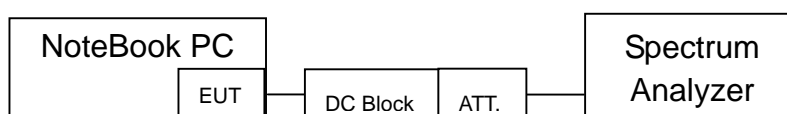


## 4 Power Spectrum Density test

### 4.1 Limits

Operating Frequency (MHz)	Power density limit
5150~5250	< 4dBm/MHz
5250~5350, 5470~5725	< 11dBm/MHz
5725~5825	< 17dBm/MHz

### 4.2 Configuration of Measurement



### 4.3 Test Procedure

The EUT was setup to ANSI C63.4, 2003; tested to UNII test procedure of Oct 2002 DA 02-2138 for compliance to FCC 47CFR 15.407 requirements.

### 4.4 Test Result

**PASS.**

The final test data is shown on as following pages.

## Power spectral density

### Single Tx

<b>802.11a Chain A</b>					
<b>CH</b>	<b>Freq.</b>	<b>Temp. (°C)</b>	<b>Power Spectral Density (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>
36	5180	27	2.00	4	-2.00
44	5220	27	3.17	4	-0.83
48	5240	27	3.00	4	-1.00
52	5260	27	3.50	11	-7.50
60	5300	27	2.83	11	-8.17
64	5320	27	3.00	11	-8.00
100	5500	27	2.83	11	-8.17
120	5600	27	3.33	11	-7.67
140	5700	27	1.67	11	-9.33

<b>802.11a Chain B</b>					
<b>CH</b>	<b>Freq.</b>	<b>Temp. (°C)</b>	<b>Power Spectral Density (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>
36	5180	27	2.33	4	-1.67
44	5220	27	3.00	4	-1.00
48	5240	27	2.50	4	-1.50
52	5260	27	3.33	11	-7.67
60	5300	27	3.17	11	-7.83
64	5320	27	3.33	11	-7.67
100	5500	27	3.67	11	-7.33
120	5600	27	3.67	11	-7.33
140	5700	27	3.00	11	-8.00

<b>802.11a Chain C</b>					
<b>CH</b>	<b>Freq.</b>	<b>Temp. (°C)</b>	<b>Power Spectral Density (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>
36	5180	27	1.50	4	-2.50
44	5220	27	2.67	4	-1.33
48	5240	27	1.50	4	-2.50
52	5260	27	1.33	11	-9.67
60	5300	27	1.67	11	-9.33
64	5320	27	2.33	11	-8.67
100	5500	27	1.83	11	-9.17
120	5600	27	1.50	11	-9.50
140	5700	27	1.00	11	-10.00

<b>802.11n (HT20) Chain A</b>					
<b>CH</b>	<b>Freq.</b>	<b>Temp. (°C)</b>	<b>Power Spectral Density (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>
36	5180	27	0.67	4	-3.33
44	5220	27	1.83	4	-2.17
48	5240	27	1.17	4	-2.83
52	5260	27	1.50	11	-9.50
60	5300	27	1.33	11	-9.67
64	5320	27	1.17	11	-9.83
100	5500	27	1.00	11	-10.00
120	5600	27	2.17	11	-8.83
140	5700	27	0.17	11	-10.83

<b>802.11n (HT20) Chain B</b>					
<b>CH</b>	<b>Freq.</b>	<b>Temp. (°C)</b>	<b>Power Spectral Density (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>
36	5180	27	0.83	4	-3.17
44	5220	27	1.50	4	-2.50
48	5240	27	1.17	4	-2.83
52	5260	27	1.67	11	-9.33
60	5300	27	1.50	11	-9.50
64	5320	27	1.17	11	-9.83
100	5500	27	1.17	11	-9.83
120	5600	27	1.83	11	-9.17
140	5700	27	1.67	11	-9.33

<b>802.11n (HT20) Chain C</b>					
<b>CH</b>	<b>Freq.</b>	<b>Temp. (°C)</b>	<b>Power Spectral Density (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>
36	5180	27	2.00	4	-2.00
44	5220	27	3.33	4	-0.67
48	5240	27	2.67	4	-1.33
52	5260	27	1.83	11	-9.17
60	5300	27	1.50	11	-9.50
64	5320	27	2.50	11	-8.50
100	5500	27	1.83	11	-9.17
120	5600	27	1.33	11	-9.67
140	5700	27	0.50	11	-10.50

<b>802.11n (HT40) Chain A</b>					
<b>CH</b>	<b>Freq.</b>	<b>Temp. (°C)</b>	<b>Power Spectral Density (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>
38	5190	27	-3.33	4	-7.33
46	5230	27	-2.33	4	-6.33
54	5270	27	-2.50	11	-13.50
62	5310	27	-3.67	11	-14.67
102	5510	27	-3.50	11	-14.50
118	5590	27	-3.00	11	-14.00
134	5670	27	-3.33	11	-14.33

<b>802.11n (HT40) Chain B</b>					
<b>CH</b>	<b>Freq.</b>	<b>Temp. (°C)</b>	<b>Power Spectral Density (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>
38	5190	27	-2.17	4	-6.17
46	5230	27	-2.00	4	-6.00
54	5270	27	-2.17	11	-13.17
62	5310	27	-1.83	11	-12.83
102	5510	27	-2.10	11	-13.10
118	5590	27	-1.67	11	-12.67
134	5670	27	-2.33	11	-13.33

<b>802.11n (HT40) Chain C</b>					
<b>CH</b>	<b>Freq.</b>	<b>Temp. (°C)</b>	<b>Power Spectral Density (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>
38	5190	27	-0.50	4	-4.50
46	5230	27	-1.17	4	-5.17
54	5270	27	-2.00	11	-13.00
62	5310	27	-1.00	11	-12.00
102	5510	27	-1.50	11	-12.50
118	5590	27	-3.00	11	-14.00
134	5670	27	-1.83	11	-12.83

**Dual Tx**

<b>802.11n (HT20) Chain A+B</b>							
CH	Freq.	Temp. (°C)	Power Spectral Density (dBm)		Total Spectral Density (dBm)	Limit (dBm)	Margin (dB)
			Chain A	Chain B			
36	5180	27	-1.33	-1.50	1.60	4	-2.40
44	5220	27	0.00	-0.50	2.77	4	-1.23
48	5240	27	-0.67	-0.67	2.34	4	-1.66
52	5260	27	0.33	-0.33	3.02	11	-7.98
60	5300	27	-0.50	-0.50	2.51	11	-8.49
64	5320	27	-0.67	-0.83	2.26	11	-8.74
100	5500	27	-0.67	-0.50	2.43	11	-8.57
120	5600	27	0.33	0.17	3.26	11	-7.74
140	5700	27	-1.33	-0.50	2.12	11	-8.88

<b>802.11n (HT20) Chain B+C</b>							
CH	Freq.	Temp. (°C)	Power Spectral Density (dBm)		Total Spectral Density (dBm)	Limit (dBm)	Margin (dB)
			Chain B	Chain C			
36	5180	27	-0.83	-1.33	1.94	4	-2.06
44	5220	27	0.17	0.33	3.26	4	-0.74
48	5240	27	-0.50	-1.00	2.27	4	-1.73
52	5260	27	0.00	-1.33	2.40	11	-8.60
60	5300	27	-0.50	-1.50	2.04	11	-8.96
64	5320	27	0.33	-0.67	2.87	11	-8.13
100	5500	27	0.33	-0.67	2.87	11	-8.13
120	5600	27	1.33	-0.33	3.59	11	-7.41
140	5700	27	0.17	-0.83	2.71	11	-8.29

<b>802.11n (HT20) Chain A+C</b>							
CH	Freq.	Temp. (°C)	Power Spectral Density (dBm)		Total Spectral Density (dBm)	Limit (dBm)	Margin (dB)
			Chain A	Chain C			
36	5180	27	-0.67	-1.83	1.80	4	-2.20
44	5220	27	0.50	-0.33	3.12	4	-0.88
48	5240	27	-0.50	-1.00	2.27	4	-1.73
52	5260	27	0.67	-2.17	2.49	11	-8.51
60	5300	27	-0.83	-2.17	1.56	11	-9.44
64	5320	27	-0.67	-1.50	1.95	11	-9.05
100	5500	27	-1.00	-1.50	1.77	11	-9.23
120	5600	27	0.50	-2.67	2.21	11	-8.79
140	5700	27	-1.83	-3.17	0.56	11	-10.44

<b>802.11n (HT40) Chain A+B</b>							
CH	Freq.	Temp. (°C)	Power Spectral Density (dBm)		Total Spectral Density (dBm)	Limit (dBm)	Margin (dB)
			Chain A	Chain B			
38	5190	27	-2.83	-3.83	-0.29	4	-4.29
46	5230	27	-2.17	-3.50	0.23	4	-3.77
54	5270	27	-2.33	-3.50	0.13	11	-10.87
62	5310	27	-3.17	-2.83	0.01	11	-10.99
102	5510	27	-3.00	-3.67	-0.31	11	-11.31
118	5590	27	-2.83	-3.33	-0.06	11	-11.06
134	5670	27	-3.50	-3.00	-0.23	11	-11.23

<b>802.11n (HT40) Chain B+C</b>							
CH	Freq.	Temp. (°C)	Power Spectral Density (dBm)		Total Spectral Density (dBm)	Limit (dBm)	Margin (dB)
			Chain B	Chain C			
38	5190	27	-2.50	-3.33	0.12	4	-3.88
46	5230	27	-1.67	-3.83	0.39	4	-3.61
54	5270	27	-2.00	-4.17	0.06	11	-10.94
62	5310	27	-2.67	-3.83	-0.20	11	-11.20
102	5510	27	-2.33	-5.17	-0.51	11	-11.51
118	5590	27	-2.33	-6.67	-0.97	11	-11.97
134	5670	27	-2.50	-6.50	-1.04	11	-12.04

<b>802.11n (HT40) Chain A+C</b>							
<b>CH</b>	<b>Freq.</b>	<b>Temp. (°C)</b>	<b>Power Spectral Density (dBm)</b>		<b>Total Spectral Density (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>
			<b>Chain A</b>	<b>Chain C</b>			
38	5190	27	-1.50	-3.17	0.76	4	-3.24
46	5230	27	-1.50	-3.67	0.56	4	-3.44
54	5270	27	-0.67	-5.33	0.61	11	-10.39
62	5310	27	-2.50	-3.83	-0.10	11	-11.10
102	5510	27	-1.67	-5.33	-0.12	11	-11.12
118	5590	27	-1.00	-6.83	0.01	11	-10.99
134	5670	27	-1.83	-6.33	-0.51	11	-11.51



**Triple Tx**

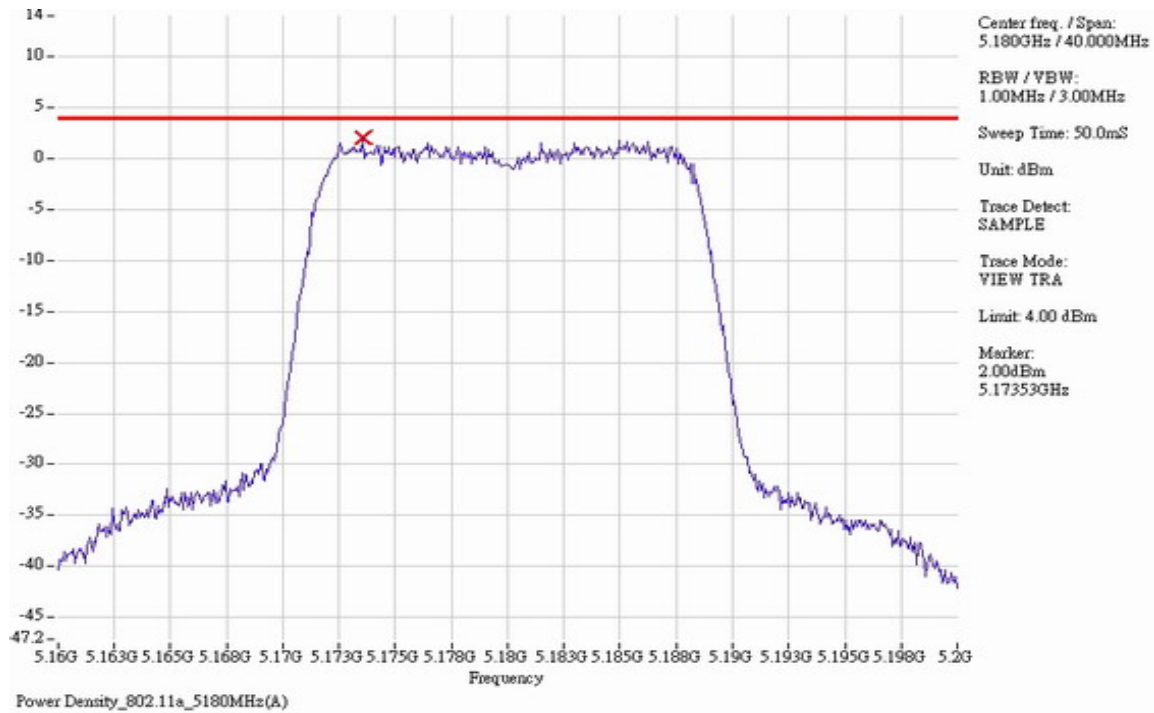
<b>802.11n (HT20) Chain A+B+C</b>								
CH	Freq.	Temp. (°C)	Power Spectral Density (dBm)			Power Spectral Density (dBm)	Limit (dBm)	Margin (dB)
			Chain A	Chain B	Chain C			
36	5180	27	-1.50	-1.33	-3.83	2.69	4	-1.31
44	5220	27	0.33	-1.50	-3.67	3.46	4	-0.54
48	5240	27	-1.50	-2.17	-5.00	2.12	4	-1.88
52	5260	27	-0.17	-1.50	-5.00	2.98	11	-8.02
60	5300	27	-1.83	-2.00	-6.17	1.84	11	-9.16
64	5320	27	-1.67	-2.00	-4.50	2.22	11	-8.78
100	5500	27	0.17	-1.83	-3.67	3.27	11	-7.73
120	5600	27	0.00	-0.83	-2.33	3.82	11	-7.18
140	5700	27	-3.67	-3.17	-4.33	1.07	11	-9.93

<b>802.11n (HT40) Chain A+B+C</b>								
CH	Freq.	Temp. (°C)	Power Spectral Density (dBm)			Power Spectral Density (dBm)	Limit (dBm)	Margin (dB)
			Chain A	Chain B	Chain C			
38	5190	27	-4.00	-3.83	-5.33	0.43	4	-3.57
46	5230	27	-3.33	-4.83	-6.67	0.04	4	-3.96
54	5270	27	-4.17	-4.83	-7.50	-0.51	11	-11.51
62	5310	27	-4.83	-4.33	-6.33	-0.31	11	-11.31
102	5510	27	-4.17	-4.83	-7.50	-0.51	11	-10.76
118	5590	27	-4.83	-4.33	-6.33	-0.31	11	-10.40
134	5670	27	-4.17	-4.83	-7.50	-0.51	11	-11.68

