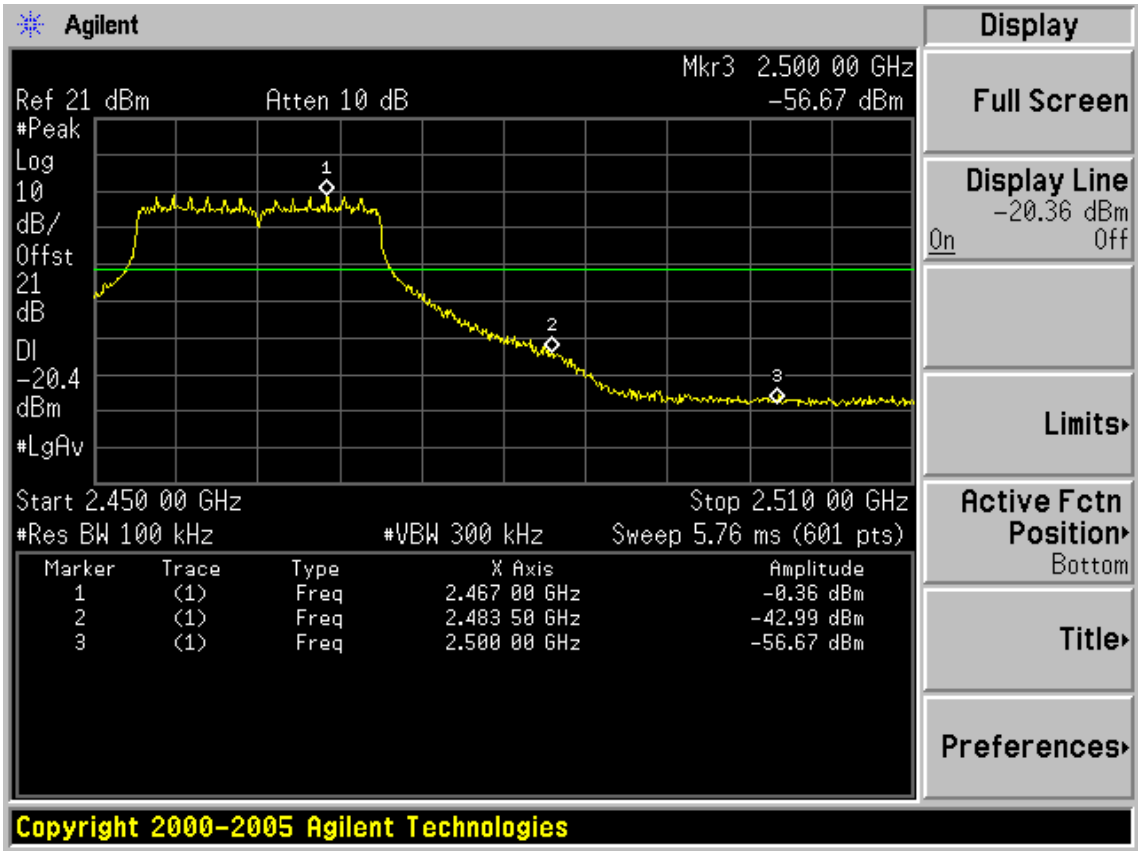
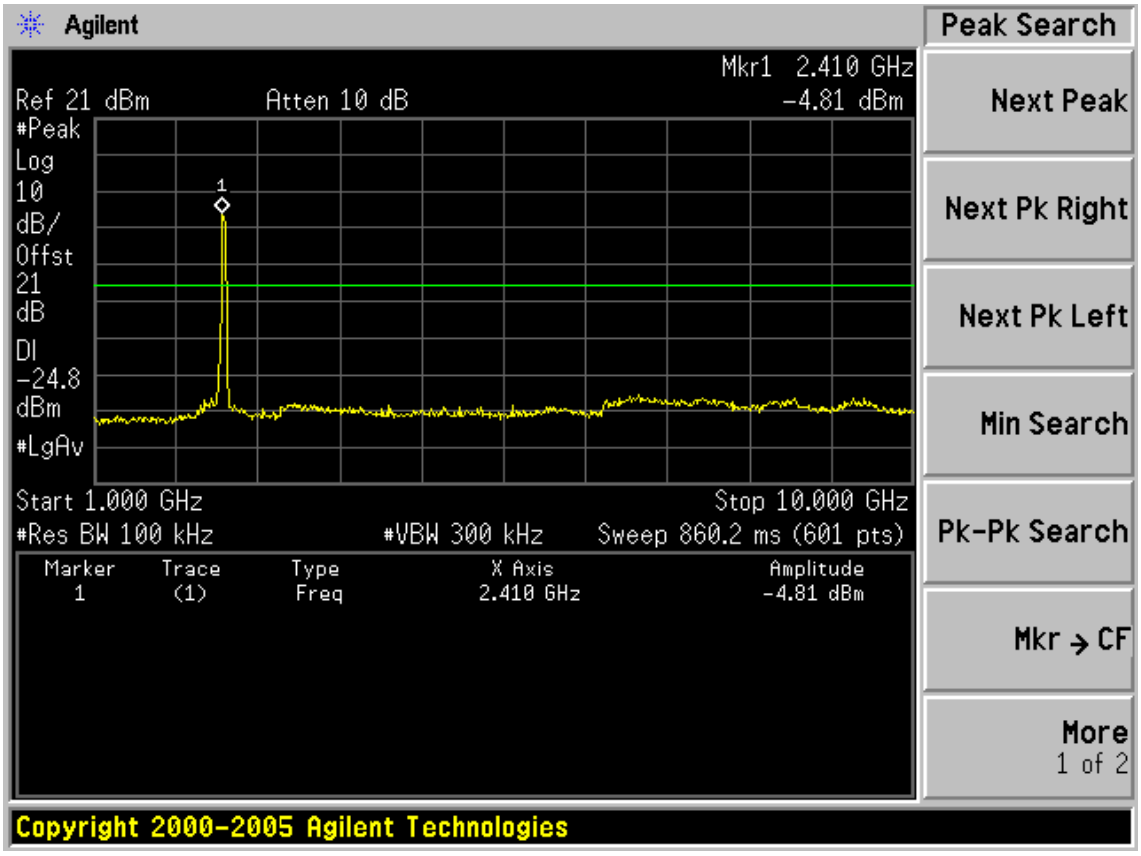
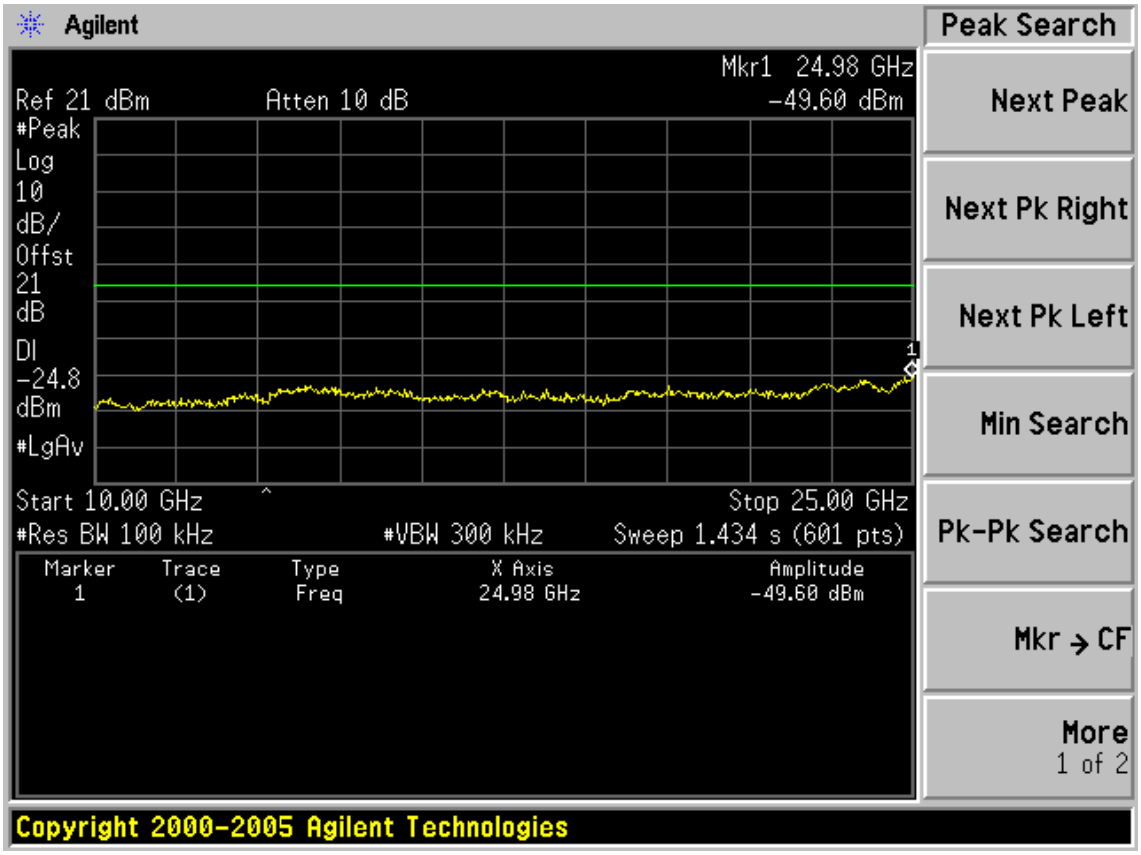
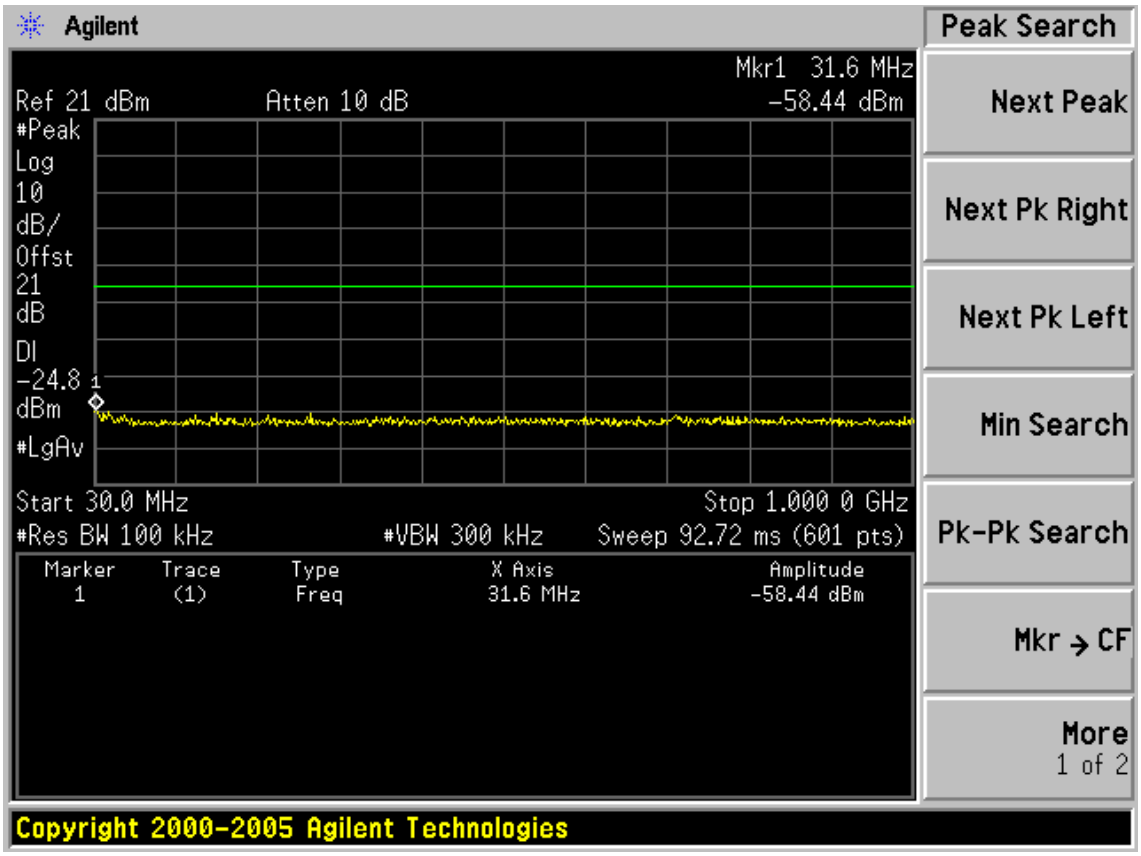
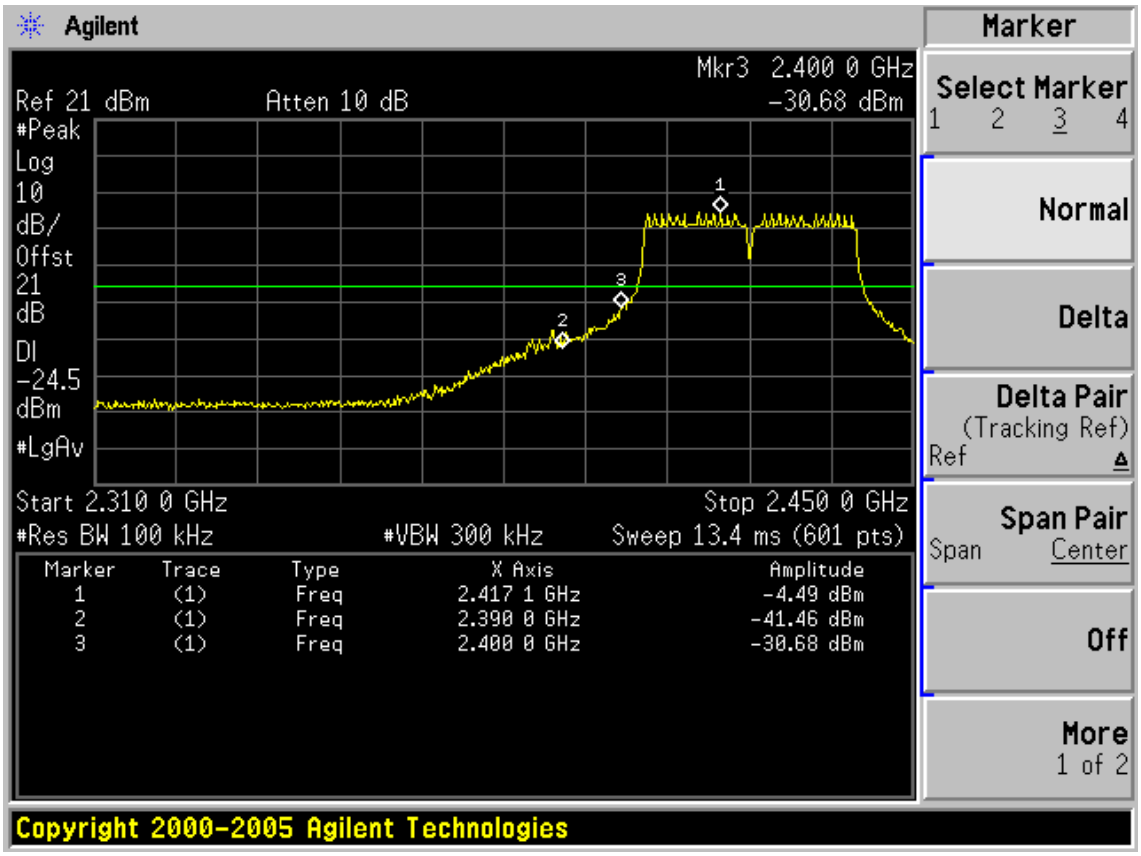


Test Mode: IEEE 802.11n HT40 TX
Test CH1: 2422MHz

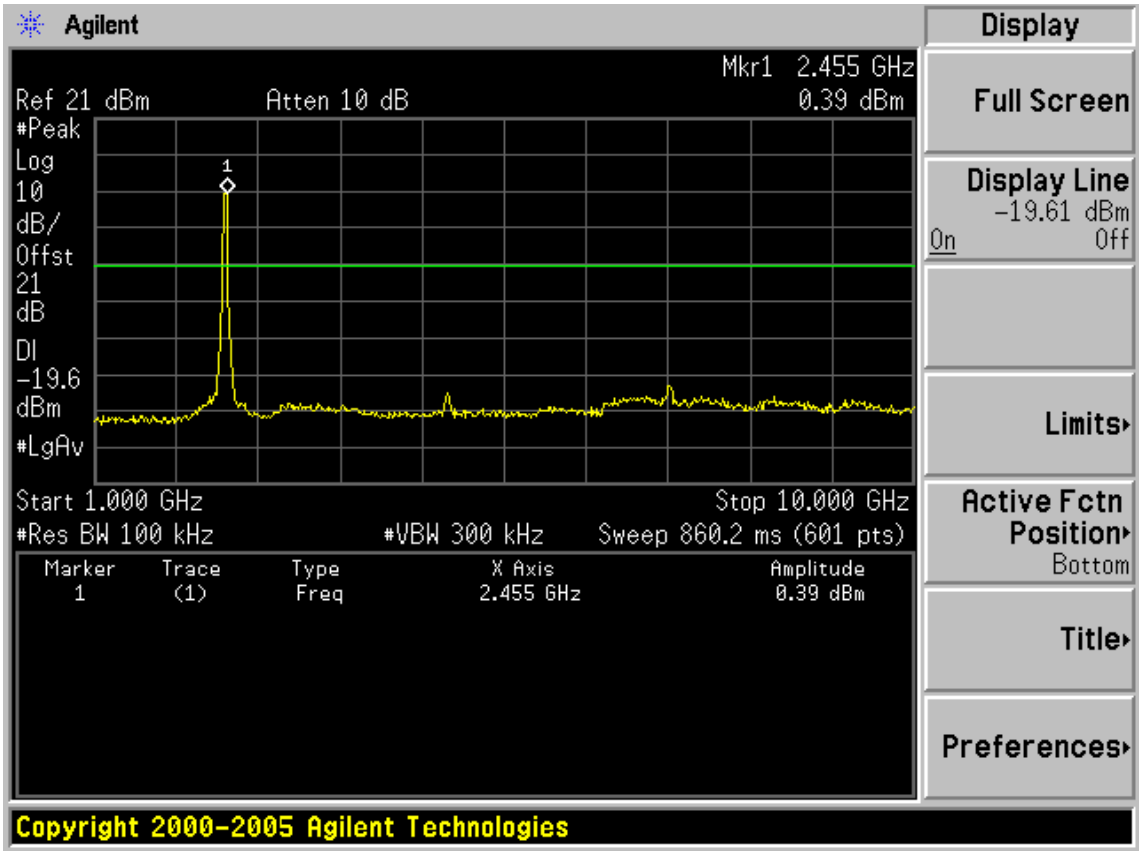


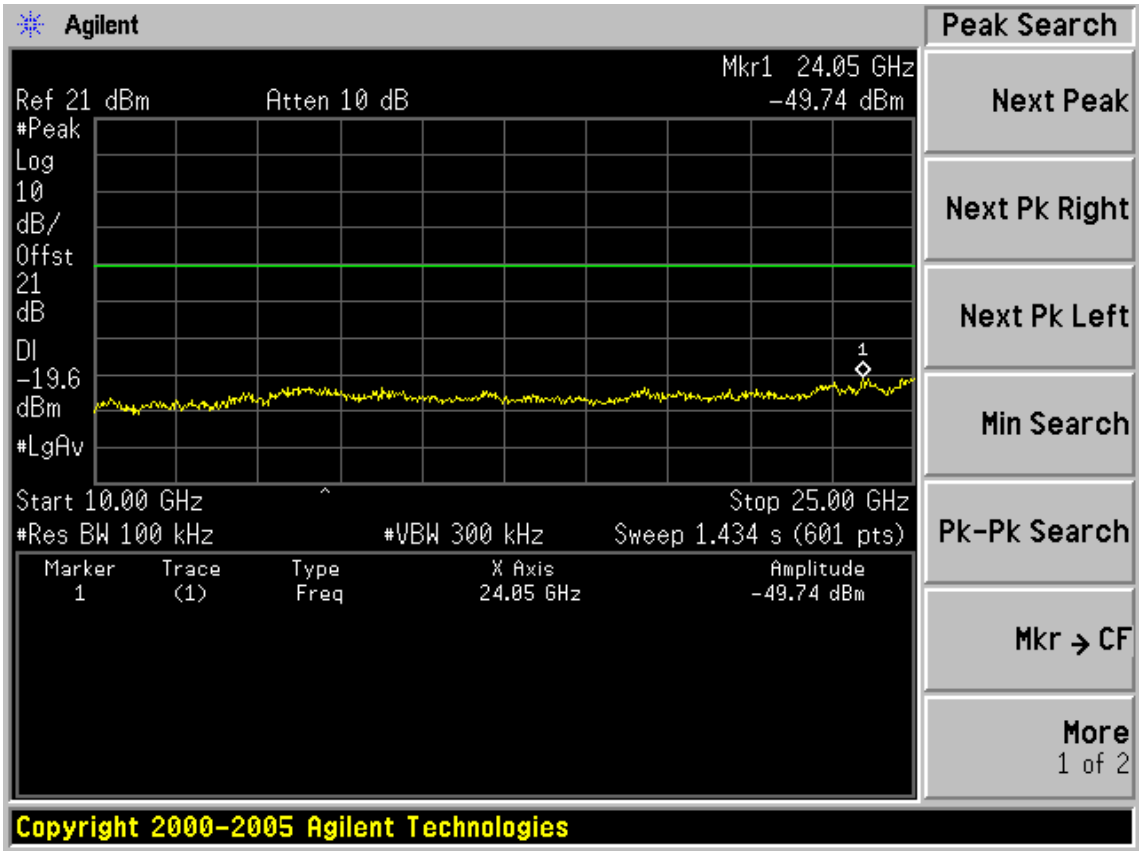

Agilent
Peak Search
Mkr1 24.98 GHz
Ref 21 dBm
Atten 10 dB
-49.60 dBm
#Peak
Log
10
dB/
Offst
21
dB
Dl
-24.8
dBm
#LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 10.00 GHz
Stop 25.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 1.434 s (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.98 GHz -49.60 dBm
Copyright 2000-2005 Agilent Technologies

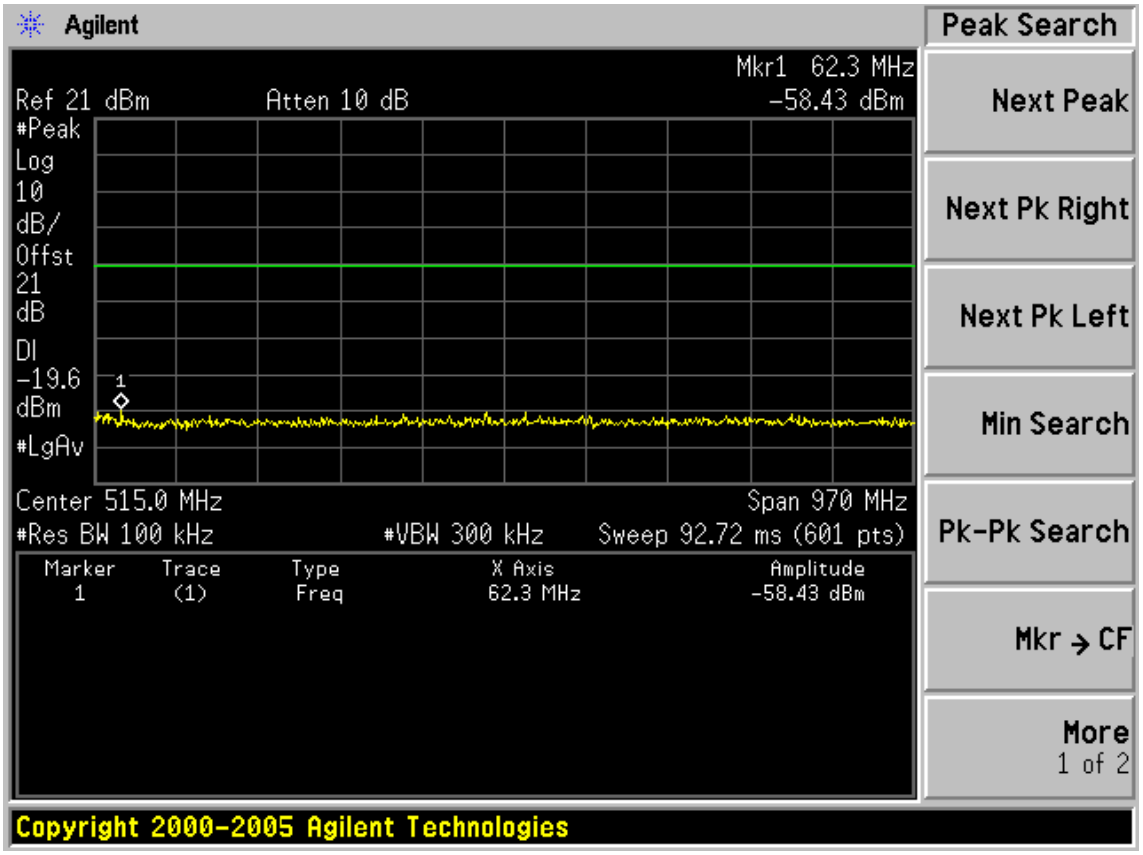

Agilent
Peak Search
Mkr1 31.6 MHz
Ref 21 dBm
Atten 10 dB
-58.44 dBm
#Peak
Log
10
dB/
Offst
21
dB
Dl
-24.8
dBm
#LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 92.72 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 31.6 MHz -58.44 dBm
Copyright 2000-2005 Agilent Technologies



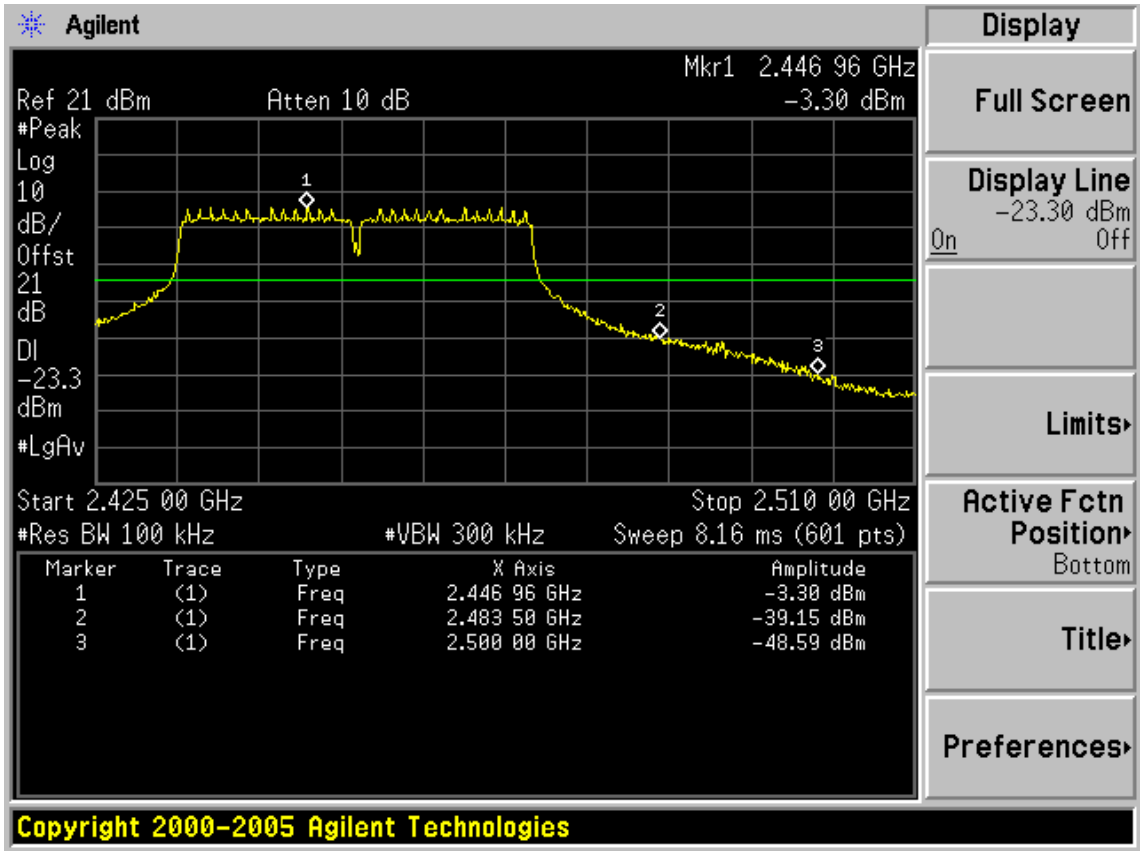
Test CH4: 2437MHz

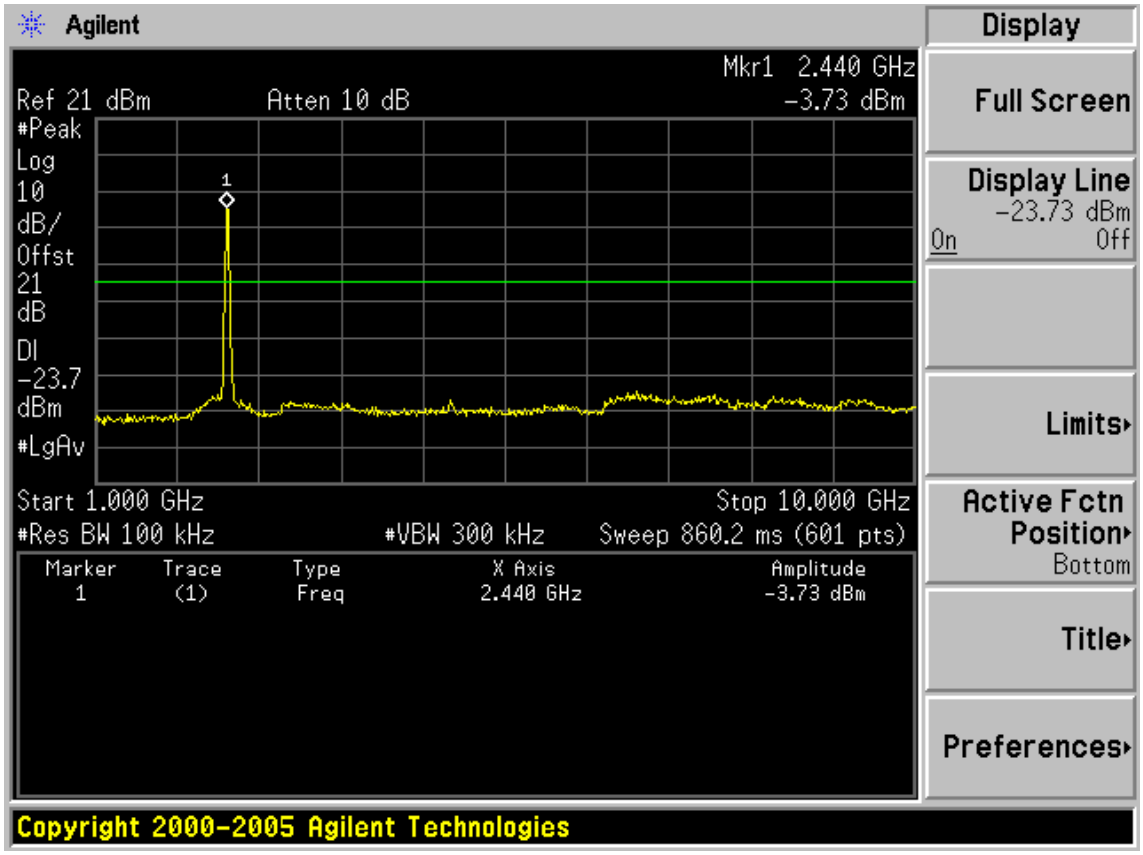


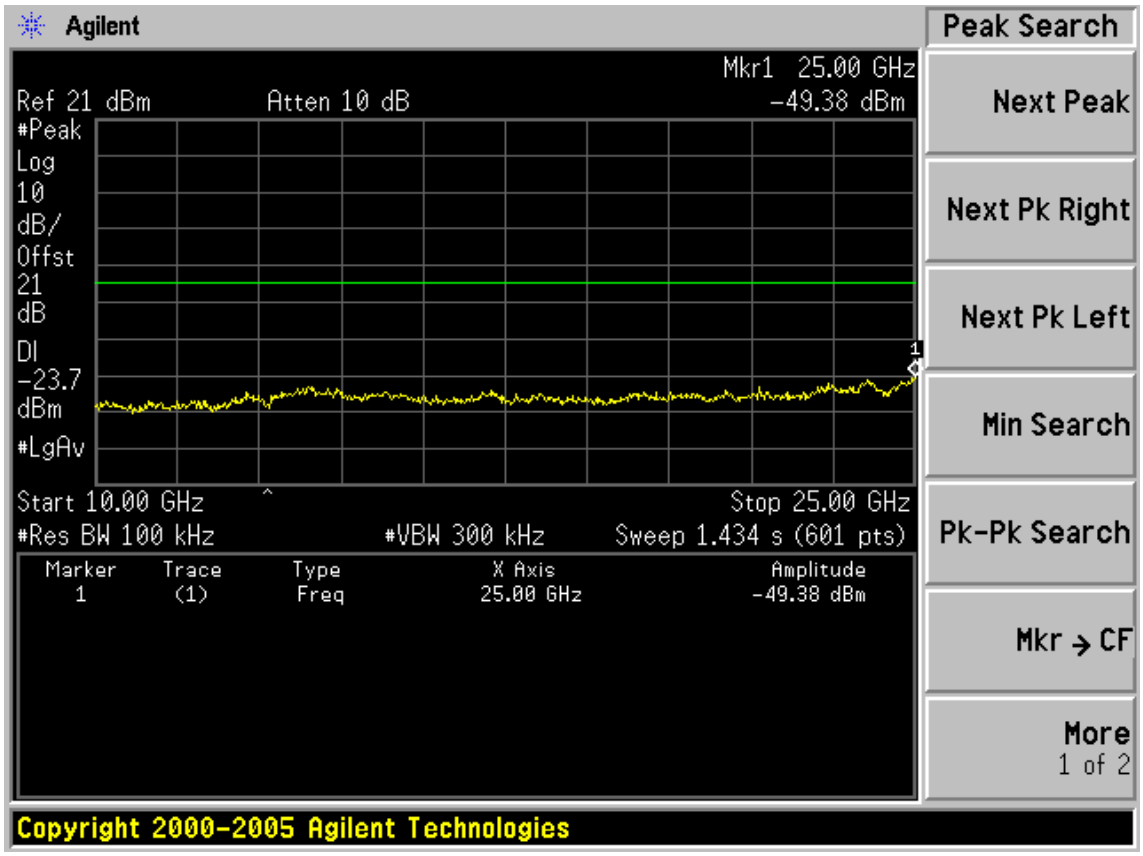

Agilent
Peak Search
Mkr1 24.05 GHz
Ref 21 dBm
Atten 10 dB
-49.74 dBm
#Peak
Log
10
dB/
Offst
21
dB
Dl
-19.6
dBm
#LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 10.00 GHz
Stop 25.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 1.434 s (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.05 GHz -49.74 dBm
Copyright 2000-2005 Agilent Technologies

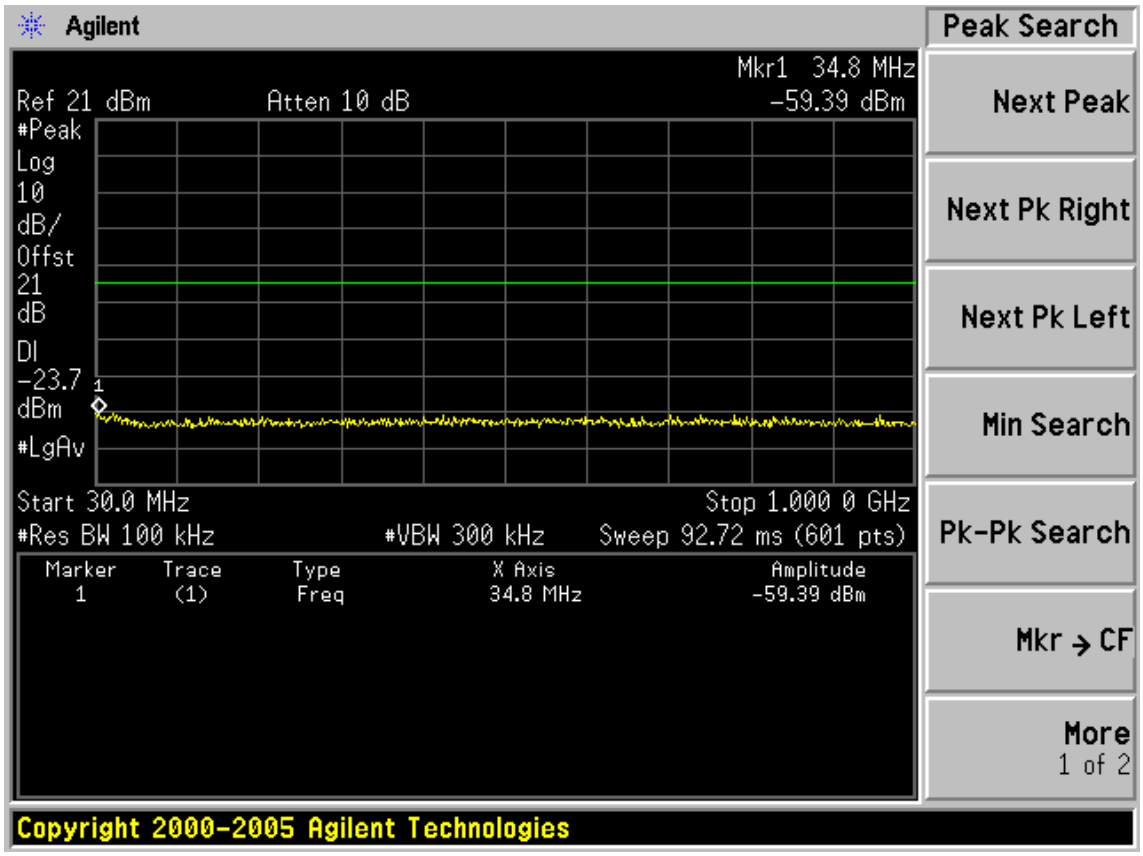

Agilent
Peak Search
Mkr1 62.3 MHz
Ref 21 dBm
Atten 10 dB
-58.43 dBm
#Peak
Log
10
dB/
Offst
21
dB
Dl
-19.6
dBm
#LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Center 515.0 MHz
Span 970 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 92.72 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 62.3 MHz -58.43 dBm
Copyright 2000-2005 Agilent Technologies

Test CH7: 2452MHz






Agilent
Peak Search
Mkr1 25.00 GHz
Ref 21 dBm
Atten 10 dB
-49.38 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 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 -49.38 dBm
Copyright 2000-2005 Agilent Technologies


Agilent
Peak Search
Mkr1 34.8 MHz
Ref 21 dBm
Atten 10 dB
-59.39 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 34.8 MHz -59.39 dBm
Copyright 2000-2005 Agilent Technologies

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, 12	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 12	1 Year
3.	Antenna	EMCO	3115	9510-4580	May.08, 12	1Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 12	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.

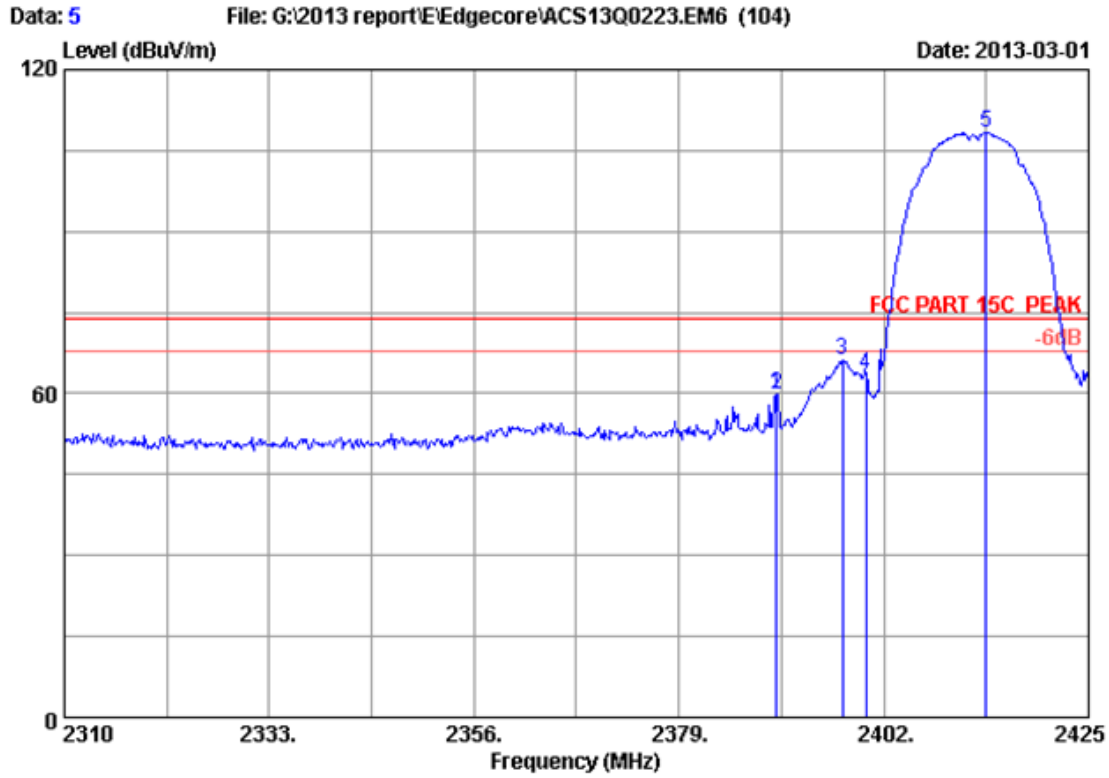
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.

