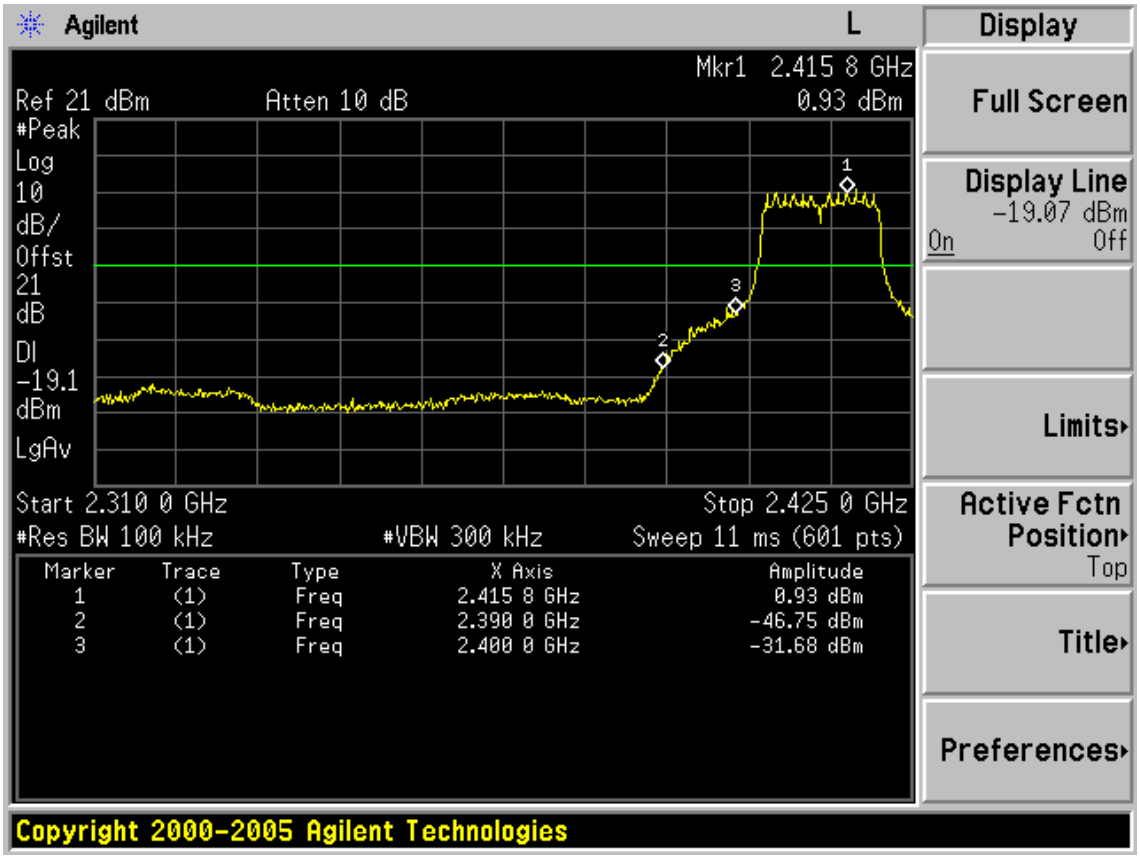
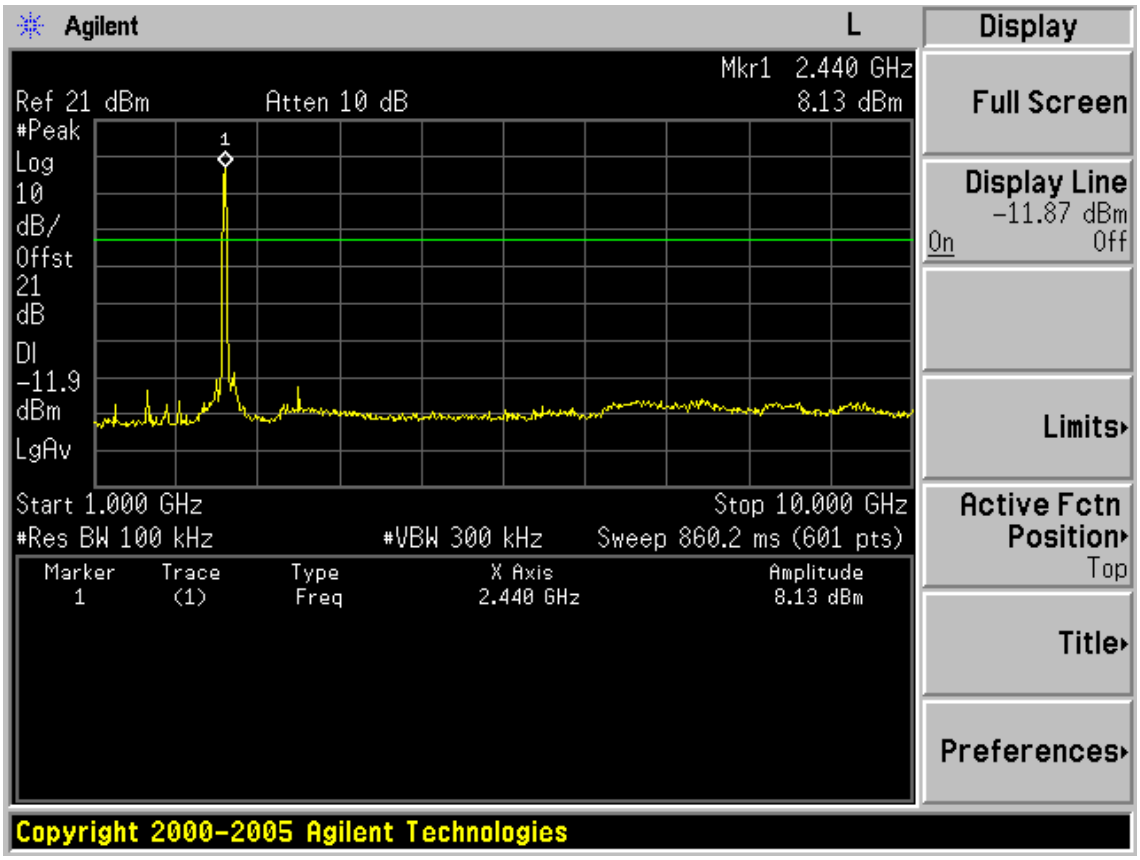
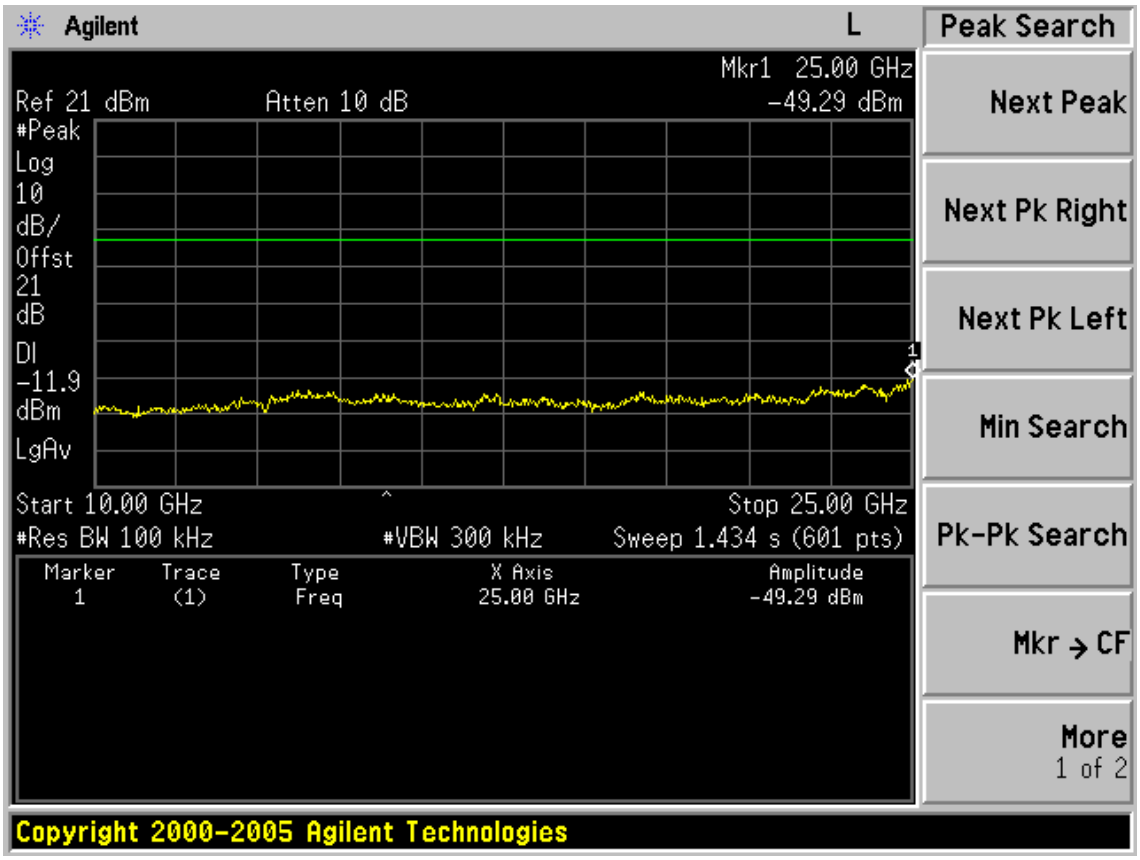
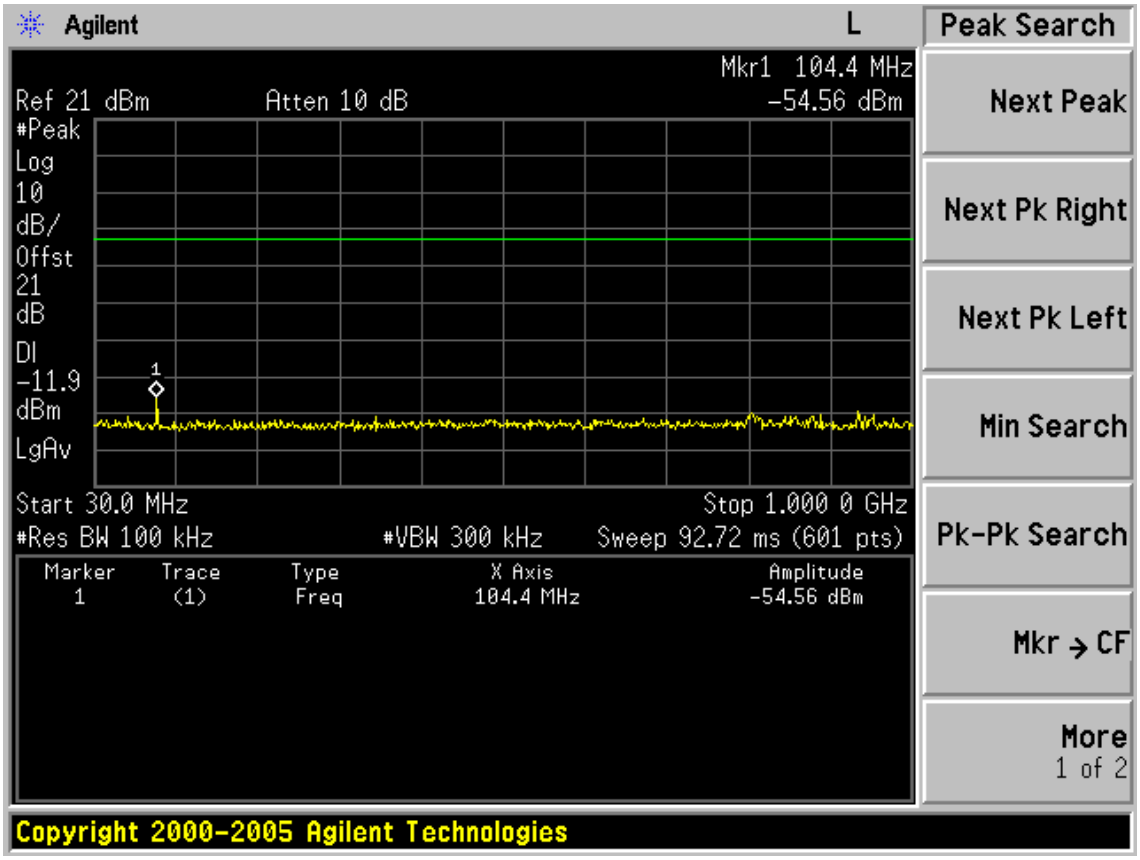


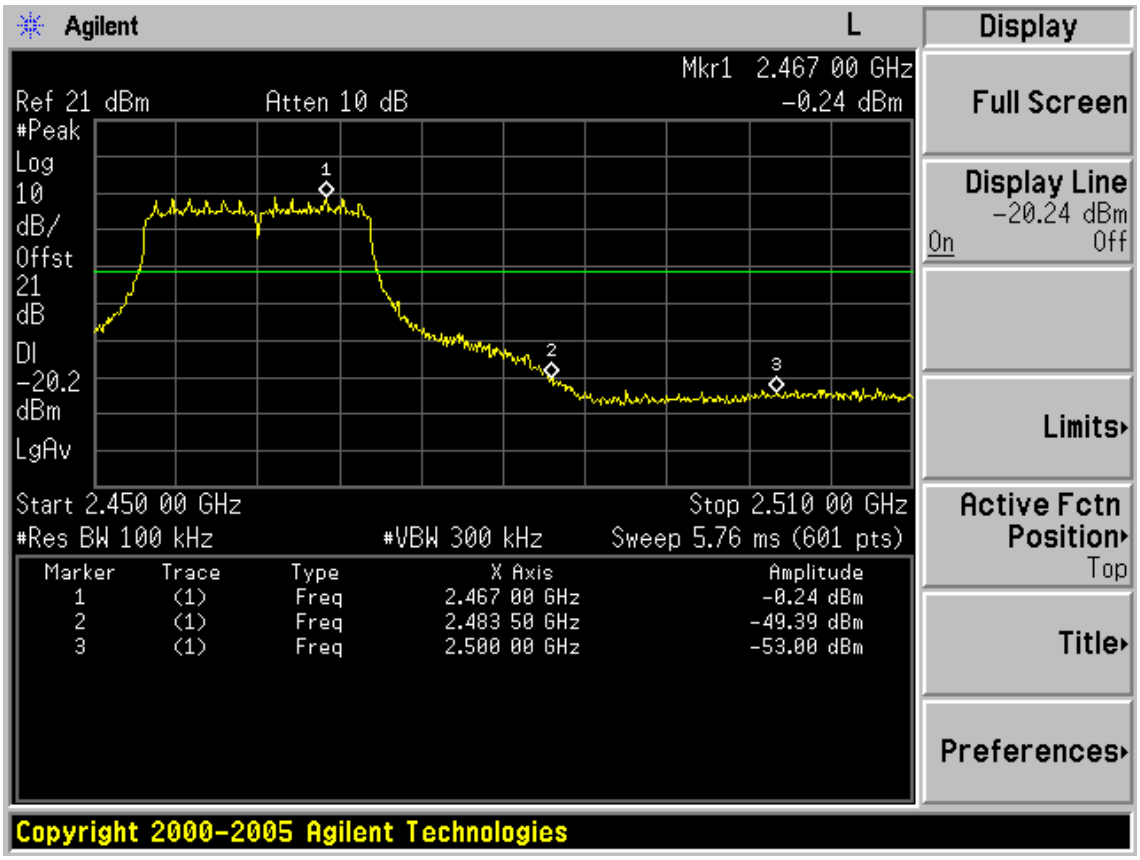
Test CH6: 2437MHz

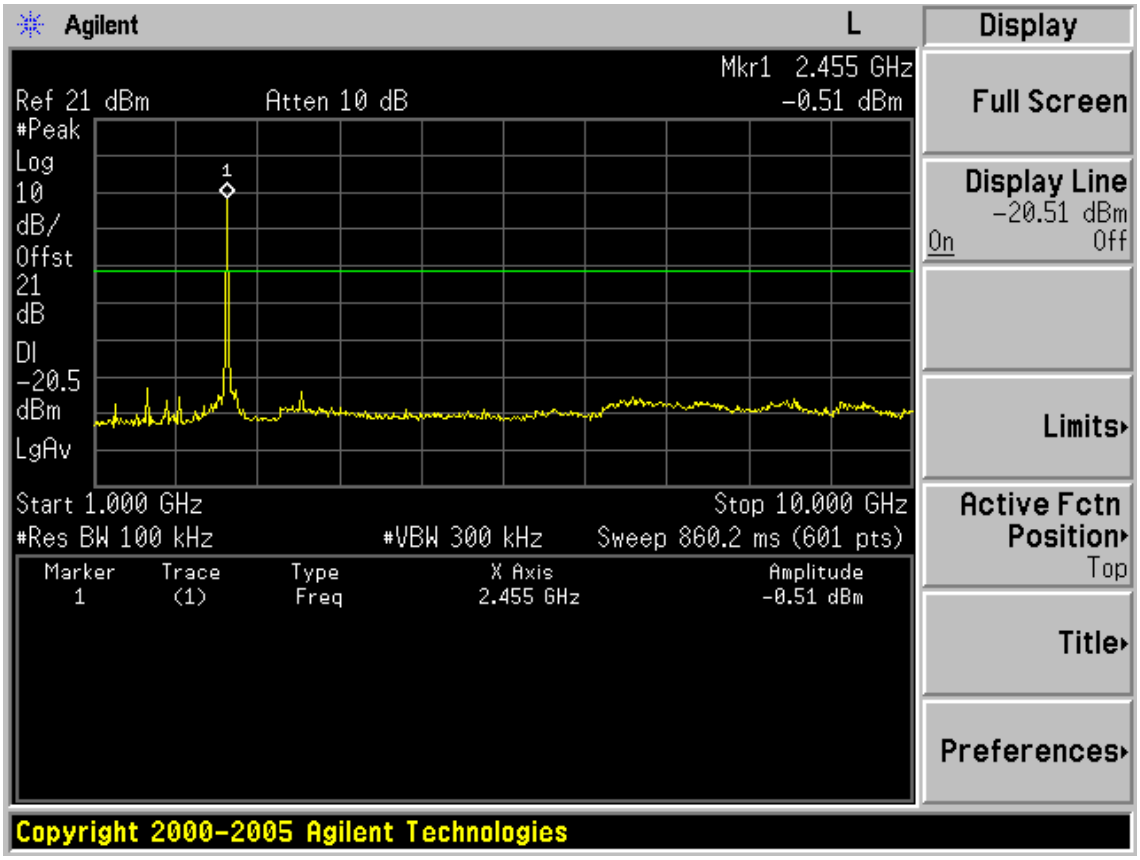


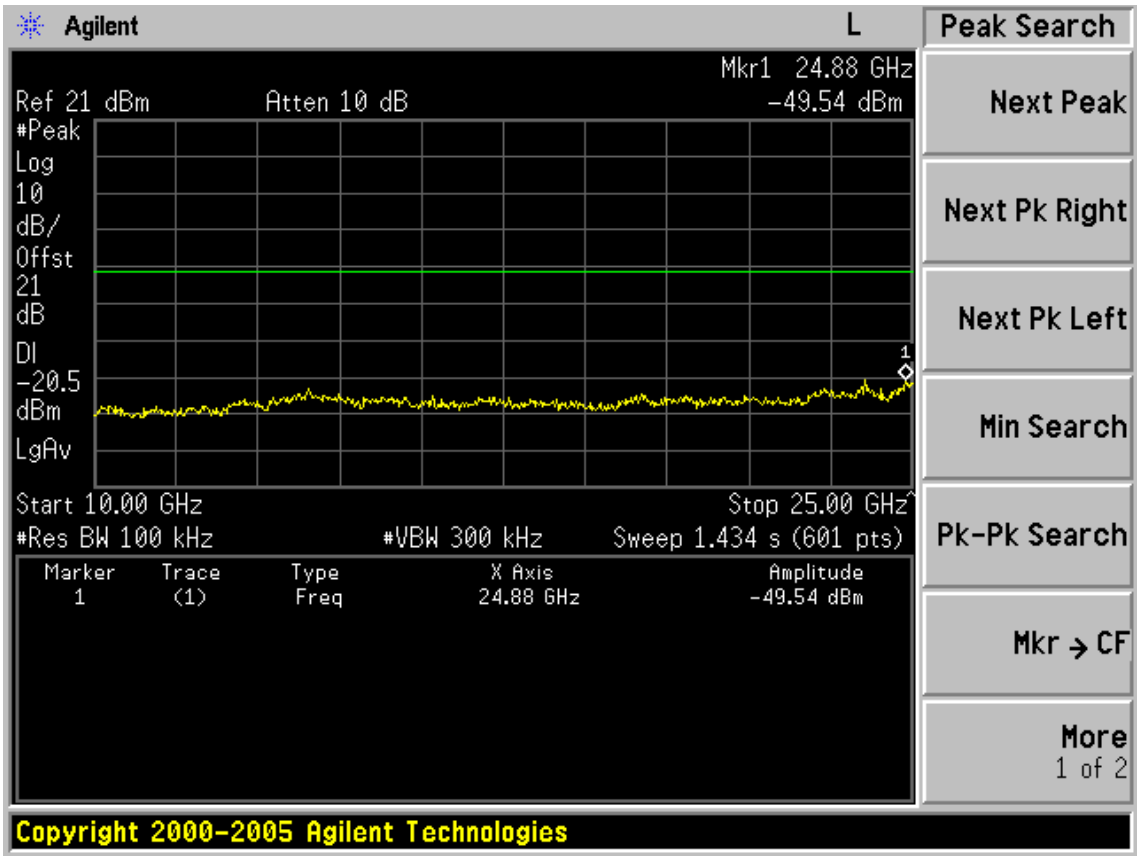

Agilent
L
Peak Search
Mkr1 25.00 GHz
Ref 21 dBm
Atten 10 dB
-49.29 dBm
#Peak
Log
10
dB/
Offst
21
dB
Dl
-11.9
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 10.00 GHz
Stop 25.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 1.434 s (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 25.00 GHz -49.29 dBm
Copyright 2000-2005 Agilent Technologies

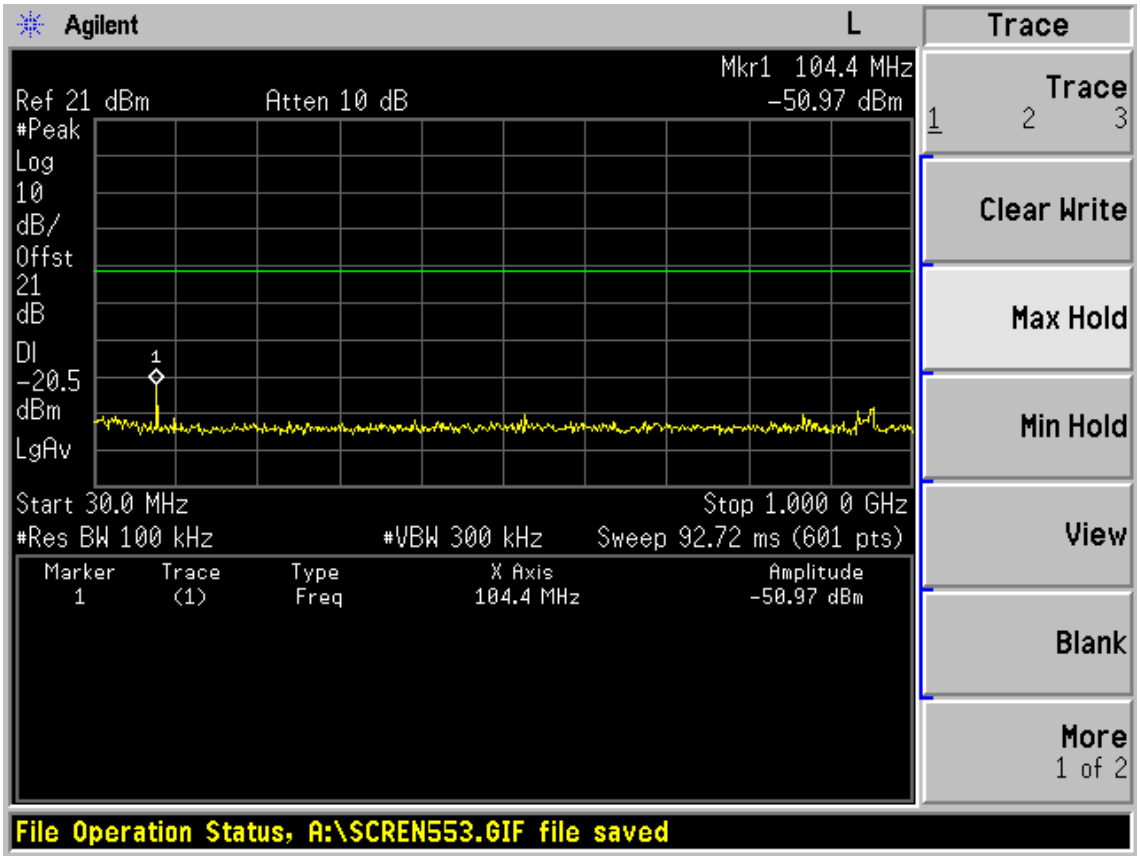

Agilent
L
Peak Search
Mkr1 104.4 MHz
Ref 21 dBm
Atten 10 dB
-54.56 dBm
#Peak
Log
10
dB/
Offst
21
dB
Dl
-11.9
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 92.72 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 104.4 MHz -54.56 dBm
Copyright 2000-2005 Agilent Technologies

Test CH11: 2462MHz

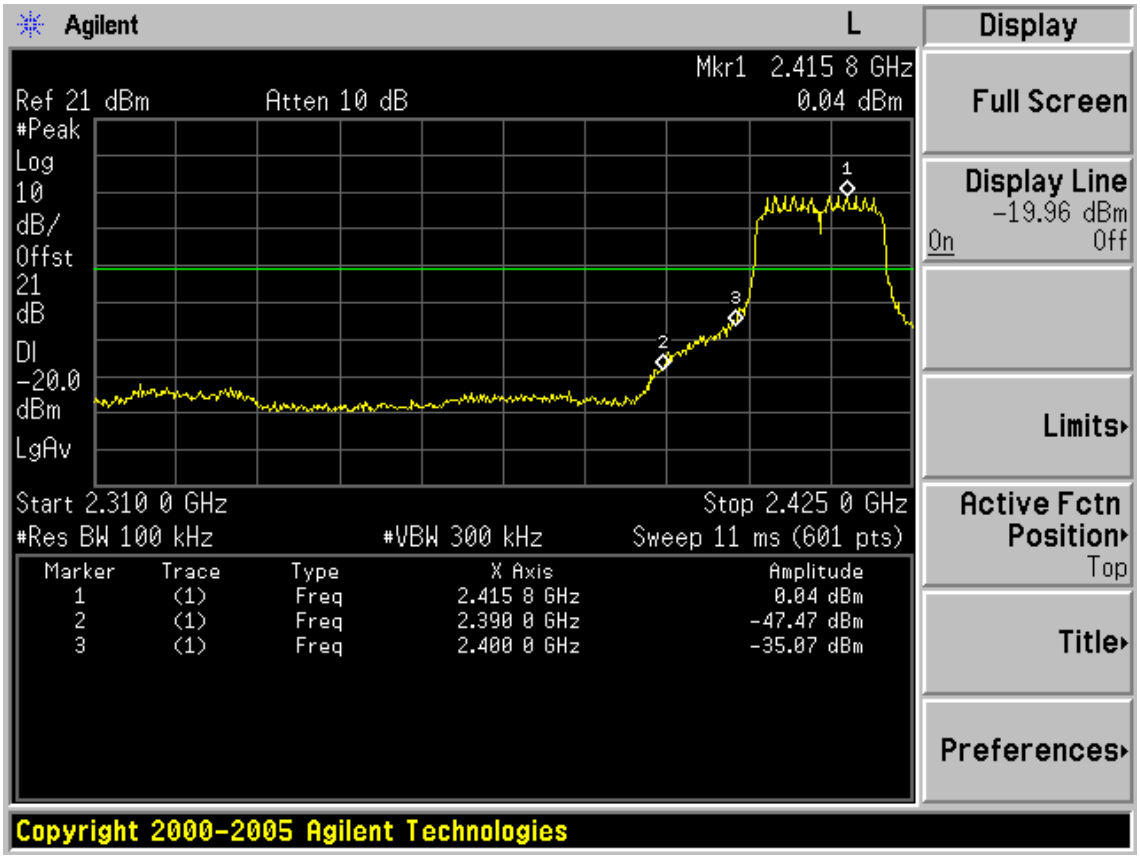


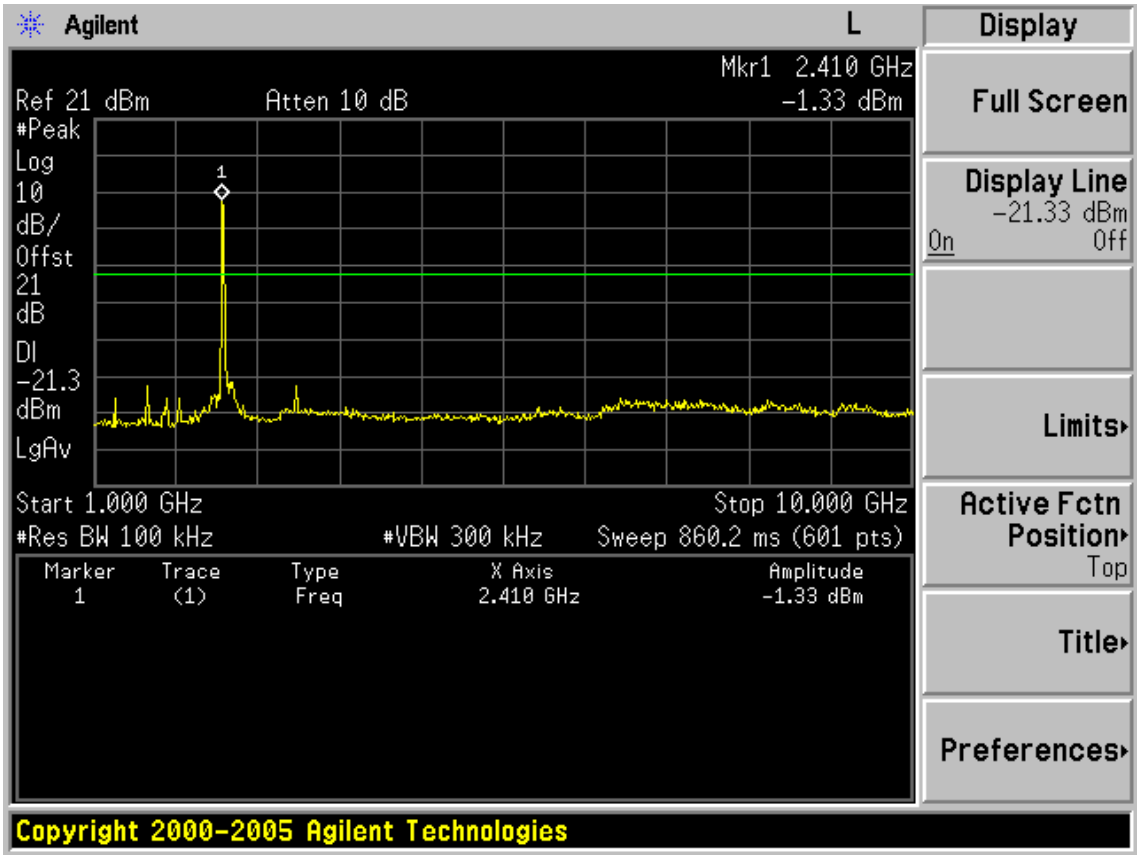


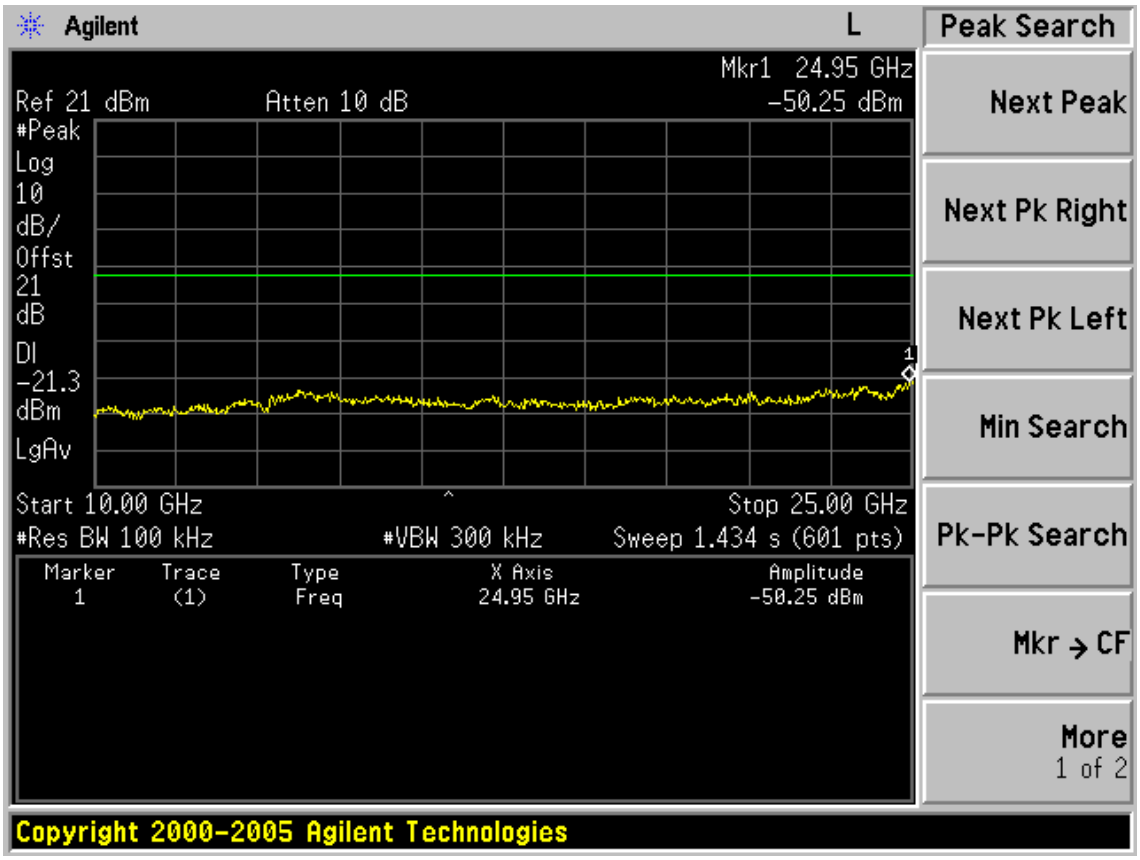

Agilent
L
Peak Search
Mkr1 24.88 GHz
Ref 21 dBm
Atten 10 dB
-49.54 dBm
#Peak
Log
10
dB/
Offst
21
dB
Dl
-20.5
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 10.00 GHz
Stop 25.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 1.434 s (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.88 GHz -49.54 dBm
Copyright 2000-2005 Agilent Technologies

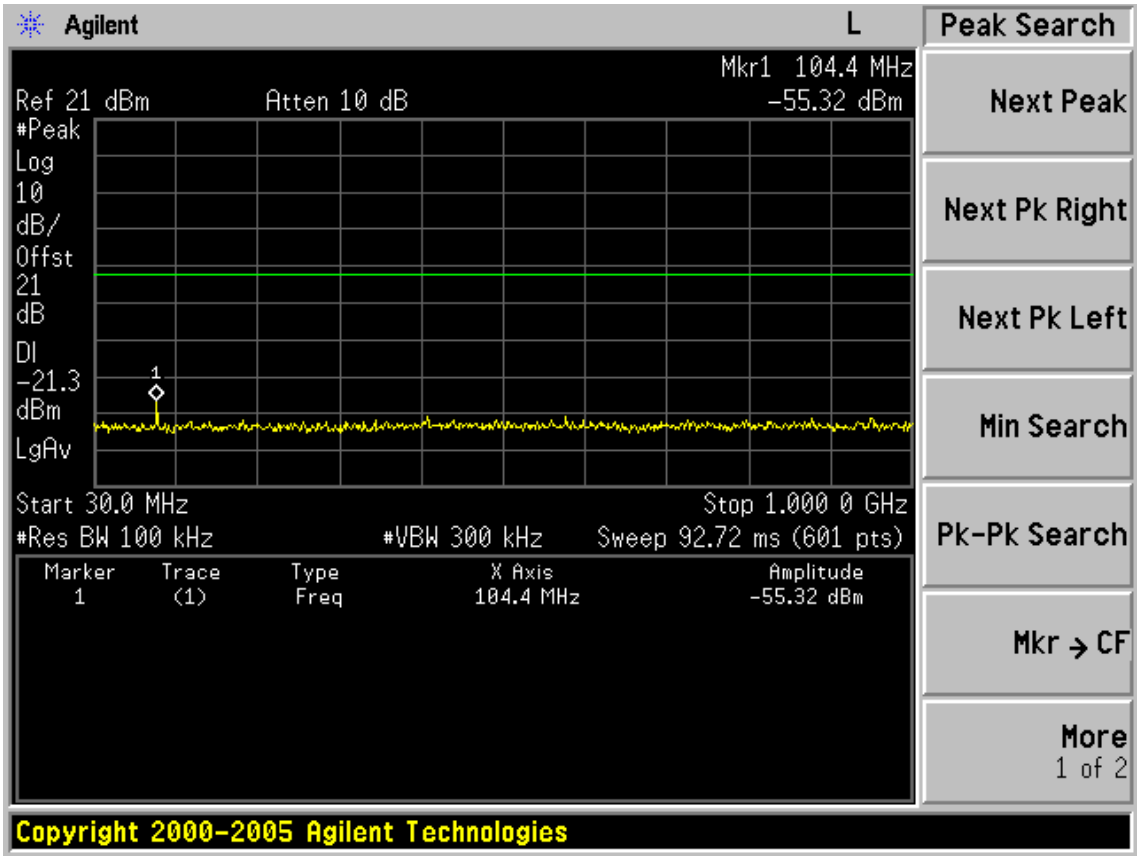

Agilent
L
Trace
Mkr1 104.4 MHz
Ref 21 dBm
Atten 10 dB
-50.97 dBm
#Peak
Log
10
dB/
Offst
21
dB
Dl
-20.5
dBm
LgAv
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 92.72 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 104.4 MHz -50.97 dBm
File Operation Status, A:\SCREN553.GIF file saved