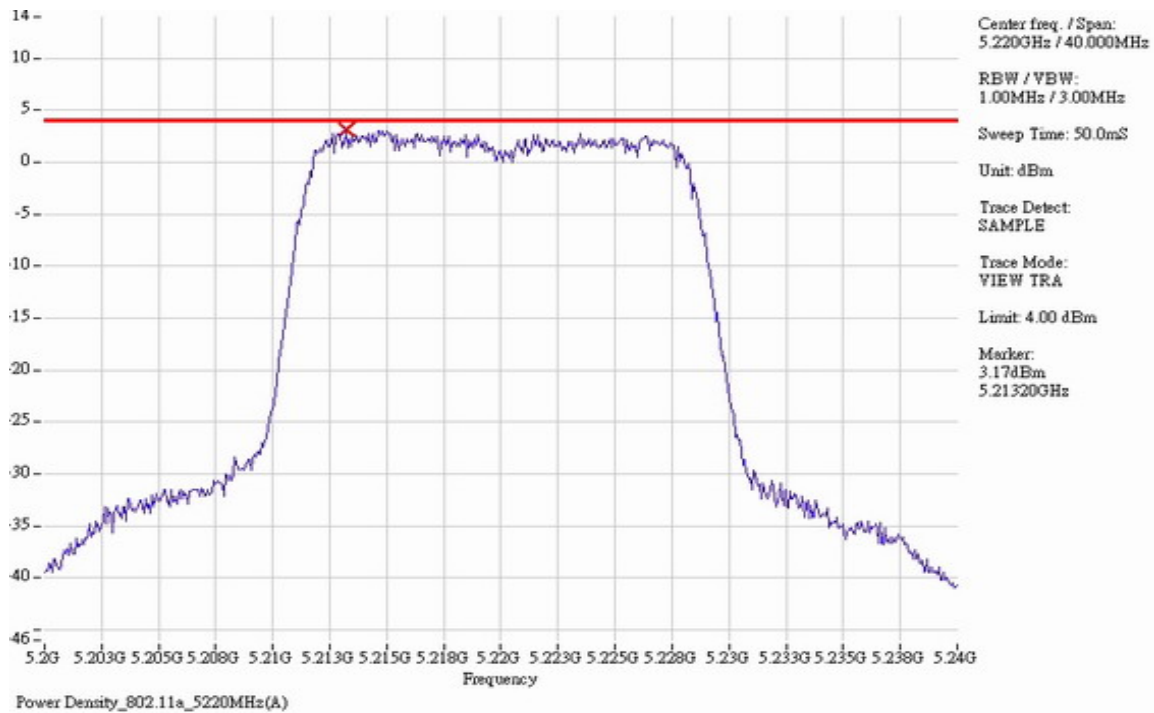
# Power spectral density

## Single Tx

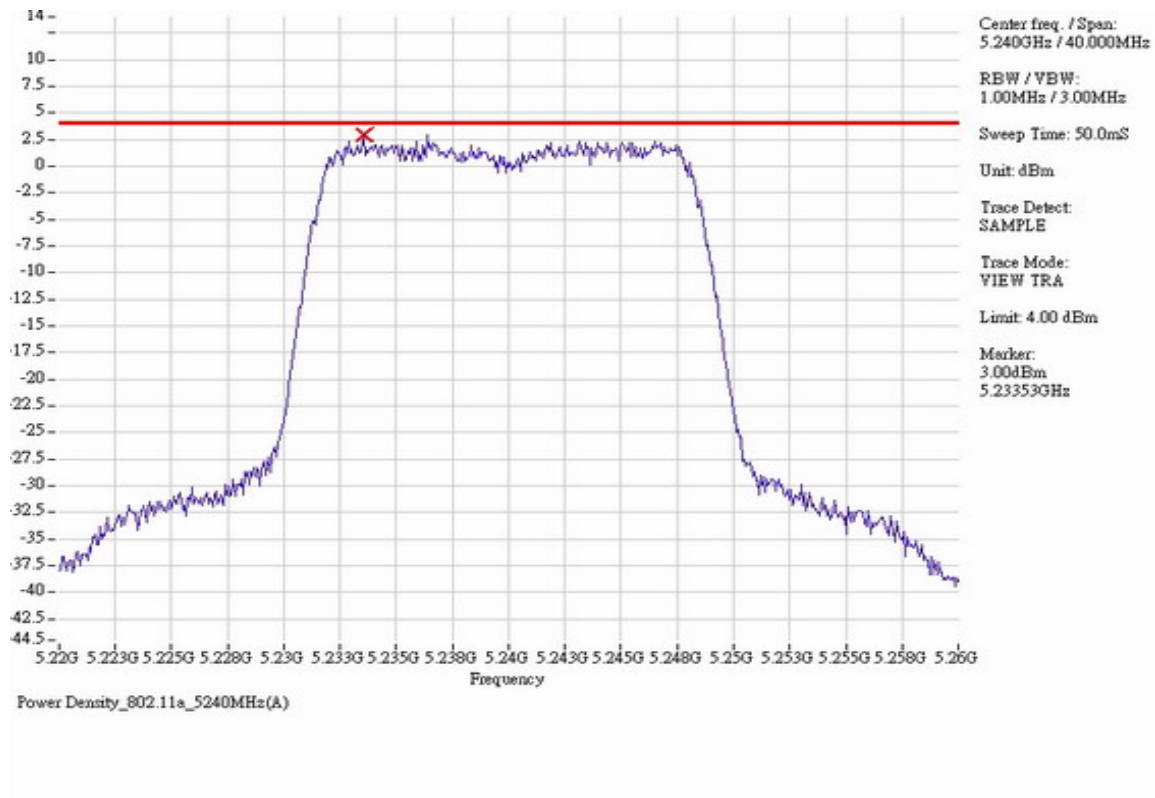
### 802.11 a Chain A CH36 5180MHz



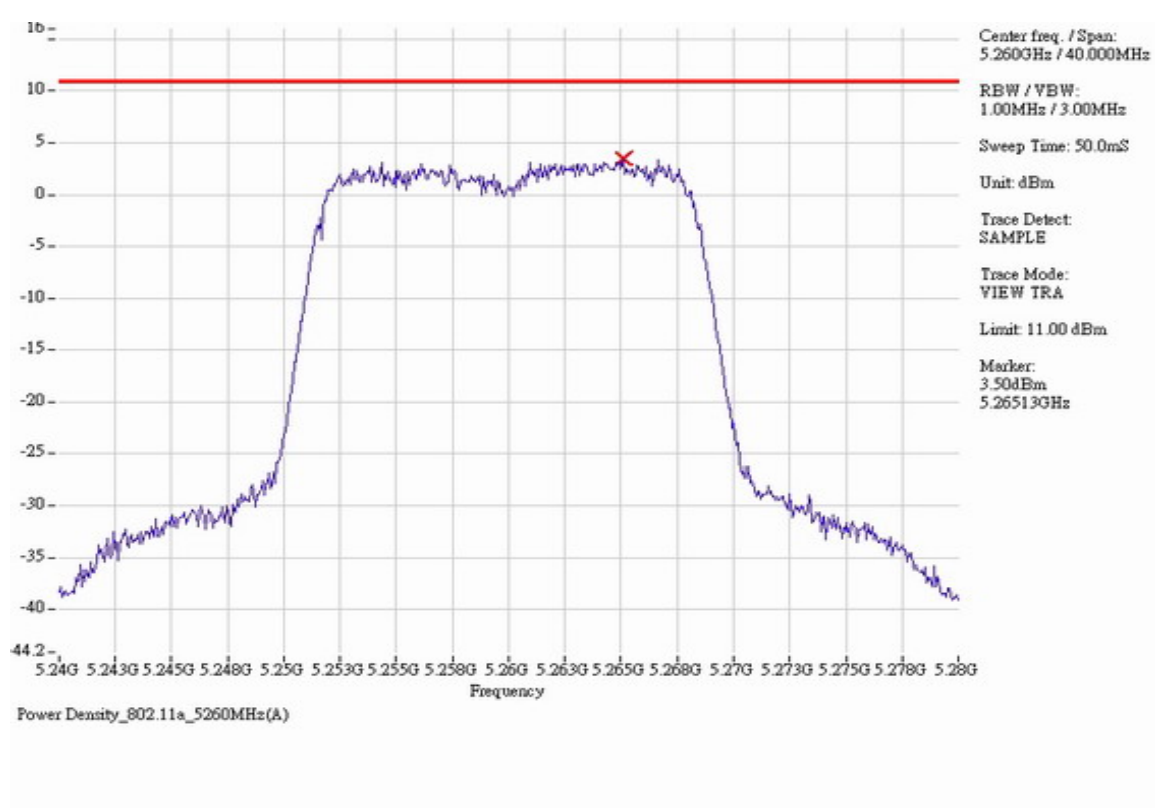
### 802.11 a Chain A CH44 5220MHz



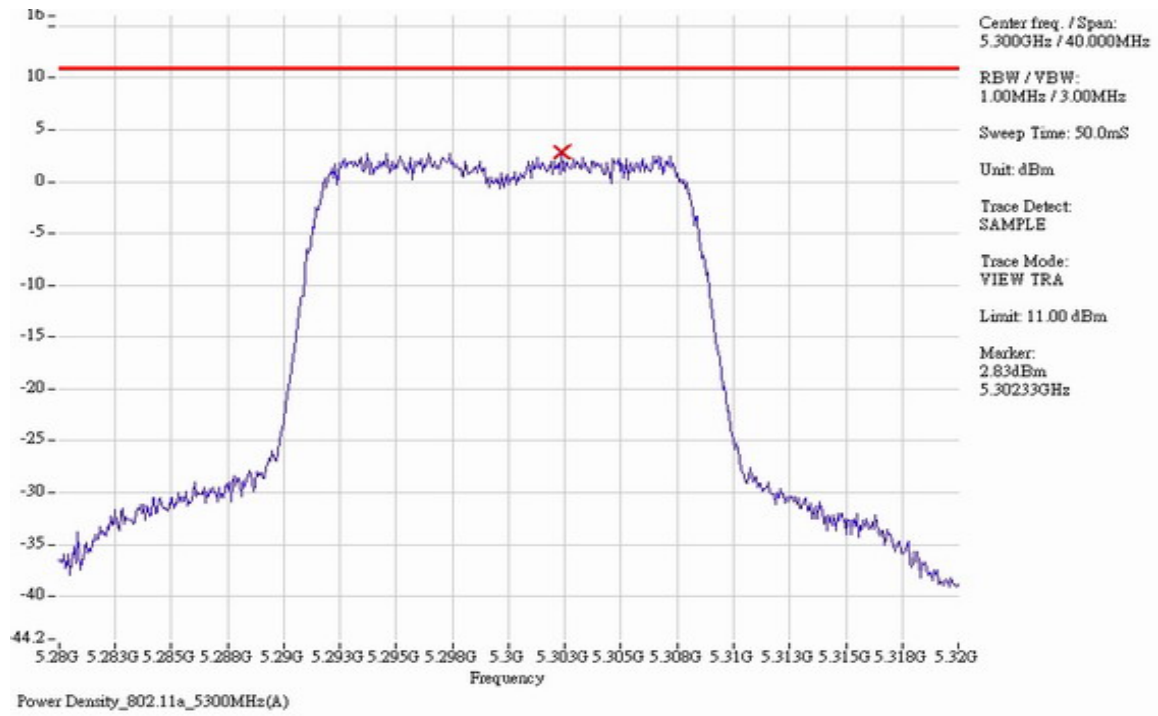
### 802.11 a Chain A CH48 5240MHz



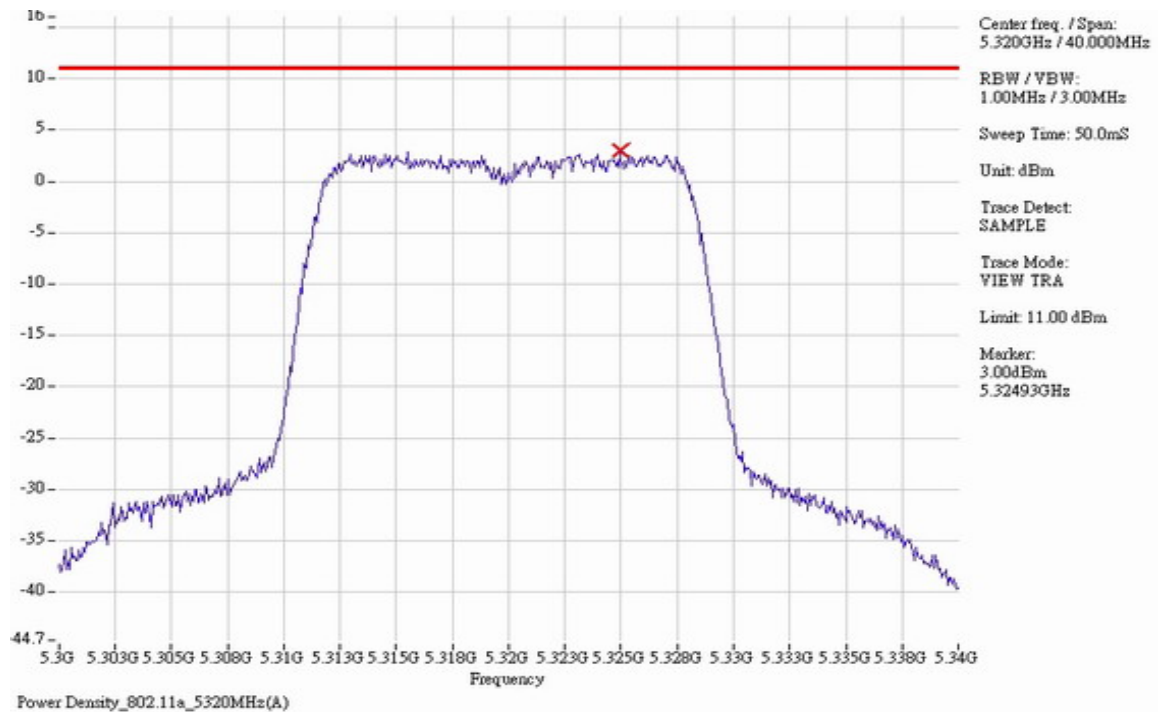
### 802.11 a Chain A CH52 5260MHz



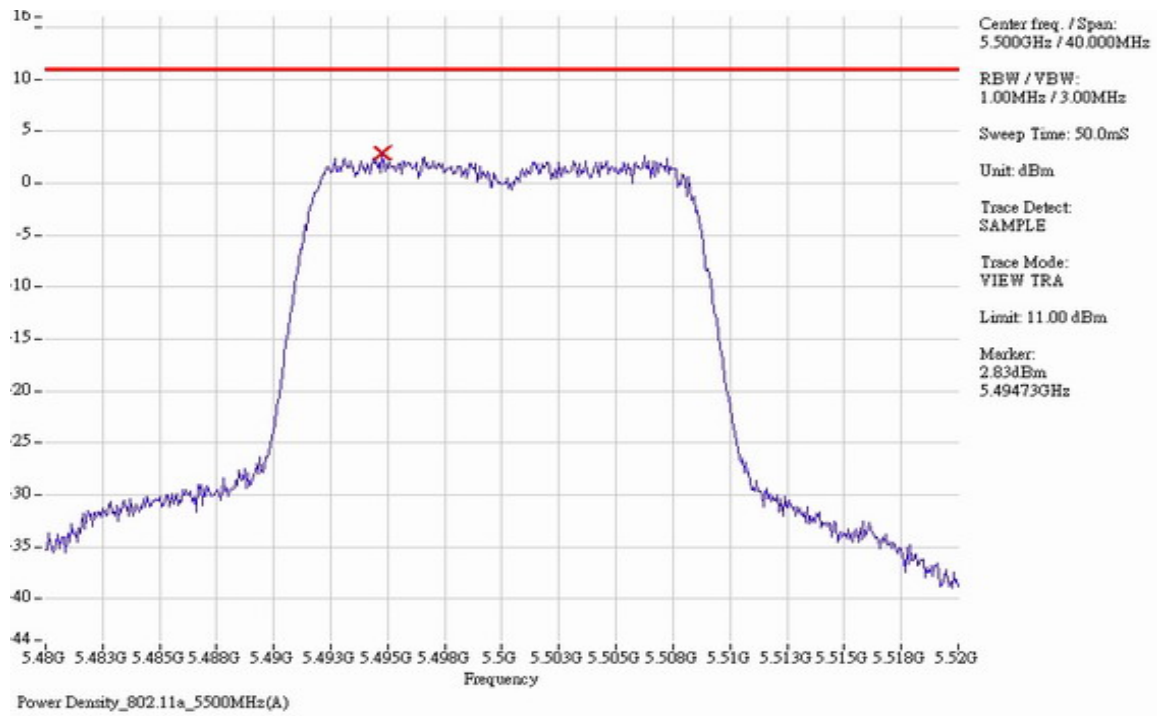
### 802.11 a Chain A CH60 5300MHz



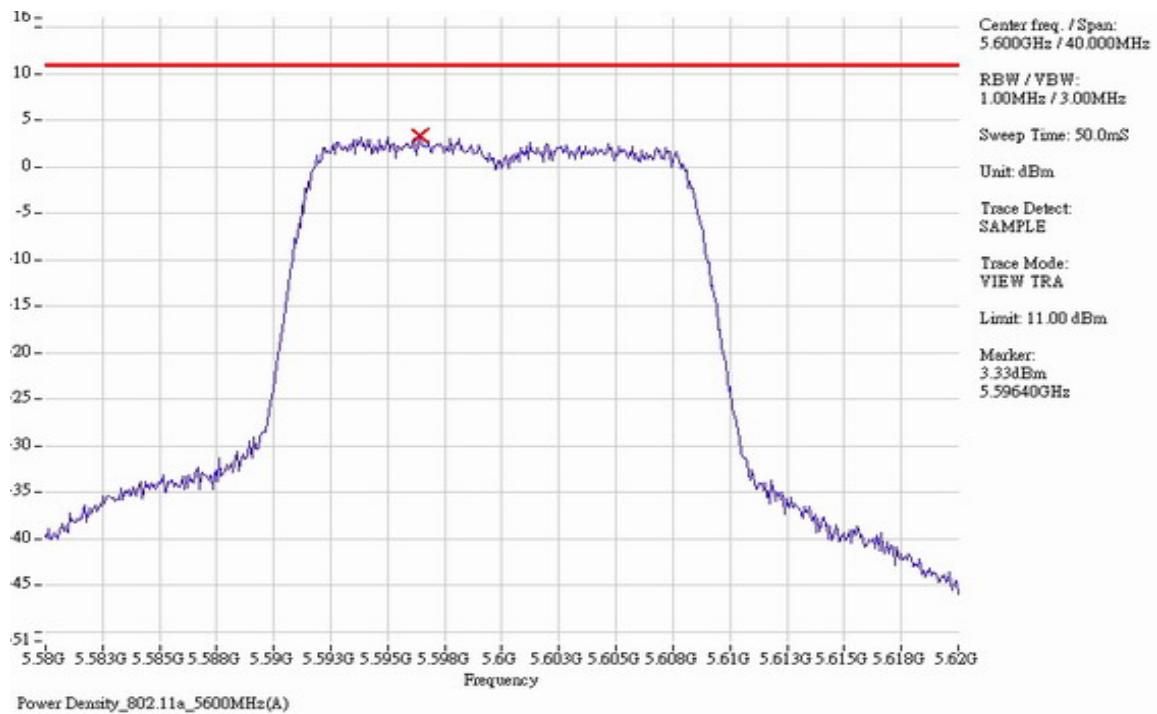
### 802.11 a Chain A CH64 5320MHz



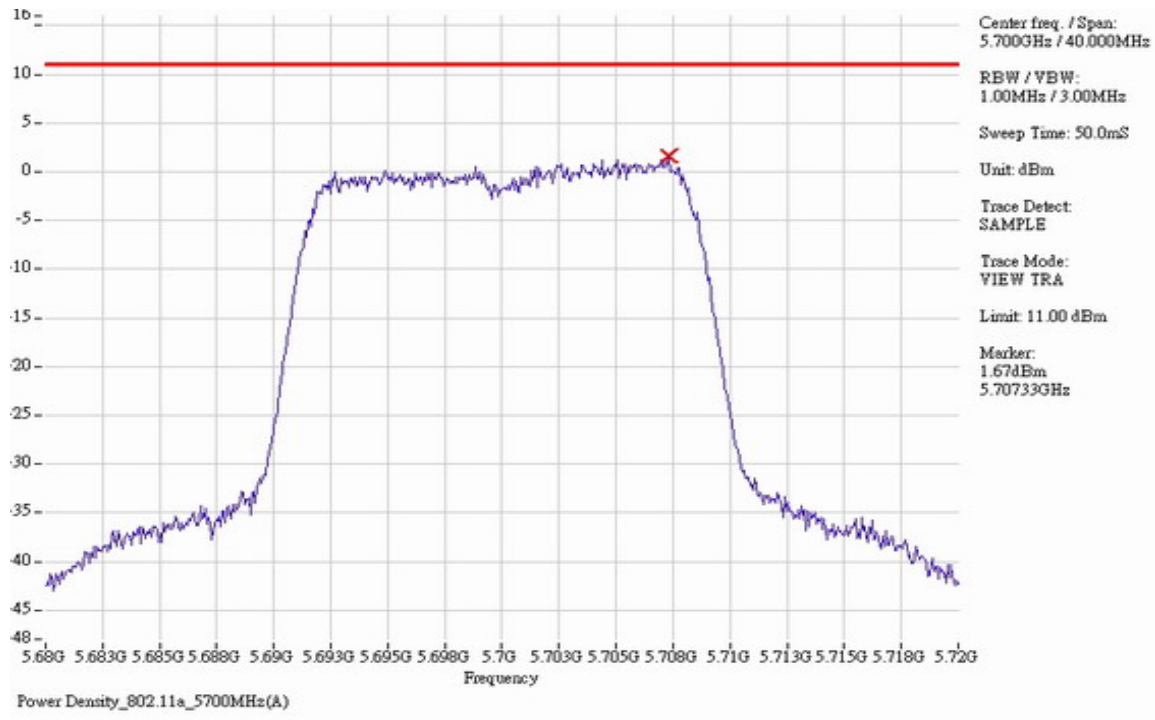
### 802.11 a Chain A CH100 5500MHz



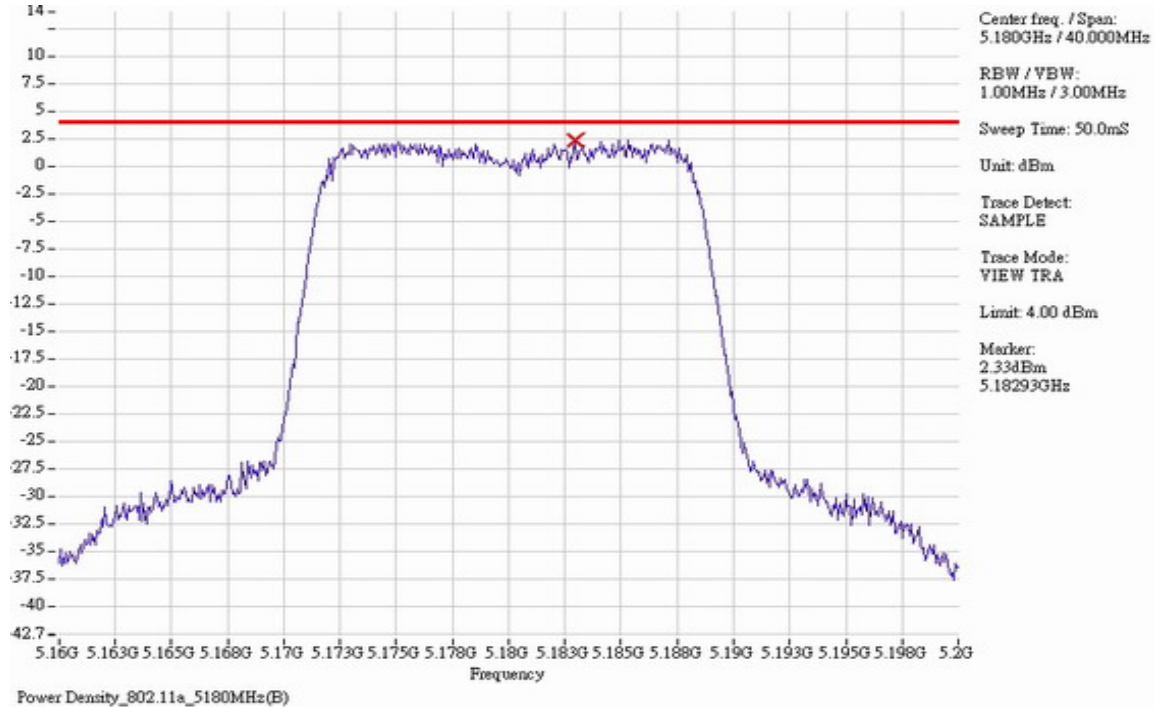
### 802.11 a Chain A CH120 5600MHz



### 802.11 a Chain A CH140 5700MHz

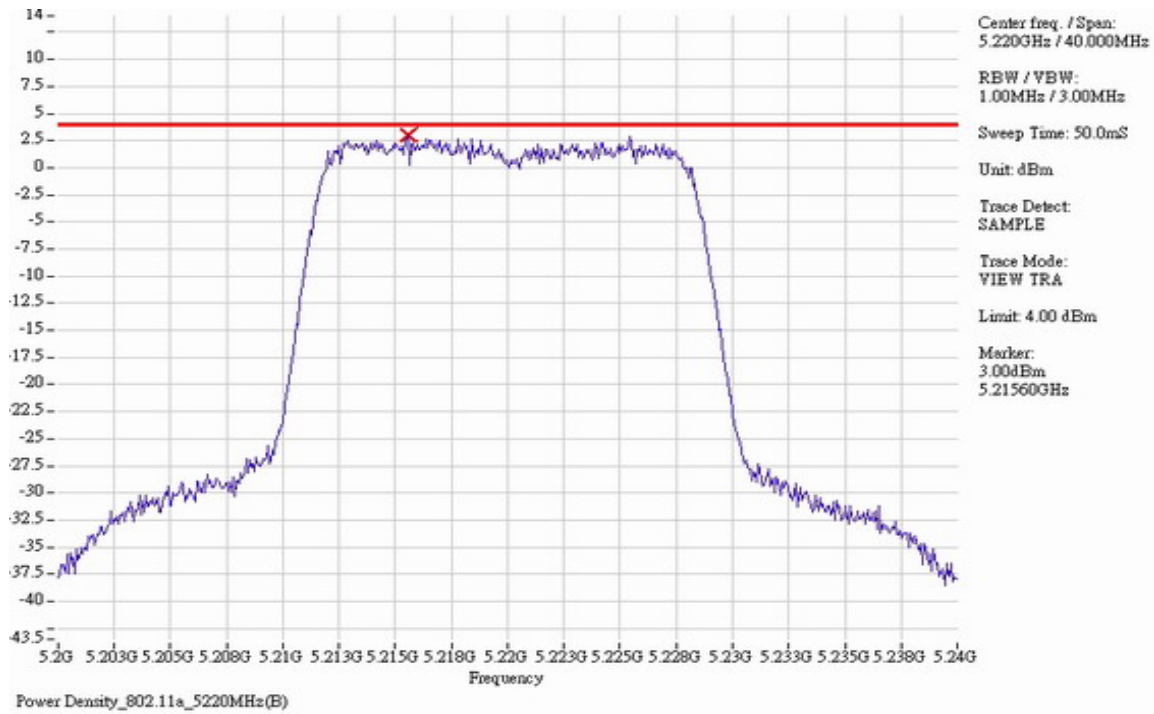


### 802.11 a Chain B CH36 5180MHz

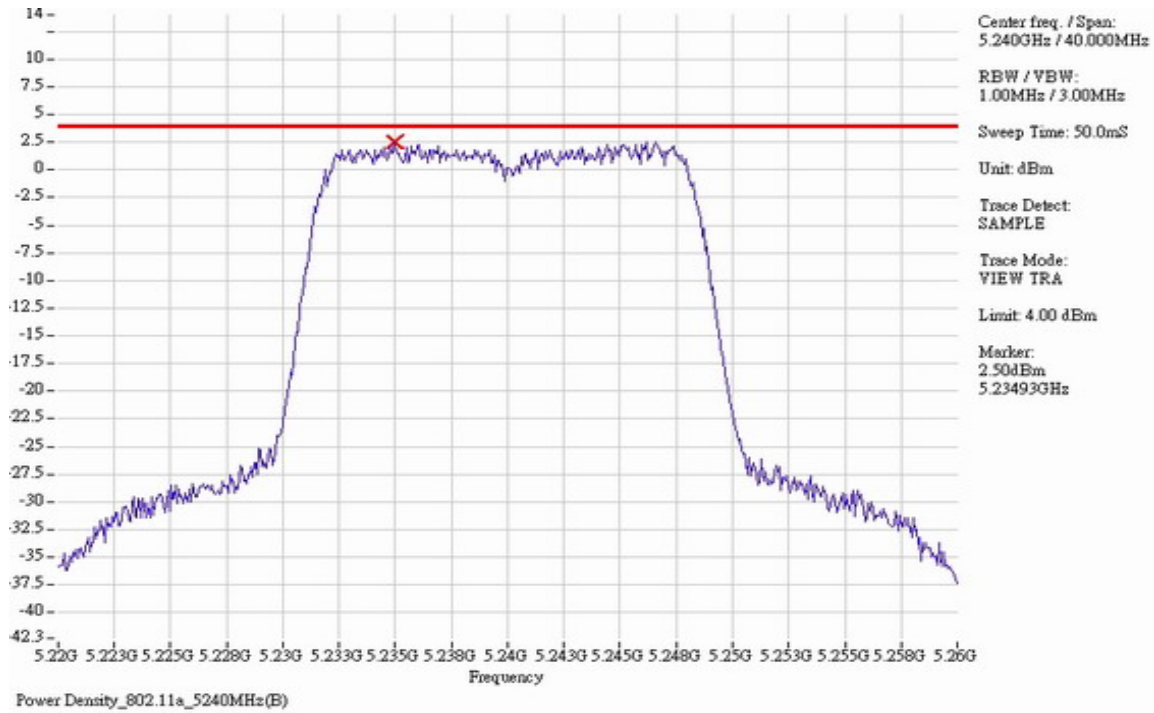




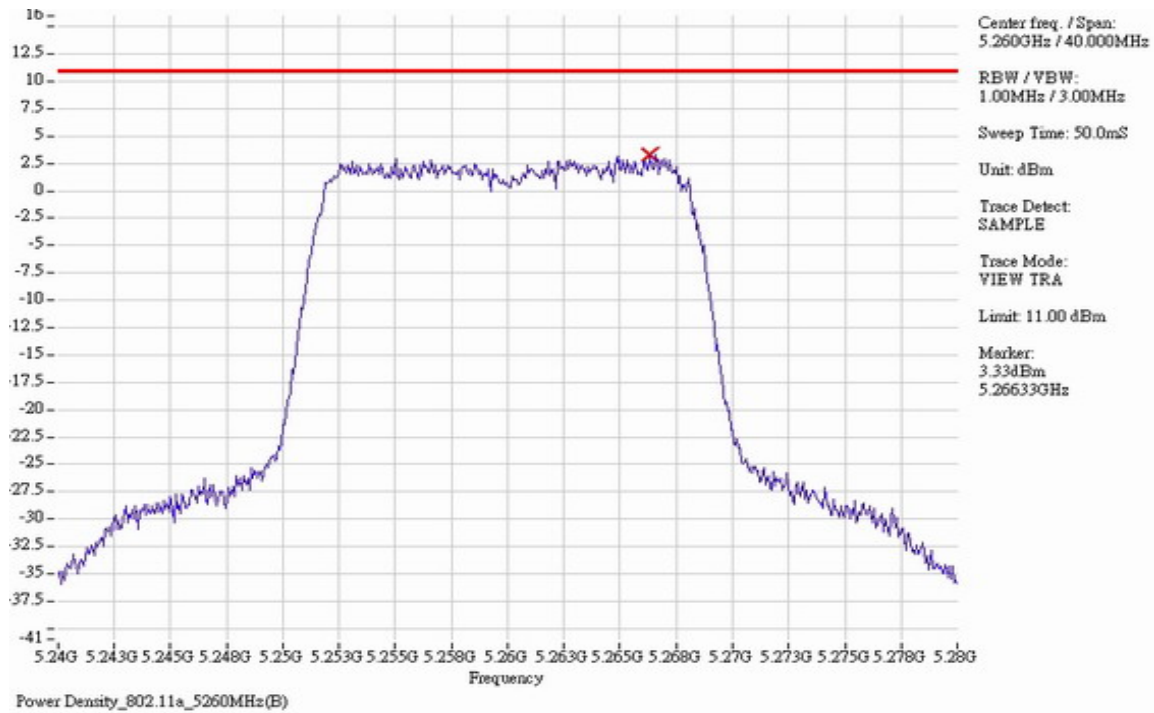
### 802.11 a Chain B CH44 5220MHz



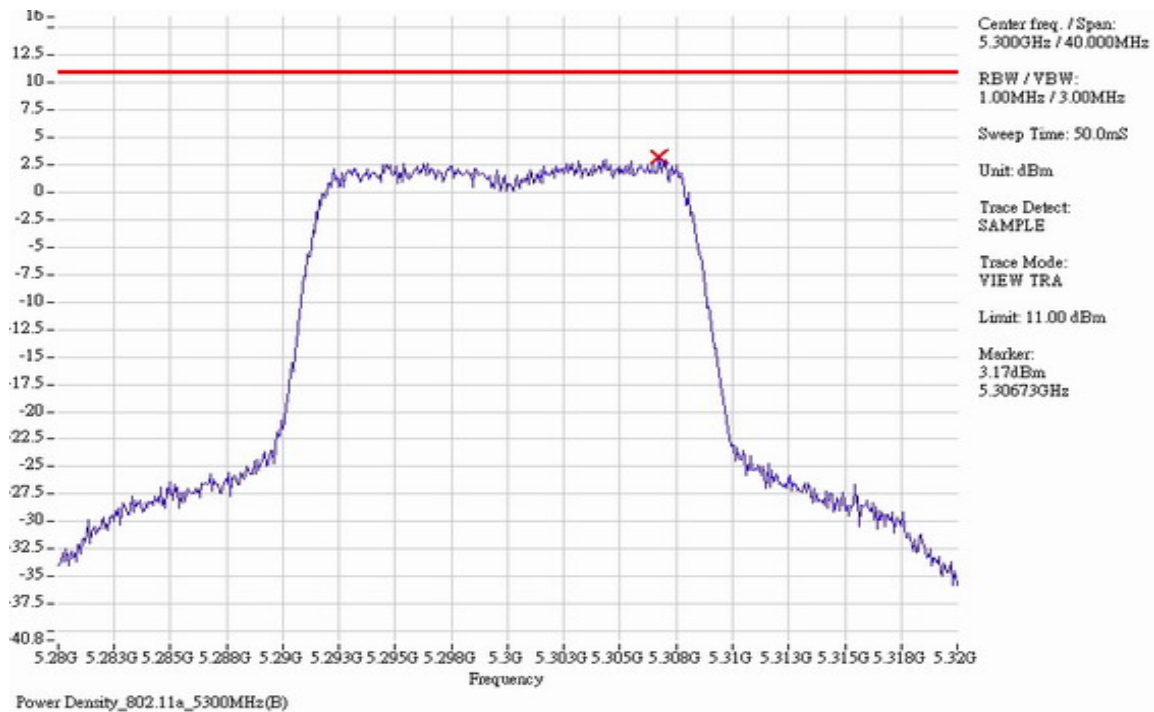