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

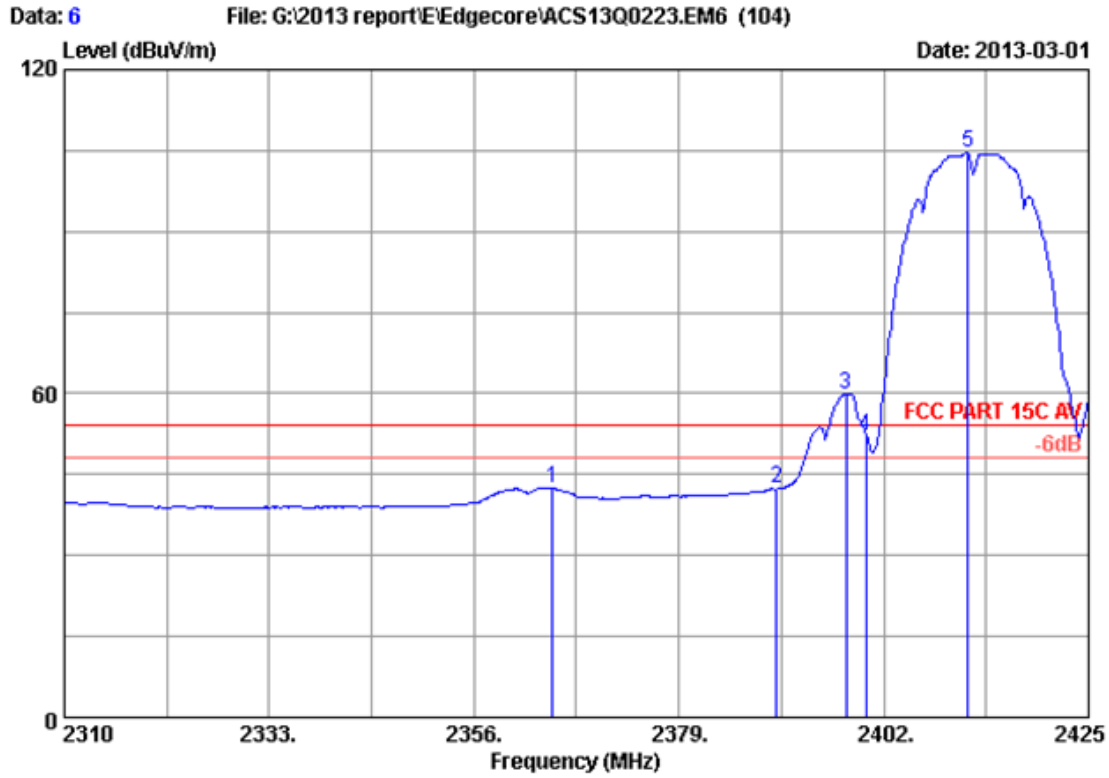
Pass (The testing data was attached in the next pages.)



Site no. : 3m Chamber Data no. : 5
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11b CH1 2412MHz Tx
M/N : SMCWBR14-N5
:

	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	2389.925	27.96	6.01	34.44	60.36	59.89	74.00	14.11	Peak
2	2390.000	27.96	6.01	34.44	60.22	59.75	74.00	14.25	Peak
3	2397.400	27.96	6.01	34.44	66.50	66.03	74.00	7.97	Peak
4	2400.000	27.96	6.01	34.44	64.11	63.64	74.00	10.36	Peak
5	2413.500	27.98	6.03	34.44	108.69	108.26	74.00	-34.26	Peak

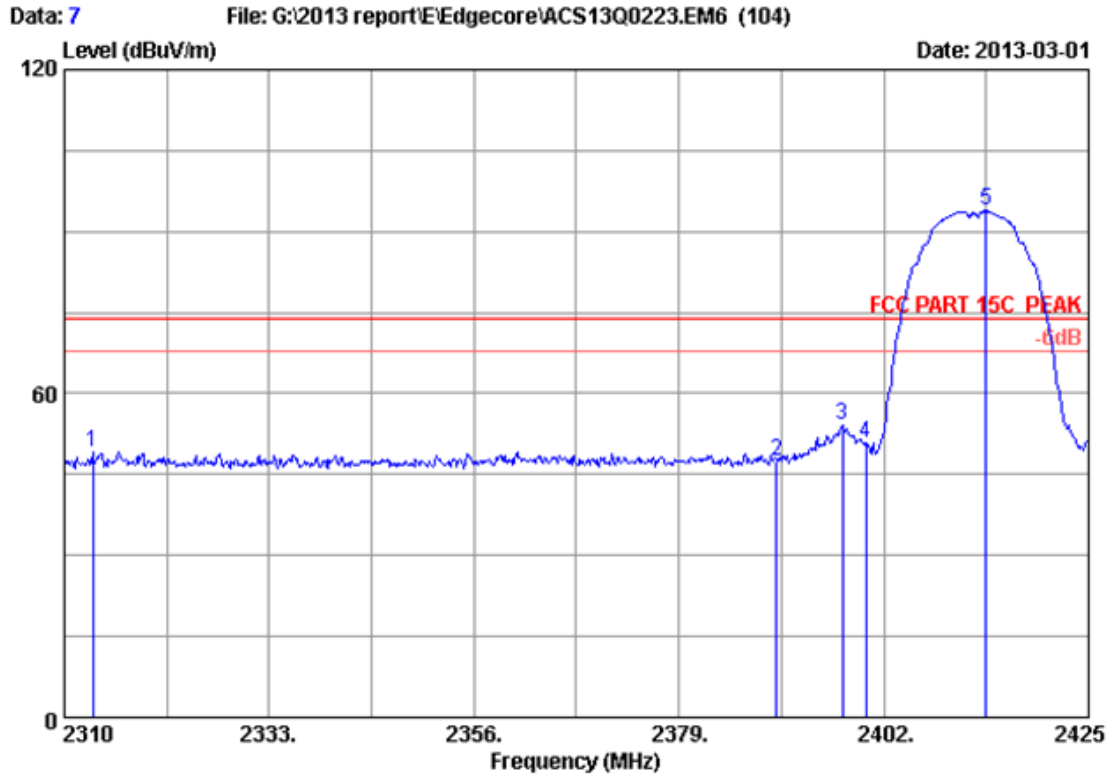
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 6
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11b CH1 2412MHz Tx
M/N : SMCWBR14-N5
:

	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	2364.855	27.91	5.95	34.44	43.14	42.56	54.00	11.44	Average
2	2390.000	27.96	6.01	34.44	42.76	42.29	54.00	11.71	Average
3	2397.745	27.96	6.01	34.44	60.47	60.00	54.00	-6.00	Average
4	2400.000	27.96	6.01	34.44	52.72	52.25	54.00	1.75	Average
5	2411.430	27.98	6.03	34.44	104.94	104.51	54.00	-50.51	Average

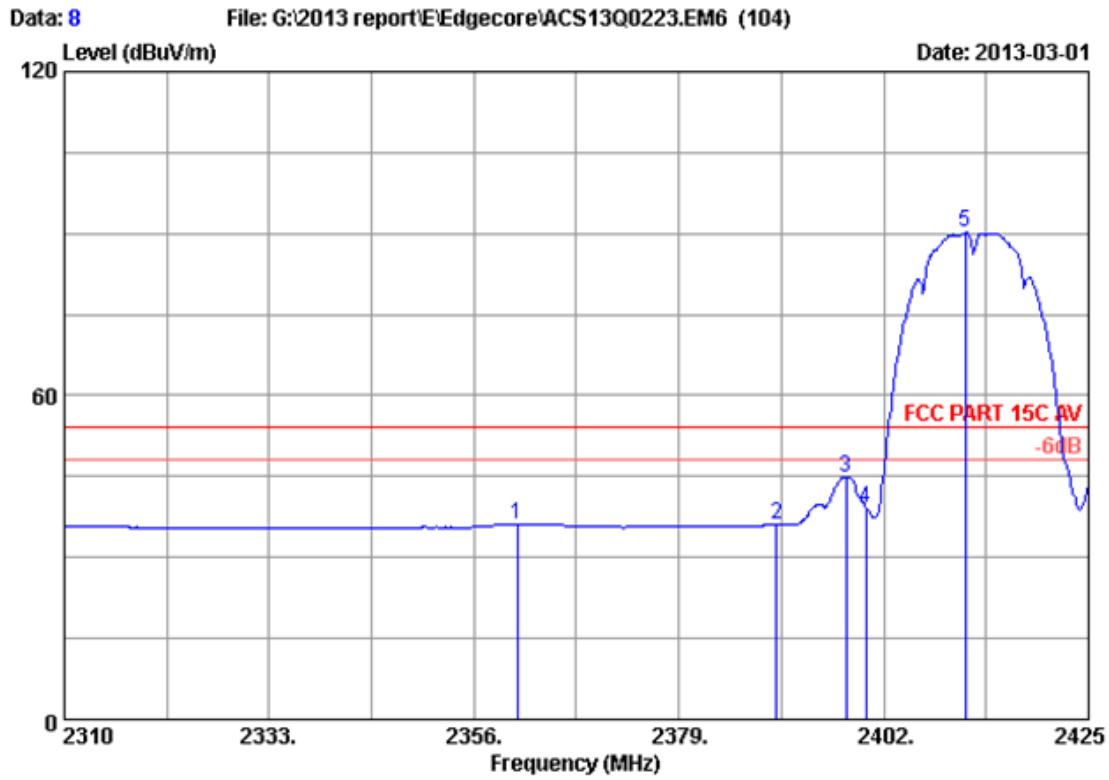
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 7
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11b CH1 2412MHz Tx
M/N : SMCWBR14-N5
:

	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	2313.220	27.83	5.89	34.43	50.01	49.30	74.00	24.70	Peak
2	2390.000	27.96	6.01	34.44	48.09	47.62	74.00	26.38	Peak
3	2397.400	27.96	6.01	34.44	54.65	54.18	74.00	19.82	Peak
4	2400.000	27.96	6.01	34.44	51.20	50.73	74.00	23.27	Peak
5	2413.500	27.98	6.03	34.44	94.25	93.82	74.00	-19.82	Peak

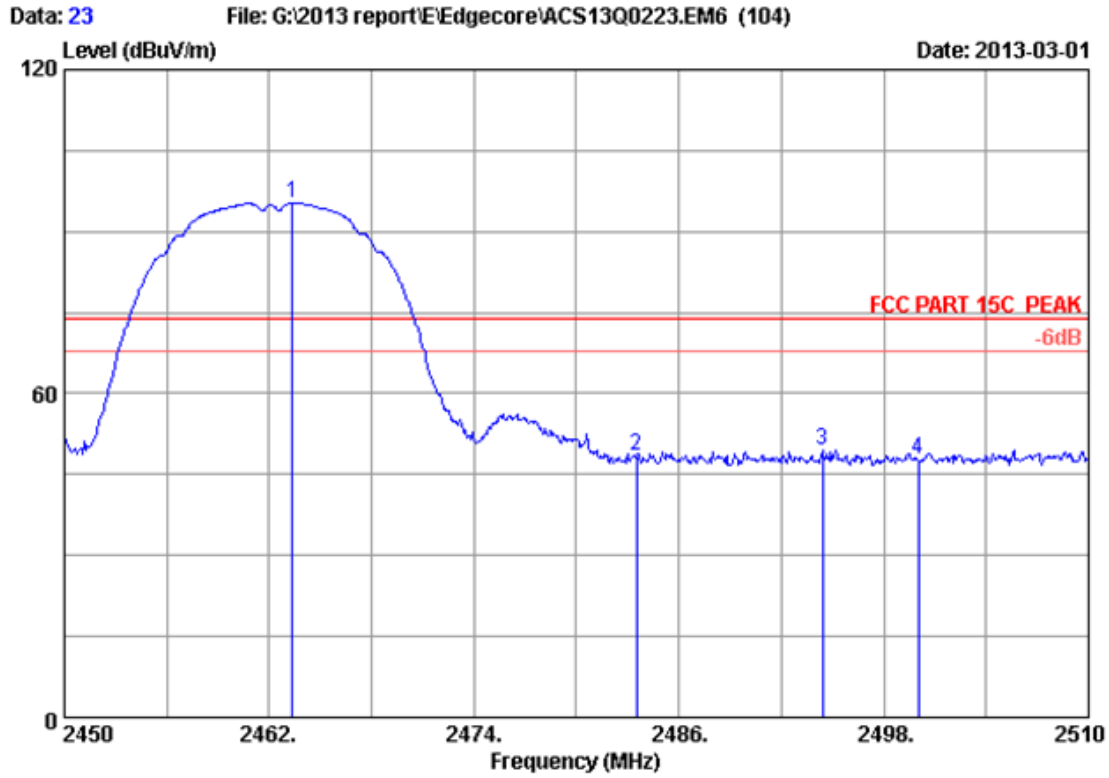
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no.	: 3m Chamber		Data no.	: 8
Dis. / Ant.	: 3m 2011 3115 4580		Ant. pol.	: VERTICAL
Limit	: FCC PART 15C AV			
Env. / Ins.	: 23*C/54%		Engineer	: Leo-Li
EUT	: 300 Mbps 4-Port Wireless	Broadband Router		
Power supply	: DC 9V From Adapter Input	AC 120V/60Hz		
Test mode	: IEEE802.11b CH1 2412MHz	Tx		
M/N	: SMCWBR14-N5			
	:			

	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	2360.830	27.91	5.95	34.44	36.80	36.22	54.00	17.78	Average
2	2390.000	27.96	6.01	34.44	36.42	35.95	54.00	18.05	Average
3	2397.745	27.96	6.01	34.44	45.38	44.91	54.00	9.09	Average
4	2400.000	27.96	6.01	34.44	39.71	39.24	54.00	14.76	Average
5	2411.200	27.98	6.03	34.44	90.57	90.14	54.00	-36.14	Average

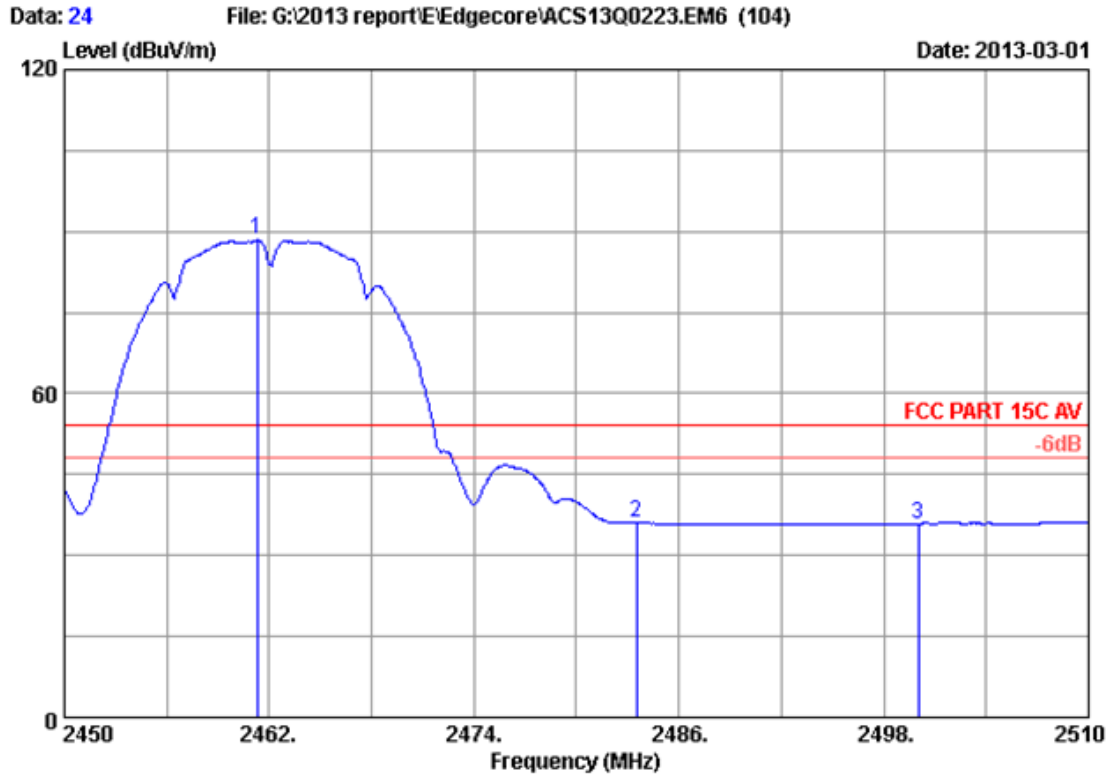
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no.	: 3m Chamber		Data no.	: 23
Dis. / Ant.	: 3m 2011 3115 4580		Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK			
Env. / Ins.	: 23*C/54%		Engineer	: Leo-Li
EUT	: 300 Mbps 4-Port Wireless Broadband Router			
Power supply	: DC 9V From Adapter Input AC 120V/60Hz			
Test mode	: IEEE802.11b CH11 2462MHz Tx			
M/N	: SMCWBR14-N5			
	:			

	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	2463.380	28.05	6.12	34.45	95.59	95.31	74.00	-21.31	Peak
2	2483.500	28.08	6.15	34.45	48.63	48.41	74.00	25.59	Peak
3	2494.400	28.10	6.18	34.45	49.76	49.59	74.00	24.41	Peak
4	2500.000	28.10	6.18	34.45	48.00	47.83	74.00	26.17	Peak

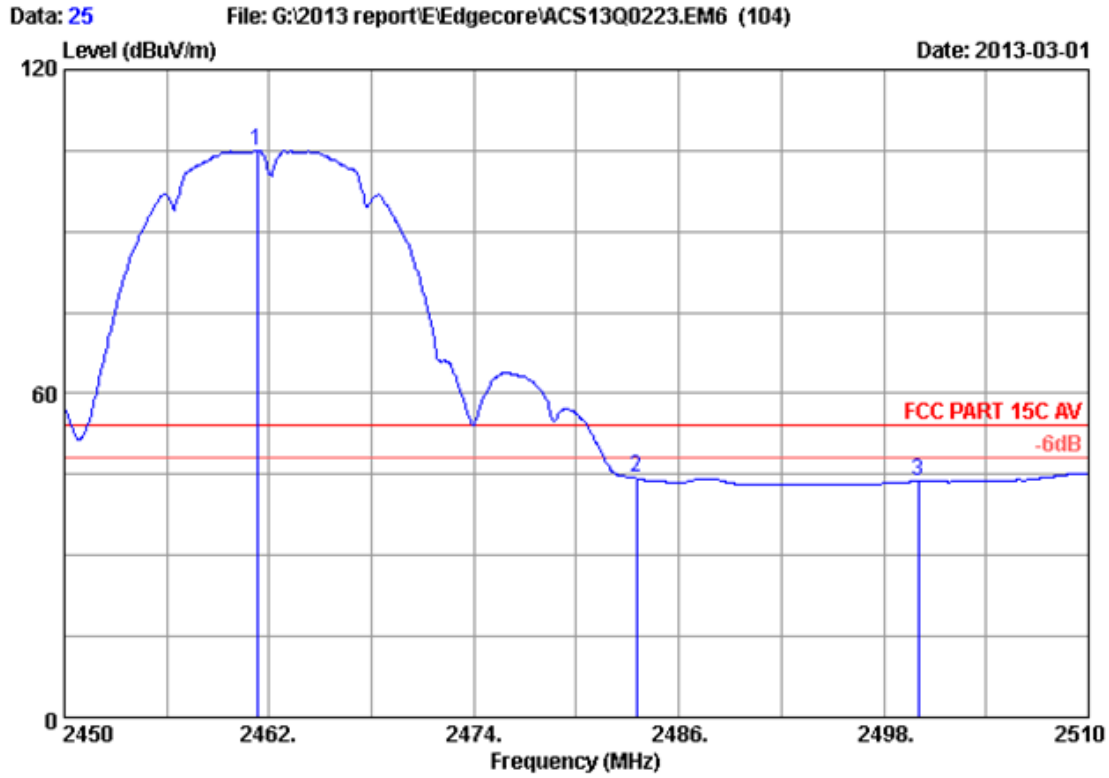
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 24
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11b CH11 2462MHz Tx
M/N : SMCWBR14-N5
:

	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	88.68	88.41	54.00	-34.41	Average
2	2483.500	28.08	6.15	34.45	36.20	35.98	54.00	18.02	Average
3	2500.000	28.10	6.18	34.45	36.10	35.93	54.00	18.07	Average

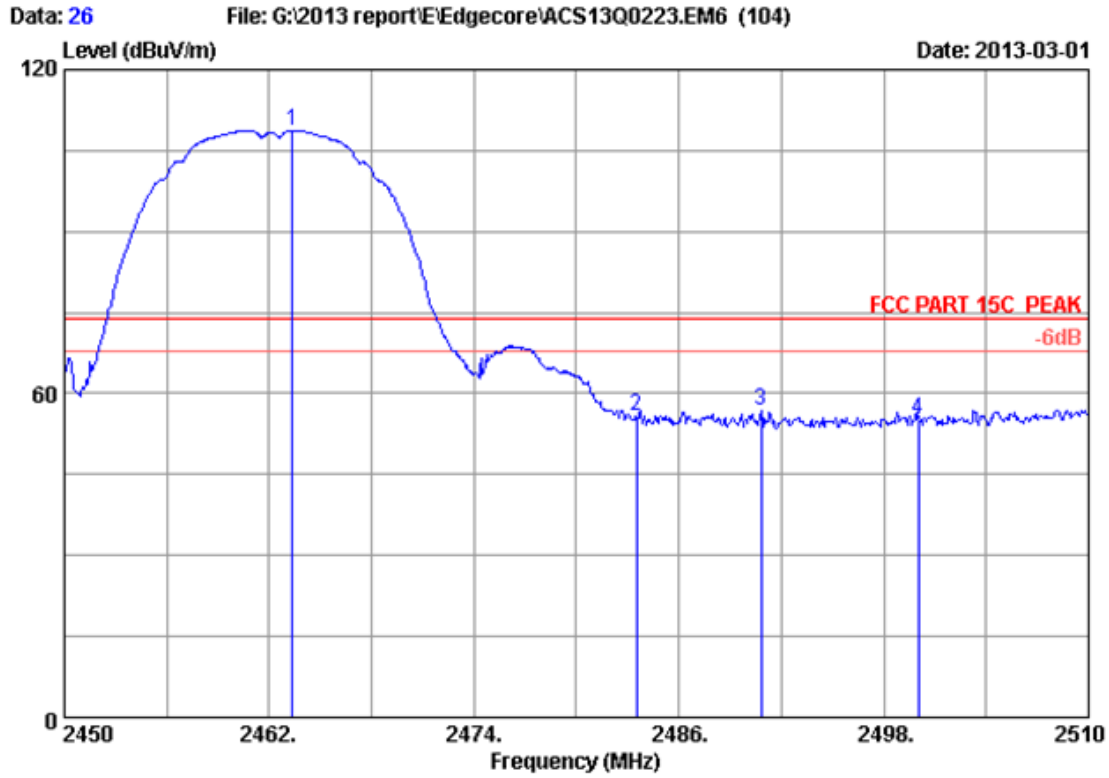
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 25
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11b CH11 2462MHz Tx
M/N : SMCWBR14-N5
:

	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	105.33	105.06	54.00	-51.06	Average
2	2483.500	28.08	6.15	34.45	44.55	44.33	54.00	9.67	Average
3	2500.000	28.10	6.18	34.45	44.03	43.86	54.00	10.14	Average

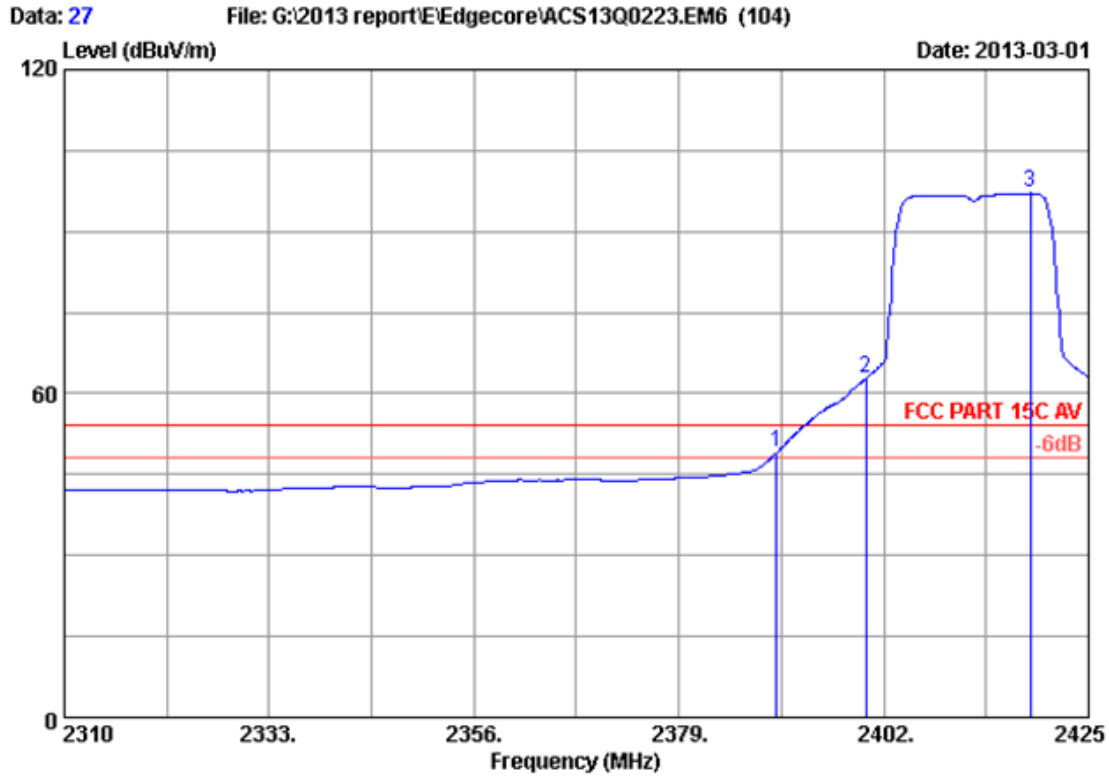
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 26
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11b CH11 2462MHz Tx
M/N : SMCWBR14-N5
:

	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	2463.380	28.05	6.12	34.45	109.03	108.75	74.00	-34.75	Peak
2	2483.500	28.08	6.15	34.45	56.06	55.84	74.00	18.16	Peak
3	2490.800	28.10	6.15	34.45	56.93	56.73	74.00	17.27	Peak
4	2500.000	28.10	6.18	34.45	55.23	55.06	74.00	18.94	Peak

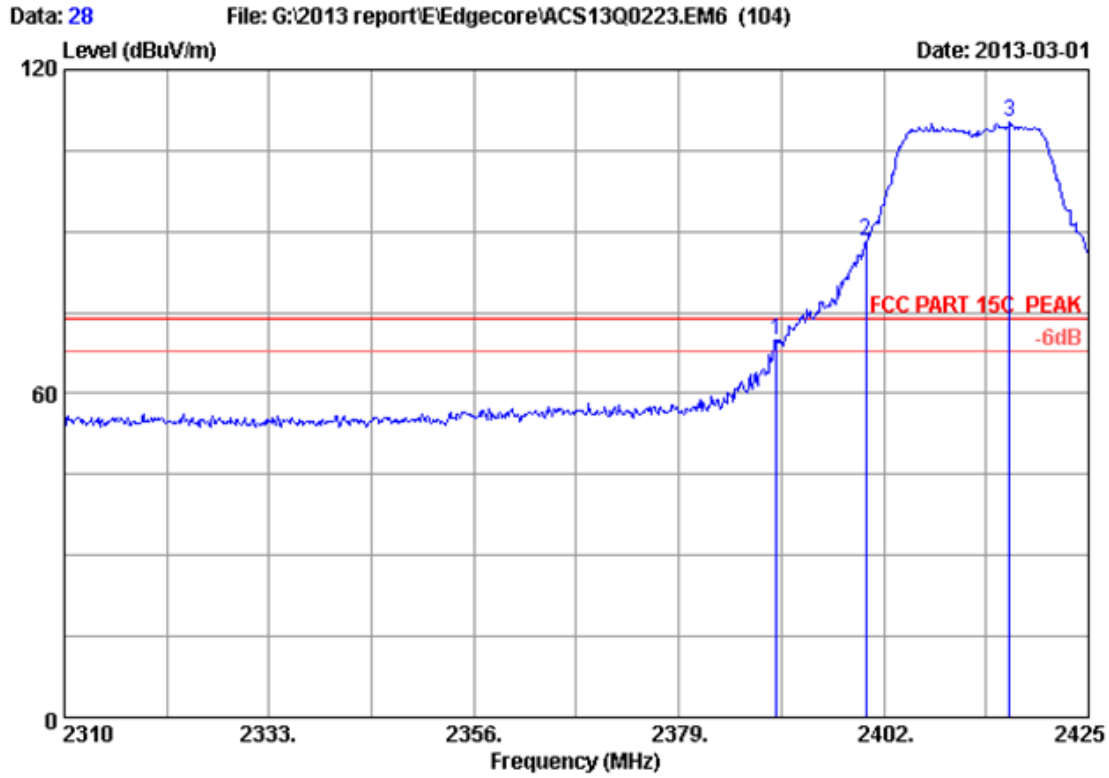
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 27
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11g CH1 2412MHz Tx
M/N : SMCWBR14-N5
:

	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	49.59	49.12	54.00	4.88	Peak
2	2400.000	27.96	6.01	34.44	63.38	62.91	54.00	-8.91	Average
3	2418.445	27.98	6.03	34.44	97.53	97.10	54.00	-43.10	Average

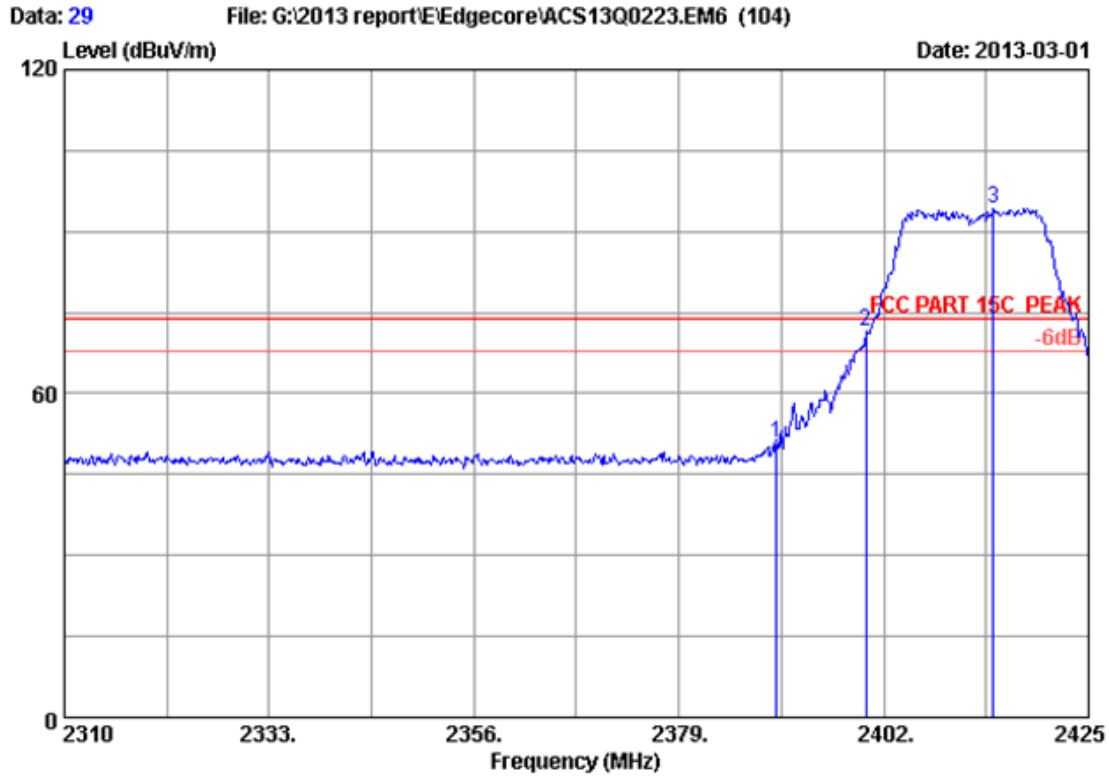
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no.	: 3m Chamber		Data no.	: 28
Dis. / Ant.	: 3m 2011 3115 4580		Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK			
Env. / Ins.	: 23*C/54%		Engineer	: Leo-Li
EUT	: 300 Mbps 4-Port Wireless	Broadband Router		
Power supply	: DC 9V From Adapter Input	AC 120V/60Hz		
Test mode	: IEEE802.11g CH1 2412MHz	Tx		
M/N	: SMCWBR14-N5			
	:			

	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	70.28	69.81	74.00	4.19	Peak
2	2400.000	27.96	6.01	34.44	88.83	88.36	74.00	-14.36	Peak
3	2416.145	27.98	6.03	34.44	110.79	110.36	74.00	-36.36	Peak

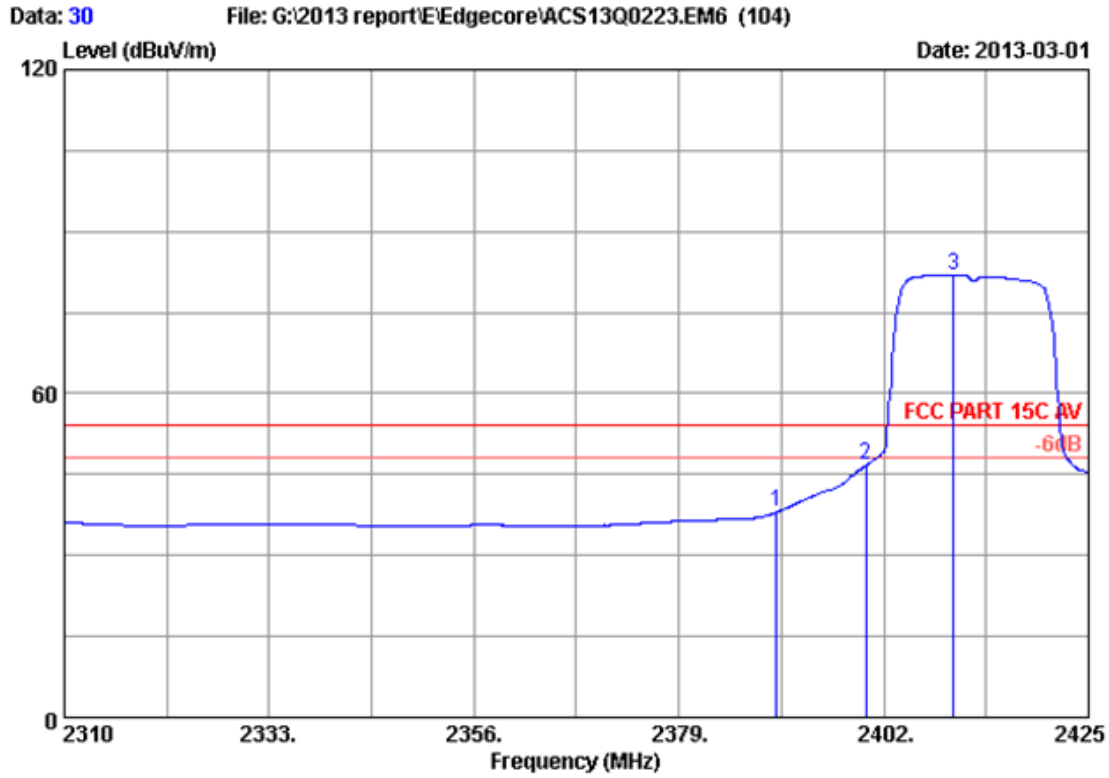
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no.	: 3m Chamber		Data no.	: 29
Dis. / Ant.	: 3m 2011 3115 4580		Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK			
Env. / Ins.	: 23*C/54%		Engineer	: Leo-Li
EUT	: 300 Mbps 4-Port Wireless	Broadband Router		
Power supply	: DC 9V From Adapter Input	AC 120V/60Hz		
Test mode	: IEEE802.11g CH1 2412MHz	Tx		
M/N	: SMCWBR14-N5			
	:			

	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	51.16	50.69	74.00	23.31	Peak
2	2400.000	27.96	6.01	34.44	71.86	71.39	74.00	2.61	Peak
3	2414.305	27.98	6.03	34.44	94.75	94.32	74.00	-20.32	Peak

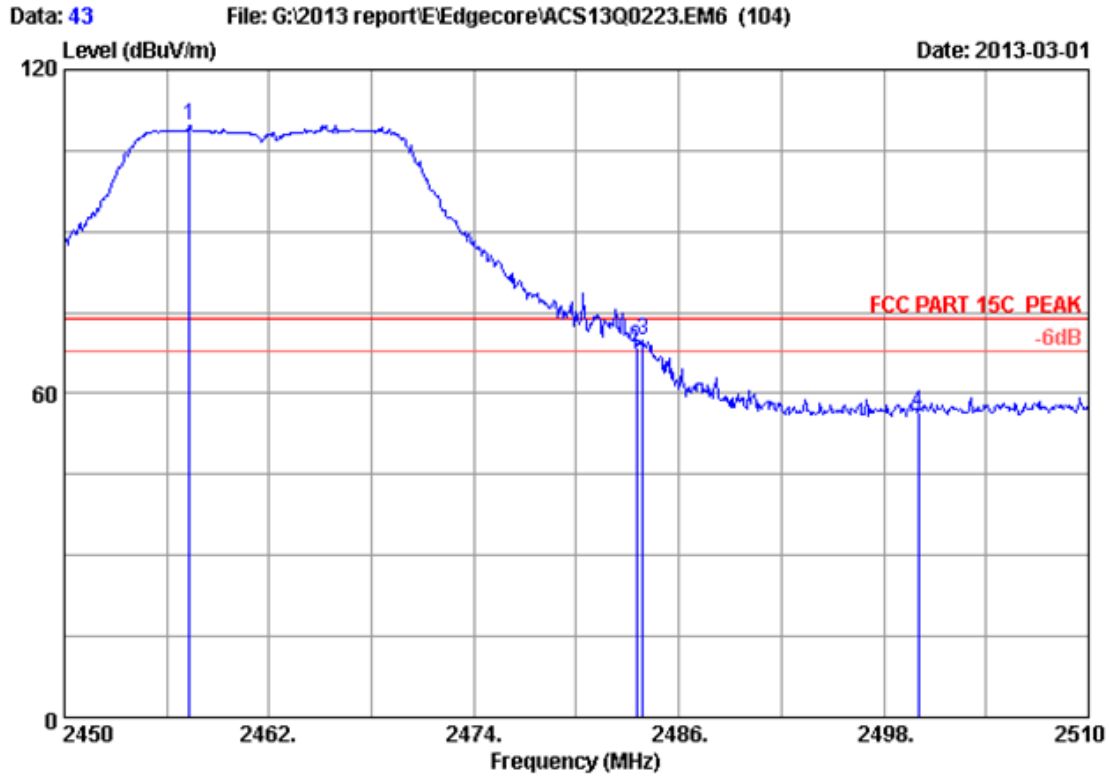
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no.	: 3m Chamber		Data no.	: 30
Dis. / Ant.	: 3m 2011 3115 4580		Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C AV			
Env. / Ins.	: 23*C/54%		Engineer	: Leo-Li
EUT	: 300 Mbps 4-Port Wireless	Broadband Router		
Power supply	: DC 9V From Adapter Input	AC 120V/60Hz		
Test mode	: IEEE802.11g CH1 2412MHz	Tx		
M/N	: SMCWBR14-N5			
	:			

	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	38.52	38.05	54.00	15.95	Average
2	2400.000	27.96	6.01	34.44	47.24	46.77	54.00	7.23	Average
3	2409.820	27.98	6.03	34.44	82.39	81.96	54.00	-27.96	Average

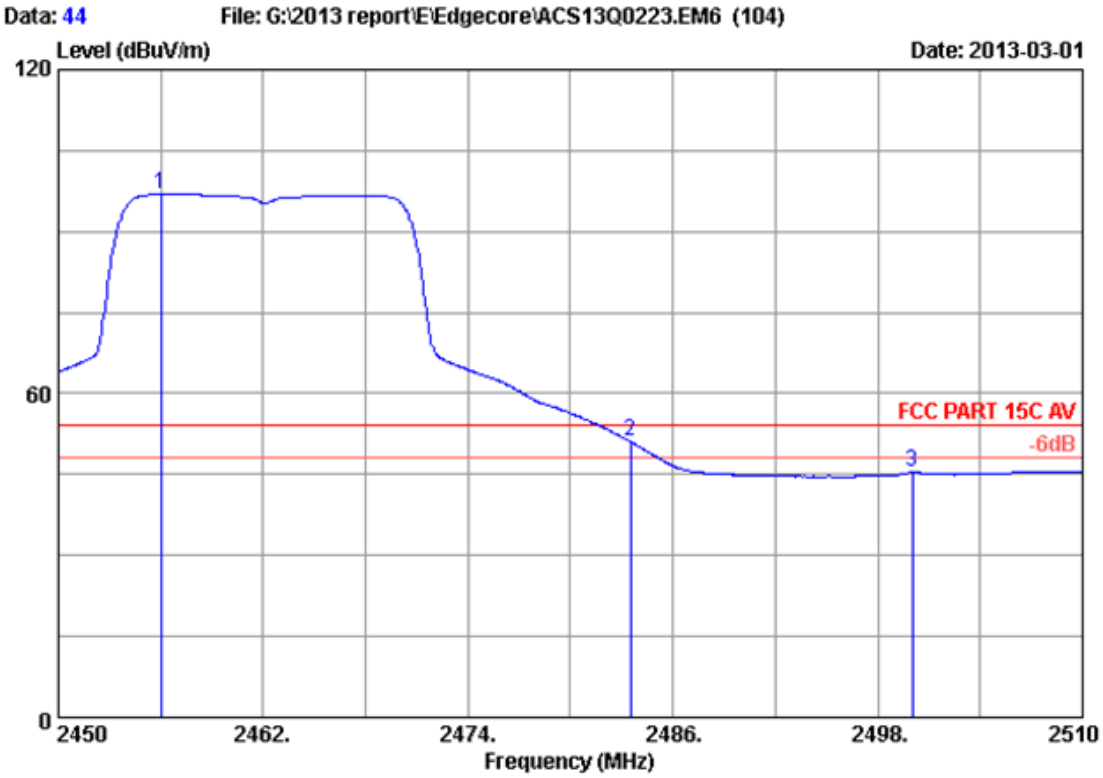
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 43
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11g CH11 2462MHz Tx
M/N : SMCWBR14-N5
:

	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	110.06	109.79	74.00	-35.79	Peak
2	2483.500	28.08	6.15	34.45	68.73	68.51	74.00	5.49	Peak
3	2483.900	28.08	6.15	34.45	70.08	69.86	74.00	4.14	Peak
4	2500.000	28.10	6.18	34.45	56.54	56.37	74.00	17.63	Peak

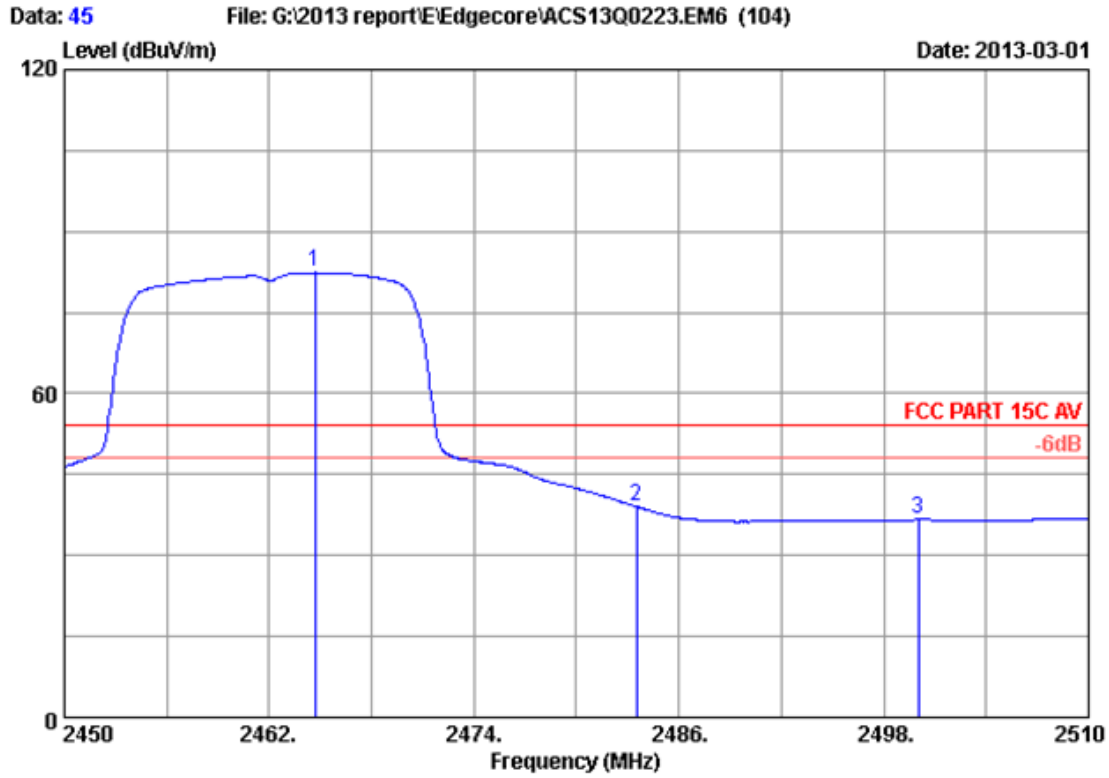
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 44
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11g CH11 2462MHz Tx
M/N : SMCWBR14-N5
:

	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	2456.000	28.05	6.09	34.44	97.25	96.95	54.00	-42.95	Average
2	2483.500	28.08	6.15	34.45	51.32	51.10	54.00	2.90	Average
3	2500.000	28.10	6.18	34.45	45.57	45.40	54.00	8.60	Average

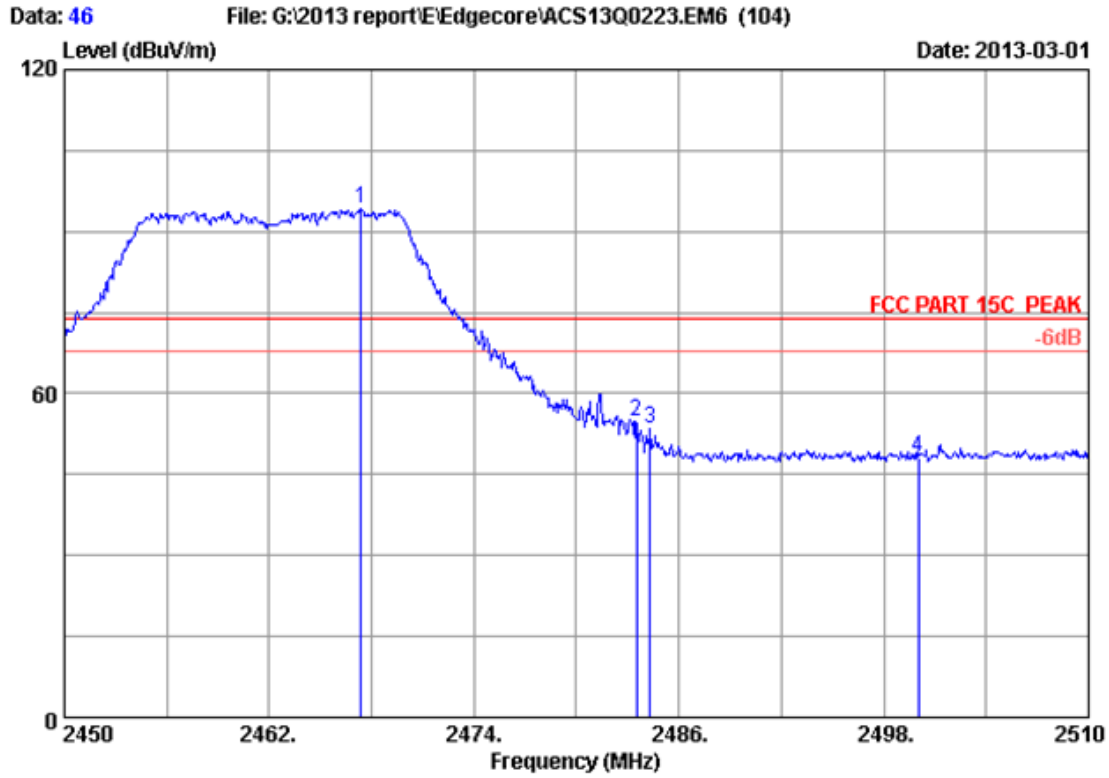
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 45
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11g CH11 2462MHz Tx
M/N : SMCWBR14-N5
:

	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	2464.700	28.05	6.12	34.45	82.69	82.41	54.00	-28.41	Average
2	2483.500	28.08	6.15	34.45	39.26	39.04	54.00	14.96	Average
3	2500.000	28.10	6.18	34.45	36.85	36.68	54.00	17.32	Average

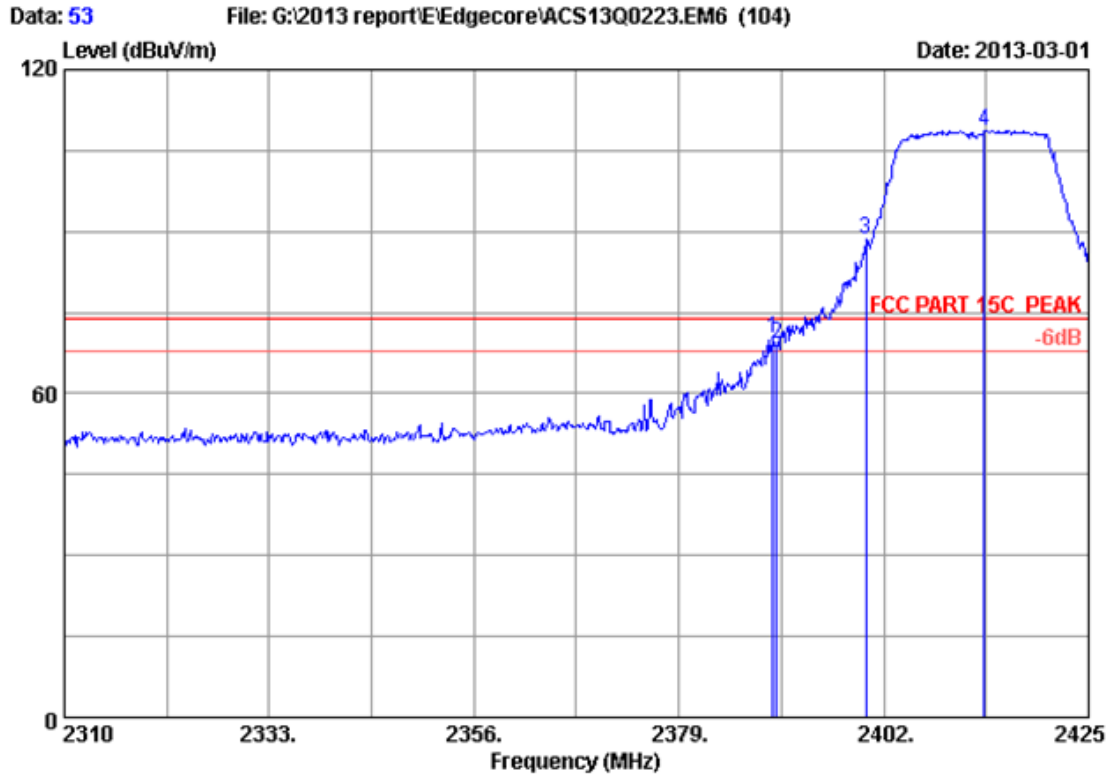
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 46
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11g CH11 2462MHz Tx
M/N : SMCWBR14-N5
:

	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	2467.400	28.05	6.12	34.45	94.42	94.14	74.00	-20.14	Peak
2	2483.500	28.08	6.15	34.45	55.20	54.98	74.00	19.02	Peak
3	2484.320	28.08	6.15	34.45	53.77	53.55	74.00	20.45	Peak
4	2500.000	28.10	6.18	34.45	48.31	48.14	74.00	25.86	Peak

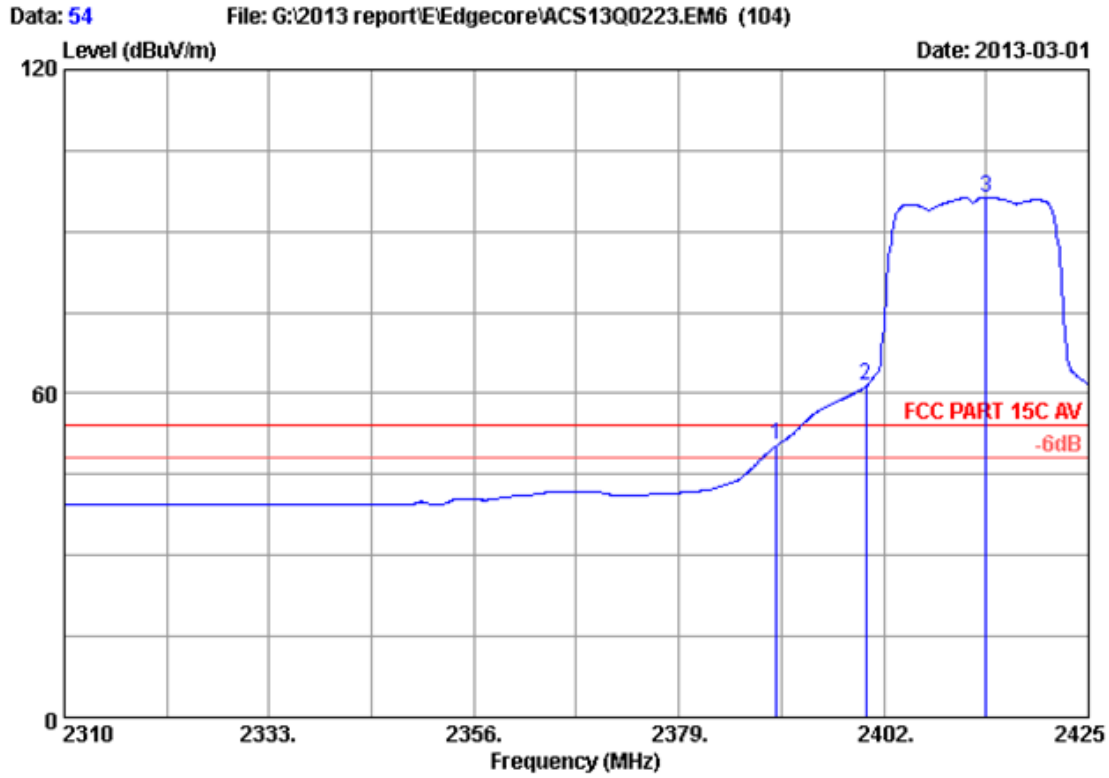
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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	: 300 Mbps 4-Port Wireless Broadband Router			
Power supply	: DC 9V From Adapter Input AC 120V/60Hz			
Test mode	: IEEE802.11nHT20 CH1 2412MHz Tx			
M/N	: SMCWBR14-N5			
	:			

	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	70.61	70.14	74.00	3.86	Peak
2	2390.000	27.96	6.01	34.44	69.61	69.14	74.00	4.86	Peak
3	2400.000	27.96	6.01	34.44	89.14	88.67	74.00	-14.67	Peak
4	2413.270	27.98	6.03	34.44	109.18	108.75	74.00	-34.75	Peak

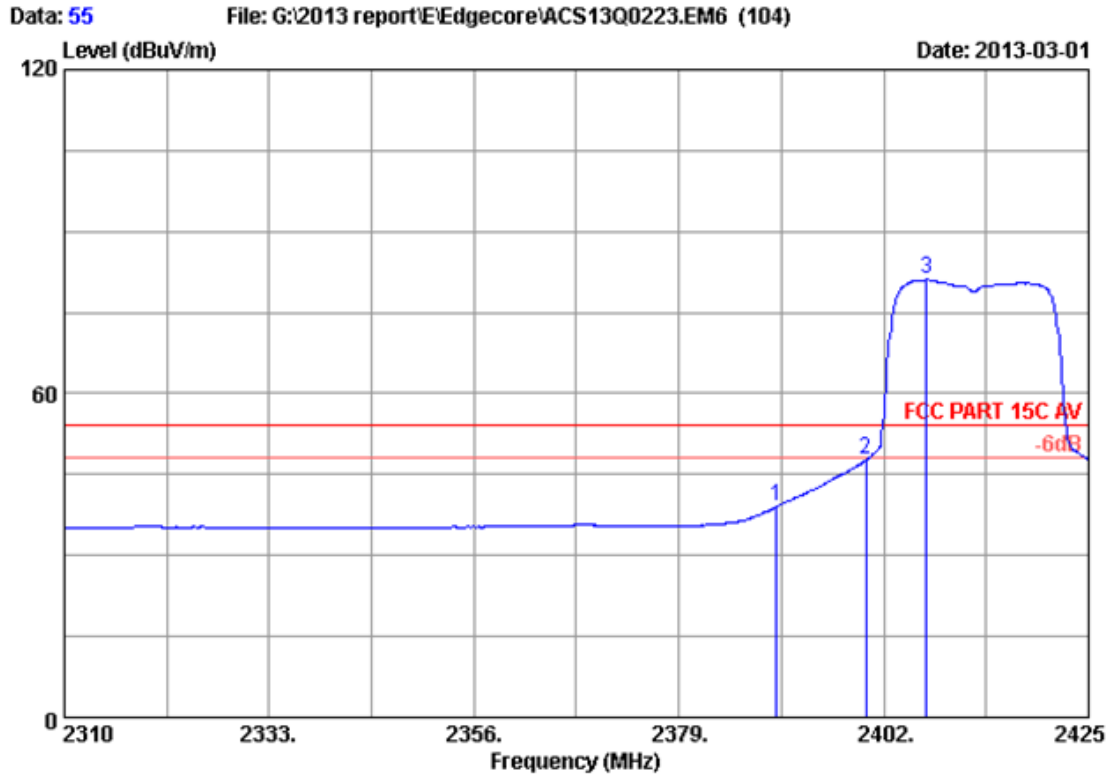
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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 : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT20 CH1 2412MHz Tx
M/N : SMCWBR14-N5
:

	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	50.87	50.40	54.00	3.60	Average
2	2400.000	27.96	6.01	34.44	61.92	61.45	54.00	-7.45	Average
3	2413.500	27.98	6.03	34.44	96.81	96.38	54.00	-42.38	Average

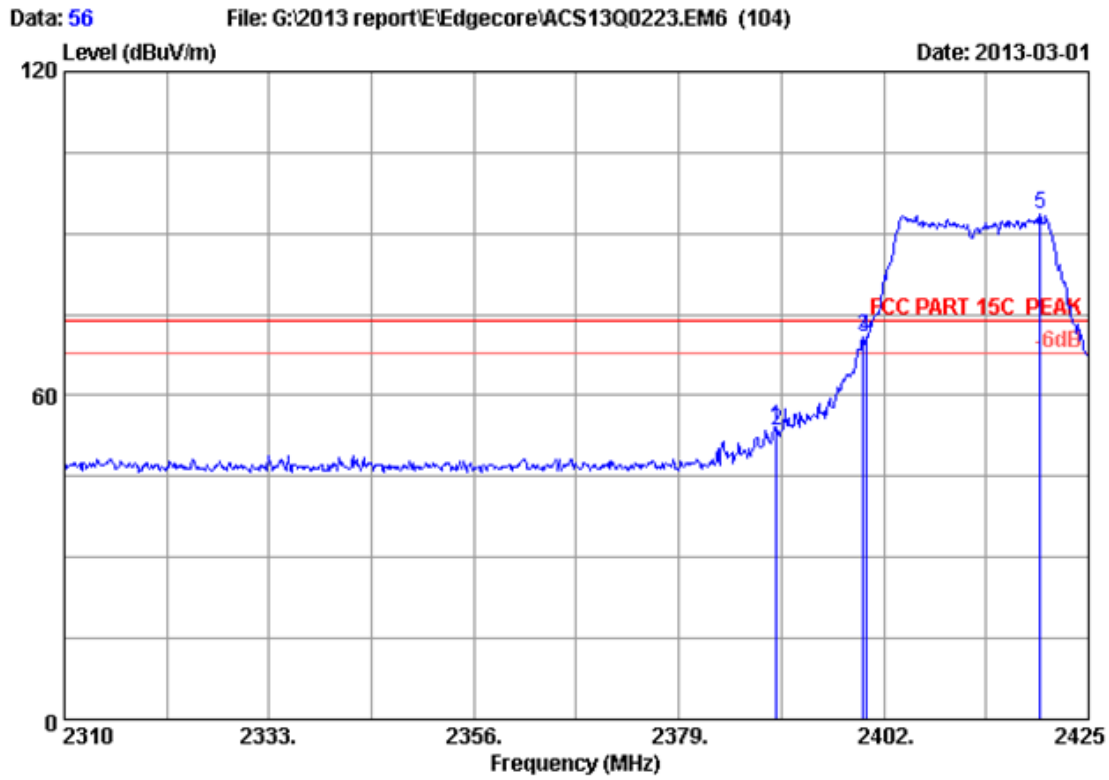
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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 : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT20 CH1 2412MHz Tx
M/N : SMCWBR14-N5
:

	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	39.51	39.04	54.00	14.96	Average
2	2400.000	27.96	6.01	34.44	48.29	47.82	54.00	6.18	Average
3	2406.830	27.98	6.03	34.44	81.51	81.08	54.00	-27.08	Average

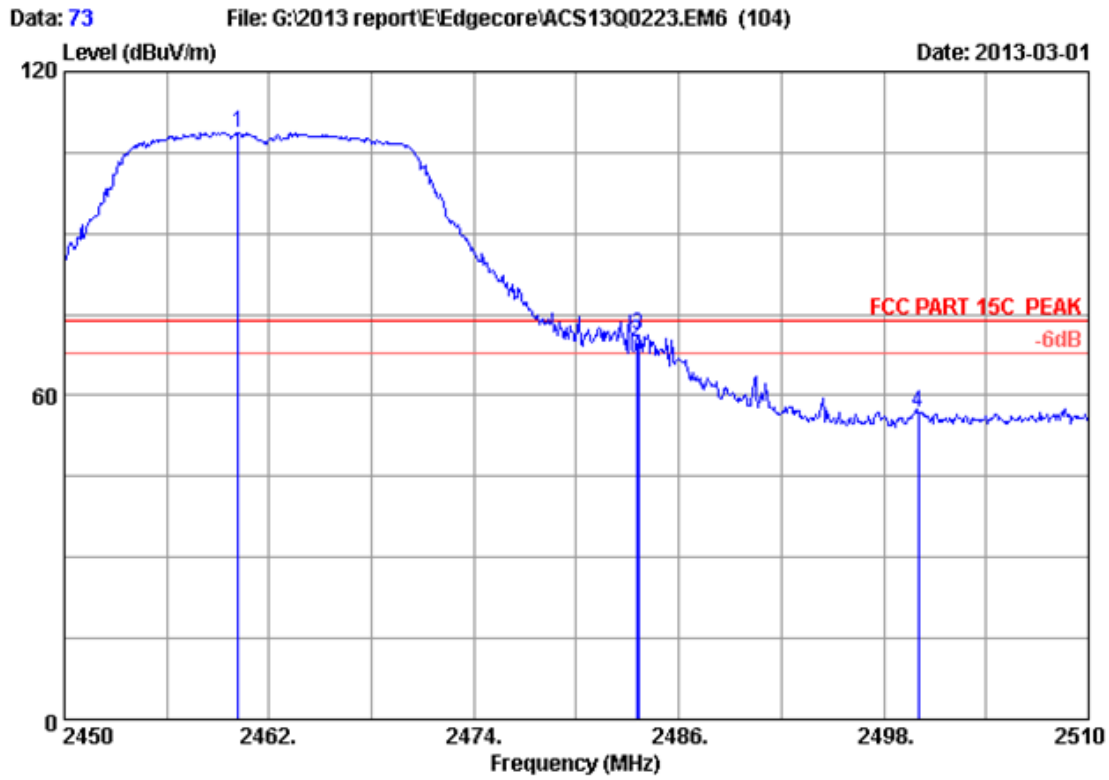
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 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 : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT20 CH1 2412MHz Tx
M/N : SMCWBR14-N5
:

	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	2389.925	27.96	6.01	34.44	54.73	54.26	74.00	19.74	Peak
2	2390.000	27.96	6.01	34.44	53.96	53.49	74.00	20.51	Peak
3	2399.700	27.96	6.01	34.44	71.38	70.91	74.00	3.09	Peak
4	2400.000	27.96	6.01	34.44	71.27	70.80	74.00	3.20	Peak
5	2419.595	28.00	6.03	34.44	94.02	93.61	74.00	-19.61	Peak

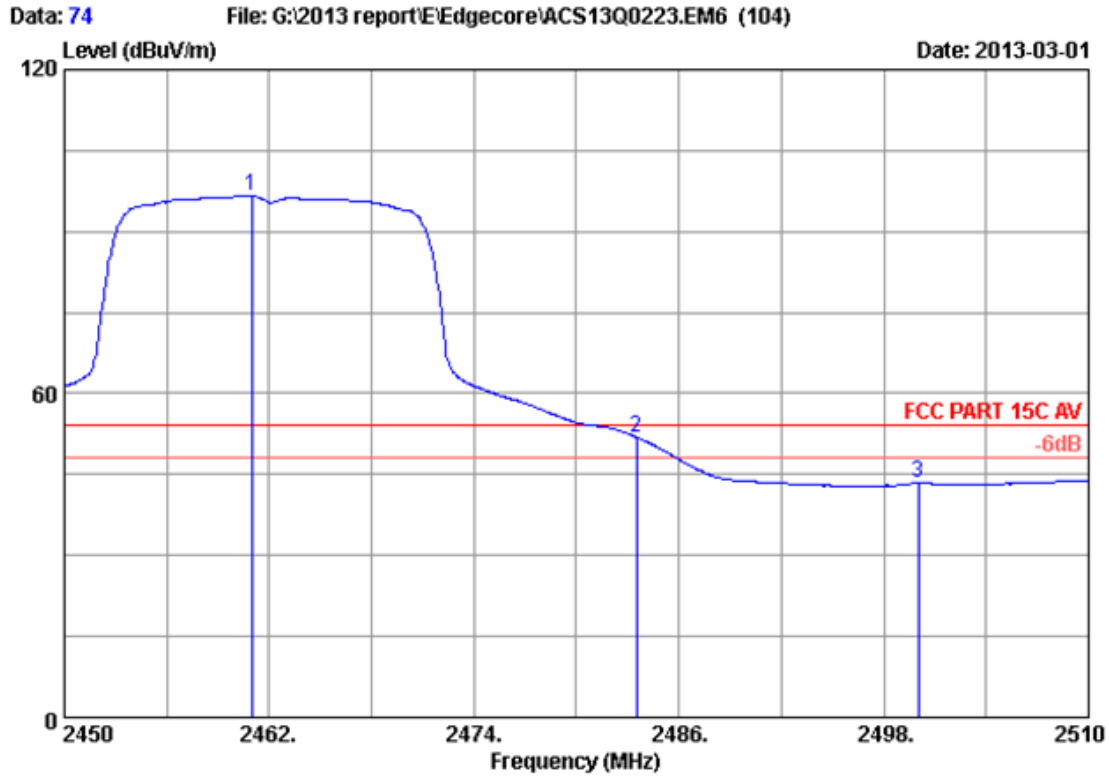
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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 : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT20 CH11 2462MHz Tx
M/N : SMCWBR14-N5
:

	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	2460.200	28.05	6.12	34.44	108.95	108.68	74.00	-34.68	Peak
2	2483.500	28.08	6.15	34.45	70.05	69.83	74.00	4.17	Peak
3	2483.600	28.08	6.15	34.45	71.51	71.29	74.00	2.71	Peak
4	2500.000	28.10	6.18	34.45	57.05	56.88	74.00	17.12	Peak

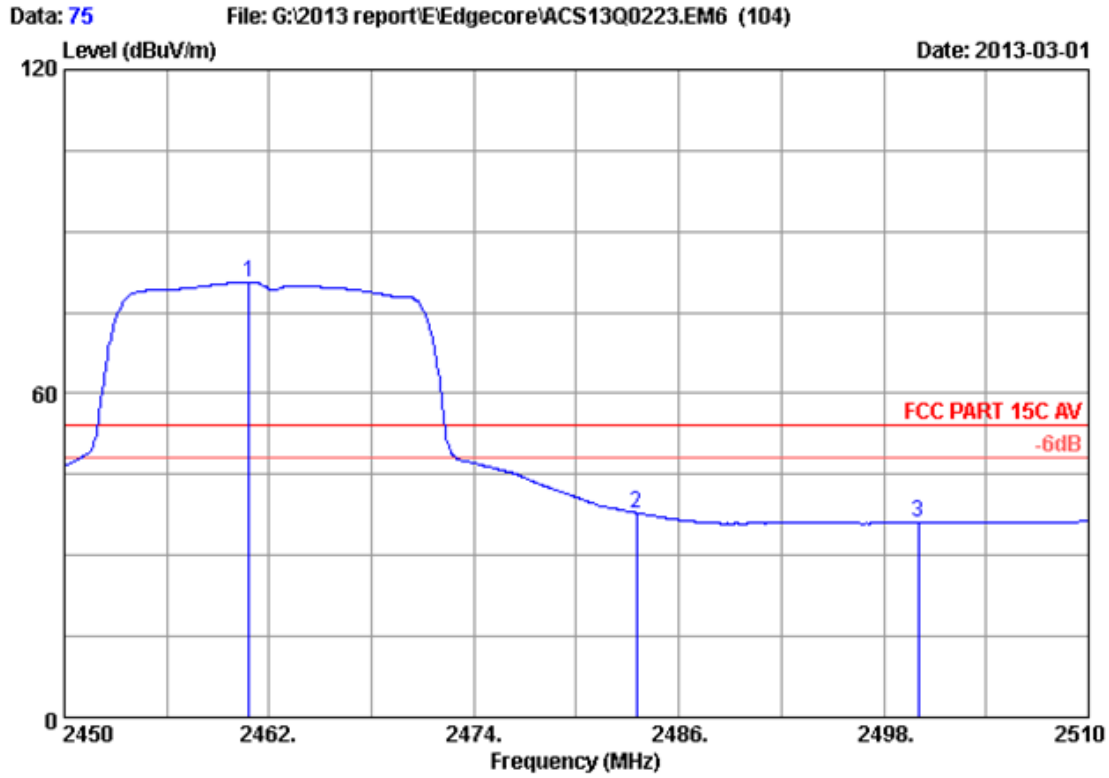
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 74
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT20 CH11 2462MHz Tx
M/N : SMCWBR14-N5
:

	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	2460.980	28.05	6.12	34.44	96.81	96.54	54.00	-42.54	Average
2	2483.500	28.08	6.15	34.45	52.14	51.92	54.00	2.08	Average
3	2500.000	28.10	6.18	34.45	43.70	43.53	54.00	10.47	Average

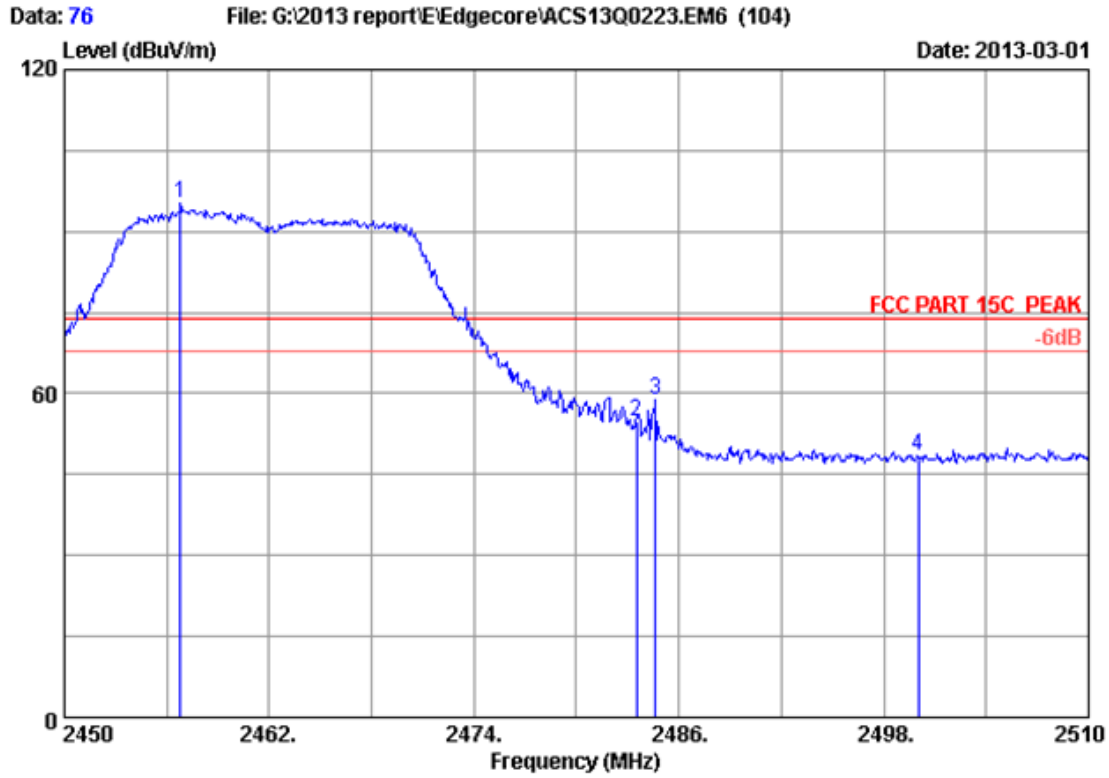
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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 : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT20 CH11 2462MHz Tx
M/N : SMCWBR14-N5
:

	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	2460.800	28.05	6.12	34.44	80.96	80.69	54.00	-26.69	Average
2	2483.500	28.08	6.15	34.45	38.15	37.93	54.00	16.07	Average
3	2500.000	28.10	6.18	34.45	36.26	36.09	54.00	17.91	Average

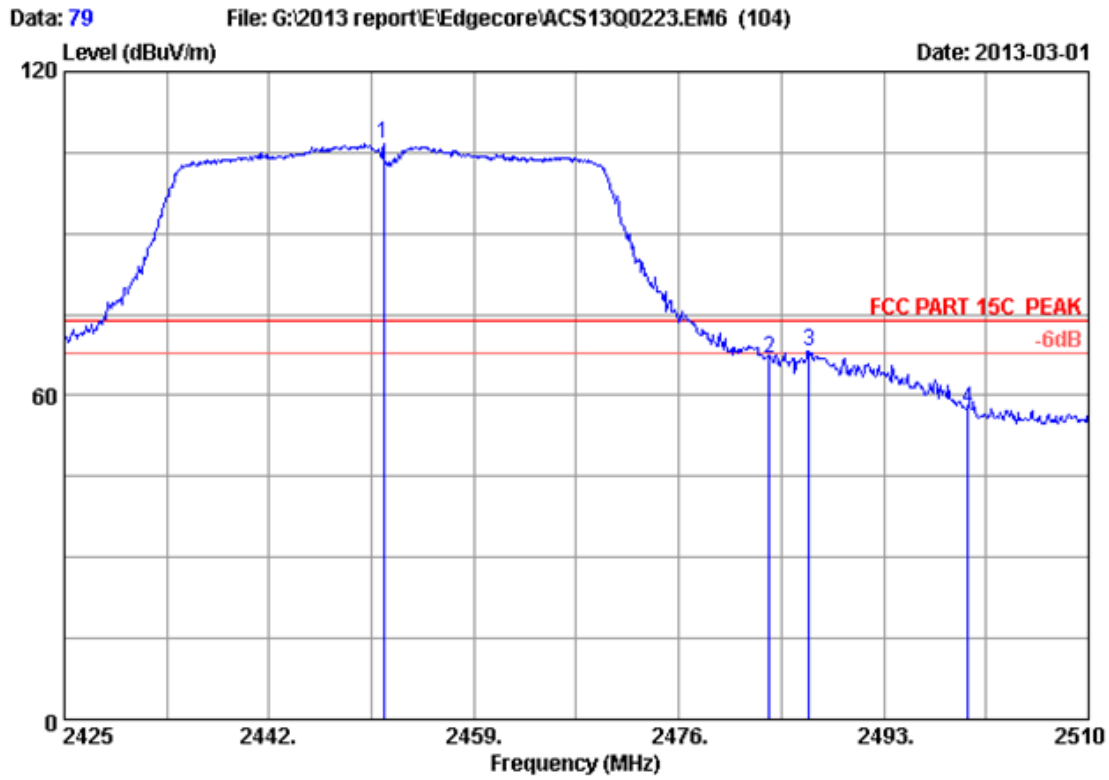
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 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 : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT20 CH11 2462MHz Tx
M/N : SMCWBR14-N5
:

	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	2456.780	28.05	6.12	34.44	95.43	95.16	74.00	-21.16	Peak
2	2483.500	28.08	6.15	34.45	54.91	54.69	74.00	19.31	Peak
3	2484.620	28.08	6.15	34.45	59.21	58.99	74.00	15.01	Peak
4	2500.000	28.10	6.18	34.45	48.54	48.37	74.00	25.63	Peak

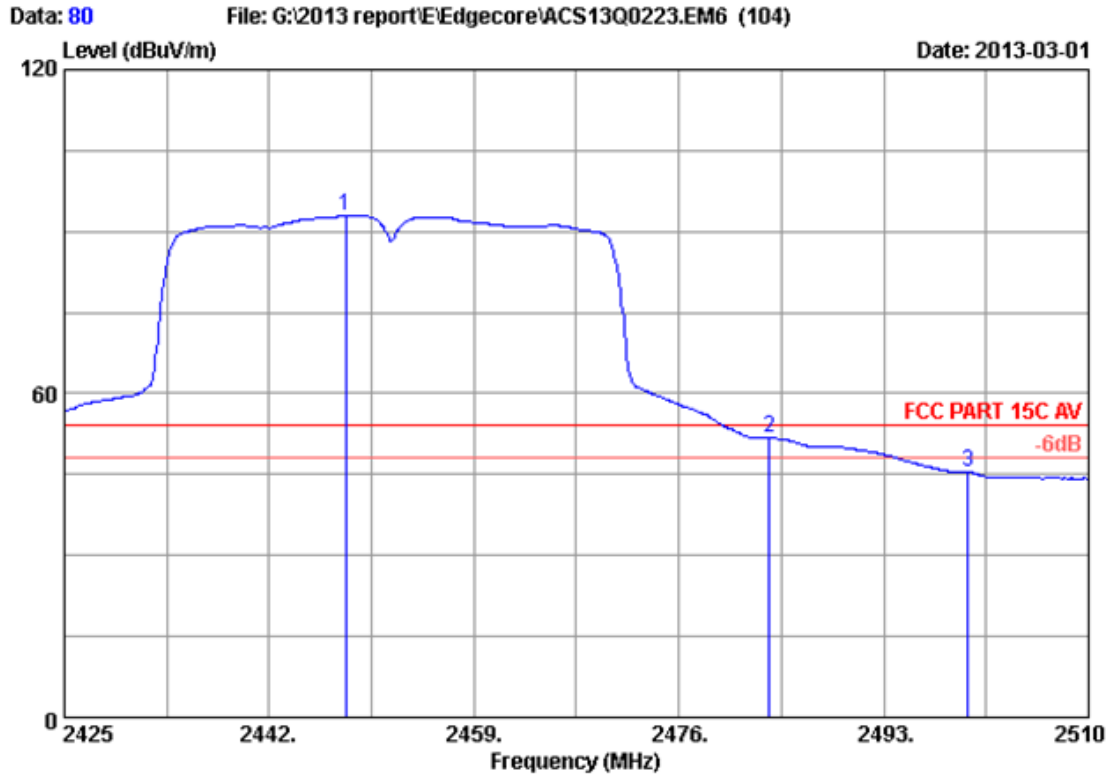
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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 : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH7 2452MHz Tx
M/N : SMCWBR14-N5
:

	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	2451.520	28.03	6.09	34.44	107.11	106.79	74.00	-32.79	Peak
2	2483.500	28.08	6.15	34.45	66.98	66.76	74.00	7.24	Peak
3	2486.795	28.08	6.15	34.45	68.44	68.22	74.00	5.78	Peak
4	2500.000	28.10	6.18	34.45	57.51	57.34	74.00	16.66	Peak

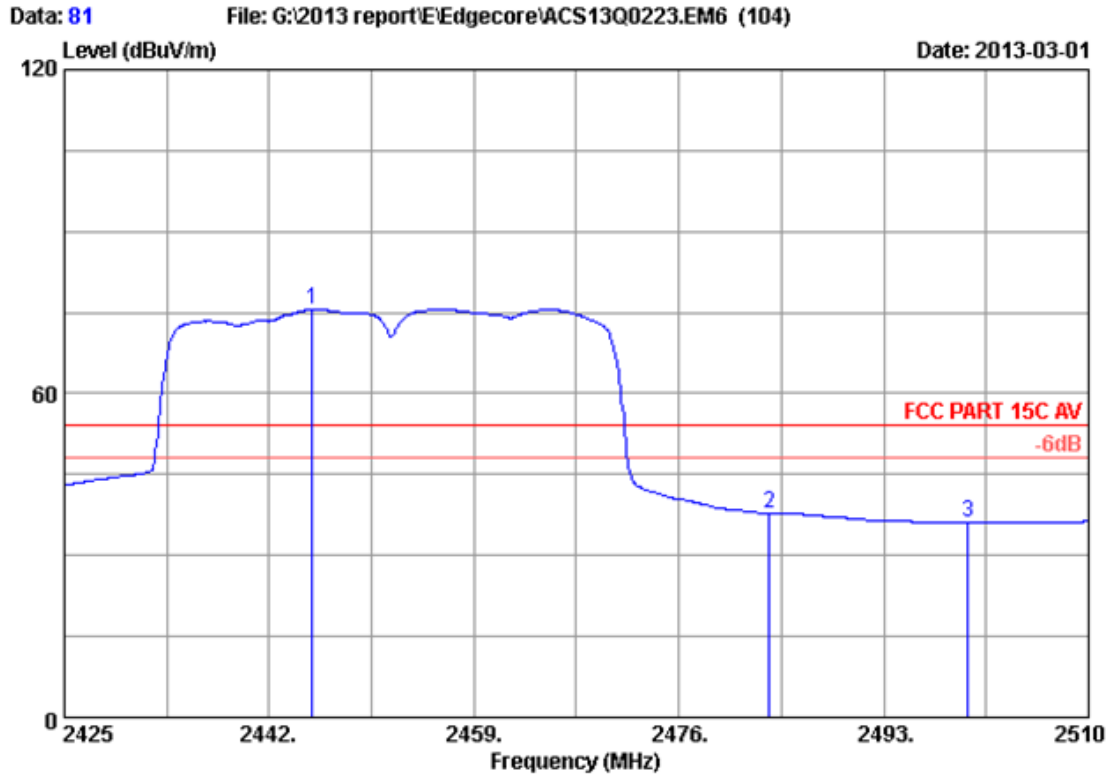
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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 : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH7 2452MHz Tx
M/N : SMCWBR14-N5
:

	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	2448.375	28.03	6.09	34.44	93.21	92.89	54.00	-38.89	Average
2	2483.500	28.08	6.15	34.45	51.97	51.75	54.00	2.25	Average
3	2500.000	28.10	6.18	34.45	45.62	45.45	54.00	8.55	Average

