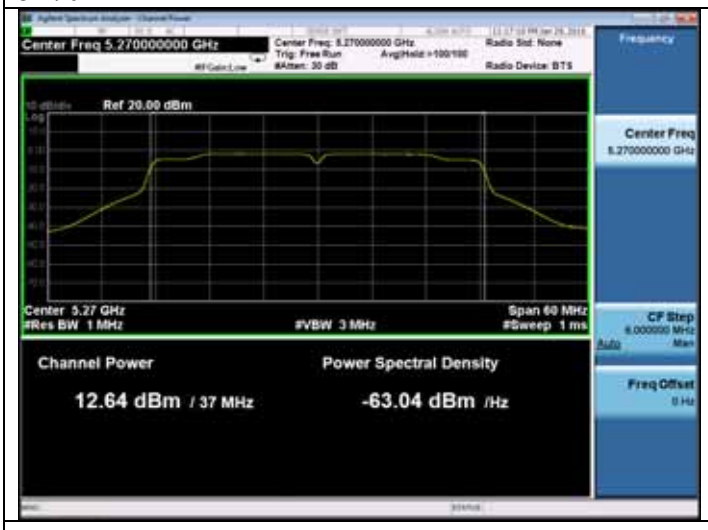
5190MHz

5260-5320MHz Band:

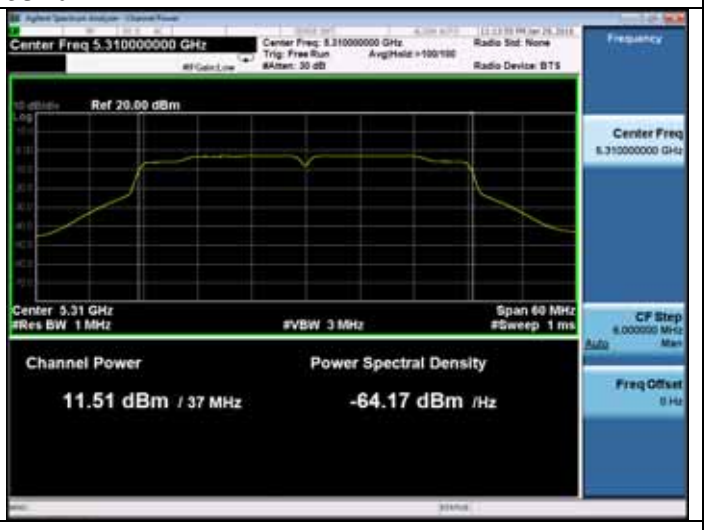
ANT 1

11n HT40

5270MHz

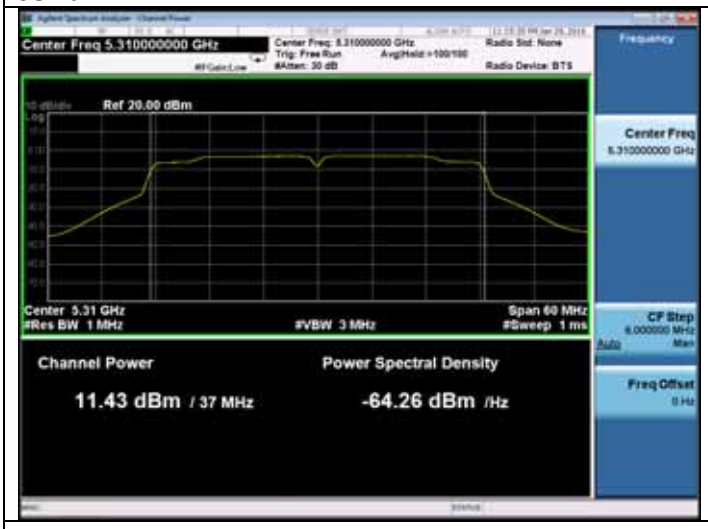


5310MHz



11ac VHT80

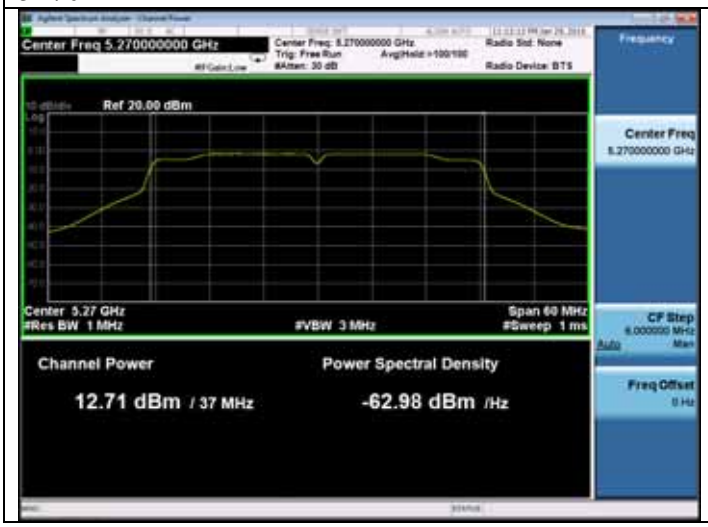
5310MHz



5290MHz

11acVHT40

5270MHz

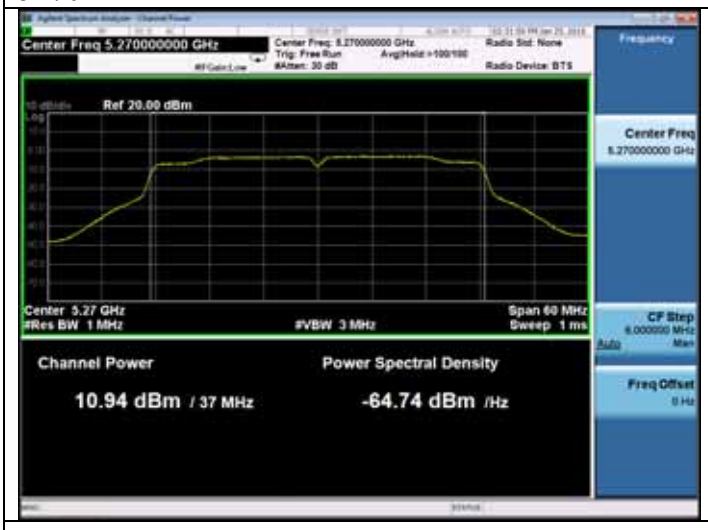


5260-5320MHz Band:

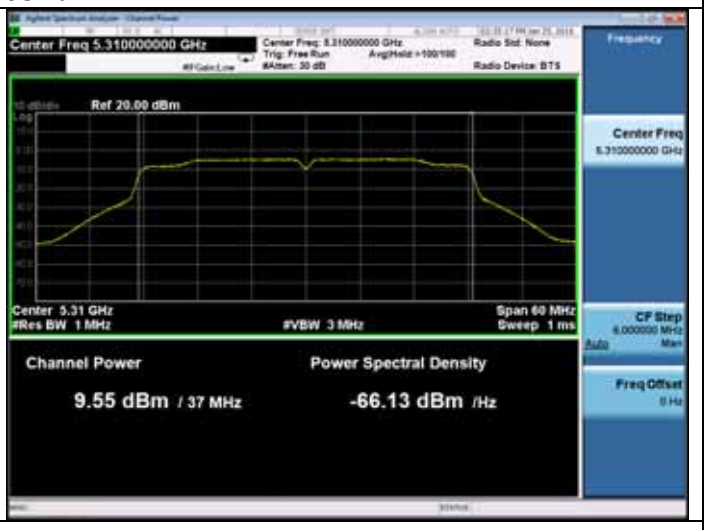
ANT 2

11n HT40

5270MHz

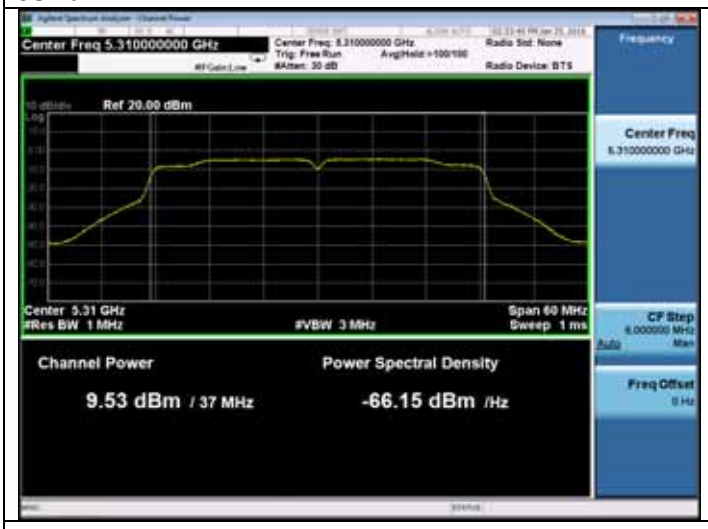


5310MHz



11ac VHT80

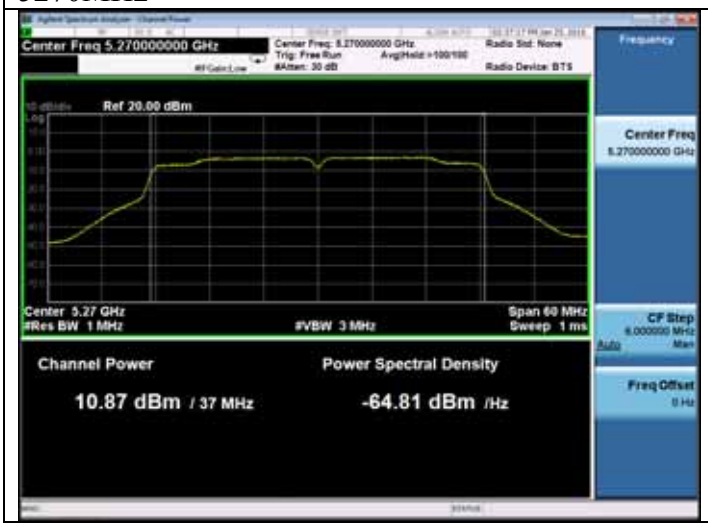
5310MHz

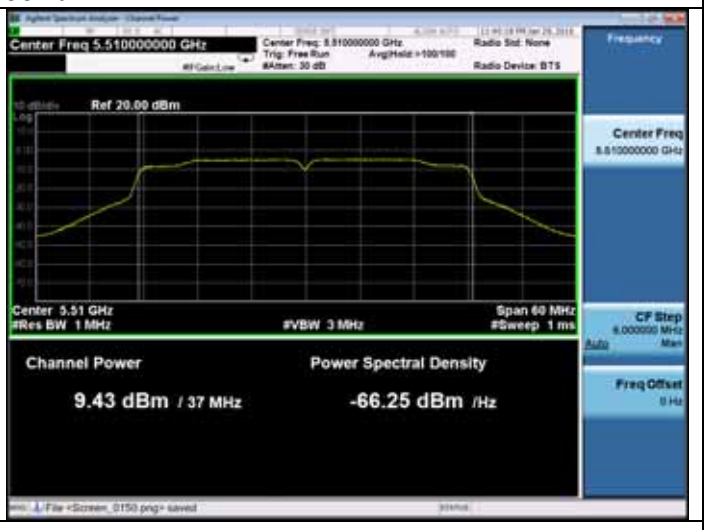
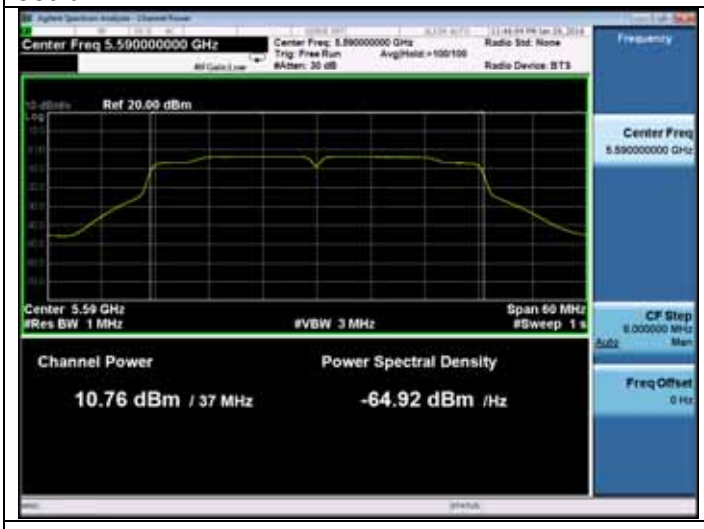
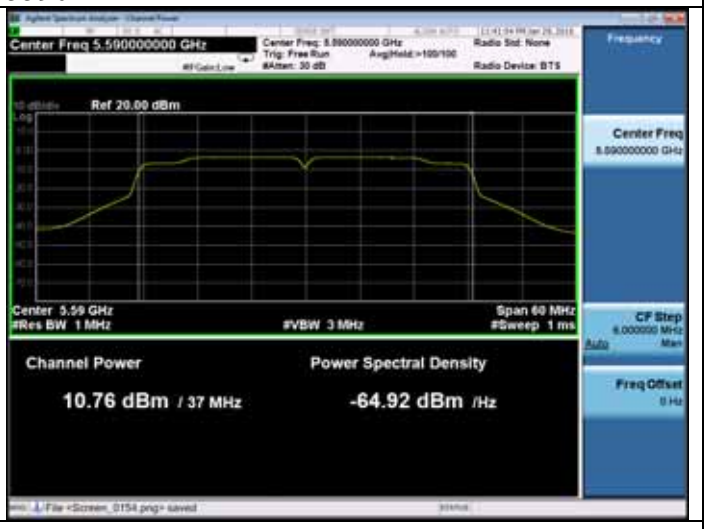
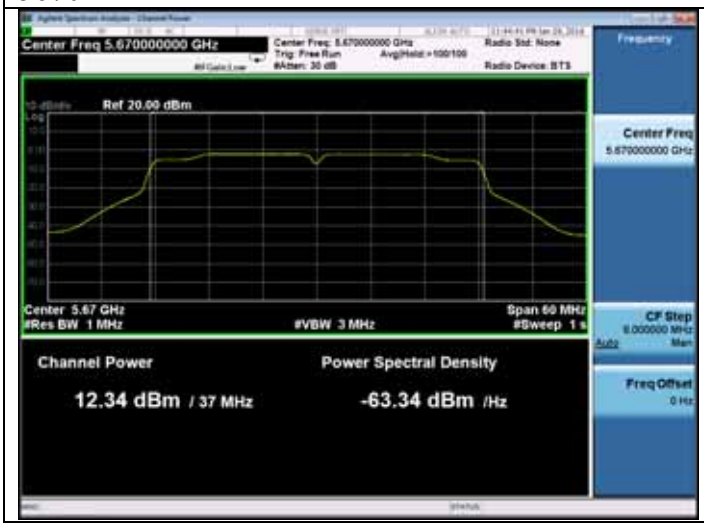


5290MHz

11acVHT40

5270MHz

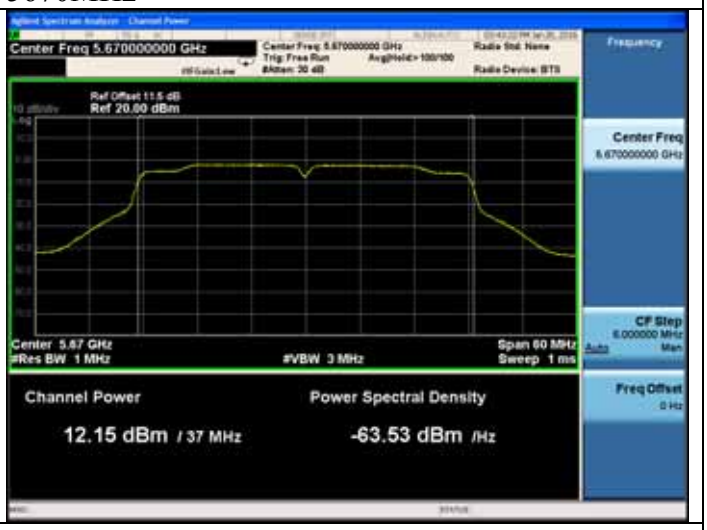


5500-5700MHz Band:	
ANT 1	
11n HT40	**11acVHT40**
5510MHz	5510MHz
	
5590MHz	5590MHz
	
5670MHz	5670MHz
	

11ac VHT80

5530MHz

5670MHz



ANT 2

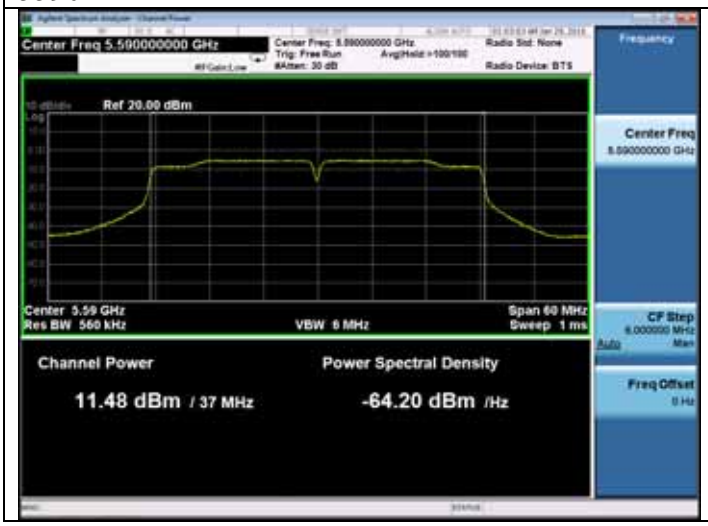
11n HT40

5510MHz

11acVHT40

5510MHz

5590MHz



5590MHz

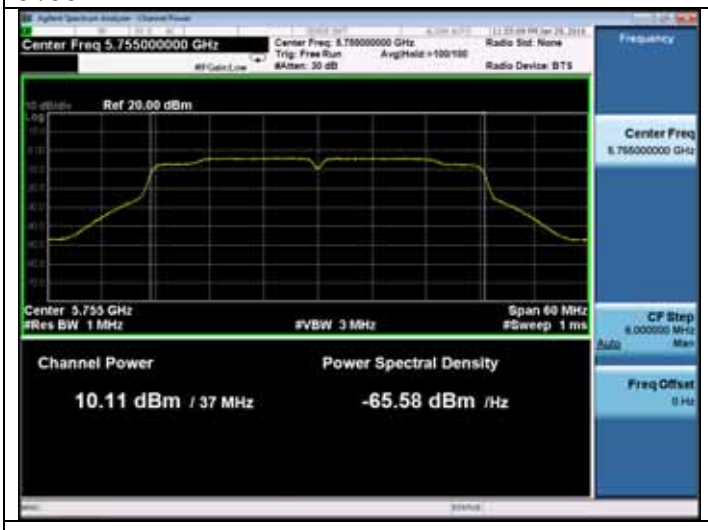
	11ac VHT80
5670MHz	5530MHz

5745-5825MHz Band:

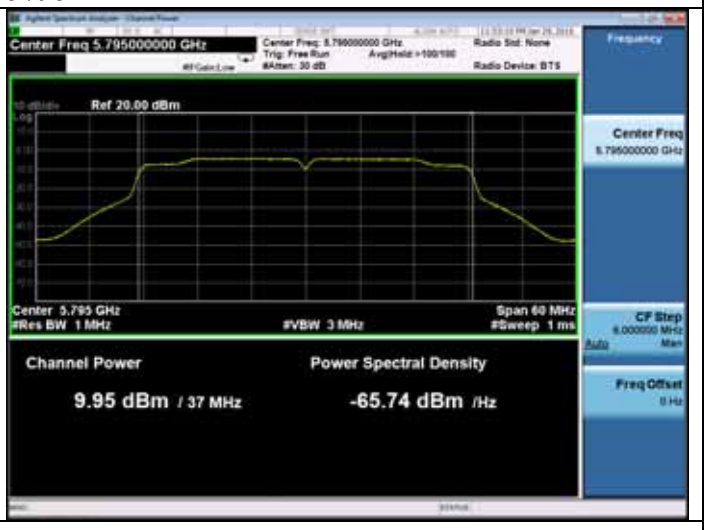
ANT 1

11n HT40

5755MHz

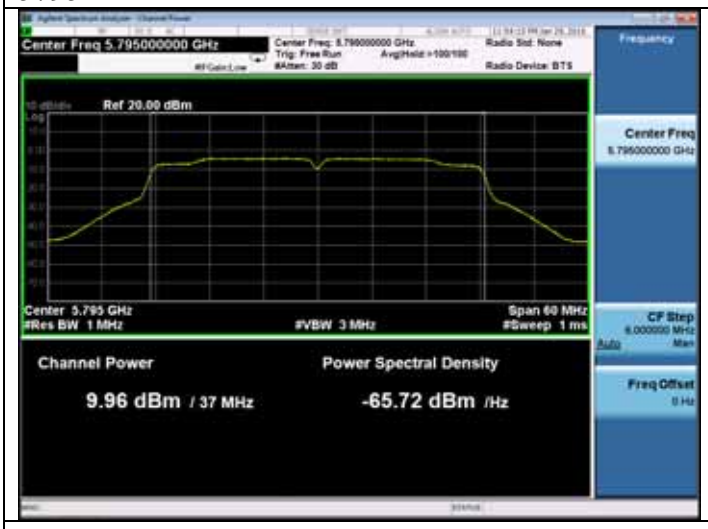


5795MHz



11ac VHT80

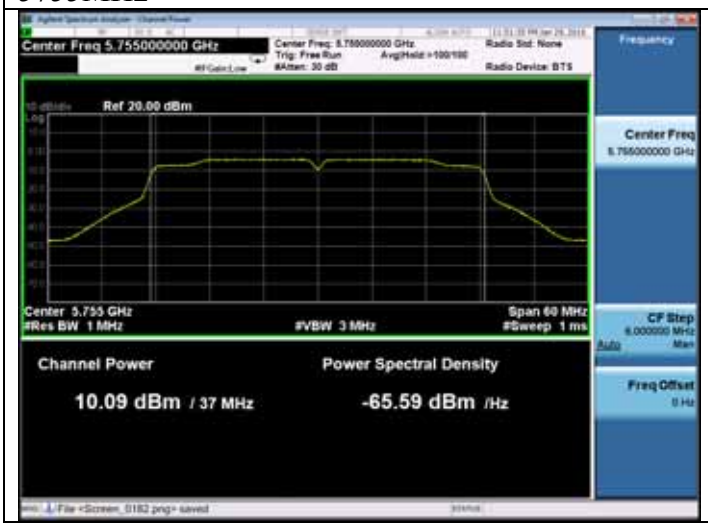
5795MHz



5775MHz

11acVHT40

5755MHz



5745-5825MHz Band:

ANT 2

11n HT40

5755MHz

5795MHz

11ac VHT80

5795MHz

5775MHz

11acVHT40

5755MHz

8. SPECTRAL DENSITY TEST

8.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	N9030A	MY51380221	Oct.18,15	1Year
2.	Attenuator (20dB)	Agilent	8491B	MY39262165	Apr.28, 15	1 Year
3	RF Cable	Hubersuhner	SUCOFLEX102	28610/2	Apr.28, 15	1 Year

8.2.Limit

Band 5150-5250 MHz:
The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.
Band 5250-5350 MHz:
The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.
Band 5470-5725 MHz:
The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.
Band 5725-5850 MHz:
The power spectral density shall not exceed 30 dBm in any 500 KHz band.

8.3.Test Procedure

For the Band 5.15-5.35GHz; 5.47-5.725 GHz:
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

5180-5240MHz Band:

EUT: Notebook		
M/N: RZ09-0184		
Test date: 2016-01-24	Pressure: 102.6±1.0kPa	Humidity:50.6±3.0%
Tested by: Alice_Yang	Test site: RF site	Temperature:22.4±0.6 ℃

Test Mode	Frequency (MHz)	Power density (dBm/MHz)			Limit (dBm/MHz)
		ANT1	ANT2	Total	
11a	5180	7.612	7.752	N/A	10
	5200	7.788	7.405	N/A	10
	5240	7.002	7.419	N/A	10
11n HT20	5180	4.331	4.073	7.21	8.79
	5200	3.732	3.988	6.87	8.79
	5240	4.377	4.441	7.42	8.79
11n HT40	5190	2.491	1.693	5.12	8.79
	5230	3.016	2.344	5.70	8.79
11ac VHT20	5180	4.204	4.191	7.21	8.79
	5200	4.073	4.011	7.05	8.79
	5240	4.584	4.724	7.66	8.79
11ac VHT40	5190	2.668	1.616	5.18	8.79
	5230	2.824	2.403	5.63	8.79
11ac VHT80	5210	-1.256	-1.715	1.53	8.79
Conclusion: PASS					

Note: 1.11ac/n Mode

Directional Gain= $10 \log[(10^{4.3/20}+10^{4.1/20})^2/2]$dBi

= 7.21dBi>6dBi.

2. The transmit signals are correlated.

5260-5320MHz Band:

EUT: Notebook		
M/N: RZ09-0184		
Test date: 2016-01-24	Pressure: 102.6±1.0kPa	Humidity:50.6±3.0%
Tested by: Alice_Yang	Test site: RF site	Temperature:22.4±0.6 ℃

Test Mode	Frequency (MHz)	Power density (dBm/MHz)			Limit (dBm/MHz)
		ANT1	ANT2	Total	
11a	5260	4.341	2.644	N/A	10
	5300	4.251	2.490	N/A	10
	5320	4.013	2.383	N/A	10
11n HT20	5260	1.268	-0.322	3.56	8.79
	5300	1.242	-0.702	3.39	8.79
	5320	1.059	-0.705	3.28	8.79
11n HT40	5270	-1.216	-2.646	1.14	8.79
	5310	-2.431	-4.055	-0.16	8.79
11ac VHT20	5260	1.346	-0.291	3.61	8.79
	5300	1.174	-0.585	3.39	8.79
	5320	0.918	-0.598	3.24	8.79
11ac VHT40	5270	-1.039	-2.647	1.24	8.79
	5310	-2.255	-4.162	-0.09	8.79
11ac VHT80	5290	-8.326	-9.533	-5.88	8.79
Conclusion: PASS					

Note: 1.11ac/n Mode

Directional Gain= $10 \log[(10^{4.3/20}+10^{4.1/20})^2/2]$dBi

= 7.21dBi>6dBi.

2. The transmit signals are correlated.

5500-5700MHz Band:

EUT: Notebook		
M/N: RZ09-0184		
Test date: 2016-01-24	Pressure: 102.6±1.0kPa	Humidity:50.6±3.0%
Tested by: Alice_Yang	Test site: RF site	Temperature:22.4±0.6 ℃

Test Mode	Frequency (MHz)	Power density (dBm/MHz)			Limit (dBm/MHz)
		ANT1	ANT2	Total	
11a	5500	2.246	3.673	N/A	10
	5600	3.159	5.107	N/A	10
	5700	3.812	5.135	N/A	10
11n HT20	5500	-0.329	-0.304	2.69	8.79
	5600	-0.052	0.509	3.25	8.79
	5700	1.841	2.241	5.06	8.79
11n HT40	5510	-4.528	-4.610	-1.56	8.79
	5590	-3.201	-2.220	0.33	8.79
	5670	-1.604	-1.693	1.36	8.79
11ac VHT20	5500	-0.411	-0.554	2.53	8.79
	5600	-0.003	0.573	3.3	8.79
	5700	1.957	1.385	4.69	8.79
11ac VHT40	5510	-4.636	-4.523	-1.57	8.79
	5590	-2.845	-1.971	0.62	8.79
	5670	-1.521	-1.563	1.47	8.79
11ac VHT80	5530	-9.227	-8.930	-6.07	8.79
Conclusion: PASS					

Note: 1.11ac/n Mode

Directional Gain= $10 \log[(10^{4.3/20}+10^{4.1/20})^2/2]$dBi

= 7.21dBi>6dBi.

2. The transmit signals are correlated.

5745-5825MHz Band:

EUT: Notebook		
M/N: RZ09-0184		
Test date: 2016-01-24	Pressure: 102.6±1.0kPa	Humidity:50.6±3.0%
Tested by: Alice_Yang	Test site: RF site	Temperature:22.4±0.6 ℃

Test Mode	Frequency (MHz)	Power density (dBm/500KHz)			Limit (dBm/500KHz)
		ANT1	ANT2	Total	
11a	5745	0.4877	-0.2473	N/A	30
	5785	0.3557	-0.6583	N/A	30
	5825	0.7217	-0.2043	N/A	30
11n HT20	5745	-1.8913	-2.2923	0.92	28.79
	5785	-1.4493	-2.3753	1.12	28.79
	5825	-1.4273	-2.0513	1.28	28.79
11n HT40	5755	-5.7793	-5.9913	-2.87	28.79
	5790	-5.5523	-6.4883	-2.98	28.79
11ac VHT20	5745	-2.1563	-2.1213	0.87	28.79
	5785	-1.5033	-1.8623	1.33	28.79
	5825	-1.4463	-2.2833	1.17	28.79
11ac VHT40	5755	-5.7573	-5.8933	-2.81	28.79
	5790	-5.6383	-6.4393	-3.01	28.79
11ac VHT80	5775	-9.4473	-9.6943	-6.56	28.79
Conclusion: PASS					

Note: 11ac/n Mode

Directional Gain= $10 \log[(10^{4.3/20}+10^{4.1/20})^2/2]$dBi

=7.21dBi>6dBi

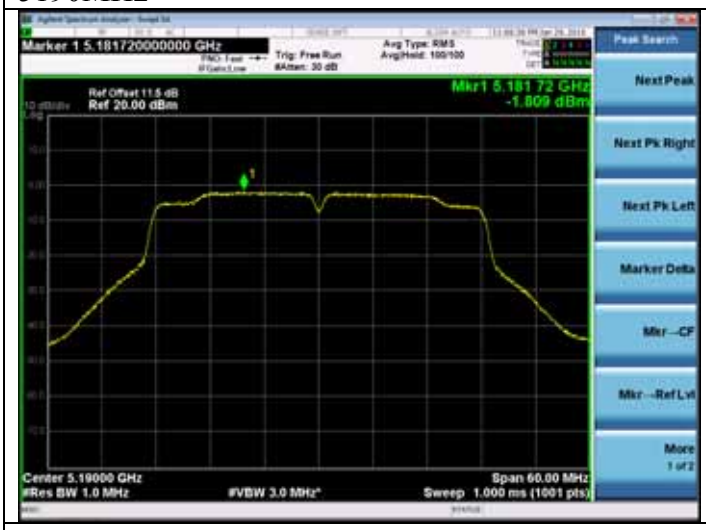
Note 2:

