

5240MHz

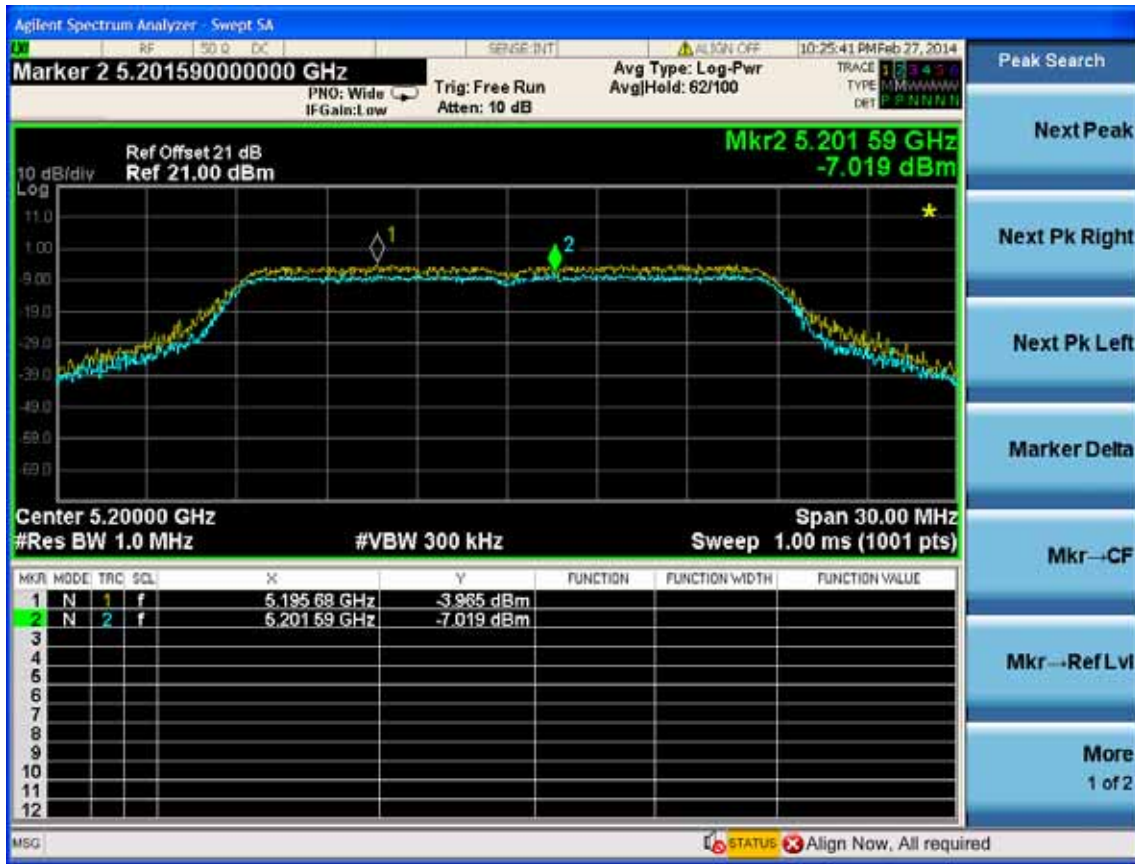


11ac VHT20

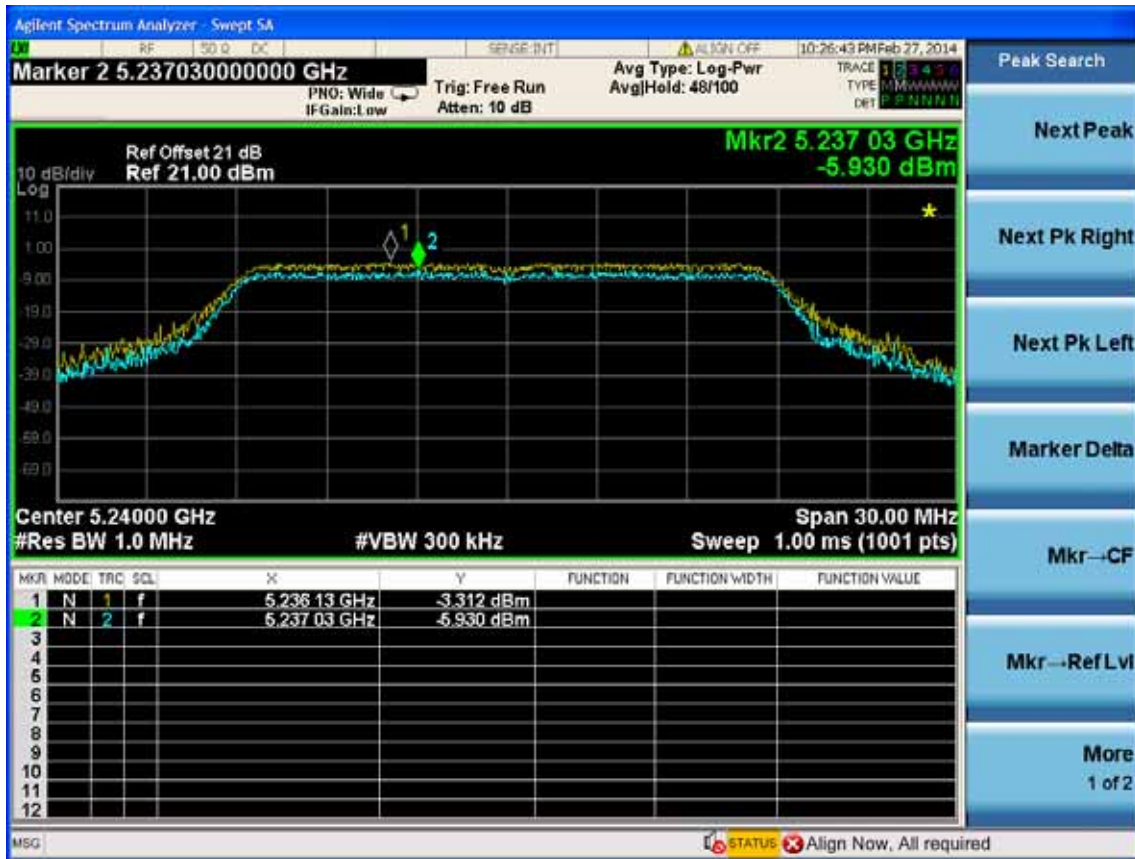
5180MHz



5200MHz



5240MHz



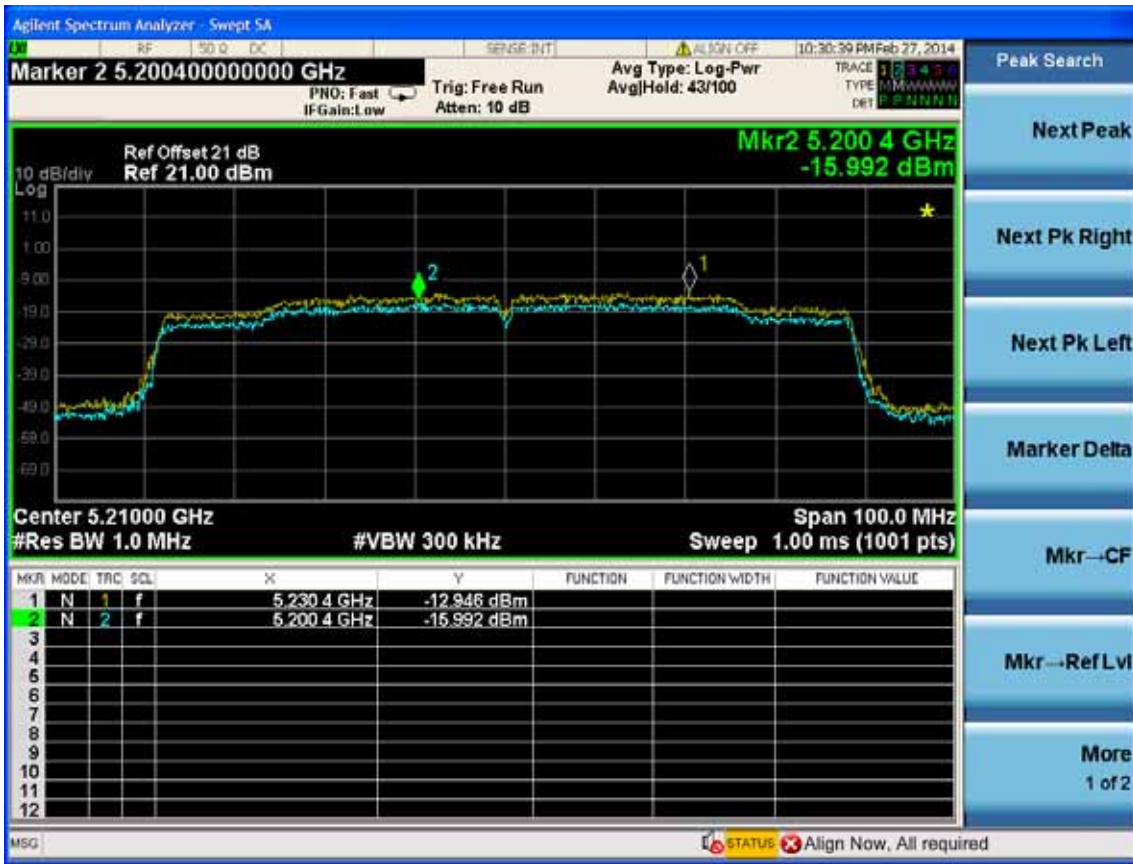
11ac VHT40
5190MHz



5230MHz



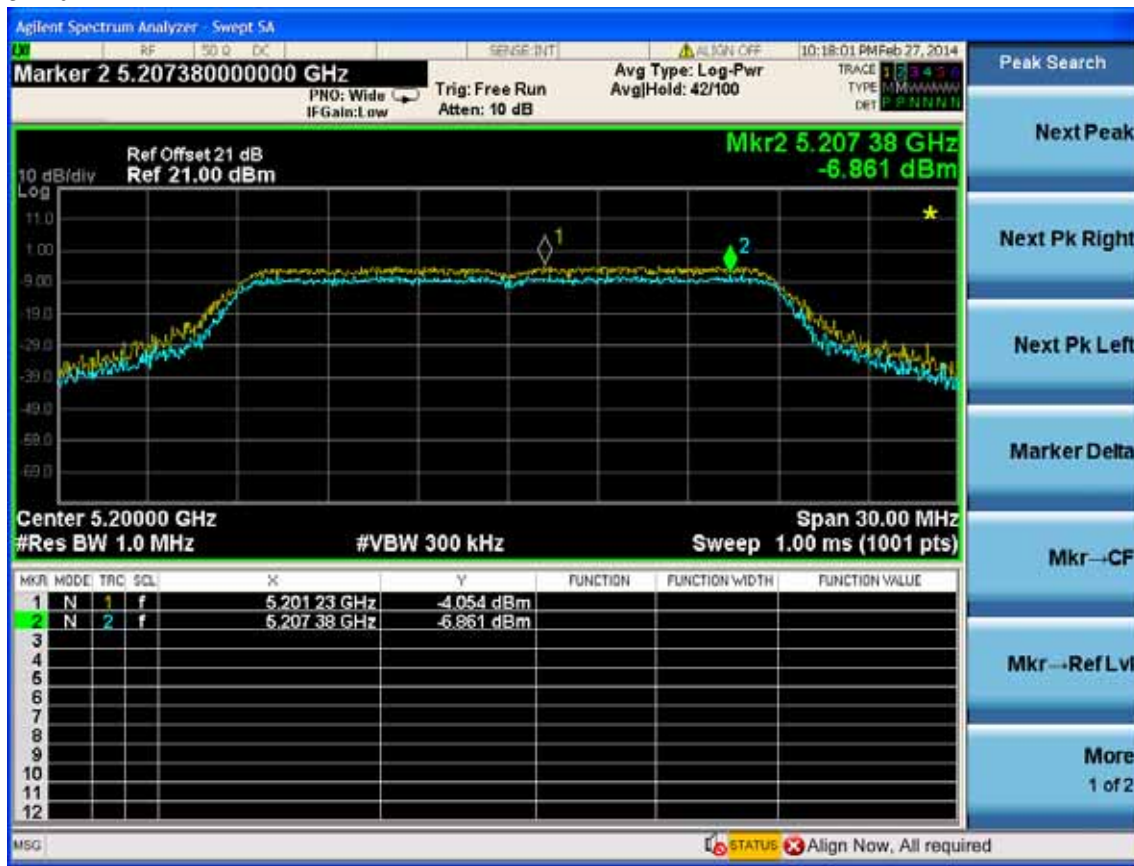
11ac VHT80
5210MHz



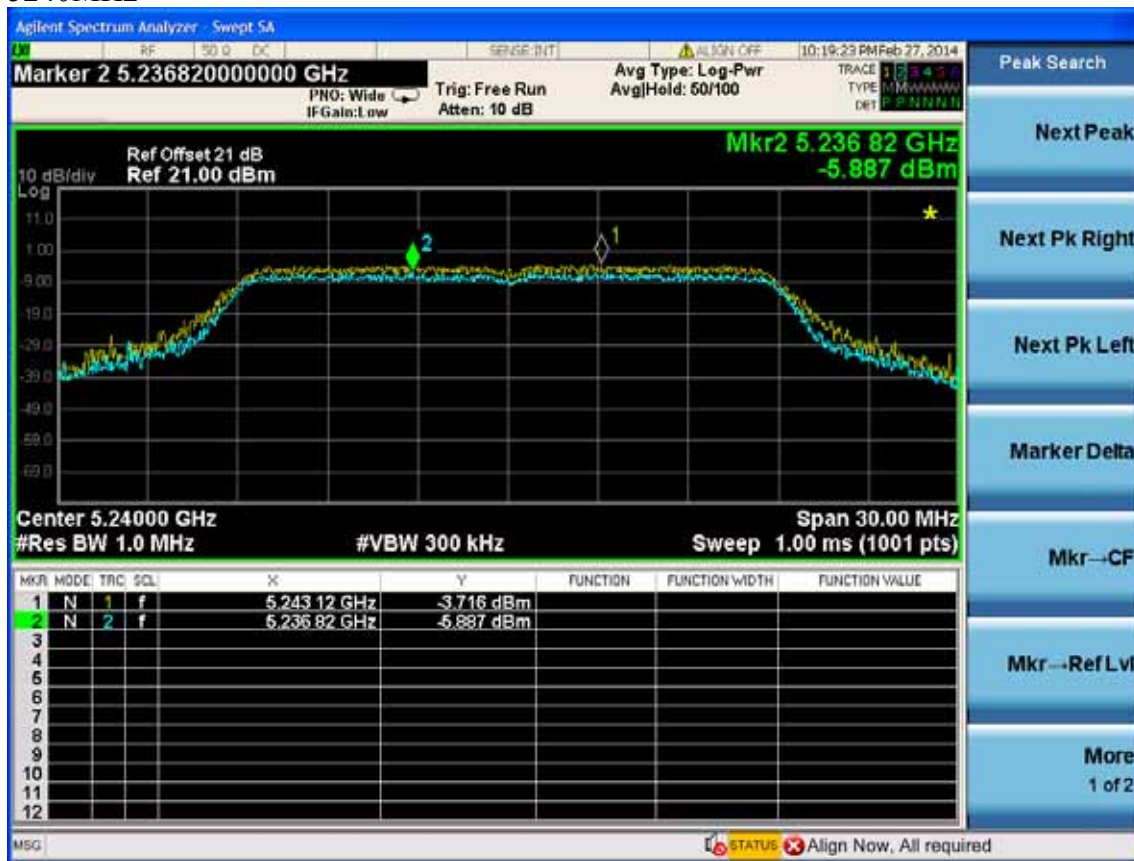