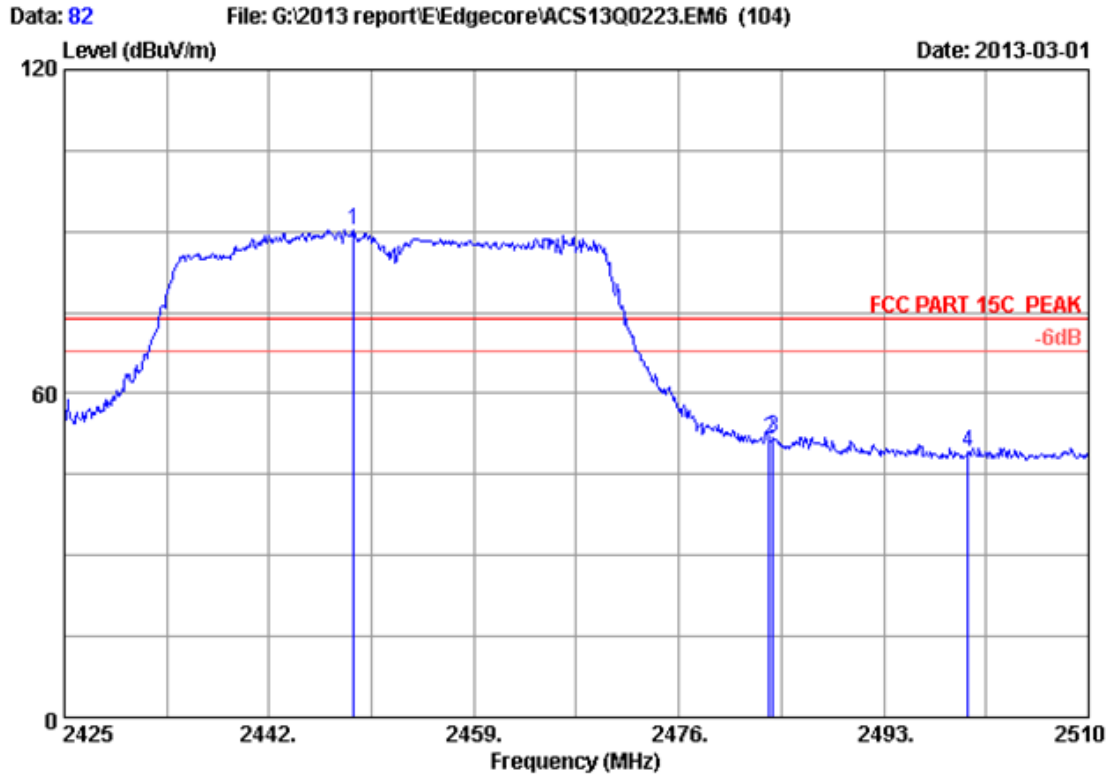
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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 : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH7 2452MHz Tx
M/N : SMCWBR14-N5
:

	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	2445.570	28.03	6.09	34.44	75.94	75.62	54.00	-21.62	Average
2	2483.500	28.08	6.15	34.45	38.11	37.89	54.00	16.11	Average
3	2500.000	28.10	6.18	34.45	36.32	36.15	54.00	17.85	Average

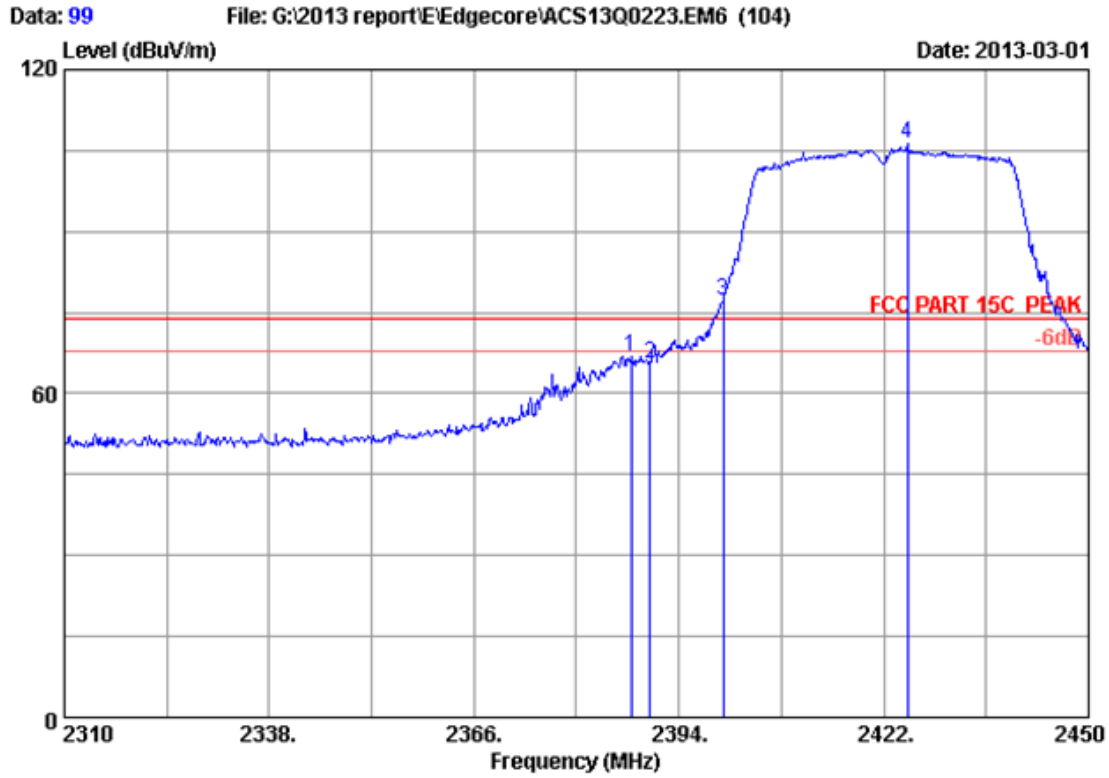
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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 : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH7 2452MHz Tx
M/N : SMCWBR14-N5
:

	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	2449.055	28.03	6.09	34.44	90.72	90.40	74.00	-16.40	Peak
2	2483.500	28.08	6.15	34.45	51.74	51.52	74.00	22.48	Peak
3	2483.820	28.08	6.15	34.45	52.15	51.93	74.00	22.07	Peak
4	2500.000	28.10	6.18	34.45	49.31	49.14	74.00	24.86	Peak

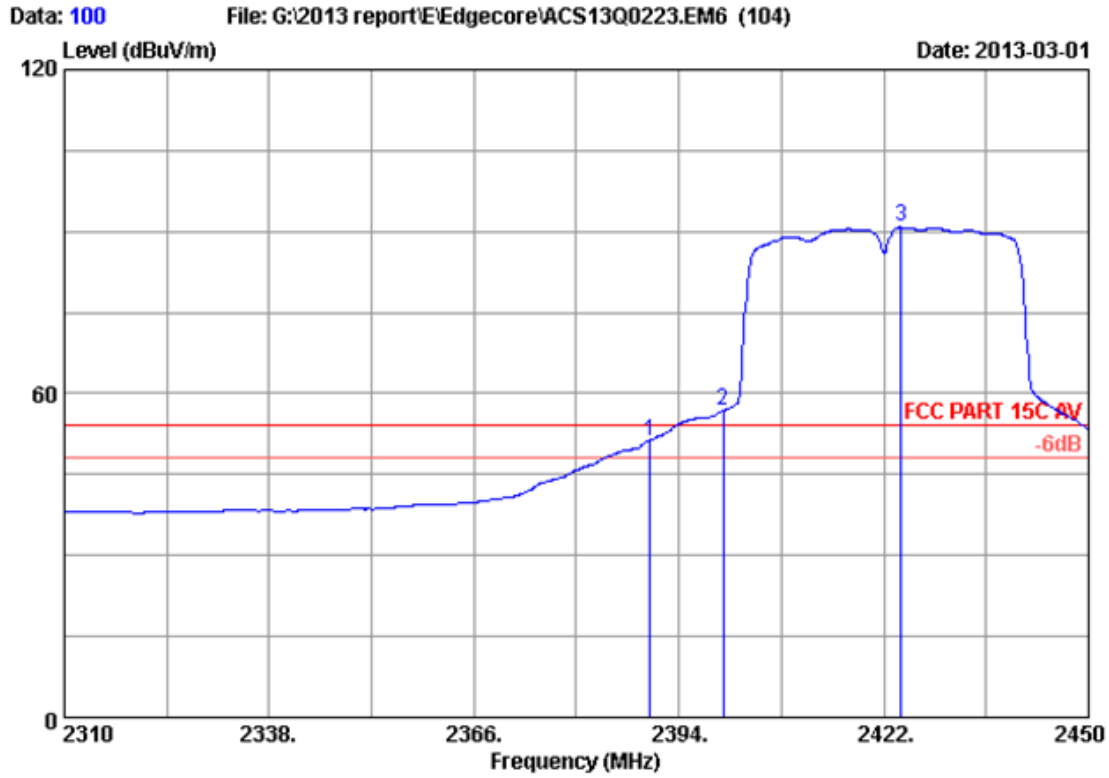
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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 : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH1 2422MHz Tx
M/N : SMCWBR14-N5
:

	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	2387.420	27.96	6.01	34.44	67.34	66.87	74.00	7.13	Peak
2	2390.000	27.96	6.01	34.44	66.10	65.63	74.00	8.37	Peak
3	2400.000	27.96	6.01	34.44	77.63	77.16	74.00	-3.16	Peak
4	2425.220	28.00	6.06	34.44	106.70	106.32	74.00	-32.32	Peak

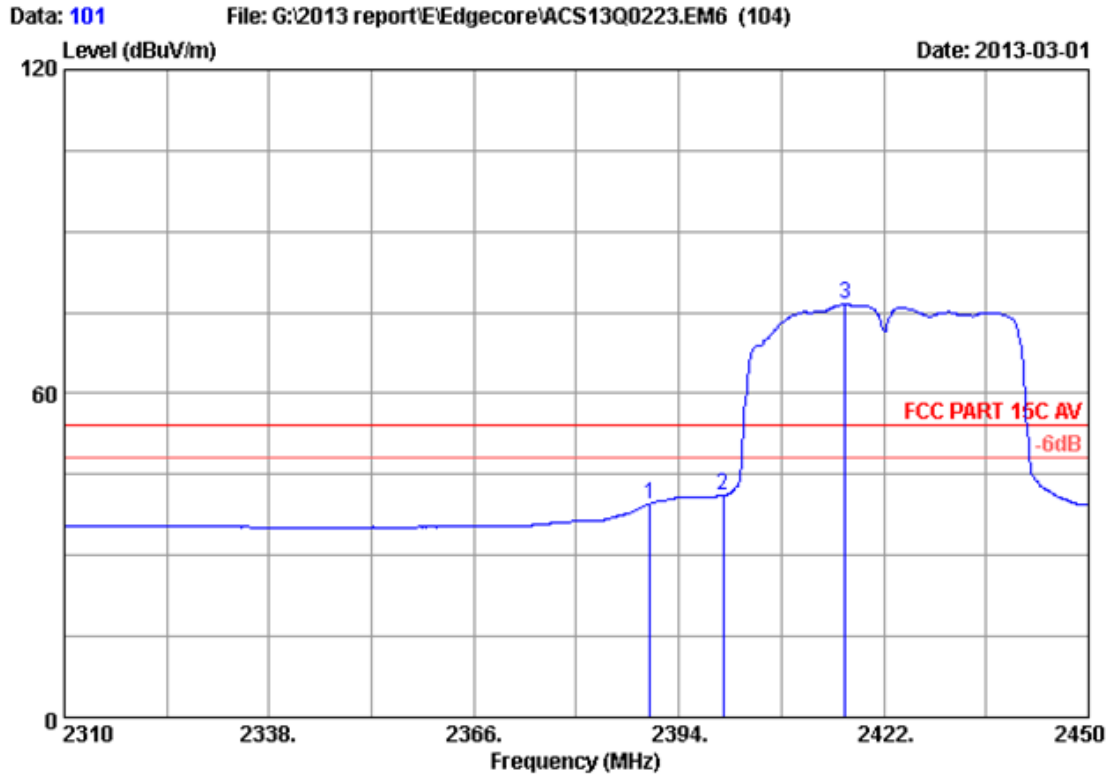
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 100
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Leo-Li
EUT : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH1 2422MHz Tx
M/N : SMCWBR14-N5
:

	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	51.75	51.28	54.00	2.72	Average
2	2400.000	27.96	6.01	34.44	57.30	56.83	54.00	-2.83	Average
3	2424.380	28.00	6.06	34.44	91.15	90.77	54.00	-36.77	Average

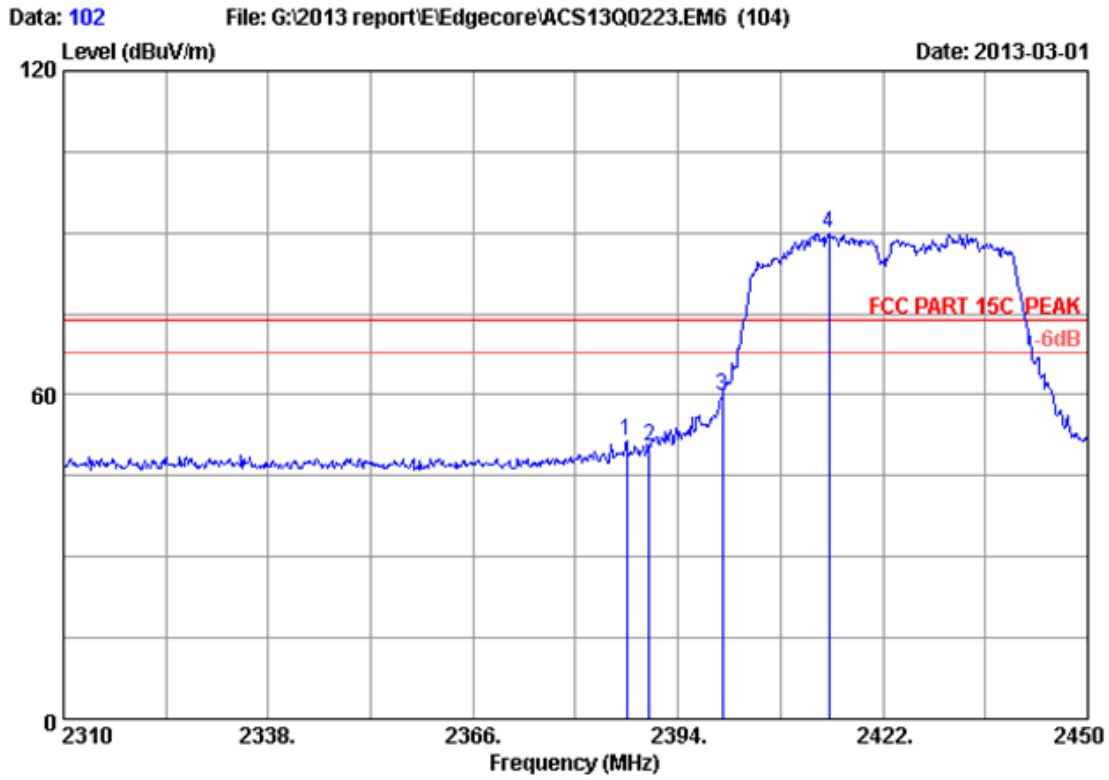
Remarks:
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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 : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH1 2422MHz Tx
M/N : SMCWBR14-N5
:

	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	39.93	39.46	54.00	14.54	Average
2	2400.000	27.96	6.01	34.44	41.56	41.09	54.00	12.91	Average
3	2416.680	27.98	6.03	34.44	76.89	76.46	54.00	-22.46	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 : 300 Mbps 4-Port Wireless Broadband Router
Power supply : DC 9V From Adapter Input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH1 2422MHz Tx
M/N : SMCWBR14-N5
:

	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	2387.000	27.96	6.01	34.44	52.03	51.56	74.00	22.44	Peak
2	2390.000	27.96	6.01	34.44	50.92	50.45	74.00	23.55	Peak
3	2400.000	27.96	6.01	34.44	60.34	59.87	74.00	14.13	Peak
4	2414.580	27.98	6.03	34.44	90.40	89.97	74.00	-15.97	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.

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, 12	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 12	1 Year
3.	Antenna	EMCO	3115	9510-4580	May.31, 12	1Year
4.	HF Cable	Hubersuhner	Sucoflex104	-	May.08, 12	1 Year

7.2.Limit

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

7.3.Test Procedure

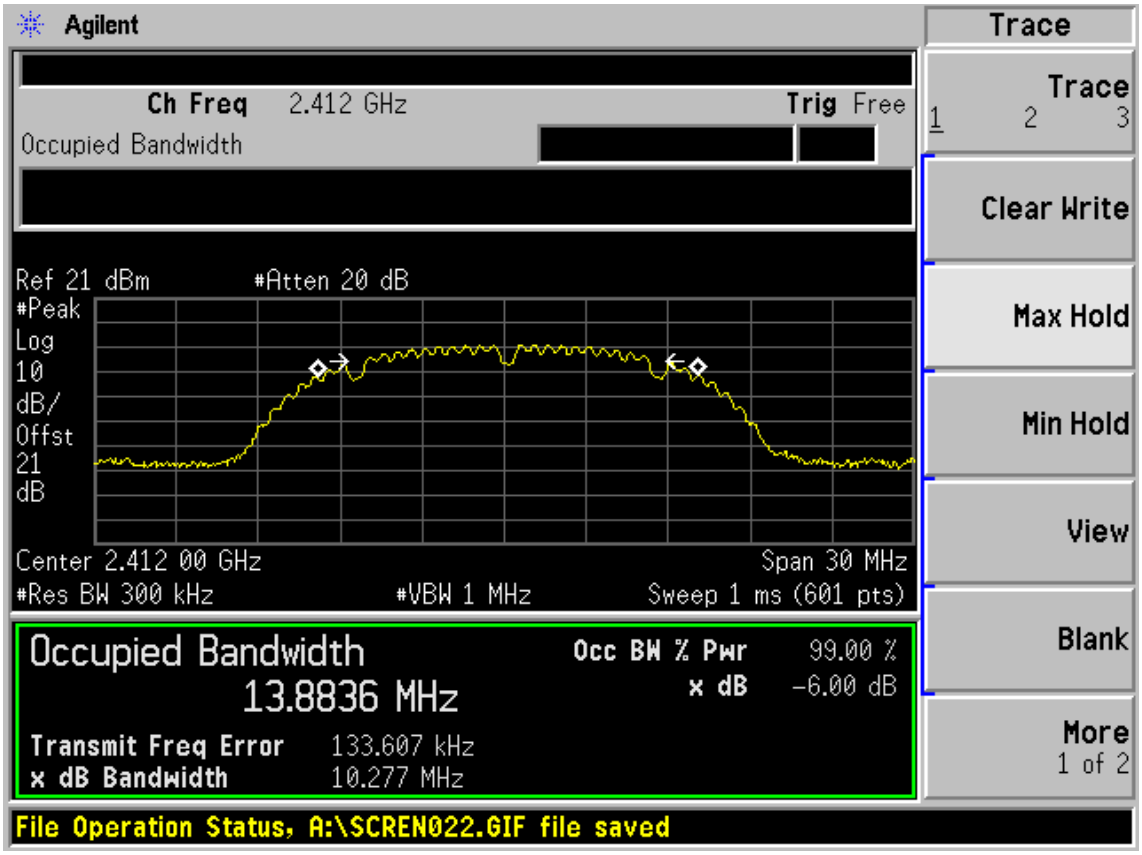
The transmitter output was connected to a spectrum analyzer, The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 300 kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

7.4.Test Results

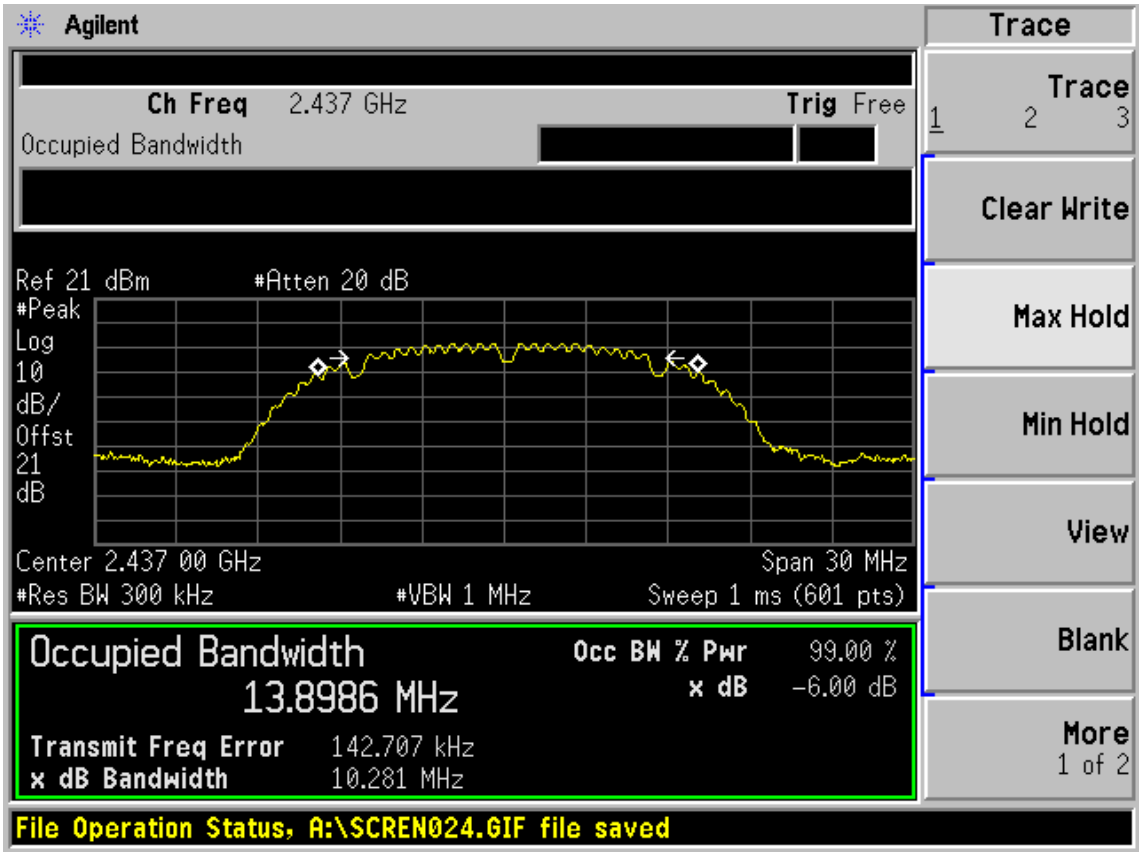
EUT: 300 Mbps 4-Port Wireless Broadband Router		
M/N:SMCWBR14-N5		
Test date:2013-02-28	Pressure: 101.1±1.0 kpa	Humidity: 51.3±3%
Tested by: Leo-Li	Test site: RF site	Temperature: 22.7 ± 0.6℃

Cable loss: 1 dB		Attenuator loss: 20 dB		
Test Mode	CH	6dB bandwidth （MHz）		Limit (KHz)
		Chain0	Chain1	
11b	CH1	10.277	10.280	>500
	CH6	10.281	10.276	>500
	CH11	10.284	10.281	>500
11g	CH1	16.443	16.502	>500
	CH6	16.502	16.467	>500
	CH11	16.522	16.445	>500
11n HT20	CH1	17.646	17.666	>500
	CH6	17.650	17.706	>500
	CH11	17.711	17.699	>500
11n HT40	CH1	35.154	35.460	>500
	CH4	35.573	35.072	>500
	CH7	35.674	35.678	>500
Conclusion：PASS				

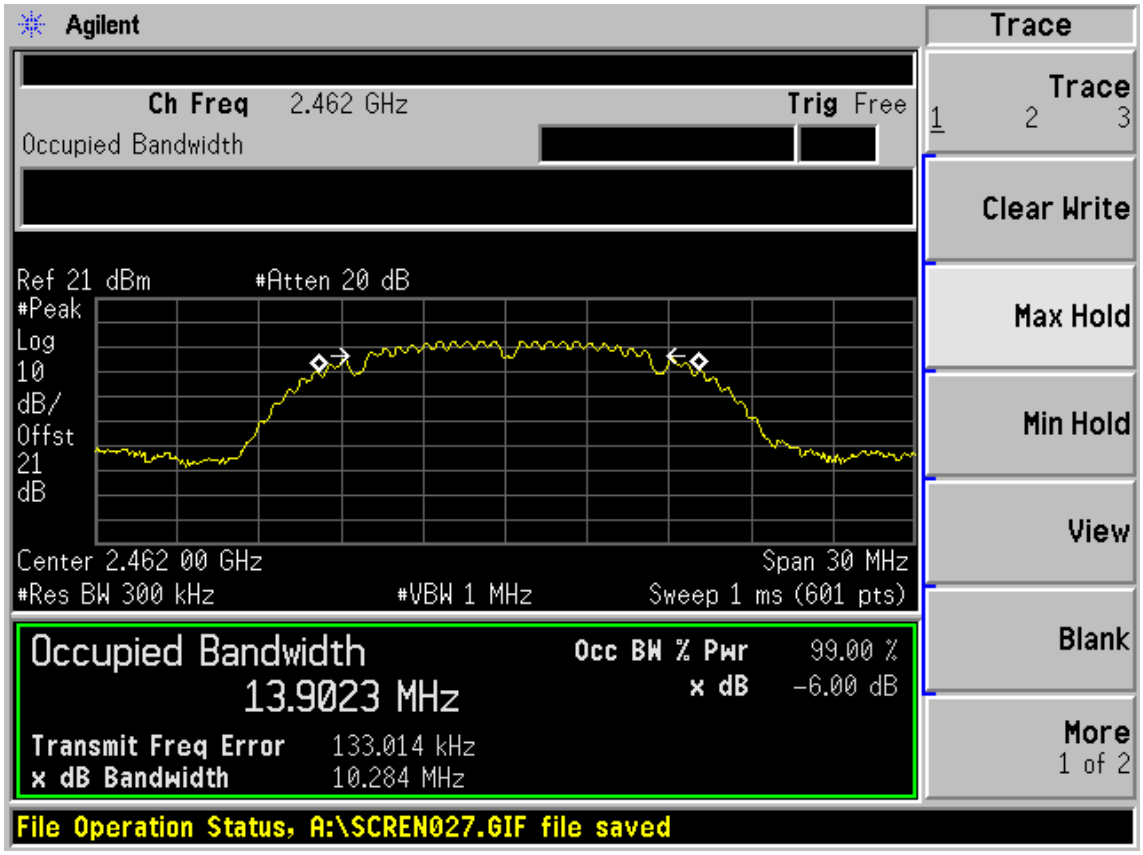
ANT0
Test Mode: IEEE 802.11b TX
Test CH1: 2412MHz



Test CH6: 2437MHz

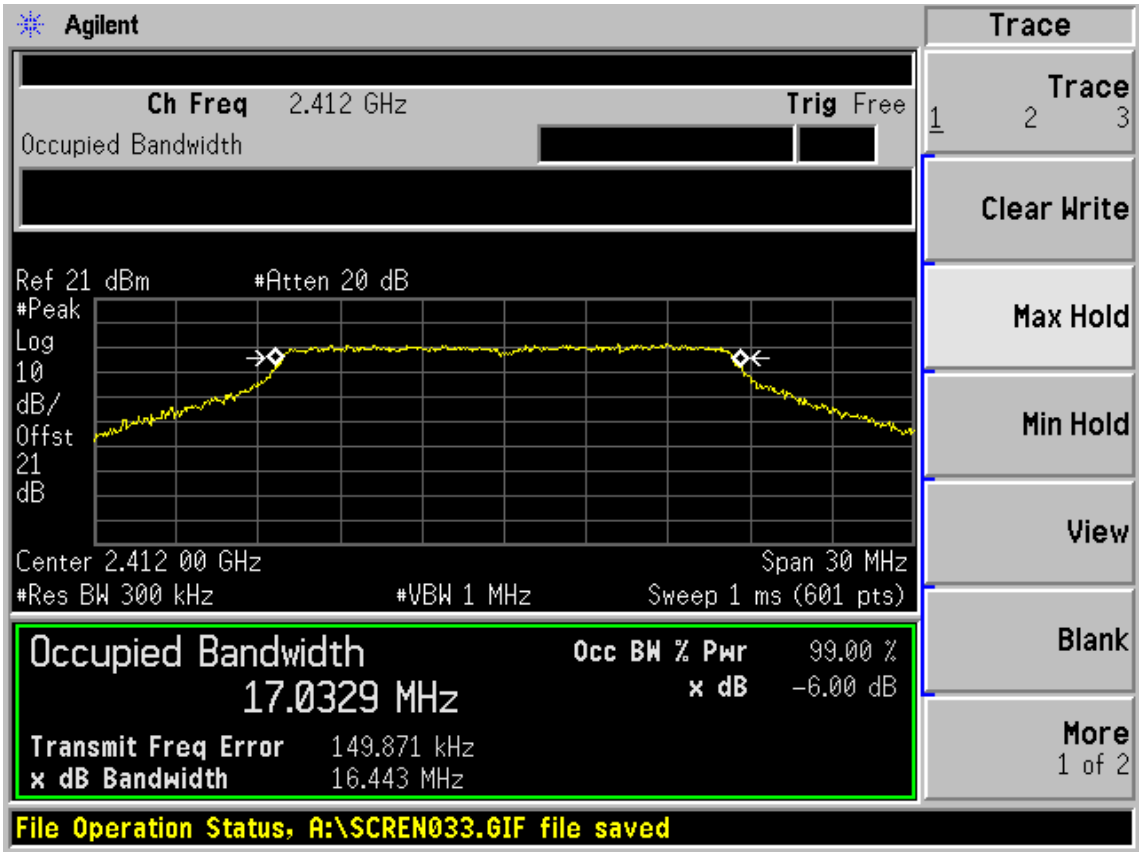


Test CH11: 2462MHz

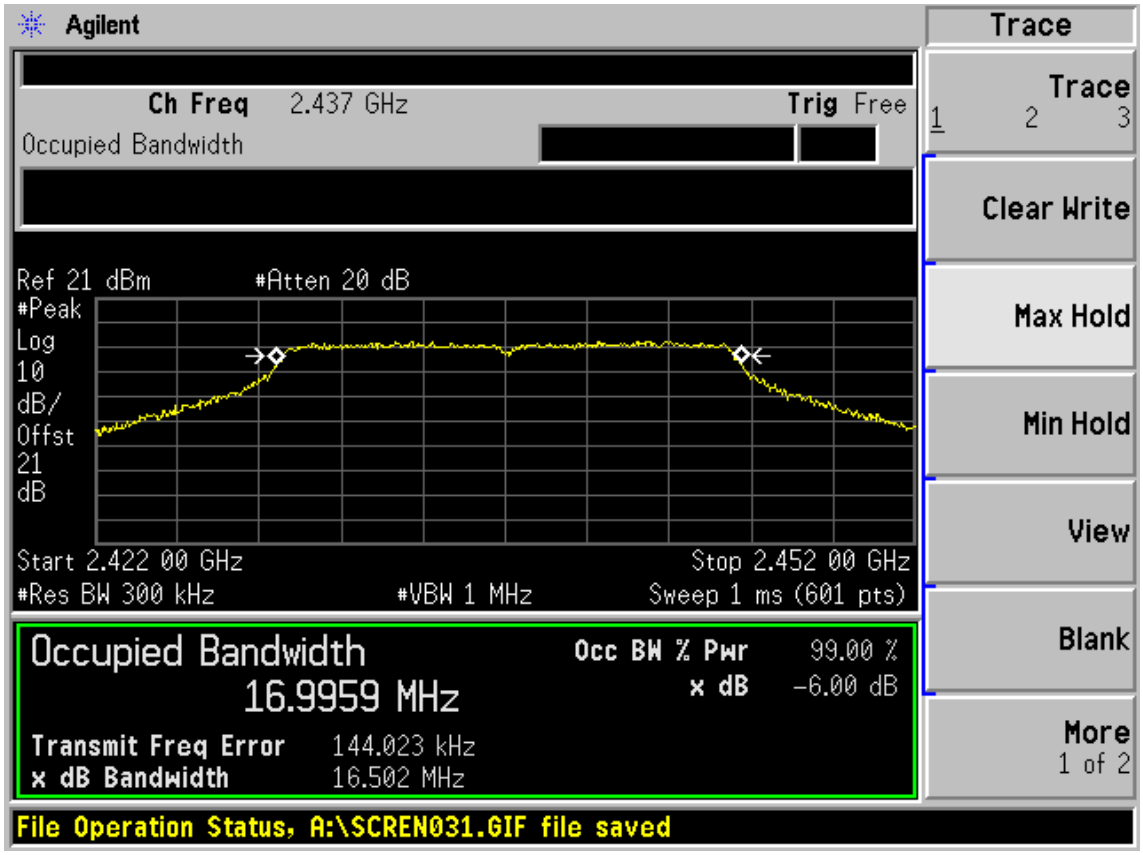


Test Mode: IEEE 802.11g TX

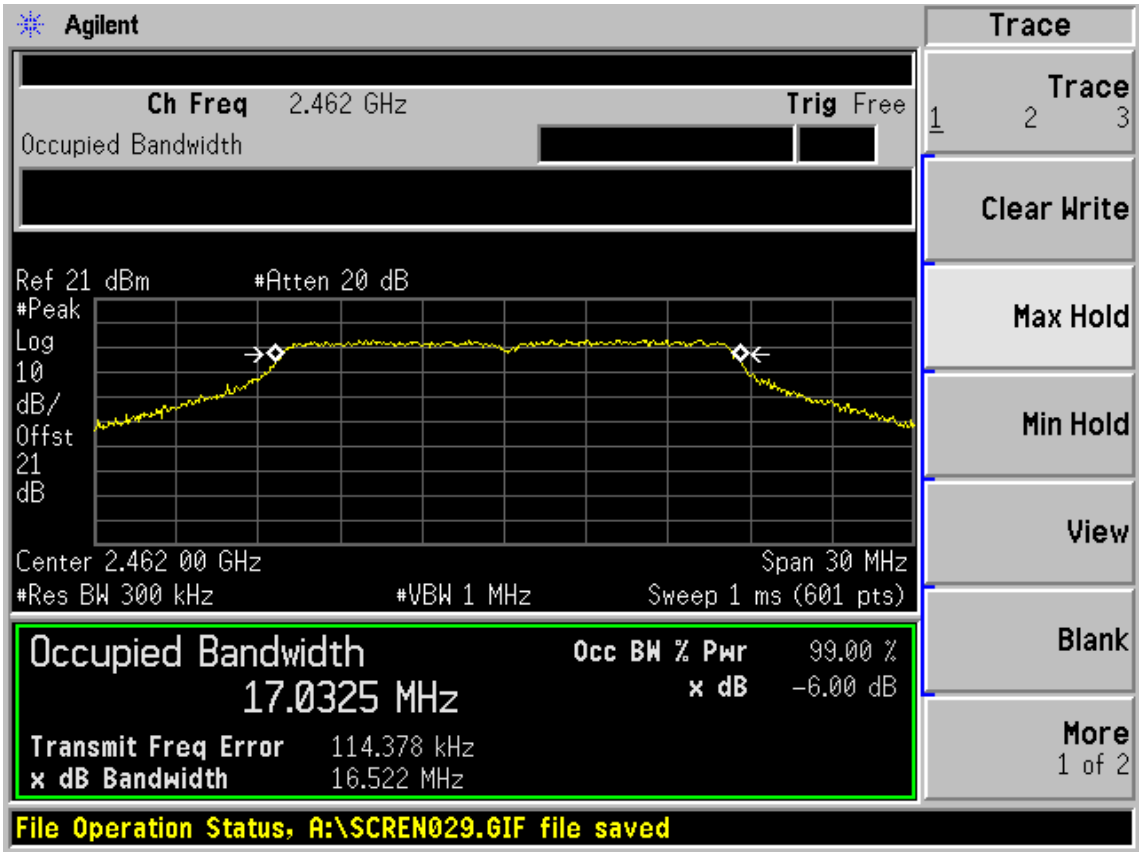
Test CH1: 2412MHz



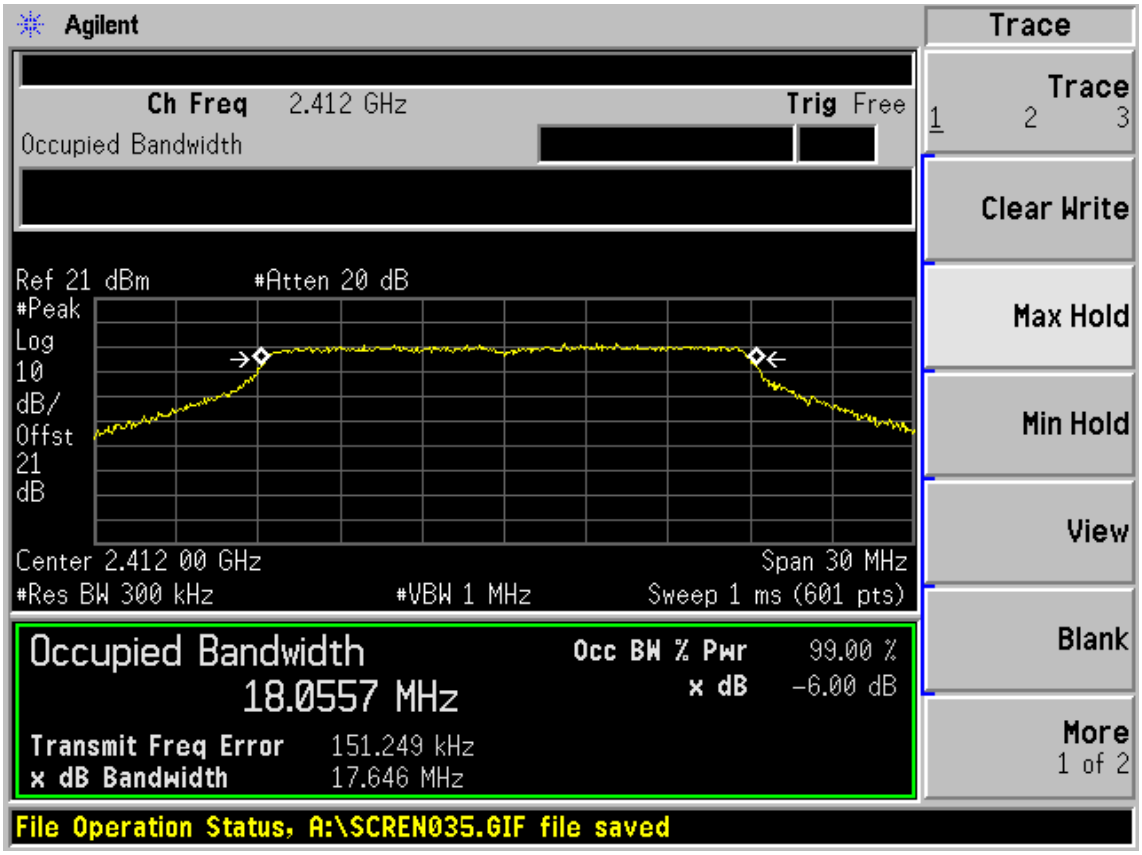
Test CH6: 2437MHz



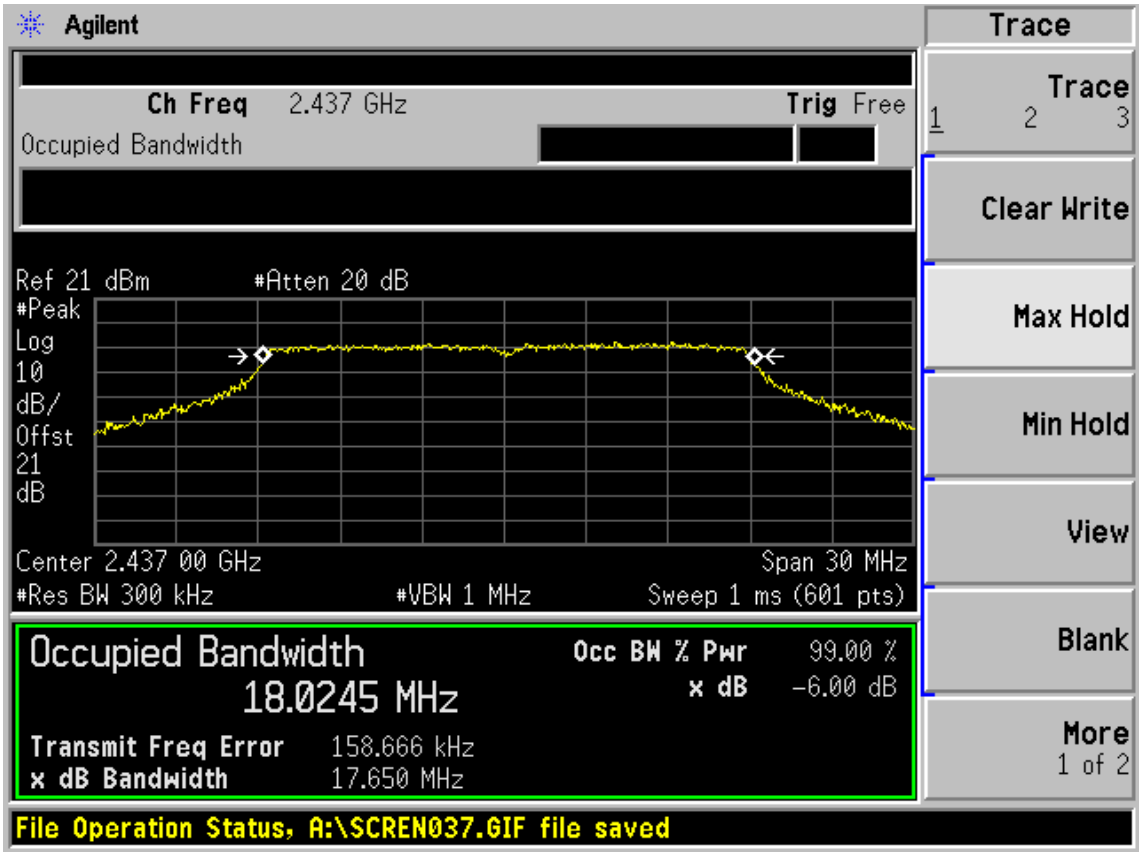
Test CH11: 2462MHz



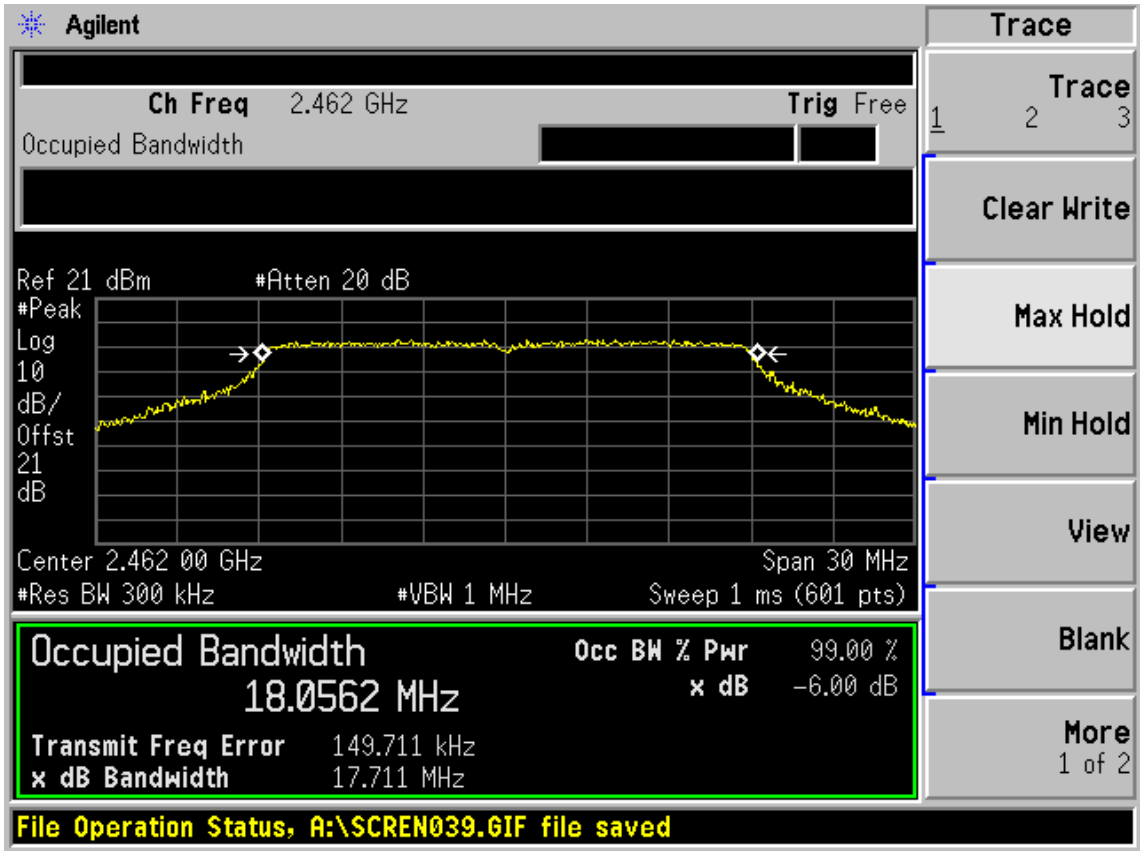
Test Mode: IEEE 802.11n HT20 TX
Test CH1: 2412MHz