1. Correction factor =10log(500kHz/100kHz)=6.9897
2. Result=Reading value + Correction factor

5180-5240MHz Band:	
ANT 1	
11a	**11n HT20**
5180MHz	5180MHz
5200MHz	5200MHz
5240MHz	5240MHz

11n HT40

5190MHz



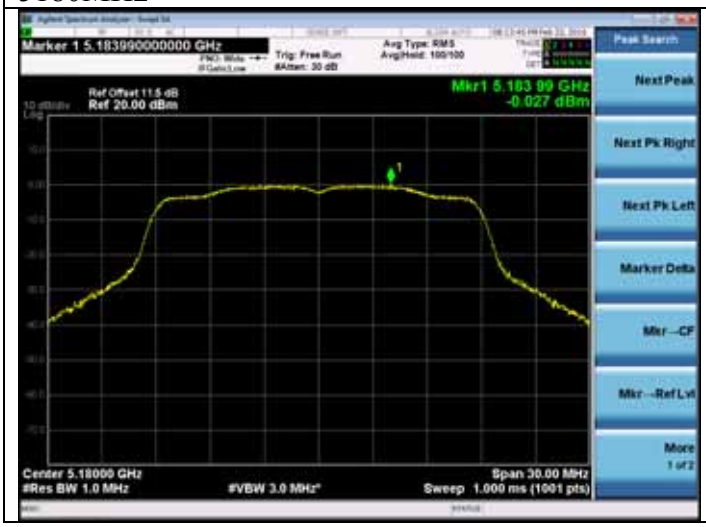
5200MHz

5230MHz

5240MHz

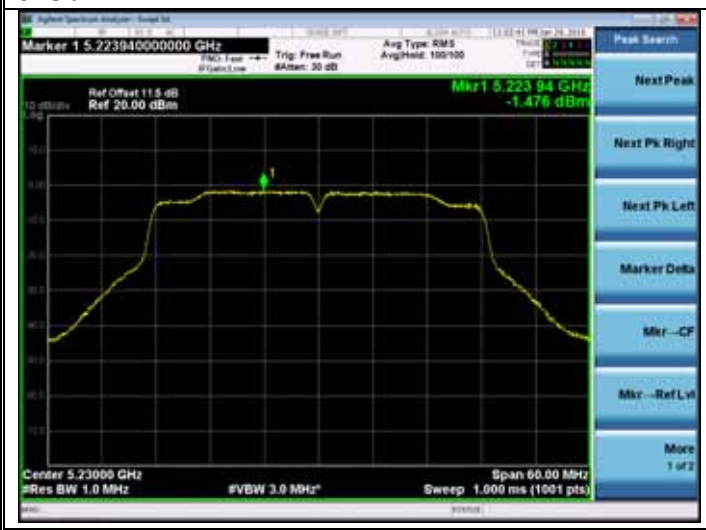
11ac VHT20

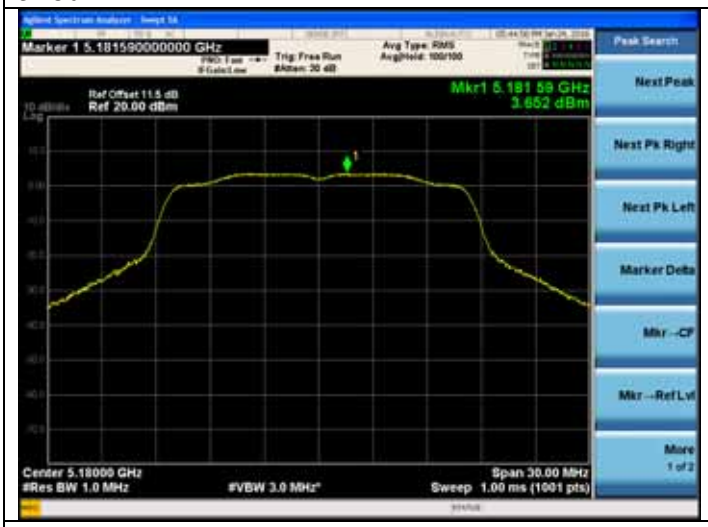
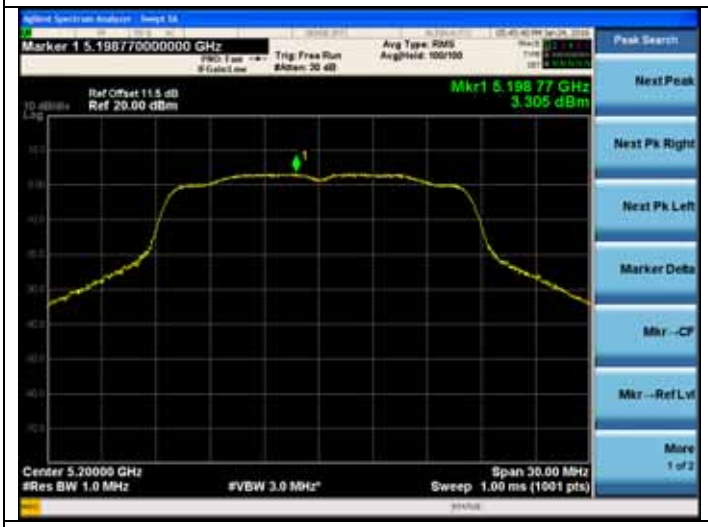
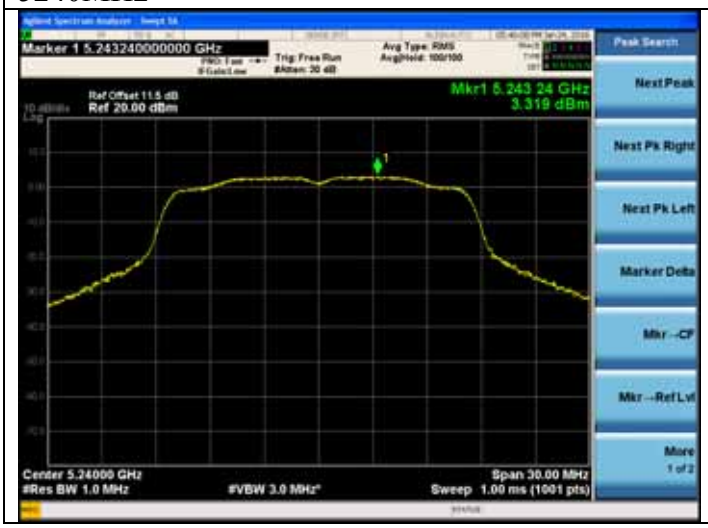
5180MHz



11ac VHT40

5190MHz

	11ac VHT80
5230MHz	5210MHz
	

5180-5240MHz Band:	
ANT 2	
11a	**11n HT20**
5180MHz	5180MHz
	
5200MHz	5200MHz
	
5240MHz	5240MHz
	

11n HT40

5190MHz

5200MHz

5230MHz

5240MHz

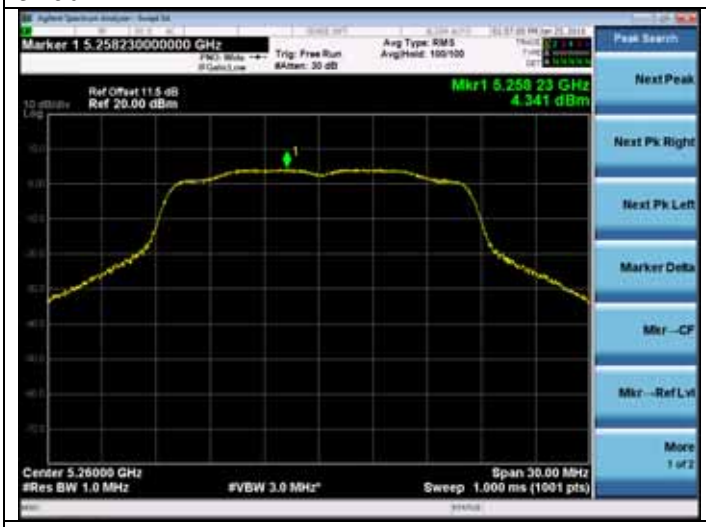
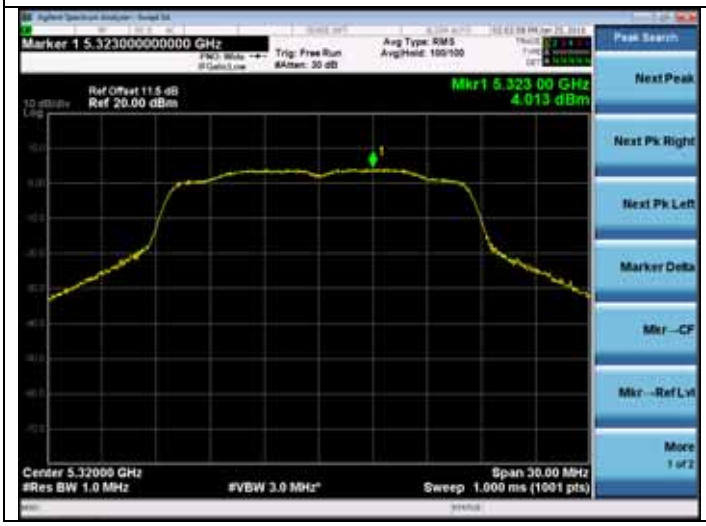
11ac VHT20

