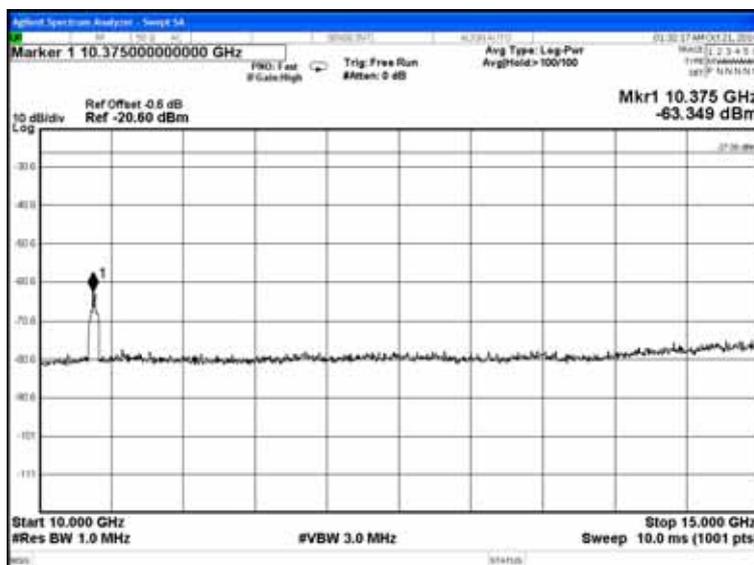
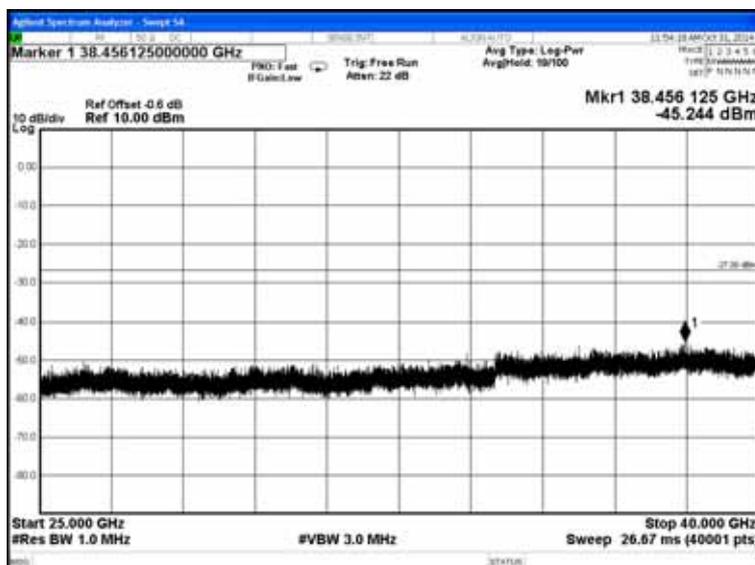
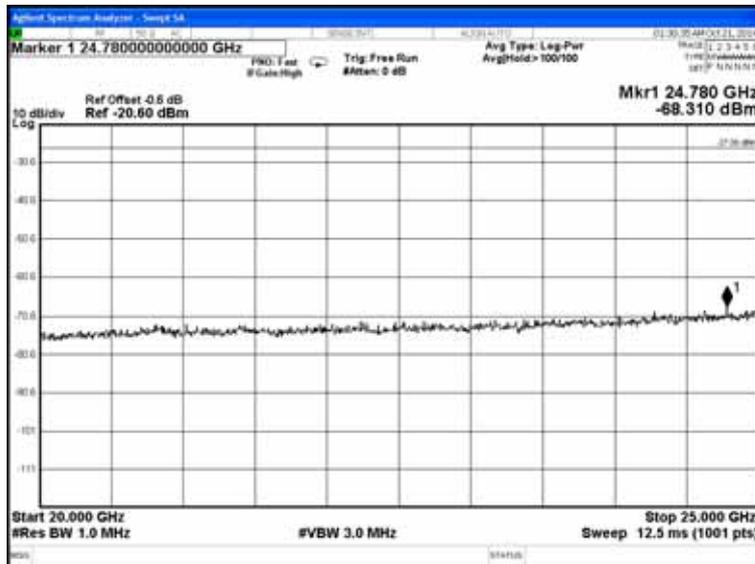
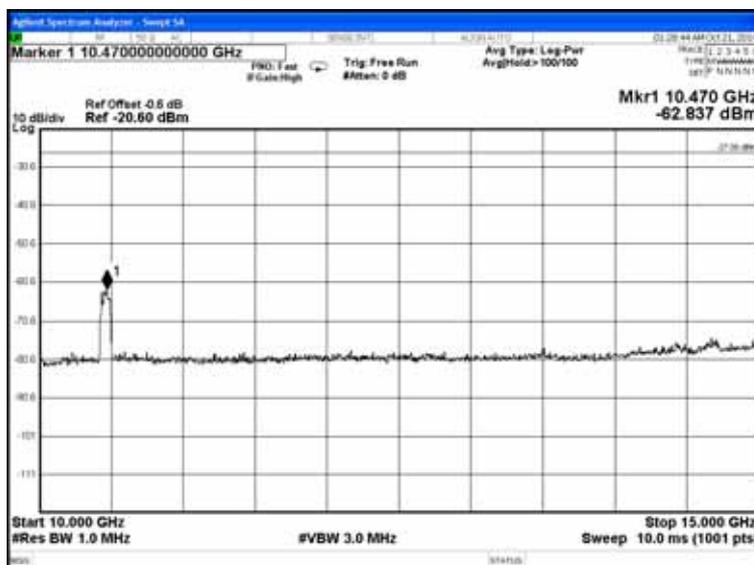
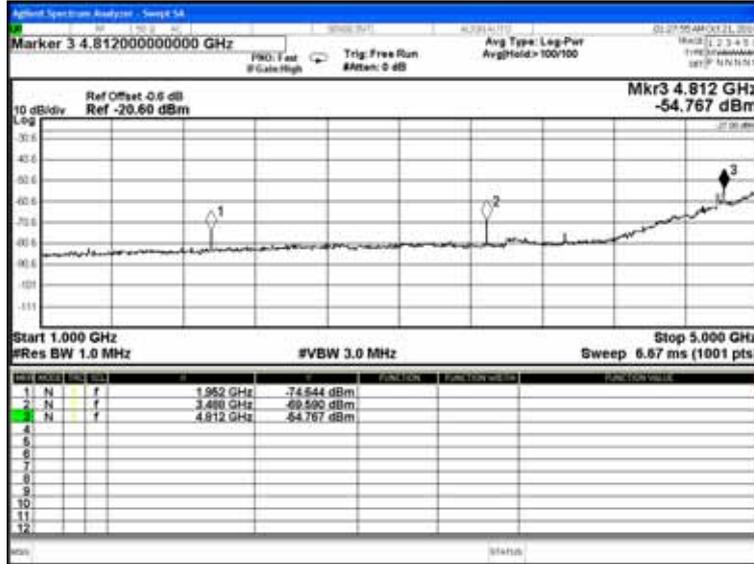


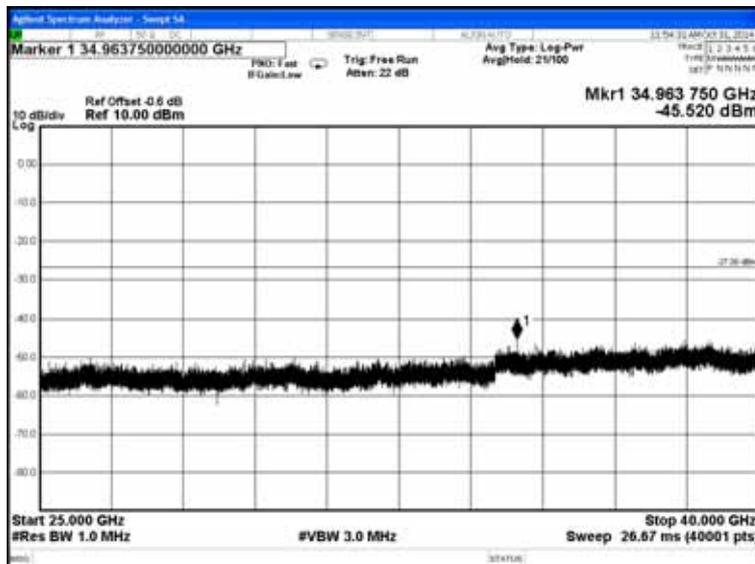
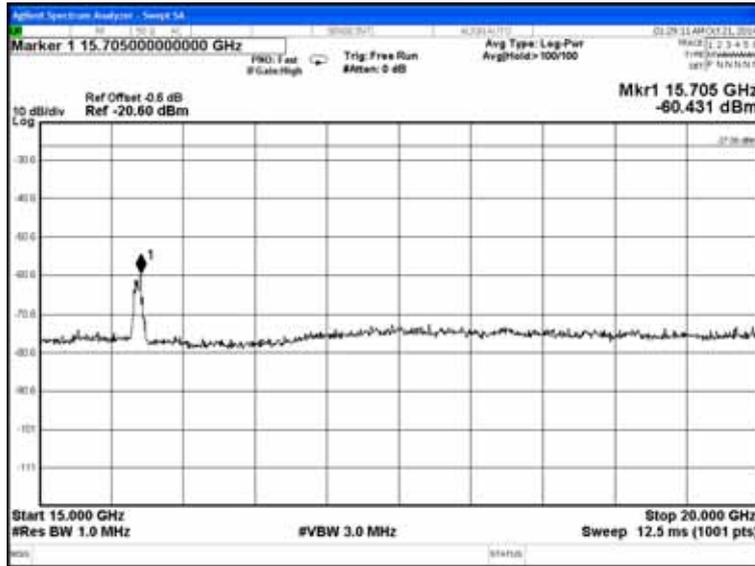
802.11n-HT40 (UNII Band I), Frequency: 5190MHz



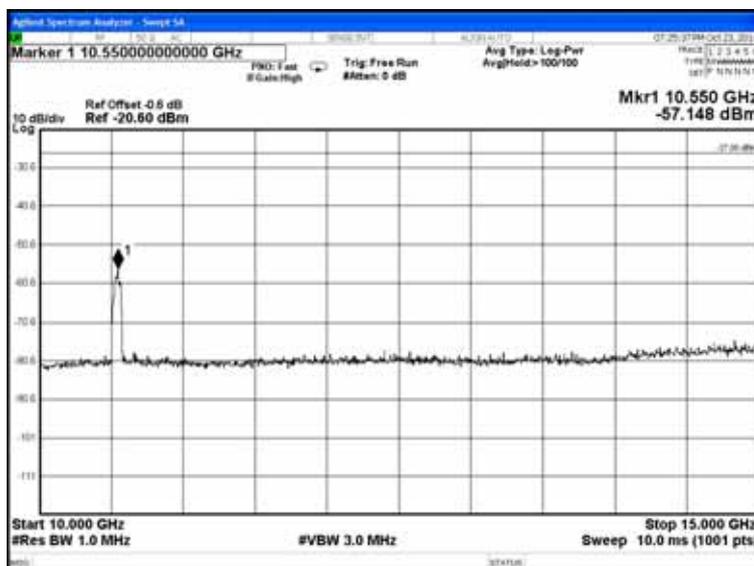
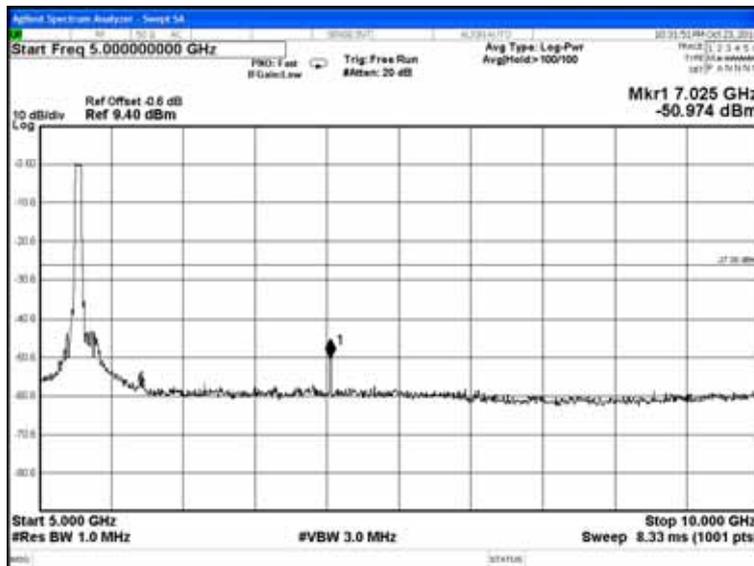
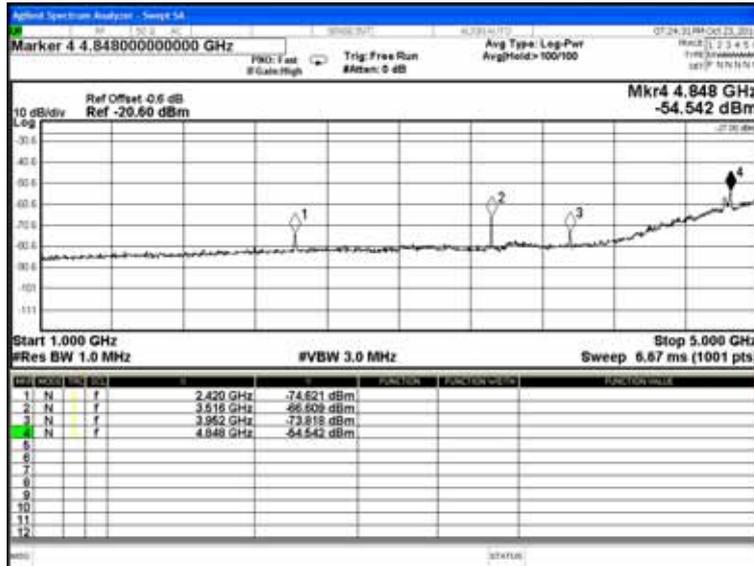


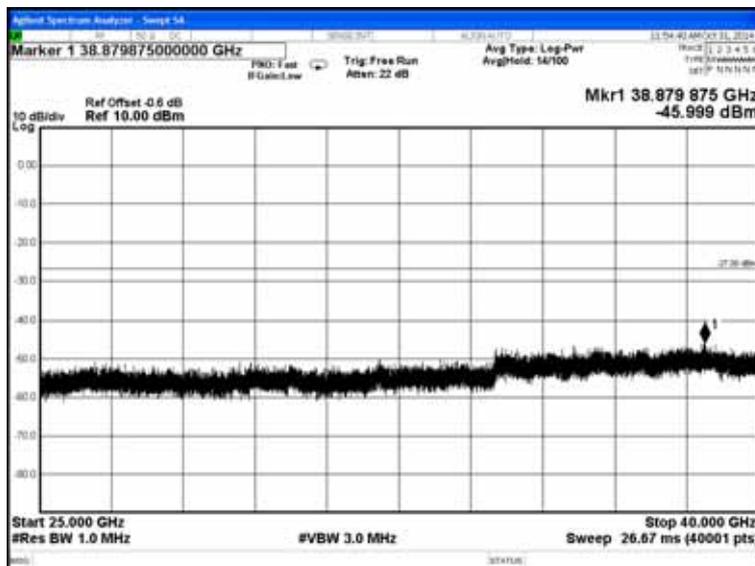
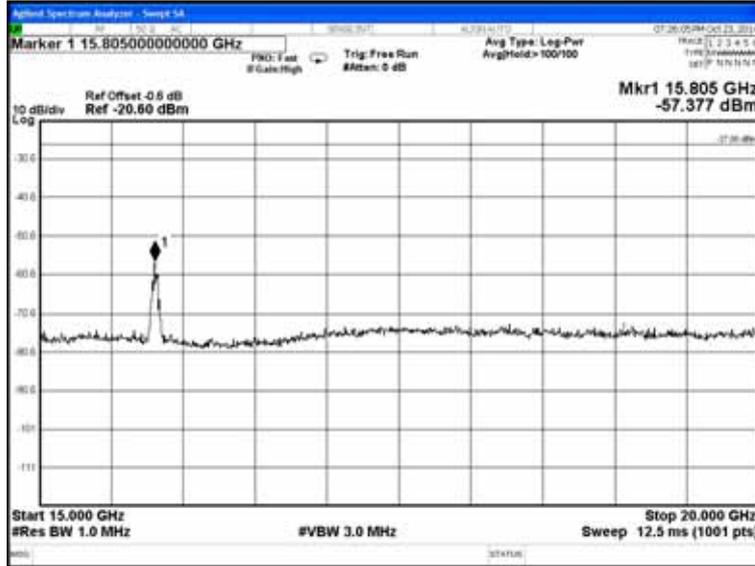
802.11n-HT40 (UNII Band I), Frequency: 5230MHz