11nHT20
5180MHz



5210MHz



5240MHz



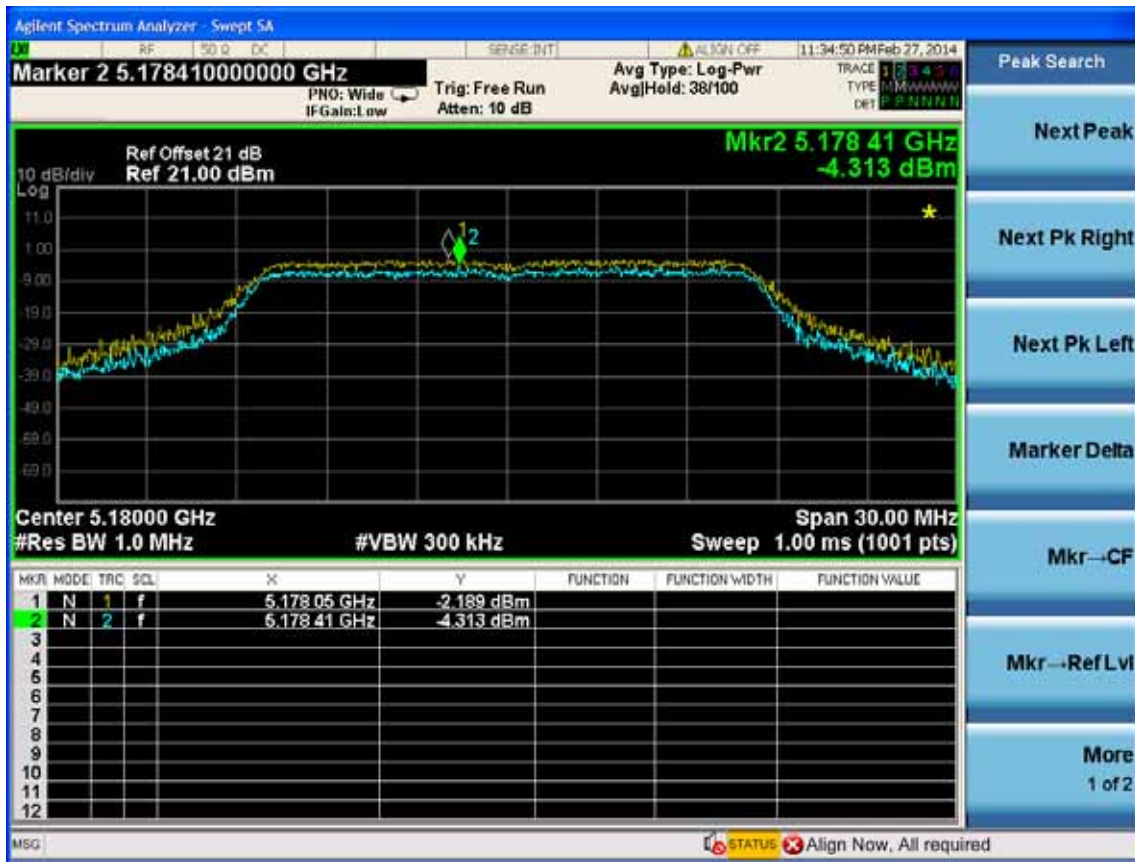
11nHT40
5190MHz



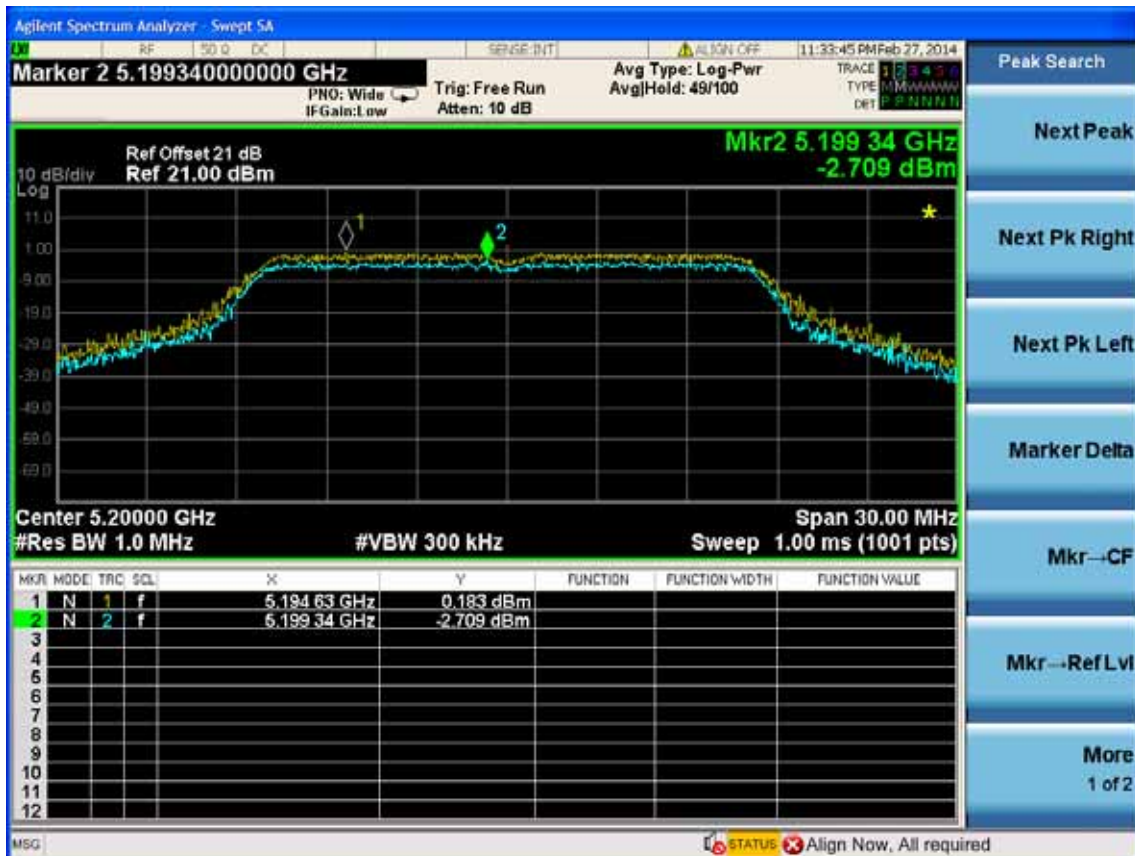
5230MHz



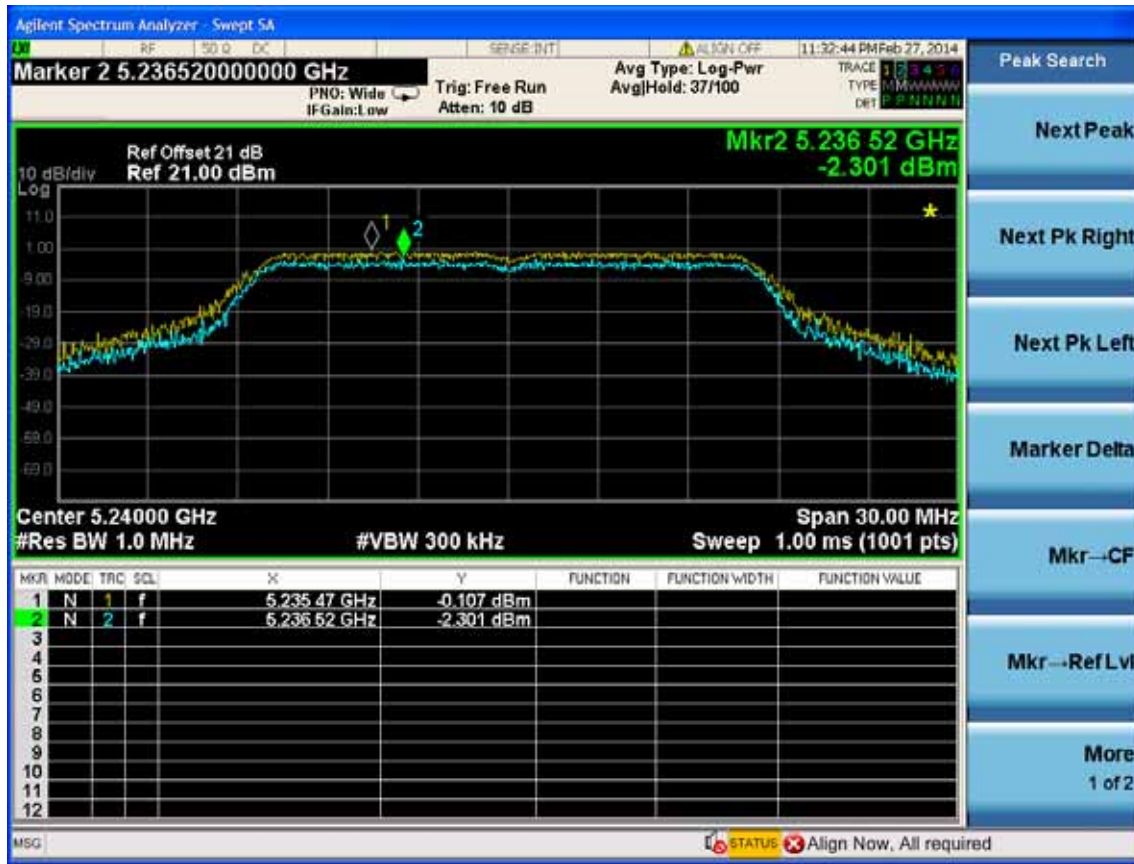
ANT B
11a
5180MHz



5210MHz



5240MHz

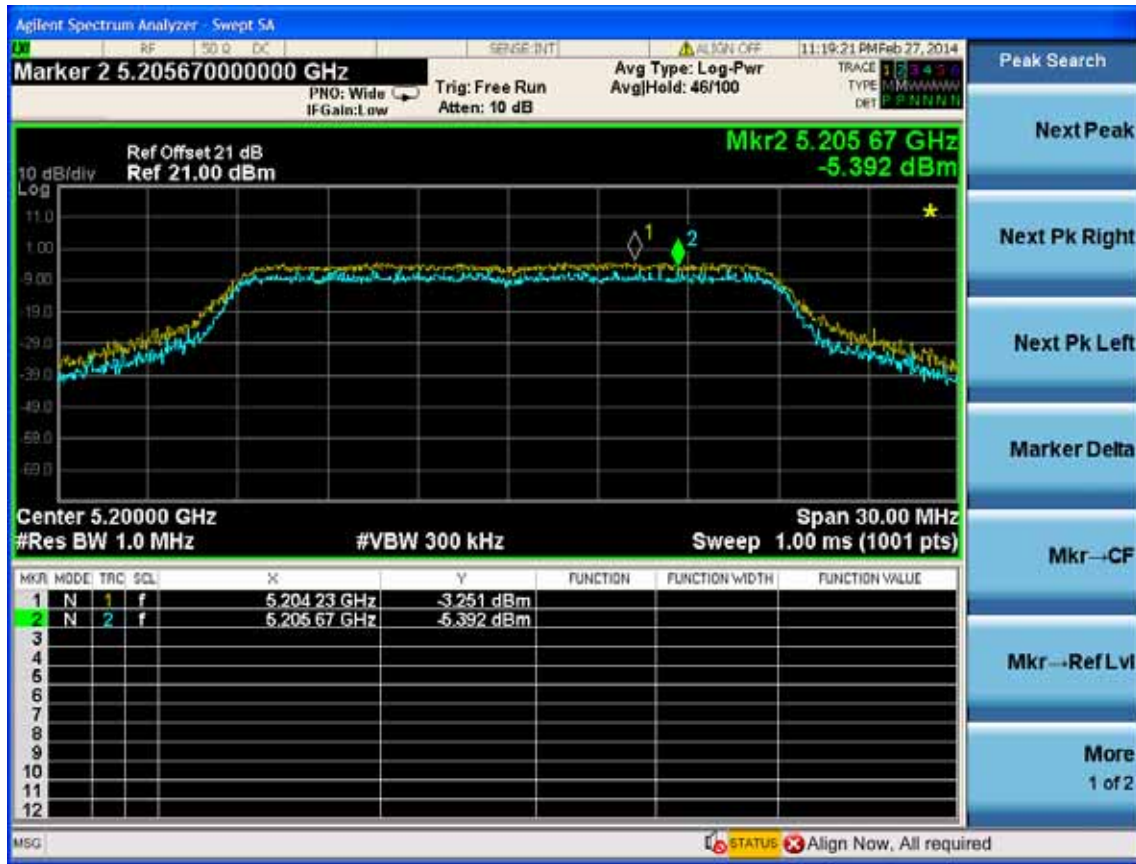


11ac VHT20

5180MHz