5180MHz

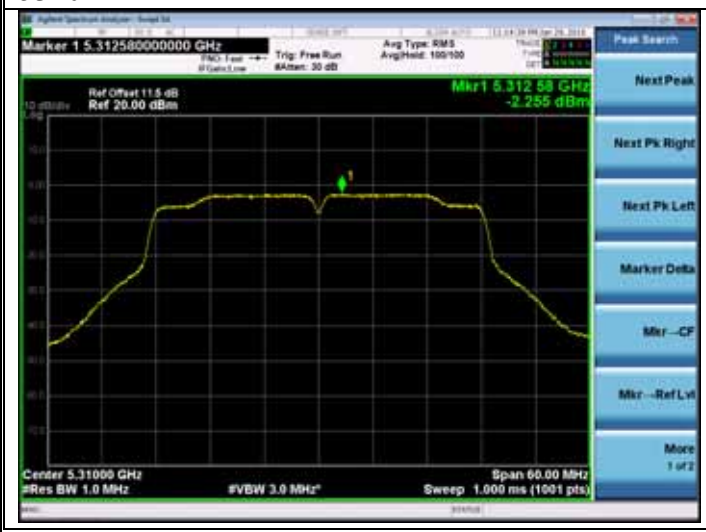
11ac VHT40

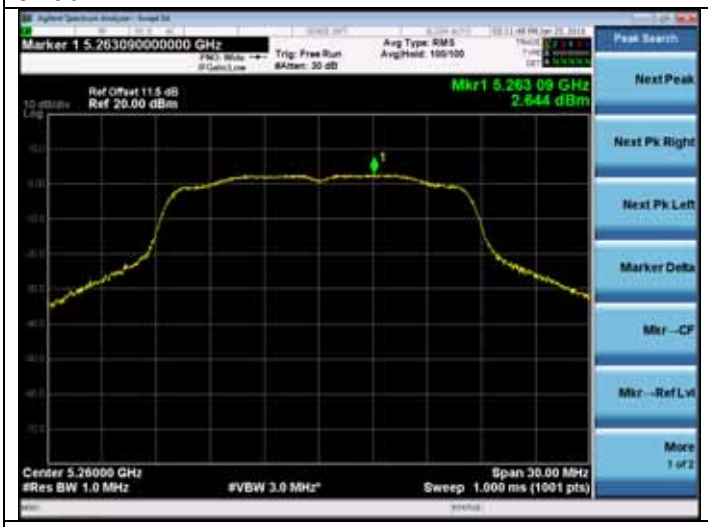
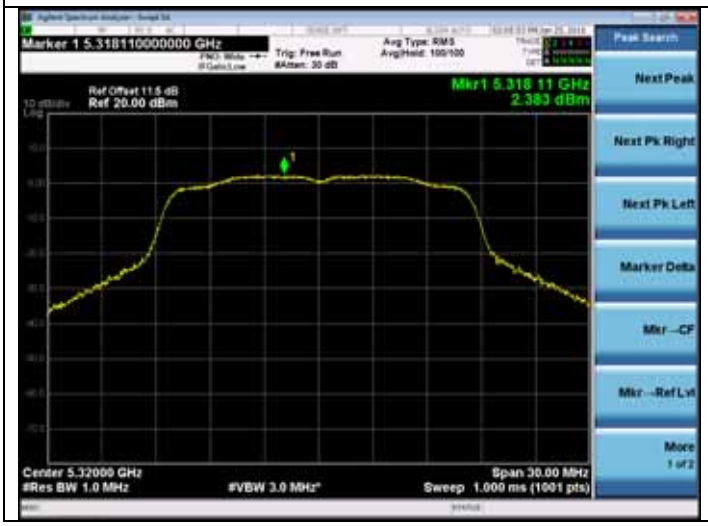
5190MHz

	11ac VHT80
5230MHz	5210MHz

5260-5320MHz Band:	
ANT 1	
11a	**11n HT20**
5260MHz	5260MHz
	
5300MHz	5300MHz
5320MHz	5320MHz
	

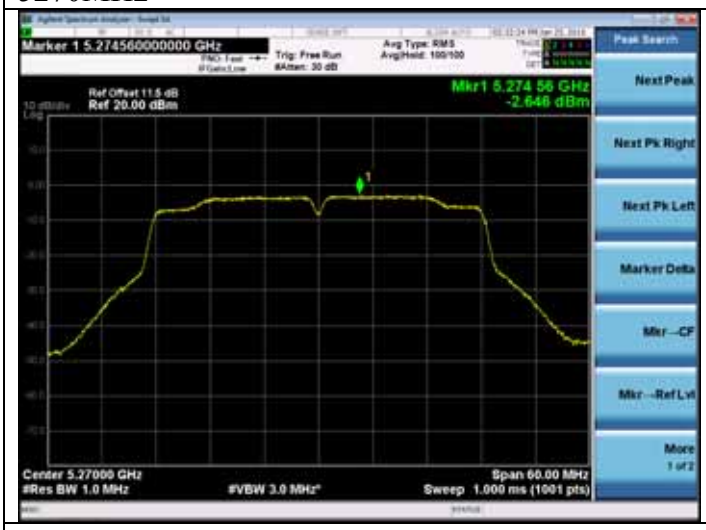
11n HT40	
5270MHz	5300MHz
5310MHz	5320MHz
11ac VHT20	**11ac VHT40**
5260MHz	5270MHz

	11ac VHT80
5310MHz	5290MHz
	

5260-5320MHz Band:	
ANT 2	
11a	**11n HT20**
5260MHz	5260MHz
	
5300MHz	5300MHz
5320MHz	5320MHz
	

11n HT40

5270MHz



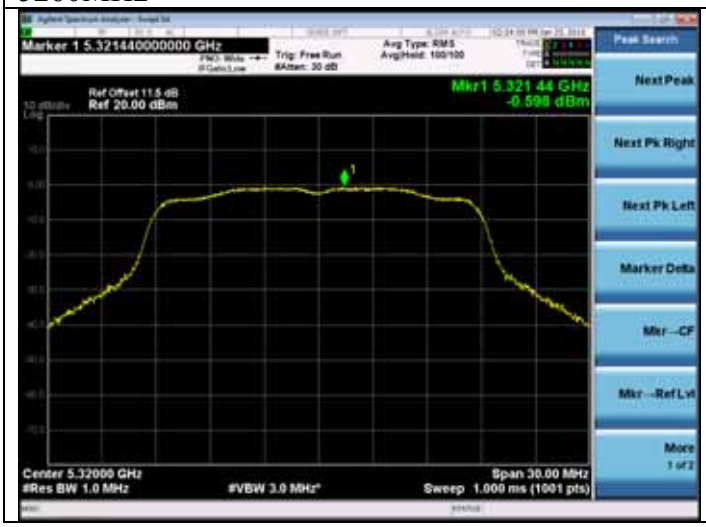
5300MHz

5310MHz

5320MHz

11ac VHT20

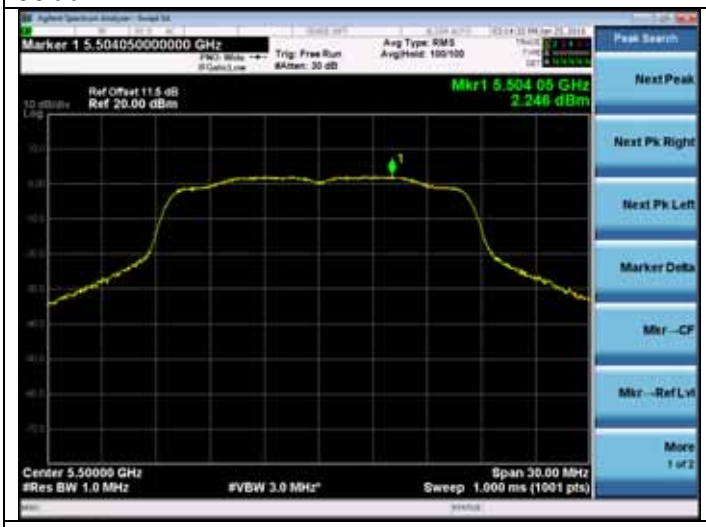
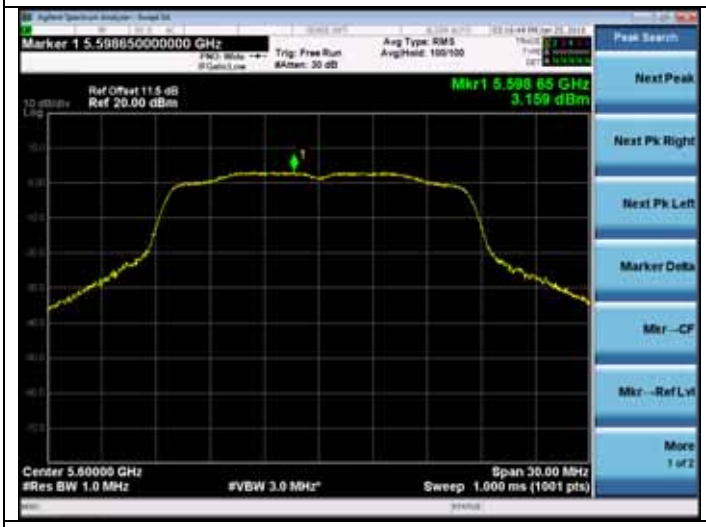
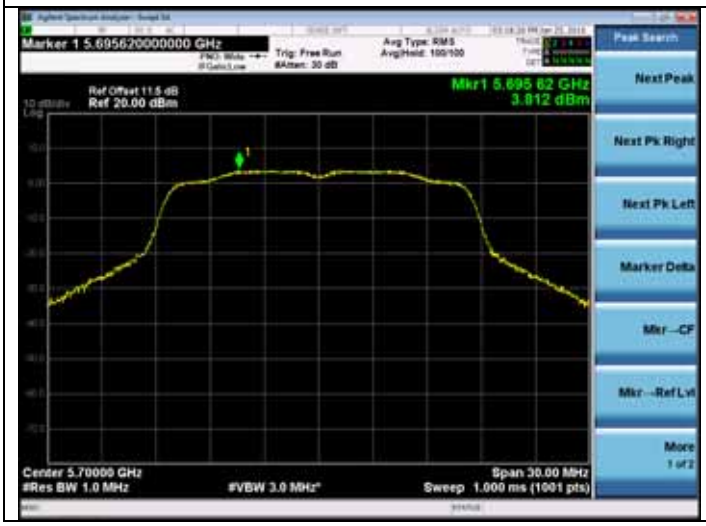
5260MHz



