

(5150-5250MHz):

ANT 0

11a

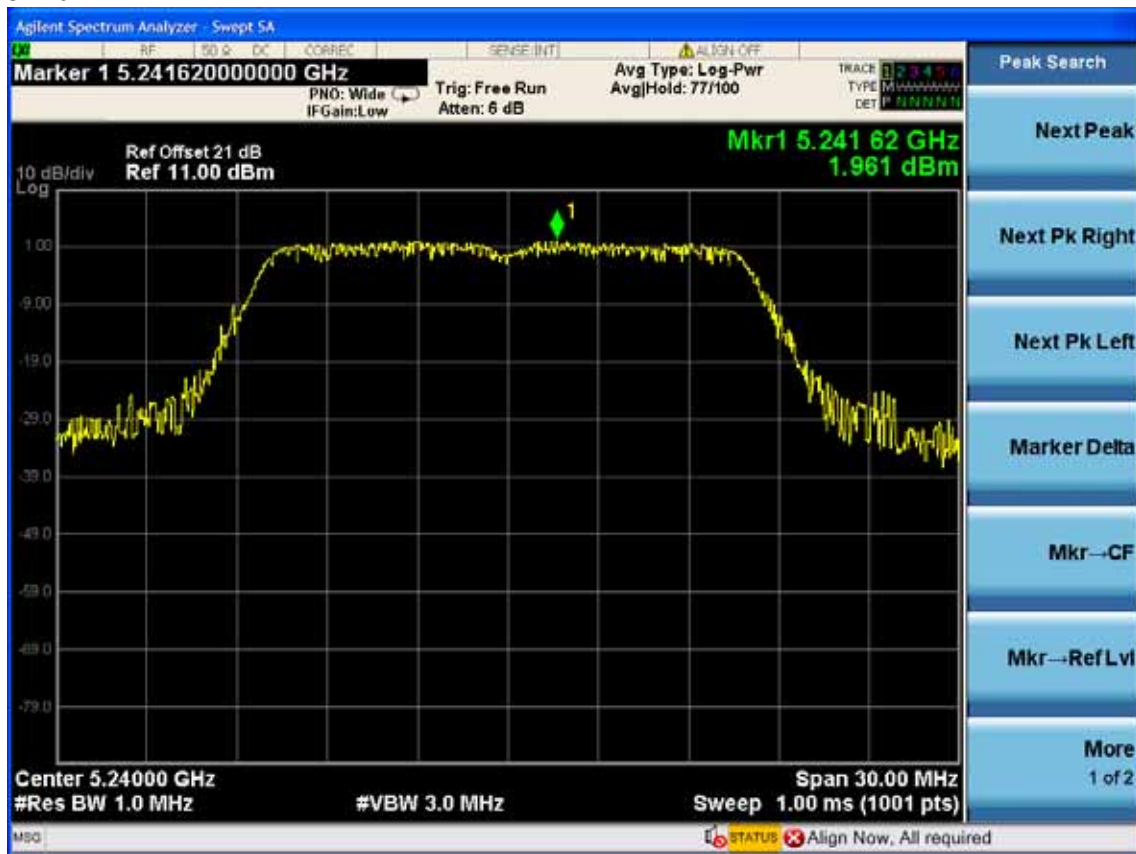
5180MHz



5210MHz



5240MHz



11nHT20

5180MHz



5210MHz



5240MHz



11nHT40
5190MHz



5230MHz



ANT 1
11a
5180MHz



5210MHz



5240MHz



11nHT20

5180MHz



5210MHz



5240MHz



11nHT40
5190MHz



5230MHz



(5250-5350MHz):

ANT 0

11a

5260MHz



5300MHz



5320MHz



11nHT20
5260MHz



5300MHz



5320MHz



11nHT40
5270MHz



5310MHz



ANT 1
11a
5260MHz



5300MHz



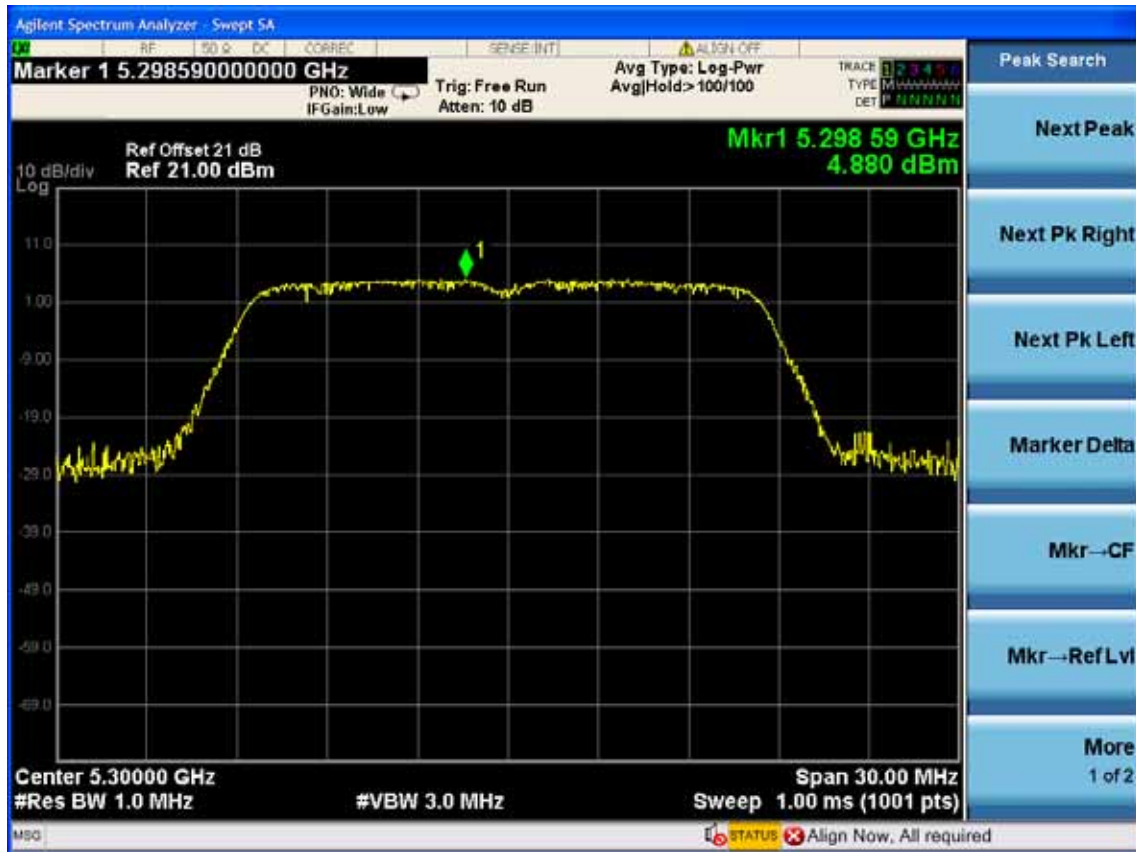
5320MHz



11nHT20
5260MHz



5300MHz



5320MHz



11nHT40
5270MHz



5310MHz



(5.4 G):

ANT 0

11a

5500MHz



5600MHz



5700MHz



11nHT20 5500MHz



5600MHz



5700MHz



11nHT40
5500MHz



5700MHz



ANT 1
11a
5500MHz



5600MHz



5700MHz



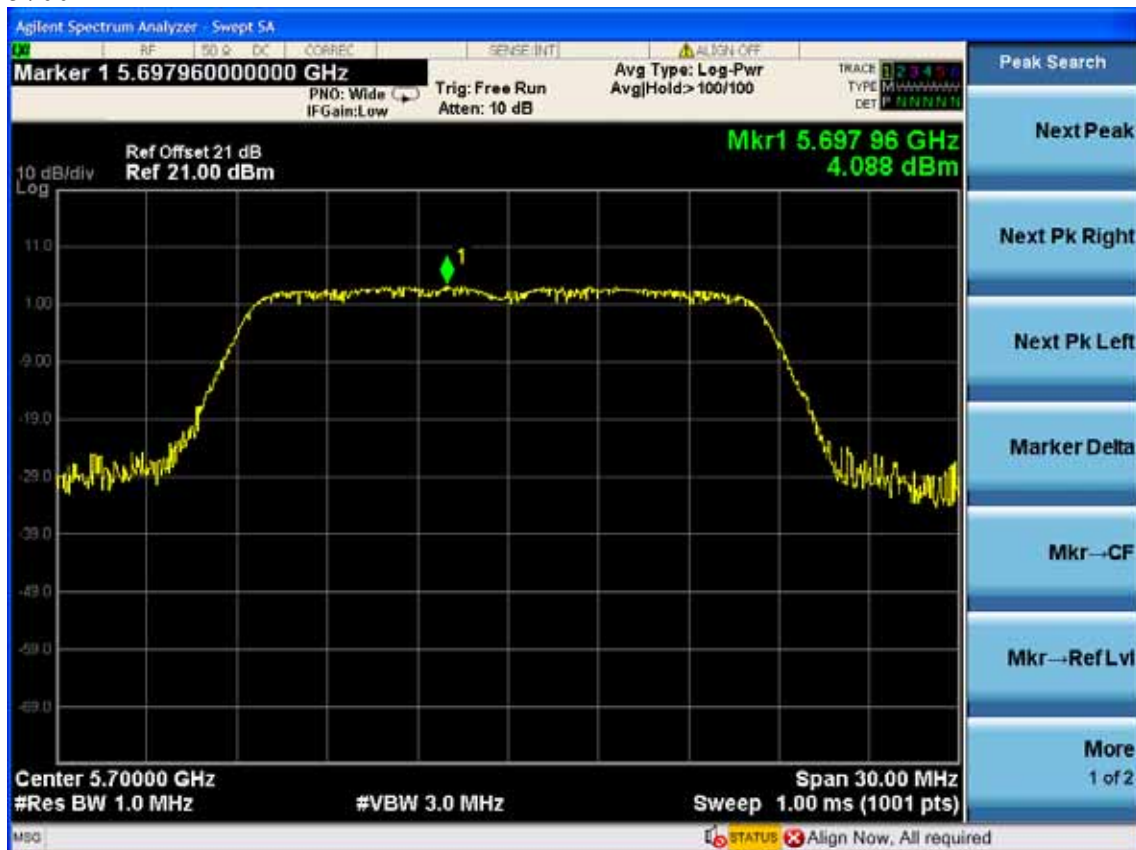
11nHT20
5500MHz



5600MHz



5700MHz



11nHT40
5500MHz



5700MHz



9. PEAK EXCURSION MEASUREMENT

9.1. 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

9.2. Limit

The ratio of the peak excursion of modulation envelope (measured using a peak hold function) to the maximum conducted power (measured as specified above) shall not exceed 13 dB across any 1MHz bandwidth whichever is less.