Test Mode: IEEE 802.11n HT20 TX
Test CH1: 2412MHz

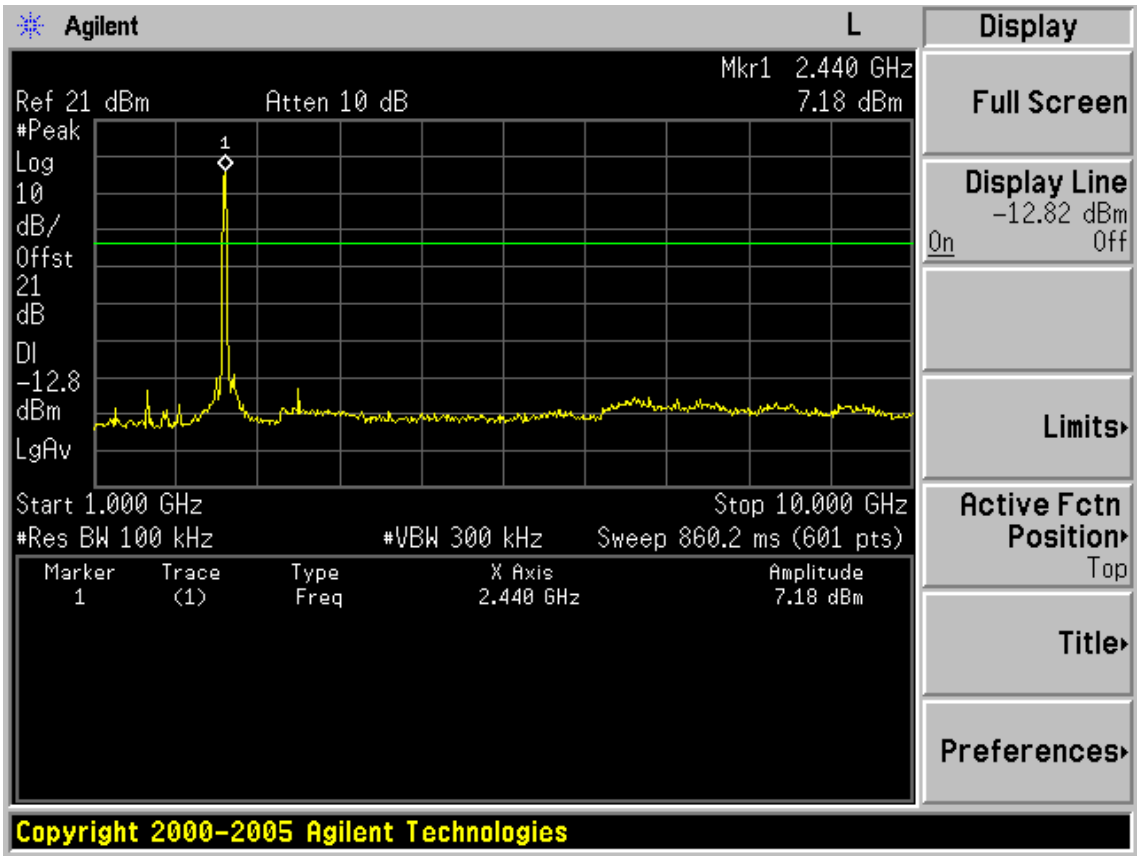


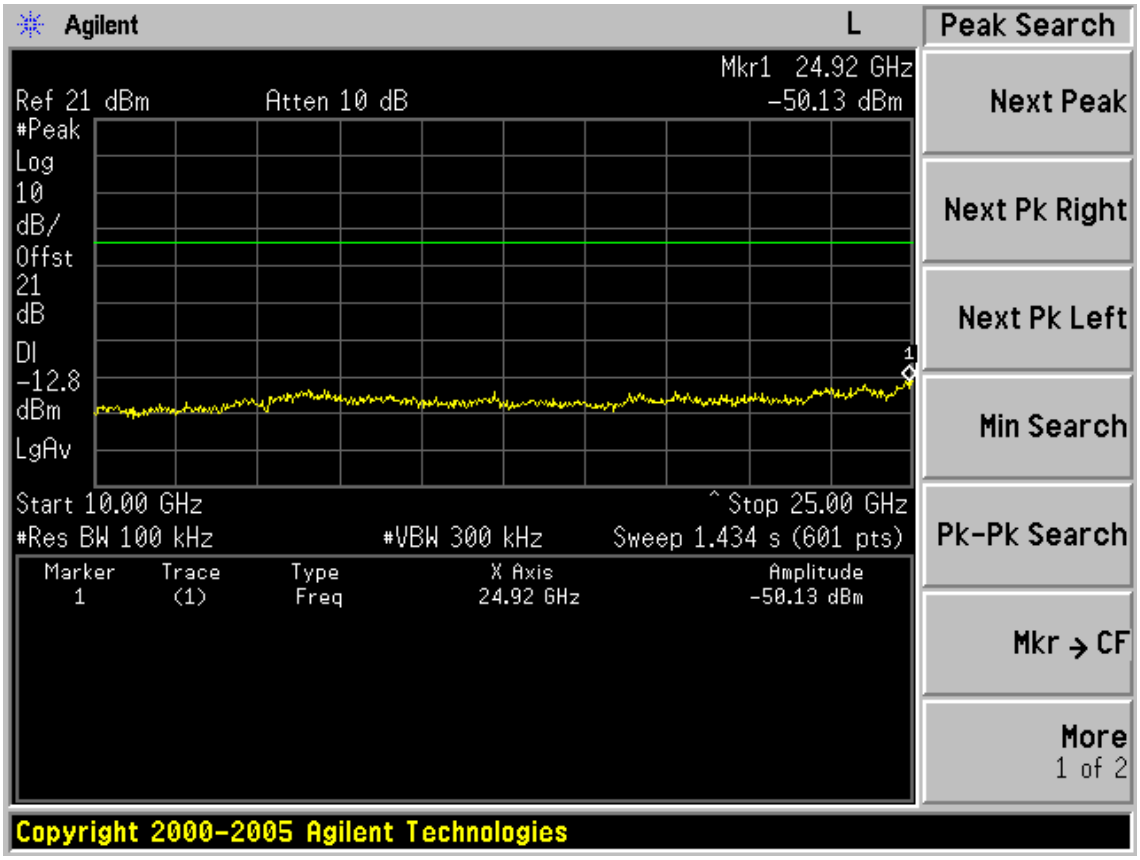


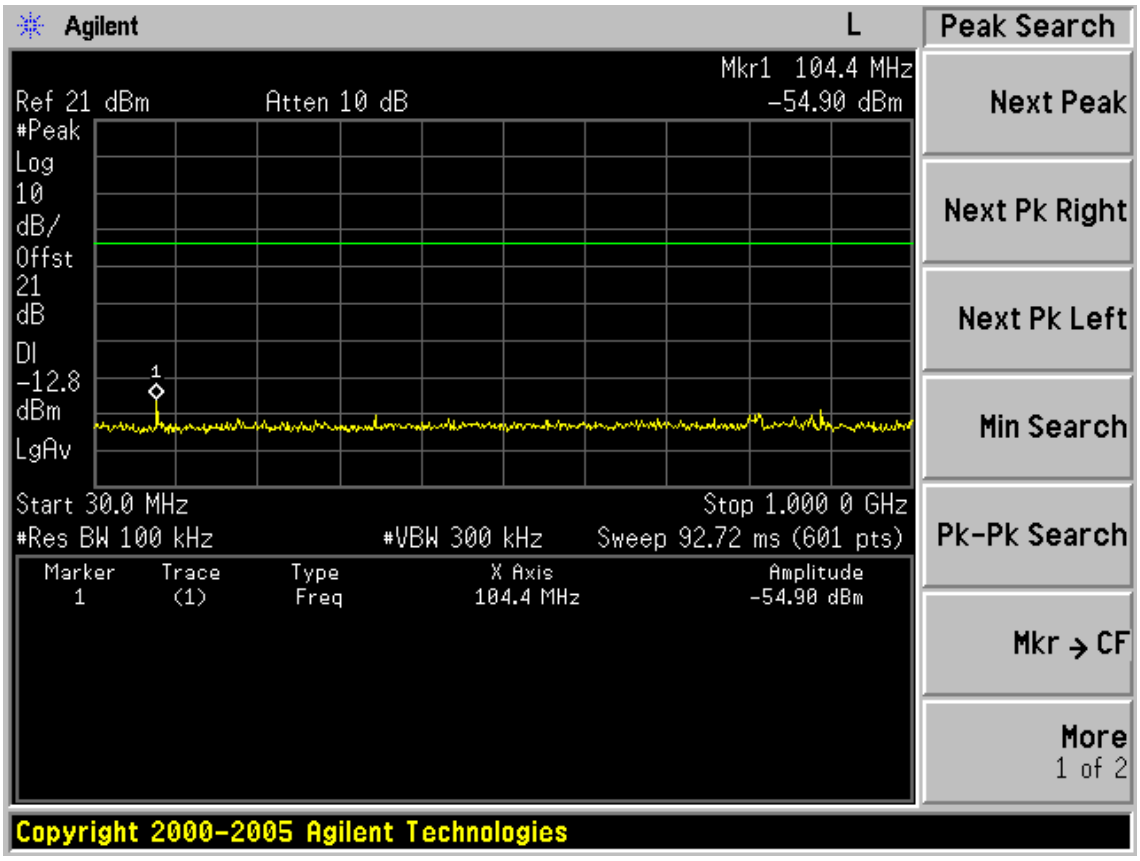

Agilent
L
Peak Search
Mkr1 24.95 GHz
Ref 21 dBm
Atten 10 dB
-50.25 dBm
#Peak
Log
10
dB/
Offst
21
dB
Dl
-21.3
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 10.00 GHz
Stop 25.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 1.434 s (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.95 GHz -50.25 dBm
Copyright 2000-2005 Agilent Technologies


Agilent
L
Peak Search
Mkr1 104.4 MHz
Ref 21 dBm
Atten 10 dB
-55.32 dBm
#Peak
Log
10
dB/
Offst
21
dB
Dl
-21.3
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 92.72 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 104.4 MHz -55.32 dBm
Copyright 2000-2005 Agilent Technologies

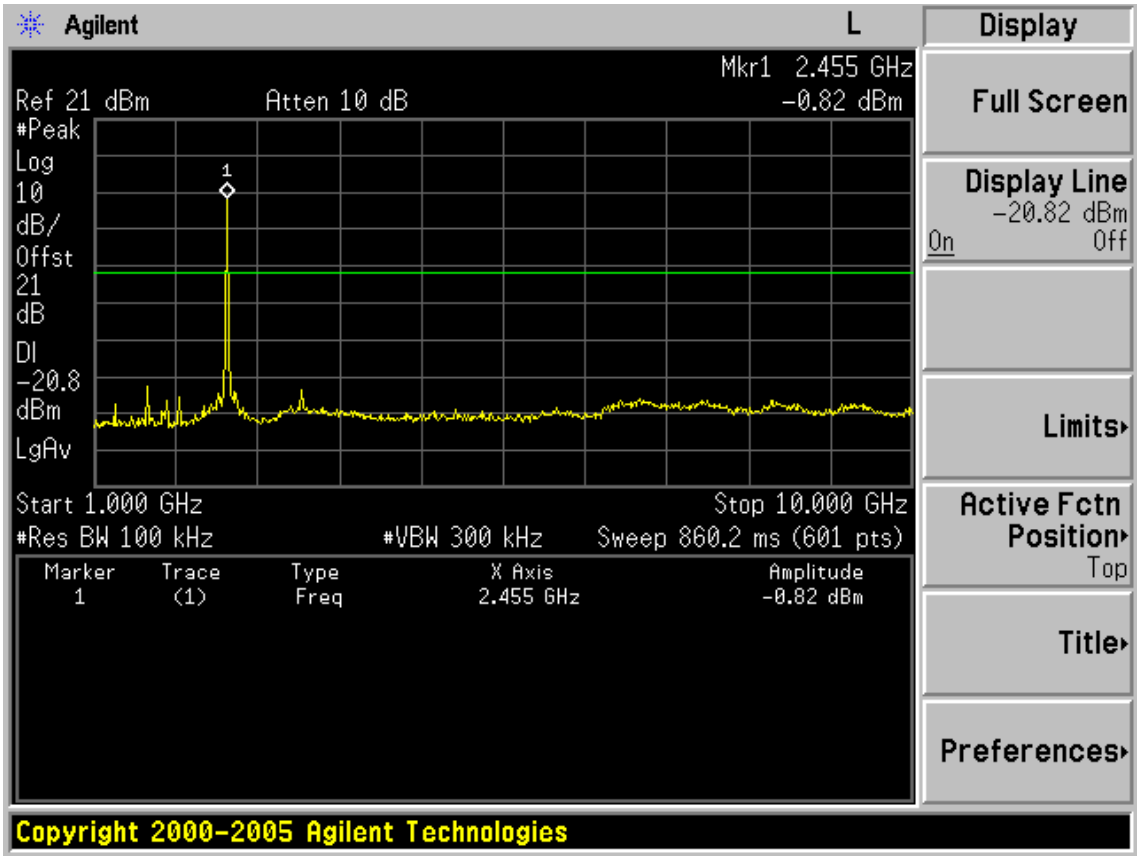
Test CH6: 2437MHz

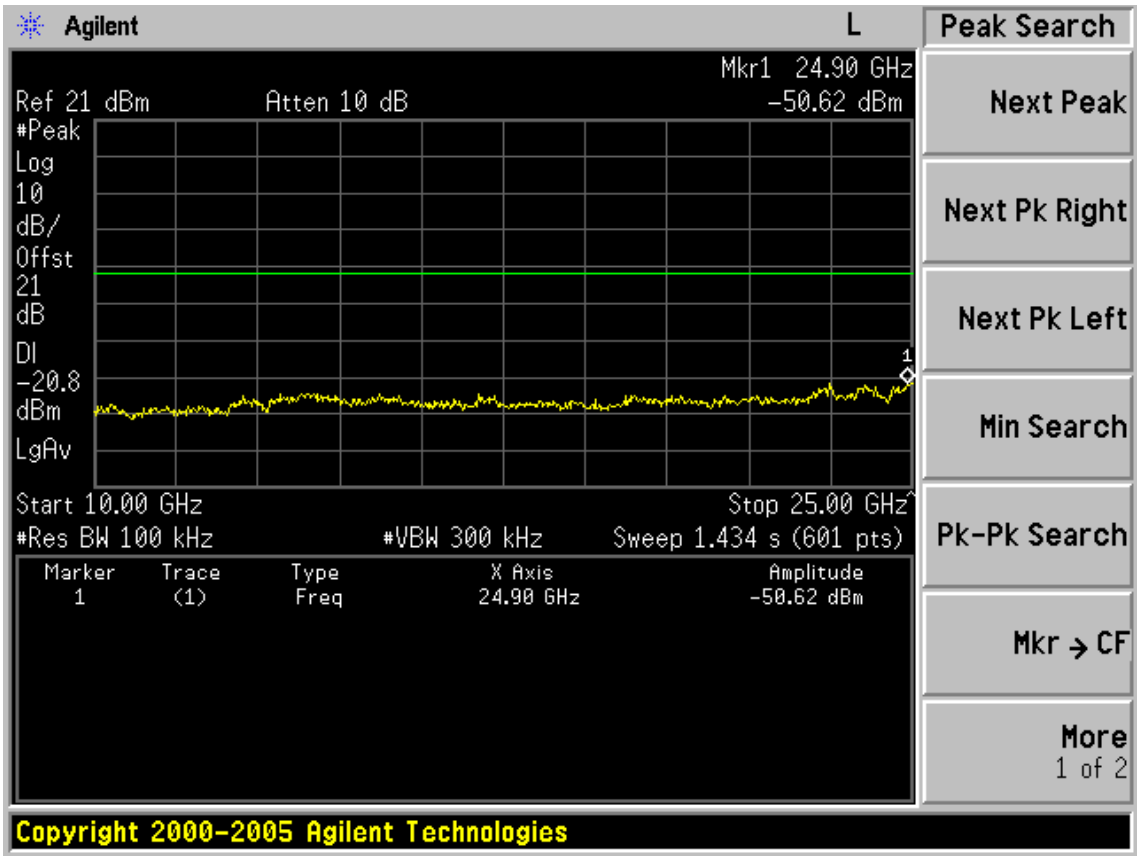


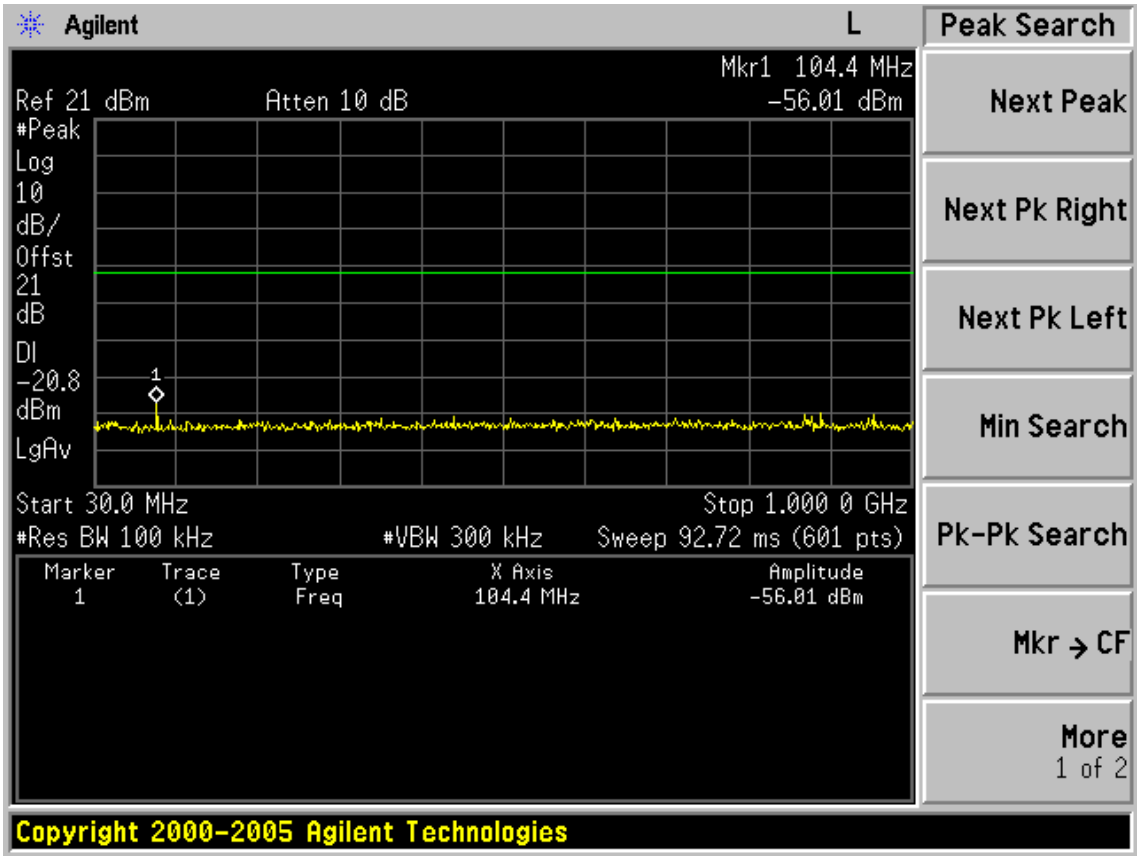


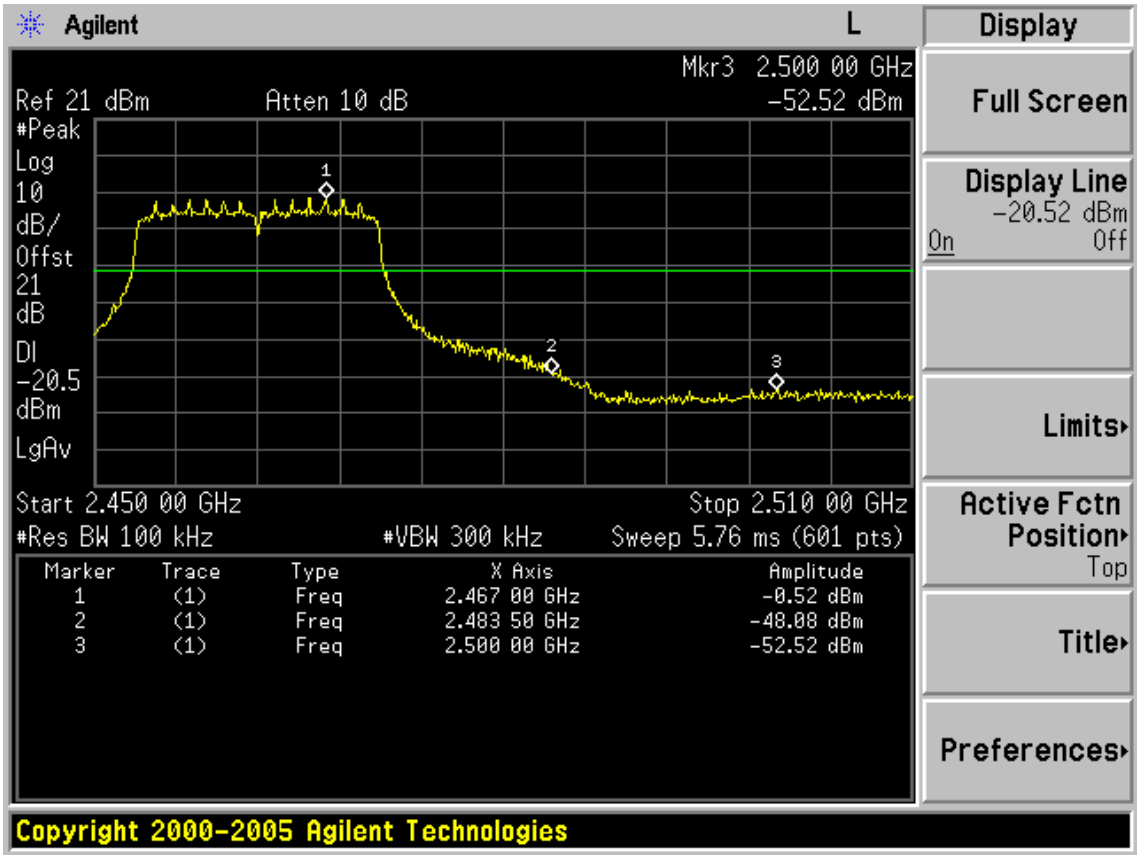


Test CH11: 2462MHz

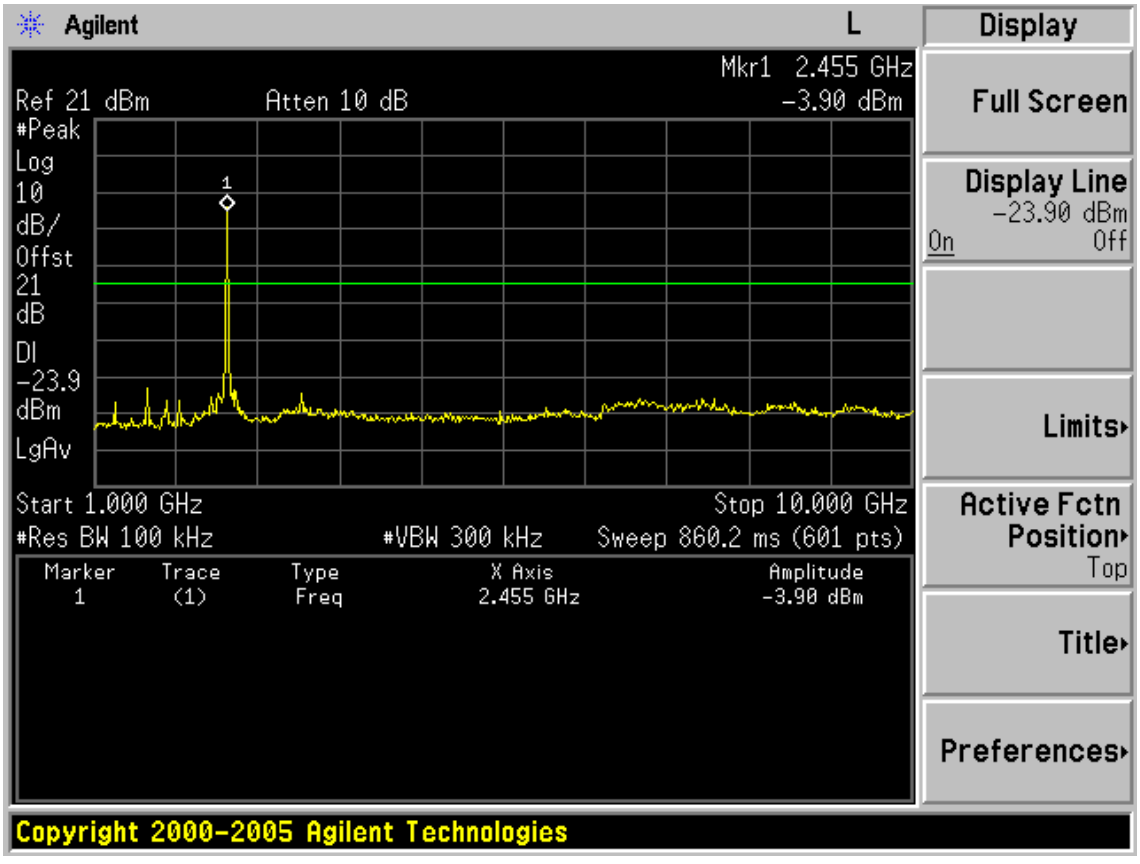


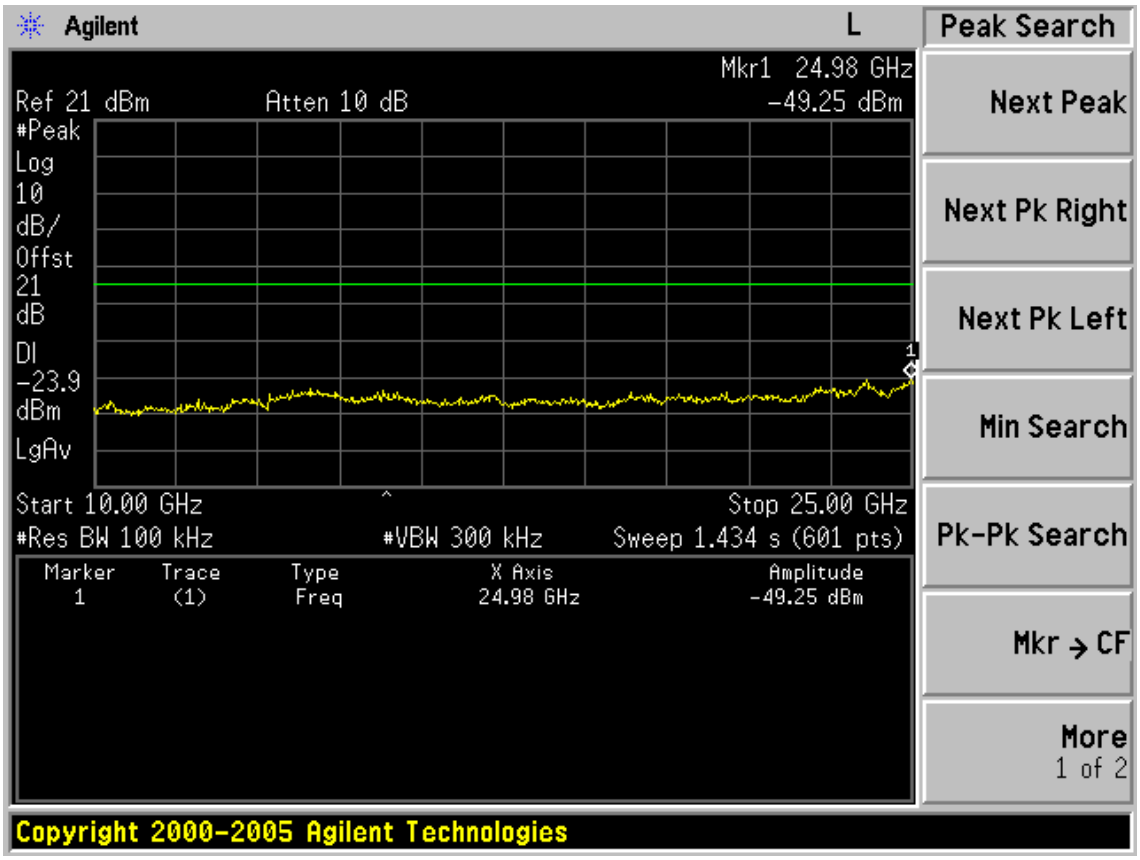

Agilent
L
Peak Search
Mkr1 24.90 GHz
Ref 21 dBm
Atten 10 dB
-50.62 dBm
#Peak
Log
10
dB/
Offst
21
dB
Dl
-20.8
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 10.00 GHz
Stop 25.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 1.434 s (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.90 GHz -50.62 dBm
Copyright 2000-2005 Agilent Technologies

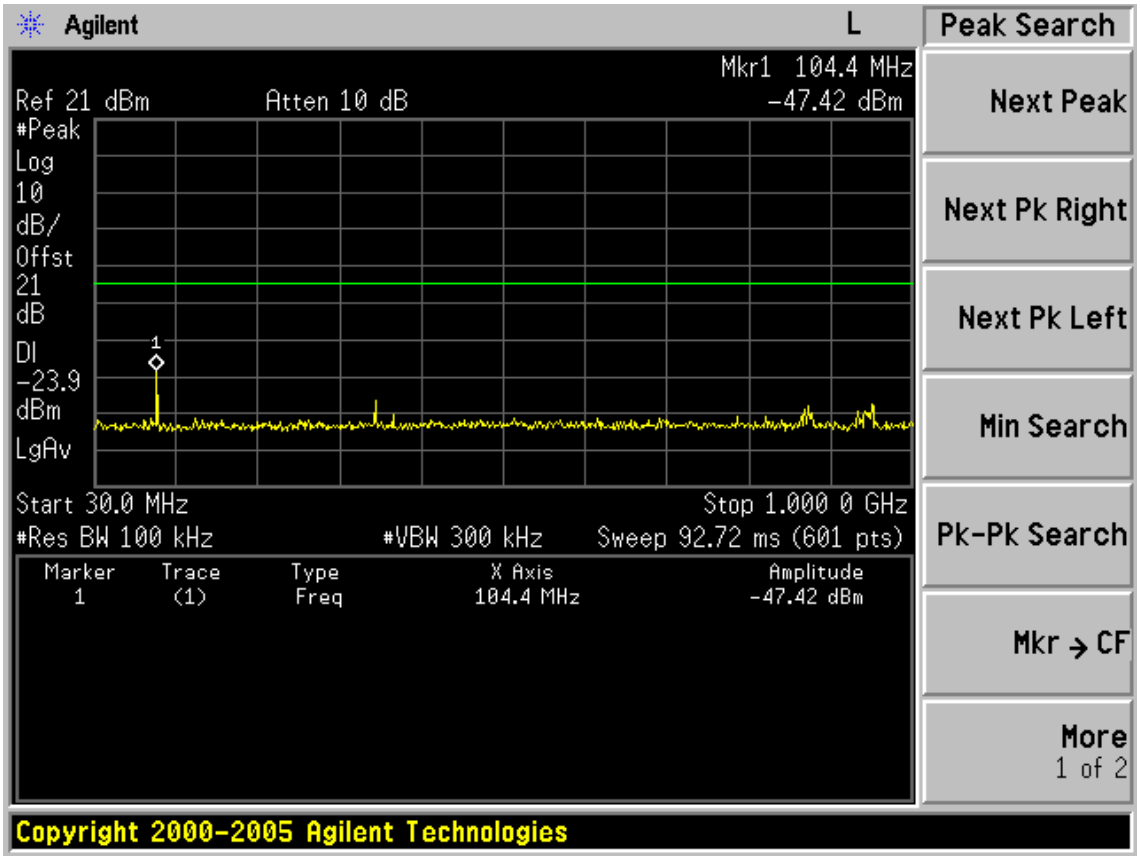

Agilent
L
Peak Search
Mkr1 104.4 MHz
Ref 21 dBm
Atten 10 dB
-56.01 dBm
#Peak
Log
10
dB/
Offst
21
dB
Dl
-20.8
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 92.72 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 104.4 MHz -56.01 dBm
Copyright 2000-2005 Agilent Technologies