11ac VHT40

5270MHz

	11ac VHT80
5310MHz	5290MHz

5500-5700MHz Band:	
ANT 1	
11a	**11n HT20**
5500MHz	5500MHz
	
5600MHz	5600MHz
	
5700MHz	5700MHz
	

11n HT40	11ac VHT20
5510MHz	5500MHz
5590MHz	5600MHz
5670MHz	5700MHz

11ac VHT40

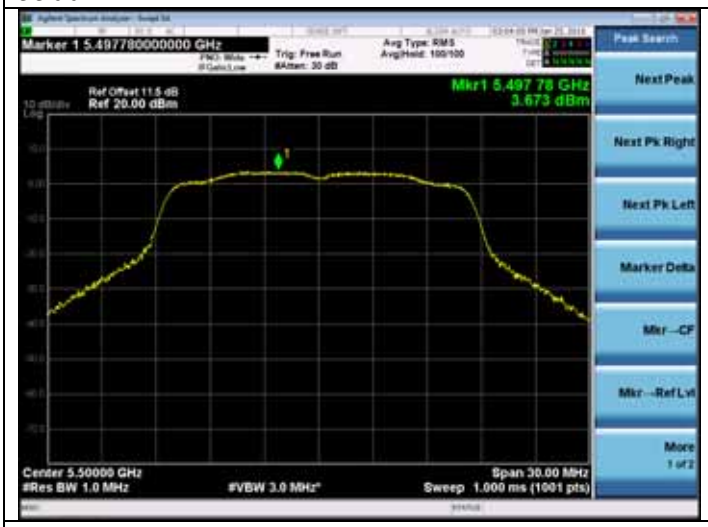
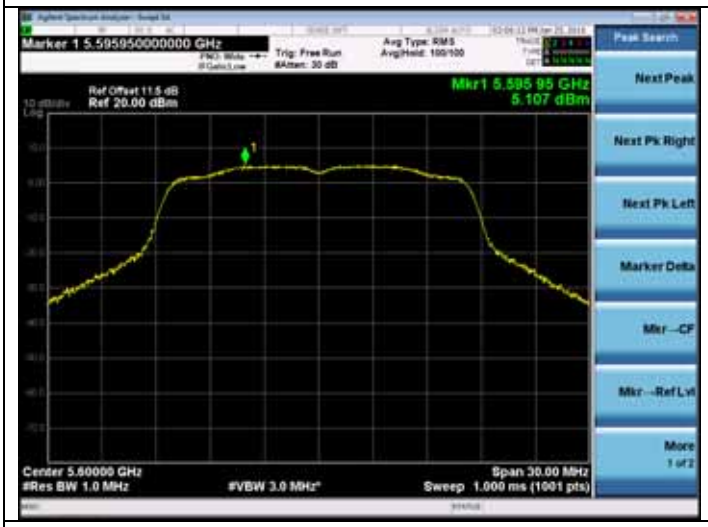
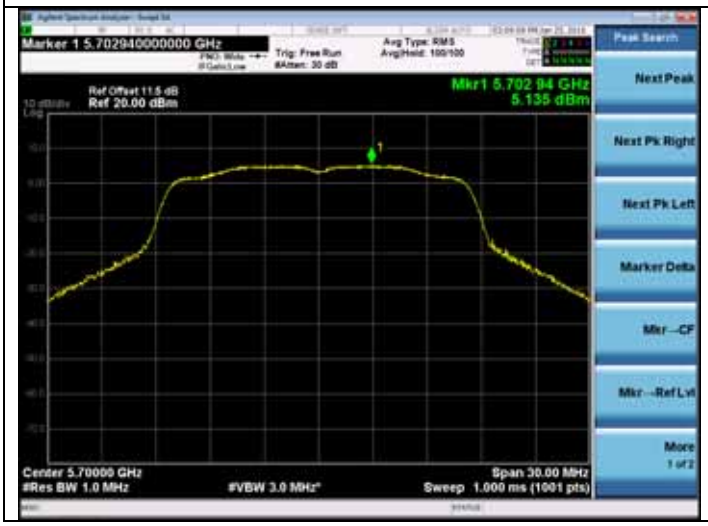
5510MHz

5670MHz

11ac VHT80

5590MHz

5530MHz

5500-5700MHz Band:	
ANT 2	
11a	**11n HT20**
5500MHz	5500MHz
	
5600MHz	5600MHz
	
5700MHz	5700MHz
	

11n HT40	11ac VHT20
5510MHz	5500MHz
5590MHz	5600MHz
5670MHz	5700MHz

11ac VHT40

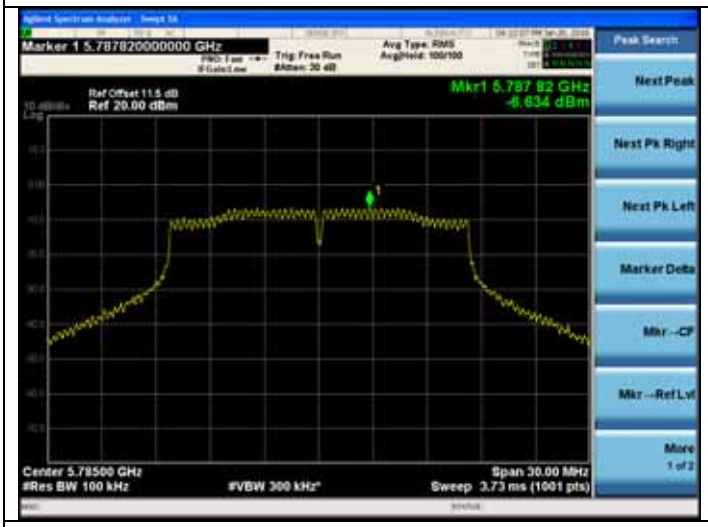
5510MHz

5670MHz

11ac VHT80

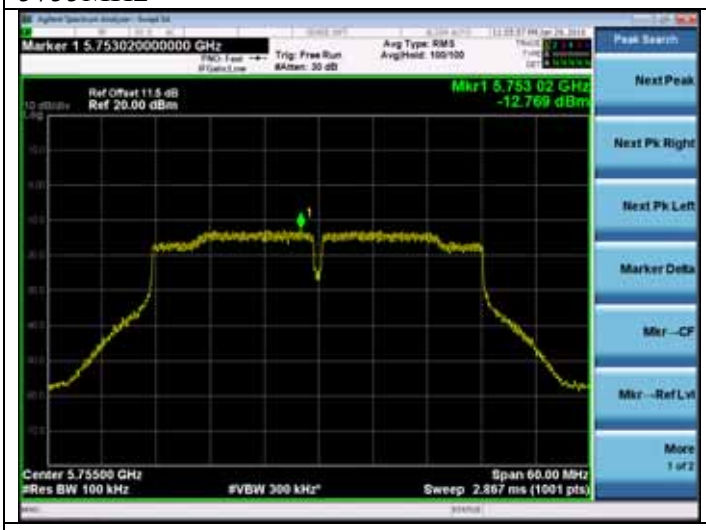
5590MHz

5530MHz

5745-5825MHz Band:	
ANT 1	
11a	**11n HT20**
5745MHz	5745MHz
5785MHz	5785MHz
	
5825MHz	5825MHz

11n HT40

5755MHz



5785MHz

5795MHz

5825MHz

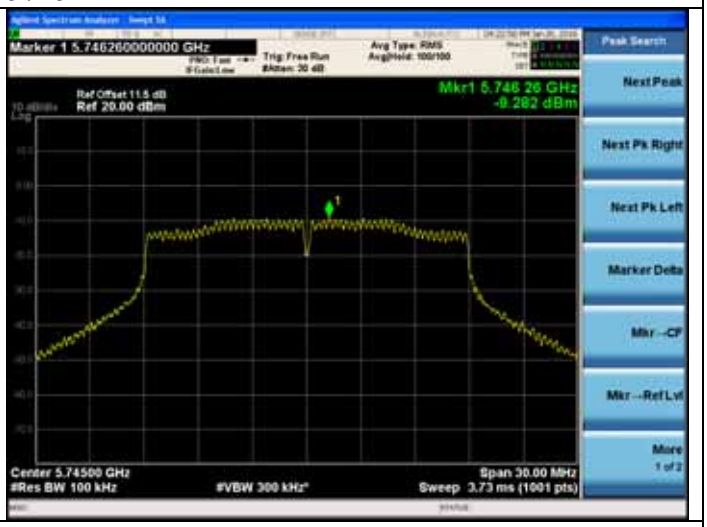
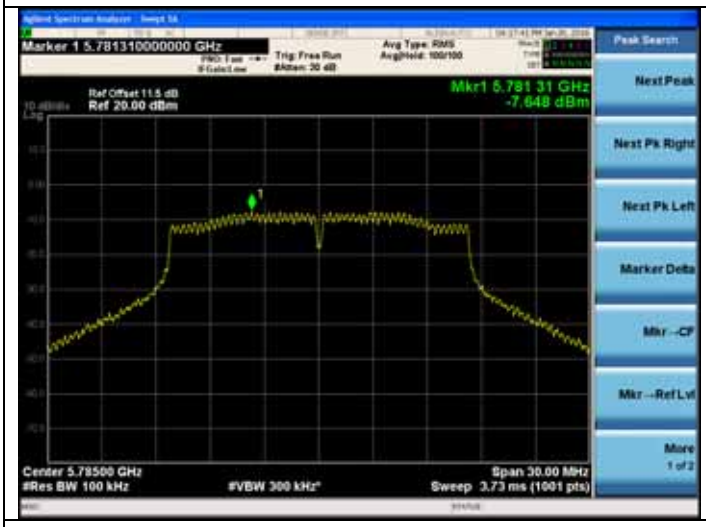
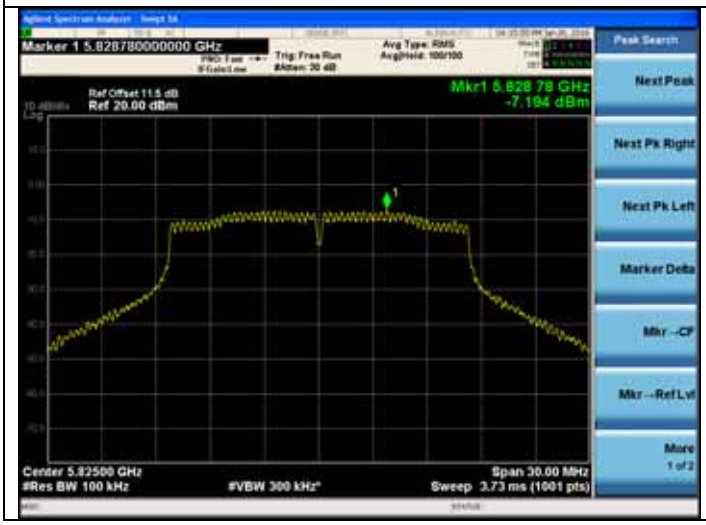
11ac VHT20