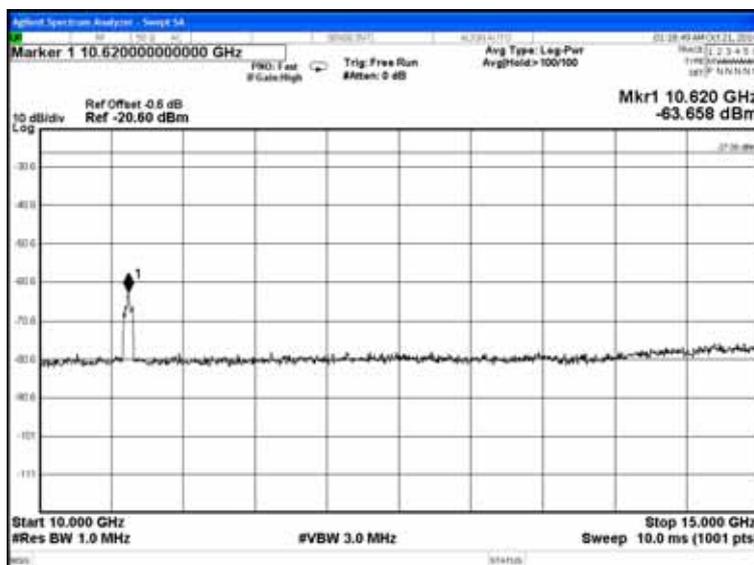
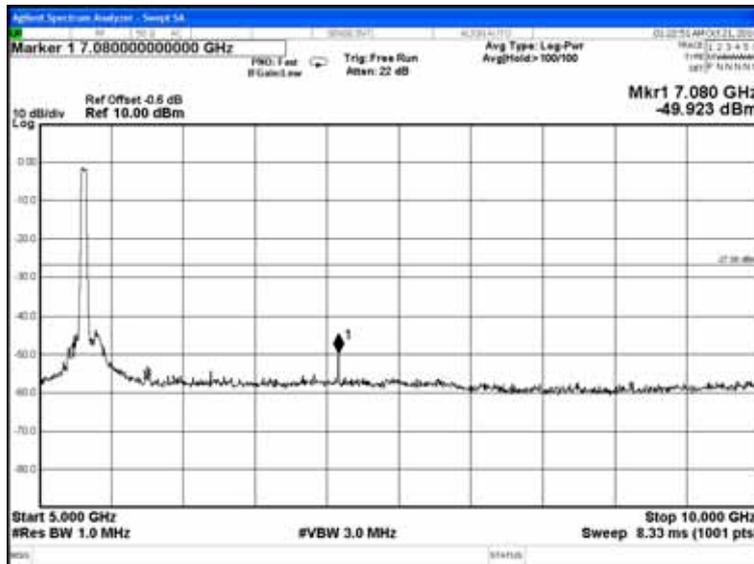
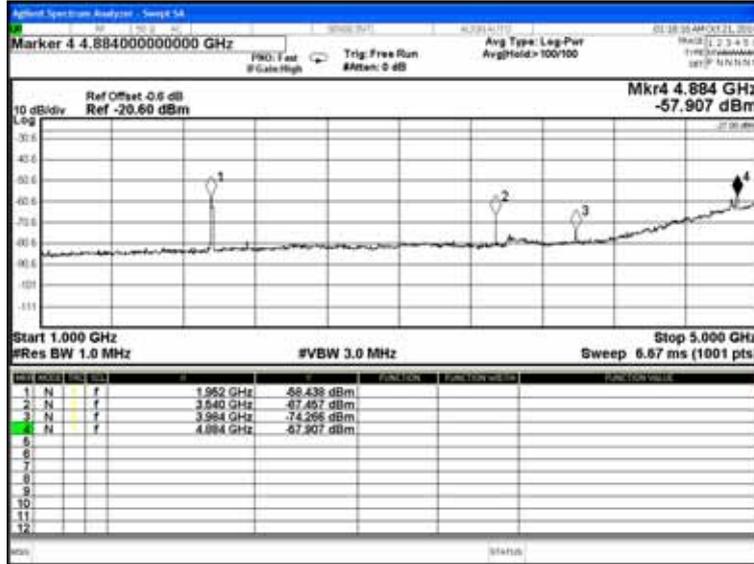


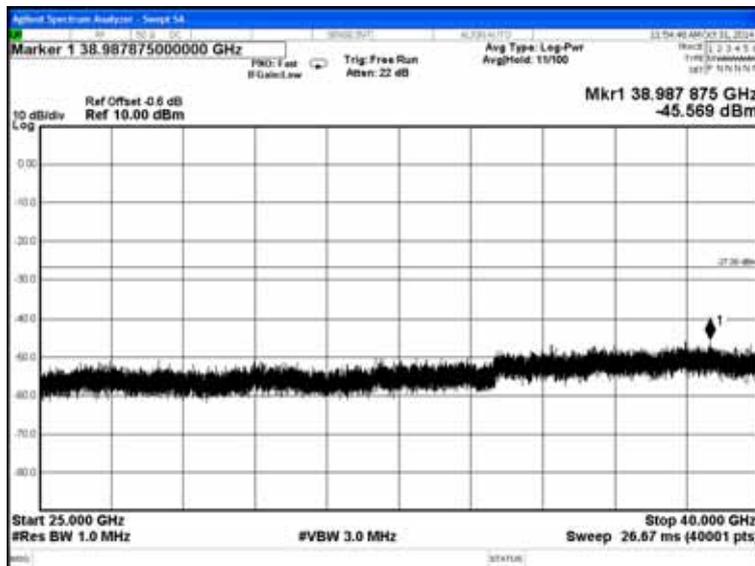
802.11n-HT40 (UNII Band II-2A), Frequency: 5270MHz



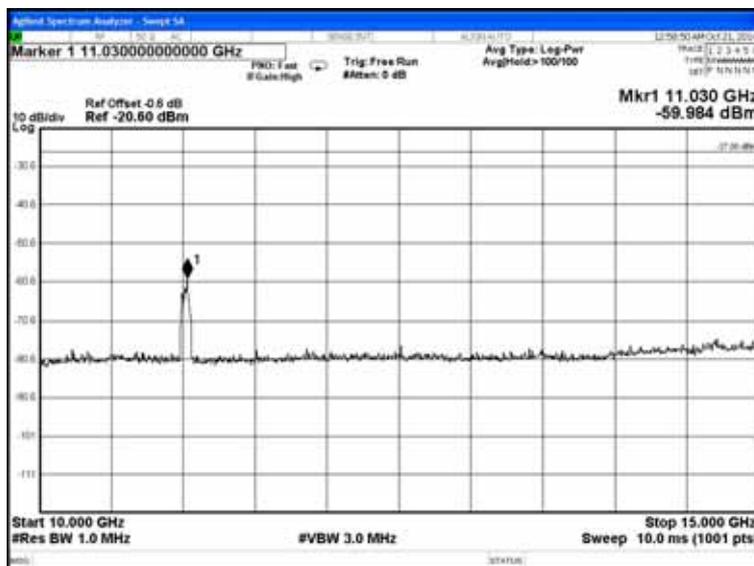
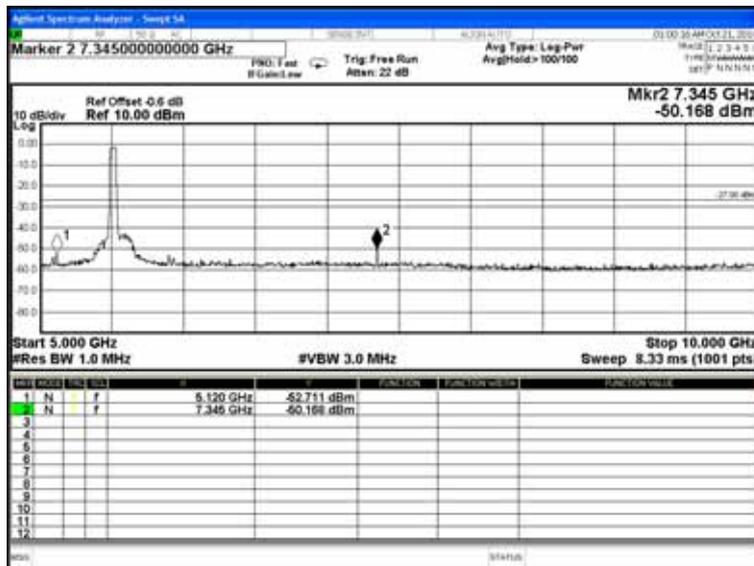
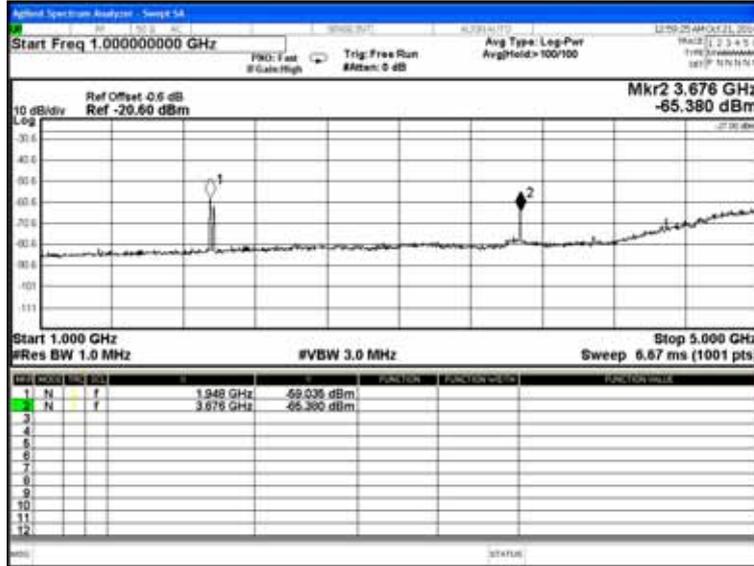


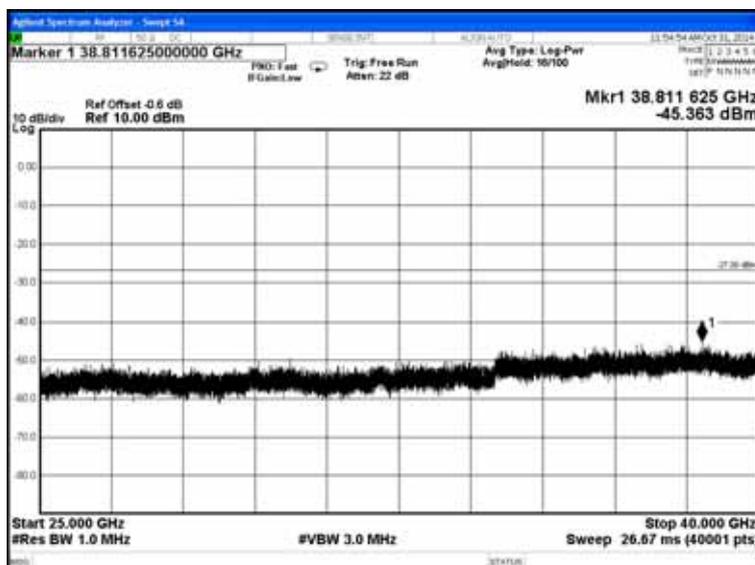
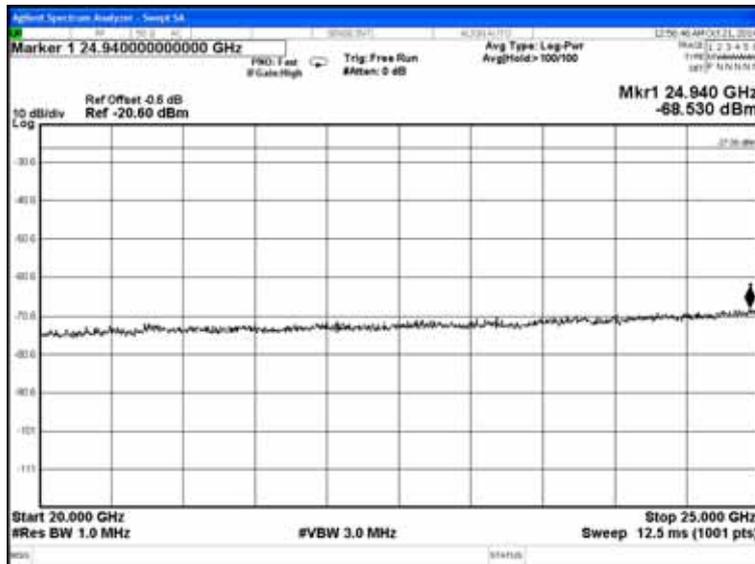
802.11n-HT40 (UNII Band II-2A), Frequency: 5310MHz



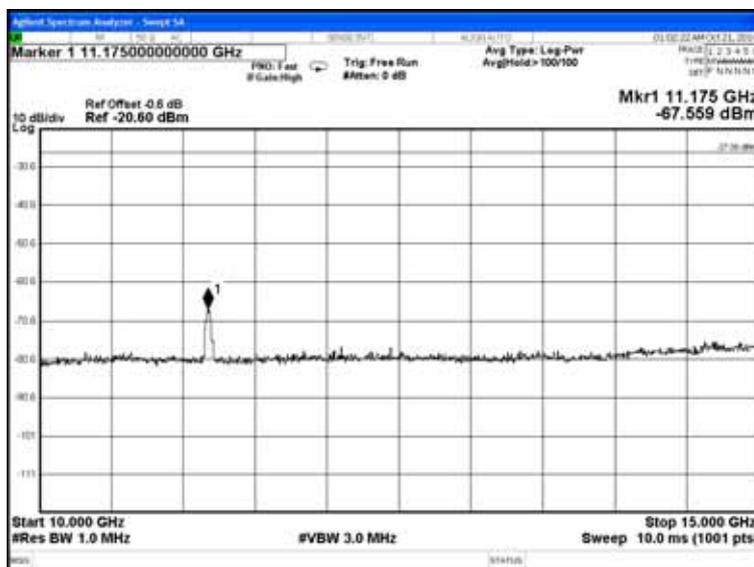
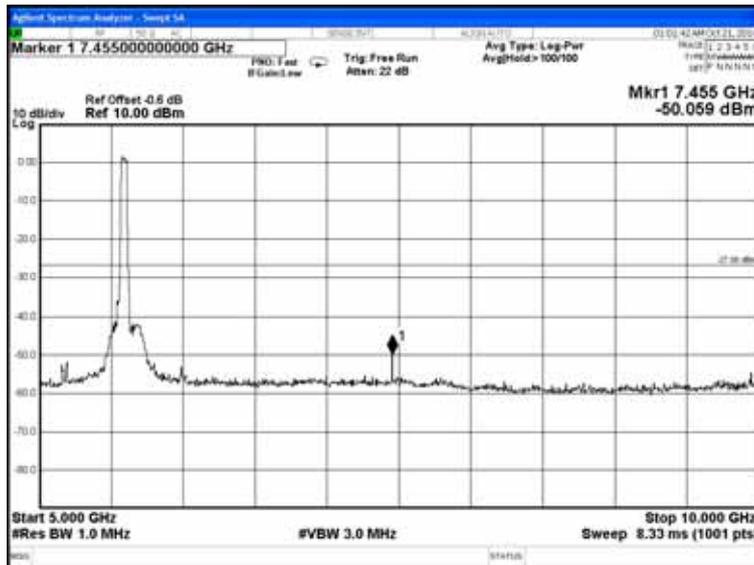
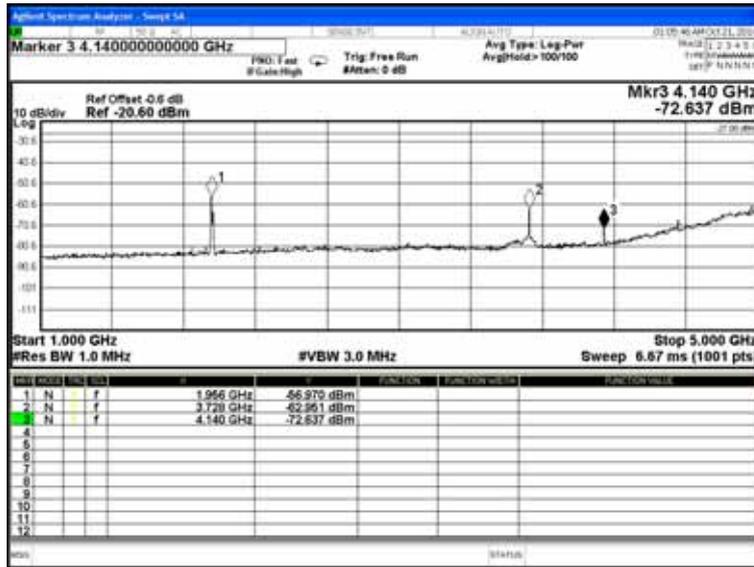


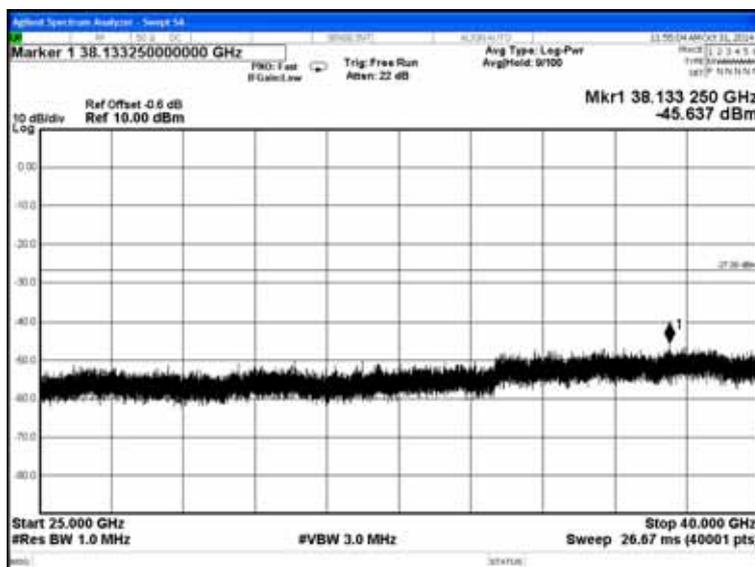
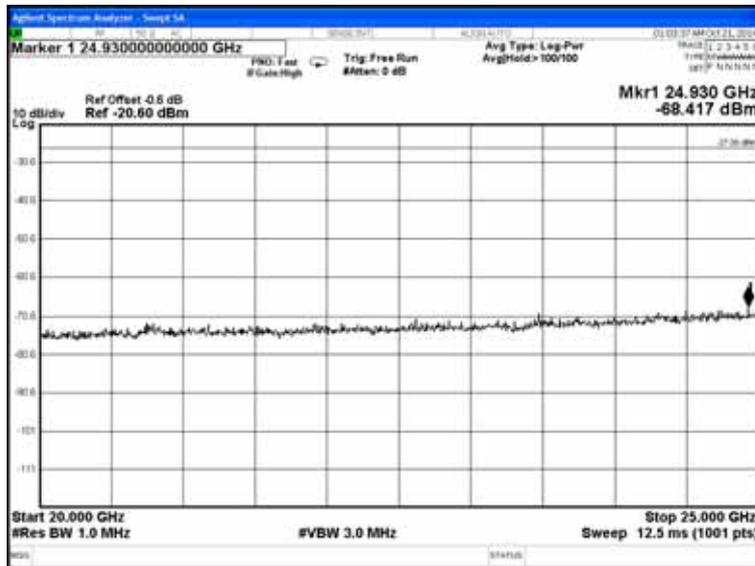
802.11n-HT40 (UNII Band II-2C), Frequency: 5510MHz



