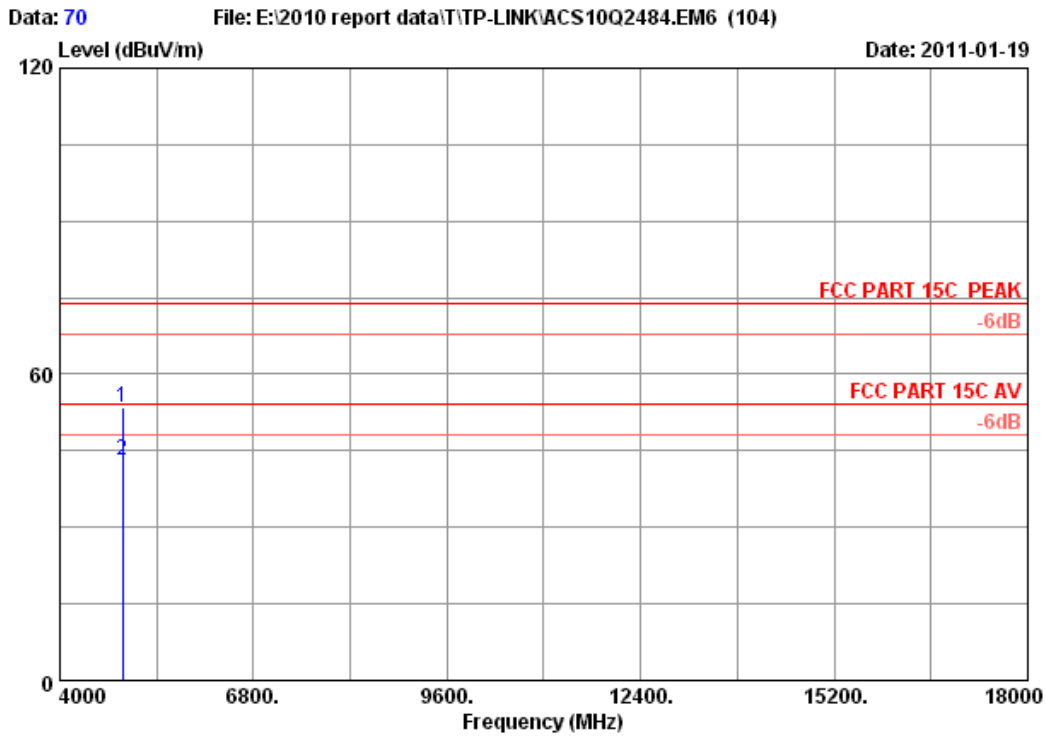


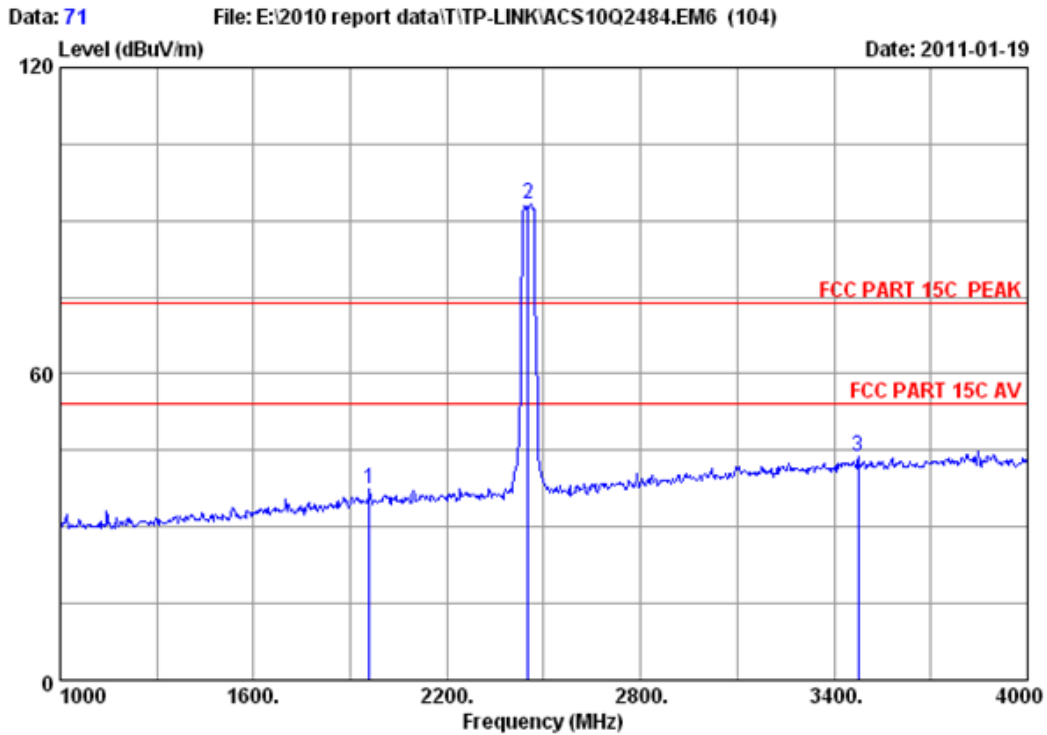
Site no. : RF Chamber Data no. : 69  
Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
EUT : 150Mbps Mini Wireless N USB Adapter  
Power : DC 5V From PC Input AC 120V/60Hz  
Test mode : IEEE802.11n HT40 CH7 2452MHz Tx  
M/N : TL-WN723N



Site no. : RF Chamber Data no. : 70  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11n HT40 CH7 2452MHz Tx  
 M/N : TL-WN723N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4904.000	34.46	10.74	35.00	43.24	53.44	74.00	20.56	Peak
2	4904.000	34.46	10.74	35.00	32.98	43.18	54.00	10.82	Average

Remarks:  
 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

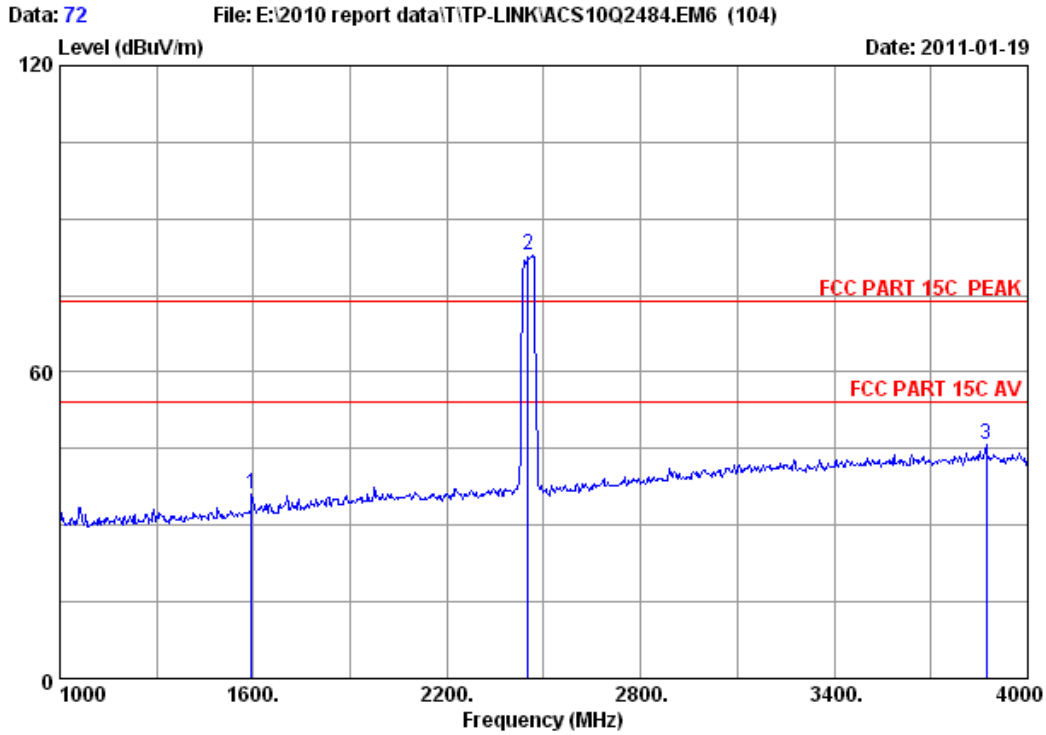


Site no. : RF Chamber Data no. : 71  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11n HT40 CH7 2452MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1960.000	28.92	6.59	36.72	38.60	37.39	74.00	36.61	Peak
2	2452.000	29.47	7.50	36.61	92.83	93.19	74.00	-19.19	Peak
3	3475.000	33.26	9.09	36.03	37.37	43.69	74.00	30.31	Peak

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : RF Chamber Data no. : 72  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11n HT40 CH7 2452MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1594.000	26.96	5.88	36.95	40.31	36.20	74.00	37.80	Peak
2	2452.000	29.47	7.50	36.61	82.57	82.93	74.00	-8.93	Peak
3	3871.000	33.83	9.54	35.70	38.19	45.86	74.00	28.14	Peak

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

## 5. CONDUCTED SPURIOUS EMISSIONS

### 5.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08,10	1 Year
2.	Attenuator	Agilent	8491B	MY39262165	May.08,10	1 Year
3.	RF Cable	Hubersuhner	SUCOFLEX102	28618/2	May.08,10	1Year

### 5.2. Limit

In any 100kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.

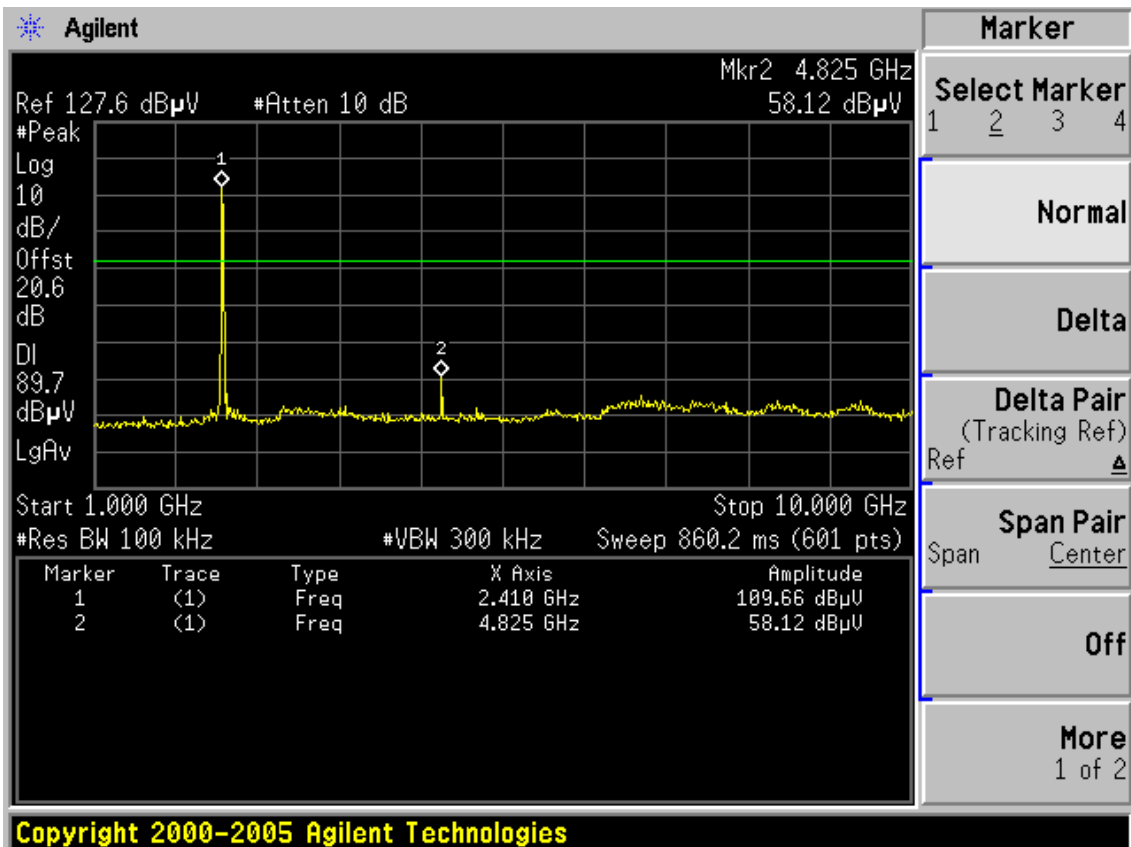
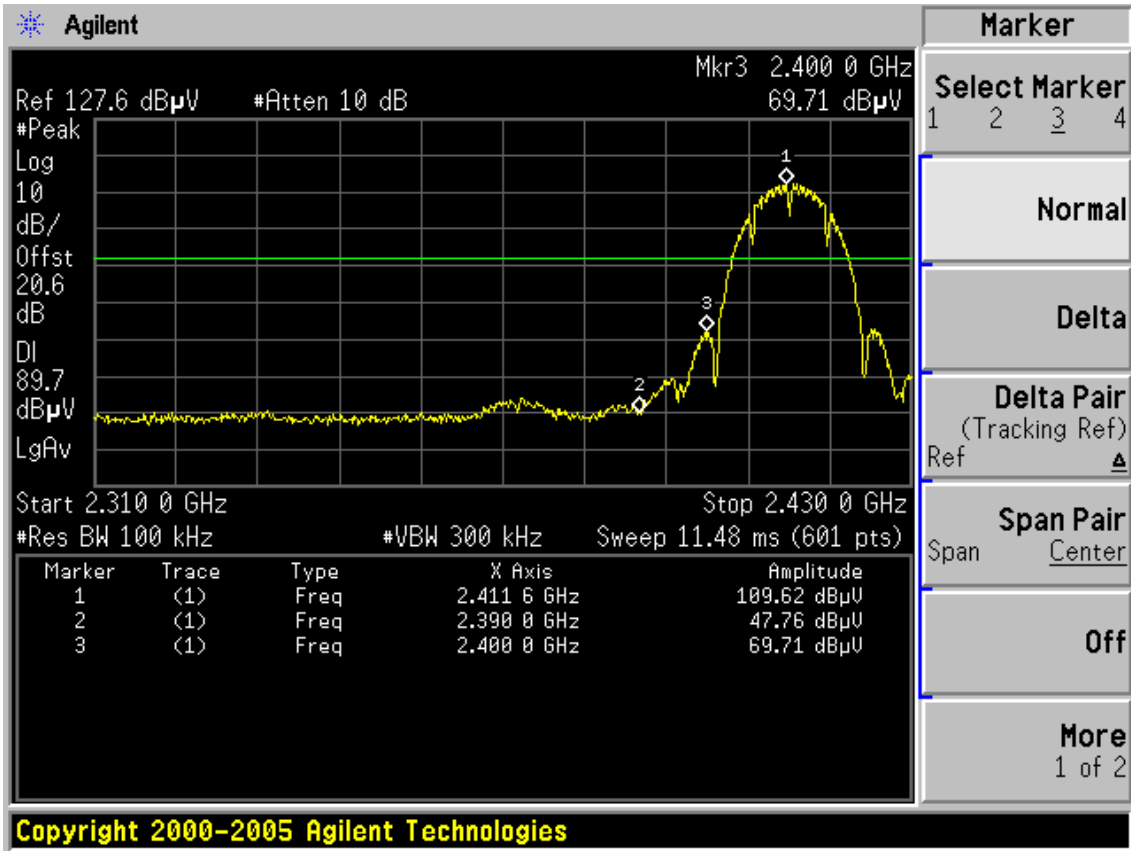
### 5.3. Test Procedure

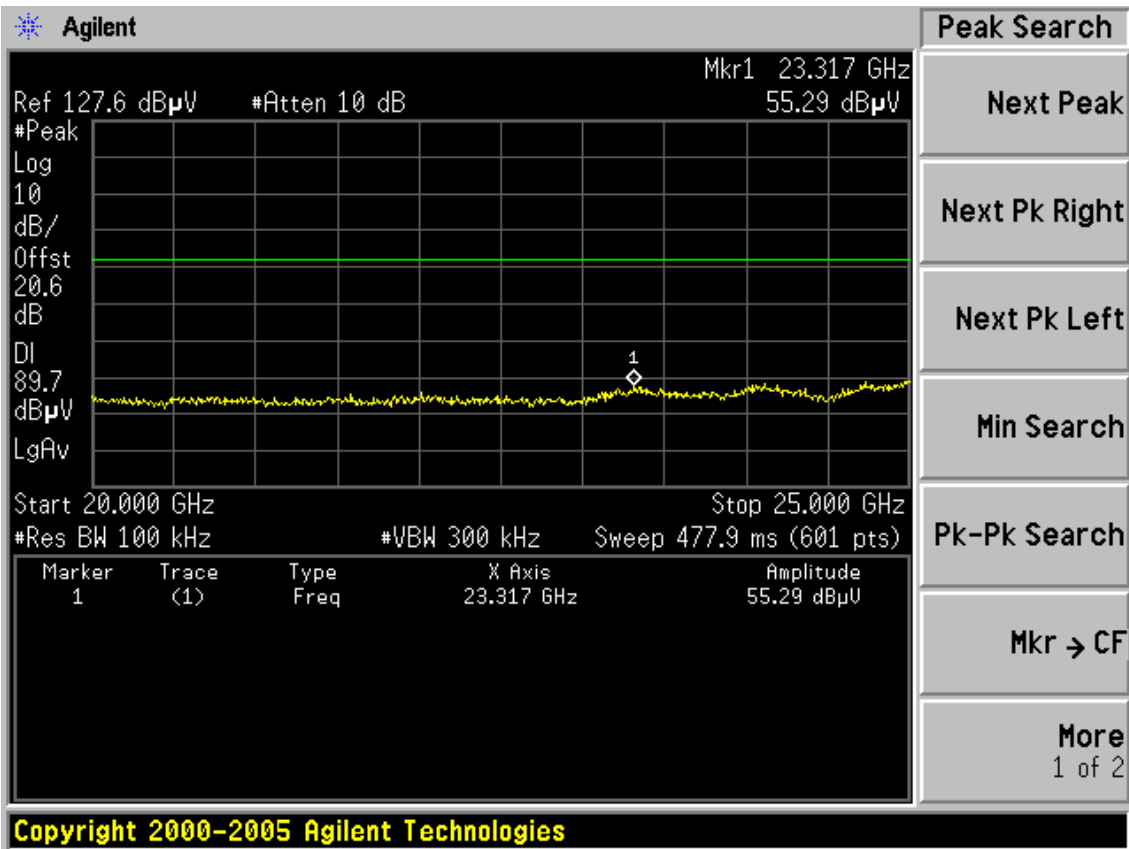
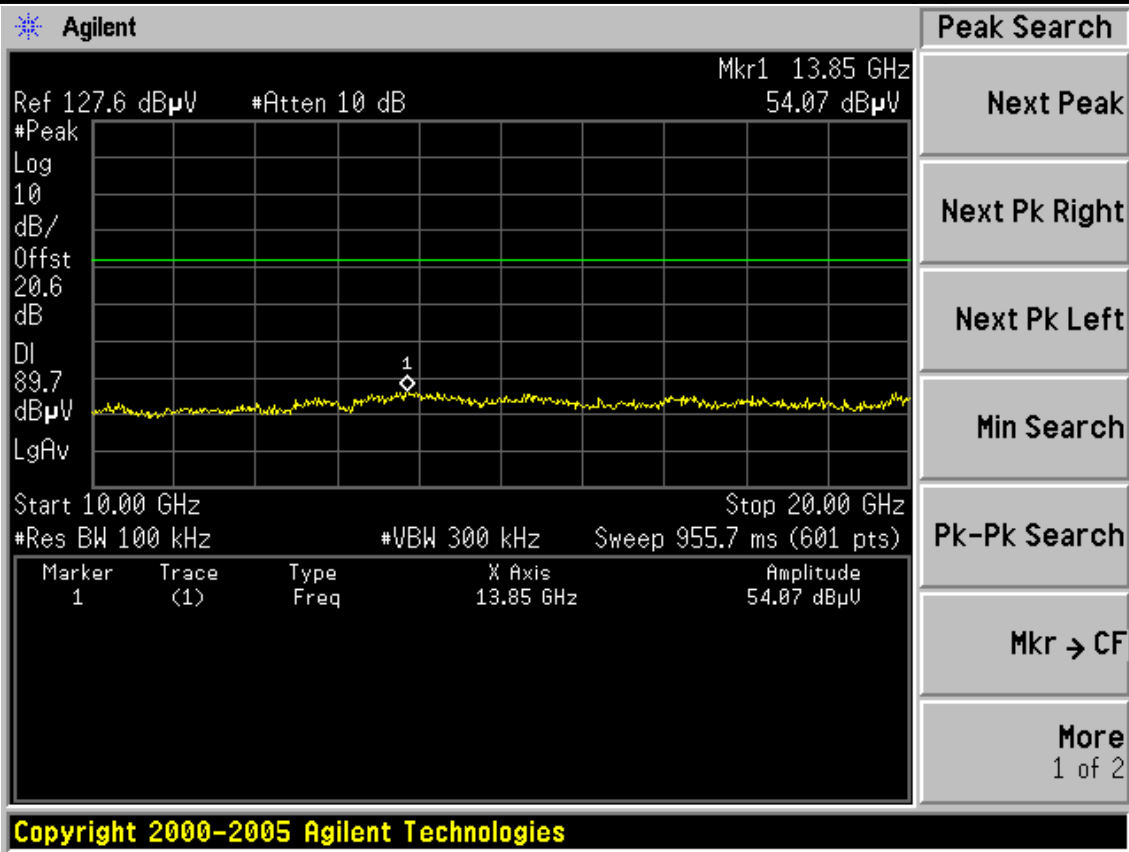
The transmitter output was connected to a spectrum analyzer, The resolution bandwidth is set to 100 kHz, The video bandwidth is set to 300 kHz and measure all the emissions detected.

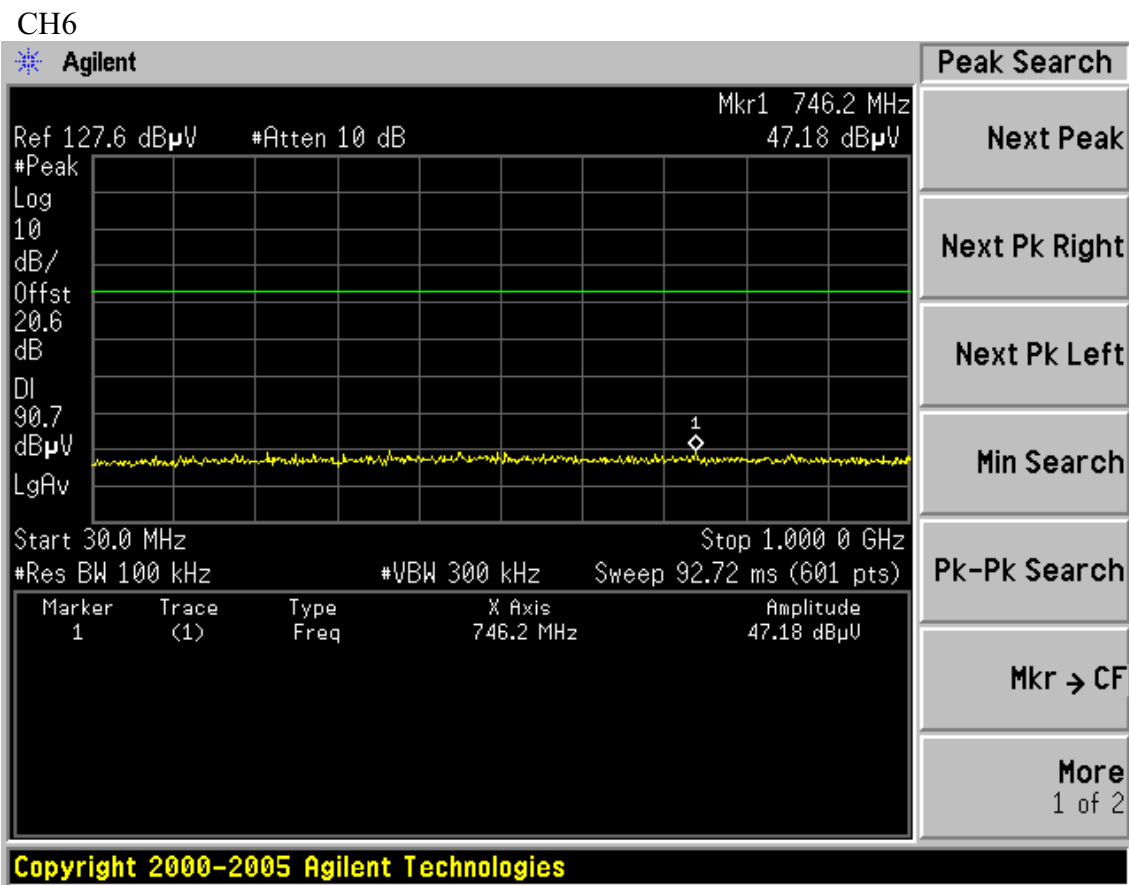
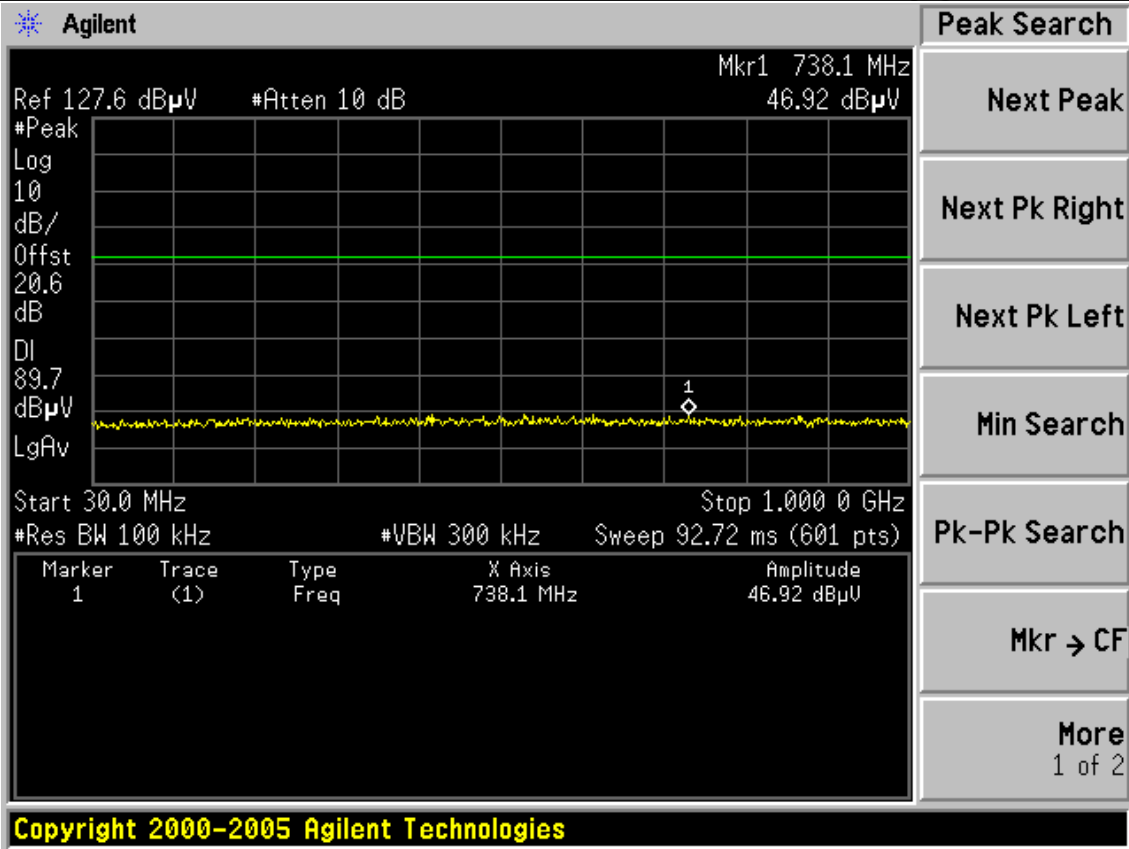
### 5.4. Test result

**PASS** (The testing data was attached in the next pages.)

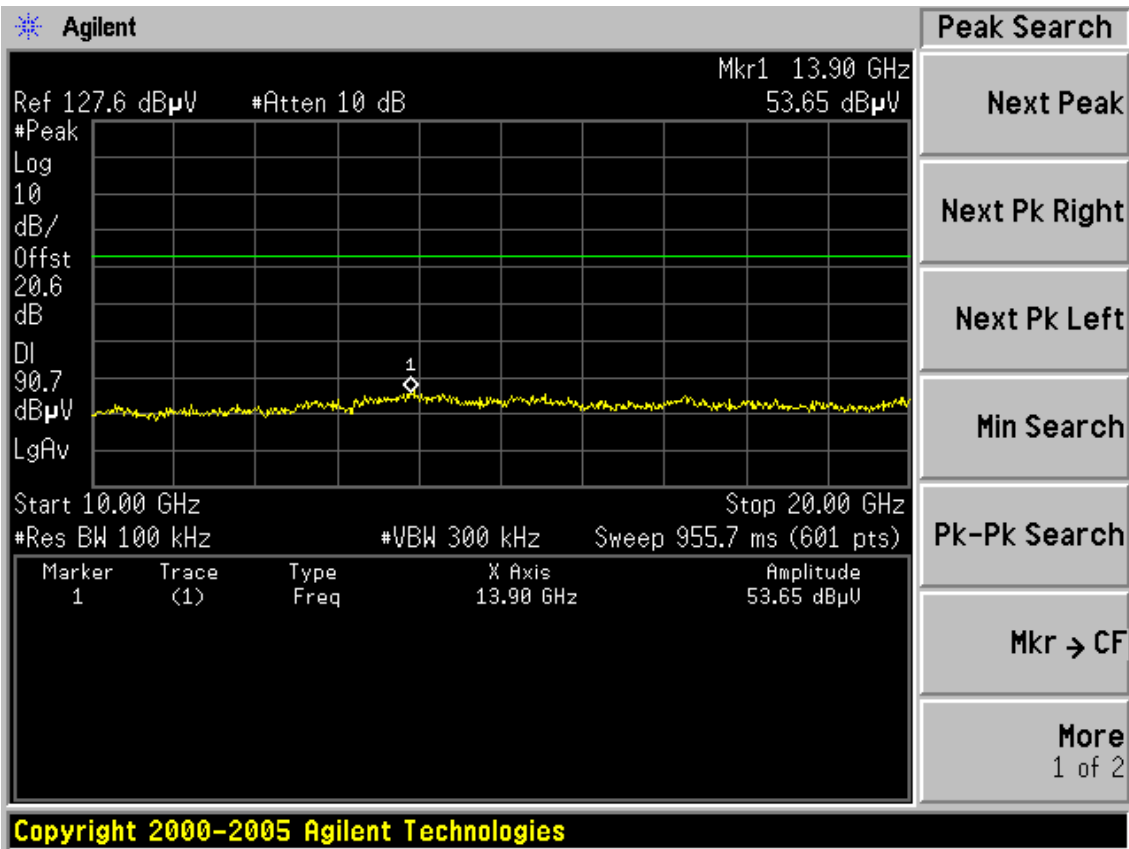
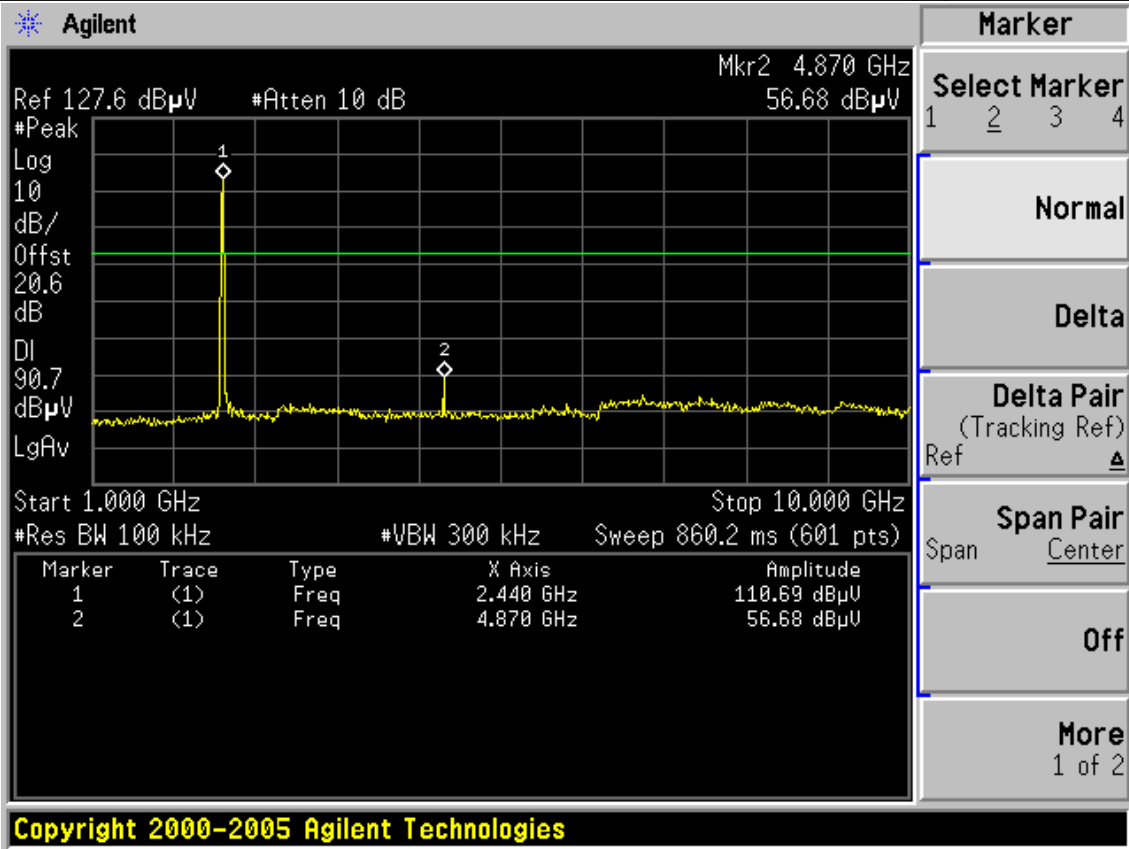
Test Mode: IEEE 802.11b TX  
CH1

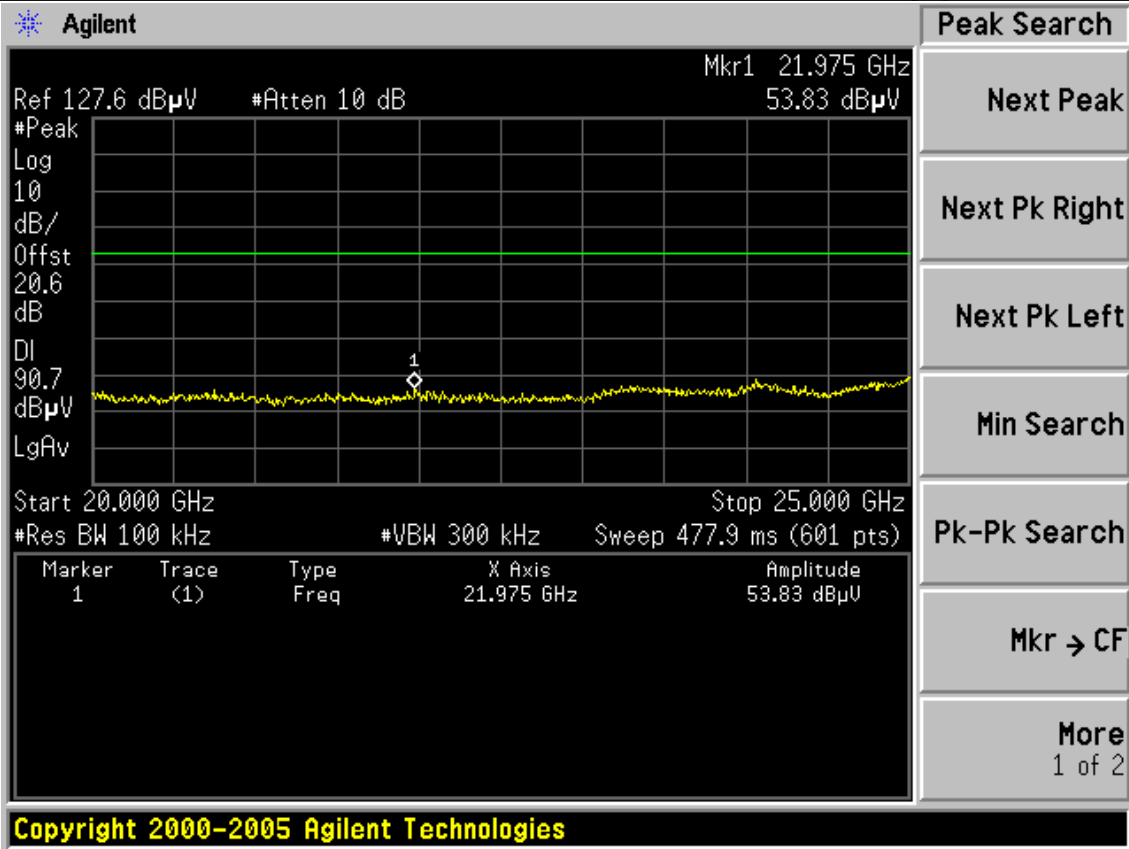




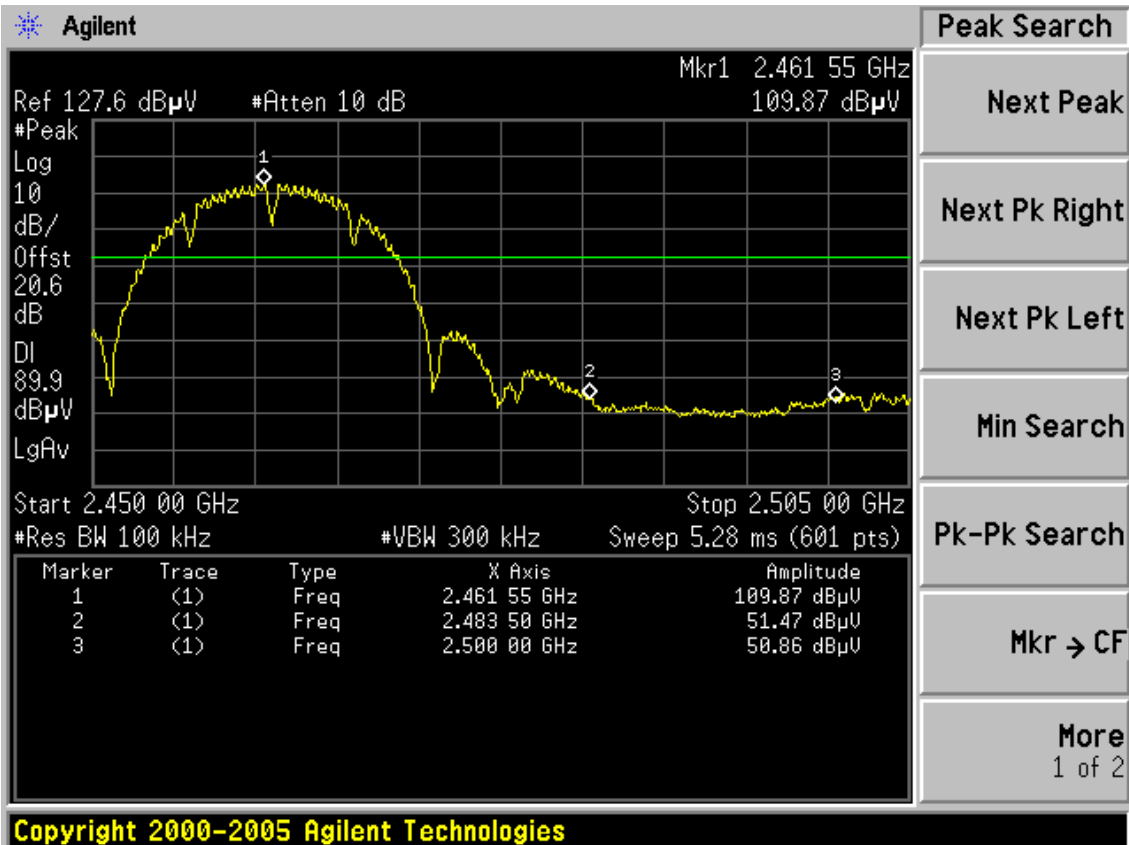








CH11



**Agilent**

Ref 127.6 dB $\mu$ V #Atten 10 dB Mkr2 4.930 GHz 53.79 dB $\mu$ V

#Peak Log 10 dB/ Offst 20.6 dB DI 90.4 dB $\mu$ V LgAv

Start 1.000 GHz Stop 10.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 860.2 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.470 GHz	110.35 dB $\mu$ V
2	(1)	Freq	4.930 GHz	53.79 dB $\mu$ V

**Marker**

Select Marker 1 2 3 4

Normal

Delta

Delta Pair (Tracking Ref) Ref  $\Delta$

Span Pair Center

Off

More 1 of 2

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**Agilent**

Ref 127.6 dB $\mu$ V #Atten 10 dB Mkr1 14.03 GHz 54.47 dB $\mu$ V

#Peak Log 10 dB/ Offst 20.6 dB DI 90.4 dB $\mu$ V LgAv

Start 10.00 GHz Stop 20.00 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 955.7 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	14.03 GHz	54.47 dB $\mu$ V

**Peak Search**

Next Peak

Next Pk Right

Next Pk Left

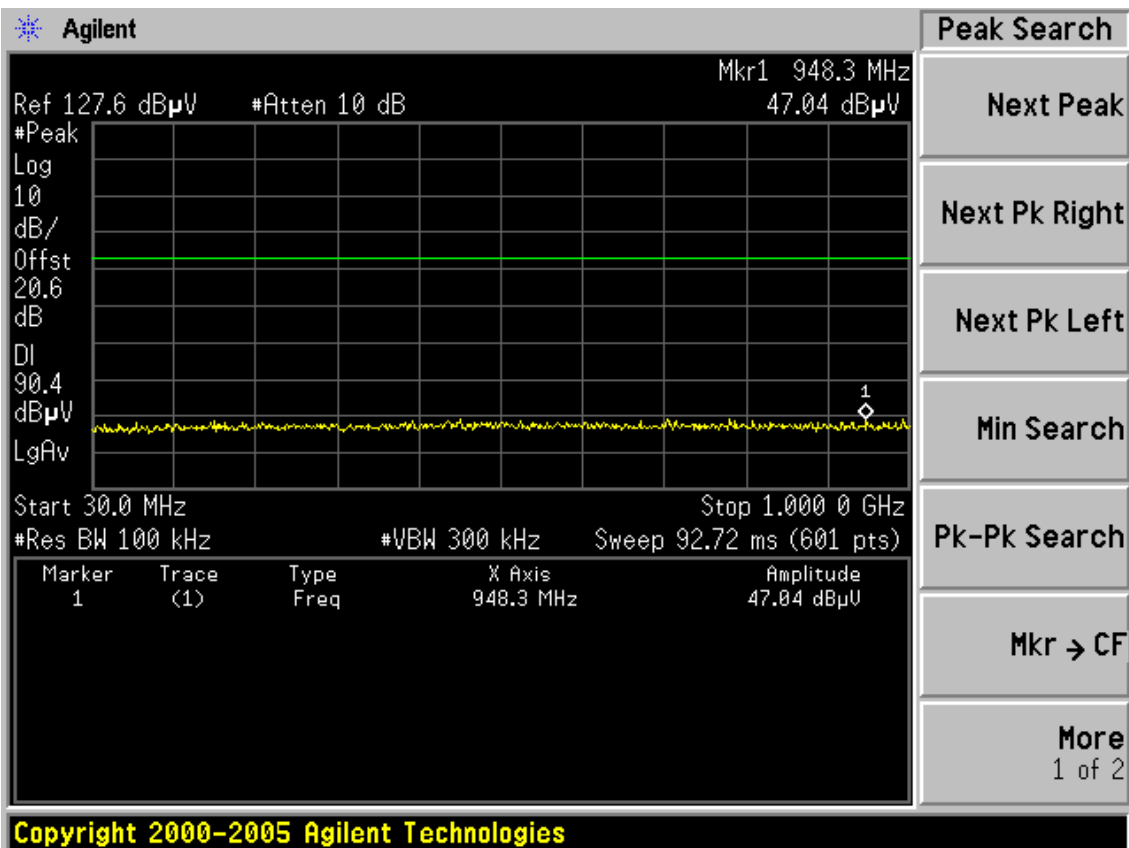
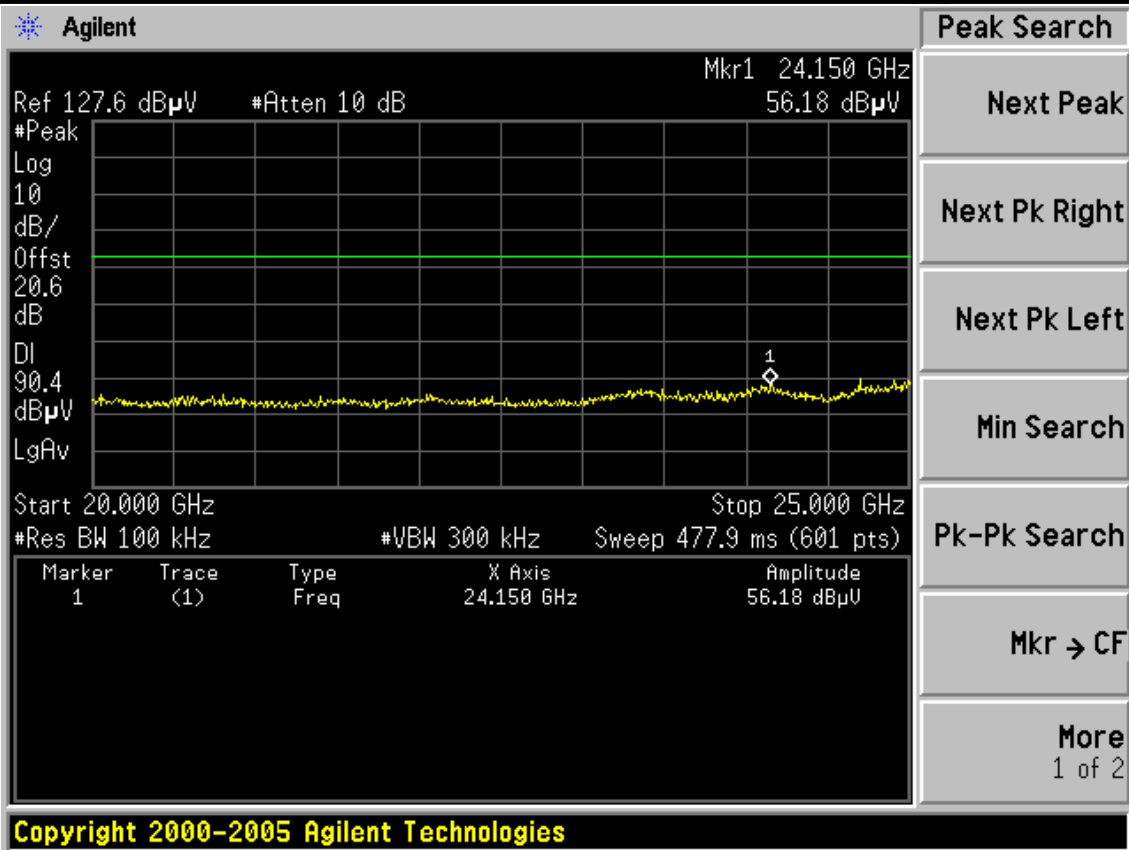
Min Search

