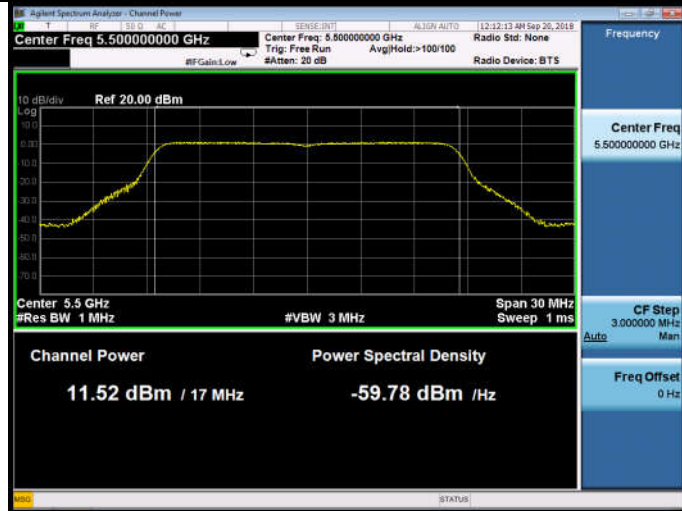


**5500-5700MHz Band:**

**ANT 1**

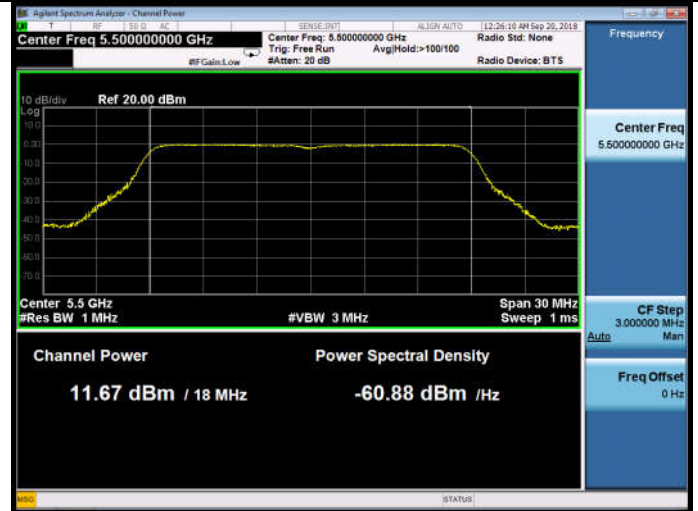
**11a**

**5500MHz**

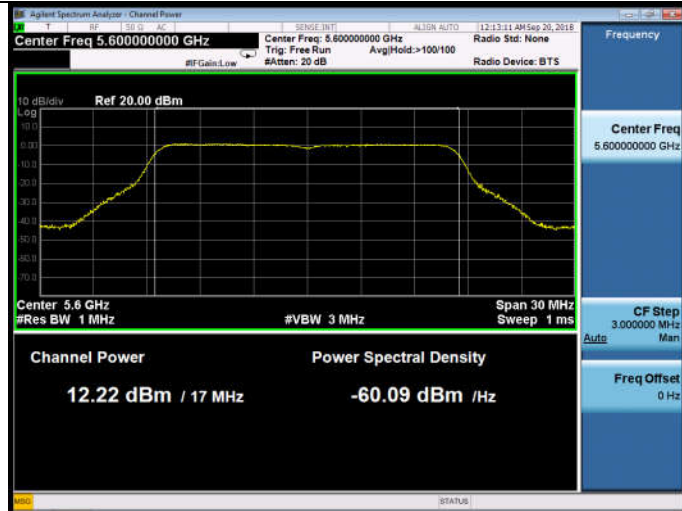


**11n HT20**

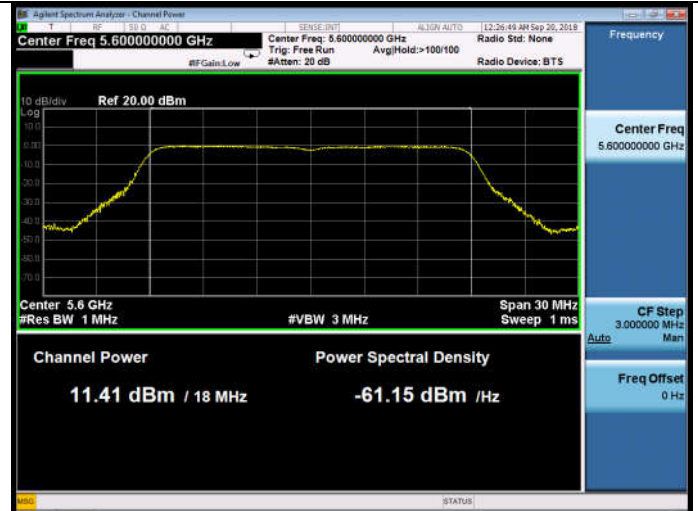
**5500MHz**



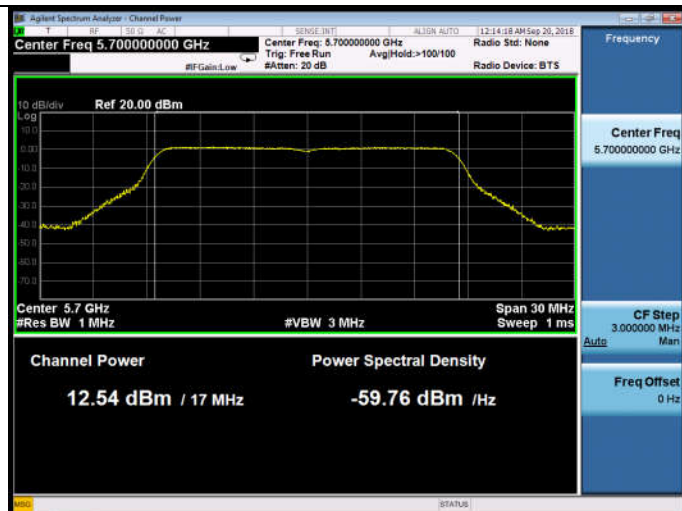
**5600MHz**



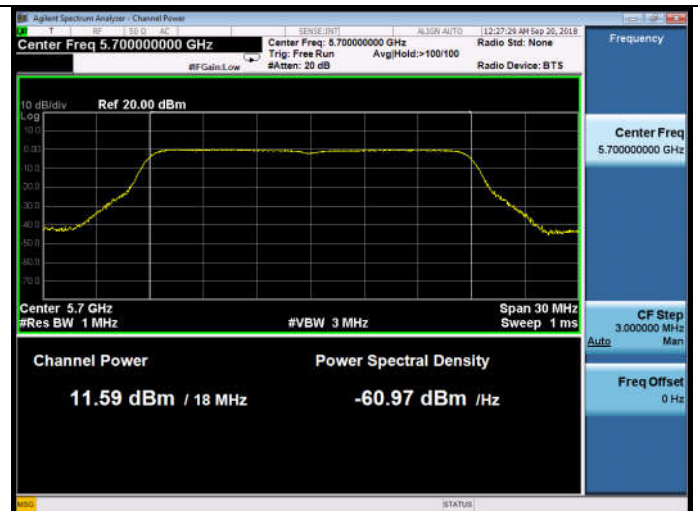
**5600MHz**



**5700MHz**

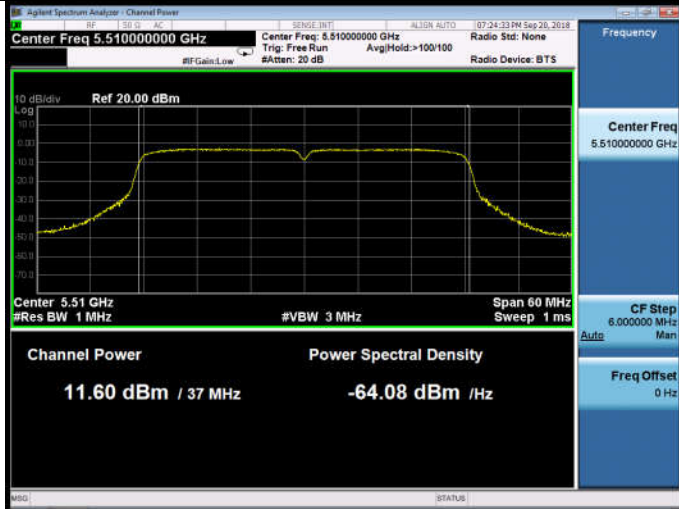


**5700MHz**



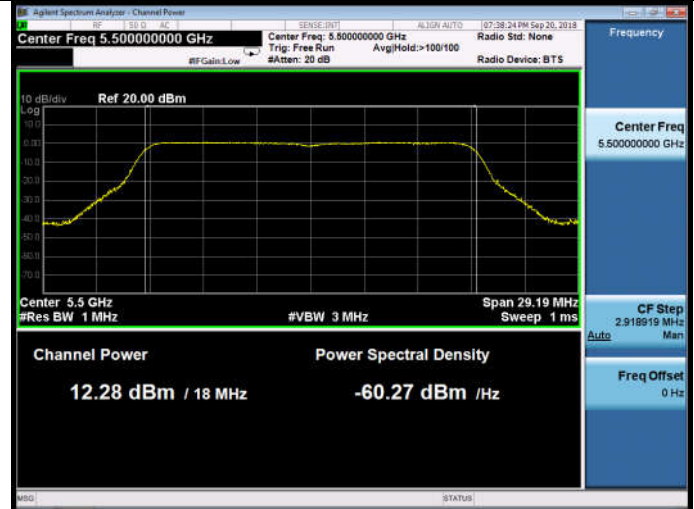
**11n HT40**

5510MHz

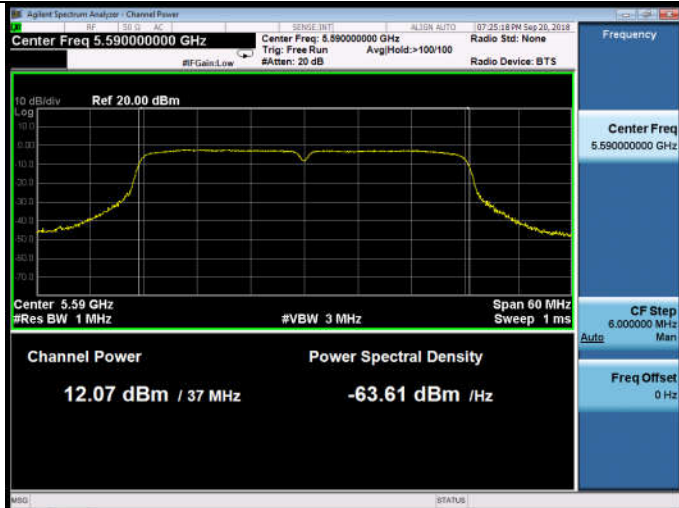


**11ac VHT20**

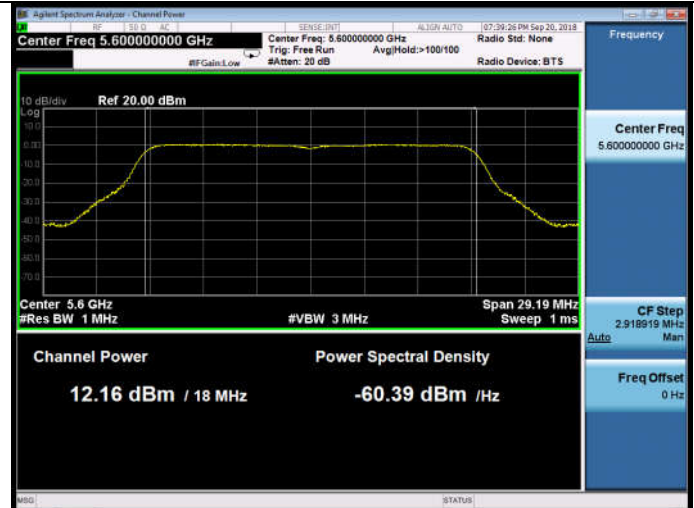
5500MHz



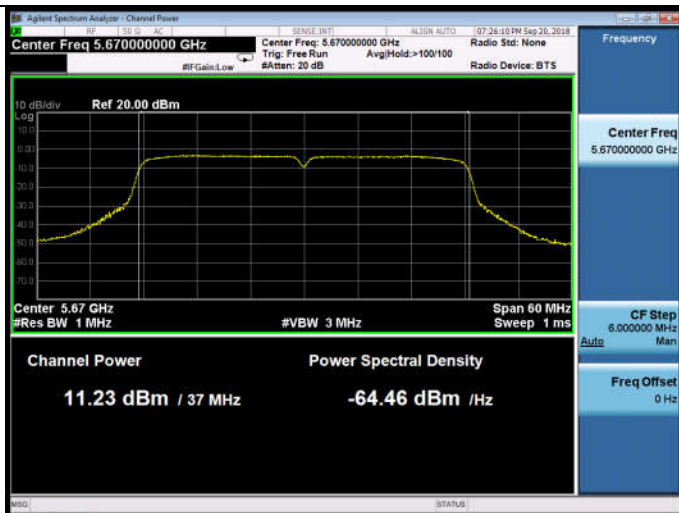
**5590MHz**



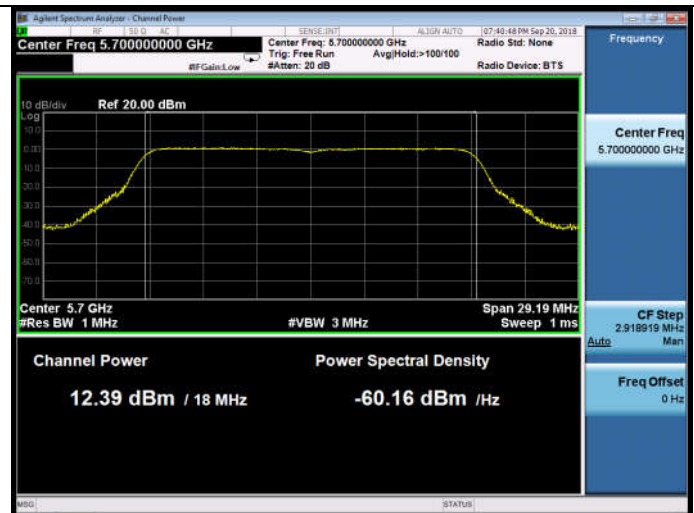
**5600MHz**



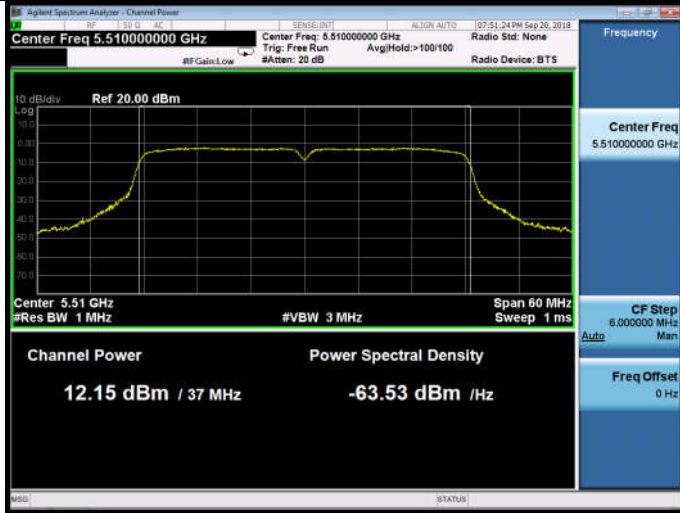
**5670MHz**



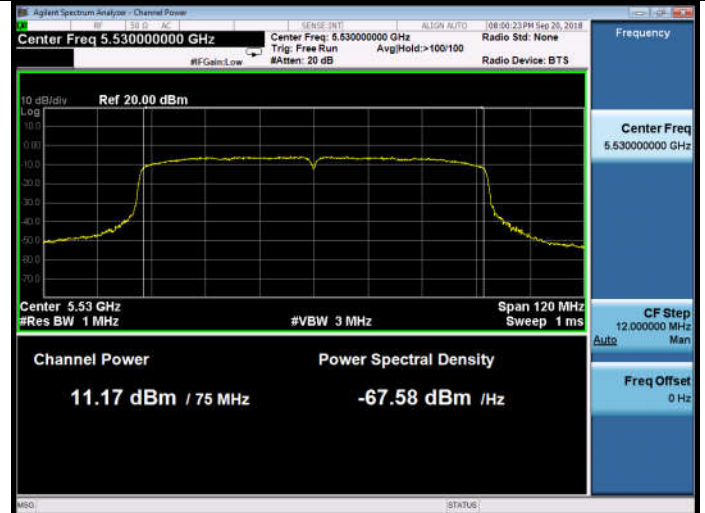
**5700MHz**



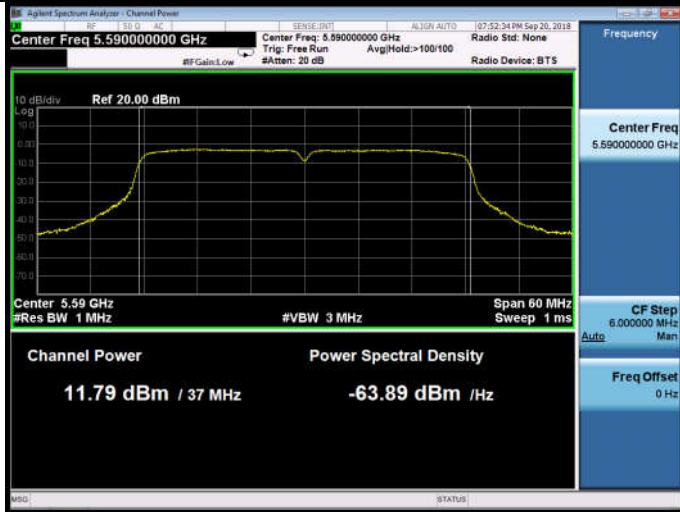
**11ac VHT40**  
5510MHz



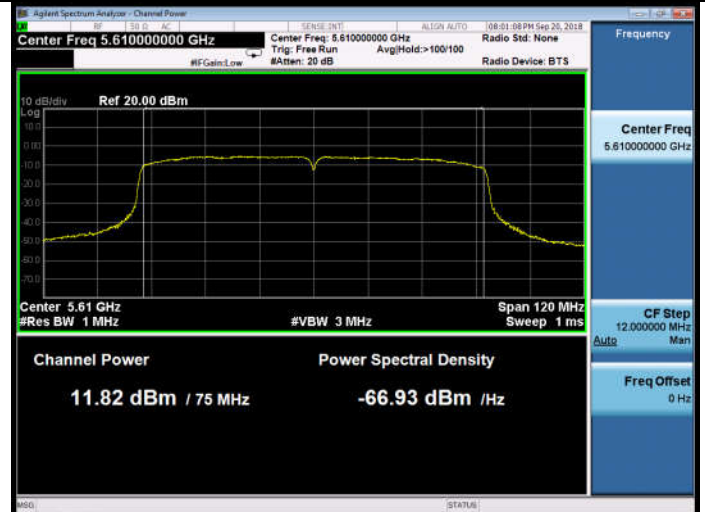
**11ac VHT80**  
5530MHz



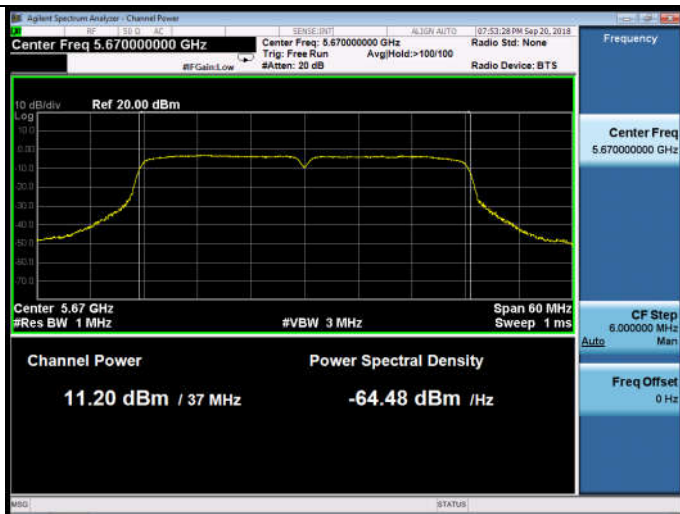