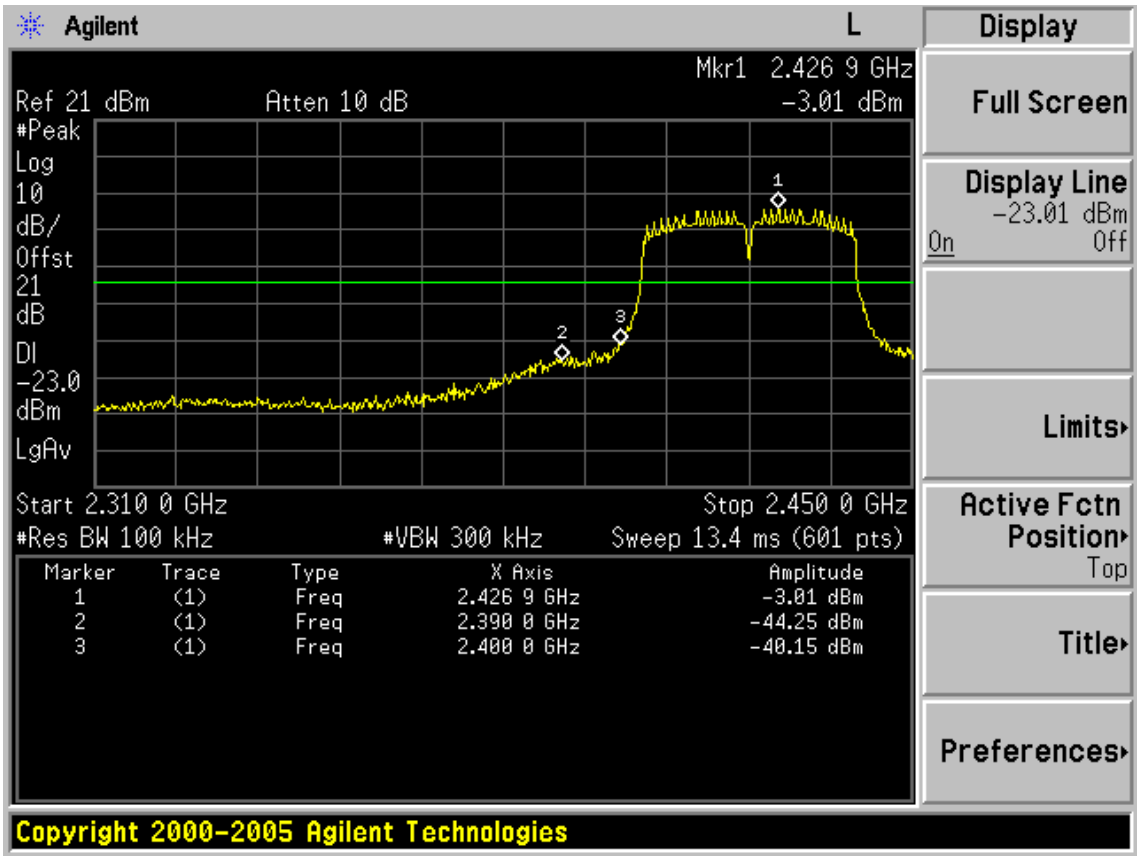


Test Mode: IEEE 802.11n HT40 TX
Test CH1: 2422MHz

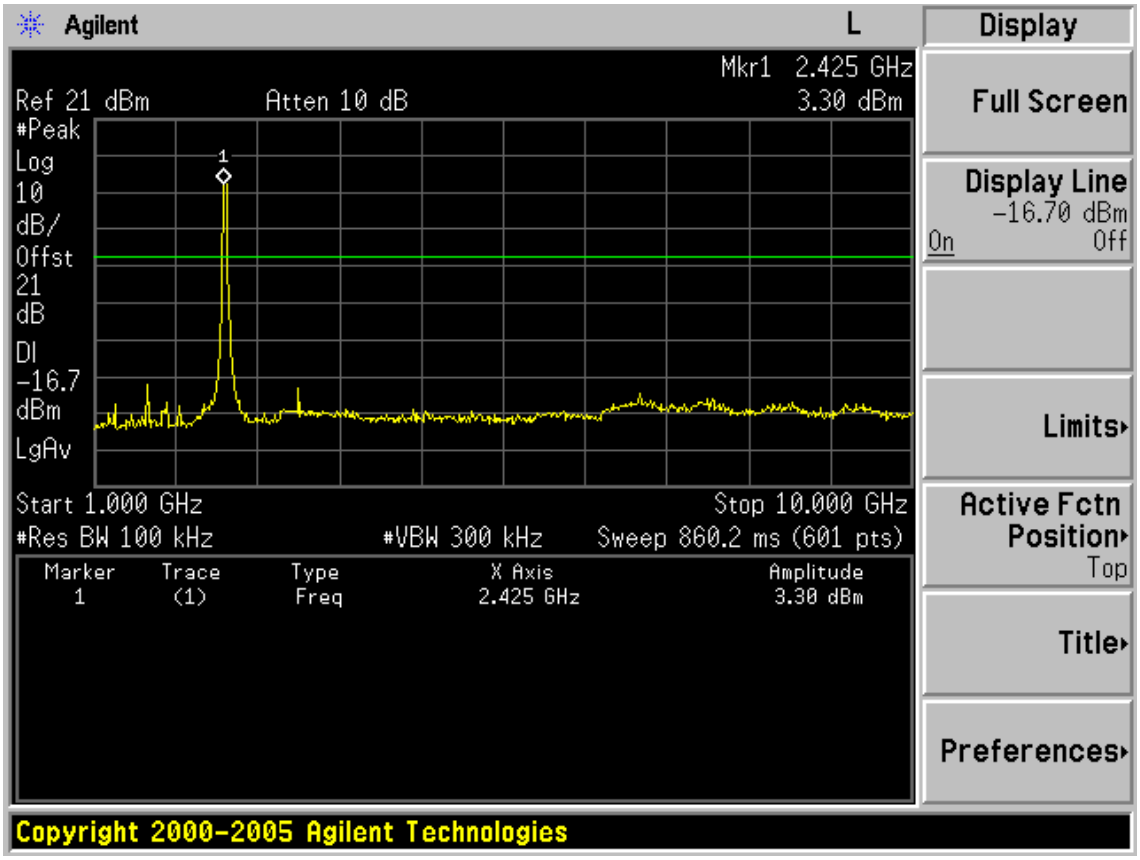


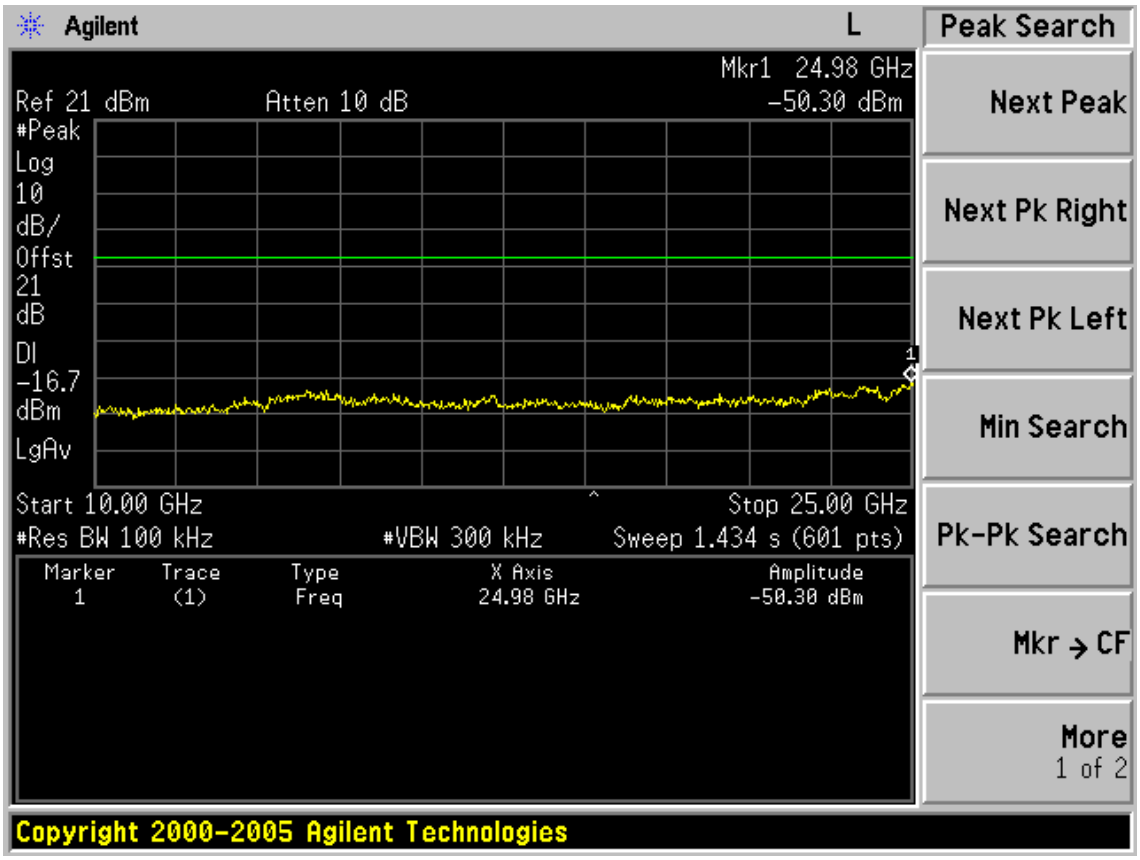

Agilent
L
Peak Search
Mkr1 24.98 GHz
Ref 21 dBm
Atten 10 dB
-49.25 dBm
#Peak
Log
10
dB/
Offst
21
dB
Dl
-23.9
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 10.00 GHz
Stop 25.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 1.434 s (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.98 GHz -49.25 dBm
Copyright 2000-2005 Agilent Technologies

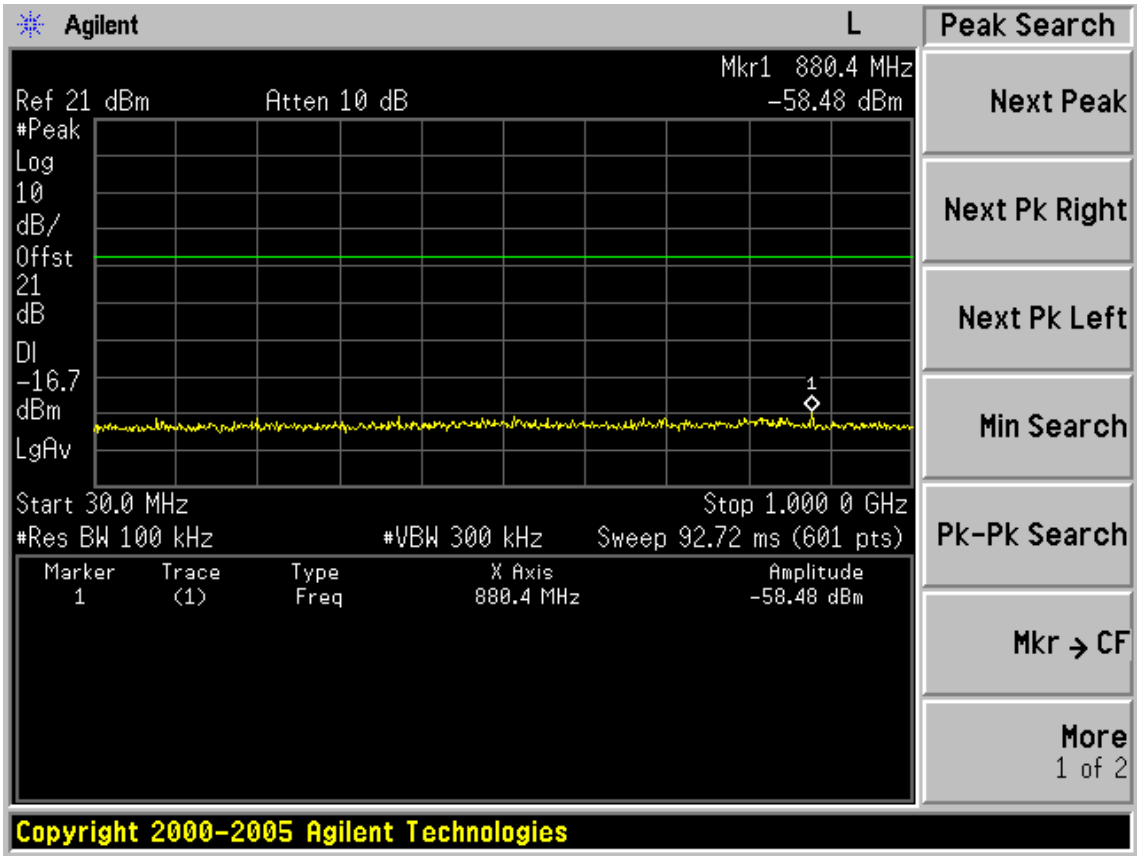

Agilent
L
Peak Search
Mkr1 104.4 MHz
Ref 21 dBm
Atten 10 dB
-47.42 dBm
#Peak
Log
10
dB/
Offst
21
dB
Dl
-23.9
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 92.72 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 104.4 MHz -47.42 dBm
Copyright 2000-2005 Agilent Technologies



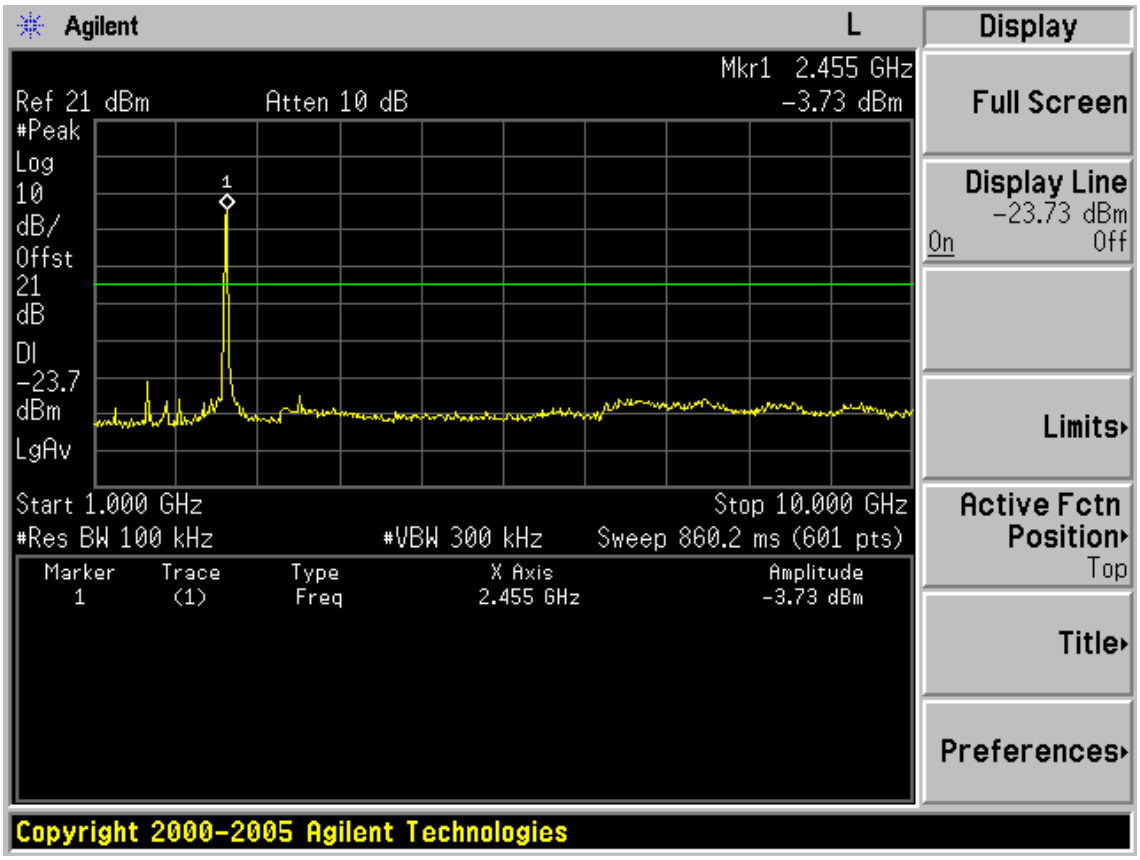
Test CH4: 2437MHz

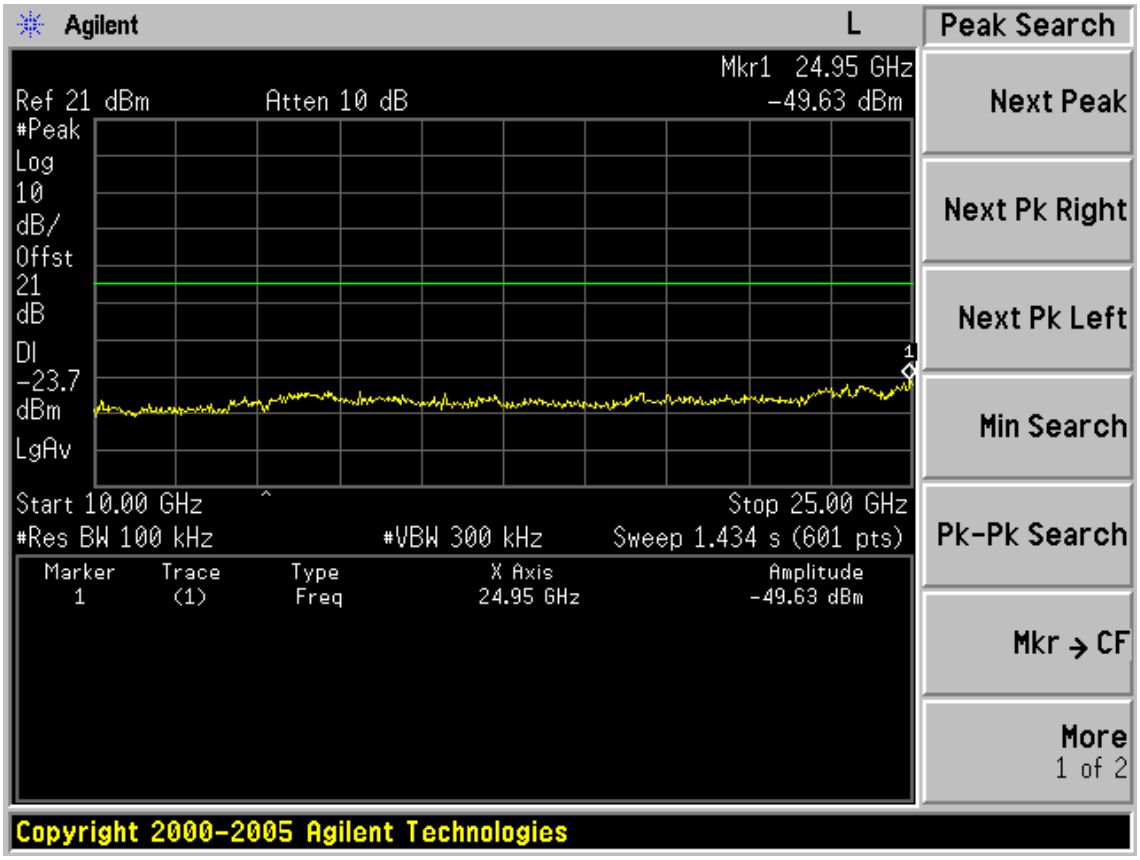


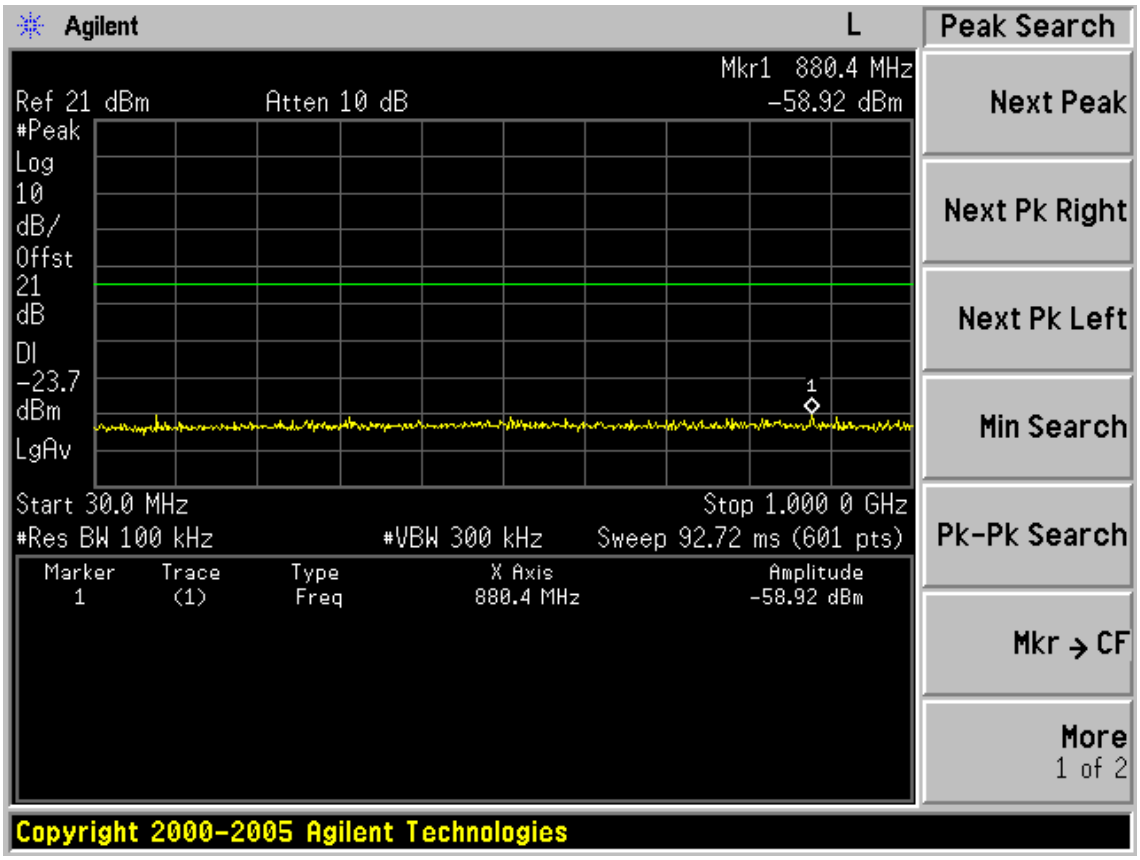

Agilent
L
Peak Search
Mkr1 24.98 GHz
Ref 21 dBm
Atten 10 dB
-50.30 dBm
#Peak
Log
10
dB/
Offst
21
dB
Dl
-16.7
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 10.00 GHz
Stop 25.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 1.434 s (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.98 GHz -50.30 dBm
Copyright 2000-2005 Agilent Technologies

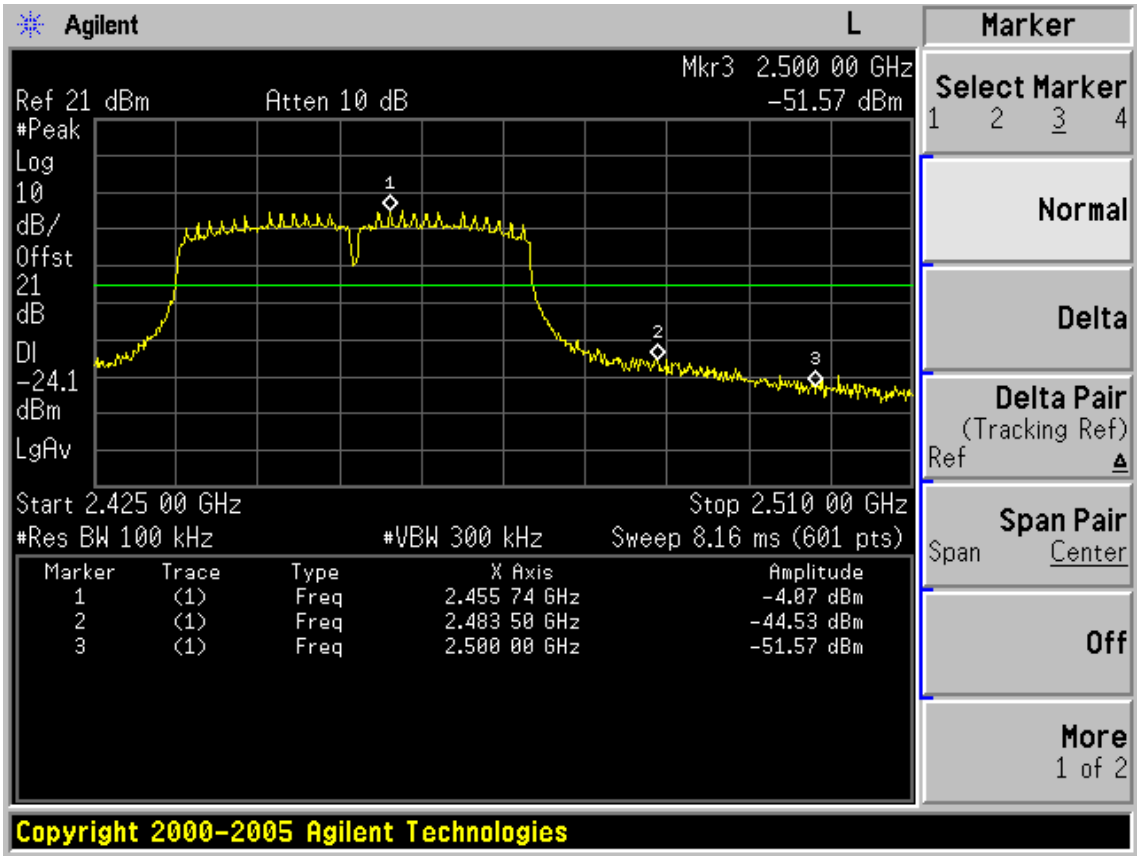

Agilent
L
Peak Search
Mkr1 880.4 MHz
Ref 21 dBm
Atten 10 dB
-58.48 dBm
#Peak
Log
10
dB/
Offst
21
dB
Dl
-16.7
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 92.72 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 880.4 MHz -58.48 dBm
Copyright 2000-2005 Agilent Technologies

Test CH7: 2452MHz






Agilent
L
Peak Search
Mkr1 880.4 MHz
Ref 21 dBm
Atten 10 dB
-58.92 dBm
#Peak
Log
10
dB/
Offst
21
dB
Dl
-23.7
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 92.72 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 880.4 MHz -58.92 dBm
Copyright 2000-2005 Agilent Technologies


Agilent
L
Marker
Mkr3 2.500 00 GHz
Ref 21 dBm
Atten 10 dB
-51.57 dBm
#Peak
Log
10
dB/
Offst
21
dB
Dl
-24.1
dBm
LgAv
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
Start 2.425 00 GHz
Stop 2.510 00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 8.16 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.455 74 GHz -4.07 dBm
2 (1) Freq 2.483 50 GHz -44.53 dBm
3 (1) Freq 2.500 00 GHz -51.57 dBm
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6. BAND EDGE COMPLIANCE TEST

6.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	US44300459	May.08, 11	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 11	1 Year
3.	Antenna	EMCO	3115	9510-4580	May.31, 11	1Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 11	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.

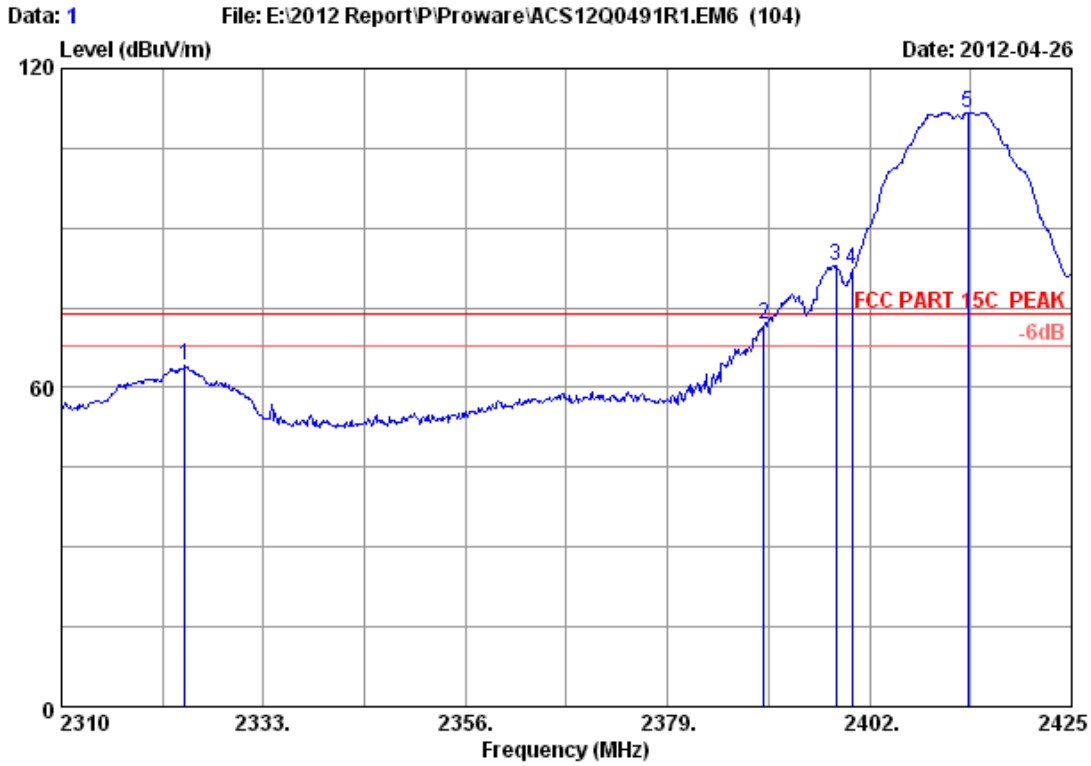
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.

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

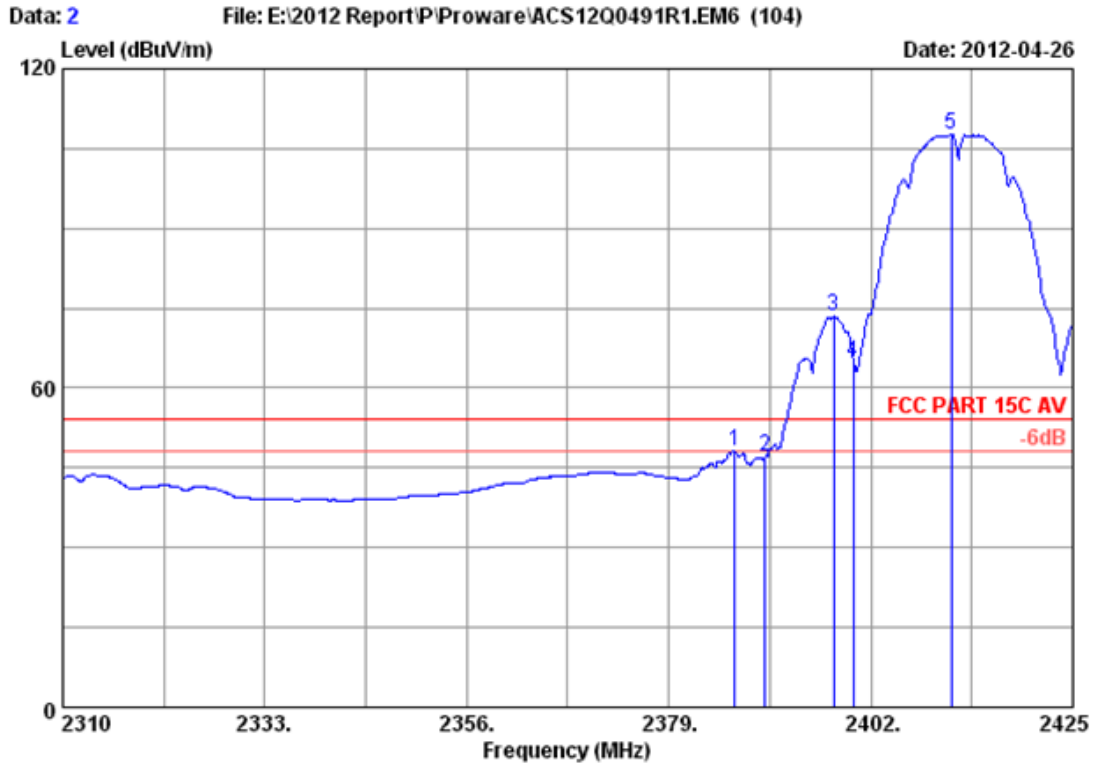
Pass (The testing data was attached in the next pages.)



Site no. : 3m Chamber Data no. : 1
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11b CH1 2412MHz Tx
: PW-RN401D

	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	2324.030	27.86	5.89	34.43	64.84	64.16	74.00	9.84	Peak
2	2390.000	27.96	6.01	34.44	72.25	71.78	74.00	2.22	Peak
3	2398.205	27.96	6.01	34.44	83.50	83.03	74.00	-9.03	Peak
4	2400.000	27.96	6.01	34.44	82.83	82.36	74.00	-8.36	Peak
5	2413.155	27.98	6.03	34.44	112.17	111.74	74.00	-37.74	Peak

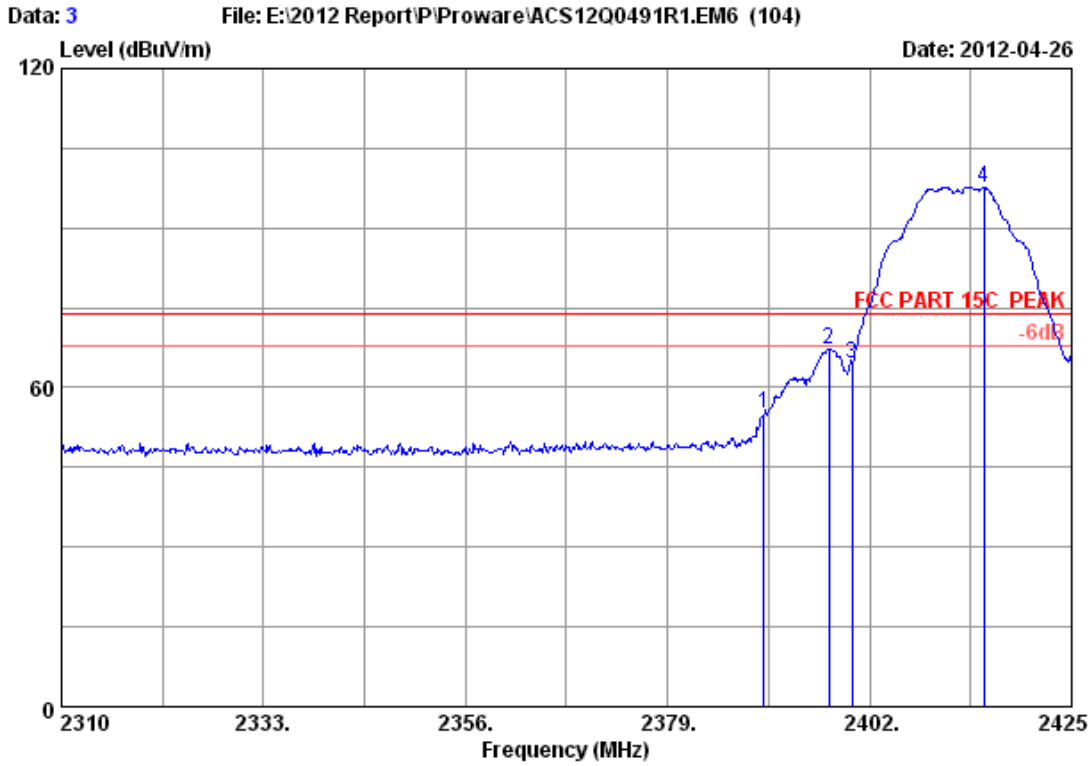
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 2
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11b CH1 2412MHz Tx
: PW-RN401D

	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	2386.475	27.96	6.01	34.44	48.48	48.01	54.00	5.99	Average
2	2390.000	27.96	6.01	34.44	47.69	47.22	54.00	6.78	Average
3	2397.745	27.96	6.01	34.44	73.86	73.39	54.00	-19.39	Average
4	2400.000	27.96	6.01	34.44	65.47	65.00	54.00	-11.00	Average
5	2411.200	27.98	6.03	34.44	108.03	107.60	54.00	-53.60	Average

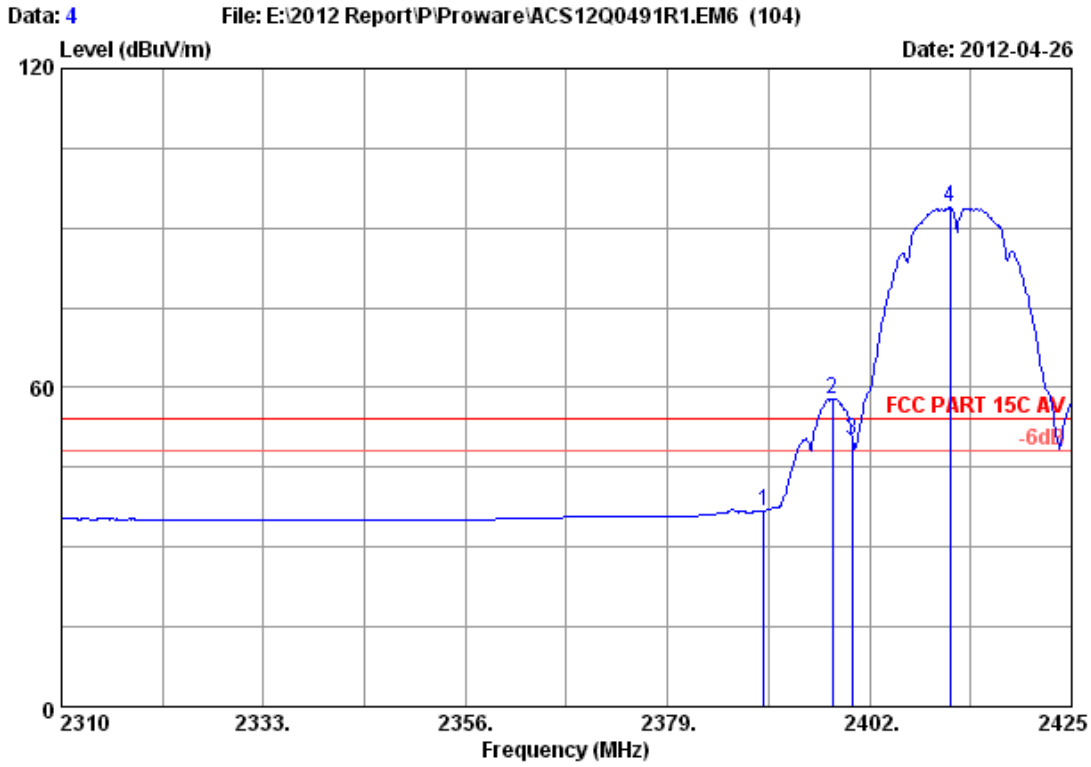
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 3
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11b CH1 2412MHz Tx
: PW-RN401D

	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	27.96	6.01	34.44	55.73	55.26	74.00	18.74	Peak
2	2397.400	27.96	6.01	34.44	67.76	67.29	74.00	6.71	Peak
3	2400.000	27.96	6.01	34.44	64.97	64.50	74.00	9.50	Peak
4	2414.995	27.98	6.03	34.44	98.08	97.65	74.00	-23.65	Peak

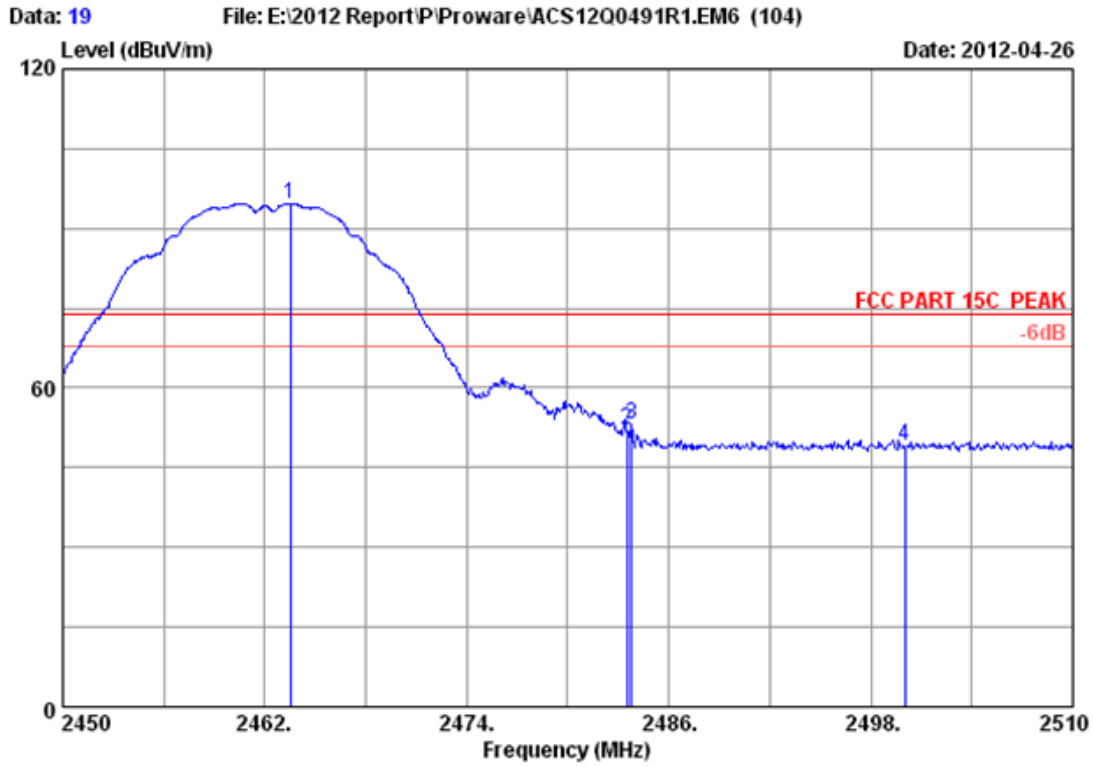
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 4
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11b CH1 2412MHz Tx
: PW-RN401D