Pk-Pk Search

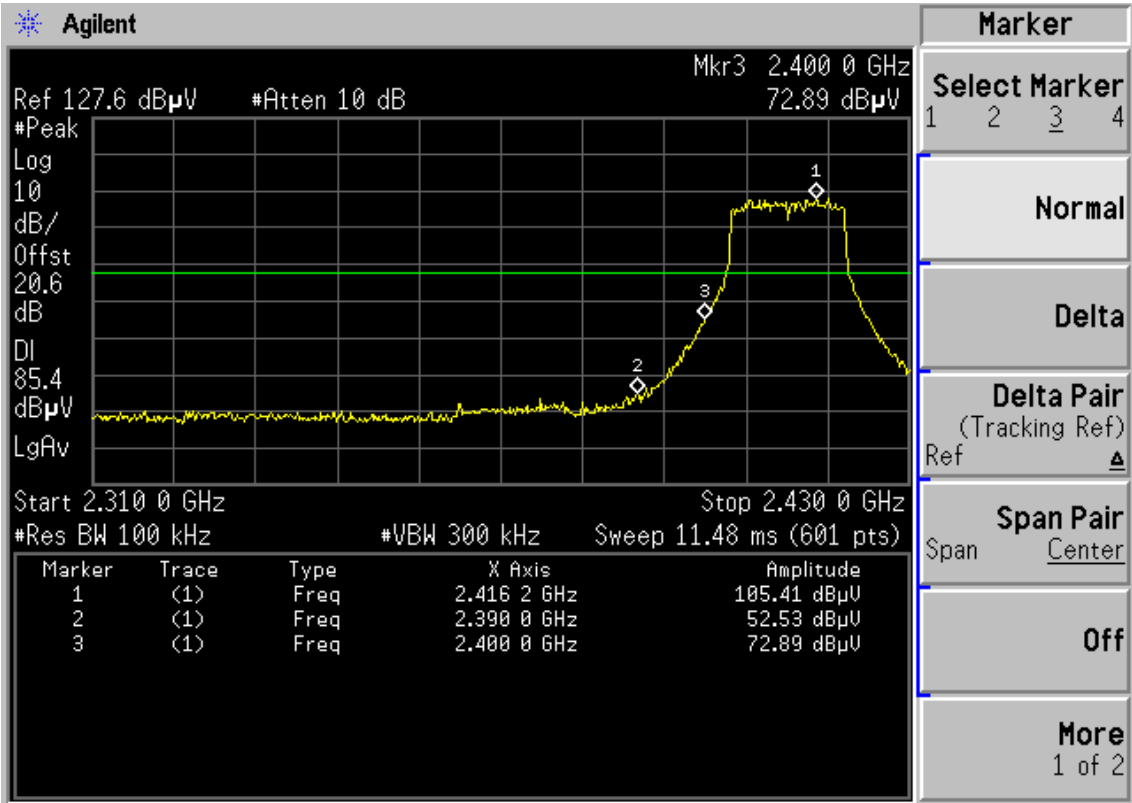
Mkr  $\rightarrow$  CF

More 1 of 2

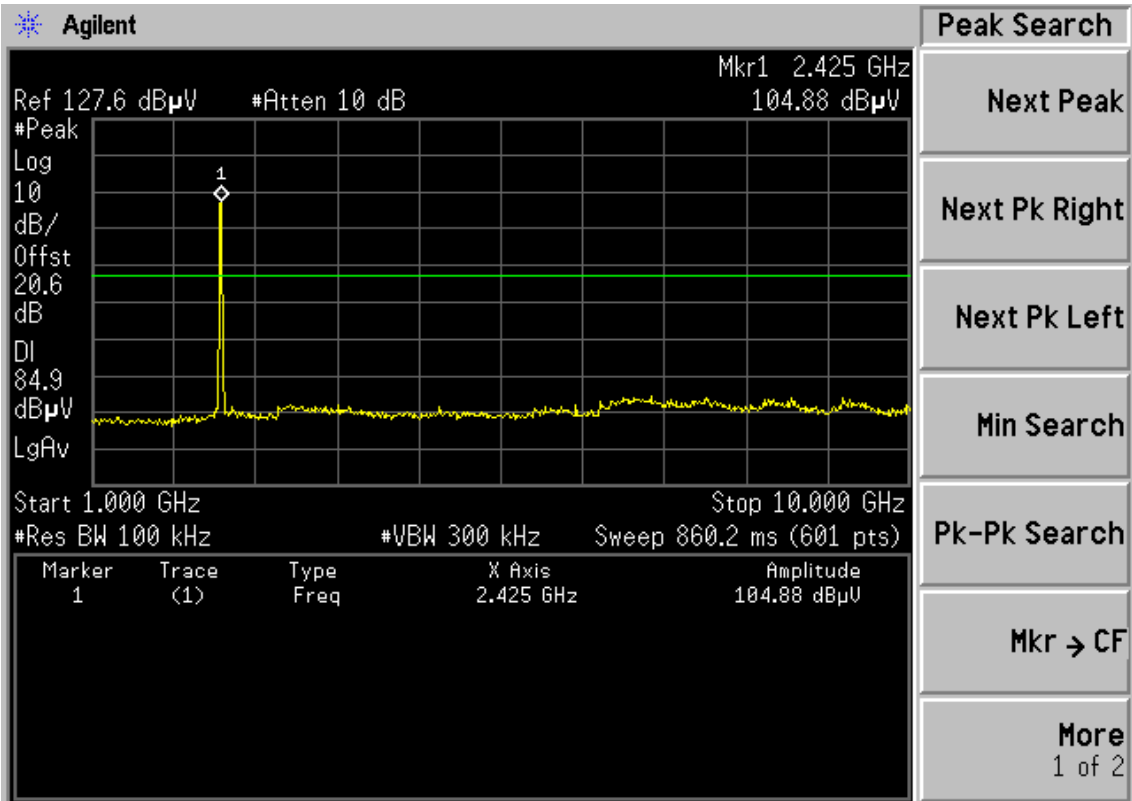
**Copyright 2000-2005 Agilent Technologies**



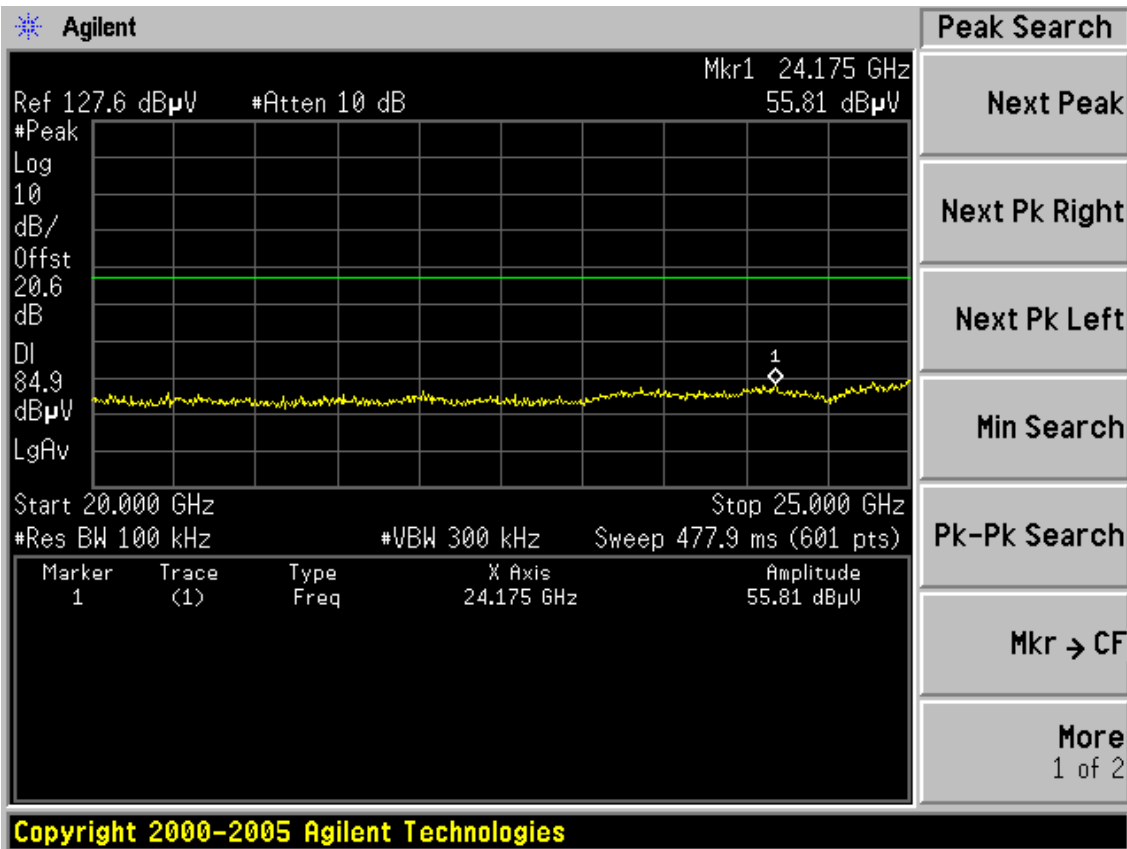
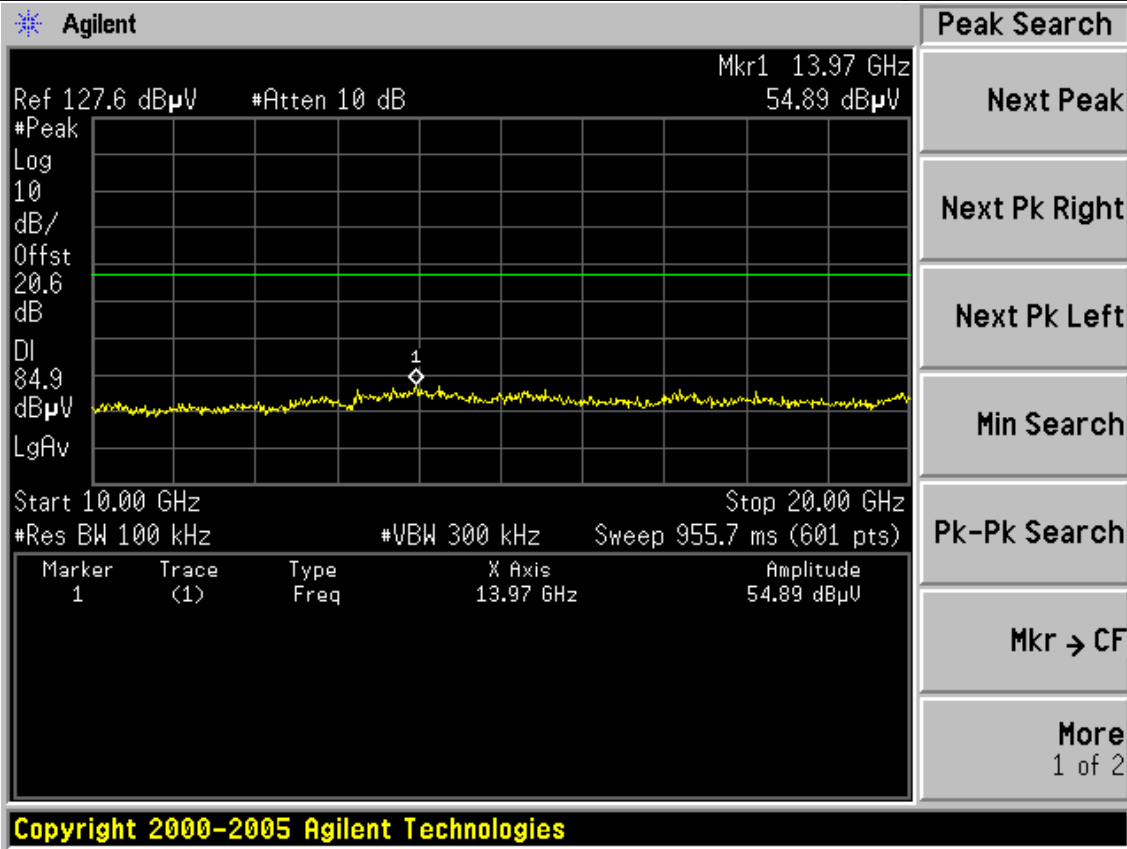
Test Mode: IEEE 802.11g TX  
CH1

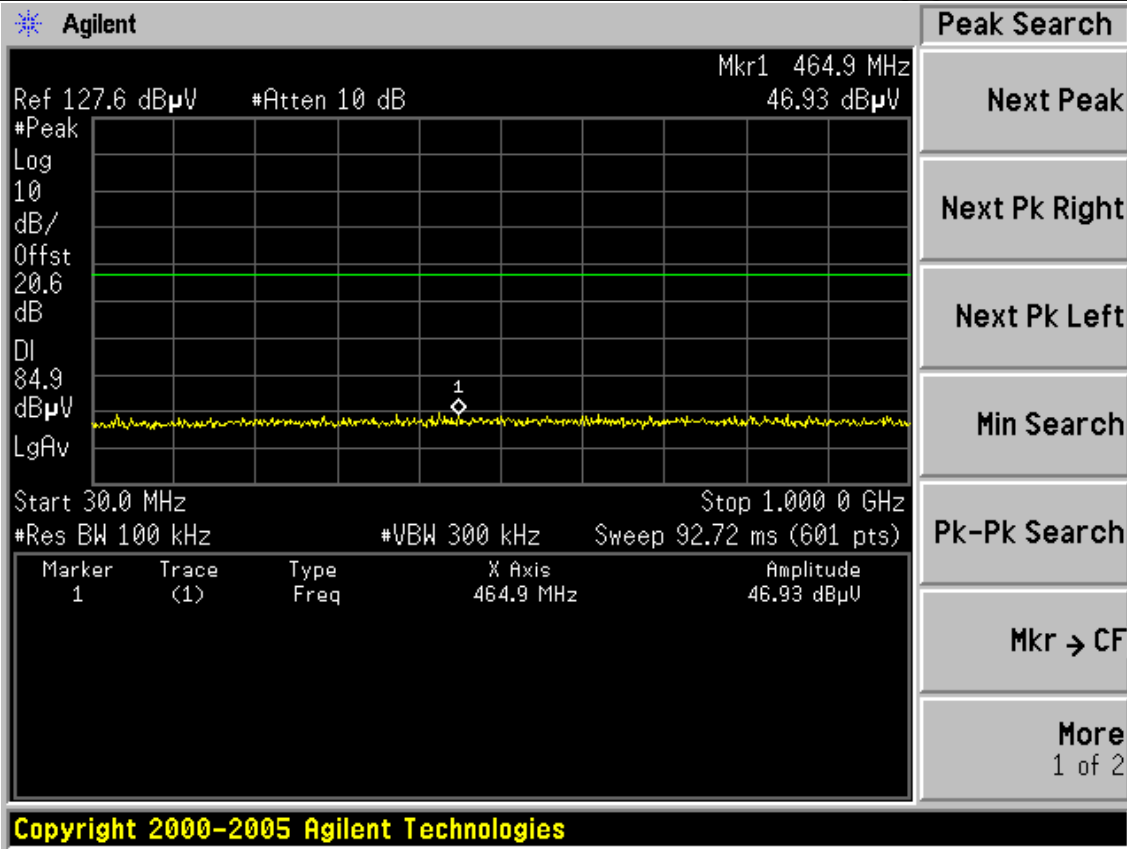


Copyright 2000-2005 Agilent Technologies

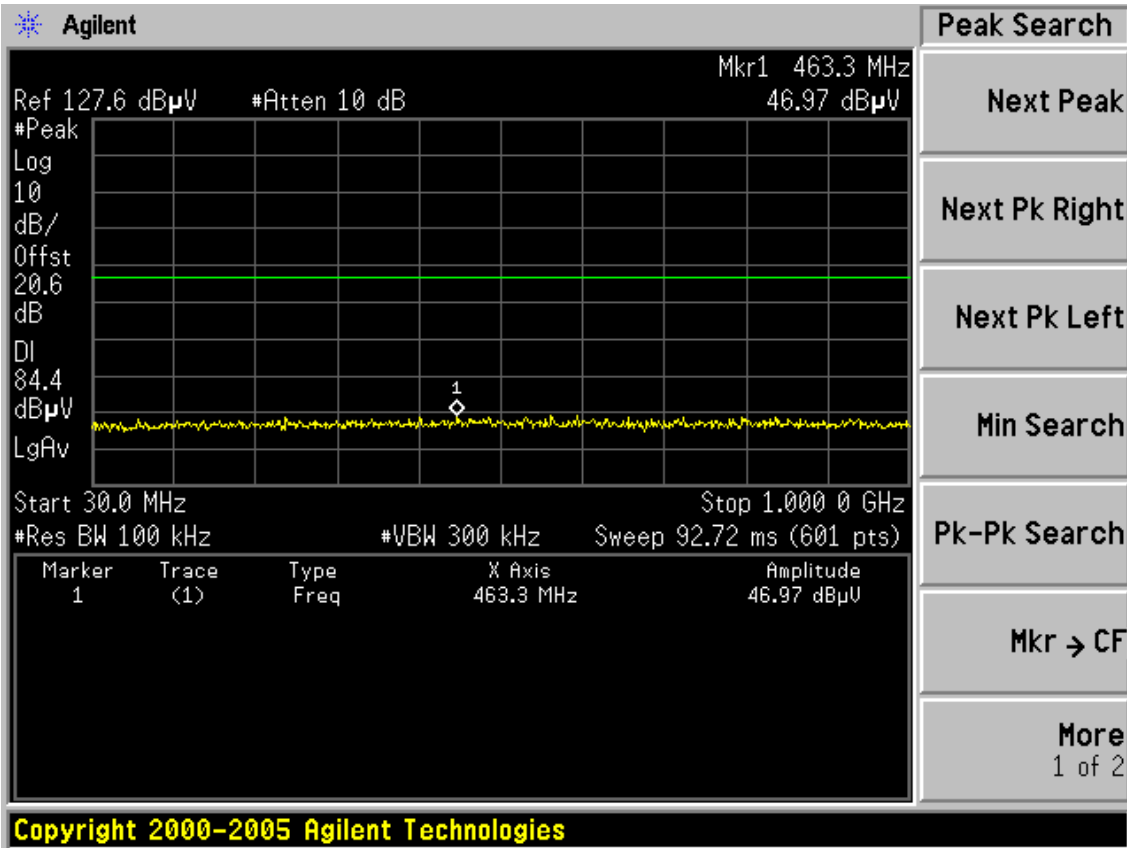


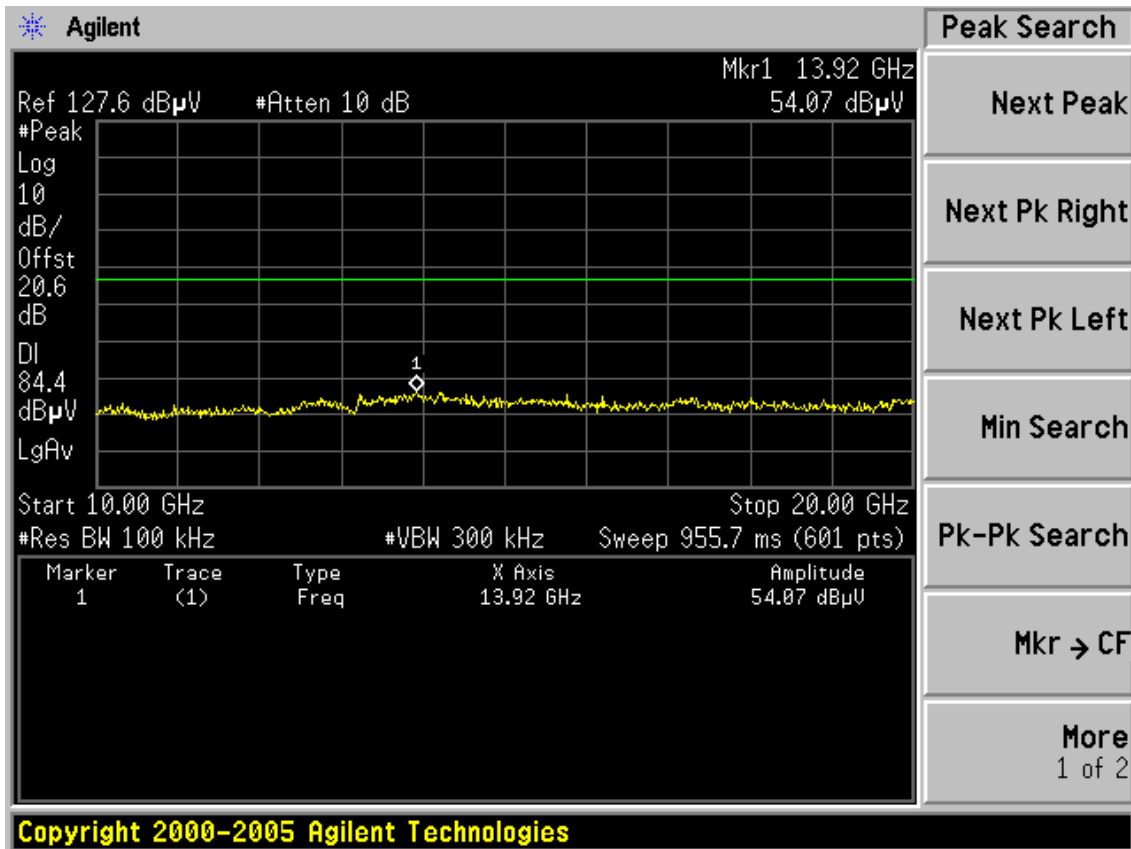
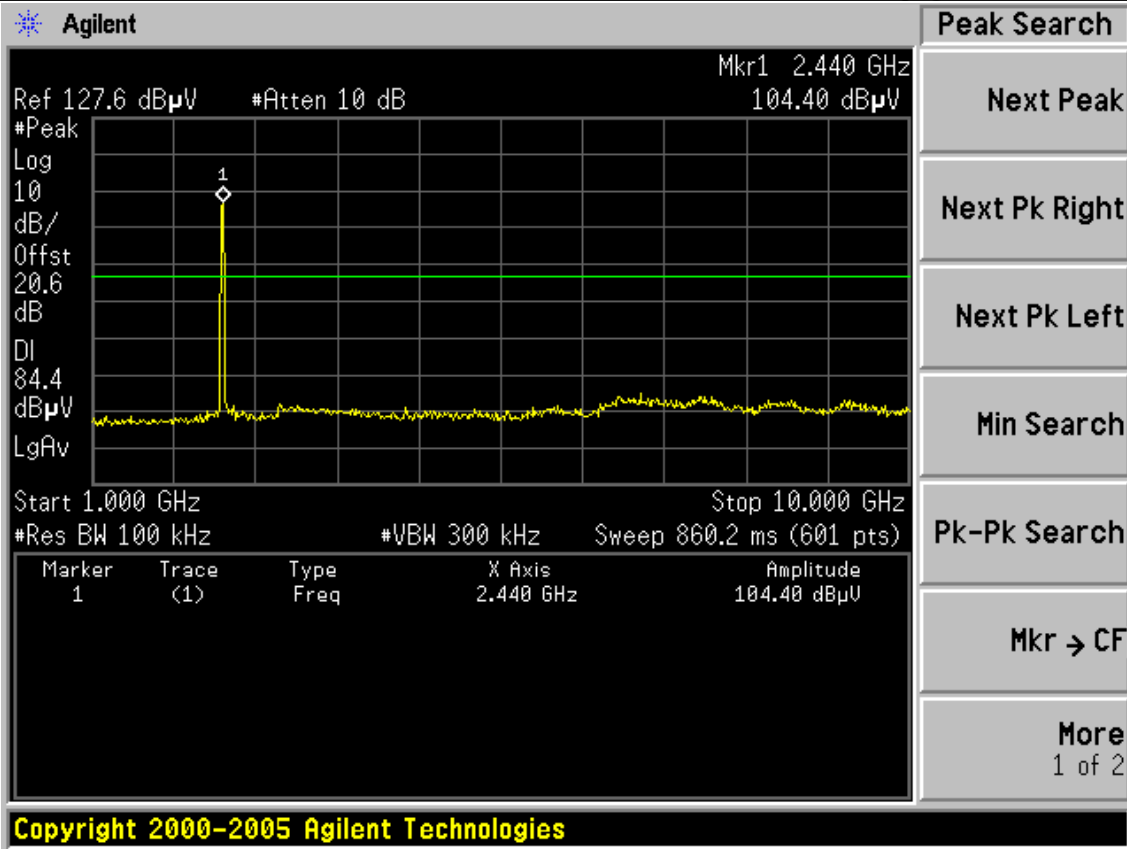
Copyright 2000-2005 Agilent Technologies



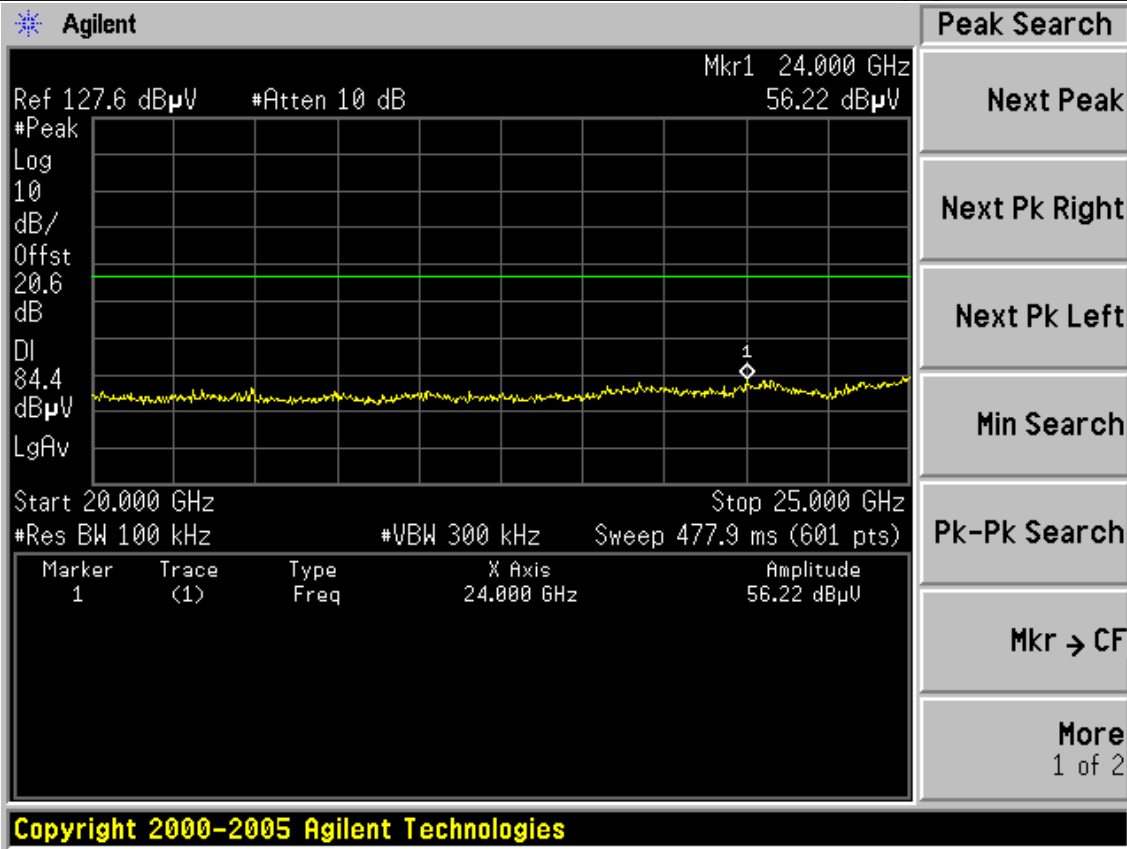


CH6

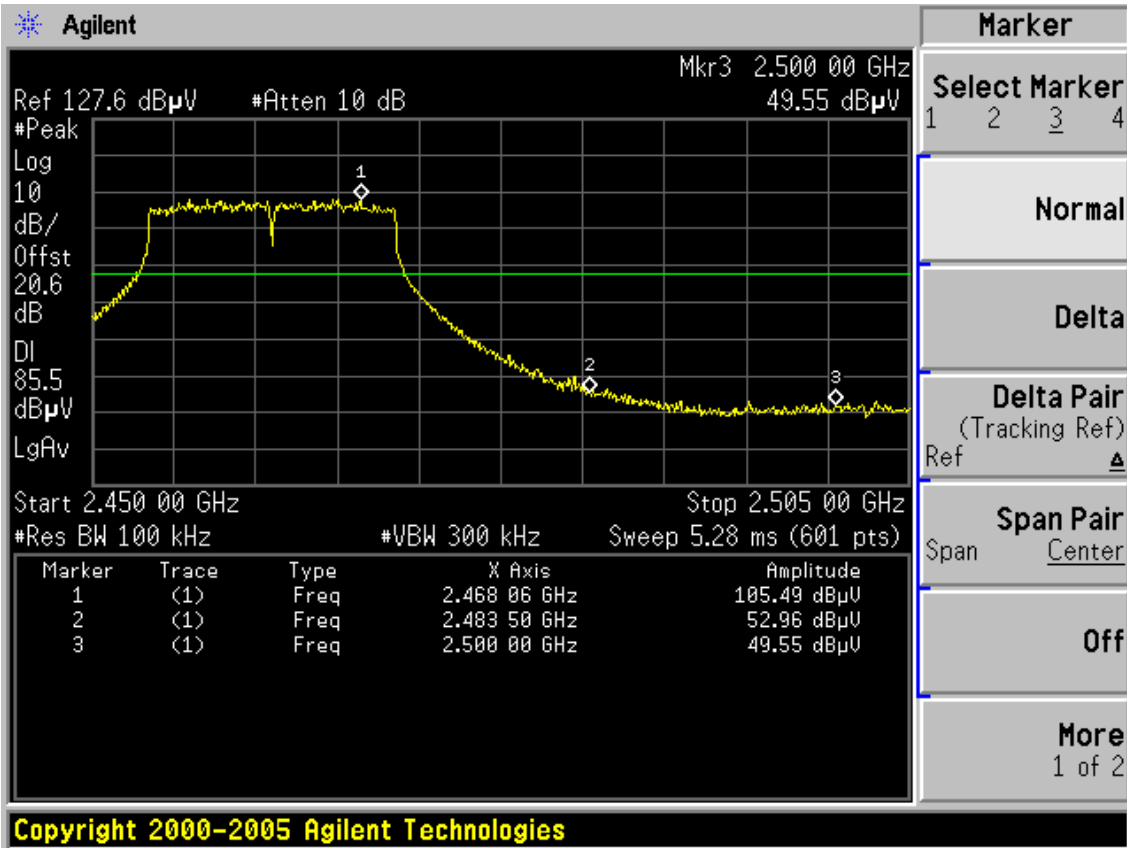


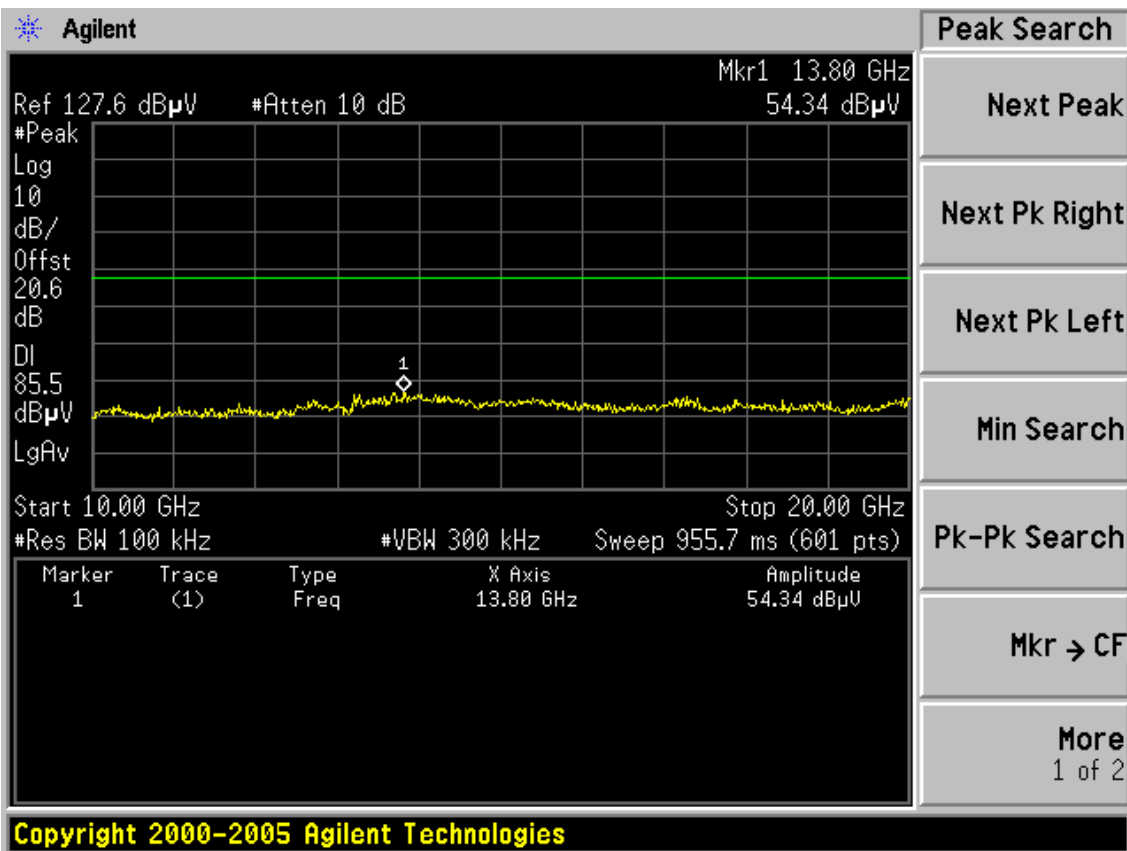
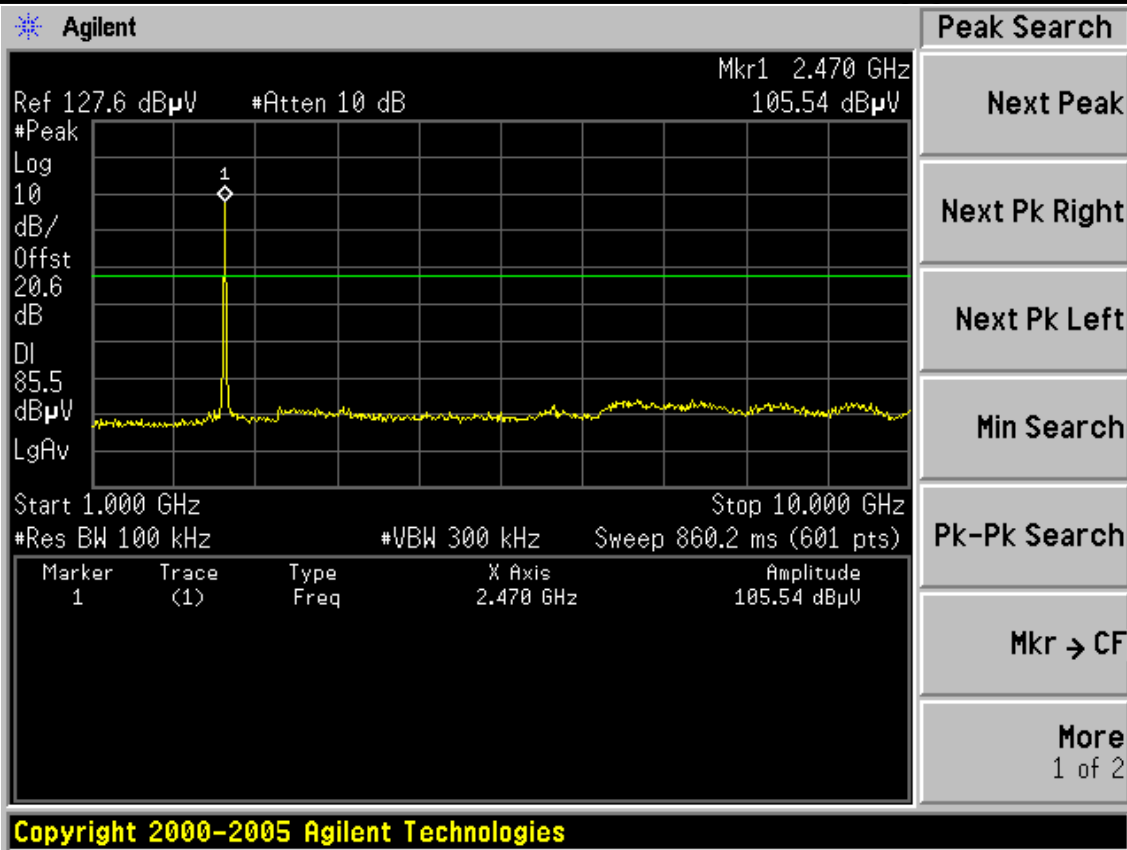


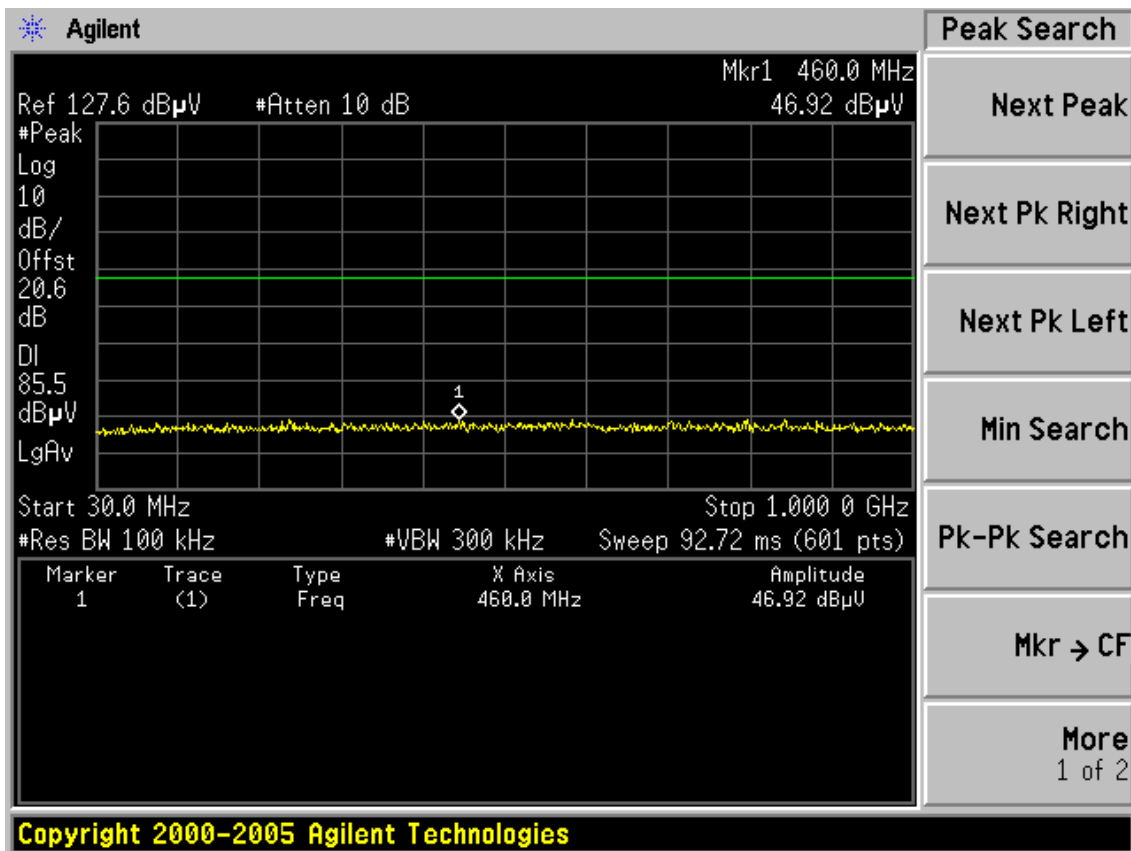
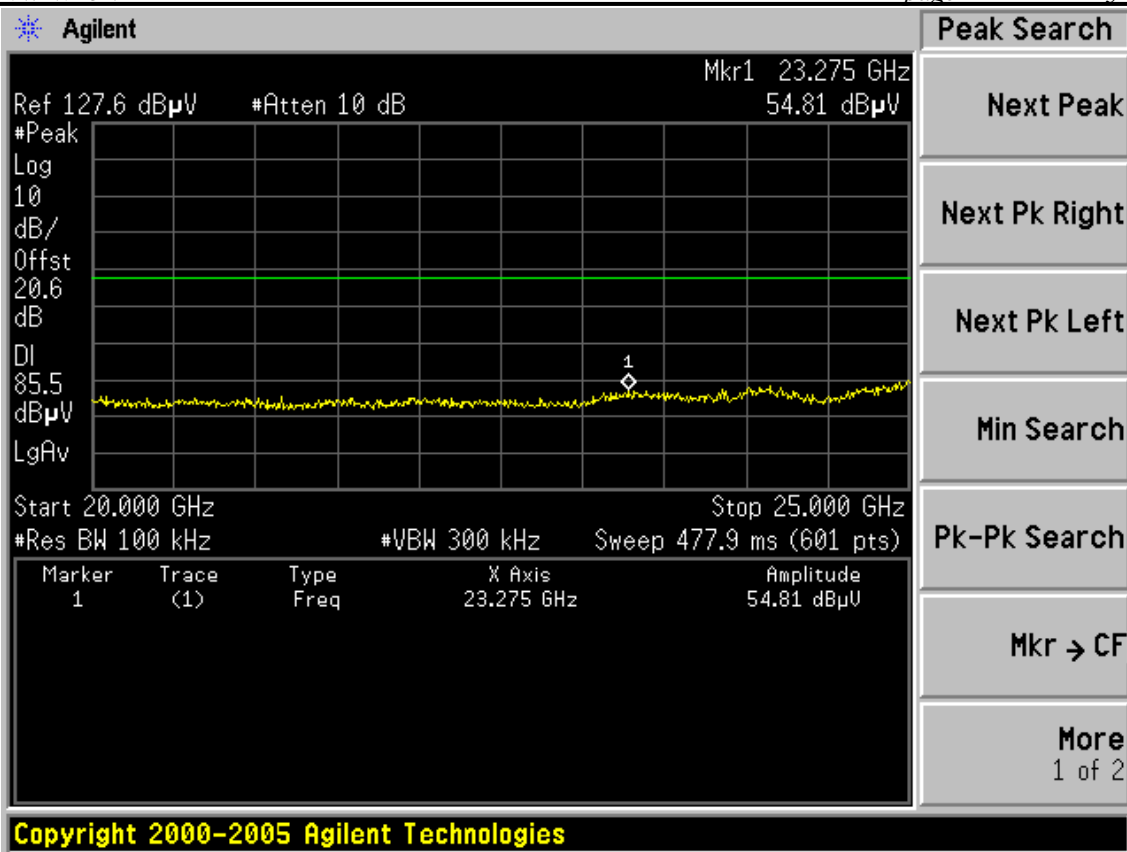