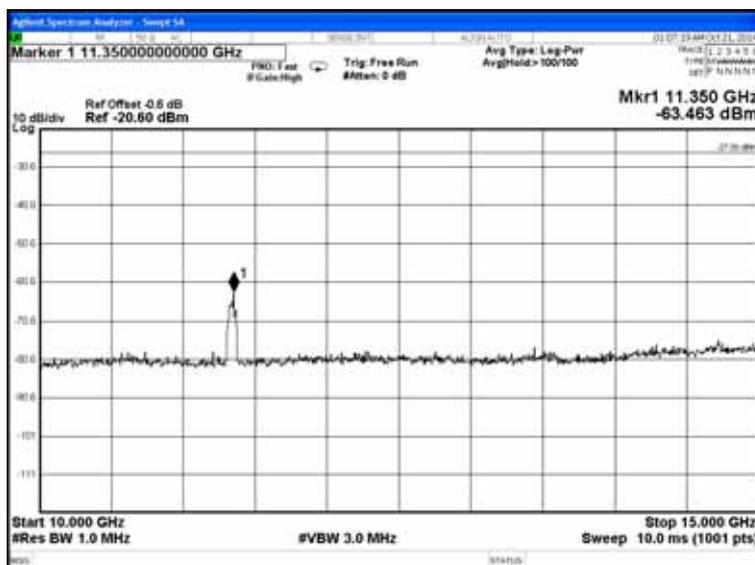
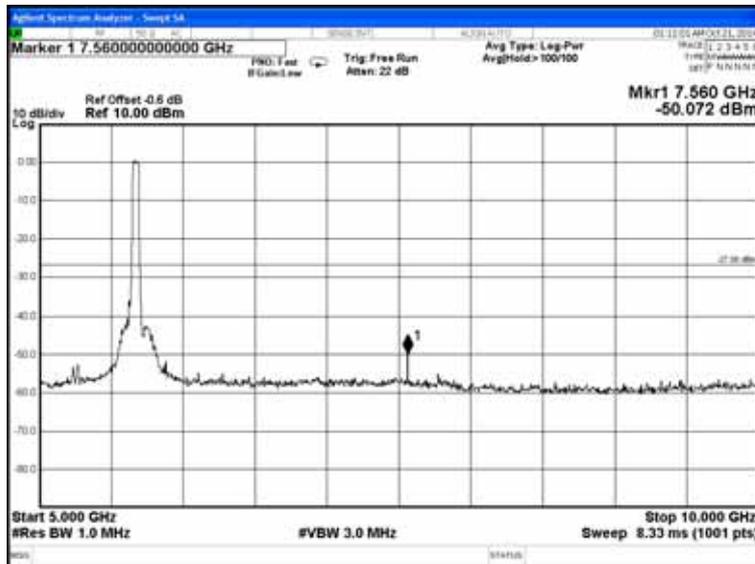
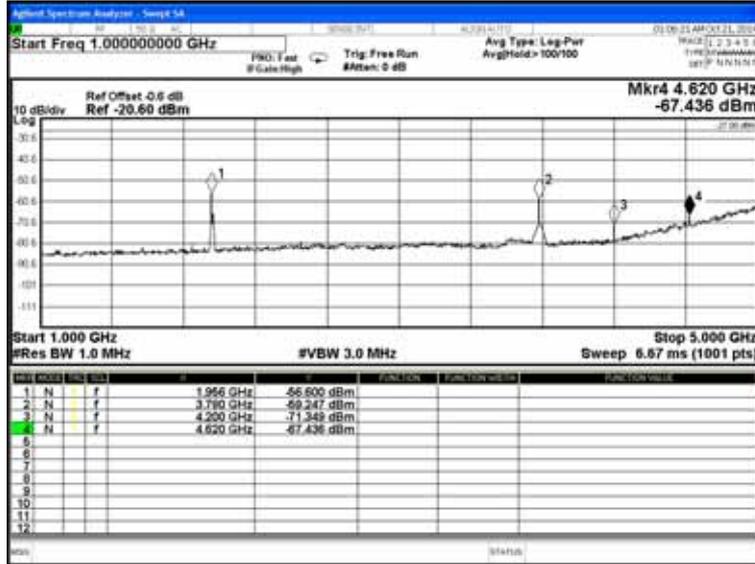


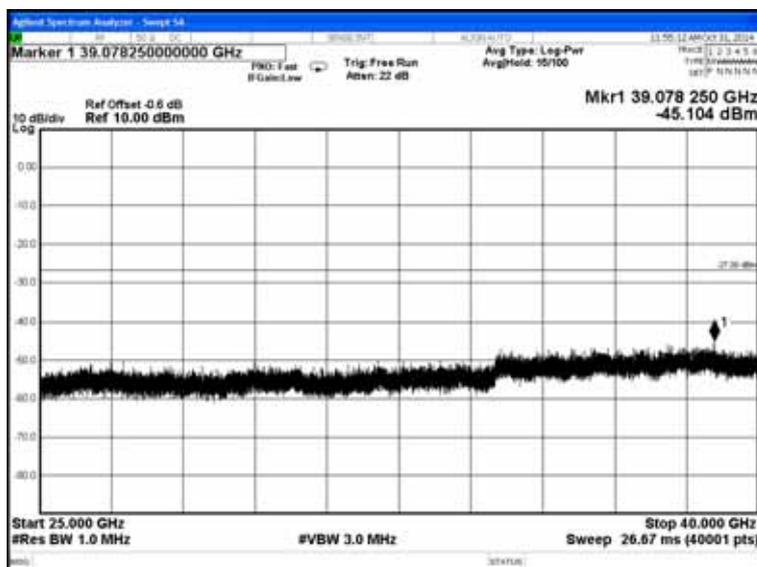
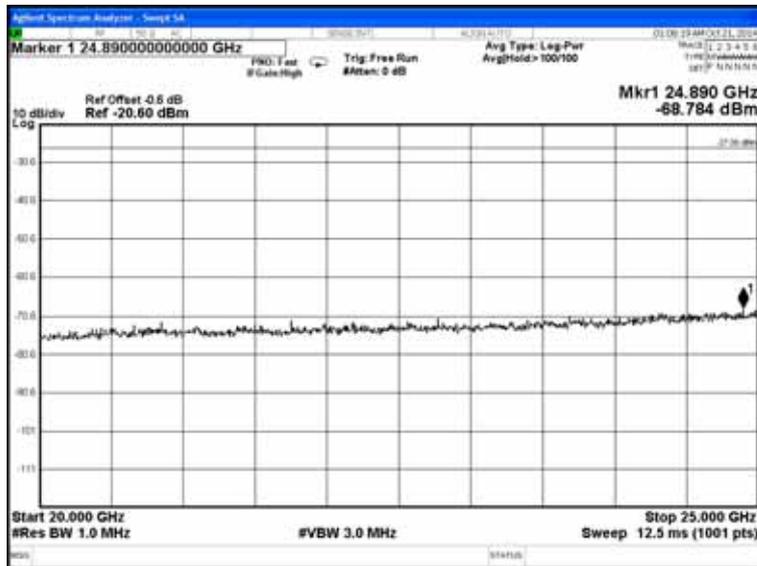
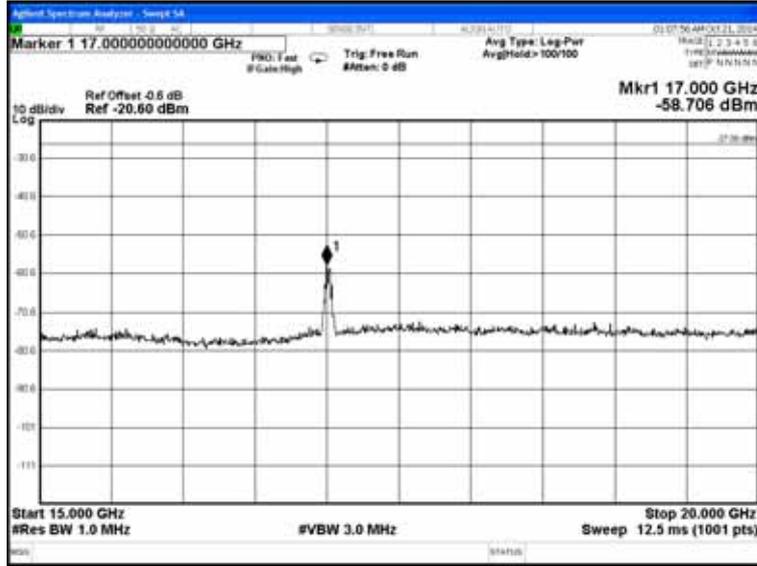
802.11n-HT40 (UNII Band II-2C), Frequency: 5590MHz



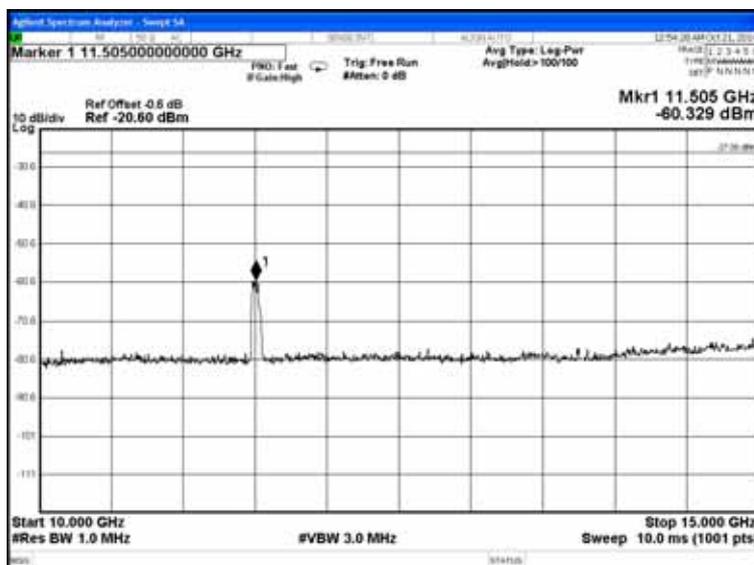
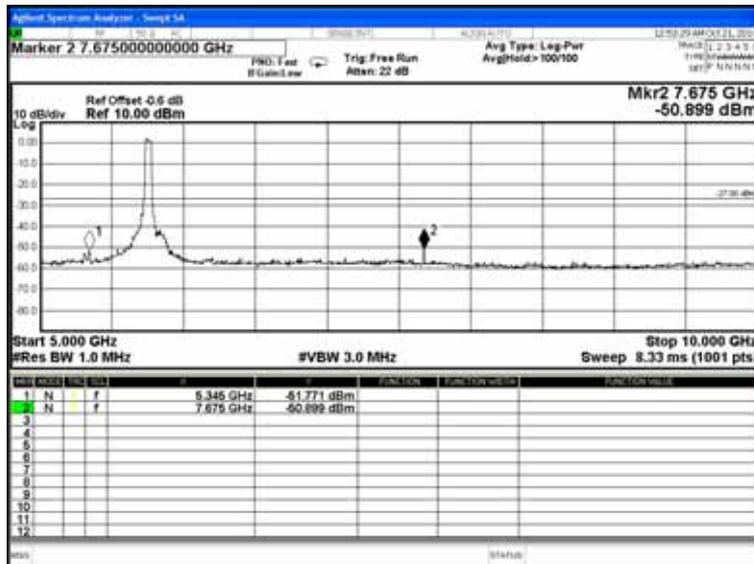
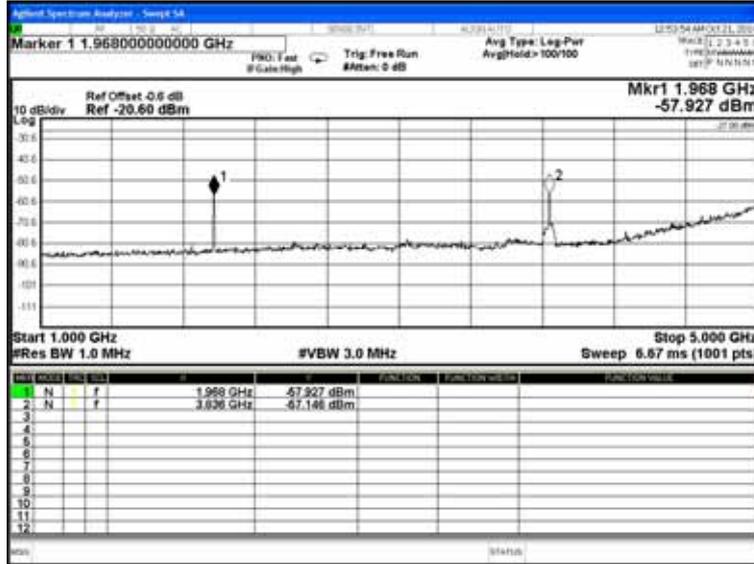


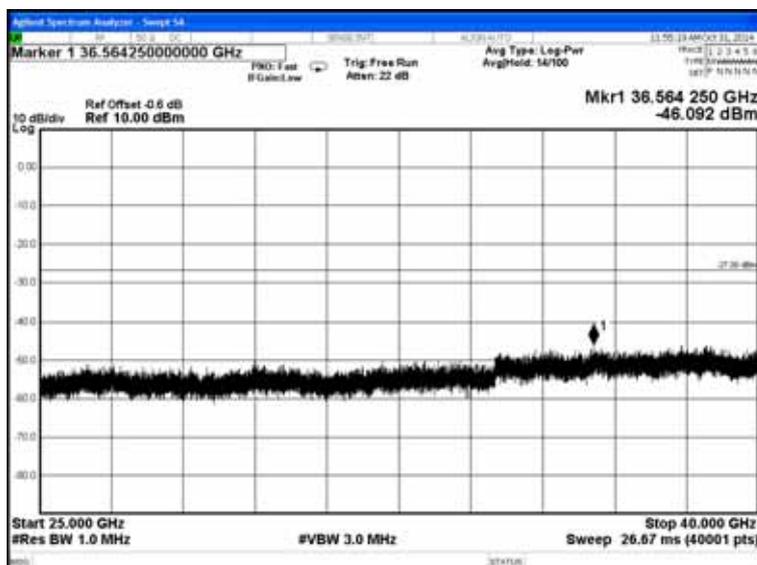
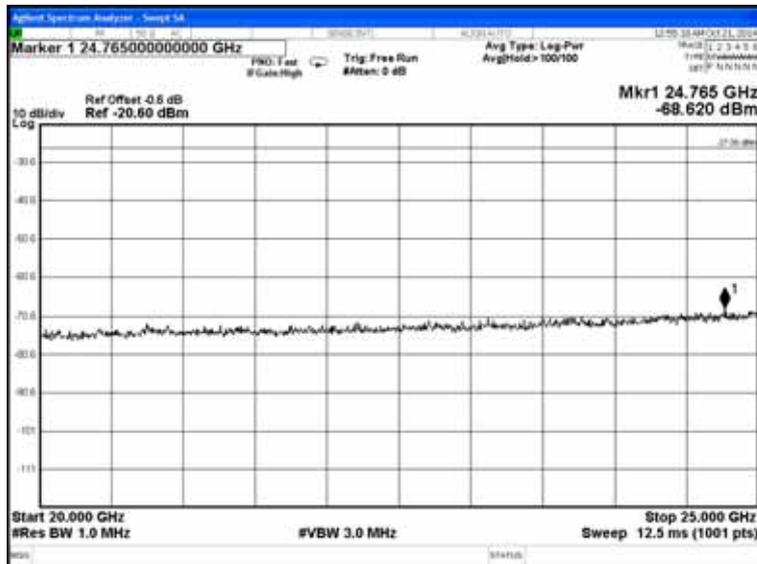
802.11n-HT40 (UNII Band II-2C), Frequency: 5670MHz



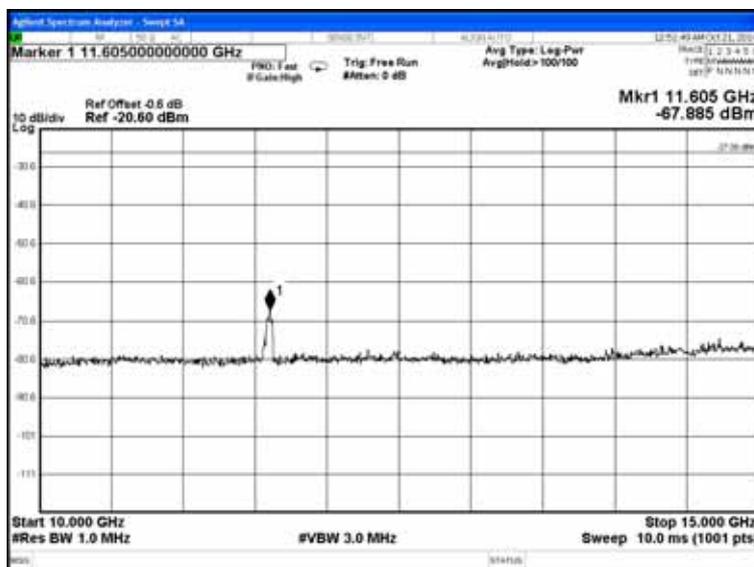
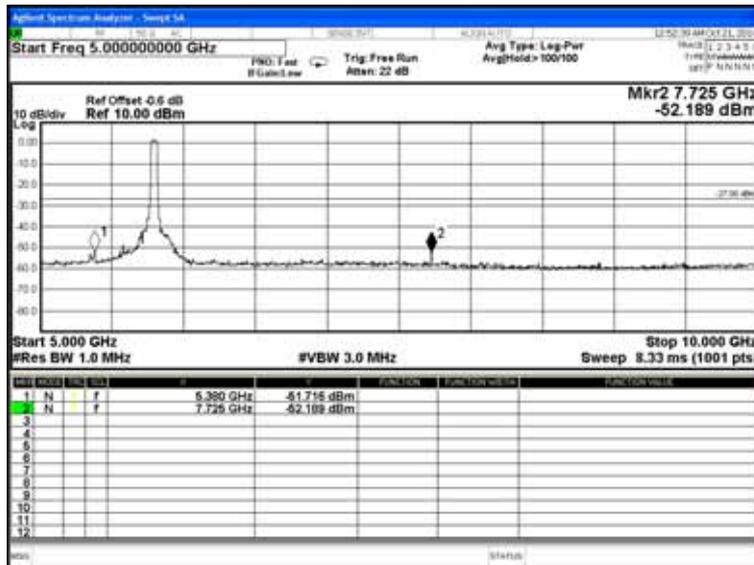
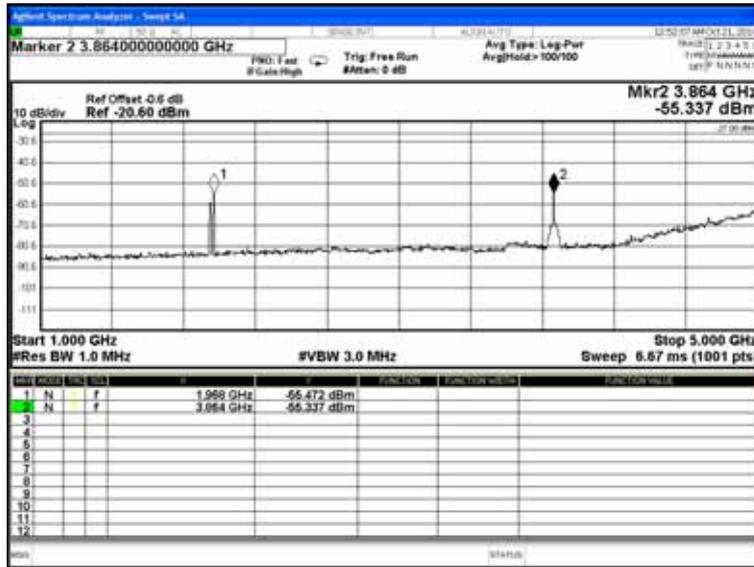


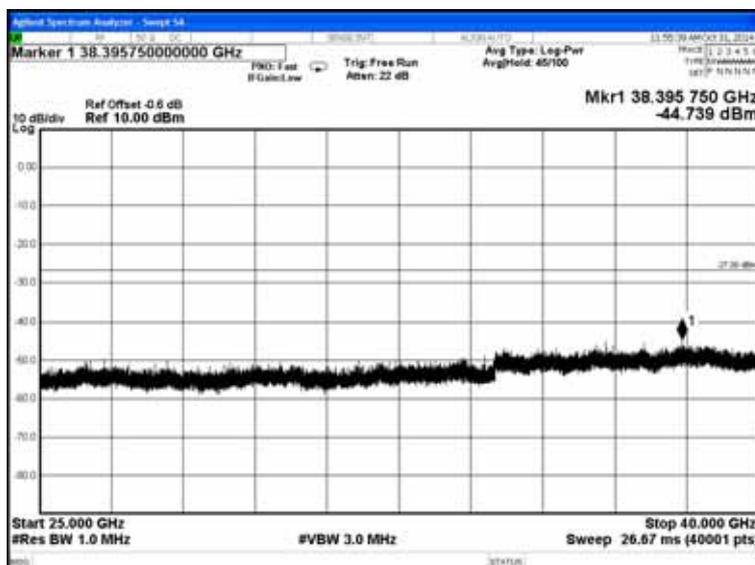
802.11n-HT40 (UNII Band III), Frequency: 5755MHz





802.11n-HT40 (UNII Band III), Frequency: 5795MHz





## 8. POWER SPECTRAL DENSITY MEASUREMENT

### 8.1. Test Equipment

The following test equipment was used during the power spectral density measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1	Spectrum Analyzer	Agilent	N9030A-526	MY53310269	2014. 09. 19	1 Year

### 8.2. Block Diagram of Test Setup

The same as section.5.2.