9.3. Test Procedure

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. Set the spectrum analyzer span to view the entire emissions bandwidth. The largest difference between the following two traces (Peak Trace and Average Trace) must be ≤ 13 dB for all frequencies across the emissions bandwidth. Submit a plot.
3. Peak Trace: Set RBW = 1 MHz, VBW ≥ 3 MHz with peak detector and max-hold settings.
4. Average Trace: Method #3—video averaging with max hold--and sum power across the band. Set span to encompass the entire emissions bandwidth (EBW) of the signal. Set sweep trigger to “free run”. Set RBW = 1 MHz. Set VBW $\geq 1/T$ (Draft n VBW = $300\text{kHz} \geq 1/4 \mu\text{s}$). Use sample detector mode if bin width (i.e., span/number of points in spectrum) < 0.5 RBW. Otherwise use peak detector mode. Set max hold. Allow max hold to run for 60 seconds.

9.4. Test Results

5150-5250MHz:

EUT: Tablet PC		
M/N: TOSHIBA WT8-A		
Test date: 2013-09-13	Pressure: 101.1±1.0 kpa	Humidity: 51.3±3.0%
Tested by: Kevin_Hu	Test site: RF Site	Temperature : 22.5±0.6°C

Cable loss: 1 dB		Attenuator loss: 20 dB		
Test Mode	Frequency (MHz)	Power excursion (dB)		Limit (dB)
		ANT 0	ANT 1	
11a	5180	3.403	3.063	13
	5200	3.283	3.974	13
	5240	3.286	3.454	13
11nHT20	5180	3.146	2.984	13
	5200	3.111	3.109	13
	5240	3.162	1.965	13
11nHT40	5190	3.068	3.645	13
	5230	2.766	2.879	13
Conclusion : PASS				

5250-5350MHz

EUT: Tablet PC		
M/N: TOSHIBA WT8-A		
Test date: 2013-09-13	Pressure: 101.1±1.0 kpa	Humidity: 51.2±3.0%
Tested by: Kevin_Hu	Test site: RF Site	Temperature : 22.8±0.6°C

Cable loss: 1 dB		Attenuator loss: 20 dB		
Test Mode	Frequency (MHz)	Power excursion (dB)		Limit (dB)
		ANT 0	ANT 1	
11a	5260	3.376	3.088	13
	5300	3.33	3.111	13
	5320	3.947	3.113	13
11nHT20	5260	3.283	3.412	13
	5300	2.982	3.672	13
	5320	3.302	2.821	13
11nHT40	5270	3.768	3.181	13
	5310	3.328	3.237	13
Conclusion : PASS				

5470-5725MHz:

EUT: Tablet PC		
M/N: TOSHIBA WT8-A		
Test date: 2013-09-16	Pressure: 101.1±1.0 kpa	Humidity: 52.2±3.0%
Tested by: Kevin_Hu	Test site: RF Site	Temperature : 23.6±0.6°C

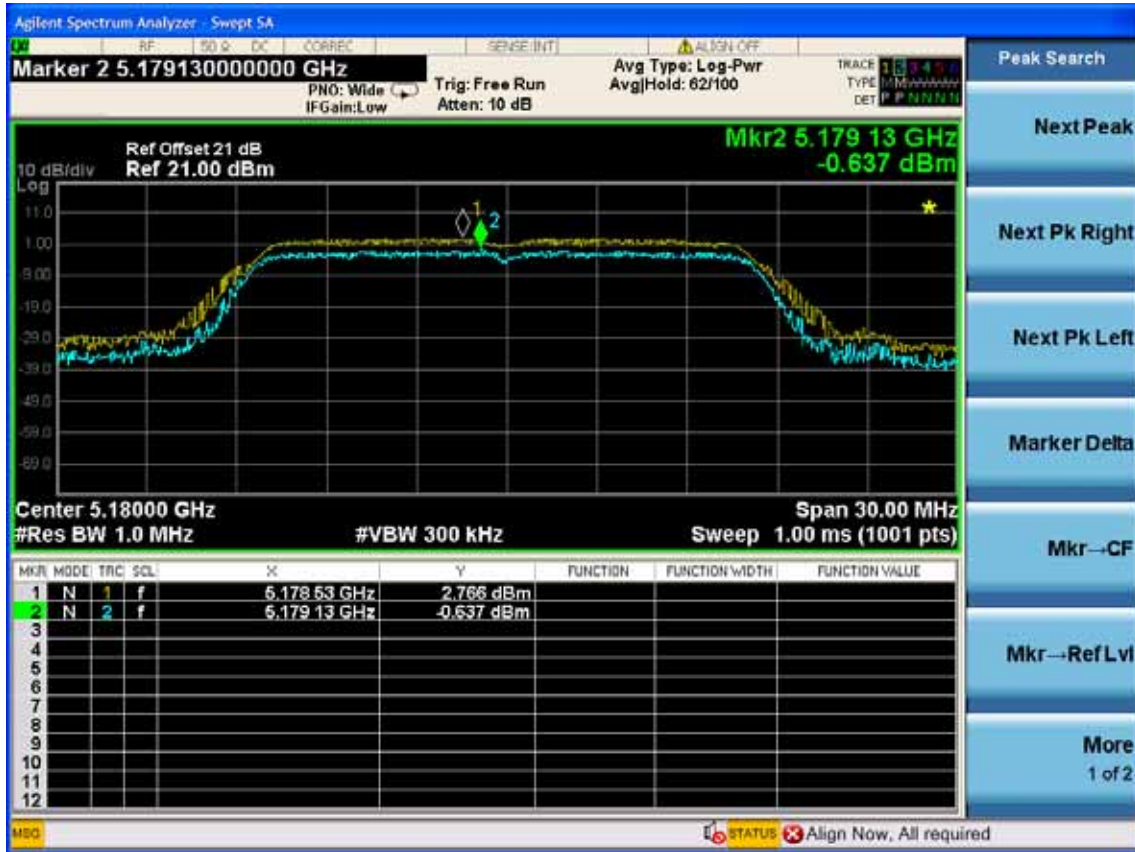
Cable loss: 1 dB		Attenuator loss: 20 dB		
Test Mode	Frequency (MHz)	Power excursion (dB)		Limit (dB)
		ANT 0	ANT 1	
11a	5500	3.744	3.06	13
	5600	3.764	3.565	13
	5700	3.756	3.208	13
11nHT20	5500	3.136	3.427	13
	5600	3.366	3.376	13
	5700	3.208	3.375	13
11nHT40	5500	2.982	2.800	13
	5700	3.289	2.187	13
Conclusion : PASS				

(5150-5250MHz):