### 802.11 a Chain B CH48 5240MHz



### 802.11 a Chain B CH52 5260MHz

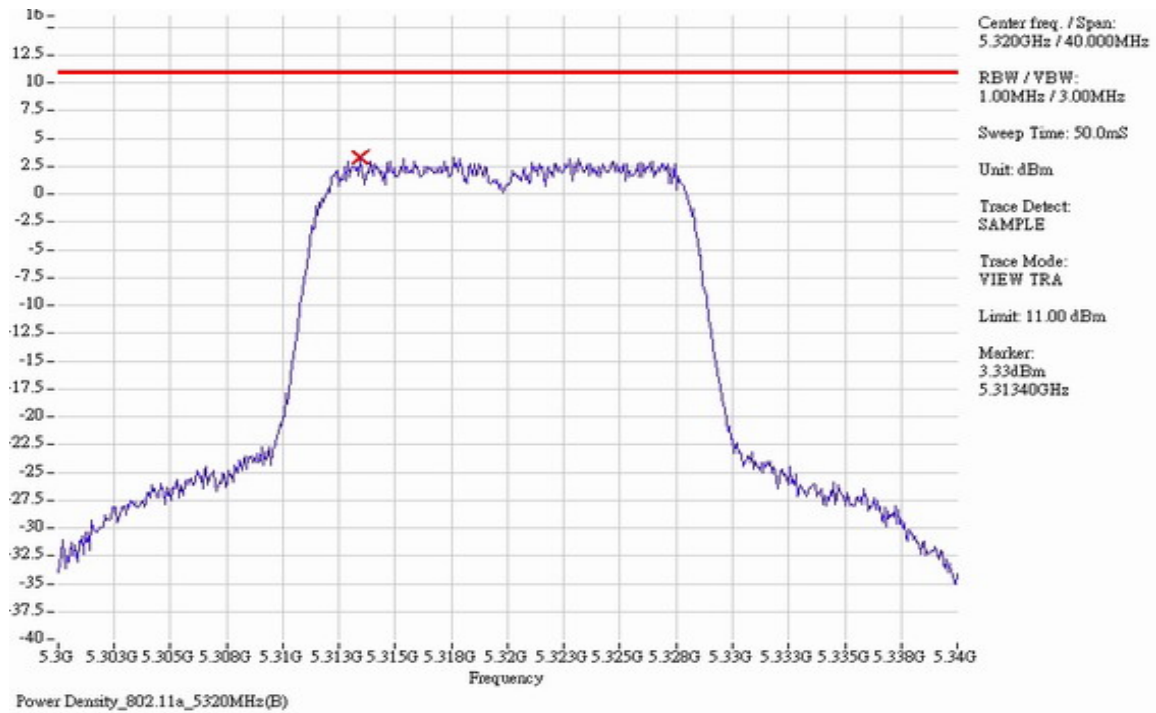


### 802.11 a Chain B CH60 5300MHz

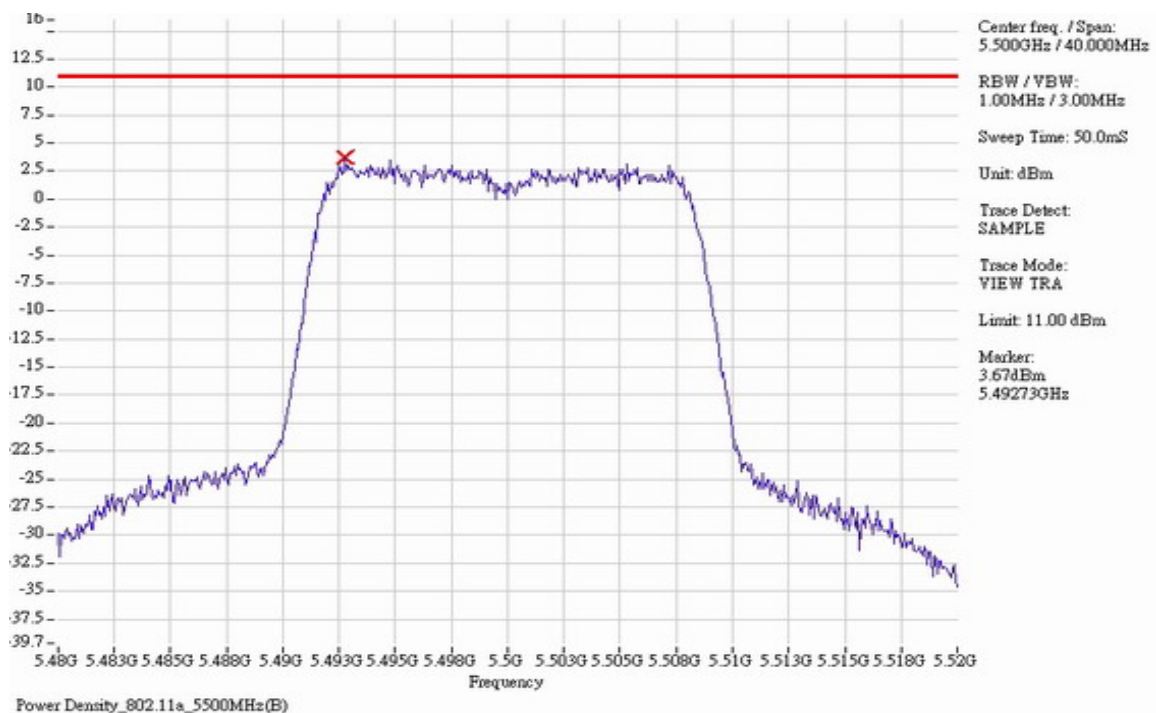




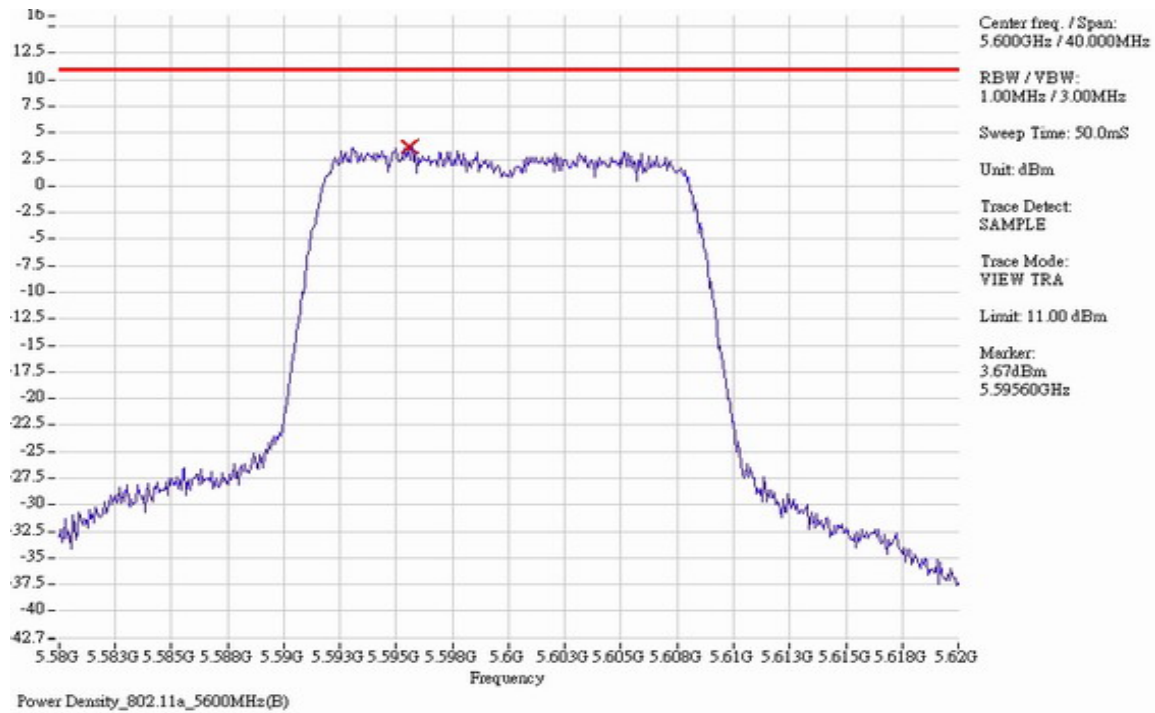
### 802.11 a Chain B CH64 5320MHz



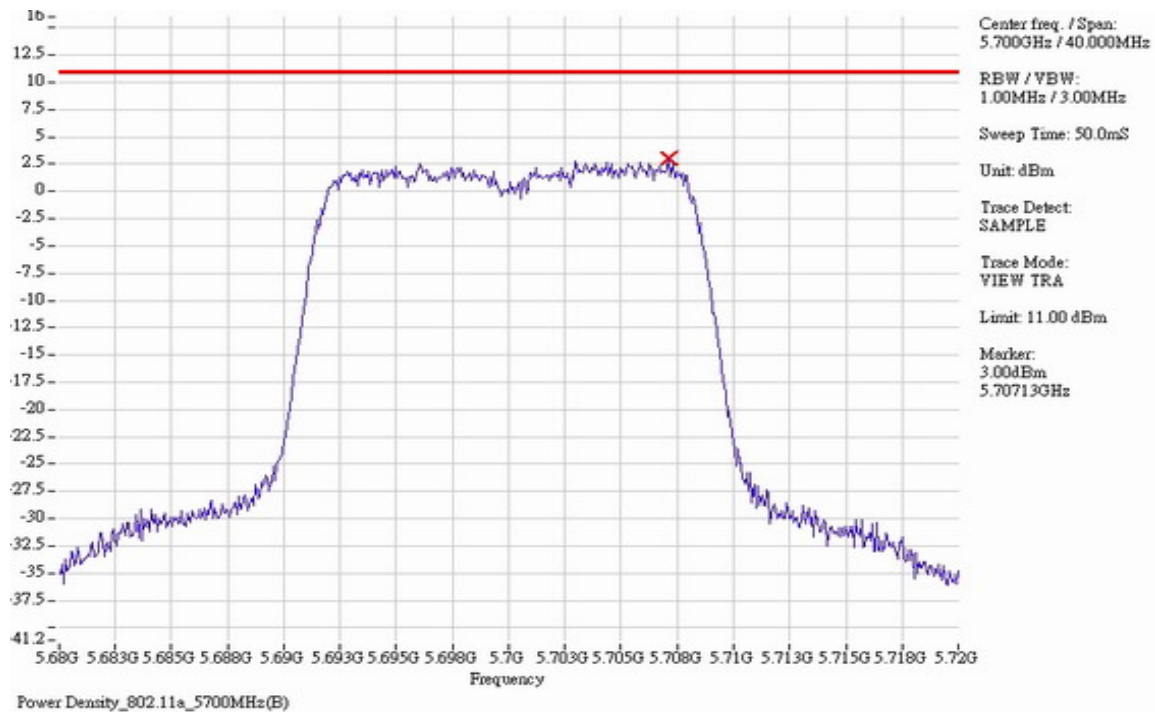
### 802.11 a Chain B CH100 5500MHz



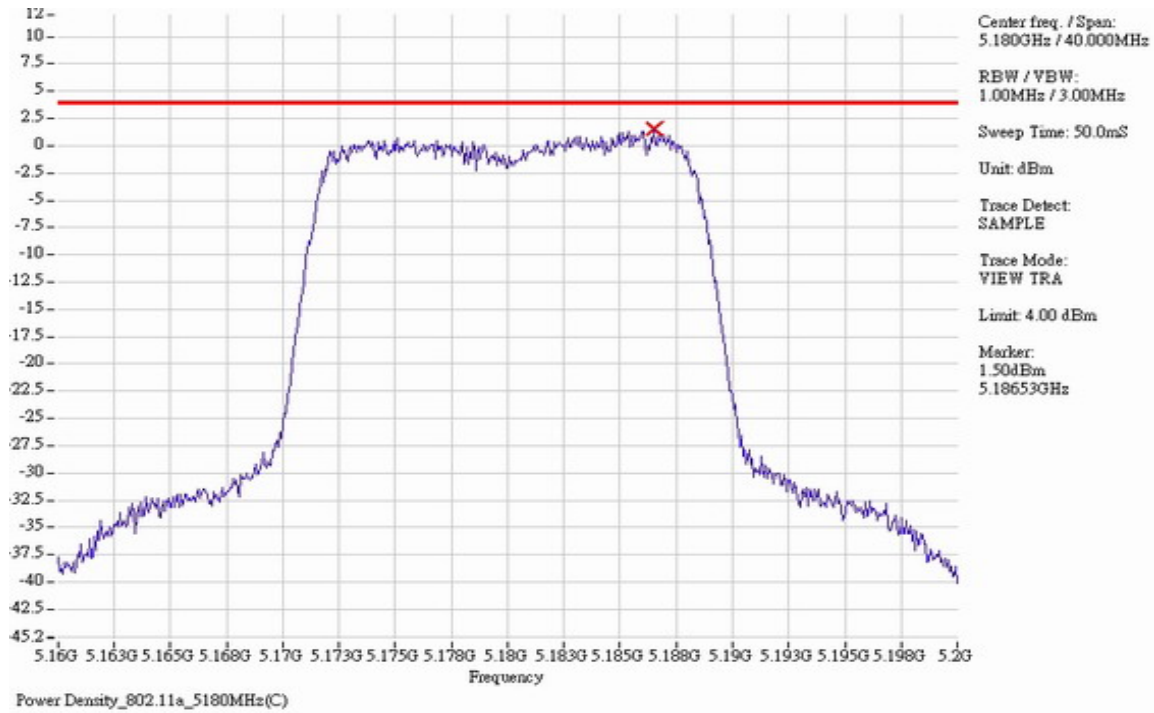
### 802.11 a Chain B CH120 5600MHz



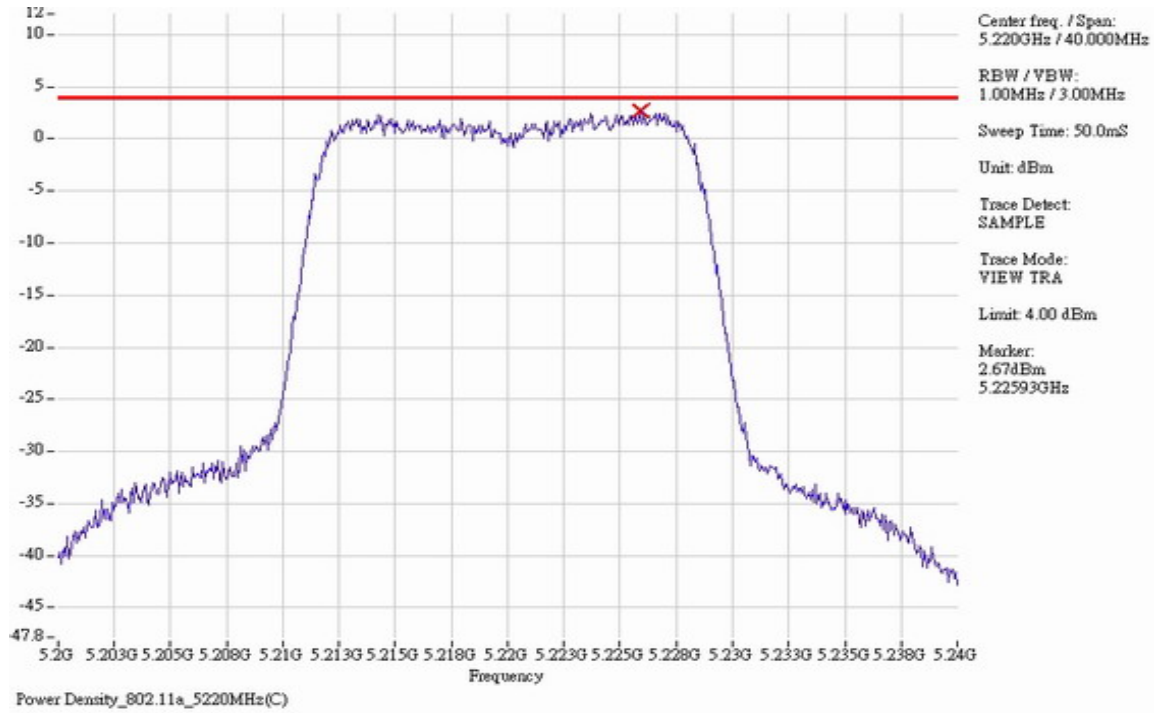
### 802.11 a Chain B CH140 5700MHz



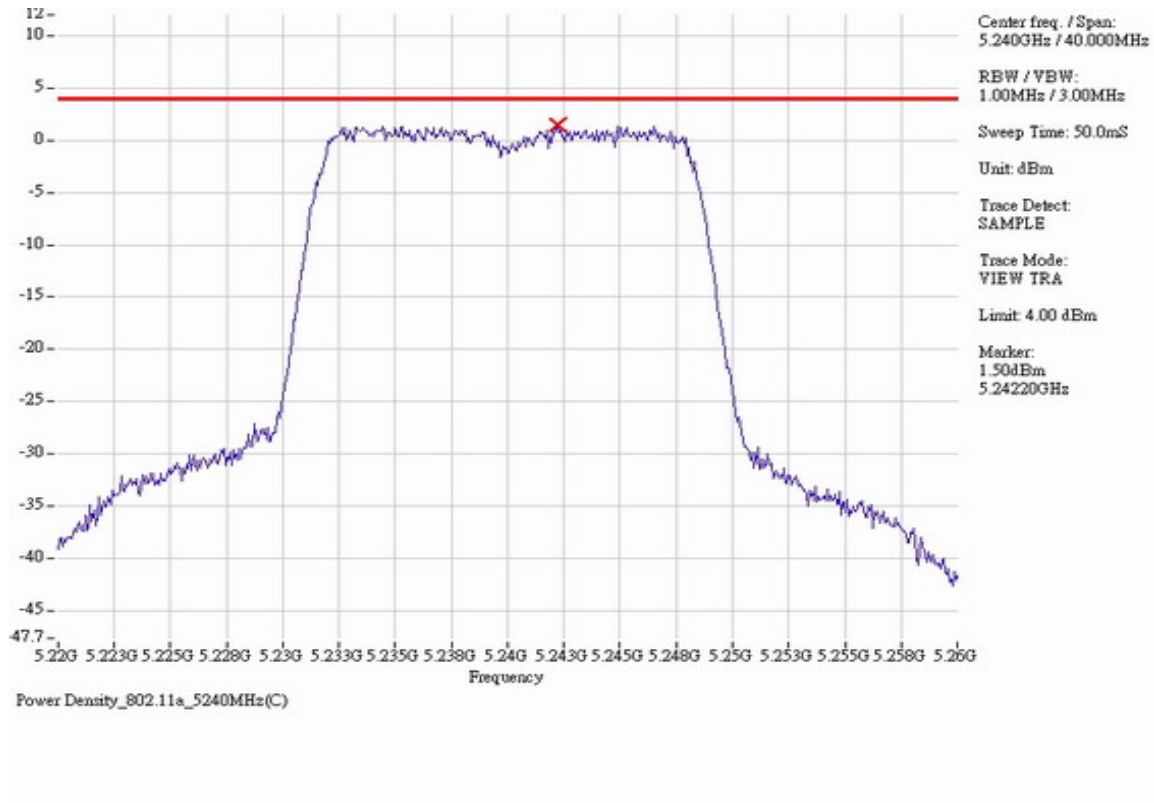
### 802.11 a Chain C CH36 5180MHz



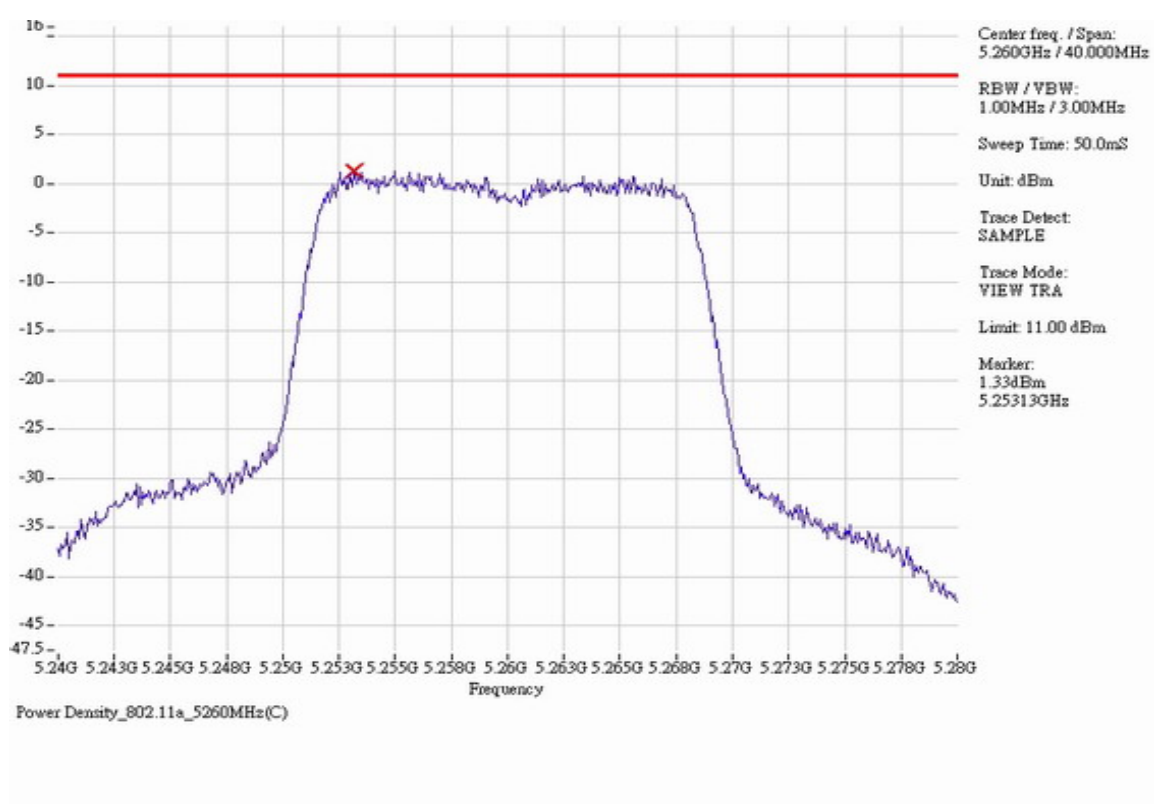
### 802.11 a Chain C CH44 5220MHz



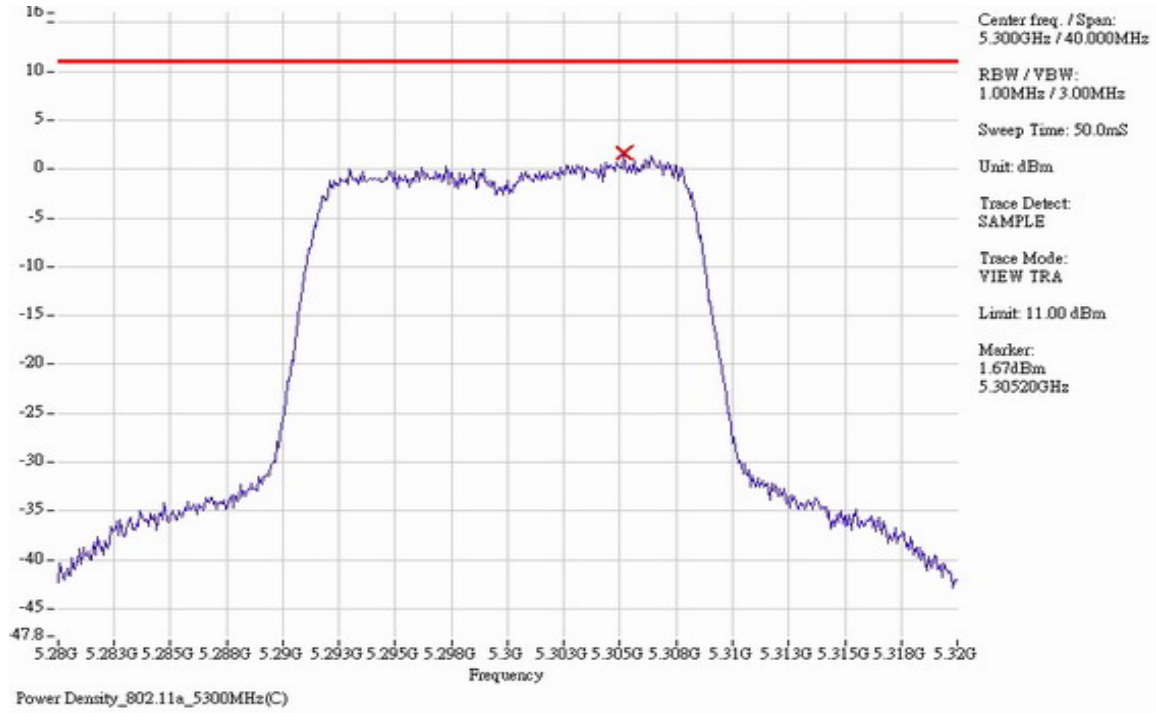
### 802.11 a Chain C CH48 5240MHz



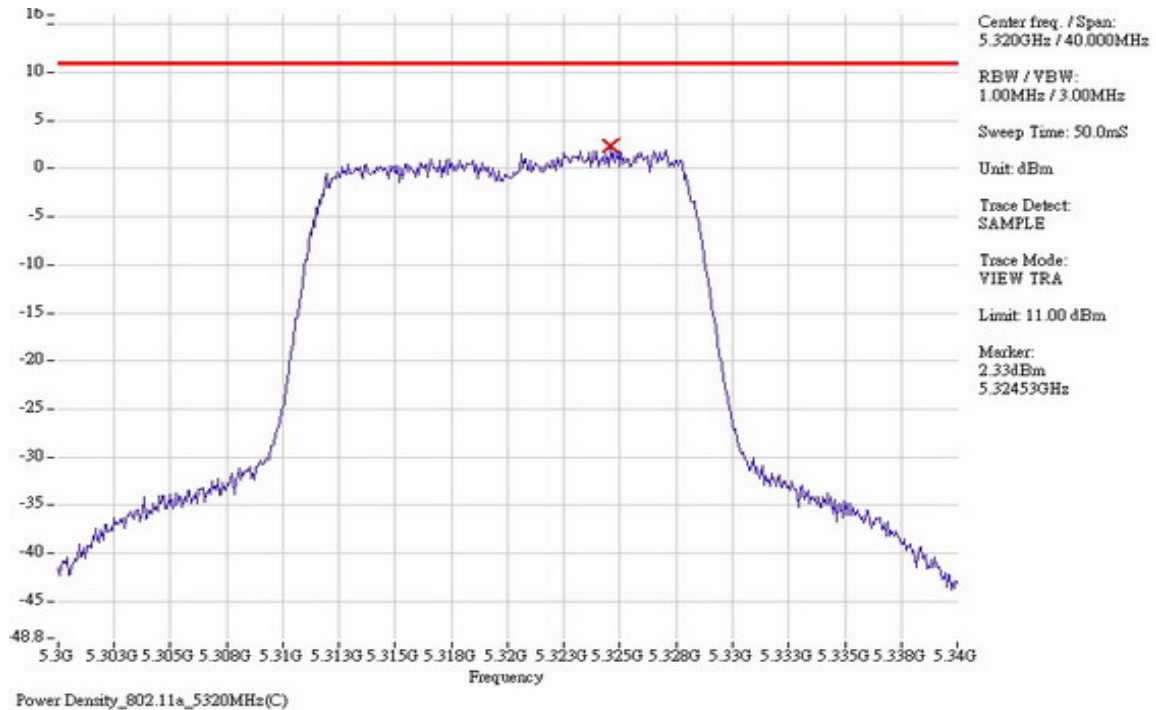
### 802.11 a Chain C CH52 5260MHz



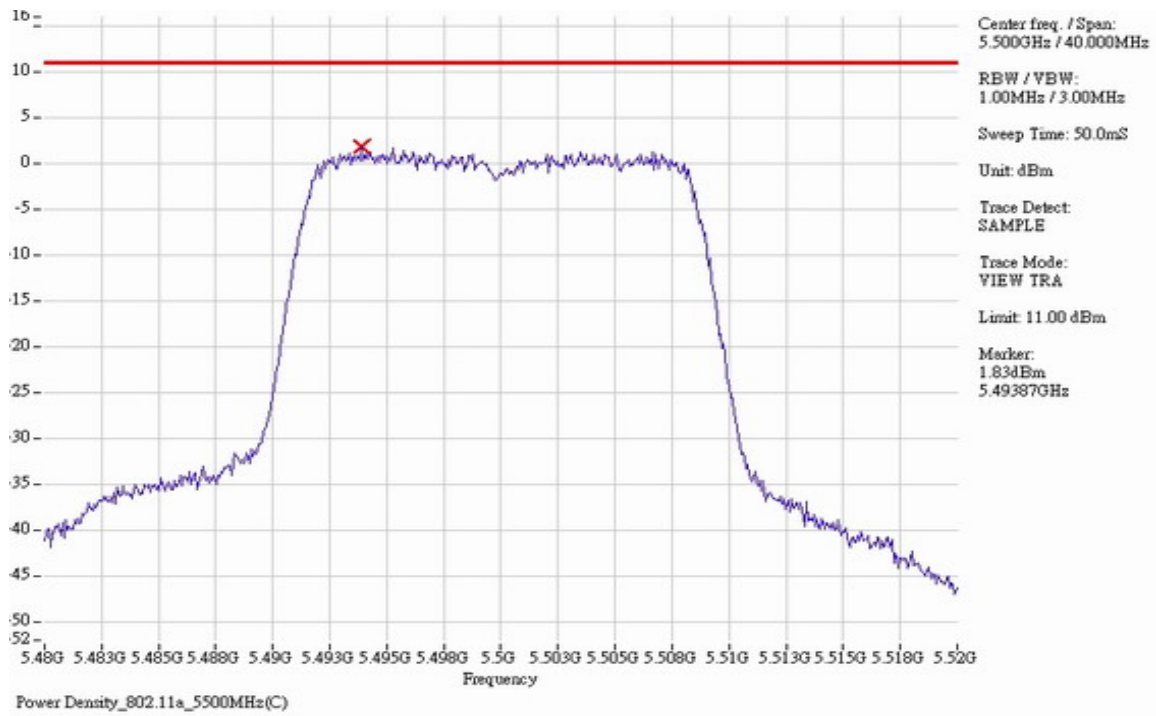
### 802.11 a Chain C CH60 5300MHz



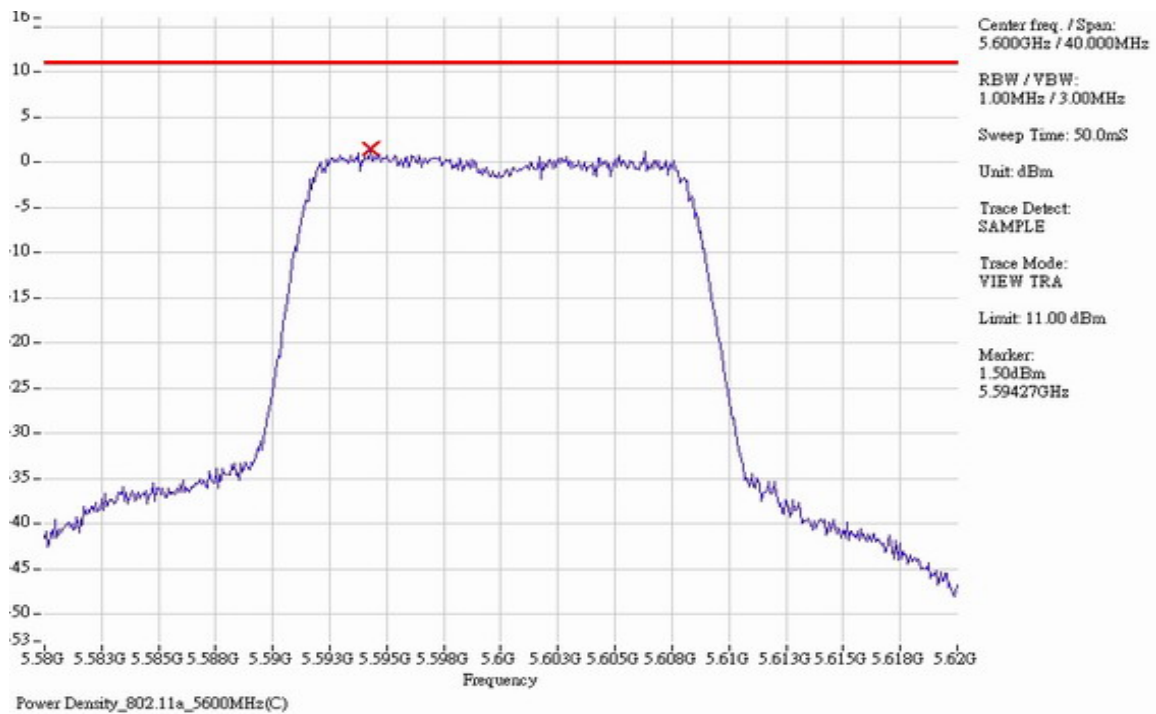