Test CH6: 2437MHz

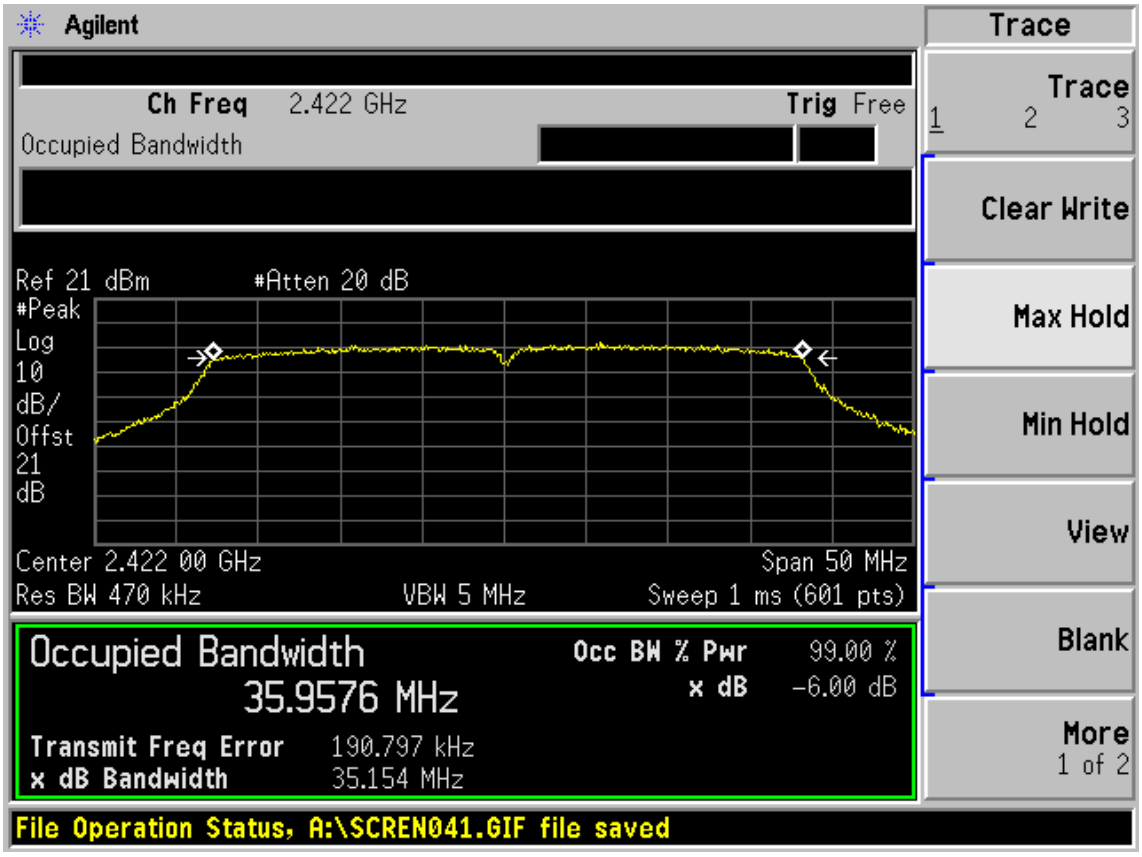


Test CH11: 2462MHz

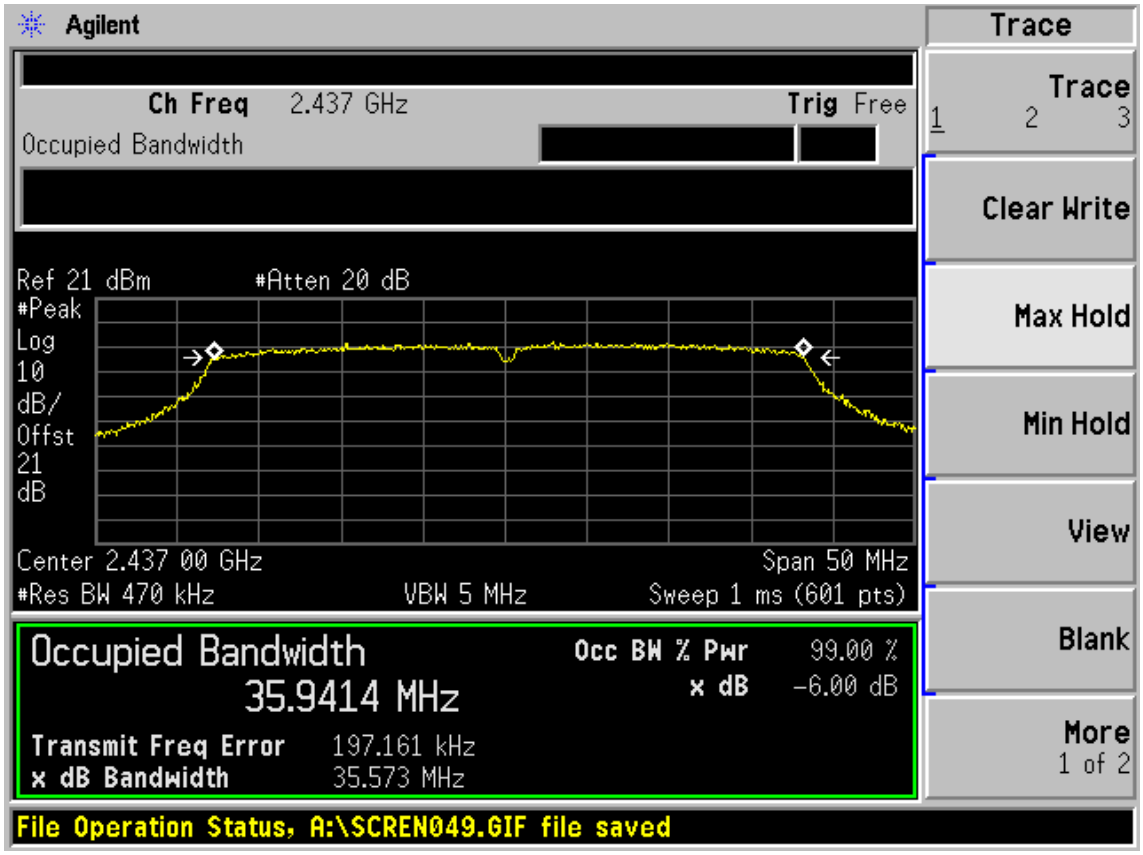


Test Mode: IEEE 802.11n HT40 TX

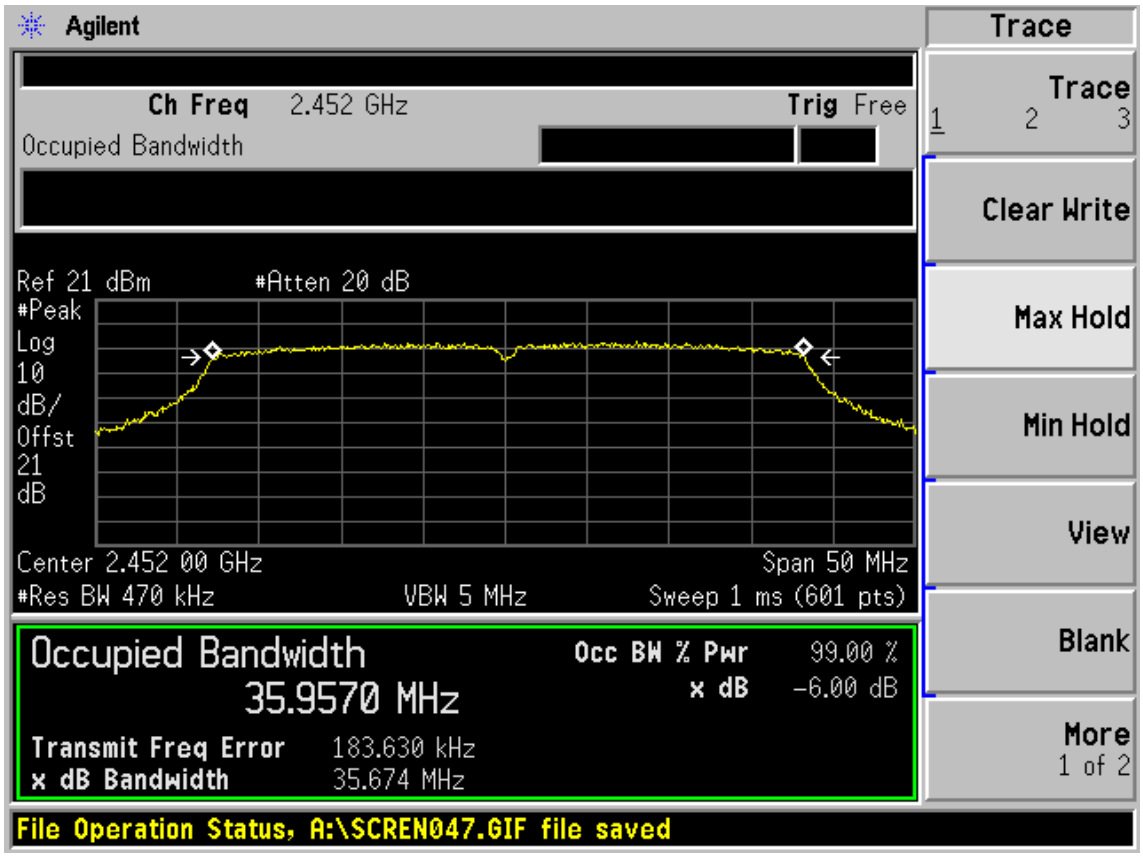
Test CH1: 2422MHz



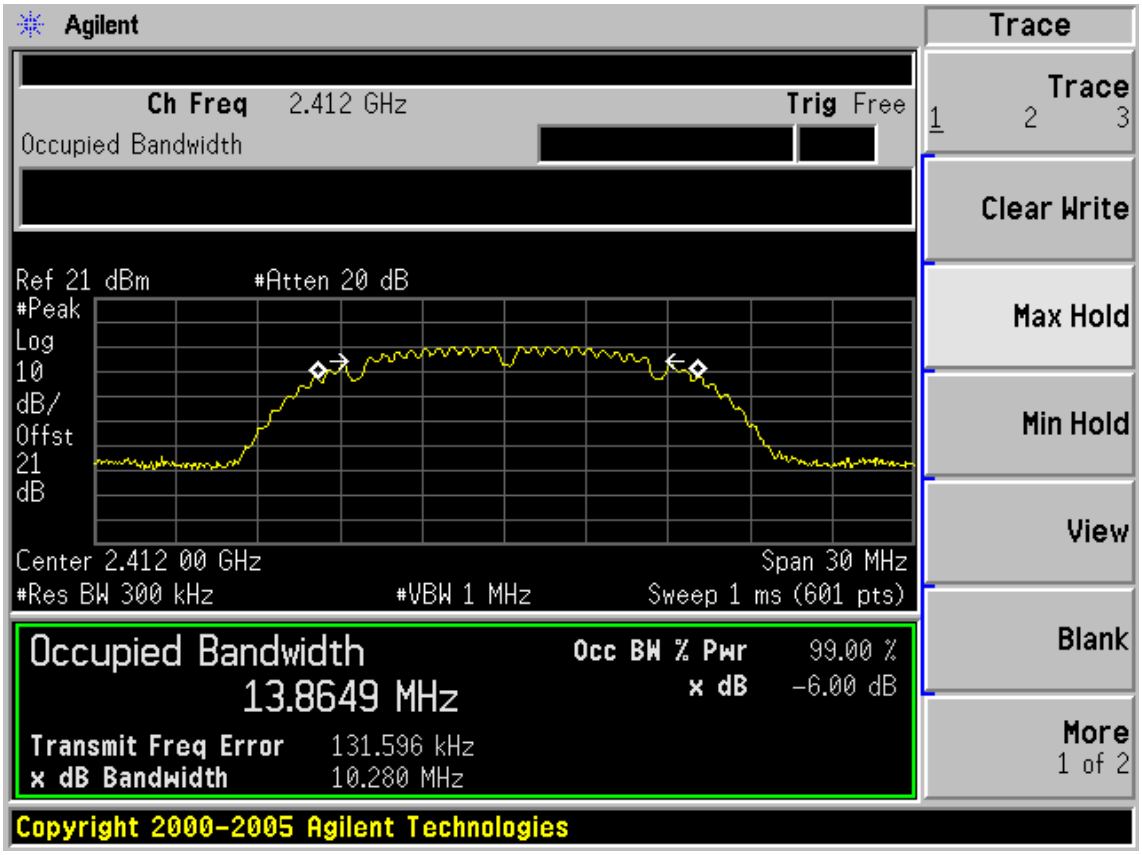
Test CH4: 2437MHz



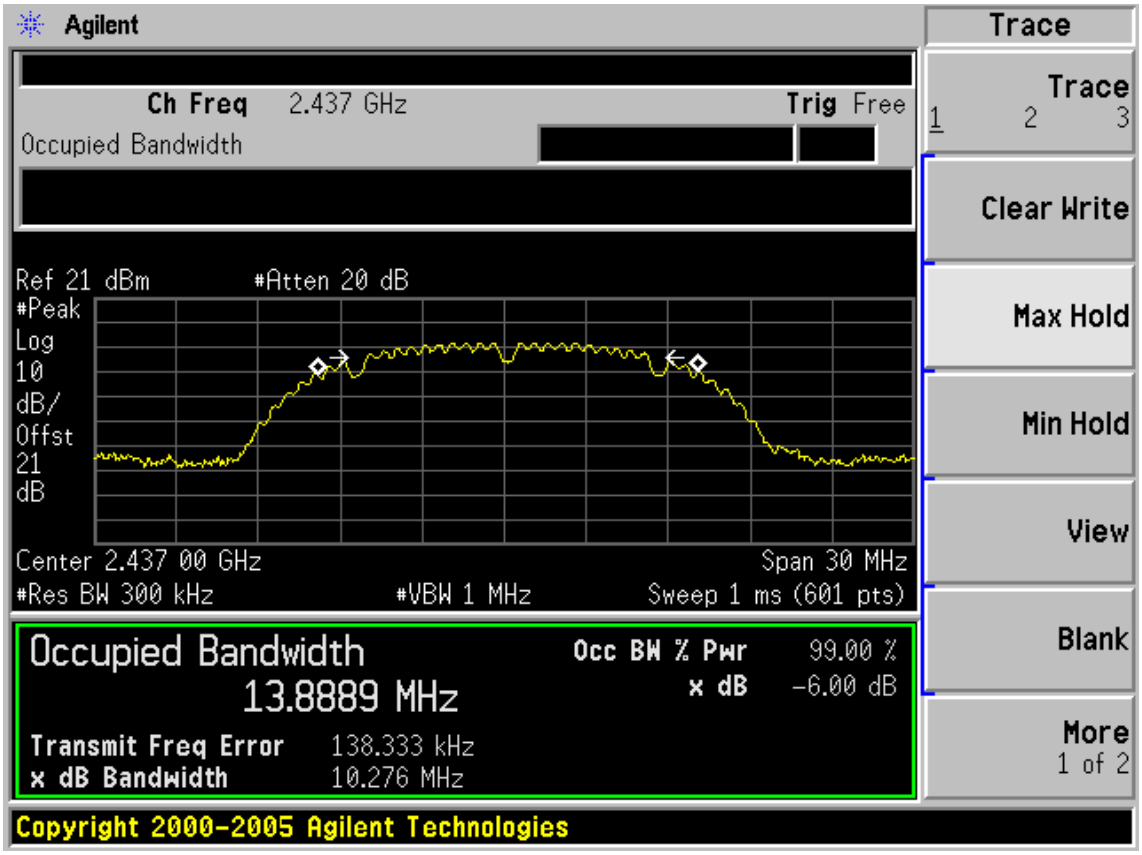
Test CH7: 2452MHz



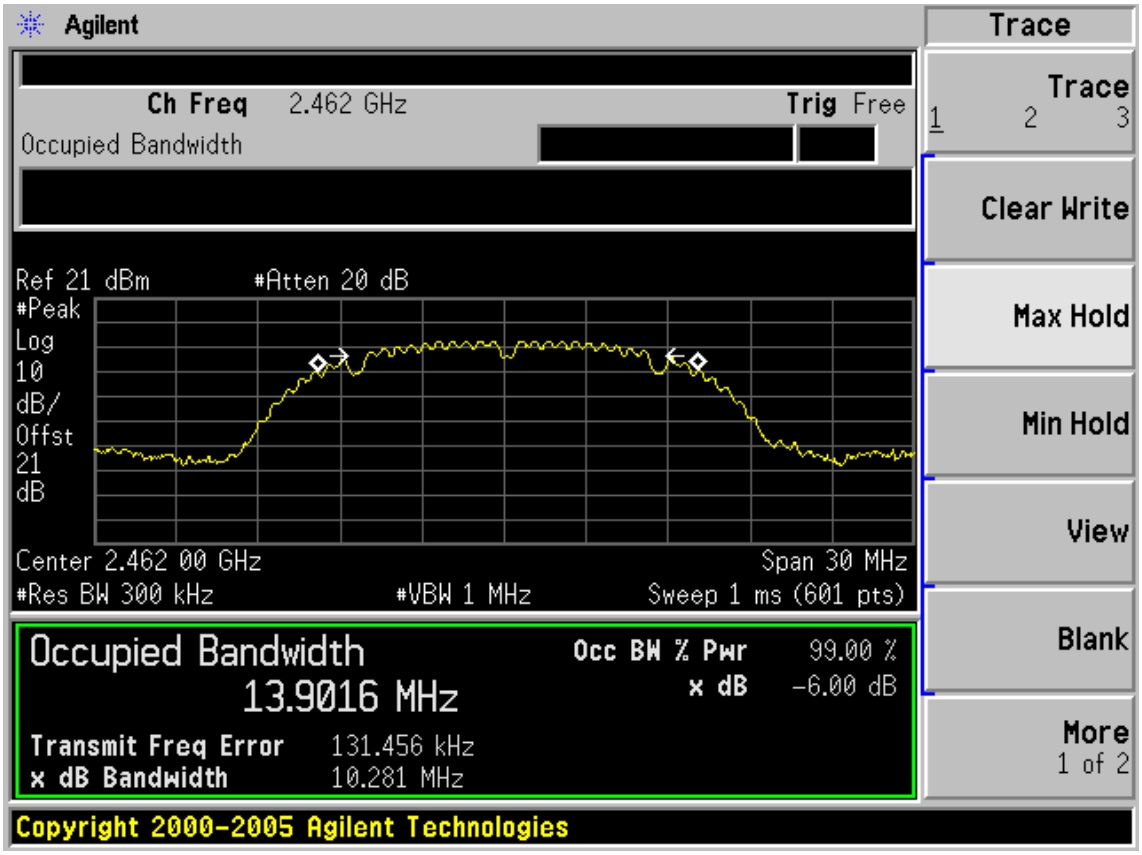
ANT1
Test Mode: IEEE 802.11b TX
Test CH1: 2412MHz



Test CH6: 2437MHz

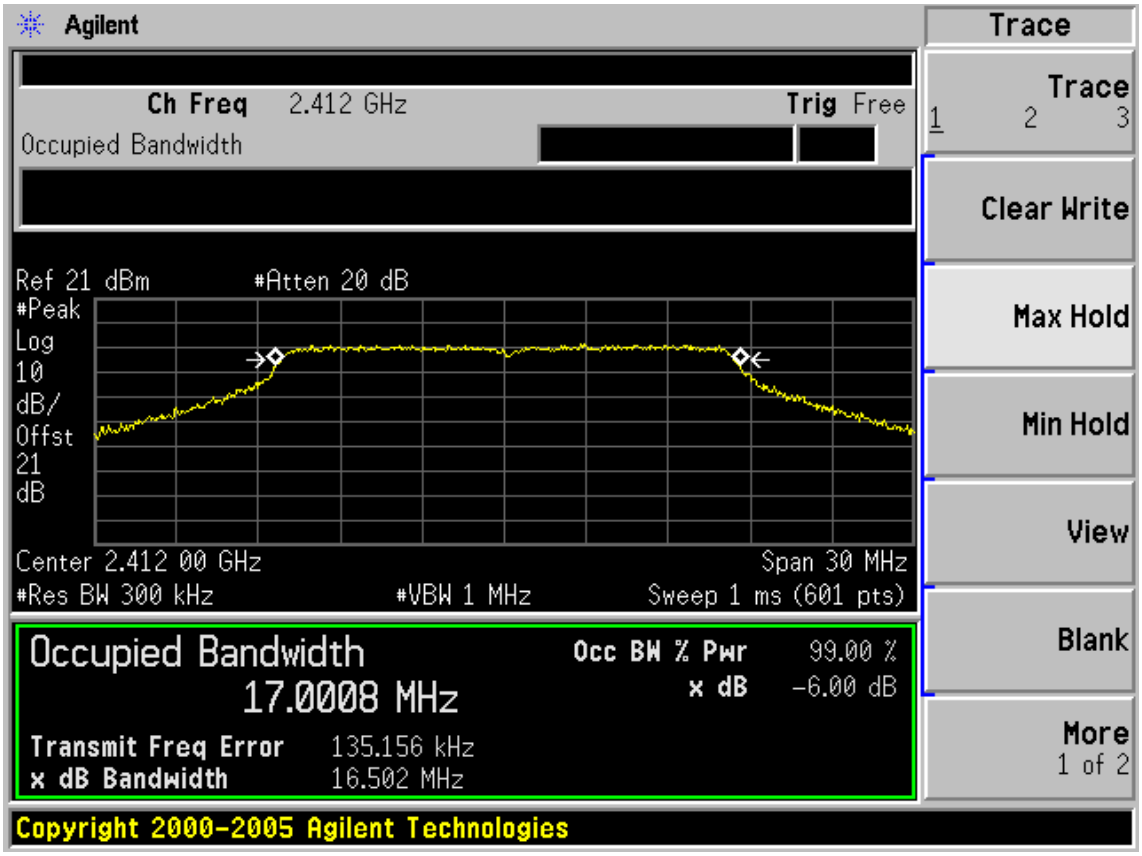


Test CH11: 2462MHz

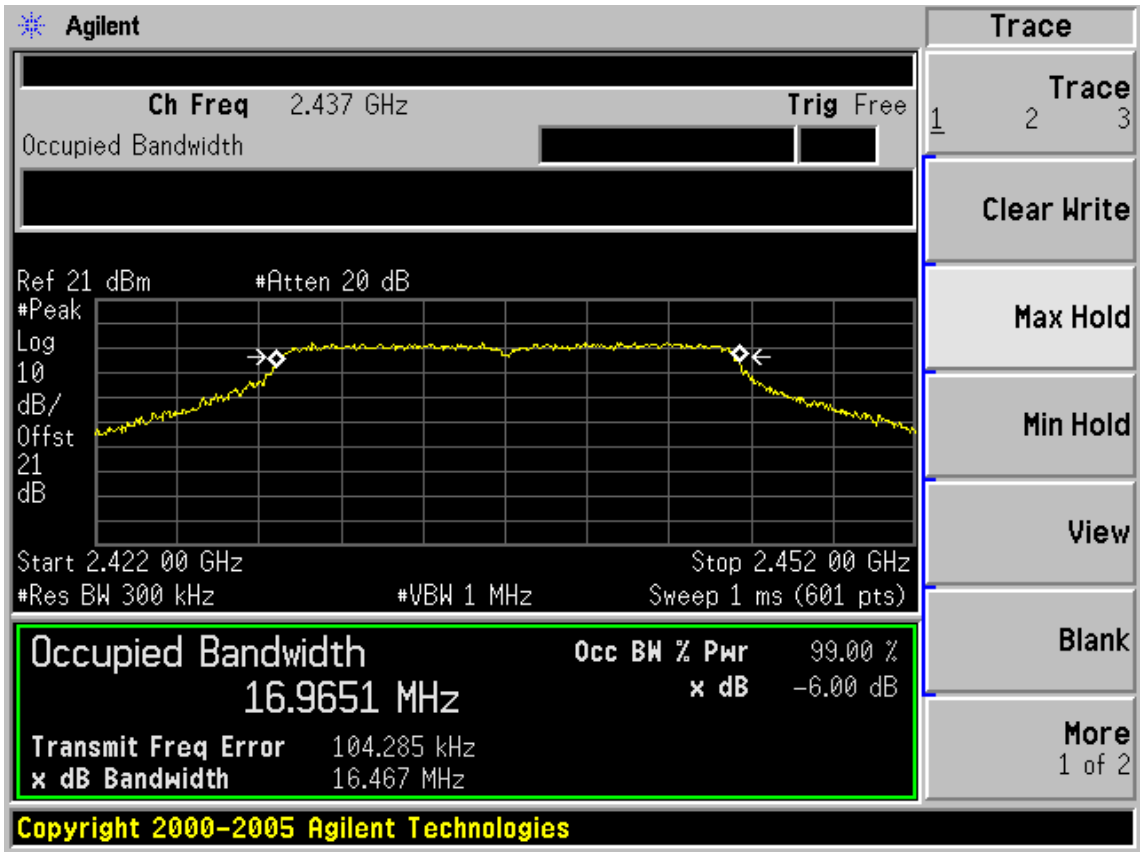


Test Mode: IEEE 802.11g TX

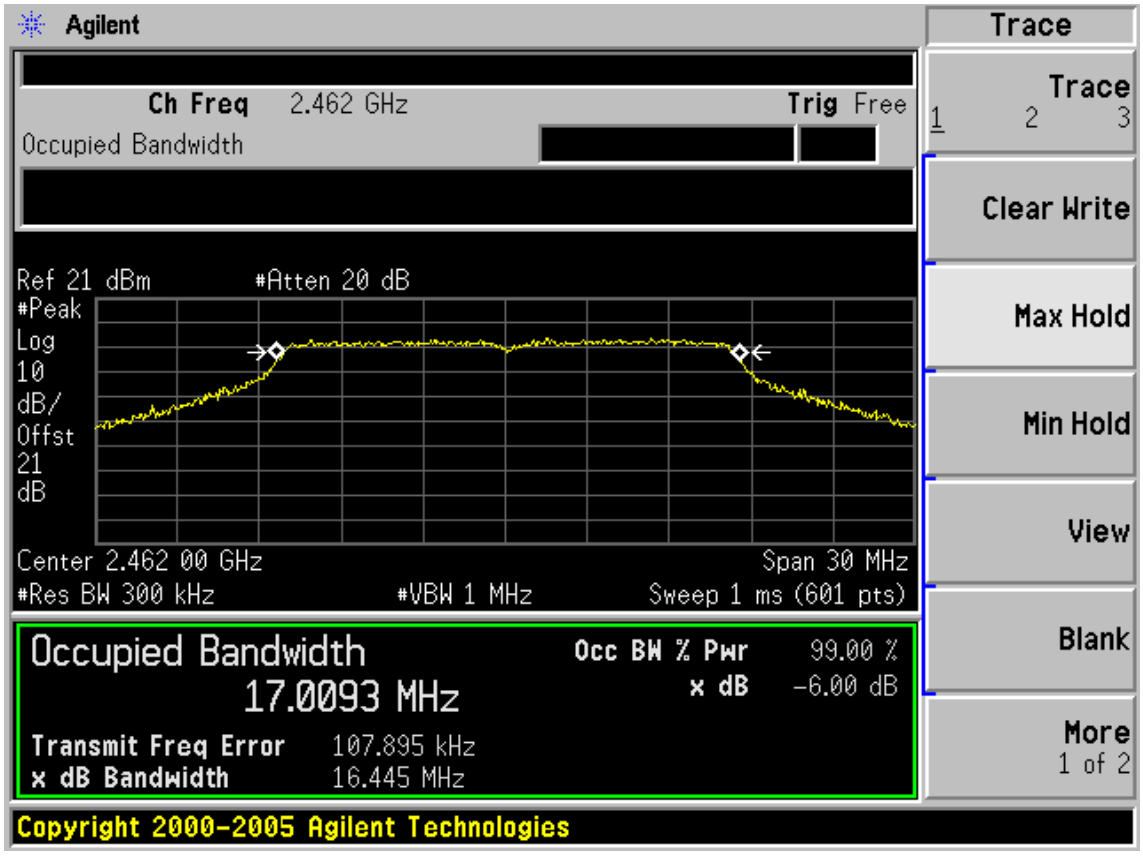
Test CH1: 2412MHz



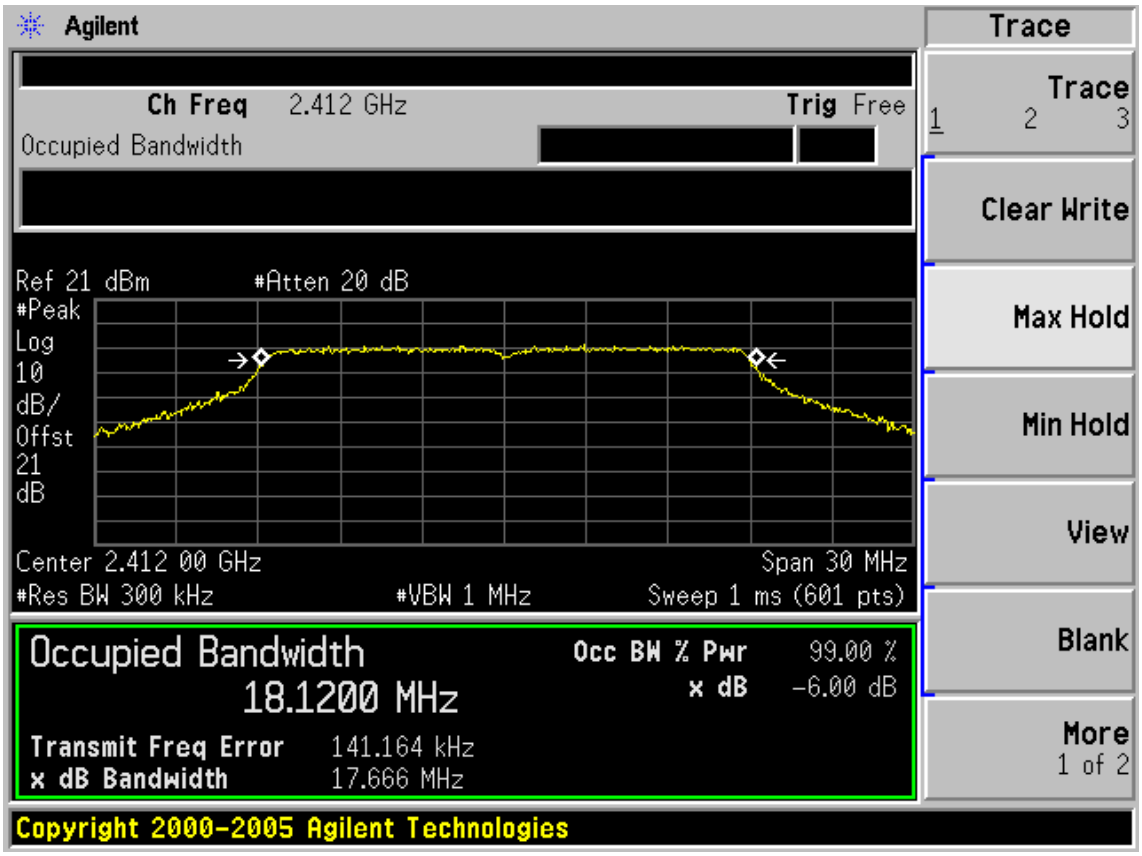
Test CH6: 2437MHz



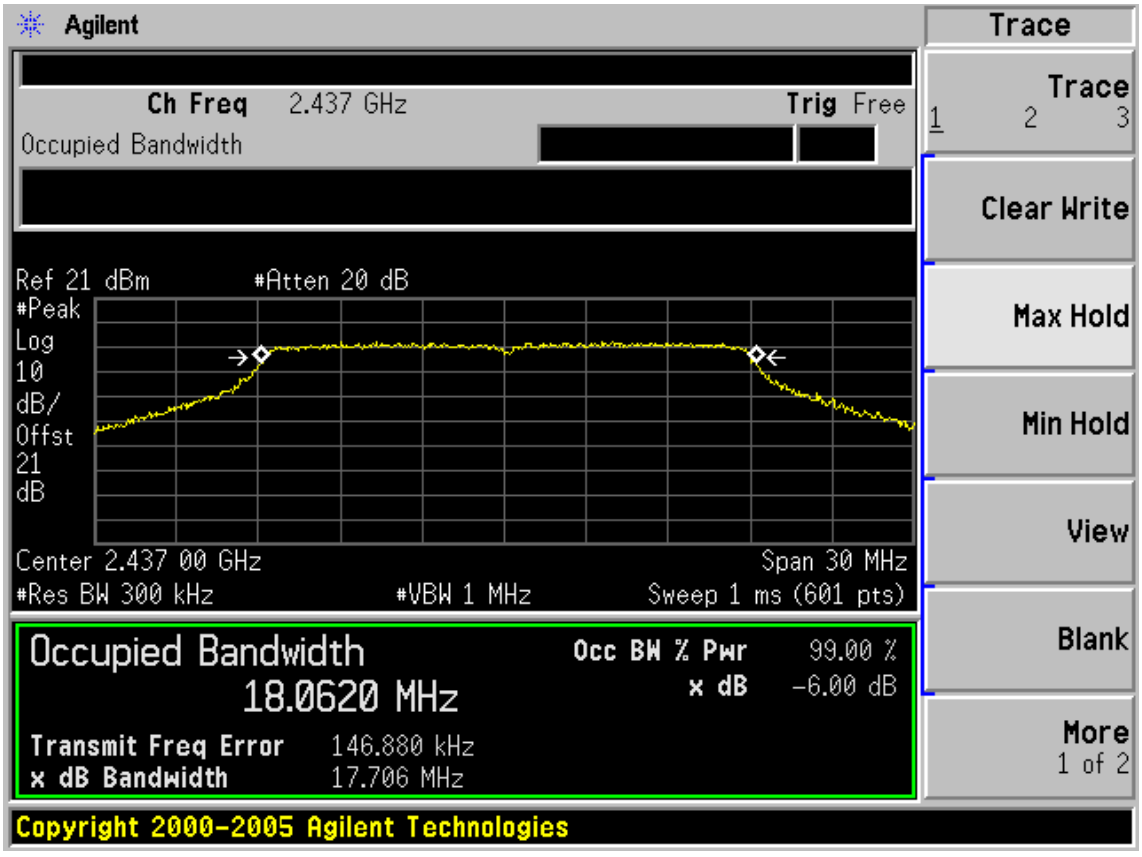
Test CH11: 2462MHz



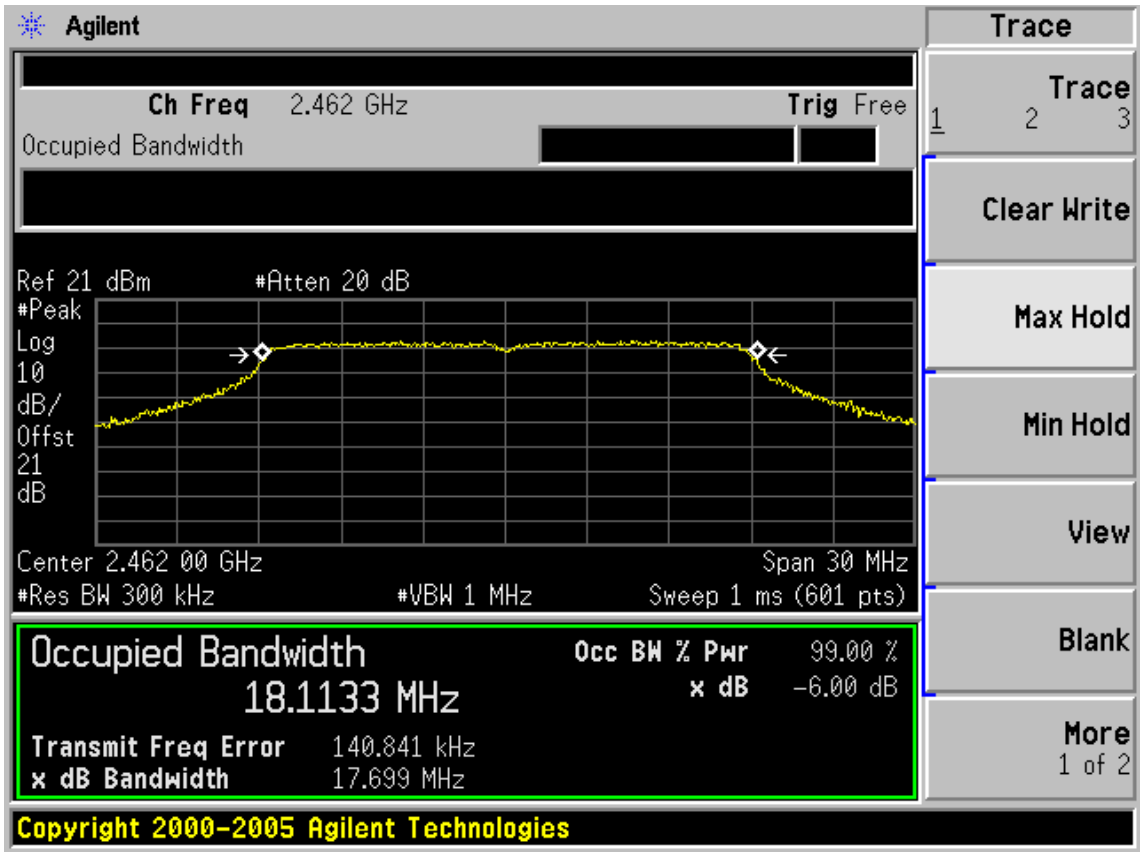
Test Mode: IEEE 802.11n HT20 TX
Test CH1: 2412MHz