### 8.3. Specification Limits [§15.407(a)-(1)(2)(3)]

- 8.3.1. For the band 5.15-5.25GHz, the maximum power spectral density shall not exceed 4dBm in any 1MHz band.
- 8.3.2. For the band 5.25-5.35GHz and 5.47-5.725GHz, the maximum power spectral density shall not exceed 11dBm in any 1MHz band.
- 8.3.3. For the band 5.725-5.85GHz, the maximum power spectral density shall not exceed 30dBm in any 500kHz band.

### 8.4. Operating Condition of EUT

The EUT was running test program “Diag Test Mode” for WLAN test, and enable to transmit data at different channel frequency individually.

### 8.5. Test Procedure

- 8.5.1. For UNII Band I, UNII Band II-2A and UNII Band II-2C
  1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
  2. Set RBW=1MHz
  3. Set VBW≥3MHz
  4. Detector=RMS (i.e., power averaging), if available, Otherwise, use sample detector mode.
  5. Trace average at least 100 traces in power averaging (i.e., RMS) mode.
  6. Use the peak search function on the spectrum analyzer to find the peak of the spectrum.

The measurement guideline was according to KDB789033 D02 v01.

## 8.5.2. For UNII Band III

The transmitter output was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measured with the spectrum analyzer using 100kHz RBW and  $\geq 300$ kHz VBW, set sweep time = Auto.

The measurement guideline was according to KDB789033 D02 v01.

## 8.6. Test Results

**PASSED.** All the test results are attached in next pages.

Test Date : 2014. 10. 20      Temperature : 25      Humidity : 50%

Test Date : 2014. 10. 23      Temperature : 45      Humidity : 50%

## 8.6.1. For 802.11a

Mode	UNII Band	Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limit (dBm)
1.	UNII Band I	CH 36	5180	<b>-2.814</b>	4
2.		CH 40	5200	<b>-3.229</b>	4
3.		CH 48	5240	<b>-2.960</b>	4
4.	UNII Band II-2A	CH 52	5260	<b>-3.511</b>	11
5.		CH 56	5280	<b>-3.611</b>	11
6.		CH 64	5320	<b>-4.022</b>	11
7.	UNII Band II-2C	CH 100	5500	<b>-3.541</b>	11
8.		CH 116	5580	<b>-3.892</b>	11
9.		CH 140	5700	<b>-4.530</b>	11

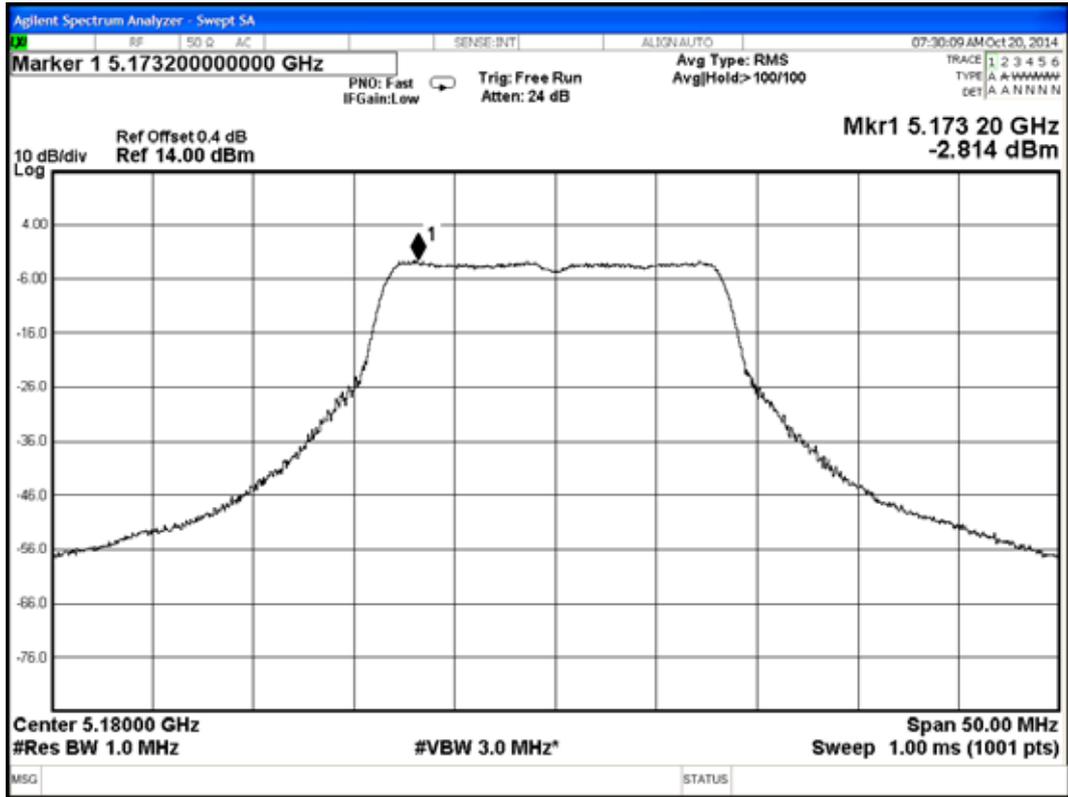
Mode	UNII Band	Channel	Frequency (MHz)	Power Density (dBm/100kHz)	BWCF Factor 100kHz to 500kHz	Total Power Density
10.	UNII Band III	CH 149	5745	<b>-2.265</b>	<b>6.989</b>	<b>4.724</b>
11.		CH 157	5785	<b>-2.279</b>		<b>4.710</b>
12.		CH 165	5825	<b>-2.201</b>		<b>4.788</b>

**Limit: 30dBm**

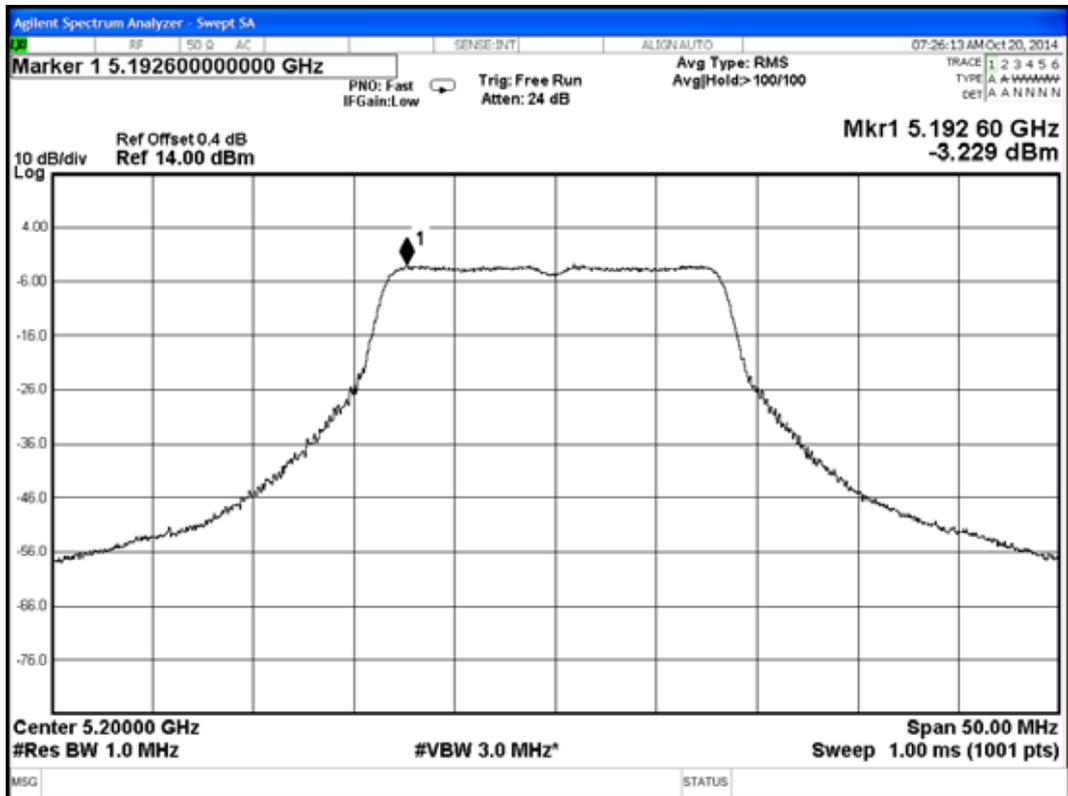
Note: 1. BCW Factor=  $10 \log (500/100)$

2. Total Power Density= Power Density + BWCF Factor

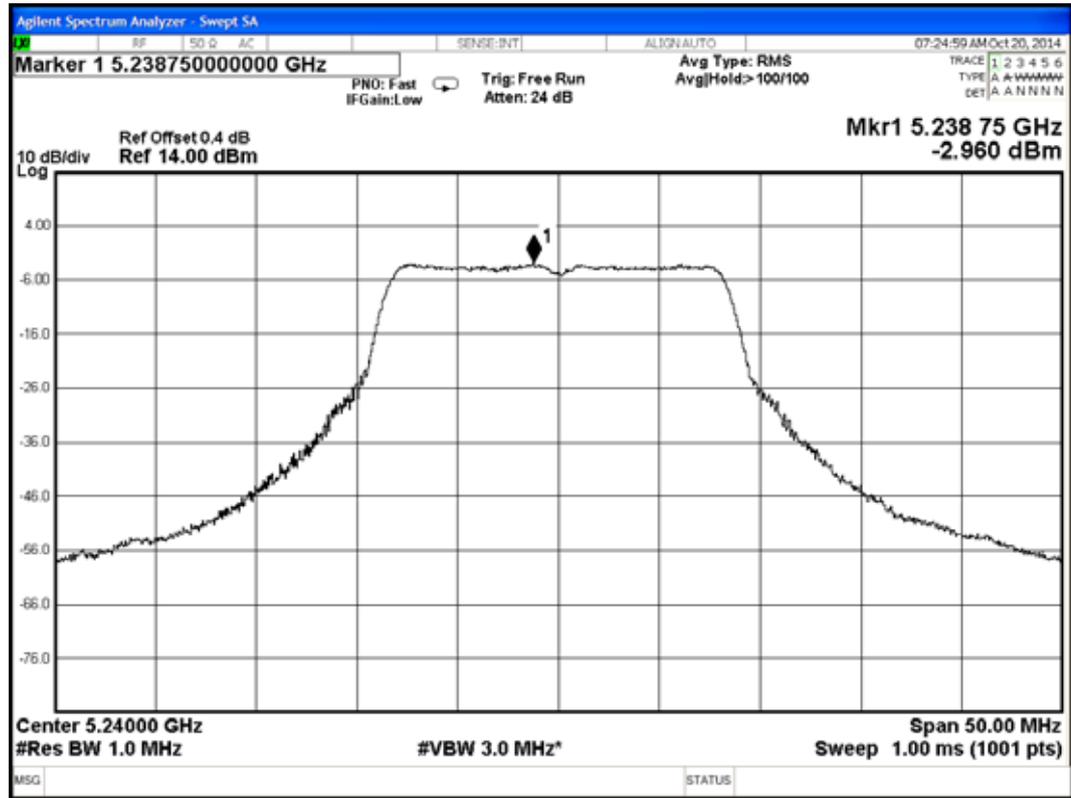
802.11a (UNII Band I), Frequency: 5180MHz



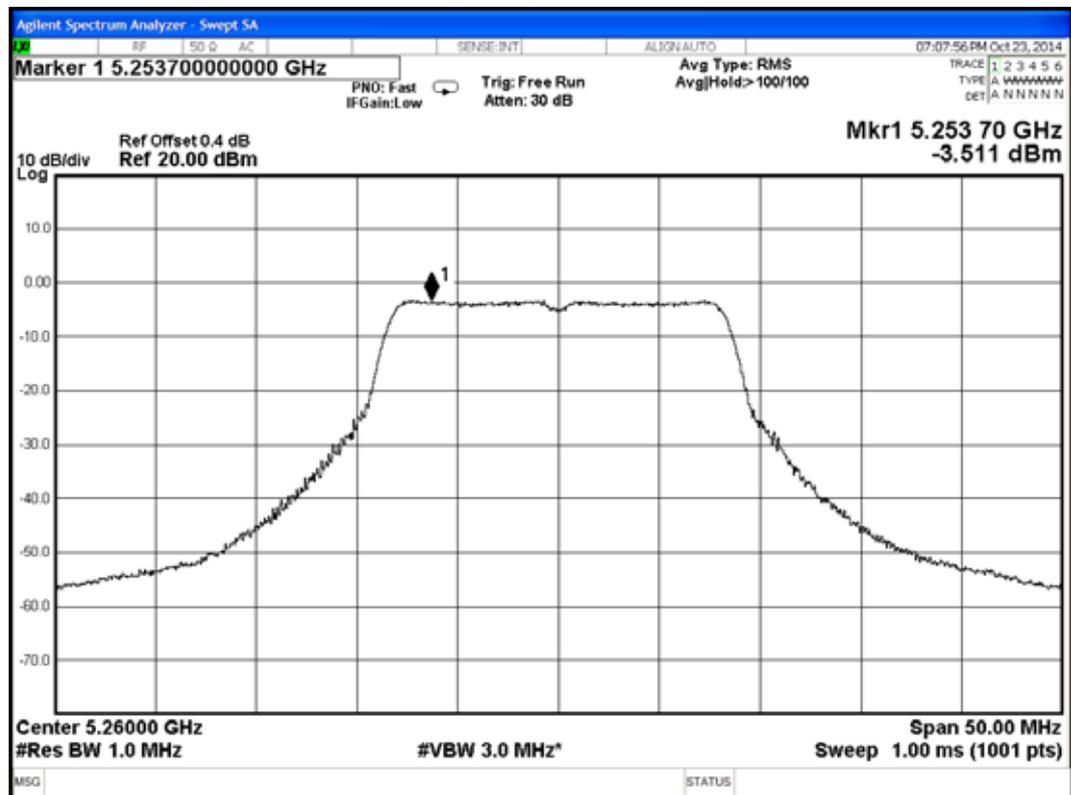
802.11a (UNII Band I), Frequency: 5200MHz



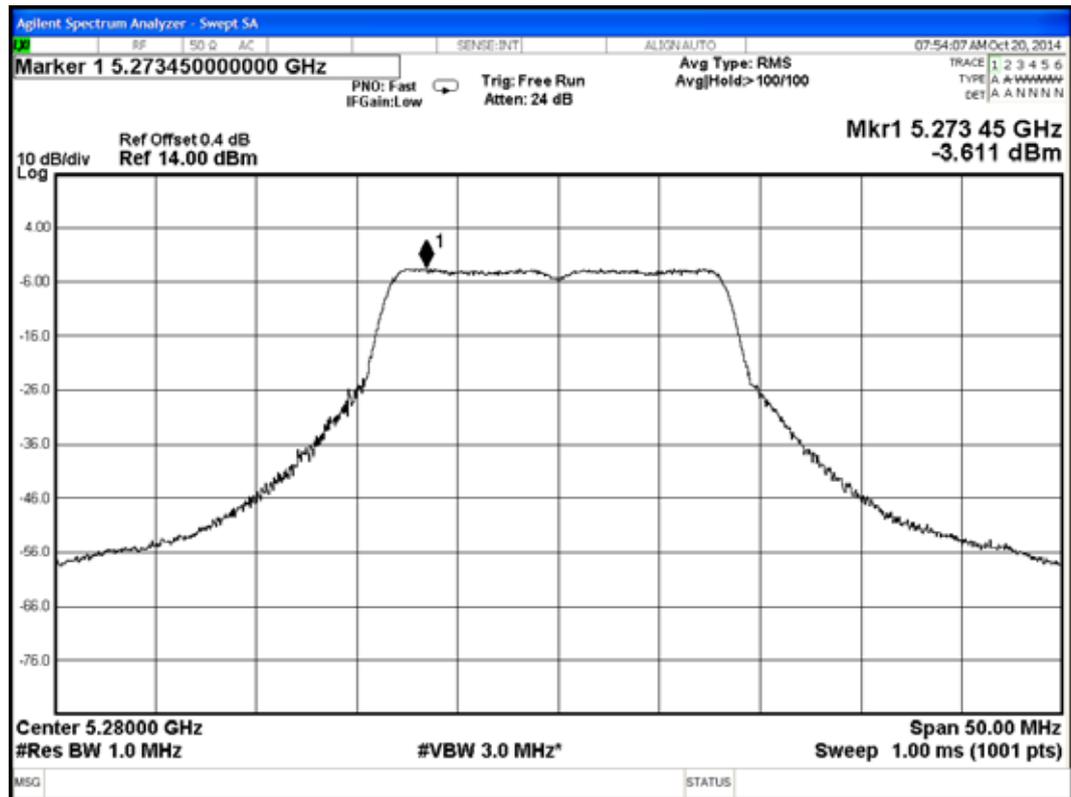
**802.11a (UNII Band I), Frequency: 5240MHz**