### 802.11 a Chain C CH64 5320MHz



### 802.11 a Chain C CH100 5500MHz

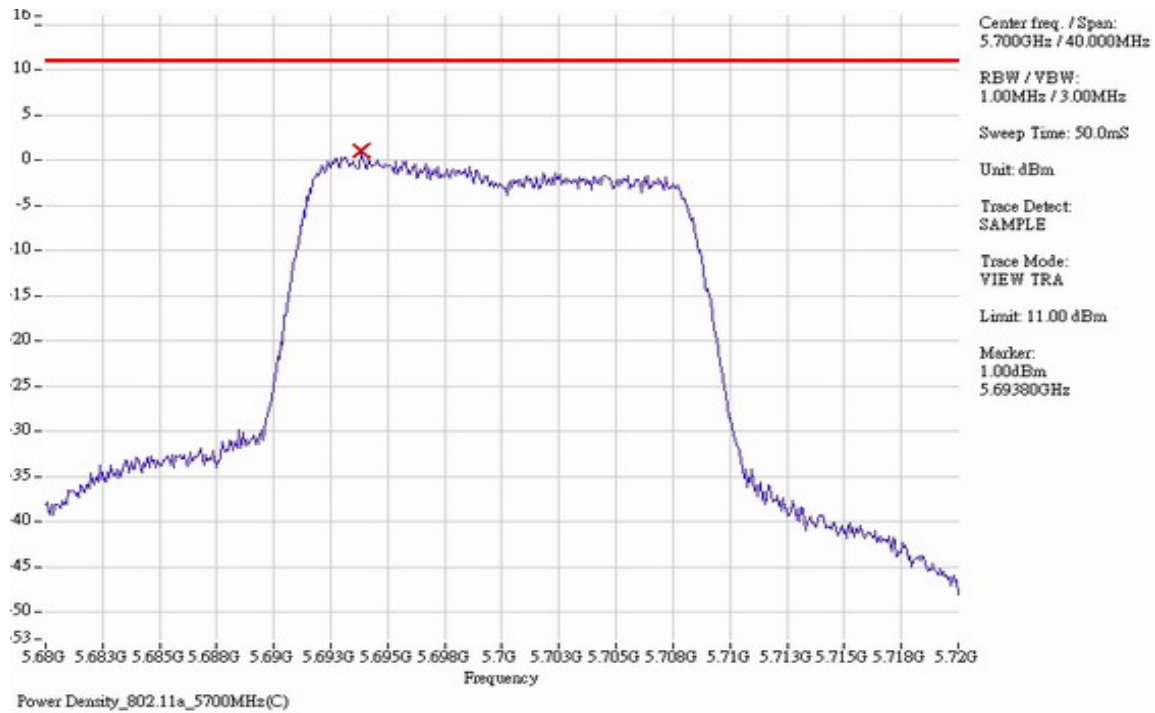


### 802.11 a Chain C CH120 5600MHz

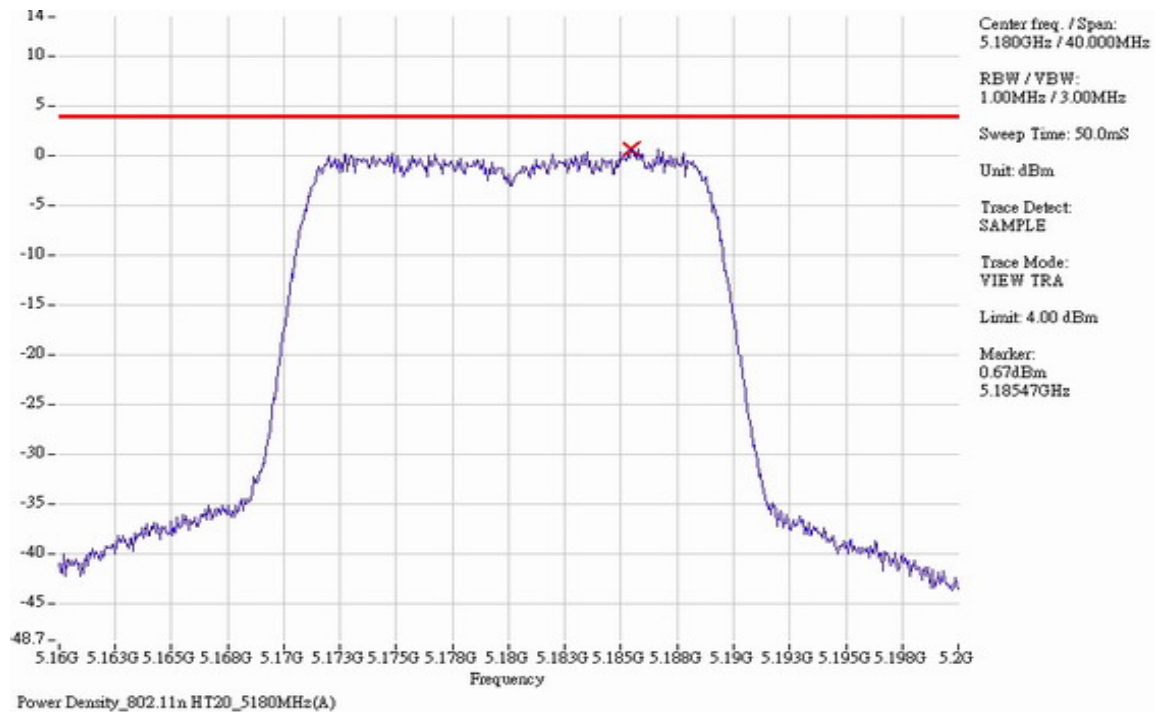




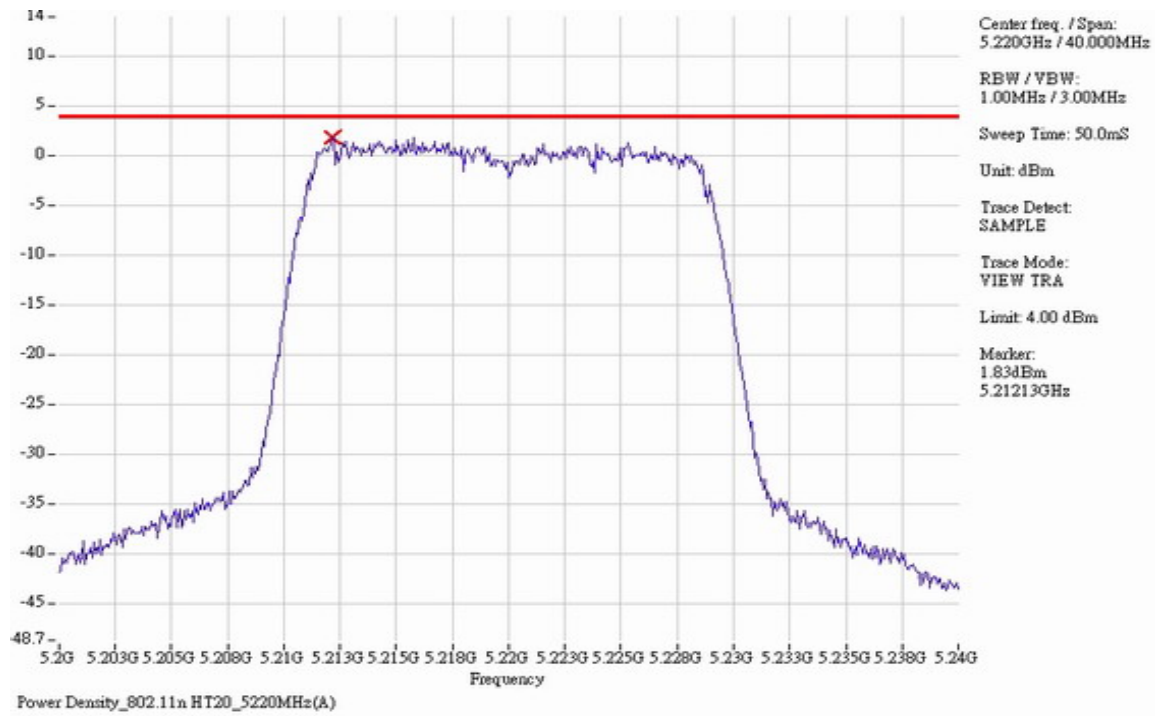
### 802.11 a Chain C CH140 5700MHz



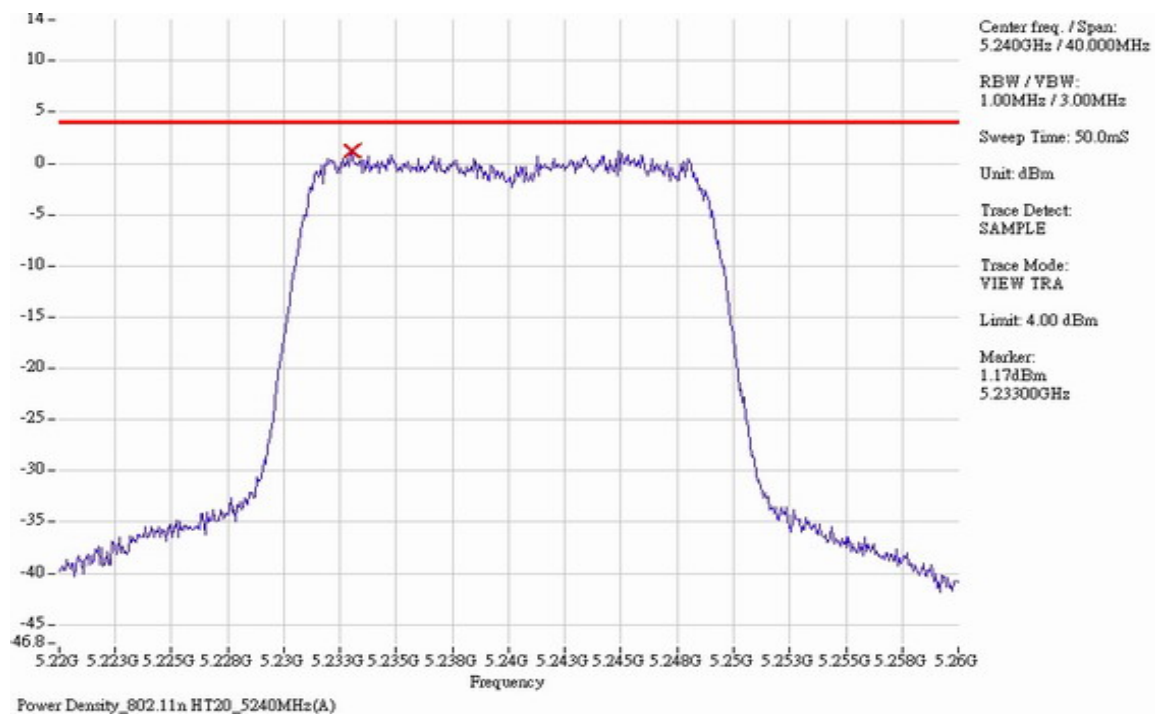
### 802.11 n (HT20) Chain A CH36 5180MHz



### 802.11 n (HT20) Chain A CH44 5220MHz

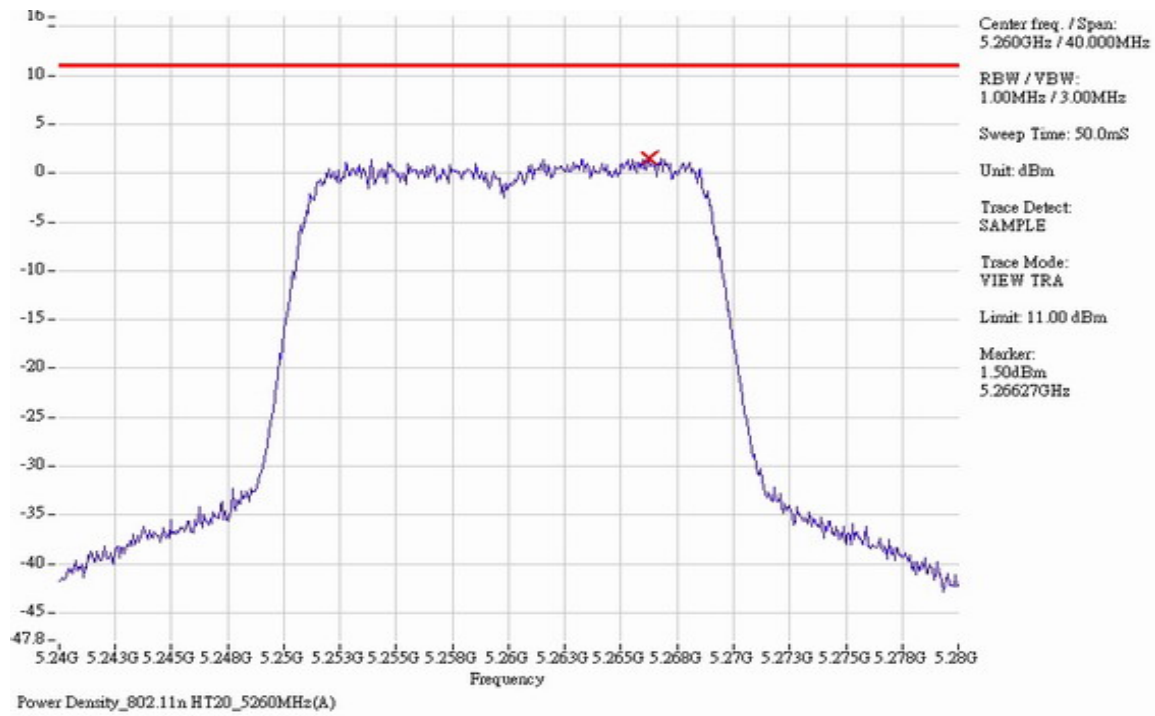


### 802.11 n (HT20) Chain A CH48 5240MHz

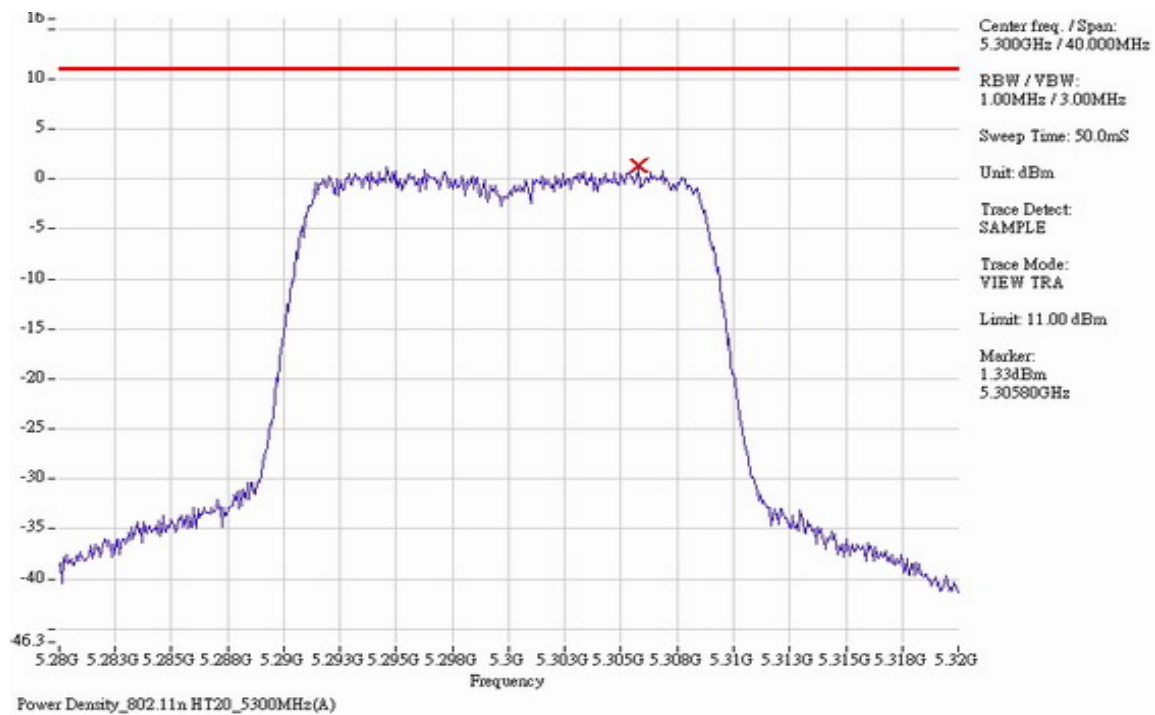




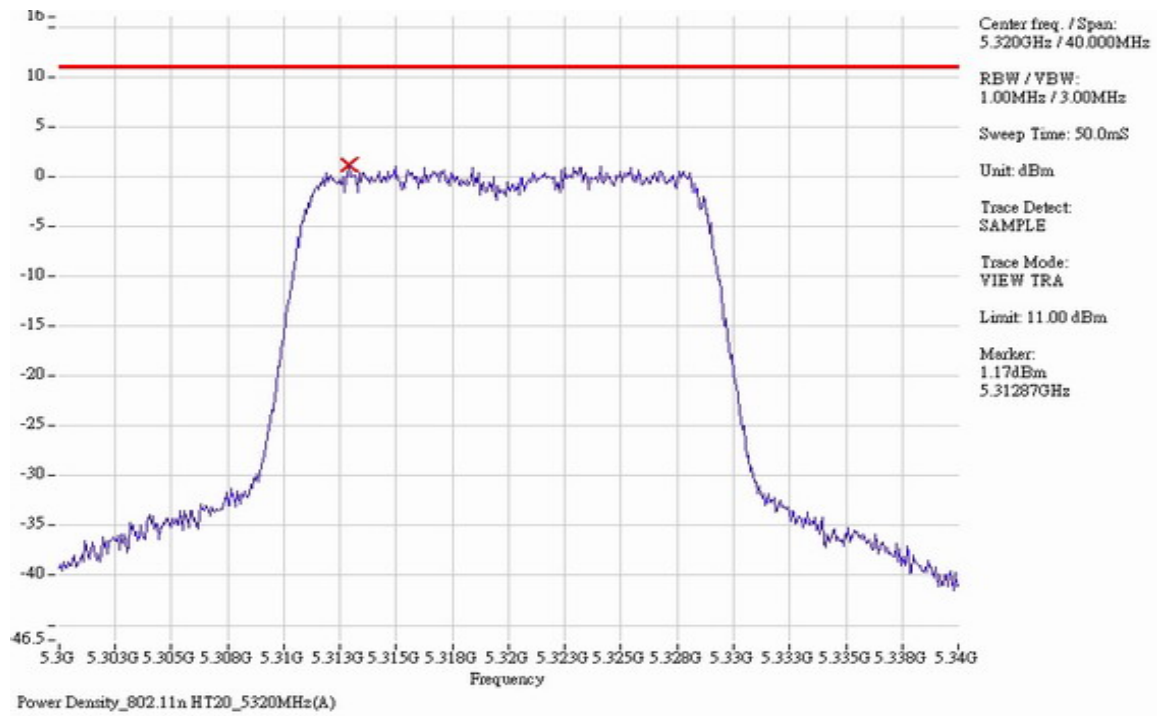
### 802.11 n (HT20) Chain A CH52 5260MHz



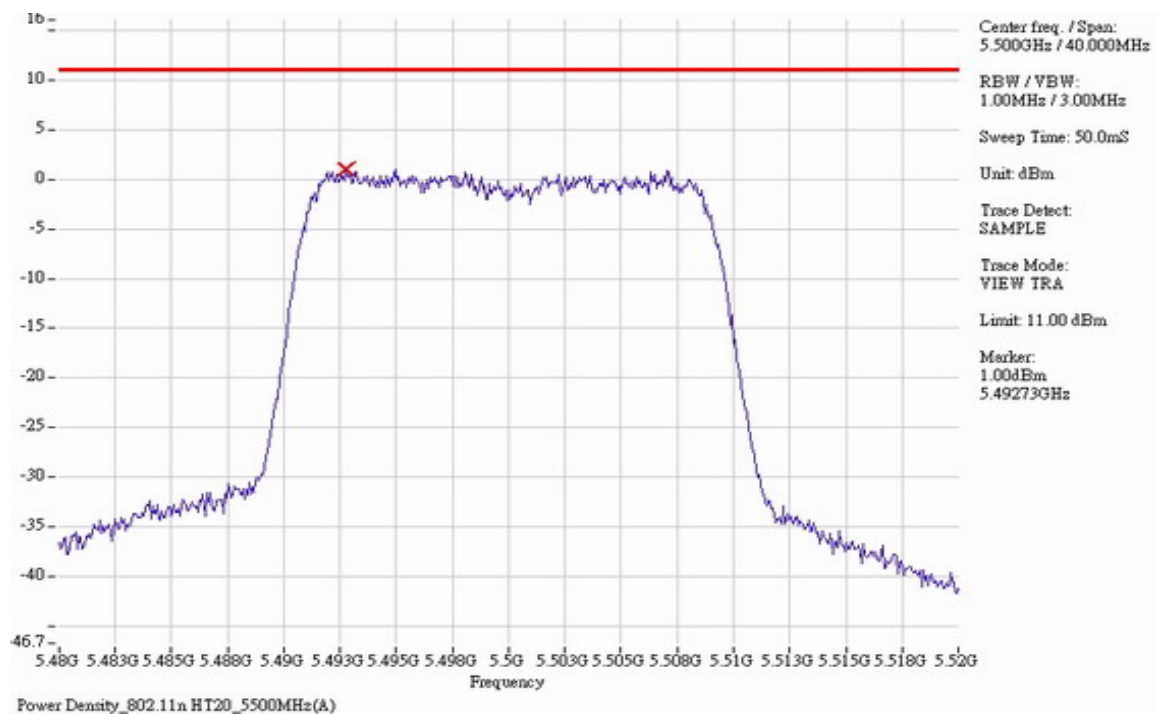
### 802.11 n (HT20) Chain A CH60 5300MHz



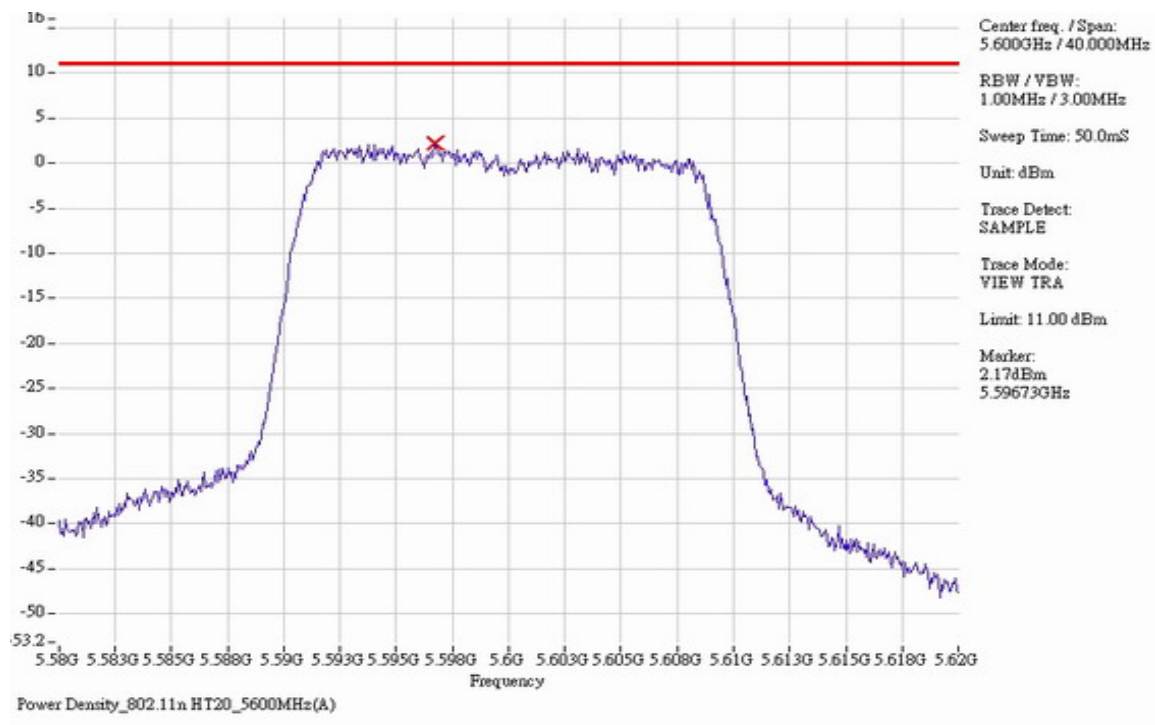
### 802.11 n (HT20) Chain A CH64 5320MHz



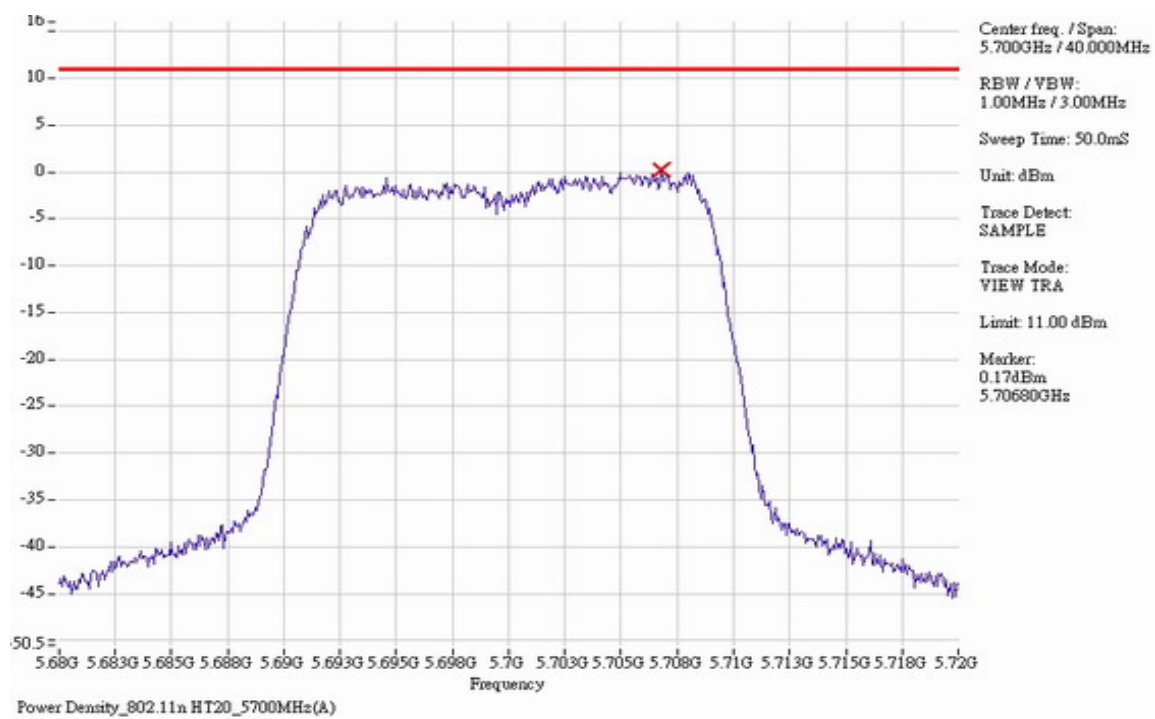
### 802.11 n (HT20) Chain A CH100 5500MHz



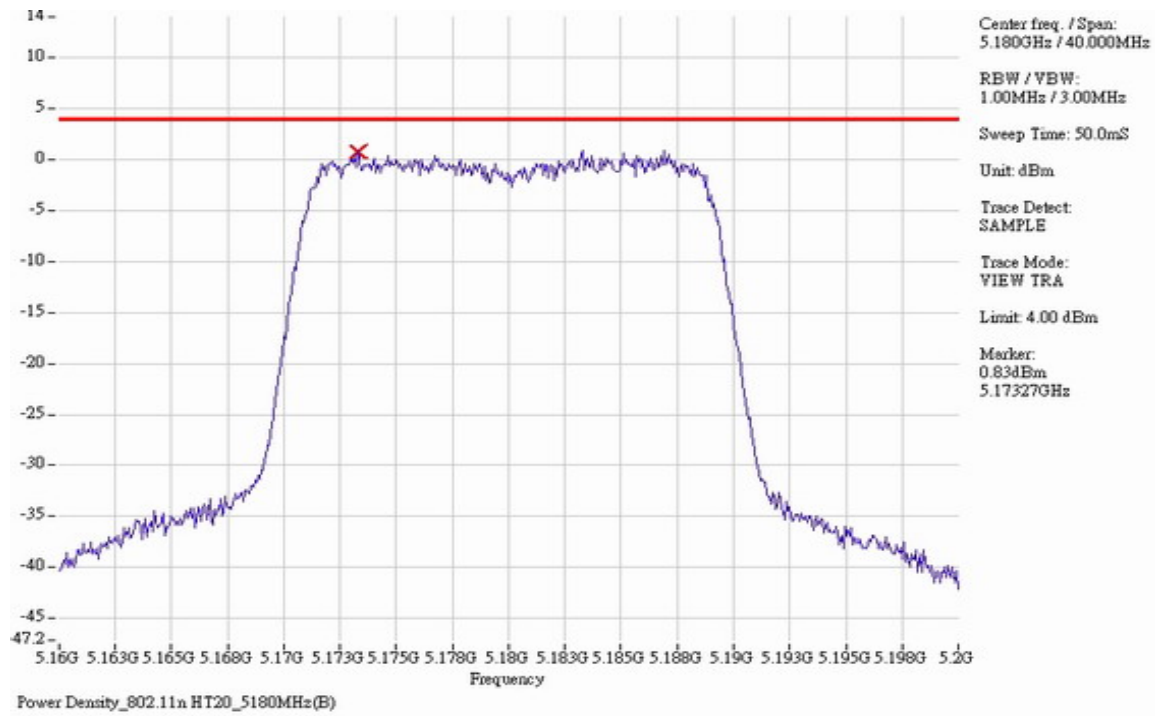
### 802.11 n (HT20) Chain A CH120 5600MHz