**5590MHz**



**5610MHz**



**5670MHz**

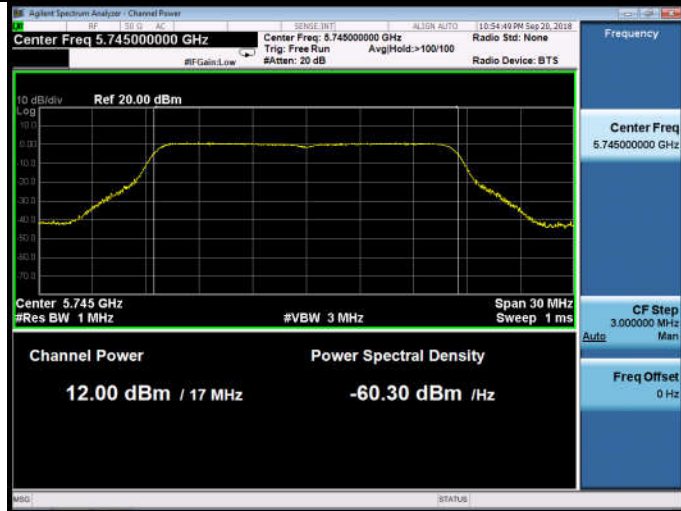


**5745-5825MHz Band:**

**ANT 0**

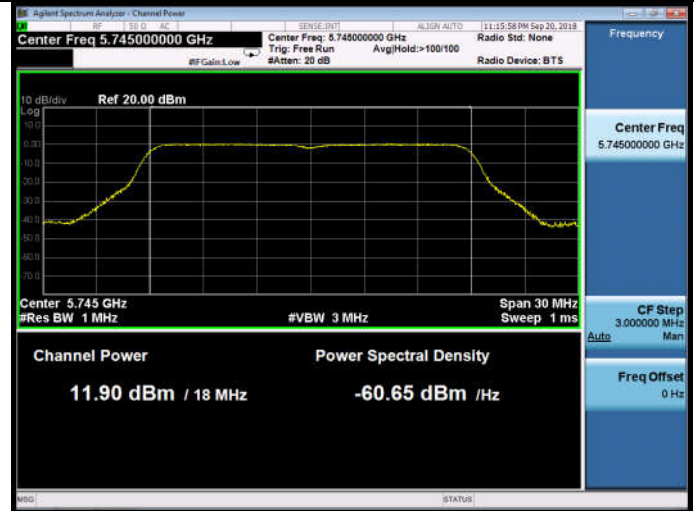
**11a**

**5745MHz**

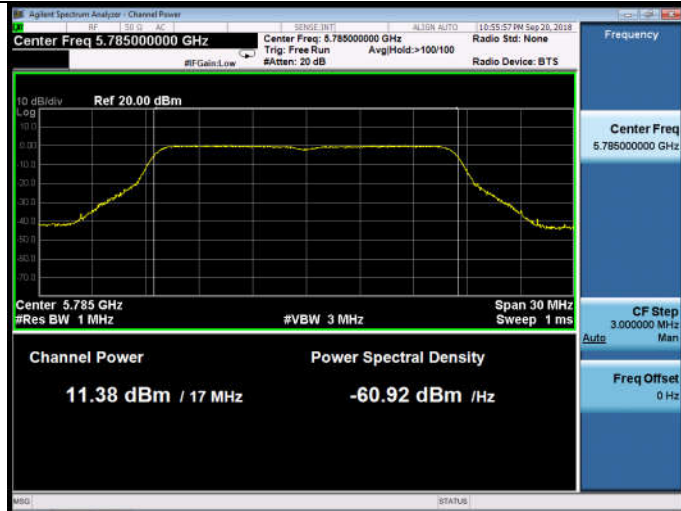


**11n HT20**

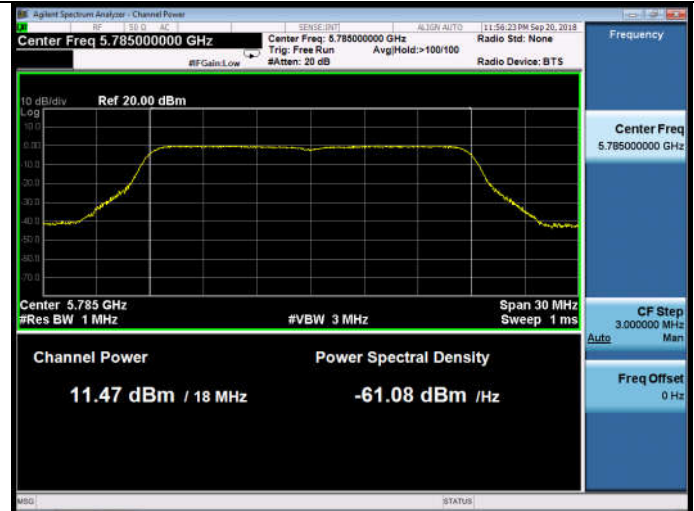
**5745MHz**



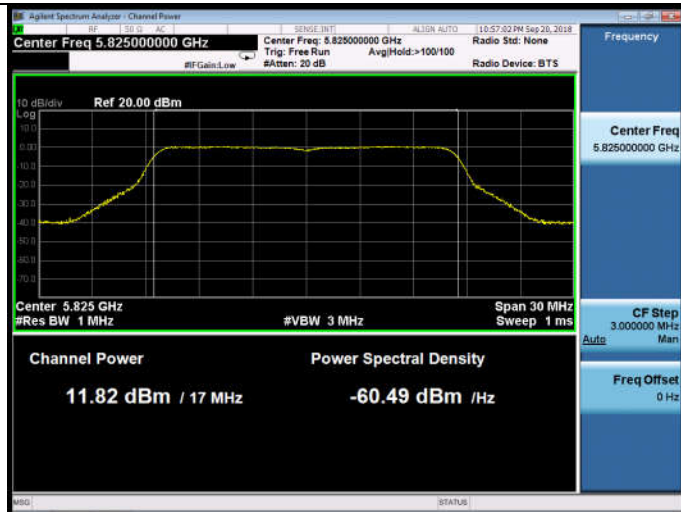
**5785MHz**



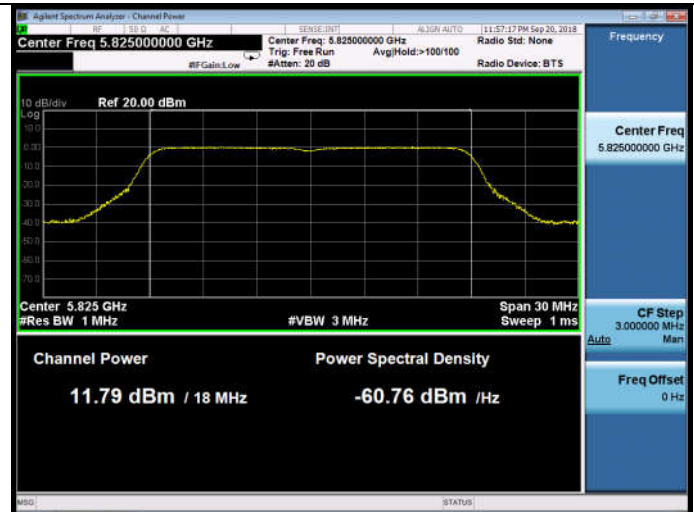
**5785MHz**



**5825MHz**

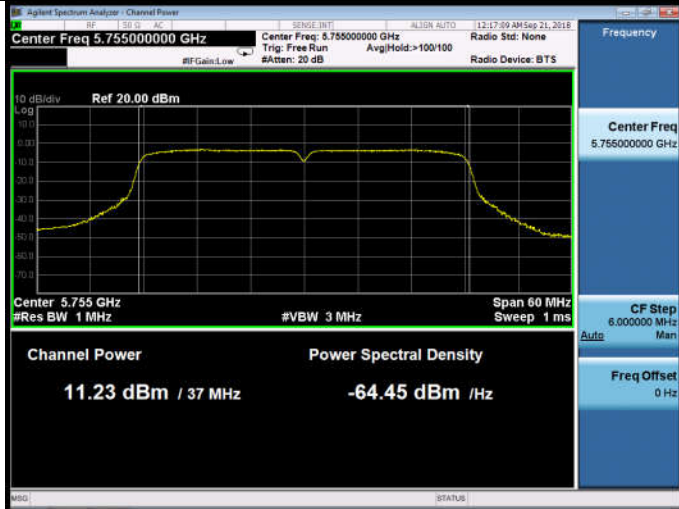


**5825MHz**

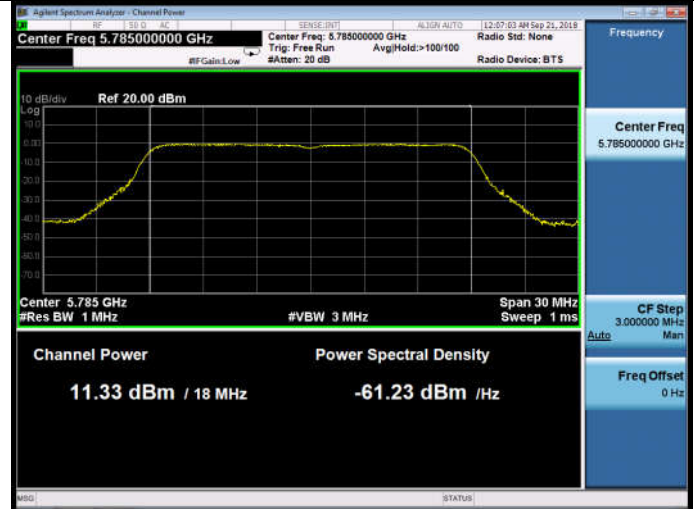


### 11n HT40

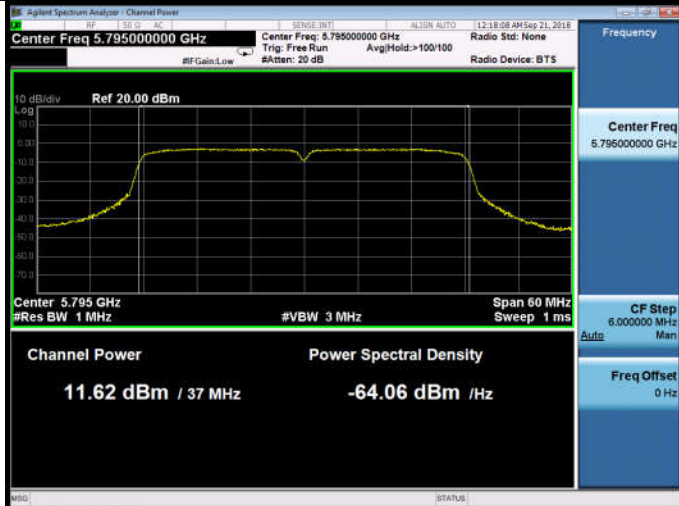
#### 5755MHz



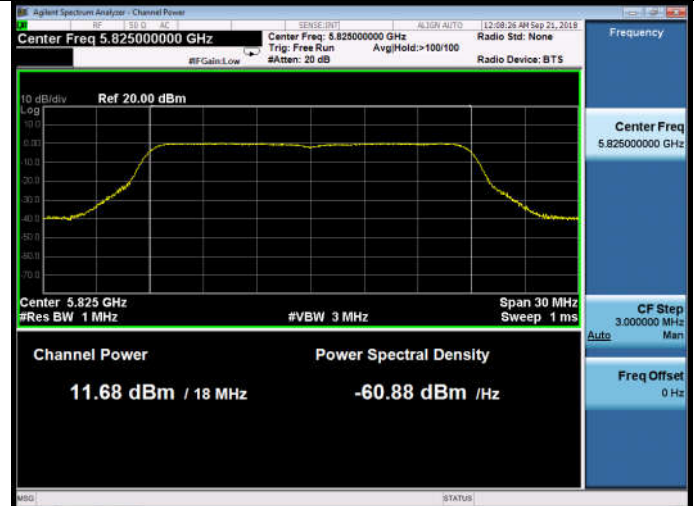
#### 5785MHz



#### 5795MHz

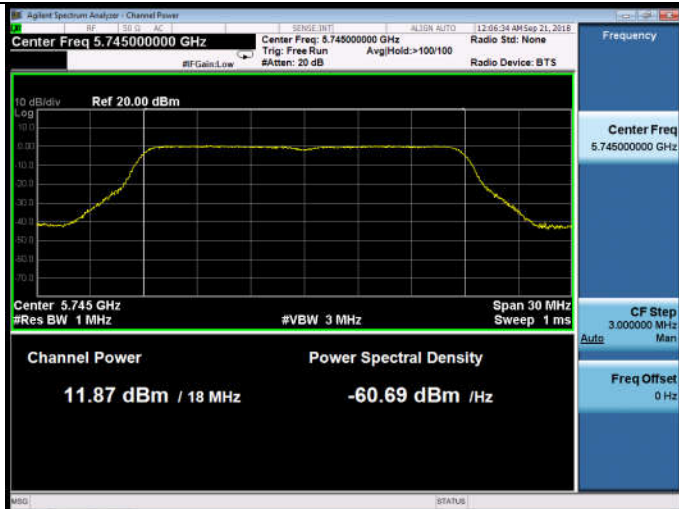


#### 5825MHz



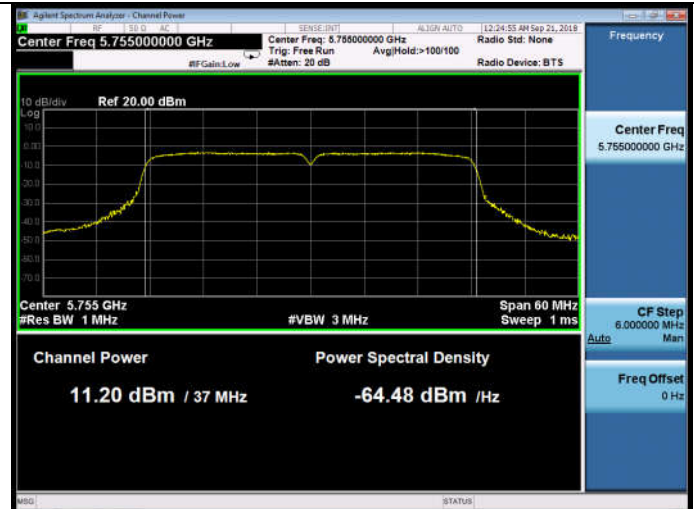
### 11ac VHT20

#### 5745MHz



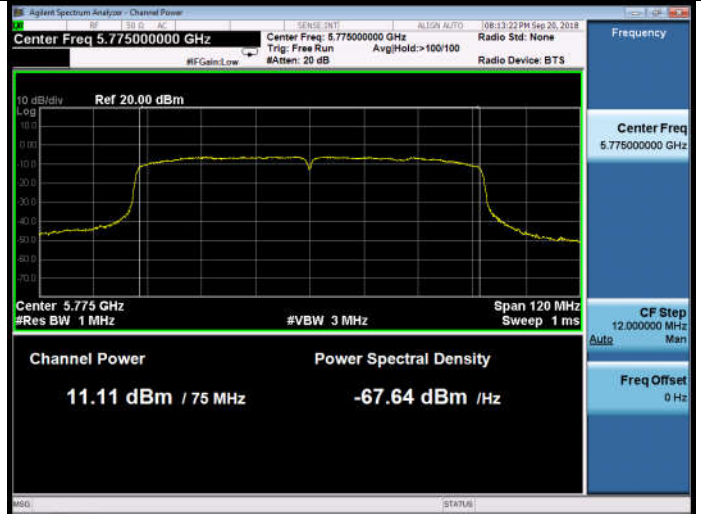
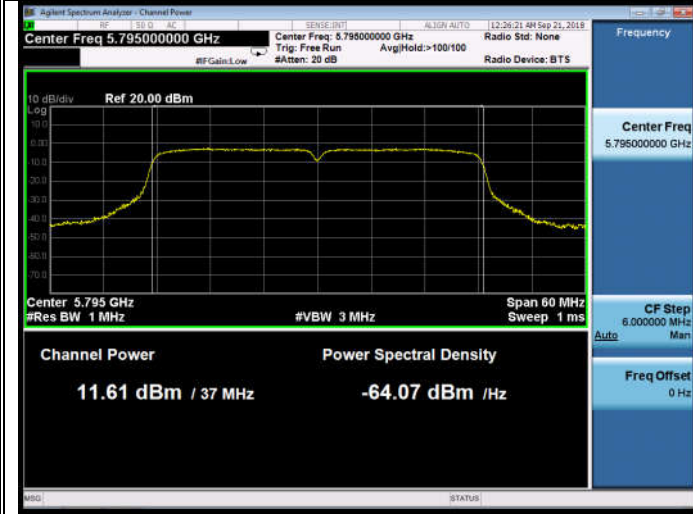
### 11ac VHT40

#### 5755MHz



### 5795MHz

### 11ac VHT80 5775MHz

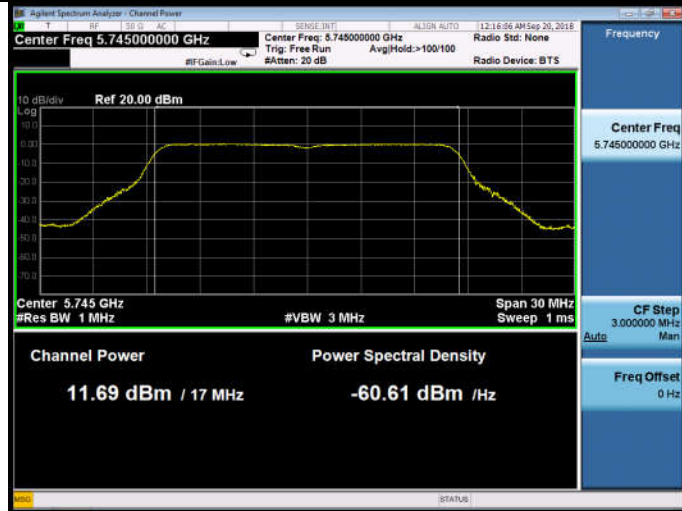


5745-5825MHz Band:

ANT 1

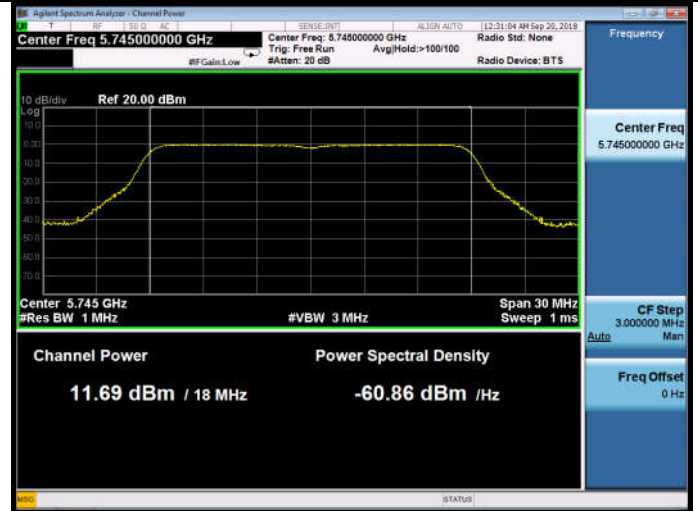
11a

5745MHz

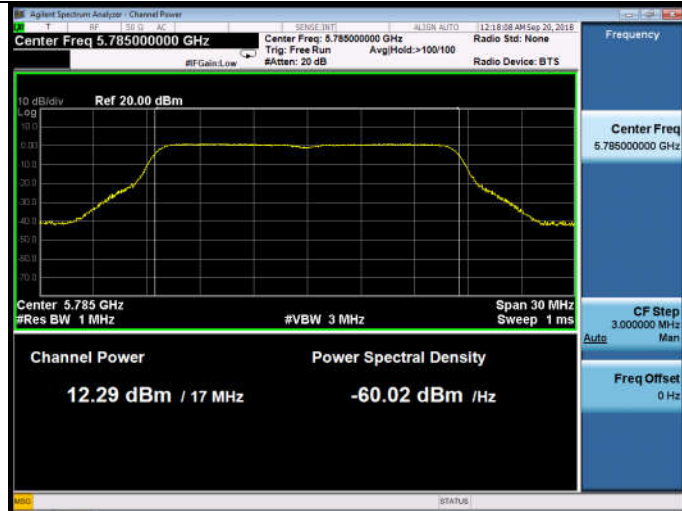


11n HT20

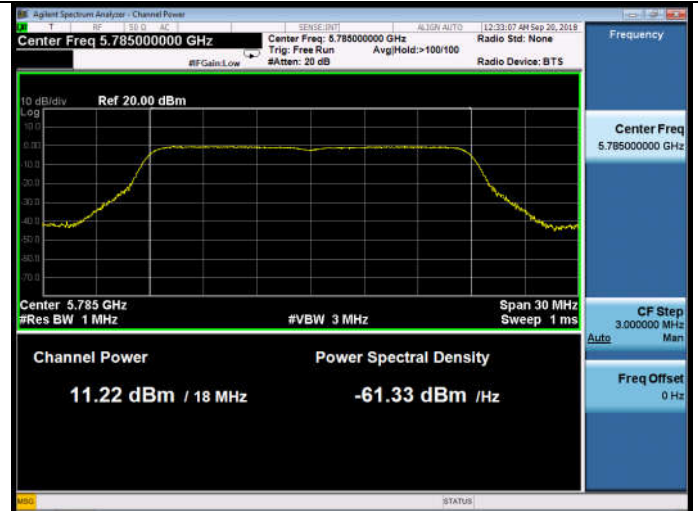
5745MHz



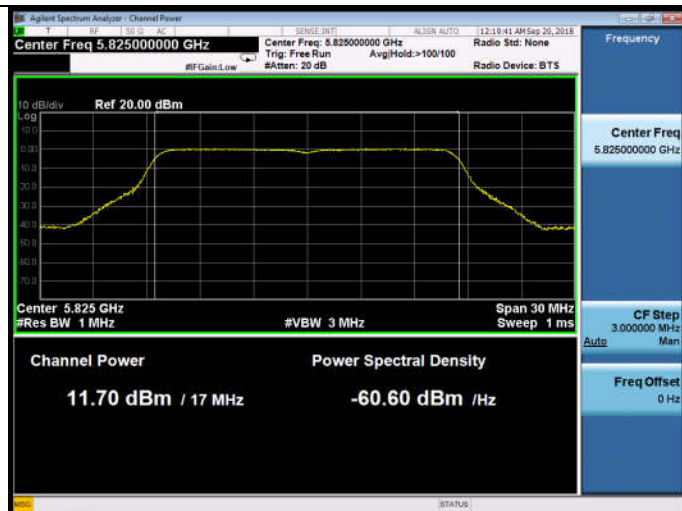
5785MHz



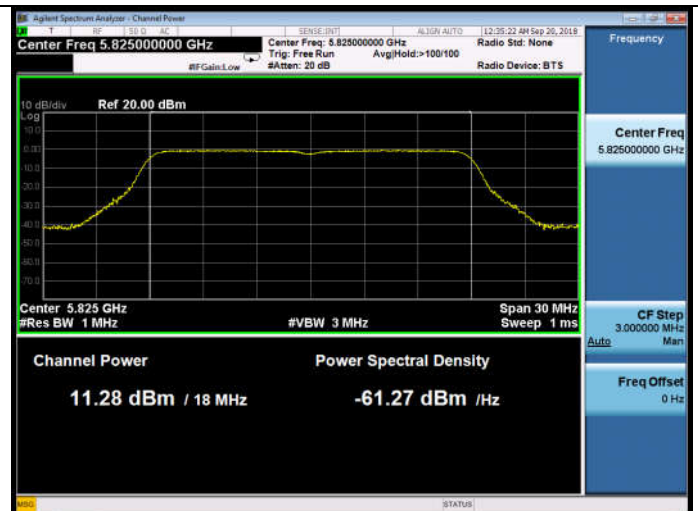
5785MHz



5825MHz

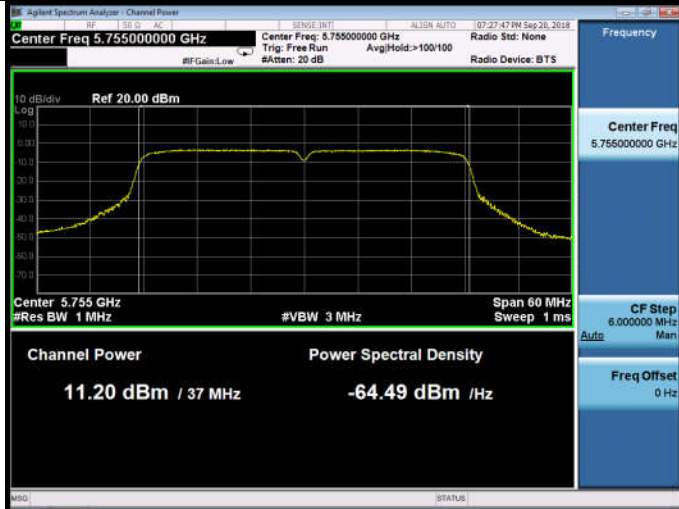


5825MHz

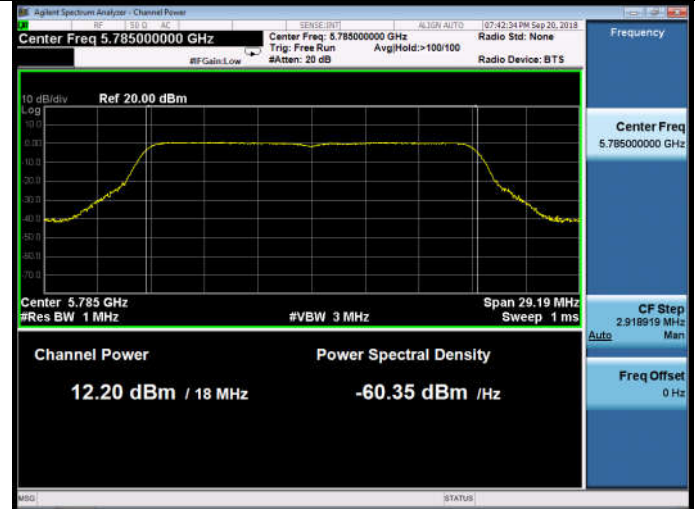


### 11n HT40

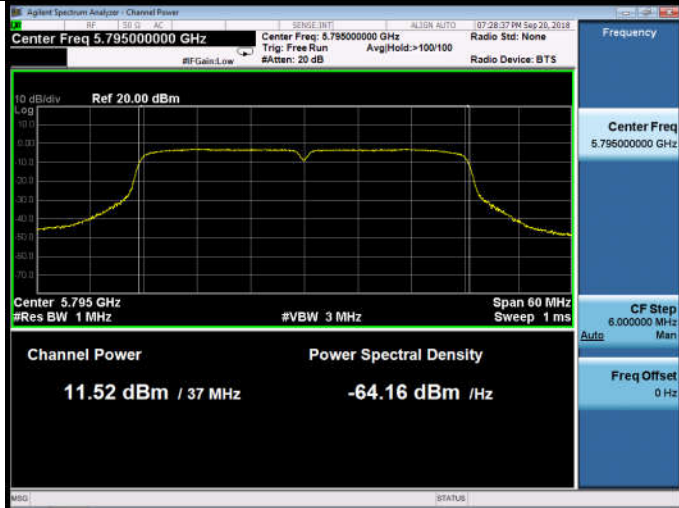
#### 5755MHz



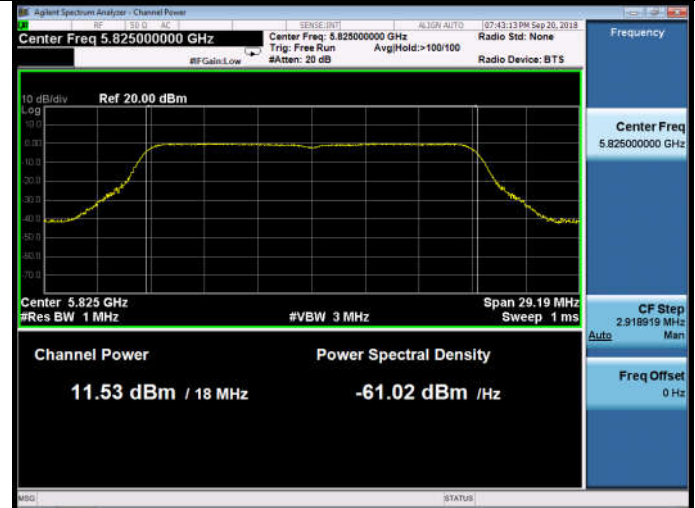
#### 5785MHz



#### 5795MHz

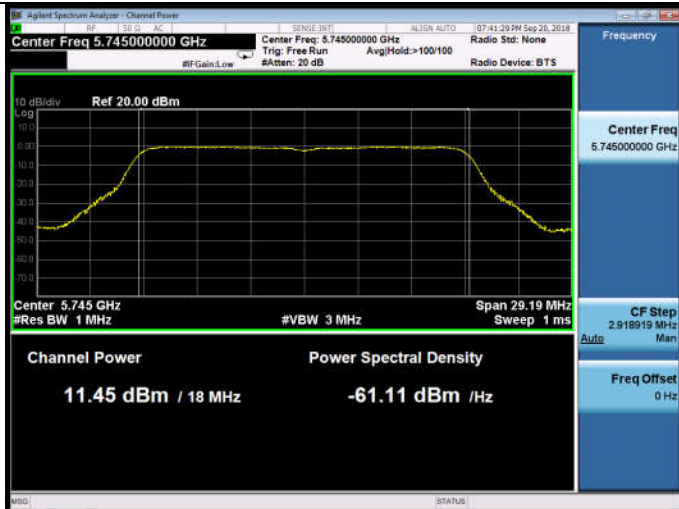


#### 5825MHz



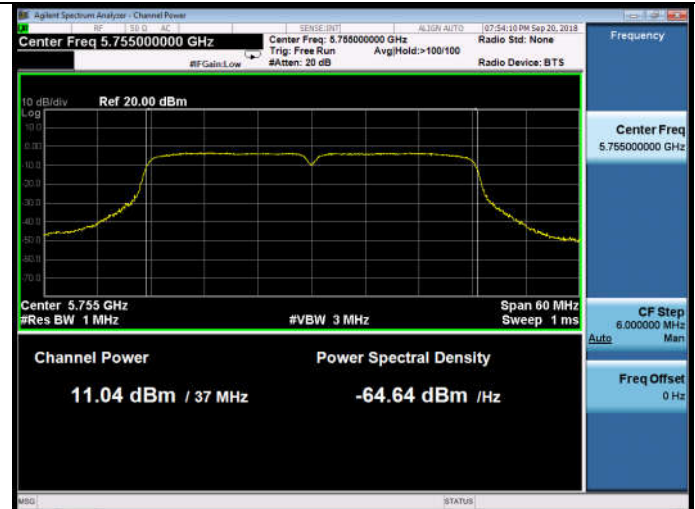
### 11ac VHT20

#### 5745MHz



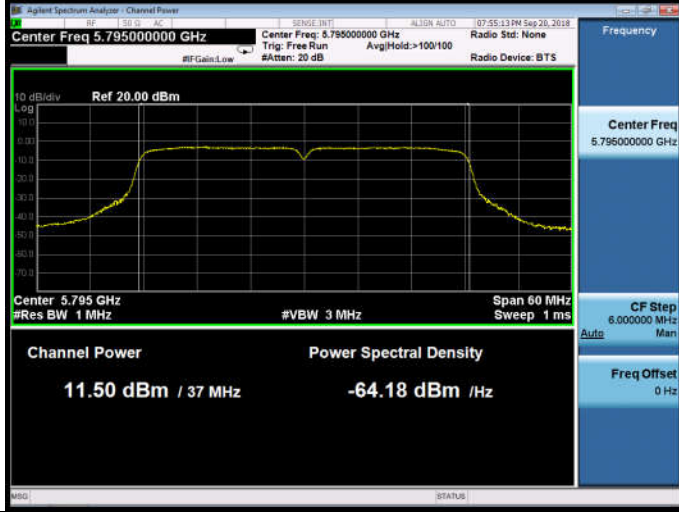
### 11ac VHT40

#### 5755MHz



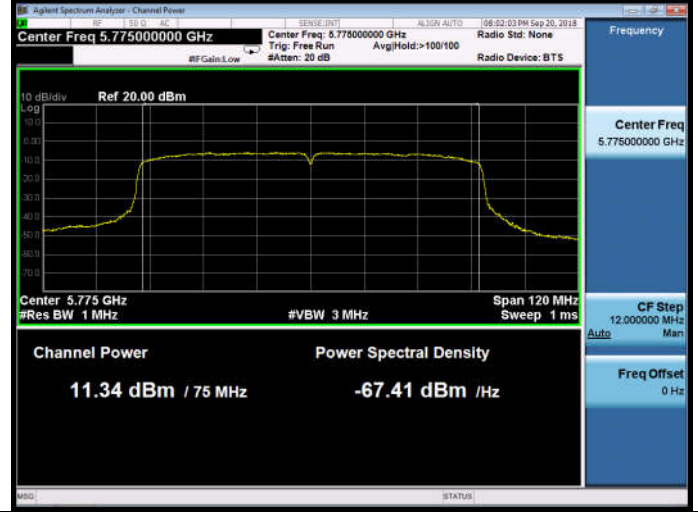


### 5795MHz



### 11ac VHT80

### 5775MHz



## 8. SPECTRAL DENSITY TEST

### 8.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Sep.08,18	1 Year
2.	Attenuator (20dB)	Agilent	8491B	MY39262165	Oct.14,17	1 Year
3.	RF Cable	Hubersuhner	RF Cable	No.5	Oct.15,17	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  $\geq 2$  Span / RBW. (This ensures that bin-to-bin spacing is  $\leq$  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  $10\log(500\text{kHz}/\text{RBW})$  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: POS Terminal		
M/N: SPD1-01		
Test date: 2018-09-20~21	Pressure: 102.5±1.0 kpa	Humidity: 53.1±3.0%
Tested by: Lynn	Test site: RF site	Temperature: 22.6±0.6 °C

Test Mode	Frequency (MHz)	Power density (dBm/MHz)		Limit (dBm/MHz)	
		ANT0	ANT1	ANT0	ANT1
11a	5180	0.594	0.696	11	11
	5200	1.003	1.302	11	11
	5240	0.233	0.590	11	11
11n HT20	5180	0.138	-0.002	11	11
	5200	0.851	0.472	11	11
	5240	0.169	-0.287	11	11
11n HT40	5190	-2.410	-2.981	11	11
	5230	-2.340	-2.844	11	11
11ac VHT20	5180	-0.037	0.275	11	11
	5200	0.596	1.012	11	11
	5240	0.200	0.276	11	11
11ac VHT40	5190	-2.679	-2.600	11	11
	5230	-1.764	-2.329	11	11
11ac VHT80	5210	-6.007	-5.786	11	11
Conclusion: PASS					

Note: For ANT0:

Antenna Gain= 3.07dBi<6dBi.

For ANT1:

Antenna Gain=5.05dBi<6dBi.

**5260-5320MHz Band:**

EUT: POS Terminal		
M/N: SPD1-01		
Test date: 2018-09-20~21	Pressure: 102.3±1.0 kpa	Humidity: 51.6±3.0%
Tested by: Lynn	Test site: RF site	Temperature: 22.5±0.6 °C

Test Mode	Frequency (MHz)	Power density (dBm/MHz)		Limit (dBm/MHz)	
		ANT0	ANT1	ANT0	ANT1
11a	5260	0.467	0.931	11	11
	5300	1.058	1.465	11	11
	5320	1.572	1.192	11	11
11n HT20	5260	0.383	-0.147	11	11
	5300	-0.036	0.145	11	11
	5320	0.140	0.594	11	11
11n HT40	5270	-2.979	-2.294	11	11
	5310	-2.424	-2.165	11	11
11ac VHT20	5260	0.248	0.446	11	11
	5300	0.945	0.907	11	11
	5320	0.933	1.066	11	11
11ac VHT40	5270	-2.584	-2.834	11	11
	5310	-2.410	-2.752	11	11
11ac VHT80	5290	-5.379	-5.551	11	11

Conclusion: PASS

Note: For ANT0:

Antenna Gain= 3.07dBi<6dBi.