ANT 0

11a

5180MHz



5210MHz



5240MHz

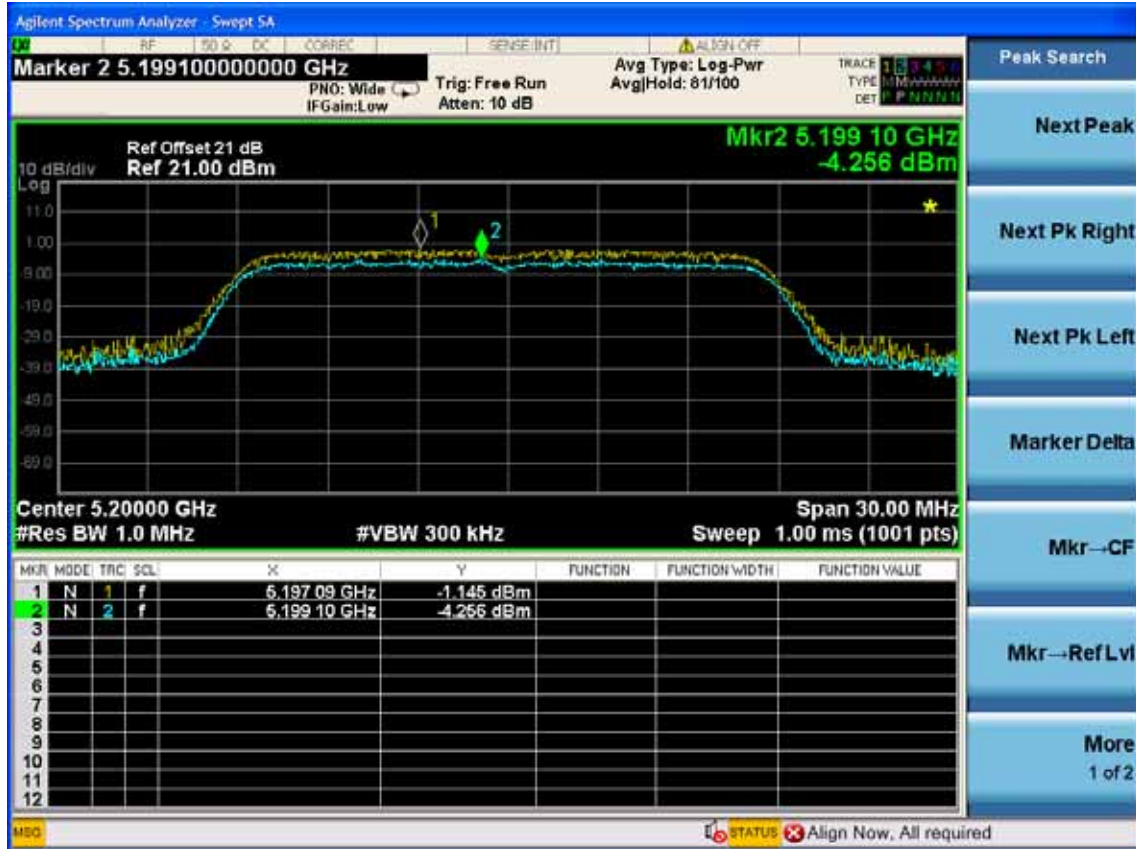


11nHT20

5180MHz



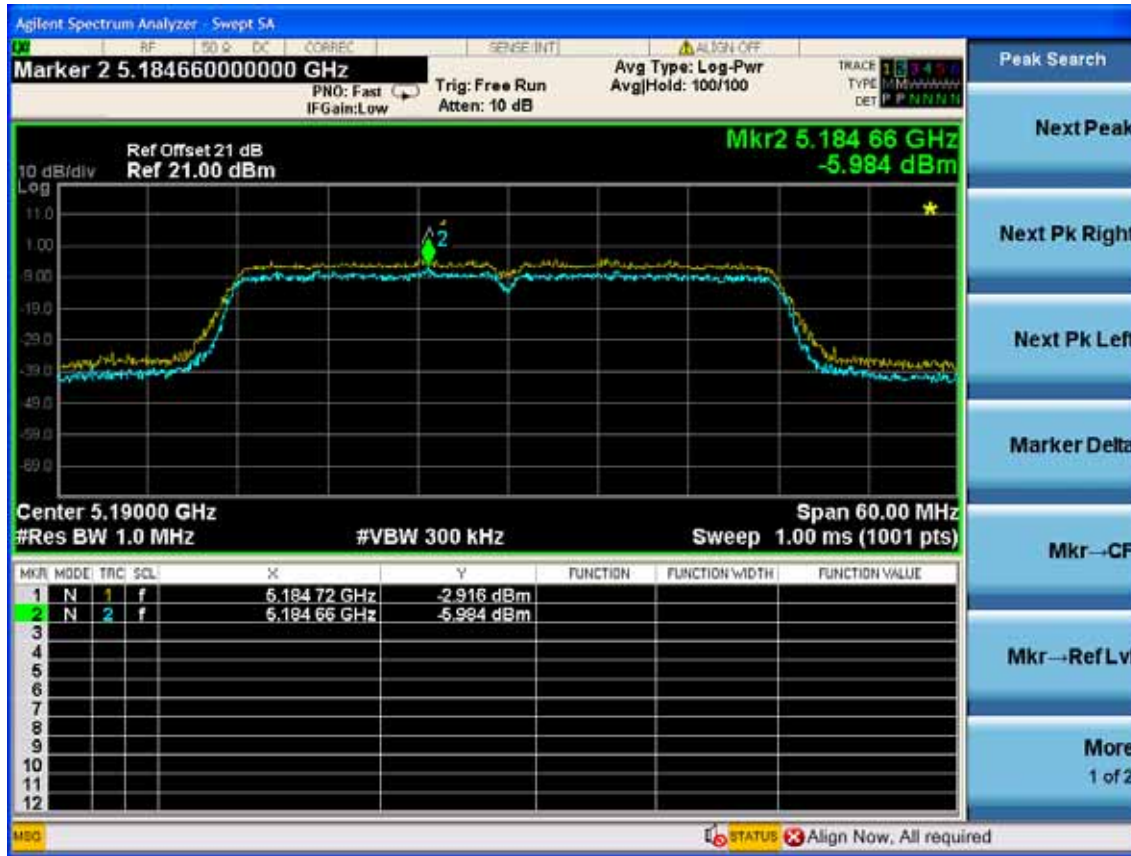
5210MHz



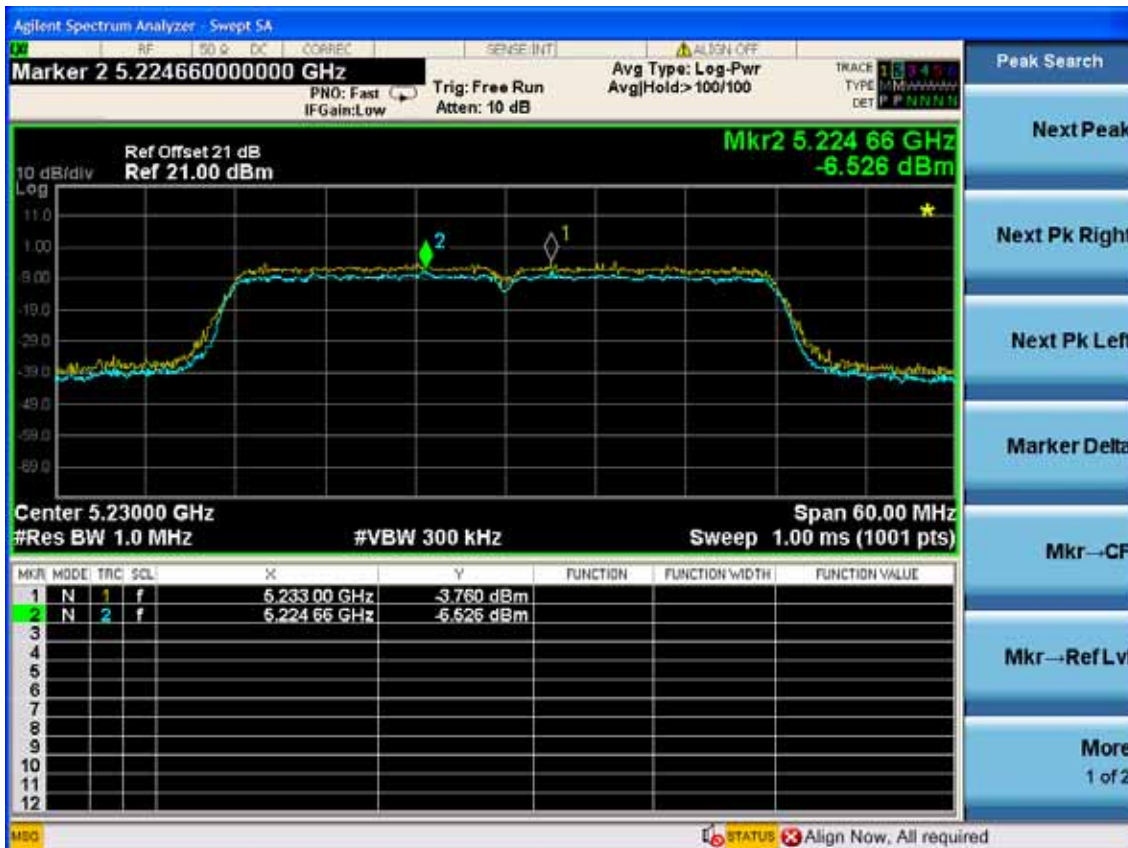
5240MHz



11nHT40
5190MHz



5230MHz



ANT 1
11a
5180MHz



5210MHz