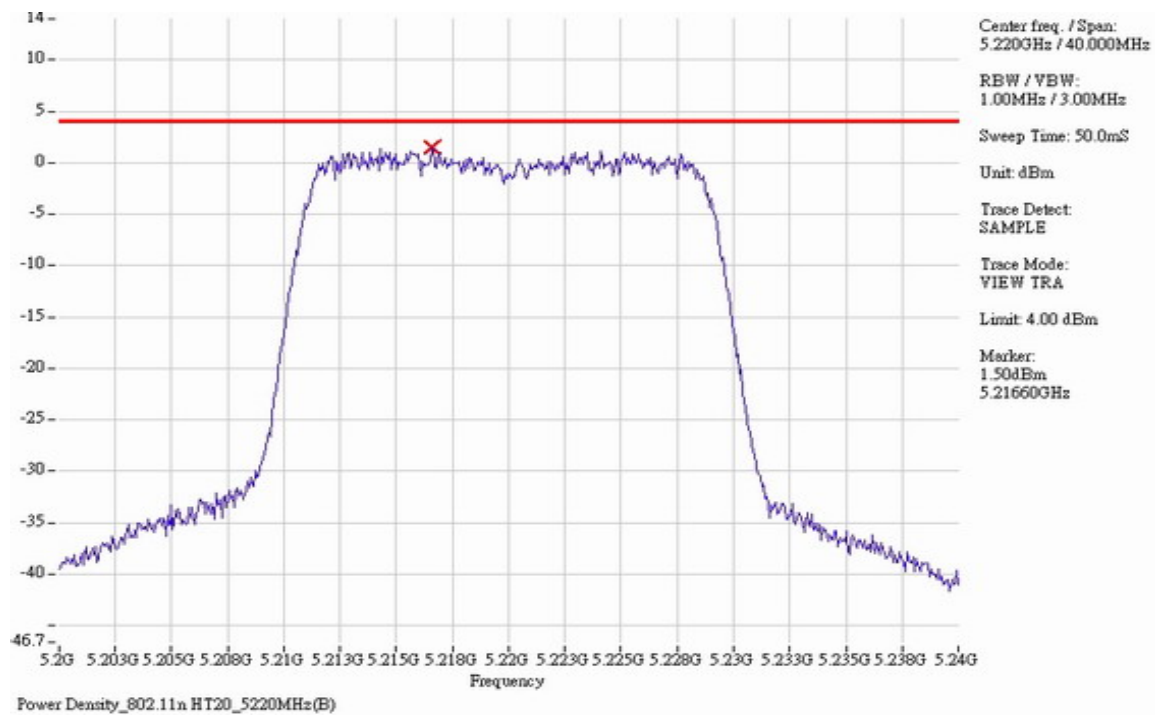
### 802.11 n (HT20) Chain A CH140 5700MHz



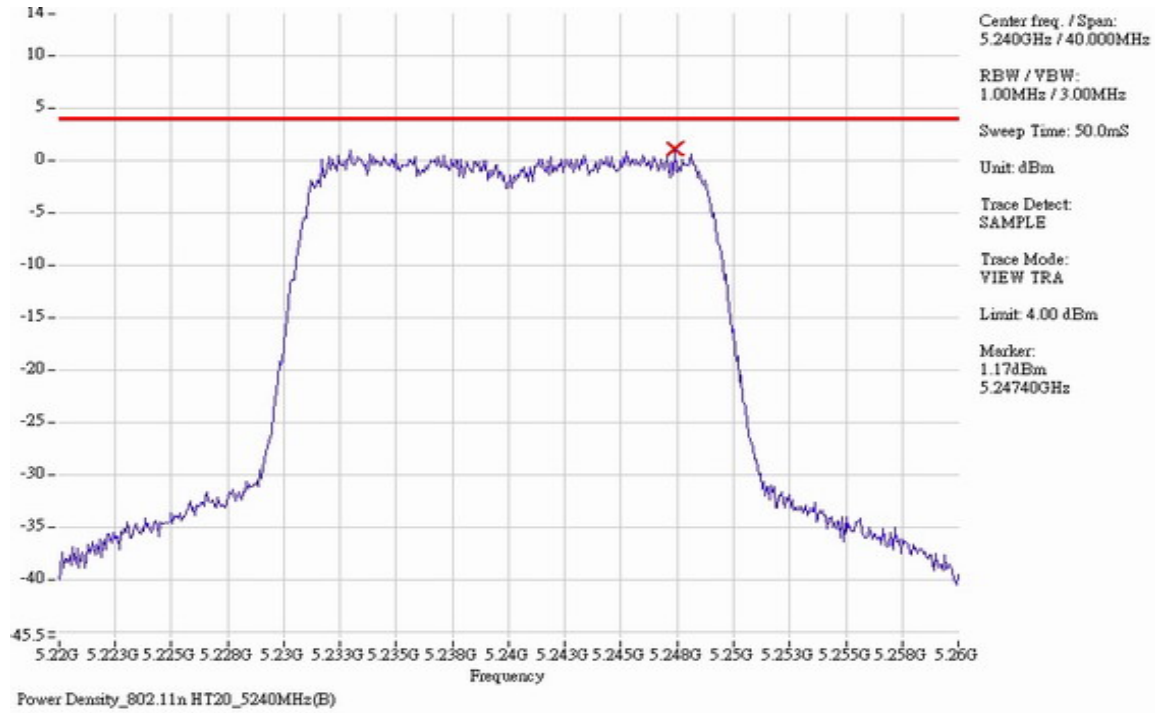
### 802.11 n (HT20) Chain B CH36 5180MHz



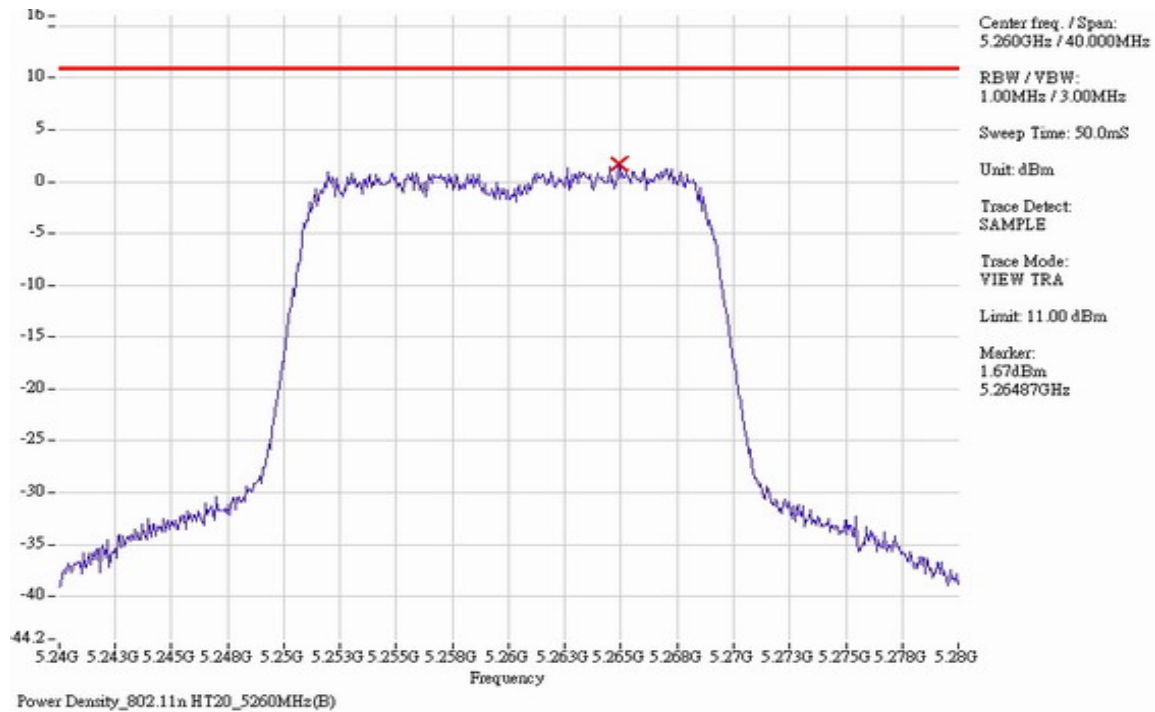
### 802.11 n (HT20) Chain B CH44 5220MHz



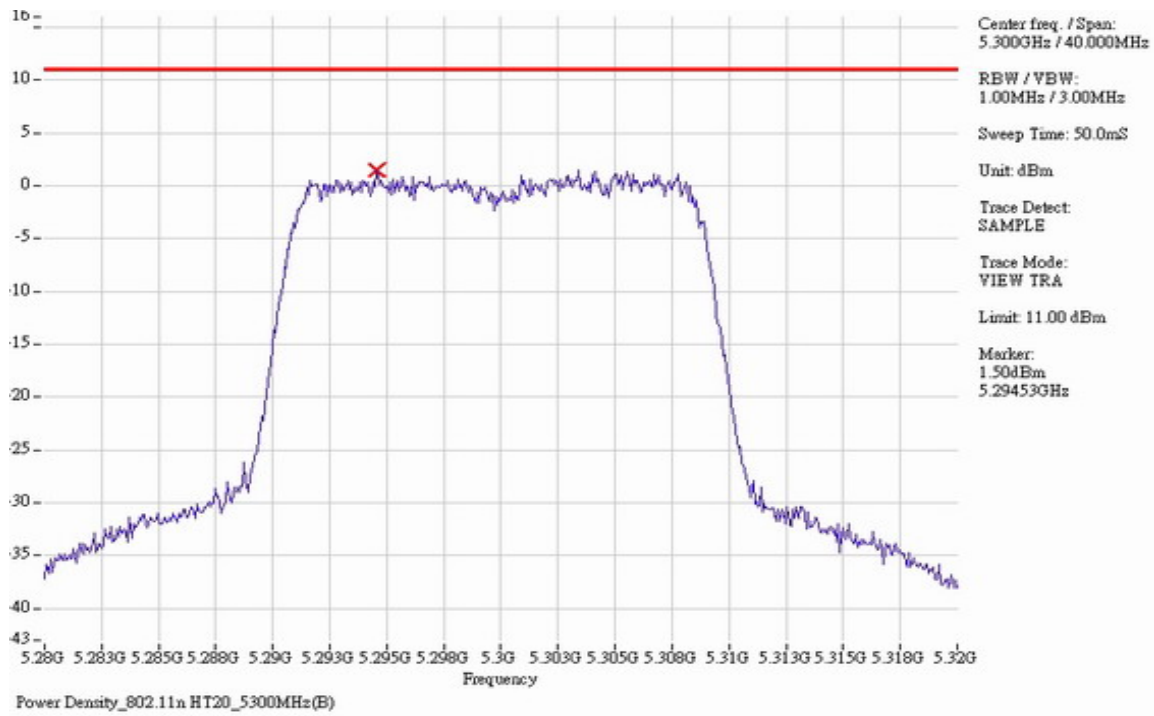
### 802.11 n (HT20) Chain B CH48 5240MHz



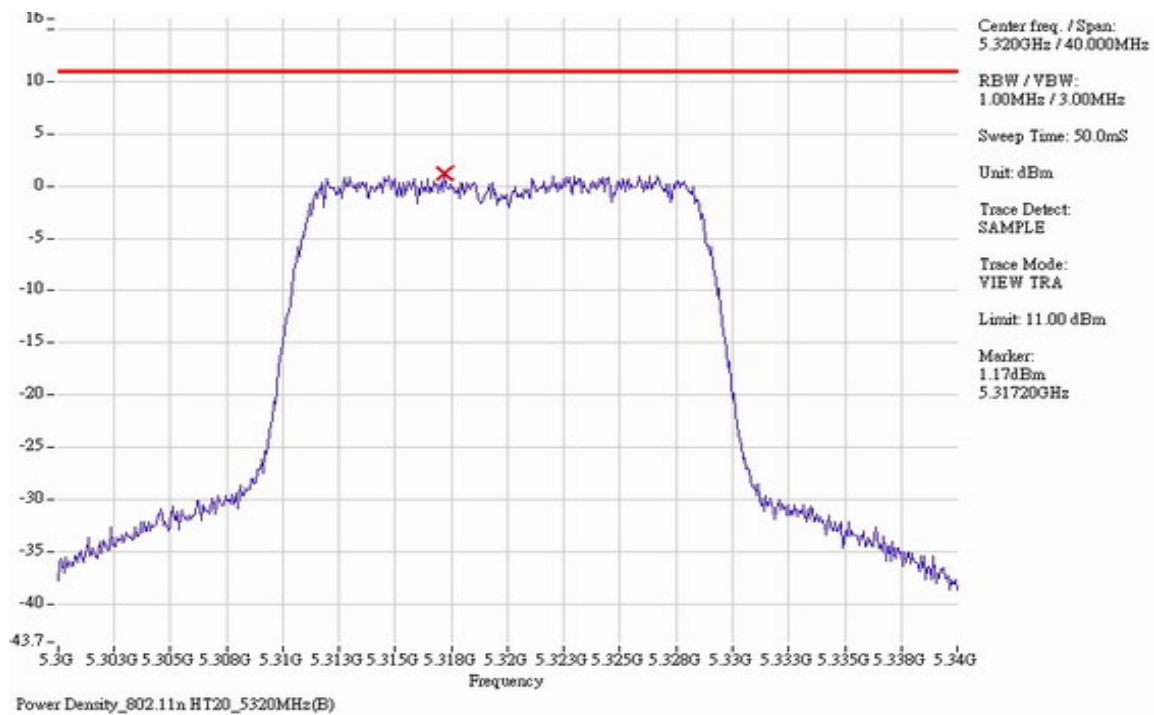
### 802.11 n (HT20) Chain B CH52 5260MHz



### 802.11 n (HT20) Chain B CH60 5300MHz

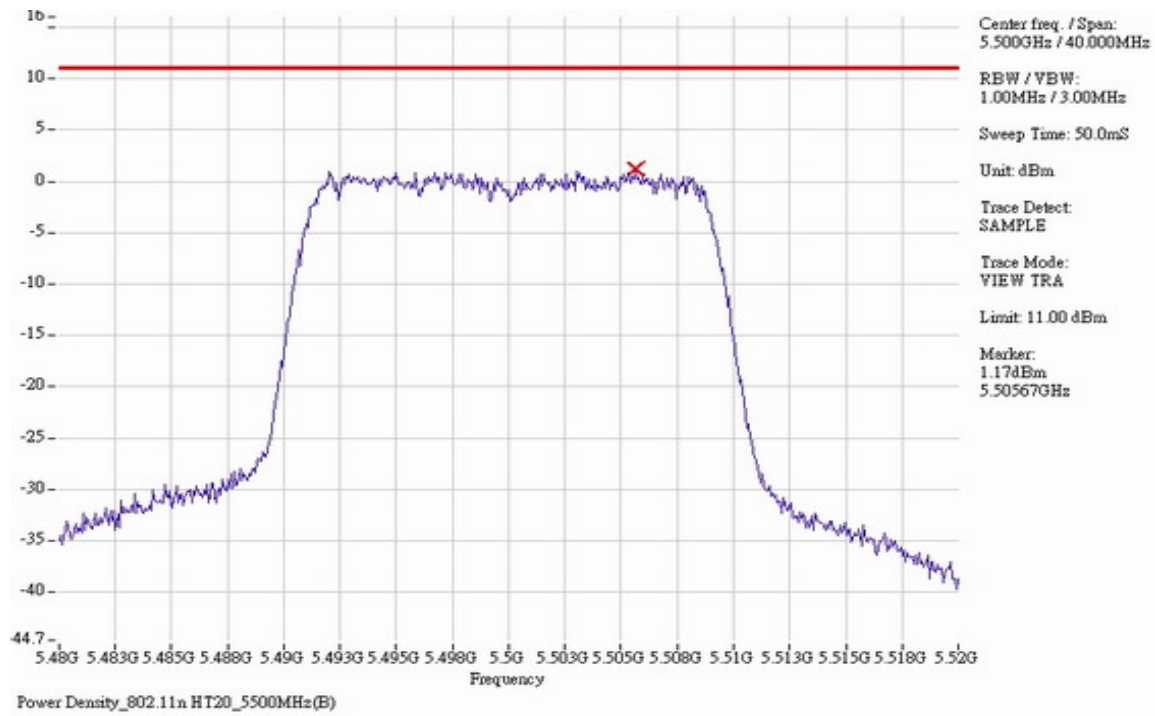


### 802.11 n (HT20) Chain B CH64 5320MHz

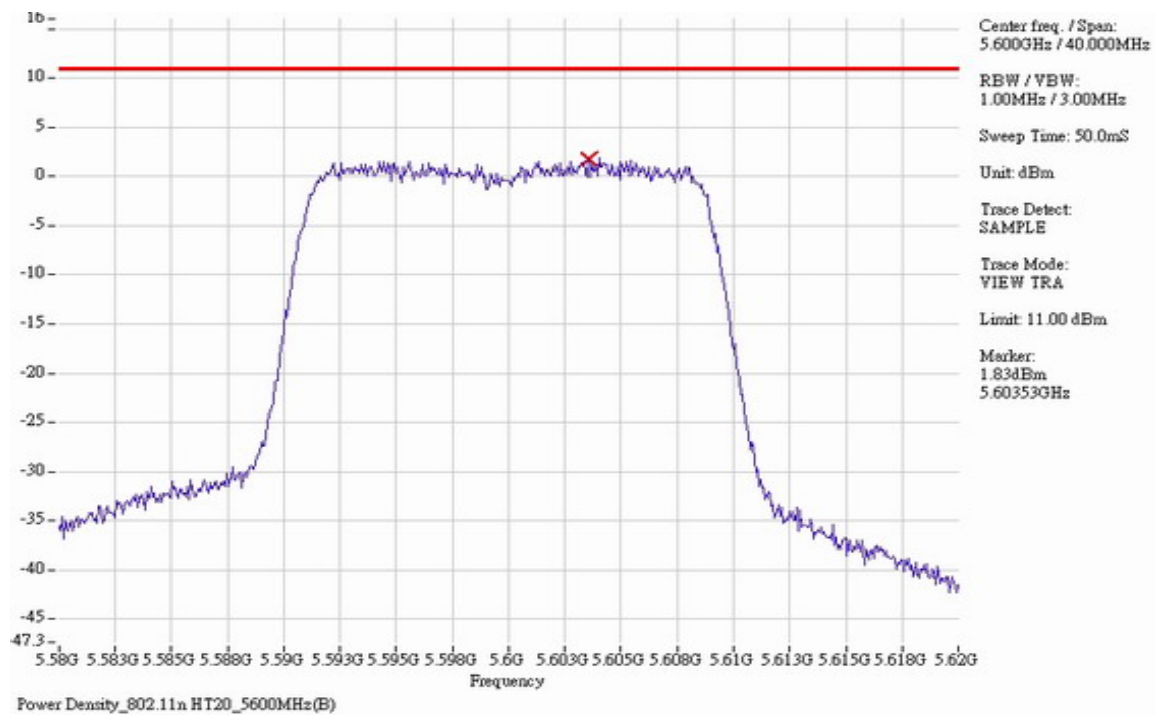




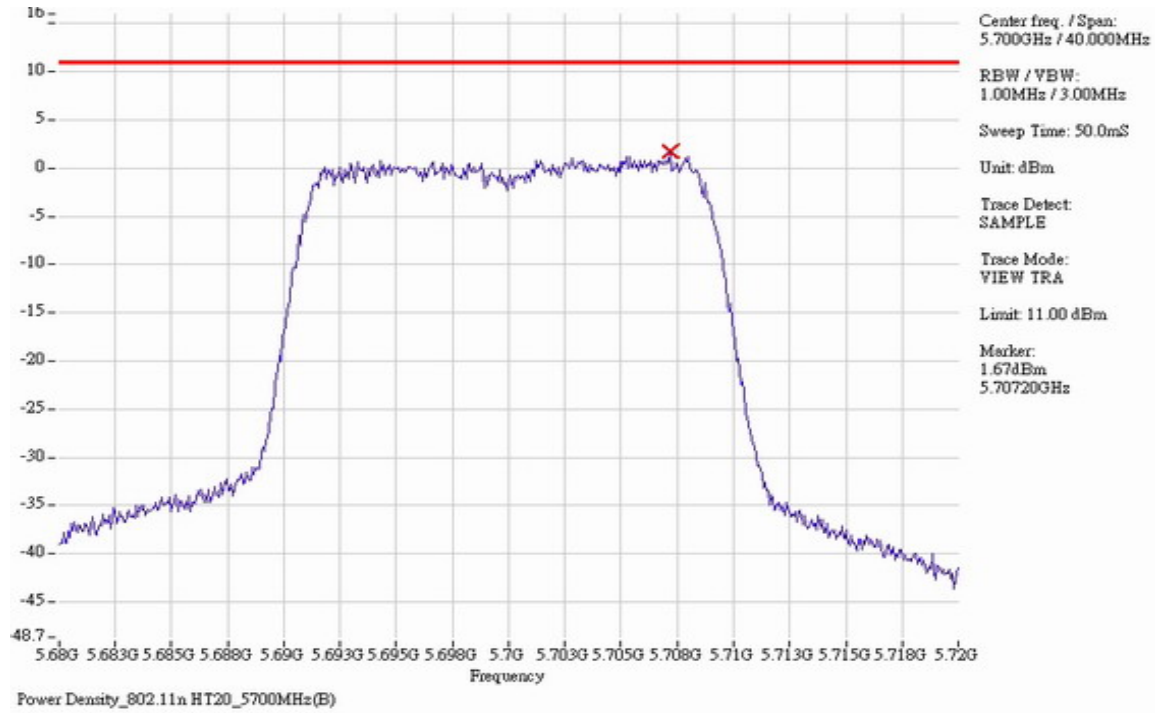
### 802.11 n (HT20) Chain B CH100 5500MHz



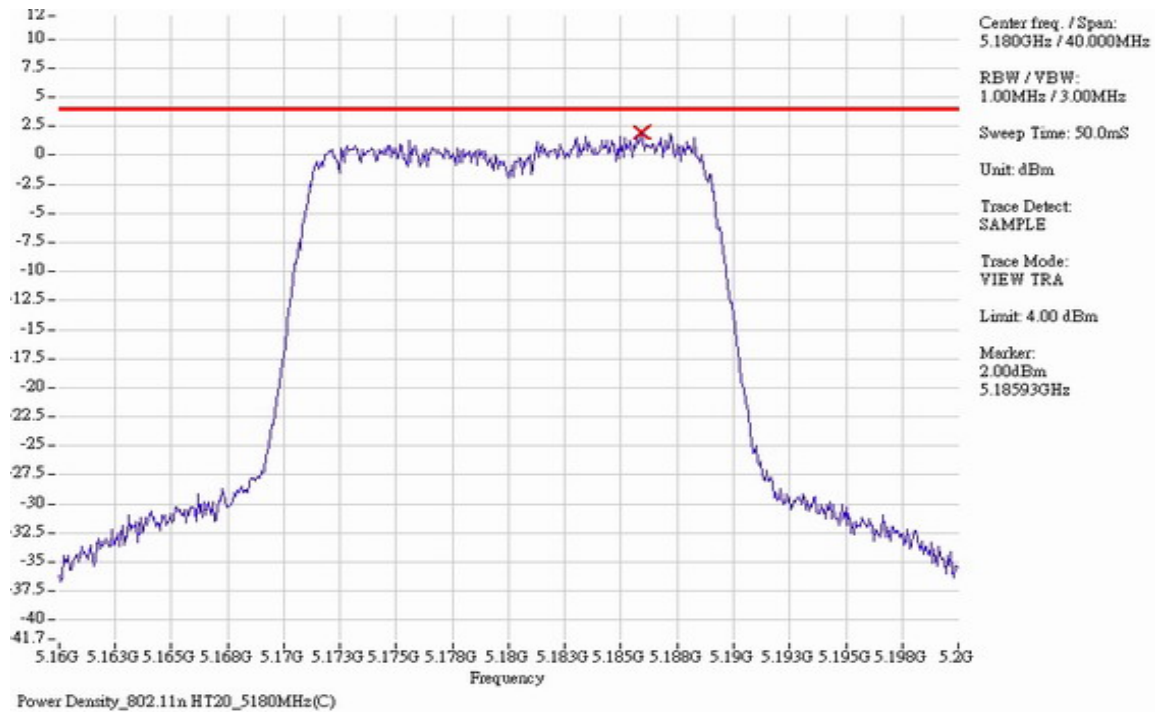
### 802.11 n (HT20) Chain B CH120 5600MHz



### 802.11 n (HT20) Chain B CH140 5700MHz

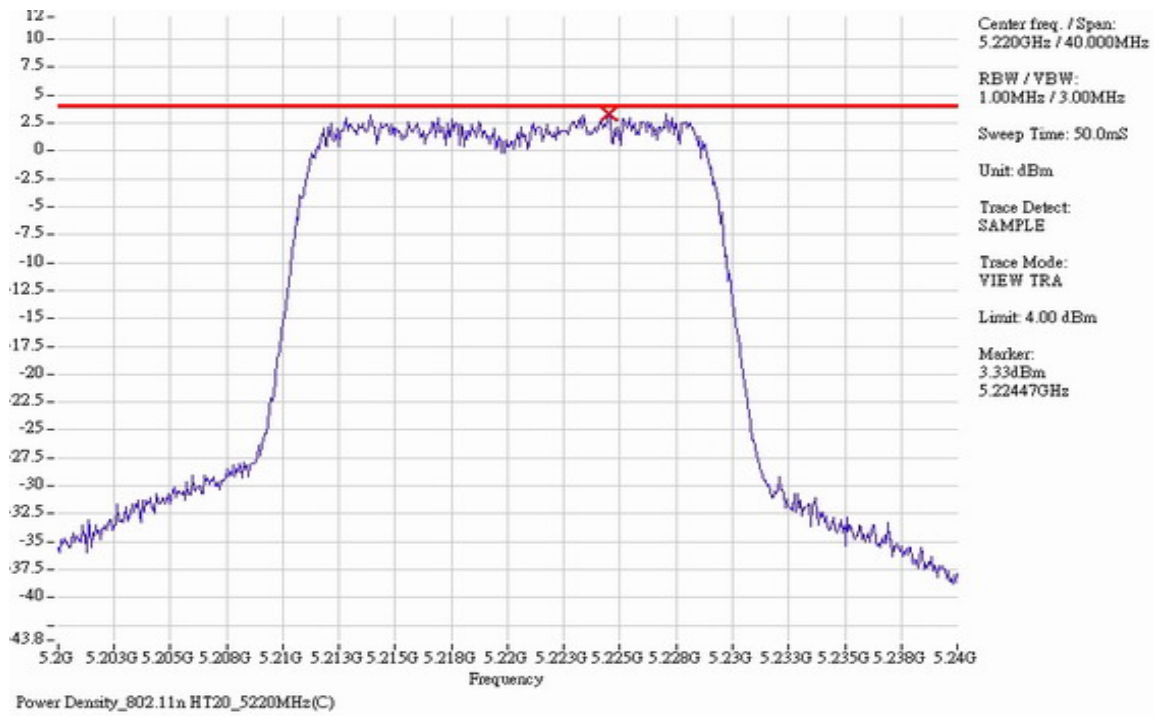


### 802.11 n (HT20) Chain C CH36 5180MHz

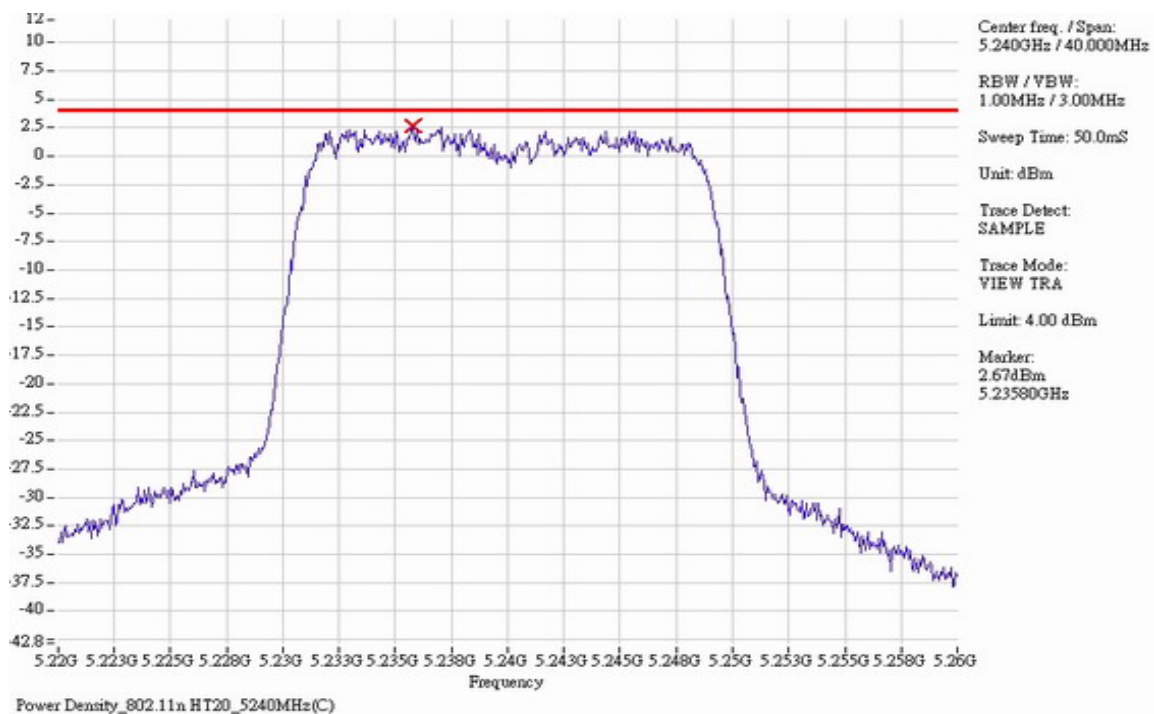




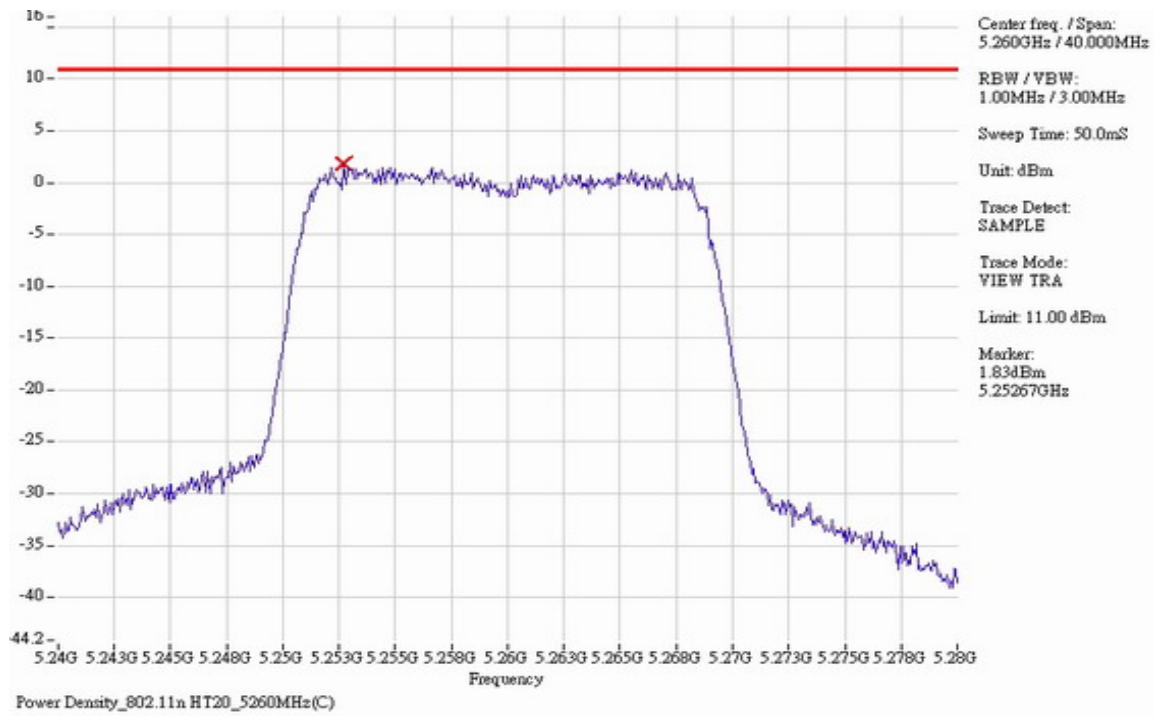
### 802.11 n (HT20) Chain C CH44 5220MHz



