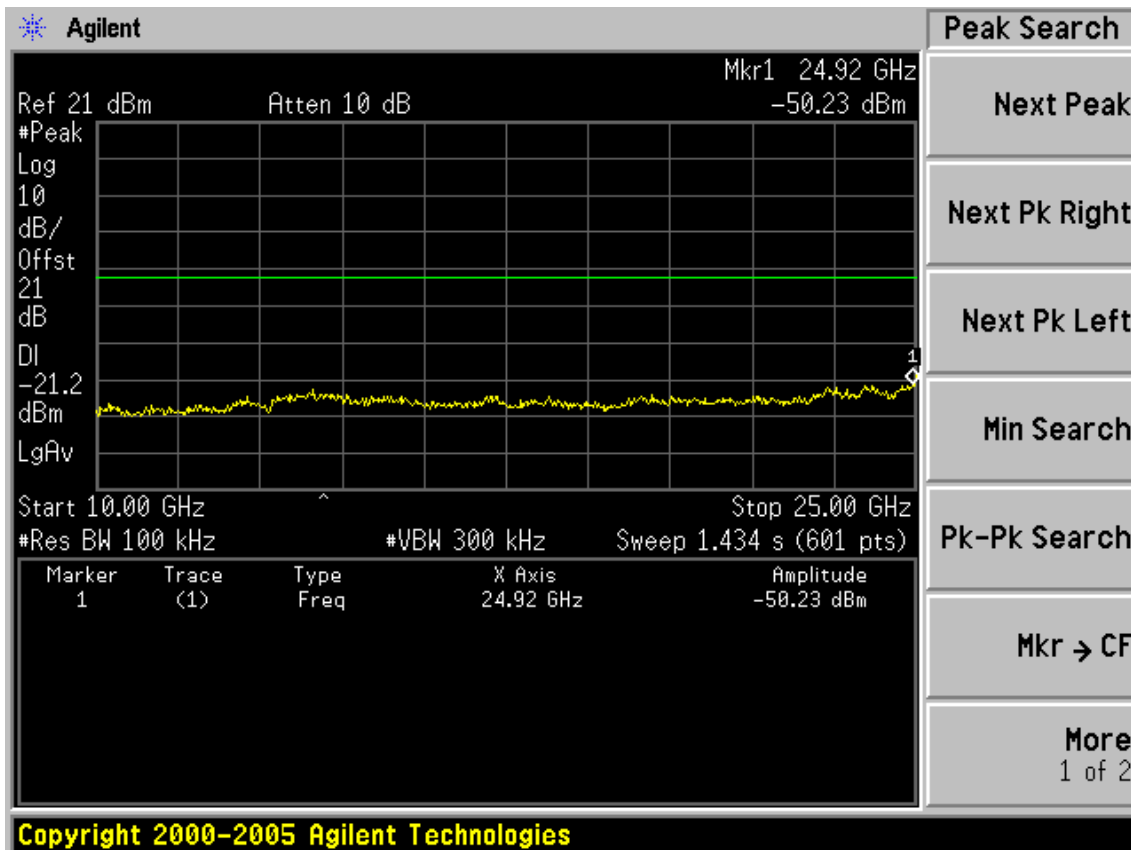
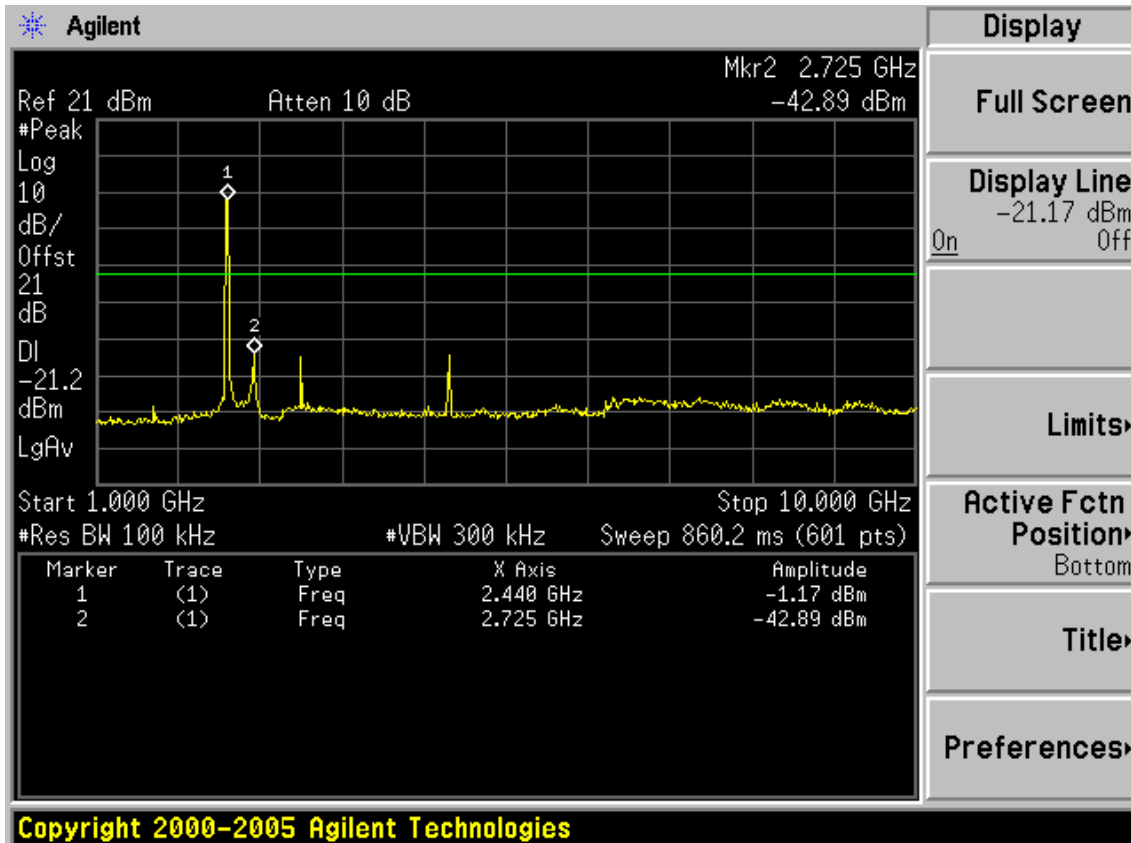
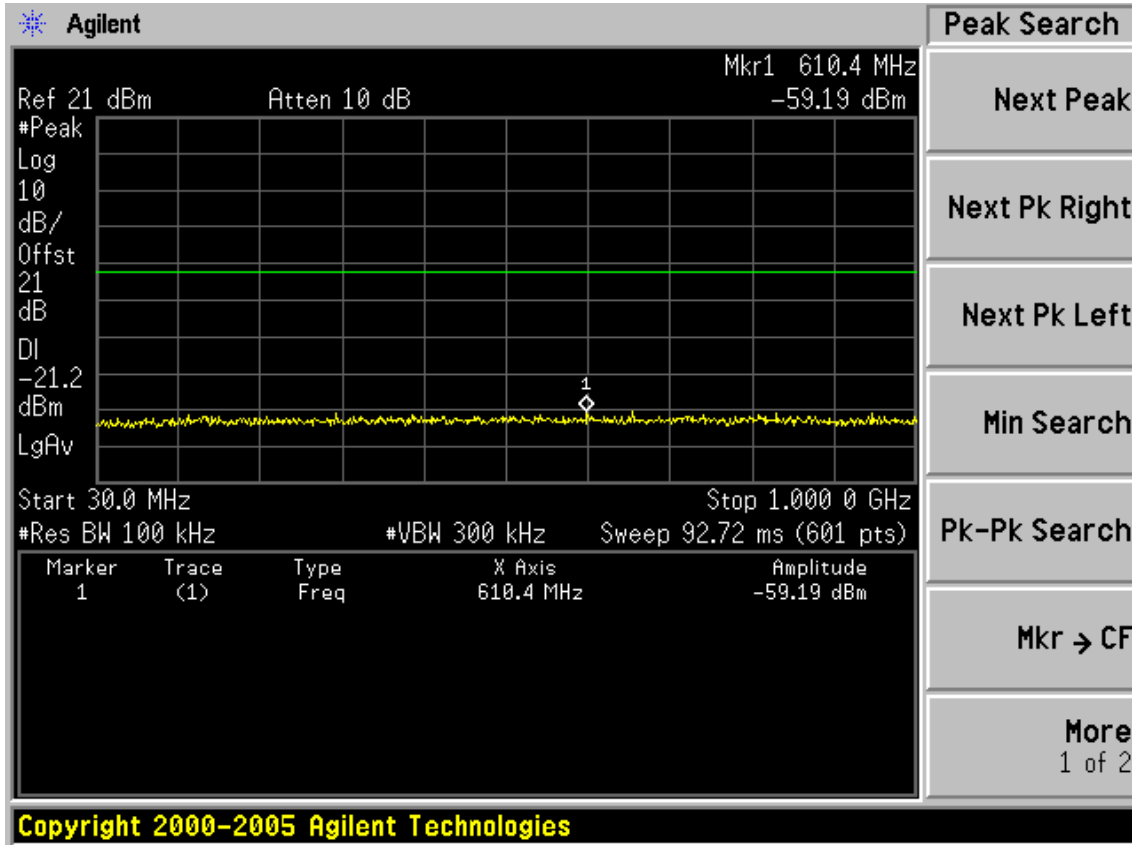