5745MHz

11ac VHT40

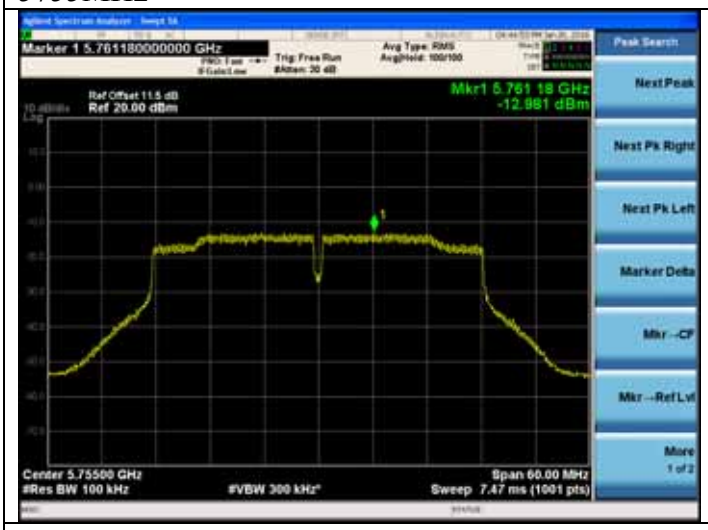
5755MHz

	11ac VHT80
5795MHz	5775MHz

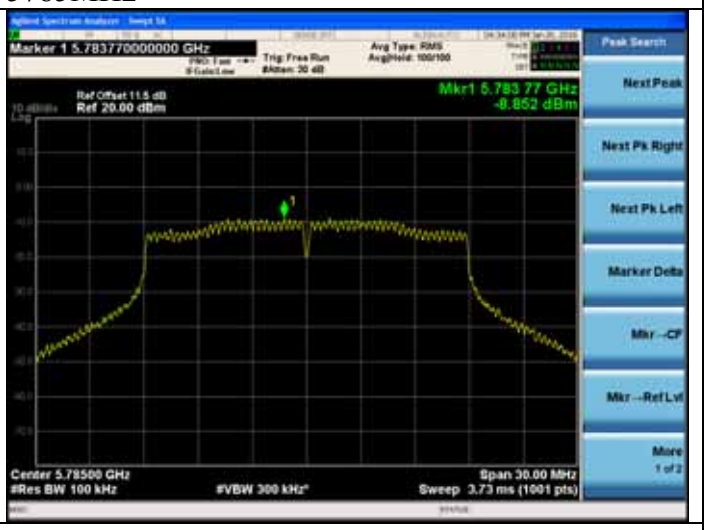
5745-5825MHz Band:	
ANT 2	
11a	**11n HT20**
5745MHz	5745MHz
	
5785MHz	5785MHz
	
5825MHz	5825MHz
	

11n HT40

5755MHz



5785MHz

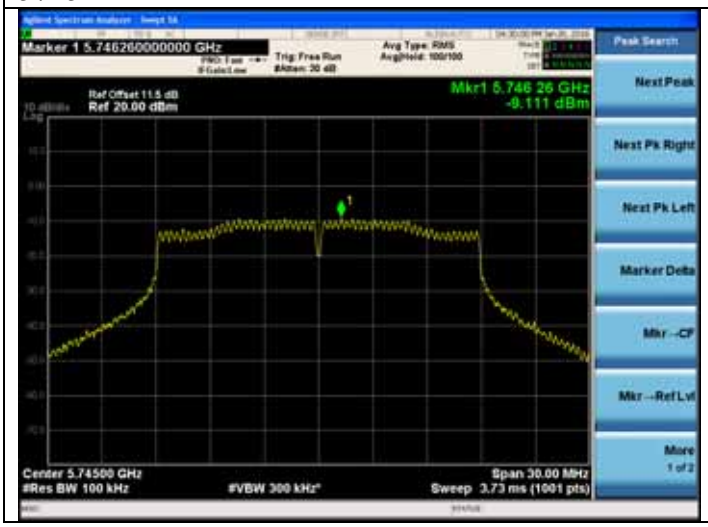


5795MHz

5825MHz

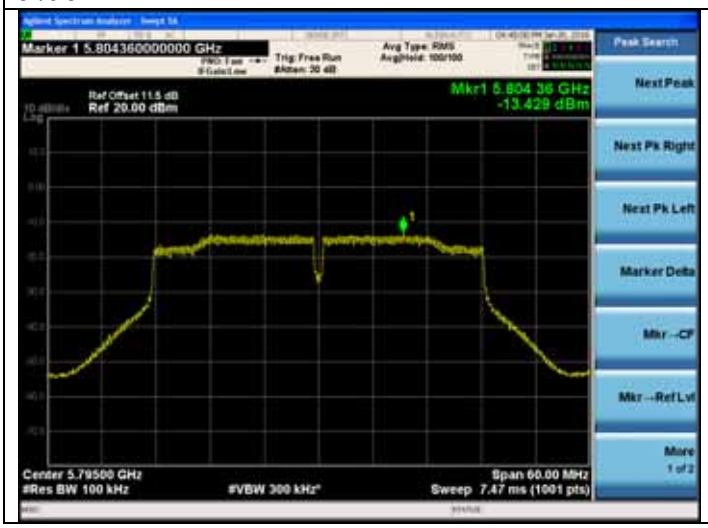
11ac VHT20

5745MHz



11ac VHT40

5755MHz

	11ac VHT80
5795MHz	5775MHz
	

9. FREQUENCY STABILITY MEASUREMENT

9.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Oct.18,15	1 Year
2.	Amplifier	Agilent	8449B	3008A02495	Apr.28,15	1 Year
3.	Horn Antenna	ETS	3115	9510-4877	Oct.15,15	1 Year
4.	HF Cable	Hubersuhner	Sucoflex104	274094/4	Apr.28,15	1 Year

9.2.Limit

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emissions is maintained within the band of operation under all conditions of normal operation as specified in the user's manual or ±20ppm

9.3.Test Procedure

1. The transmitter output (antenna port) was connected to the spectrum analyzer. EUT have transmitted absence of modulation signal and fixed channelise. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings. fc is declaring of channel frequency. Then the frequency error formula is (fc-f)/fc × 106 ppm and the limit is less than ±20ppm The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
2. Extreme temperature rule is -30°C~50°C.

9.4.Test Result

EUT: Notebook		
M/N: RZ09-0184		
Test Site: RF Site	Date: 2016-01-26	Test Engineer: Alice yang
Temperature:25±0.6 ℃	Humidity: 53.7±3.0 %	Pressure: 101.1±1.0kpa

Frequency Stability vs.Voltage:

Test Voltage (V)	Temp (℃)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC108V	25	CH36	5180.016	5180	3.09	±20
		CH38	5190.019	5190	3.66	±20
		CH40	5200.021	5200	4.04	±20
		CH42	5210.023	5210	4.41	±20
		CH46	5230.031	5230	5.93	±20
		CH48	5240.018	5240	3.43	±20
		CH52	5260.024	5260	4.56	±20
		CH54	5270.031	5270	5.88	±20
		CH58	5290.029	5290	5.48	±20
		CH60	5300.016	5300	3.02	±20
		CH62	5310.013	5310	2.45	±20
		CH64	5320.024	5320	4.51	±20
		CH100	5500.026	5500	4.73	±20
		CH102	5510.031	5510	5.63	±20
		CH106	5530.026	5530	4.70	±20
		CH120	5600.037	5600	6.61	±20
		CH134	5670.029	5670	5.11	±20
		CH140	5700.028	5700	4.91	±20
		CH149	5745.031	5745	5.39	±20
		CH151	5755.024	5755	4.17	±20
		CH155	5775.022	5775	3.81	±20
		CH157	5785.032	5785	5.53	±20
		CH159	5795.025	5795	4.31	±20
		CH165	5825.023	5825	3.95	±20
Conclusion: PASS						

Test Voltage (V)	Temp (℃)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC120V	25	CH36	5180.021	5180	4.05	±20
		CH38	5190.031	5190	5.97	±20
		CH40	5200.019	5200	3.65	±20
		CH42	5210.024	5210	4.61	±20
		CH46	5230.016	5230	3.06	±20
		CH48	5240.019	5240	3.63	±20
		CH52	5260.024	5260	4.56	±20
		CH54	5270.030	5270	5.69	±20
		CH58	5290.026	5290	4.91	±20
		CH60	5300.017	5300	3.21	±20
		CH62	5310.022	5310	4.14	±20
		CH64	5320.026	5320	4.89	±20
		CH100	5500.031	5500	5.64	±20
		CH102	5510.034	5510	6.17	±20
		CH106	5530.029	5530	5.24	±20
		CH120	5600.026	5600	4.64	±20
		CH134	5670.034	5670	5.99	±20
		CH140	5700.025	5700	4.39	±20
		CH149	5745.036	5745	6.27	±20
		CH151	5755.021	5755	3.65	±20
		CH155	5775.029	5775	5.02	±20
		CH157	5785.034	5785	5.88	±20
		CH159	5795.025	5795	4.31	±20
		CH165	5825.033	5825	5.67	±20
Conclusion: PASS						