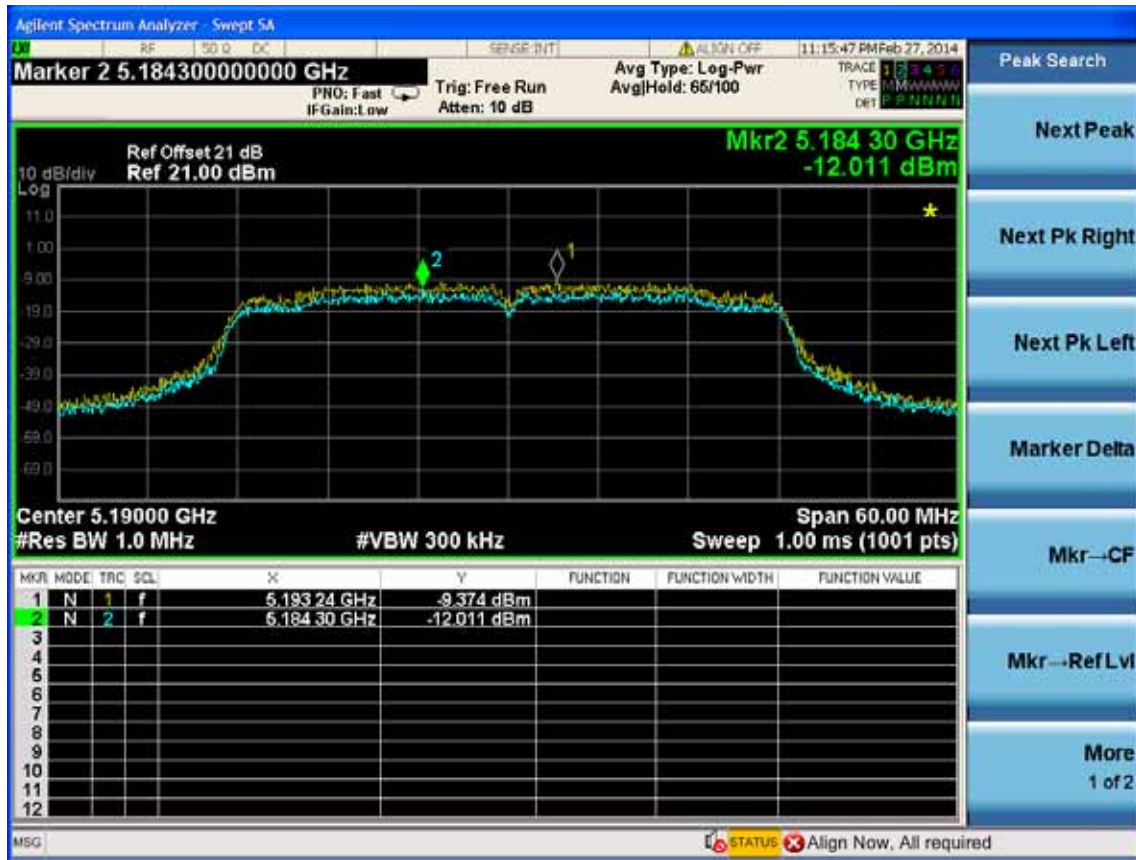
5200MHz



5240MHz



11ac VHT40
5190MHz

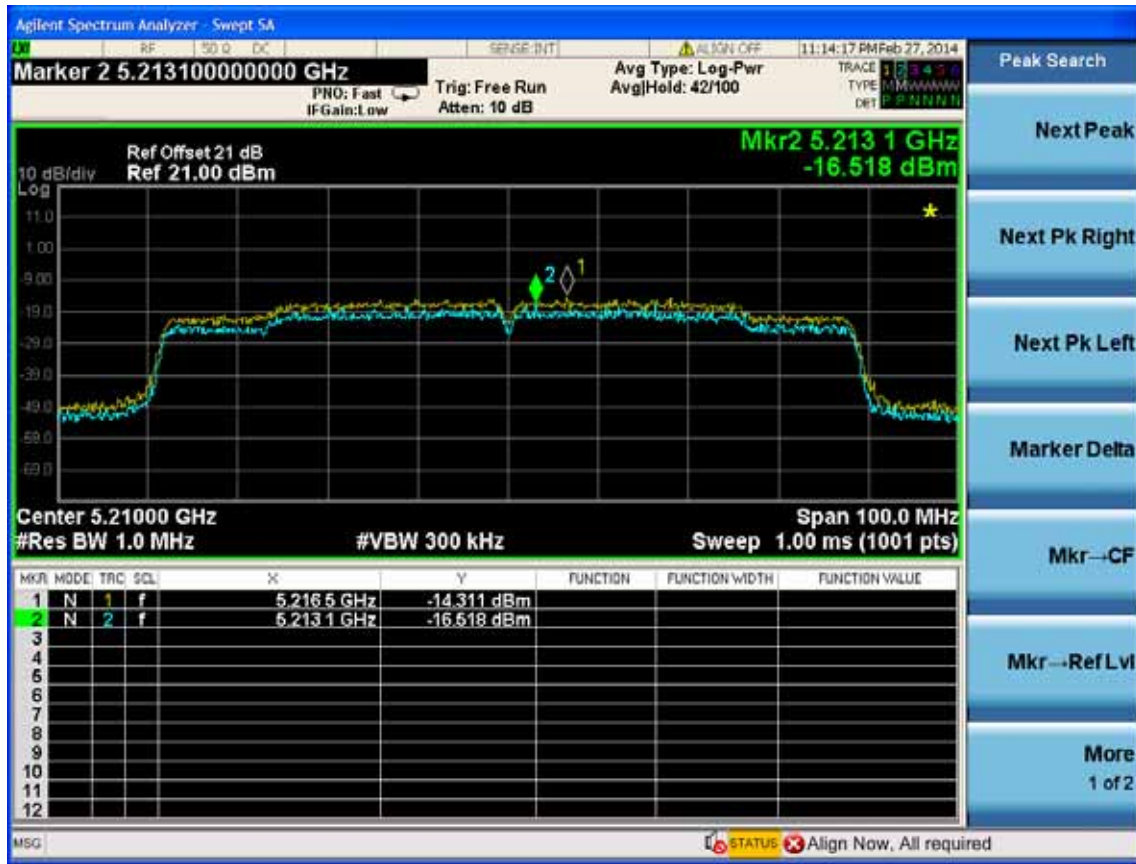


5230MHz



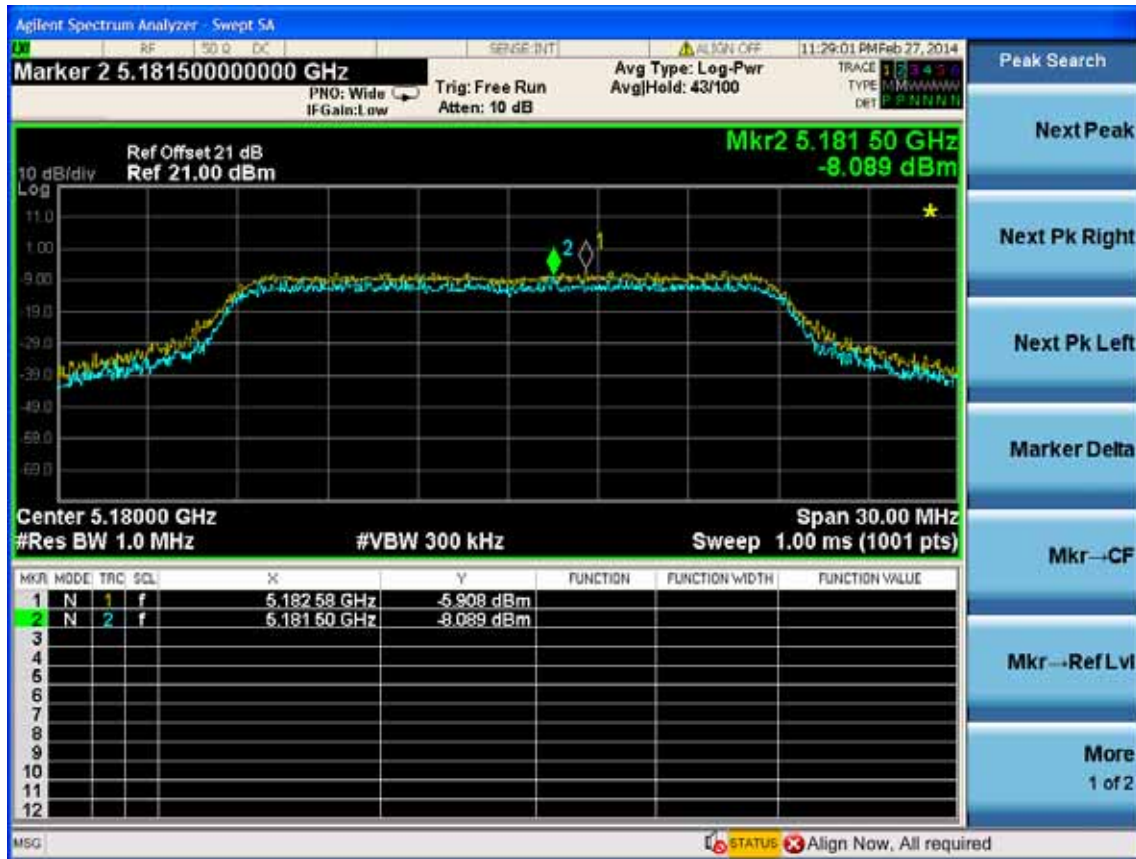
11ac VHT80

5210MHz

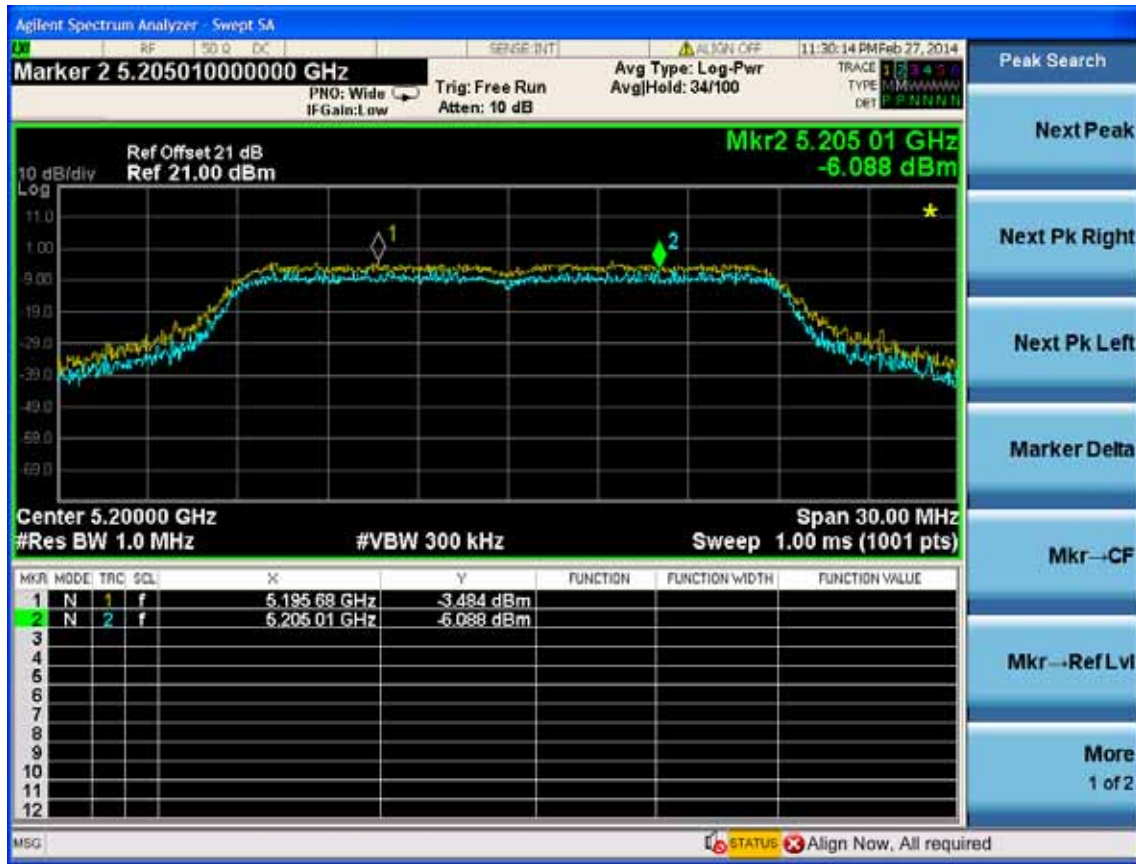


11nHT20

5180MHz



5210MHz



5240MHz



11nHT40
5190MHz



5230MHz



(5250-5350MHz):