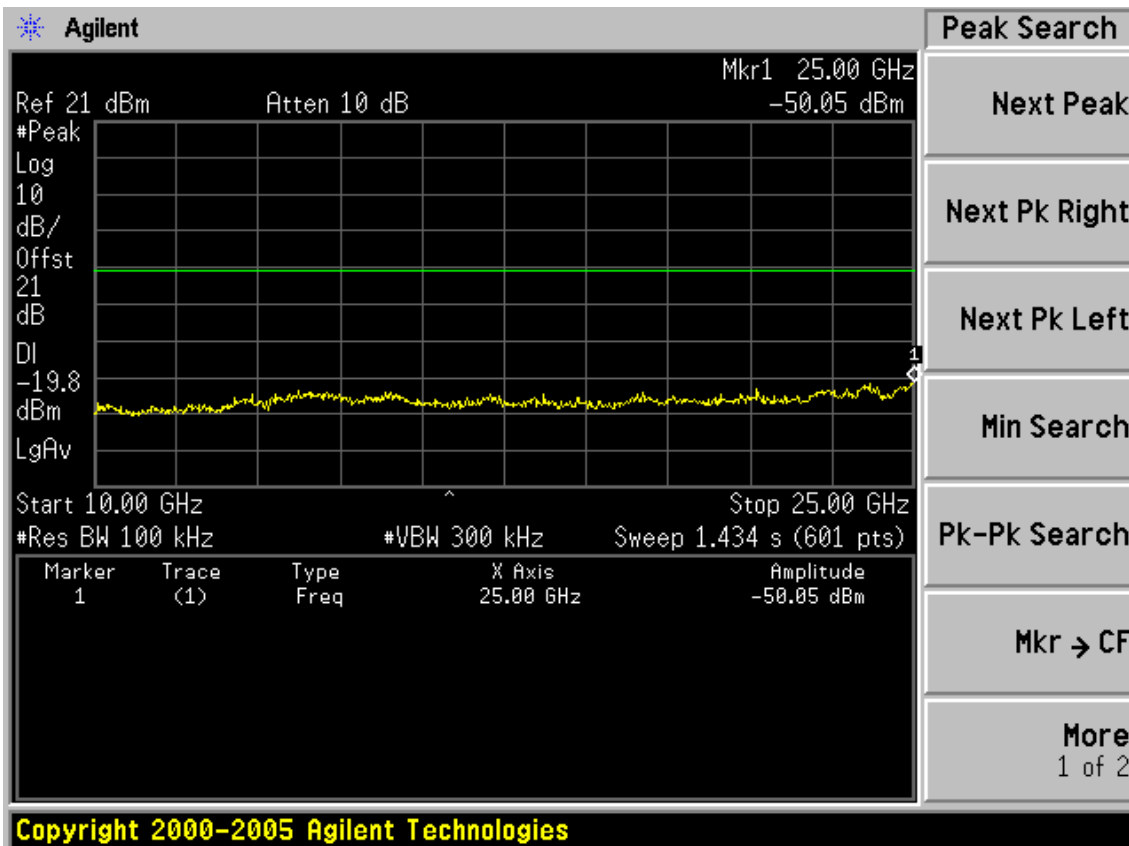
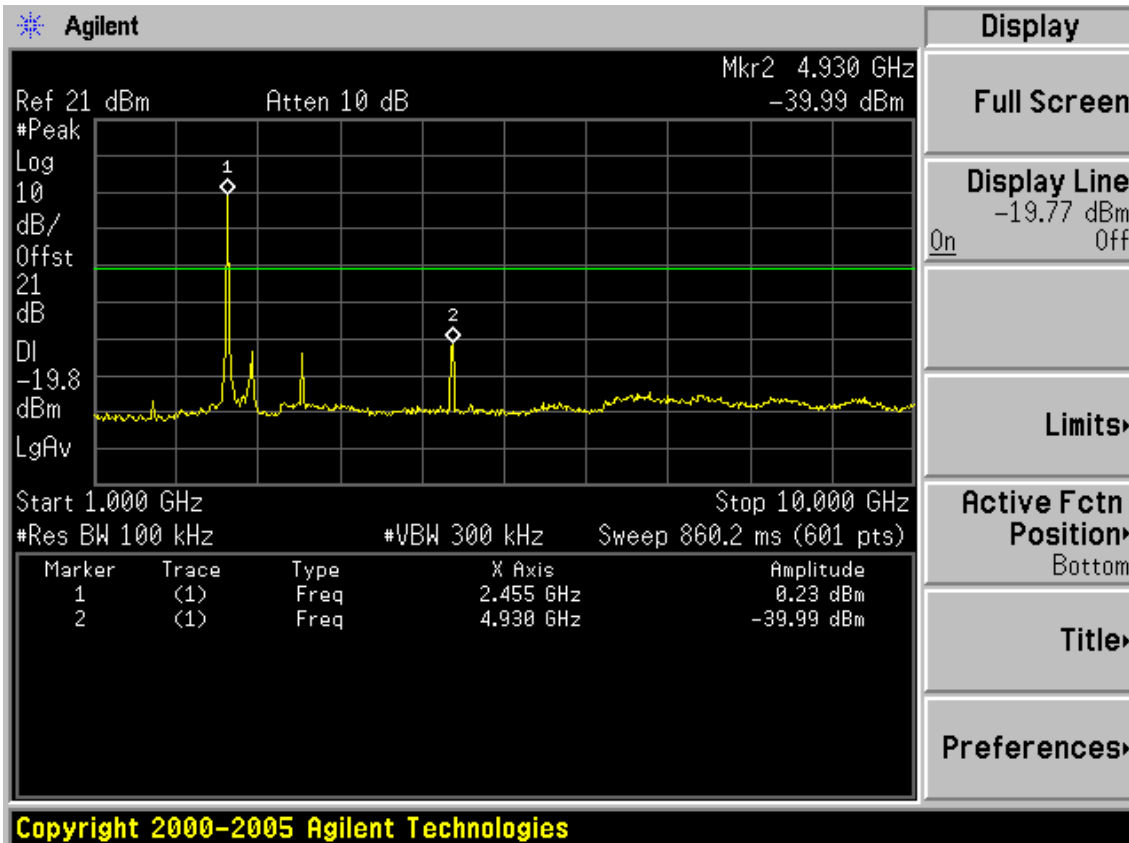


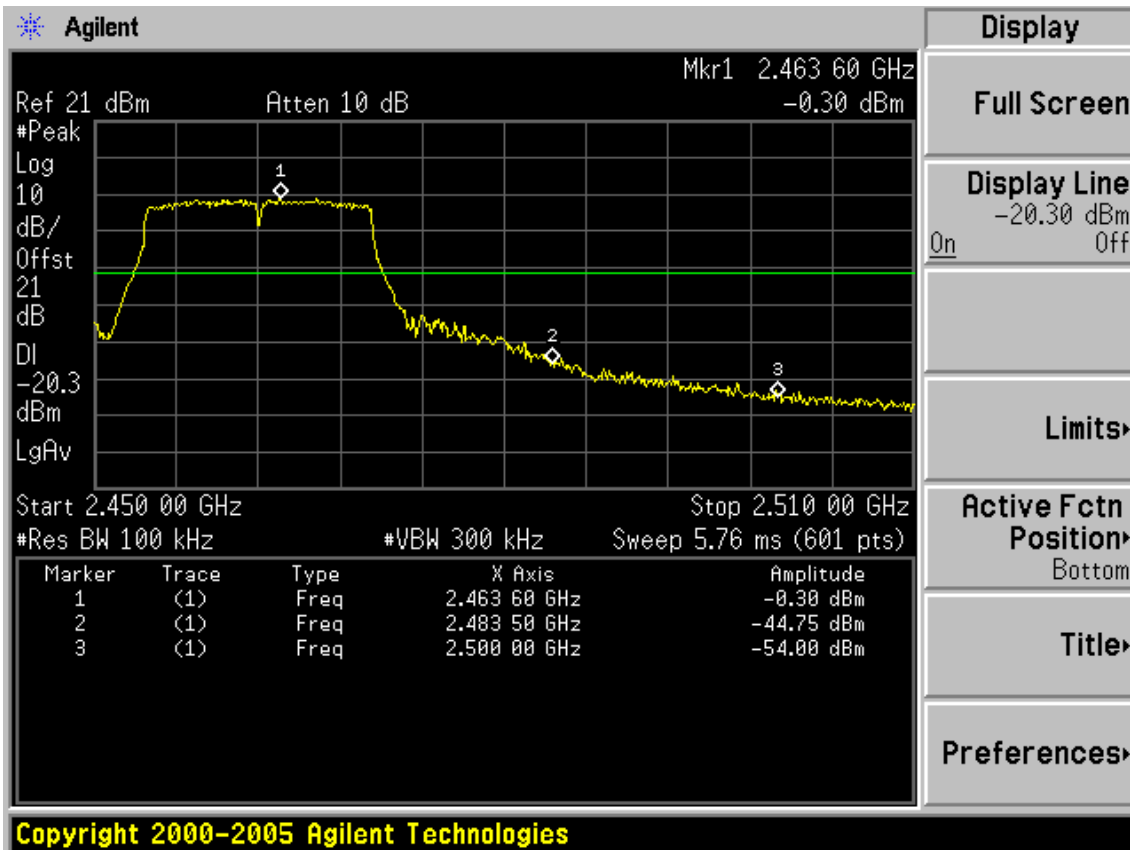