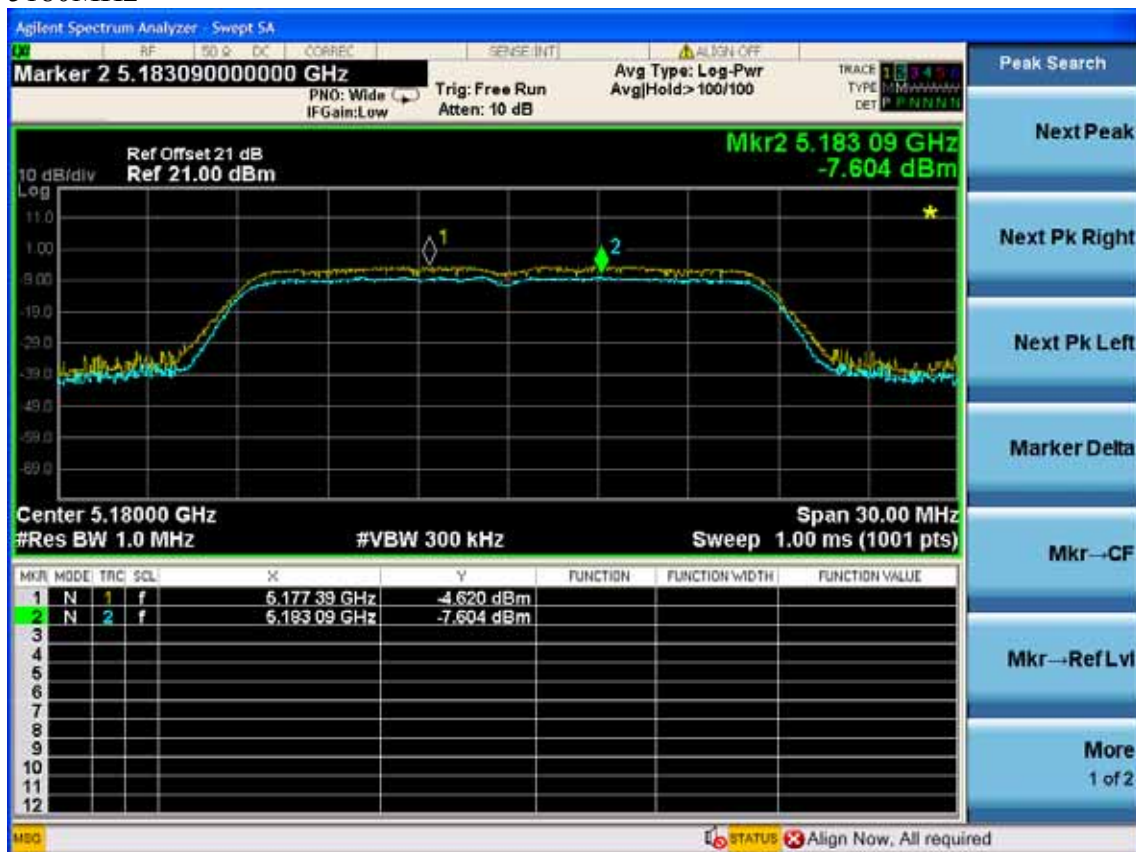


5240MHz



11nHT20

5180MHz



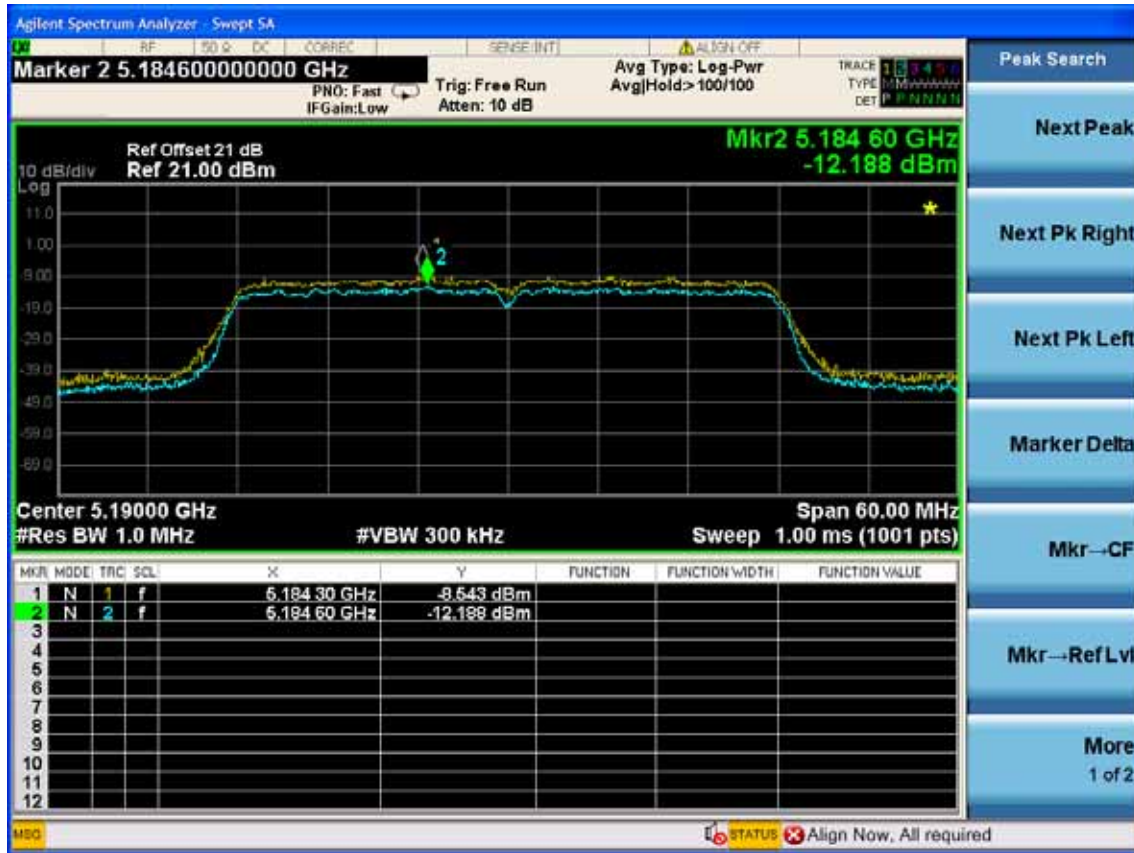
5210MHz



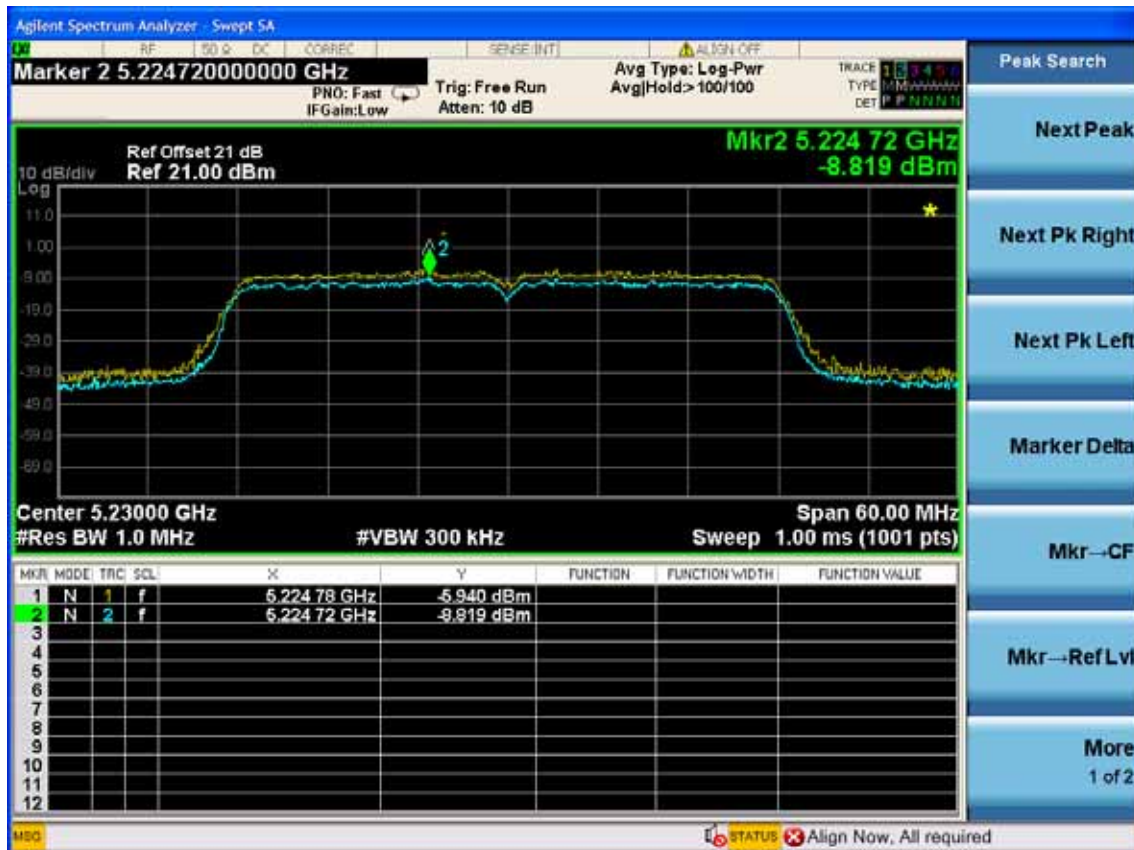
5240MHz



11nHT40
5190MHz



5230MHz



(5250-5350MHz):
 ANT 0
 11a
 5260MHz



5300MHz



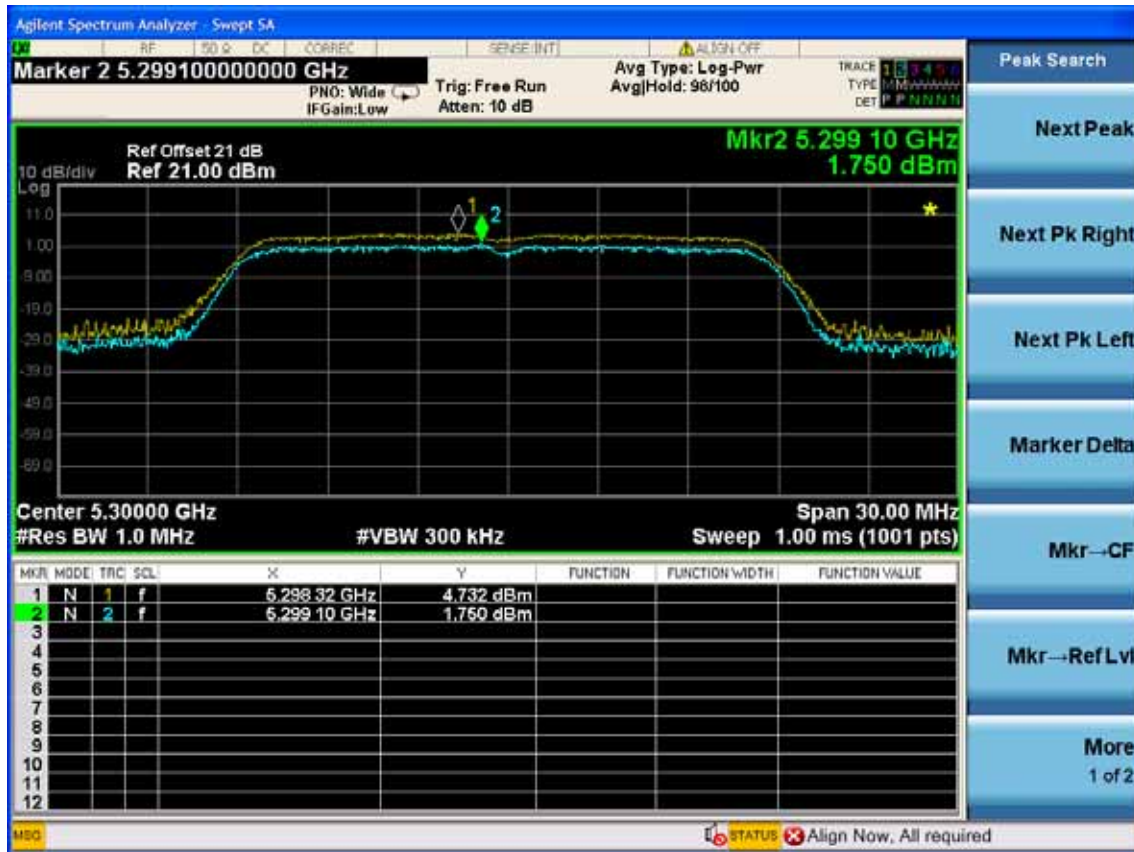