For ANT1:

Antenna Gain=5.05dBi<6dBi.

**5500-5700MHz Band:**

EUT: POS Terminal		
M/N: SPD1-01		
Test date: 2018-09-20~21	Pressure: 102.8±1.0 kpa	Humidity: 51.8±3.0%
Tested by: Lynn	Test site: RF site	Temperature: 23.2±0.6 °C

Test Mode	Frequency (MHz)	Power density (dBm/MHz)		Limit (dBm/MHz)	
		ANT0	ANT1	ANT0	ANT1
11a	5500	1.689	1.675	11	10.82
	5600	1.602	1.069	11	10.82
	5700	0.880	1.476	11	10.82
11n HT20	5500	0.577	0.429	11	10.82
	5600	0.353	0.154	11	10.82
	5700	0.534	0.166	11	10.82
11n HT40	5510	-2.879	-2.722	11	10.82
	5590	-2.821	-1.389	11	10.82
	5670	-3.047	-2.962	11	10.82
11ac VHT20	5500	0.459	0.890	11	10.82
	5600	0.238	0.914	11	10.82
	5700	0.725	1.082	11	10.82
11ac VHT40	5510	-2.968	-1.964	11	10.82
	5590	-2.695	-2.398	11	10.82
	5670	-3.299	-2.904	11	10.82
11ac VHT80	5530	-5.157	-5.947	11	10.82
	5610	-4.726	-5.270	11	10.82

Conclusion: PASS

Note: For ANT0:

Antenna Gain= 3.38dBi<6dBi.

For ANT1:

Antenna Gain= 6.18dBi>6dBi.

**5745-5825MHz Band:**

EUT: POS Terminal		
M/N: SPD1-01		
Test date: 2018-09-20~21	Pressure: 102.7±1.0 kpa	Humidity: 54.1±3.0%
Tested by: Lynn	Test site: RF site	Temperature: 23.4±0.6 °C

Test Mode	Frequency (MHz)	Power density (dBm/500KHz)		Limit (dBm/500KHz)	
		ANT0	ANT1	ANT0	ANT1
11a	5745	-0.860	-1.503	30	29.42
	5785	-1.708	-0.798	30	29.42
	5825	-1.228	-1.471	30	29.42
11n HT20	5745	-1.322	-1.191	30	29.42
	5785	-1.690	-2.096	30	29.42
	5825	-0.922	-1.732	30	29.42
11n HT40	5755	-4.599	-4.652	30	29.42
	5795	-4.415	-4.352	30	29.42
11ac VHT20	5745	-0.971	-1.241	30	29.42
	5785	-1.522	-0.902	30	29.42
	5825	-1.466	-1.376	30	29.42
11ac VHT40	5755	-4.544	-4.486	30	29.42
	5795	-4.347	-4.528	30	29.42
11ac VHT80	5775	-7.622	-7.443	30	29.42
Conclusion: PASS					

Note: 1. For ANT0:

Antenna Gain= 2.96dBi<6dBi.

For ANT1:

Antenna Gain= 6.58dBi>6dBi.

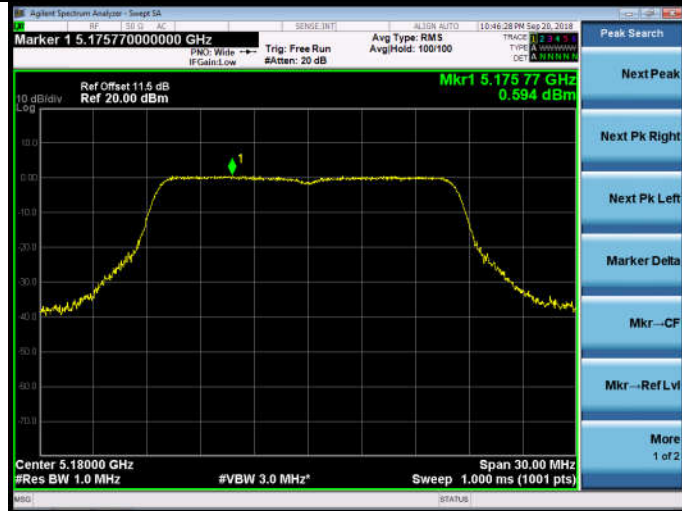
2. The total result = Reading + 10log(500kHz/100kHz)