Test CH6: 2437MHz

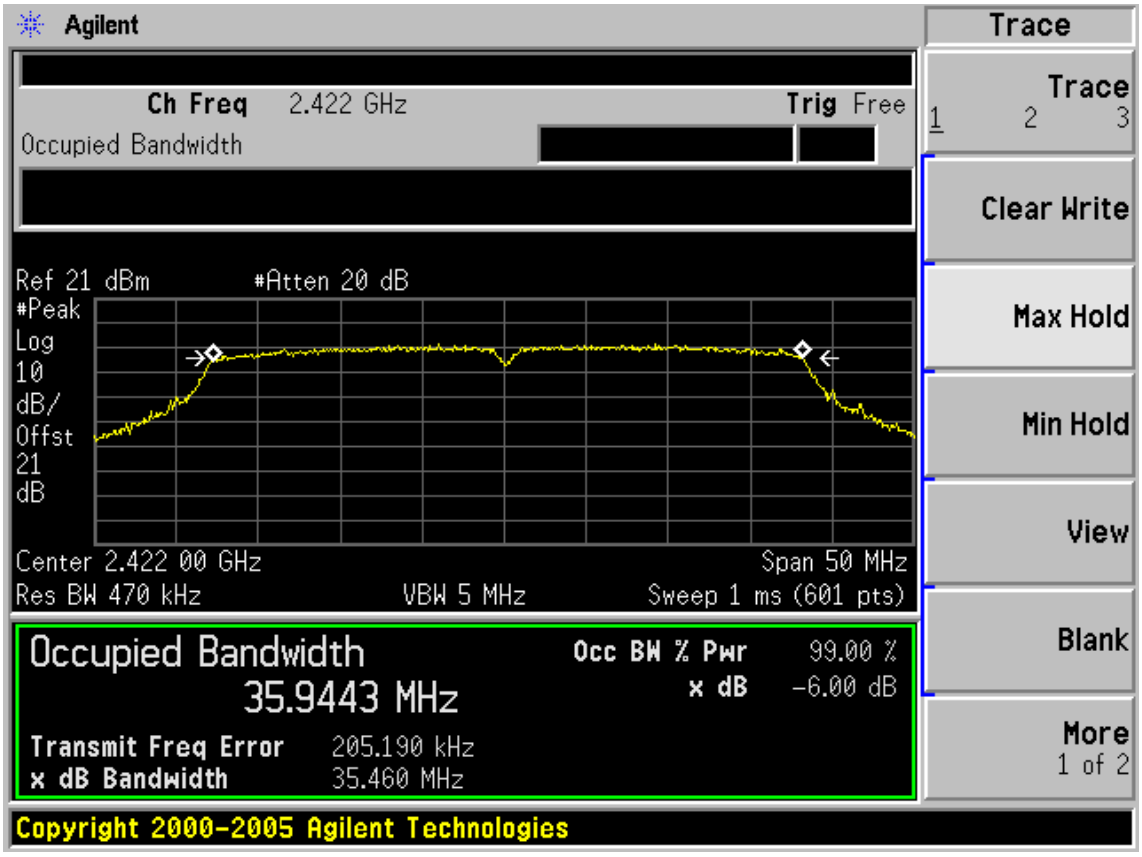


Test CH11: 2462MHz

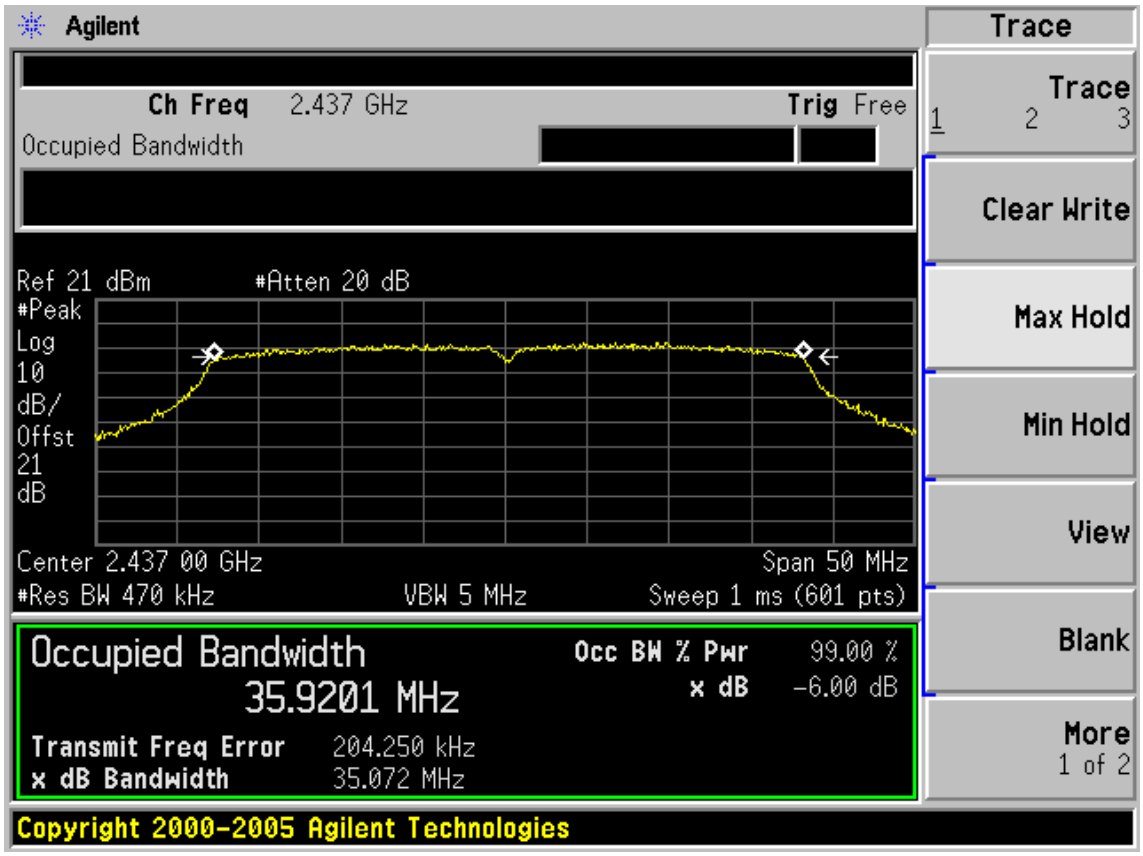


Test Mode: IEEE 802.11n HT40 TX

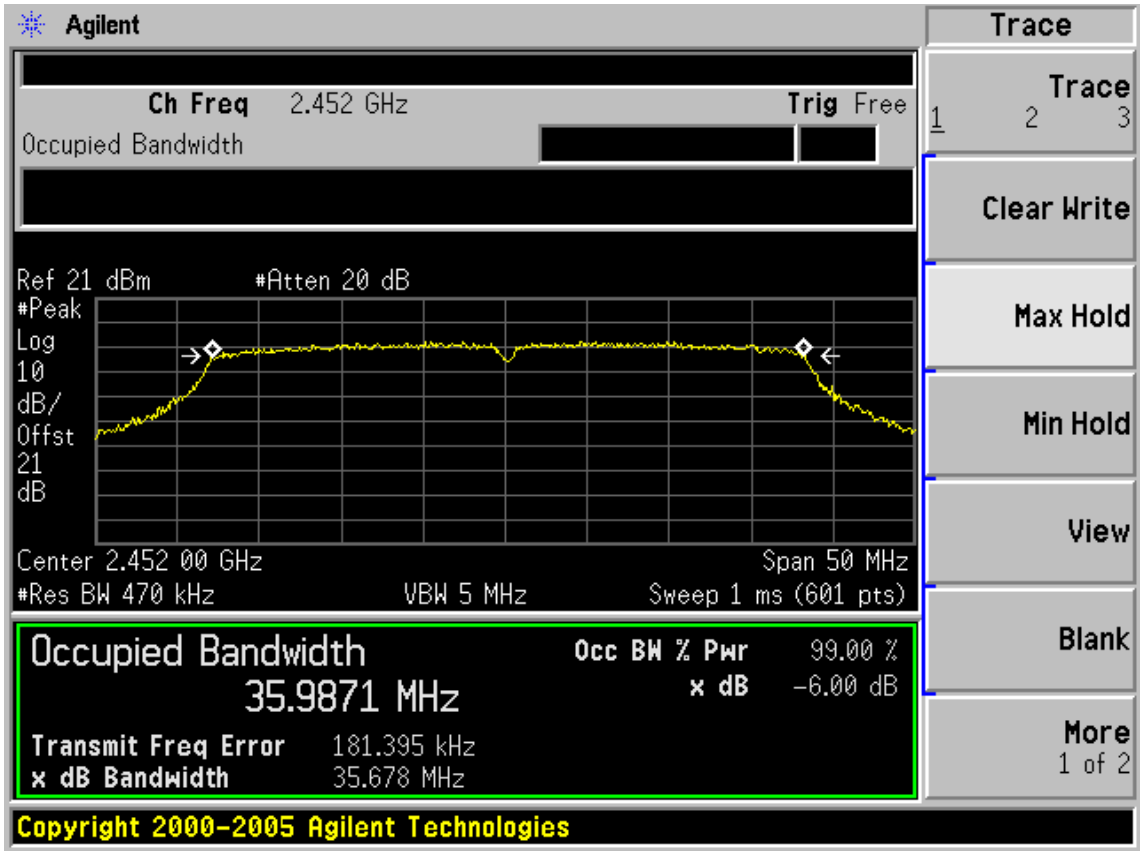
Test CH1: 2422MHz



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, 12	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 12	1 Year
3.	Antenna	EMCO	3115	9510-4580	May.31, 12	1Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 12	1 Year
5.	Power Meter	Anritsu	ML2487A	6K00002472	May.08, 12	1Year
6.	Power Sensor	Anritsu	MA2491A	033005	May.08, 12	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.

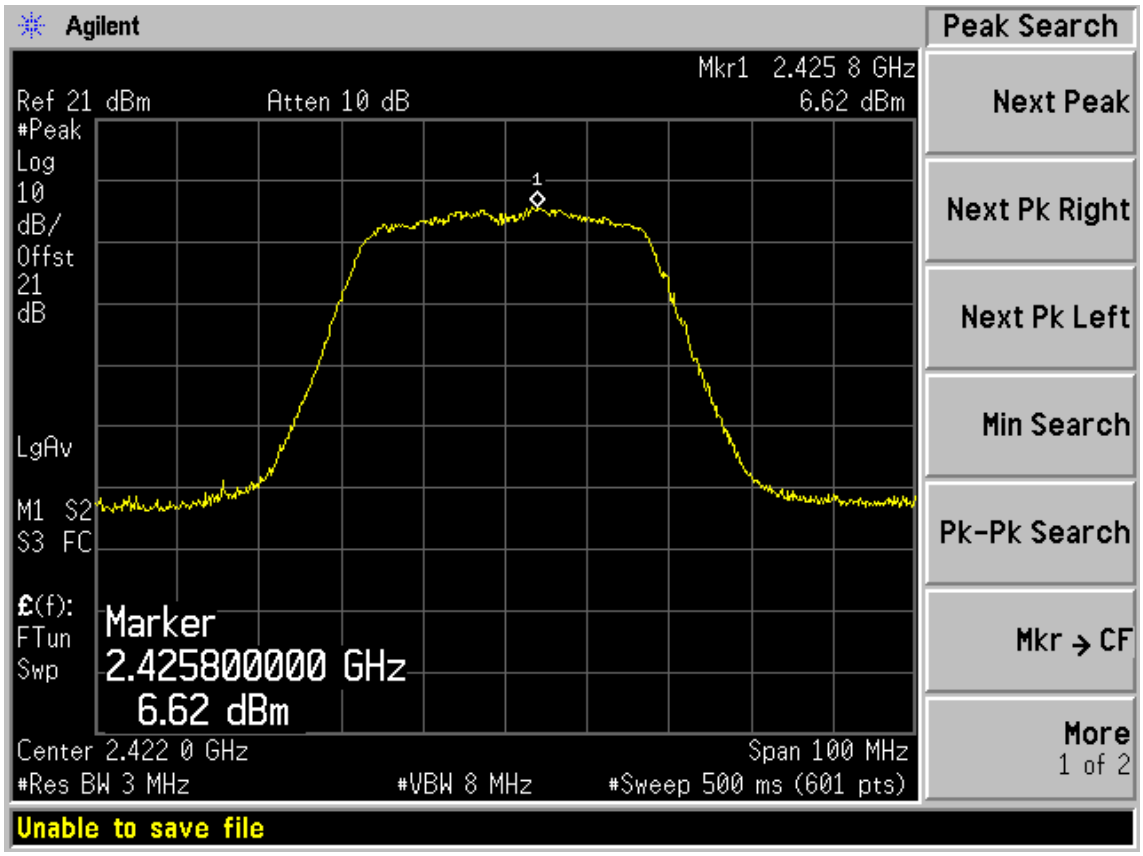
8.4.Test Results

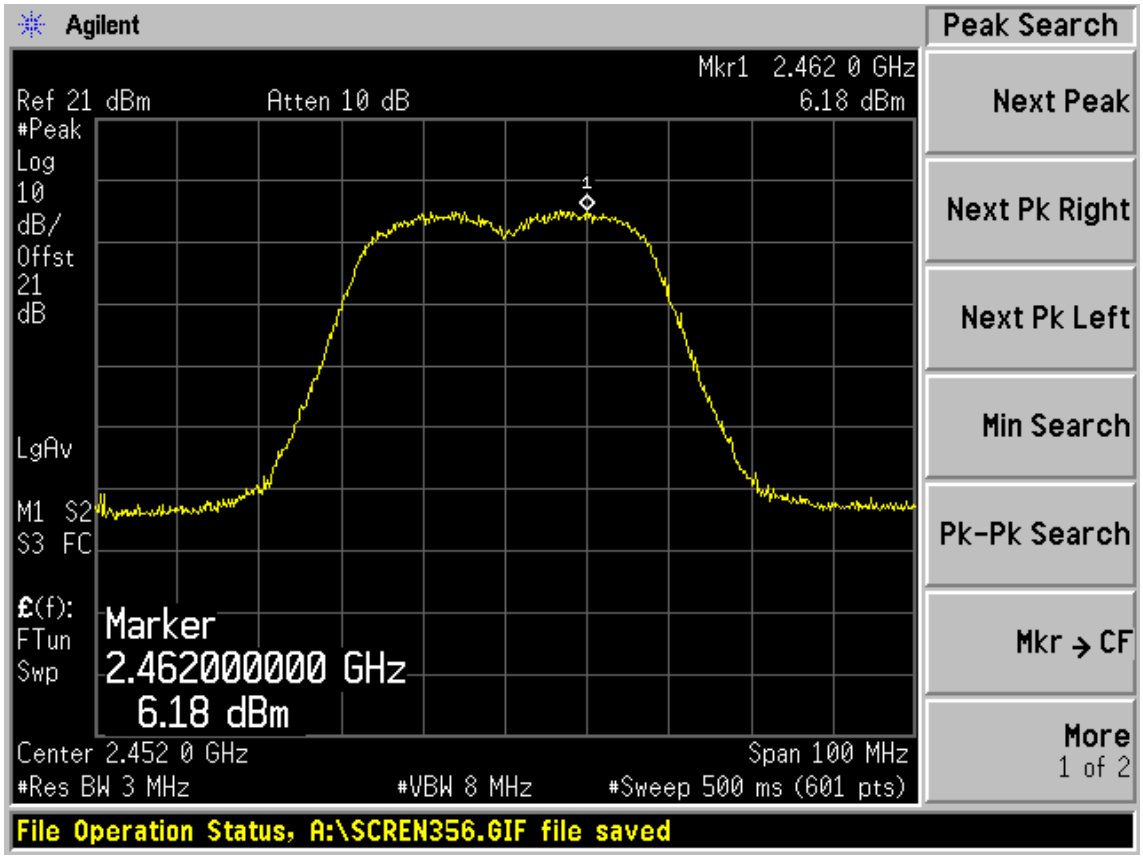
EUT: 300 Mbps 4-Port Wireless Broadband Router		
M/N:SMCWBR14-N5		
Test date:2013-02-31	Pressure: 101.2±1.0 kpa	Humidity: 53.6±0.6 %
Tested by: Leo-Li	Test site: RF site	Temperature: 23.2±0.3℃

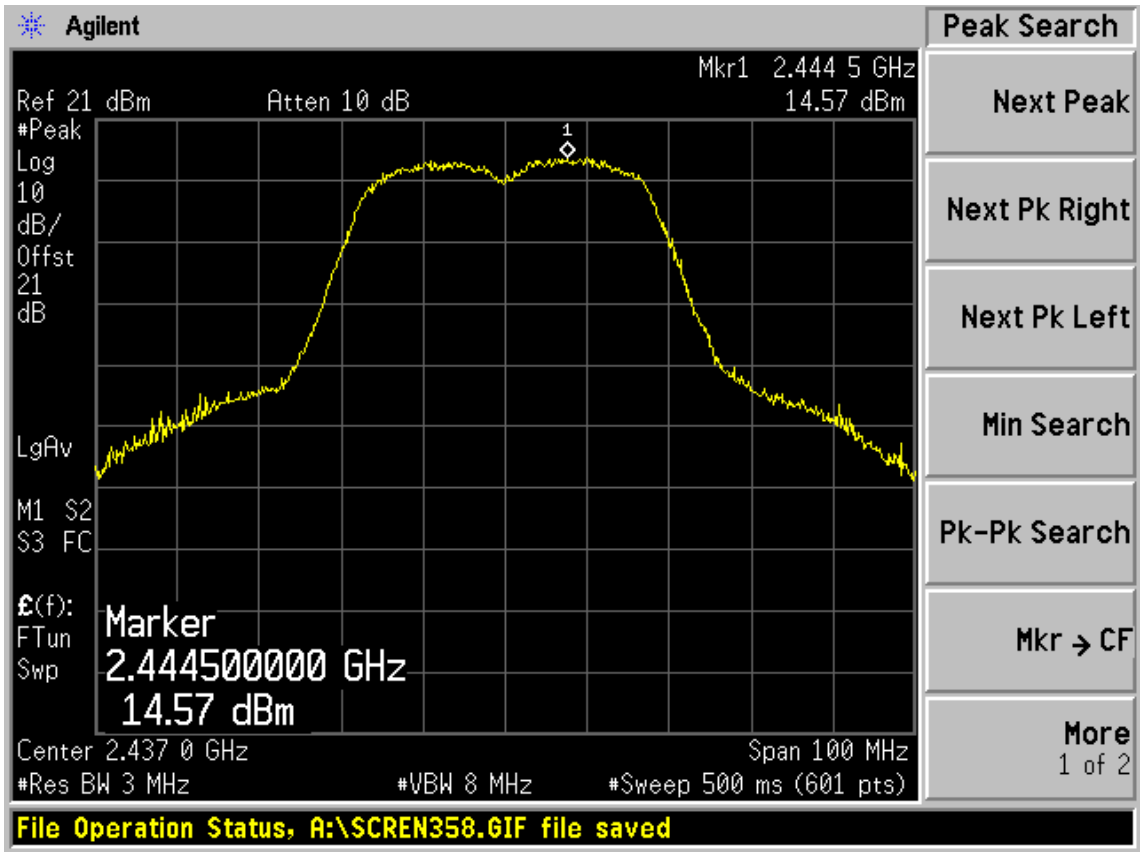
Cable loss: 1 dB		Attenuator loss: 20 dB			
Test Mode	CH (MHz)	Peak output Power （dBm）			Limit (dBm)
		Chain0	Chain1	Total	
11b	CH1	18.74	18.31	N/A	30
	CH6	20.80	20.09	N/A	30
	CH11	18.13	17.85	N/A	30
11g	CH1	22.93	22.46	N/A	30
	CH6	25.66	24.95	N/A	30
	CH11	20.62	20.32	N/A	30
11n HT20	CH1	18.83	18.56	21.71	30
	CH6	25.79	25.19	28.51	30
	CH11	17.55	16.92	20.26	30

Test Mode	CH	Result					Limit
		Measured power(dBm)/3MHz		PK Output power (dBm)			(dBm)
		Chain0	Chain1	Chain0	Chain1	Total	
11n HT40	CH1	6.62	6.03	18.06	17.47	20.79	30
	CH4	14.57	14.26	26.11	25.70	28.92	30
	CH7	6.18	5.86	17.62	17.30	20.47	30
Chain 0 6dB Bandwidth for 11n HT40: 41.830MHz Chain 1 6dB Bandwidth for 11n HT40: 41.832MHz							
Chain 0 BW correction factor = 10log[(41.830MHz)/(3MHz)] = 11.44B Chain 1 BW correction factor = 10log[(41.832MHz)/(3MHz)] = 11.44dB							
Conclusion: PASS							

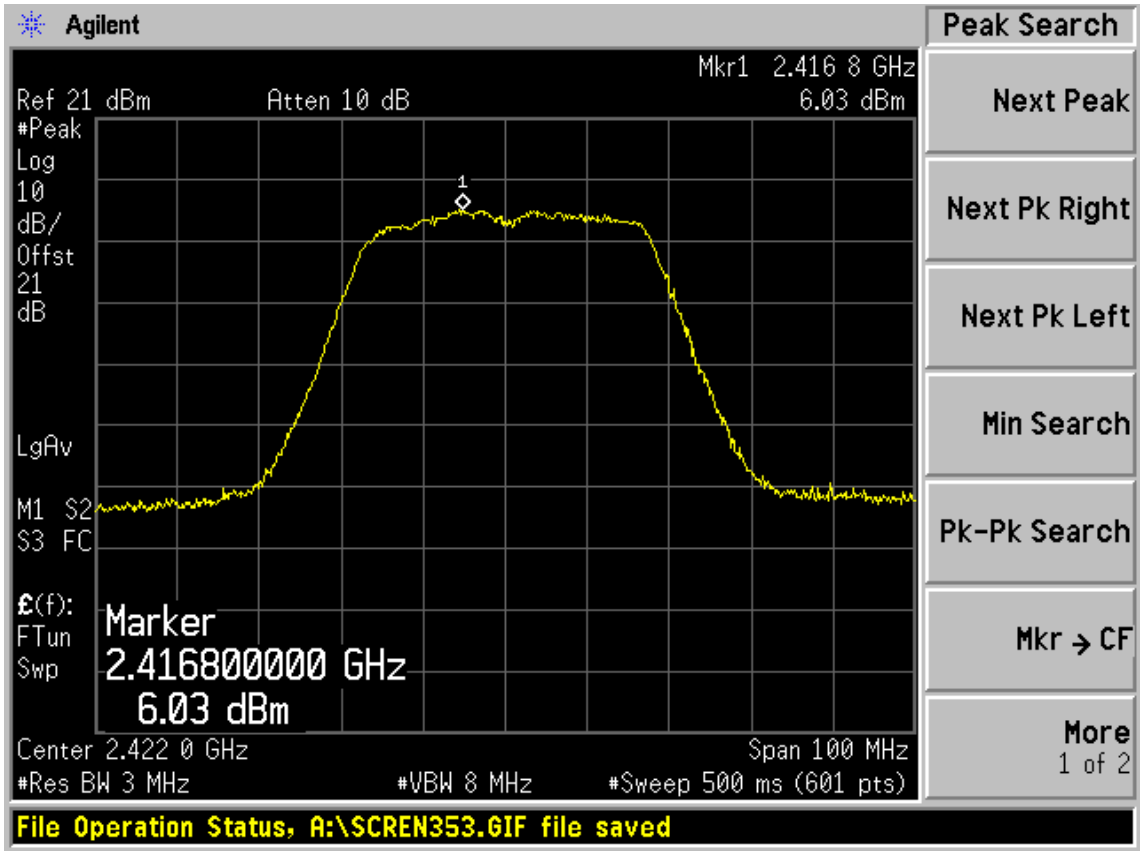
ANT 0
Test Mode: IEEE 802.11n HT40

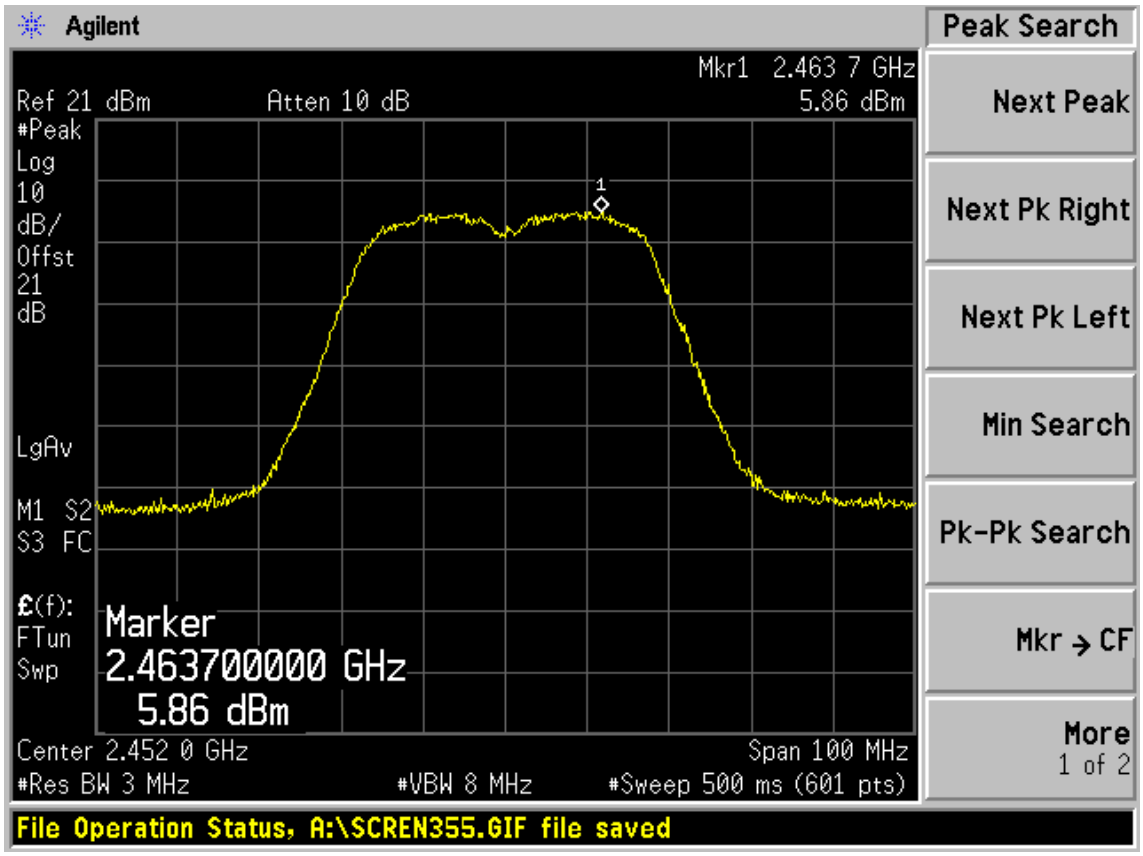


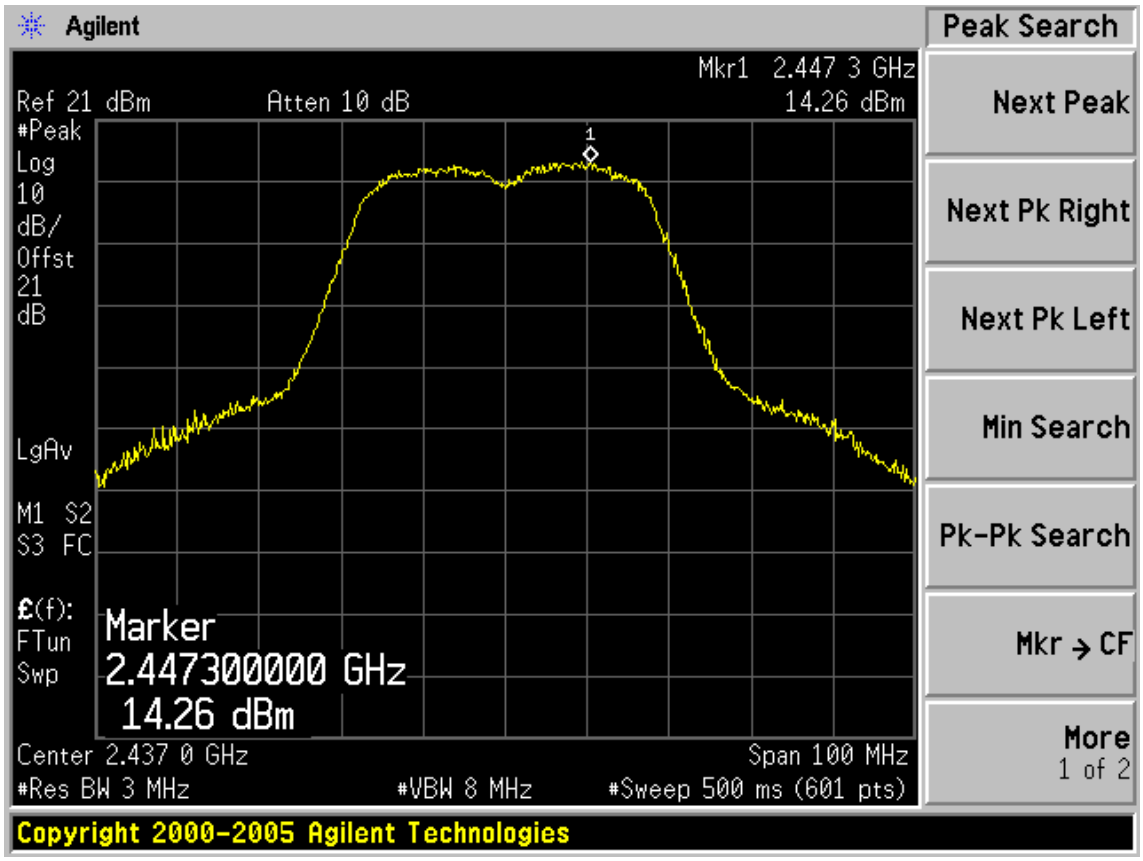




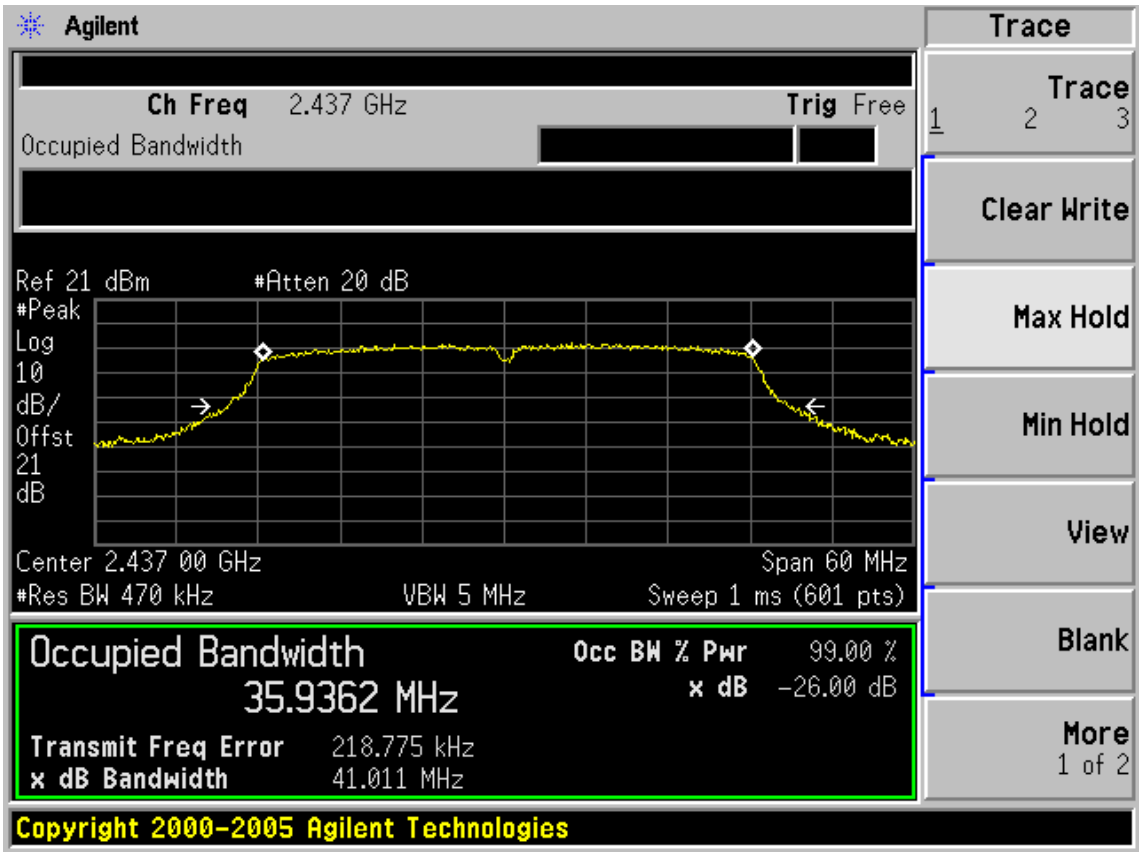
ANT 1
Test Mode: IEEE 802.11n HT40

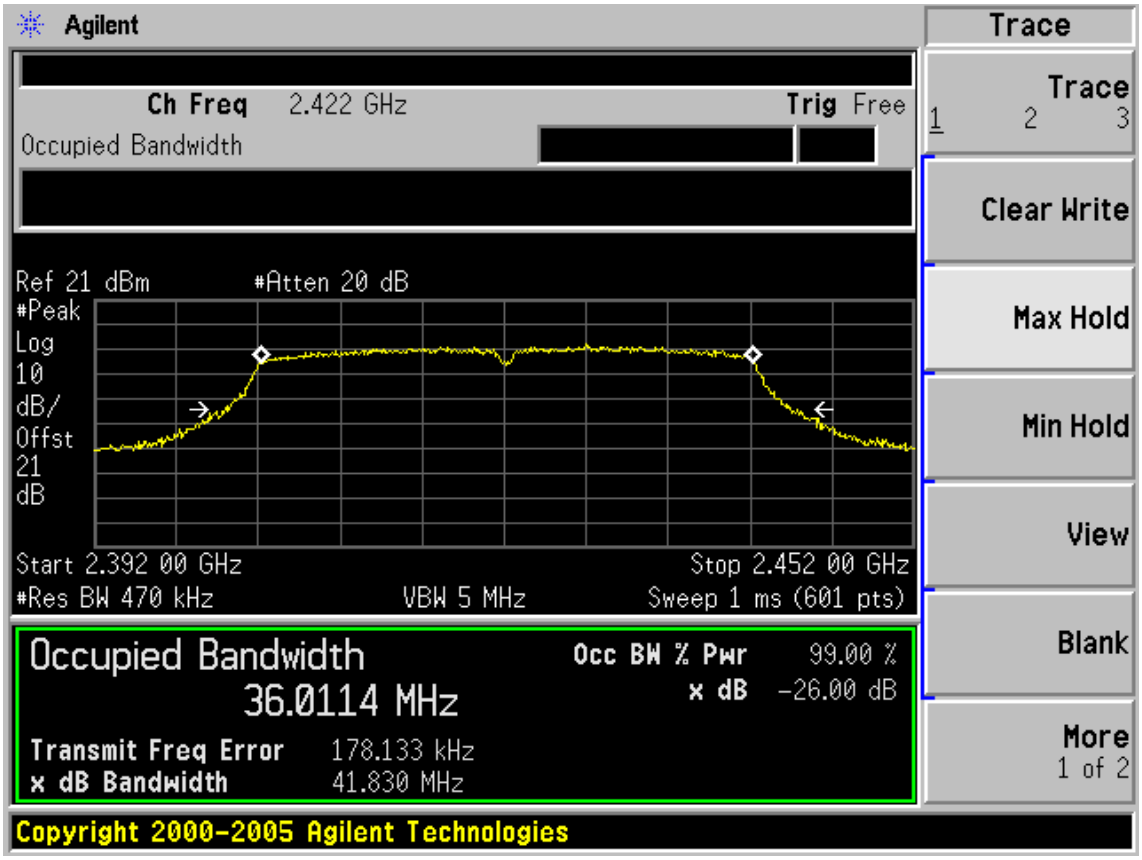


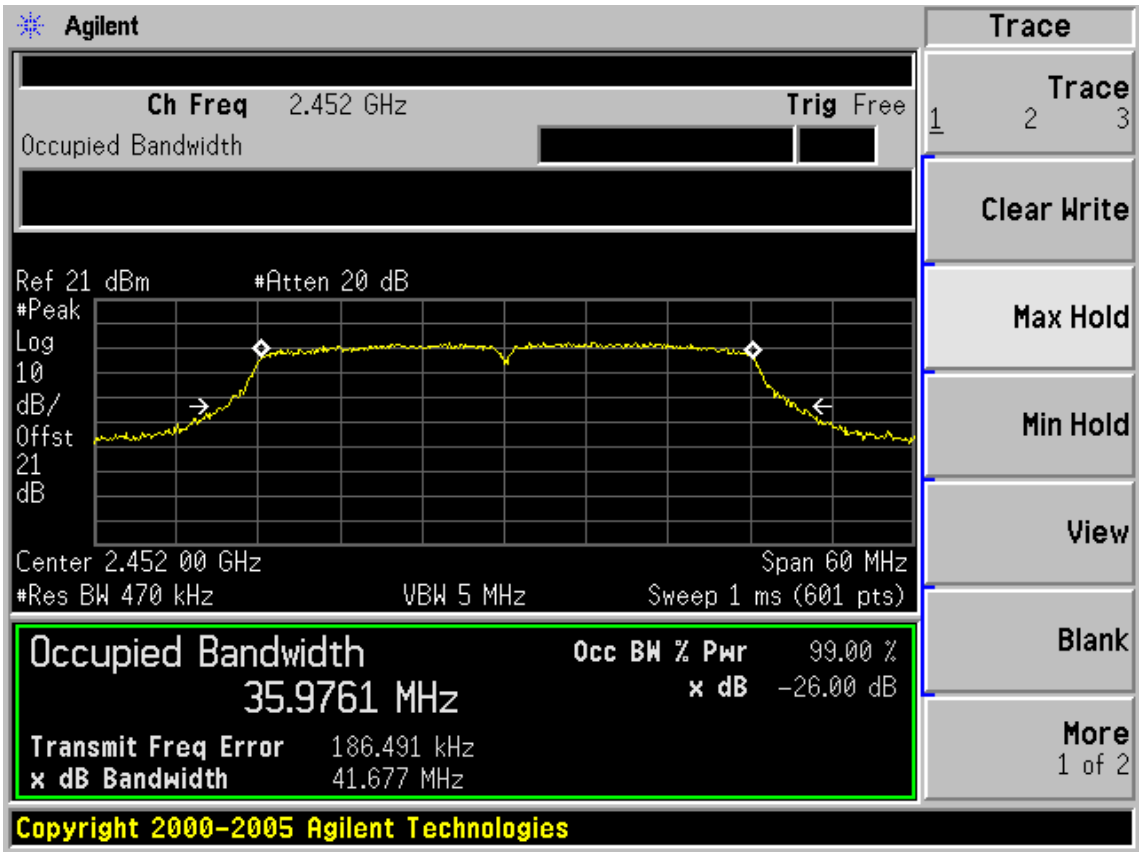

Agilent
Peak Search
Mkr1 2.463 7 GHz
Ref 21 dBm
Atten 10 dB
5.86 dBm
#Peak
Log
10
dB/
Offst
21
dB
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Marker
2.463700000 GHz
5.86 dBm
Center 2.452 0 GHz
Span 100 MHz
#Res BW 3 MHz
#VBW 8 MHz
#Sweep 500 ms (601 pts)
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
File Operation Status, A:\SCREN355.GIF file saved


Agilent
Peak Search
Mkr1 2.447 3 GHz
Ref 21 dBm
Atten 10 dB
14.26 dBm
#Peak
Log
10
dB/
Offst
21
dB
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Marker
2.447300000 GHz
14.26 dBm
Center 2.437 0 GHz
Span 100 MHz
#Res BW 3 MHz
#VBW 8 MHz
#Sweep 500 ms (601 pts)
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Copyright 2000-2005 Agilent Technologies