5320MHz



11nHT20
5260MHz



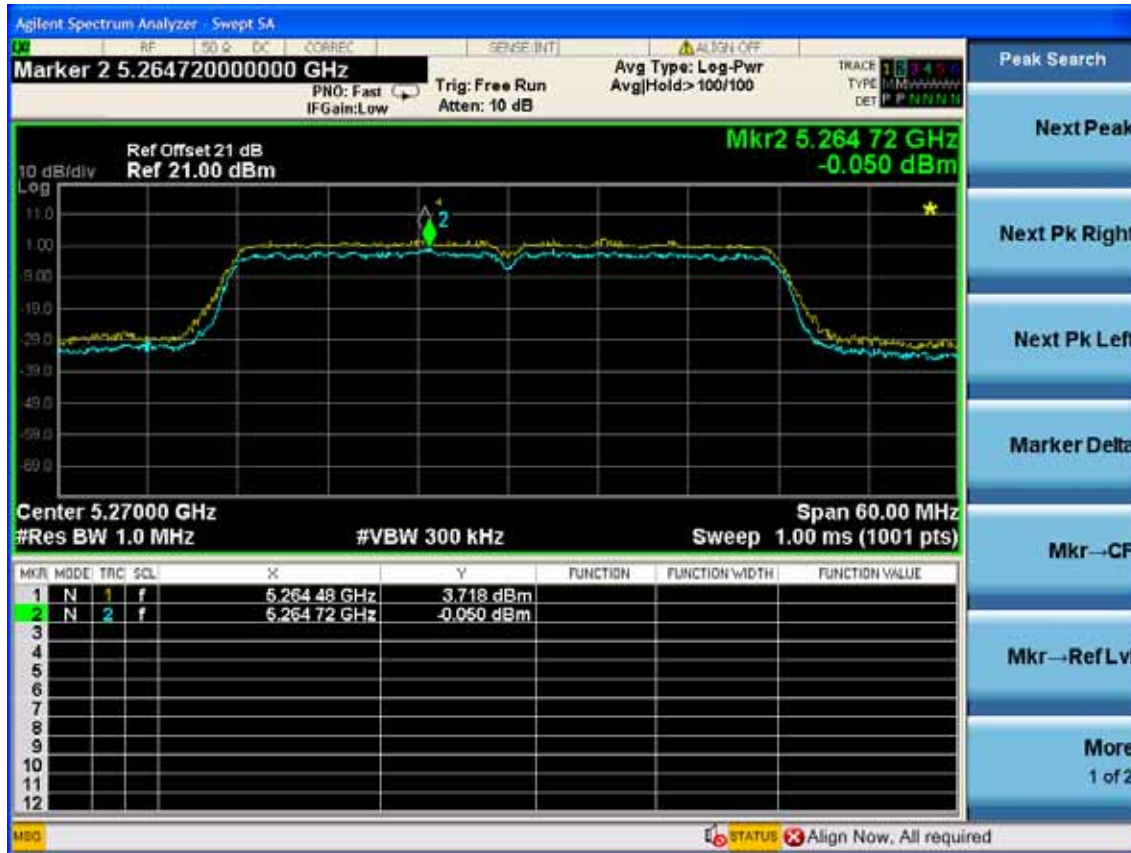
5300MHz



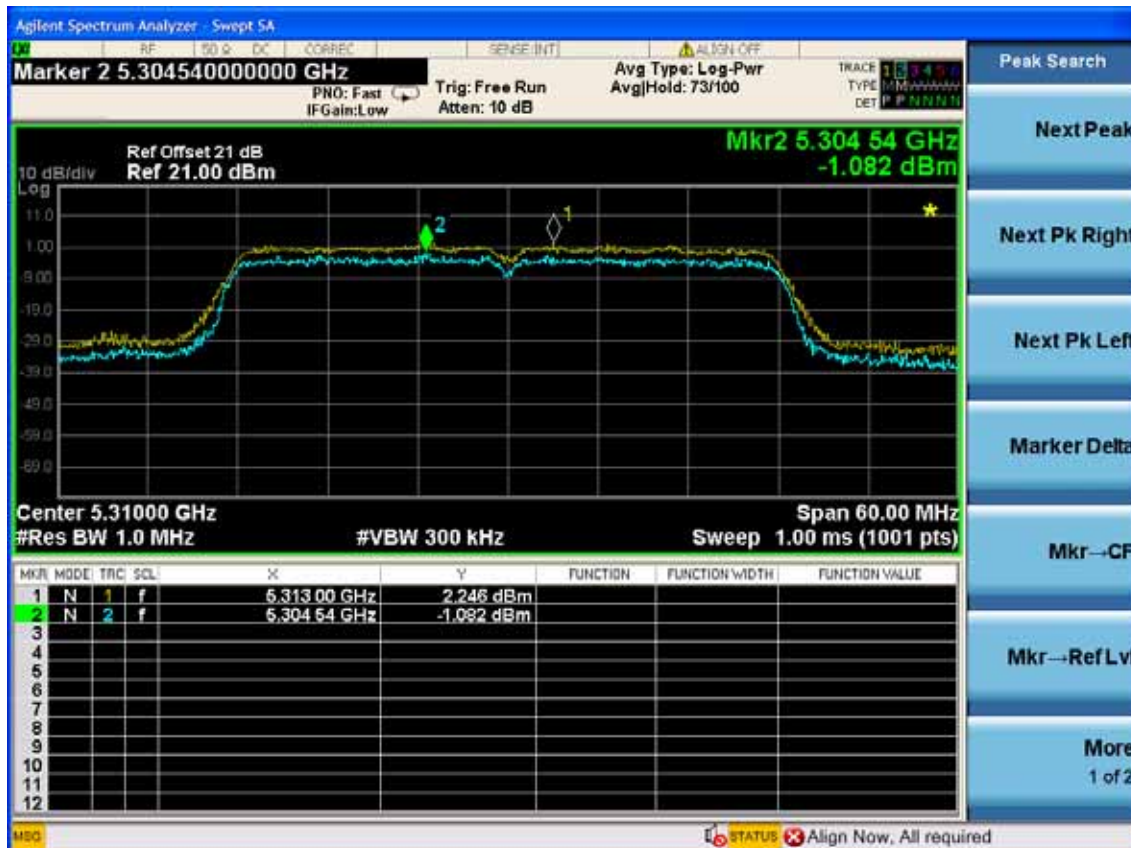
5320MHz



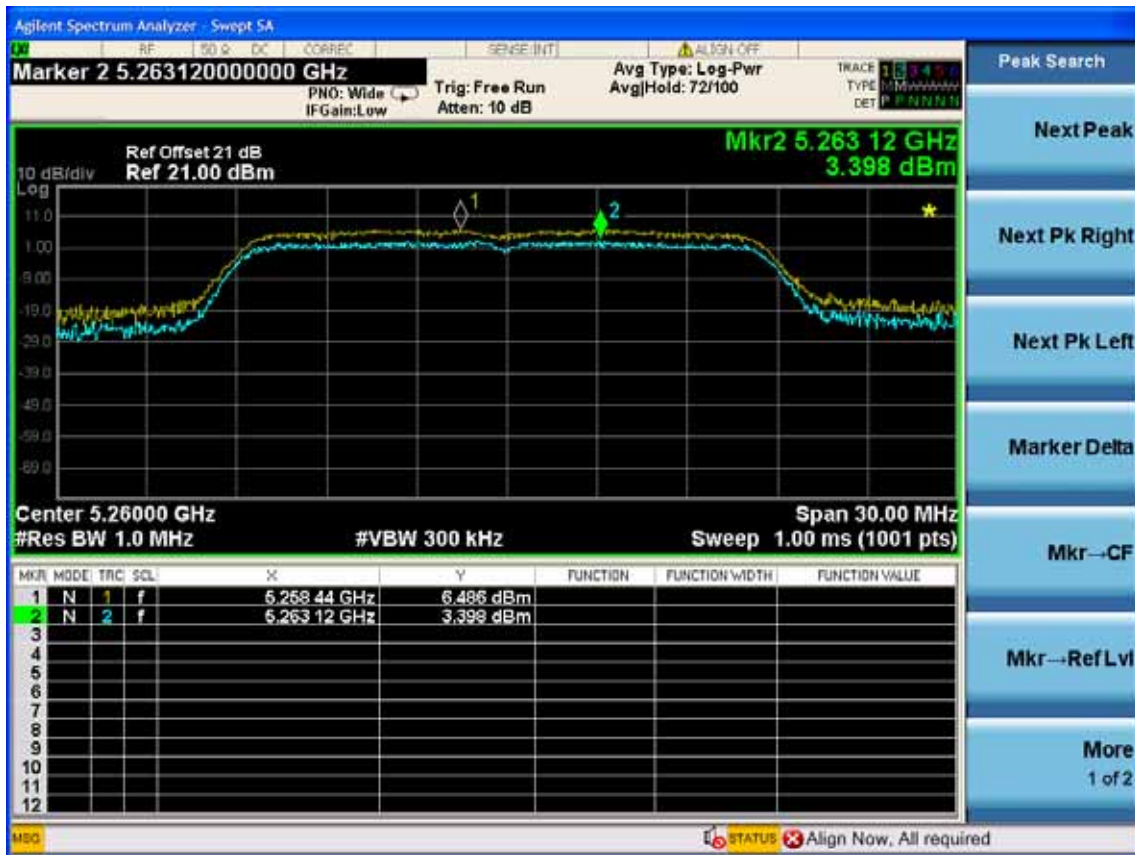
11nHT40
5270MHz



5310MHz



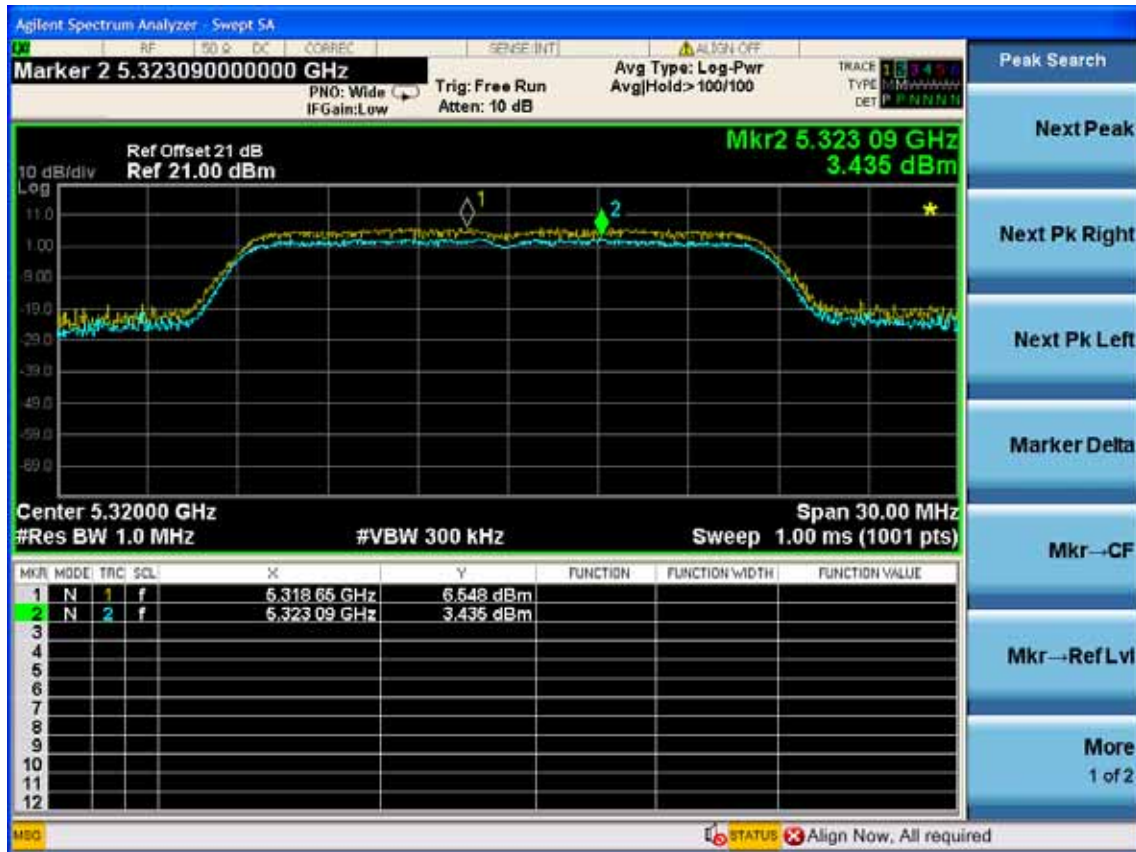
ANT 1
11a
5260MHz



5300MHz