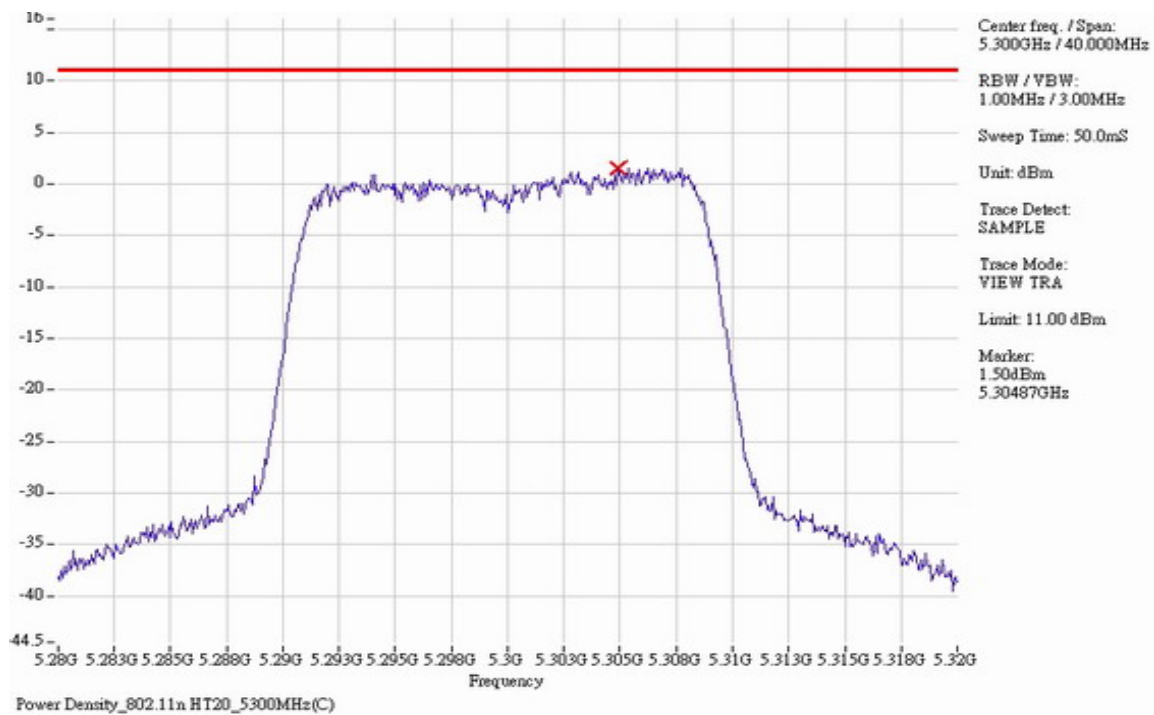
### 802.11 n (HT20) Chain C CH48 5240MHz



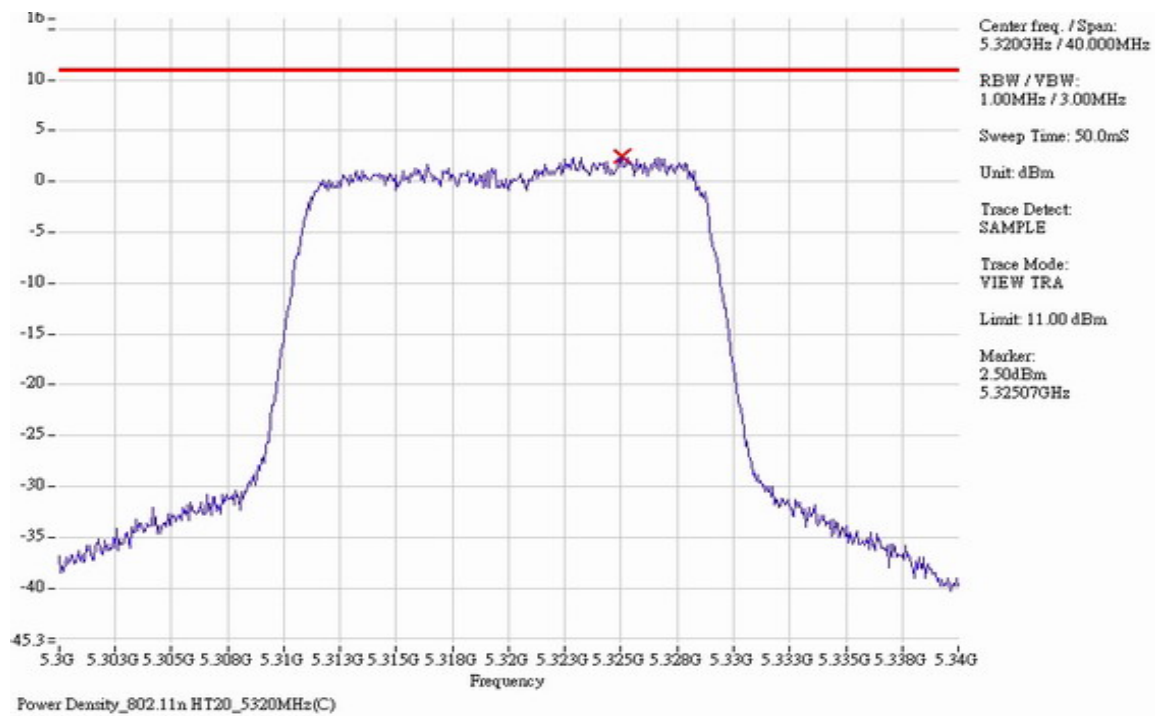
### 802.11 n (HT20) Chain C CH52 5260MHz



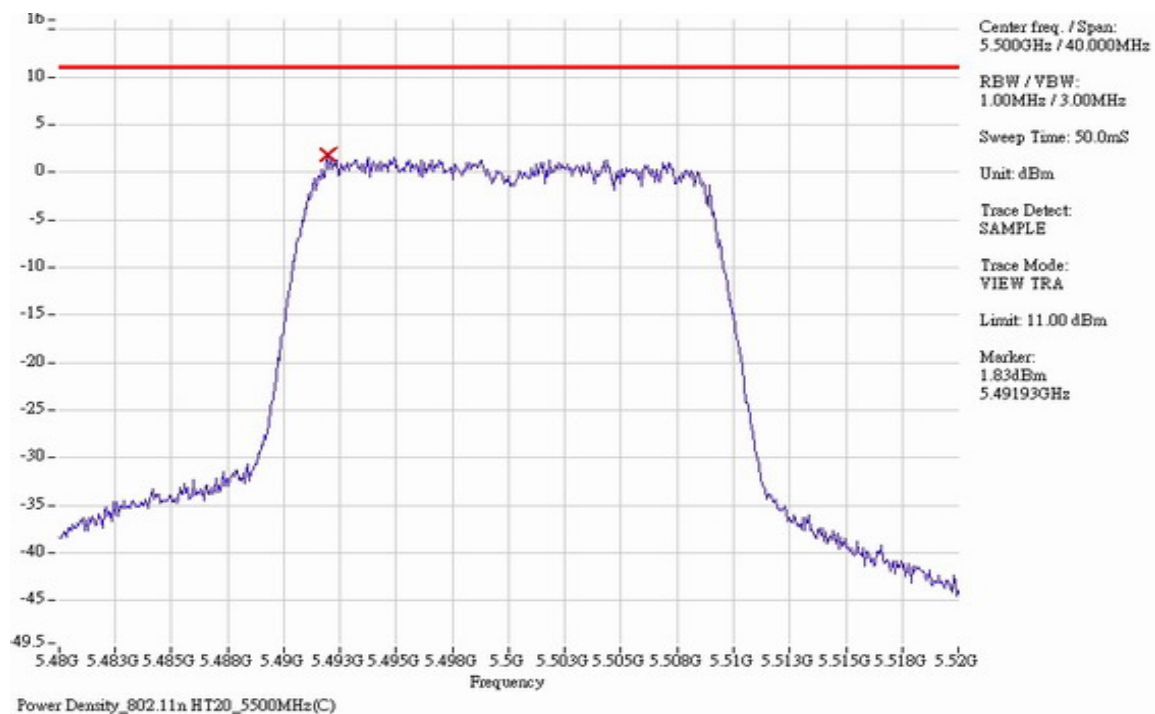
### 802.11 n (HT20) Chain C CH60 5300MHz



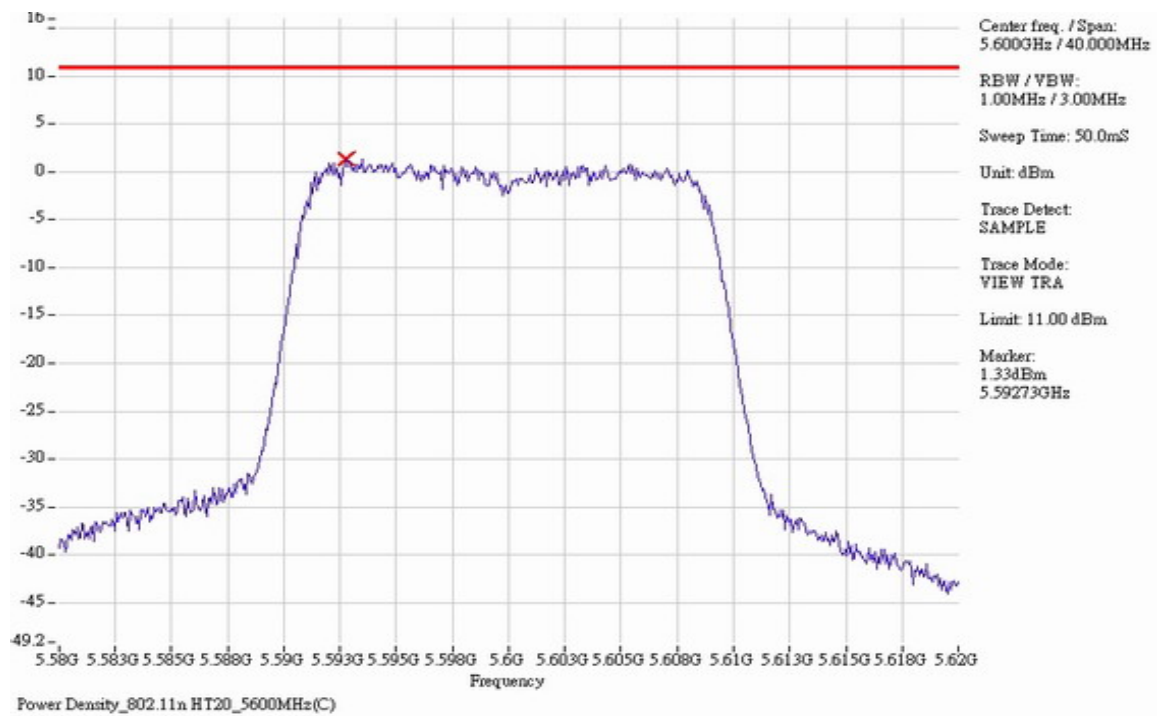
### 802.11 n (HT20) Chain C CH64 5320MHz



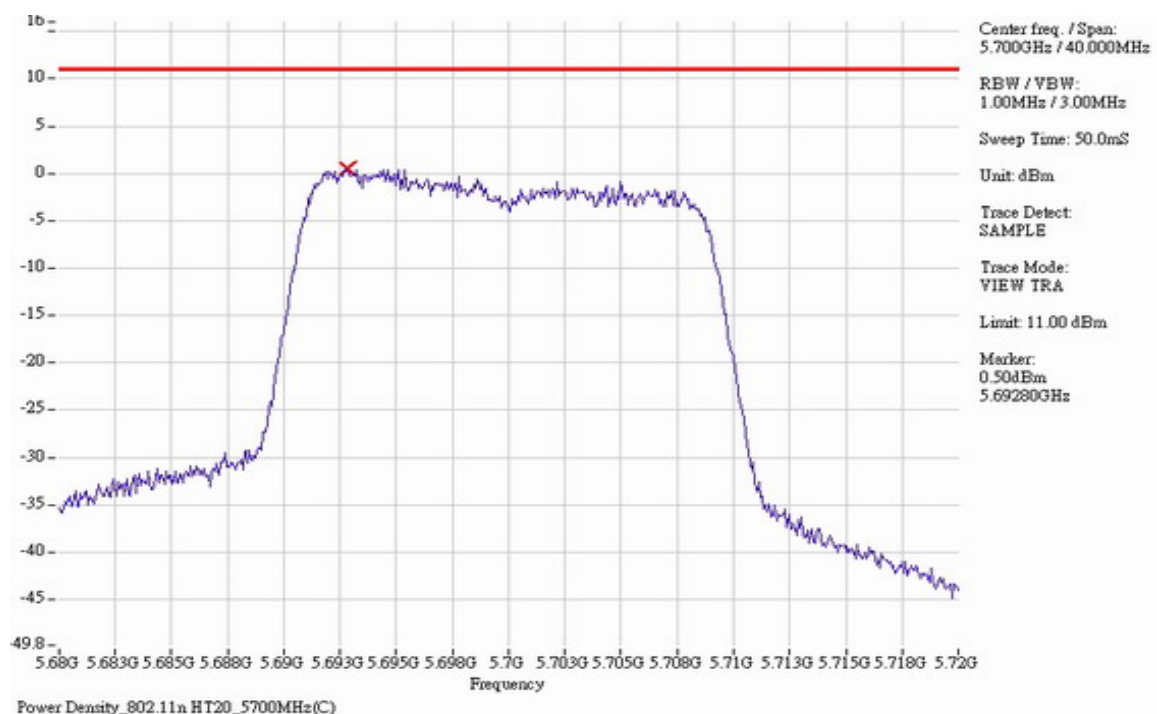
### 802.11 n (HT20) Chain C CH100 5500MHz



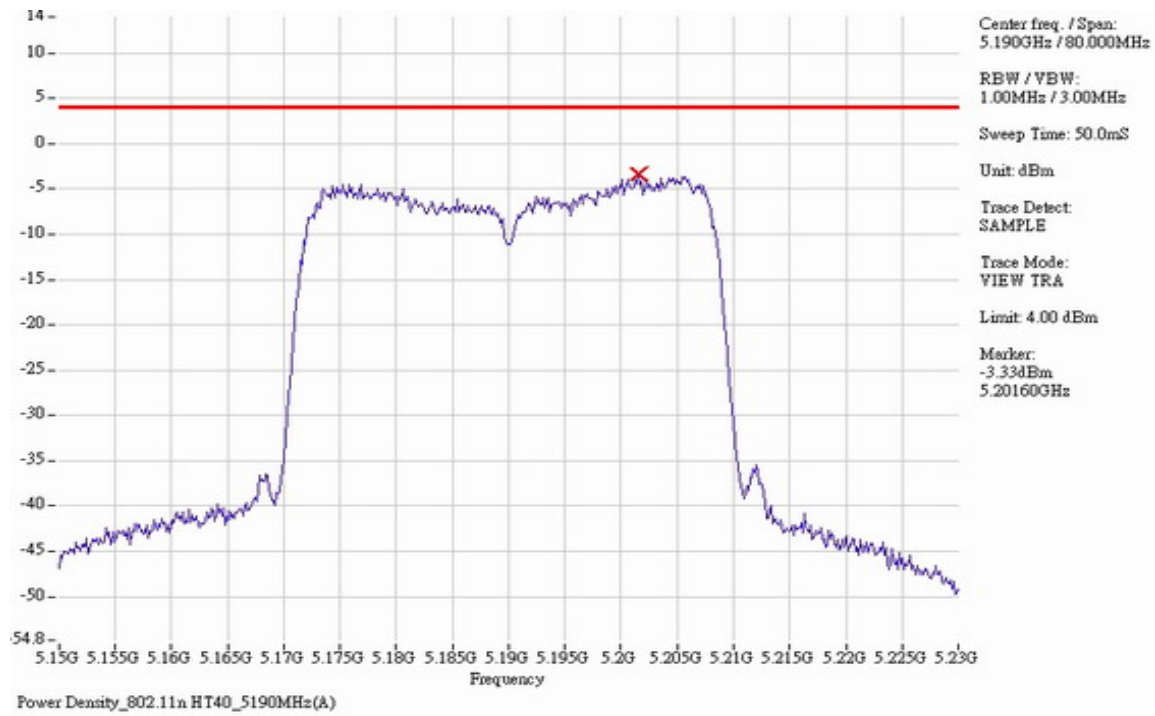
### 802.11 n (HT20) Chain C CH120 5600MHz



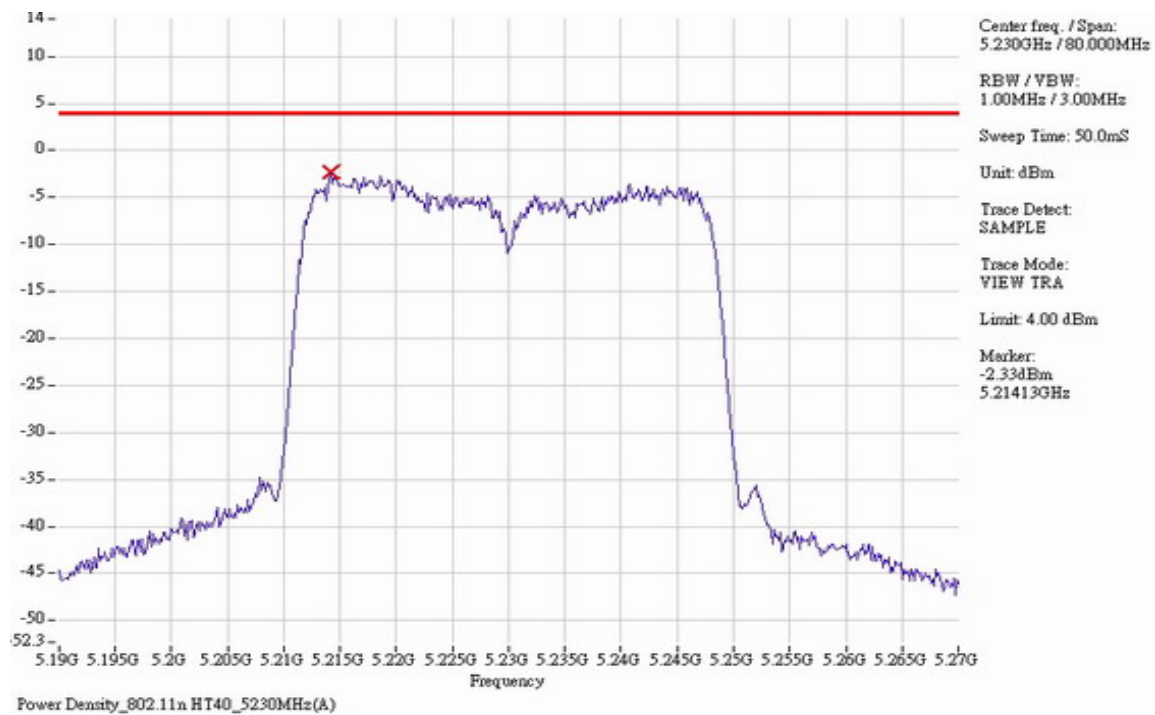
### 802.11 n (HT20) Chain C CH140 5700MHz



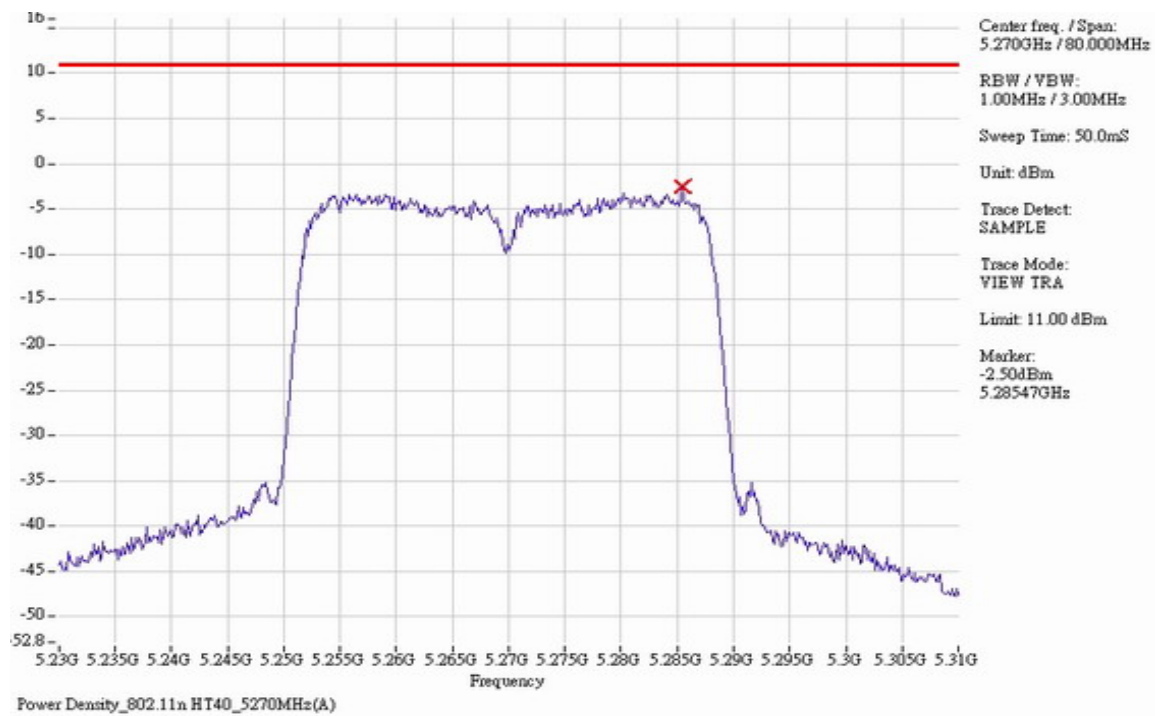
### 802.11 n (HT40) Chain A CH38 5190MHz



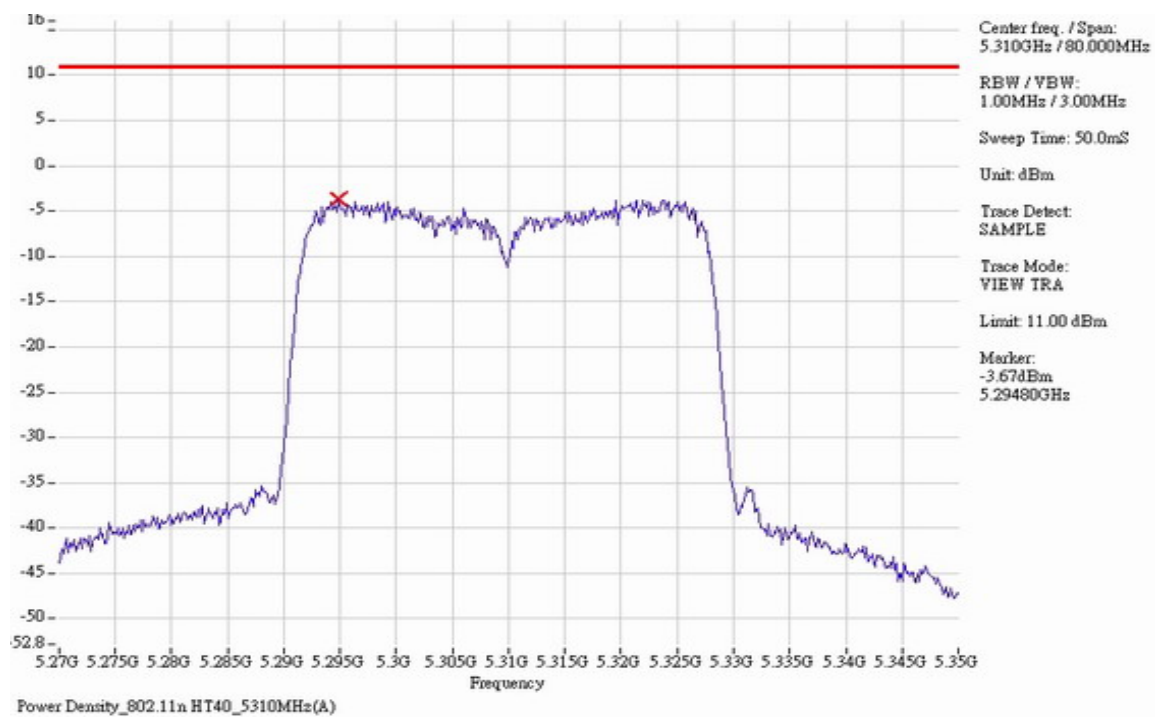
### 802.11 n (HT40) Chain A CH46 5230MHz