	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	27.96	6.01	34.44	37.34	36.87	54.00	17.13	Average
2	2397.745	27.96	6.01	34.44	58.31	57.84	54.00	-3.84	Average
3	2400.000	27.96	6.01	34.44	50.45	49.98	54.00	4.02	Average
4	2411.200	27.98	6.03	34.44	94.25	93.82	54.00	-39.82	Average

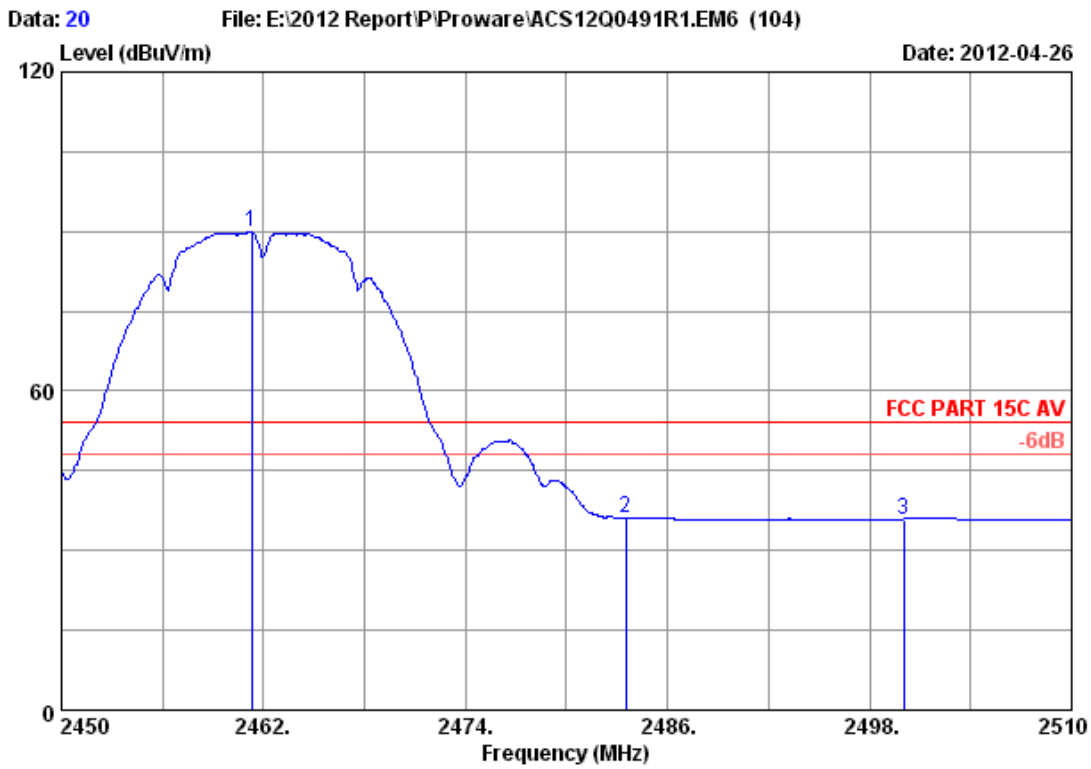
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 19
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11b CH11 2462MHz Tx
: PW-RN401D

	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	2463.500	28.05	6.12	34.45	94.89	94.61	74.00	-20.61	Peak
2	2483.500	28.08	6.15	34.45	52.22	52.00	74.00	22.00	Peak
3	2483.780	28.08	6.15	34.45	53.37	53.15	74.00	20.85	Peak
4	2500.000	28.10	6.18	34.45	49.29	49.12	74.00	24.88	Peak

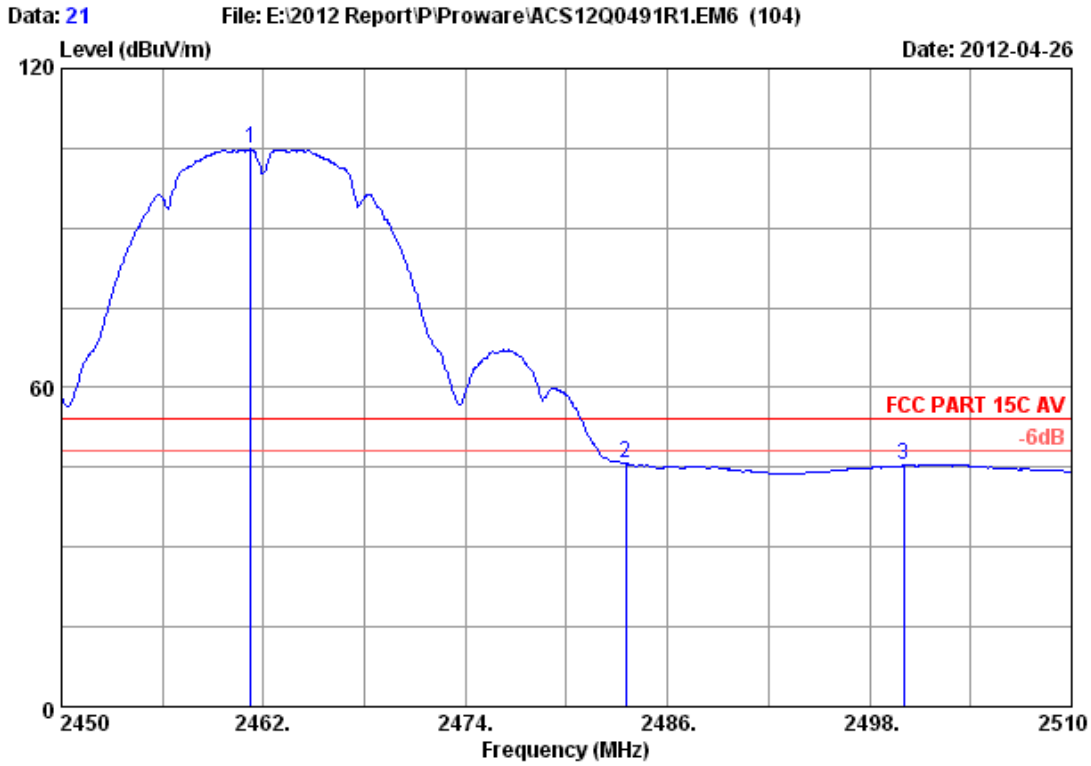
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 20
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11b CH11 2462MHz Tx
: PW-RN401D

	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	2461.280	28.05	6.12	34.44	90.16	89.89	54.00	-35.89	Average
2	2483.500	28.08	6.15	34.45	36.39	36.17	54.00	17.83	Average
3	2500.000	28.10	6.18	34.45	36.10	35.93	54.00	18.07	Average

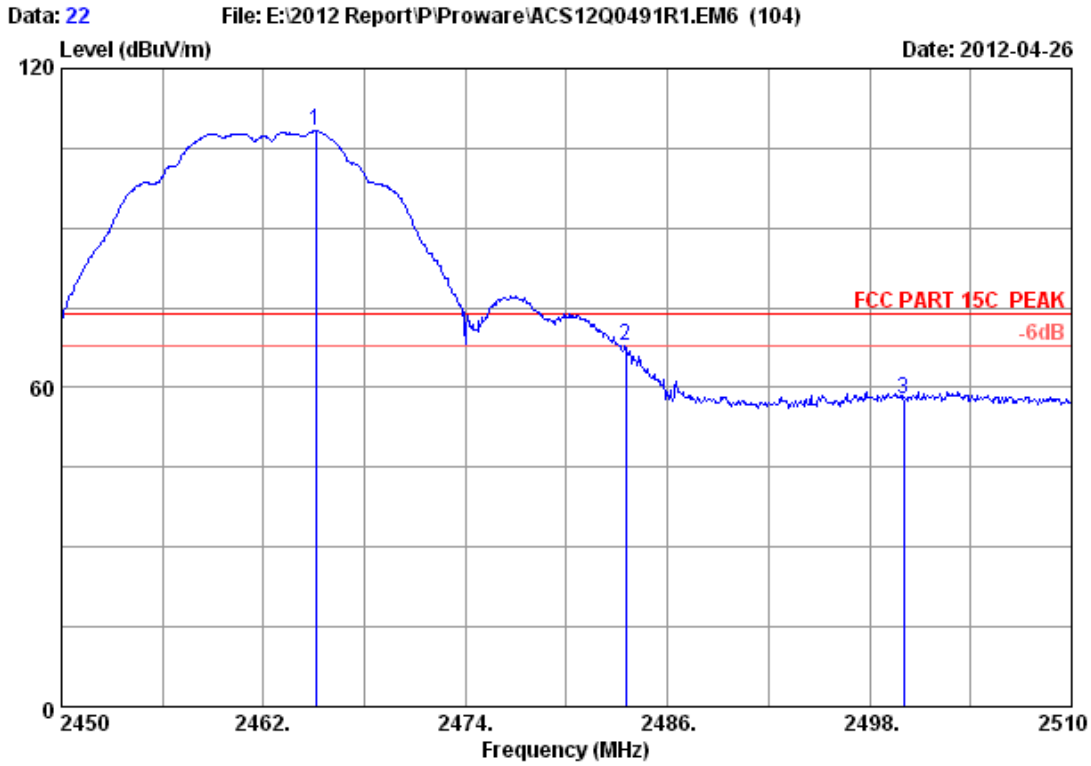
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 21
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11b CH11 2462MHz Tx
: PW-RN401D

	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	2461.220	28.05	6.12	34.44	105.11	104.84	54.00	-50.84	Average
2	2483.500	28.08	6.15	34.45	45.95	45.73	54.00	8.27	Average
3	2500.000	28.10	6.18	34.45	45.49	45.32	54.00	8.68	Average

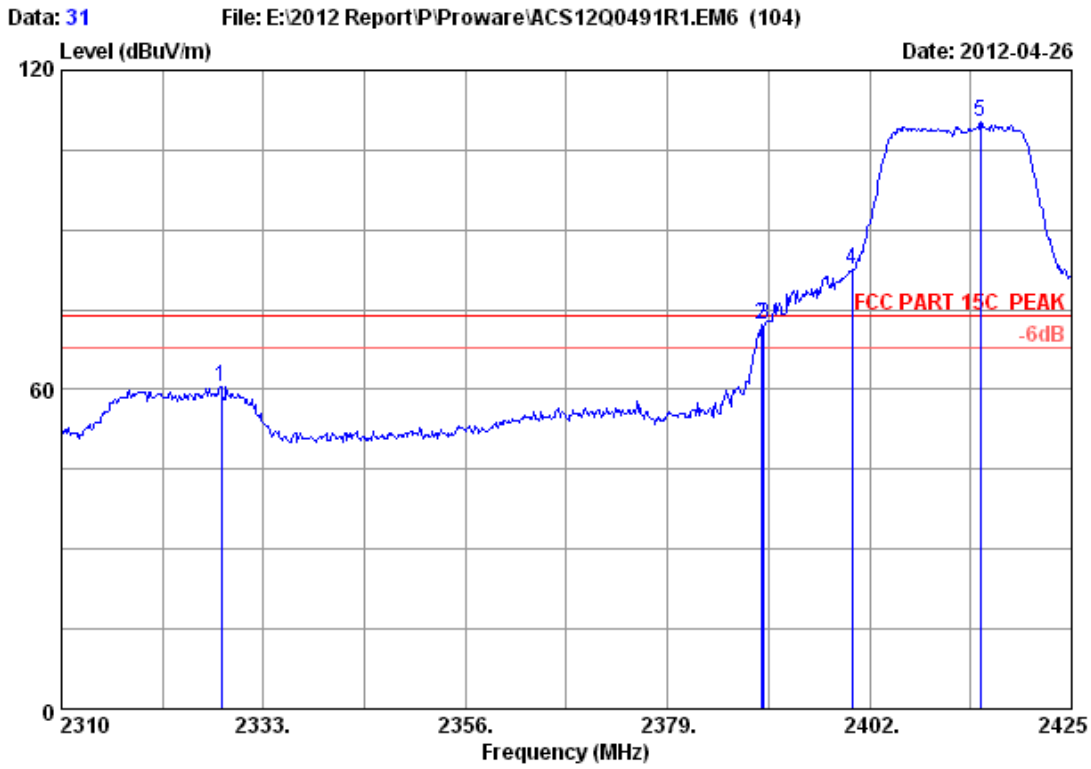
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 22
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11b CH11 2462MHz Tx
: PW-RN401D

	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	2465.120	28.05	6.12	34.45	108.52	108.24	74.00	-34.24	Peak
2	2483.500	28.08	6.15	34.45	67.96	67.74	74.00	6.26	Peak
3	2500.000	28.10	6.18	34.45	58.14	57.97	74.00	16.03	Peak

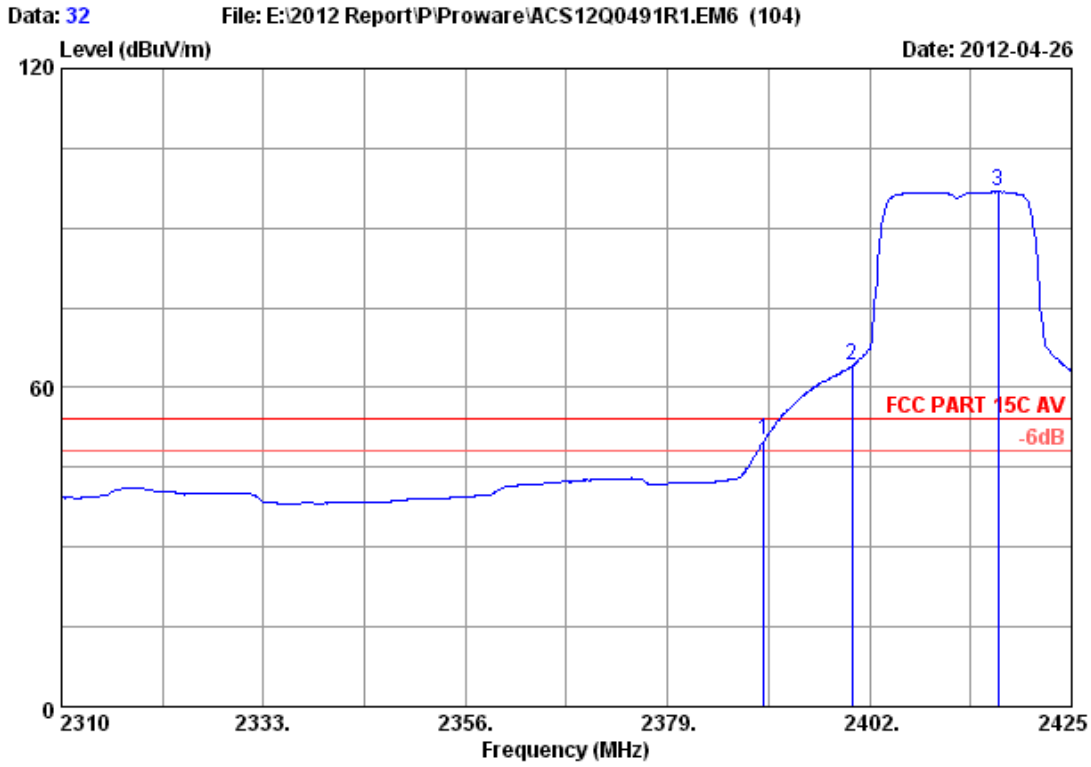
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 31
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11g CH1 2412MHz Tx
: PW-RN401D

	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	2328.170	27.86	5.89	34.43	61.10	60.42	74.00	13.58	Peak
2	2389.695	27.96	6.01	34.44	72.76	72.29	74.00	1.71	Peak
3	2390.000	27.96	6.01	34.44	72.52	72.05	74.00	1.95	Peak
4	2400.000	27.96	6.01	34.44	82.95	82.48	74.00	-8.48	Peak
5	2414.650	27.98	6.03	34.44	110.75	110.32	74.00	-36.32	Peak

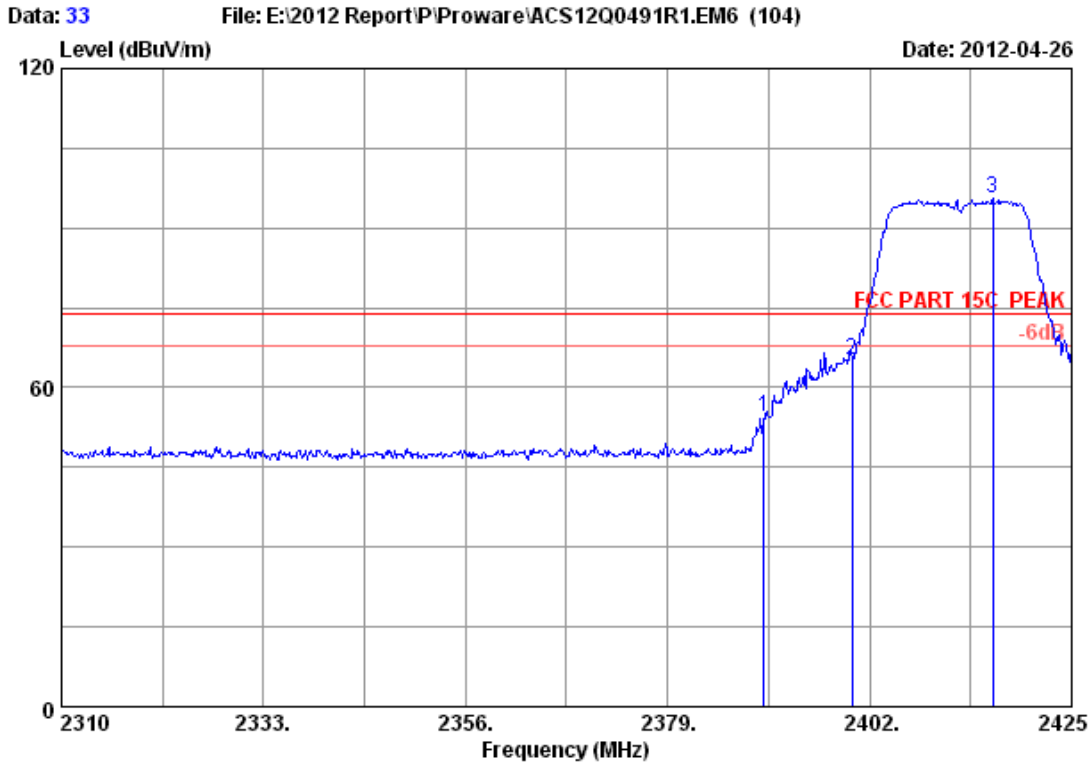
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 32
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11g CH1 2412MHz Tx
: PW-RN401D

	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	27.96	6.01	34.44	50.51	50.04	54.00	3.96	Average
2	2400.000	27.96	6.01	34.44	64.66	64.19	54.00	-10.19	Average
3	2416.605	27.98	6.03	34.44	97.23	96.80	54.00	-42.80	Average

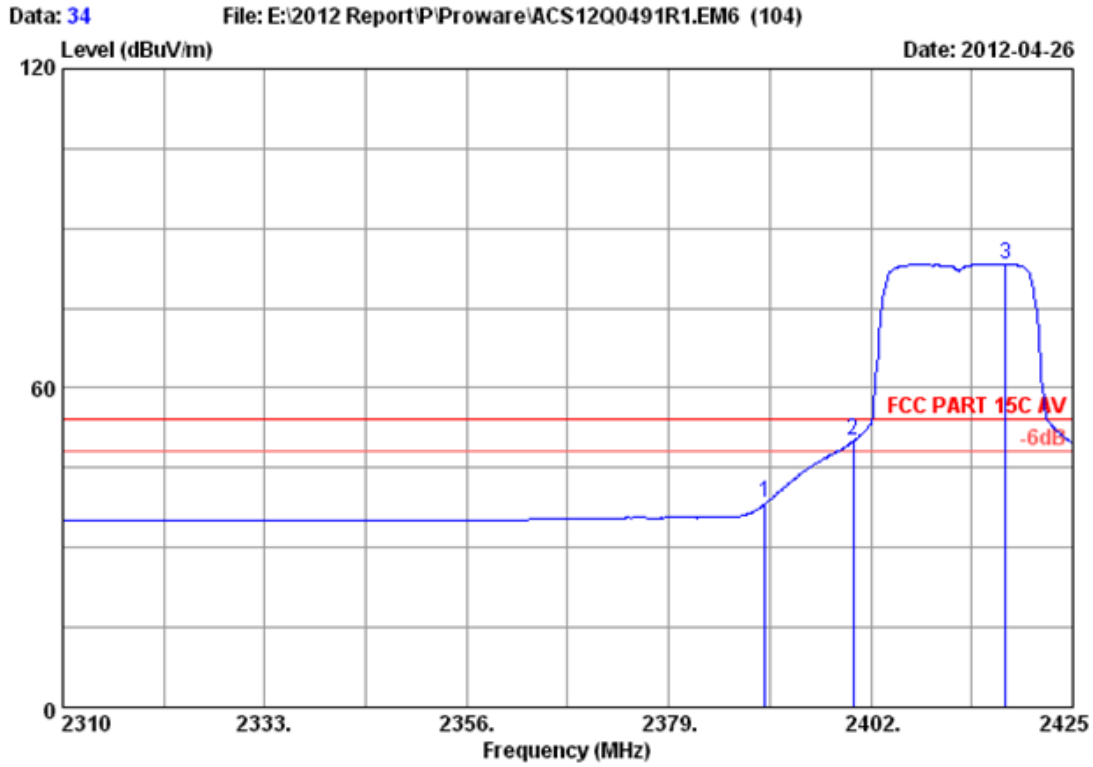
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 33
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11g CH1 2412MHz Tx
: PW-RN401D

	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	27.96	6.01	34.44	54.83	54.36	74.00	19.64	Peak
2	2400.000	27.96	6.01	34.44	65.59	65.12	74.00	8.88	Peak
3	2416.030	27.98	6.03	34.44	96.13	95.70	74.00	-21.70	Peak

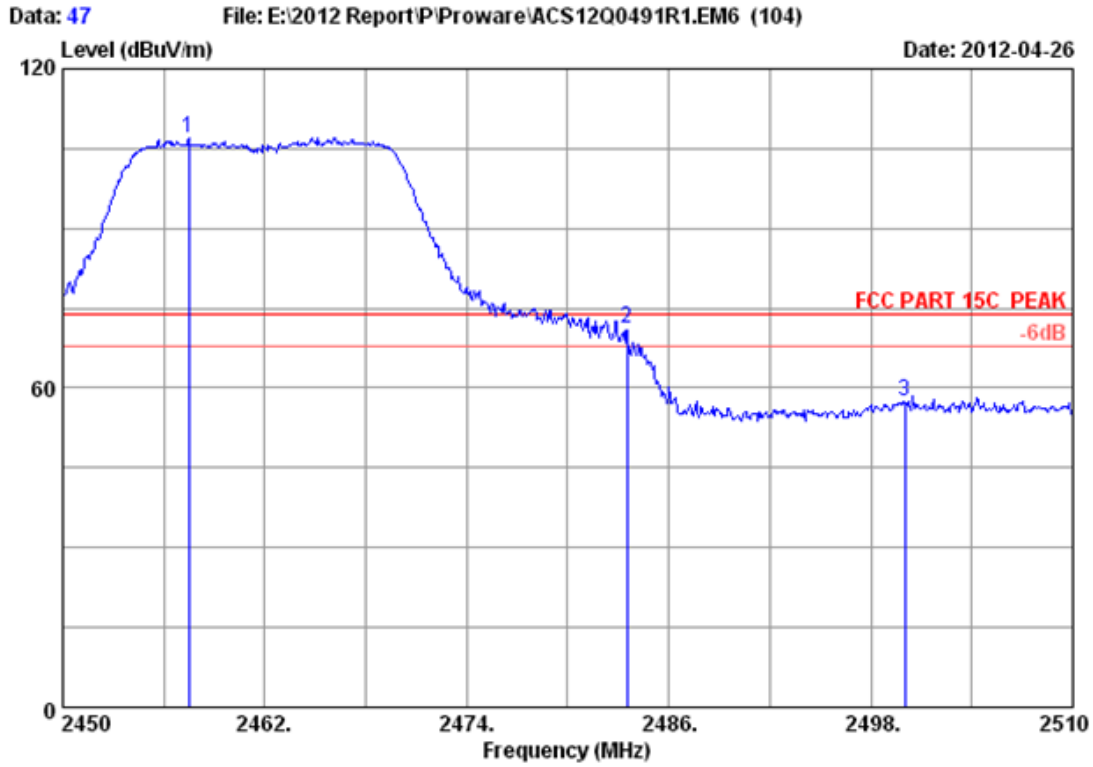
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 34
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11g CH1 2412MHz Tx
: PW-RN401D

	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	27.96	6.01	34.44	38.81	38.34	54.00	15.66	Average
2	2400.000	27.96	6.01	34.44	50.59	50.12	54.00	3.88	Average
3	2417.295	27.98	6.03	34.44	83.77	83.34	54.00	-29.34	Average

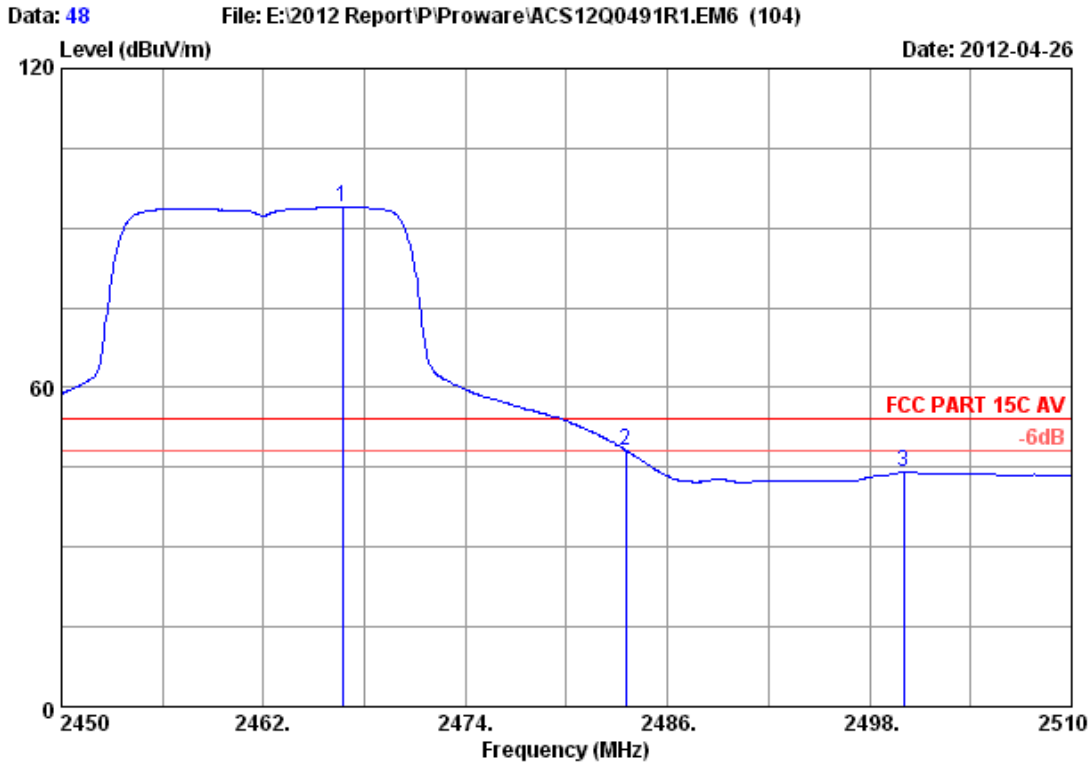
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 47
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11g CH11 2462MHz Tx
: PW-RN401D

	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	2457.500	28.05	6.12	34.44	107.24	106.97	74.00	-32.97	Peak
2	2483.500	28.08	6.15	34.45	71.35	71.13	74.00	2.87	Peak
3	2500.000	28.10	6.18	34.45	57.57	57.40	74.00	16.60	Peak

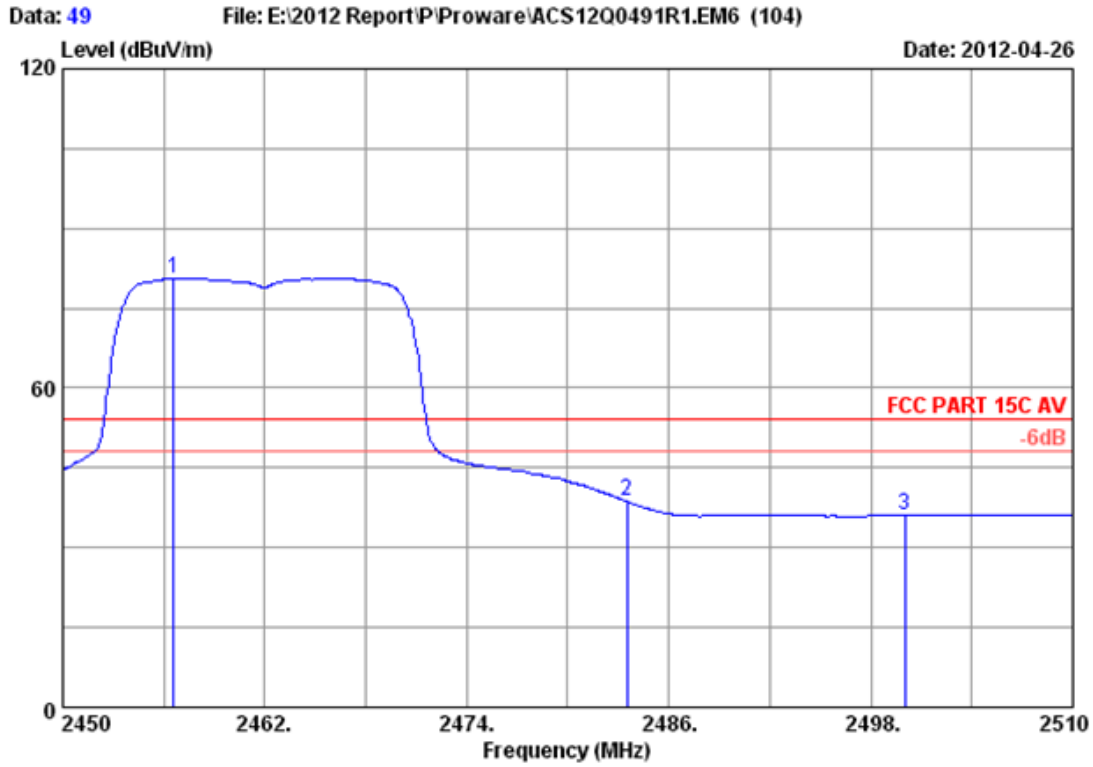
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 48
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11g CH11 2462MHz Tx
: PW-RN401D

	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	2466.680	28.05	6.12	34.45	94.23	93.95	54.00	-39.95	Average
2	2483.500	28.08	6.15	34.45	48.48	48.26	54.00	5.74	Average
3	2500.000	28.10	6.18	34.45	44.23	44.06	54.00	9.94	Average

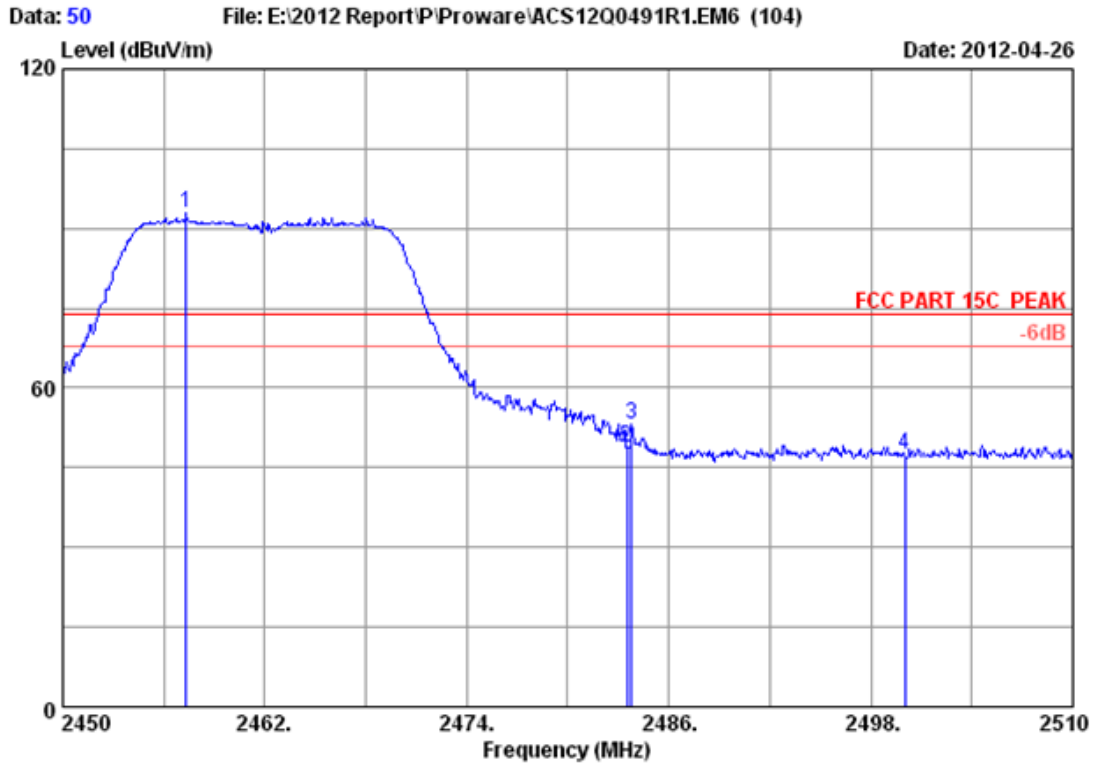
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 49
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11g CH11 2462MHz Tx
: PW-RN401D

	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	2456.600	28.05	6.12	34.44	80.89	80.62	54.00	-26.62	Average
2	2483.500	28.08	6.15	34.45	38.95	38.73	54.00	15.27	Average
3	2500.000	28.10	6.18	34.45	36.29	36.12	54.00	17.88	Average

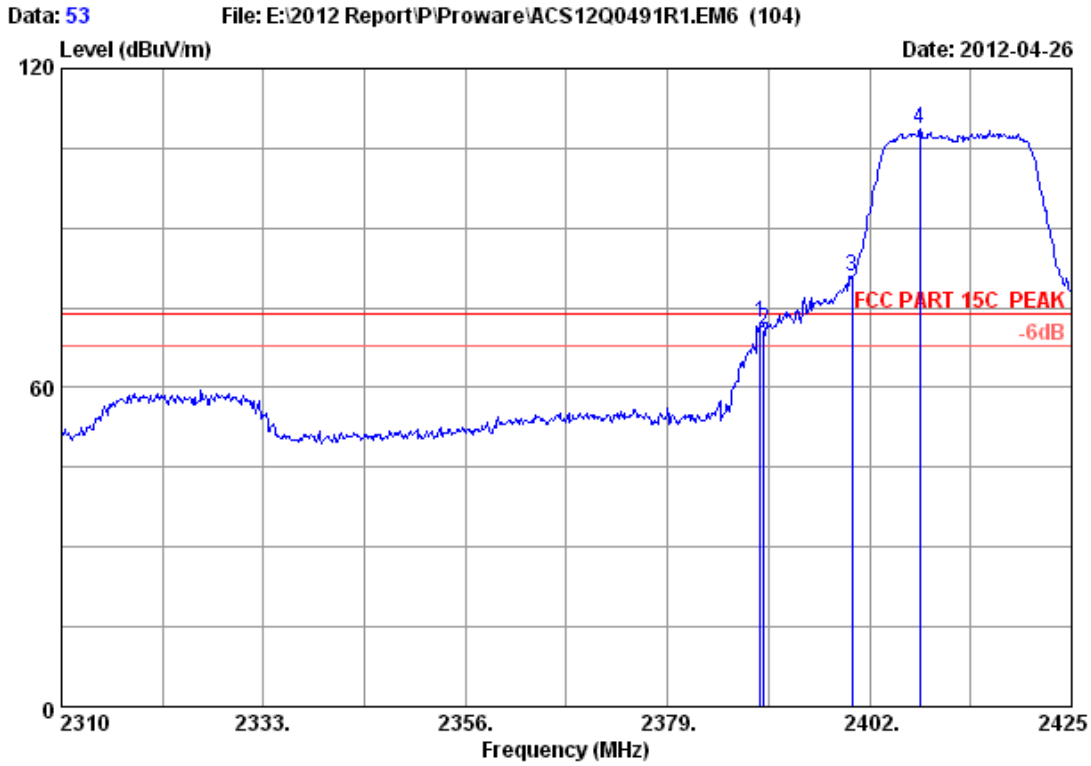
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 50
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11g CH11 2462MHz Tx
: PW-RN401D