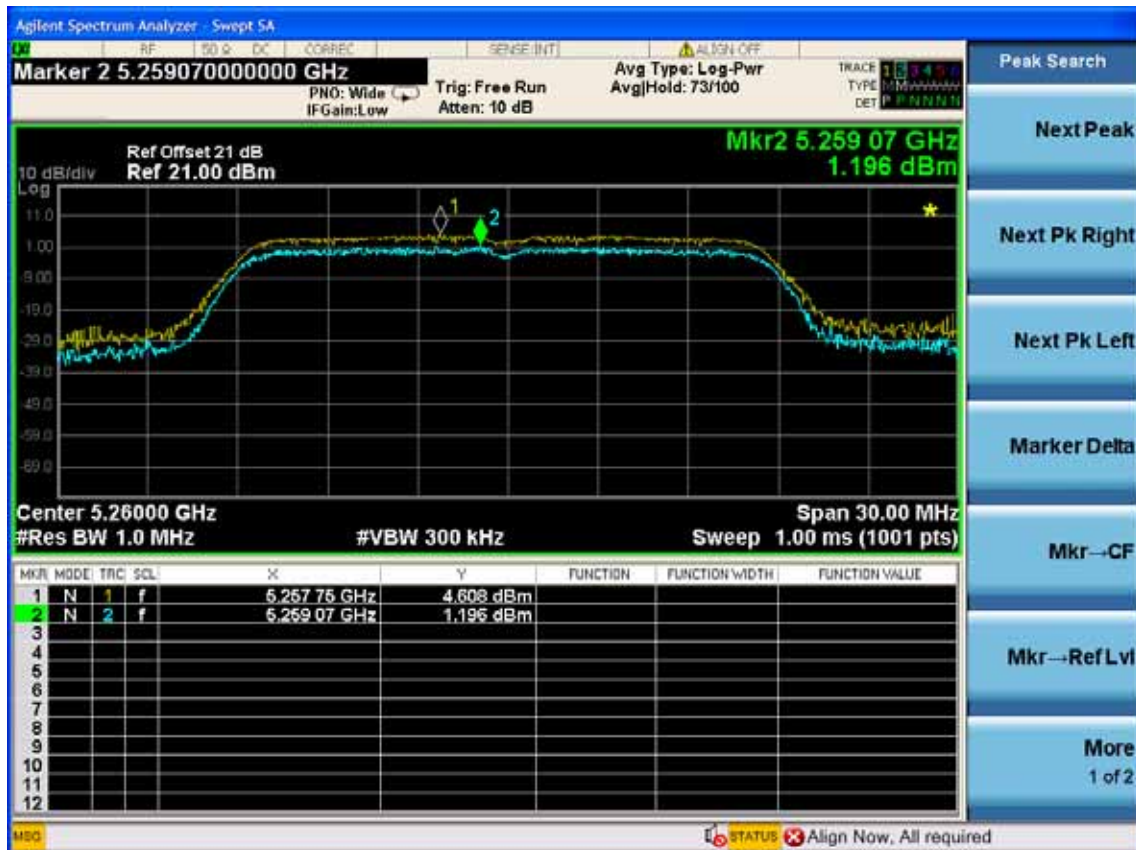


5320MHz

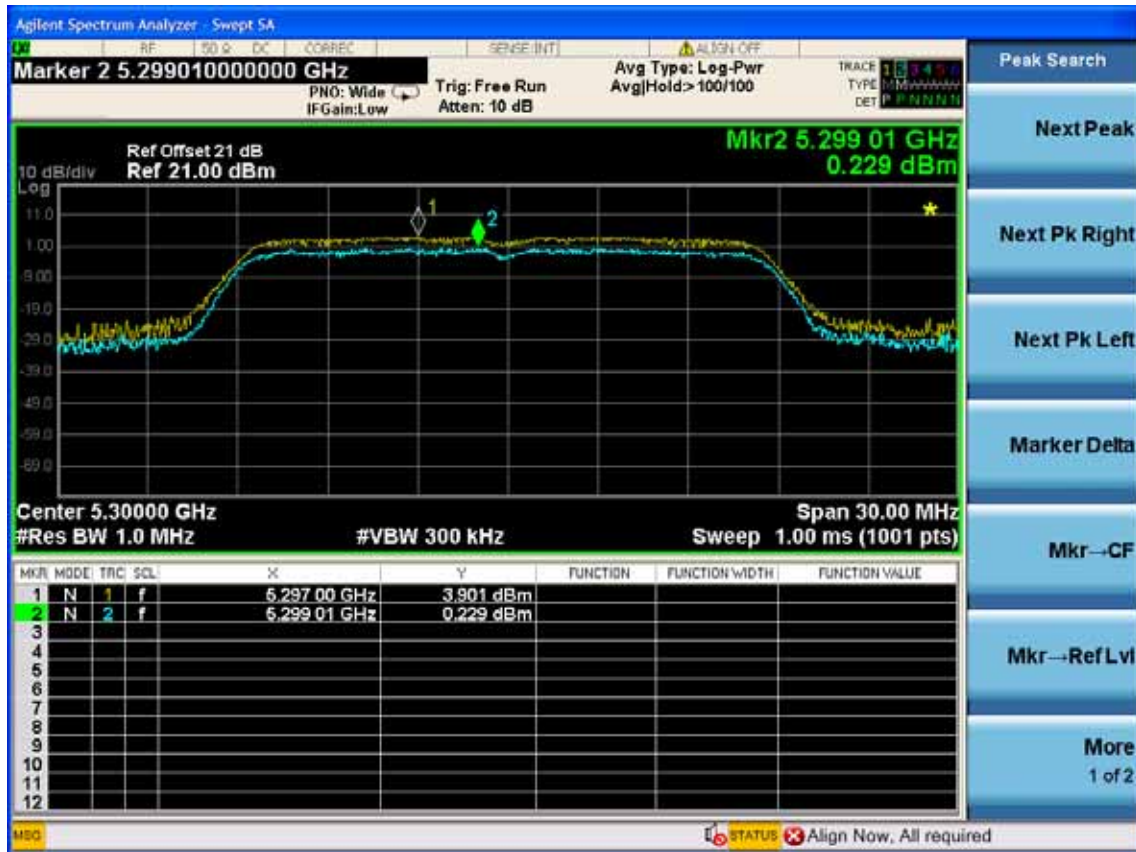


11nHT20

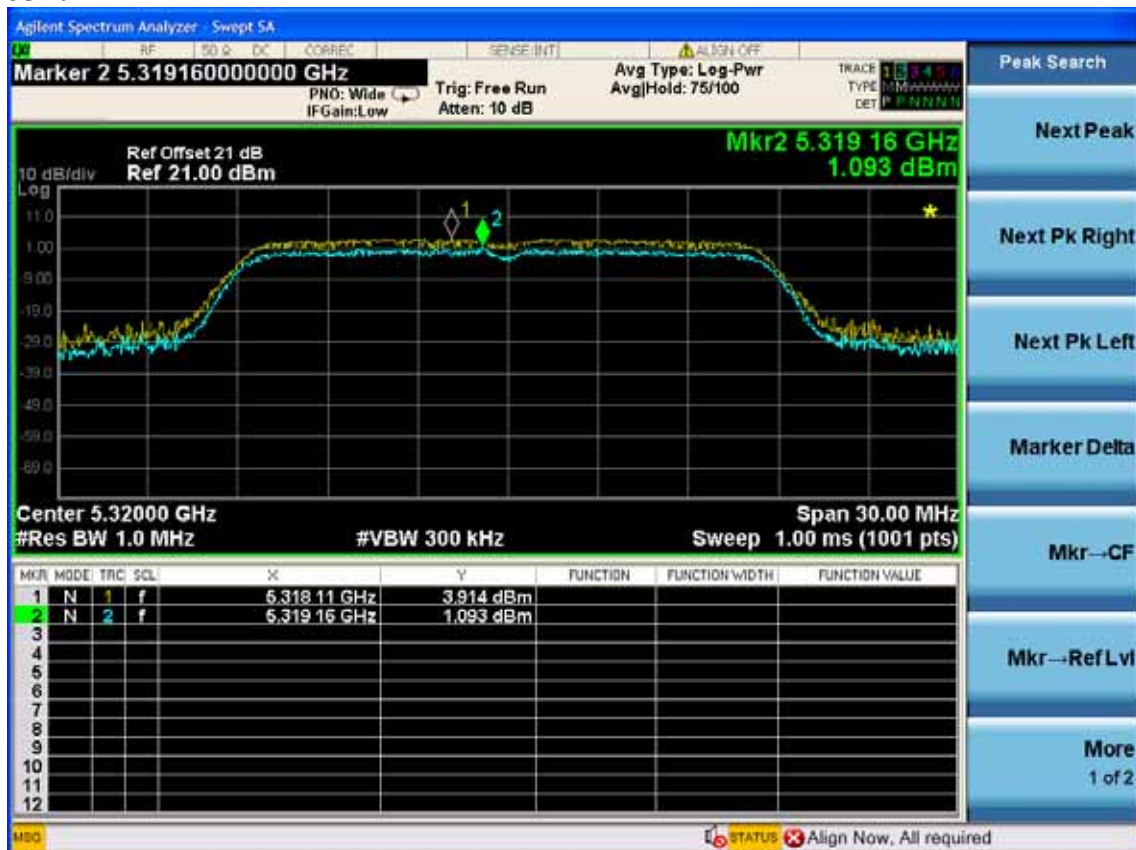
5260MHz



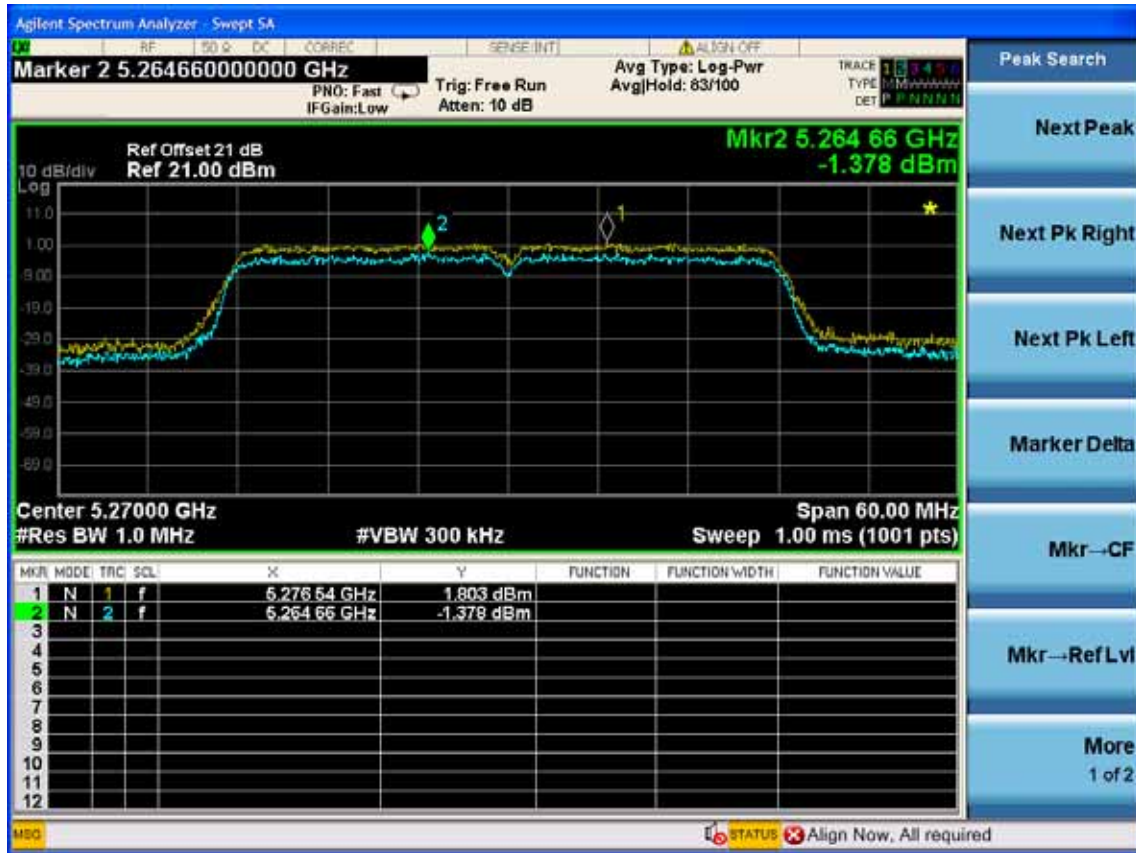
5300MHz



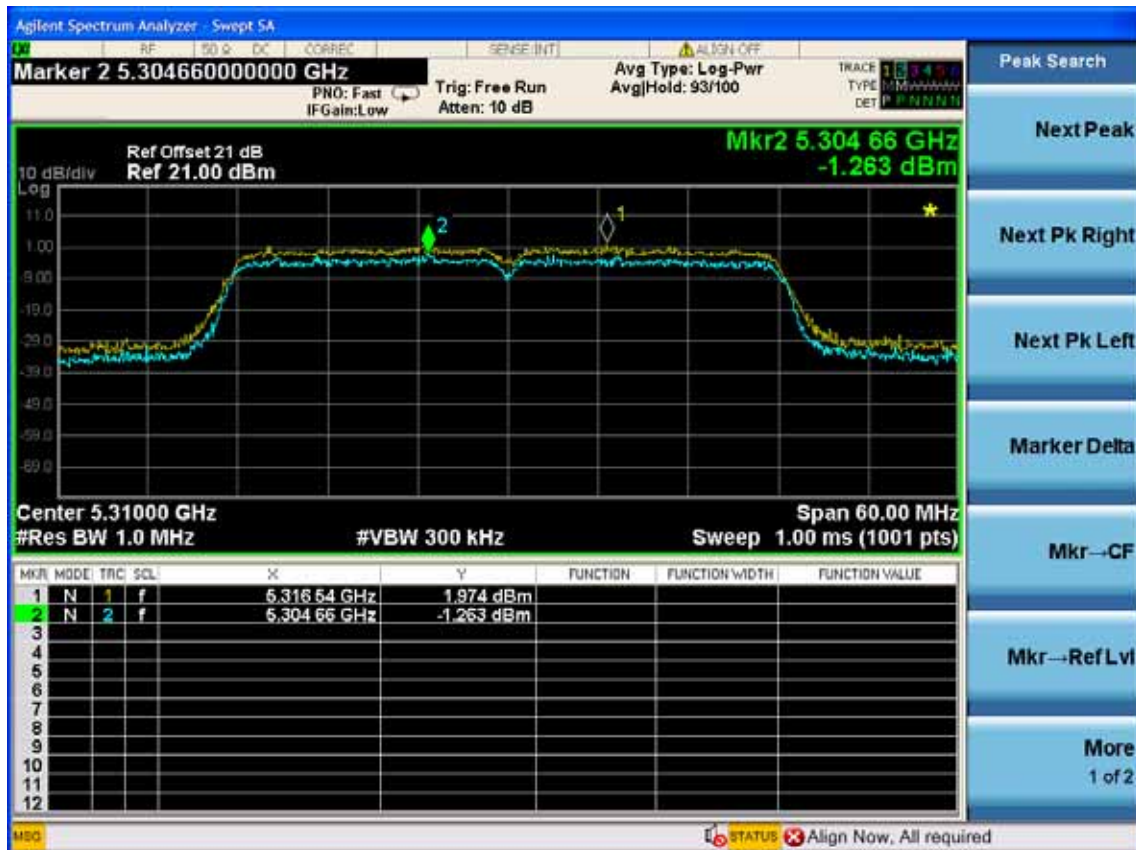
5320MHz



11nHT40
5270MHz



5310MHz



(5.4 G):