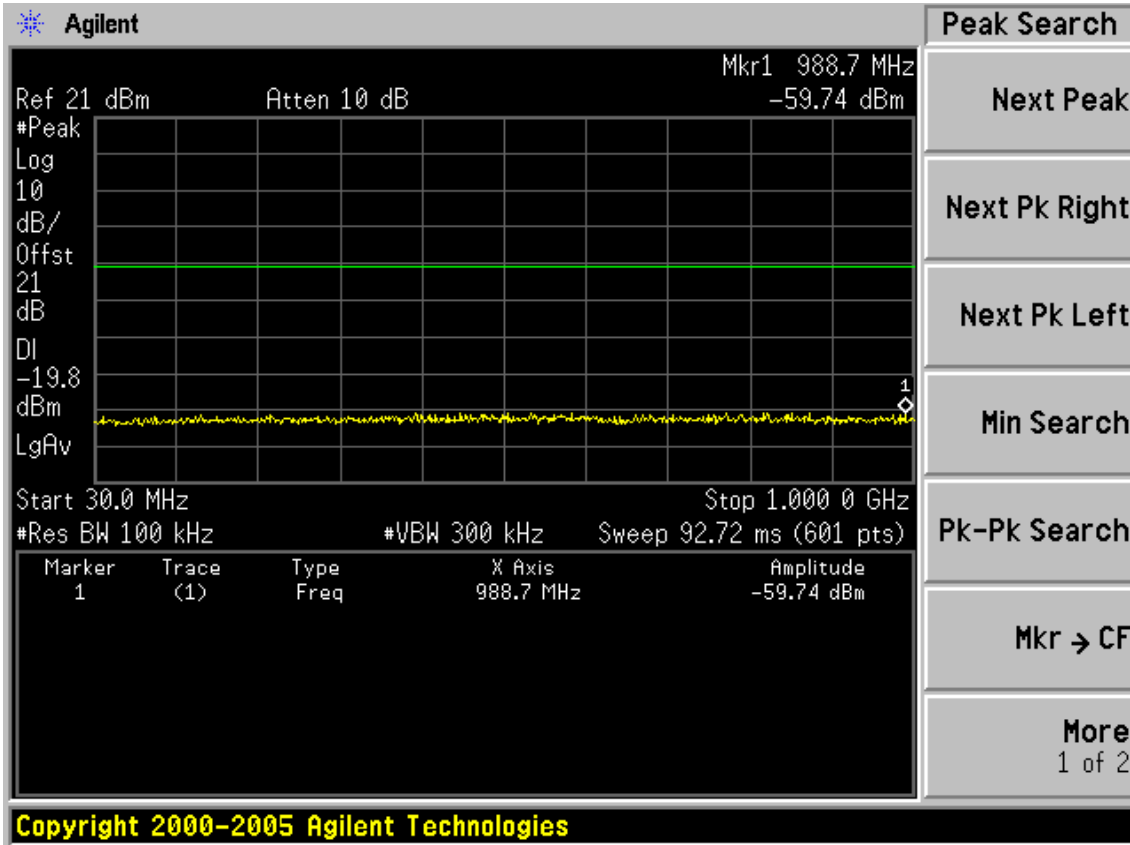
Test CH6: 2437MHz



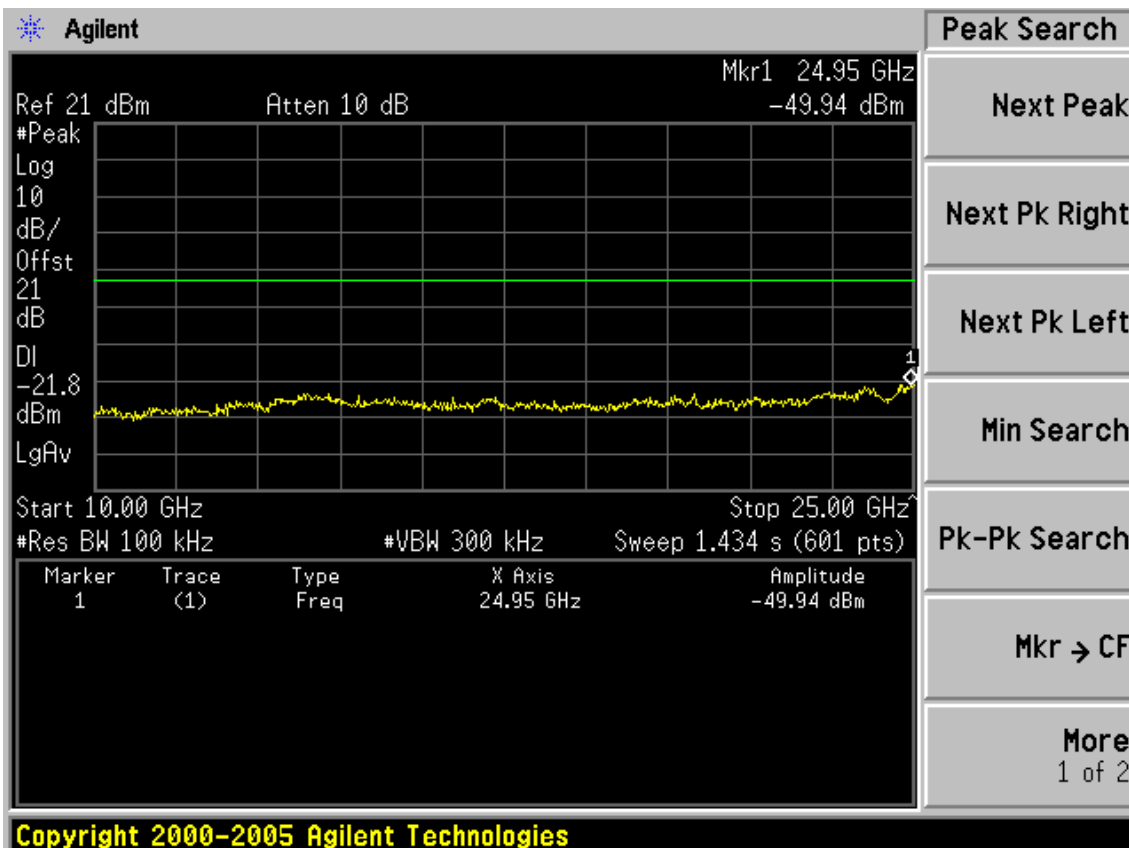
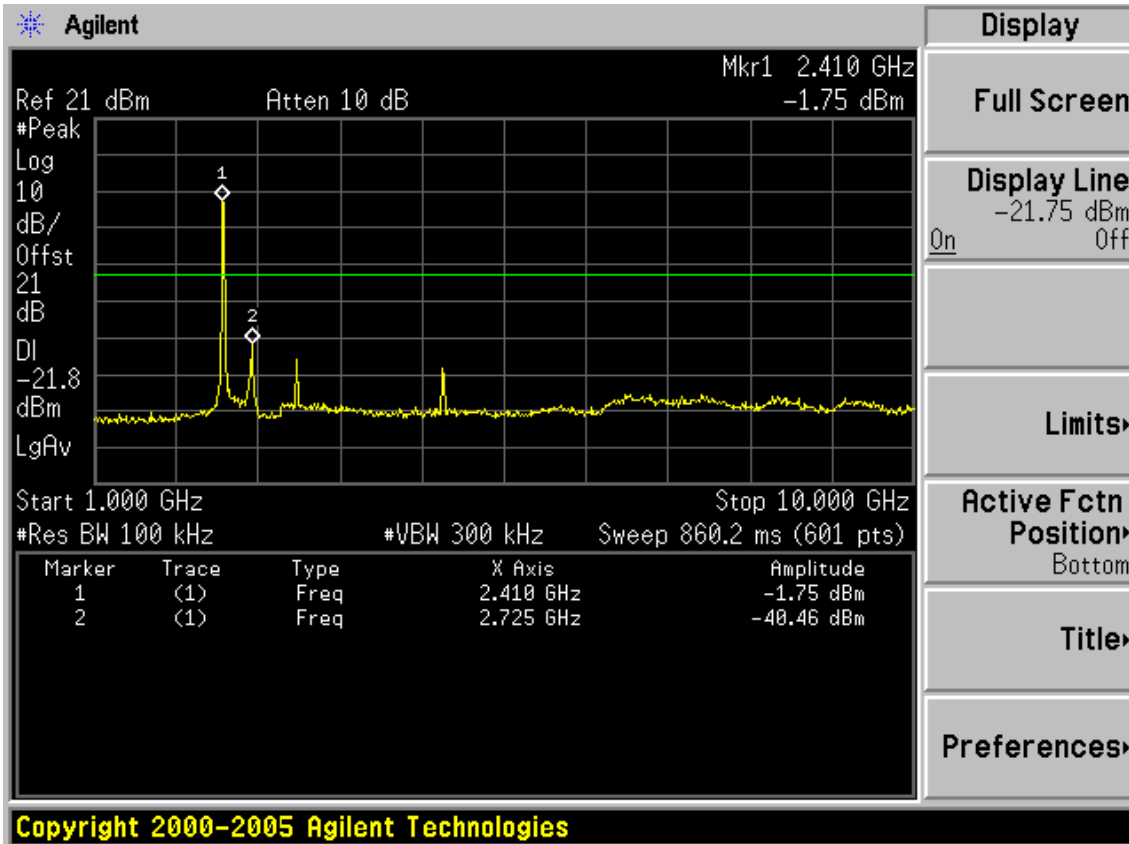