	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	2457.320	28.05	6.12	34.44	93.25	92.98	74.00	-18.98	Peak
2	2483.500	28.08	6.15	34.45	48.90	48.68	74.00	25.32	Peak
3	2483.780	28.08	6.15	34.45	53.24	53.02	74.00	20.98	Peak
4	2500.000	28.10	6.18	34.45	47.73	47.56	74.00	26.44	Peak

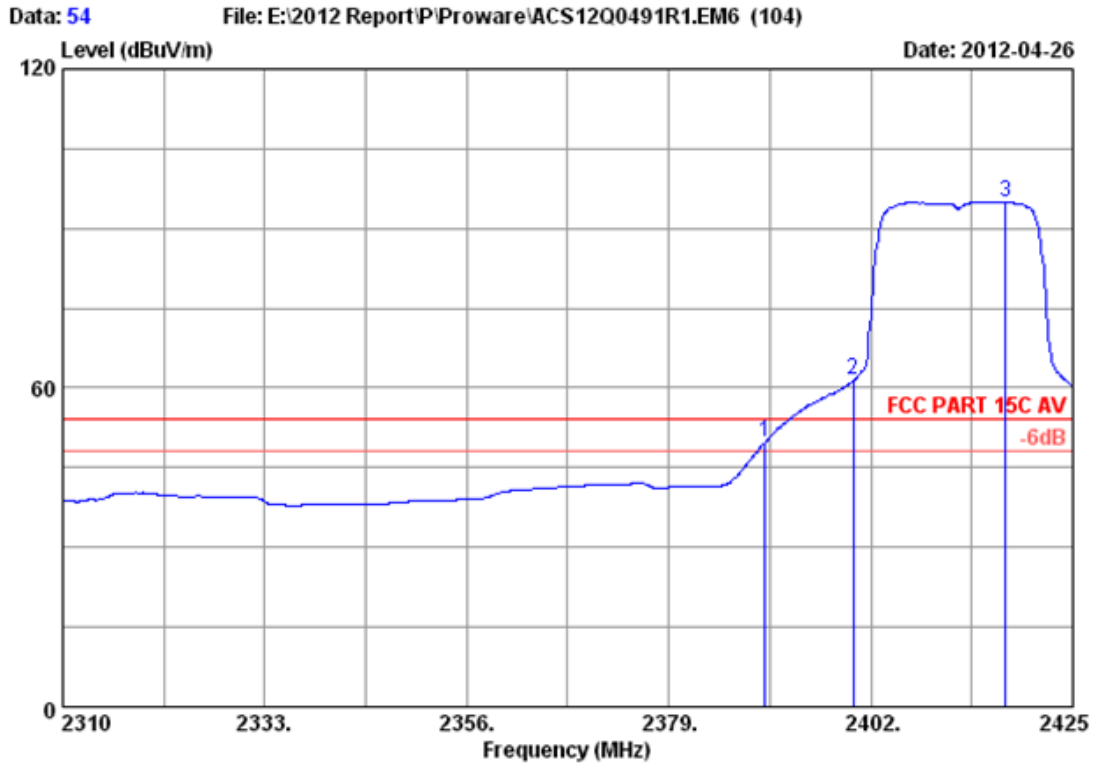
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 53
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT20 CH1 2412MHz Tx
: PW-RN401D

	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	2389.580	27.96	6.01	34.44	72.51	72.04	74.00	1.96	Peak
2	2390.000	27.96	6.01	34.44	71.37	70.90	74.00	3.10	Peak
3	2400.000	27.96	6.01	34.44	81.43	80.96	74.00	-6.96	Peak
4	2407.750	27.98	6.03	34.44	109.01	108.58	74.00	-34.58	Peak

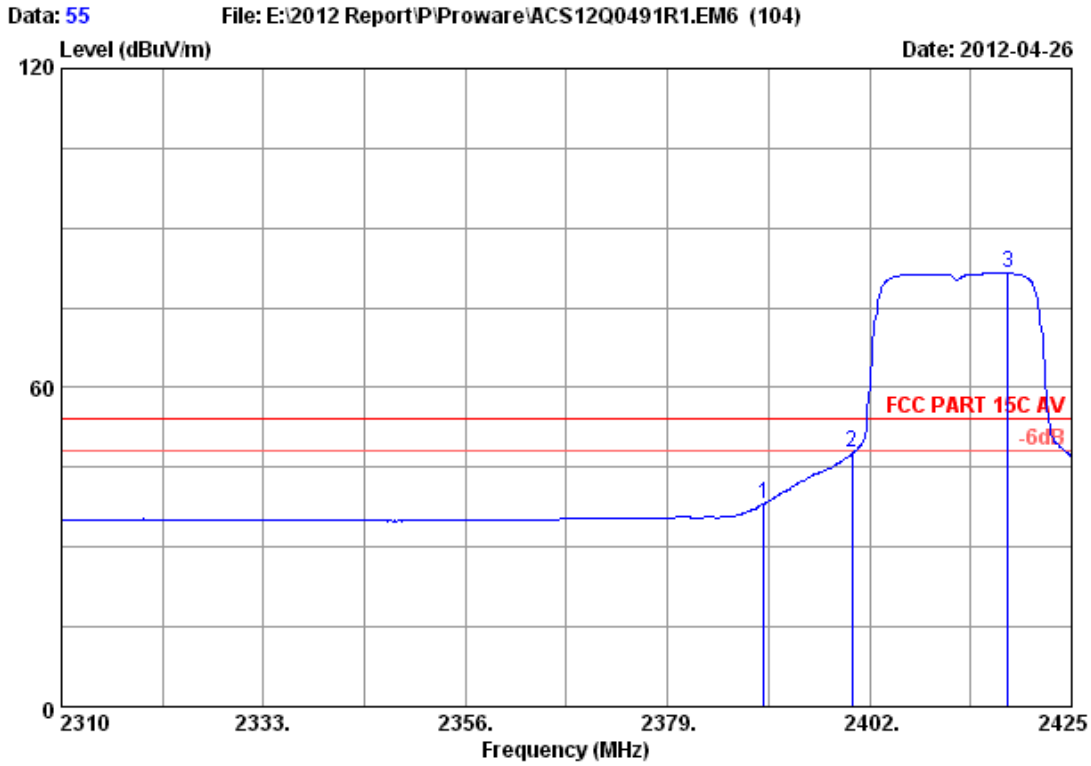
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 54
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT20 CH1 2412MHz Tx
: PW-RN401D

	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	27.96	6.01	34.44	50.28	49.81	54.00	4.19	Average
2	2400.000	27.96	6.01	34.44	61.89	61.42	54.00	-7.42	Average
3	2417.295	27.98	6.03	34.44	95.50	95.07	54.00	-41.07	Average

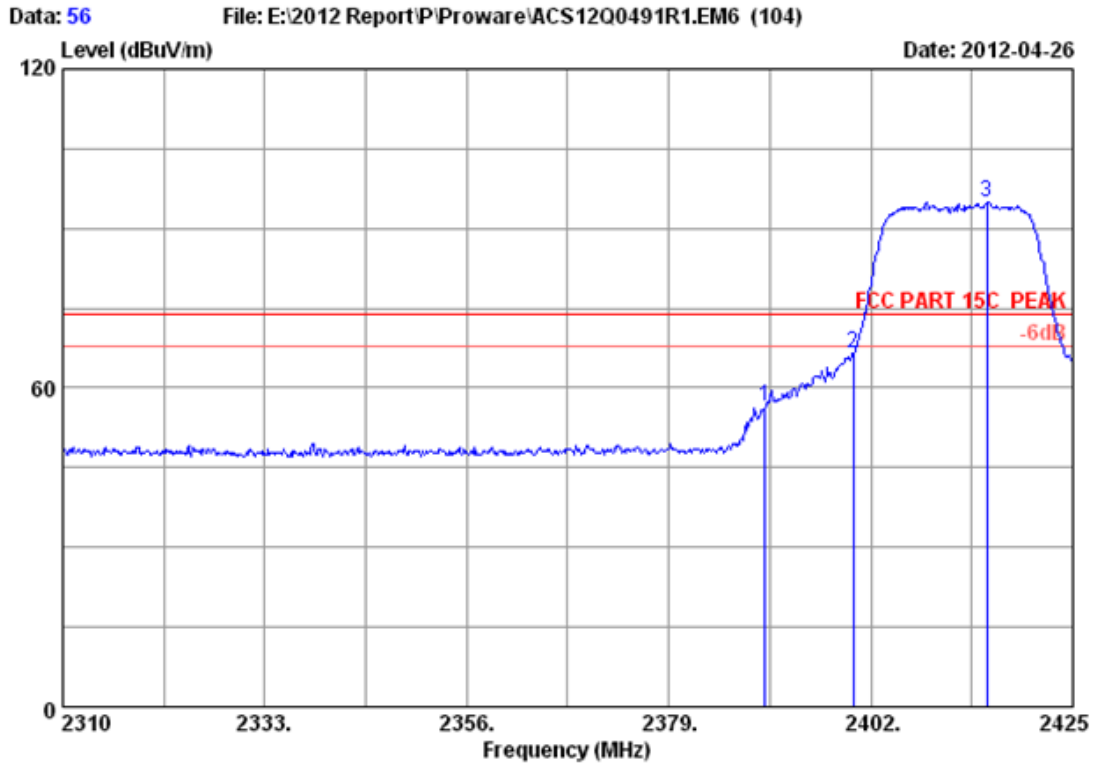
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 55
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT20 CH1 2412MHz Tx
: PW-RN401D

	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	27.96	6.01	34.44	38.71	38.24	54.00	15.76	Average
2	2400.000	27.96	6.01	34.44	48.27	47.80	54.00	6.20	Average
3	2417.755	27.98	6.03	34.44	82.04	81.61	54.00	-27.61	Average

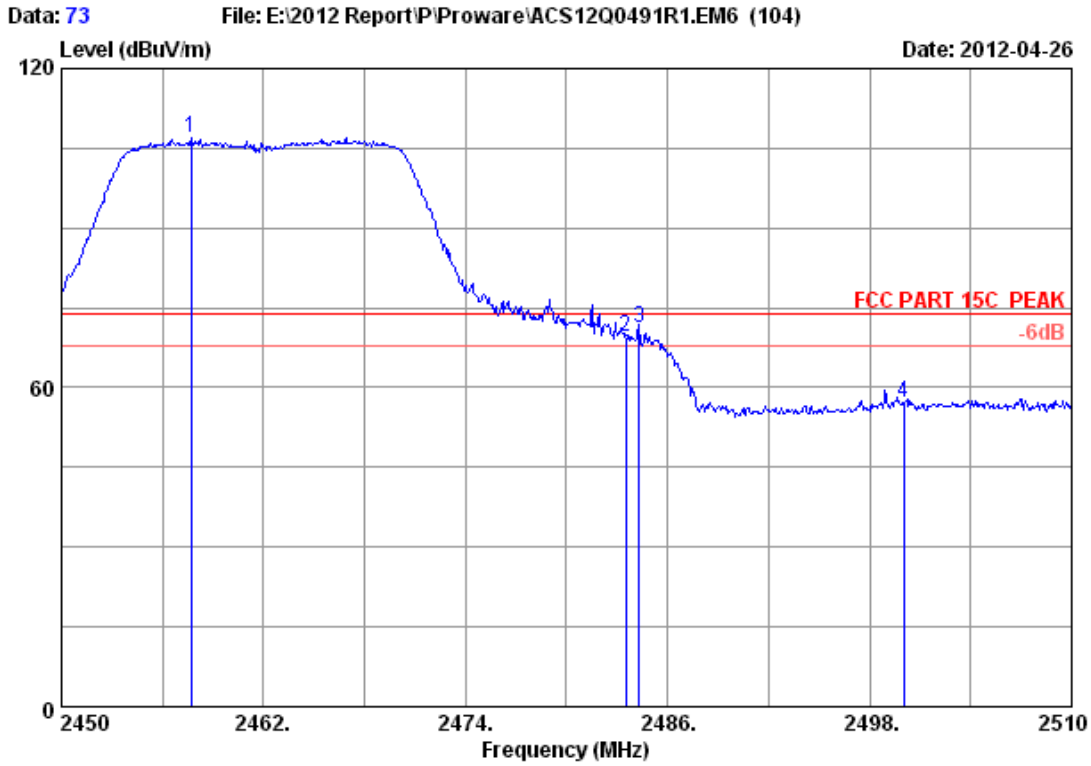
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 56
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT20 CH1 2412MHz Tx
: PW-RN401D

	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	27.96	6.01	34.44	56.99	56.52	74.00	17.48	Peak
2	2400.000	27.96	6.01	34.44	66.97	66.50	74.00	7.50	Peak
3	2415.225	27.98	6.03	34.44	95.39	94.96	74.00	-20.96	Peak

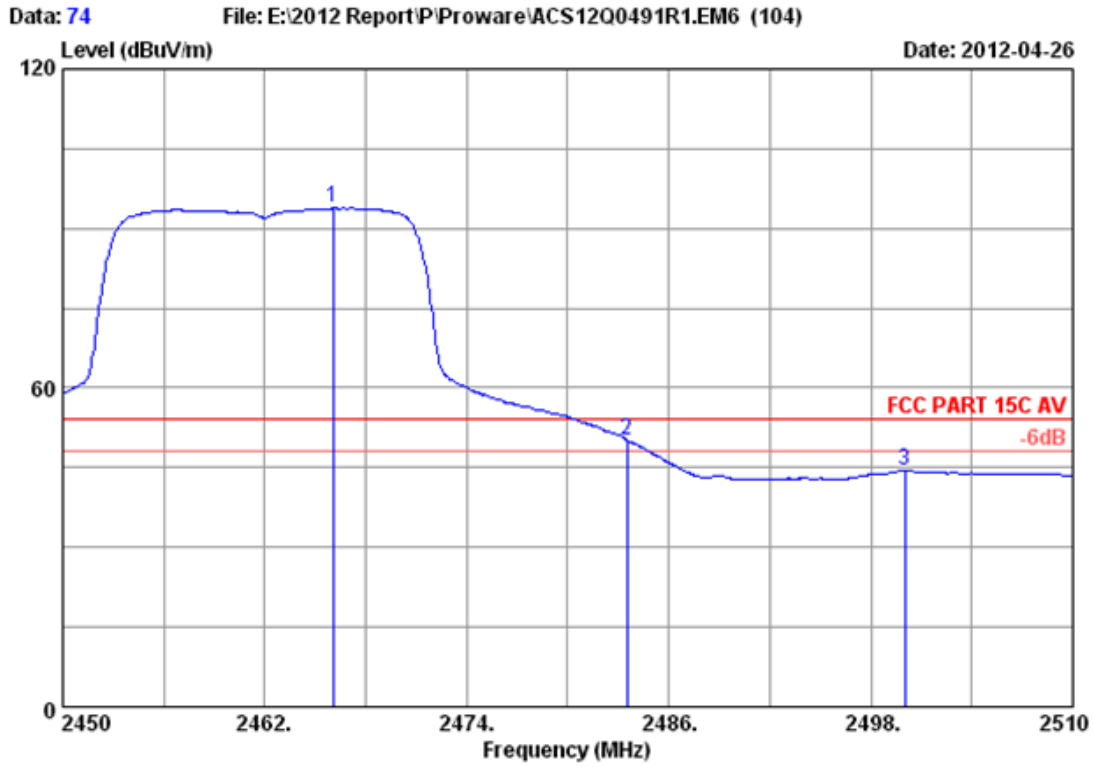
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 73
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT20 CH11 2462MHz Tx
: PW-RN401D

	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	2457.680	28.05	6.12	34.44	107.30	107.03	74.00	-33.03	Peak
2	2483.500	28.08	6.15	34.45	69.79	69.57	74.00	4.43	Peak
3	2484.320	28.08	6.15	34.45	71.54	71.32	74.00	2.68	Peak
4	2500.000	28.10	6.18	34.45	57.45	57.28	74.00	16.72	Peak

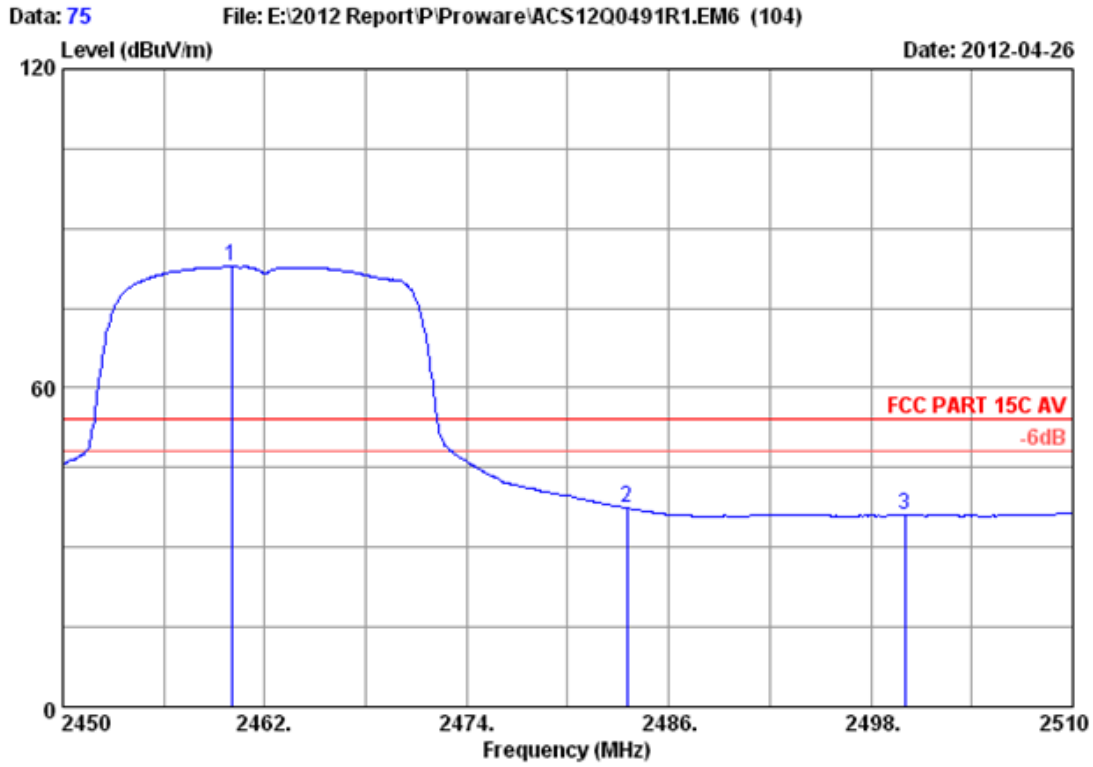
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 74
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT20 CH11 2462MHz Tx
: PW-RN401D

	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	2466.080	28.05	6.12	34.45	94.11	93.83	54.00	-39.83	Average
2	2483.500	28.08	6.15	34.45	50.52	50.30	54.00	3.70	Average
3	2500.000	28.10	6.18	34.45	44.70	44.53	54.00	9.47	Average

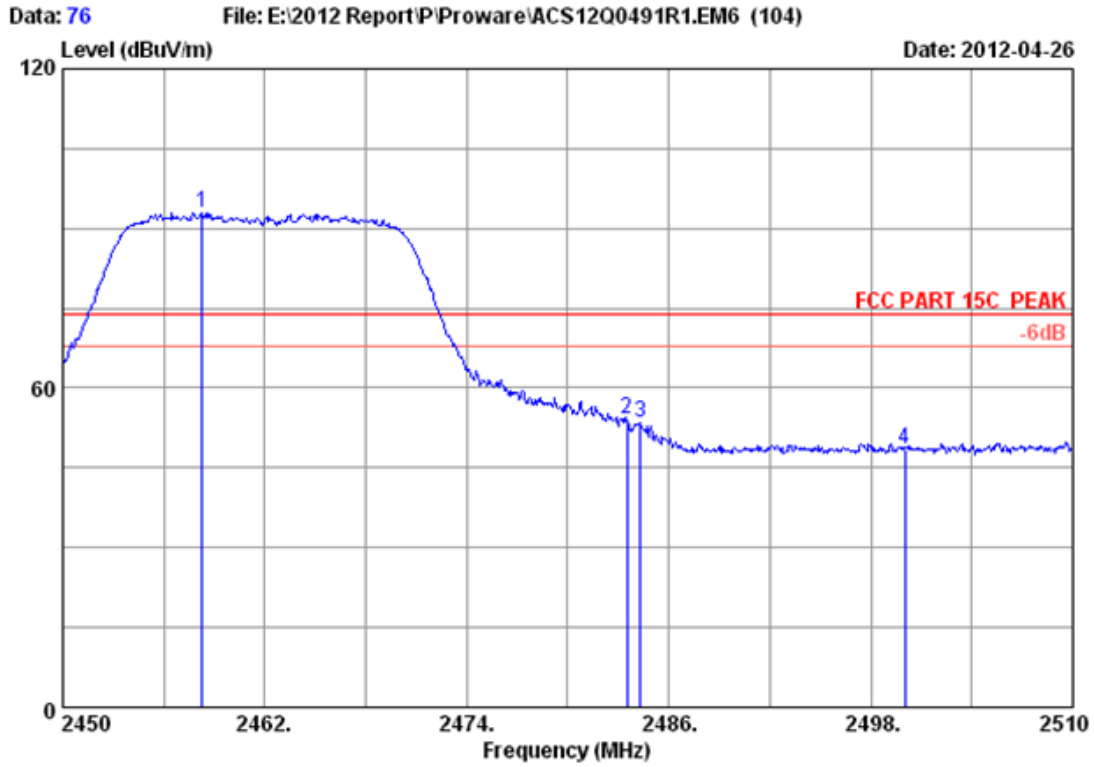
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 75
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT20 CH11 2462MHz Tx
: PW-RN401D

	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	2460.020	28.05	6.12	34.44	83.15	82.88	54.00	-28.88	Average
2	2483.500	28.08	6.15	34.45	37.66	37.44	54.00	16.56	Average
3	2500.000	28.10	6.18	34.45	36.17	36.00	54.00	18.00	Average

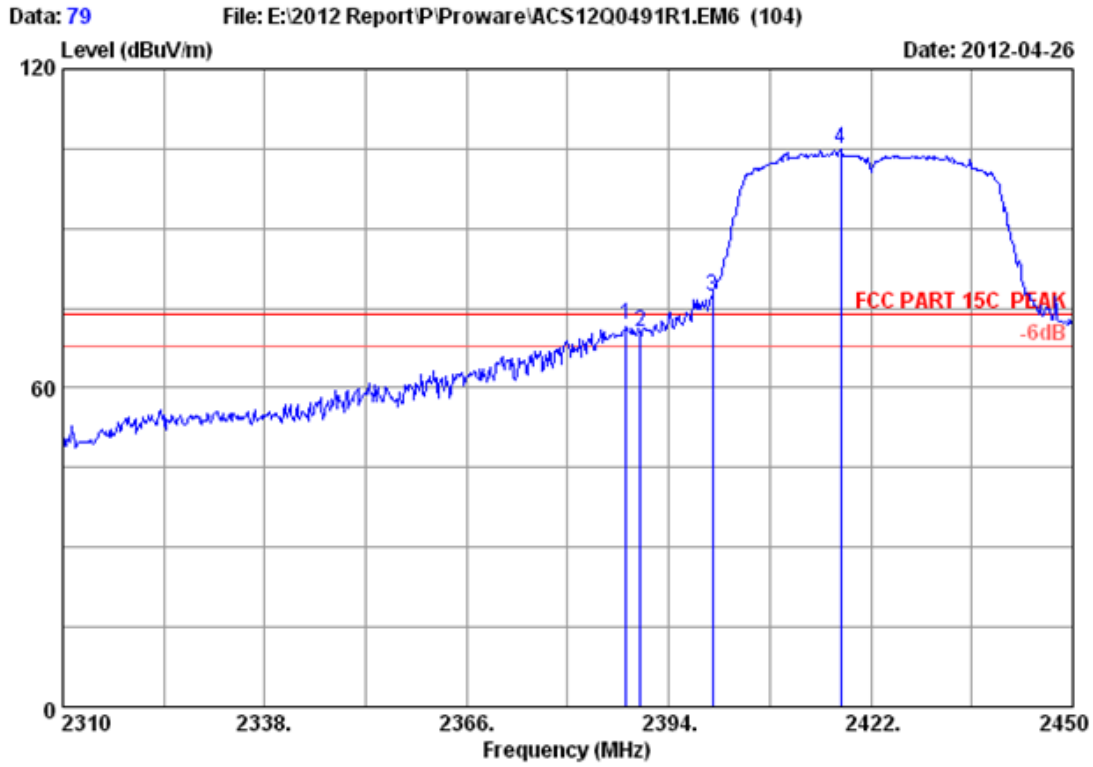
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 76
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT20 CH11 2462MHz Tx
: PW-RN401D

	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	2458.280	28.05	6.12	34.44	93.18	92.91	74.00	-18.91	Peak
2	2483.500	28.08	6.15	34.45	54.37	54.15	74.00	19.85	Peak
3	2484.320	28.08	6.15	34.45	53.83	53.61	74.00	20.39	Peak
4	2500.000	28.10	6.18	34.45	48.74	48.57	74.00	25.43	Peak

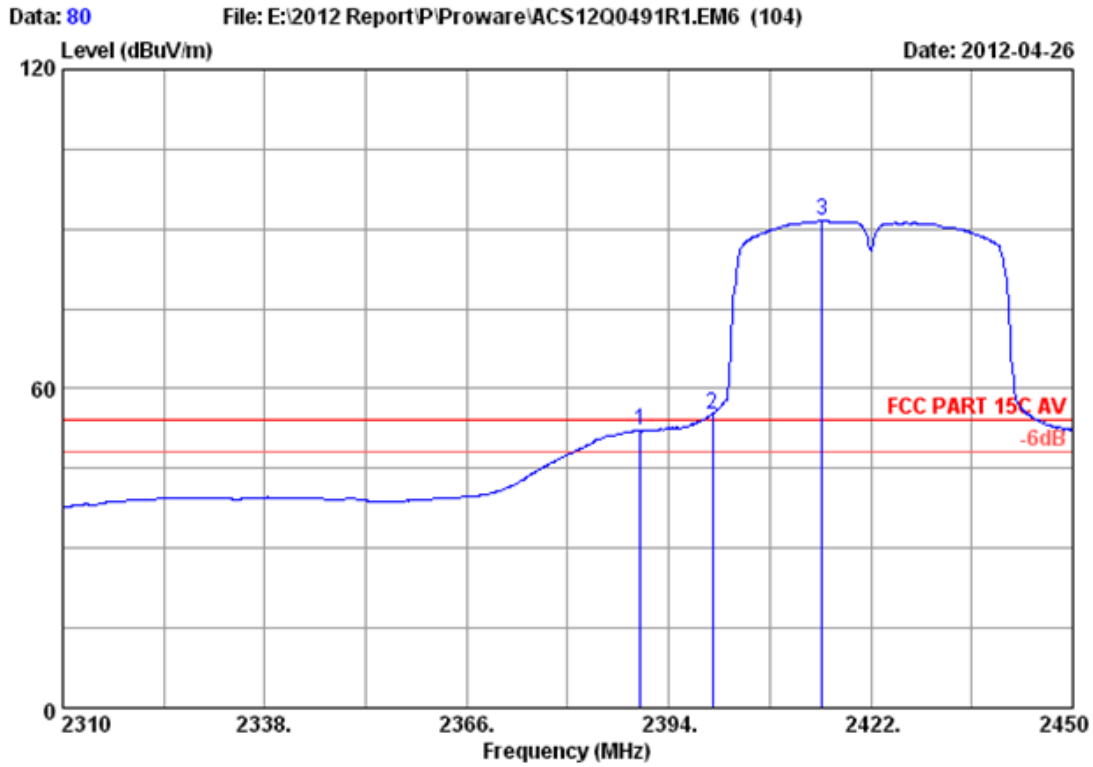
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 79
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH1 2422MHz Tx
: PW-RN401D

	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	2388.120	27.96	6.01	34.44	72.36	71.89	74.00	2.11	Peak
2	2390.000	27.96	6.01	34.44	70.88	70.41	74.00	3.59	Peak
3	2400.000	27.96	6.01	34.44	77.85	77.38	74.00	-3.38	Peak
4	2417.800	27.98	6.03	34.44	105.55	105.12	74.00	-31.12	Peak

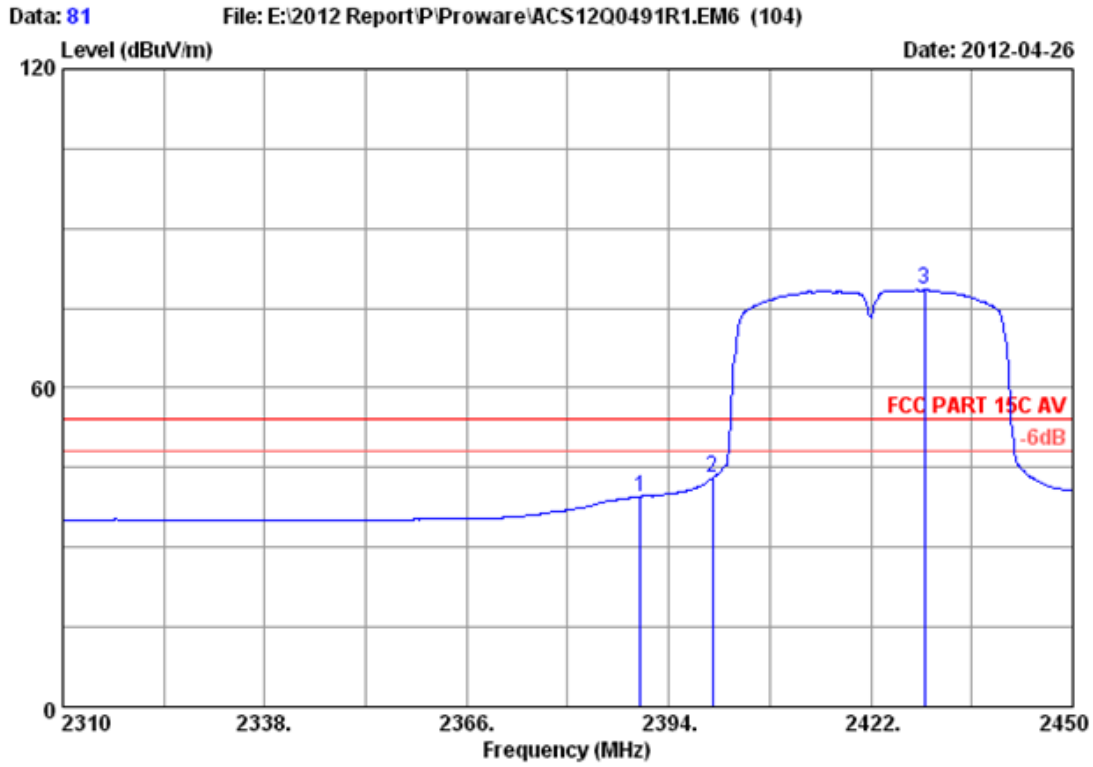
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 80
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH1 2422MHz Tx
: PW-RN401D

	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	27.96	6.01	34.44	52.49	52.02	54.00	1.98	Average
2	2400.000	27.96	6.01	34.44	55.70	55.23	54.00	-1.23	Average
3	2415.280	27.98	6.03	34.44	91.93	91.50	54.00	-37.50	Average

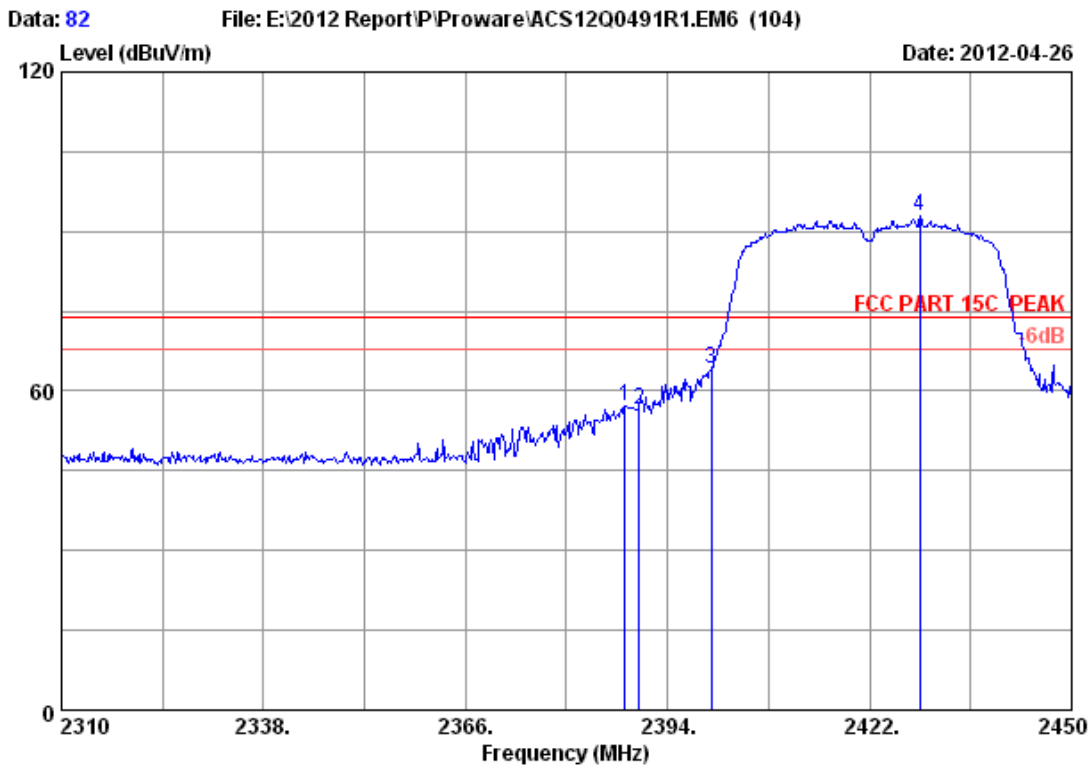
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 81
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH1 2422MHz Tx
: PW-RN401D

	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	27.96	6.01	34.44	40.04	39.57	54.00	14.43	Average
2	2400.000	27.96	6.01	34.44	43.51	43.04	54.00	10.96	Average
3	2429.420	28.00	6.06	34.44	78.82	78.44	54.00	-24.44	Average

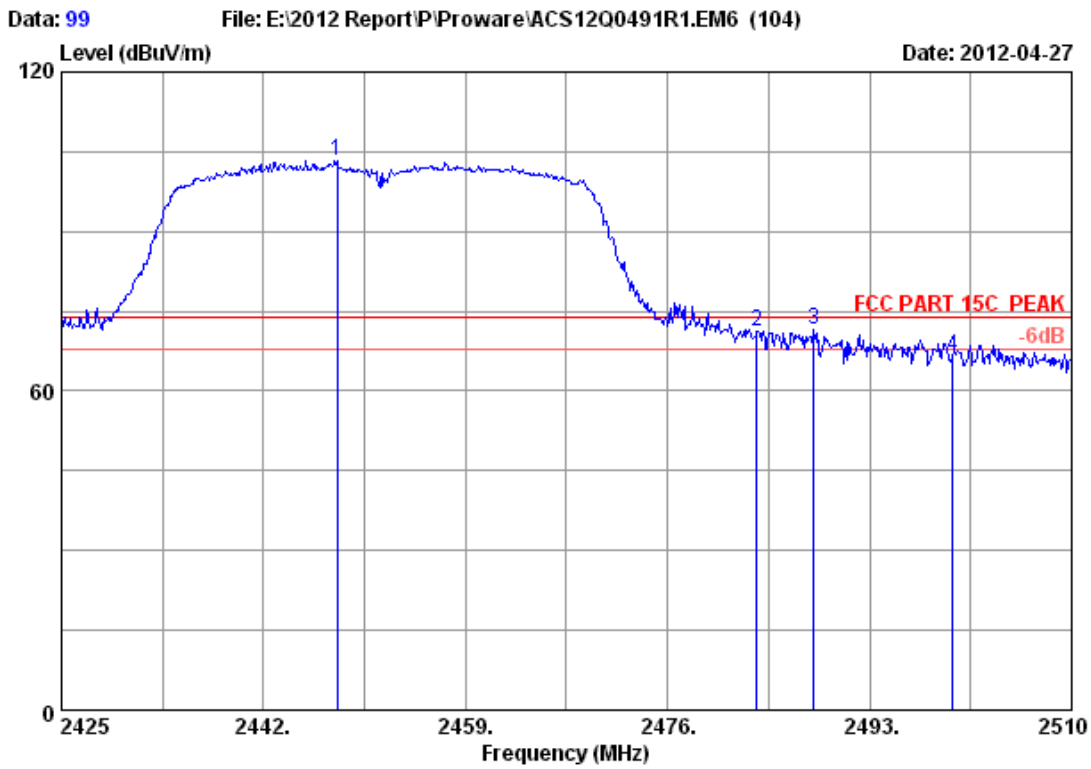
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 82
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH1 2422MHz Tx
: PW-RN401D