**5180-5240MHz Band:**

**ANT 0**

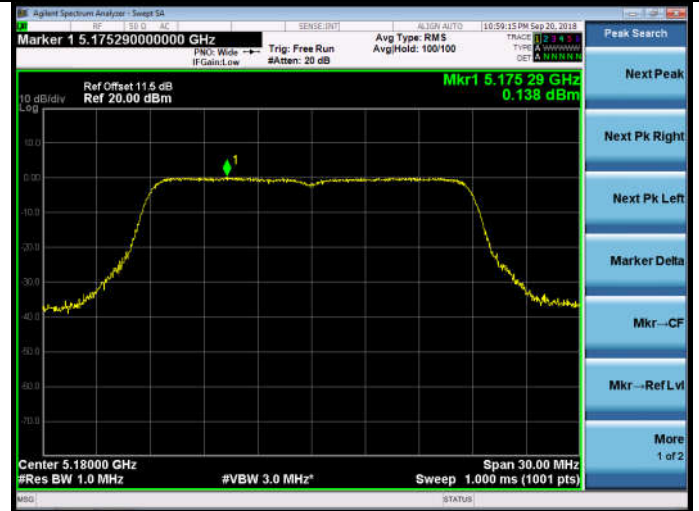
**11a**

**5180MHz**

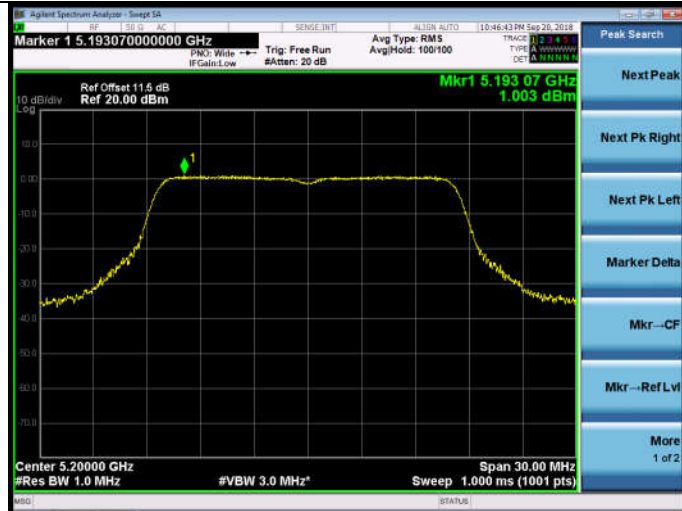


**11n HT20**

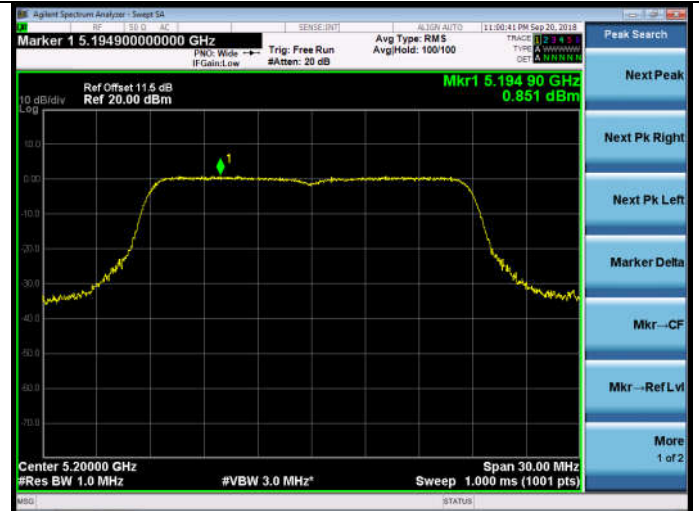
**5180MHz**



**5200MHz**



**5200MHz**



**5240MHz**

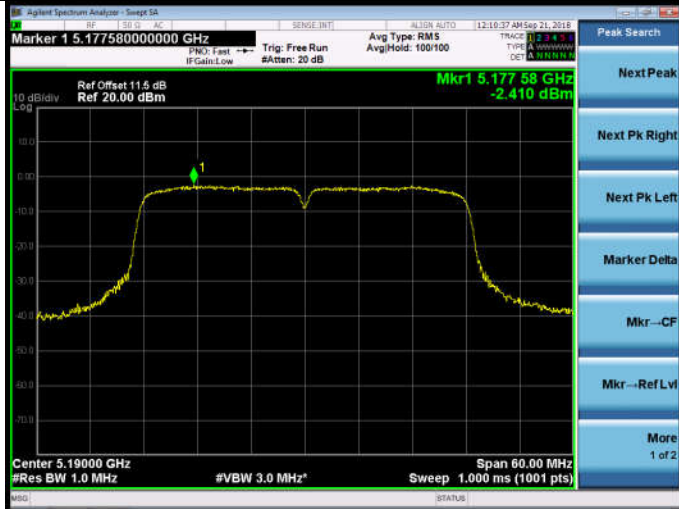


**5240MHz**

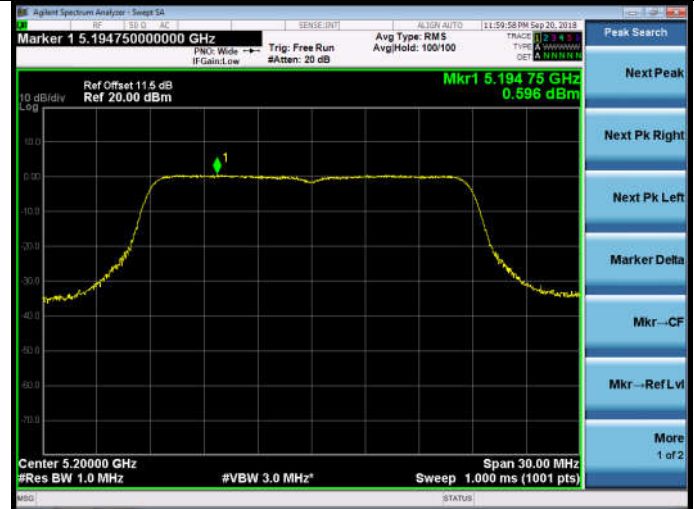


### 11n HT40

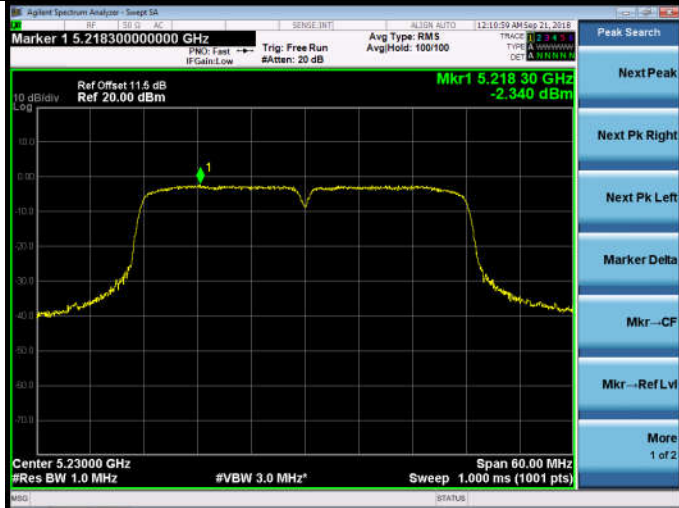
5190MHz



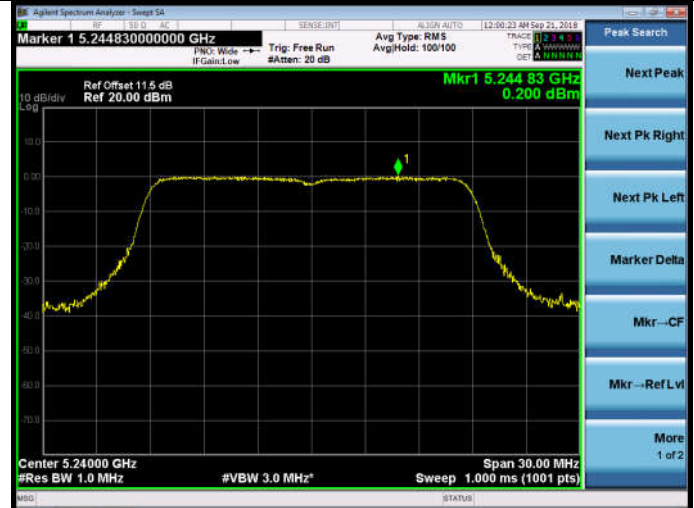
5200MHz



5230MHz



5240MHz



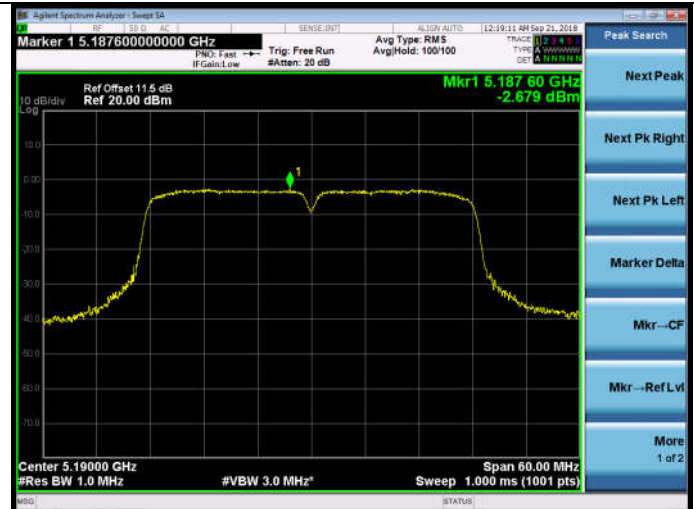
### 11ac VHT20

5180MHz



### 11ac VHT40

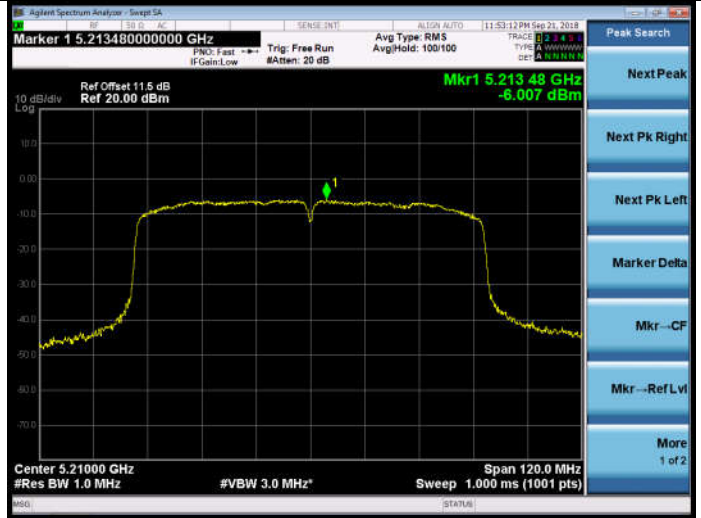
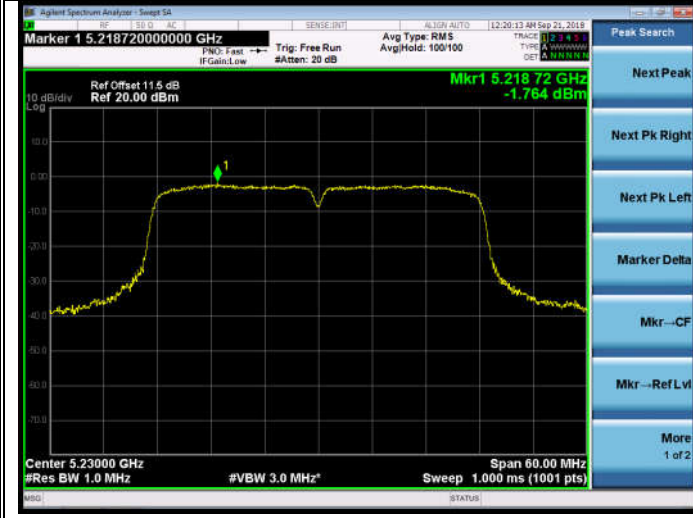
5190MHz