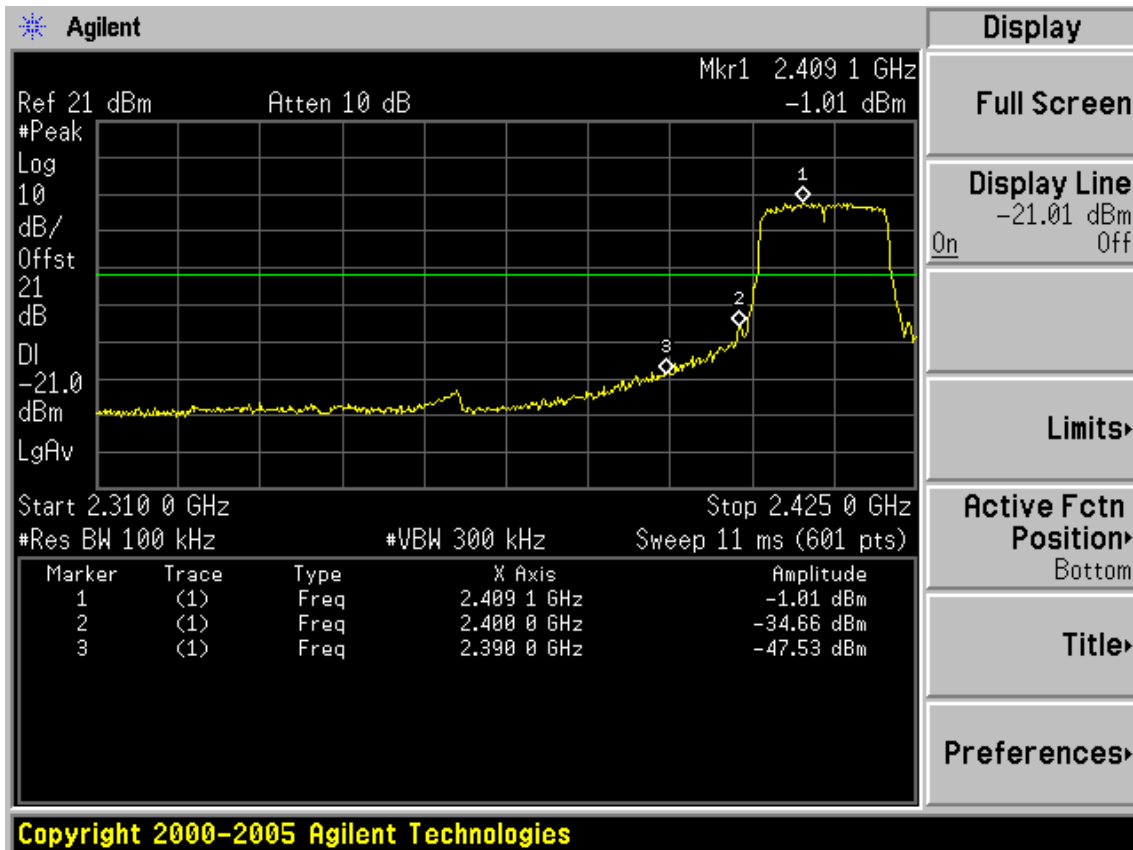
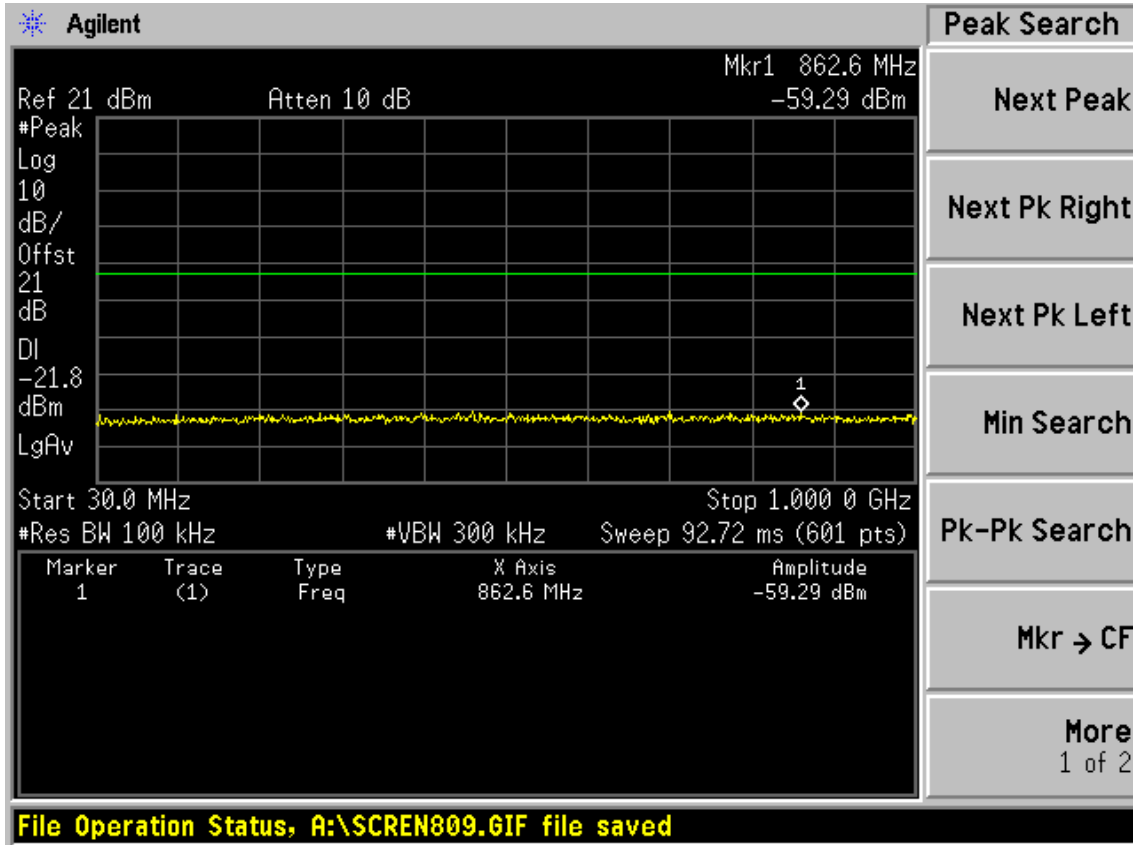
Test CH11: 2462MHz



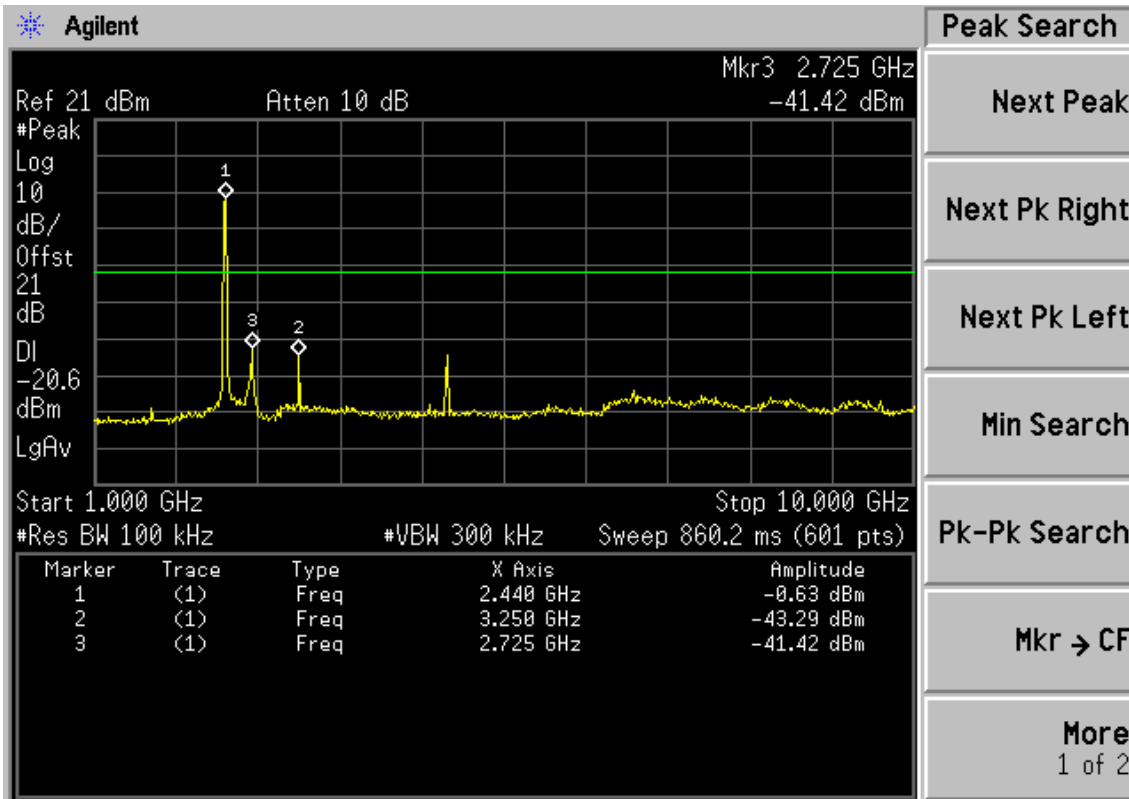