ANT 0

11a

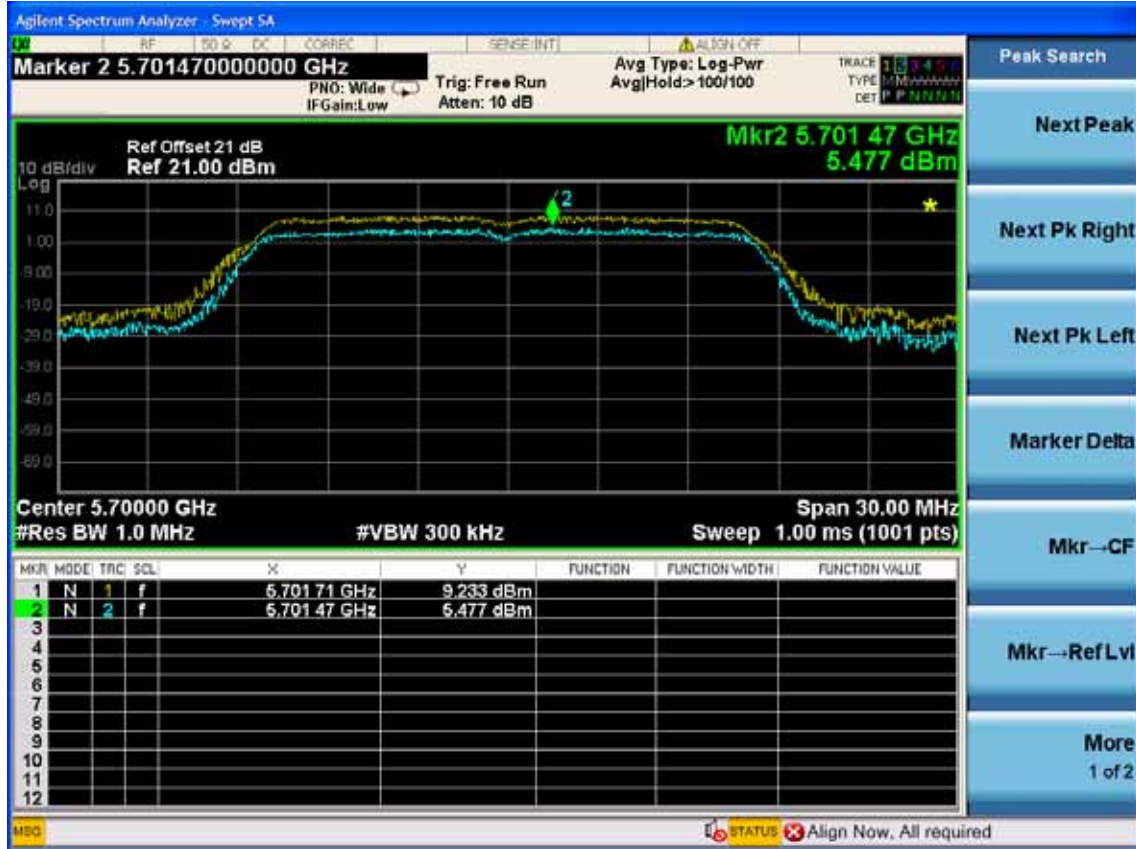
5500MHz



5600MHz



5700MHz

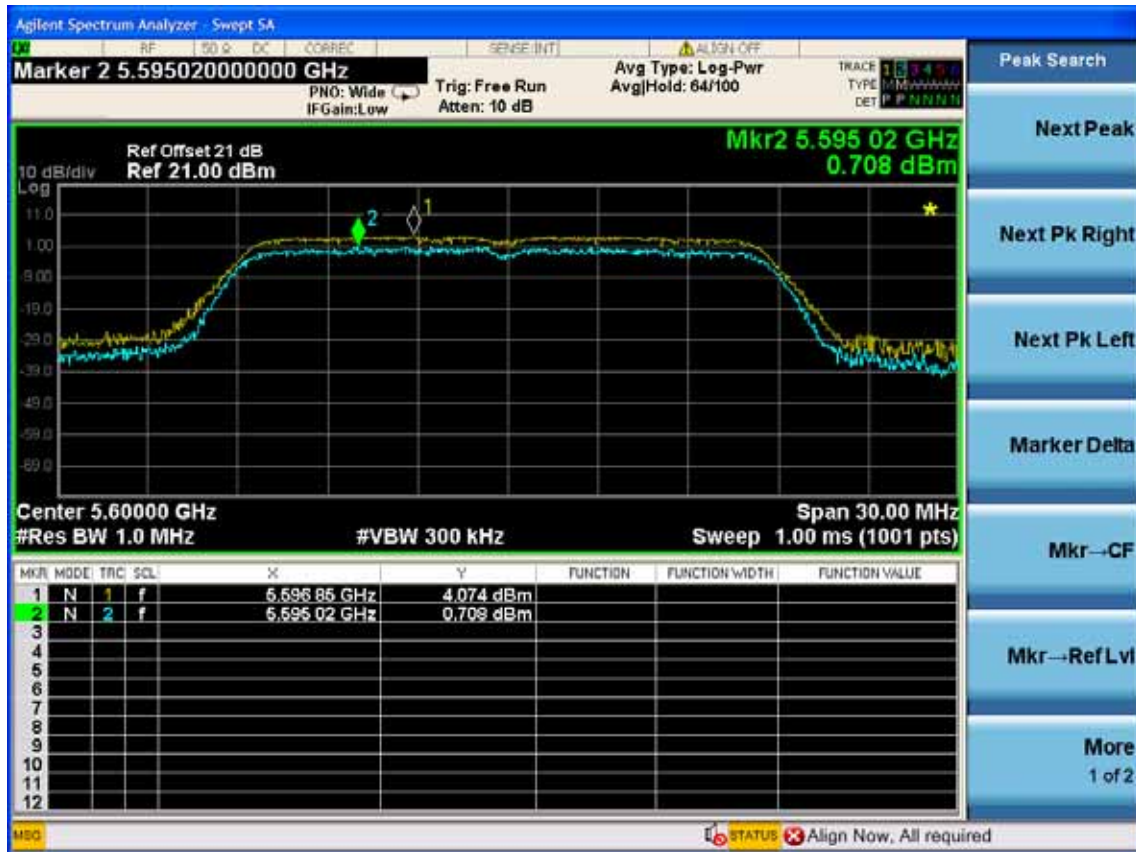


11nHT20

5500MHz



5600MHz



5700MHz



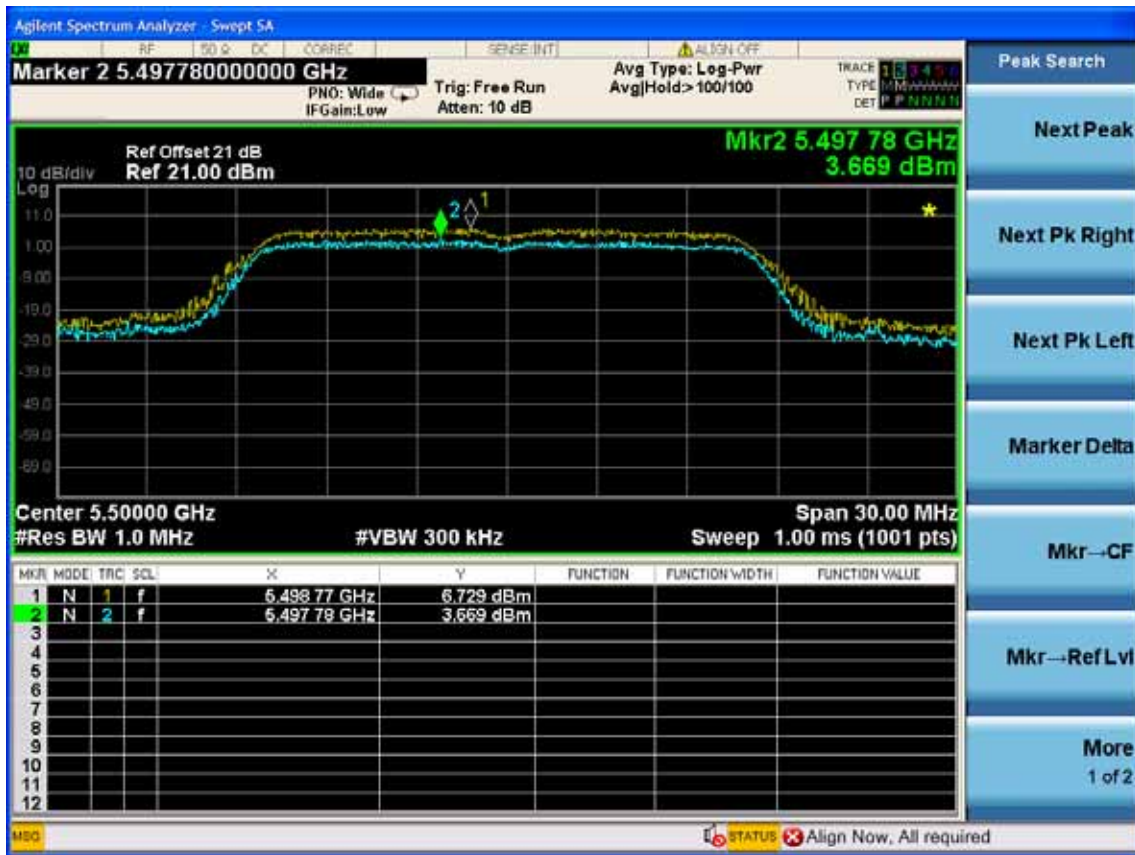
11nHT40
5500MHz



5700MHz



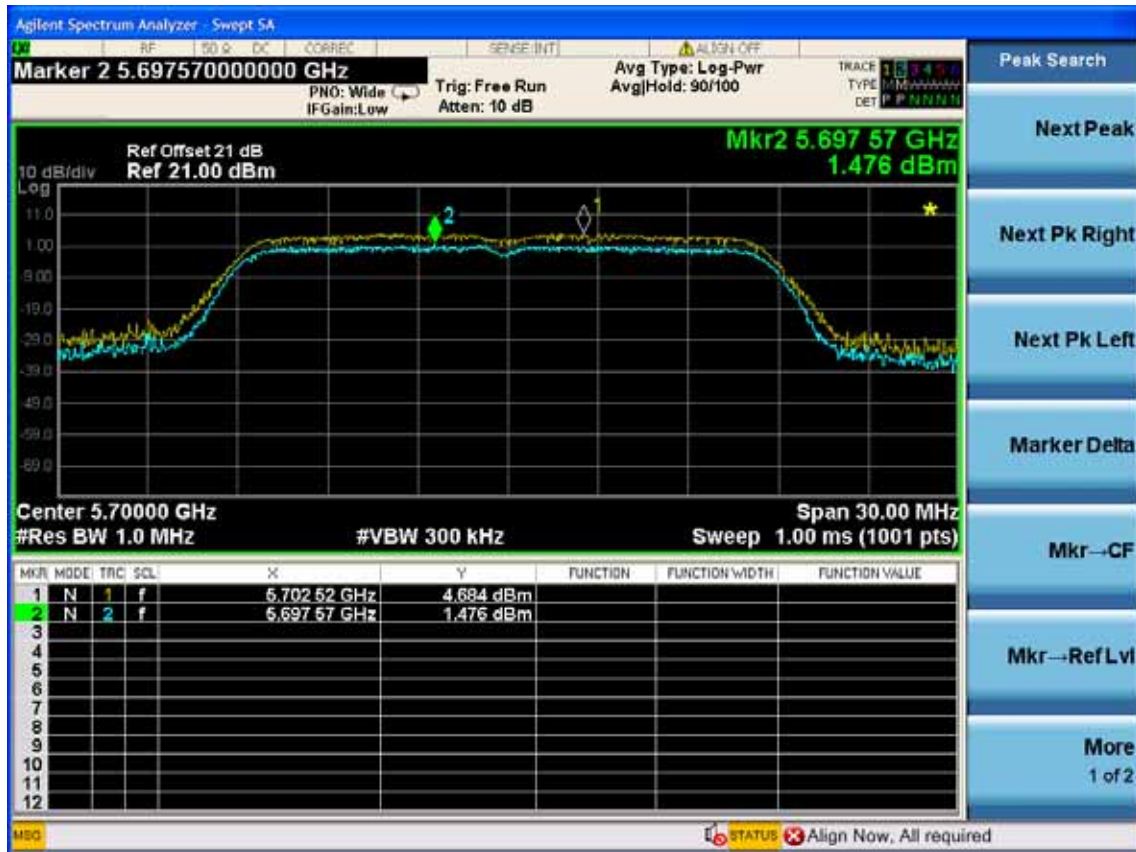
ANT 1
11a
5500MHz



5600MHz



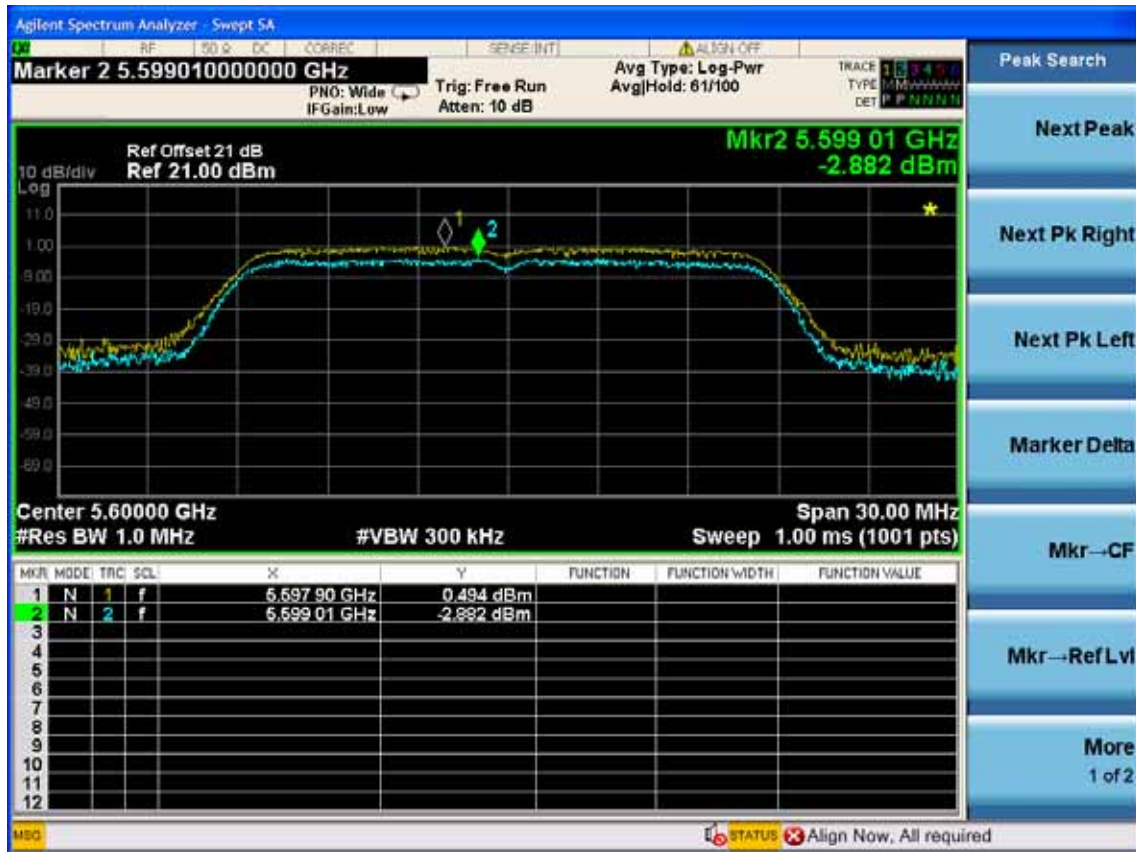
5700MHz



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: Tablet PC		
M/N:TOSHIBA WT8-A		
Power: DC 5V From Adapter Input AC 120V/60Hz		
Test Date: 2013-09-13	Test site: RF Chamber	Tested by: Kevin_Hu
Ambient Temperature: 21.8±0.6℃	Relative Humidity: 53.2±3%	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	5179.9155	0.0845	-16.31	+/-20	PASS
120V	5180	5179.9953				
138V	5180	5179.9987				
102V	5200	5199.9241	0.0759	-14.60	+/-20	
120V	5200	5199.9897				
138V	5200	5199.9940				
102V	5240	5239.9041	0.0959	-18.30	+/-20	
120V	5240	5239.9890				
138V	5240	5239.9946				

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	5179.9104	0.0896	-17.30	+/-20	PASS
-20℃	5180	5179.9221				
-10℃	5180	5179.9312				
0℃	5180	5179.9384				
10℃	5180	5179.9551				
20℃	5180	5179.9953				
30℃	5180	5180.0145				
40℃	5180	5180.0207				
50℃	5180	5180.0315				

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	5199.9120	0.088	-16.92	+/-20	PASS
-20°C	5200	5199.9308				
-10°C	5200	5199.9416				
0°C	5200	5199.9589				
10°C	5200	5199.9761				
20°C	5200	5199.9897				
30°C	5200	5200.0261				
40°C	5200	5200.0337				
50°C	5200	5200.0398				

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	5239.9095	0.0905	-17.27	+/-20	PASS
-20°C	5240	5239.9210				
-10°C	5240	5239.9326				
0°C	5240	5239.9467				
10°C	5240	5239.9656				
20°C	5240	5239.9890				
30°C	5240	5240.0128				
40°C	5240	5240.0387				
50°C	5240	5240.0612				

5250-5350MHz

EUT: Tablet PC		
M/N: TOSHIBA WT8-A		
Power: DC 5V From Adapter Input AC 120V/60Hz		
Test Date: 2013-09-13	Test site: RF Chamber	Tested by: Kevin_Hu
Ambient Temperature: 23.7±0.6℃	Relative Humidity: 52.1±3%	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	5260	5259.9356	0.0635	-12.07	+/-20	PASS
120V	5260	5259.9891				
138V	5260	5259.9968				
102V	5300	5299.9454	0.0546	-10.30	+/-20	
120V	5300	5299.9608				
138V	5300	5299.9869				
102V	5320	5319.9341	0.0659	-12.39	+/-20	
120V	5320	5319.9941				
138V	5320	5320.0215				

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℃	5260	5259.9250	0.075	-14.26	+/-20	PASS