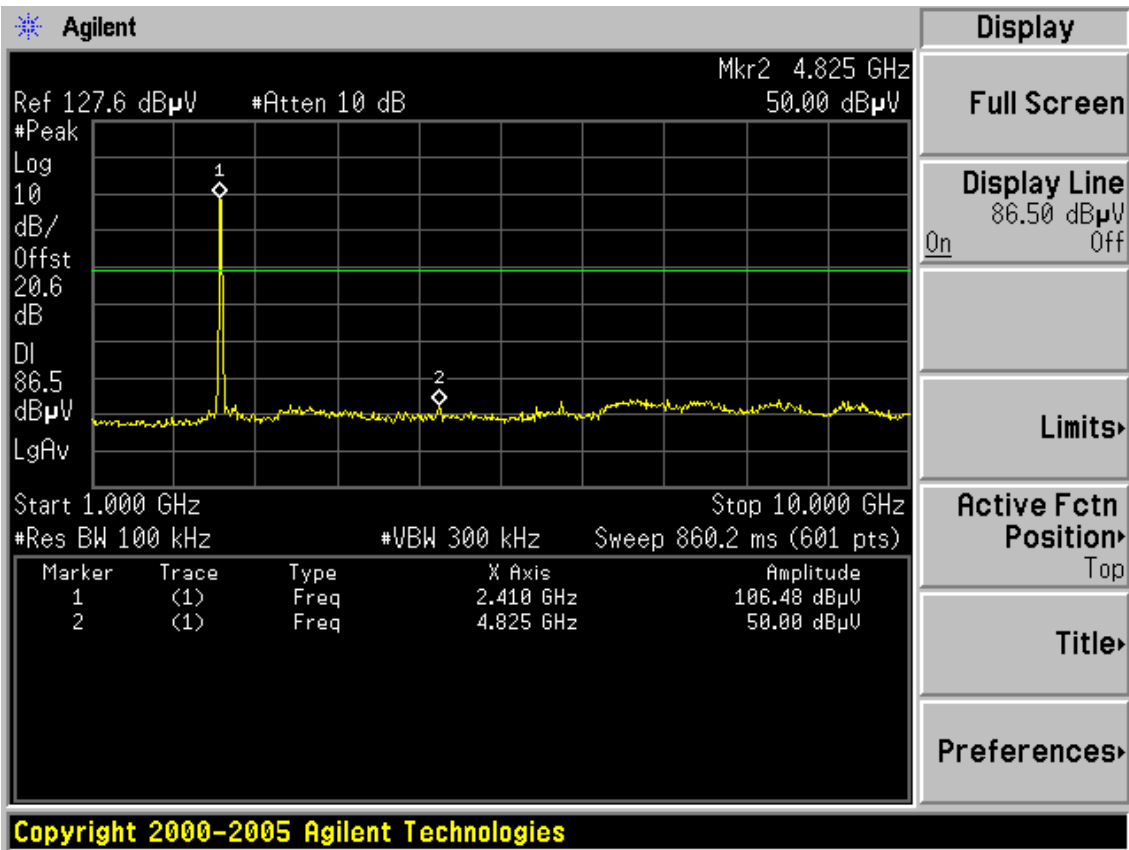
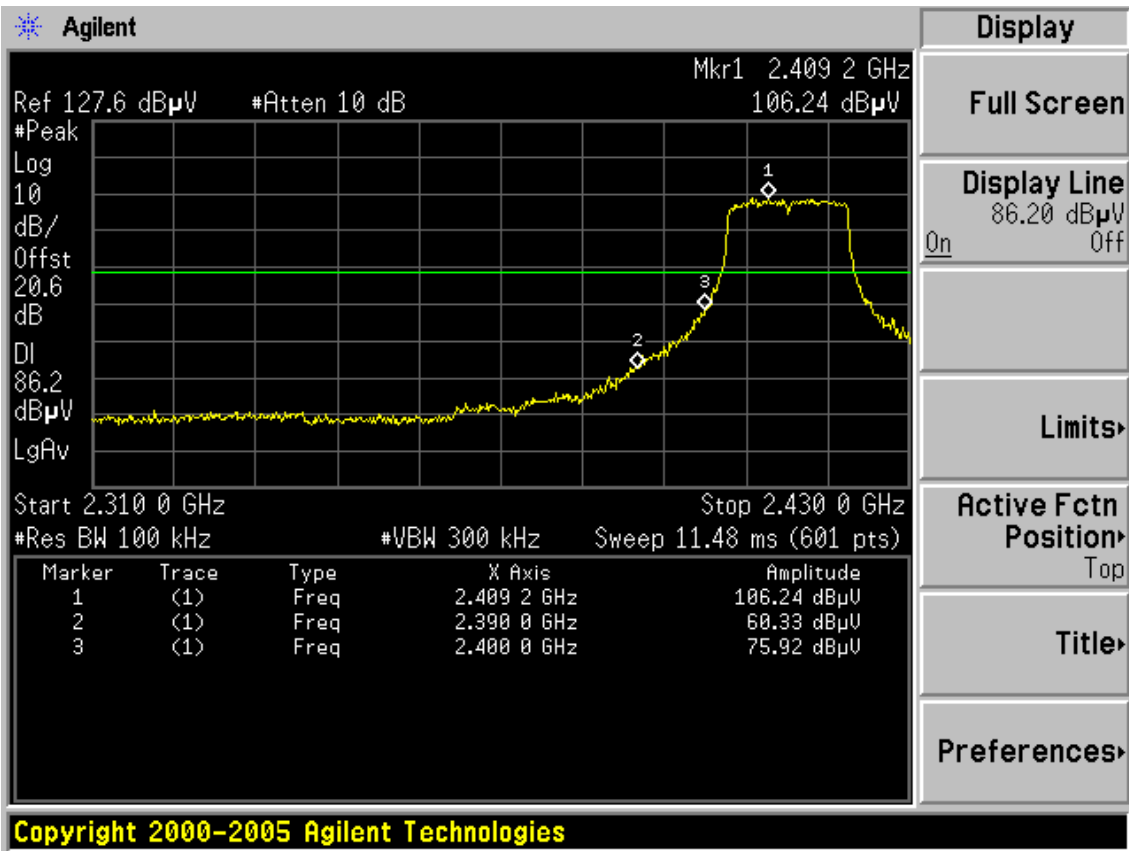
CH11

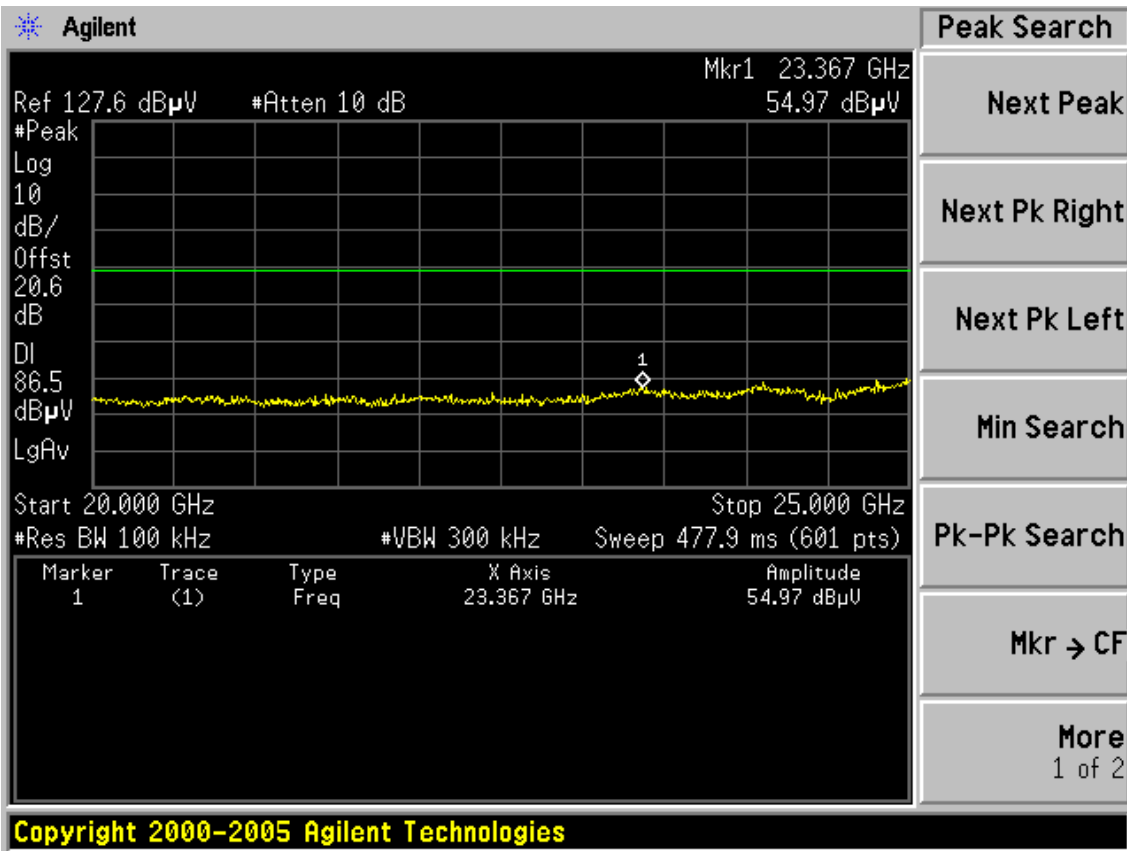
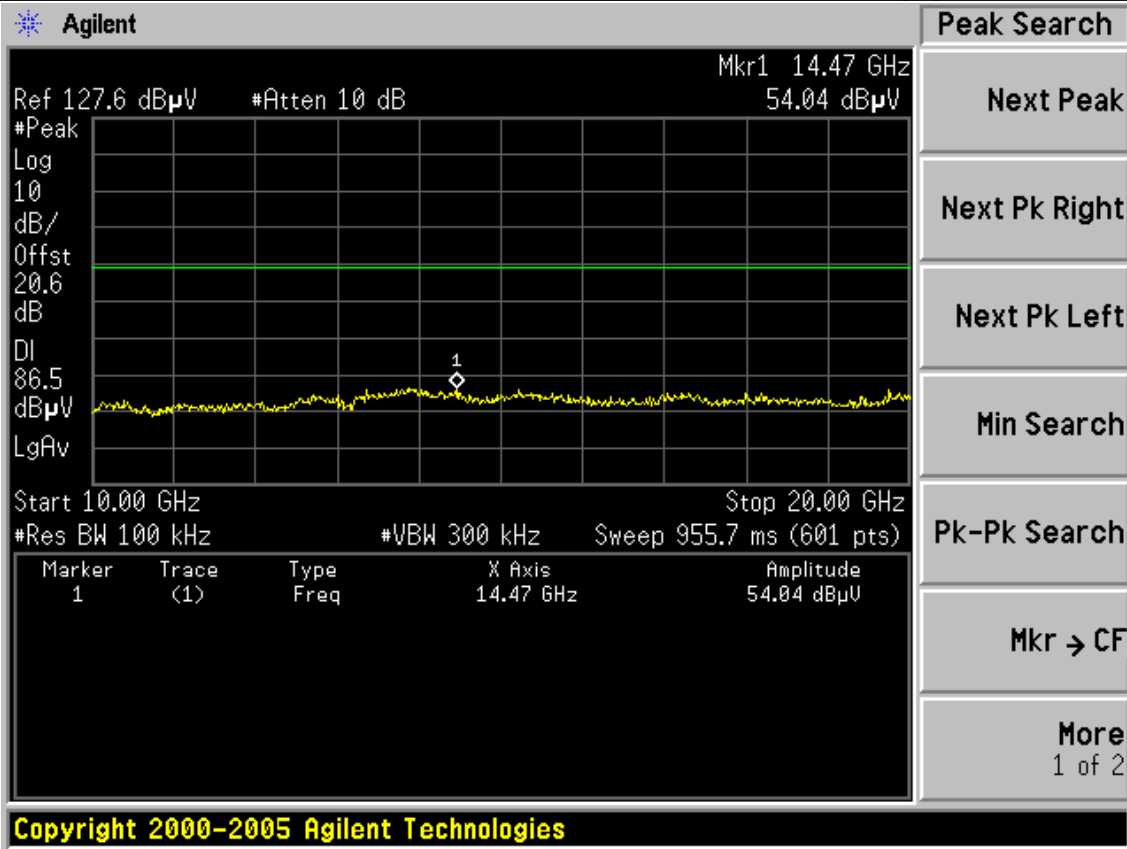


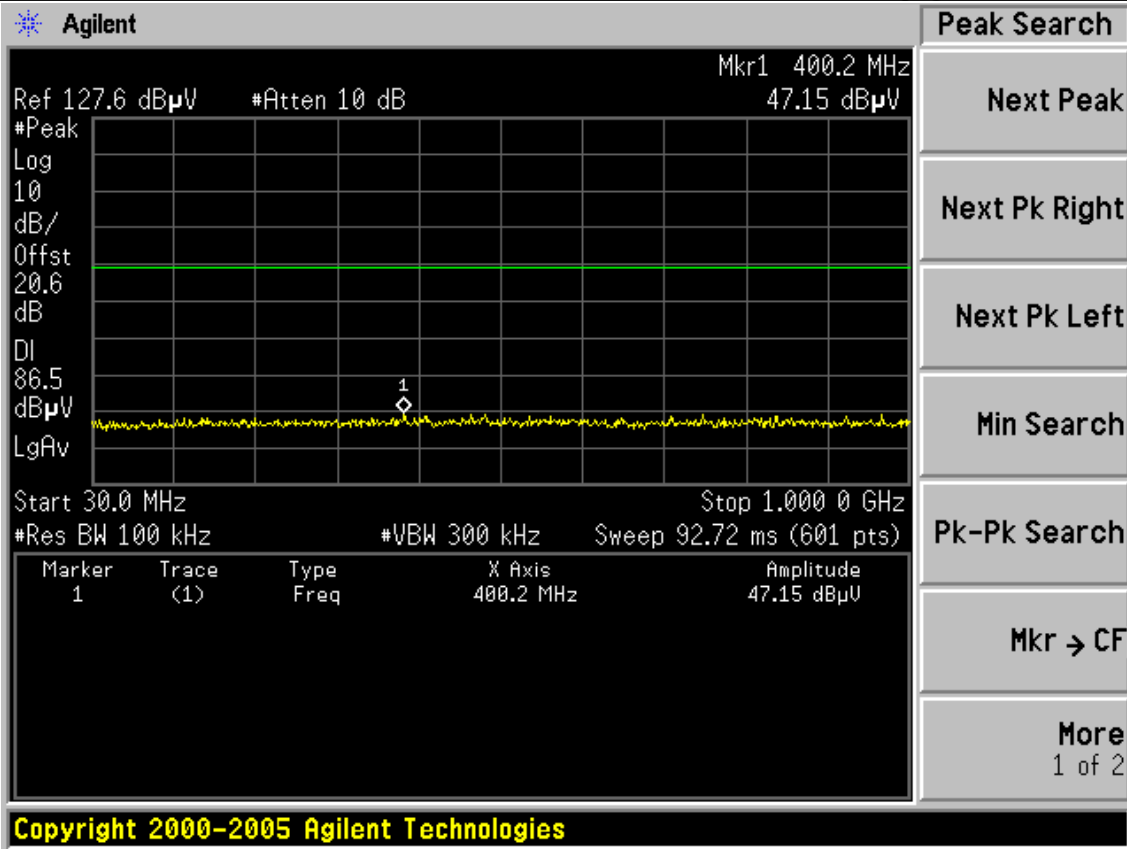




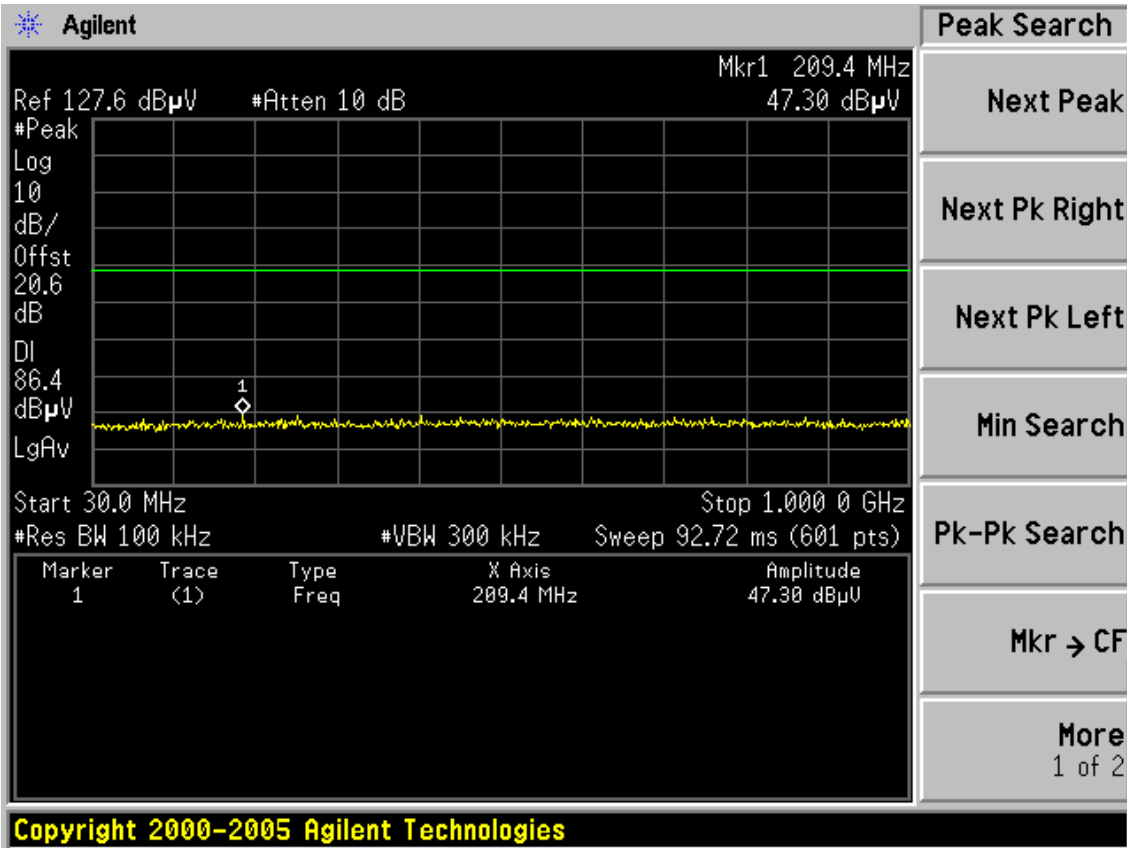
Test Mode: IEEE 802.11n HT20 TX  
CH1

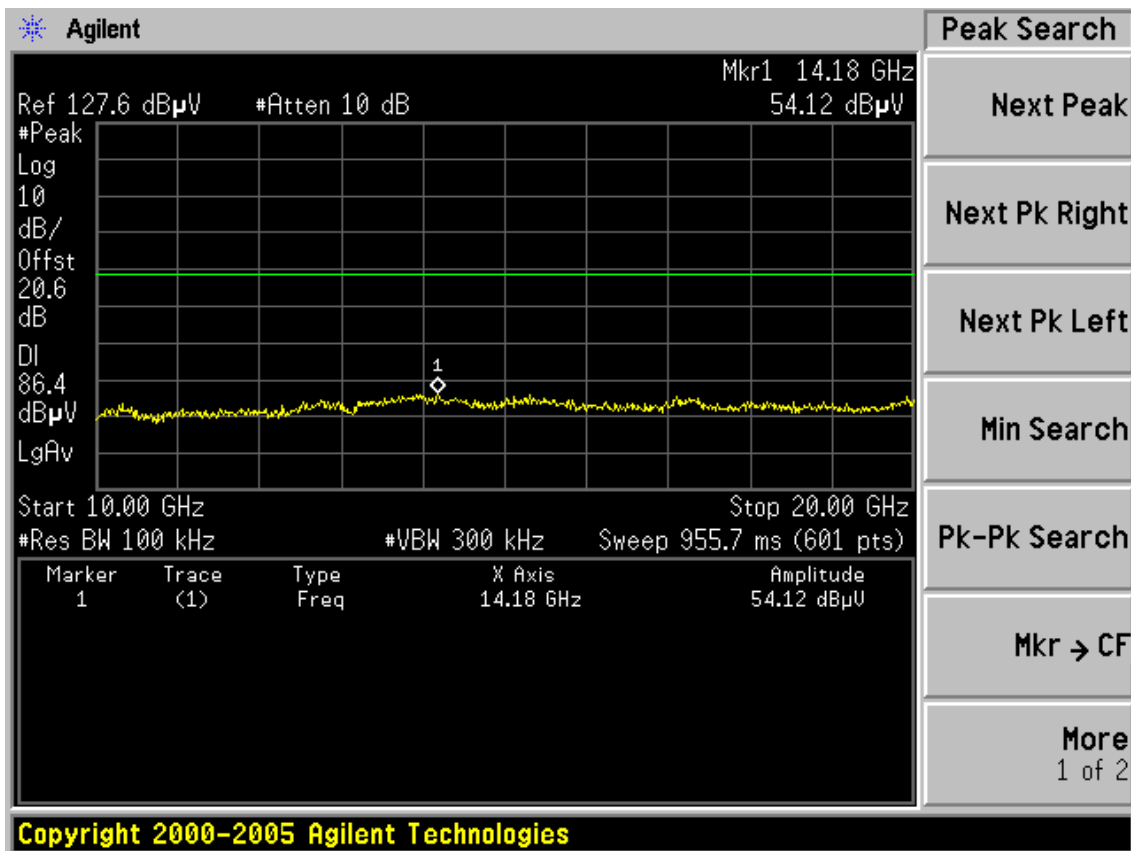
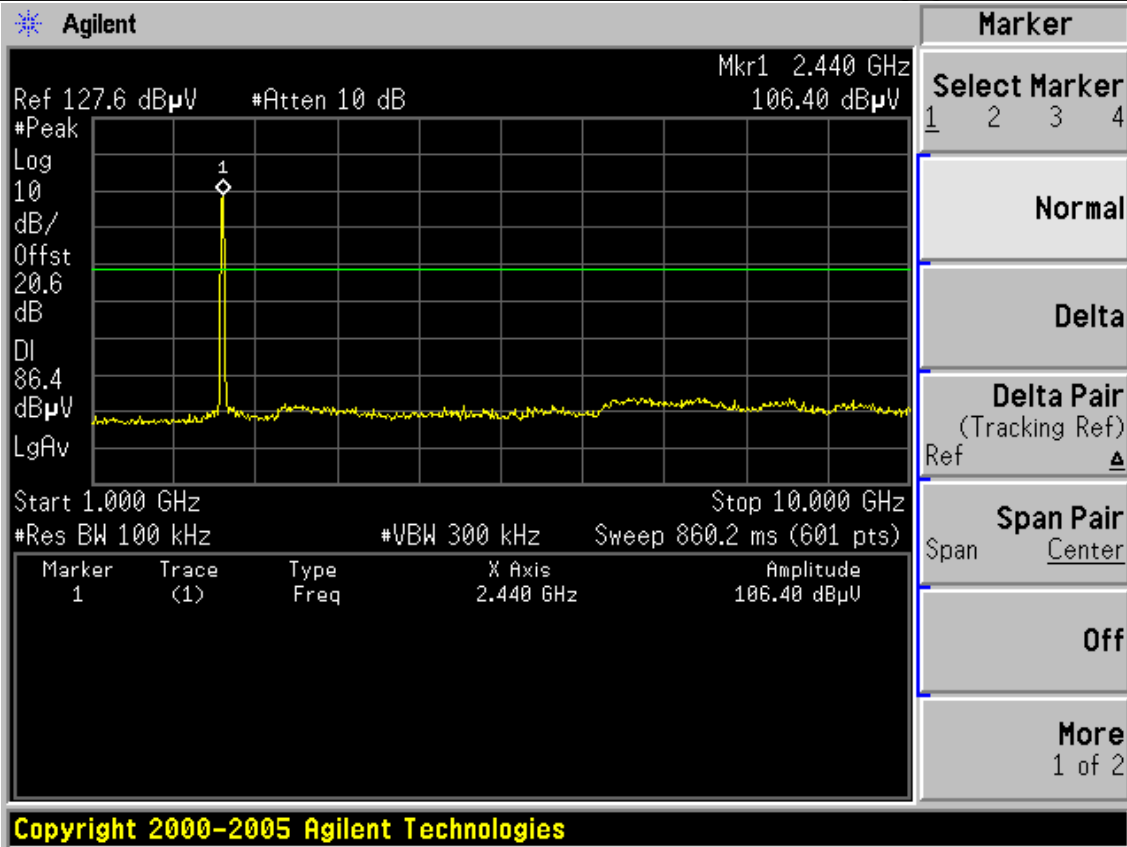


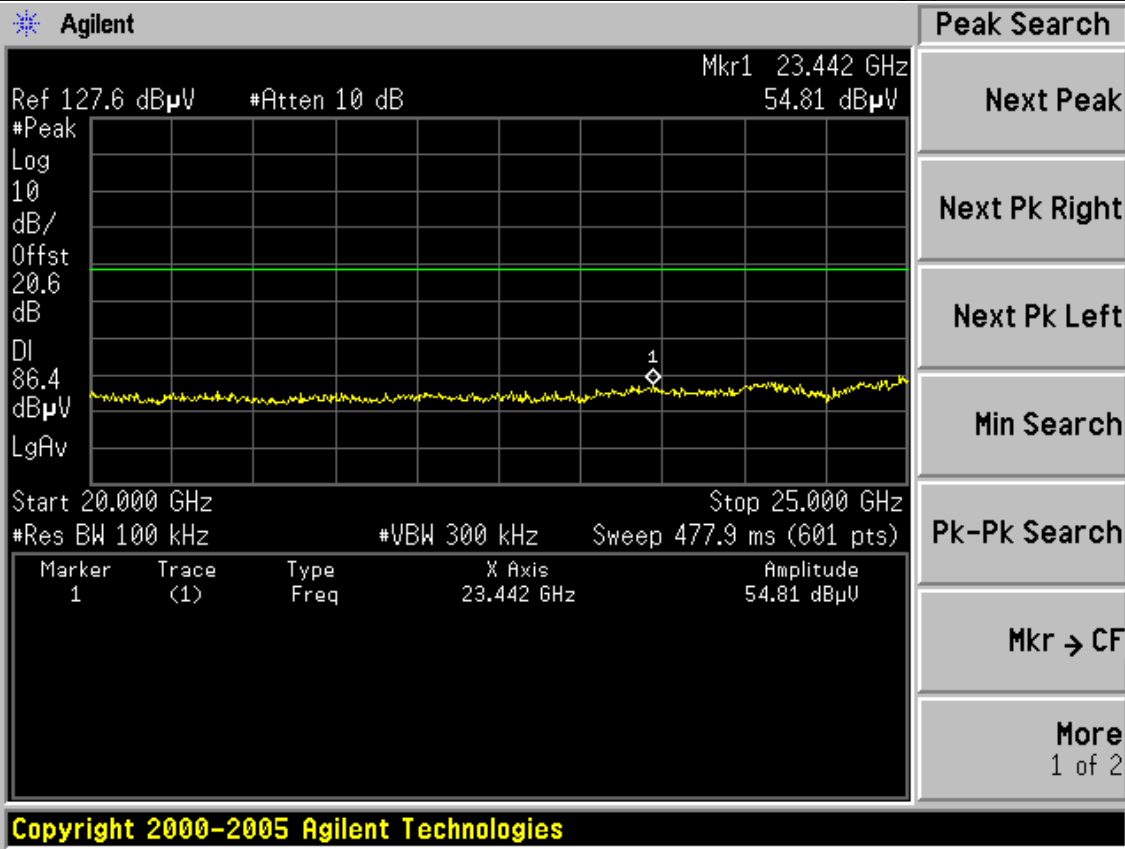




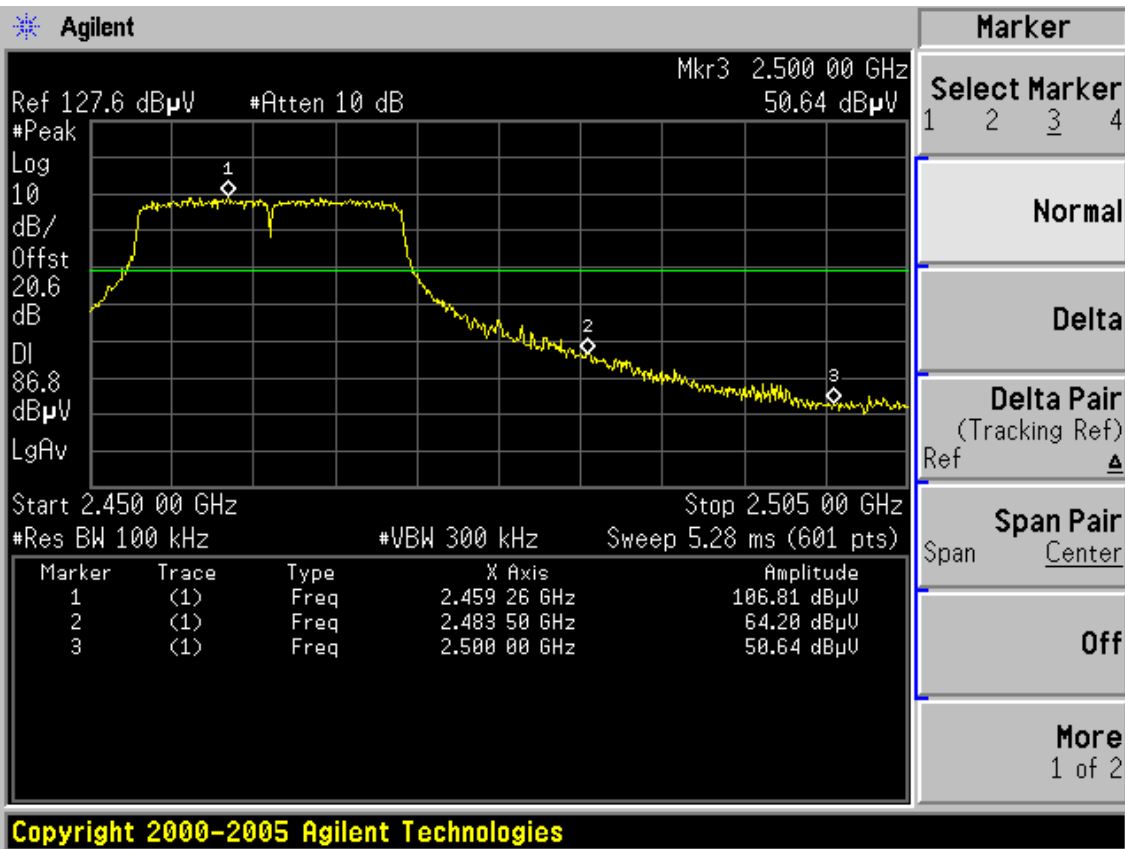
CH6



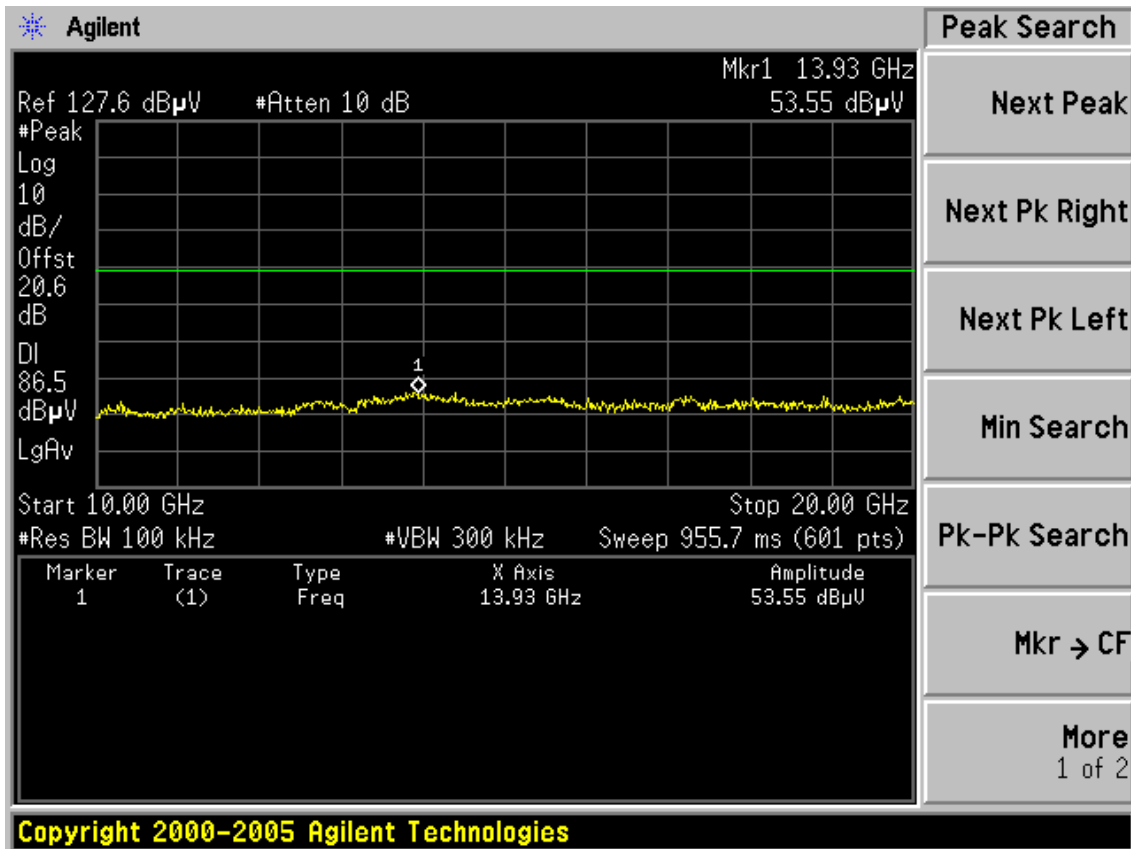
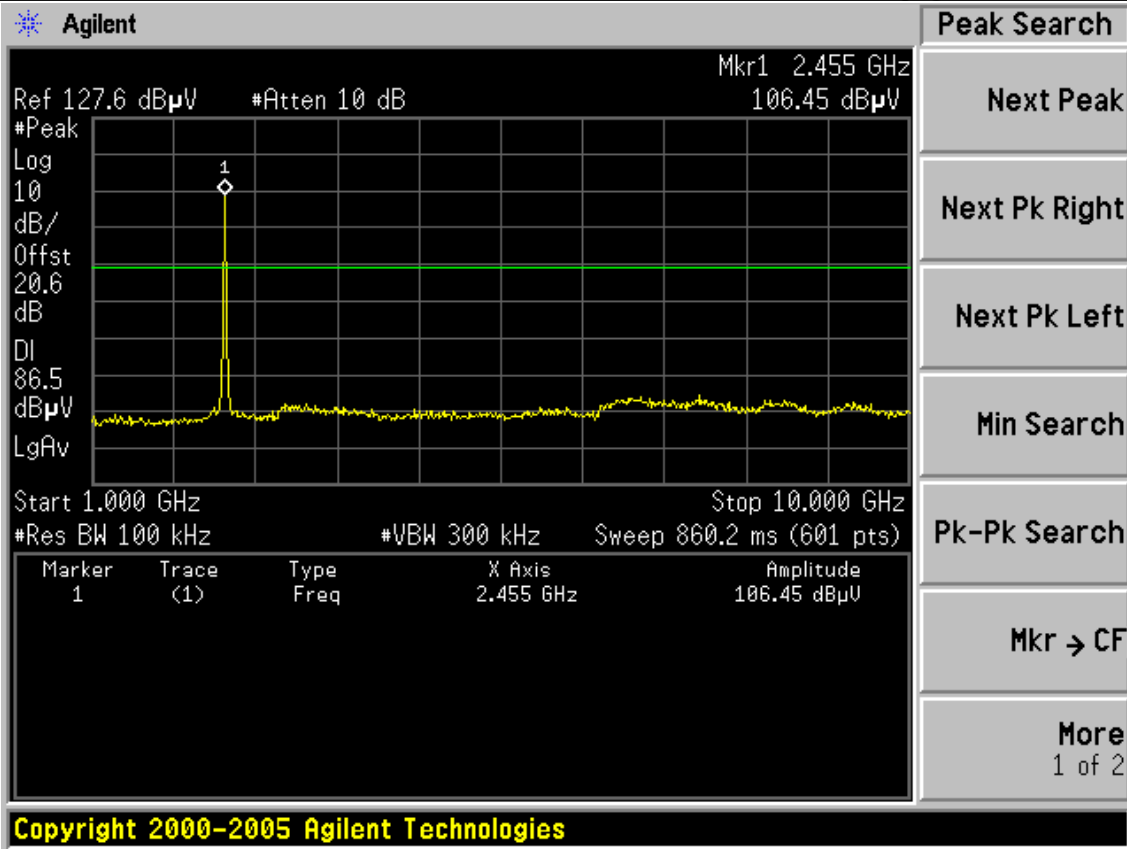


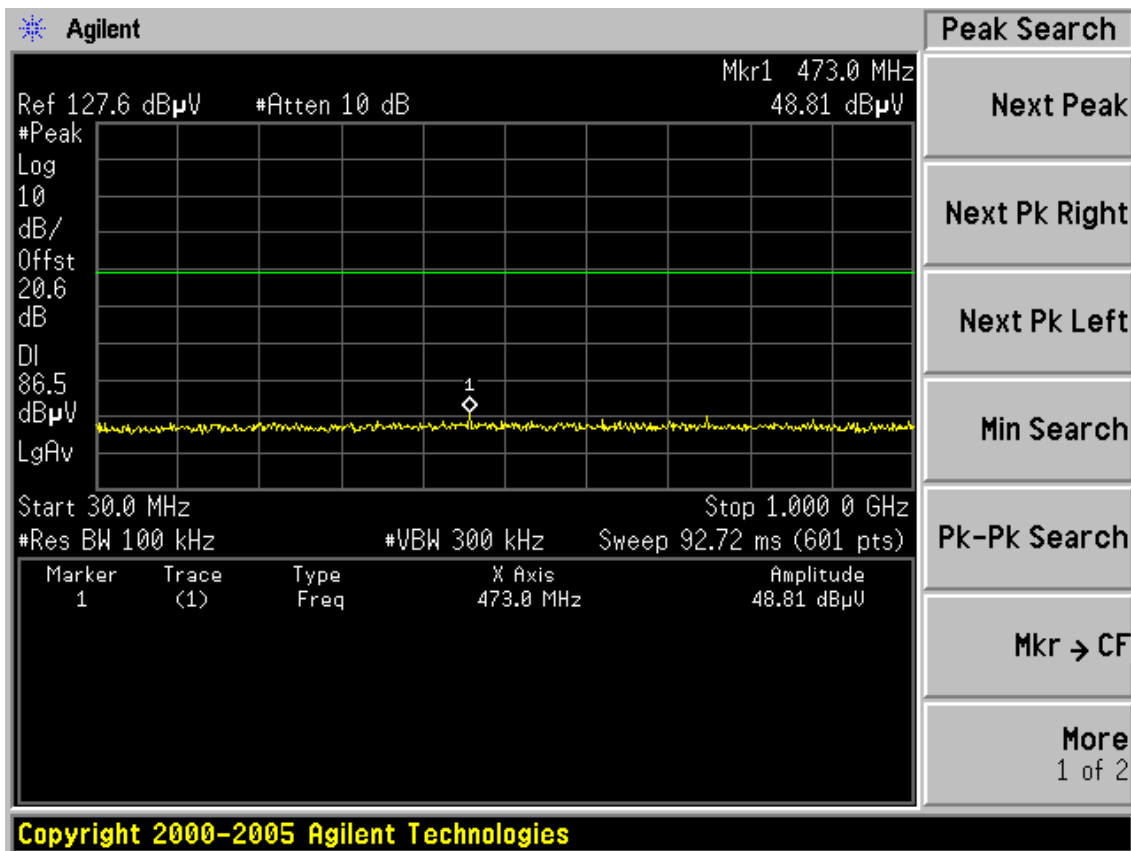
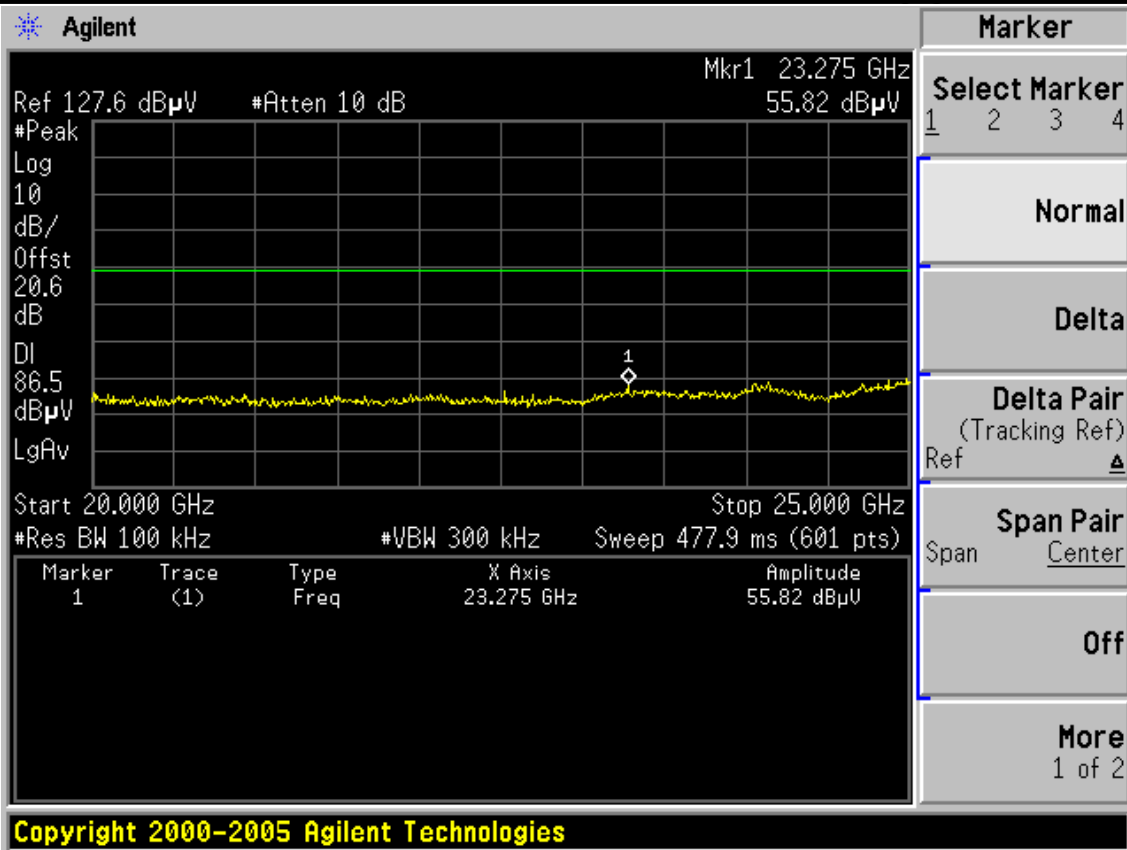