Test Mode: IEEE 802.11n HT20 TX
 Test CH1: 2412MHz

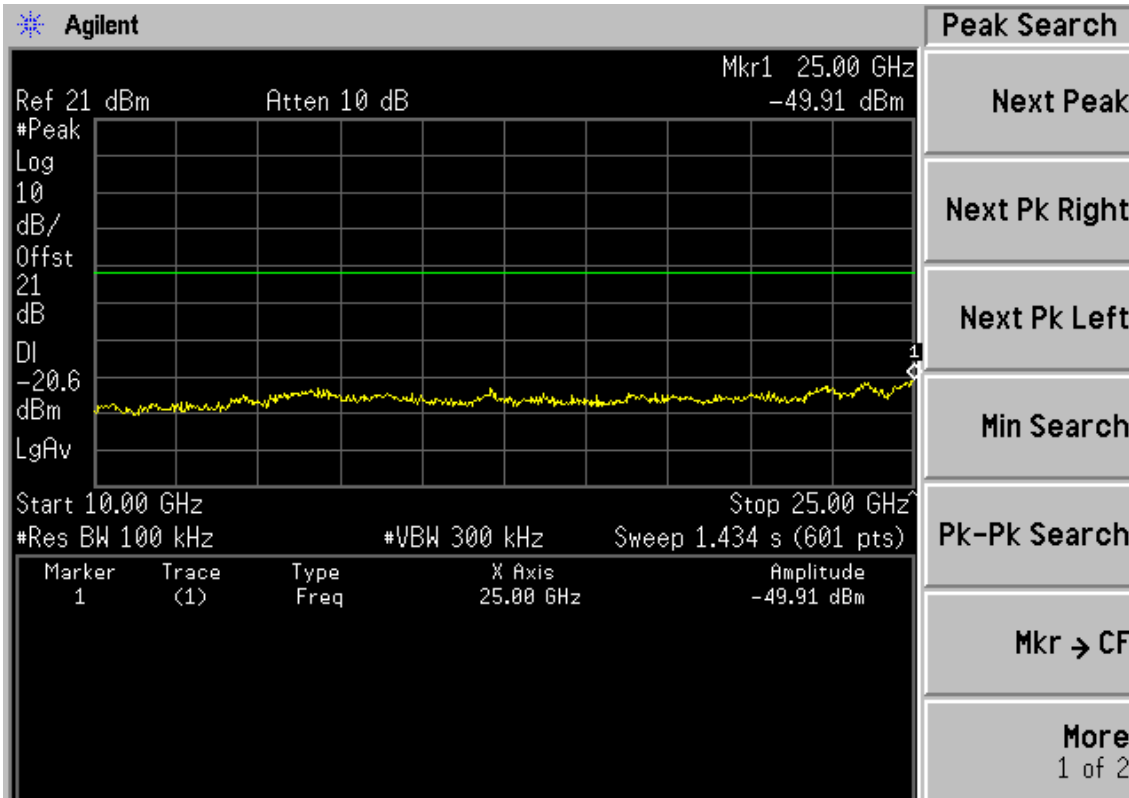