	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	2388.120	27.96	6.01	34.44	57.64	57.17	74.00	16.83	Peak
2	2390.000	27.96	6.01	34.44	57.06	56.59	74.00	17.41	Peak
3	2400.000	27.96	6.01	34.44	64.73	64.26	74.00	9.74	Peak
4	2429.000	28.00	6.06	34.44	93.18	92.80	74.00	-18.80	Peak

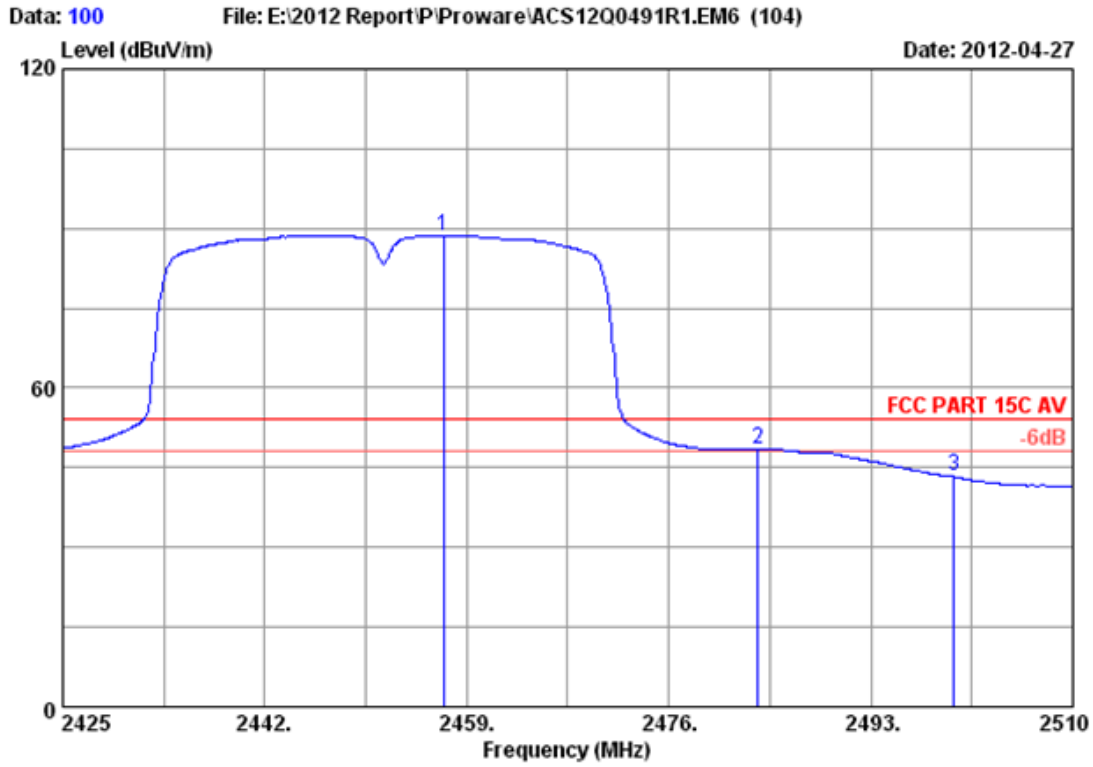
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 99
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH7 2452MHz Tx
: PW-RN401D

	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	2448.205	28.03	6.09	34.44	103.75	103.43	74.00	-29.43	Peak
2	2483.500	28.08	6.15	34.45	71.48	71.26	74.00	2.74	Peak
3	2488.325	28.10	6.15	34.45	71.59	71.39	74.00	2.61	Peak
4	2500.000	28.10	6.18	34.45	66.81	66.64	74.00	7.36	Peak

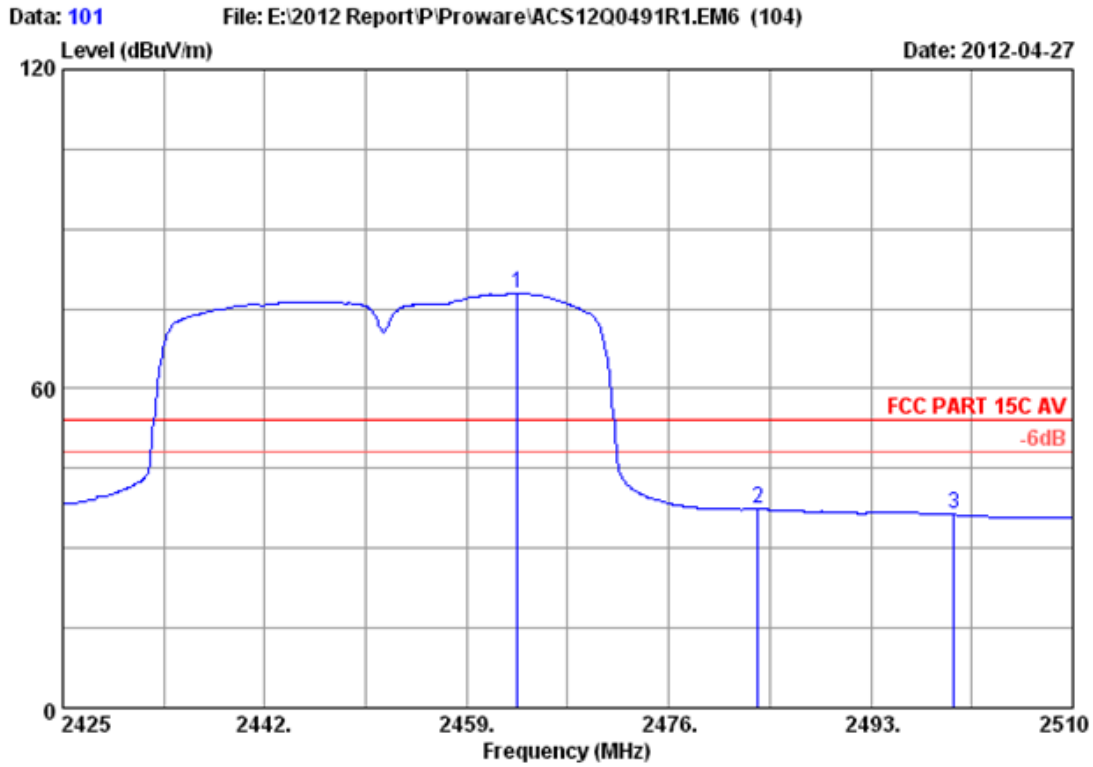
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 100
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH7 2452MHz Tx
: PW-RN401D

	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	2457.045	28.05	6.12	34.44	88.92	88.65	54.00	-34.65	Average
2	2483.500	28.08	6.15	34.45	48.71	48.49	54.00	5.51	Average
3	2500.000	28.10	6.18	34.45	43.48	43.31	54.00	10.69	Average

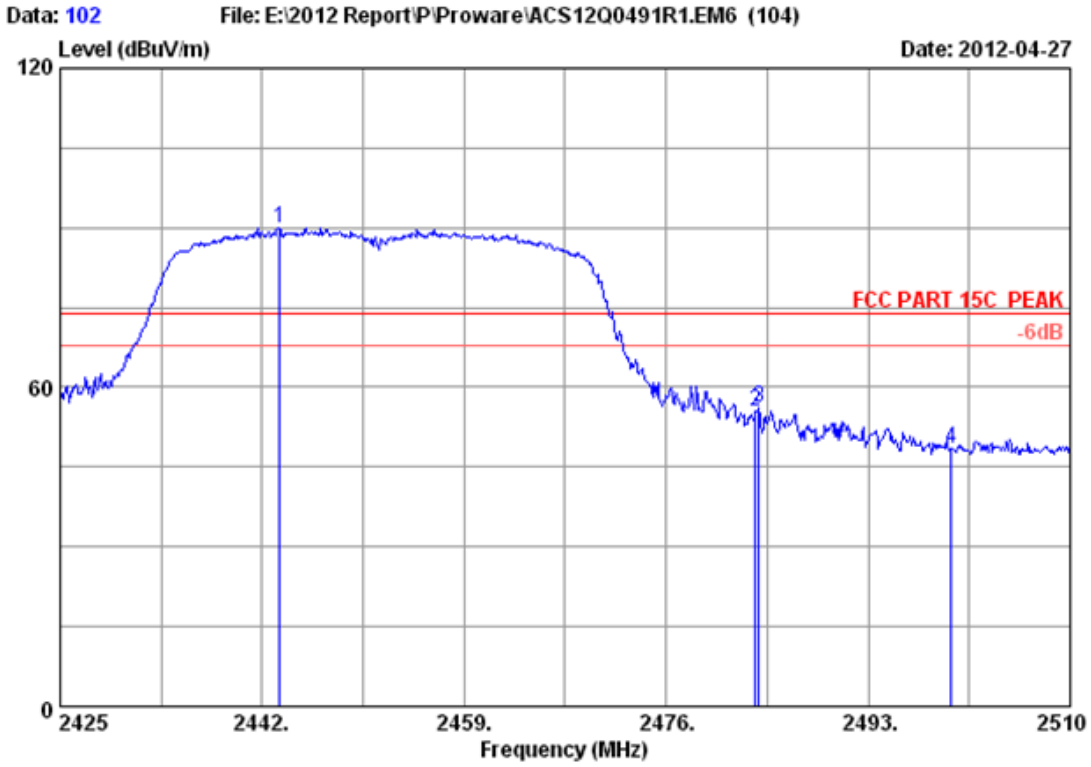
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 101
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH7 2452MHz Tx
: PW-RN401D

	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	2463.250	28.05	6.12	34.45	78.19	77.91	54.00	-23.91	Average
2	2483.500	28.08	6.15	34.45	37.51	37.29	54.00	16.71	Average
3	2500.000	28.10	6.18	34.45	36.47	36.30	54.00	17.70	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. : 3m Chamber Data no. : 102
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 150M Wireless N Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH7 2452MHz Tx
: PW-RN401D

	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	2443.445	28.03	6.09	34.44	90.40	90.08	74.00	-16.08	Peak
2	2483.500	28.08	6.15	34.45	55.56	55.34	74.00	18.66	Peak
3	2483.820	28.08	6.15	34.45	56.52	56.30	74.00	17.70	Peak
4	2500.000	28.10	6.18	34.45	48.76	48.59	74.00	25.41	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.

7. 6dB Bandwidth Test

7.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	US44300459	May.08, 11	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 11	1 Year
3.	Antenna	EMCO	3115	9510-4580	May.31, 11	1Year
4.	HF Cable	Hubersuhner	Sucoflex104	-	May.08, 11	1 Year

7.2.Limit

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

7.3.Test Procedure

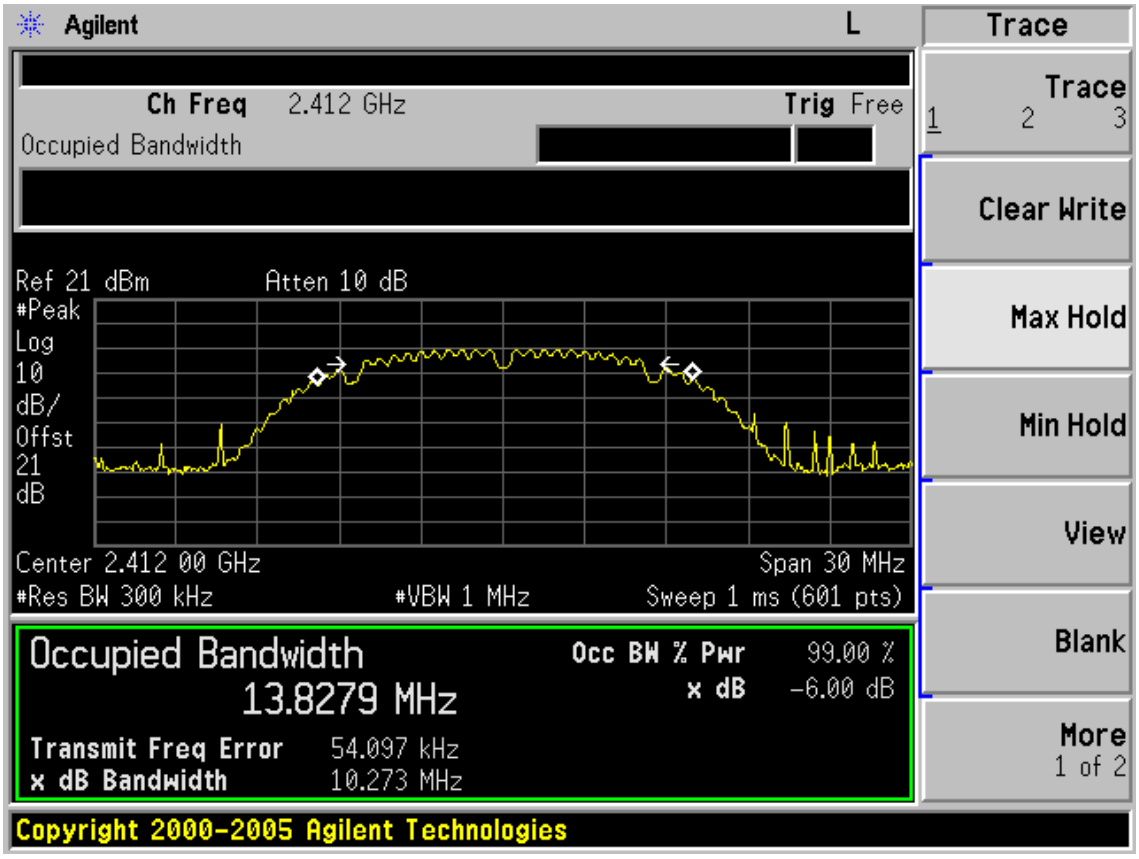
The transmitter output was connected to a spectrum analyzer, The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 300 kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

7.4.Test Results

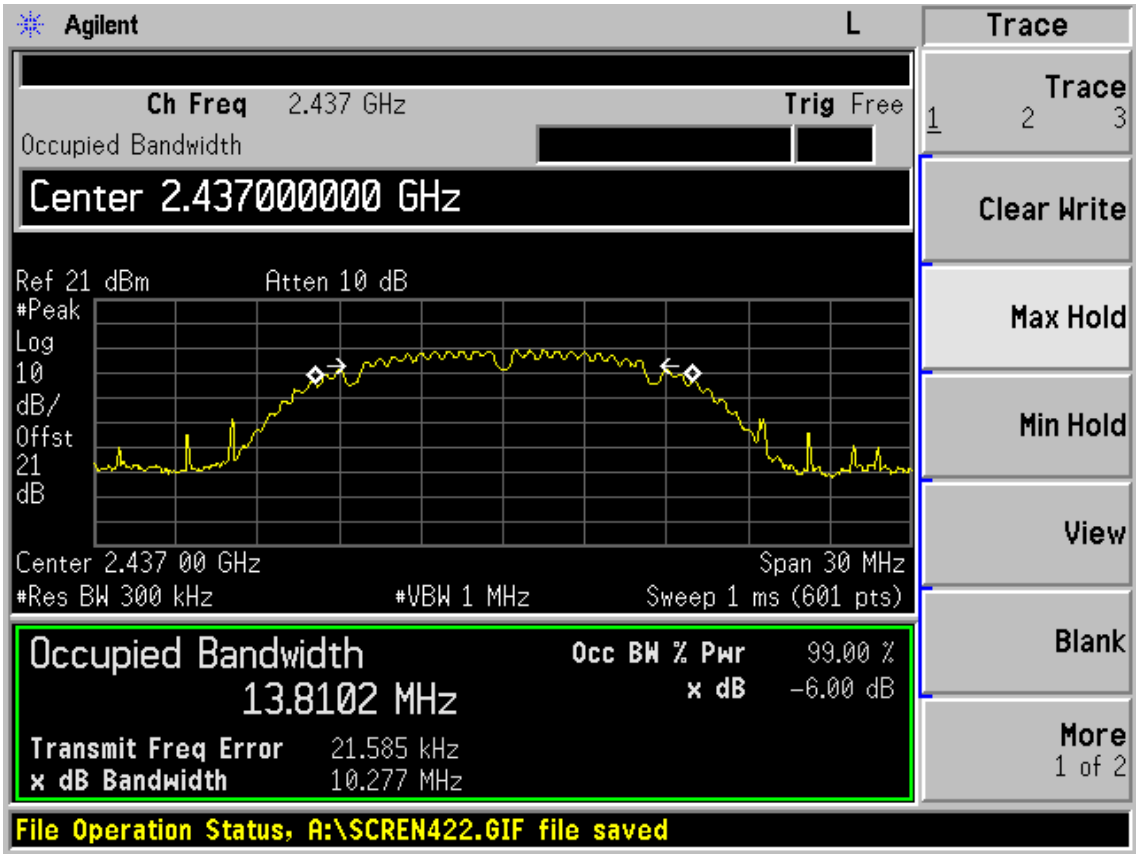
EUT: 150M Wireless N Router		
M/N: PW-RN401D		
Test date: 2012-05-04	Pressure: 101.1kpa	Humidity: 53.2%
Tested by: Leo-Li	Test site: RF Site	Temperature：24.9 ℃

Cable loss: 1 dB		Attenuator loss: 20 dB	
Test Mode	CH	6dB bandwidth （MHz）	Limit (KHz)
11b	CH1	10.273	>500
	CH6	10.277	>500
	CH11	10.246	>500
11g	CH1	16.373	>500
	CH6	16.357	>500
	CH11	16.388	>500
11n HT20	CH1	17.514	>500
	CH6	17.576	>500
	CH11	17.563	>500
11n HT40	CH1	35.286	>500
	CH4	34.577	>500
	CH7	35.627	>500
Conclusion：PASS			

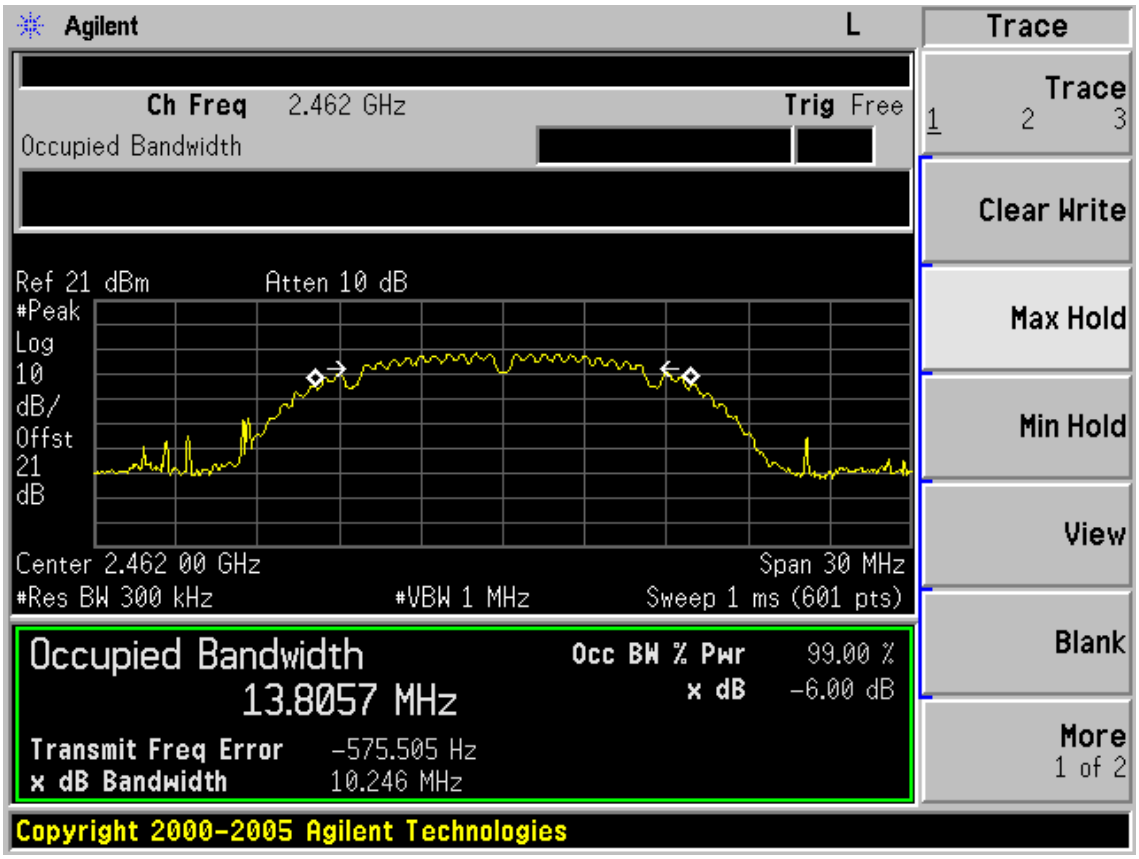
Test Mode: IEEE 802.11b TX
Test CH1: 2412MHz



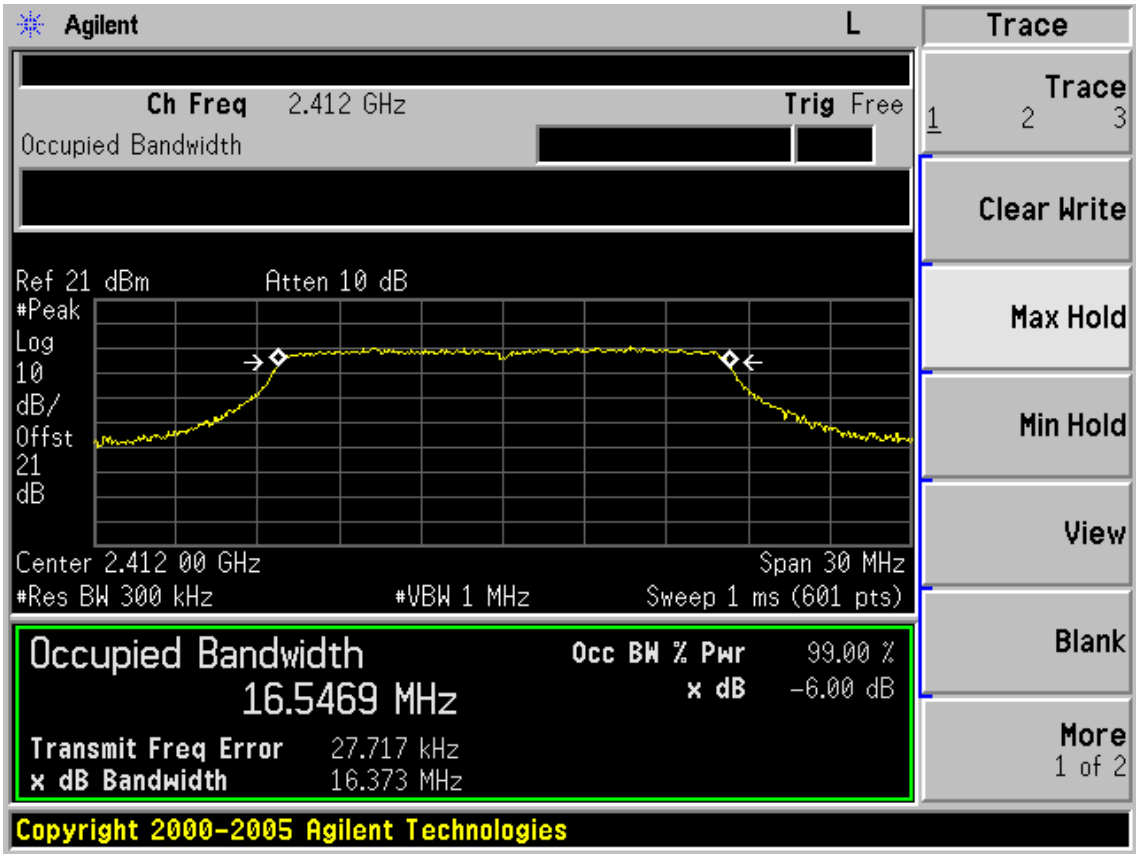
Test CH6: 2437MHz



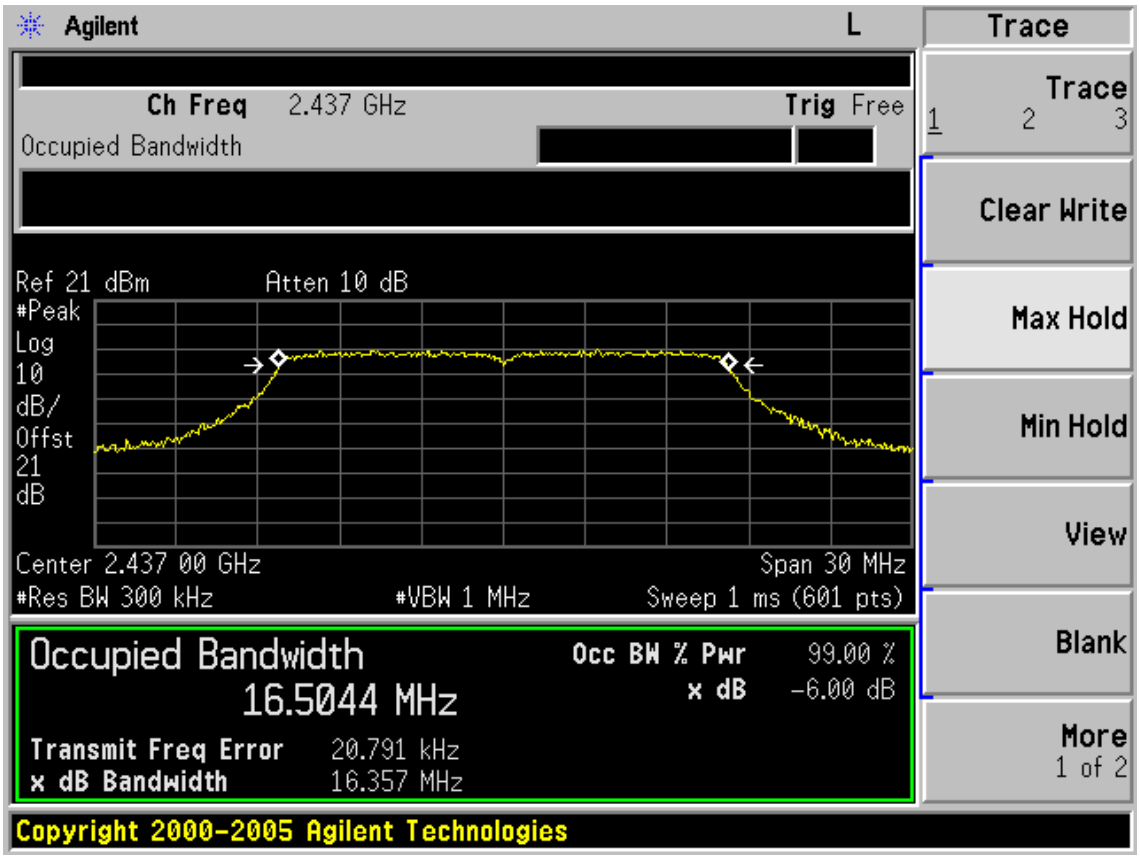
Test CH11: 2462MHz



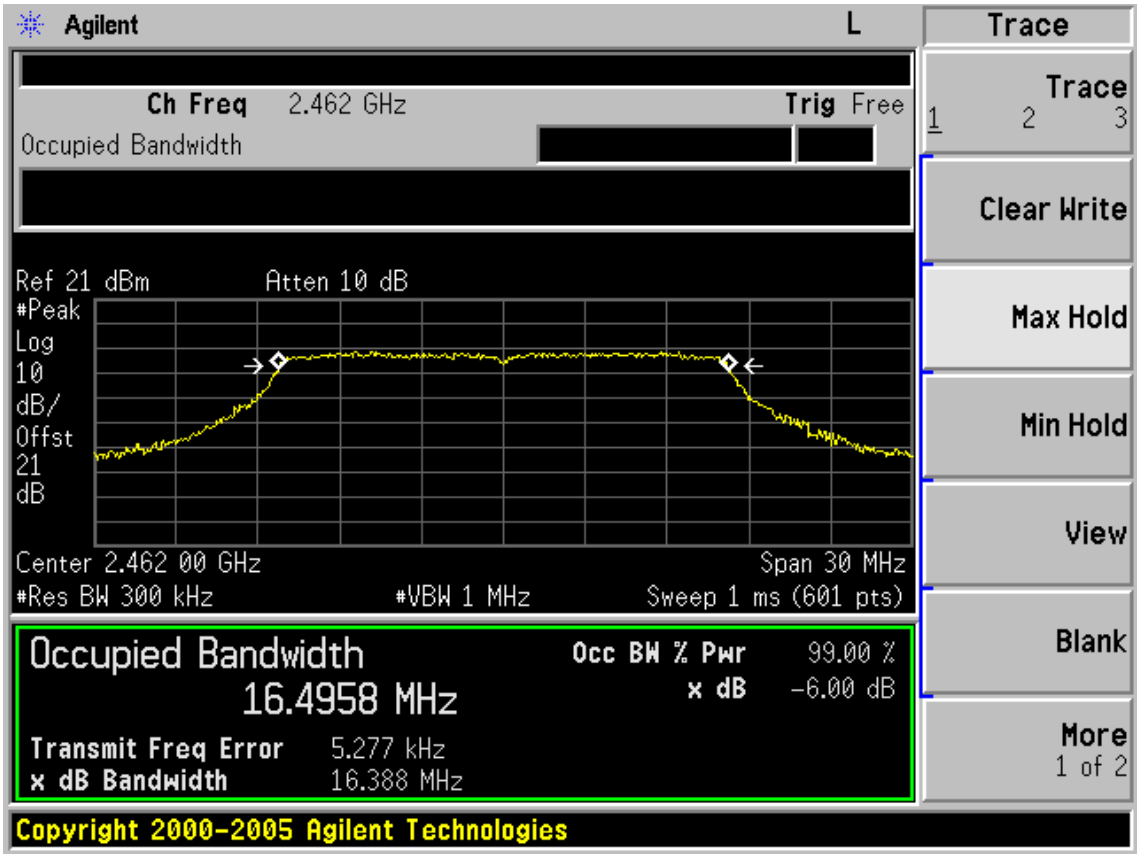
Test Mode: IEEE 802.11g TX
Test CH1: 2412MHz



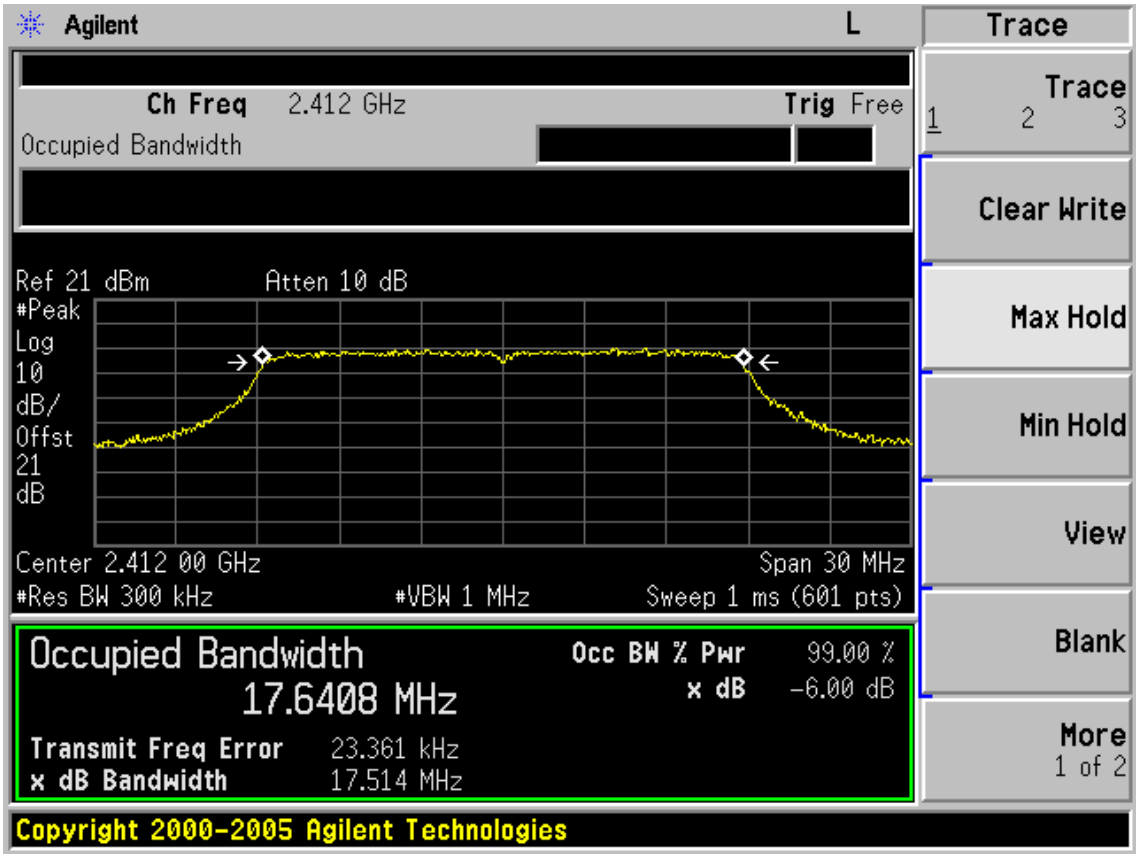
Test CH6: 2437MHz



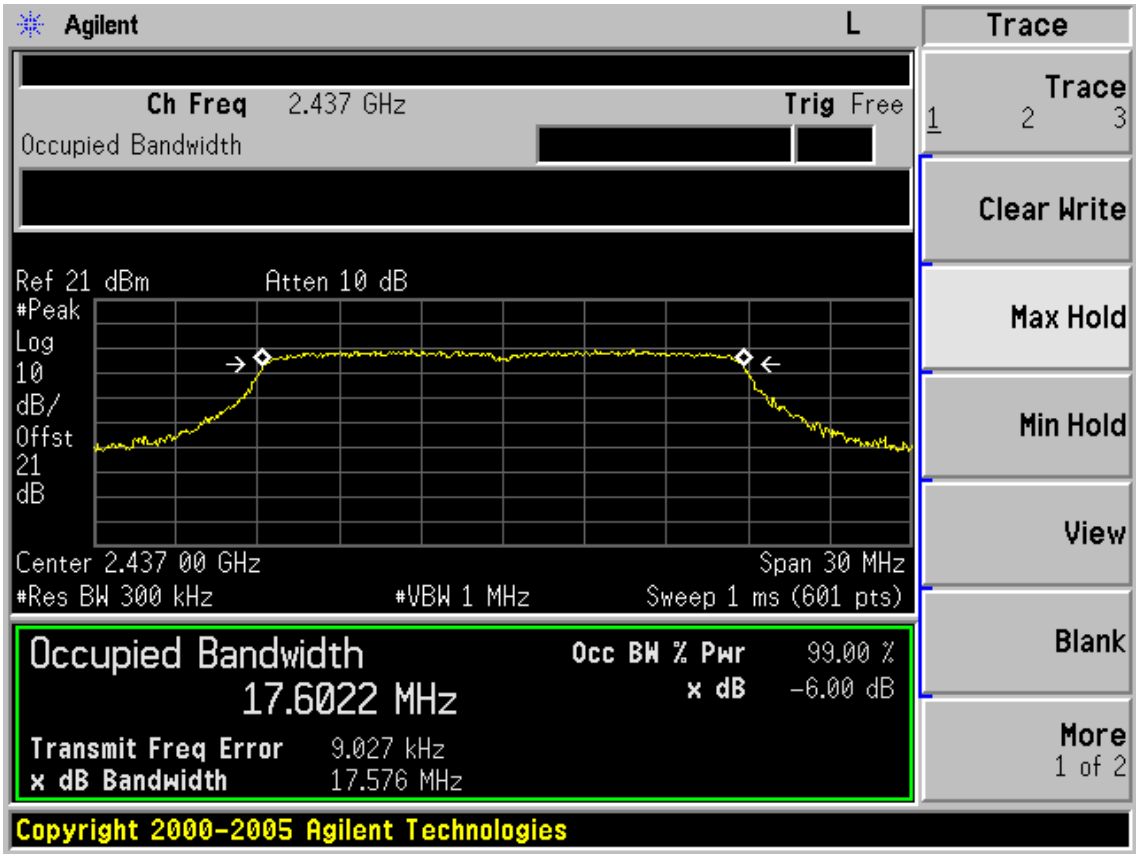
Test CH11: 2462MHz



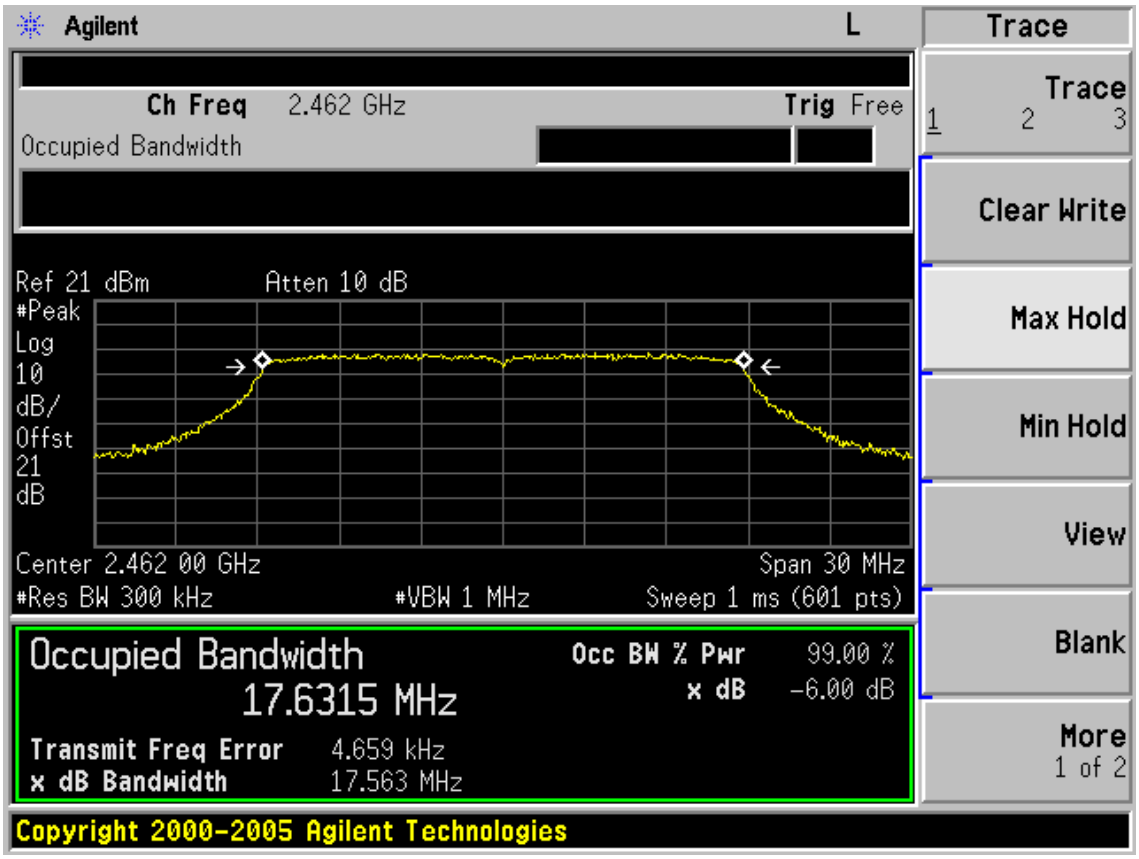
Test Mode: IEEE 802.11n HT20 TX
Test CH1: 2412MHz