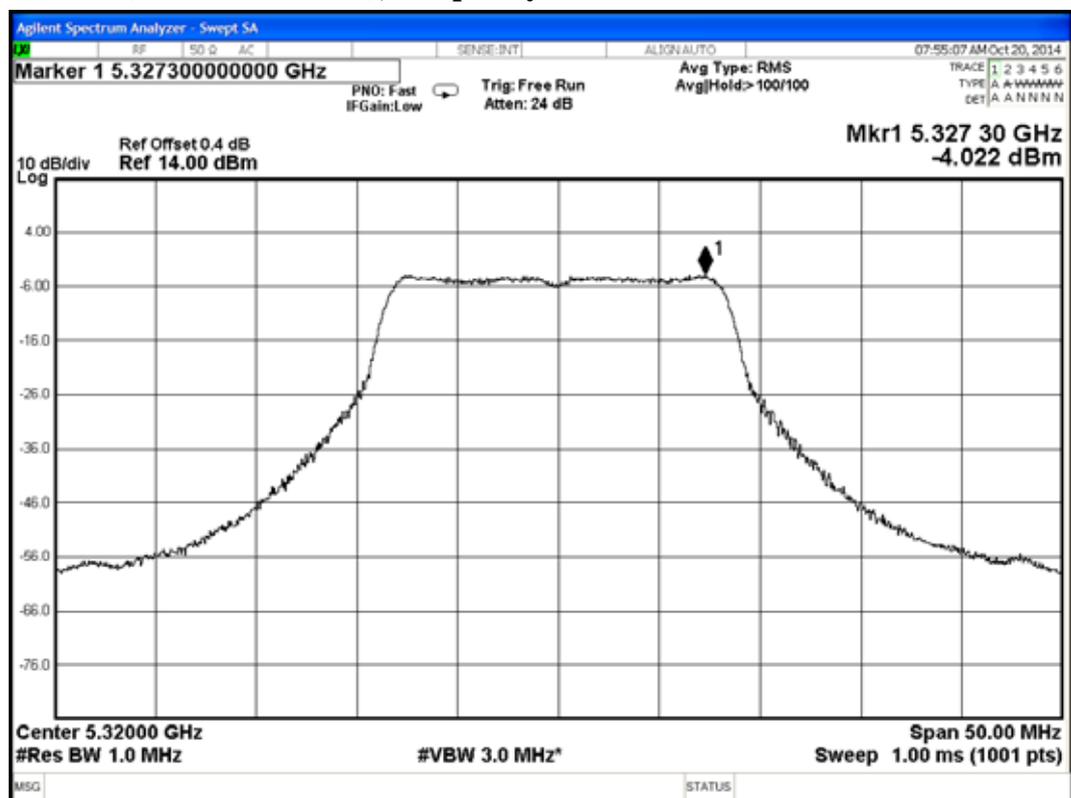
**802.11a (UNII Band II-2A), Frequency: 5260MHz**



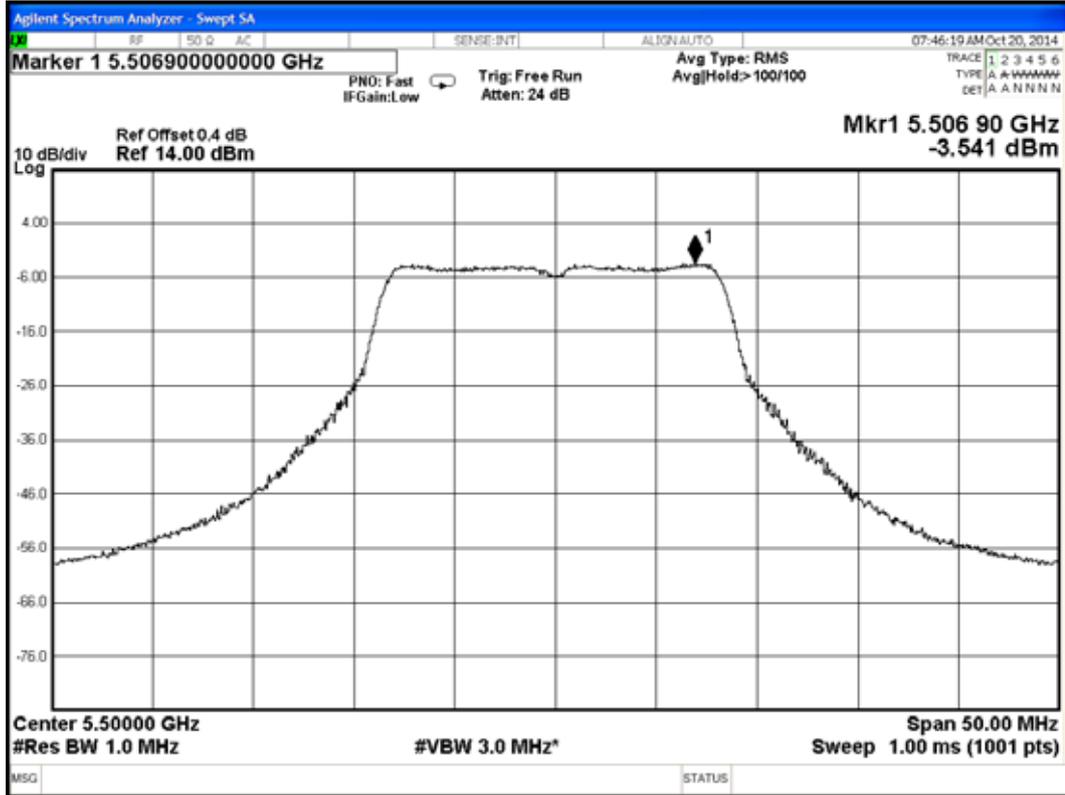
**802.11a (UNII Band II-2A), Frequency: 5280MHz**



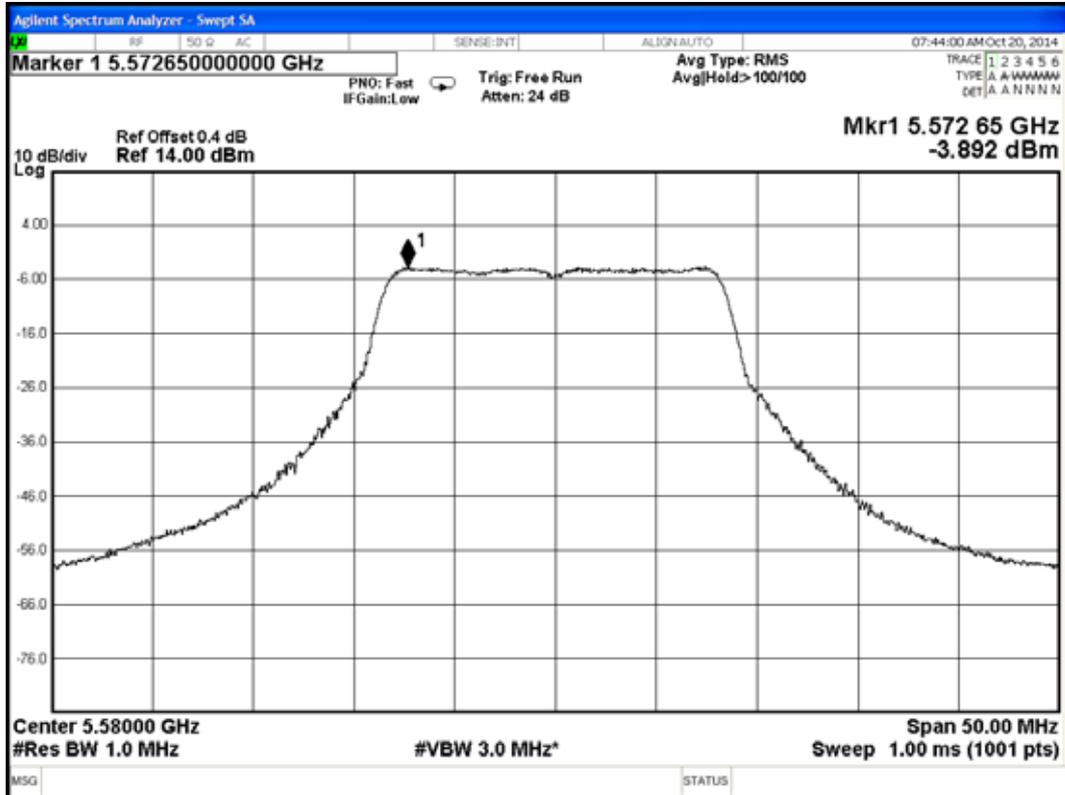
**802.11a (UNII Band II-2A), Frequency: 5320MHz**



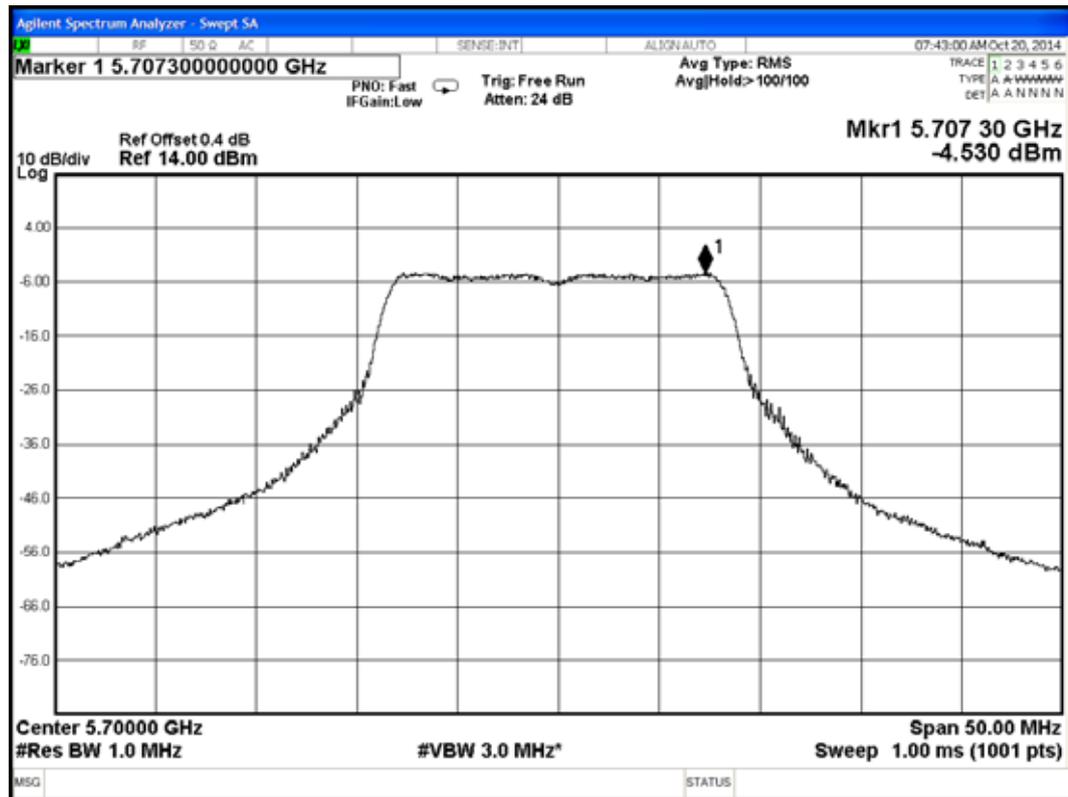
**802.11a (UNII Band II-2C), Frequency: 5500MHz**



**802.11a (UNII Band II-2C), Frequency: 5580MHz**



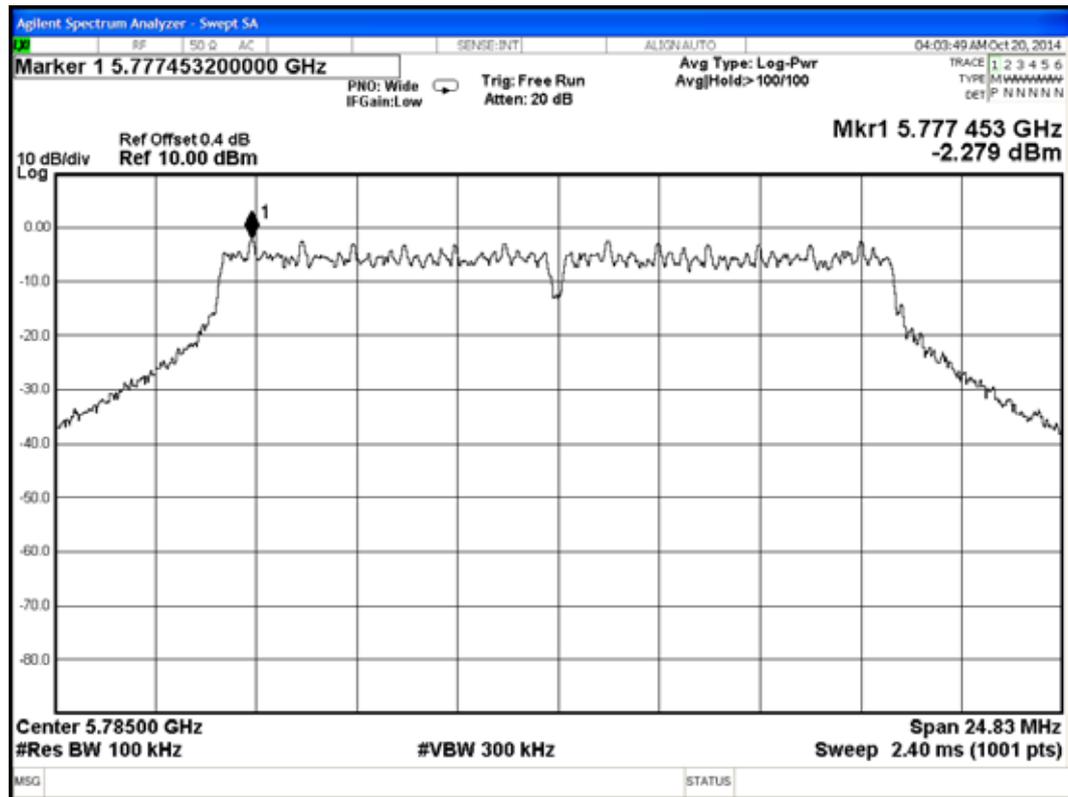
**802.11a (UNII Band II-2C), Frequency: 5700MHz**



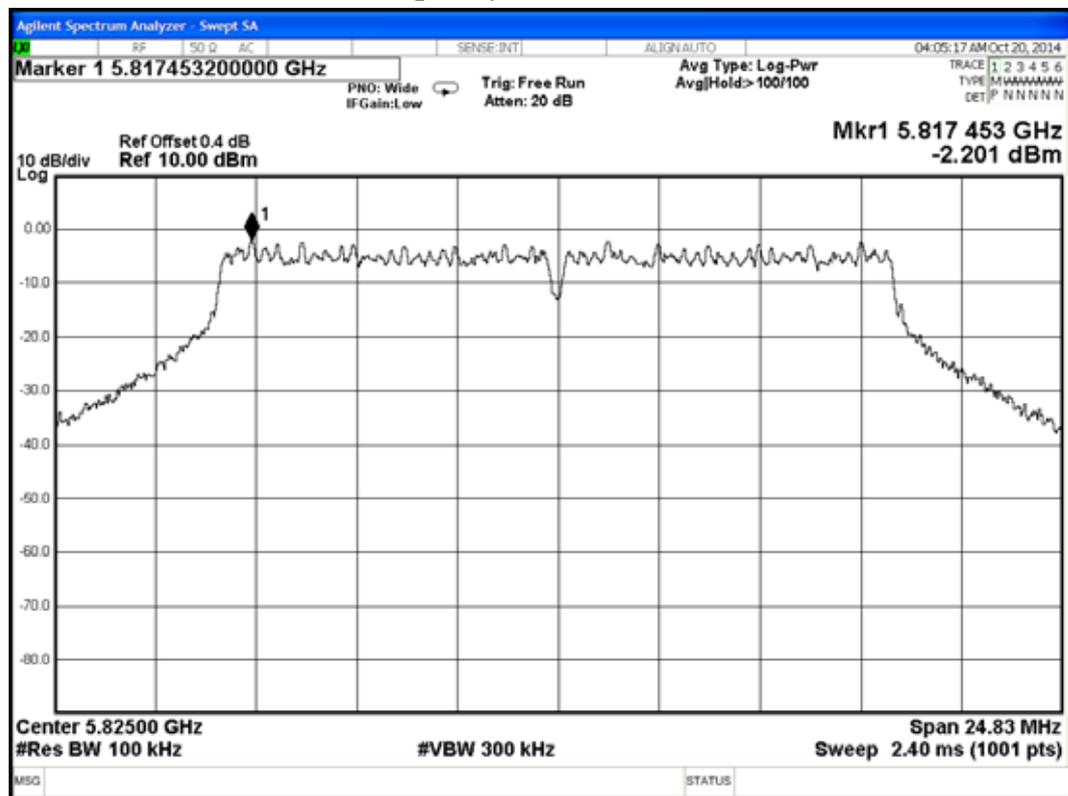
**802.11a (UNII Band III), Frequency: 5745MHz**