ANT 0
26dB Bandwidth

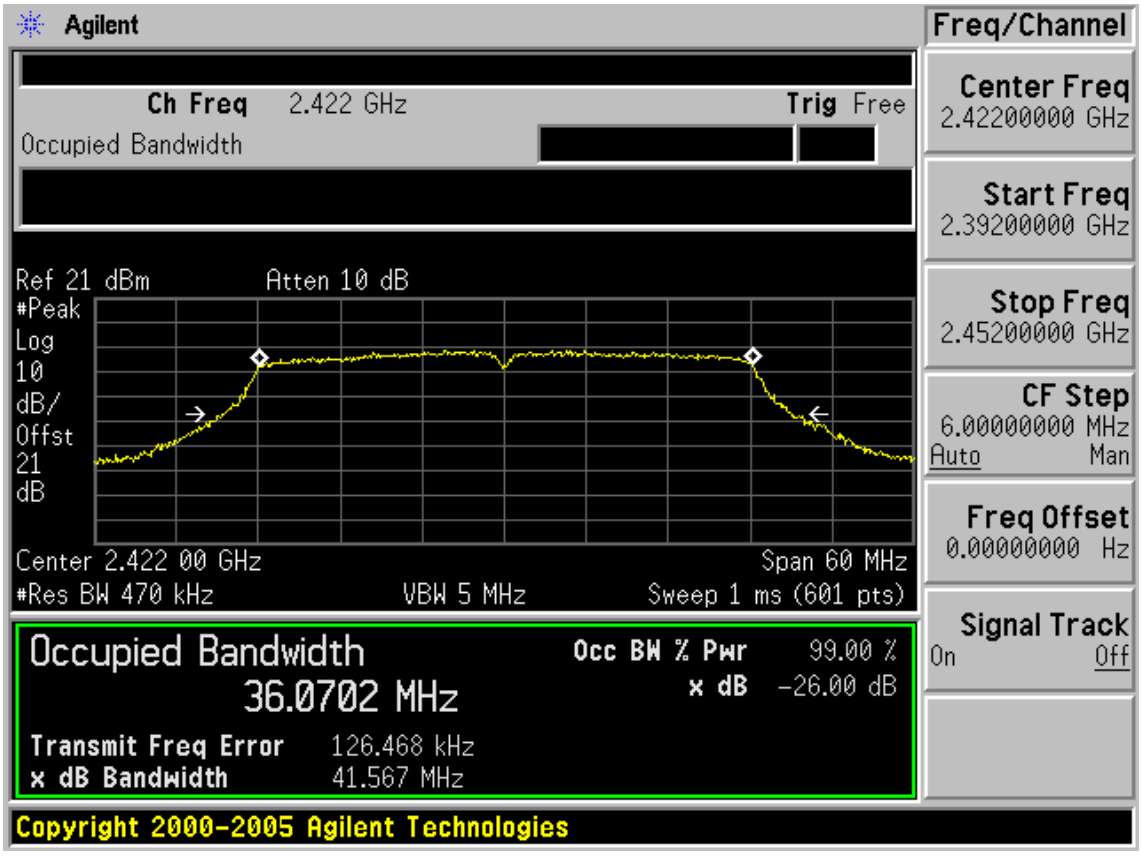


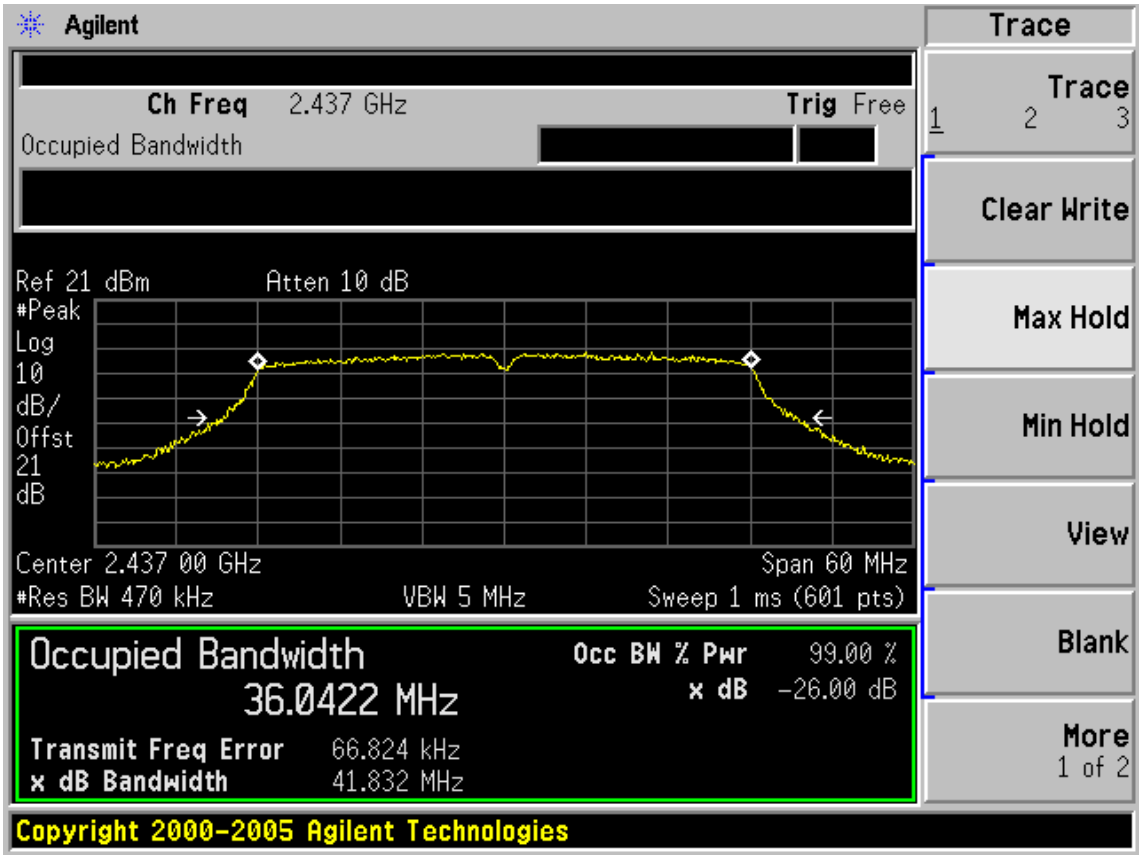


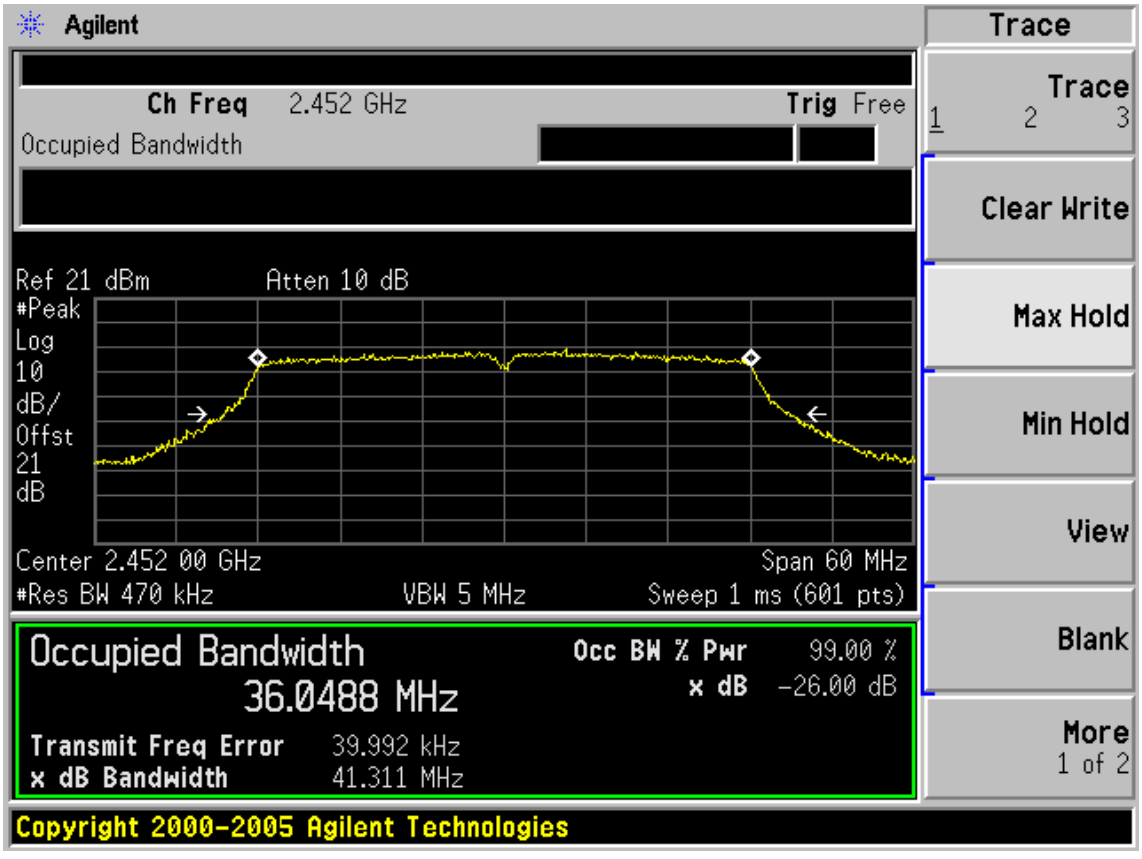


ANT 1

26dB Bandwidth




Agilent
Trace
Ch Freq 2.437 GHz
Trig Free
Occupied Bandwidth
Trace
1 2 3
Clear Write
Ref 21 dBm
Atten 10 dB
#Peak
Log
10
dB/
Offst
21
dB
Max Hold
Min Hold
View
Center 2.437 00 GHz
Span 60 MHz
#Res BW 470 kHz
VBW 5 MHz
Sweep 1 ms (601 pts)
Blank
Occupied Bandwidth
36.0422 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
More
1 of 2
Transmit Freq Error 66.824 kHz
x dB Bandwidth 41.832 MHz
Copyright 2000-2005 Agilent Technologies


Agilent
Trace
Ch Freq 2.452 GHz
Trig Free
Occupied Bandwidth
Trace
1 2 3
Clear Write
Ref 21 dBm
Atten 10 dB
#Peak
Log
10
dB/
Offst
21
dB
Max Hold
Min Hold
View
Center 2.452 00 GHz
Span 60 MHz
#Res BW 470 kHz
VBW 5 MHz
Sweep 1 ms (601 pts)
Blank
Occupied Bandwidth
36.0488 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
More
1 of 2
Transmit Freq Error 39.992 kHz
x dB Bandwidth 41.311 MHz
Copyright 2000-2005 Agilent Technologies

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, 12	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 12	1 Year
3.	Antenna	EMCO	3115	9510-4580	May.31, 12	1Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 12	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.

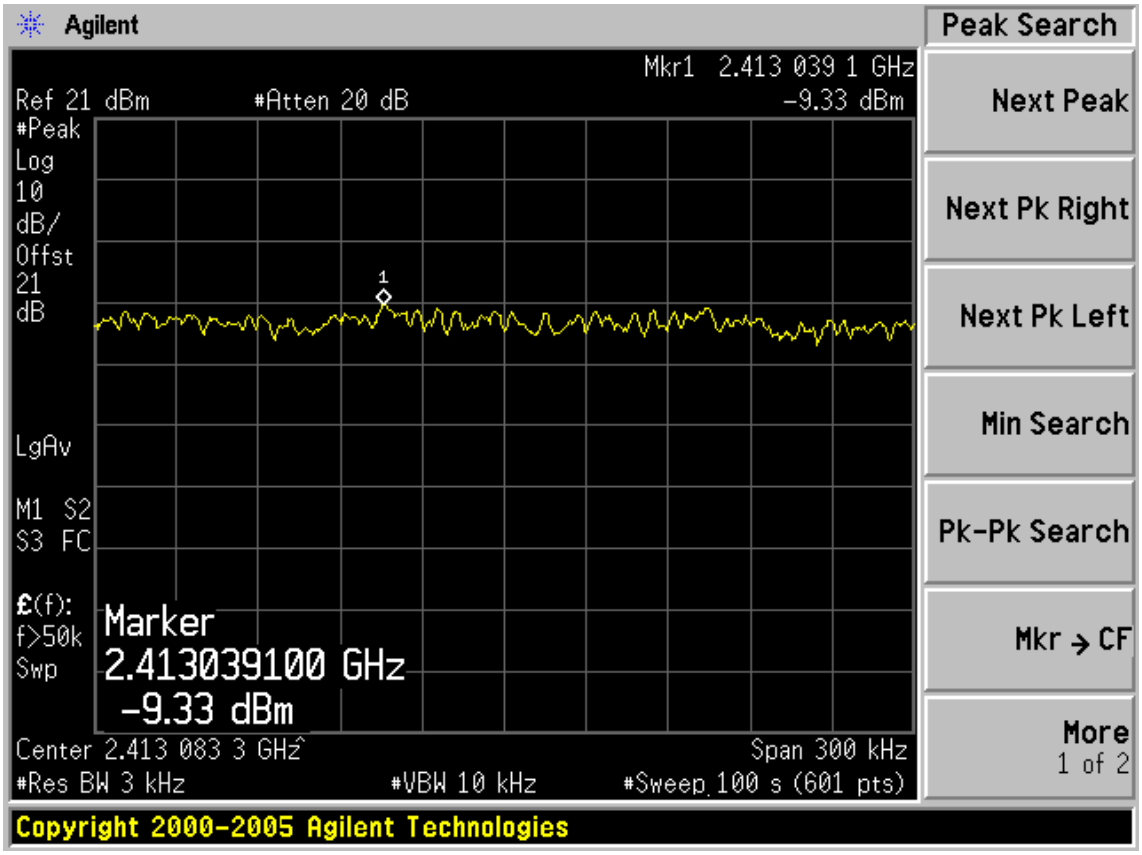
Note: The cable loss and attenuator loss were offset into measure device as an amplitude

9.4.Test Results

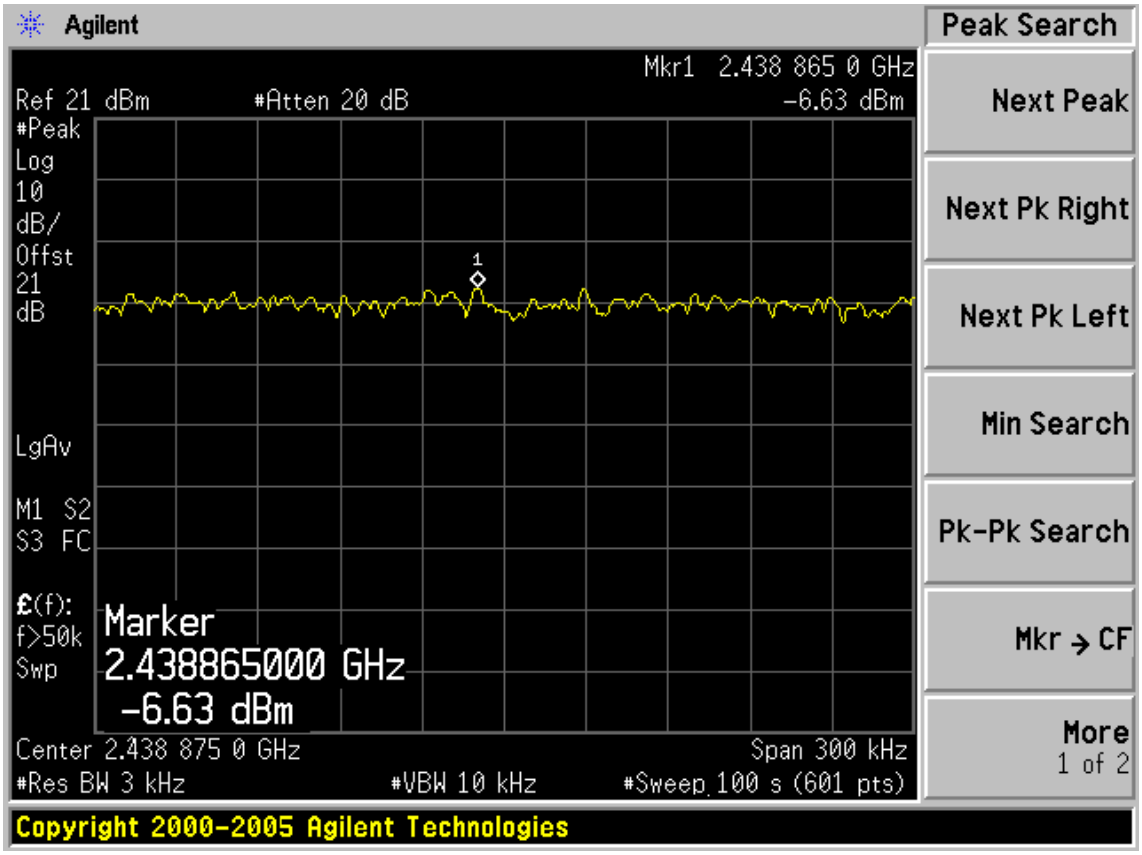
EUT: 300 Mbps 4-Port Wireless Broadband Router		
M/N:SMCWBR14-N5		
Test date:2013-02-28	Pressure: 101.1±1.0 kpa	Humidity: 51.8±3 %
Tested by: Leo-Li	Test site: RF site	Temperature: 23.7±0.6℃

Cable loss: 1 dB		Attenuator loss: 20 dB			
Test Mode	CH	Power density（dBm/3KHz）			Limit (dBm/3KHz)
		Chain0	Chain1	Total	
11b	CH1	-9.33	-13.62	N/A	8
	CH6	-6.63	-11.09	N/A	8
	CH11	-7.44	-12.58	N/A	8
11g	CH1	-12.19	-16.13	N/A	8
	CH6	-7.67	-12.36	N/A	8
	CH11	-11.14	-16.20	N/A	8
11n HT20	CH1	-15.23	-18.83	-13.66	8
	CH6	-6.80	-13.41	-5.94	8
	CH11	-13.05	-20.35	-12.31	8
11n HT40	CH1	-18.71	-23.87	-17.55	8
	CH4	-9.69	-15.76	-8.73	8
	CH7	-19.00	-21.37	-17.01	8
Conclusion：PASS					

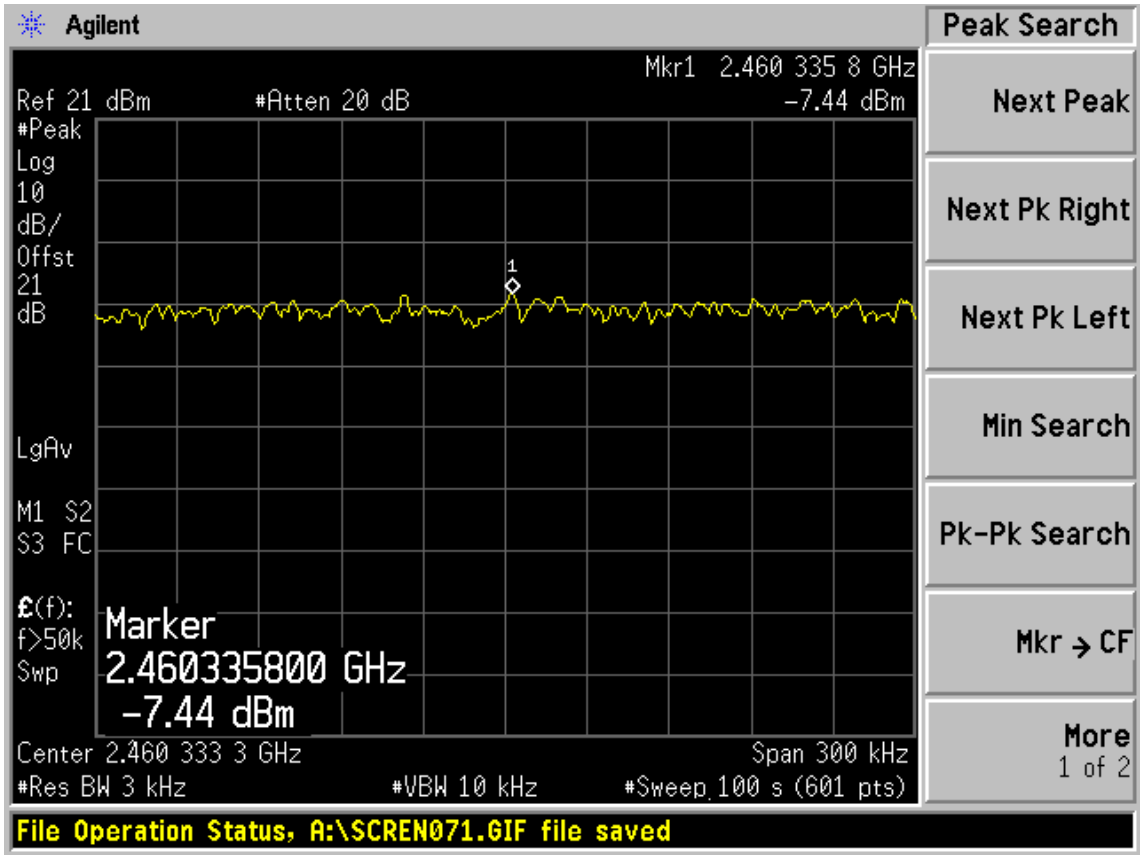
ANT 0
Test Mode: IEEE 802.11b TX
Test CH1: 2412MHz



Test CH6: 2437MHz

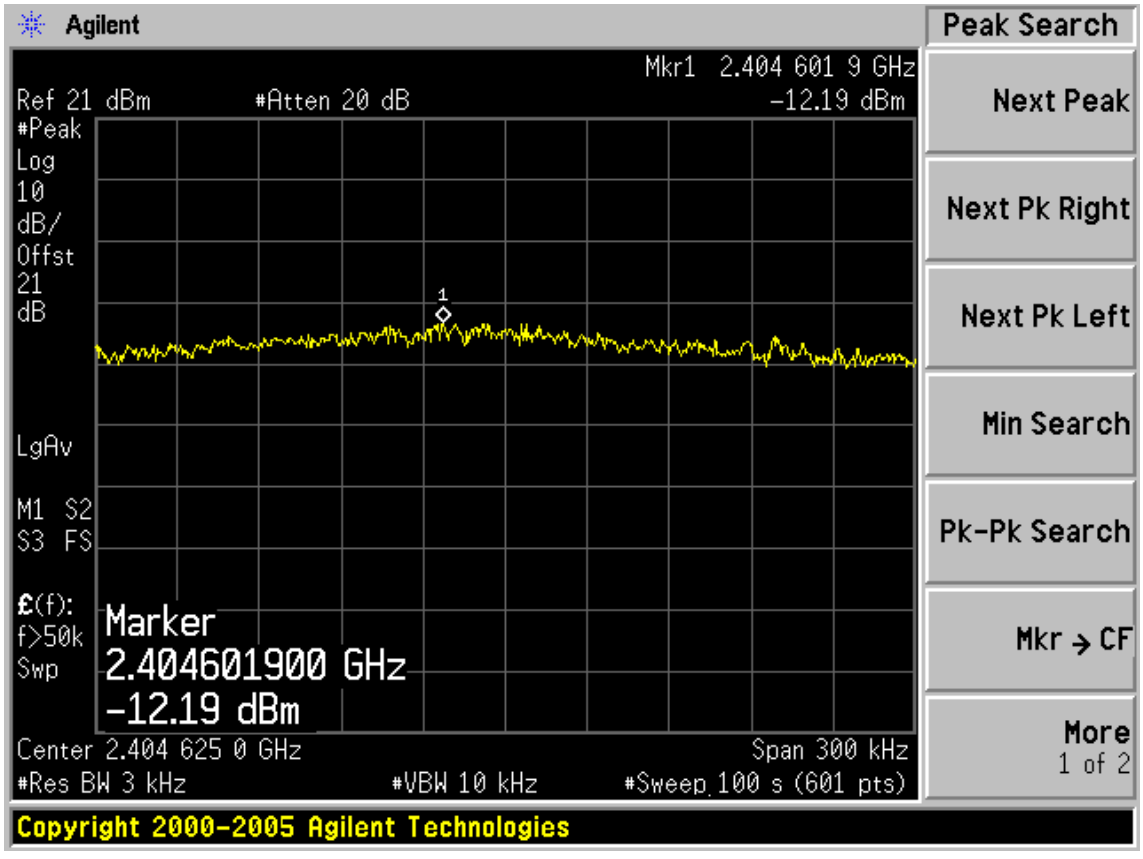


Test CH11: 2462MHz

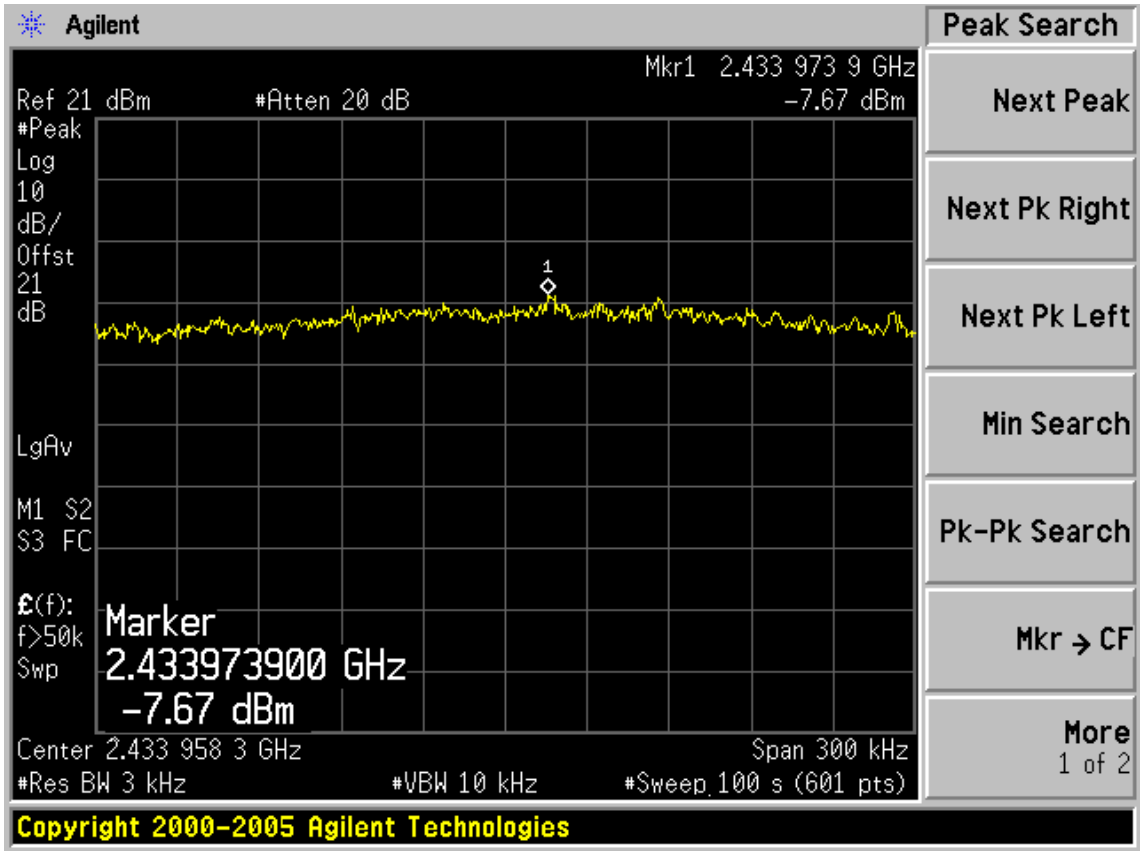


Test Mode: IEEE 802.11g TX

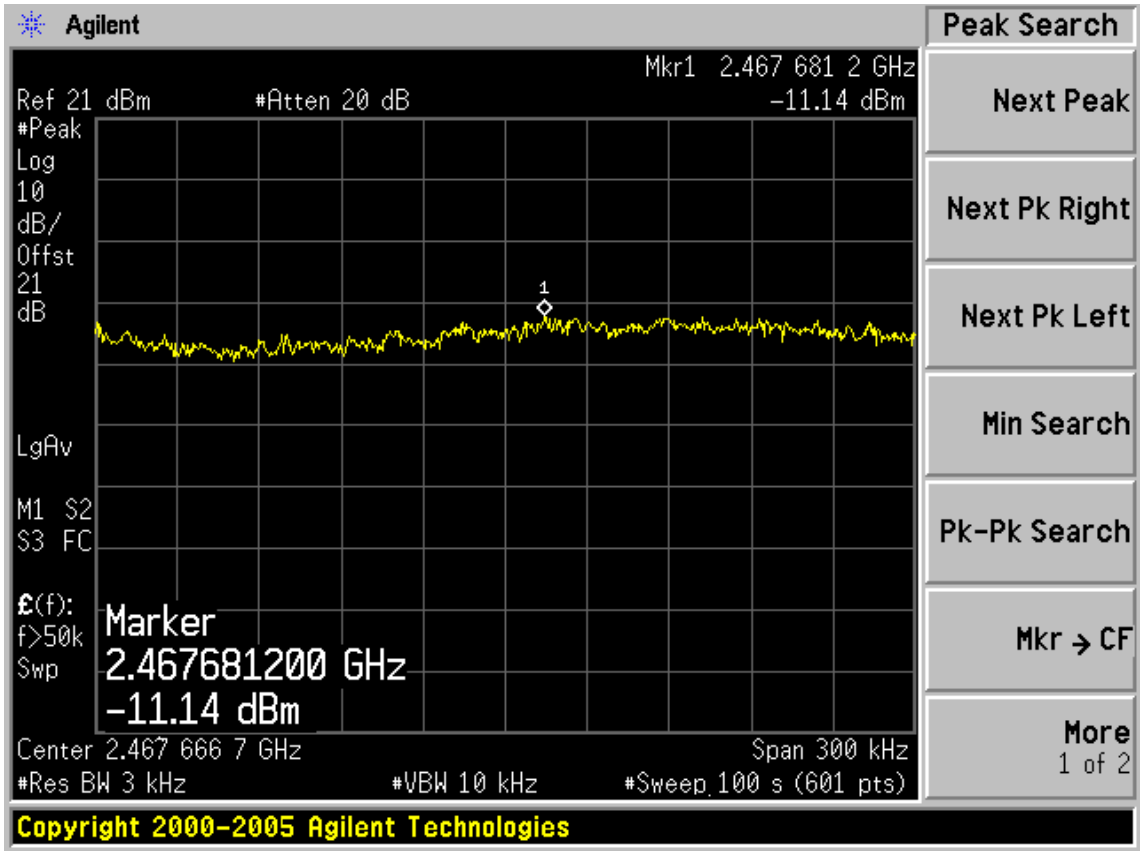
Test CH1: 2412MHz



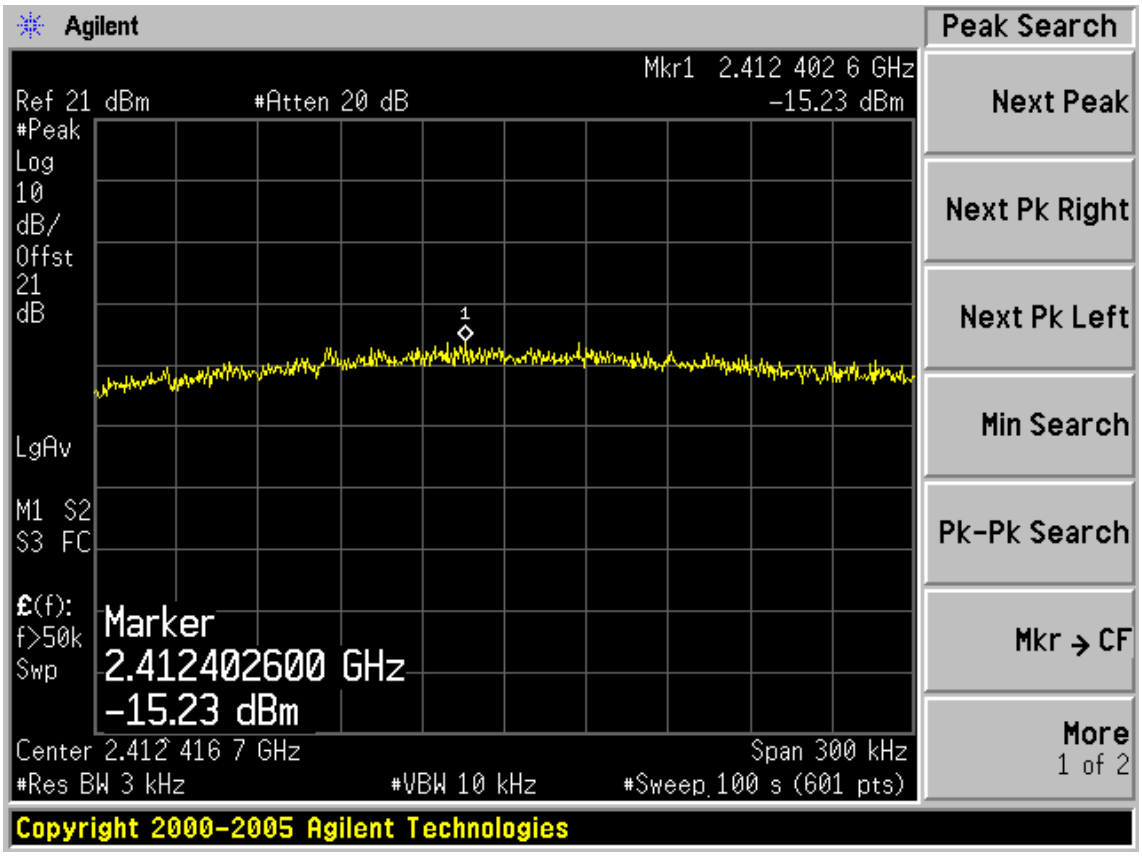
Test CH6: 2437MHz



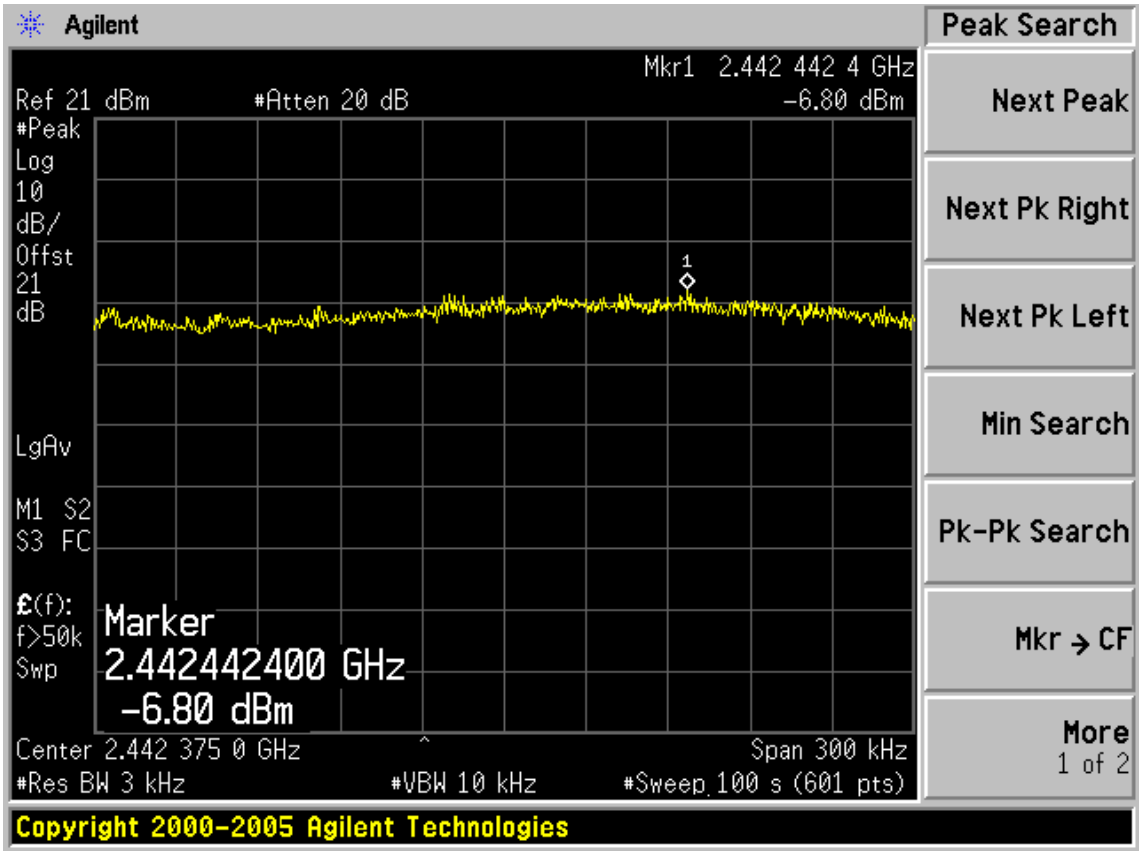
Test CH11: 2462MHz



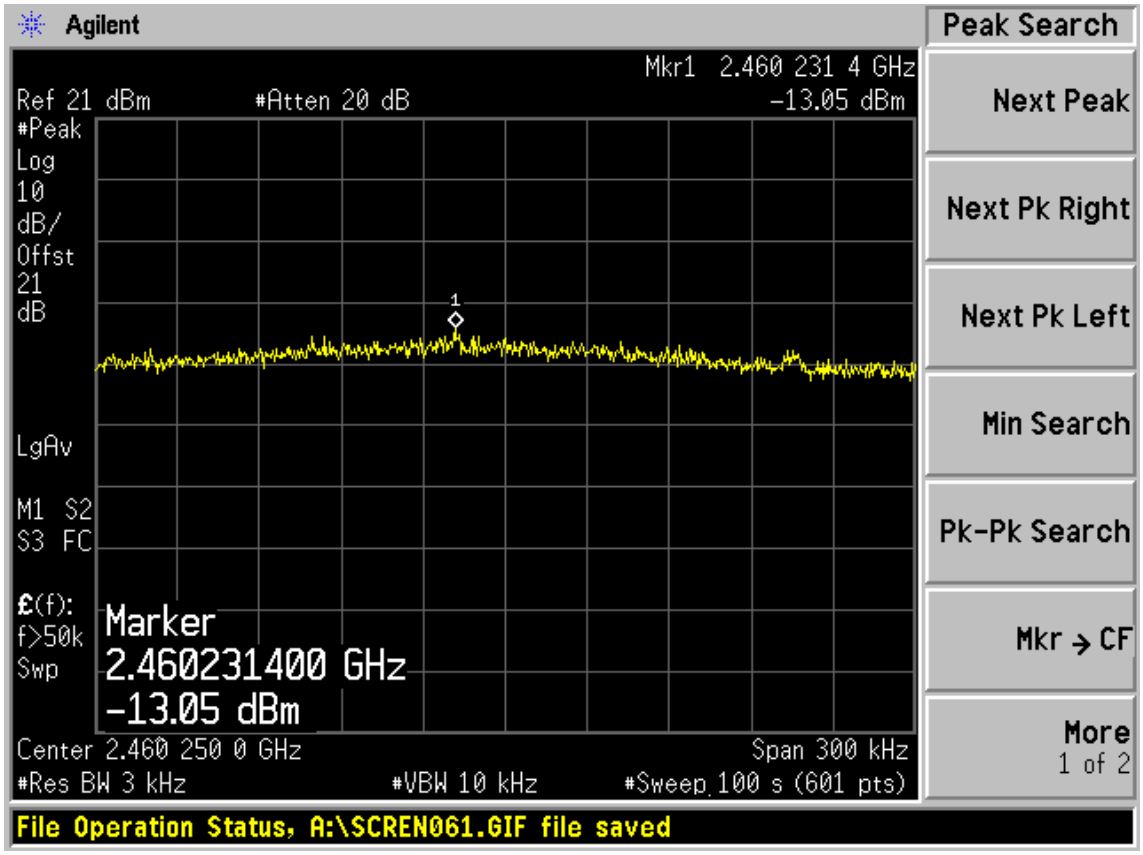
Test Mode: IEEE 802.11n HT20 TX
Test CH1: 2412MHz