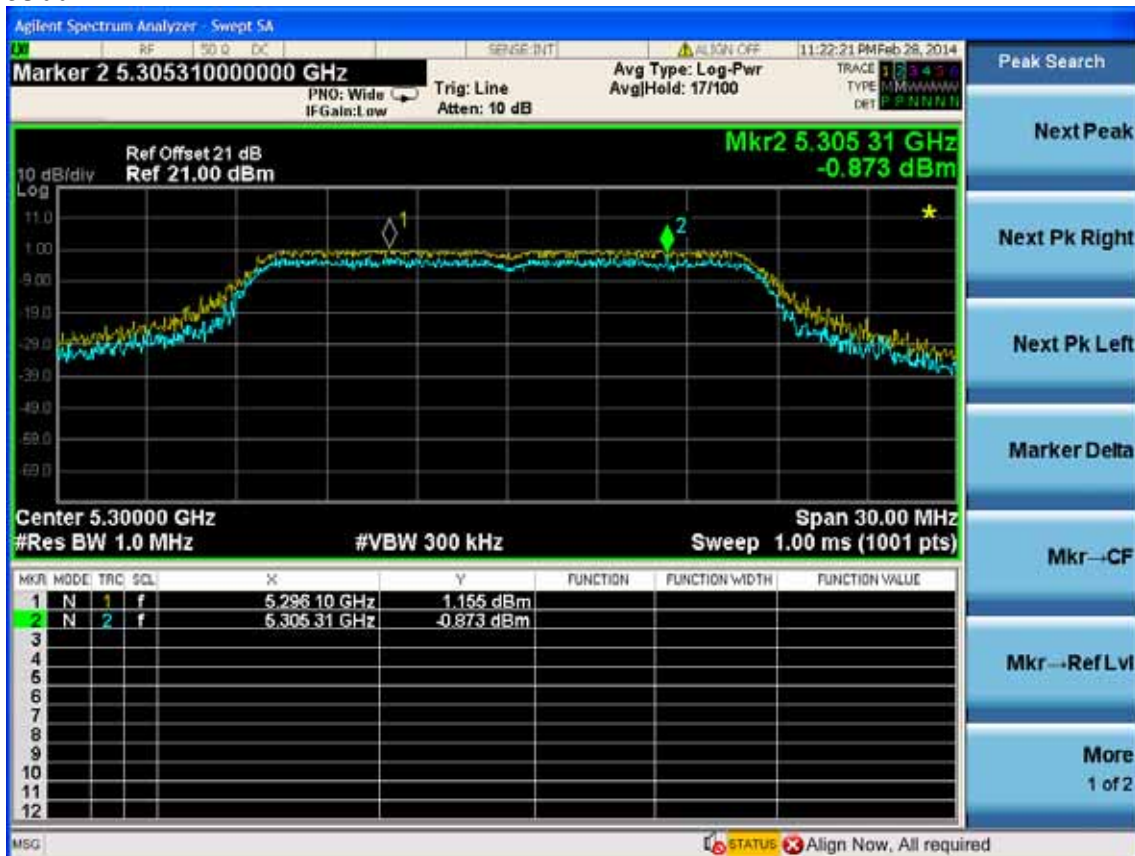
ANT A

11a

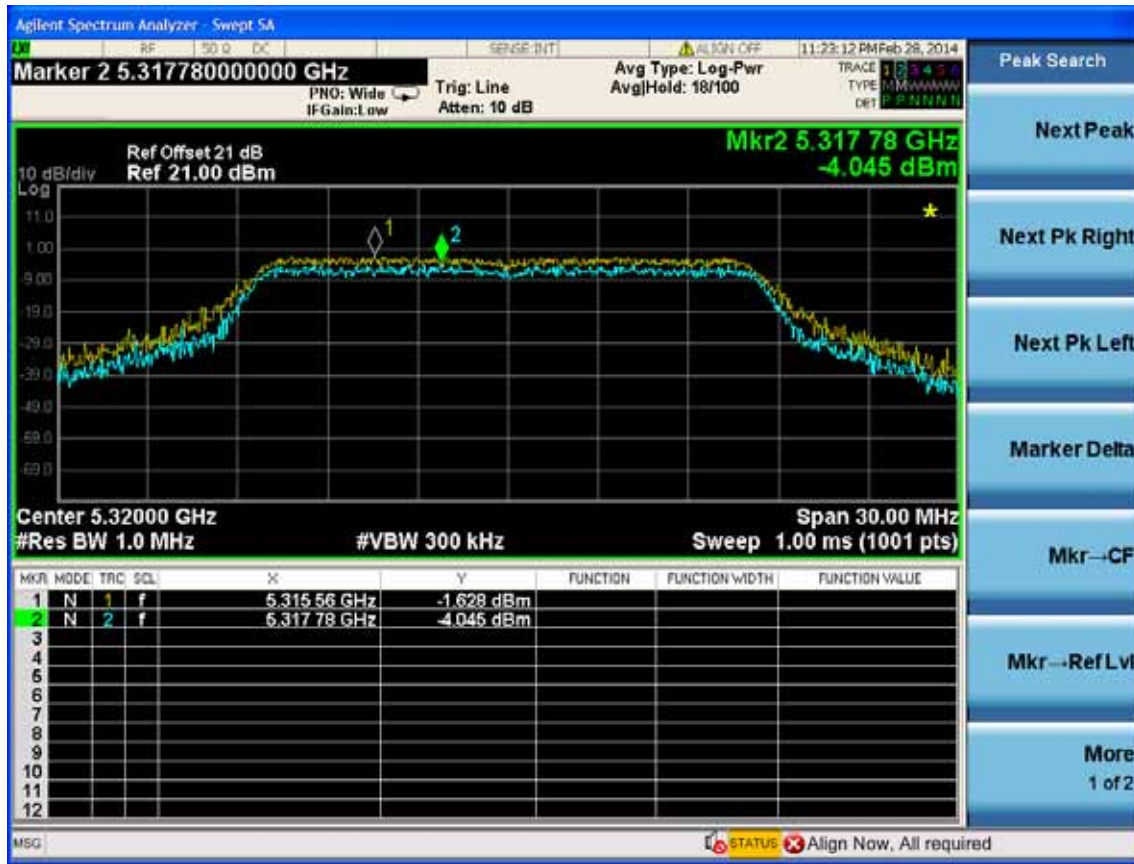
5260MHz



5300MHz



5320MHz

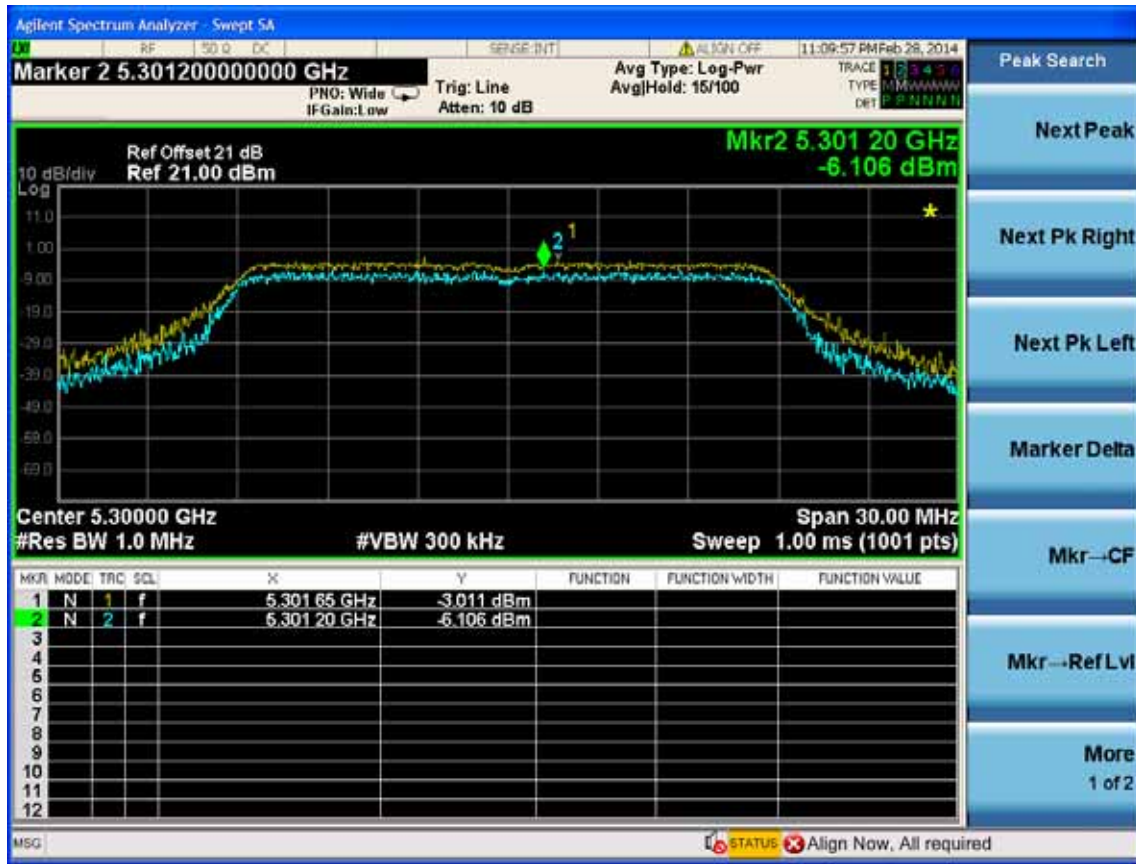


11ac VHT20

5260MHz



5300MHz



5320MHz



11ac VHT40
5260MHz



5300MHz



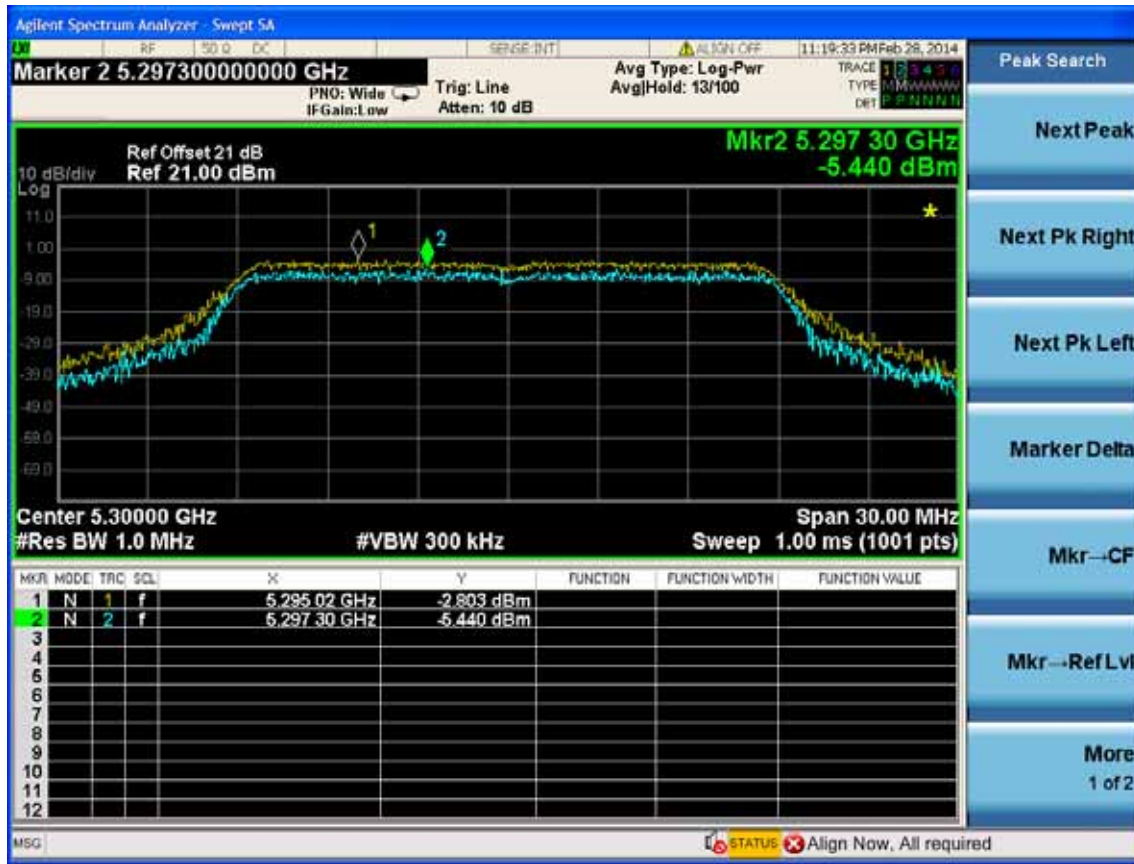
11ac VHT80
5260MHz



11nHT20
5260MHz



5300MHz



5320MHz



11nHT40
5270MHz



5310MHz



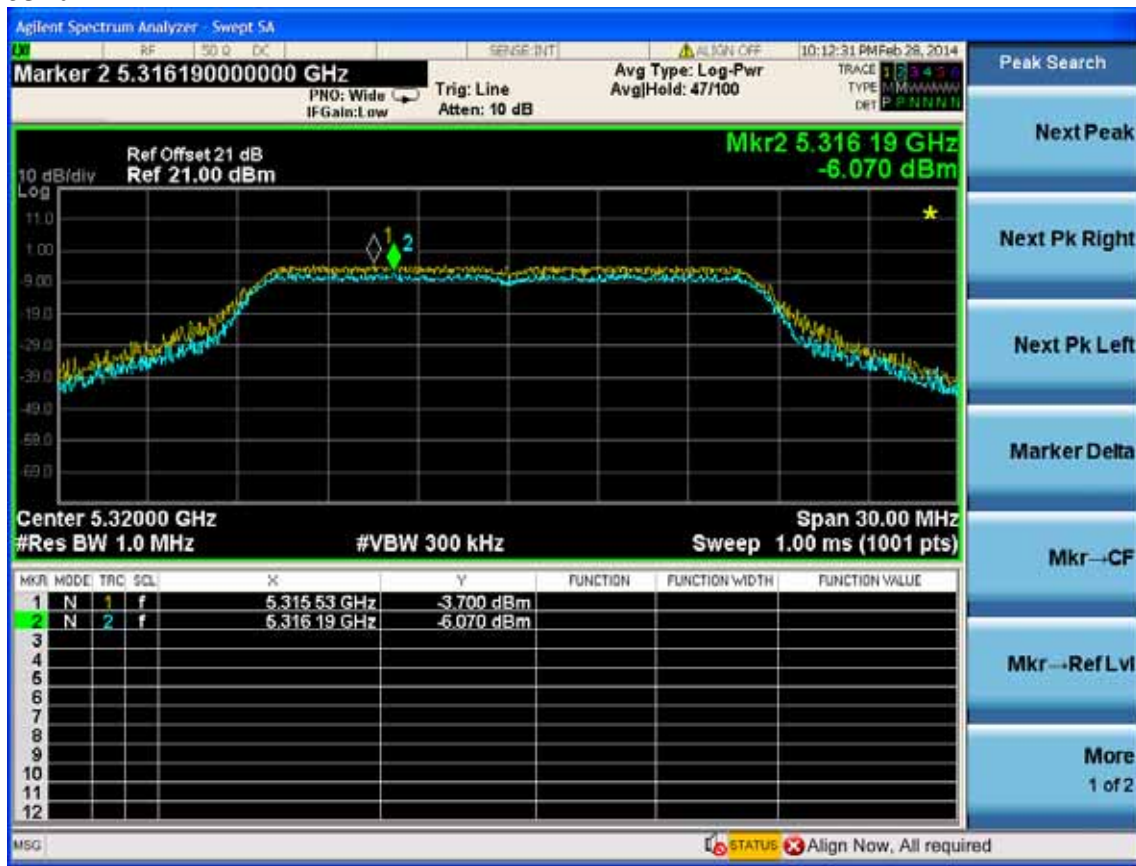
ANT B
11a
5260MHz



5300MHz



5320MHz

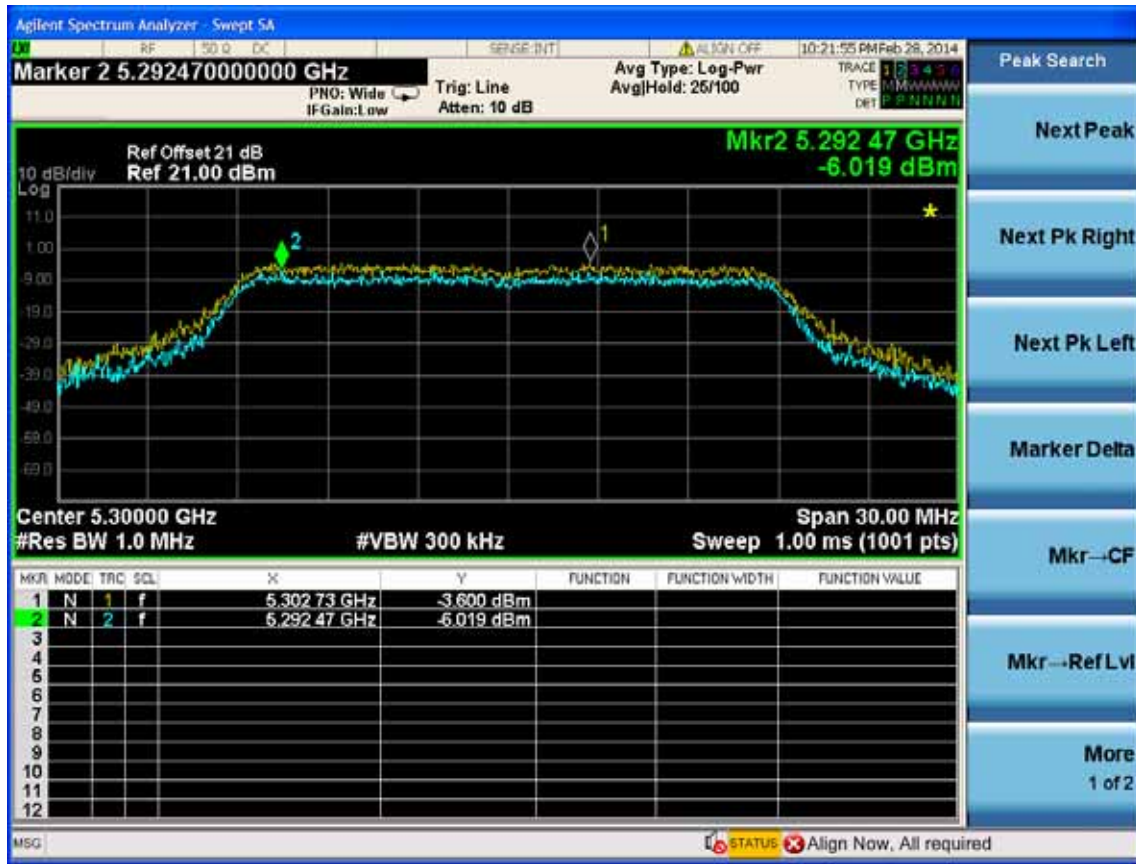


11ac VHT20

5260MHz



5300MHz



5320MHz



11ac VHT40
5260MHz

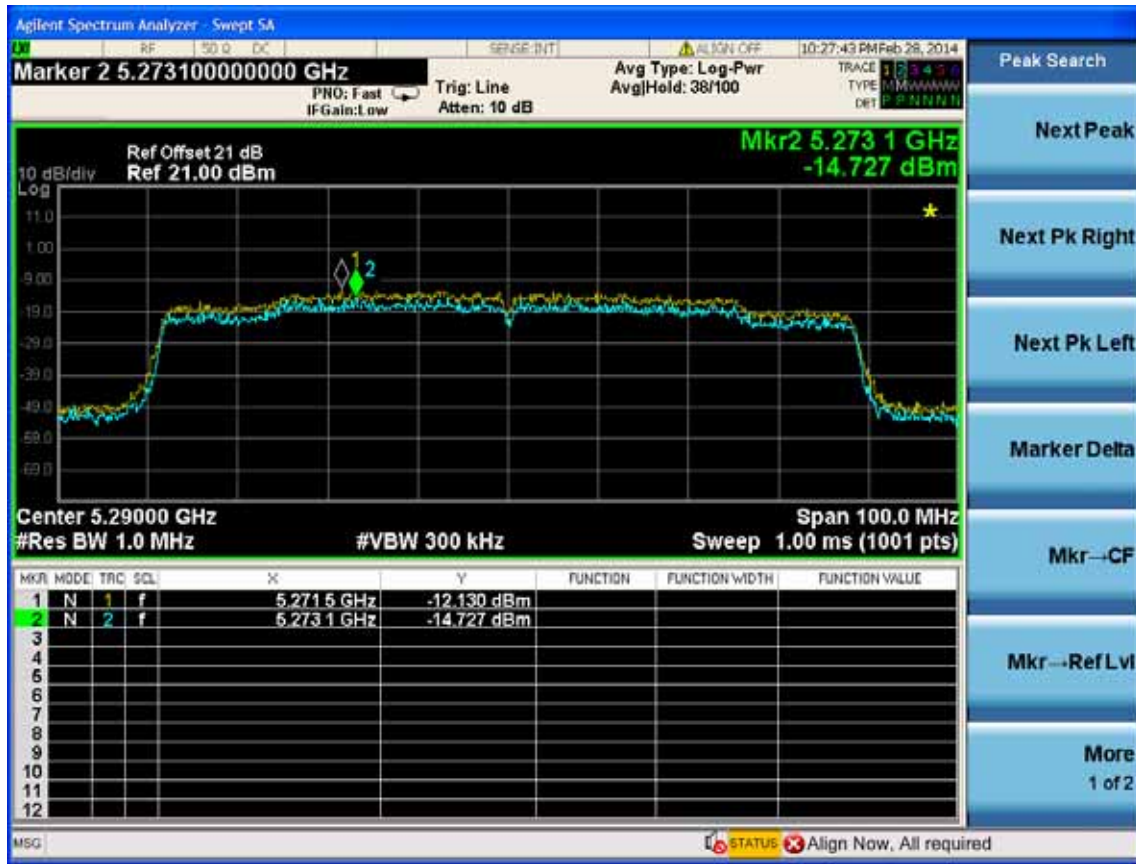


5300MHz



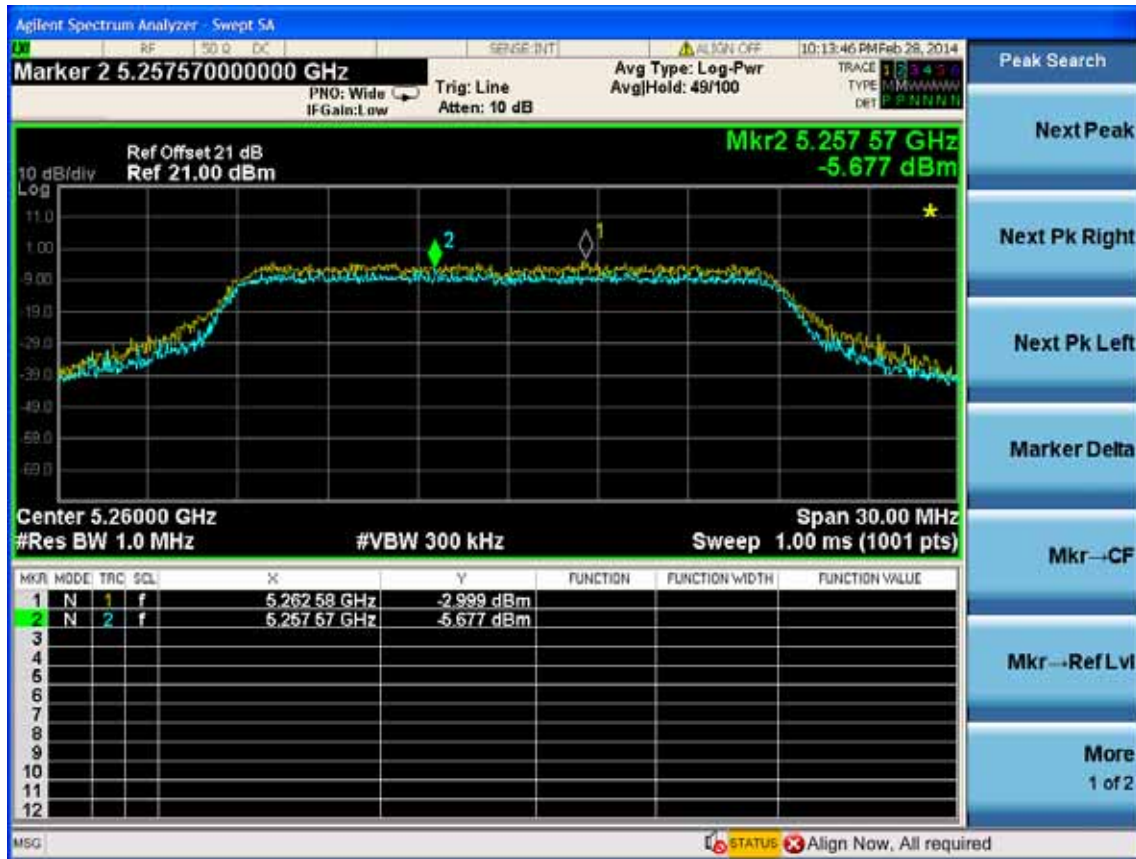
11ac VHT80

5260MHz



11nHT20

5260MHz



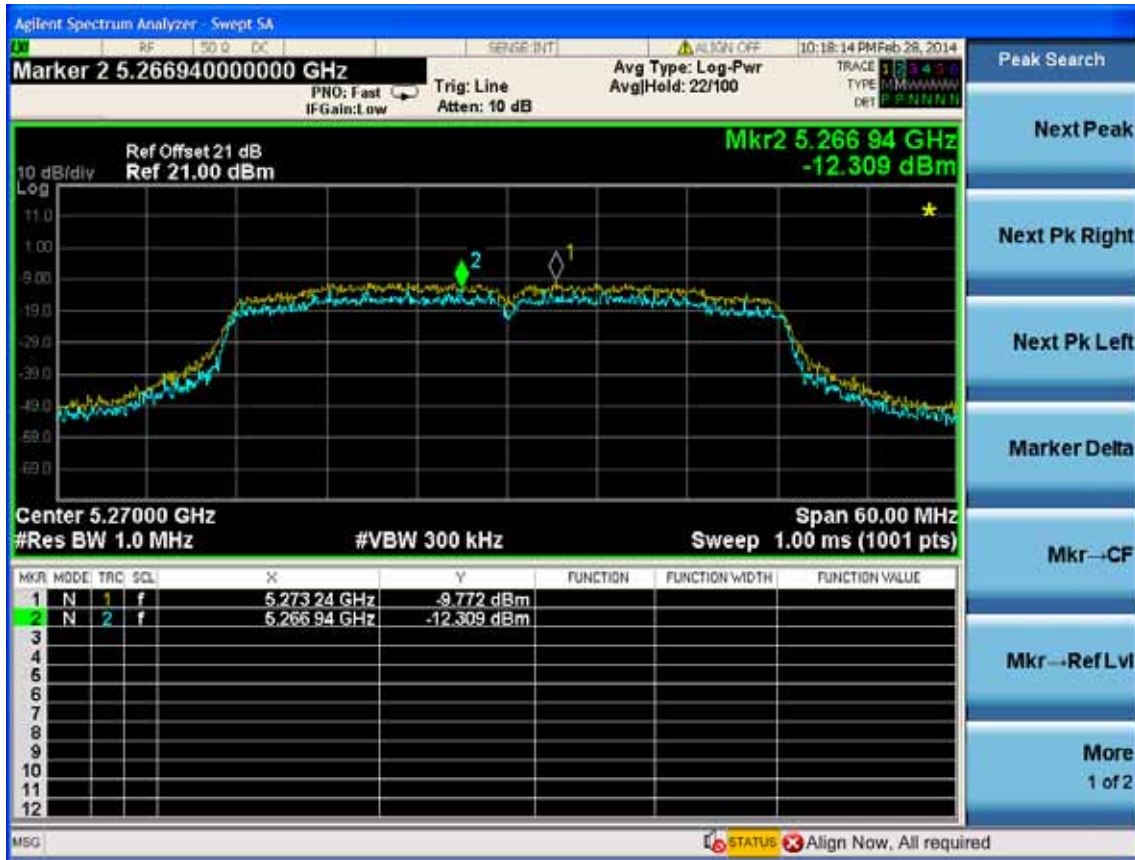
5300MHz



5320MHz



11nHT40
5270MHz



5310MHz



(5470-5725MHz):
 ANT A
 11a
 5500MHz



5600MHz

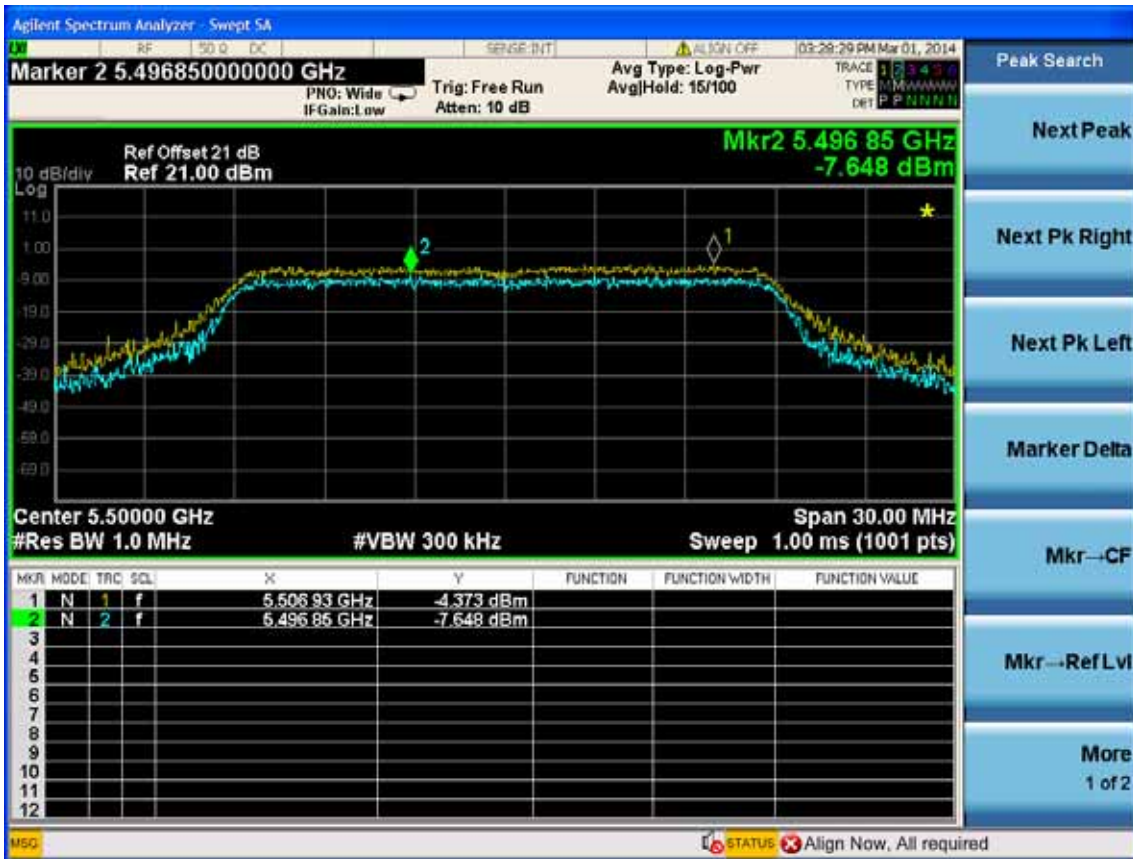


5700MHz



11ac VHT20

5500MHz



5600MHz



5720MHz



11ac VHT40
5510MHz



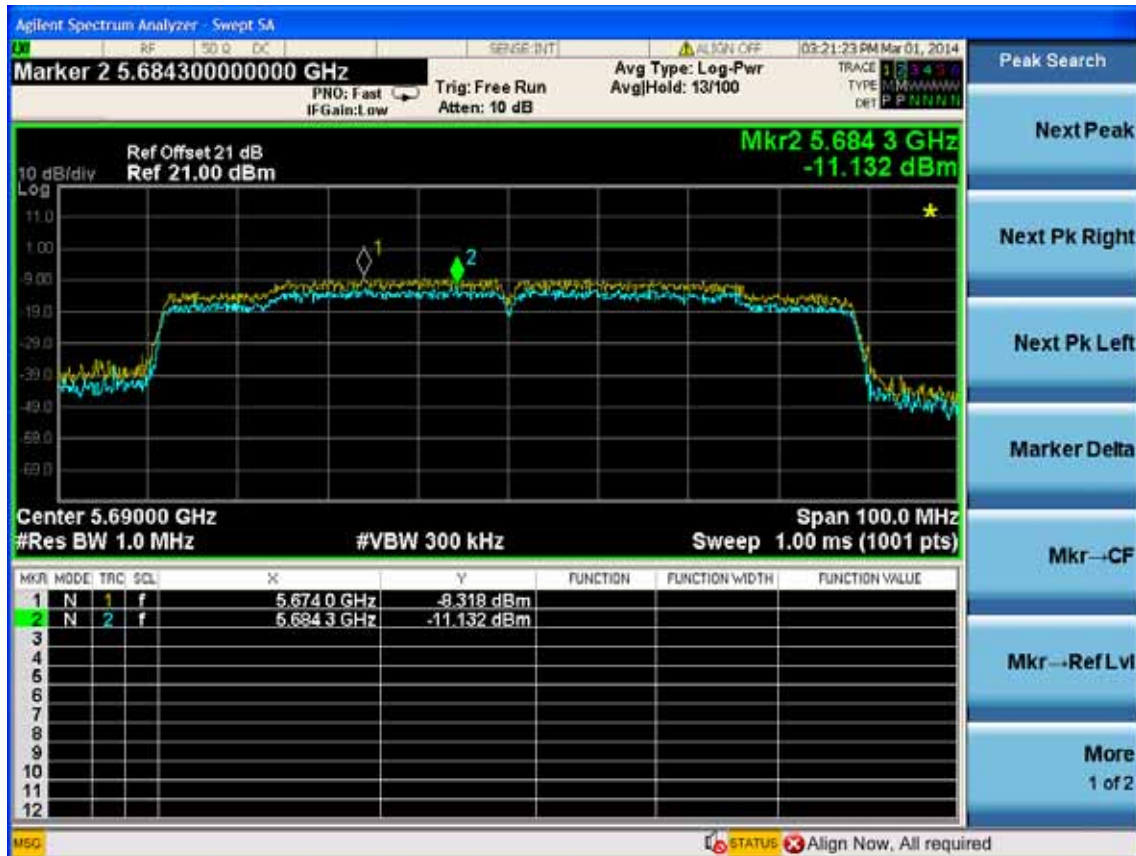
5710MHz



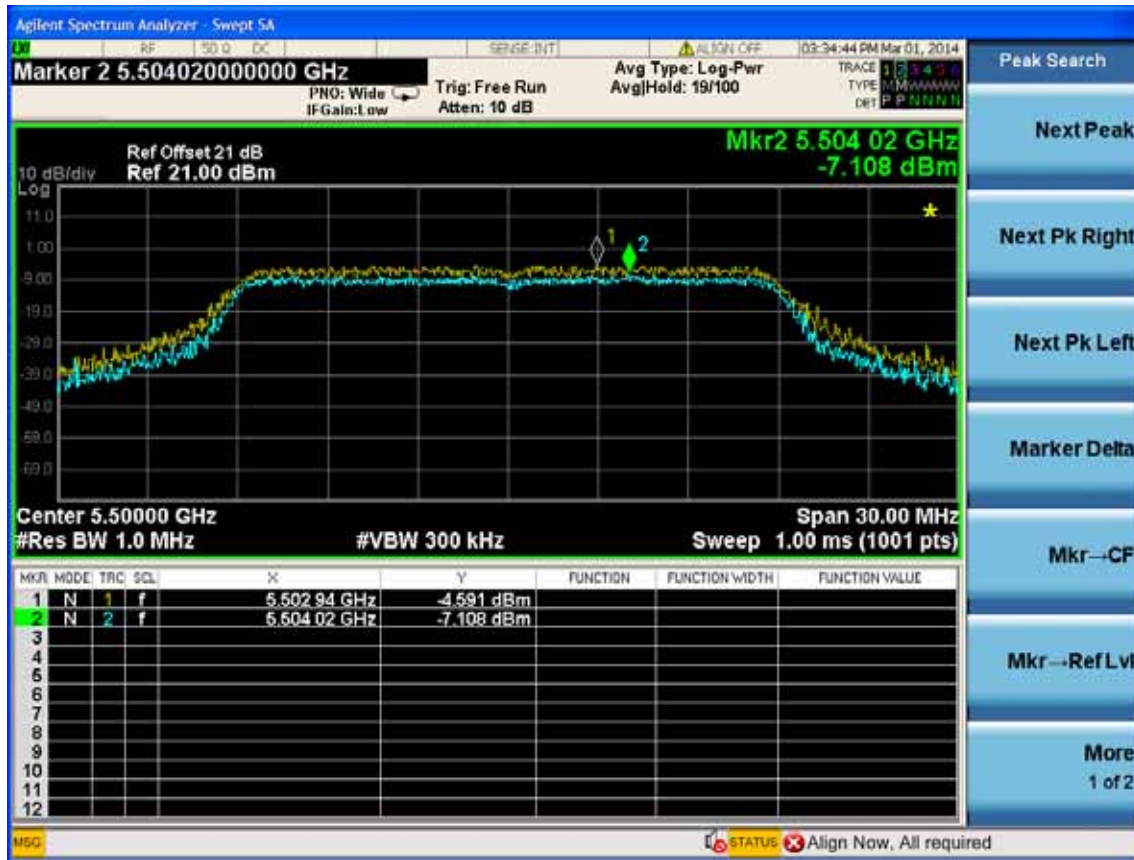
11ac VHT80
5530MHz



5690MHz



11nHT20
5500MHz



5600MHz



5700MHz



11nHT40

5500MHz



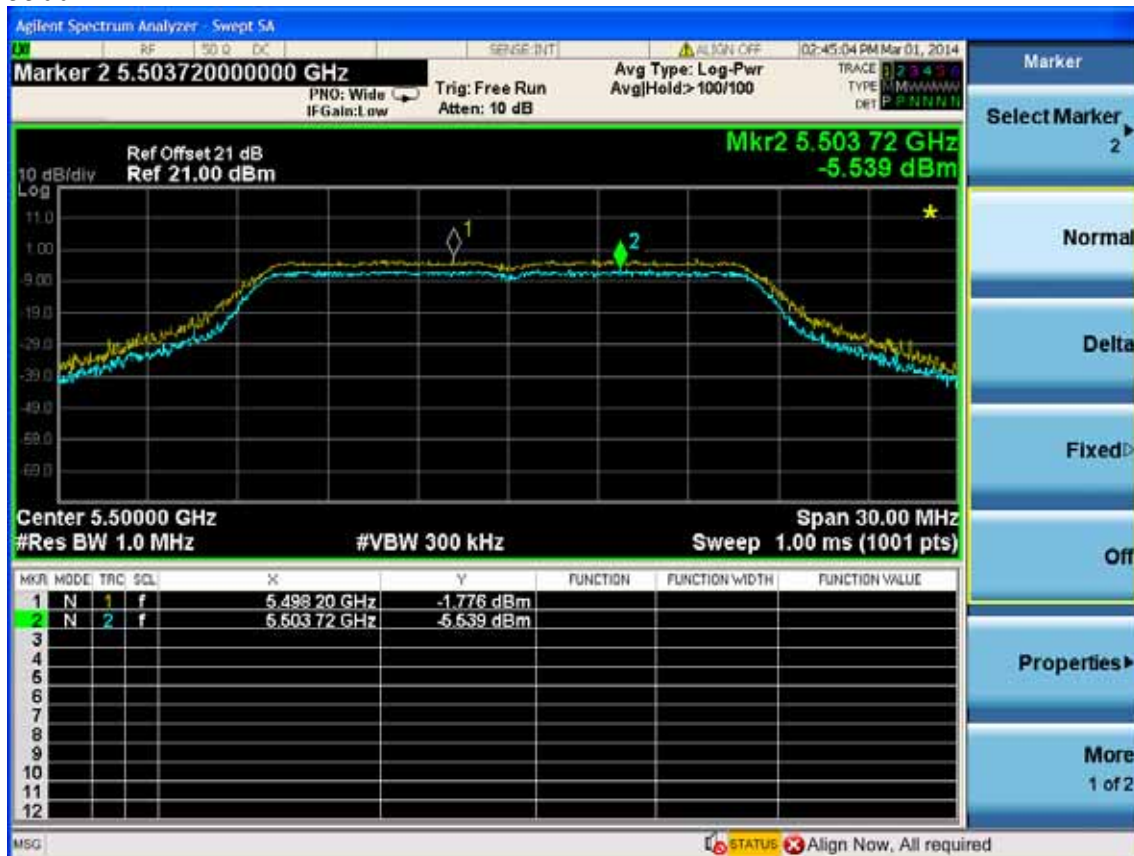
5700MHz



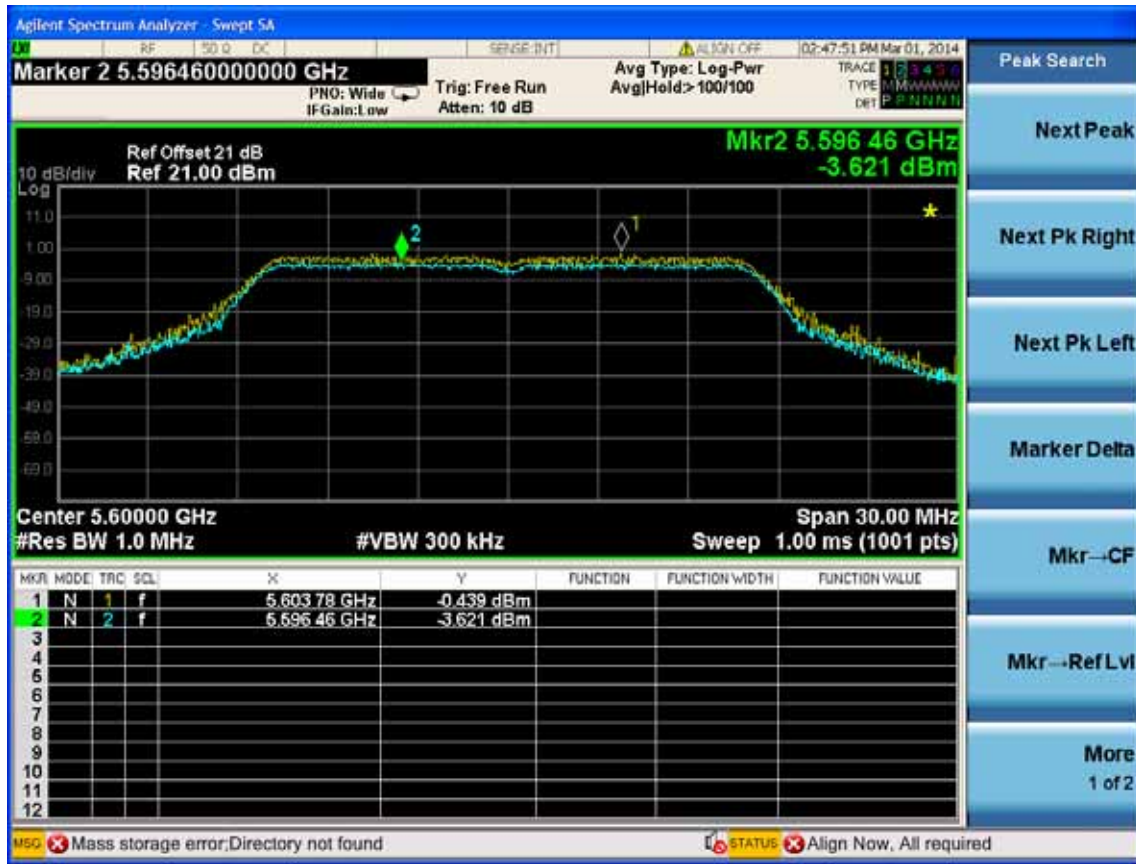
ANT B

11a

5500MHz



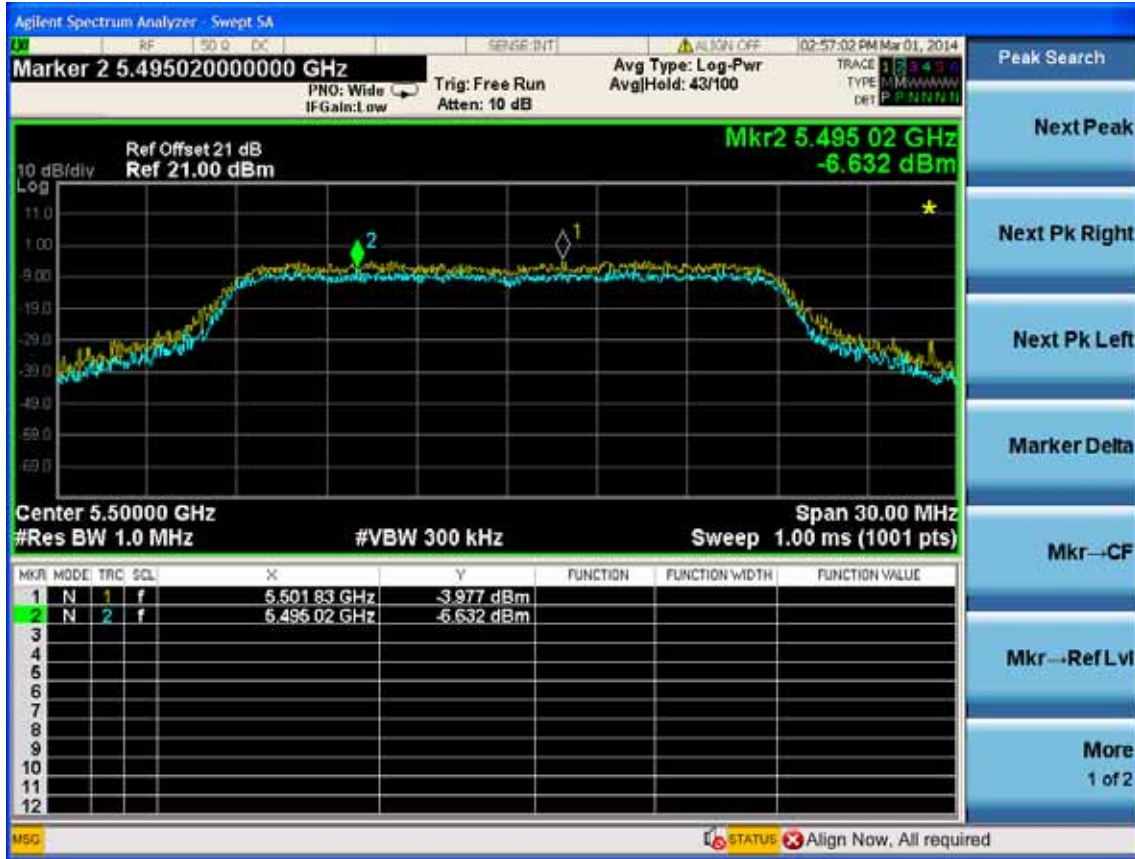
5600MHz



5700MHz



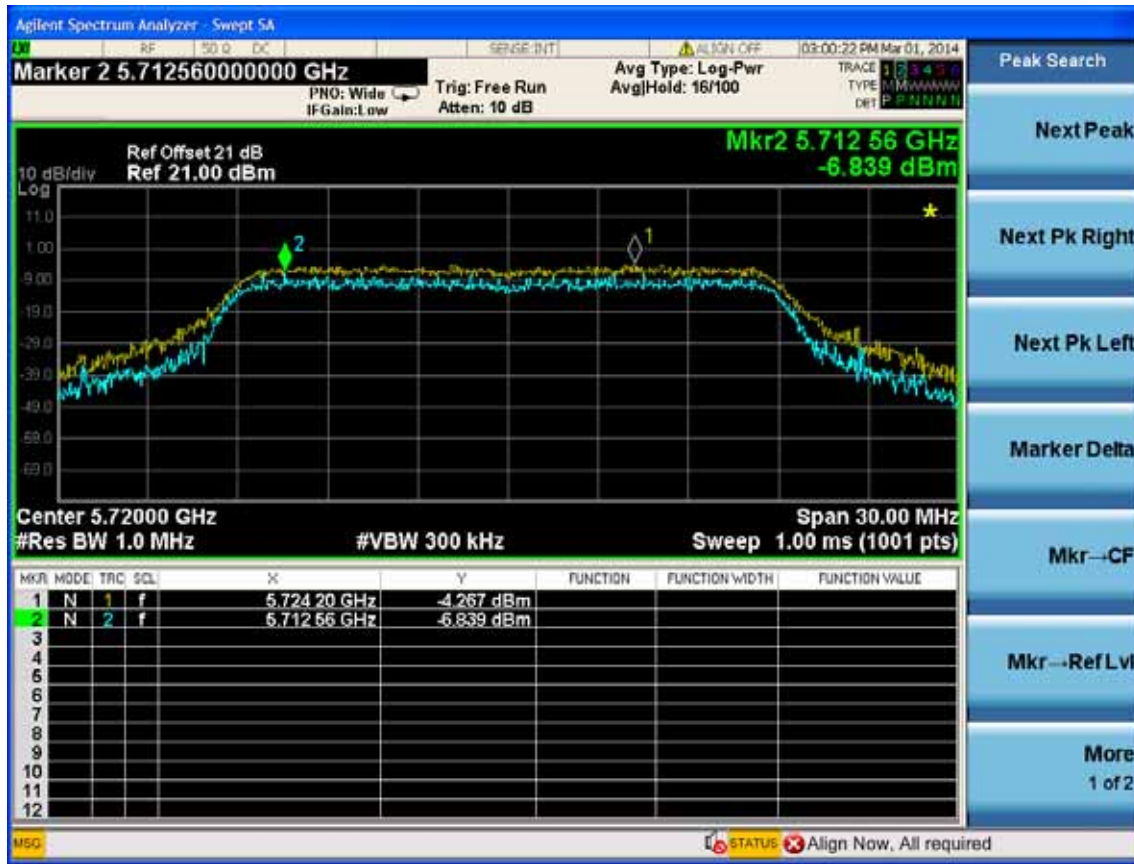
11ac VHT20
5500MHz



5600MHz



5720MHz



11ac VHT40

5510MHz



5710MHz



11ac VHT80

5530MHz



5690MHz



11nHT20

5500MHz



5600MHz



5700MHz



11nHT40
5500MHz



5700MHz



10. FREQUENCY STABILITY MEASUREMENT

10.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	US44300459	May.08, 13	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 13	1 Year