CH11

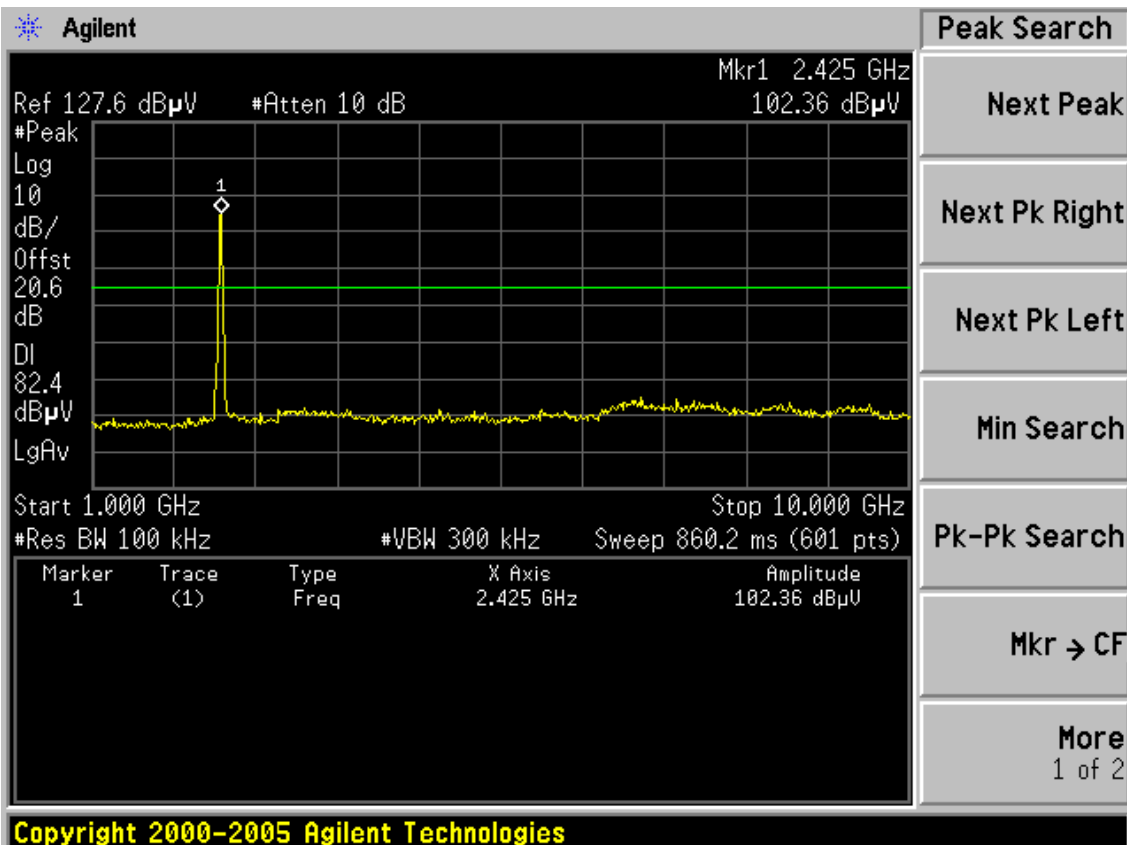
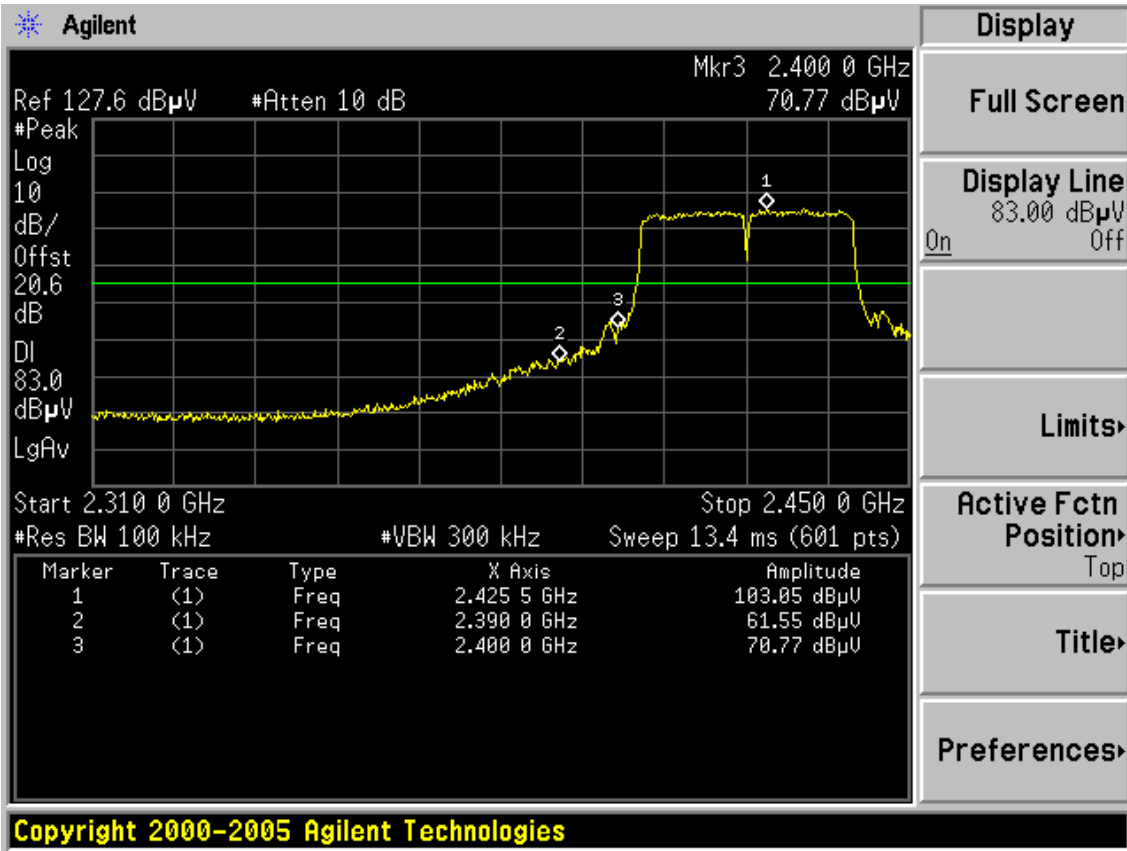


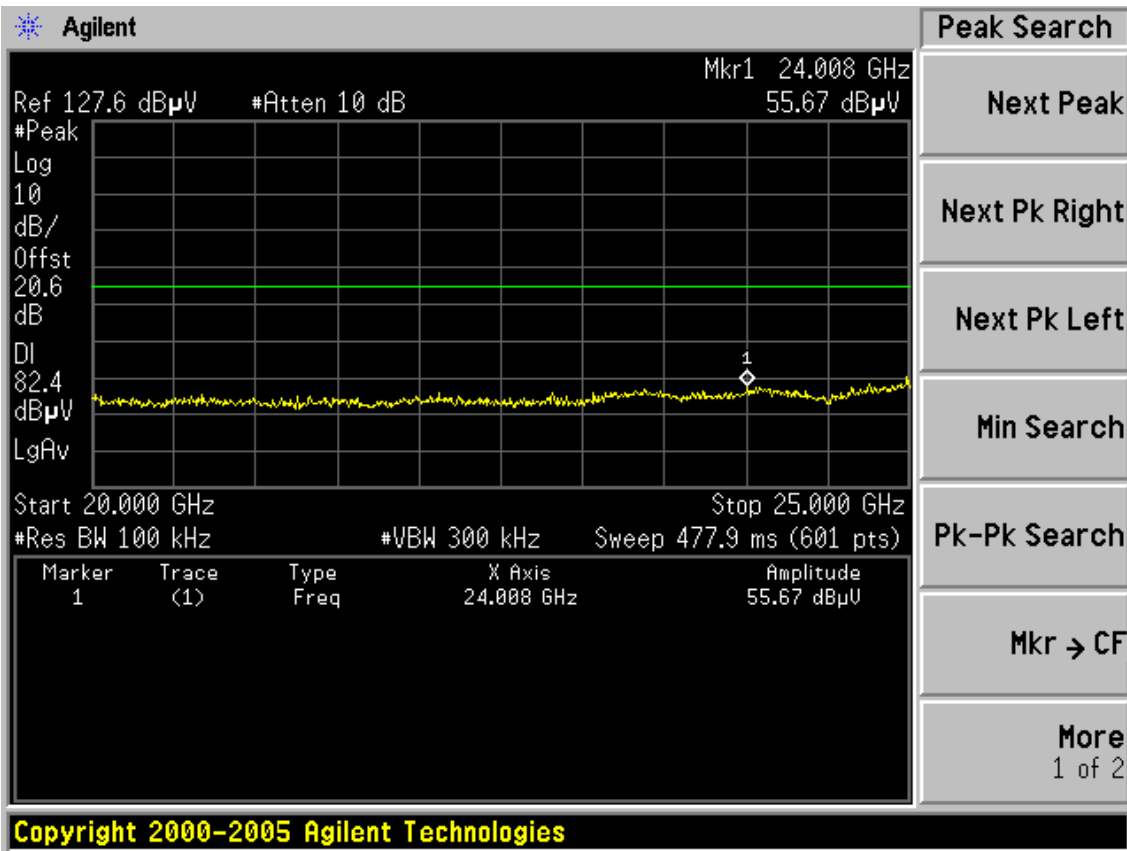
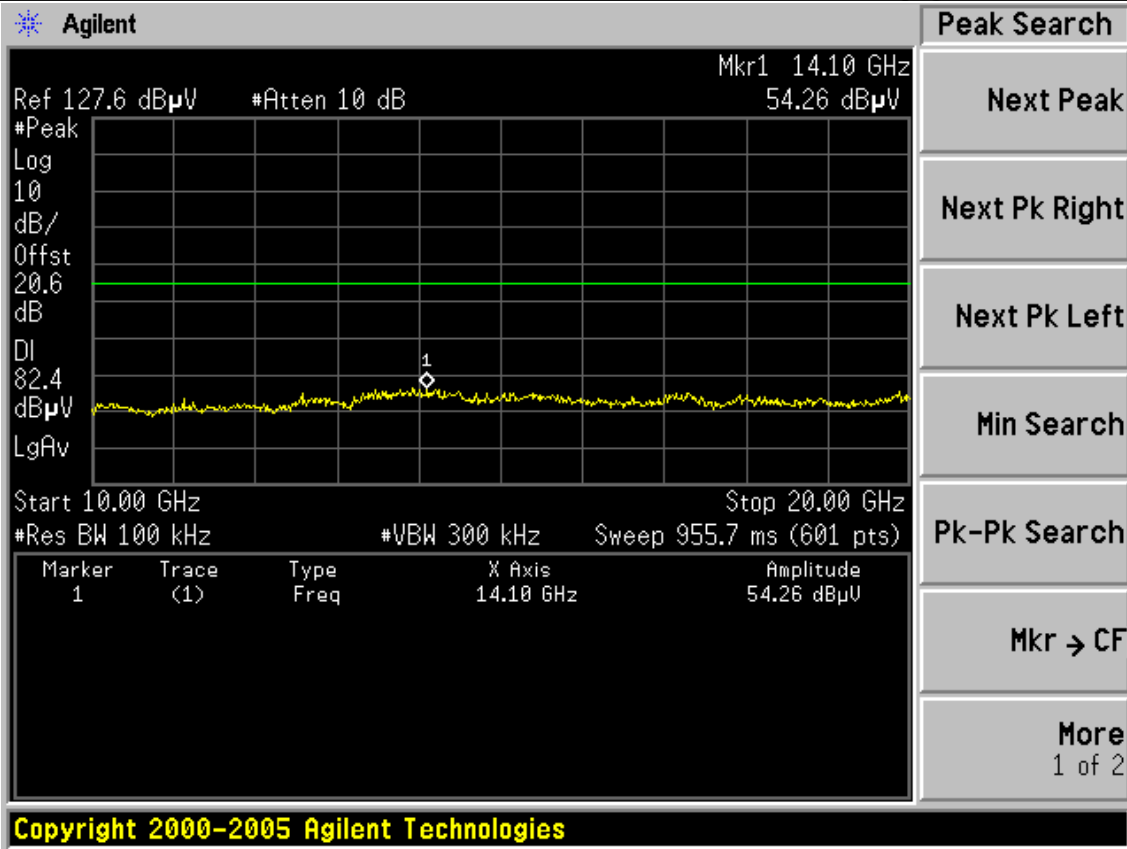


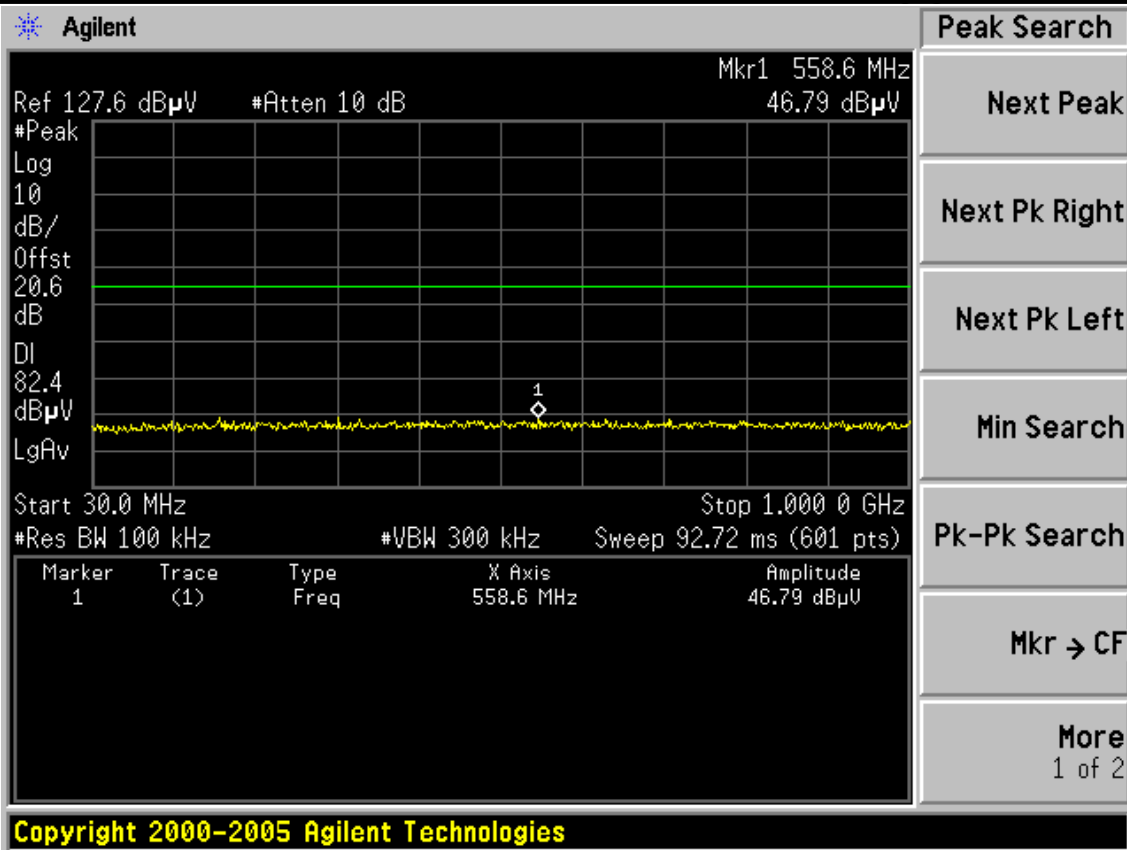




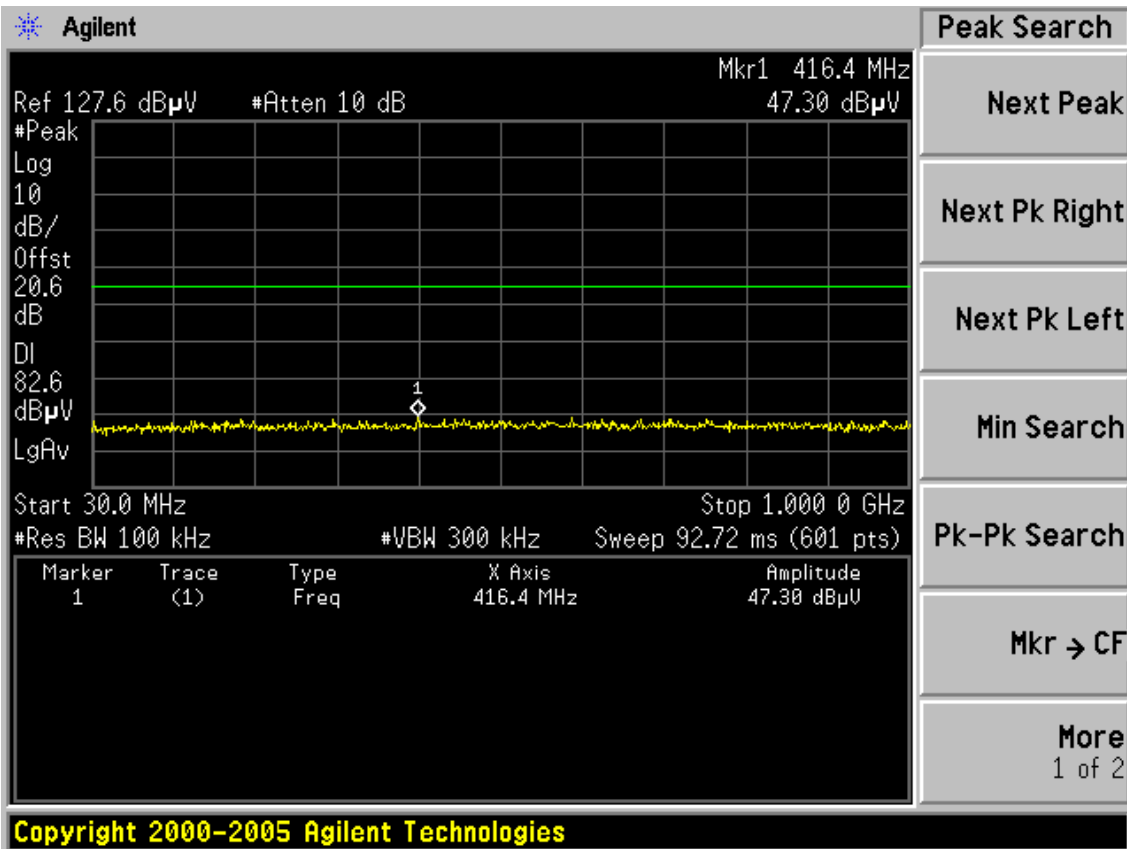
Test Mode: IEEE 802.11n HT40TX  
CH1

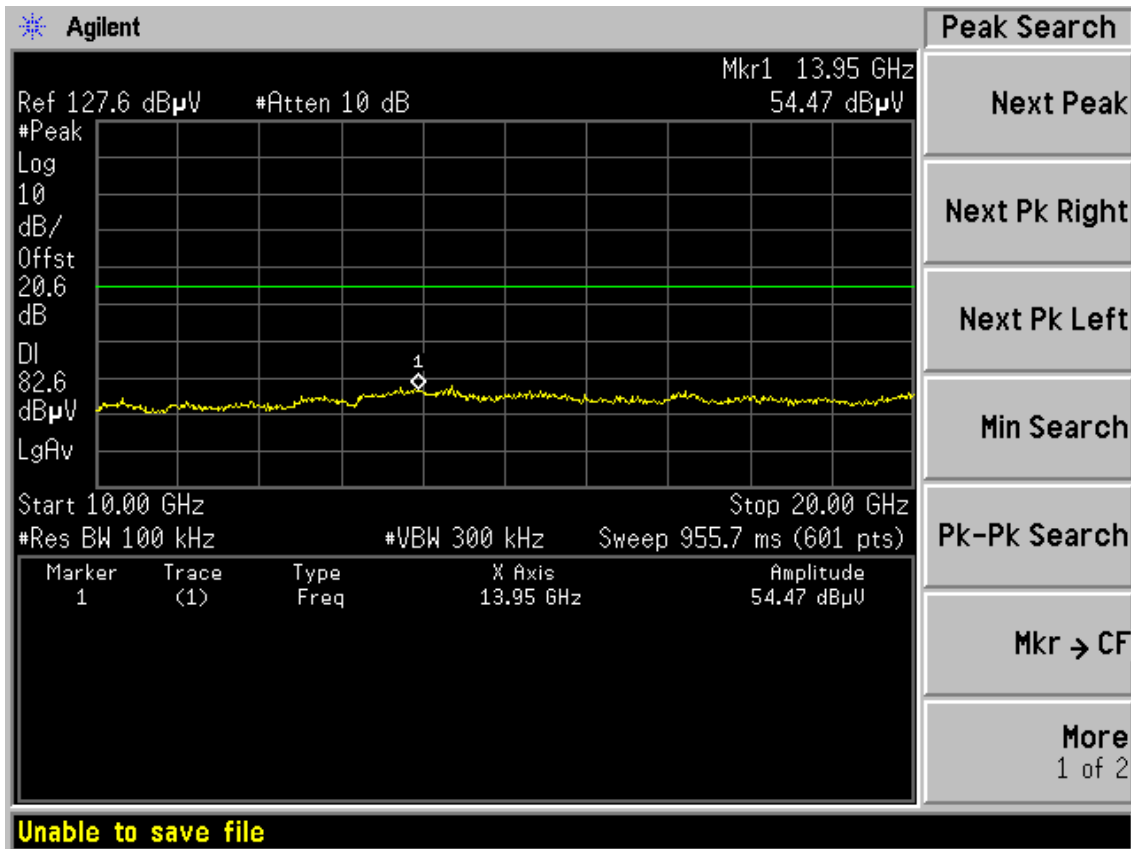
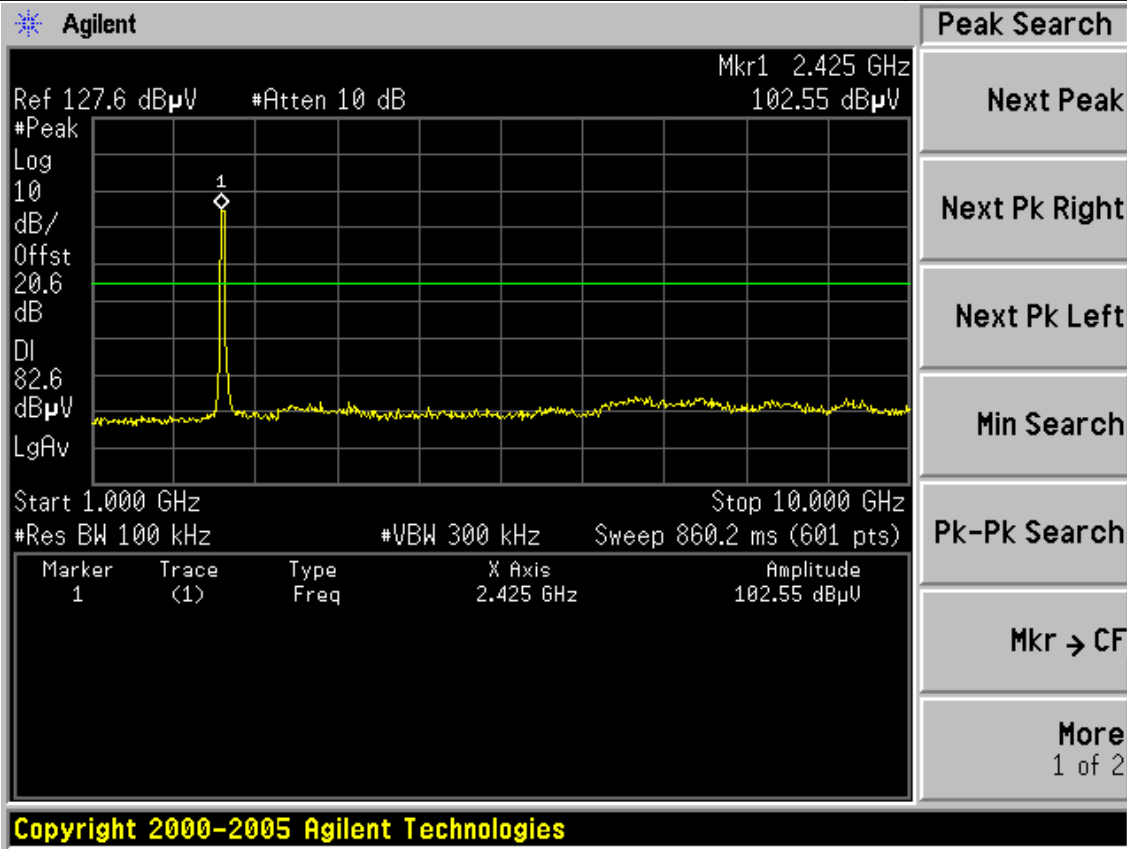


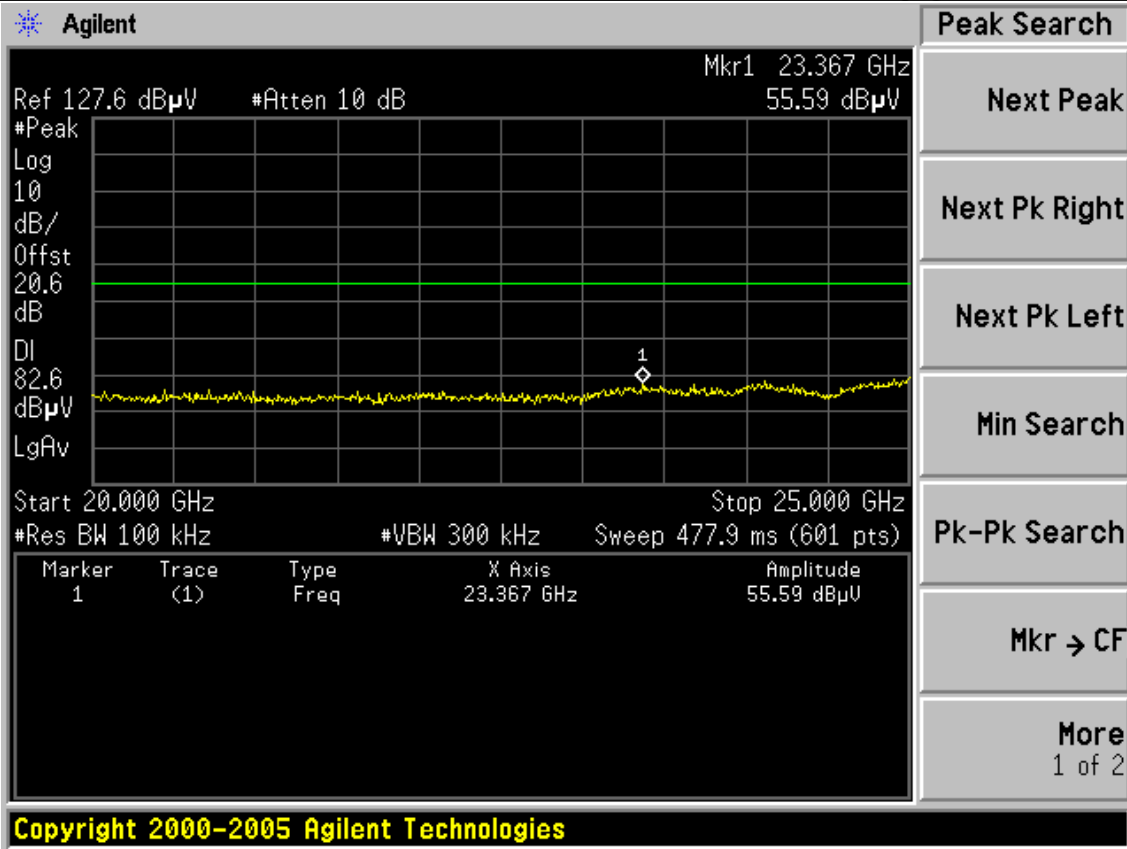




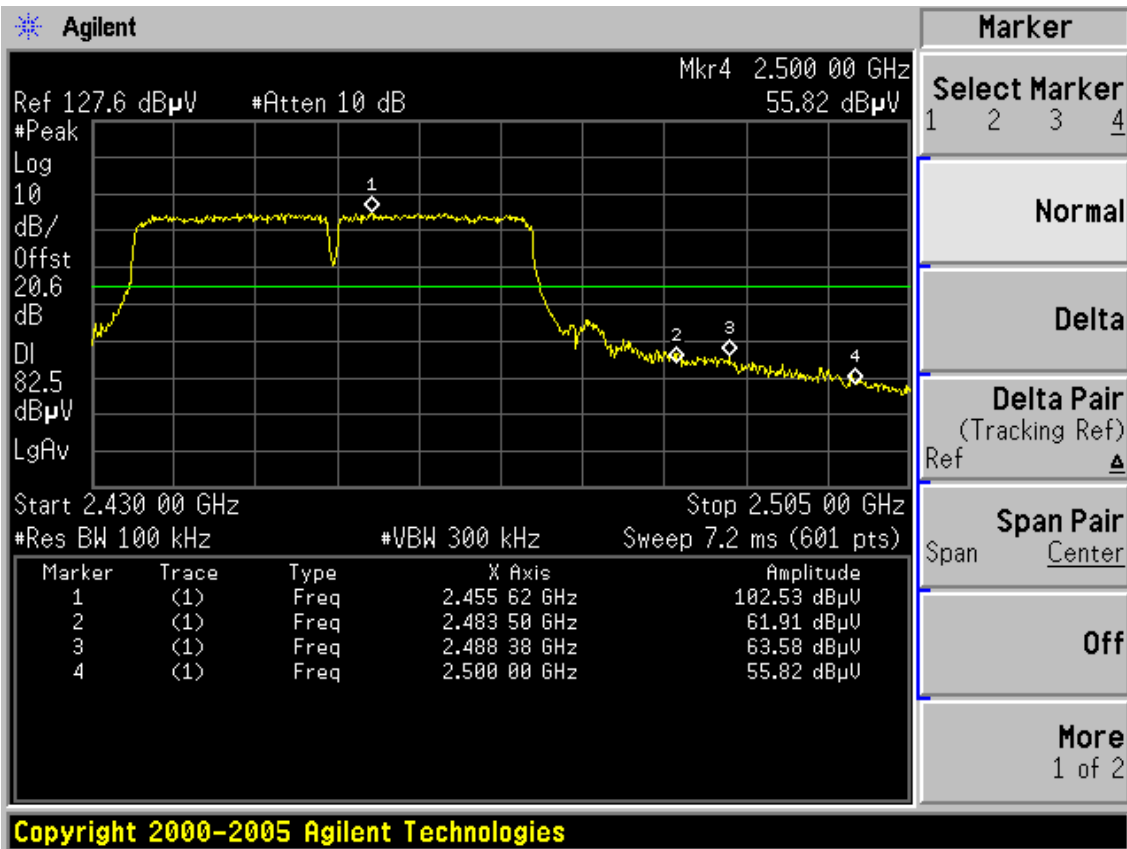
CH4

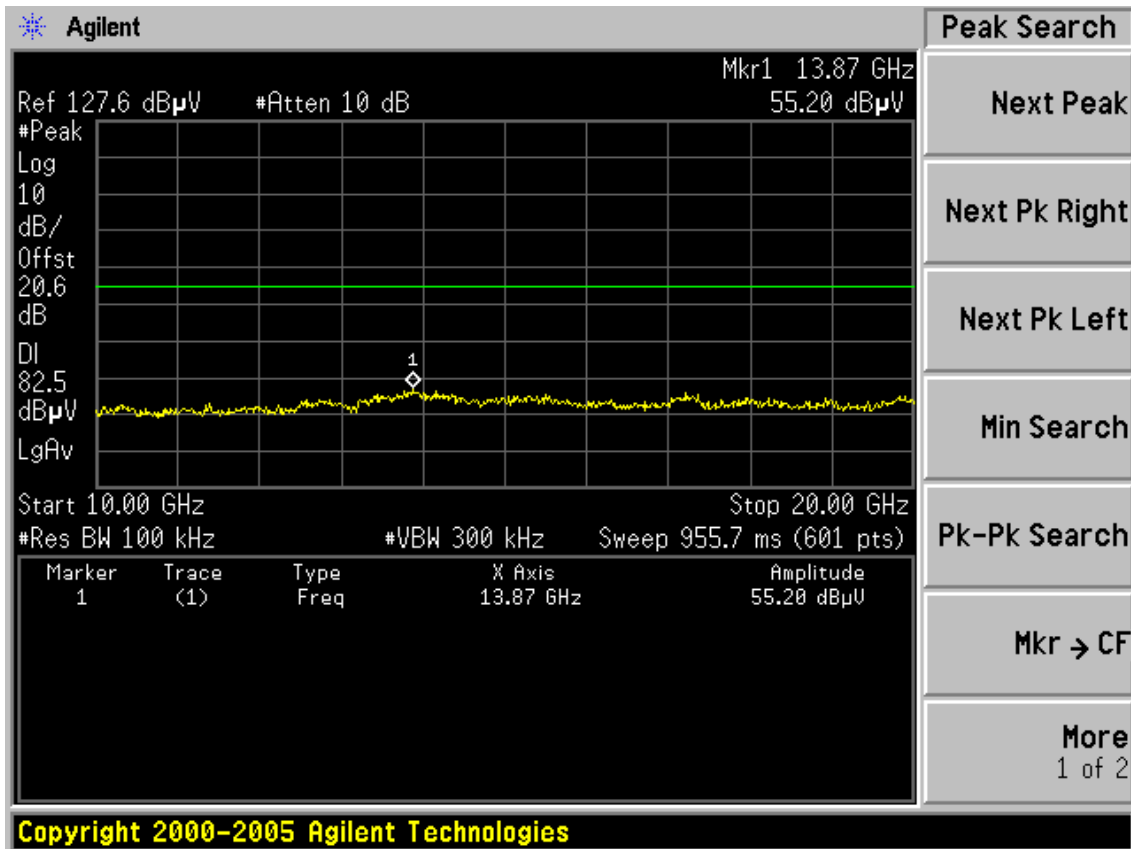
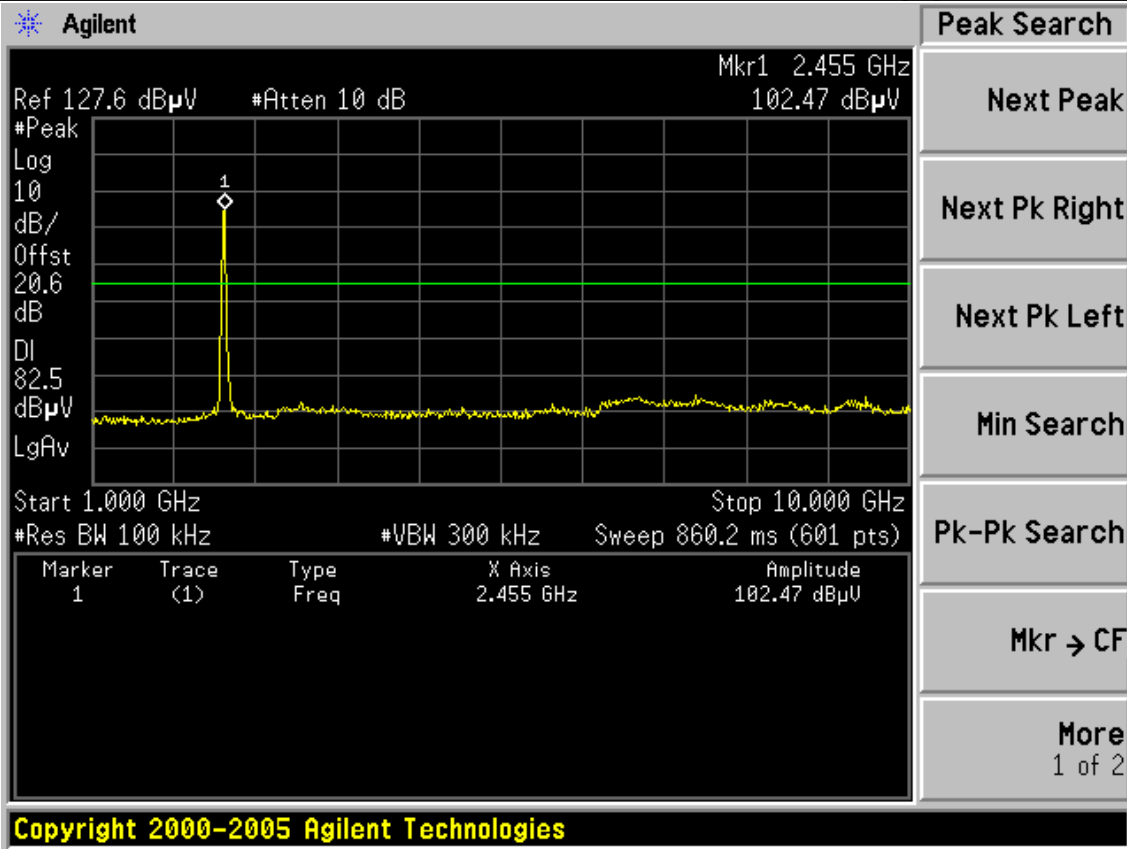




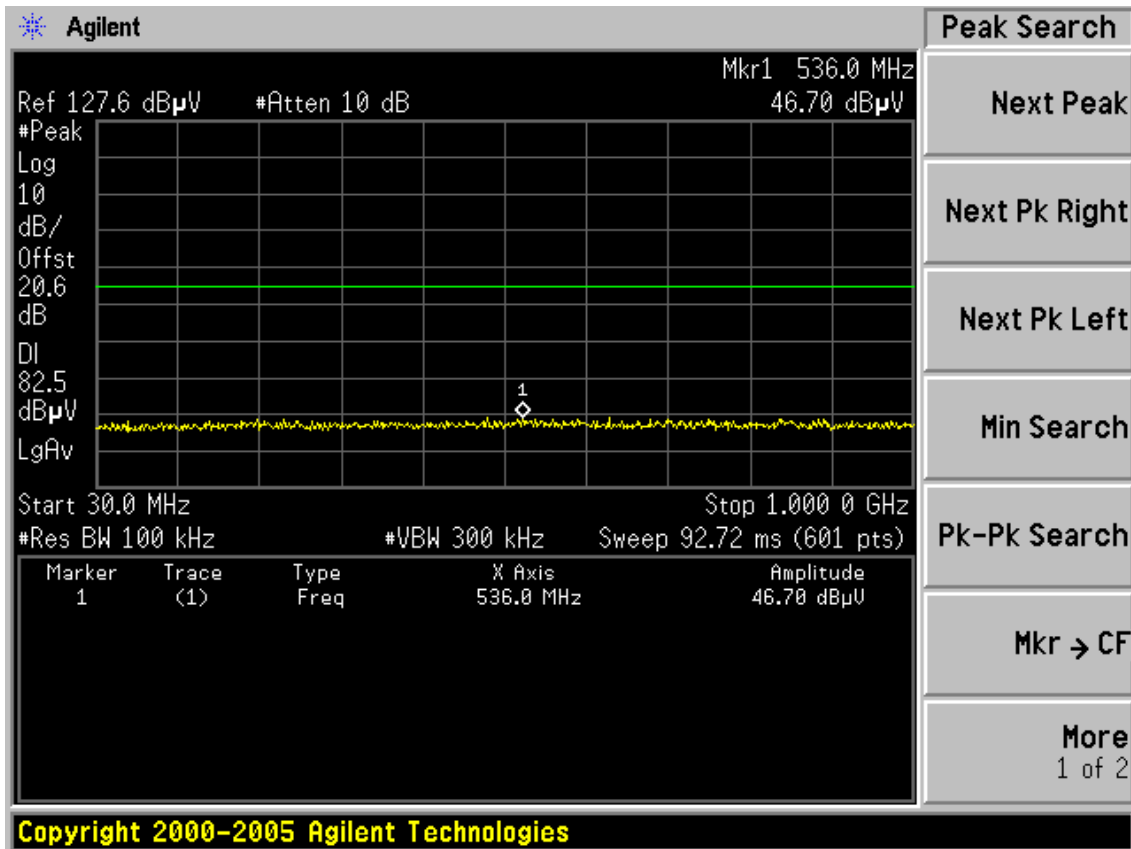
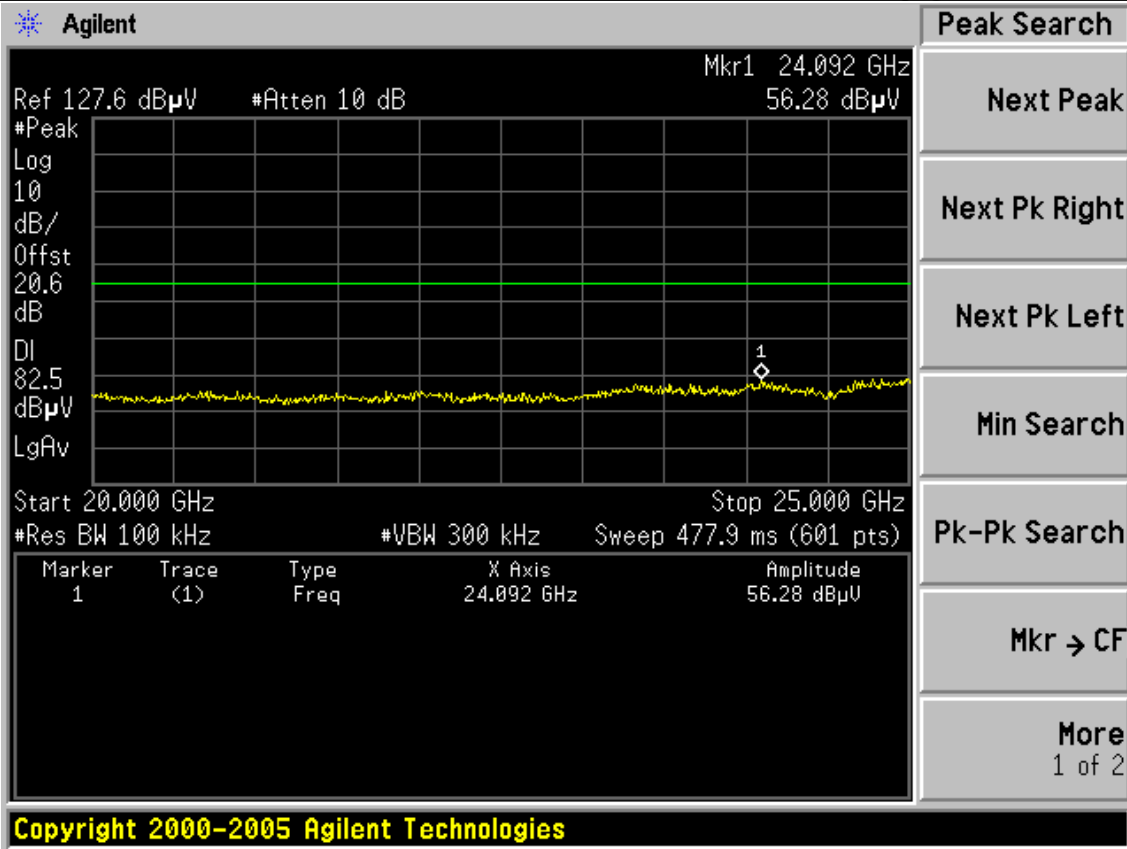


CH7









## 6. BAND EDGE COMPLIANCE TEST

### 6.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08,10	1 Year
2.	Horn Antenna	EMCO	3115	9607-4877	Nov.25, 09	1.5 Year
3.	Amplifier	Agilent	8449B	3008A02495	May.08, 10	1 Year
4.	RF Cable	Hubersuhner	SUCOFLEX102	28620/2	May.08,10	1 Year
5.	RF Cable	Hubersuhner	SUCOFLEX102	28618/2	May.08,10	1 Year
6.	RF Cable	Hubersuhner	SUCOFLEX102	28610/2	May.08,10	1 Year

### 6.2. Limit

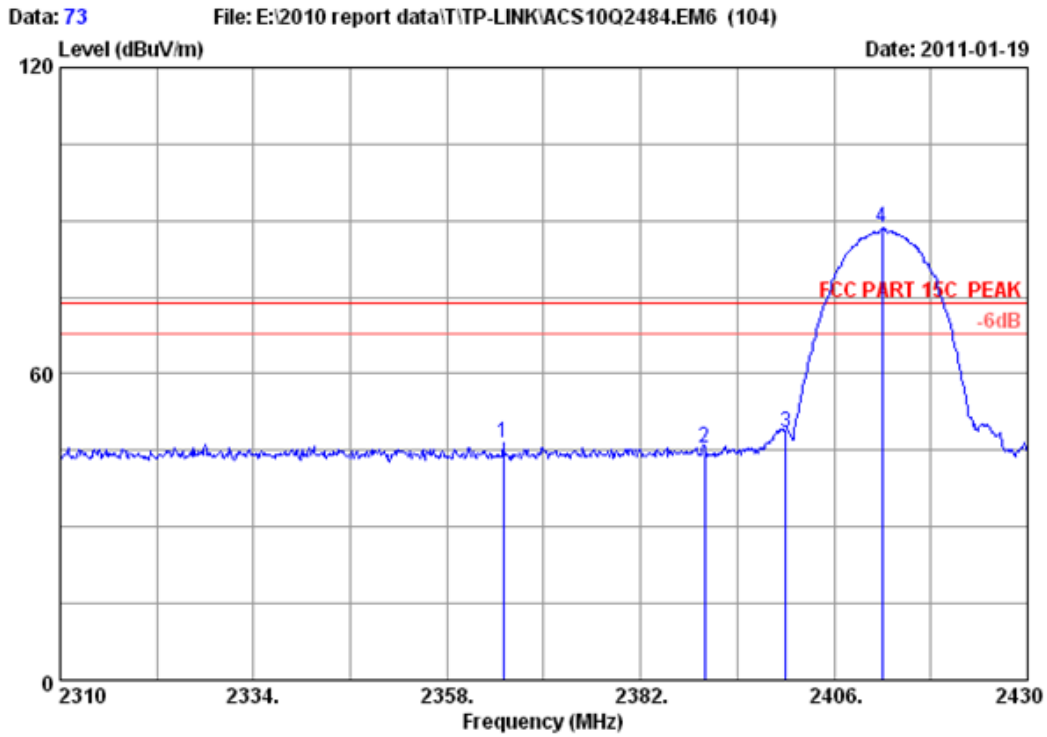
All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

### 6.3. Test Produce

1. The EUT is placed on a turntable, which is 0.8m above the ground plane and worked at highest radiated power.
2. The turntable was rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
  - (a) PEAK: RBW=1MHz; VBW=3MHz; Sweep=AUTO
  - (b) AVERAGE: RBW=1MHz; VBW=10Hz; Sweep=AUTO

### 6.4. Test Results

Pass (The testing data was attached in the next pages.)