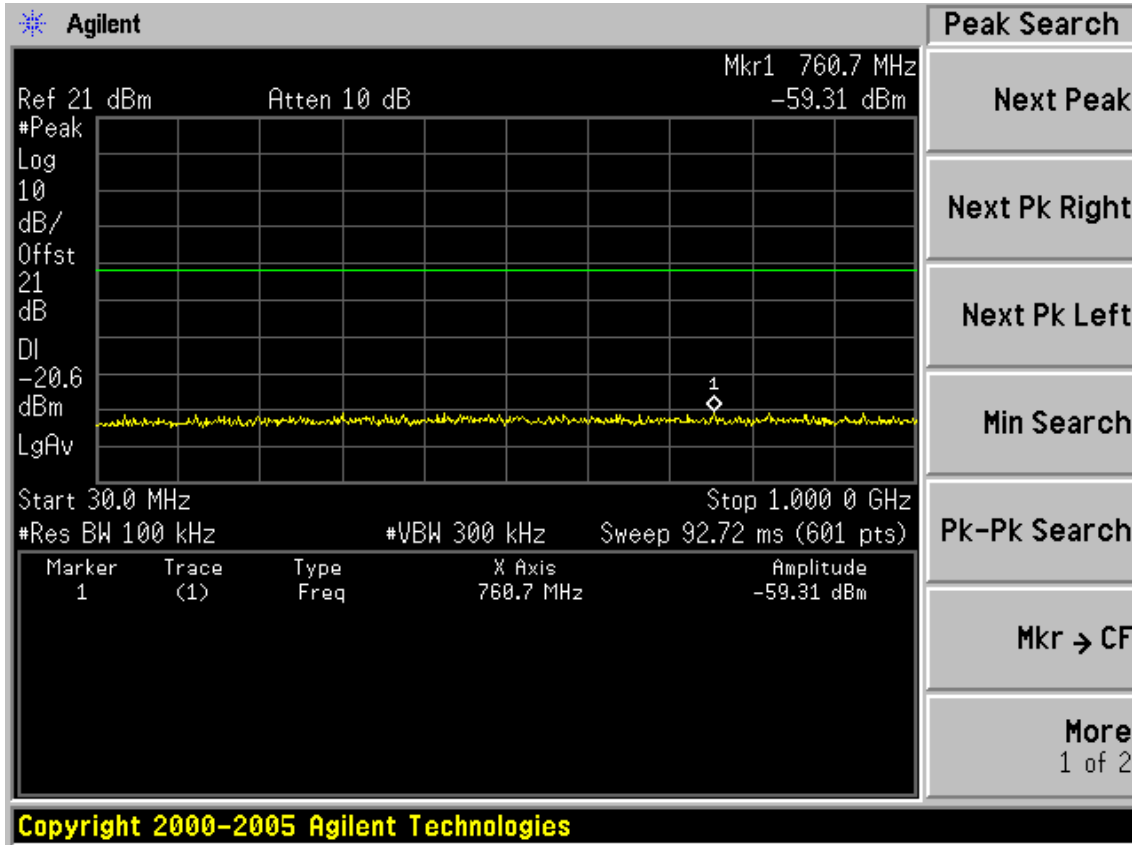
Test CH6: 2437MHz



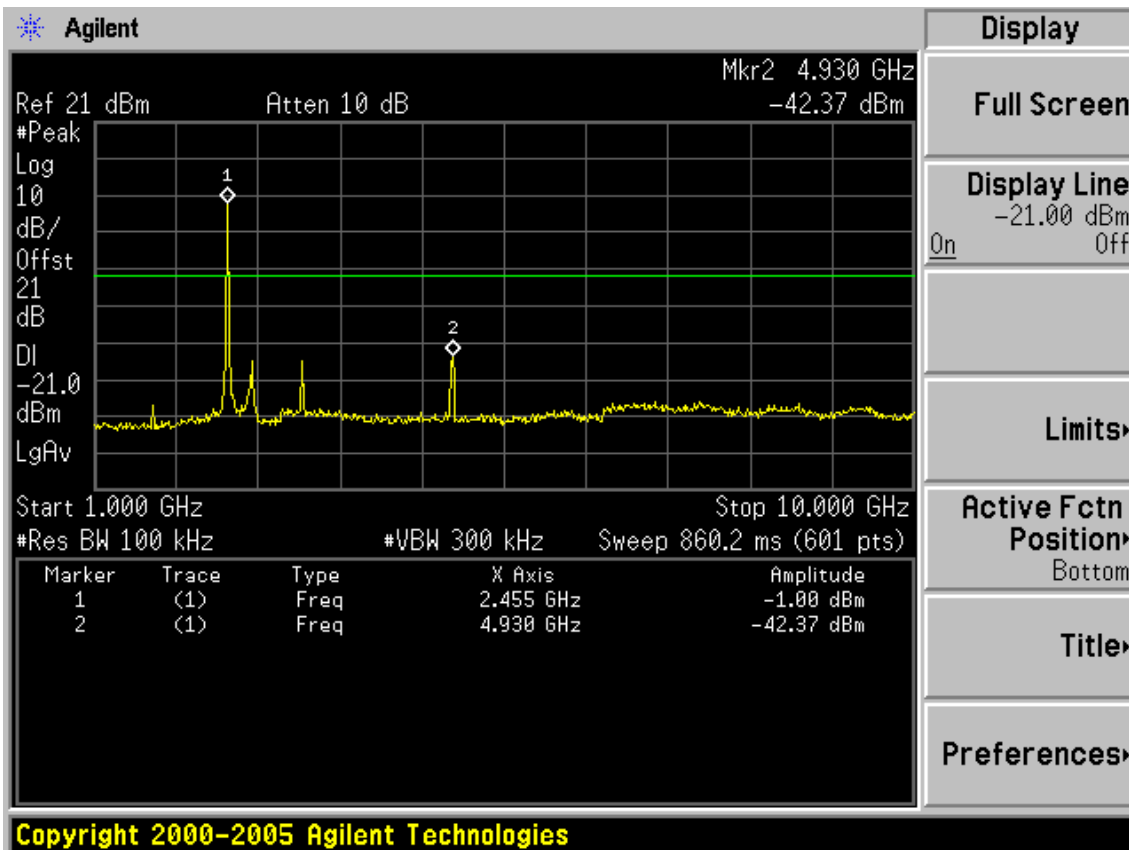
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