3.	Antenna	EMCO	3115	9510-4580	May.08, 13	1Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 13	1 Year

10.2. 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 ± 20 ppm

10.3. Test Procedure

1. The transmitter output (antenna port) was connected to the spectrum analyser. EUT have transmitted absence of modulation signal and fixed channelize. 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. f_c is declaring of channel frequency. Then the frequency error formula is $(f_c - f) / f_c \times 10^6$ ppm and the limit is less than ± 20 ppm 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 $-30^\circ\text{C} \sim 50^\circ\text{C}$.

10.4. Test Result

5150-5250MHz:

EUT:Notebook						
M/N:RZ09-0116						
Power: DC 19V From Adapter Input AC 120V/60Hz						
Test date: 2014-02-27		Test site: RF Chamber		Tested by: Kevin_Hu		
Ambient Temperature: 21.8±1.0℃		Relative Humidity: 53.2±1.0%		Pressure:101.3±1.0 kpa		
Frequency stability VS Voltage (Temperature:20℃)						
Supply Voltage (V)	Test frequency (MHz)	Test result (MHz)	Max Deviation (MHz)	Max Deviation (ppm)	Limit (ppm)	Conclusion
102V	5180	5179.9815	0.0185	-3.57	+/-20	PASS
120V	5180	5179.9865				
138V	5180	5179.9976				
102V	5200	5199.9810	0.019	-3.65	+/-20	
120V	5200	5199.9879				
138V	5200	5199.9932				
102V	5240	5239.9810	0.019	-3.63	+/-20	
120V	5240	5239.9866				
138V	5240	5239.9907				
Frequency stability VS Temperature (supply voltage AC 120V/60Hz)						
Temperature (℃)	Test frequency (MHz)	Test result (MHz)	Max Deviation (MHz)	Max Deviation (ppm)	Limit (ppm)	Conclusion
-30℃	5180	5179.9784	0.0216	-4.17	+/-20	PASS
-20℃	5180	5179.9795				
-10℃	5180	5179.9801				
0℃	5180	5179.9826				
10℃	5180	5179.9834				