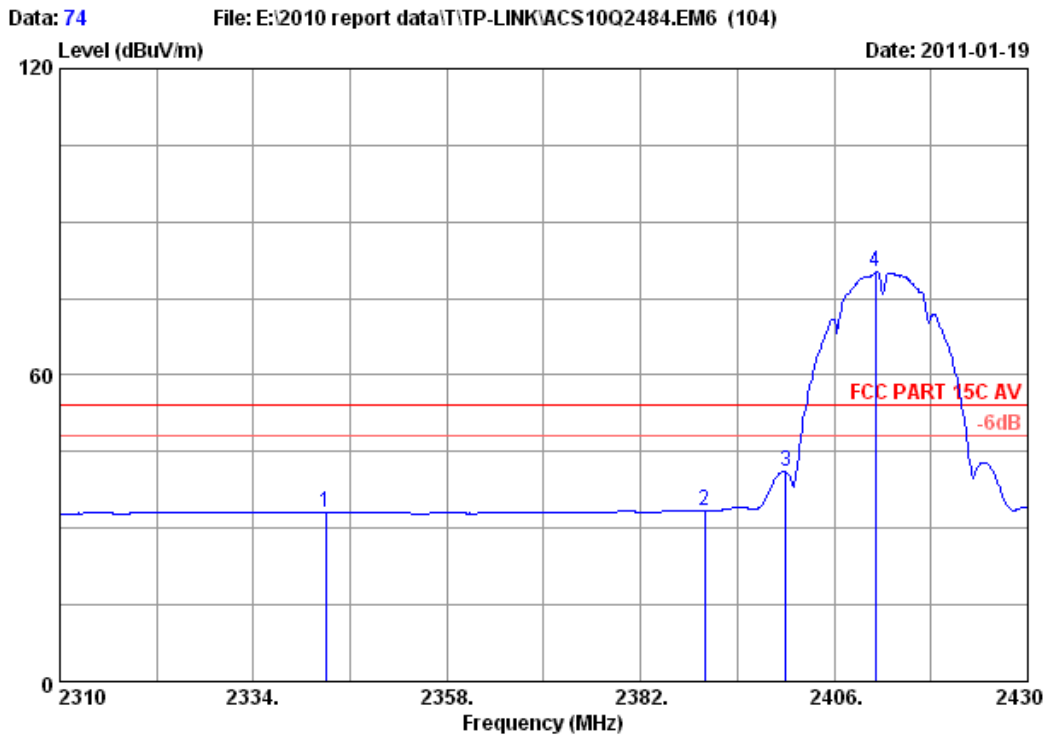


Site no. : RF Chamber Data no. : 73  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11b CH1 2412MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2364.960	29.42	7.35	36.62	46.19	46.34	74.00	27.66	Peak
2	2390.000	29.44	7.39	36.62	45.13	45.34	74.00	28.66	Peak
3	2400.000	29.44	7.43	36.62	48.35	48.60	74.00	25.40	Peak
4	2412.000	29.45	7.43	36.62	88.16	88.42	74.00	-14.42	Peak

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

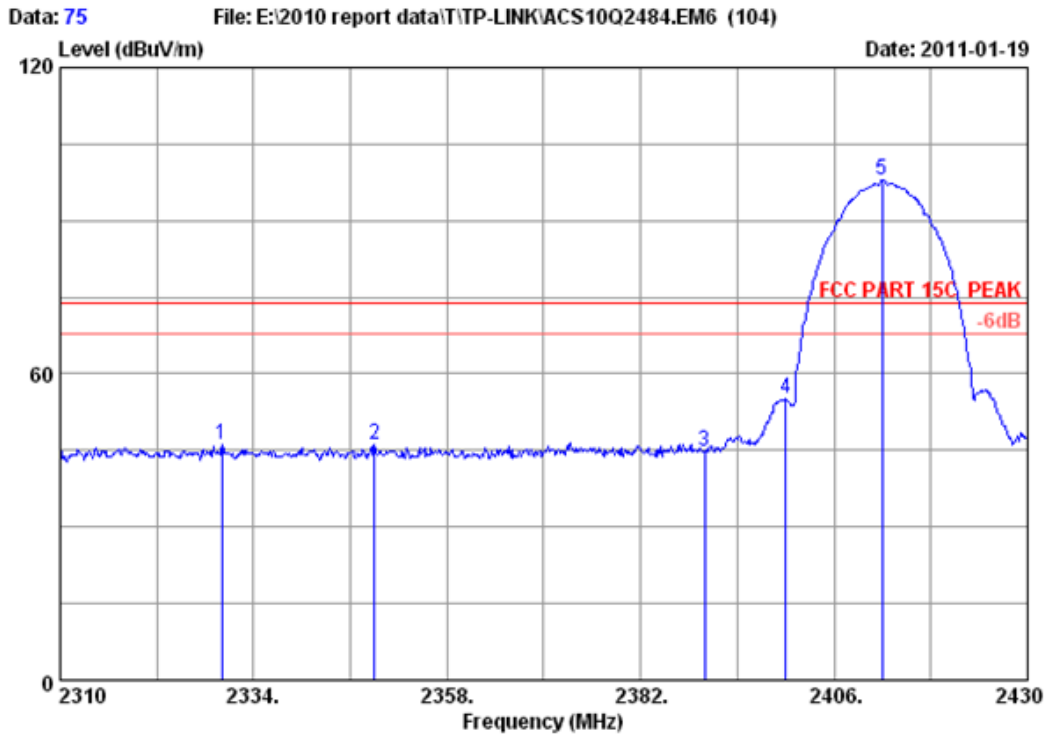


Site no. : RF Chamber Data no. : 74  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11b CH1 2412MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2343.000	29.41	7.31	36.63	33.13	33.22	54.00	20.78	Average
2	2390.000	29.44	7.39	36.62	33.15	33.36	54.00	20.64	Average
3	2400.000	29.44	7.43	36.62	40.77	41.02	54.00	12.98	Average
4	2411.160	29.45	7.43	36.62	79.86	80.12	54.00	-26.12	Average

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

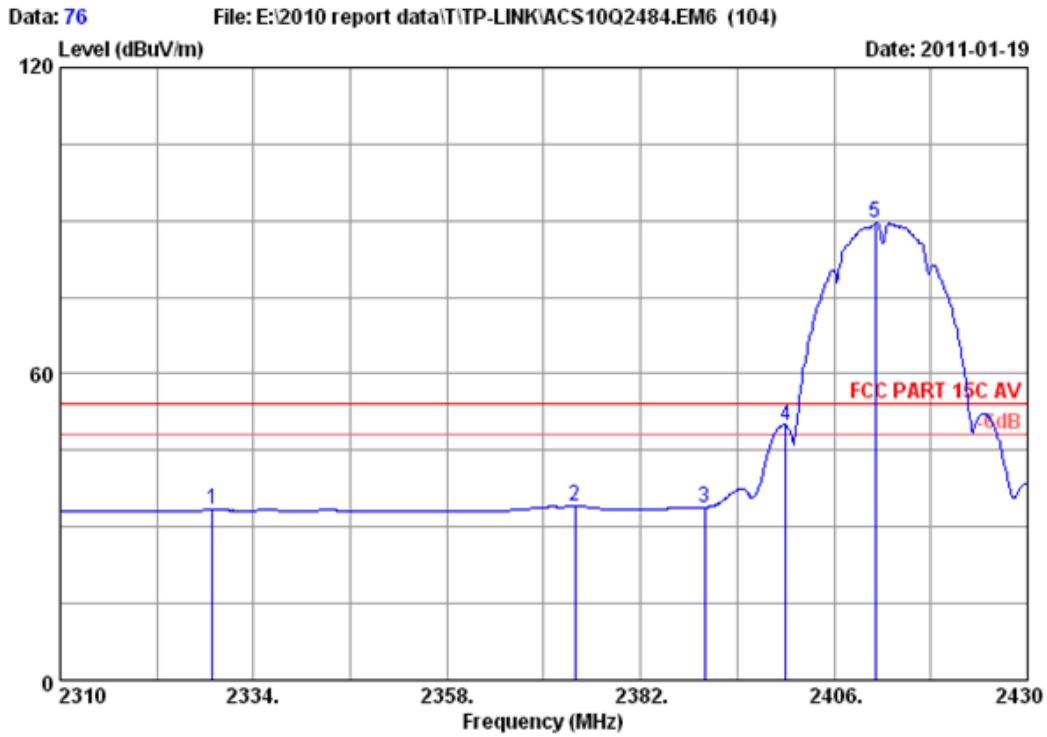


Site no. : RF Chamber Data no. : 75  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11b CH1 2412MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2330.040	29.40	7.27	36.63	46.05	46.09	74.00	27.91	Peak
2	2349.000	29.41	7.31	36.63	45.88	45.97	74.00	28.03	Peak
3	2390.000	29.44	7.39	36.62	44.70	44.91	74.00	29.09	Peak
4	2400.000	29.44	7.43	36.62	54.85	55.10	74.00	18.90	Peak
5	2412.000	29.45	7.43	36.62	97.57	97.83	74.00	-23.83	Peak

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

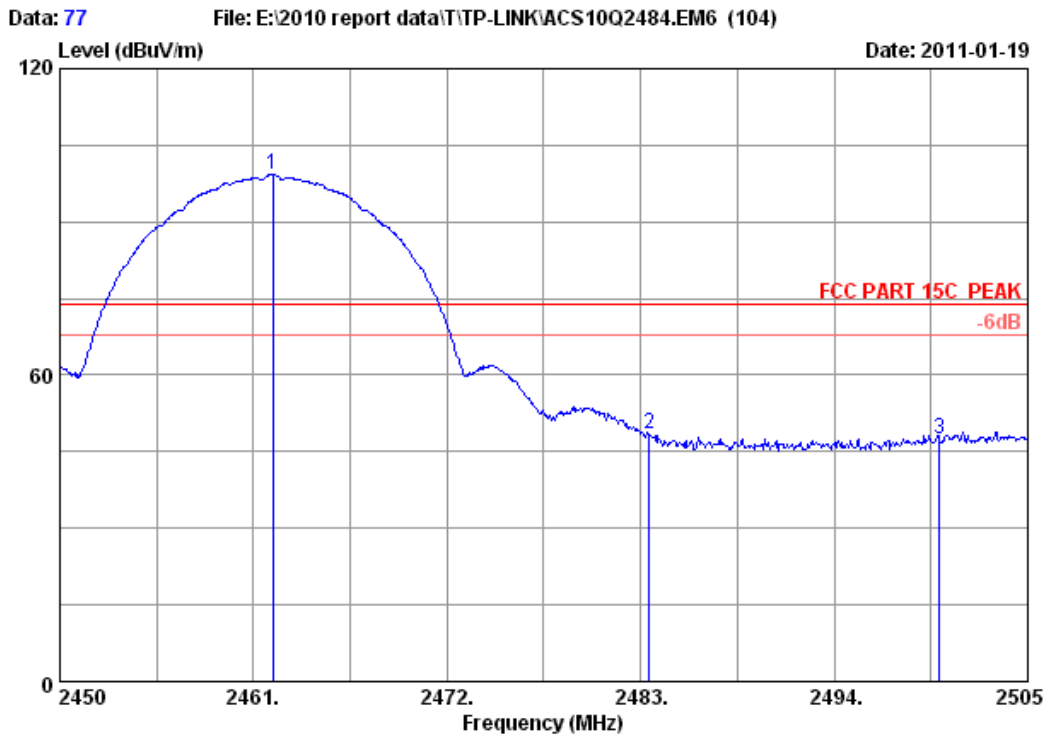


Site no. : RF Chamber Data no. : 76  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11b CH1 2412MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2328.840	29.40	7.27	36.63	33.30	33.34	54.00	20.66	Average
2	2373.840	29.43	7.35	36.62	33.94	34.10	54.00	19.90	Average
3	2390.000	29.44	7.39	36.62	33.60	33.81	54.00	20.19	Average
4	2400.000	29.44	7.43	36.62	49.66	49.91	54.00	4.09	Average
5	2411.160	29.45	7.43	36.62	89.26	89.52	54.00	-35.52	Average

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

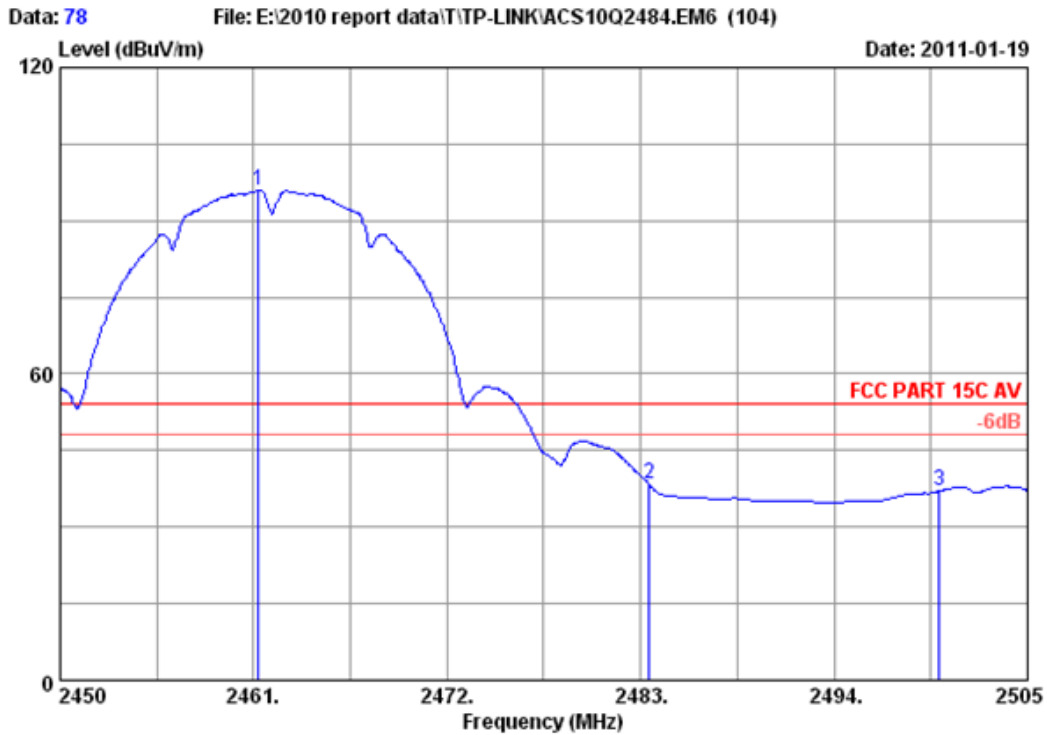


Site no. : RF Chamber Data no. : 77  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11b CH11 2462MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.100	29.48	7.54	36.61	98.85	99.26	74.00	-25.26	Peak
2	2483.500	29.49	7.58	36.60	47.91	48.38	74.00	25.62	Peak
3	2500.000	29.50	7.62	36.60	46.83	47.35	74.00	26.65	Peak

Remarks:

- Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- The emission levels that are 20dB below the official limit are not reported.



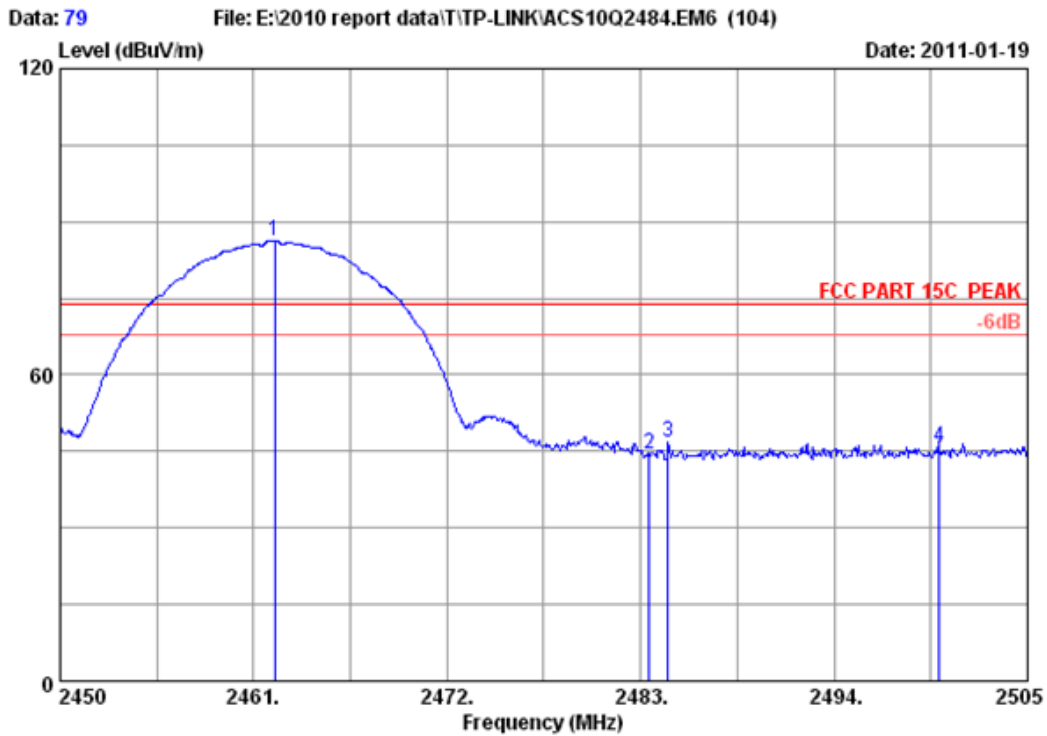
Site no. : RF Chamber Data no. : 78  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11b CH11 2462MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2461.275	29.48	7.54	36.61	95.62	96.03	54.00	-42.03	Average
2	2483.500	29.49	7.58	36.60	37.81	38.28	54.00	15.72	Average
3	2500.000	29.50	7.62	36.60	36.57	37.09	54.00	16.91	Average

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



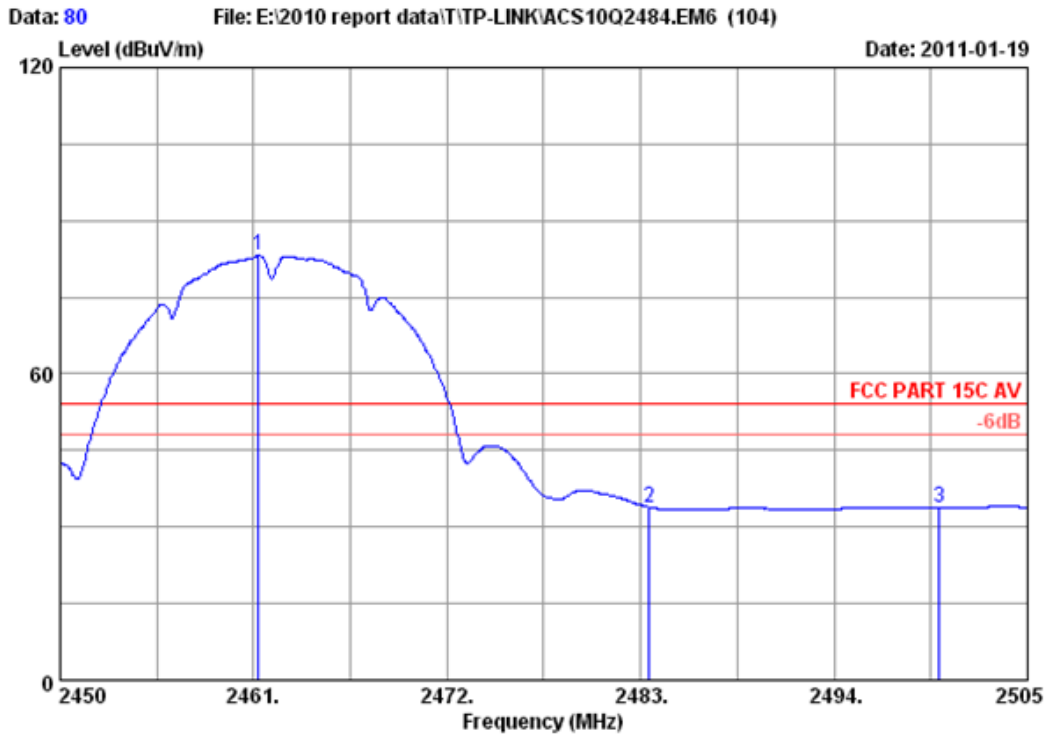


Site no. : RF Chamber Data no. : 79  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11b CH11 2462MHz Tx  
 M/N : TL-WN723N

	Freq.	Ant. Factor	Cable loss	Amp. Factor	Reading	Emission Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	2462.210	29.48	7.54	36.61	85.96	86.37	74.00	-12.37	Peak
2	2483.500	29.49	7.58	36.60	43.94	44.41	74.00	29.59	Peak
3	2484.540	29.49	7.58	36.60	46.26	46.73	74.00	27.27	Peak
4	2500.000	29.50	7.62	36.60	45.31	45.83	74.00	28.17	Peak

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

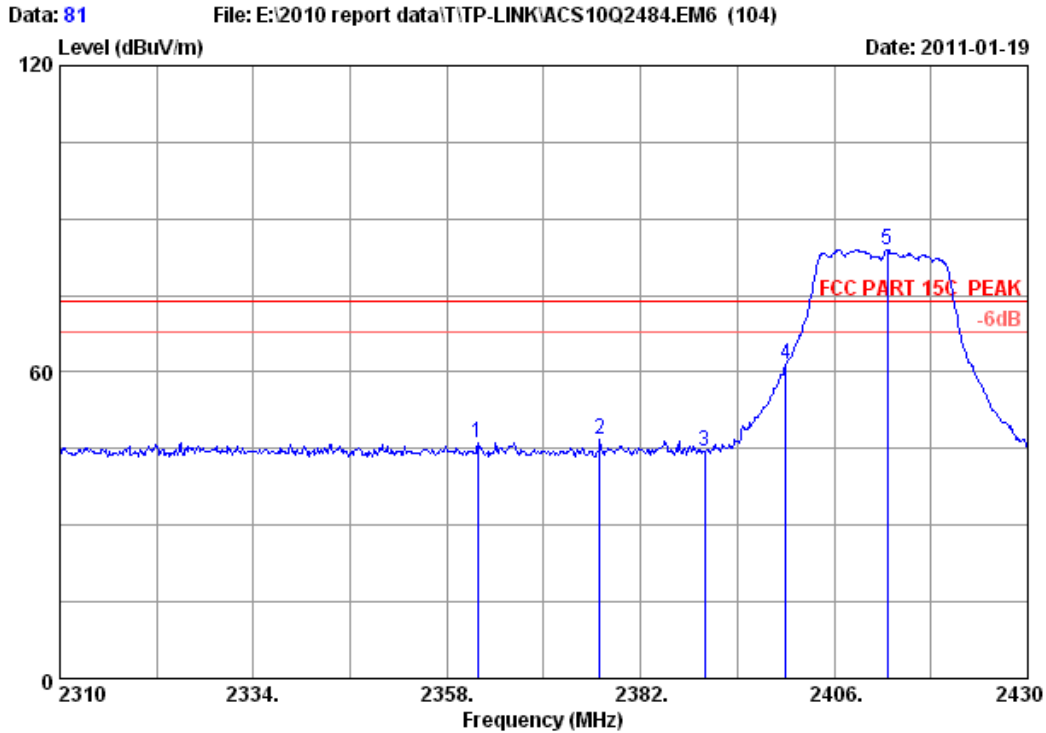


Site no. : RF Chamber Data no. : 80  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11b CH11 2462MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2461.275	29.48	7.54	36.61	82.69	83.10	54.00	-29.10	Average
2	2483.500	29.49	7.58	36.60	33.43	33.90	54.00	20.10	Average
3	2500.000	29.50	7.62	36.60	33.21	33.73	54.00	20.27	Average

Remarks:

- Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- The emission levels that are 20dB below the official limit are not reported.

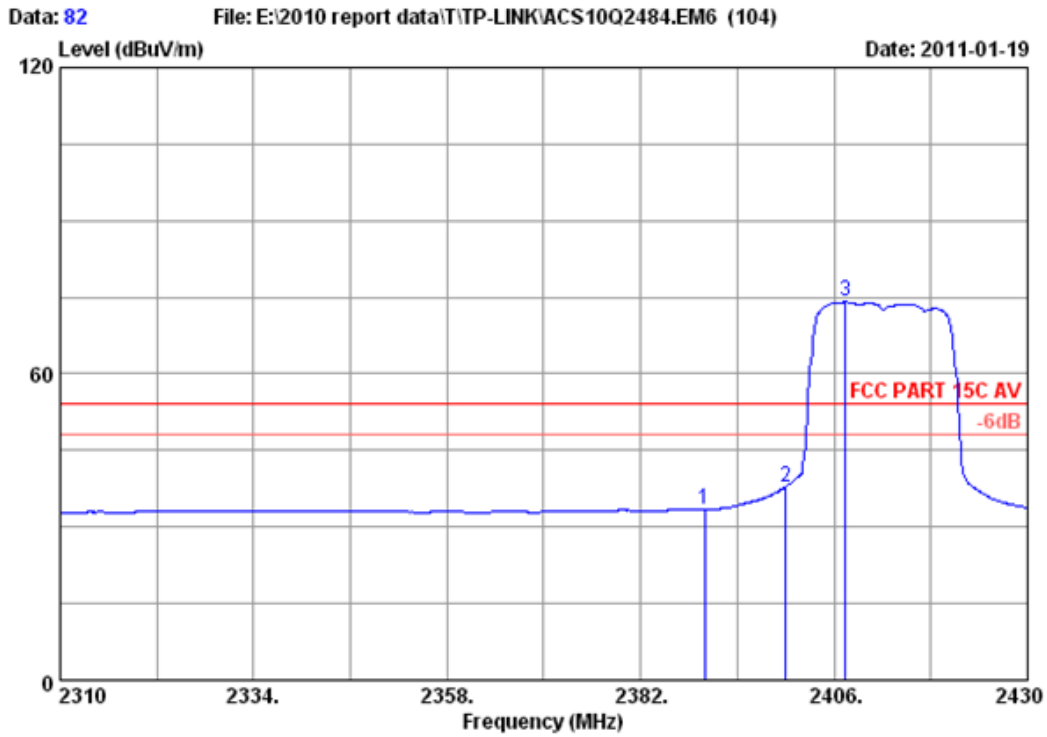


Site no. : RF Chamber Data no. : 81  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11g CH1 2412MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2361.840	29.42	7.35	36.63	46.08	46.22	74.00	27.78	Peak
2	2376.960	29.43	7.35	36.62	46.48	46.64	74.00	27.36	Peak
3	2390.000	29.44	7.39	36.62	44.33	44.54	74.00	29.46	Peak
4	2400.000	29.44	7.43	36.62	61.40	61.65	74.00	12.35	Peak
5	2412.600	29.45	7.43	36.62	83.71	83.97	74.00	-9.97	Peak

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

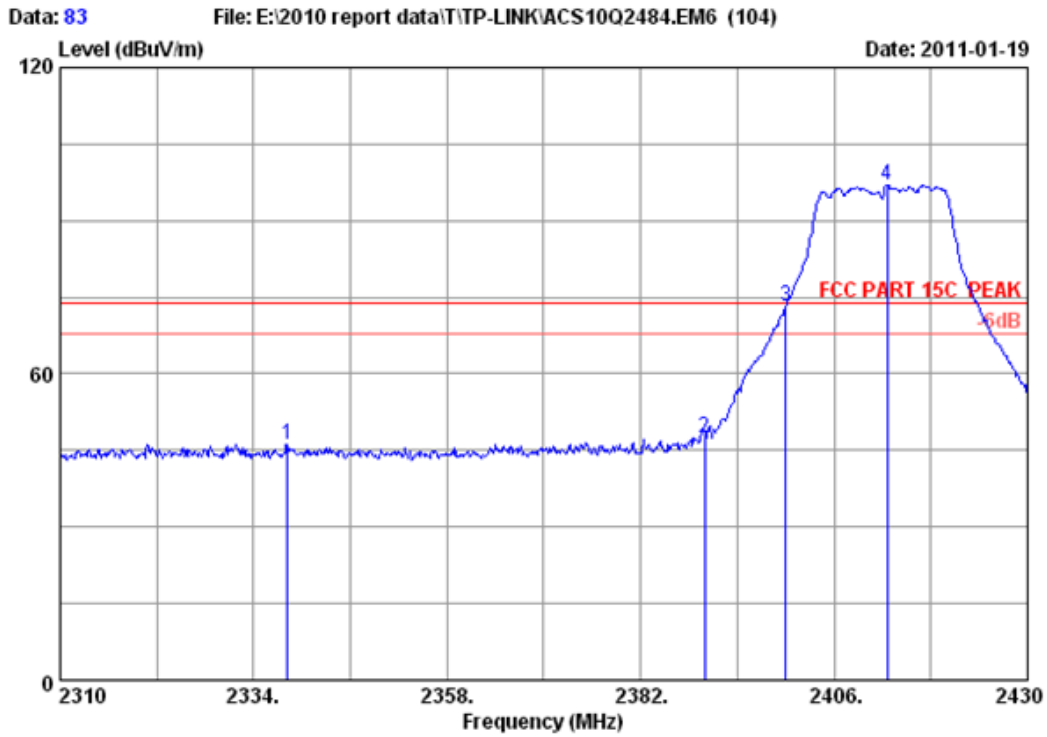


Site no. : RF Chamber Data no. : 82  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11g CH1 2412MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	29.44	7.39	36.62	33.17	33.38	54.00	20.62	Average
2	2400.000	29.44	7.43	36.62	37.65	37.90	54.00	16.10	Average
3	2407.440	29.45	7.43	36.62	73.83	74.09	54.00	-20.09	Average

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

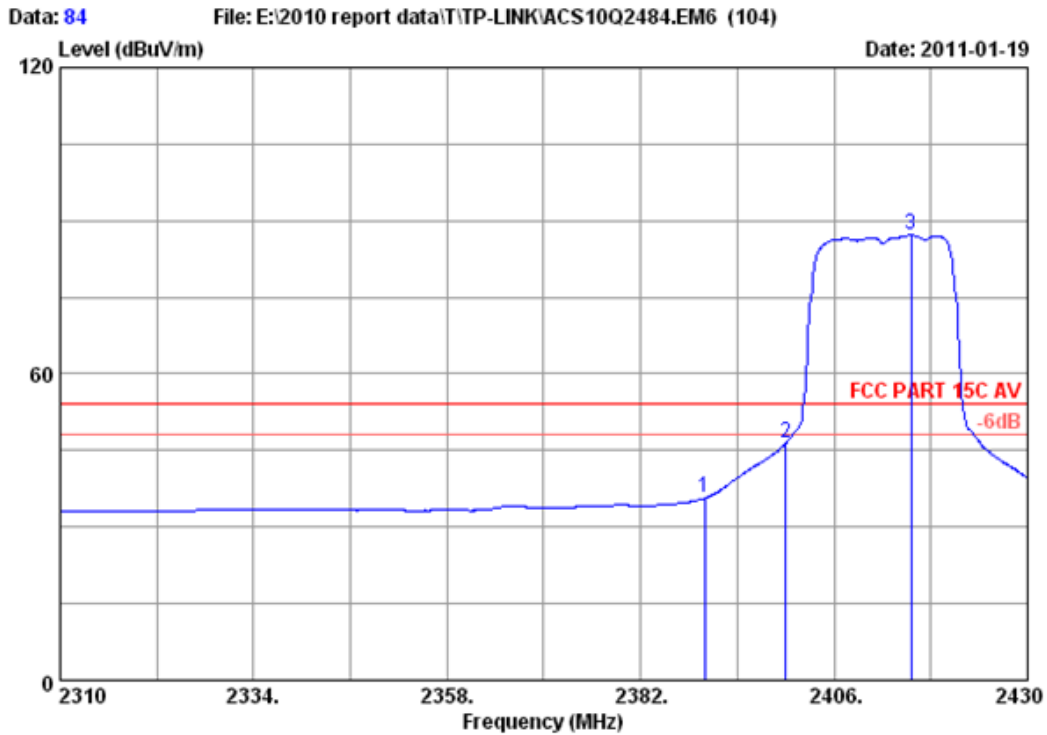


Site no. : RF Chamber Data no. : 83  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11g CH1 2412MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2338.200	29.41	7.27	36.63	46.24	46.29	74.00	27.71	Peak
2	2390.000	29.44	7.39	36.62	47.34	47.55	74.00	26.45	Peak
3	2400.000	29.44	7.43	36.62	72.84	73.09	74.00	0.91	Peak
4	2412.600	29.45	7.43	36.62	96.76	97.02	74.00	-23.02	Peak

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

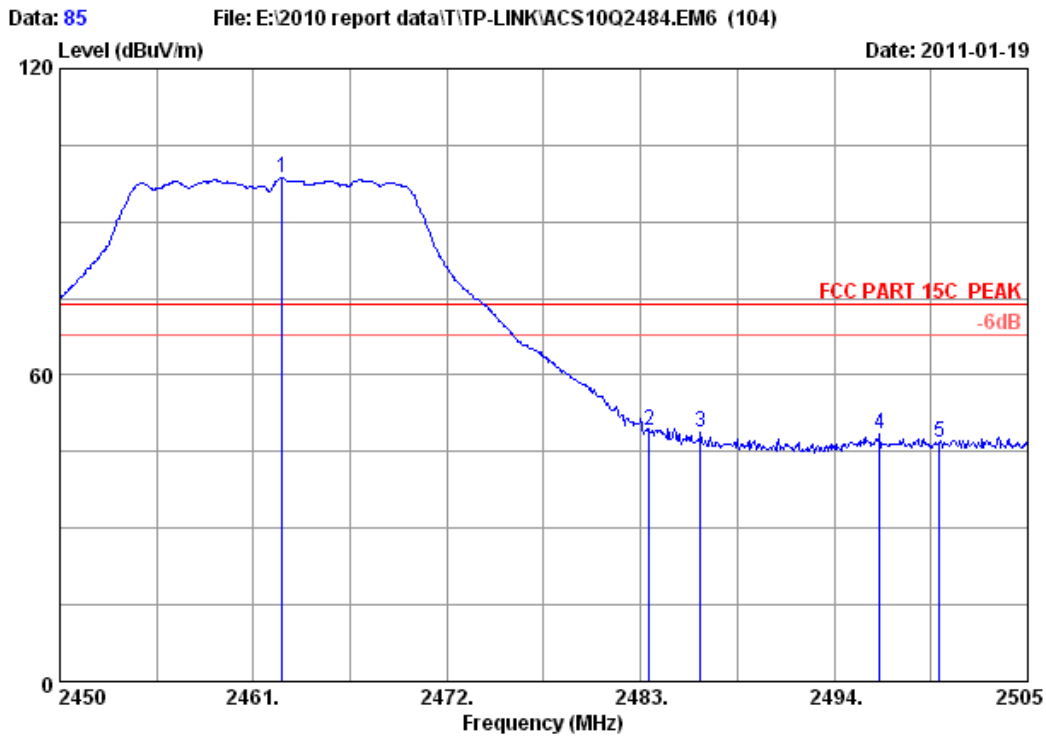


Site no. : RF Chamber Data no. : 84  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11g CH1 2412MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	29.44	7.39	36.62	35.42	35.63	54.00	18.37	Average
2	2400.000	29.44	7.43	36.62	46.15	46.40	54.00	7.60	Average
3	2415.600	29.45	7.43	36.61	86.92	87.19	54.00	-33.19	Average

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

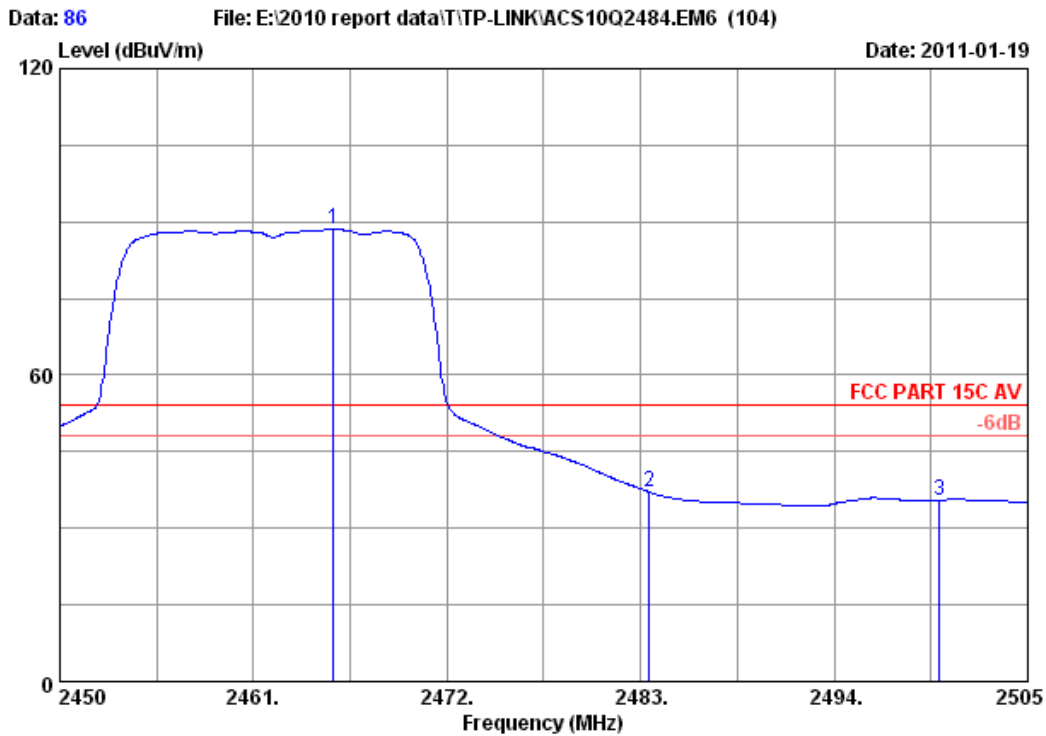


Site no. : RF Chamber Data no. : 85  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11g CH11 2462MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2462.650	29.48	7.54	36.61	98.10	98.51	74.00	-24.51	Peak
2	2483.500	29.49	7.58	36.60	48.63	49.10	74.00	24.90	Peak
3	2486.410	29.49	7.58	36.60	48.43	48.90	74.00	25.10	Peak
4	2496.585	29.50	7.58	36.60	48.07	48.55	74.00	25.45	Peak
5	2500.000	29.50	7.62	36.60	46.44	46.96	74.00	27.04	Peak

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



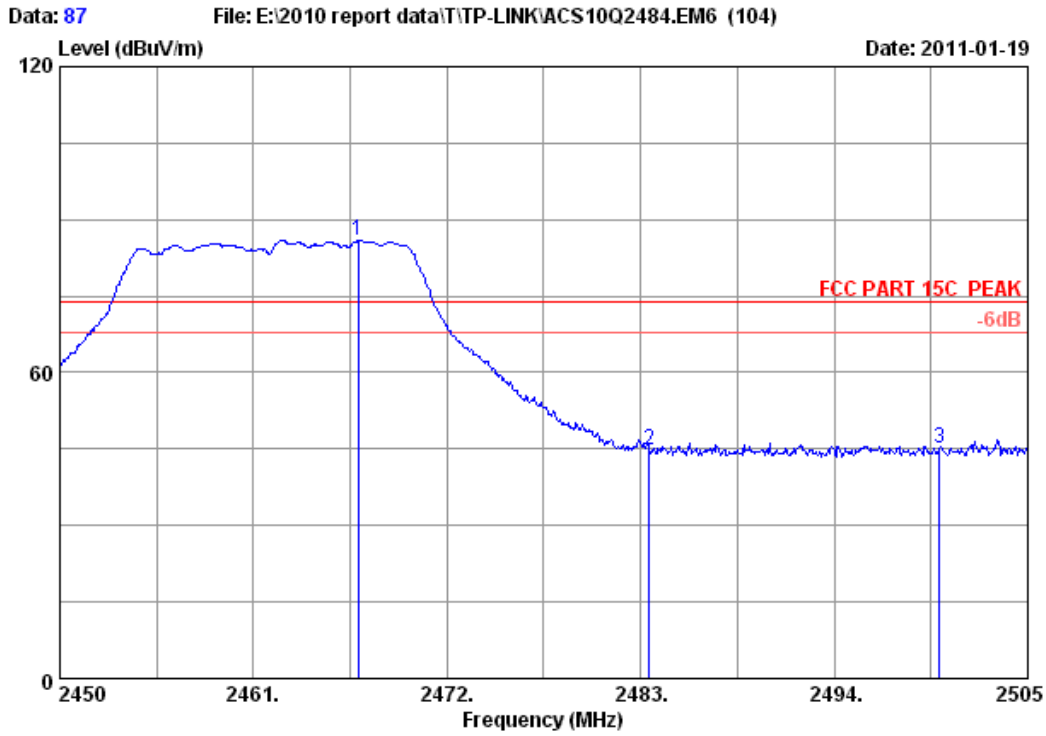
Site no. : RF Chamber Data no. : 86  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11g CH11 2462MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2465.565	29.48	7.54	36.61	88.19	88.60	54.00	-34.60	Average
2	2483.500	29.49	7.58	36.60	36.59	37.06	54.00	16.94	Average
3	2500.000	29.50	7.62	36.60	34.99	35.51	54.00	18.49	Average

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



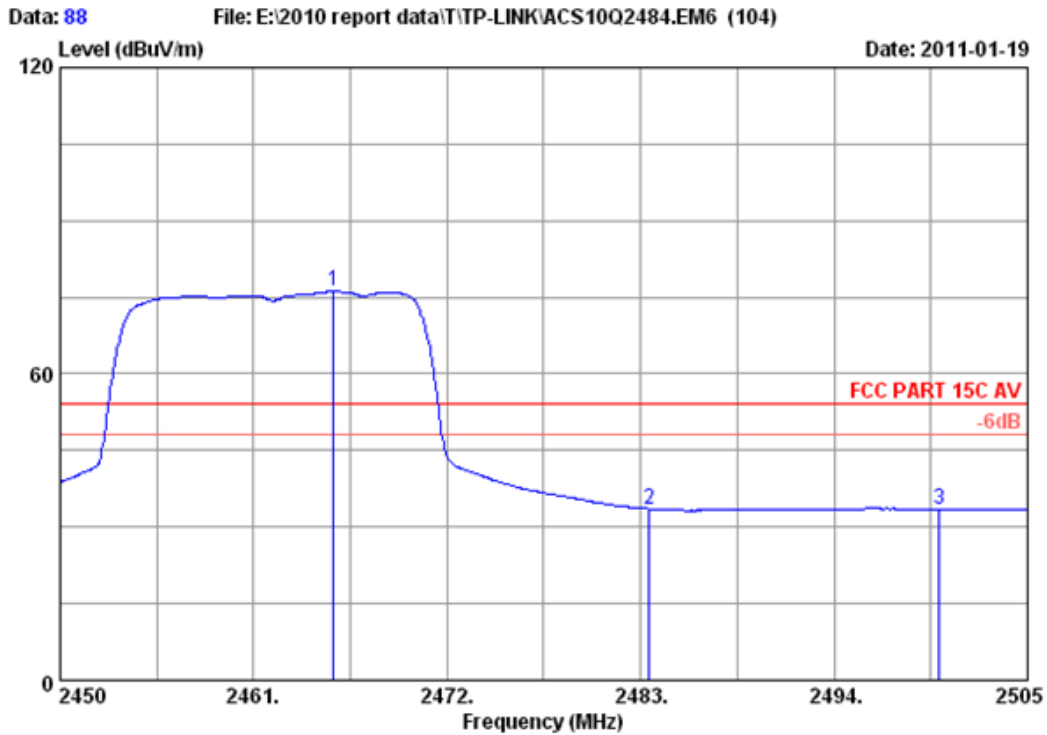


Site no. : RF Chamber Data no. : 87  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11g CH11 2462MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2466.940	29.48	7.54	36.60	85.48	85.90	74.00	-11.90	Peak
2	2483.500	29.49	7.58	36.60	44.41	44.88	74.00	29.12	Peak
3	2500.000	29.50	7.62	36.60	44.53	45.05	74.00	28.95	Peak

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

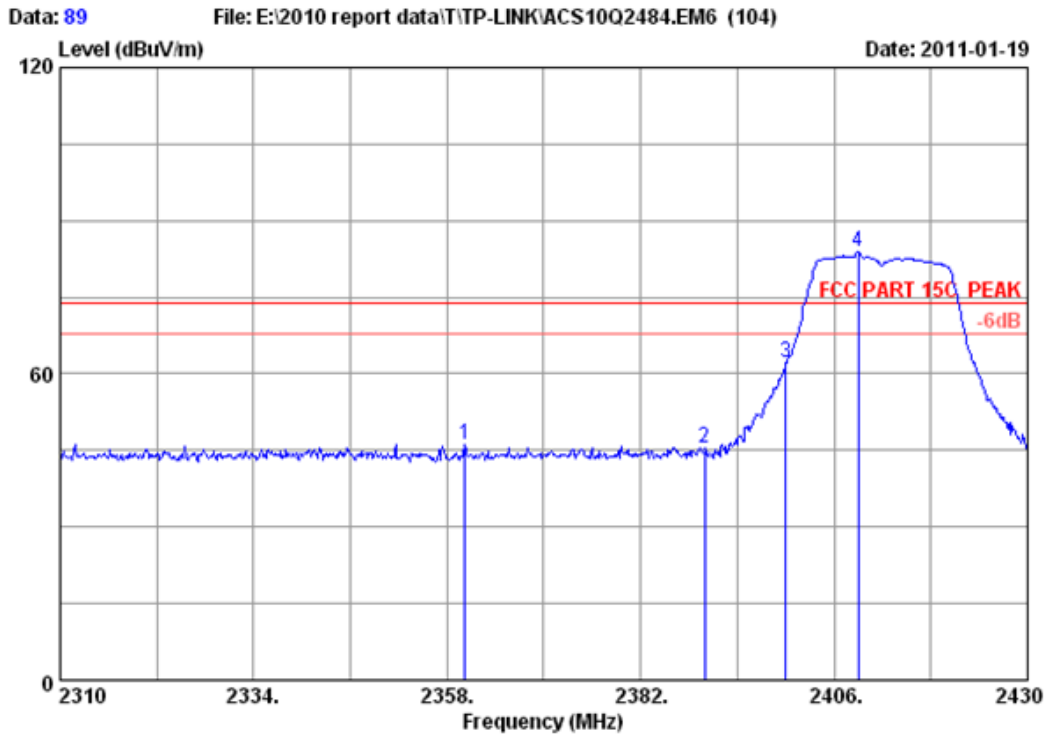


Site no. : RF Chamber Data no. : 88  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11g CH11 2462MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2465.565	29.48	7.54	36.61	75.76	76.17	54.00	-22.17	Average
2	2483.500	29.49	7.58	36.60	33.08	33.55	54.00	20.45	Average
3	2500.000	29.50	7.62	36.60	32.84	33.36	54.00	20.64	Average

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

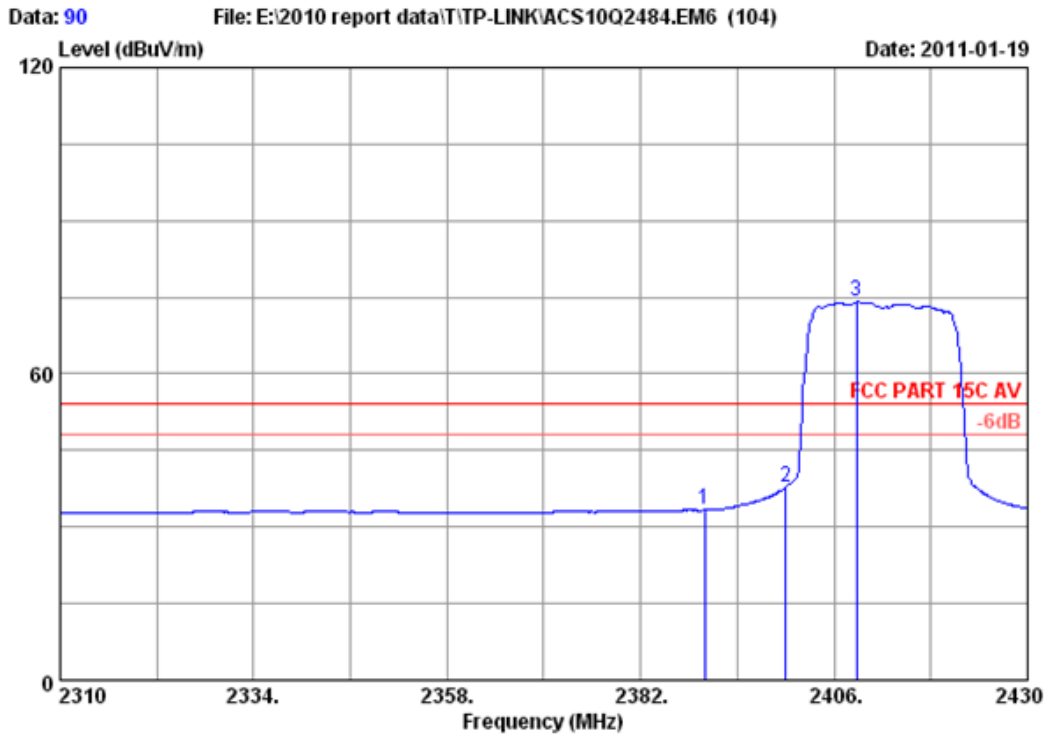


Site no. : RF Chamber Data no. : 89  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11n HT20 CH1 2412MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2360.160	29.42	7.35	36.63	46.12	46.26	74.00	27.74	Peak
2	2390.000	29.44	7.39	36.62	45.20	45.41	74.00	28.59	Peak
3	2400.000	29.44	7.43	36.62	61.89	62.14	74.00	11.86	Peak
4	2409.000	29.45	7.43	36.62	83.69	83.95	74.00	-9.95	Peak

Remarks:

- Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- The emission levels that are 20dB below the official limit are not reported.