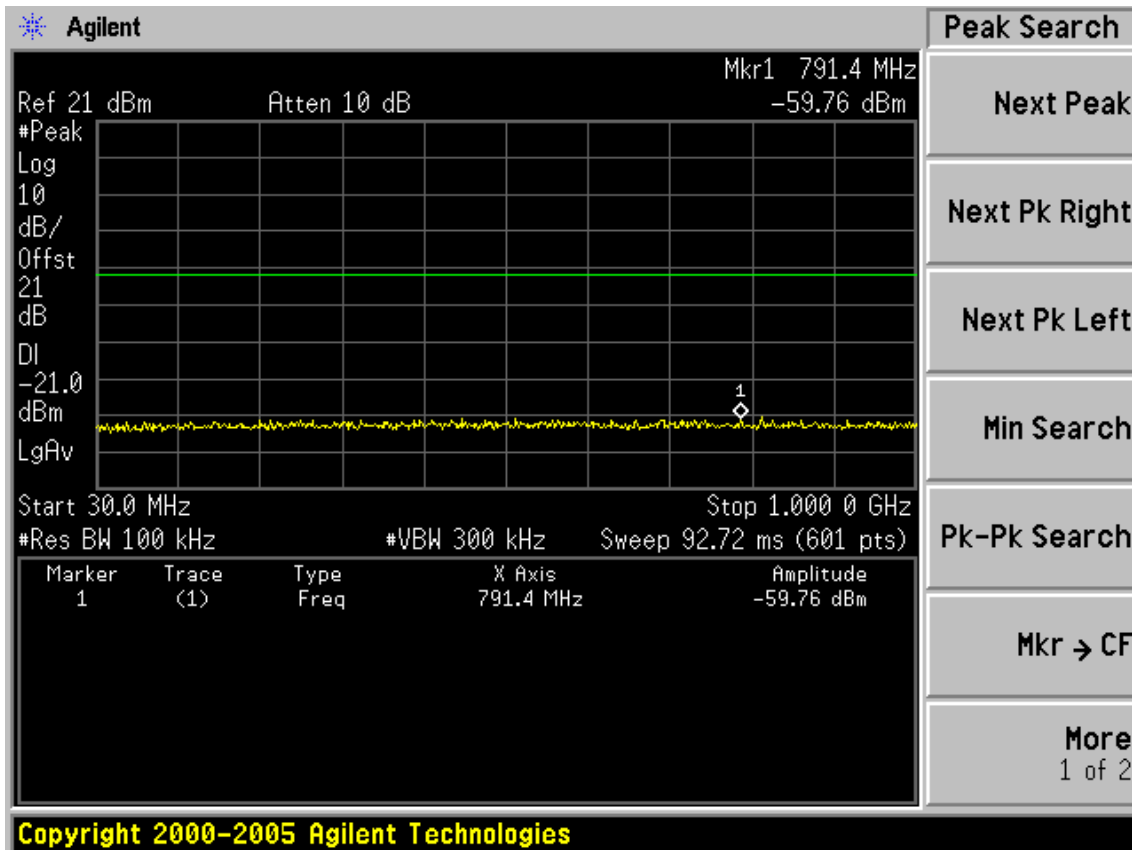
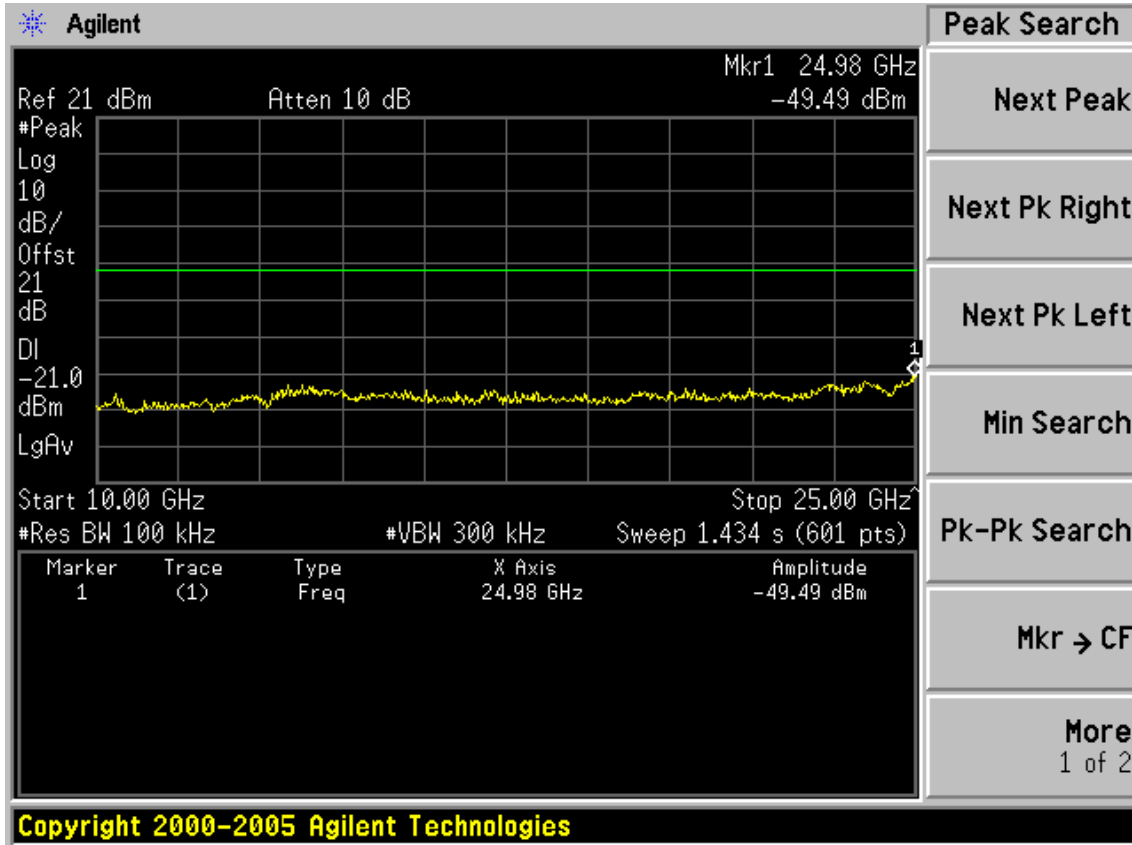


Copyright 2000-2005 Agilent Technologies