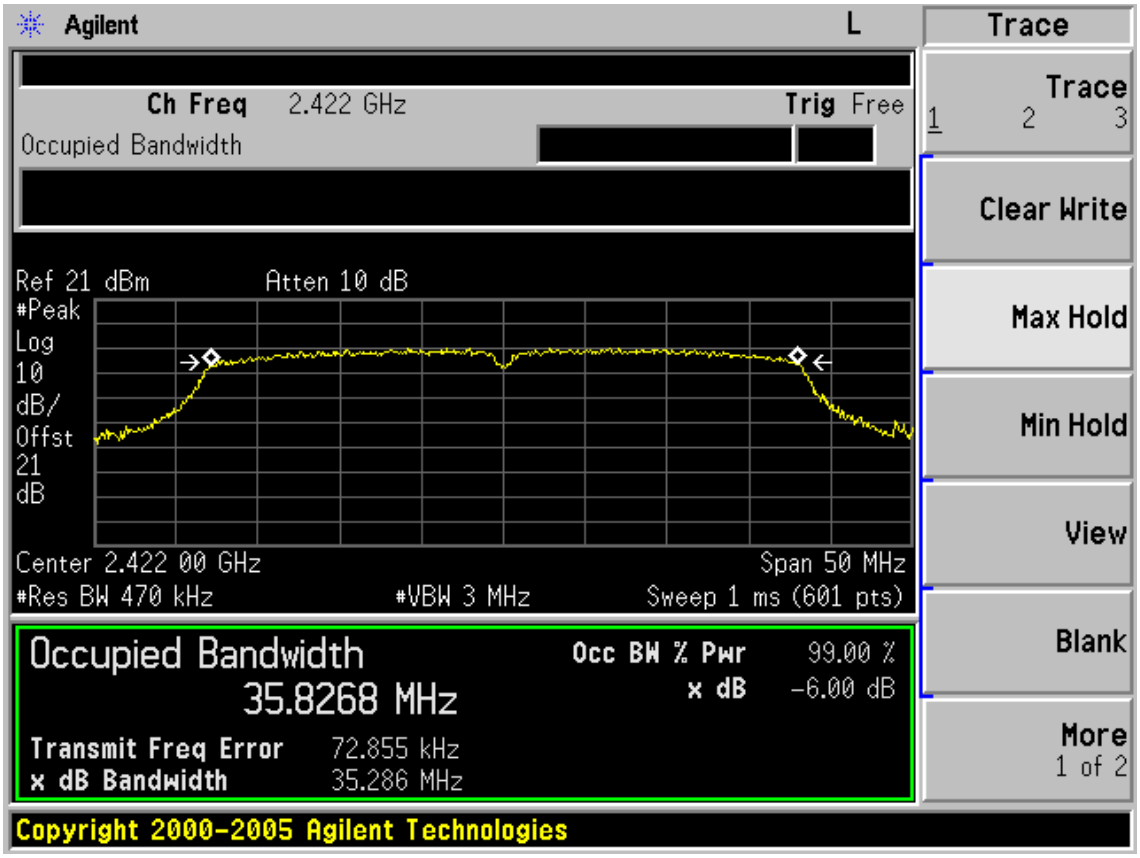
Test CH6: 2437MHz



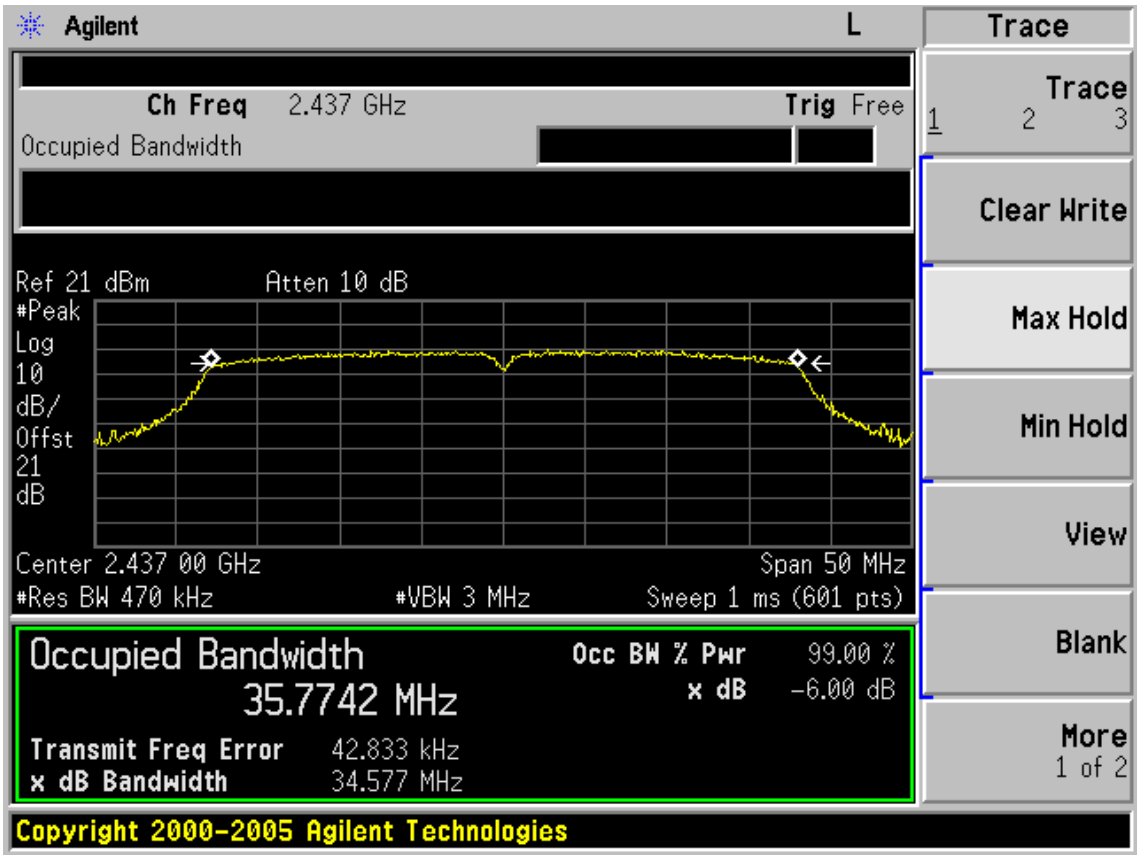
Test CH11: 2462MHz



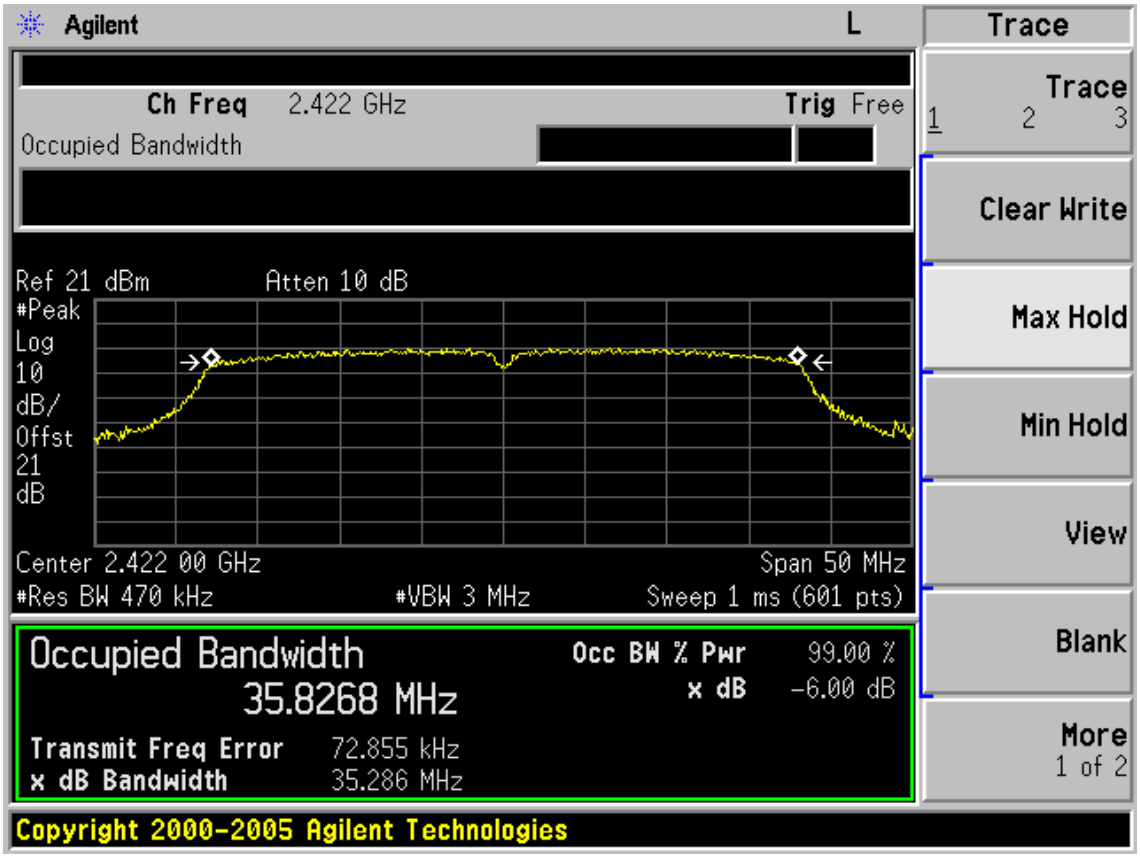
Test Mode: IEEE 802.11n HT40 TX
Test CH1: 2422MHz



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.	Spectrum	Agilent	E4446A	US44300459	May.08, 11	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 11	1 Year
3.	Antenna	EMCO	3115	9510-4580	May.31, 11	1Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 11	1 Year
5.	Power Meter	Anritsu	ML2487A	6K00002472	May.08, 11	1Year
6.	Power Sensor	Anritsu	MA2491A	033005	May.08, 11	1Year

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 26dB attenuator.

2, For IEEE 802.11b/g and IEEE802.11n HT20 mode, use a PK power meter which's bandwidth is 20MHz and above 26dB 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:

Peak output power =measured power+ 10log[(26dB bandwidth of emission)/(analyzer RBW)]

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

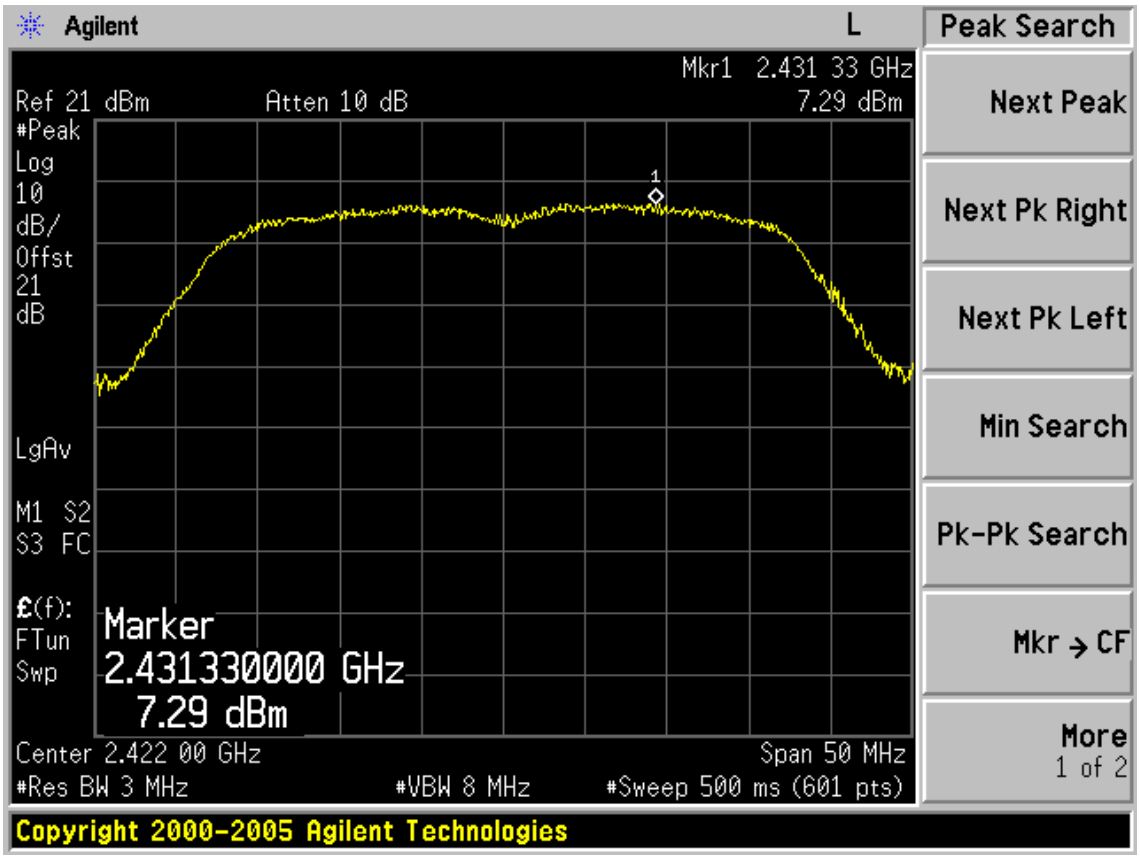
8.4.Test Results

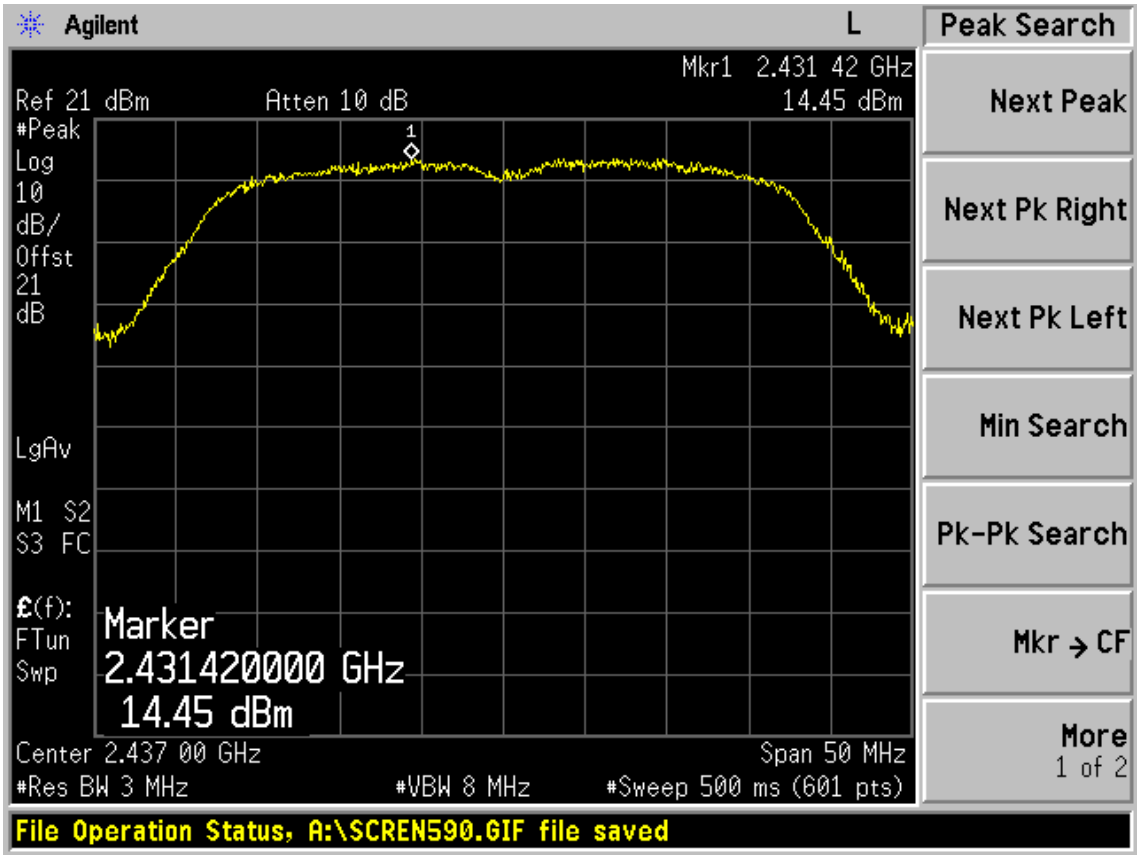
EUT: 1500M Wireless N Router		
M/N: PW-RN401D		
Test date: 2012-05-04	Pressure: 101.3 kpa	Humidity: 55.6 %
Tested by: Leo-Li	Test site: RF site	Temperature: 25.4 ℃

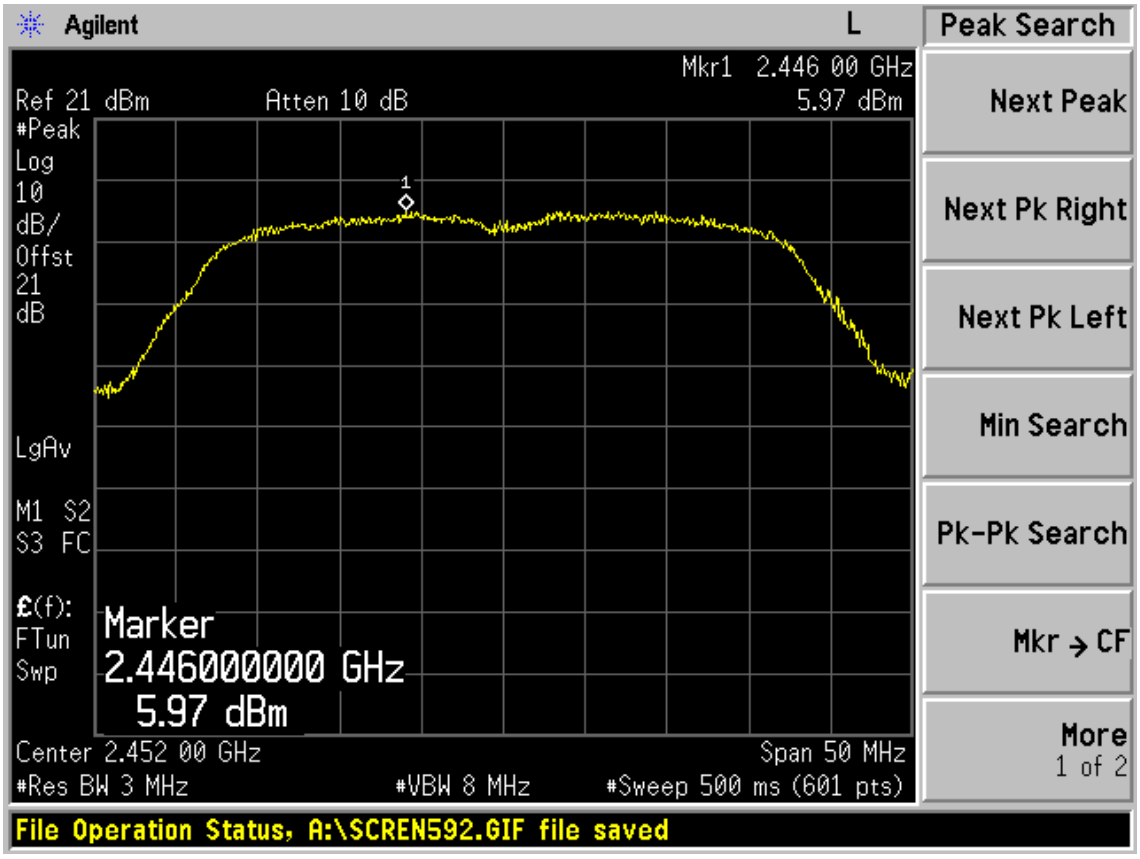
Cable loss: 1 dB		Attenuator loss: 20 dB	
Test Mode	CH (MHz)	Peak output Power（dBm）	Limit (dBm)
11b	CH1	18.99	30
	CH6	19.49	30
	CH11	18.58	30
11g	CH1	20.07	30
	CH6	26.74	30
	CH11	18.86	30
11n HT20	CH3	18.92	30
	CH6	26.66	30
	CH9	18.22	30

Test Mode	CH	Result		Limit
		Measured power(dBm)/3MHz	PK Output power (dBm)	(dBm)
11n HT40	CH1	7.29	18.73	30
	CH4	14.45	25.89	30
	CH7	5.97	17.41	30
26dB Bandwidth for 11n HT40: 41.803MHz				
BW correction factor = 10log[(41.803MHz)/(3MHz)] = 11.44dB				
Conclusion: PASS				

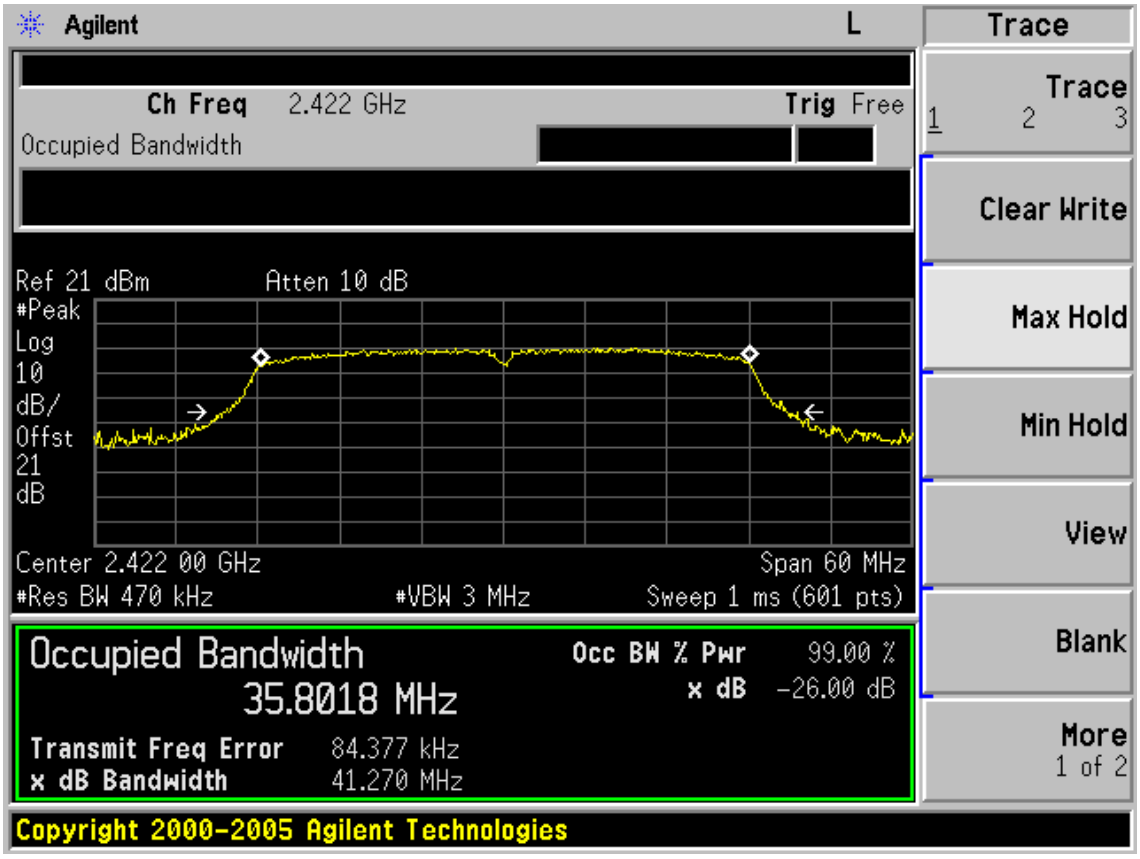
Test Mode: IEEE 802.11n HT40

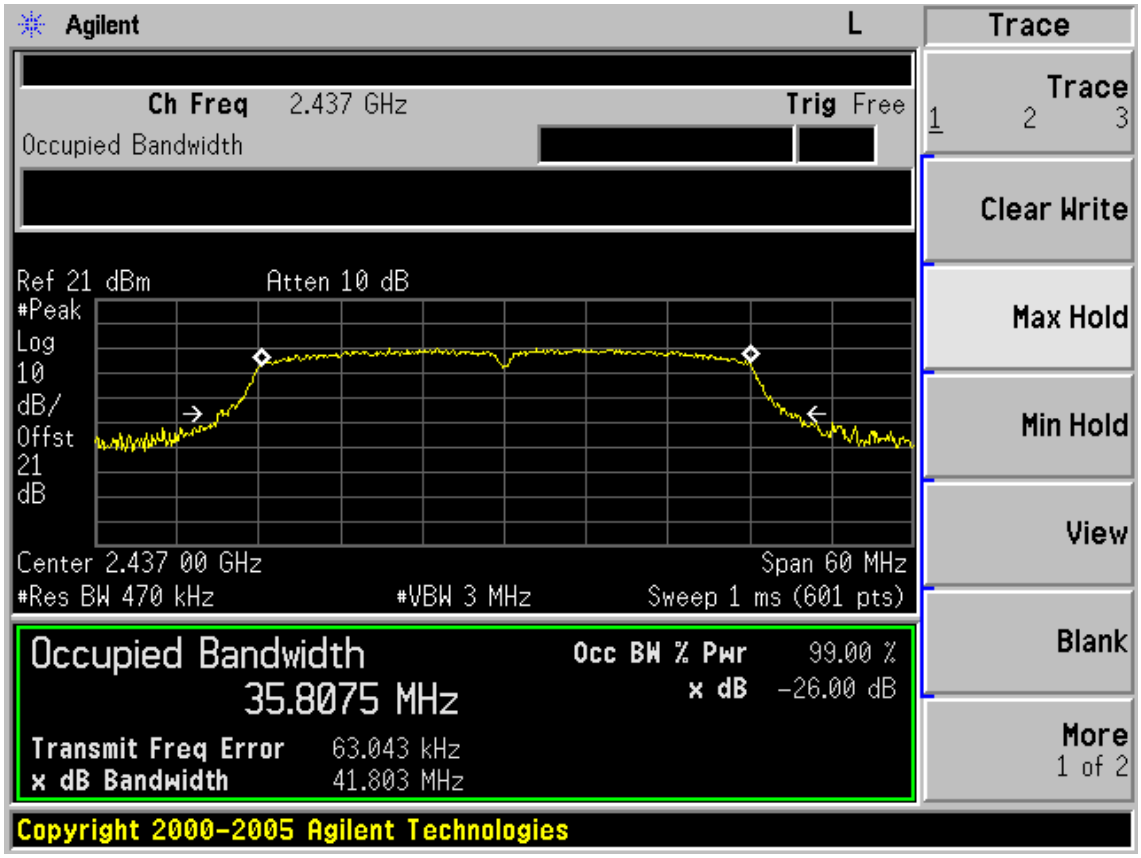


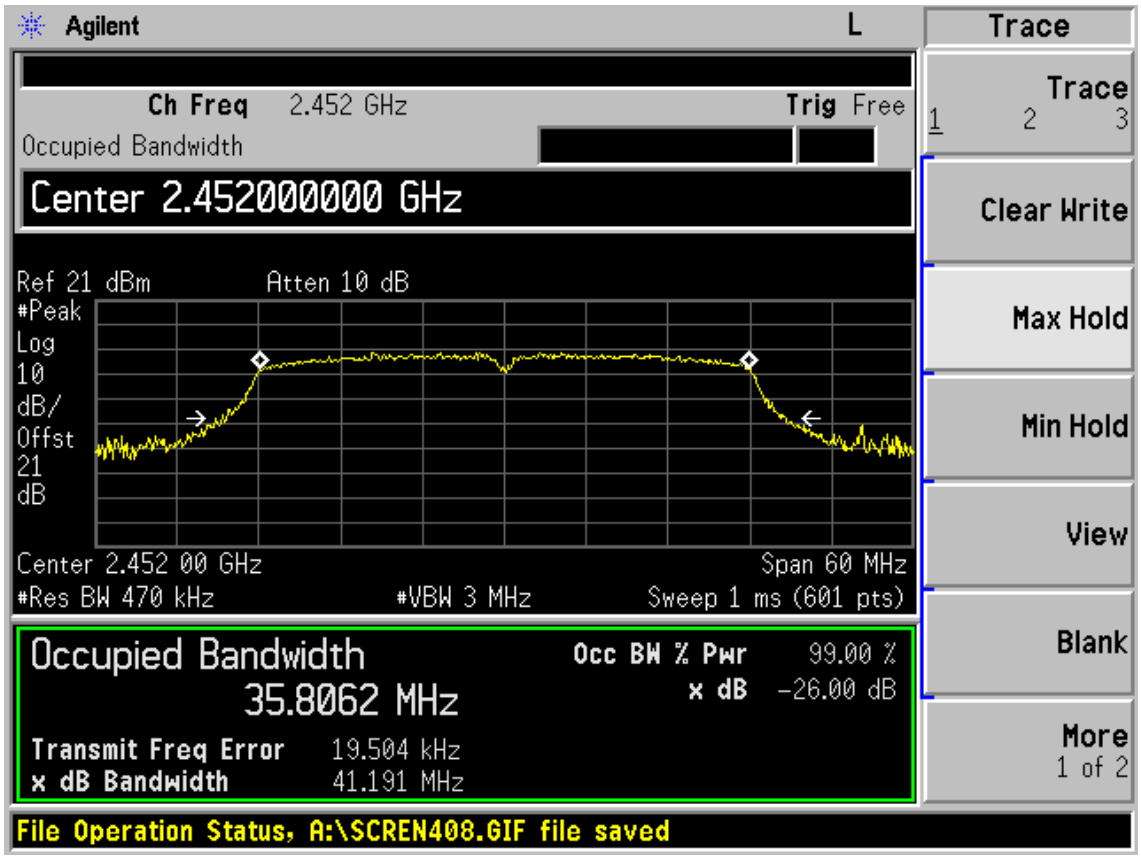




26dB Bandwidth




Agilent
L
Trace
Ch Freq 2.437 GHz
Trig Free
Occupied Bandwidth
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Ref 21 dBm
Atten 10 dB
#Peak
Log
10
dB/
Offst
21
dB
Center 2.437 00 GHz
Span 60 MHz
#Res BW 470 kHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Occupied Bandwidth
35.8075 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error 63.043 kHz
x dB Bandwidth 41.803 MHz
Copyright 2000-2005 Agilent Technologies


Agilent
L
Trace
Ch Freq 2.452 GHz
Trig Free
Occupied Bandwidth
Trace
1 2 3
Center 2.452000000 GHz
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Ref 21 dBm
Atten 10 dB
#Peak
Log
10
dB/
Offst
21
dB
Center 2.452 00 GHz
Span 60 MHz
#Res BW 470 kHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Occupied Bandwidth
35.8062 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error 19.504 kHz
x dB Bandwidth 41.191 MHz
File Operation Status, A:\SCREN408.GIF file saved

9. POWER SPECTRAL DENSITY TEST

9.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	US44300459	May.08, 11	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 11	1 Year
3.	Antenna	EMCO	3115	9510-4580	May.31, 11	1Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 11	1 Year

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 , Set the test frequency as center frequency,Set RBW=3KHz,VBW=10KHz,Span large enough capture the entire frequency,Read out maximum peak leval frequency

3, Set the frequency read from produce 2 as center frequency,then set the span= 300KHz, Sweep time=Span/RBW,Then Max hold,read out each mode and each chain's Power density.