### 802.11 n (HT40) Chain A CH54 5270MHz

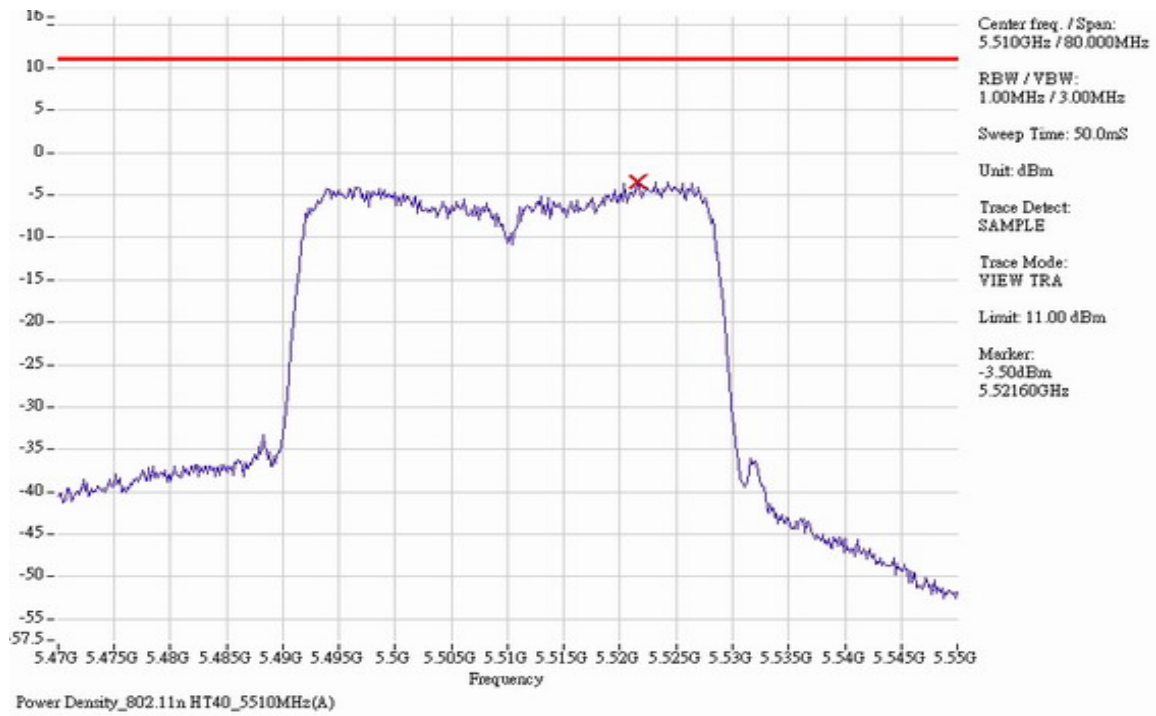


### 802.11 n (HT40) Chain A CH62 5310MHz

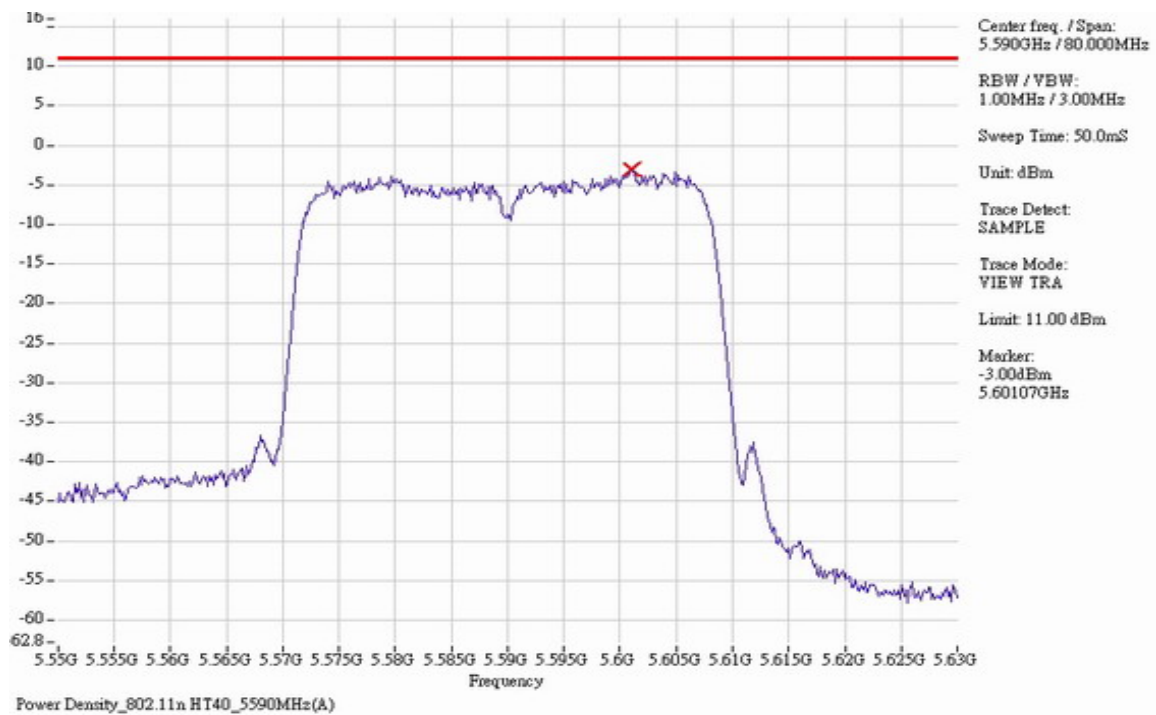




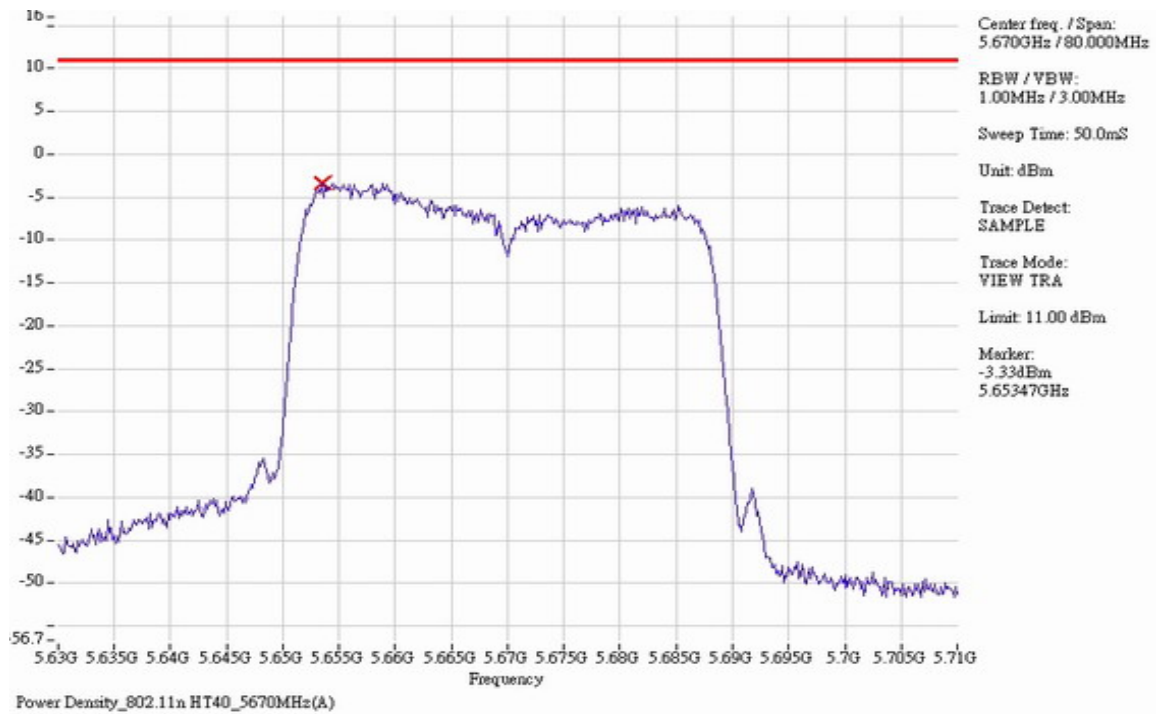
### 802.11 n (HT40) Chain A CH102 5510MHz



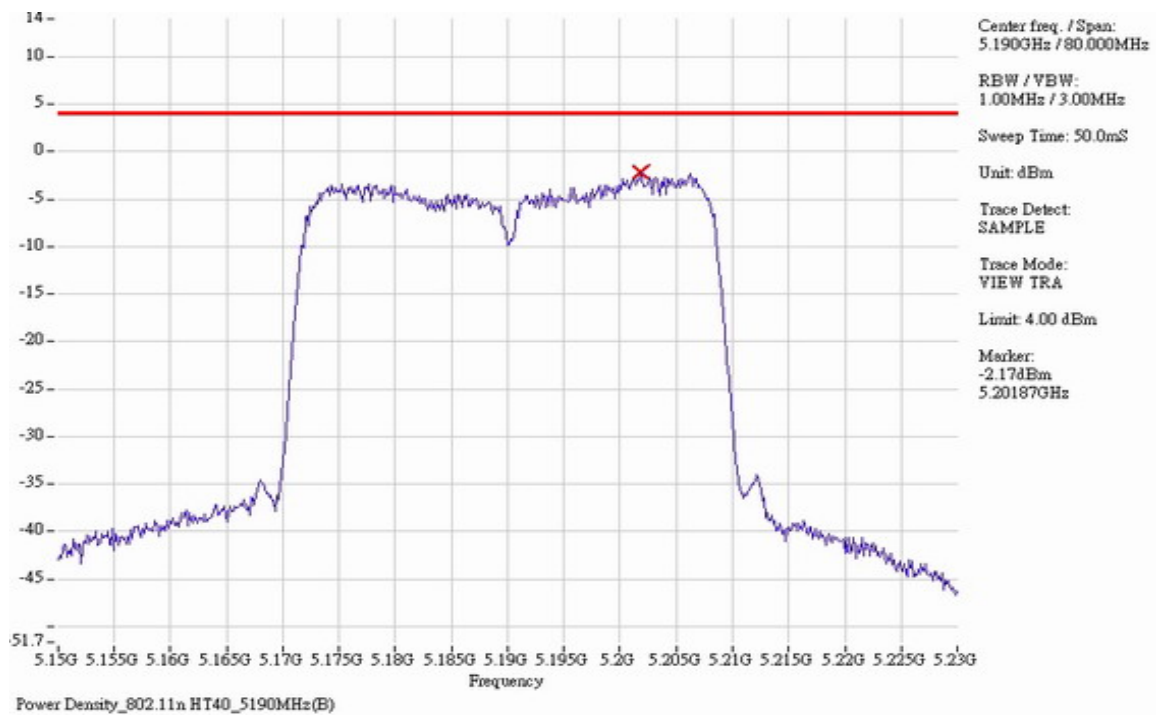
### 802.11 n (HT40) Chain A CH118 5590MHz



### 802.11 n (HT40) Chain A CH134 5670MHz

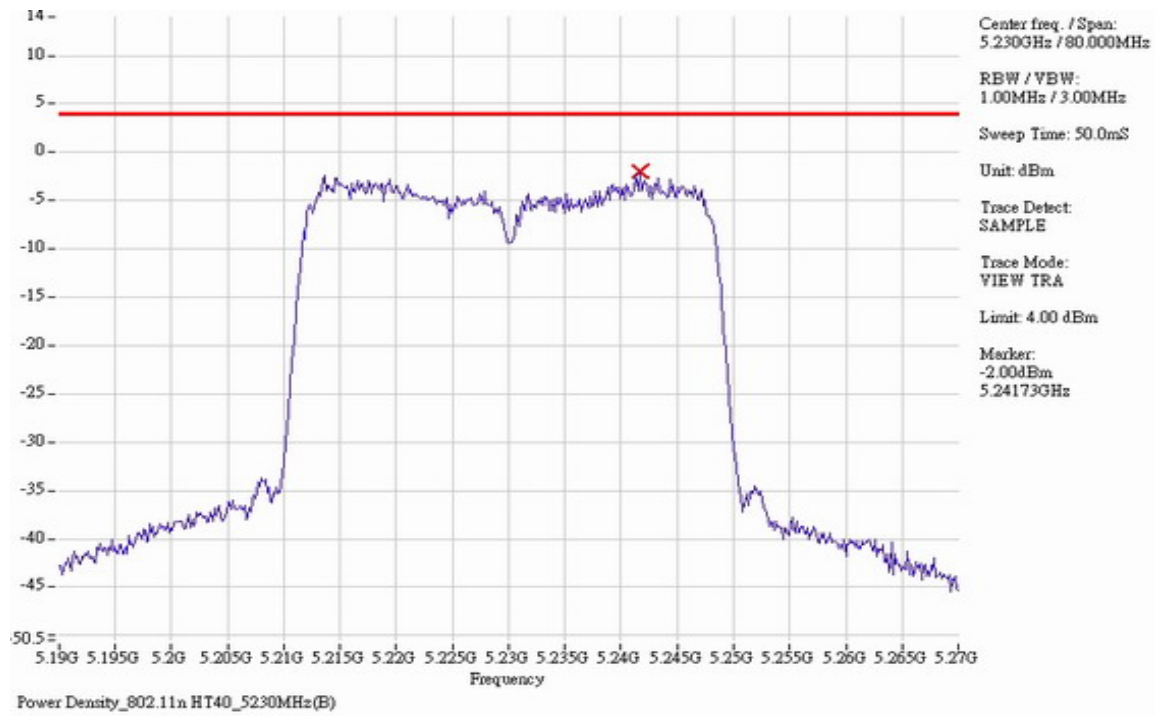


### 802.11 n (HT40) Chain B CH38 5190MHz

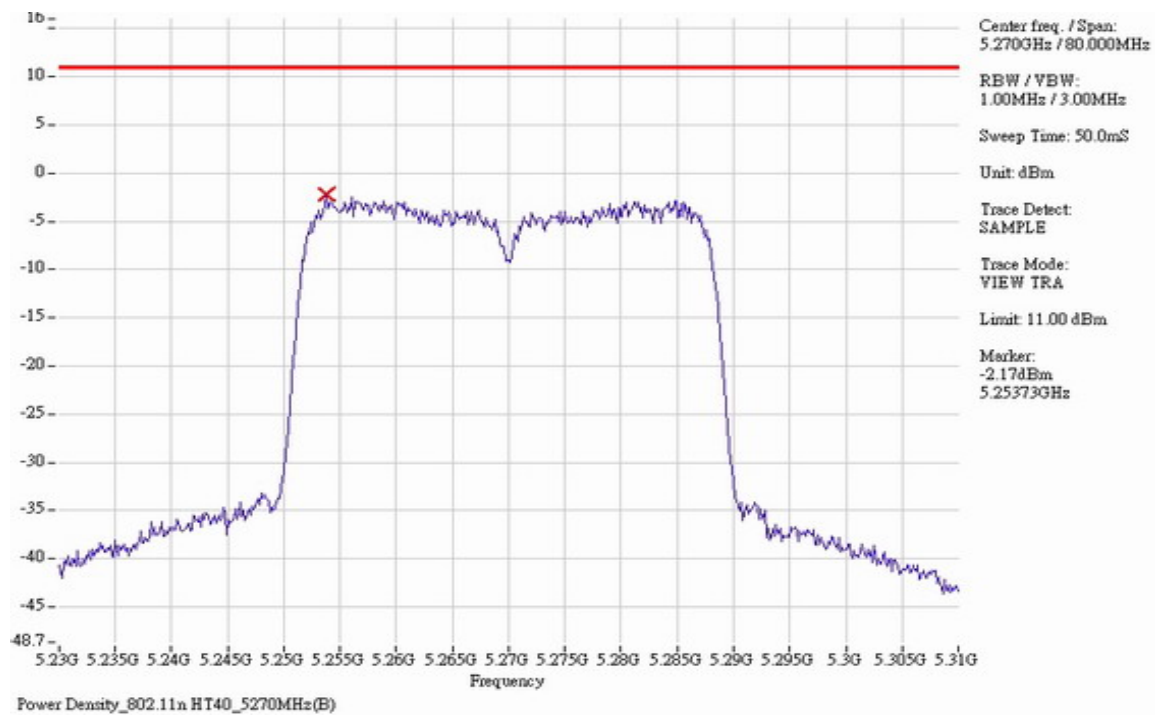




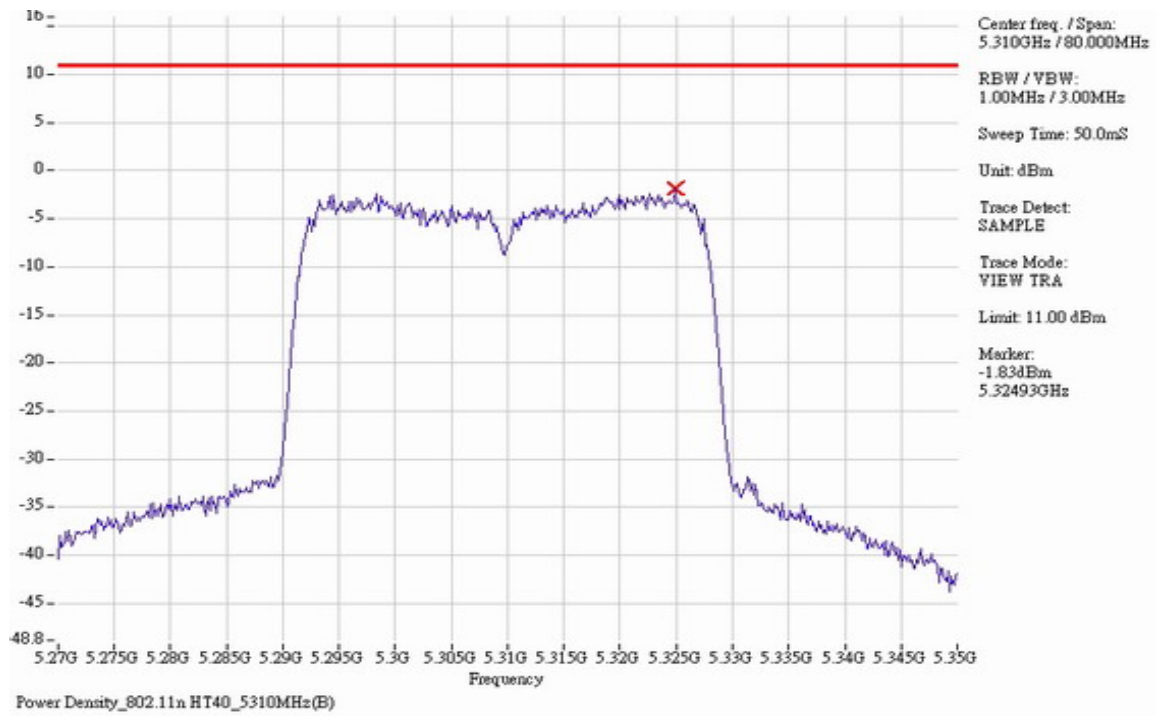
### 802.11 n (HT40) Chain B CH46 5230MHz



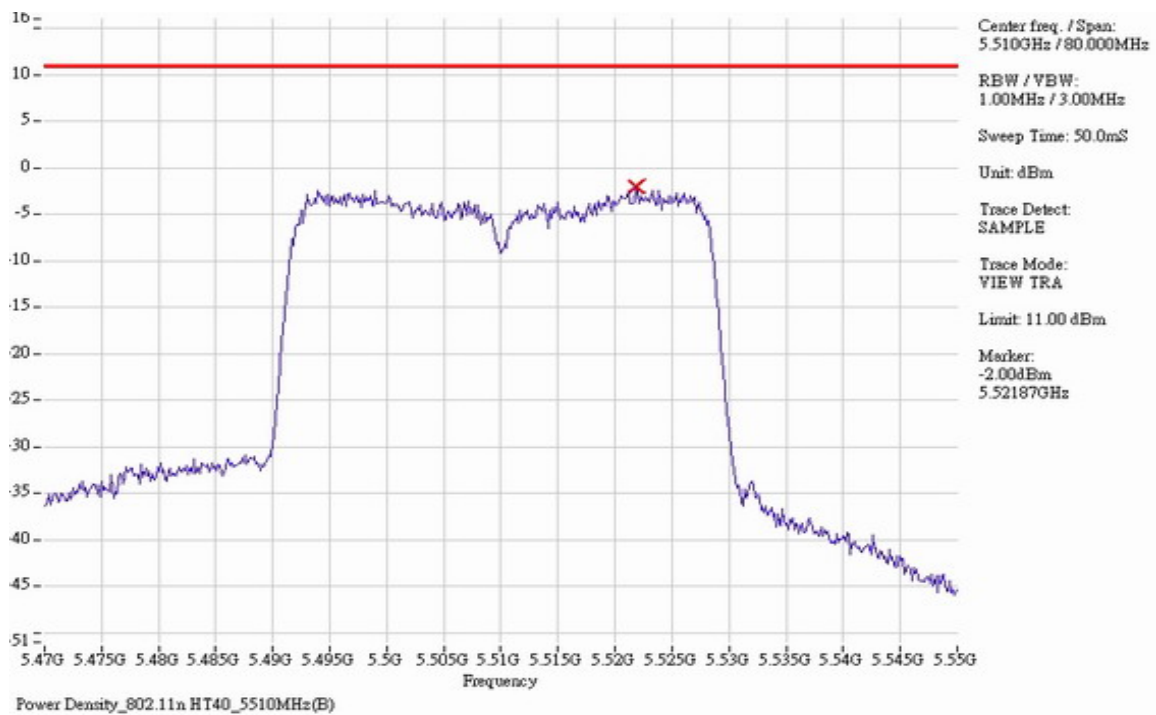
### 802.11 n (HT40) Chain B CH54 5270MHz



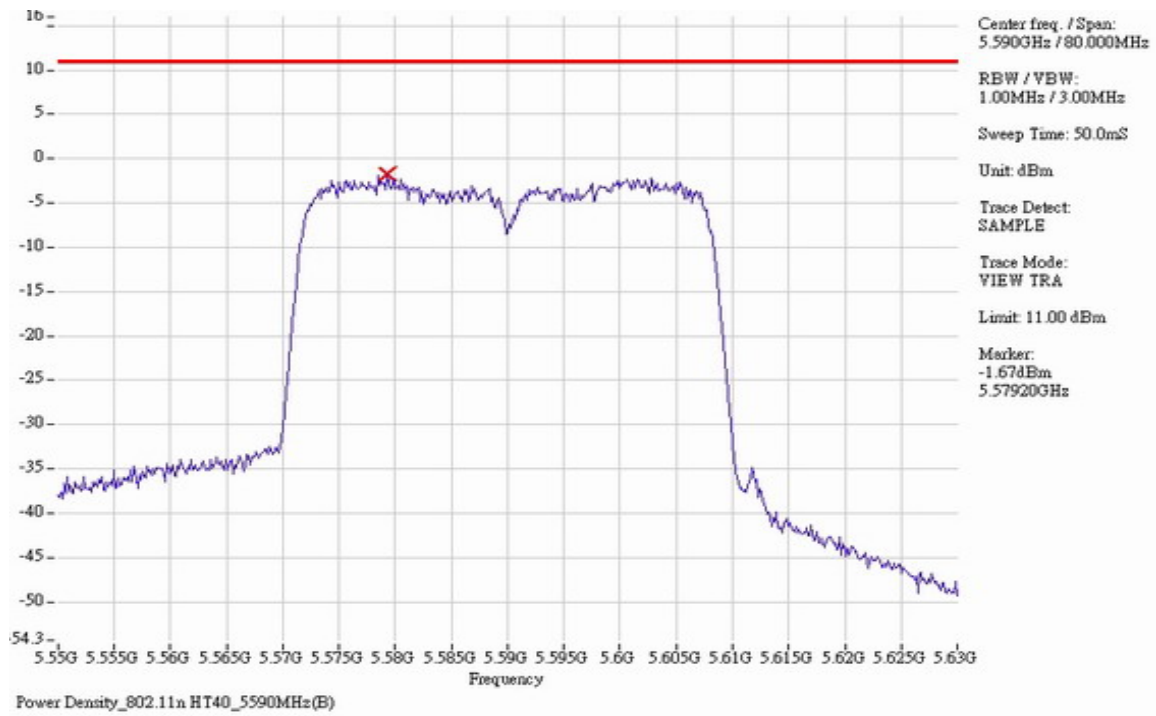
### 802.11 n (HT40) Chain B CH62 5310MHz



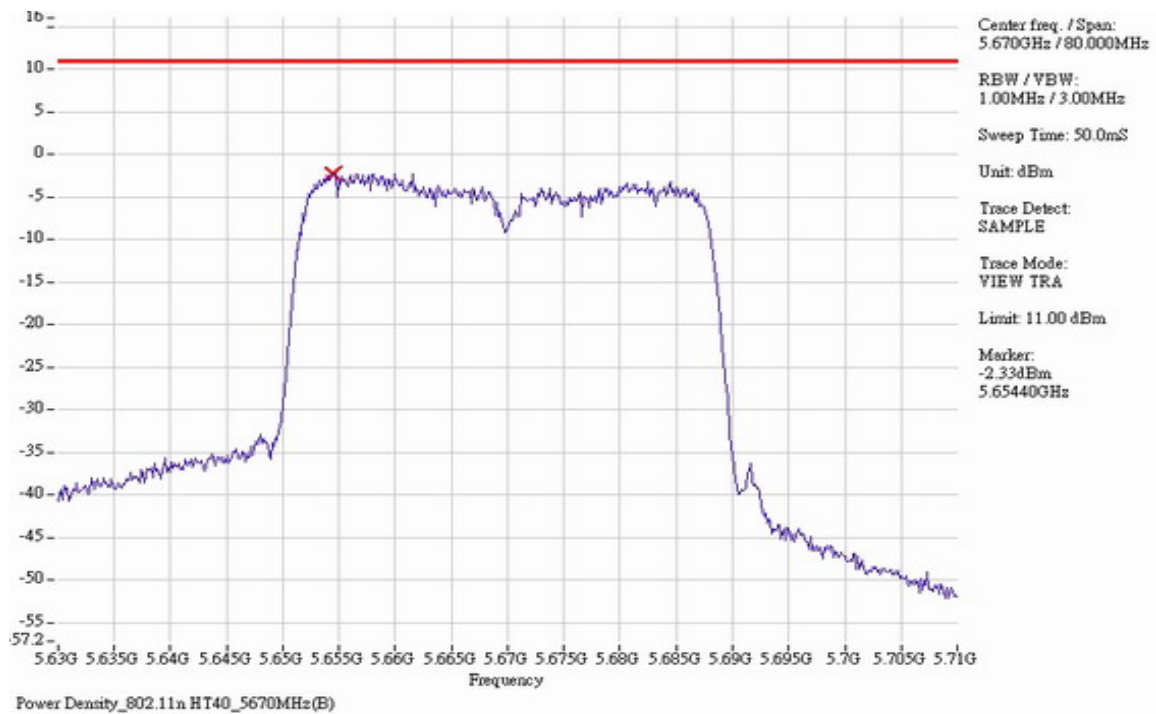
### 802.11 n (HT40) Chain B CH102 5510MHz



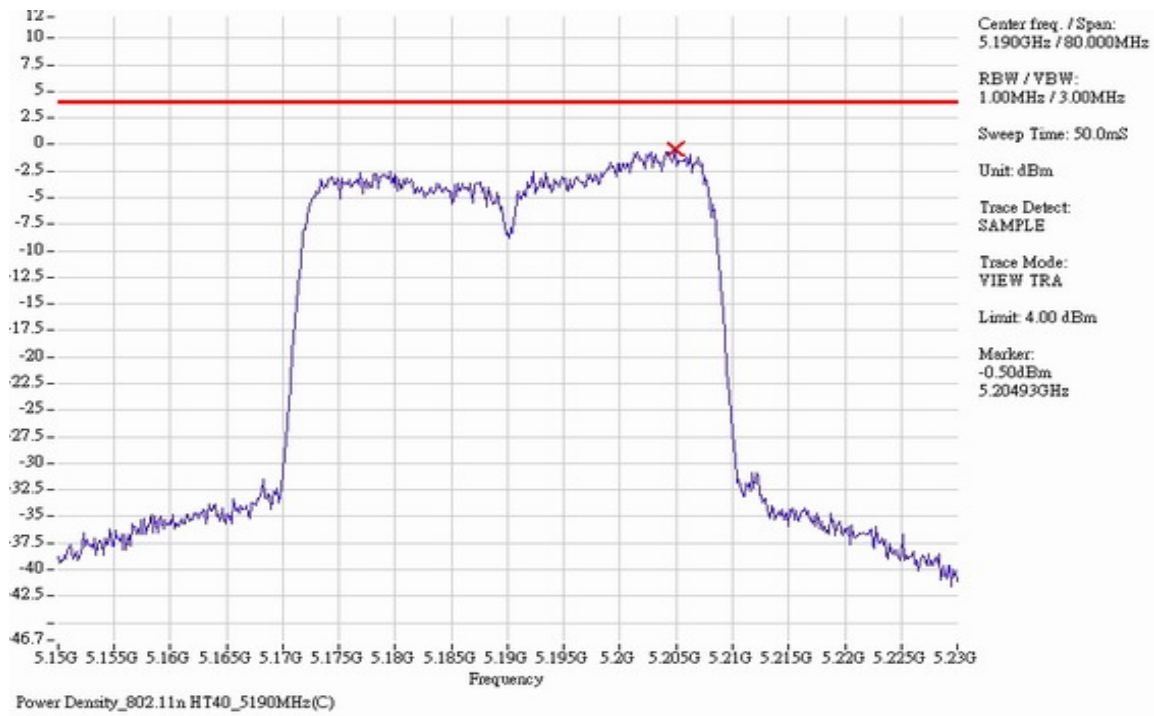
### 802.11 n (HT40) Chain B CH118 5590MHz