-20℃	5260	5259.9416				
-10℃	5260	5259.9604				
0℃	5260	5259.9680				
10℃	5260	5259.9734				
20℃	5260	5259.9891				
30℃	5260	5260.0384				
40℃	5260	5260.0418				
50℃	5260	5260.0587				

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	5299.9251	0.0749	-14.13	+/-20	PASS
-20°C	5300	5299.9346				
-10°C	5300	5299.9441				
0°C	5300	5299.9482				
10°C	5300	5299.9514				
20°C	5300	5299.9608				
30°C	5300	5300.0145				
40°C	5300	5300.0284				
50°C	5300	5300.0468				

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	5319.9254	0.0746	-14.02	+/-20	PASS
-20°C	5320	5319.9341				
-10°C	5320	5319.9446				
0°C	5320	5319.9549				
10°C	5320	5319.9715				
20°C	5320	5319.9941				
30°C	5320	5320.0415				
40°C	5320	5320.0487				
50°C	5320	5320.0685				

5470-5725MHz:

EUT: Tablet PC

M/N:TOSHIBA WT8-A

Power: DC 5V From PC Input AC 120V/60Hz

Test Date: 2013-09-16	Test site: RF Chamber	Tested by: Kevin_Hu
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Ambient Temperature: 22.2±0.6℃	Relative Humidity: 51.9±3%	Pressure:101.2±1.0 kpa
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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	5500	5499.9481	0.0519	-9.44	+/-20	PASS
120V	5500	5499.9684				
138V	5500	5499.9828				
102V	5600	5599.9357	0.0643	-11.48	+/-20	
120V	5600	5599.9447				
138V	5600	5599.9677				
102V	5700	5699.9311	0.0689	-12.09	+/-20	
120V	5700	5699.9654				
138V	5700	5699.9805				

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℃	5500	5499.9152	0.0848	-15.42	+/-20	PASS
-20℃	5500	5499.9285				
-10℃	5500	5499.9398				
0℃	5500	5499.9455				
10℃	5500	5499.9511				
20℃	5500	5499.9684				
30℃	5500	5500.0410				
40℃	5500	5500.0656				
50℃	5500	5500.0698				

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	5599.9141	0.0859	-15.34	+/-20	PASS
-20°C	5600	5599.9289				
-10°C	5600	5599.9356				
0°C	5600	5599.9379				
10°C	5600	5599.9401				
20°C	5600	5599.9447				
30°C	5600	5599.9924				
40°C	5600	5600.0052				
50°C	5600	5600.0168				

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	5699.9384	0.0616	-10.81	+/-20	PASS
-20°C	5700	5699.9431				
-10°C	5700	5699.9459				
0°C	5700	5699.9503				
10°C	5700	5699.9577				
20°C	5700	5699.9654				
30°C	5700	5699.9828				
40°C	5700	5700.0152				
50°C	5700	5700.0281				

11. ANTENNA 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]