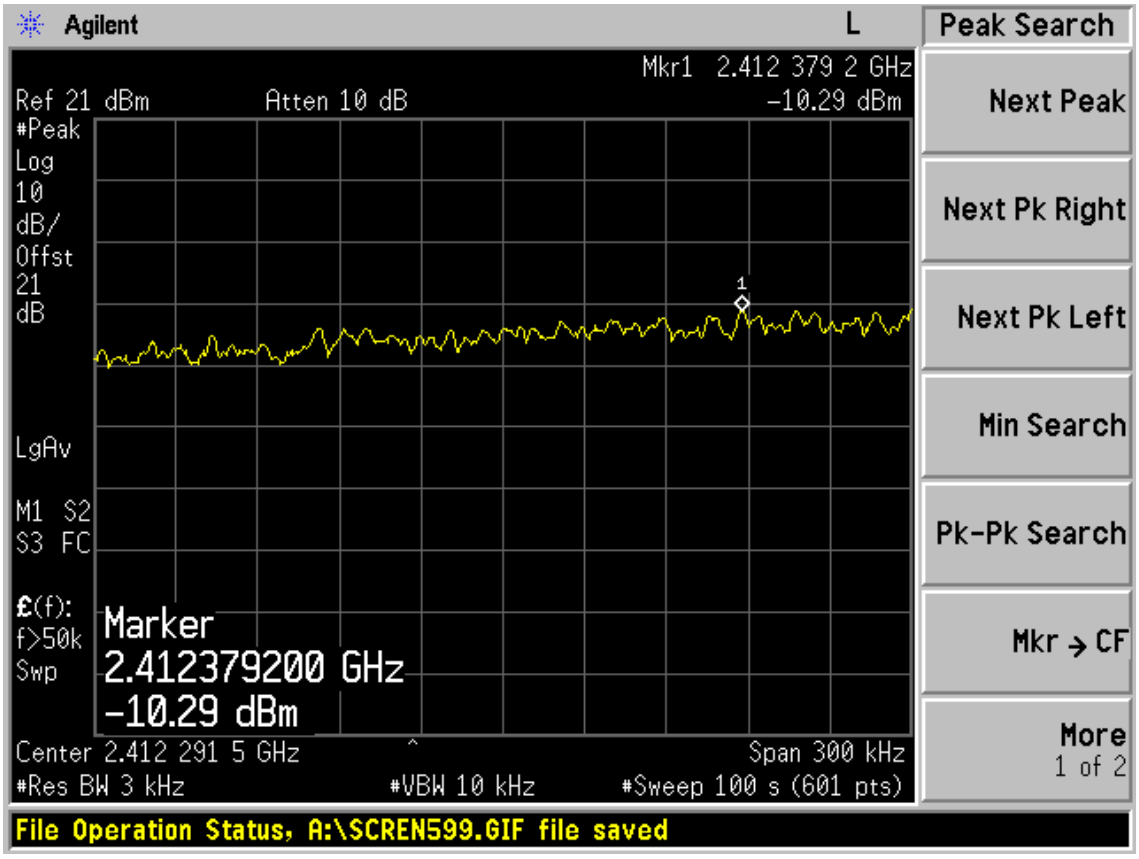
Note: The cable loss and attenuator loss were offset into measure device as an amplitude

9.4.Test Results

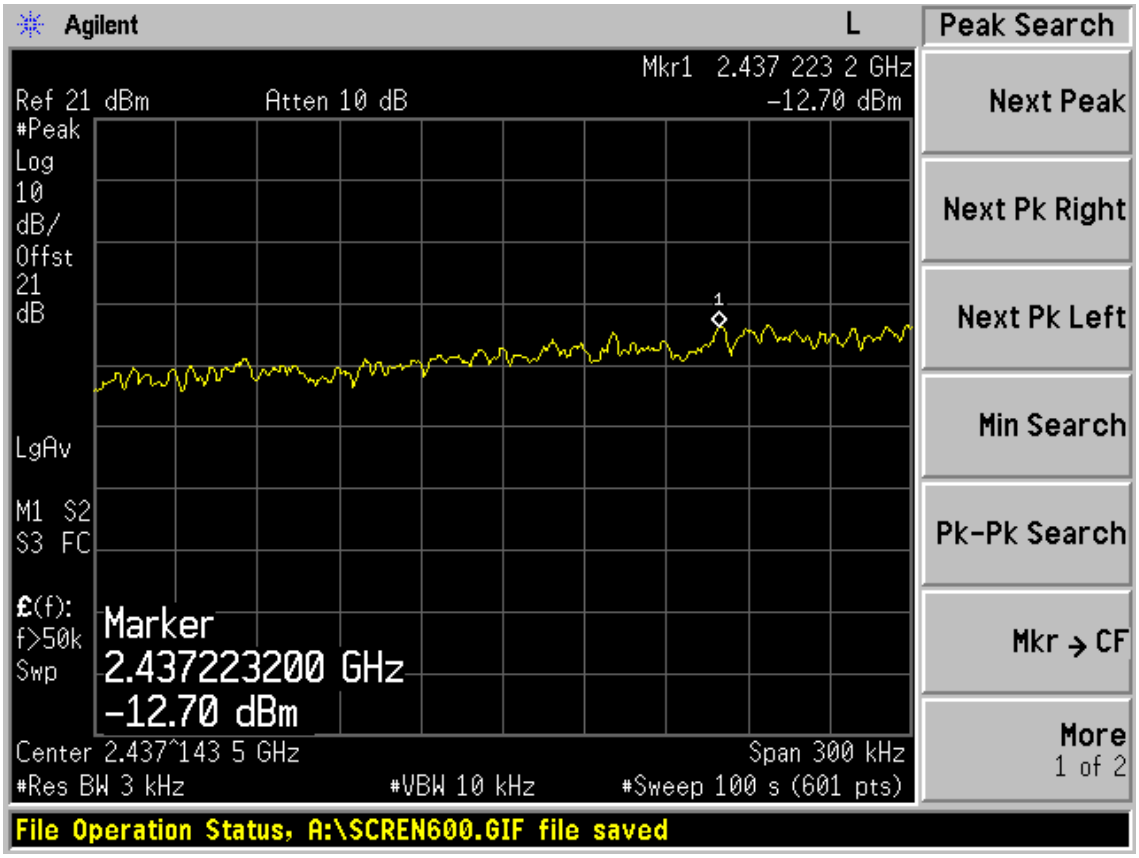
EUT: 150M Wireless Router		
M/N: PW-RN401D		
Test date:2012-05-04	Pressure: 101.2 kpa	Humidity: 52.4 %
Tested by: Leo-Li	Test site: RF Site	Temperature：25.3℃

Cable loss: 1 dB		Attenuator loss: 20 dB	
Test Mode	CH	Power density（dBm/3KHz）	Limit (dBm/3KHz)
11b	CH1	-10.29	8
	CH6	-12.70	8
	CH11	-8.94	8
11g	CH1	-17.62	8
	CH6	-6.18	8
	CH11	-14.39	8
11n HT20	CH1	-13.82	8
	CH6	-6.84	8
	CH11	-14.68	8
11n HT40	CH1	-16.55	8
	CH4	-9.08	8
	CH7	-17.67	8
Conclusion：PASS			

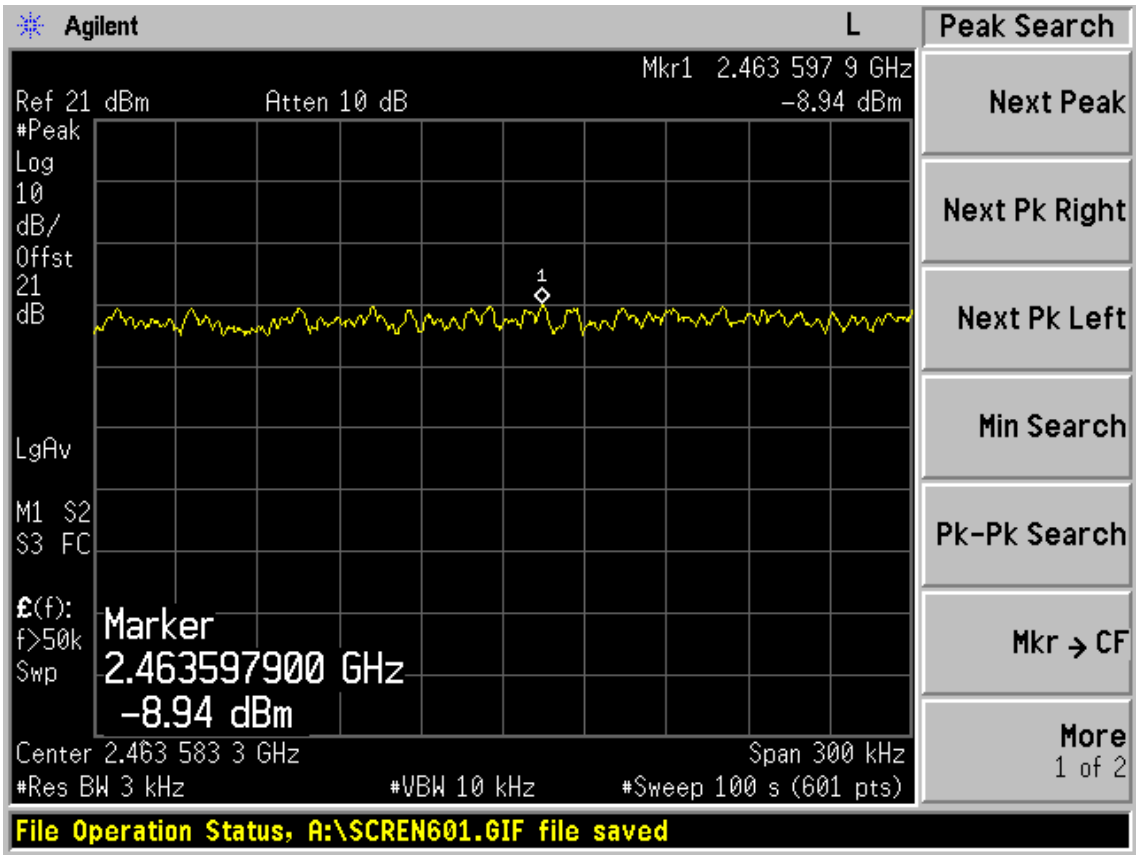
Test Mode: IEEE 802.11b TX
Test CH1: 2412MHz



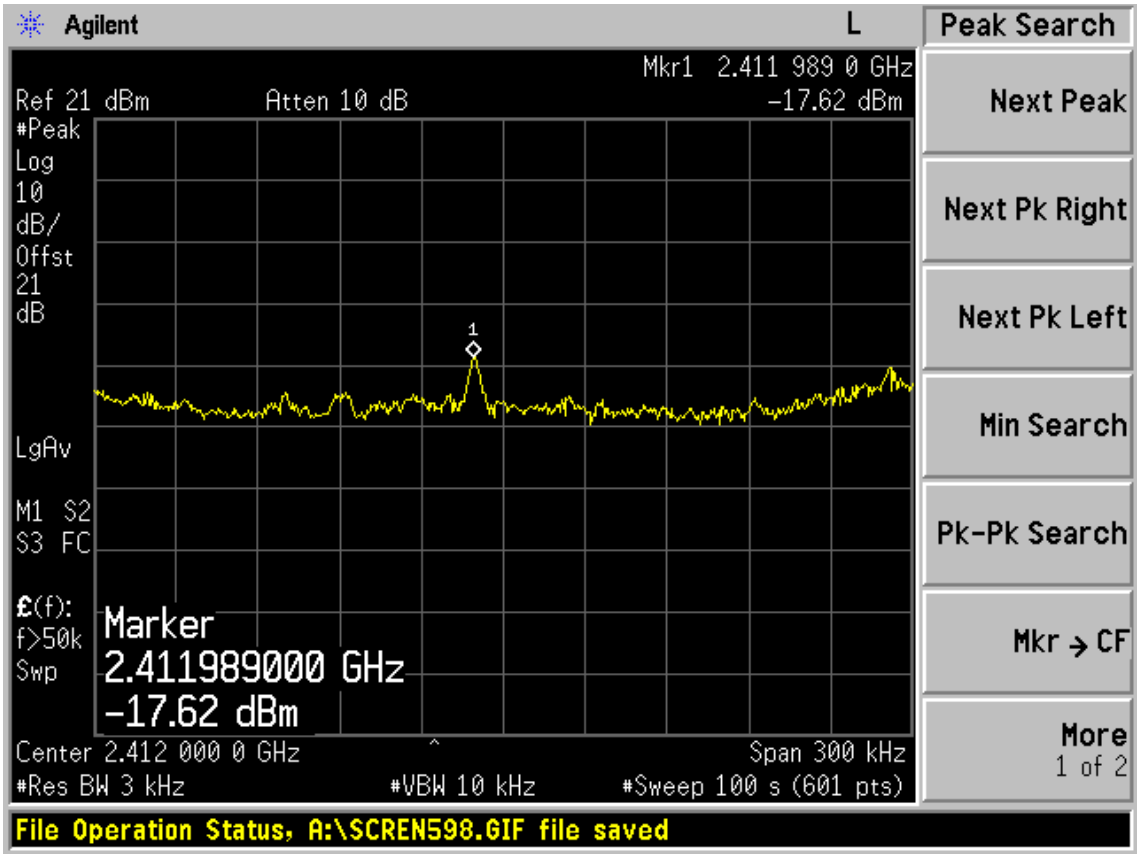
Test CH6: 2437MHz



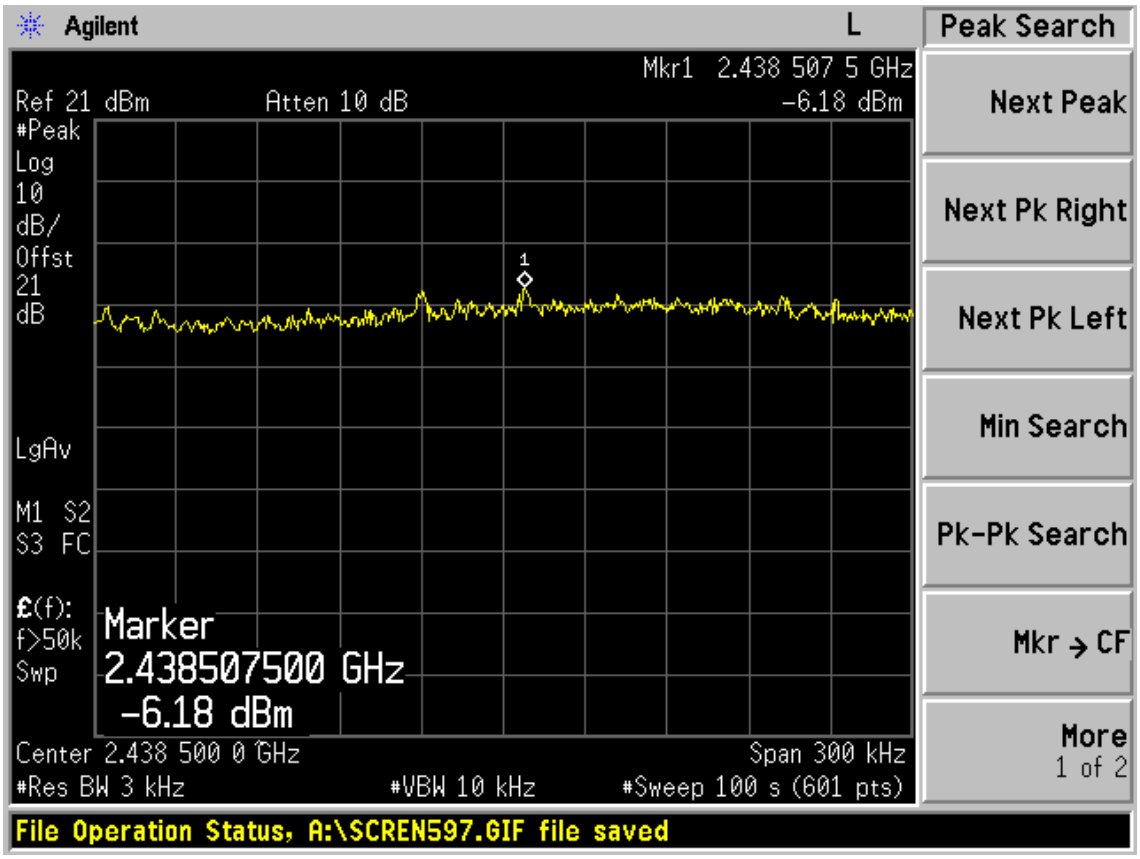
Test CH11: 2462MHz



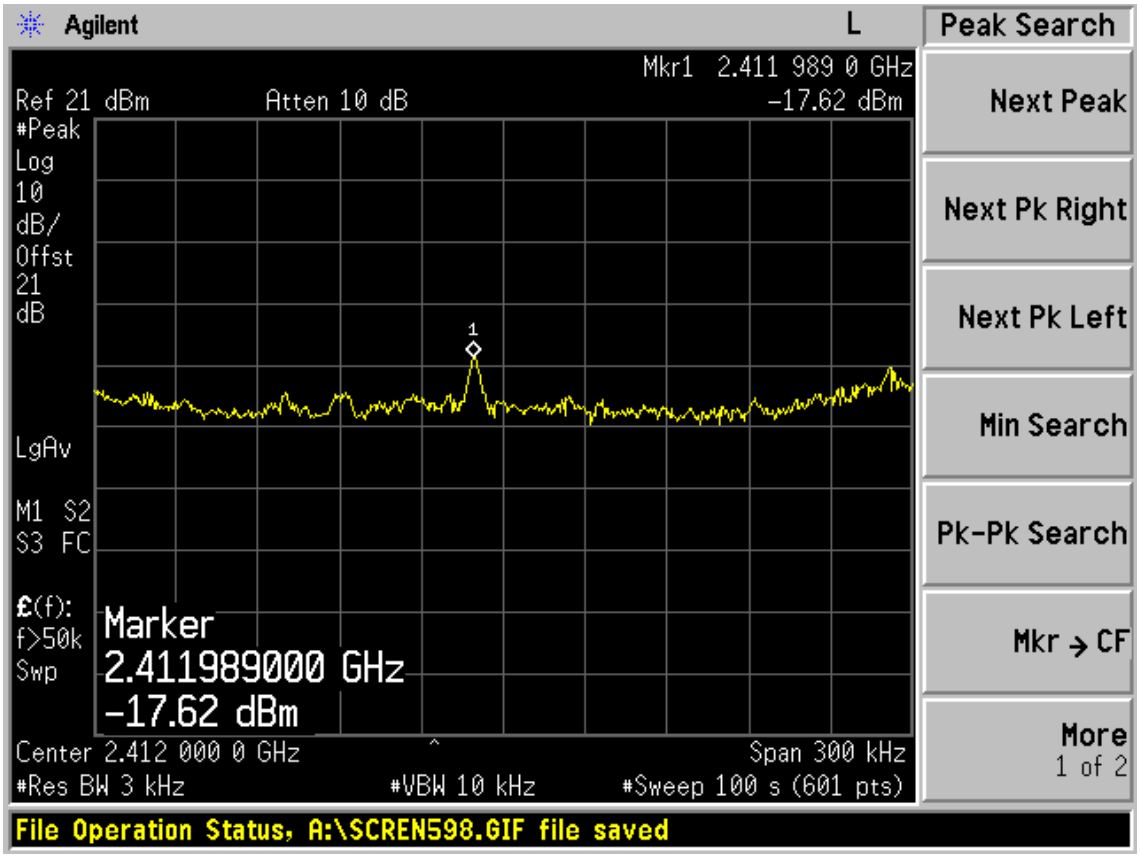
Test Mode: IEEE 802.11g TX
Test CH1: 2412MHz



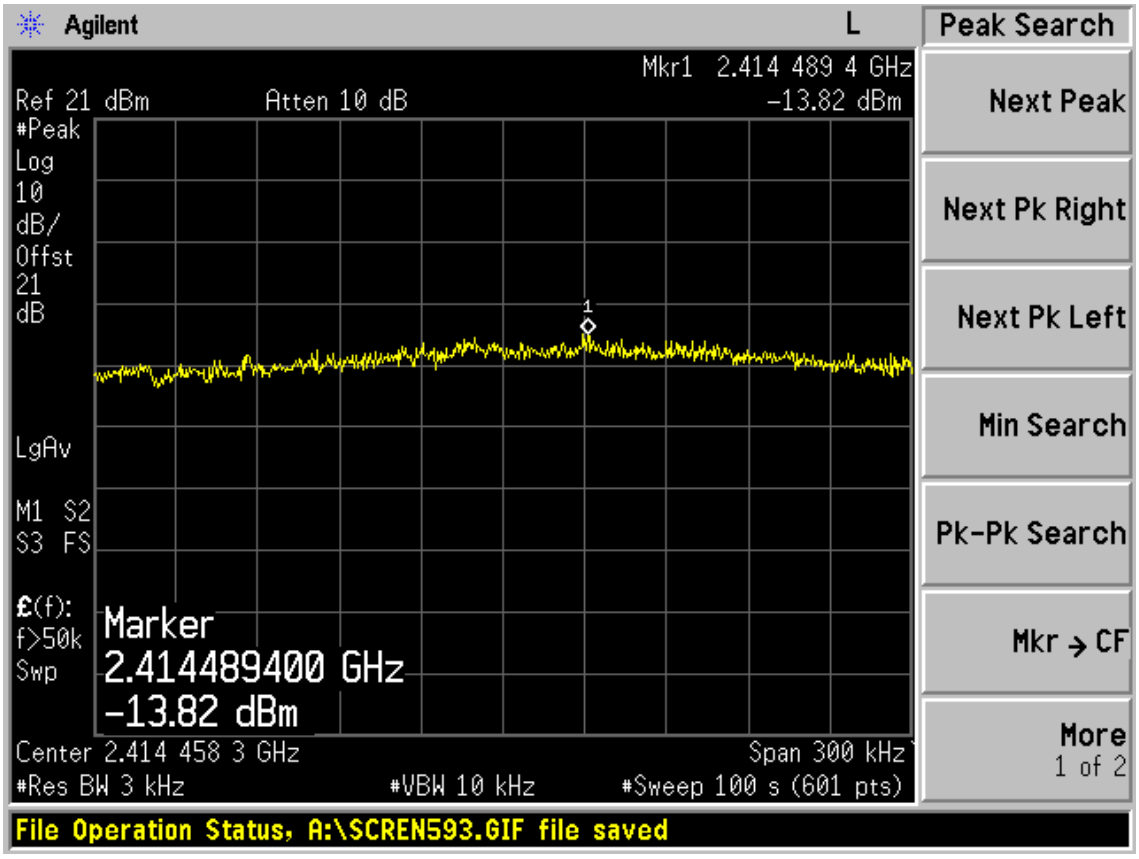
Test CH6: 2437MHz



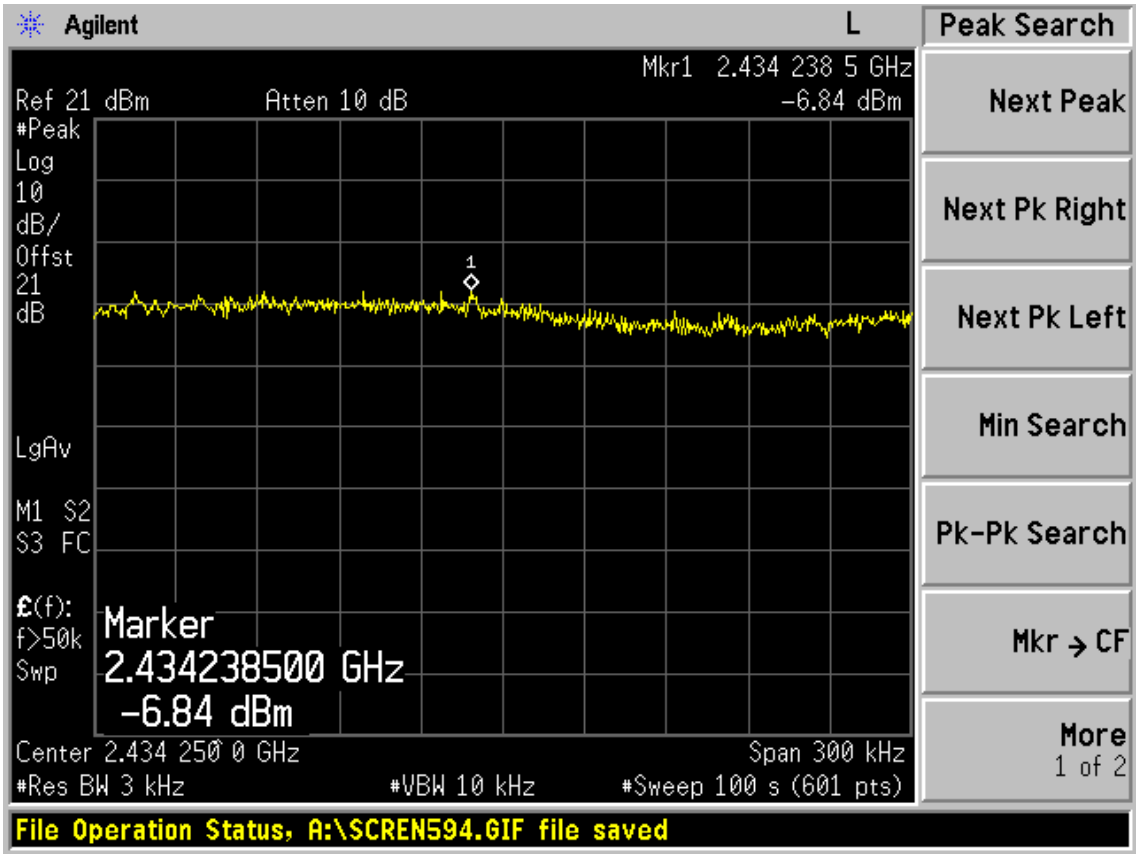
Test CH11: 2462MHz



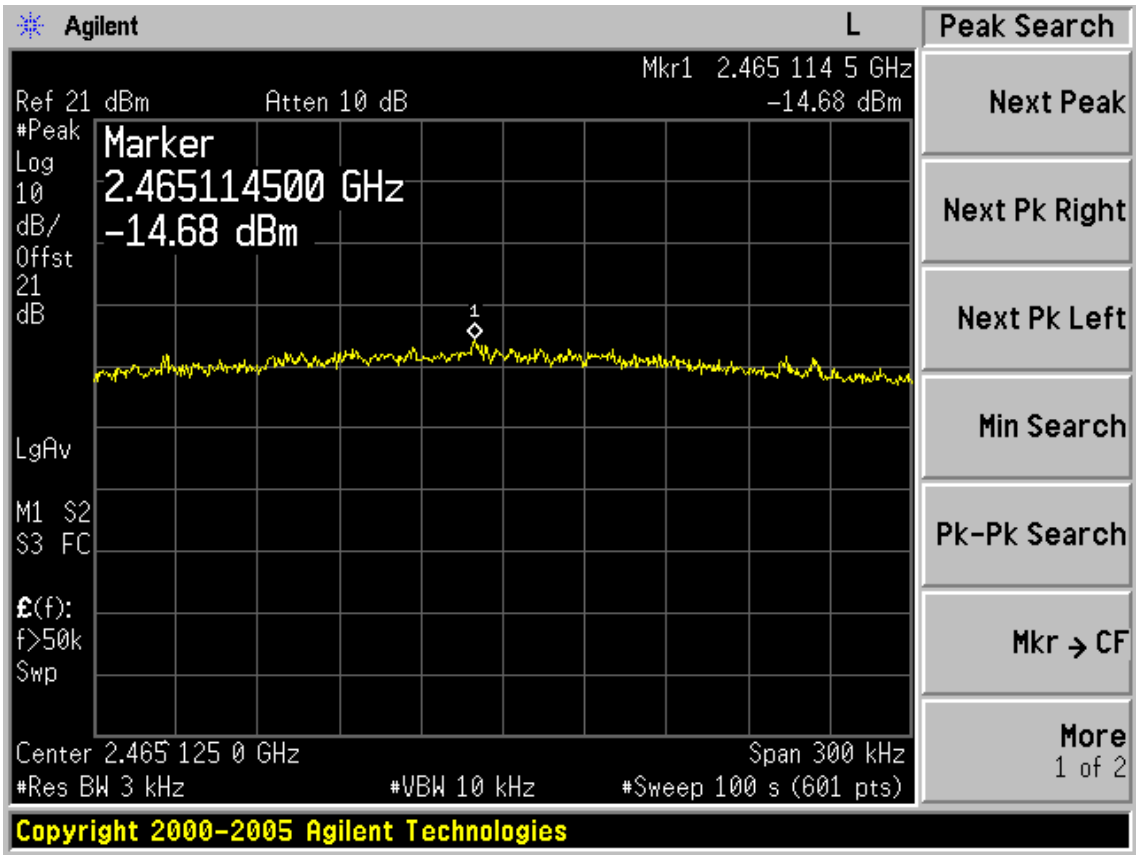
Test Mode: IEEE 802.11n HT20 TX
Test CH1: 2412MHz



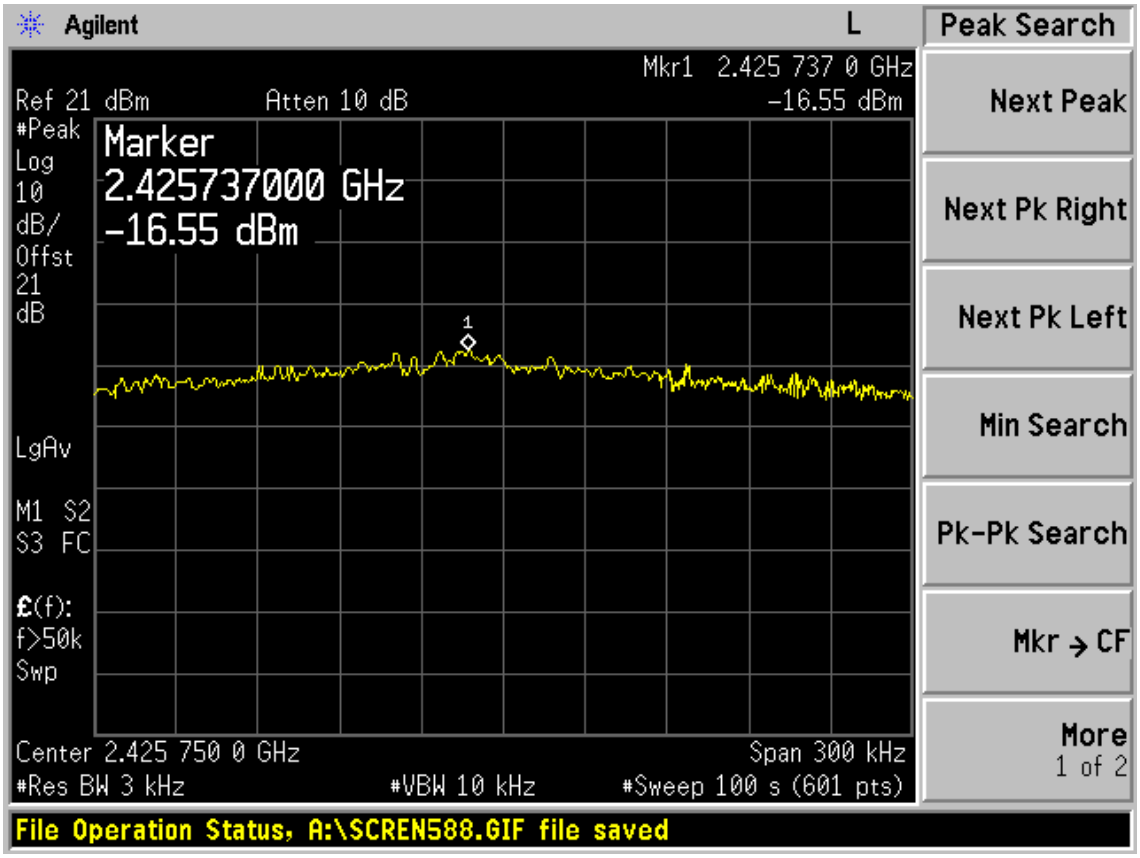
Test CH6: 2437MHz



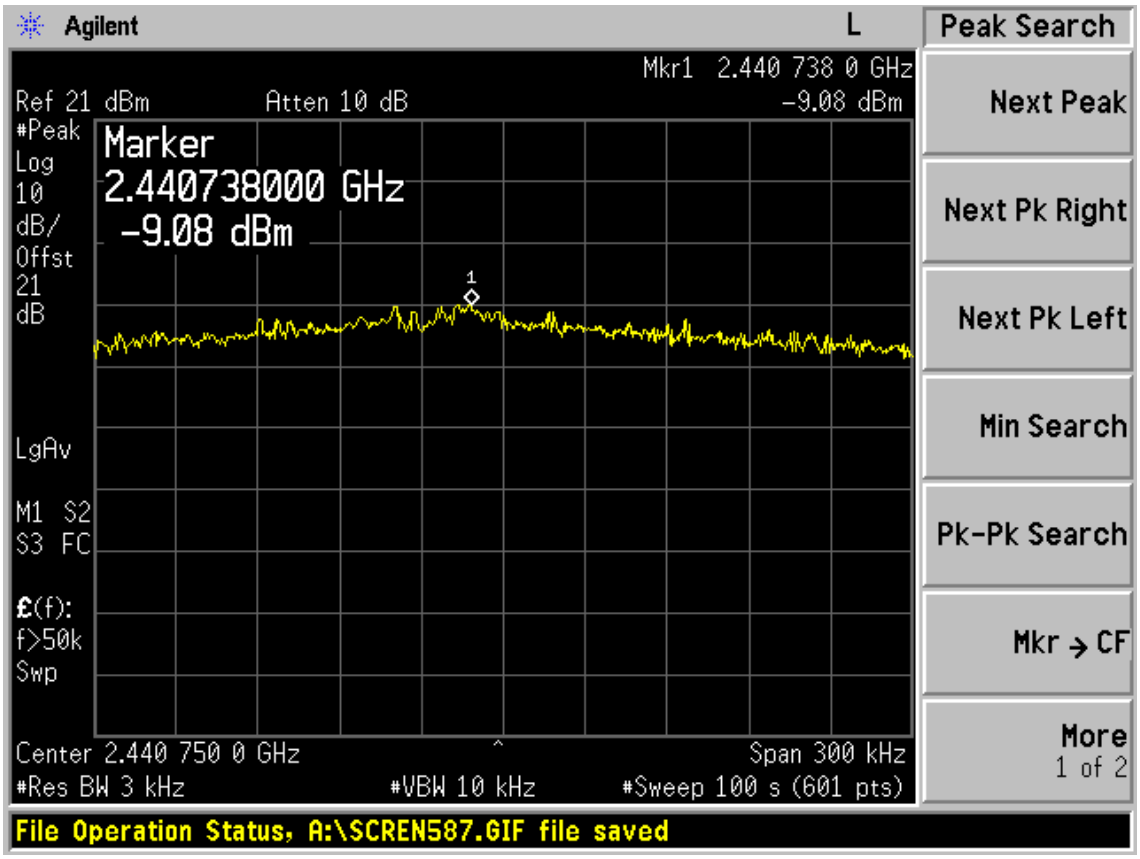
Test CH11: 2462MHz



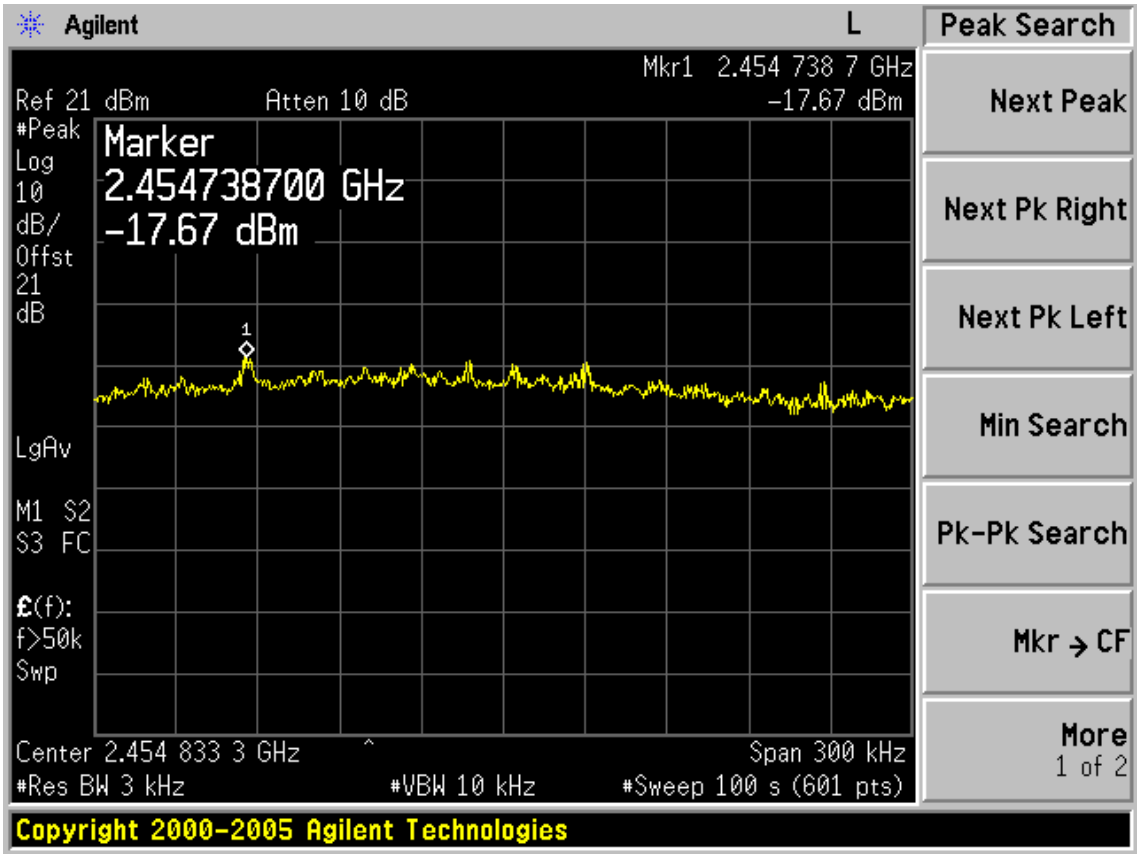
Test Mode: IEEE 802.11n HT40 TX
Test CH1: 2422MHz



Test CH4: 2437MHz



Test CH7: 2452MHz



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 are one Dipole 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 1.5dBi.

11. MPE ESTIMATION

11.1. Limit for General Population/ Uncontrolled Exposures

Frequency	**Power density (mW/ cm^2)**	**Averaging time(minutes)**
300MHz----1.5GHz	F/1500	30
1.5GHz---100GHz	1.0	30

Frequency(MHz)	**Power density (mW/ cm^2)**	**Averaging time(minutes)**
2412	1	30
2437	1	30
2462	1	30

Note: F= Frequency in MHz

11.2. Estimation Result

EUT: 1500M Wireless N Router		
M/N: PW-RN401D		
Test date: 2012-05-04	Pressure: 101.2 kpa	Humidity: 53.2%
Tested by: Leo-Li	Test site: RF Site	Temperature：25.3℃

Cable loss: 1 dB		Attenuator loss: 20 dB				Antenna Gain: 5.0 dBi	
Test Mode	CH	Frequency（MHz）	Peak Output Power (dBm)	Output Power (mW)	Antenna Gain (dBi)	Antenna Gain (Linear)	MPE
11b	CH1	2412	18.99	79.25	5	3.16	0.0499
	CH6	2437	19.49	88.92	5	3.16	0.0560
	CH11	2462	18.58	72.11	5	3.16	0.0454
11g	CH1	2412	20.07	101.62	5	3.16	0.0640
	CH6	2437	26.74	472.06	5	3.16	0.2971
	CH11	2462	18.86	76.91	5	3.16	0.0484
11n HT20	CH1	2412	18.92	77.98	5	3.16	0.0491
	CH6	2437	26.66	463.45	5	3.16	0.2917
	CH11	2462	18.22	66.37	5	3.16	0.0418
11n HT40	CH1	2412	18.73	74.64	5	3.16	0.0470
	CH4	2437	25.89	388.15	5	3.16	0.2443
	CH7	2462	17.41	55.08	5	3.16	0.0347

12. DEVIATION TO TEST SPECIFICATIONS

[NONE]