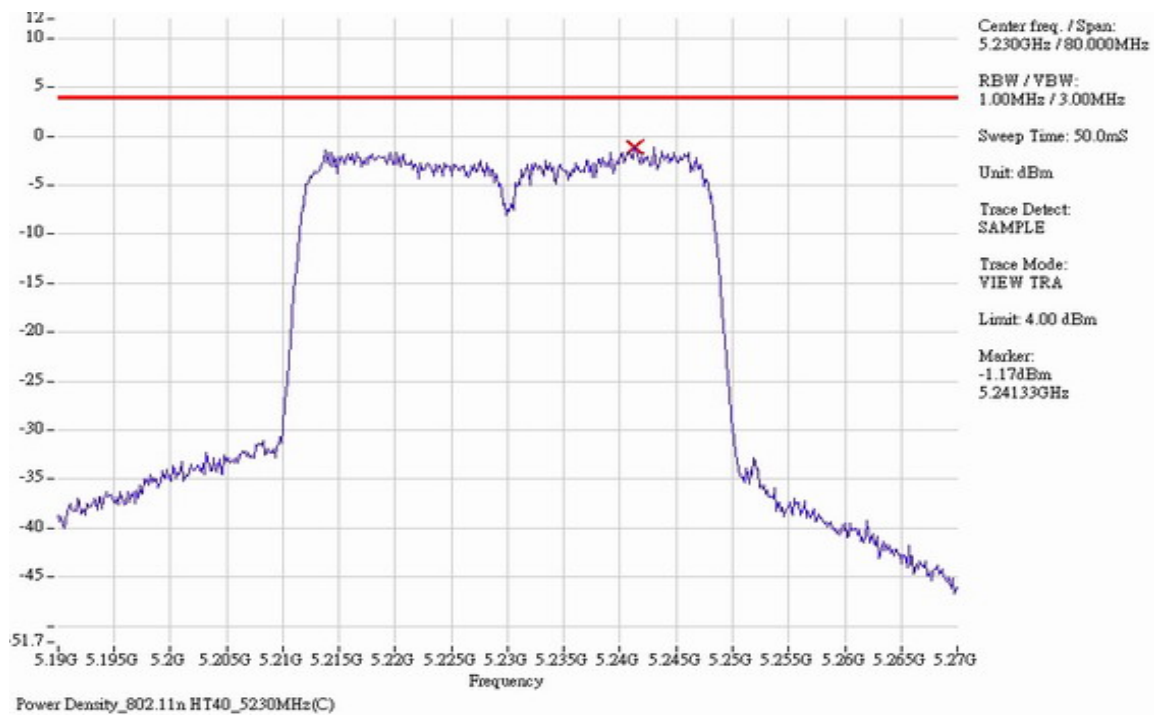
### 802.11 n (HT40) Chain B CH134 5670MHz



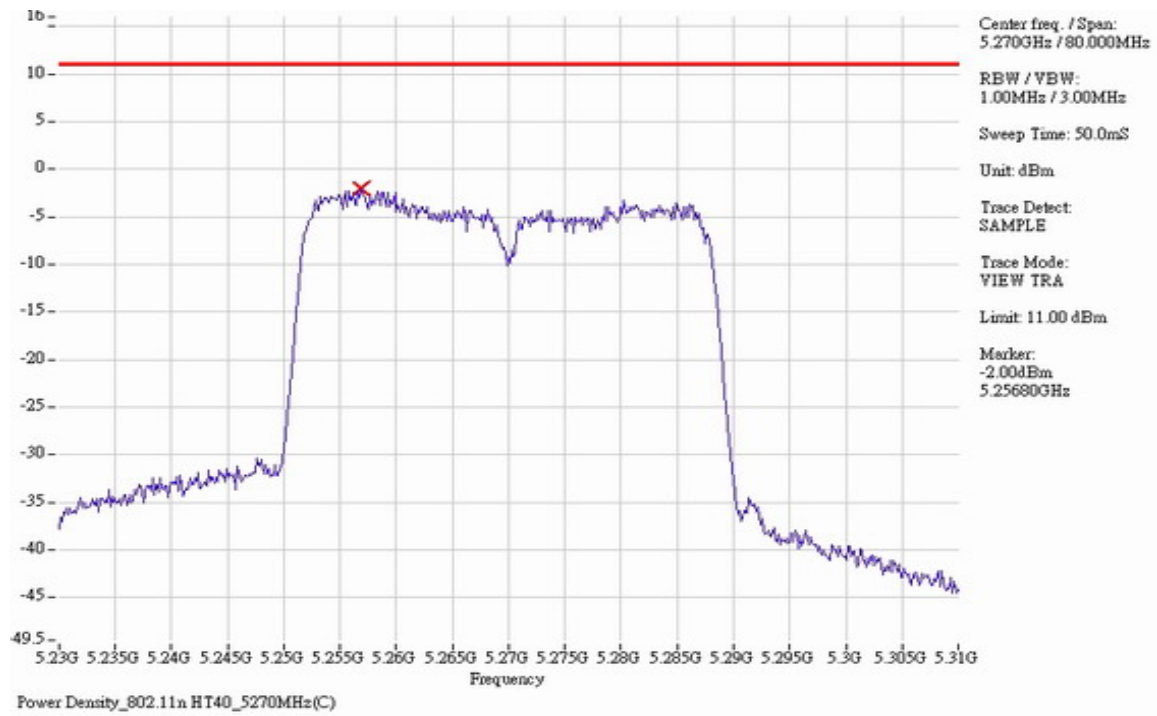
### 802.11 n (HT40) Chain C CH38 5190MHz



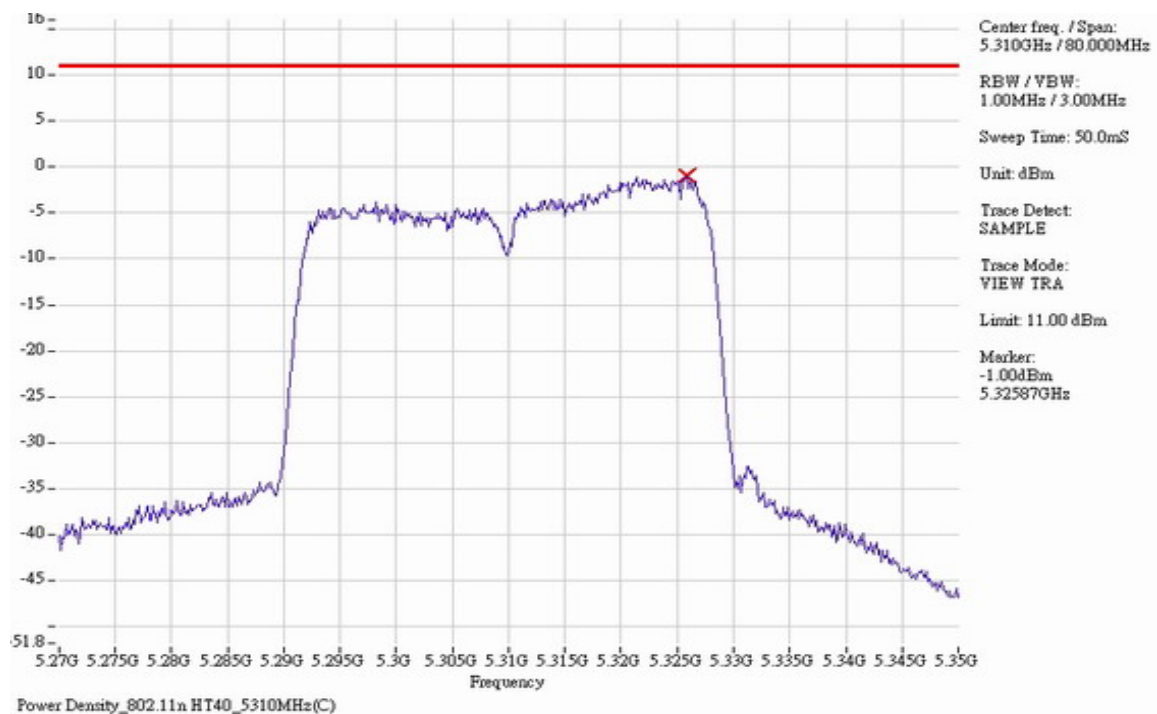
### 802.11 n (HT40) Chain C CH46 5230MHz



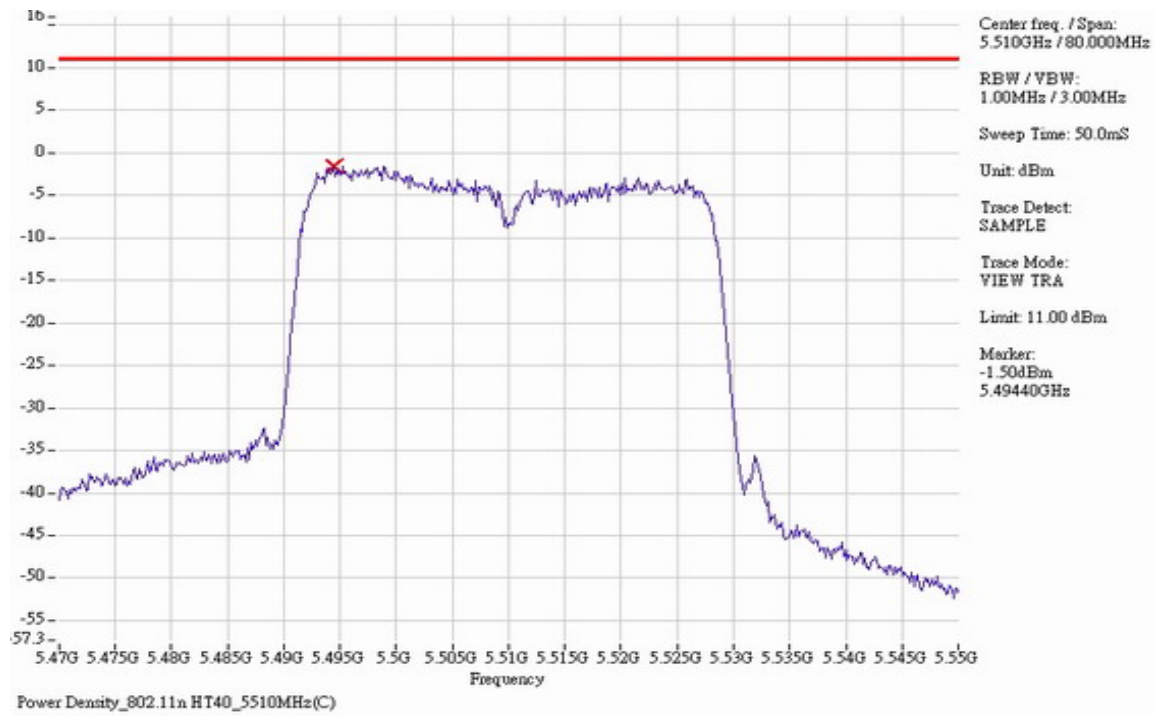
### 802.11 n (HT40) Chain C CH54 5270MHz



### 802.11 n (HT40) Chain C CH62 5310MHz



### 802.11 n (HT40) Chain C CH102 5510MHz

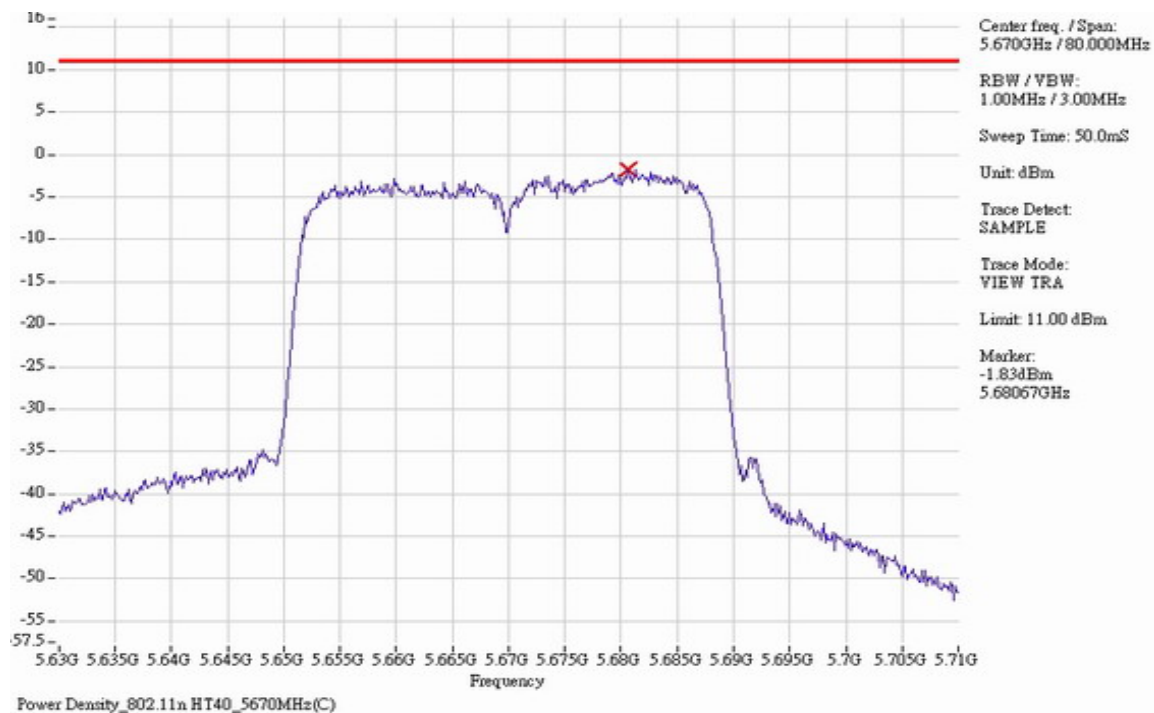


### 802.11 n (HT40) Chain C CH118 5590MHz





### 802.11 n (HT40) Chain C CH134 5670MHz

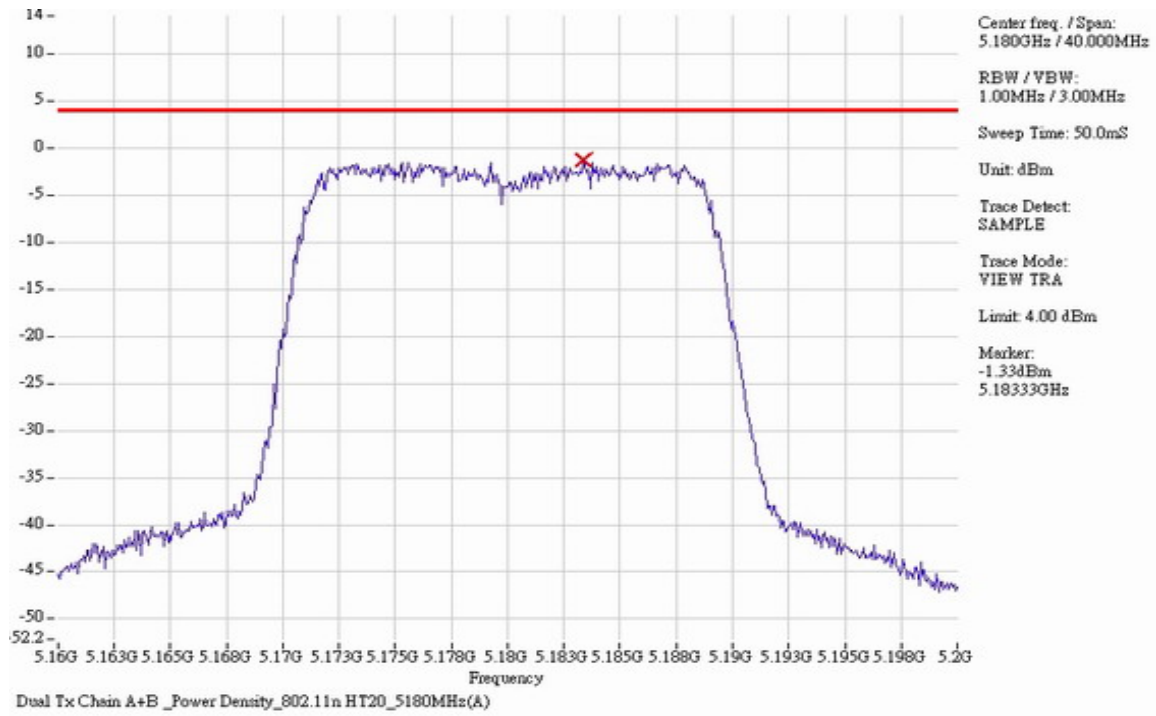




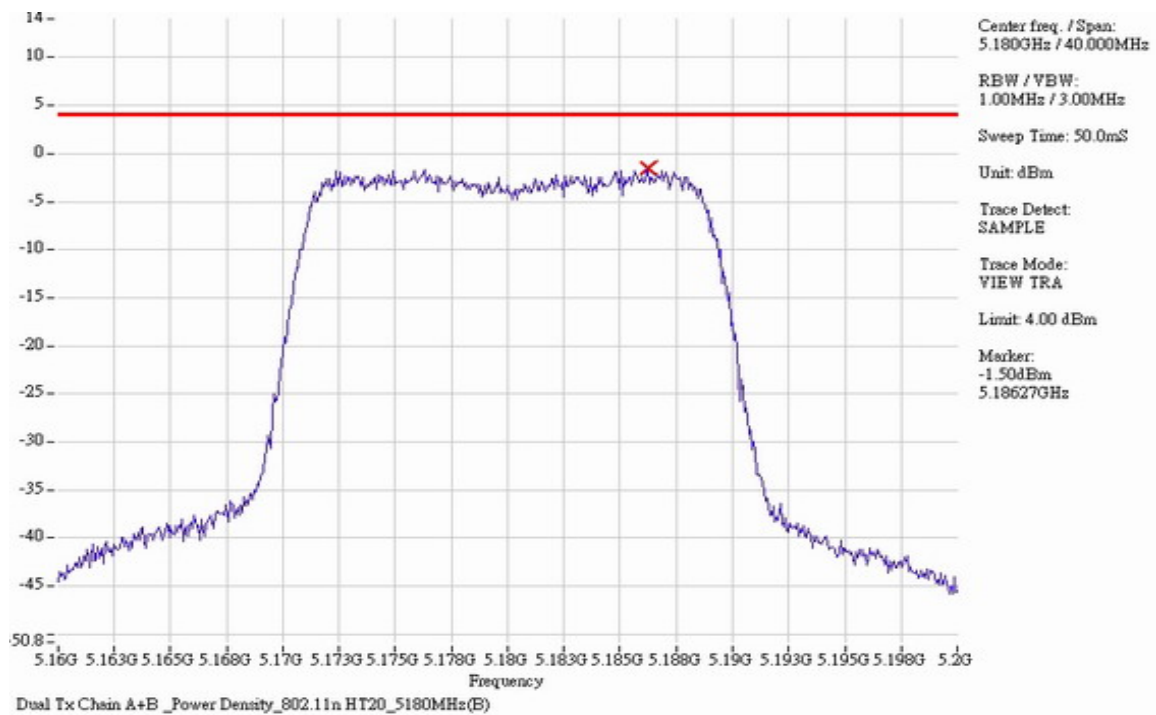
# Power spectral density

## Dual Tx

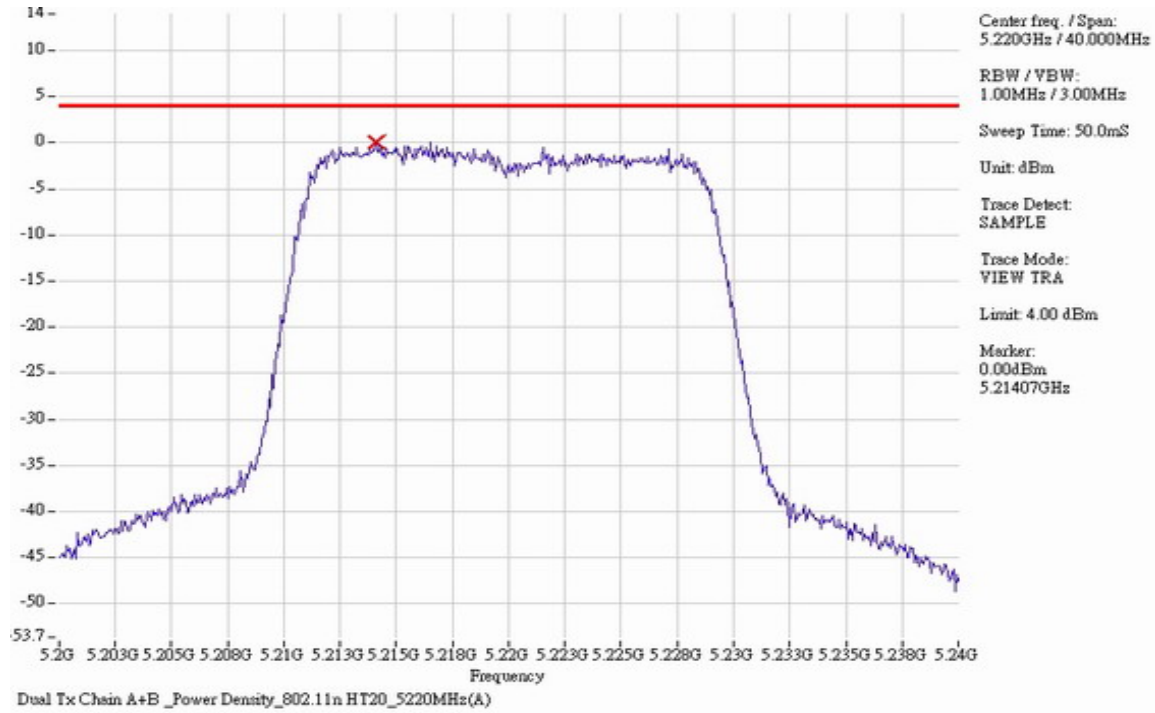
### 802.11 n (HT20) CH36 5180MHz Chain A+B (A)



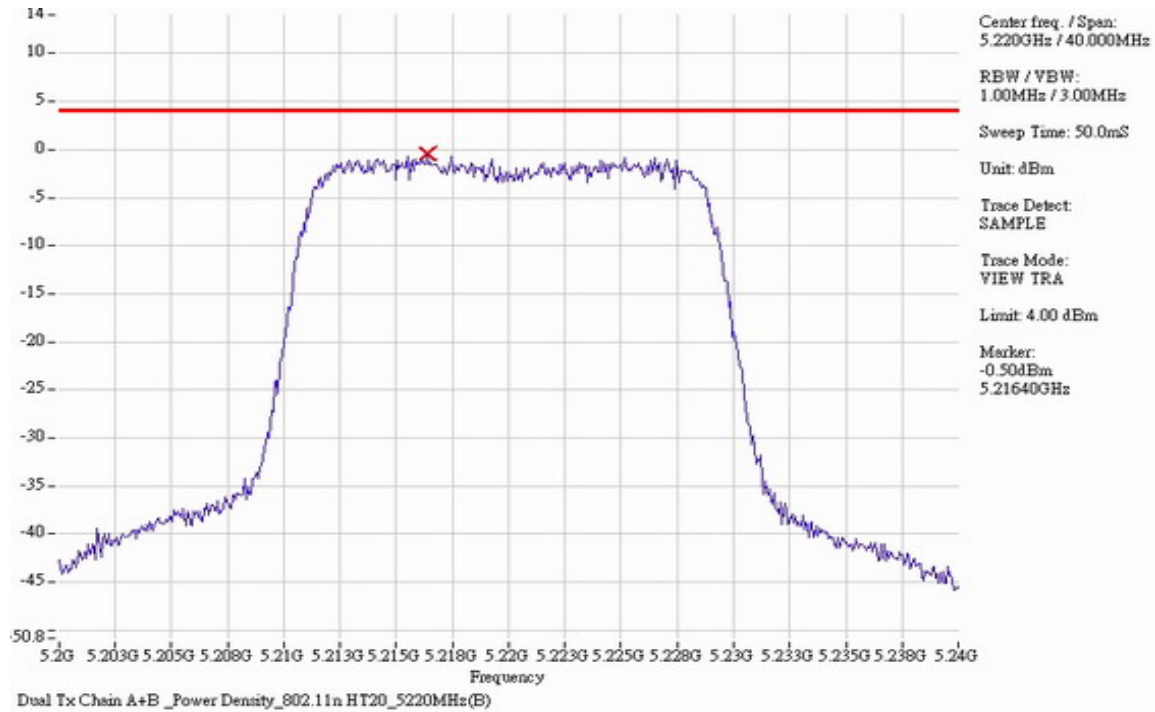
### 802.11 n (HT20) CH36 5180MHz Chain A+B (B)



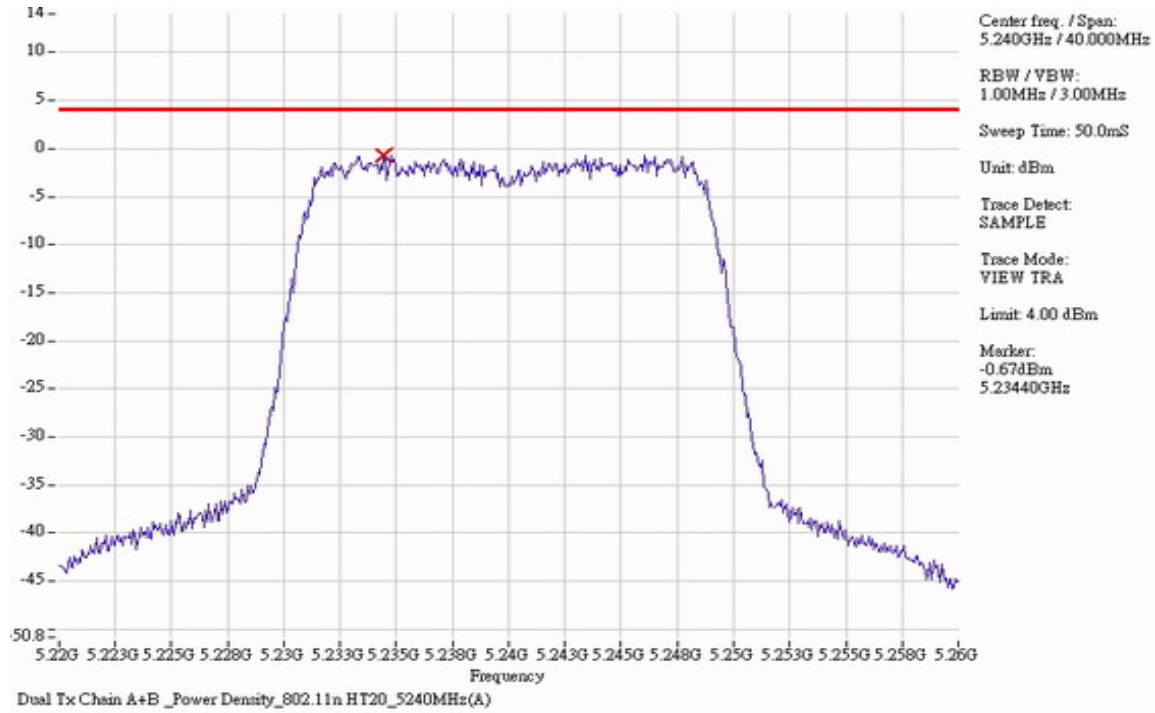
### 802.11 n (HT20) CH44 5220MHz Chain A+B (A)



### 802.11 n (HT20) CH44 5220MHz Chain A+B (B)



### 802.11 n (HT20) CH48 5240MHz Chain A+B (A)



### 802.11 n (HT20) CH48 5240MHz Chain A+B (B)