Test Voltage (V)	Temp (℃)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC132V	25	CH36	5180.026	5180	5.02	±20
		CH38	5190.027	5190	5.20	±20
		CH40	5200.031	5200	5.96	±20
		CH42	5210.026	5210	4.99	±20
		CH46	5230.051	5230	9.75	±20
		CH48	5240.046	5240	8.78	±20
		CH52	5260.039	5260	7.41	±20
		CH54	5270.028	5270	5.31	±20
		CH58	5290.019	5290	3.59	±20
		CH60	5300.033	5300	6.23	±20
		CH62	5310.046	5310	8.66	±20
		CH64	5320.027	5320	5.08	±20
		CH100	5500.024	5500	4.36	±20
		CH102	5510.031	5510	5.63	±20
		CH106	5530.026	5530	4.70	±20
		CH120	5600.029	5600	5.18	±20
		CH134	5670.026	5670	4.59	±20
		CH140	5700.034	5700	5.96	±20
		CH149	5745.038	5745	6.61	±20
		CH151	5755.041	5755	7.12	±20
		CH155	5775.050	5775	8.66	±20
		CH157	5785.029	5785	5.01	±20
		CH159	5795.043	5795	7.42	±20
		CH165	5825.029	5825	4.98	±20
Conclusion: PASS						

Frequency Stability vs.Temperature:

Test Voltage (V)	Temp (℃)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC120V	-10℃	CH36	5180.045	5180	8.69	±20
		CH38	5190.050	5190	9.63	±20
		CH40	5200.035	5200	6.73	±20
		CH42	5210.019	5210	3.65	±20
		CH46	5230.027	5230	5.16	±20
		CH48	5240.031	5240	5.92	±20
		CH52	5260.029	5260	5.51	±20
		CH54	5270.018	5270	3.42	±20
		CH58	5290.027	5290	5.10	±20
		CH60	5300.036	5300	6.79	±20
		CH62	5310.027	5310	5.08	±20
		CH64	5320.041	5320	7.71	±20
		CH100	5500.023	5500	4.18	±20
		CH102	5510.027	5510	4.90	±20
		CH106	5530.024	5530	4.34	±20
		CH120	5600.019	5600	3.39	±20
		CH134	5670.027	5670	4.76	±20
		CH140	5700.034	5700	5.96	±20
		CH149	5745.013	5745	2.26	±20
		CH151	5755.037	5755	6.43	±20
		CH155	5775.016	5775	2.77	±20
		CH157	5785.027	5785	4.67	±20
		CH159	5795.031	5795	5.35	±20
		CH165	5825.036	5825	6.18	±20
Conclusion: PASS						

Test Voltage (V)	Temp (℃)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC120V	0℃	CH36	5180.038	5180	7.34	±20
		CH38	5190.029	5190	5.59	±20
		CH40	5200.027	5200	5.19	±20
		CH42	5210.036	5210	6.91	±20
		CH46	5230.028	5230	5.35	±20
		CH48	5240.025	5240	4.77	±20
		CH52	5260.031	5260	5.89	±20
		CH54	5270.028	5270	5.31	±20
		CH58	5290.029	5290	5.48	±20
		CH60	5300.018	5300	3.40	±20
		CH62	5310.024	5310	4.52	±20
		CH64	5320.031	5320	5.83	±20
		CH100	5500.029	5500	5.27	±20
		CH102	5510.027	5510	4.90	±20
		CH106	5530.015	5530	2.71	±20
		CH120	5600.021	5600	3.75	±20
		CH134	5670.033	5670	5.82	±20
		CH140	5700.046	5700	8.07	±20
		CH149	5745.034	5745	5.92	±20
		CH151	5755.026	5755	4.52	±20
		CH155	5775.025	5775	4.33	±20
		CH157	5785.036	5785	6.22	±20
		CH159	5795.027	5795	4.66	±20
		CH165	5825.021	5825	3.61	±20
Conclusion: PASS						

Test Voltage (V)	Temp (℃)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC120V	10℃	CH36	5180.029	5180	5.59	±20
		CH38	5190.034	5190	6.55	±20
		CH40	5200.025	5200	4.81	±20
		CH42	5210.034	5210	6.53	±20
		CH46	5230.026	5230	4.97	±20
		CH48	5240.031	5240	5.92	±20
		CH52	5260.041	5260	7.79	±20
		CH54	5270.045	5270	8.54	±20
		CH58	5290.043	5290	8.13	±20
		CH60	5300.051	5300	9.62	±20
		CH62	5310.038	5310	7.16	±20
		CH64	5320.043	5320	8.08	±20
		CH100	5500.039	5500	7.09	±20
		CH102	5510.046	5510	8.35	±20
		CH106	5530.051	5530	9.22	±20
		CH120	5600.053	5600	9.46	±20
		CH134	5670.046	5670	8.11	±20
		CH140	5700.037	5700	6.49	±20
		CH149	5745.052	5745	9.05	±20
		CH151	5755.039	5755	6.78	±20
		CH155	5775.041	5775	7.10	±20
		CH157	5785.043	5785	7.43	±20
		CH159	5795.046	5795	7.94	±20
		CH165	5825.022	5825	5.32	±20
Conclusion: PASS						

Test Voltage (V)	Temp (℃)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC120V	20℃	CH36	5180.037	5180	7.14	±20
		CH38	5190.042	5190	8.09	±20
		CH40	5200.029	5200	5.58	±20
		CH42	5210.035	5210	6.72	±20
		CH46	5230.043	5230	8.22	±20
		CH48	5240.037	5240	7.06	±20
		CH52	5260.048	5260	9.13	±20
		CH54	5270.031	5270	5.88	±20
		CH58	5290.028	5290	5.29	±20
		CH60	5300.026	5300	4.91	±20
		CH62	5310.034	5310	6.40	±20
		CH64	5320.028	5320	5.26	±20
		CH100	5500.037	5500	6.73	±20
		CH102	5510.029	5510	5.26	±20
		CH106	5530.041	5530	7.41	±20
		CH120	5600.022	5600	3.93	±20
		CH134	5670.037	5670	6.53	±20
		CH140	5700.040	5700	7.02	±20
		CH149	5745.043	5745	7.48	±20
		CH151	5755.021	5755	3.65	±20
		CH155	5775.035	5775	6.06	±20
		CH157	5785.022	5785	3.80	±20
		CH159	5795.043	5795	7.42	±20
		CH165	5825.046	5825	7.89	±20
Conclusion: PASS						

Test Voltage (V)	Temp (℃)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC120V	30℃	CH36	5180.043	5180	8.30	±20
		CH38	5190.032	5190	6.17	±20
		CH40	5200.018	5200	3.46	±20
		CH42	5210.034	5210	6.53	±20
		CH46	5230.047	5230	8.98	±20
		CH48	5240.034	5240	6.49	±20
		CH52	5260.042	5260	7.98	±20
		CH54	5270.028	5270	5.31	±20
		CH58	5290.031	5290	5.86	±20
		CH60	5300.024	5300	4.52	±20
		CH62	5310.030	5310	5.65	±20
		CH64	5320.029	5320	5.45	±20
		CH100	5500.041	5500	7.45	±20
		CH102	5510.030	5510	5.44	±20
		CH106	5530.035	5530	6.33	±20
		CH120	5600.032	5600	5.71	±20
		CH134	5670.046	5670	8.11	±20
		CH140	5700.038	5700	6.67	±20
		CH149	5745.047	5745	8.18	±20
		CH151	5755.022	5755	3.82	±20
		CH155	5775.034	5775	5.89	±20
		CH157	5785.039	5785	6.74	±20
		CH159	5795.044	5795	7.59	±20
		CH165	5825.031	5825	5.32	±20
Conclusion: PASS						

Test Voltage (V)	Temp (℃)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC120V	40℃	CH36	5180.051	5180	9.84	±20
		CH38	5190.044	5190	8.48	±20
		CH40	5200.031	5200	5.96	±20
		CH42	5210.042	5210	8.06	±20
		CH46	5230.049	5230	9.37	±20
		CH48	5240.031	5240	5.91	±20
		CH52	5260.037	5260	7.03	±20
		CH54	5270.029	5270	5.50	±20
		CH58	5290.028	5290	5.29	±20
		CH60	5300.017	5300	3.21	±20
		CH62	5310.021	5310	3.95	±20
		CH64	5320.034	5320	6.39	±20
		CH100	5500.038	5500	6.91	±20
		CH102	5510.029	5510	5.26	±20
		CH106	5530.041	5530	7.41	±20
		CH120	5600.030	5600	5.35	±20
		CH134	5670.024	5670	4.23	±20
		CH140	5700.026	5700	4.56	±20
		CH149	5745.038	5745	6.61	±20
		CH151	5755.028	5755	4.86	±20
		CH155	5775.033	5775	5.71	±20
		CH157	5785.041	5785	7.09	±20
		CH159	5795.048	5795	8.28	±20
		CH165	5825.027	5825	4.64	±20
Conclusion: PASS						

Test Voltage (V)	Temp (℃)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC120V	50℃	CH36	5180.055	5180	10.62	±20
		CH38	5190.046	5190	8.86	±20
		CH40	5200.034	5200	6.54	±20
		CH42	5210.039	5210	7.49	±20
		CH46	5230.034	5230	6.50	±20
		CH48	5240.029	5240	5.53	±20
		CH52	5260.041	5260	7.79	±20
		CH54	5270.030	5270	5.69	±20
		CH58	5290.028	5290	5.29	±20
		CH60	5300.017	5300	3.21	±20
		CH62	5310.024	5310	4.52	±20
		CH64	5320.031	5320	5.83	±20
		CH100	5500.026	5500	4.73	±20
		CH102	5510.020	5510	3.63	±20
		CH106	5530.034	5530	6.15	±20
		CH120	5600.026	5600	4.64	±20
		CH134	5670.037	5670	6.53	±20
		CH140	5700.034	5700	5.96	±20
		CH149	5745.050	5745	8.70	±20
		CH151	5755.026	5755	4.52	±20
		CH155	5775.040	5775	6.93	±20
		CH157	5785.038	5785	6.57	±20
		CH159	5795.027	5795	4.66	±20
		CH165	5825.018	5825	3.09	±20
Conclusion: PASS						

10. ANTENNA REQUIREMENT

10.1. Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.407 (a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

10.2. Antenna Connected Construction

The antennas used for this product are PIFA antenna that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is 4.3dBi.

11. DEVIATION TO TEST SPECIFICATIONS

[NONE]