**802.11a (UNII Band III), Frequency: 5785MHz**



**802.11a (UNII Band III), Frequency: 5825MHz**



## 8.6.2. For 802.11n-HT20

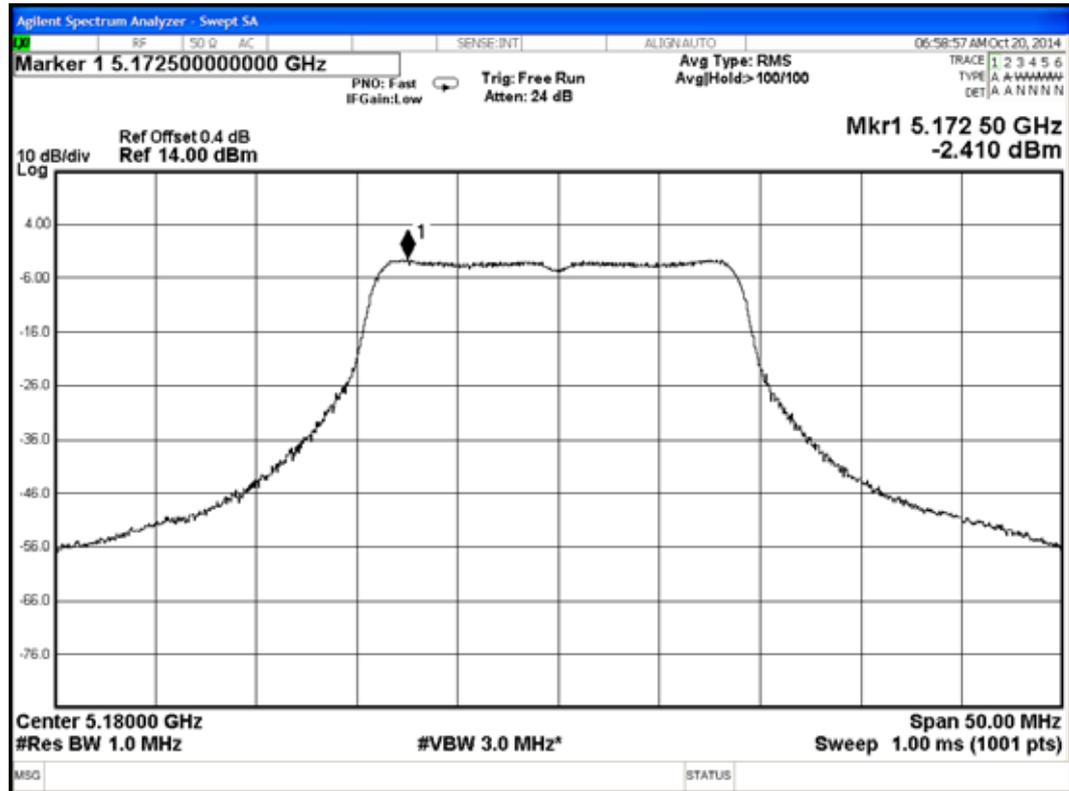
Mode	UNII Band	Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limit (dBm)
1.	UNII Band I	CH 36	5180	<b>-2.410</b>	4
2.		CH 40	5200	<b>-3.406</b>	4
3.		CH 48	5240	<b>-2.882</b>	4
4.	UNII Band II-2A	CH 52	5260	<b>-3.184</b>	11
5.		CH 56	5280	<b>-3.145</b>	11
6.		CH 64	5320	<b>-3.753</b>	11
7.	UNII Band II-2C	CH 100	5500	<b>-4.493</b>	11
8.		CH 116	5580	<b>-3.633</b>	11
9.		CH 140	5700	<b>-4.145</b>	11

Mode	UNII Band	Channel	Frequency (MHz)	Power Density (dBm/100kHz)	BWCF Factor 100kHz to 500kHz	Total Power Density
10.	UNII Band III	CH 149	5745	<b>-2.305</b>	<b>6.989</b>	<b>4.684</b>
11.		CH 157	5785	<b>-2.540</b>		<b>4.449</b>
12.		CH 165	5825	<b>-2.324</b>		<b>4.665</b>

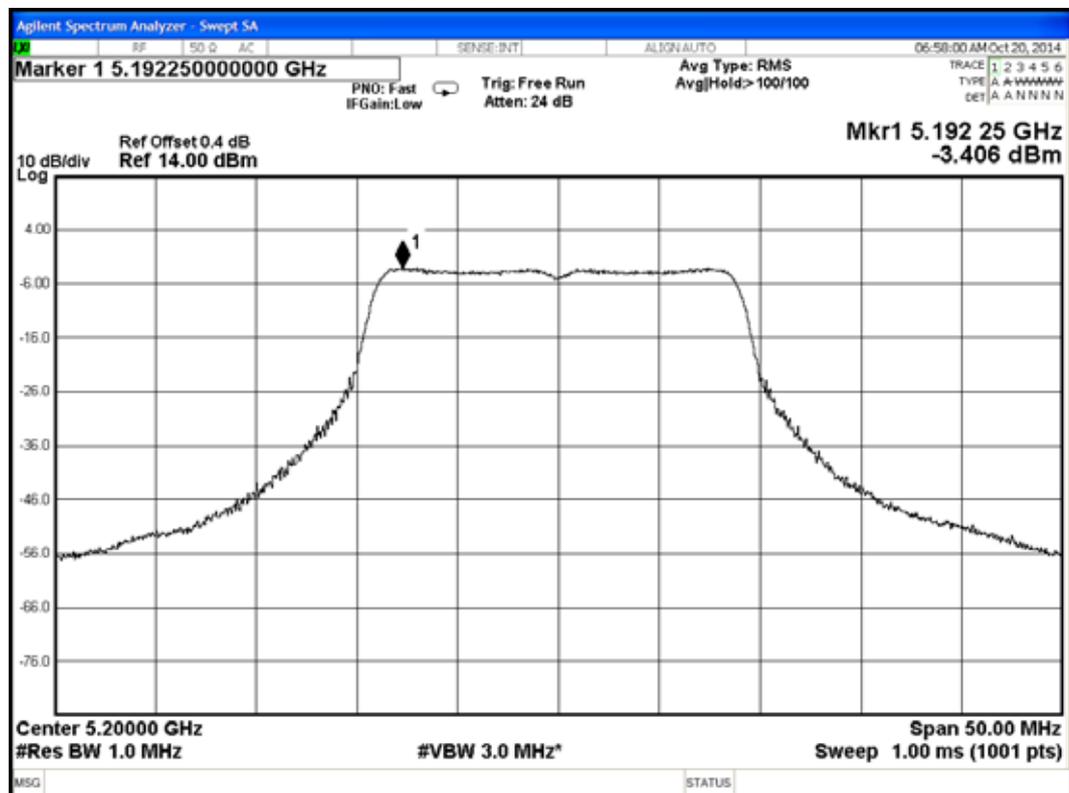
**Limit: 30dBm**Note: 1. BCW Factor=  $10 \log (500/100)$ 

2. Total Power Density= Power Density + BWCF Factor

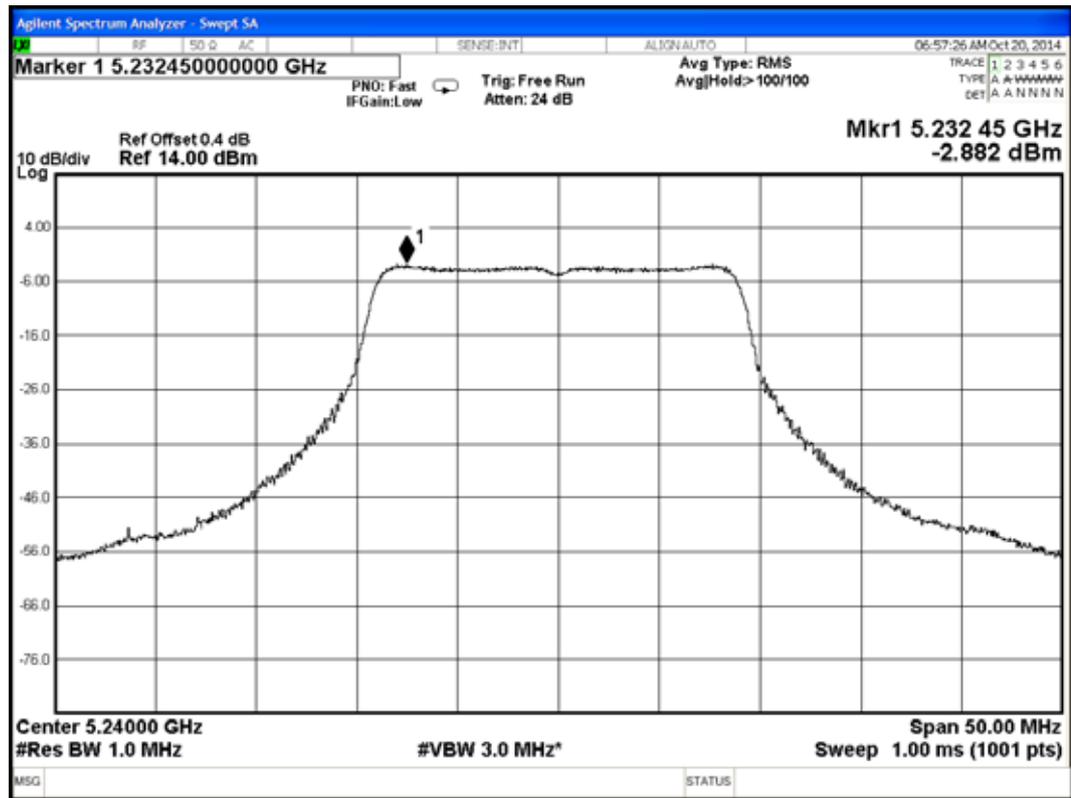
**802.11n-HT20 (UNII Band I), Frequency: 5180MHz**



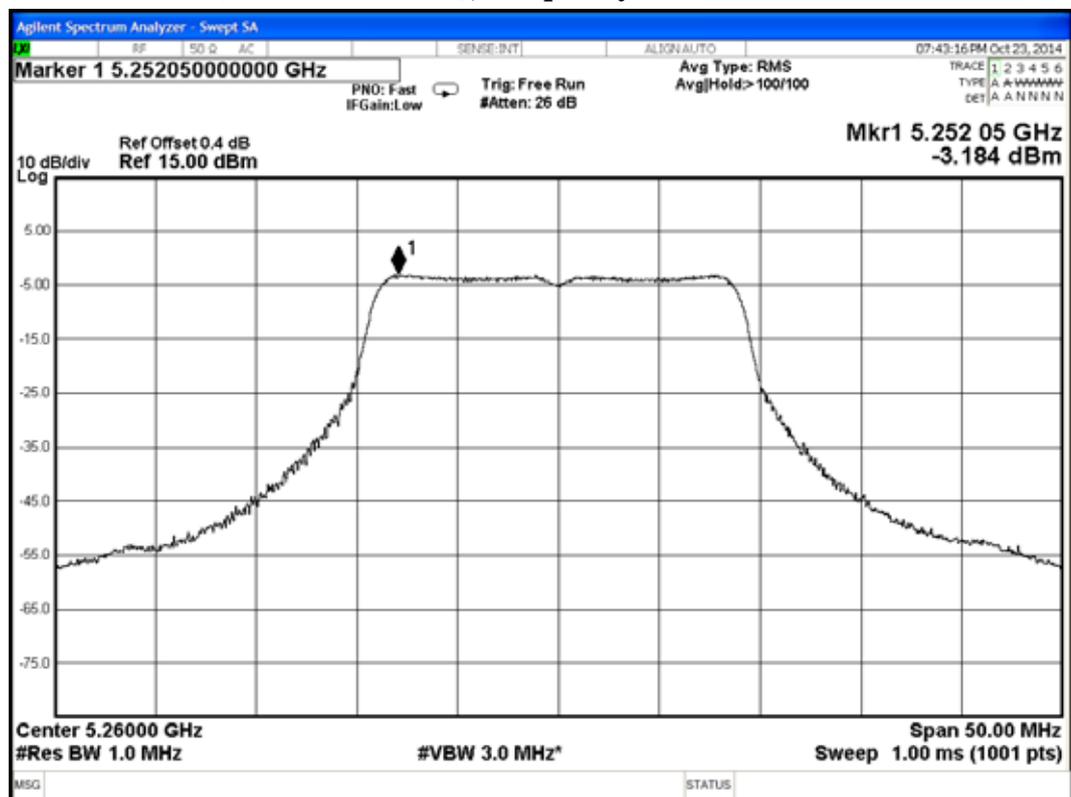
**802.11n-HT20 (UNII Band I), Frequency: 5200MHz**



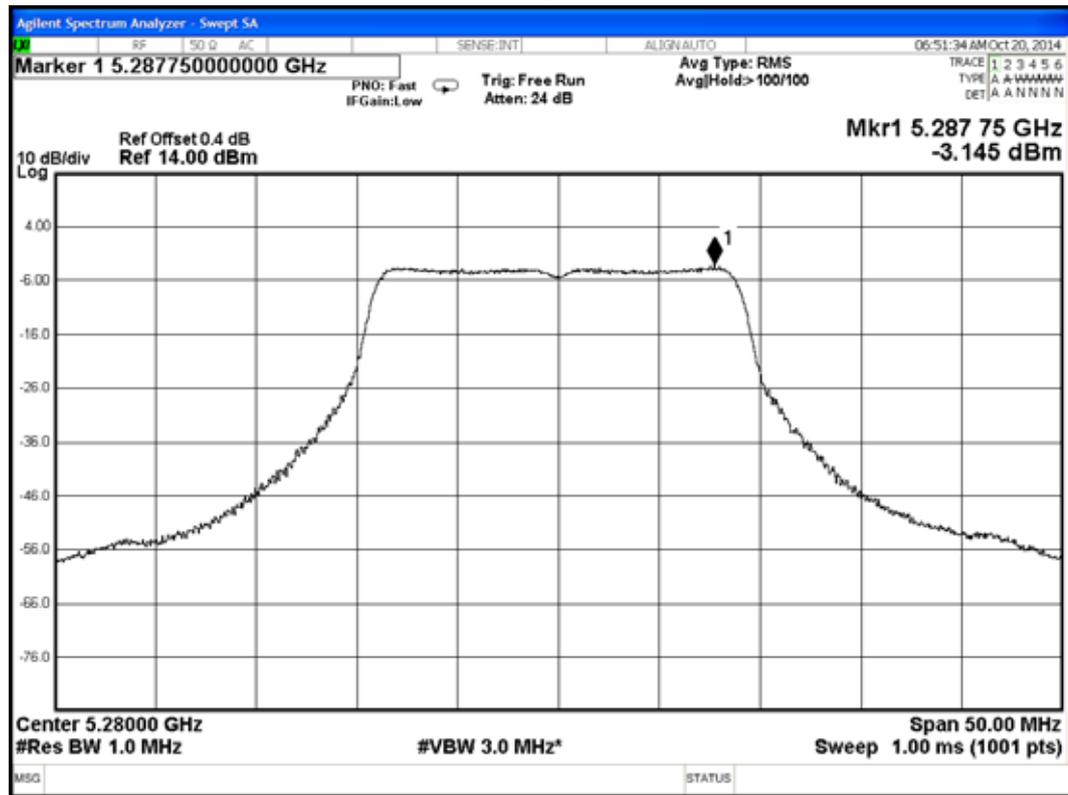
**802.11n-HT20 (UNII Band I), Frequency: 5240MHz**



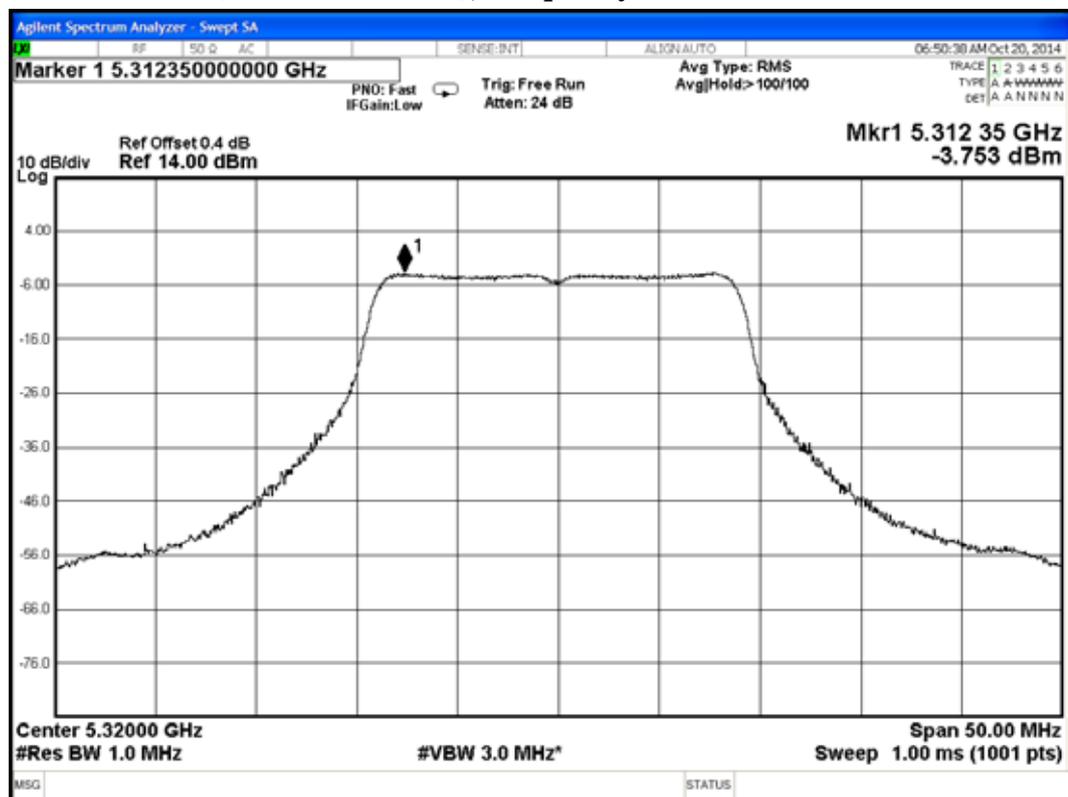
**802.11n-HT20 (UNII Band II-2A), Frequency: 5260MHz**