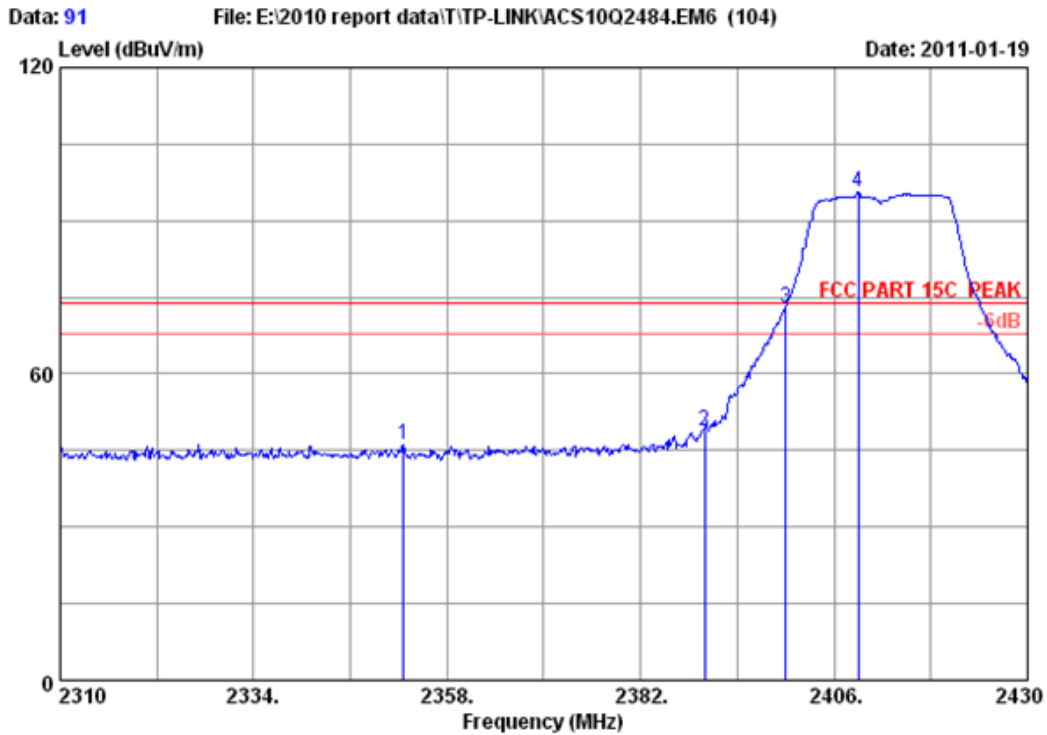


Site no. : RF Chamber Data no. : 90  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11n HT20 CH1 2412MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	29.44	7.39	36.62	33.05	33.26	54.00	20.74	Average
2	2400.000	29.44	7.43	36.62	37.58	37.83	54.00	16.17	Average
3	2408.760	29.45	7.43	36.62	73.82	74.08	54.00	-20.08	Average

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

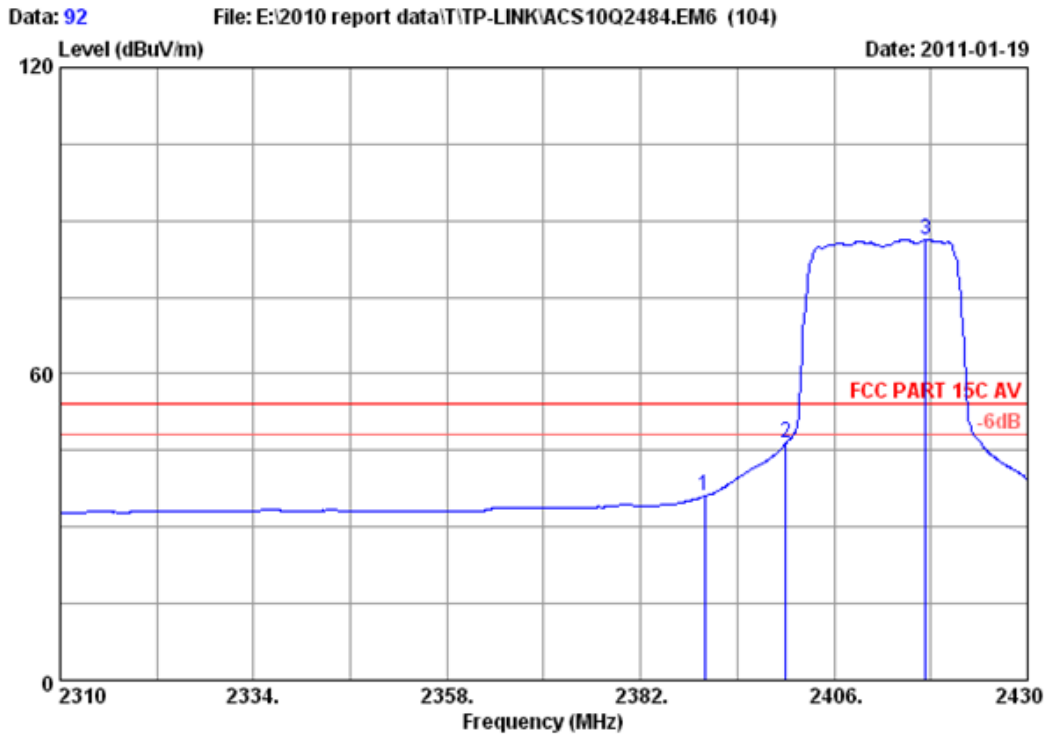


Site no. : RF Chamber Data no. : 91  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11n HT20 CH1 2412MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2352.600	29.42	7.31	36.63	46.03	46.13	74.00	27.87	Peak
2	2390.000	29.44	7.39	36.62	48.65	48.86	74.00	25.14	Peak
3	2400.000	29.44	7.43	36.62	72.52	72.77	74.00	1.23	Peak
4	2409.000	29.45	7.43	36.62	95.42	95.68	74.00	-21.68	Peak

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

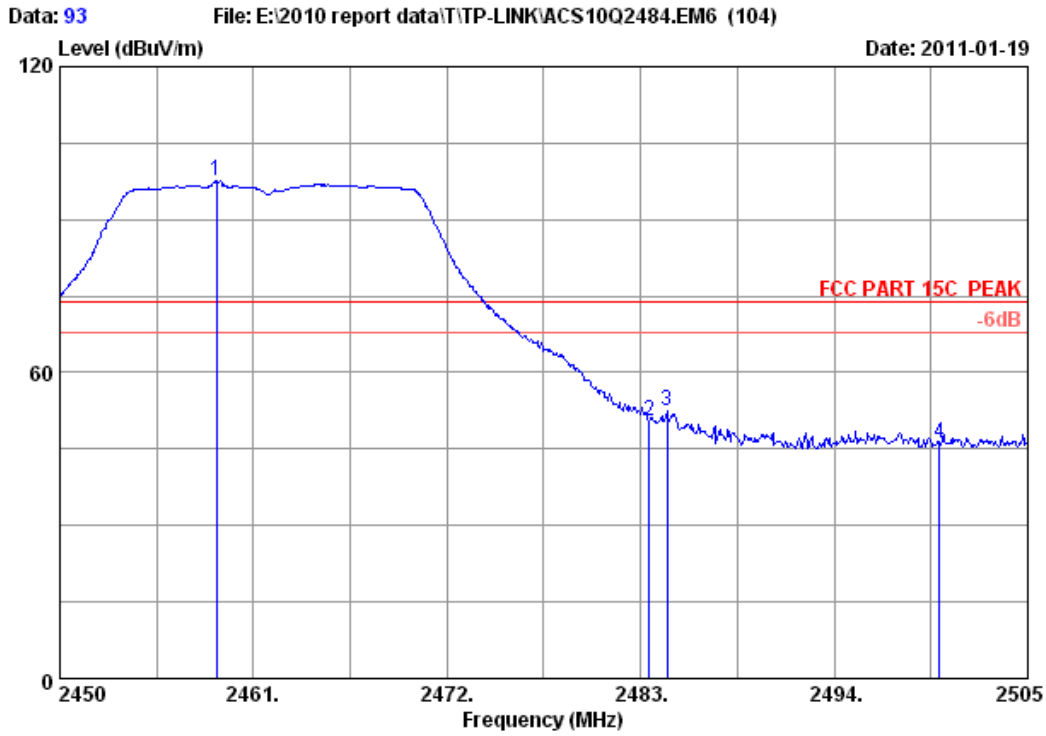


Site no. : RF Chamber Data no. : 92  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11n HT20 CH1 2412MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	29.44	7.39	36.62	35.83	36.04	54.00	17.96	Average
2	2400.000	29.44	7.43	36.62	46.14	46.39	54.00	7.61	Average
3	2417.400	29.45	7.43	36.61	86.04	86.31	54.00	-32.31	Average

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

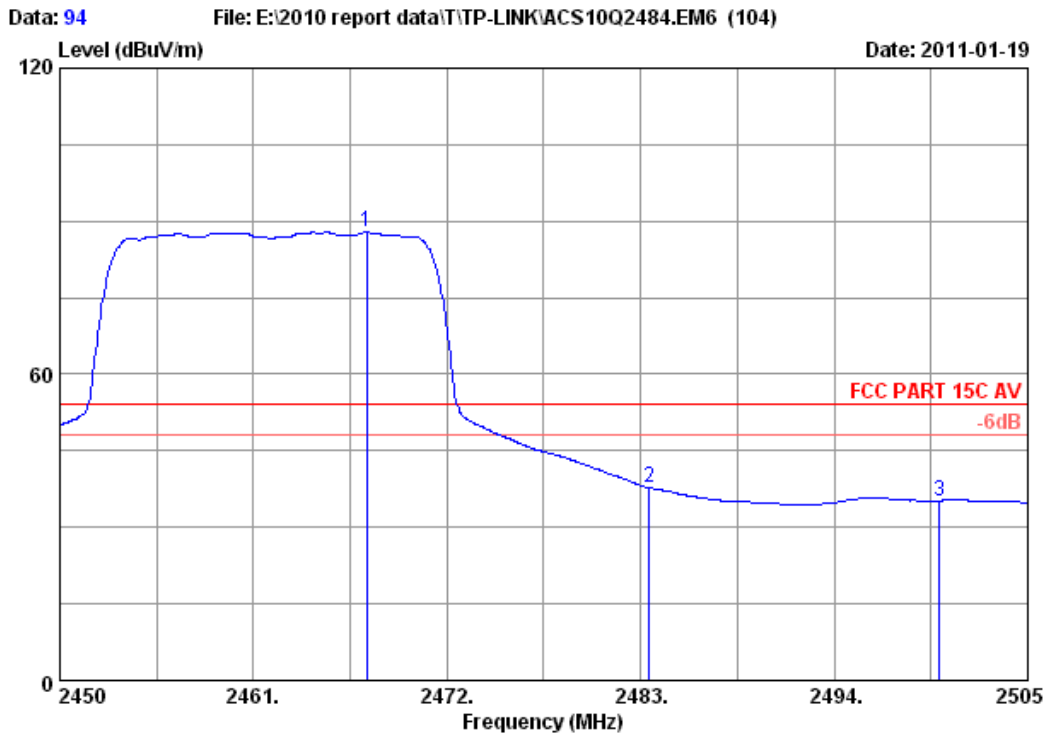


Site no. : RF Chamber Data no. : 93  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11n HT20 CH11 2462MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2458.910	29.48	7.54	36.61	97.15	97.56	74.00	-23.56	Peak
2	2483.500	29.49	7.58	36.60	50.14	50.61	74.00	23.39	Peak
3	2484.485	29.49	7.58	36.60	51.92	52.39	74.00	21.61	Peak
4	2500.000	29.50	7.62	36.60	45.68	46.20	74.00	27.80	Peak

Remarks:

- Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- The emission levels that are 20dB below the official limit are not reported.



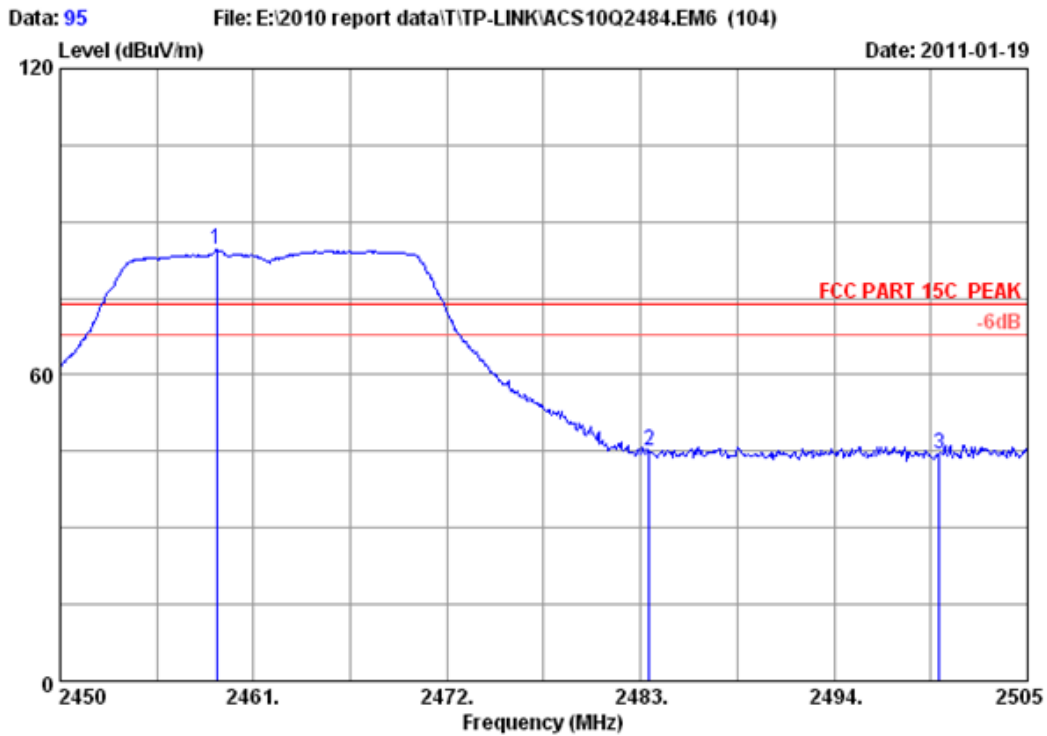
Site no. : RF Chamber Data no. : 94  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11n HT20 CH11 2462MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2467.435	29.48	7.54	36.60	87.35	87.77	54.00	-33.77	Average
2	2483.500	29.49	7.58	36.60	37.24	37.71	54.00	16.29	Average
3	2500.000	29.50	7.62	36.60	34.72	35.24	54.00	18.76	Average

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



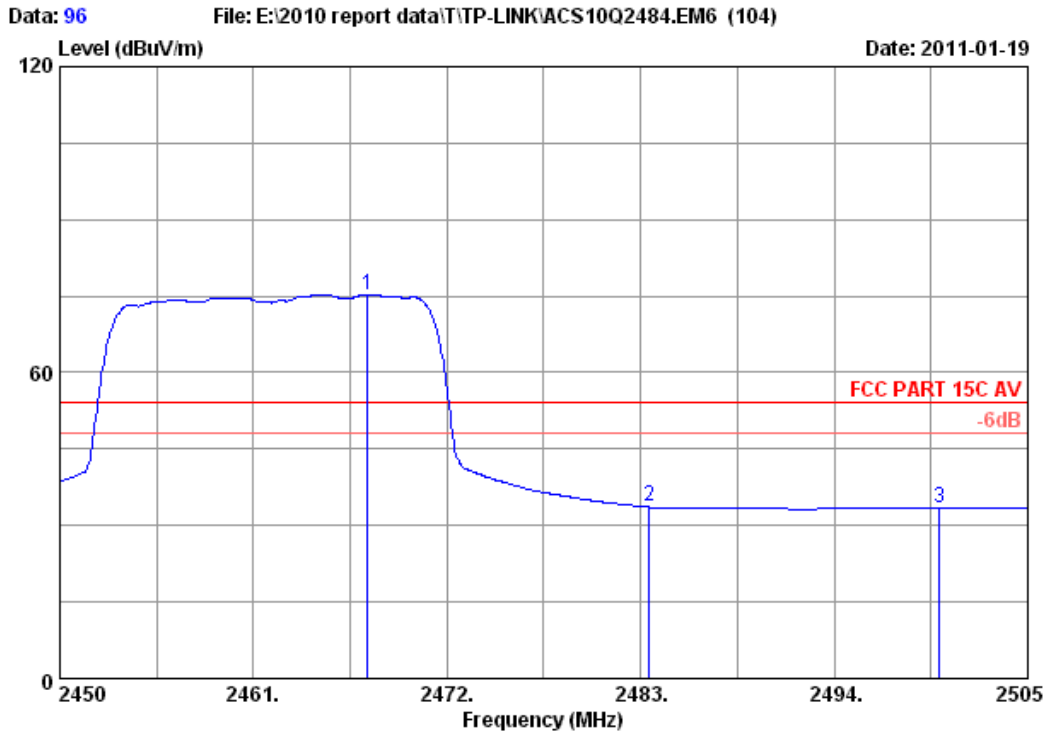


Site no. : RF Chamber Data no. : 95  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11n HT20 CH11 2462MHz Tx  
 M/N : TL-WN723N

	Freq.	Ant. Factor	Cable loss	Amp. Factor	Reading	Emission Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	2458.910	29.48	7.54	36.61	84.11	84.52	74.00	-10.52	Peak
2	2483.500	29.49	7.58	36.60	44.53	45.00	74.00	29.00	Peak
3	2500.000	29.50	7.62	36.60	43.96	44.48	74.00	29.52	Peak

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

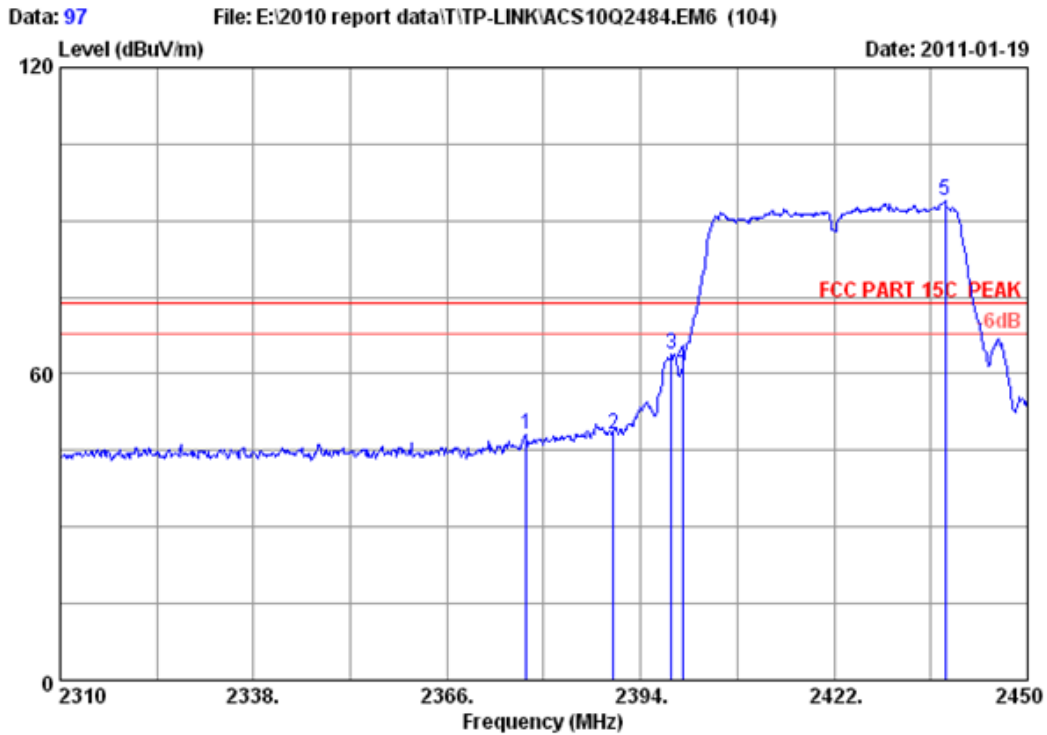


Site no. : RF Chamber Data no. : 96  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11n HT20 CH11 2462MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2467.490	29.48	7.54	36.60	74.90	75.32	54.00	-21.32	Average
2	2483.500	29.49	7.58	36.60	33.14	33.61	54.00	20.39	Average
3	2500.000	29.50	7.62	36.60	32.75	33.27	54.00	20.73	Average

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

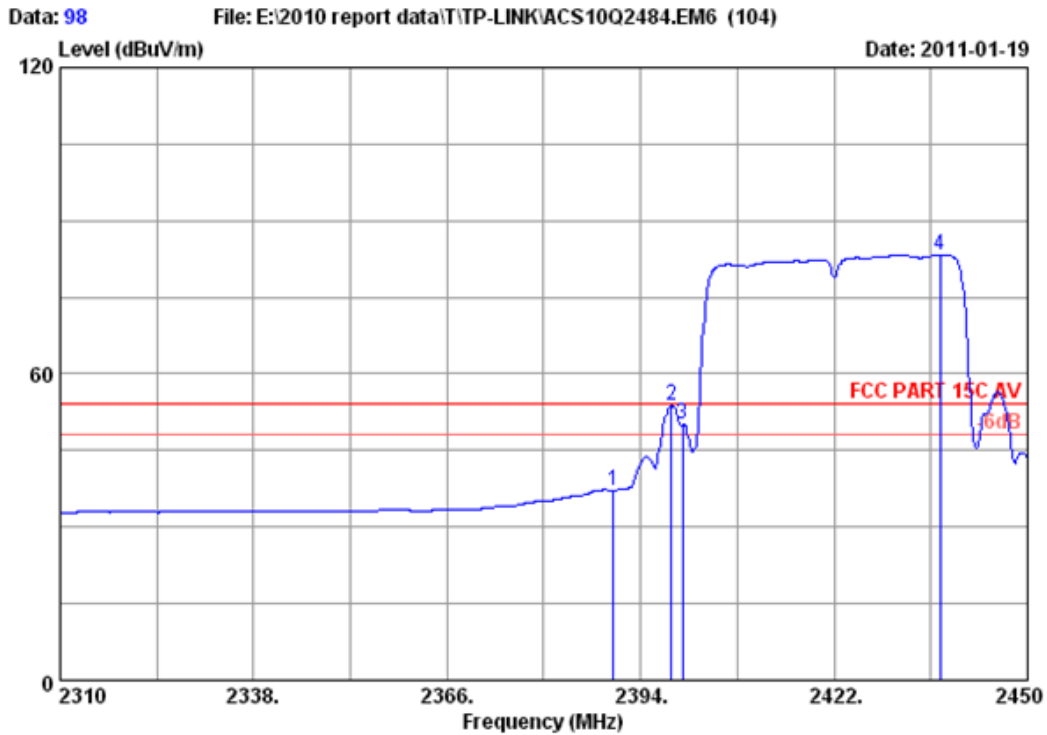


Site no. : RF Chamber Data no. : 97  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11n HT40 CH1 2422MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2377.480	29.43	7.35	36.62	48.10	48.26	74.00	25.74	Peak
2	2390.000	29.44	7.39	36.62	48.03	48.24	74.00	25.76	Peak
3	2398.480	29.44	7.39	36.62	63.55	63.76	74.00	10.24	Peak
4	2400.000	29.44	7.43	36.62	61.21	61.46	74.00	12.54	Peak
5	2438.100	29.47	7.46	36.61	93.55	93.87	74.00	-19.87	Peak

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

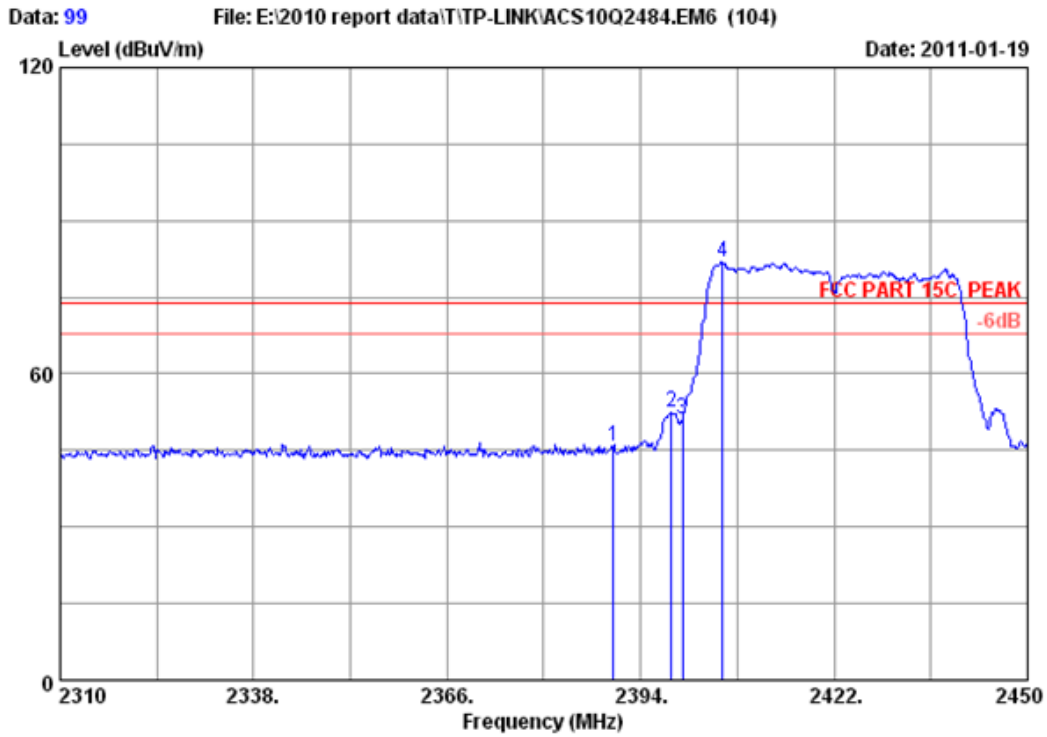


Site no. : RF Chamber Data no. : 98  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11n HT40 CH1 2422MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	29.44	7.39	36.62	36.93	37.14	54.00	16.86	Average
2	2398.480	29.44	7.39	36.62	53.55	53.76	54.00	0.24	Average
3	2400.000	29.44	7.43	36.62	49.84	50.09	54.00	3.91	Average
4	2437.400	29.47	7.46	36.61	82.99	83.31	54.00	-29.31	Average

Remarks:

- Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- The emission levels that are 20dB below the official limit are not reported.

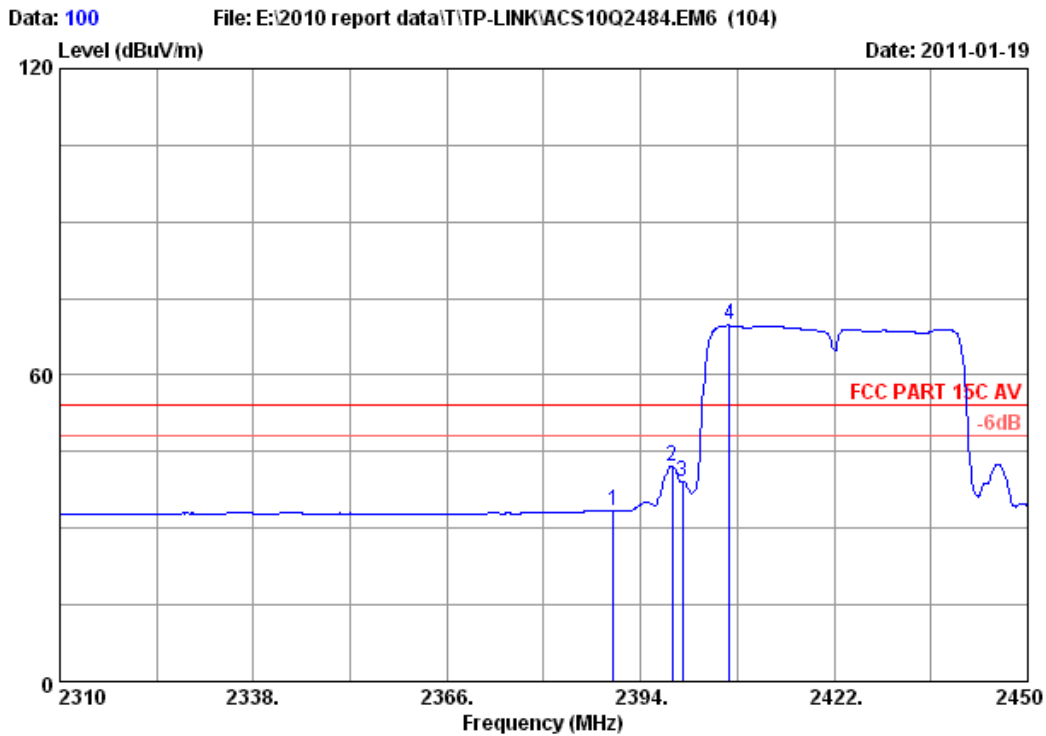


Site no. : RF Chamber Data no. : 99  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11n HT40 CH1 2422MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	29.44	7.39	36.62	45.71	45.92	74.00	28.08	Peak
2	2398.480	29.44	7.39	36.62	52.17	52.38	74.00	21.62	Peak
3	2400.000	29.44	7.43	36.62	50.88	51.13	74.00	22.87	Peak
4	2405.900	29.45	7.43	36.62	81.55	81.81	74.00	-7.81	Peak

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

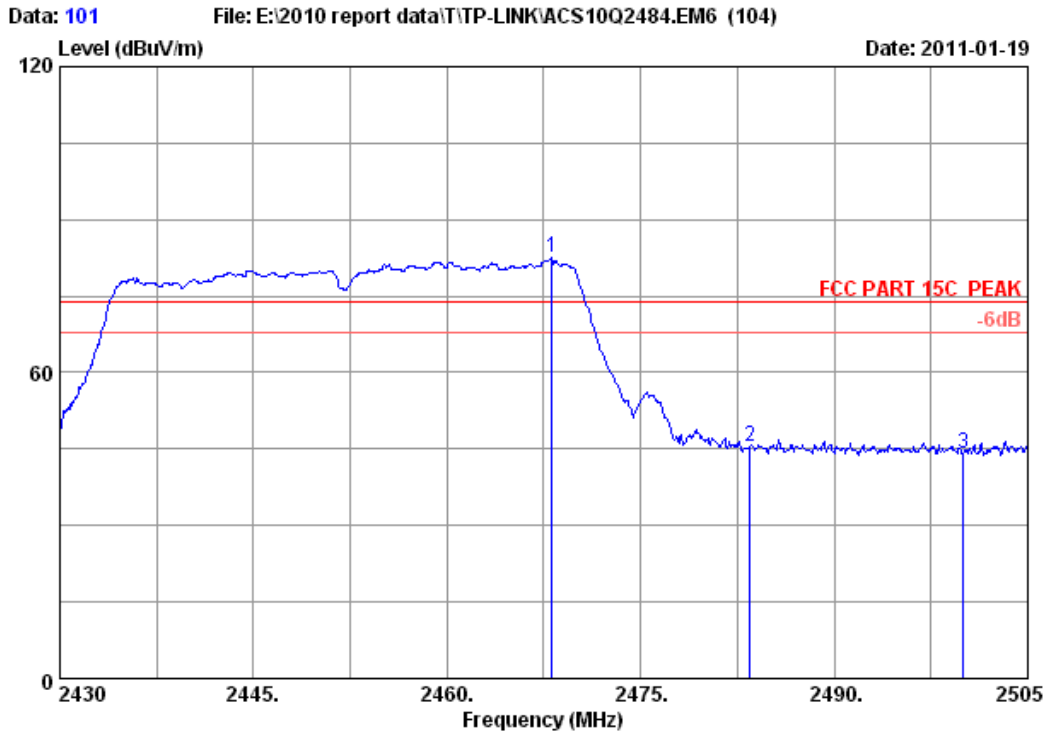


Site no. : RF Chamber Data no. : 100  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11n HT40 CH1 2422MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	29.44	7.39	36.62	33.14	33.35	54.00	20.65	Average
2	2398.620	29.44	7.39	36.62	41.89	42.10	54.00	11.90	Average
3	2400.000	29.44	7.43	36.62	38.89	39.14	54.00	14.86	Average
4	2406.880	29.45	7.43	36.62	69.47	69.73	54.00	-15.73	Average

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

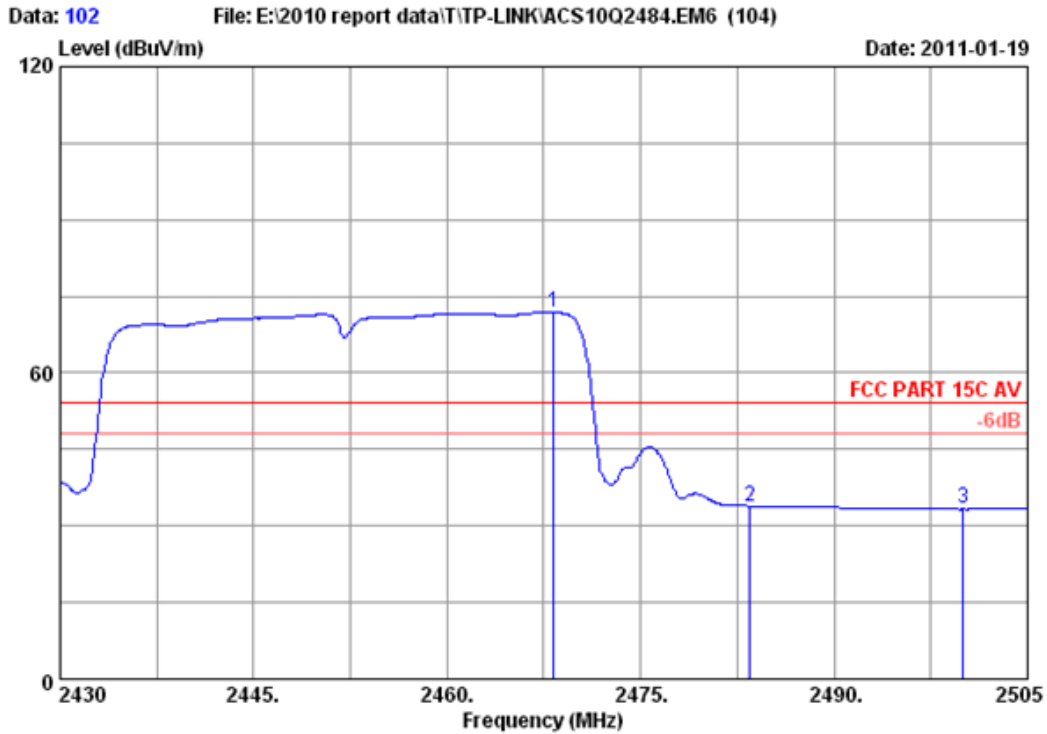


Site no. : RF Chamber Data no. : 101  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11n HT40 CH7 2452MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2468.100	29.48	7.54	36.60	82.01	82.43	74.00	-8.43	Peak
2	2483.500	29.49	7.58	36.60	45.15	45.62	74.00	28.38	Peak
3	2500.000	29.50	7.62	36.60	43.65	44.17	74.00	29.83	Peak

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



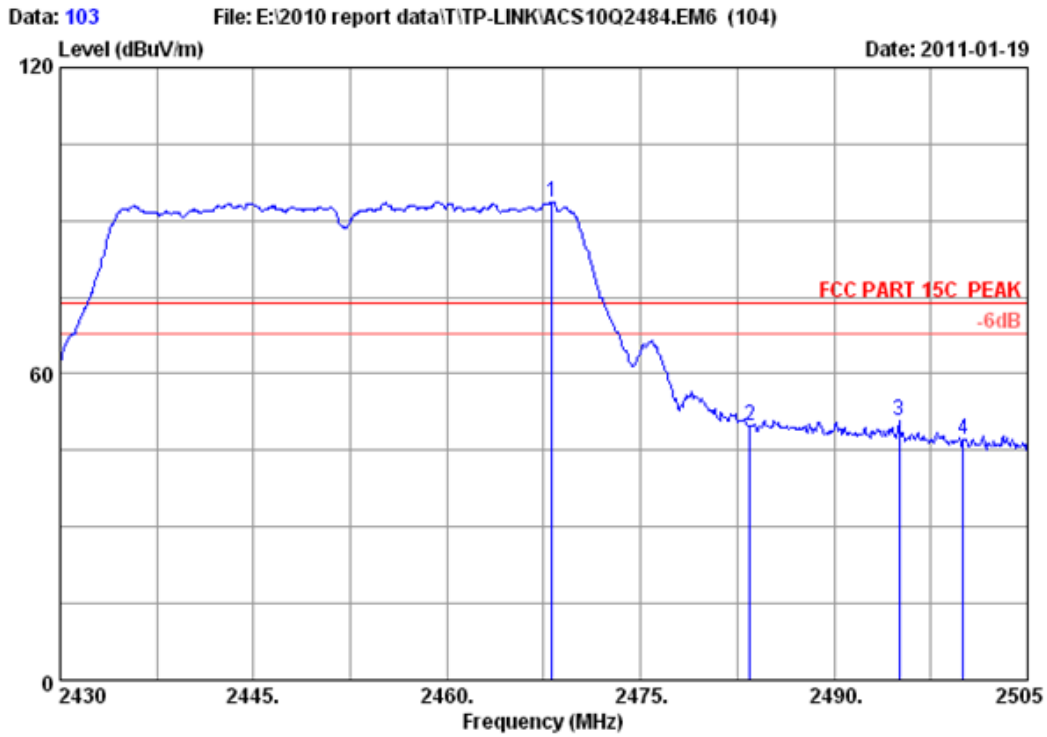
Site no. : RF Chamber Data no. : 102  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11n HT40 CH7 2452MHz Tx  
 M/N : TL-WN723N

	Freq. (MHz)	Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2468.250	29.48	7.54	36.60	71.43	71.85	54.00	-17.85	Average
2	2483.500	29.49	7.58	36.60	33.38	33.85	54.00	20.15	Average
3	2500.000	29.50	7.62	36.60	32.76	33.28	54.00	20.72	Average

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



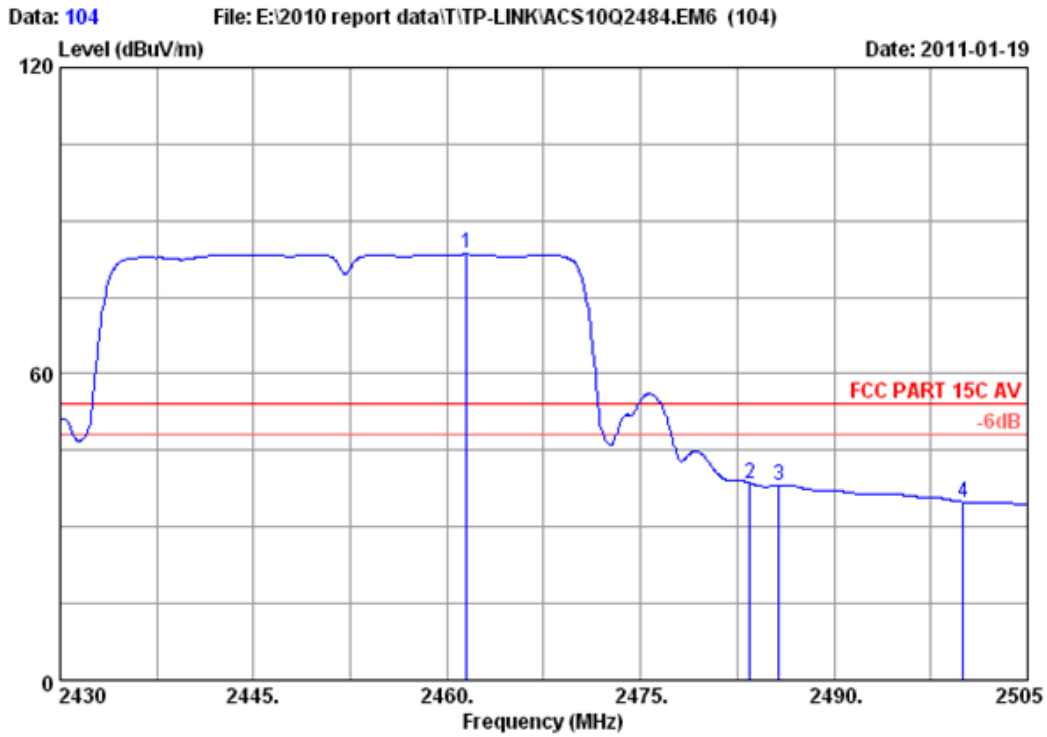


Site no. : RF Chamber Data no. : 103  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11n HT40 CH7 2452MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2468.100	29.48	7.54	36.60	93.29	93.71	74.00	-19.71	Average
2	2483.500	29.49	7.58	36.60	49.32	49.79	74.00	24.21	Average
3	2495.025	29.50	7.58	36.60	50.27	50.75	74.00	23.25	Average
4	2500.000	29.50	7.62	36.60	46.50	47.02	74.00	26.98	Average

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : RF Chamber Data no. : 104  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Mini Wireless N USB Adapter  
 Power : DC 5V From PC Input AC 120V/60Hz  
 Test mode : IEEE802.11n HT40 CH7 2452MHz Tx  
 M/N : TL-WN723N