Test CH6: 2437MHz

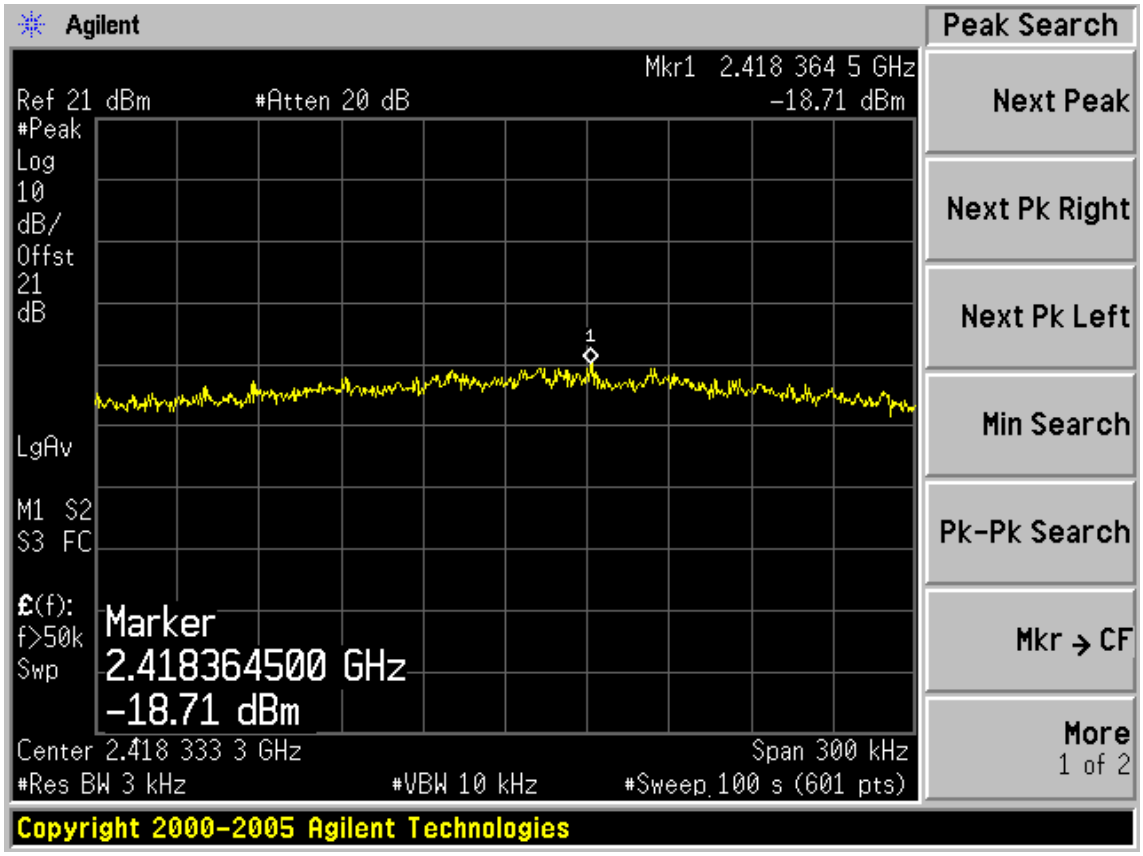


Test CH11: 2462MHz

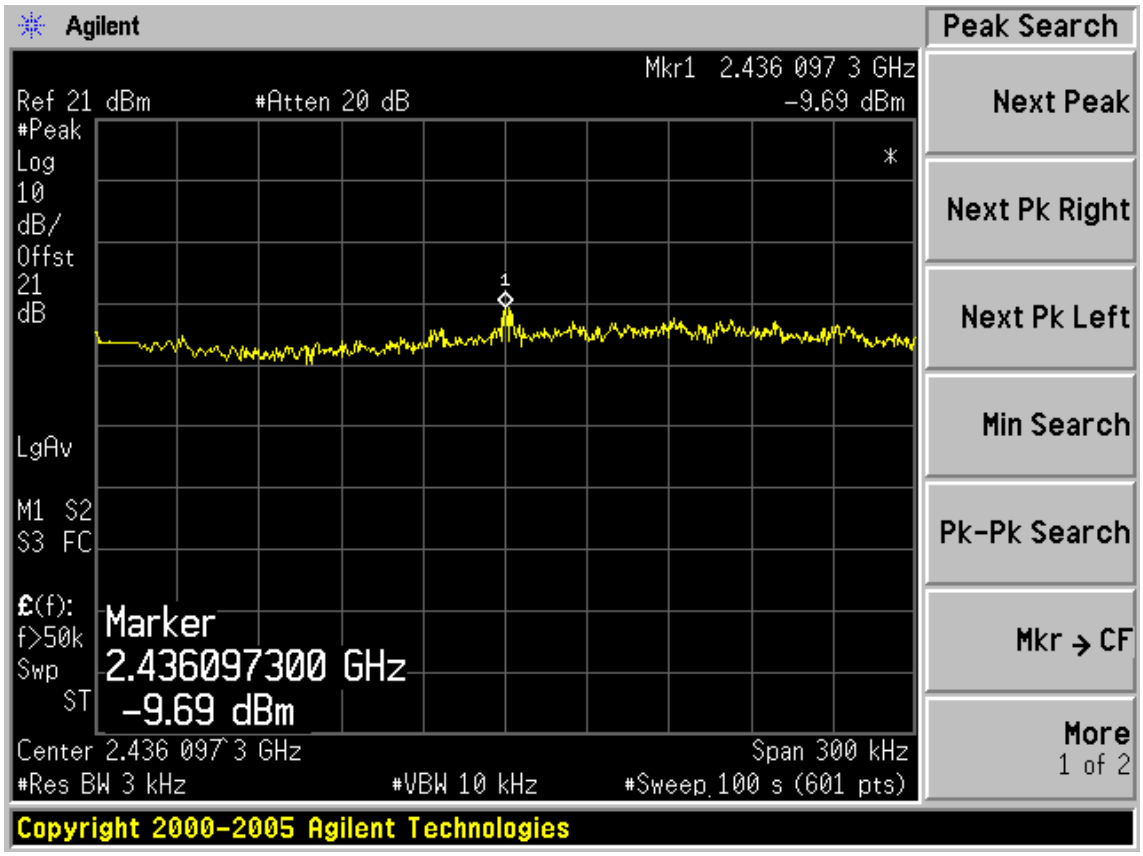


Test Mode: IEEE 802.11n HT40 TX

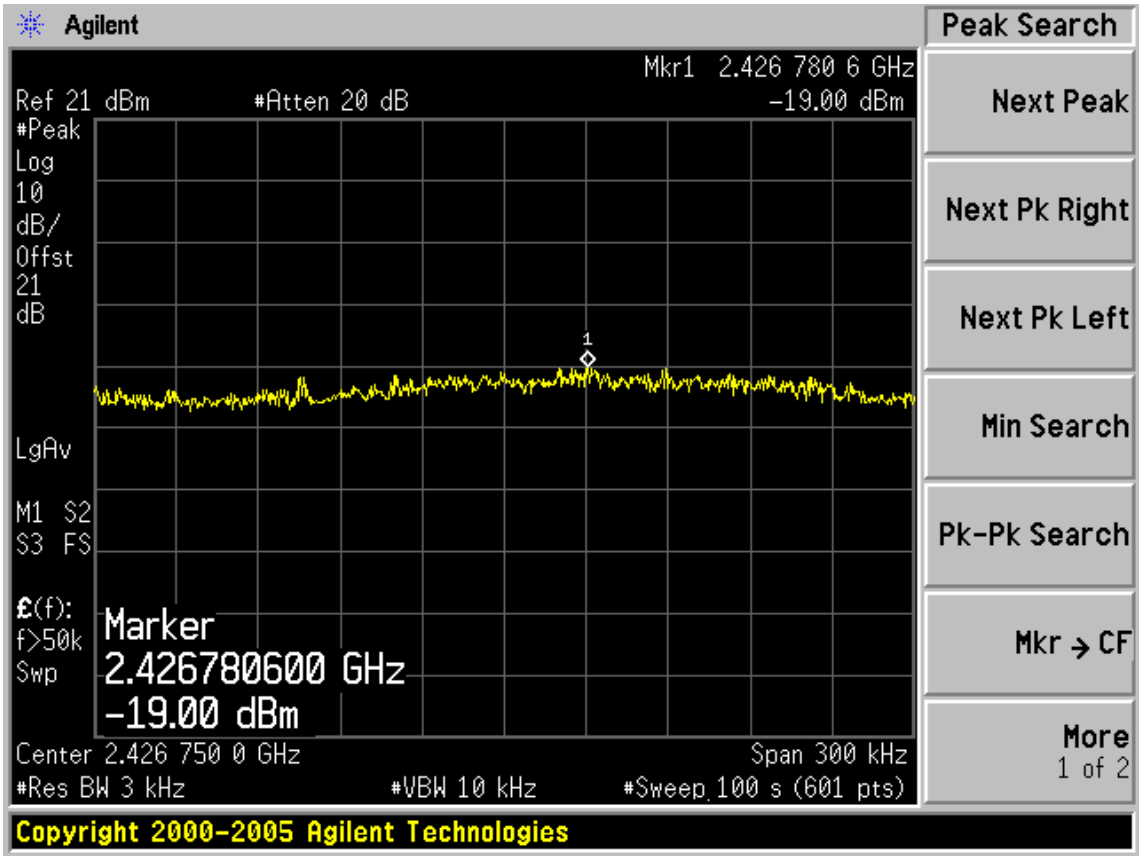
Test CH1: 2422MHz



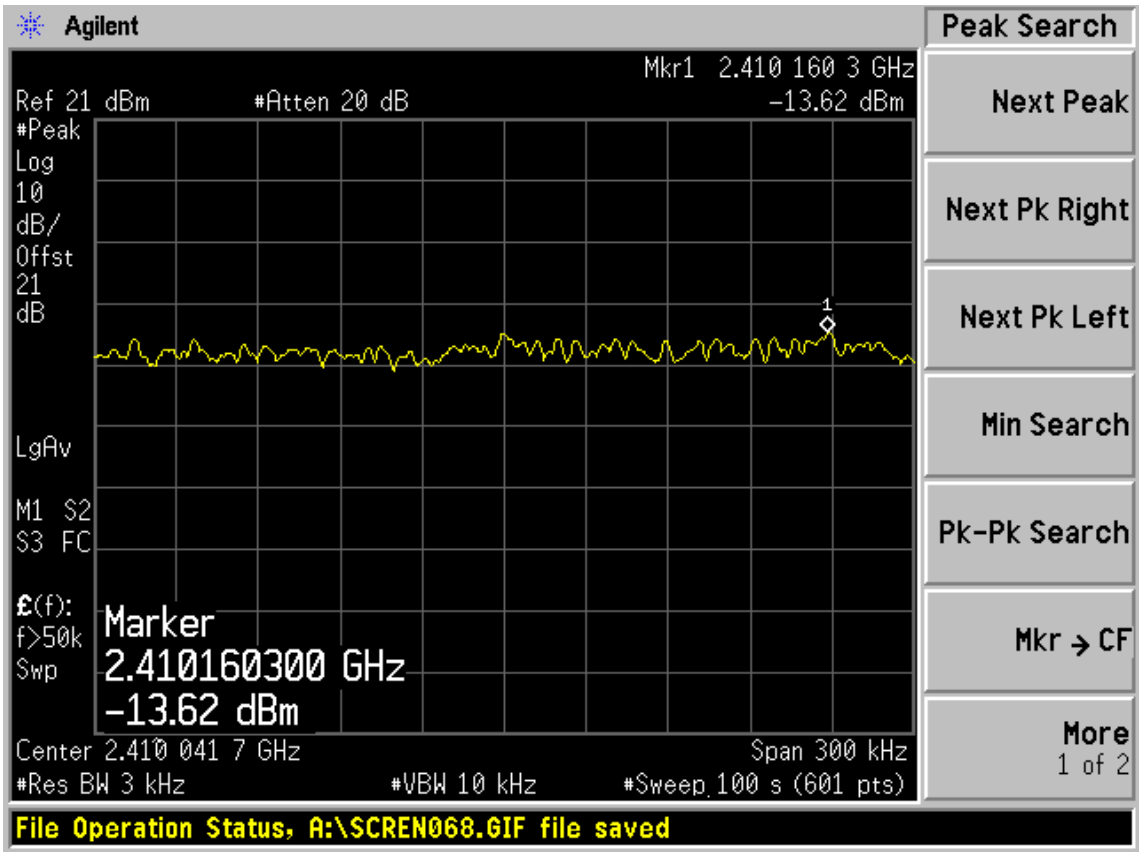
Test CH4: 2437MHz



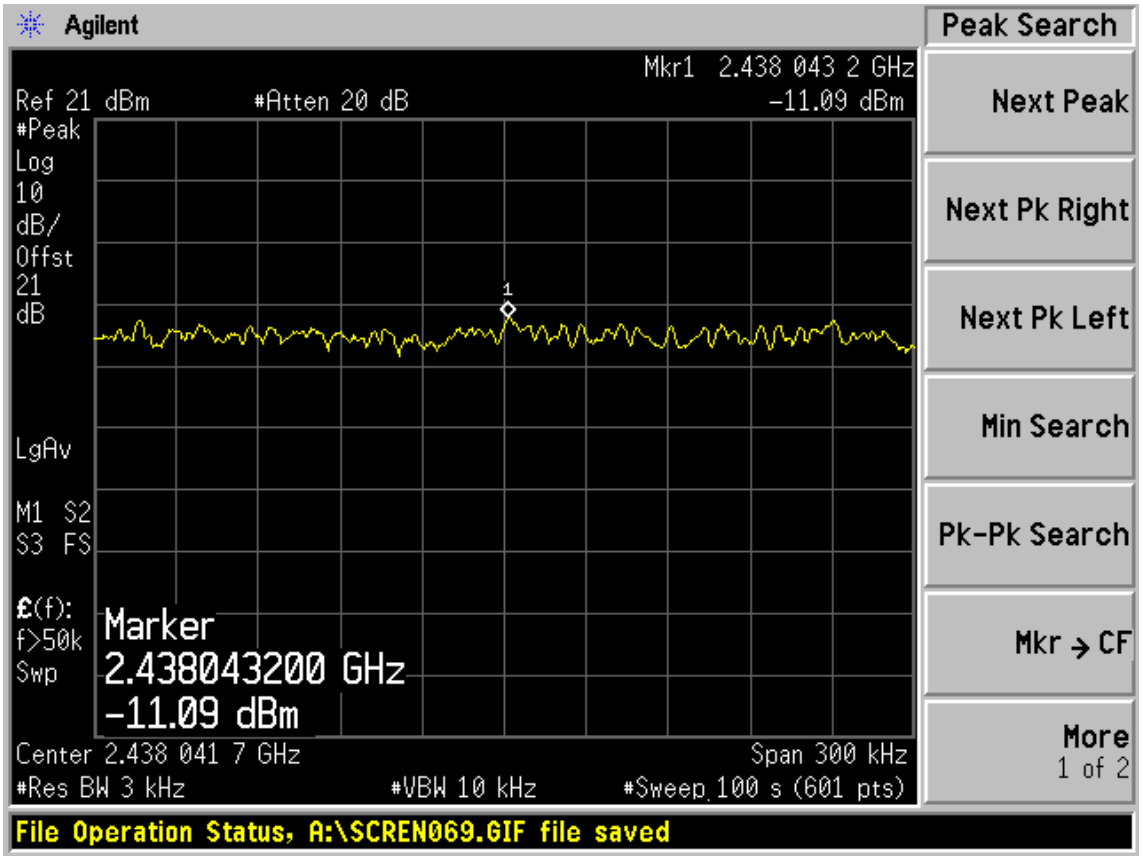
Test CH7: 2452MHz



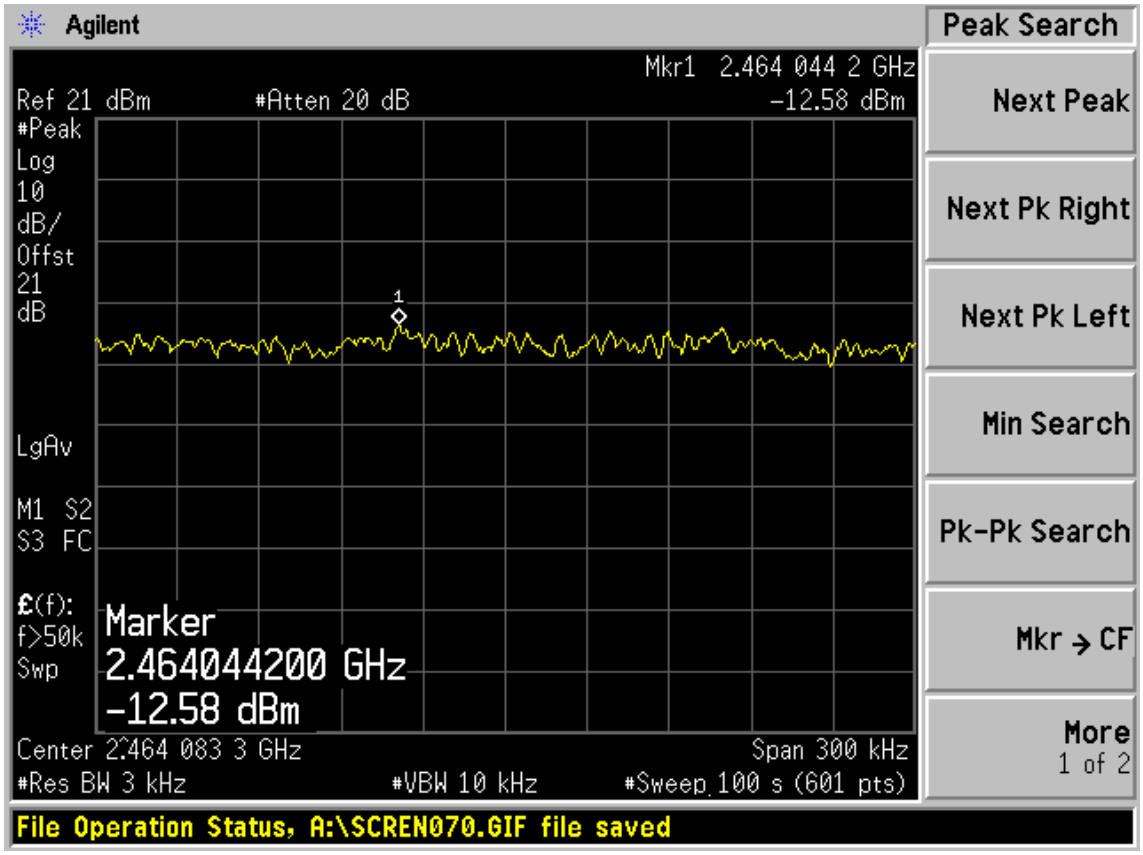
ANT 1
Test Mode: IEEE 802.11b TX
Test CH1: 2412MHz



Test CH6: 2437MHz

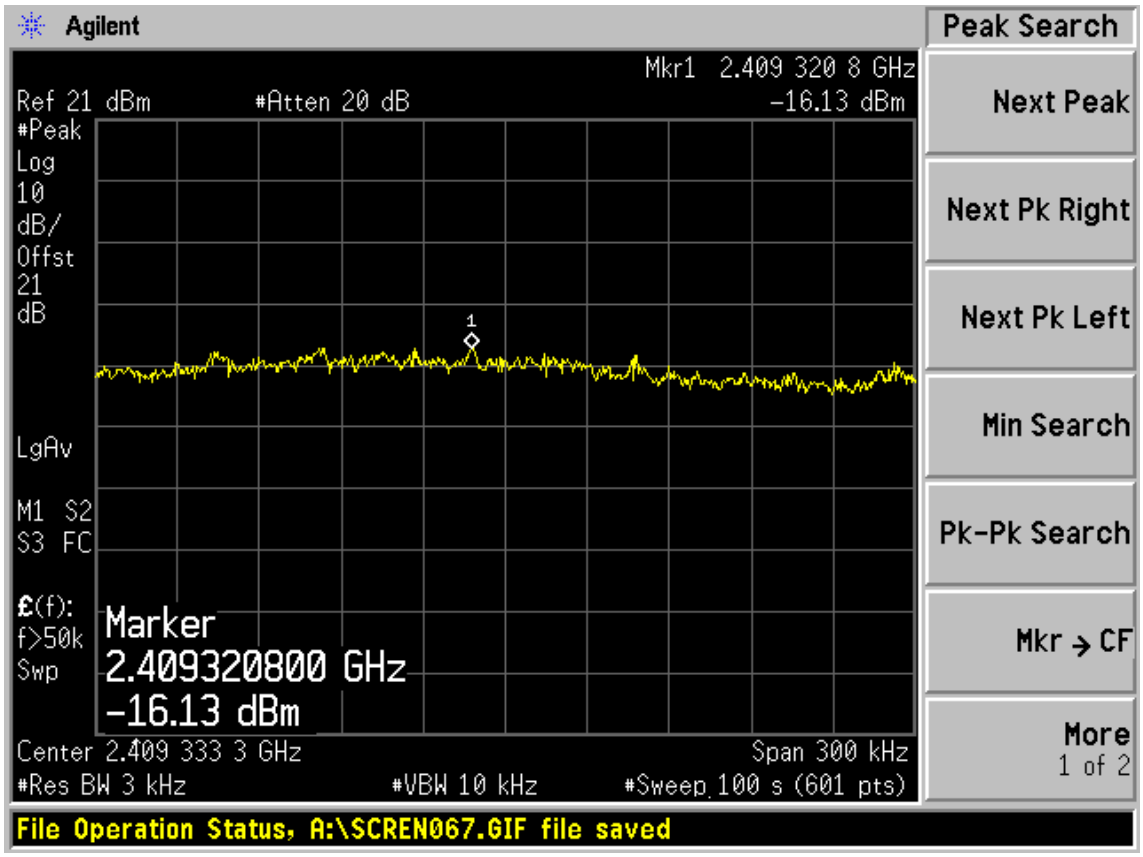


Test CH11: 2462MHz

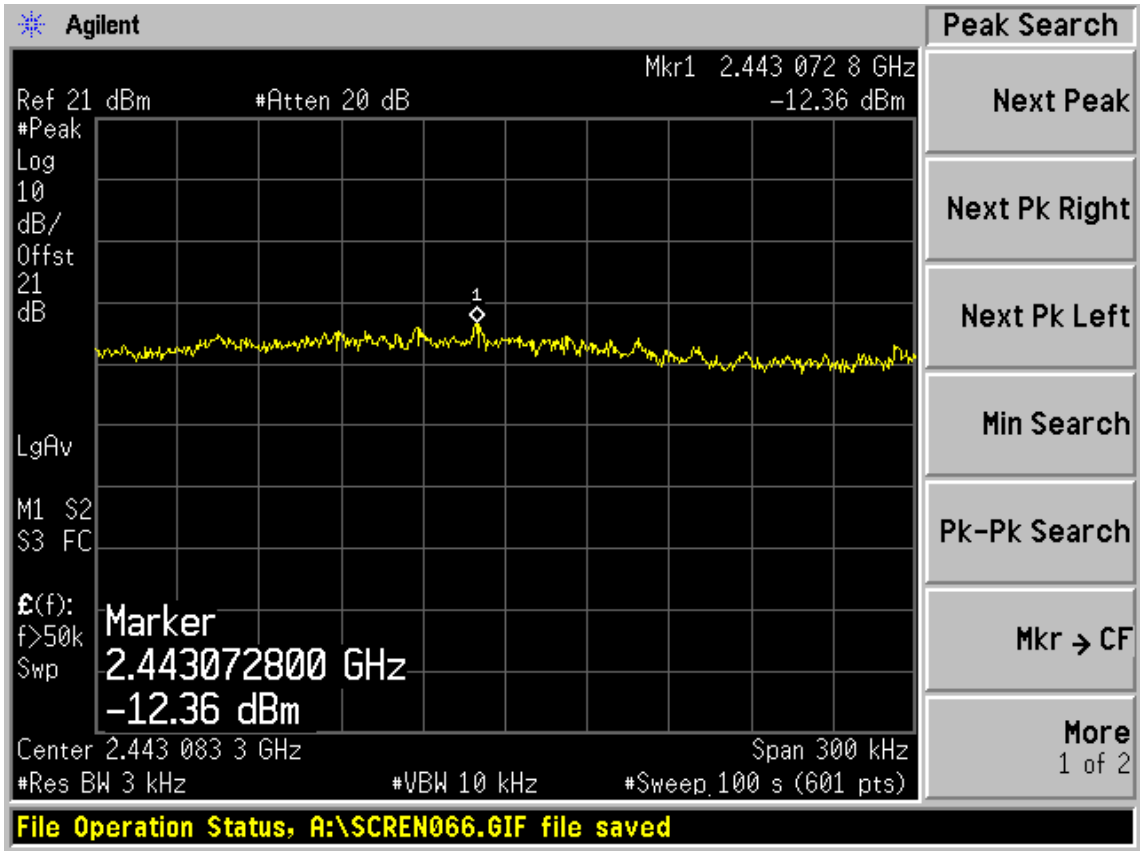


Test Mode: IEEE 802.11g TX

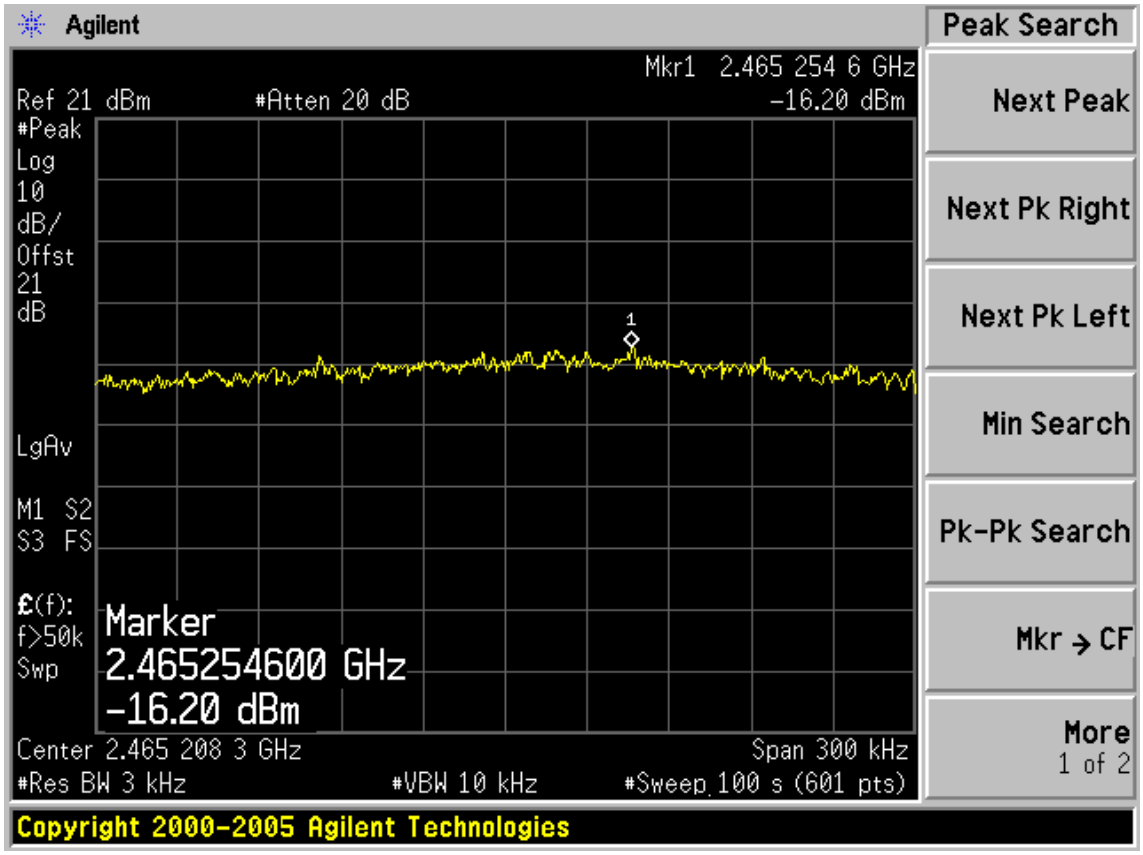
Test CH1: 2412MHz



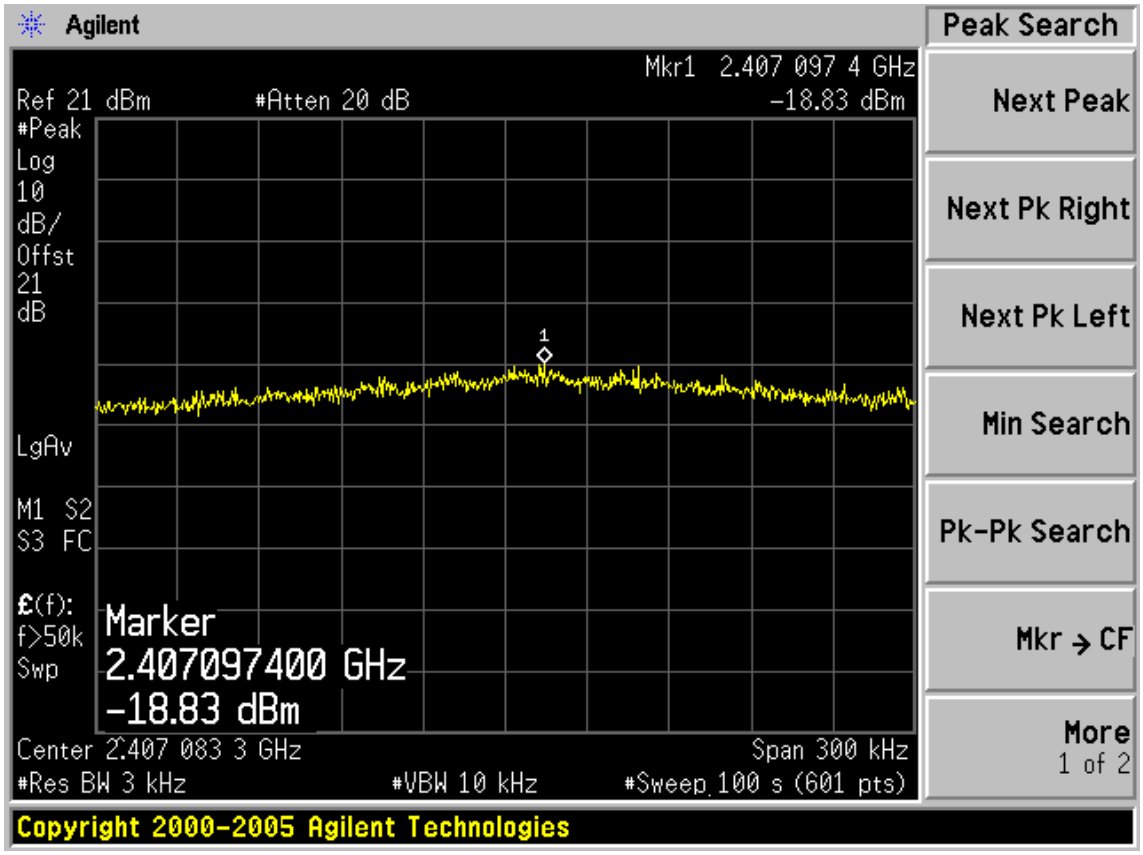
Test CH6: 2437MHz



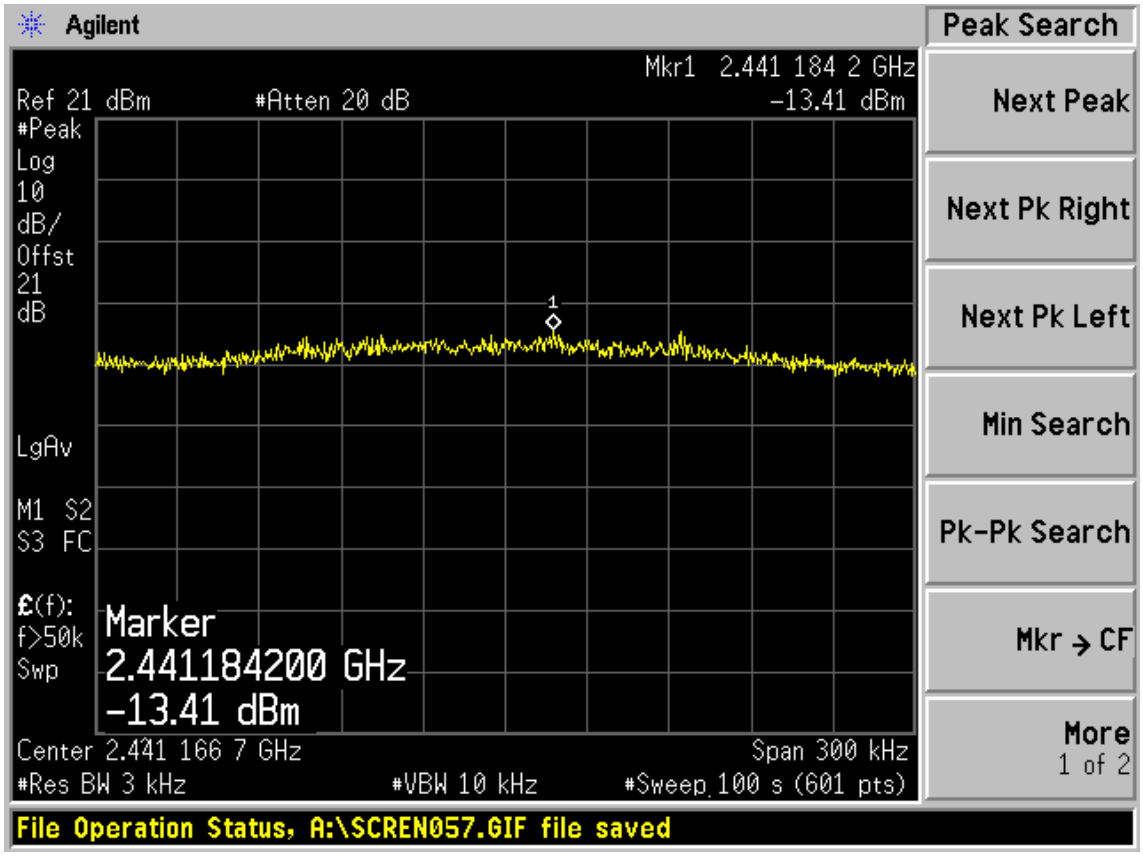
Test CH11: 2462MHz



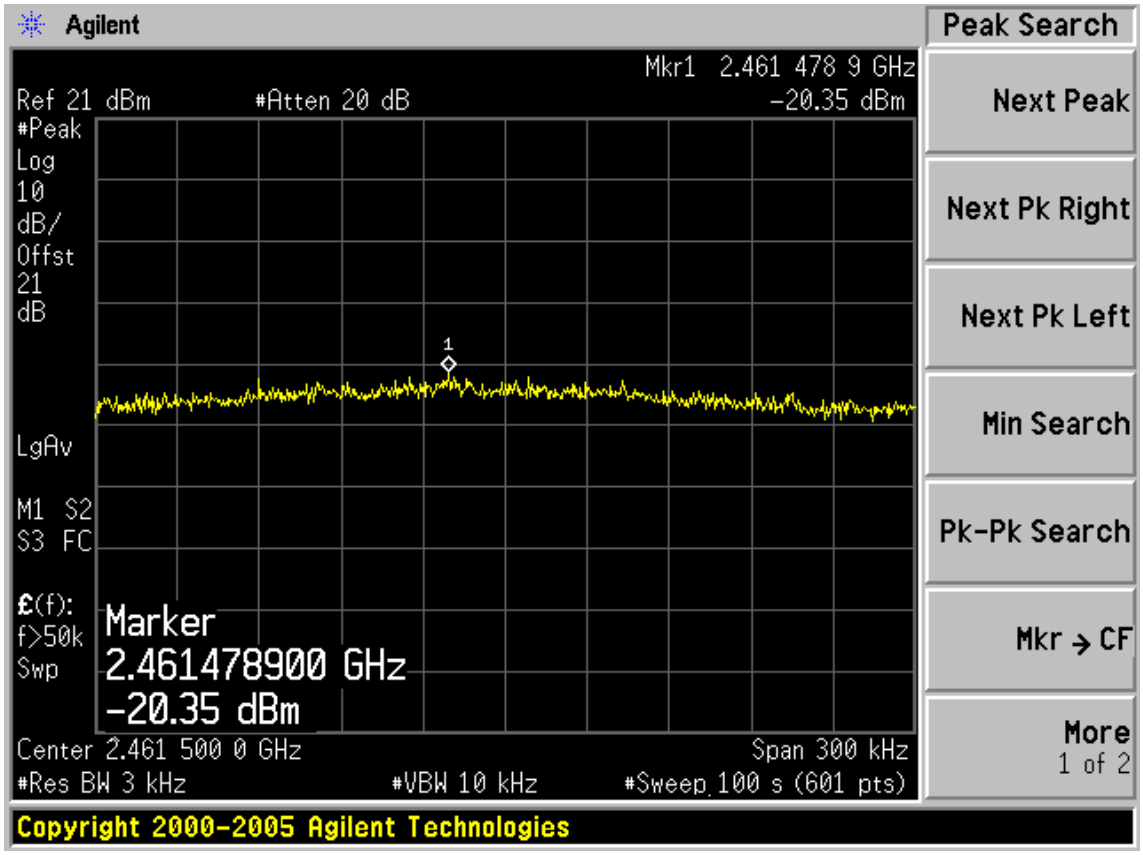
Test Mode: IEEE 802.11n HT20 TX
Test CH1: 2412MHz



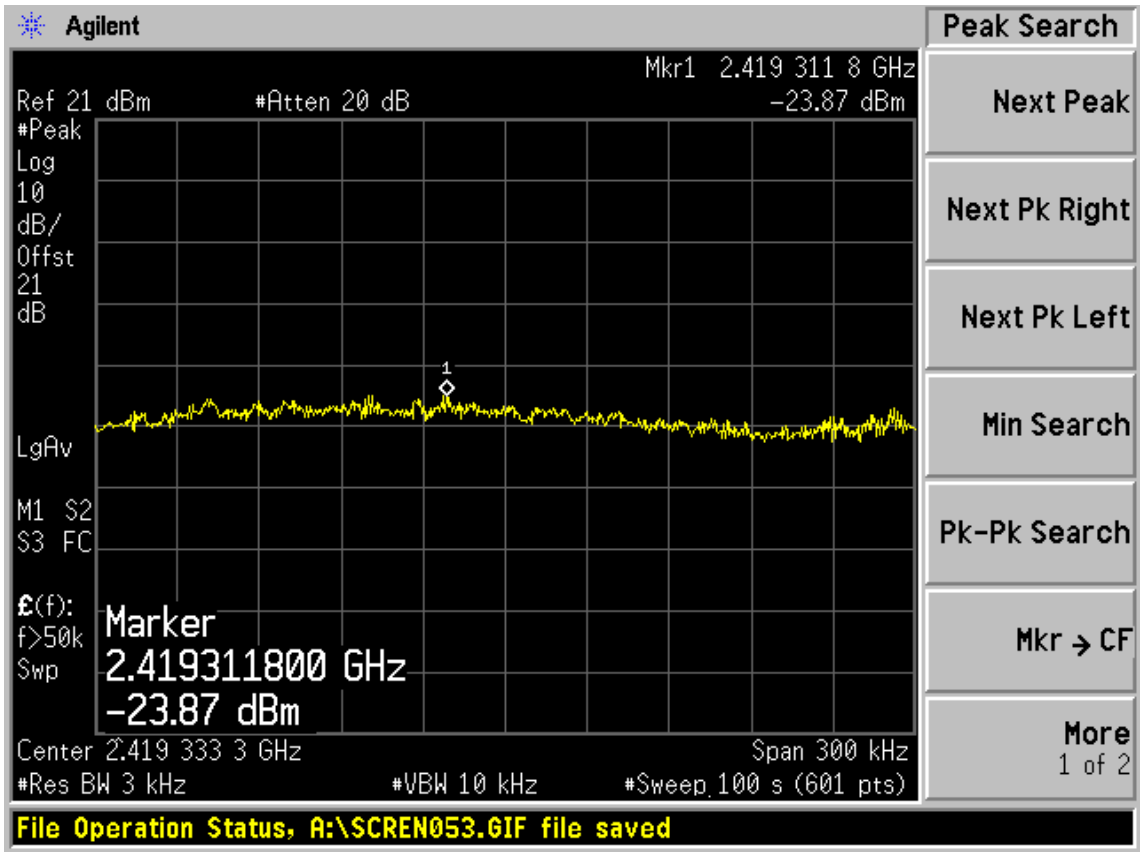
Test CH6: 2437MHz



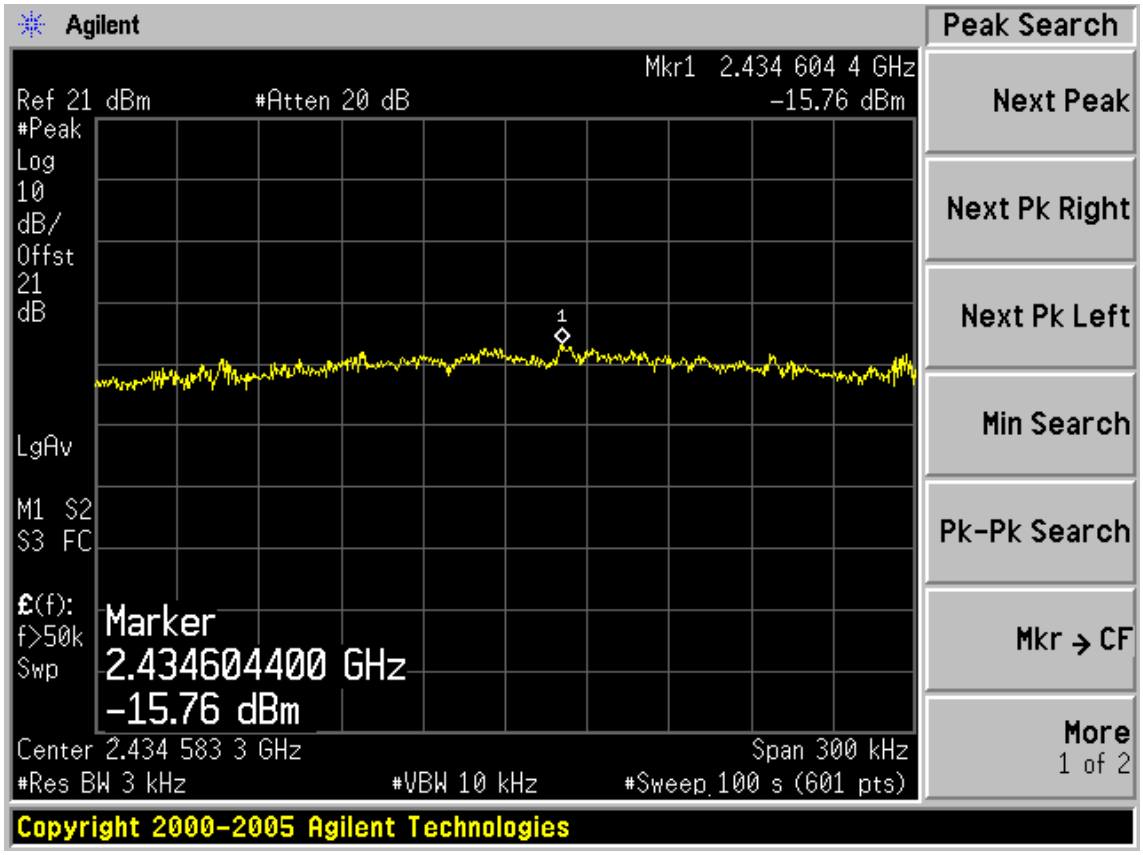
Test CH11: 2462MHz



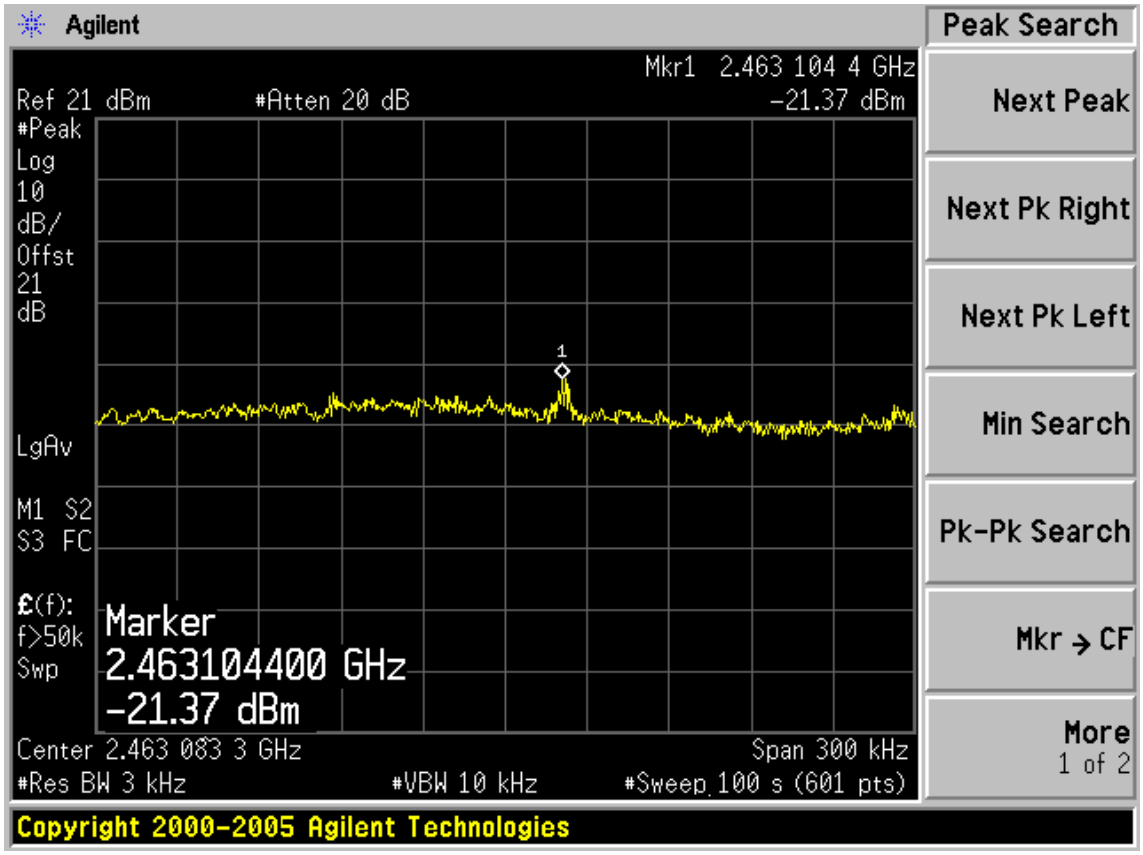
Test Mode: IEEE 802.11n HT40 TX
Test CH1: 2422MHz



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 MIMO2X2 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 5dBi.