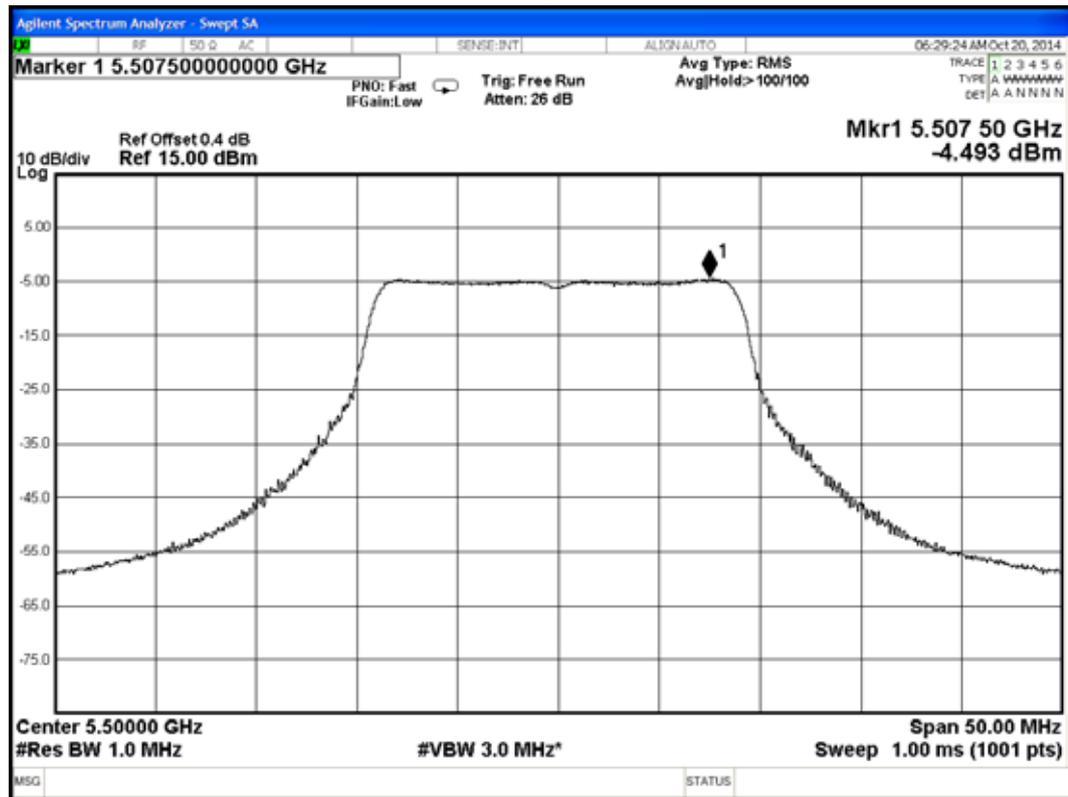
**802.11n-HT20 (UNII Band II-2A), Frequency: 5280MHz**



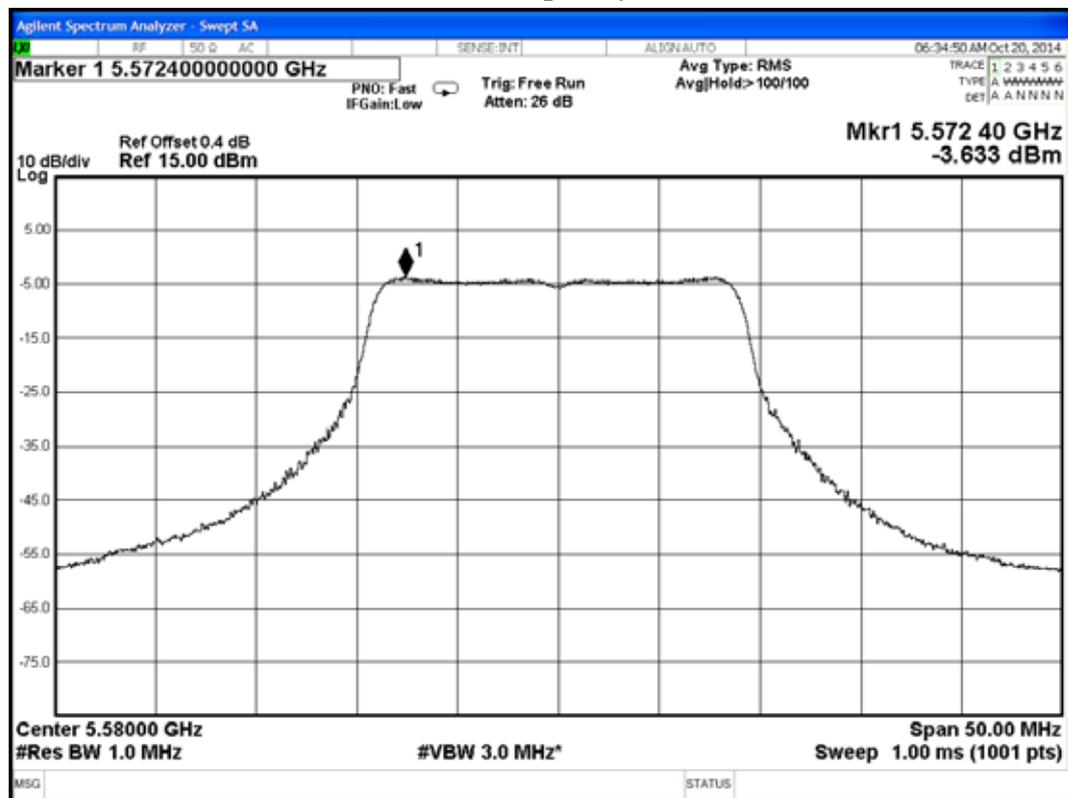
**802.11n-HT20 (UNII Band II-2A), Frequency: 5320MHz**



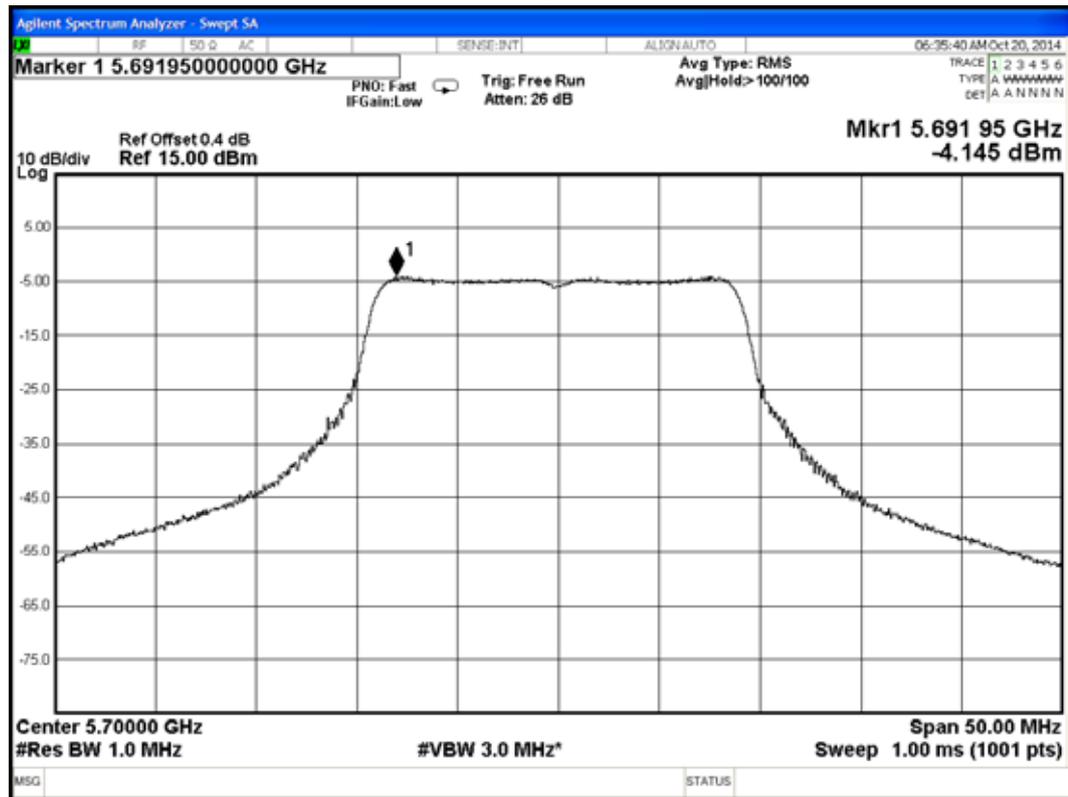
**802.11n-HT20 (UNII Band II-2C), Frequency: 5500MHz**



**802.11n-HT20 (UNII Band II-2C), Frequency: 5580MHz**



**802.11n-HT20 (UNII Band II-2C), Frequency: 5700MHz**



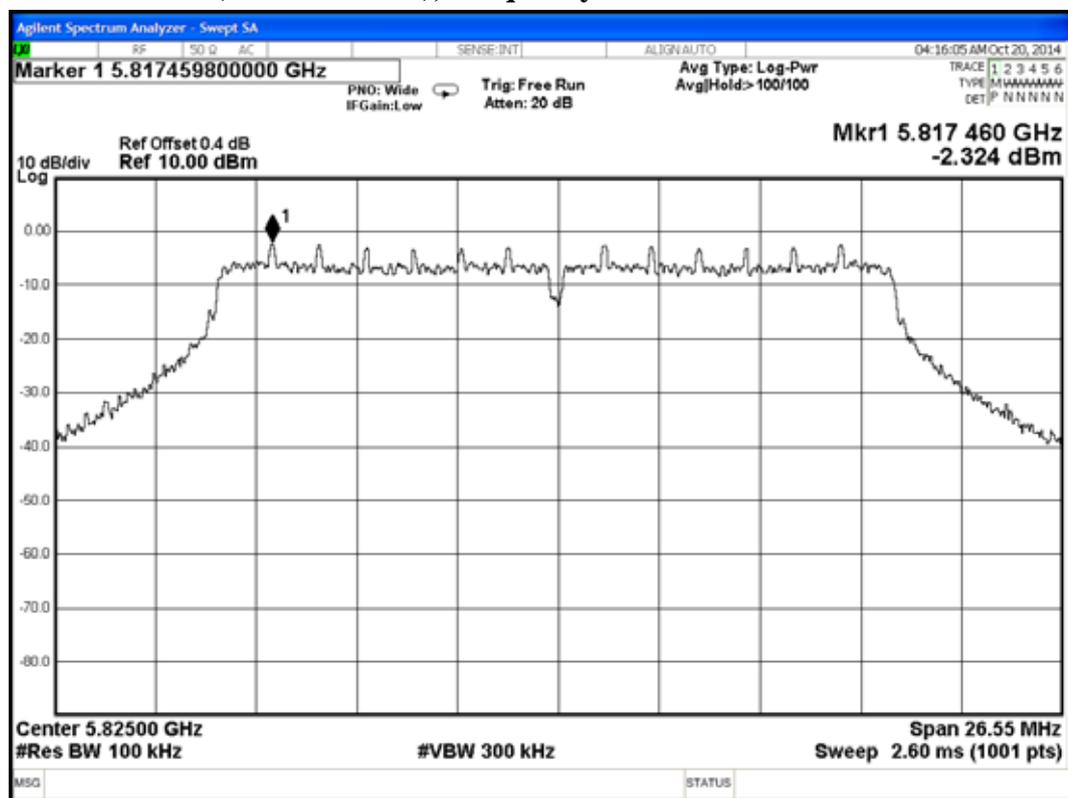
**802.11n-HT20 (UNII Band III), Frequency: 5745MHz**



### 802.11n-HT20 (UNII Band III), Frequency: 5785MHz



### 802.11n-HT20 (UNII Band III), Frequency: 5825MHz



## 8.6.3. For 802.11n-HT40

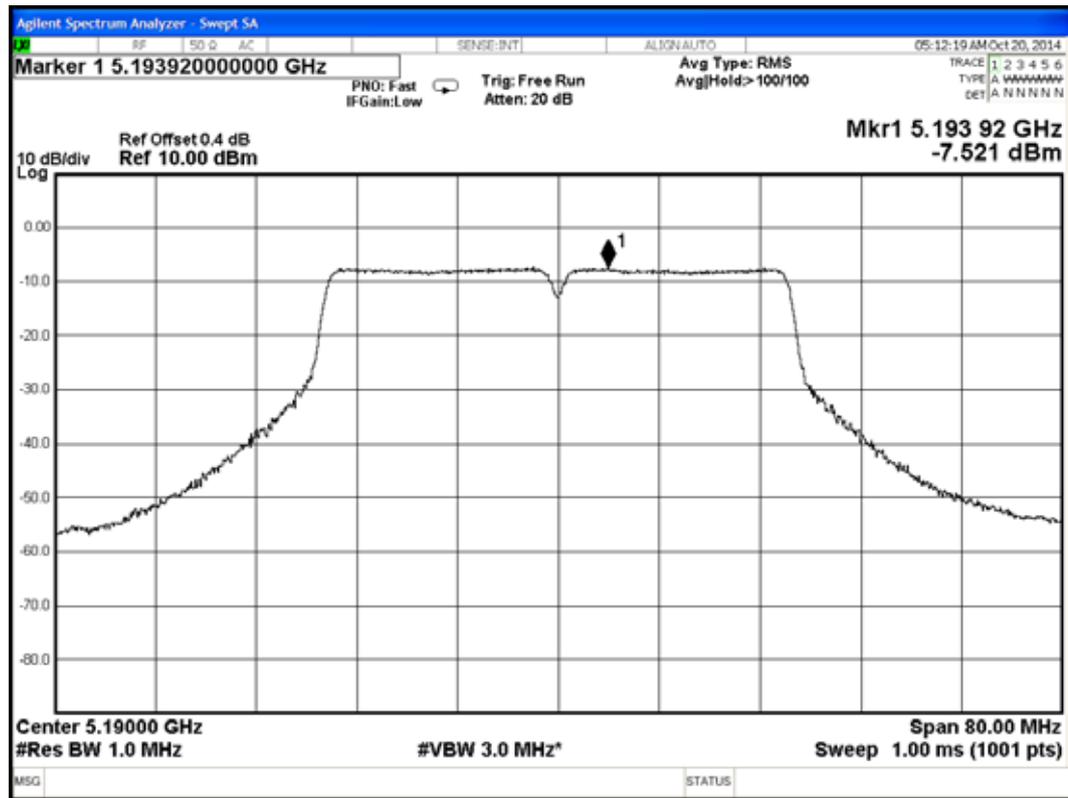
Mode	UNII Band	Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limit (dBm)
1.	UNII Band I	CH 38	5190	<b>-7.521</b>	4
2.		CH 46	5230	<b>-6.183</b>	4
3.	UNII Band II-2A	CH 54	5270	<b>-6.452</b>	11
4.		CH 62	5310	<b>-8.428</b>	11
5.	UNII Band II-2C	CH 100	5510	<b>-8.691</b>	11
6.		CH 118	5590	<b>-6.948</b>	11
7.		CH 116	5670	<b>-6.952</b>	11

Mode	UNII Band	Channel	Frequency (MHz)	Power Density (dBm/100kHz)	BWCF Factor 100kHz to 500kHz	Total Power Density
10.	UNII Band	CH 151	5755	<b>-5.099</b>	<b>6.989</b>	<b>1.890</b>
11.	III	CH 159	5795	<b>-4.782</b>		<b>2.207</b>

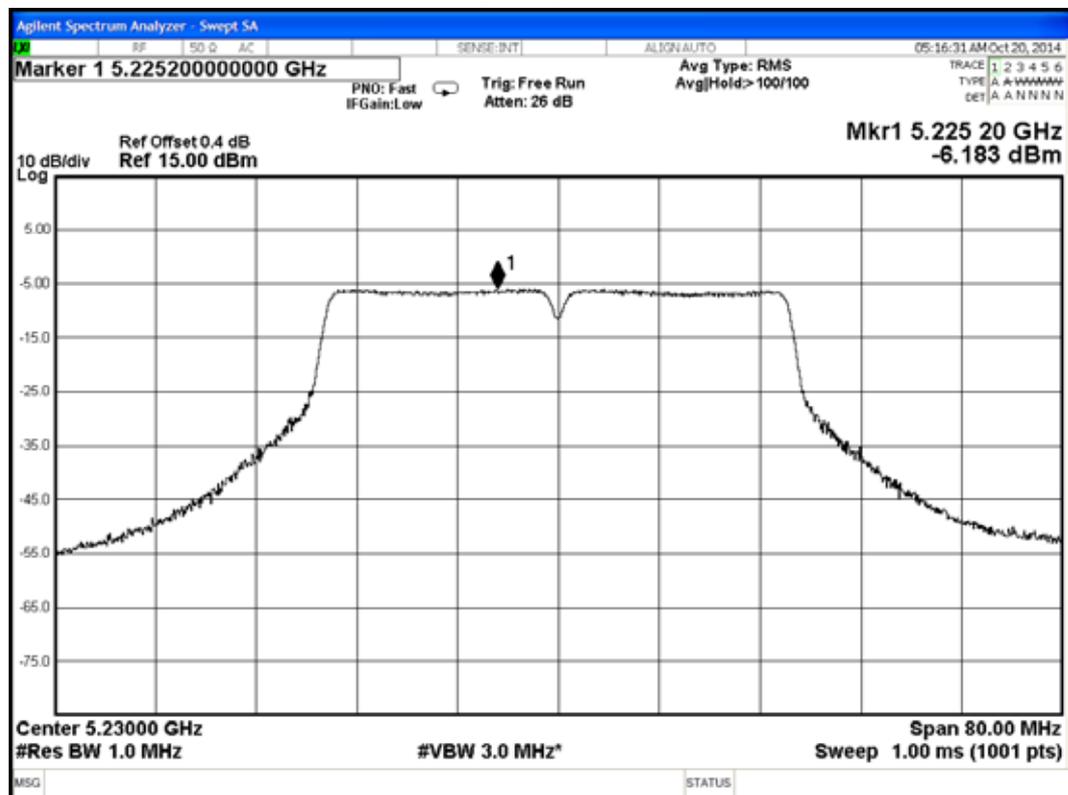
**Limit: 30dBm**Note: 1. BCW Factor=  $10 \log (500/100)$ 

2. Total Power Density= Power Density + BWCF Factor

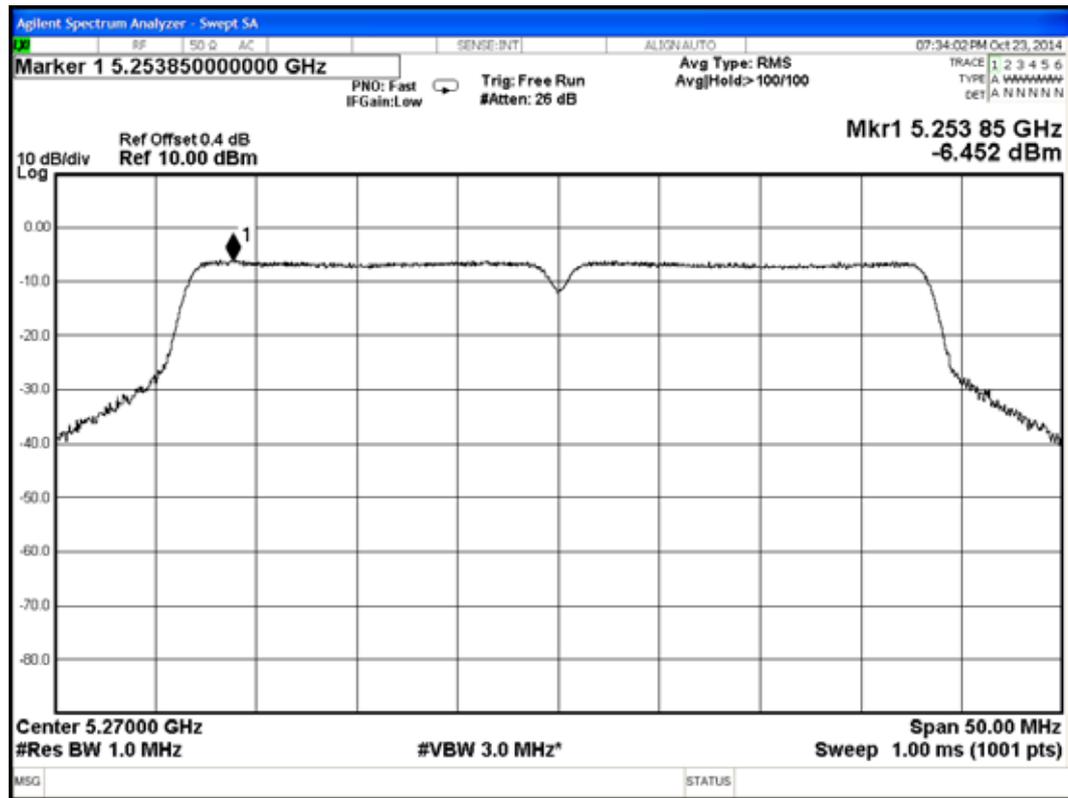
### 802.11n-HT40 (UNII Band I), Frequency: 5190MHz