20℃	5180	5179.9865				
30℃	5180	5179.9897				
40℃	5180	5179.9903				
50℃	5180	5179.9935				

Frequency stability VS Temperature (supply voltage AC 120V/60Hz)						
Temperature (°C)	Test frequency (MHz)	Test result (MHz)	Max Deviation (MHz)	Max Deviation (ppm)	Limit (ppm)	Conclusion
-30°C	5200	5199.9796	0.0204	-3.92	+/-20	PASS
-20°C	5200	5199.9806				
-10°C	5200	5199.9833				
0°C	5200	5199.9847				
10°C	5200	5199.9862				
20°C	5200	5199.9879				
30°C	5200	5199.9903				
40°C	5200	5199.9918				
50°C	5200	5199.9936				

Frequency stability VS Temperature (supply voltage AC 120V/60Hz)						
Temperature (°C)	Test frequency (MHz)	Test result (MHz)	Max Deviation (MHz)	Max Deviation (ppm)	Limit (ppm)	Conclusion
-30°C	5240	5239.9332	0.0668	-12.75	+/-20	PASS
-20°C	5240	5239.9379				
-10°C	5240	5239.9422				
0°C	5240	5239.9581				
10°C	5240	5239.9754				
20°C	5240	5239.9866				
30°C	5240	5239.9951				
40°C	5240	5240.0137				
50°C	5240	5240.0358				

5250-5350MHz

EUT:Notebook		
M/N:RZ09-0116		
Power: DC 19V From Adapter Input AC 120V/60Hz		
Test date: 2014-02-28	Test site: RF Chamber	Tested by: Kevin_Hu
Ambient Temperature: 23.7±1.0°C	Relative Humidity: 52.1±1.0%	Pressure:101.3±1.0 kpa

Frequency stability VS Voltage (Temperature:20°C)						
Supply Voltage (V)	Test frequency (MHz)	Test result (MHz)	Max Deviation (MHz)	Max Deviation (ppm)	Limit (ppm)	Conclusion
102V	5260	5259.9785	0.0215	-4.09	+/-20	PASS
120V	5260	5259.9810				
138V	5260	5259.9868				
102V	5300	5299.9791	0.0209	-3.94	+/-20	
120V	5300	5299.9810				
138V	5300	5299.9854				
102V	5320	5319.9783	0.0217	-4.08	+/-20	
120V	5320	5319.9810				
138V	5320	5319.9849				

Frequency stability VS Temperature (supply voltage AC 120V/60Hz)						