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2461.500	29.48	7.54	36.61	83.00	83.41	54.00	-29.41	Average
2	2483.500	29.49	7.58	36.60	38.13	38.60	54.00	15.40	Average
3	2485.725	29.49	7.58	36.60	37.75	38.22	54.00	15.78	Average
4	2500.000	29.50	7.62	36.60	34.38	34.90	54.00	19.10	Average

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

## 7. 6dB Bandwidth Test

### 7.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08,10	1 Year
2.	Attenuator	Agilent	8491B	MY39262165	May.08,10	1 Year
3.	RF Cable	Hubersuhner	SUCOFLEX102	28618/2	May.08,10	1Year

### 7.2. Limit

For direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz

### 7.3. Test Procedure

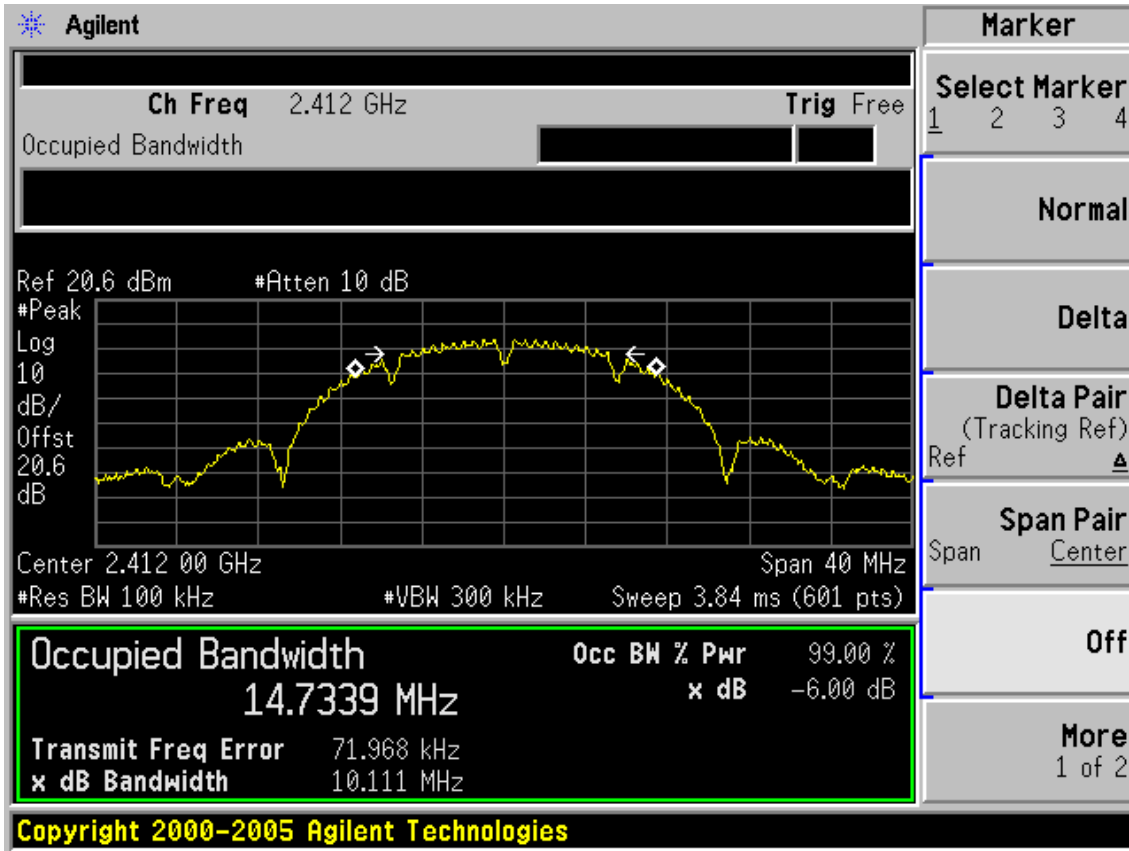
The transmitter output was connected to a spectrum analyzer, The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 300 kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

### 7.4. Test Results

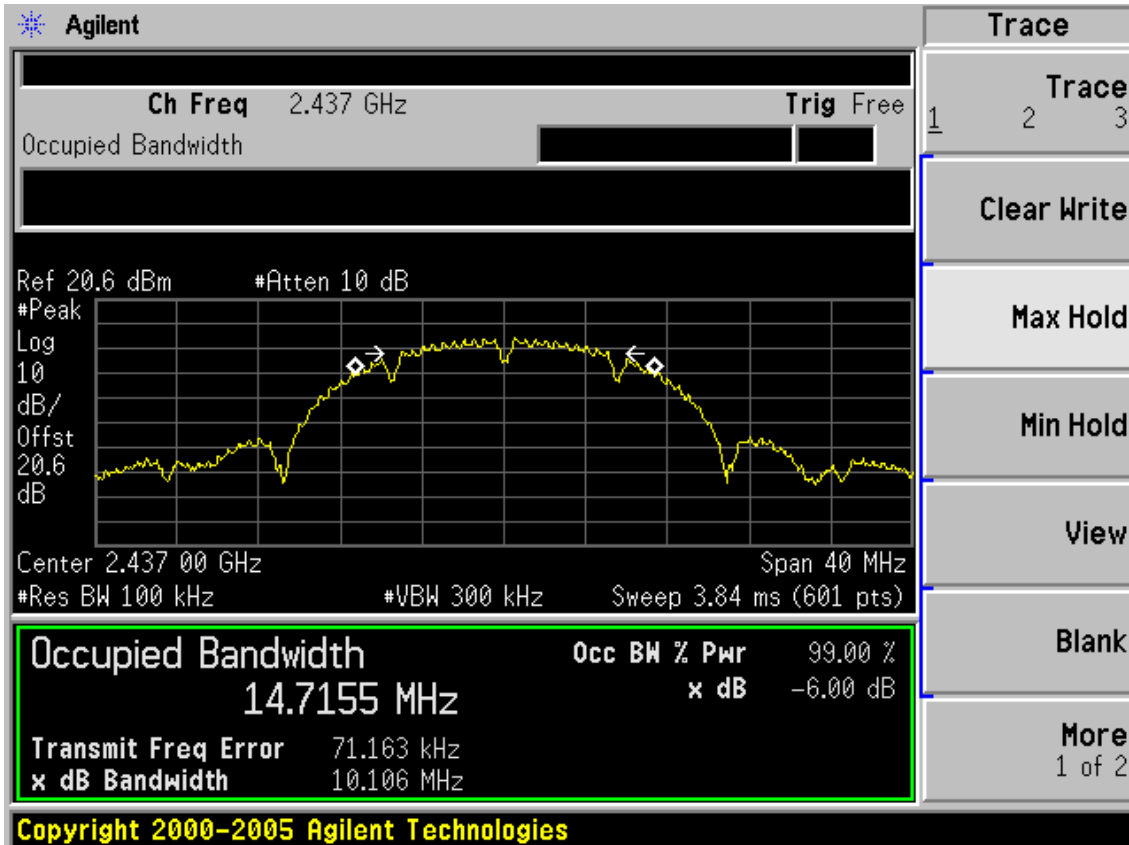
EUT:150Mbps Mini Wireless N USB Adapter		
M/N:TL-WN723N		
Test date:2011-02-15	Pressure: 100.6 kpa	Humidity: 60 %
Tested by:Sunny-lu	Test site: RF Site	Temperature : 25 °C

Cable loss: 0.6 dB		Attenuator loss: 20 dB	Antenna Gain: 0dBi
Test Mode	CH	6dB bandwidth ( MHz )	Limit (KHz)
11b	CH1	10.111	>500
	CH6	10.106	>500
	CH11	10.057	>500
11g	CH1	16.564	>500
	CH6	16.541	>500
	CH11	16.559	>500
11n HT20	CH1	17.743	>500
	CH6	17.702	>500
	CH11	17.742	>500
11n HT40	CH1	36.440	>500
	CH4	36.464	>500
	CH7	36.463	>500
Conclusion : PASS			

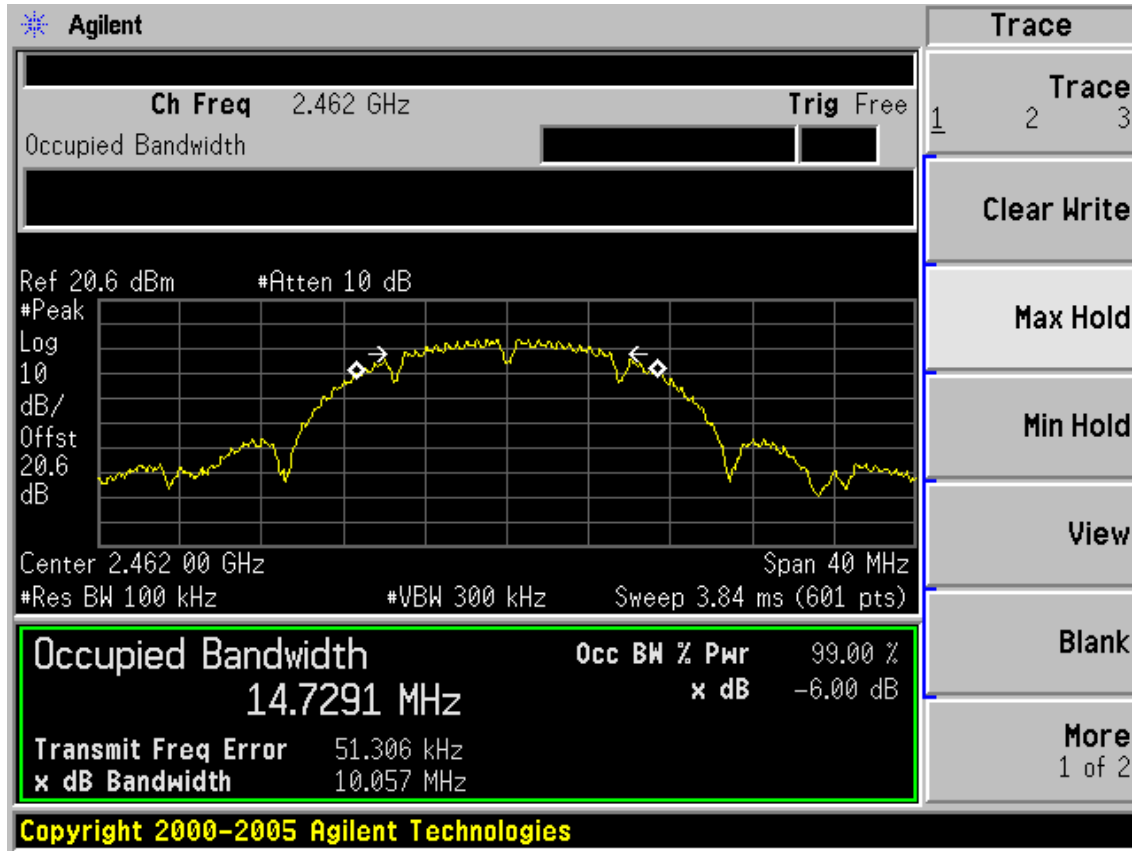
Test Mode: IEEE 802.11b TX  
 Test CH1: 2412MHz



Test CH6: 2437MHz

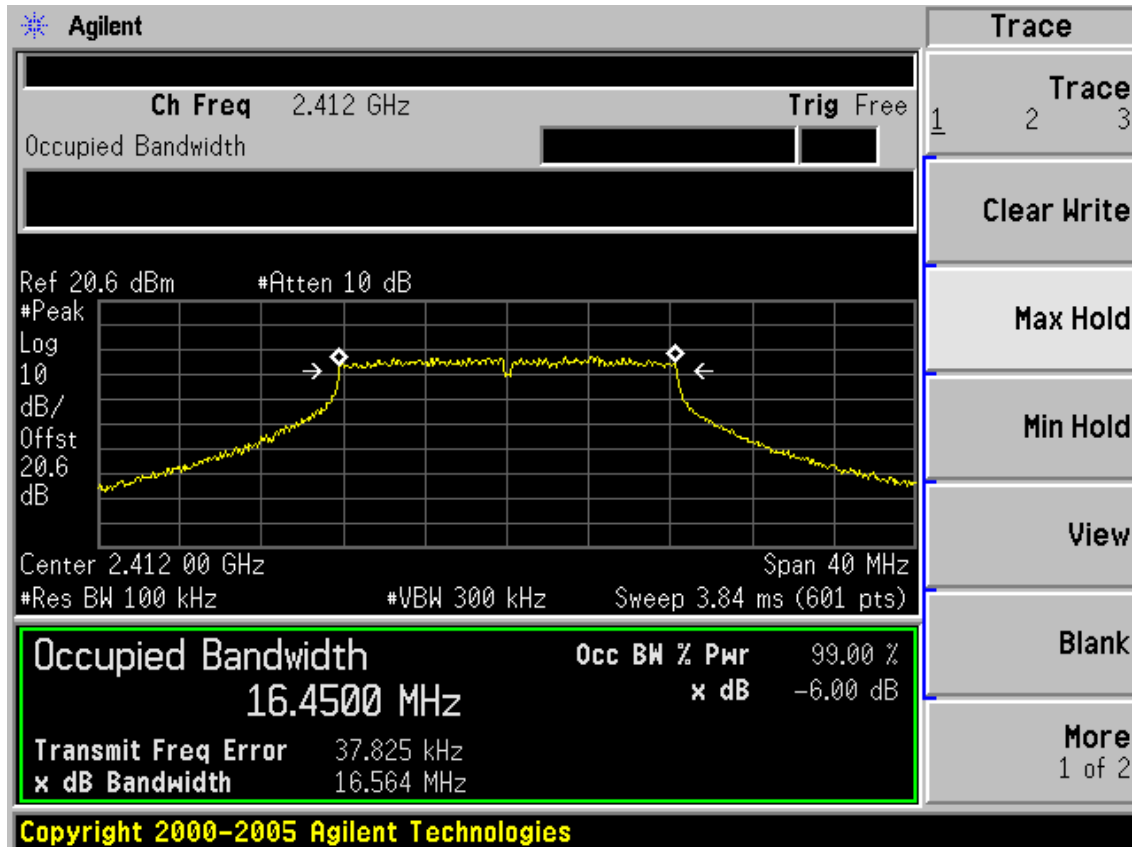


Test CH1: 2462MHz

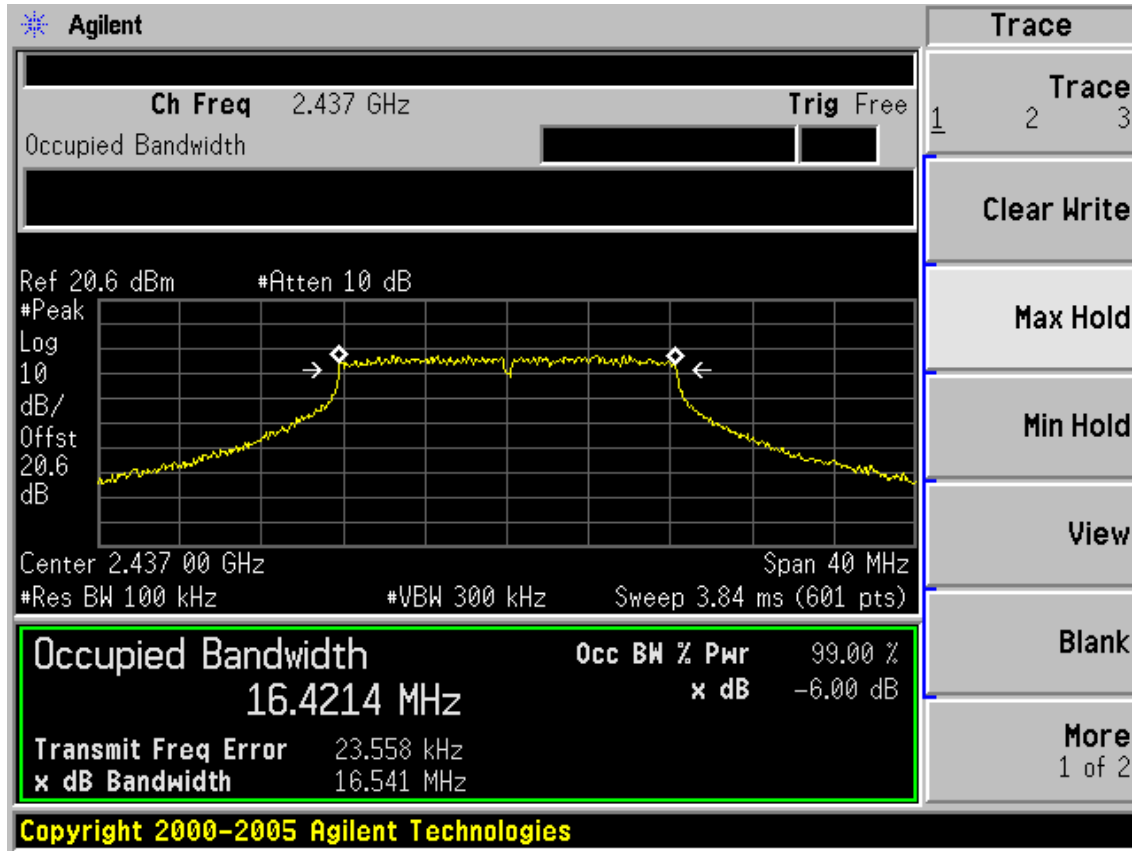


Test Mode: IEEE 802.11g TX

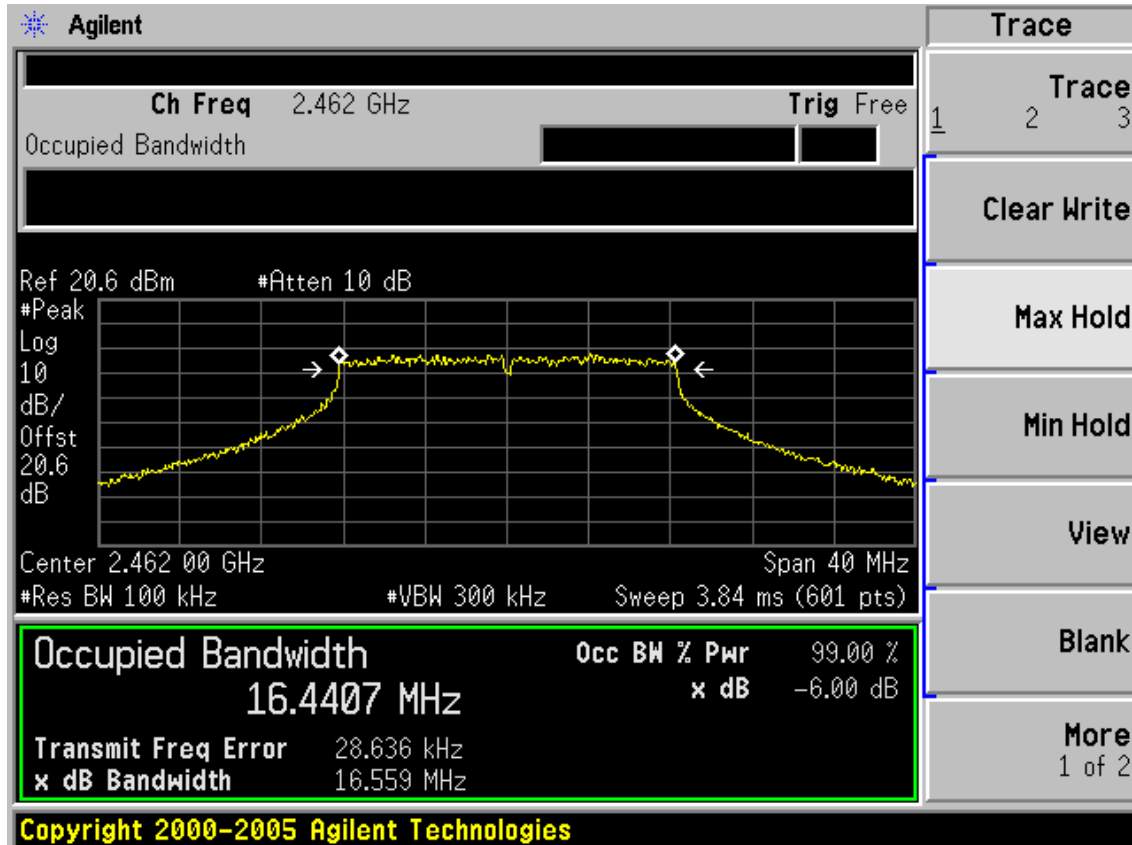
Test CH1: 2412MHz



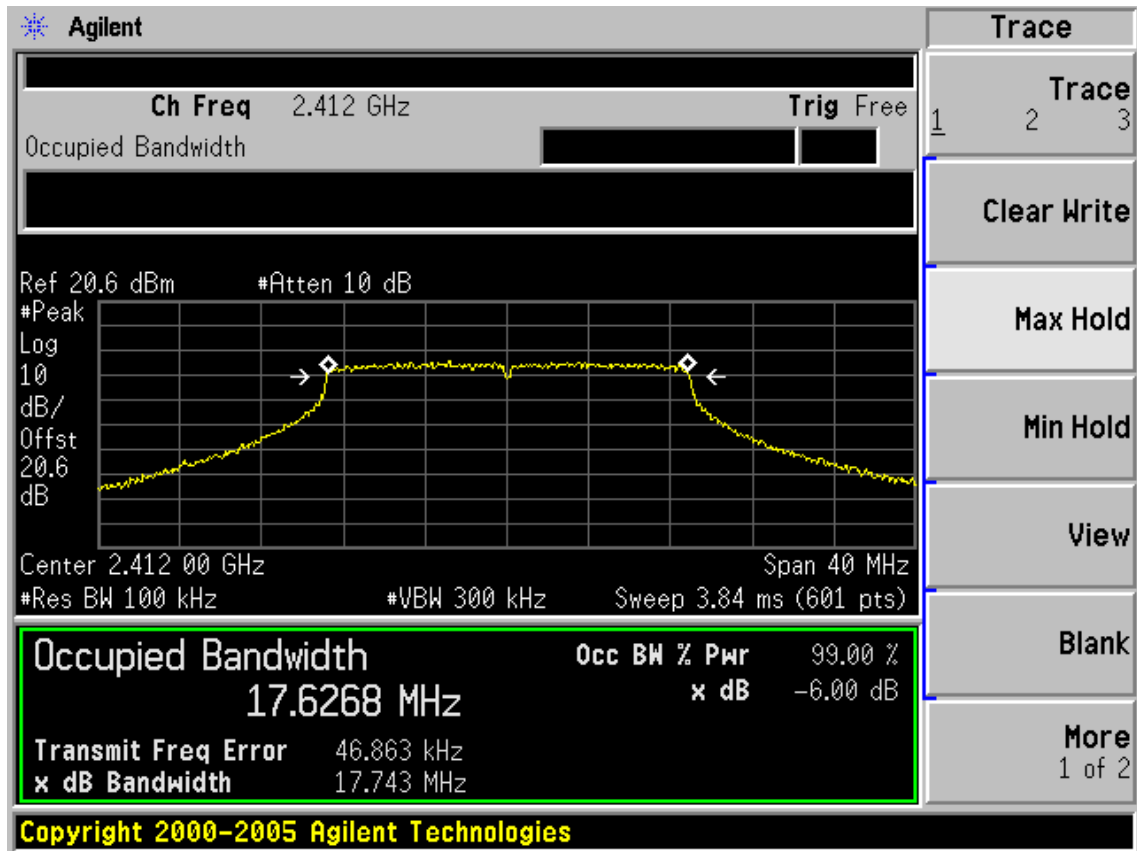
Test CH6: 2437MHz



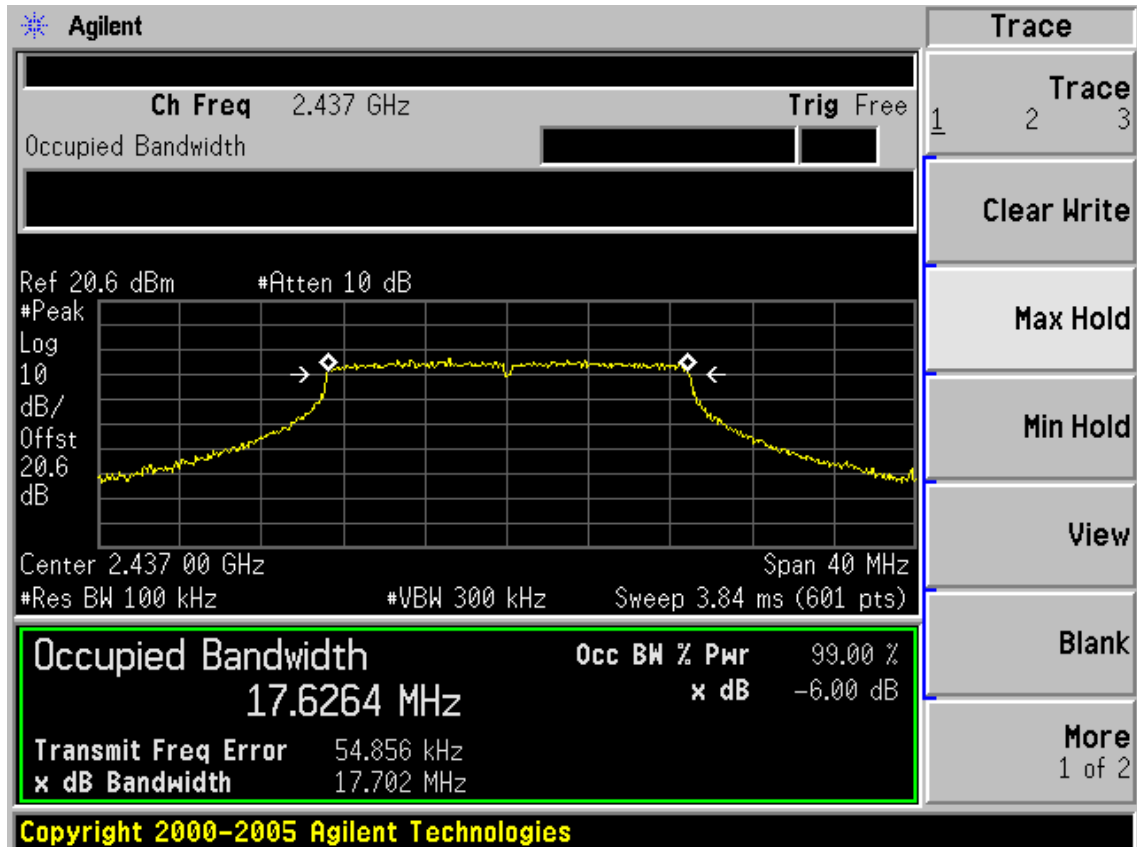
Test CH11: 2462MHz



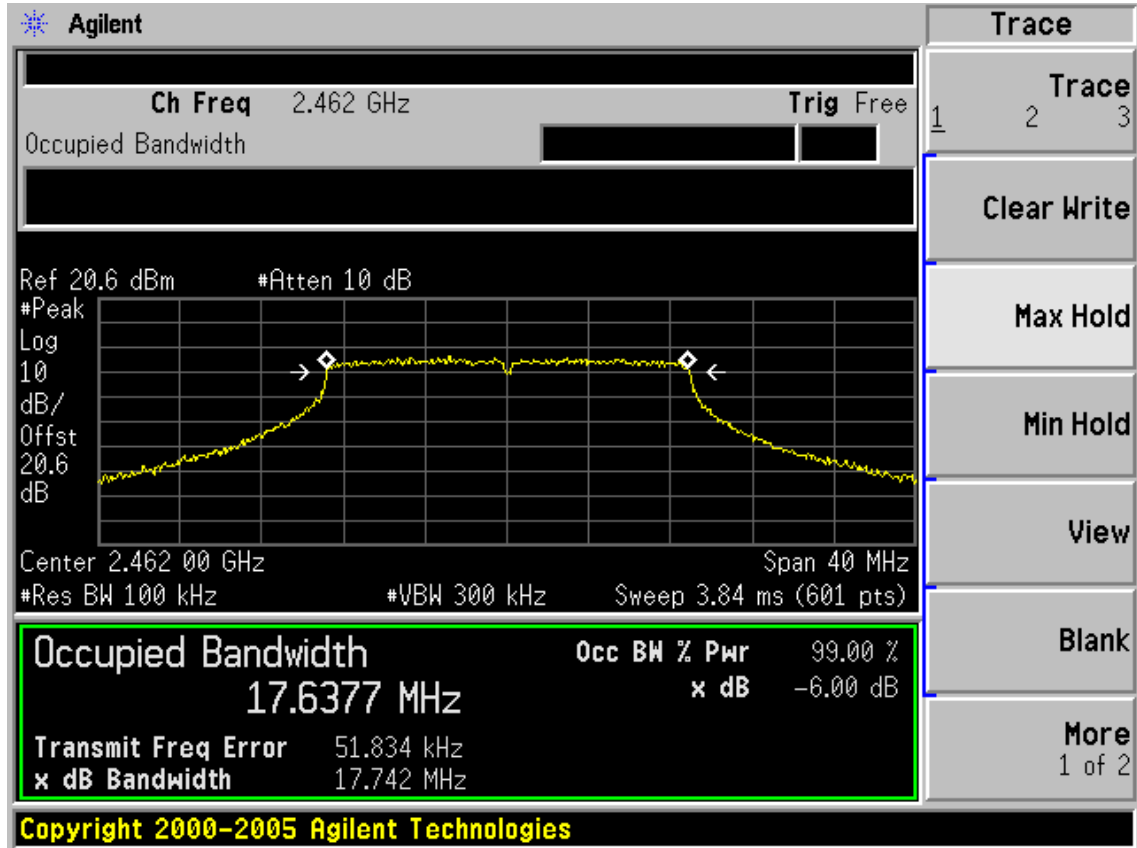
Test Mode: IEEE 802.11n HT20TX  
 Test CH1: 2412MHz



Test CH6: 2437MHz

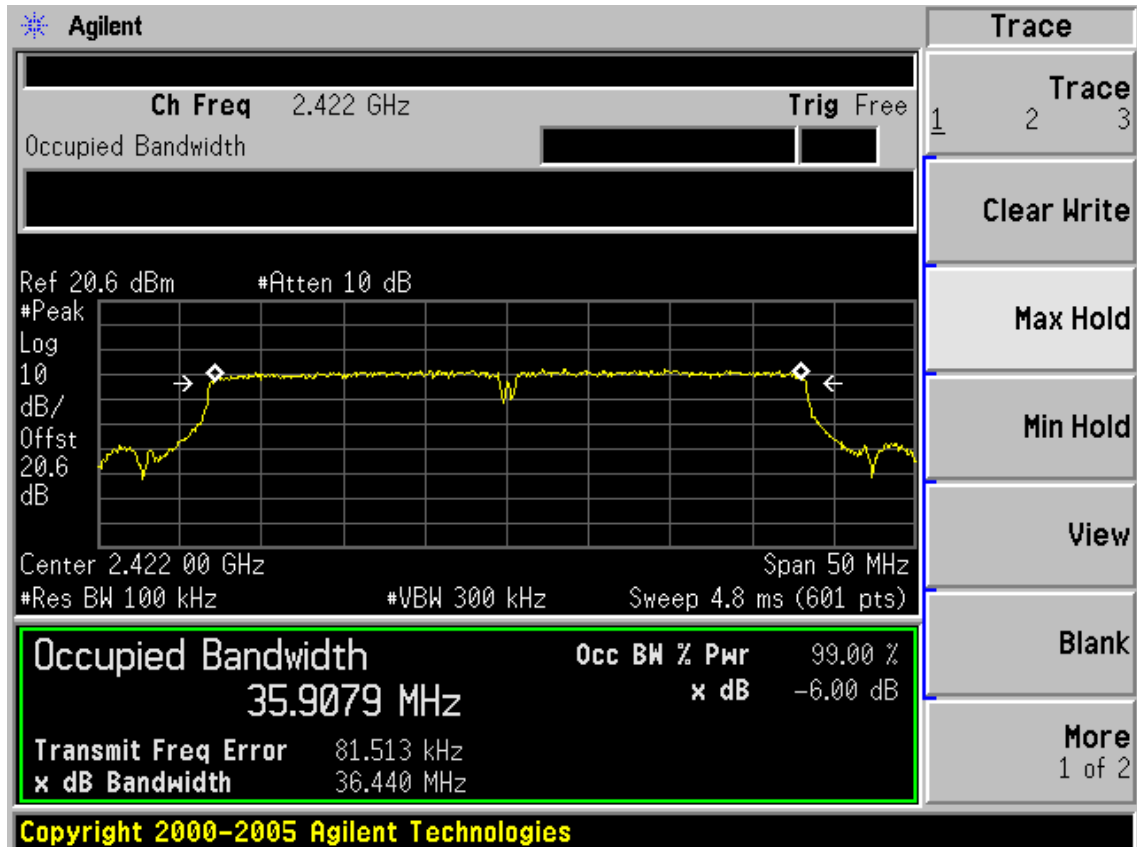


Test CH11: 2462MHz



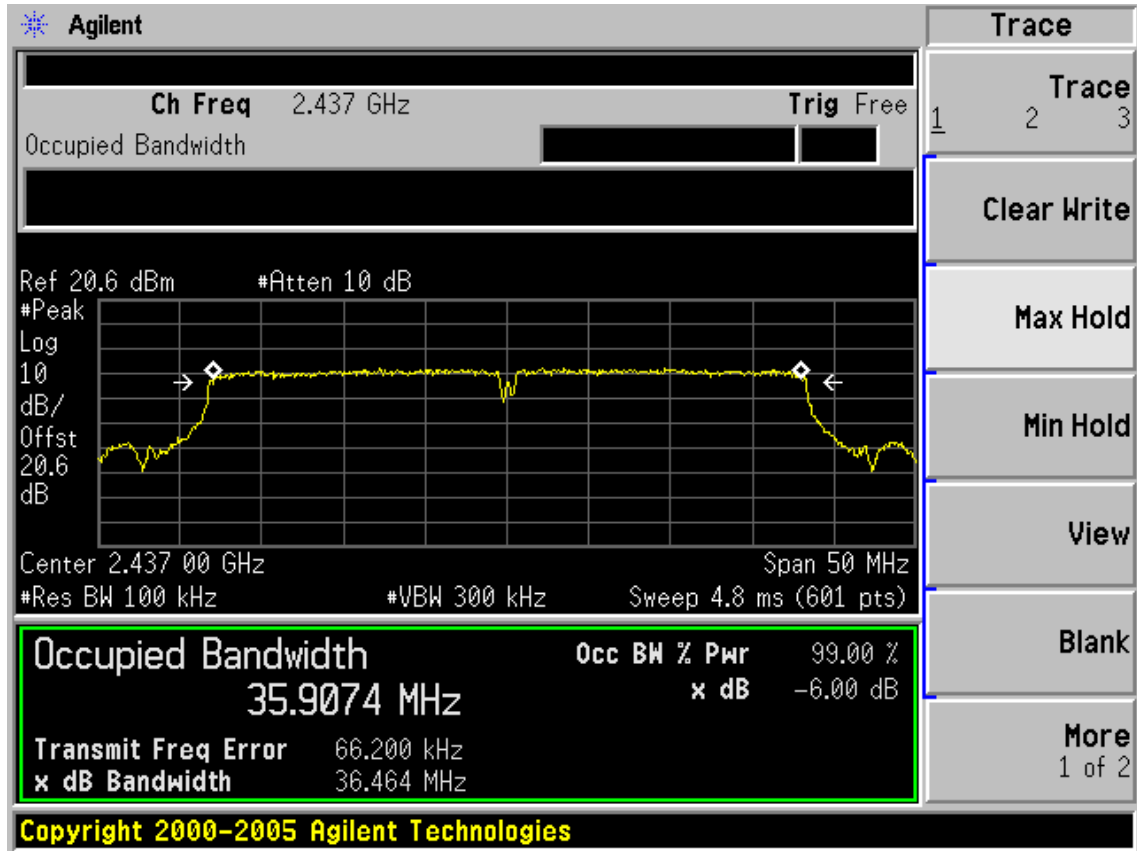
Test Mode: IEEE 802. 11n HT40TX

Test CH1: 2422MHz

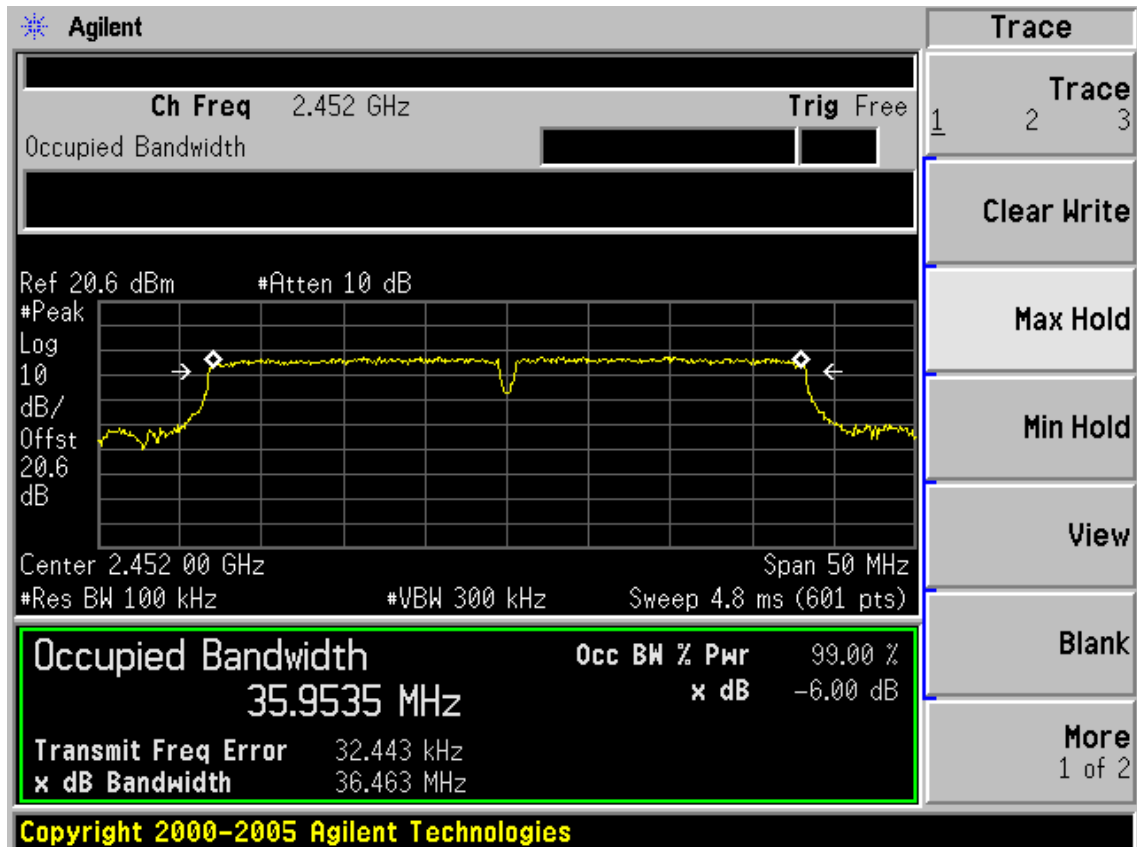




Test CH4: 2437MHz



Test CH7: 2452MHz



## 8. OUTPUT POWER TEST

### 8.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Power meter	Anritsu	ML2487A	6K00002472	May.08,10	1 Year
2.	Power sensor	Anritsu	MA2491A	0033005	May.08,10	1 Year
3	Attenuator	Agilent	8491B	MY39262165	May.08,10	1 Year
4	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08, 10	1 Year
5	RF Cable	Hubersuhner	SUCOFLEX102	28618/2	May.08,10	1 Year

### 8.2. Limit (FCC Part 15C 15.247 b(3))

For systems using digital modulation in the 2400—2483.5MHz, The Peak out put Power shall not exceed 1W(30dBm)

### 8.3. Test Procedure

- 1, Connected the EUT's antenna port to measure device by 20dB attenuator.
- 2, For IEEE 802.11b/g and IEEE802.11n HT20 mode, use a PK power meter which's bandwidth is 20MHz and above 6dB bandwidth of signal to measure out each test modes' PK output power.
- 3, For IEEE802.11n HT40 mode, because the signal's bandwidth is about 40MHz and above 20MHz bandwidth of power sensor ML2491A. So Bandwidth correction method according to ANSI C63.10 clause 6.10.2.1 part (c) was used:
  - 1) Set the RBW=3MHz and VBW =8MHz
  - 2) Turn averaging off
  - 3) Set sweep to automatic
  - 4) Set the span just large enough to capture the emission
  - 5) Use a peak detector on max hold
  - 6) Record the measured power
  - 7) Calculate Output power of EUT use the formula:

$$\text{Peak output power} = \text{measured power} + 10\log\left[\frac{(\text{6dB bandwidth of emission})}{(\text{analyzer RBW})}\right]$$

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

### 8.4. Test Results

EUT:150Mbps Mini Wireless N USB Adapter		
M/N:TL-WN723N		
Test date:2011-02-15	Pressure: 100.6 kpa	Humidity: 60 %
Tested by:Sunny-lu	Test site: RF Site	Temperature : 25 °C

Cable loss: 0.6dB		Attenuator loss: 20 dB	Antenna Gain: 0 dBi
Test Mode	CH	Peak output Power (dBm)	Limit (dBm)
11b	CH1	15.60	30
	CH6	16.22	30
	CH11	16.02	30
11g	CH1	19.62	30
	CH6	19.76	30
	CH11	19.45	30
11n HT20	CH1	21.23	30
	CH6	21.52	30
	CH11	21.46	30

Conclusion : PASS

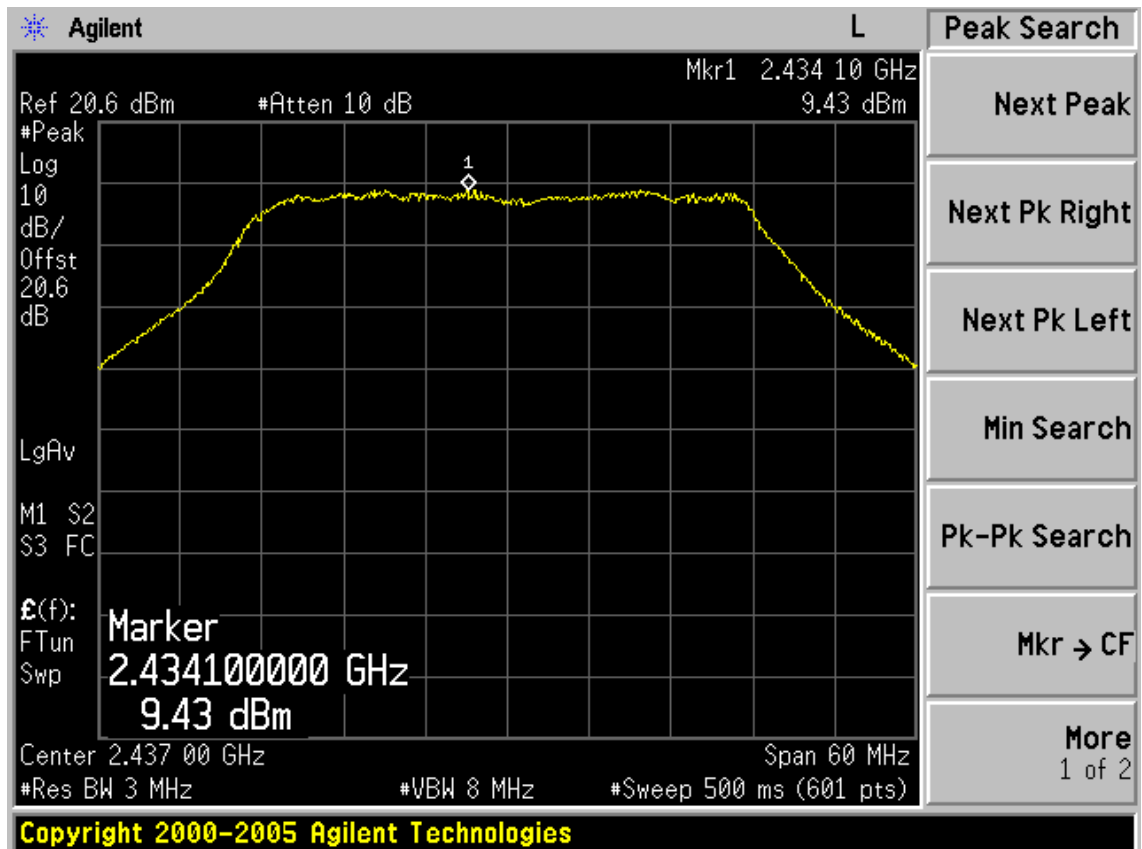
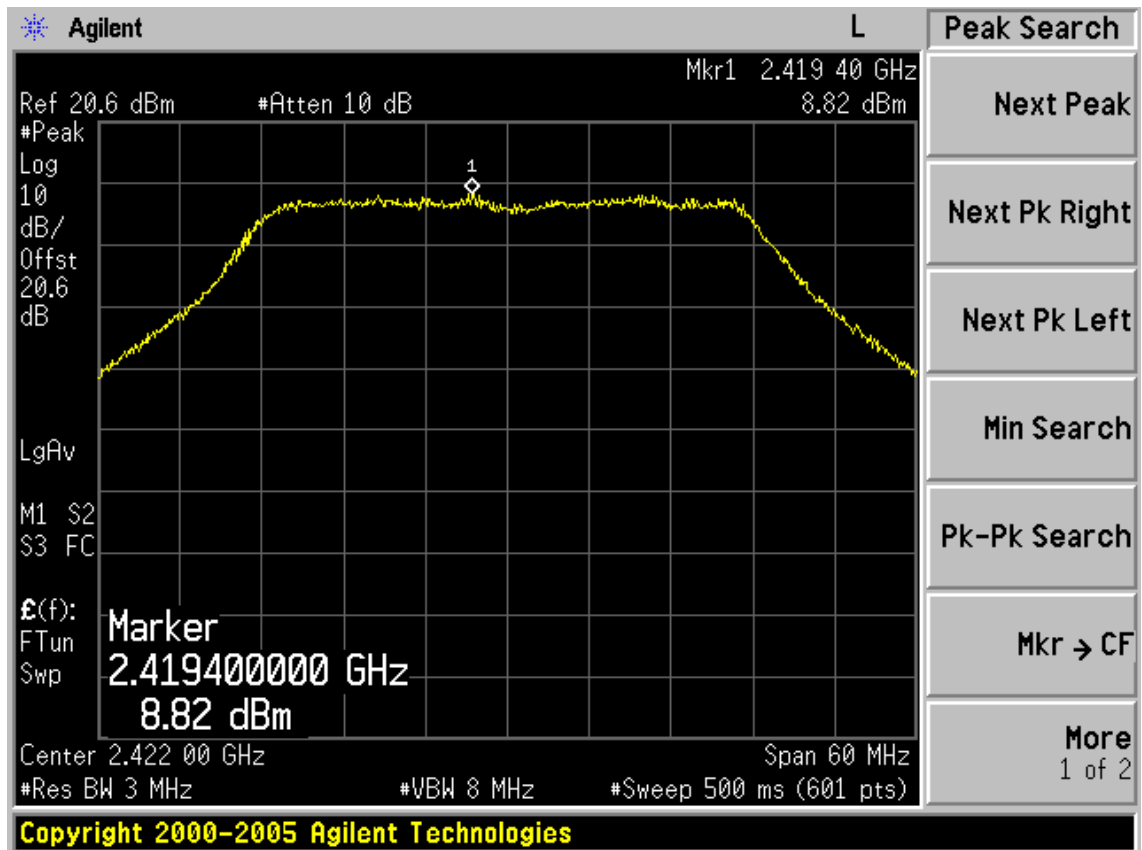
Test Mode	CH	Measured Peak output Power (dBm)/3MHz	Peak Output Power(dBm)	Limit (dBm)
11n HT40	CH1	8.82	19.67	30
	CH4	9.43	20.28	30
	CH7	9.41	20.26	30