### 5230MHz

### 11ac VHT80 5210MHz

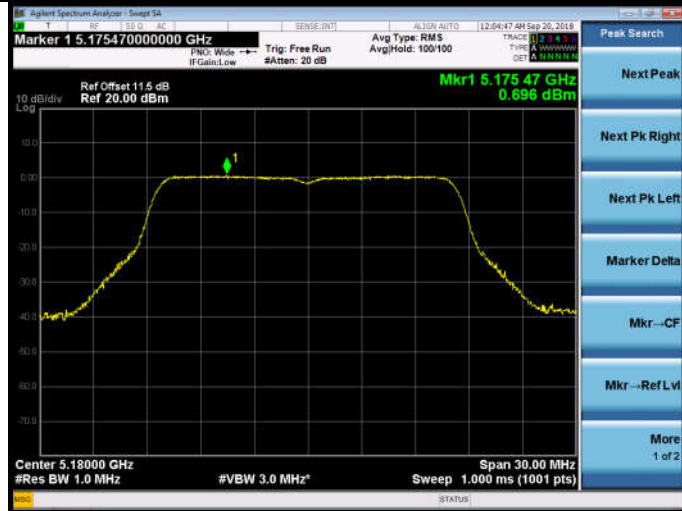


**5180-5240MHz Band:**

**ANT 1**

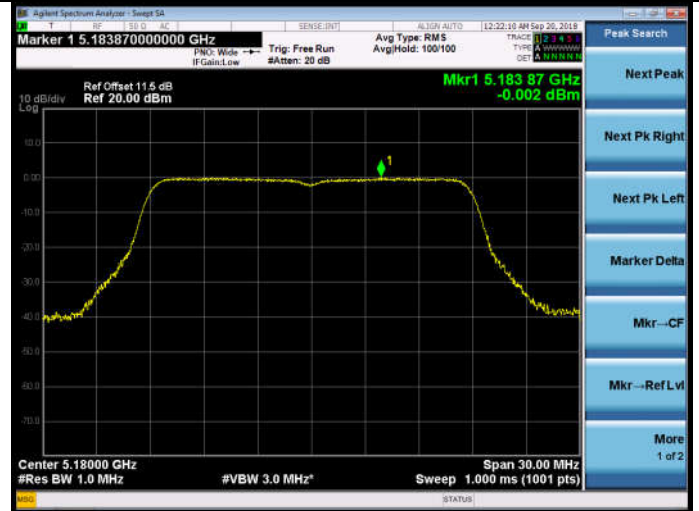
**11a**

**5180MHz**

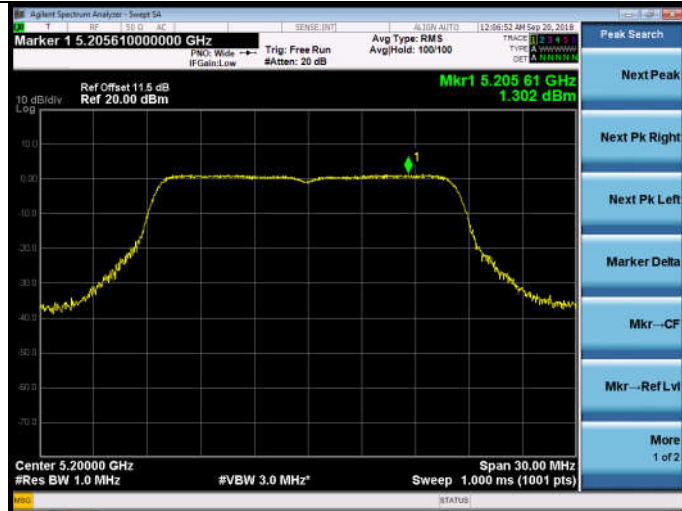


**11n HT20**

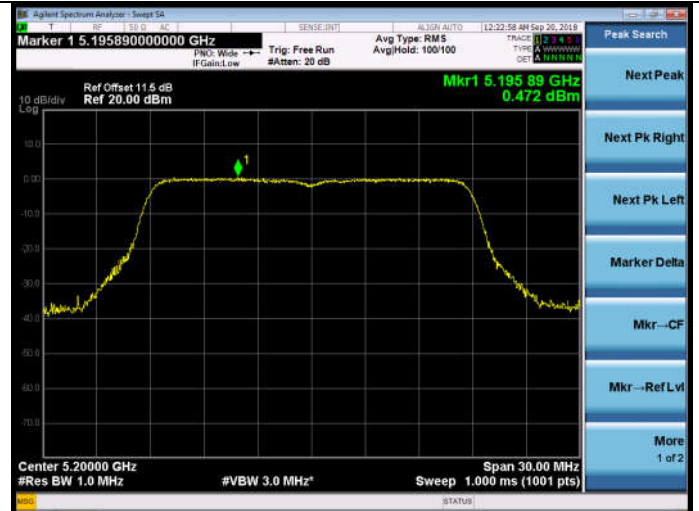
**5180MHz**



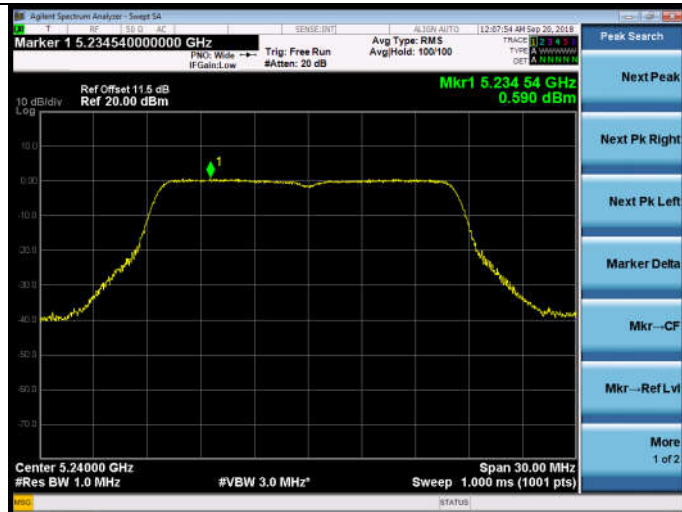
**5200MHz**



**5200MHz**



**5240MHz**

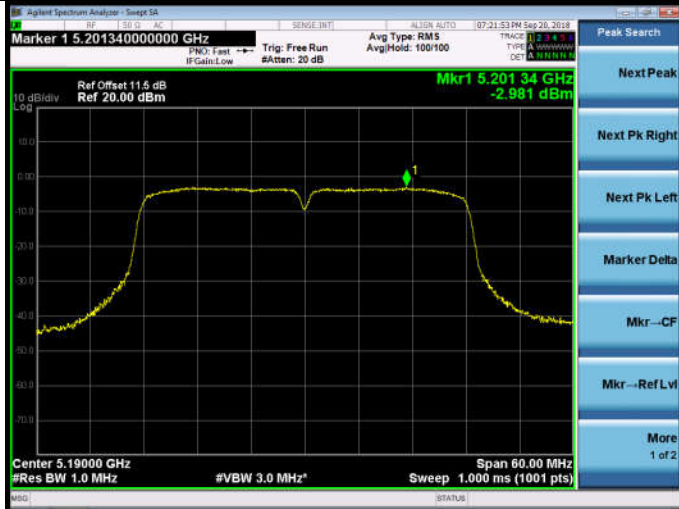


**5240MHz**

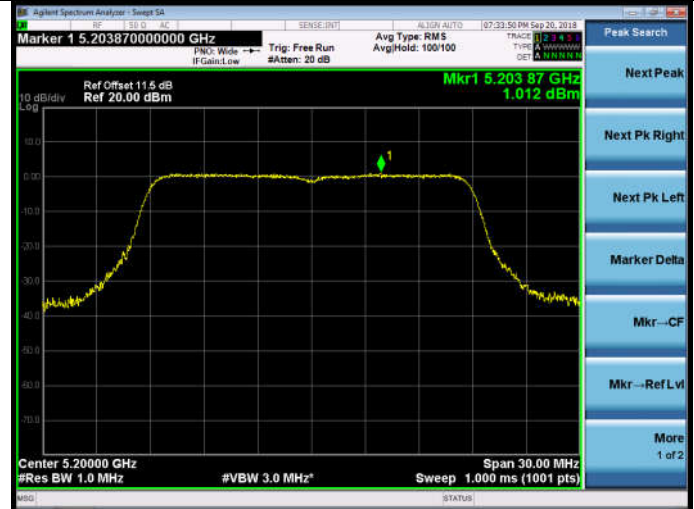


11n HT40

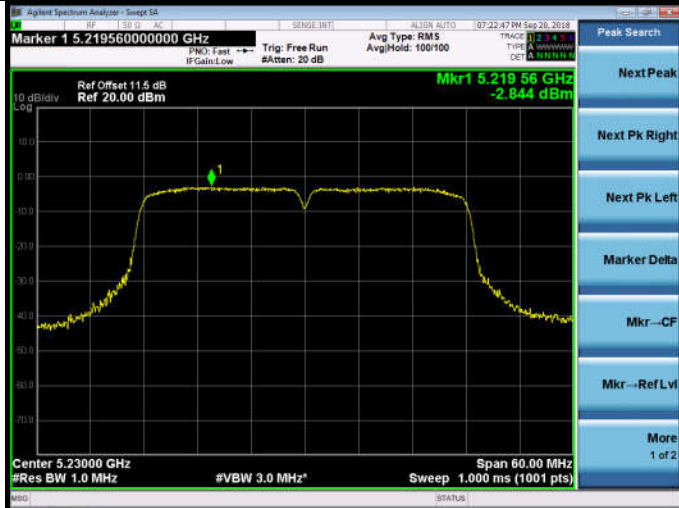
5190MHz



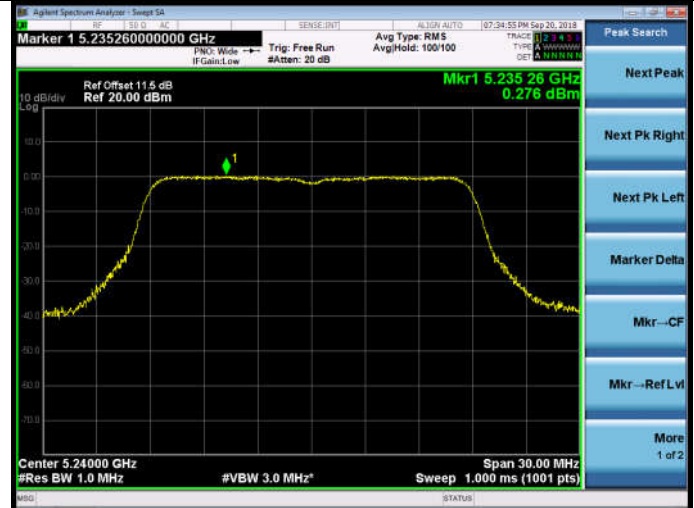
5200MHz



5230MHz

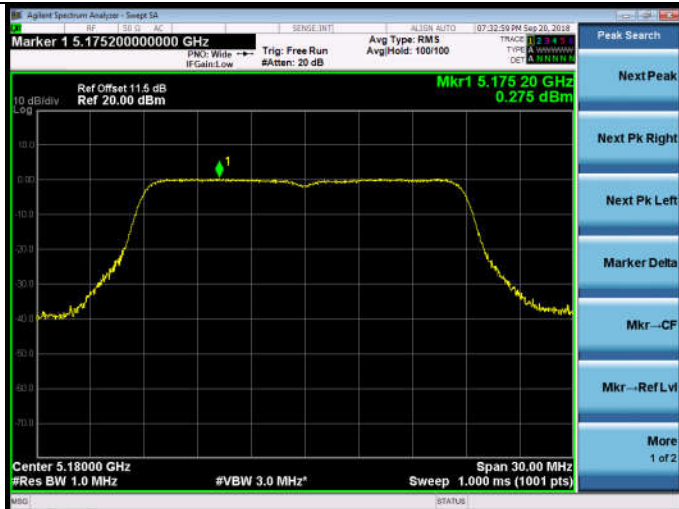


5240MHz



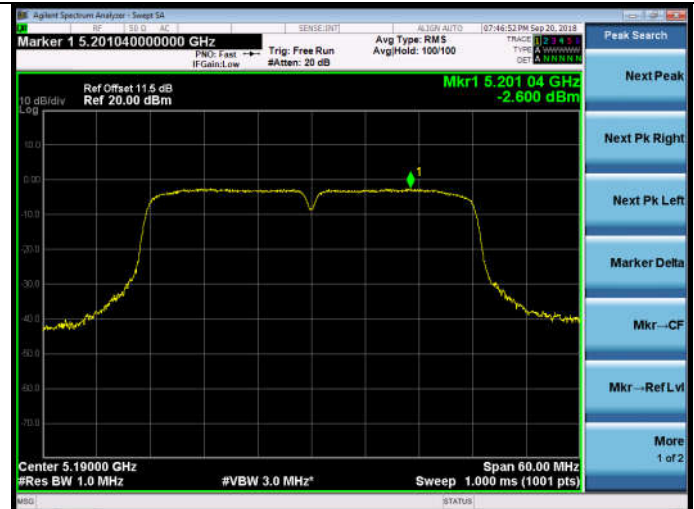
11ac VHT20

5180MHz



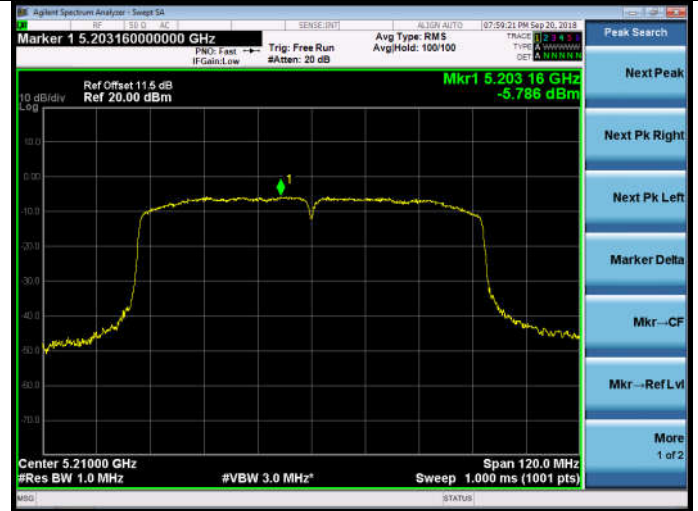