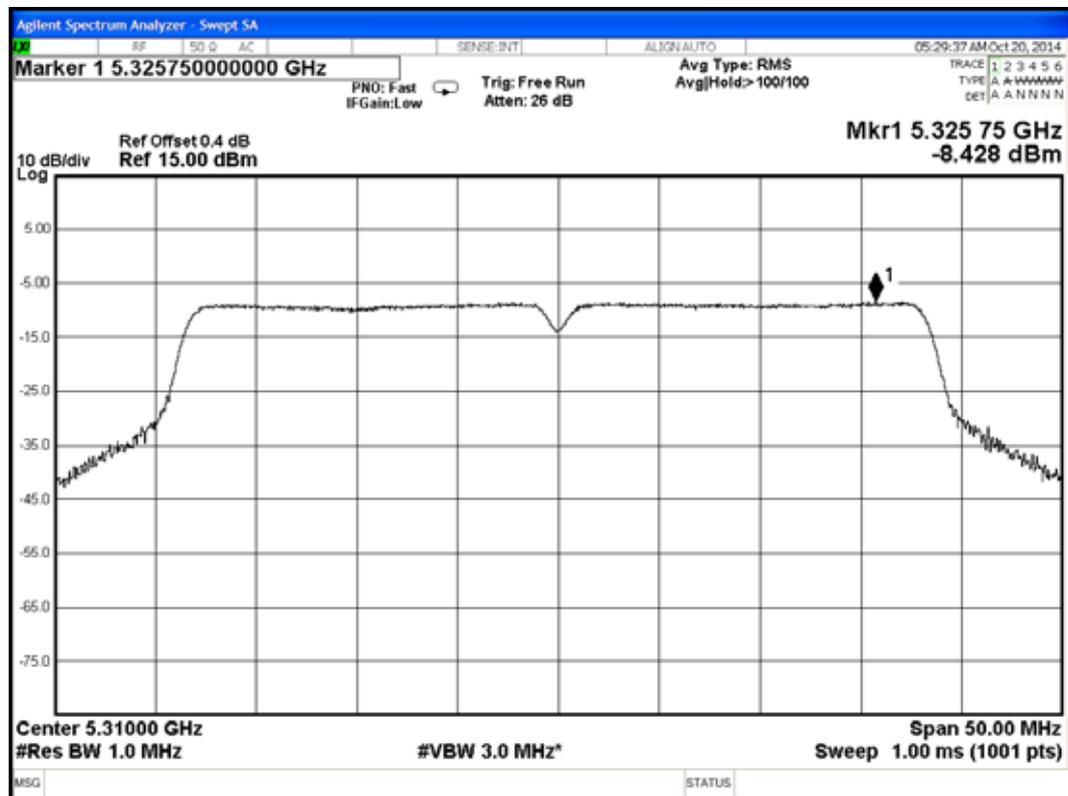
### 802.11n-HT40 (UNII Band I), Frequency: 5230MHz



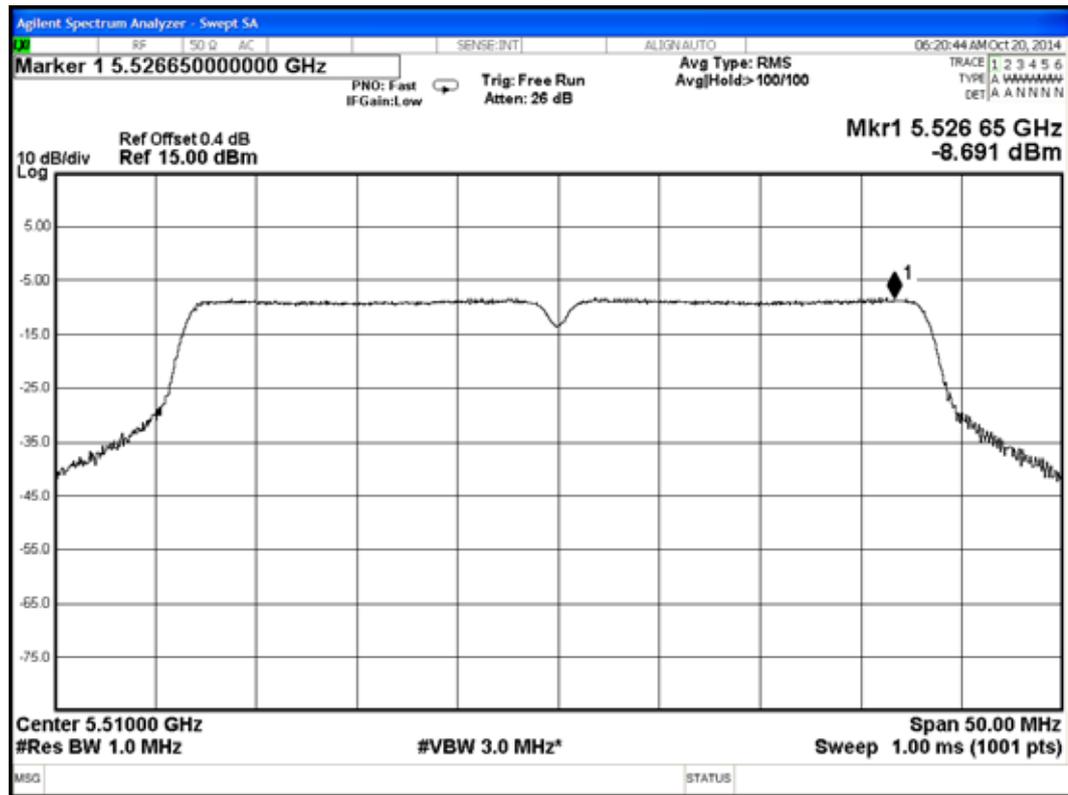
### 802.11n-HT40 (UNII Band II-2A), Frequency: 5270MHz



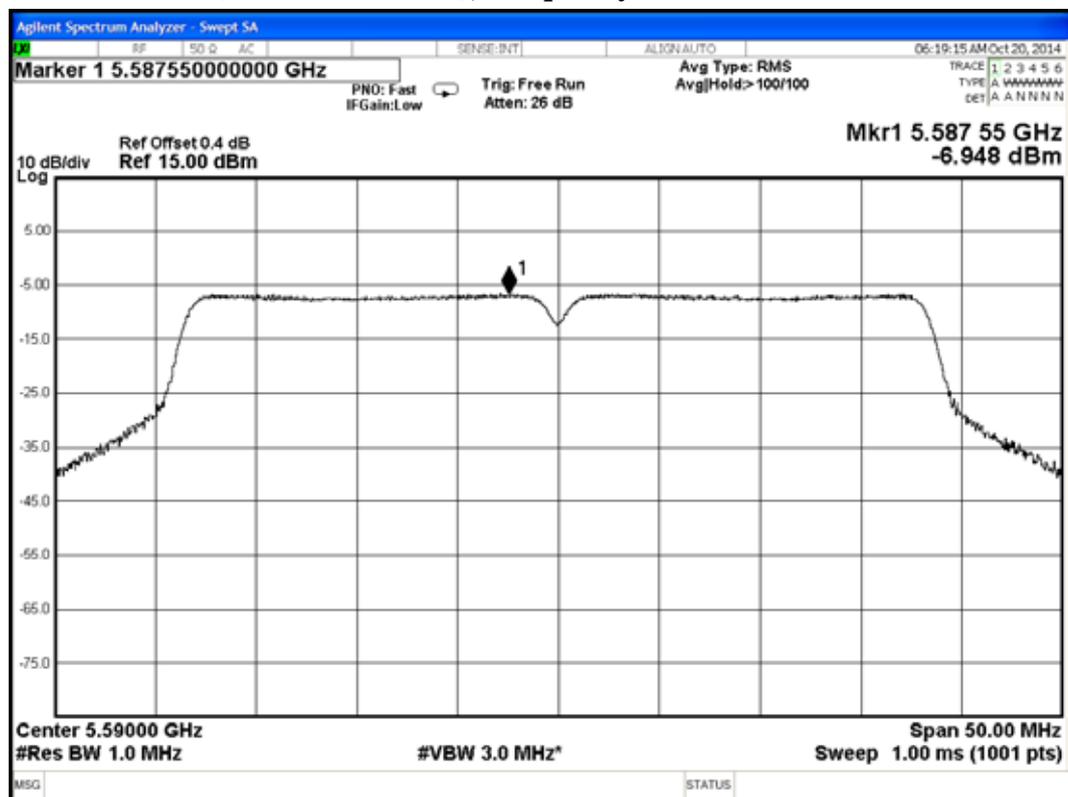
### 802.11n-HT40 (UNII Band II-2A), Frequency: 5310MHz



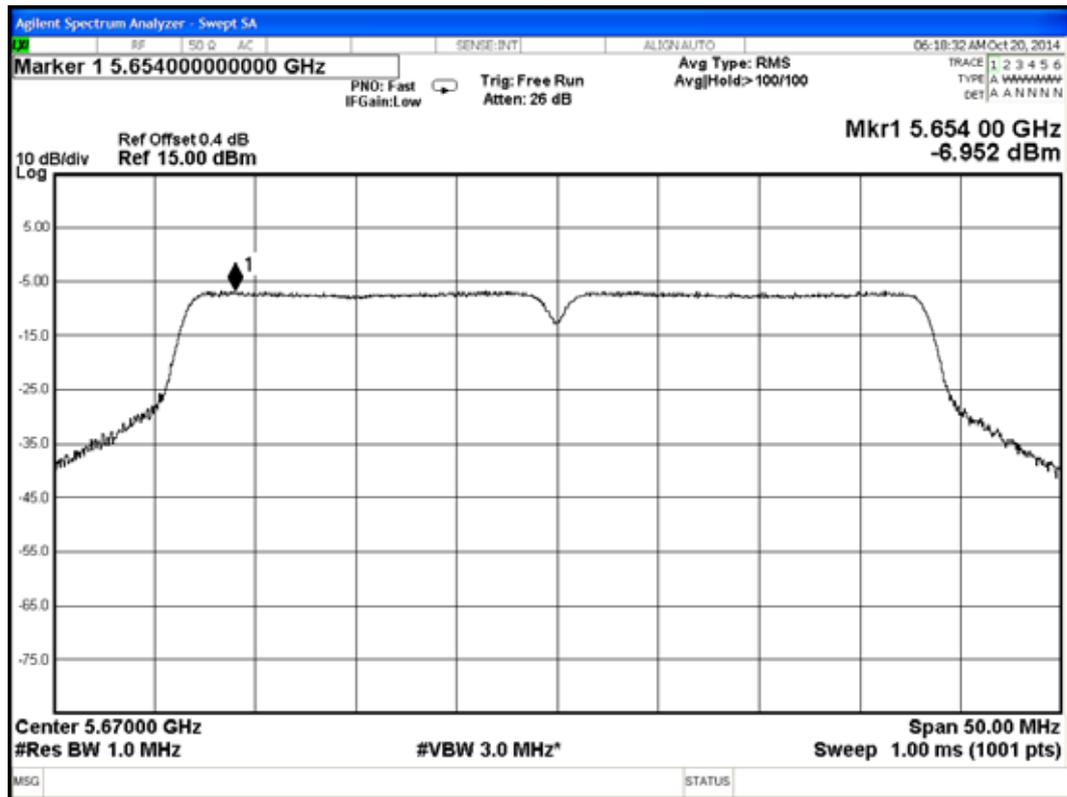
**802.11n-HT40 (UNII Band II-2C), Frequency: 5510MHz**



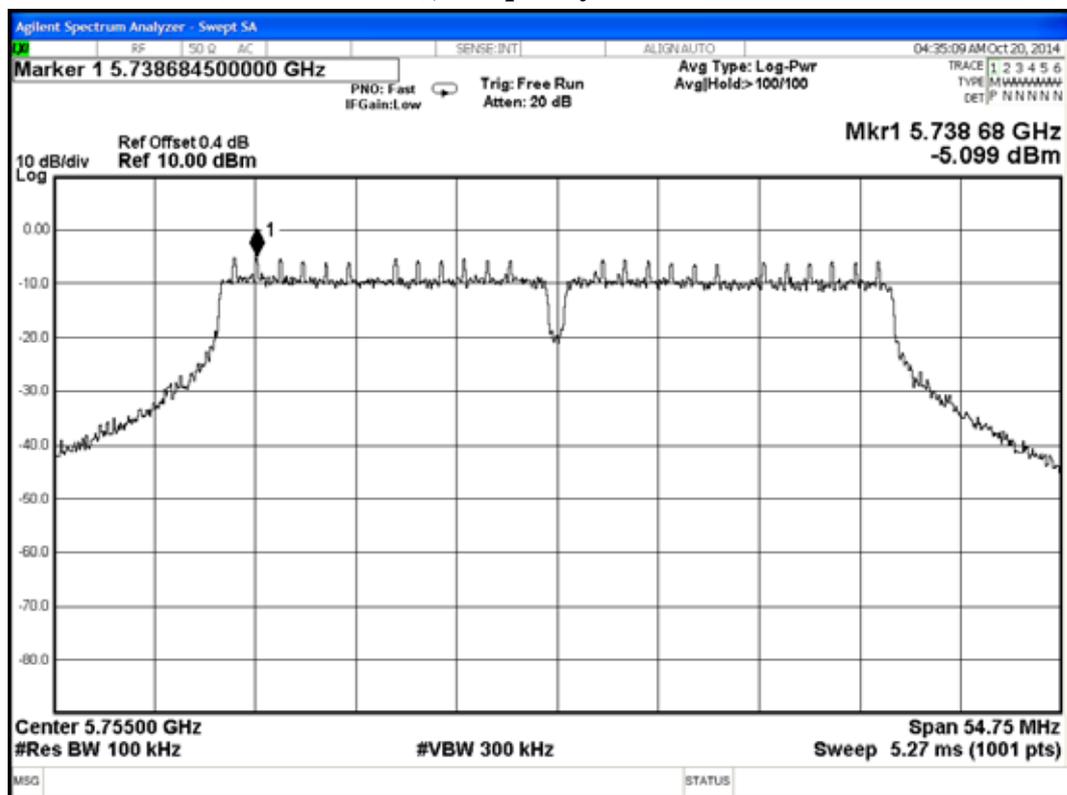
**802.11n-HT40 (UNII Band II-2C), Frequency: 5590MHz**



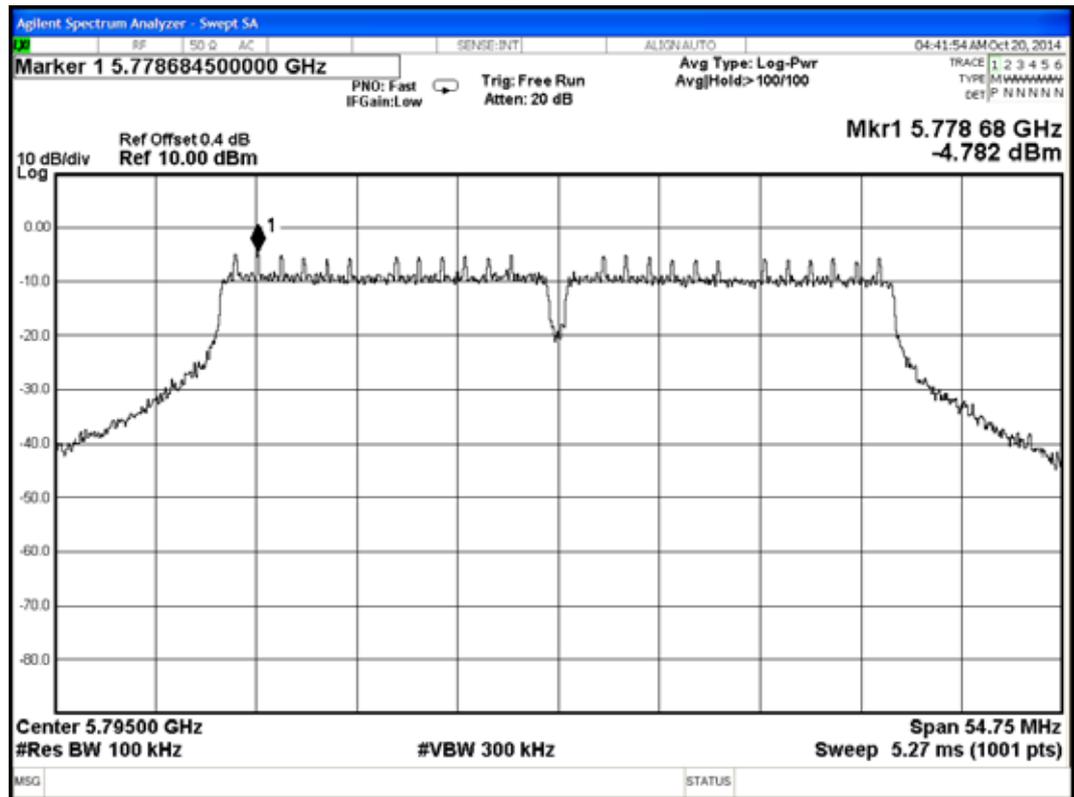
**802.11n-HT40 (UNII Band II-2C), Frequency: 5670MHz**



**802.11n-HT40 (UNII Band III), Frequency: 5755MHz**



### 802.11n-HT40 (UNII Band III), Frequency: 5795MHz



## **9. DEVIATION TO TEST SPECIFICATIONS**

**【NONE】**