Temperature (°C)	Test frequency (MHz)	Test result (MHz)	Max Deviation (MHz)	Max Deviation (ppm)	Limit (ppm)	Conclusion
-30°C	5260	5259.9627	0.0373	-7.09	+/-20	PASS
-20°C	5260	5259.9673				
-10°C	5260	5259.9694				
0°C	5260	5259.9731				
10°C	5260	5259.9779				
20°C	5260	5259.9810				
30°C	5260	5259.9934				
40°C	5260	5260.0124				
50°C	5260	5260.0276				

Frequency stability VS Temperature (supply voltage AC 120V/60Hz)						
Temperature (°C)	Test frequency (MHz)	Test result (MHz)	Max Deviation (MHz)	Max Deviation (ppm)	Limit (ppm)	Conclusion
-30°C	5300	5299.9635	0.0365	-6.89	+/-20	PASS
-20°C	5300	5299.9672				
-10°C	5300	5299.9691				
0°C	5300	5299.9728				
10°C	5300	5299.9786				
20°C	5300	5299.9810				
30°C	5300	5299.9962				
40°C	5300	5300.0109				
50°C	5300	5300.0234				

Frequency stability VS Temperature (supply voltage AC 120V/60Hz)						
Temperature (°C)	Test frequency (MHz)	Test result (MHz)	Max Deviation (MHz)	Max Deviation (ppm)	Limit (ppm)	Conclusion
-30°C	5320	5319.9652	0.0348	-6.54	+/-20	PASS
-20°C	5320	5319.9683				
-10°C	5320	5319.9701				
0°C	5320	5319.9734				
10°C	5320	5319.9778				
20°C	5320	5319.9810				
30°C	5320	5319.9922				
40°C	5320	5320.0114				
50°C	5320	5320.0257				

5470-5725MHz:

EUT:Notebook

M/N:RZ09-0116

Power: DC 19V From Adapter Input AC 120V/60Hz

Test date: 2014-03-01 Test site: RF Chamber Tested by: Kevin Hu

Ambient Temperature: 22.2±1.0°C Relative Humidity: 51.9±1.0% Pressure:101.2±1.0 kpa

Frequency stability VS Voltage (Temperature:20°C)

Supply Voltage (V)	Test frequency (MHz)	Test result (MHz)	Max Deviation (MHz)	Max Deviation (ppm)	Limit (ppm)	Conclusion
102V	5500	5499.9778	0.0222	-4.04	+/-20	PASS
120V	5500	5499.9805				
138V	5500	5499.9869				