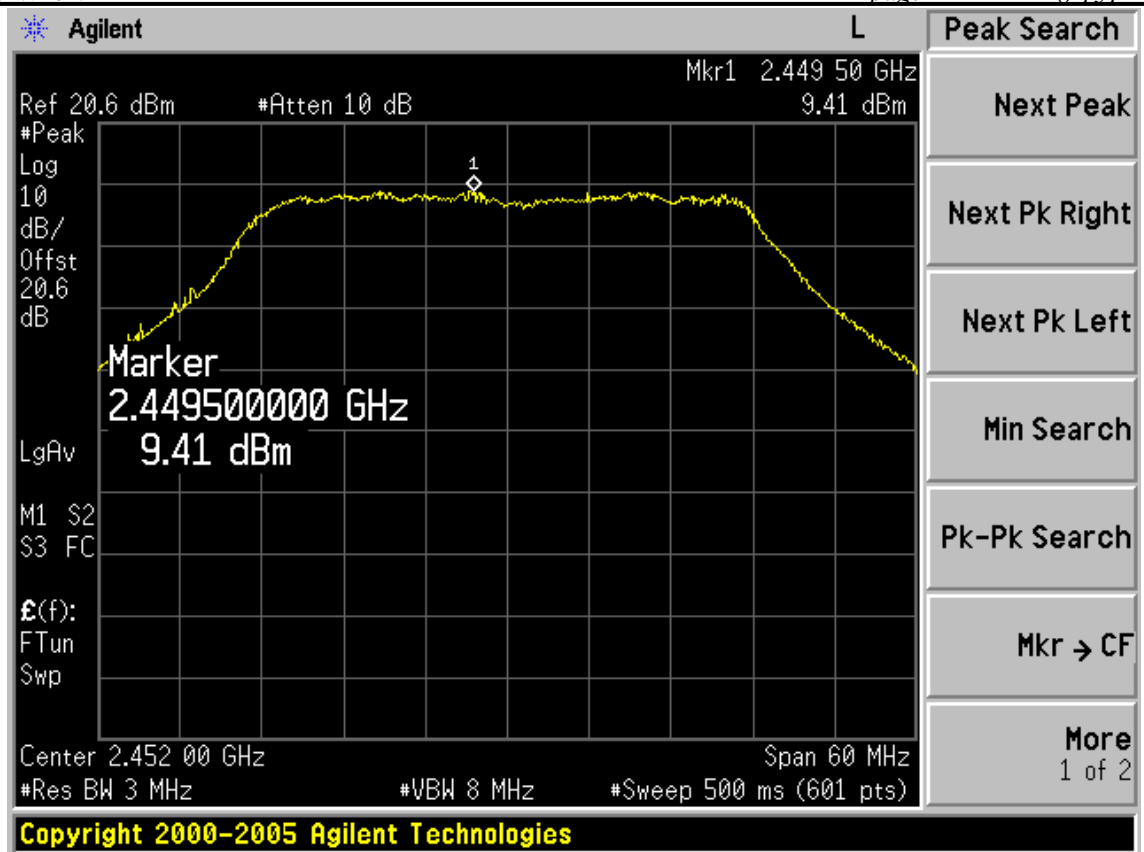
Note: 6dB bandwidth for 11n HT40 is 36.5MHz

BW correction factor =  $10\log[(36.5\text{MHz})/(3\text{MHz})] = 10.85\text{dB}$

Conclusion: PASS

Measured 11n HT40 peak output power in 3MHz:





## 9. POWER SPECTRAL DENSITY TEST

### 9.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08, 10	1 Year
2.	Attenuator	Agilent	8491B	MY39262165	May.08, 10	1 Year
3.	RF Cable	Hubersuhner	SUCOFLEX102	28618/2	May.08, 10	1Year

### 9.2. Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

### 9.3. Test Procedure

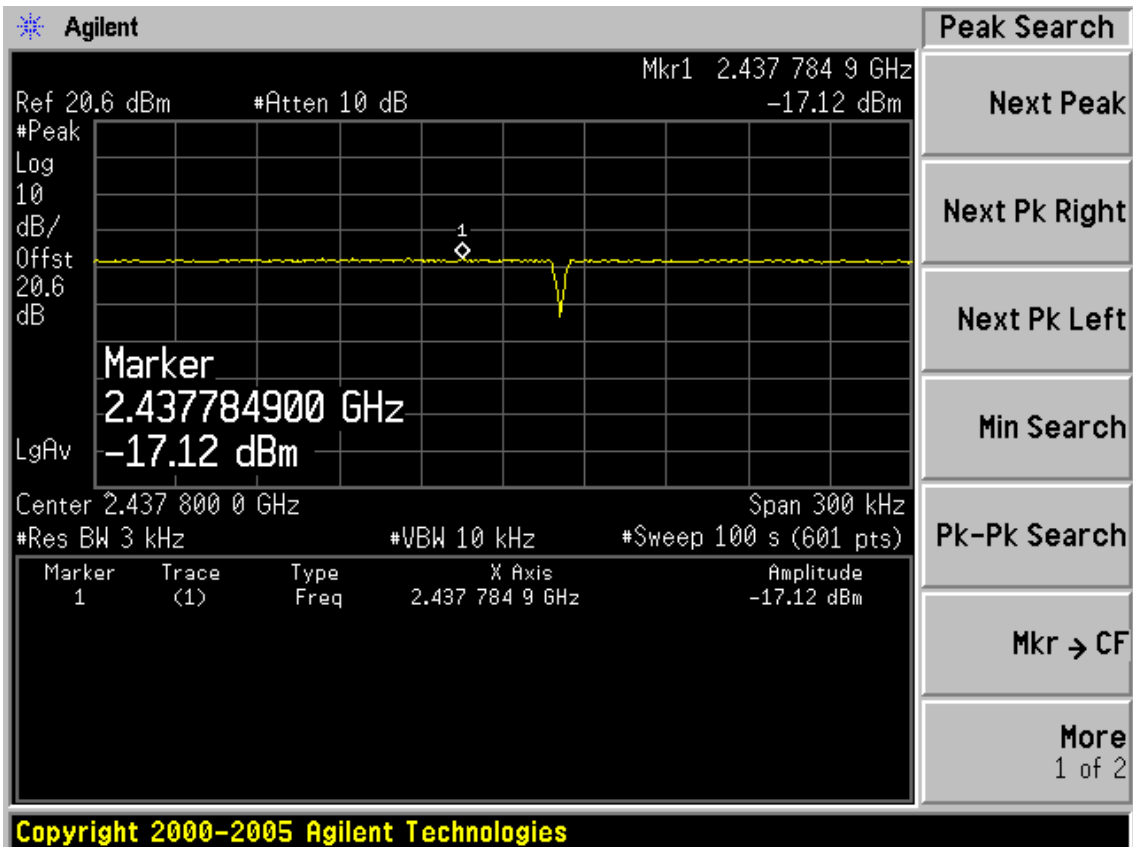
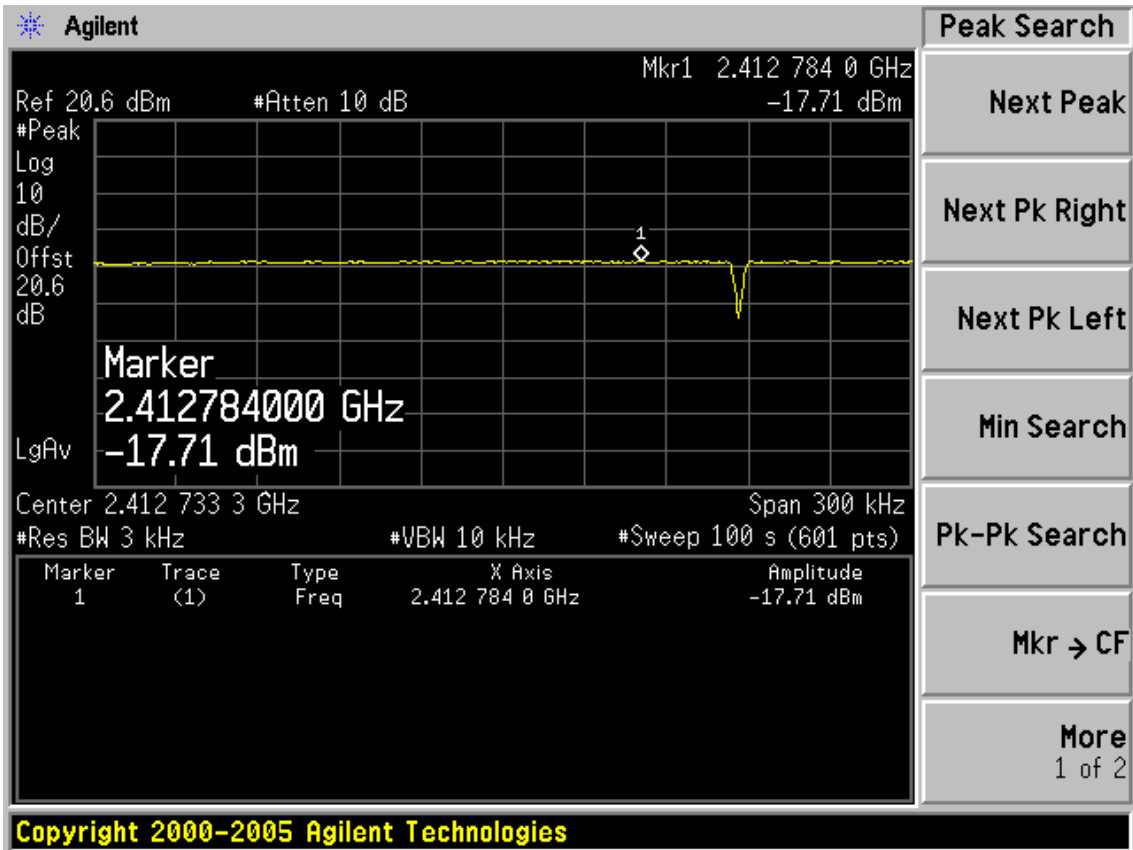
- 1, Connected the EUT's antenna port to spectrum analyzer device by 20dB attenuator.
- 2, Follow the test procedure as described in ANSI C.10: 2009 Clause 6.11.2.3 to measure out each test modes and chain's power density with 3KHz.

### 9.4. Test Results

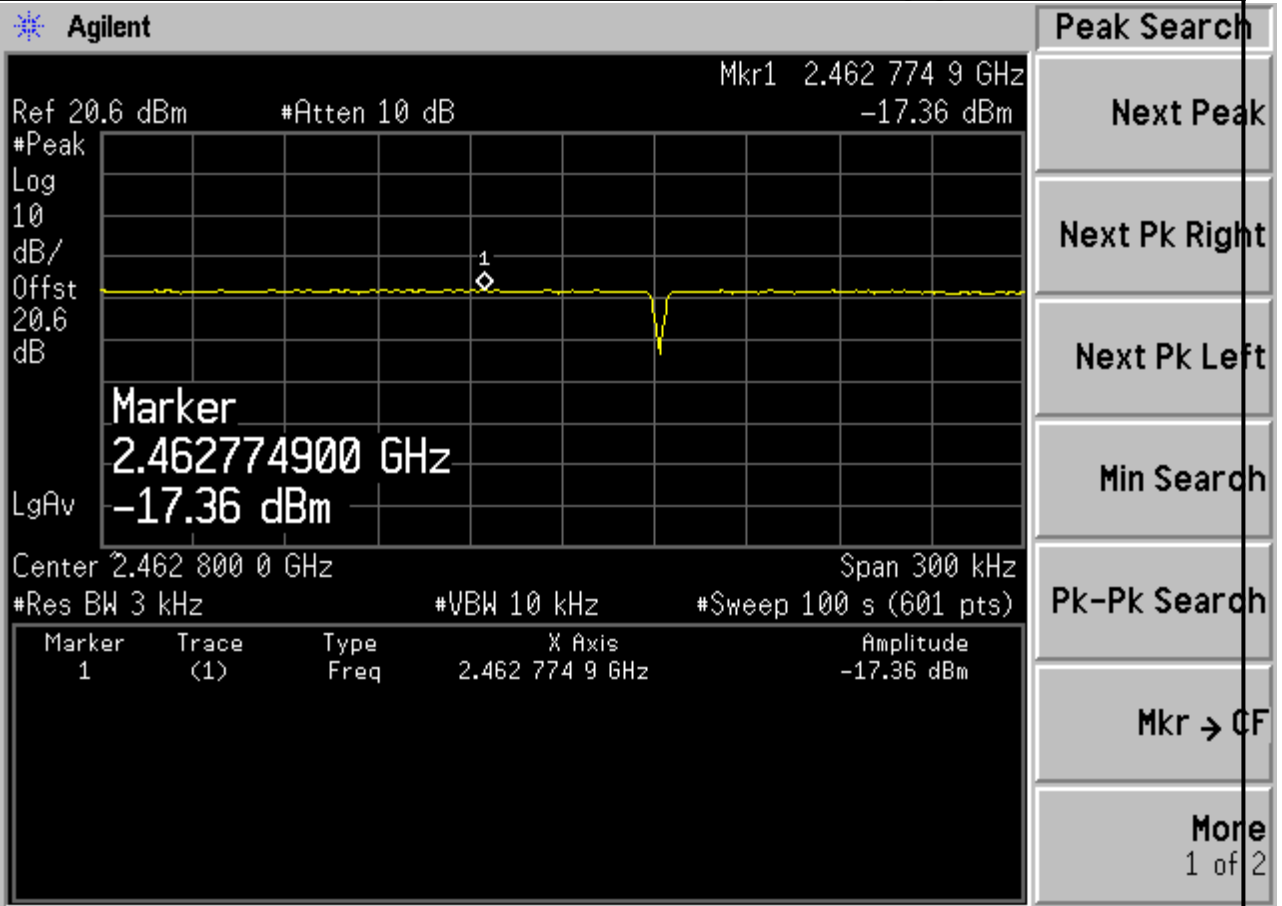
EUT:150Mbps Mini Wireless N USB Adapter		
M/N:TL-WN723N		
Test date:2011-02-15	Pressure: 100.6 kpa	Humidity: 60 %
Tested by:Sunny-lu	Test site: RF Site	Temperature : 25°C

Cable loss: 0.6 dB		Attenuator loss: 20 dB	Antenna Gain: 0 dBi
Test Mode	CH	Power density (dBm/3KHz)	Limit (dBm/3KHz)
11b	CH1	-17.71	8
	CH6	-17.12	8
	CH11	-17.36	8
11g	CH1	-16.88	8
	CH6	-16.42	8
	CH11	-16.52	8
11n HT20	CH1	-14.02	8
	CH6	-13.36	8
	CH11	-13.76	8
11n HT40	CH1	-15.65	8
	CH4	-15.47	8
	CH7	-16.14	8
Conclusion : PASS			

Test Mode: IEEE 802.11b TX

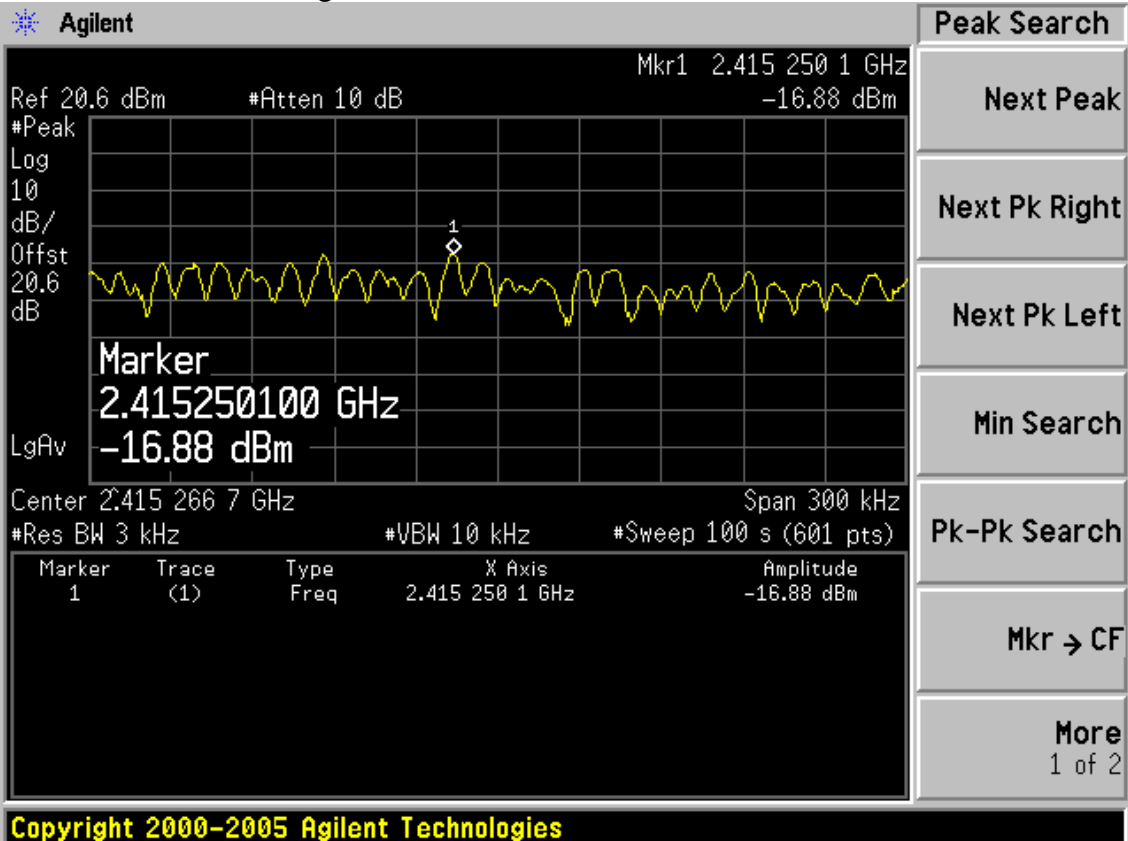




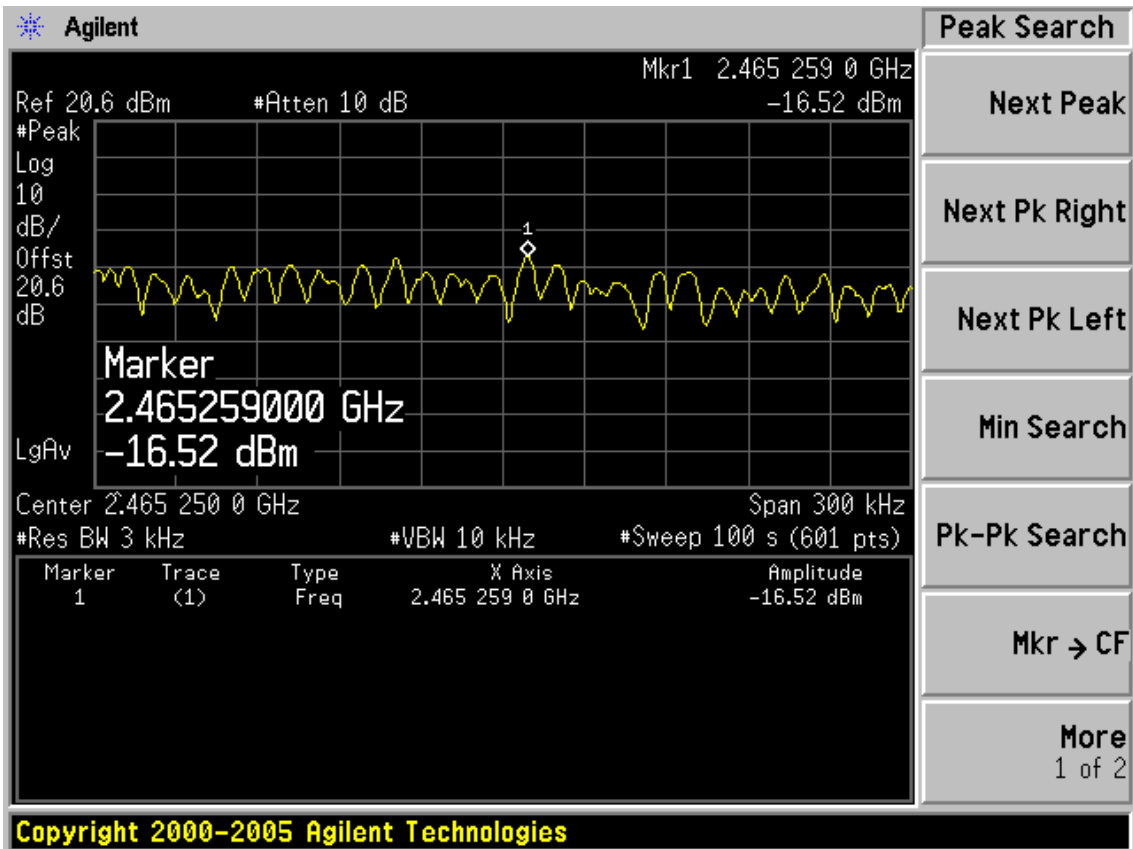
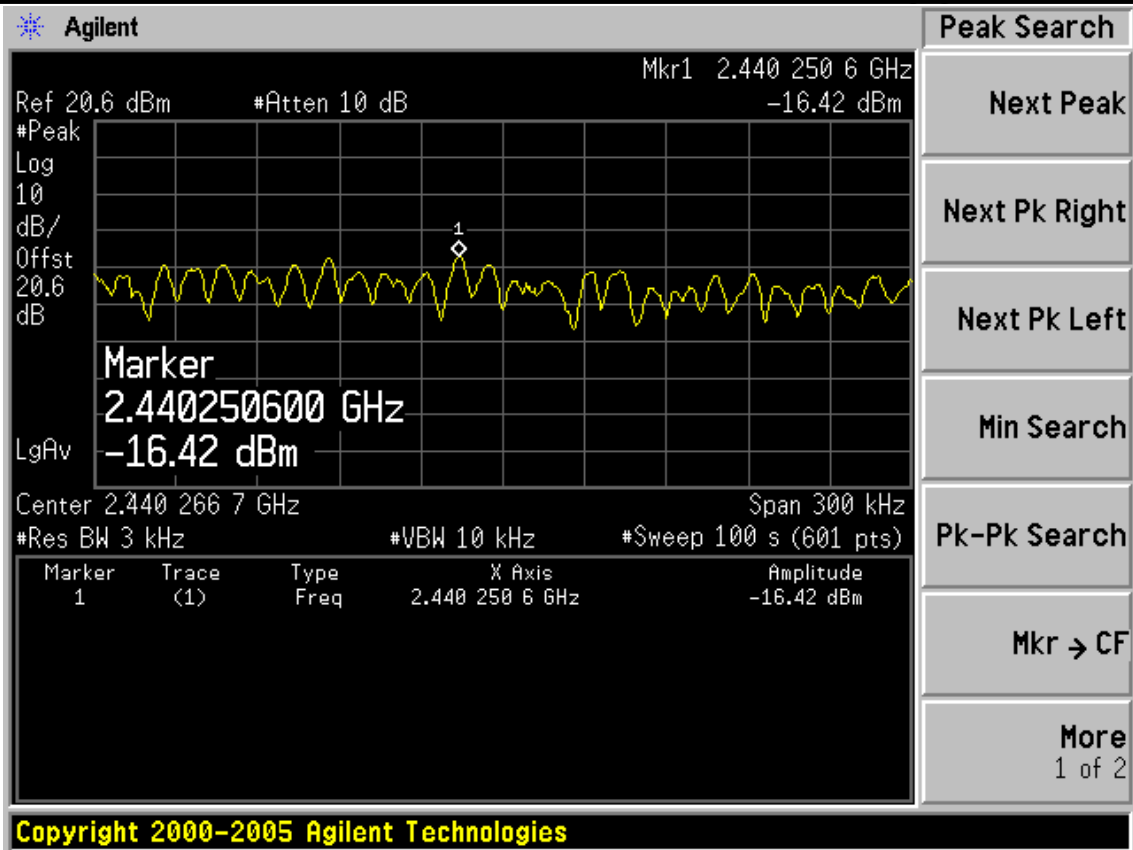


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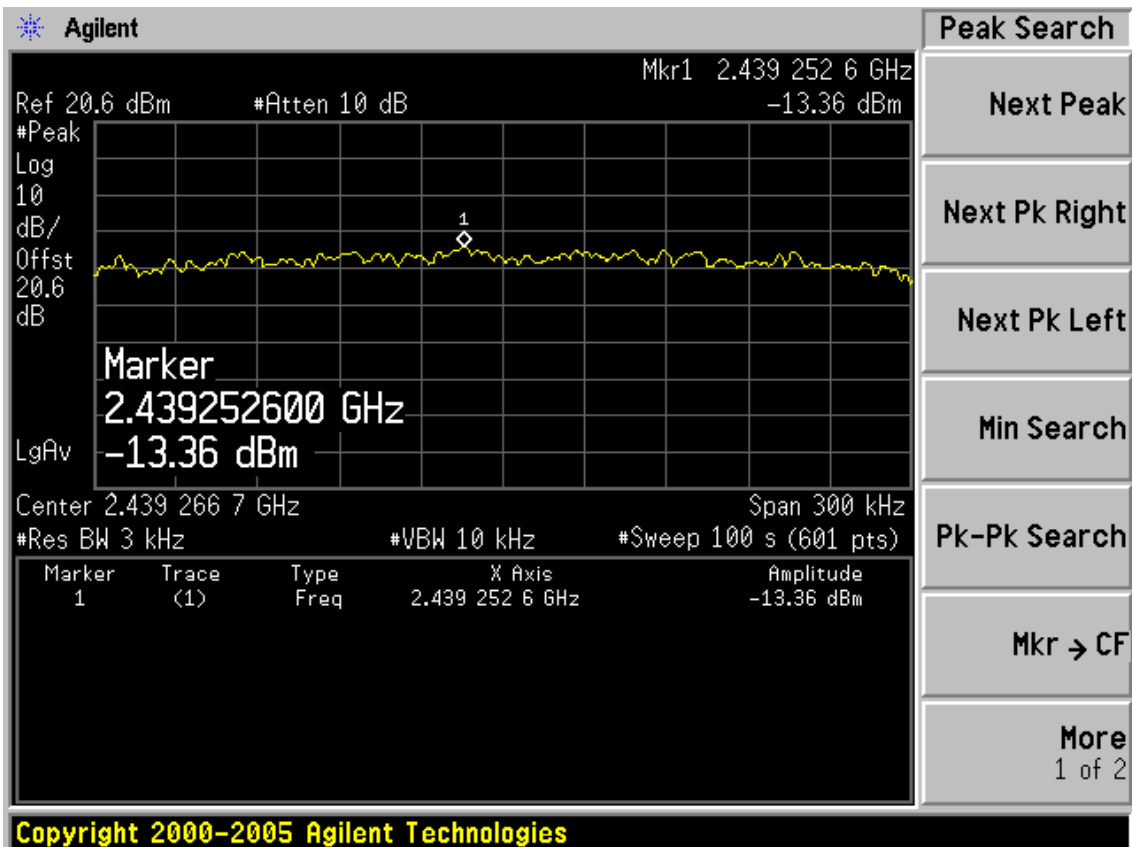
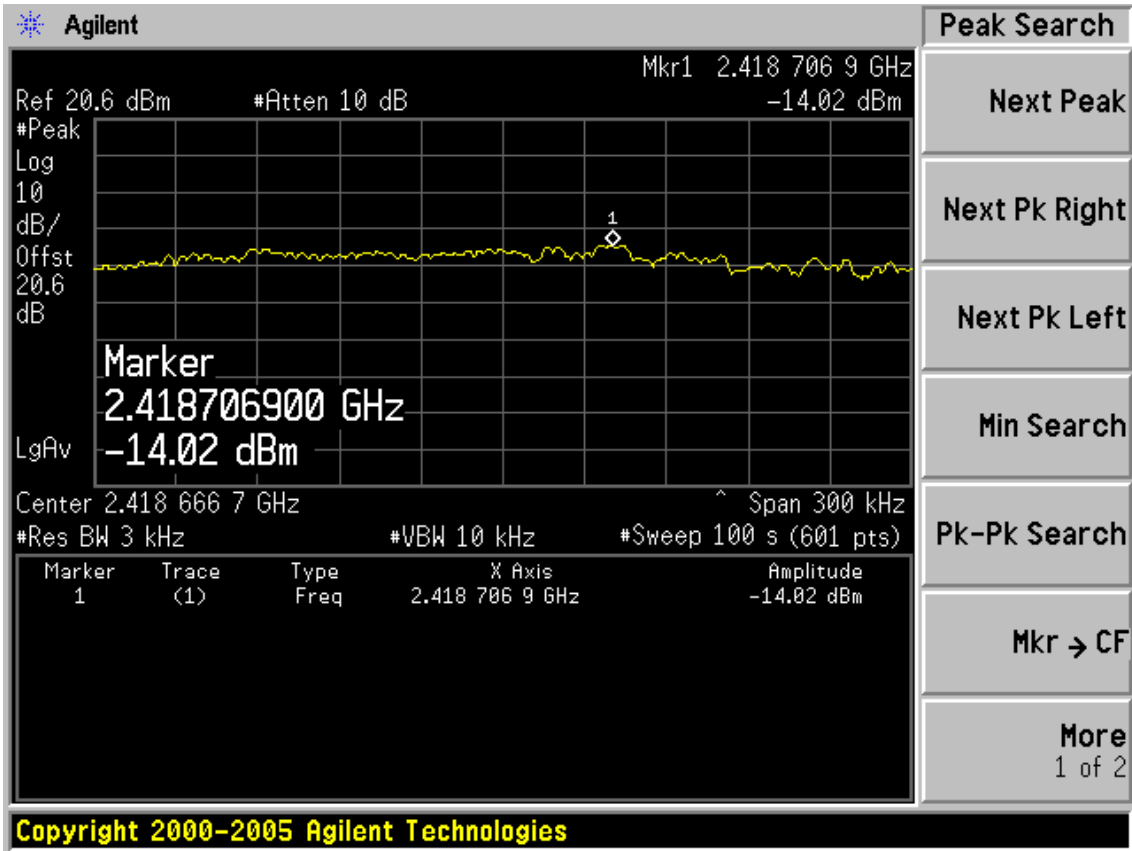
Test Mode: IEEE 802.11g TX

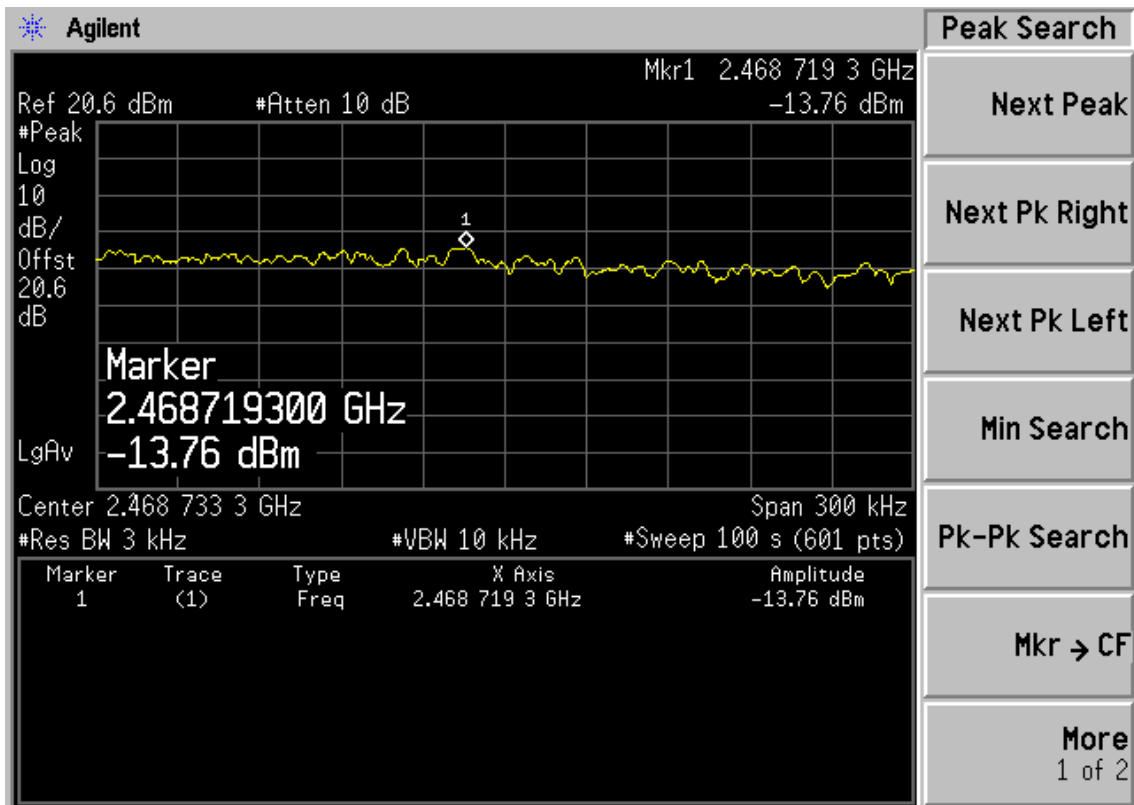


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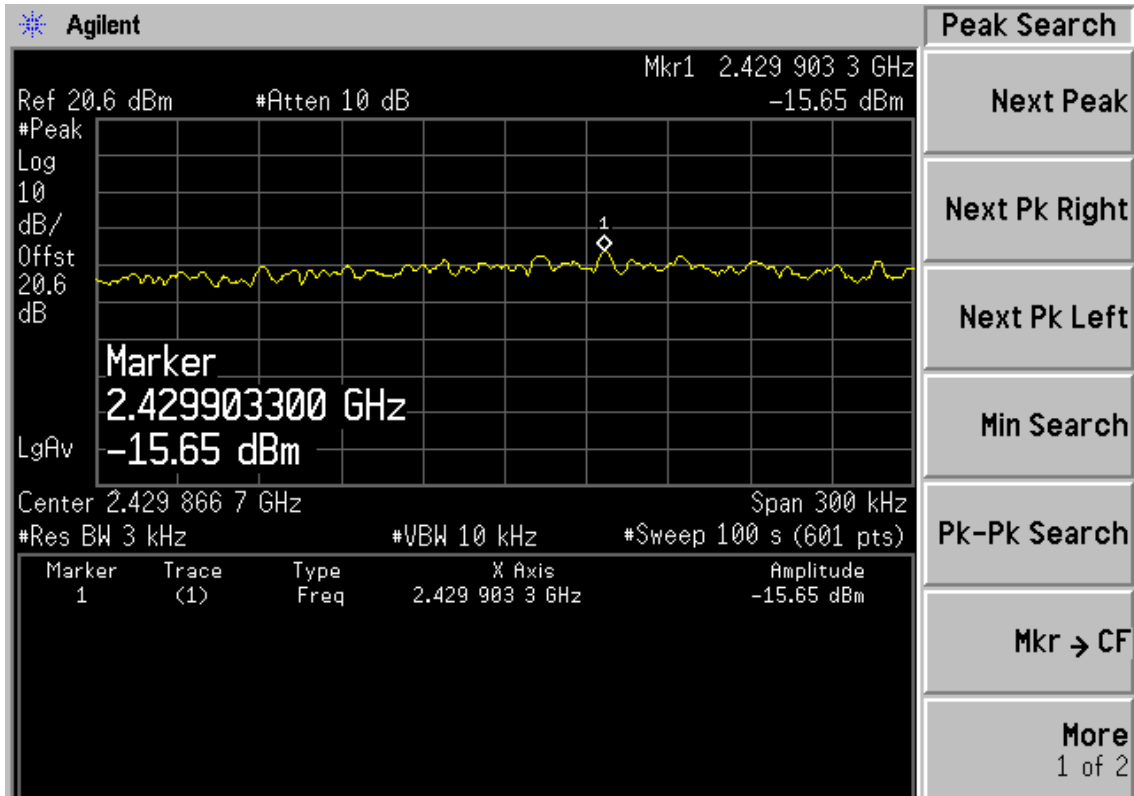
Test Mode: IEEE 802.11n HT20 TX



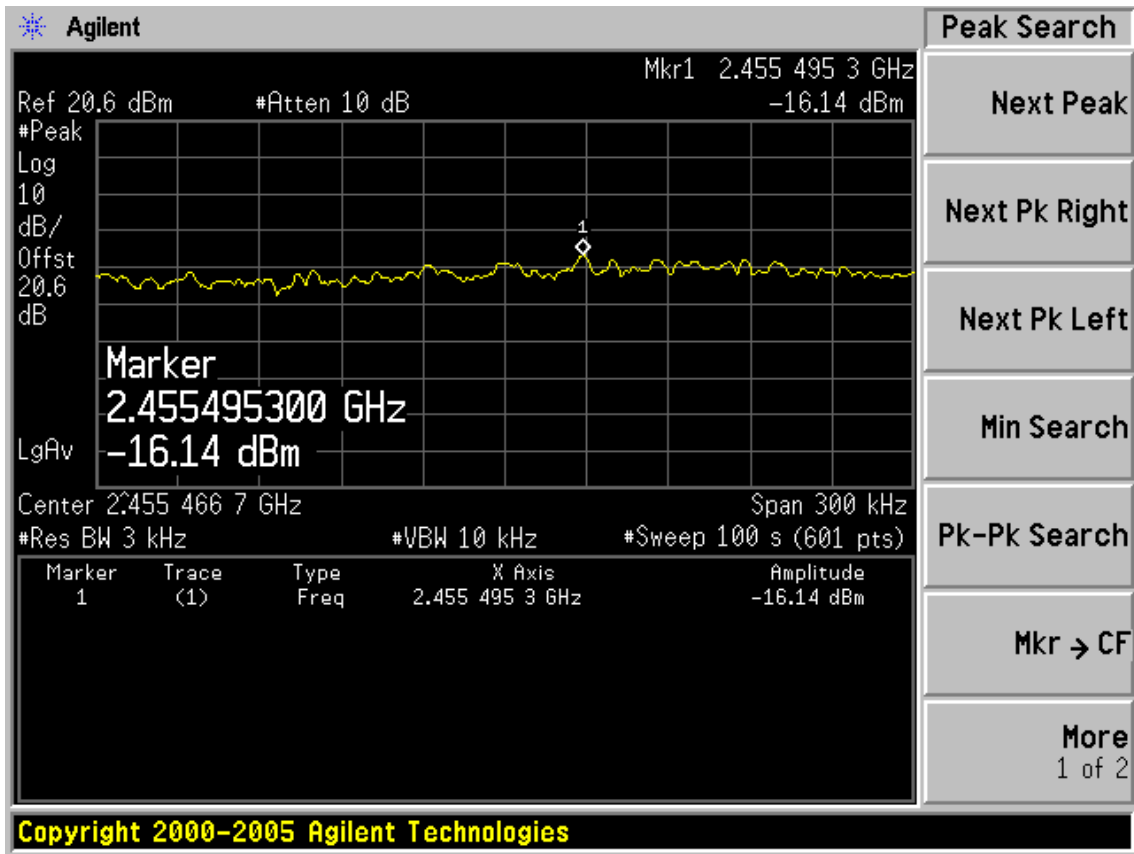
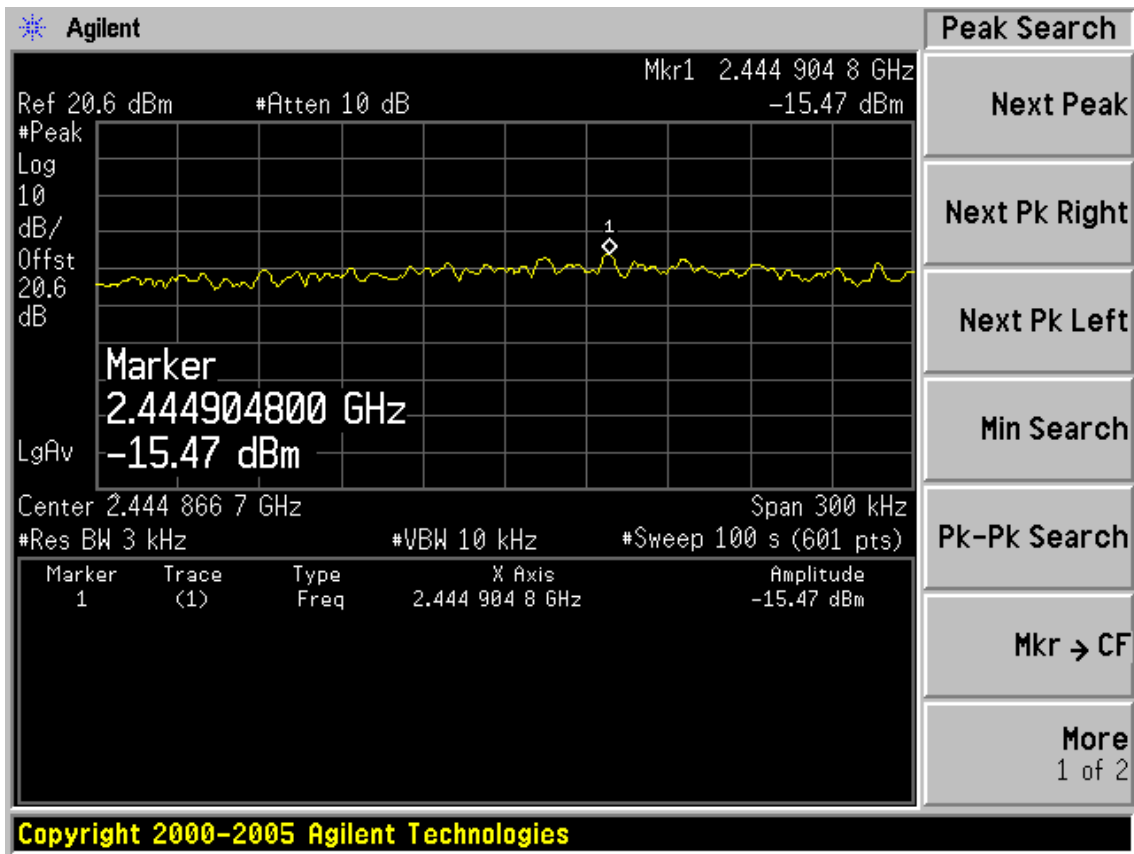


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Test Mode: IEEE 802. 11n HT40 TX



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## **10. ANTENNA REQUIREMENT**

### **10.1. 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 15.247 (b), 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.

### **10.2. ANTENNA CONNECTED CONSTRUCTION**

The antennas used for this product is integrated PCB 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 0dBi.

## 11.DEVIATION TO TEST SPECIFICATIONS

[ NONE ]