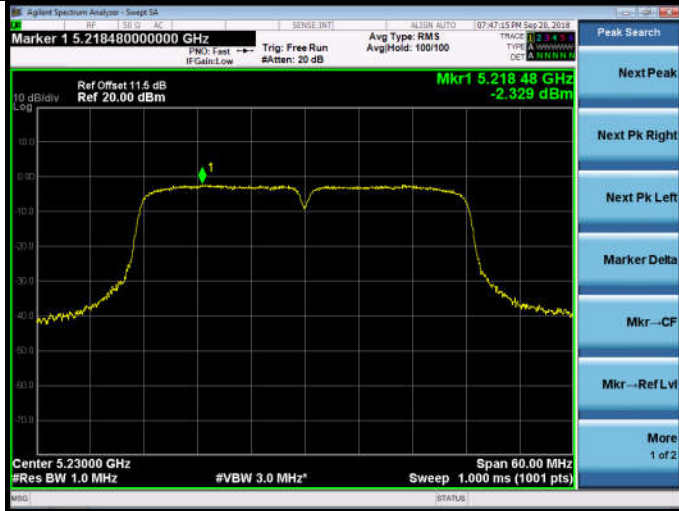
11ac VHT40

5190MHz



### 5230MHz

### 11ac VHT80 5210MHz

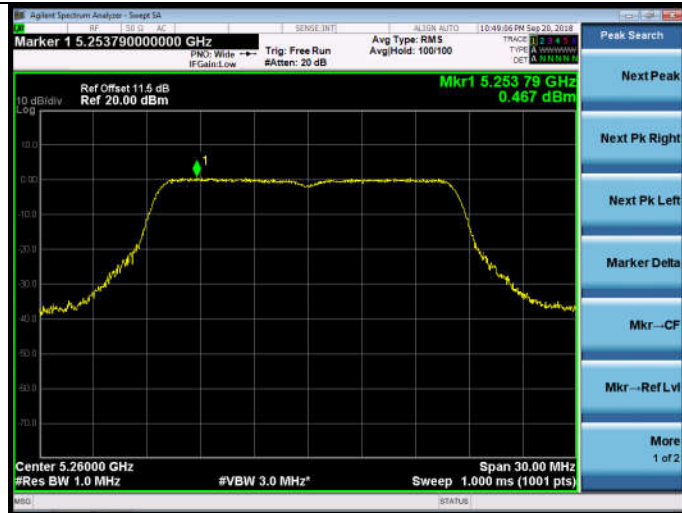


5260-5320MHz Band:

ANT 0

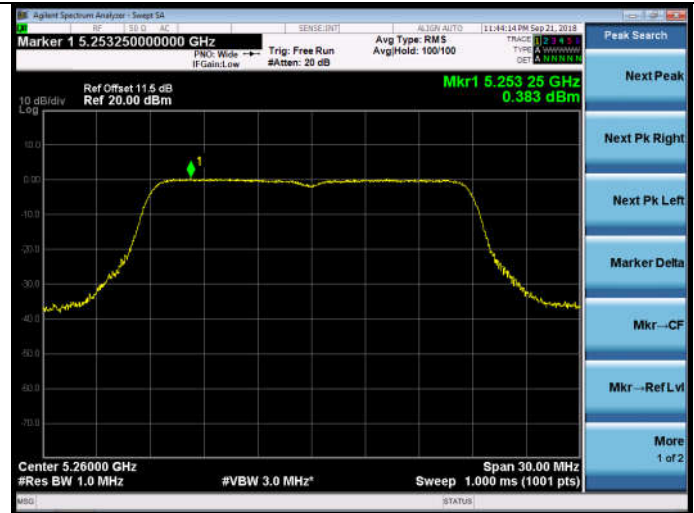
11a

5260MHz



11n HT20

5260MHz



5300MHz



5300MHz



5320MHz

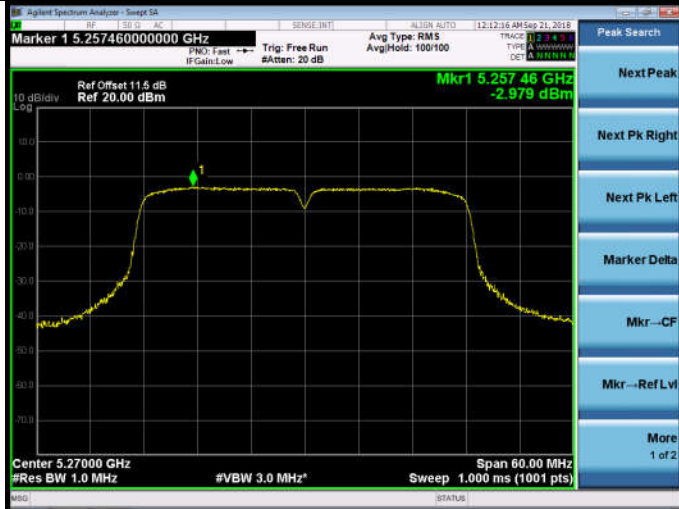


5320MHz

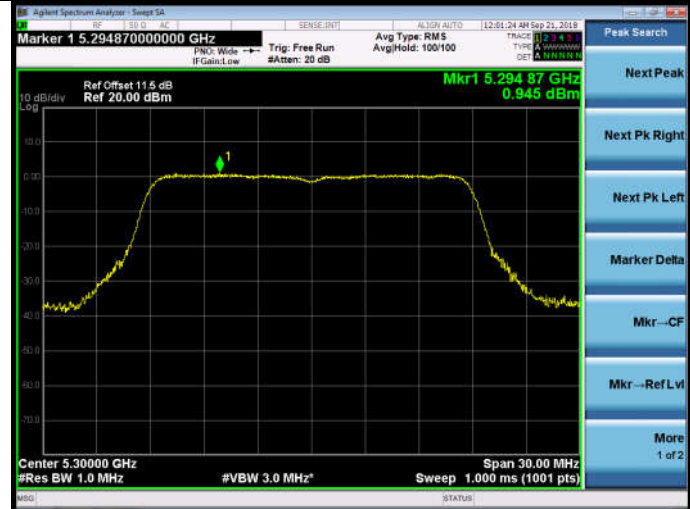


11n HT40

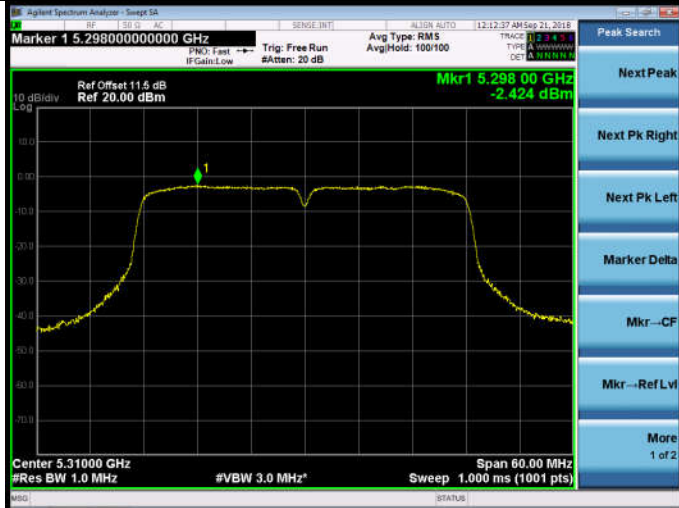
5270MHz



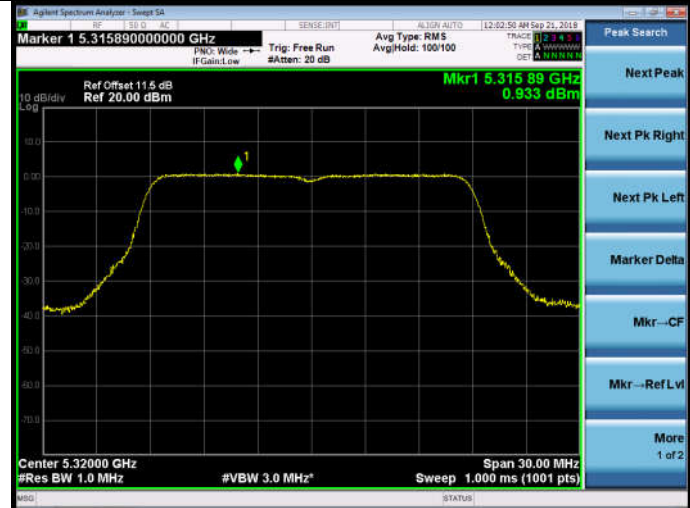
5300MHz



5310MHz

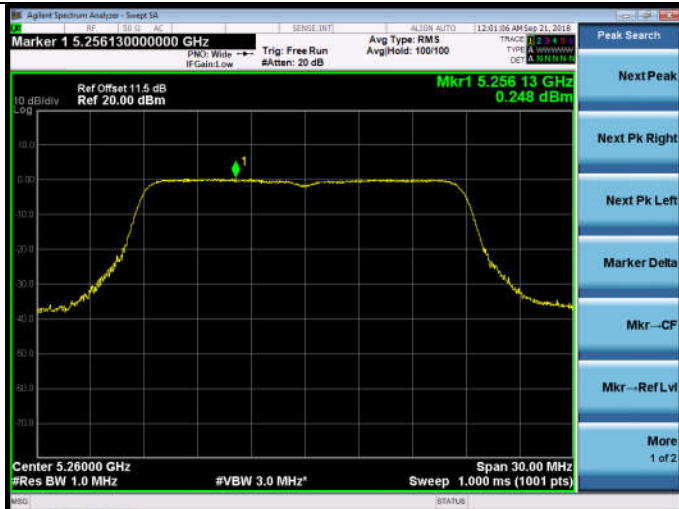


5320MHz



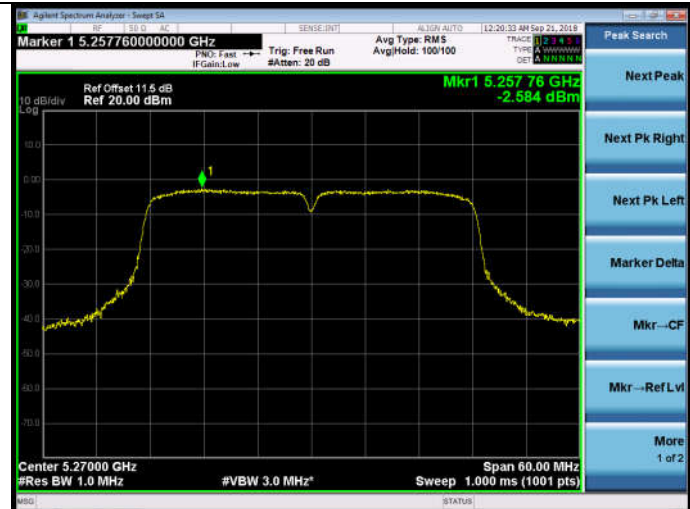
11ac VHT20

5260MHz



11ac VHT40

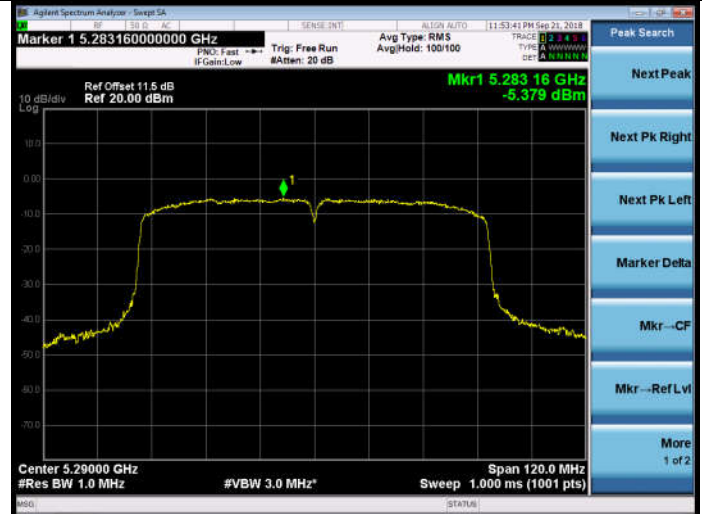
5270MHz



### 5310MHz



### 11ac VHT80 5290MHz

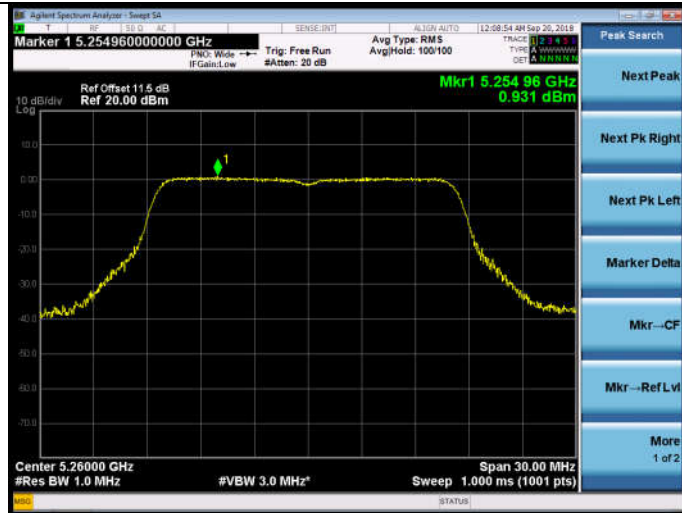


5260-5320MHz Band:

ANT 1

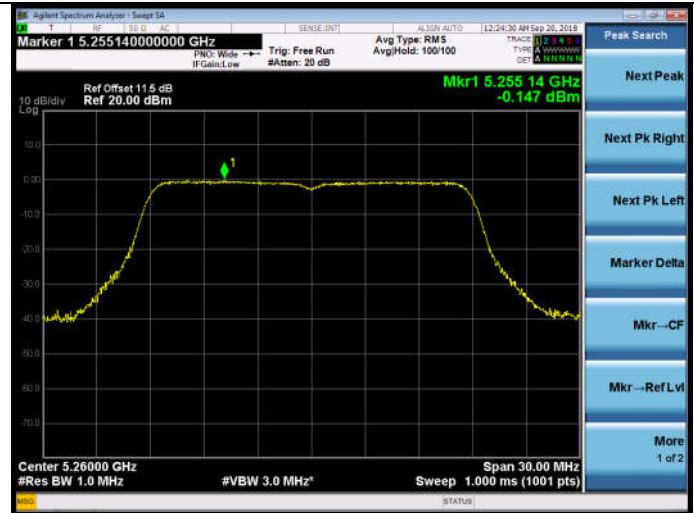
11a

5260MHz

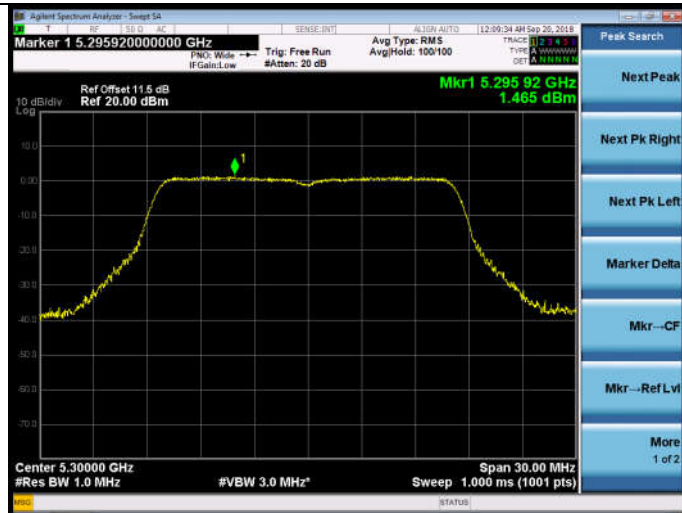


11n HT20

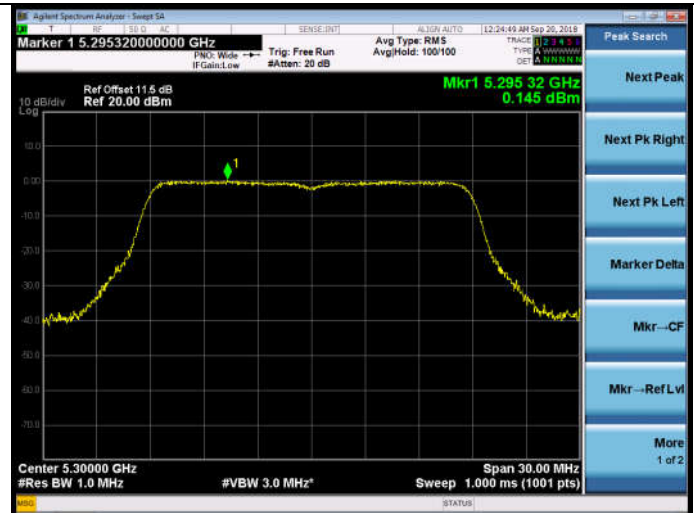
5260MHz



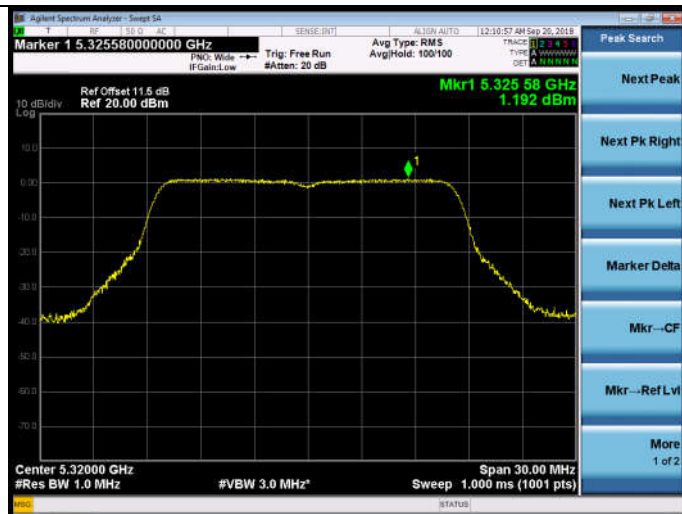
5300MHz



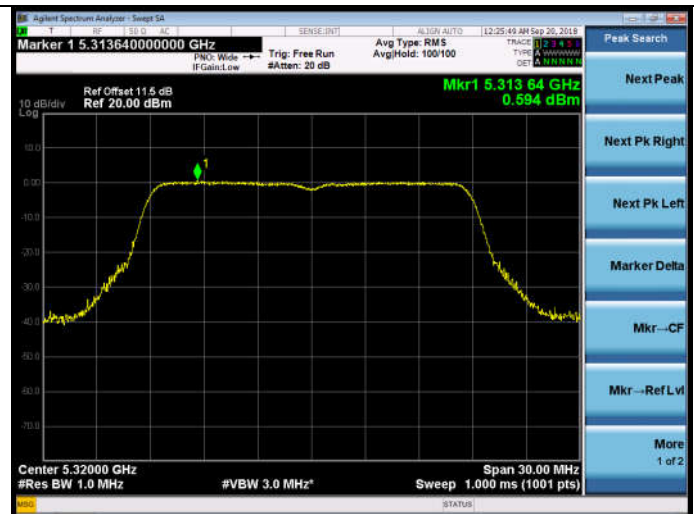
5300MHz



5320MHz



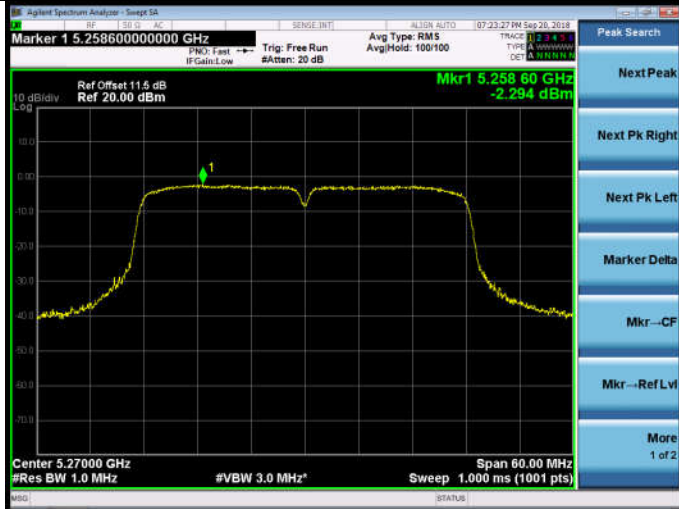
5320MHz



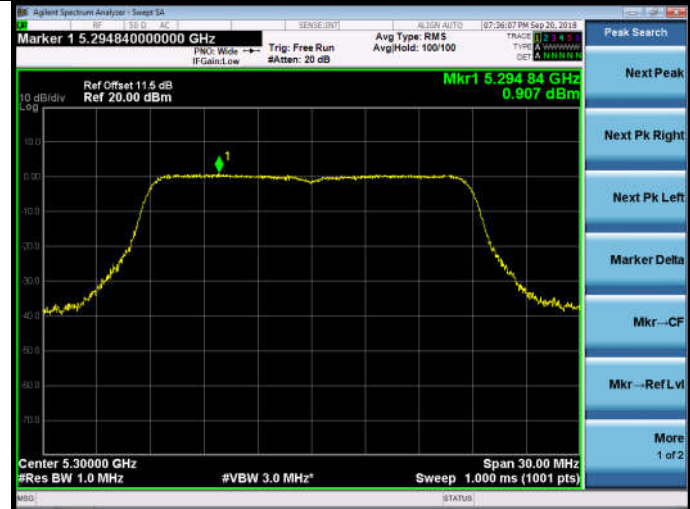


**11n HT40**

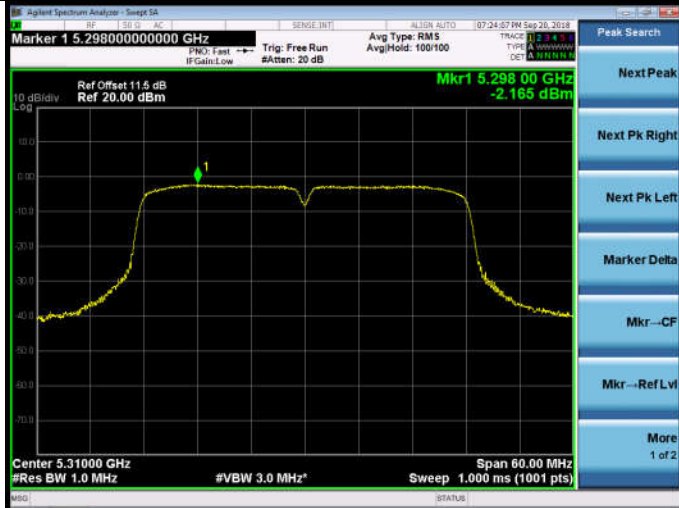
5270MHz



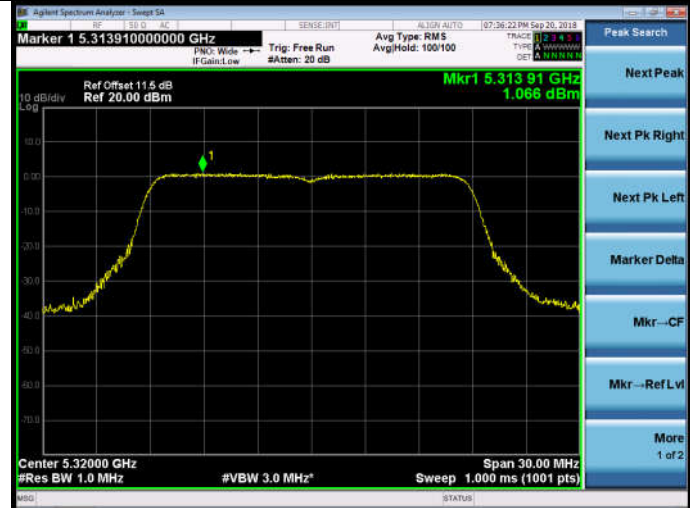
5300MHz



5310MHz



5320MHz



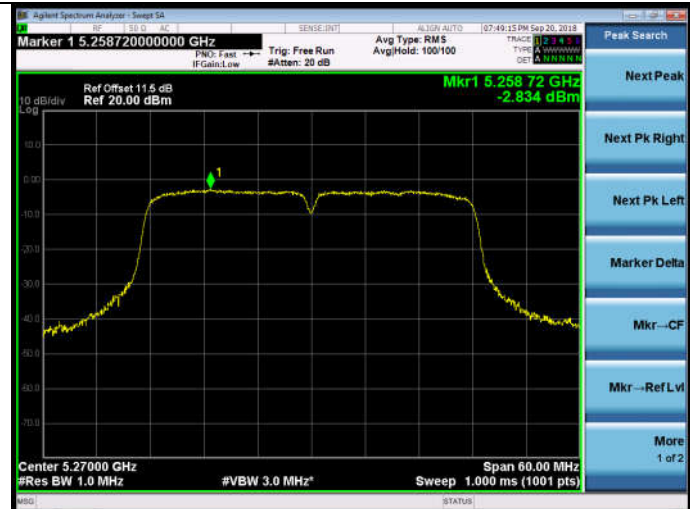
**11ac VHT20**

5260MHz



**11ac VHT40**

5270MHz



### 5310MHz

### 11ac VHT80 5290MHz