102V	5600	5599.9757	0.0243	-4.34	+/-20	
120V	5600	5599.9800				
138V	5600	5599.9849				
102V	5700	5699.9884	0.0116	-2.04	+/-20	
120V	5700	5699.9916				
138V	5700	5699.9947				

Frequency stability VS Temperature (supply voltage AC 120V/60Hz)

Temperature (°C)	Test frequency (MHz)	Test result (MHz)	Max Deviation (MHz)	Max Deviation (ppm)	Limit (ppm)	Conclusion
-30°C	5500	5499.9688	0.0312	-5.67	+/-20	PASS
-20°C	5500	5499.9697				
-10°C	5500	5499.9721				
0°C	5500	5499.9746				
10°C	5500	5499.9784				
20°C	5500	5499.9805				
30°C	5500	5499.9935				
40°C	5500	5500.0108				
50°C	5500	5500.0215				

Frequency stability VS Temperature (supply voltage AC 120V/60Hz)						
Temperature (°C)	Test frequency (MHz)	Test result (MHz)	Max Deviation (MHz)	Max Deviation (ppm)	Limit (ppm)	Conclusion
-30°C	5600	5599.9678	0.0322	-5.75	+/-20	PASS
-20°C	5600	5599.9702				
-10°C	5600	5599.9733				
0°C	5600	5599.9749				
10°C	5600	5599.9774				
20°C	5600	5599.9800				
30°C	5600	5599.9839				
40°C	5600	5599.9885				
50°C	5600	5599.9917				

Frequency stability VS Temperature (supply voltage AC 120V/60Hz)						
Temperature (°C)	Test frequency (MHz)	Test result (MHz)	Max Deviation (MHz)	Max Deviation (ppm)	Limit (ppm)	Conclusion
-30°C	5700	5699.9687	0.0313	-5.49	+/-20	PASS
-20°C	5700	5699.9713				
-10°C	5700	5699.9744				
0°C	5700	5699.9759				
10°C	5700	5699.9774				
20°C	5700	5699.9800				
30°C	5700	5699.9828				
40°C	5700	5699.9955				
50°C	5700	5700.0127				

11. NTENNA REQUIREMENT

11.1. 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.

11.2. ANTENNA CONNECTED CONSTRUCTION

The antennas used for this product are IFA 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 5.33dBi.

12.DEVIATION TO TEST SPECIFICATIONS

[NONE]