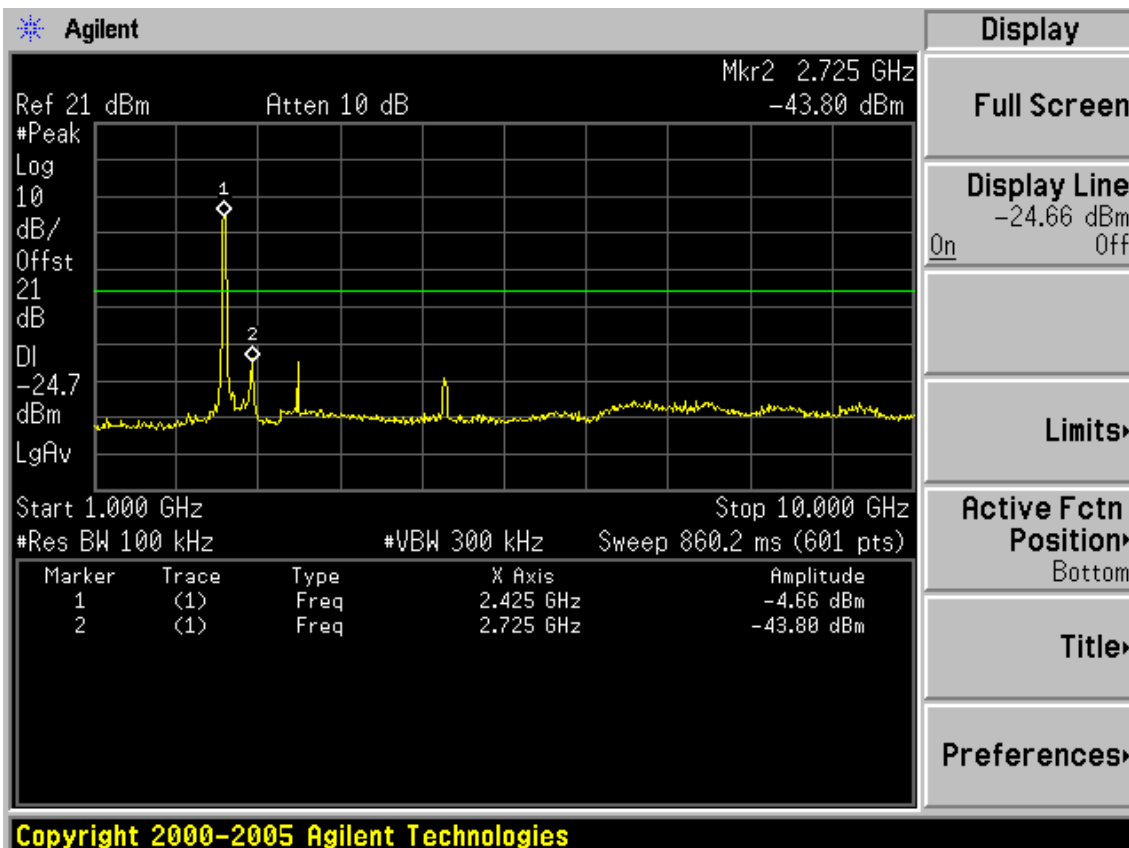
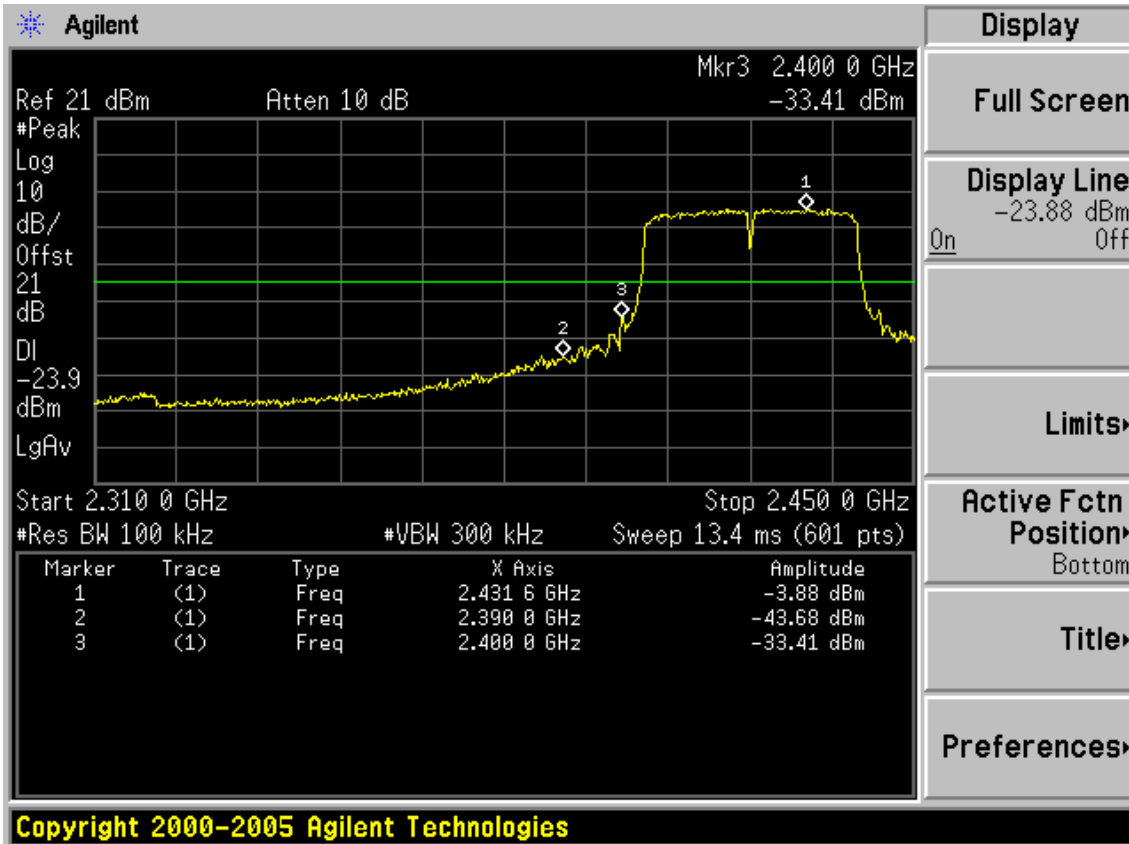


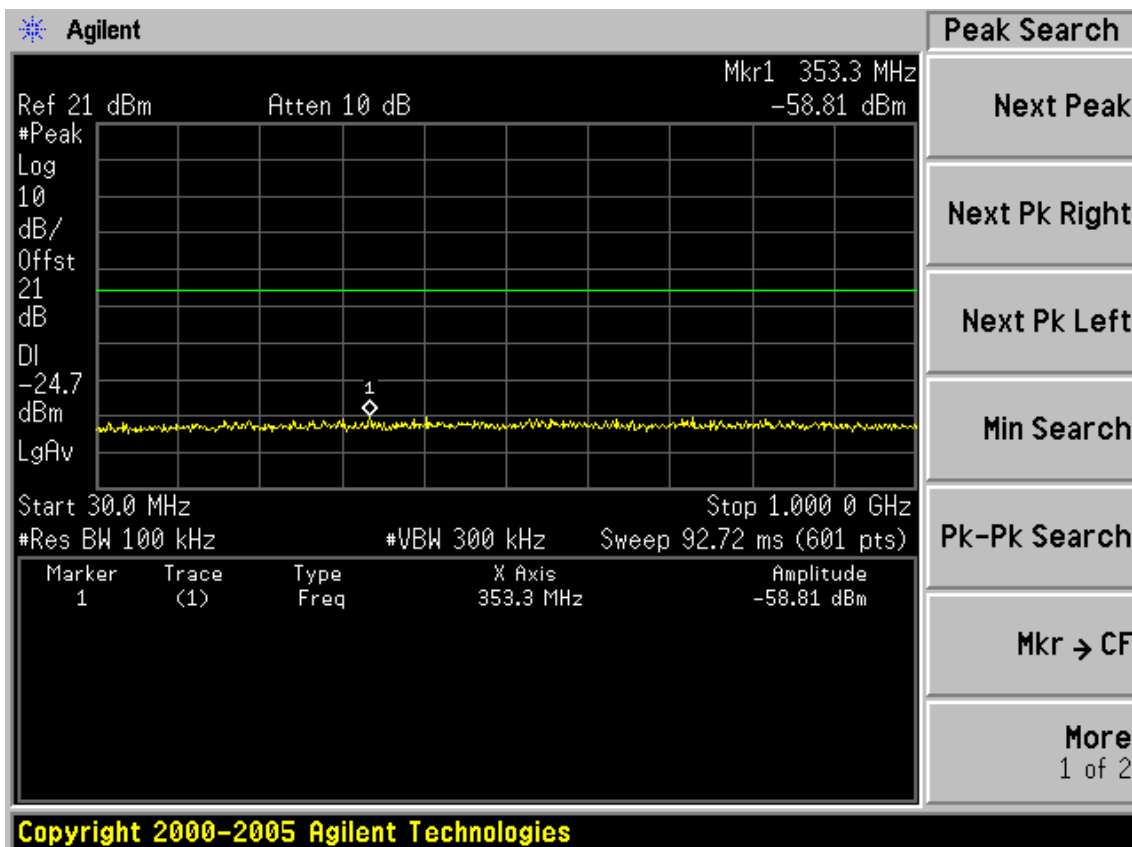
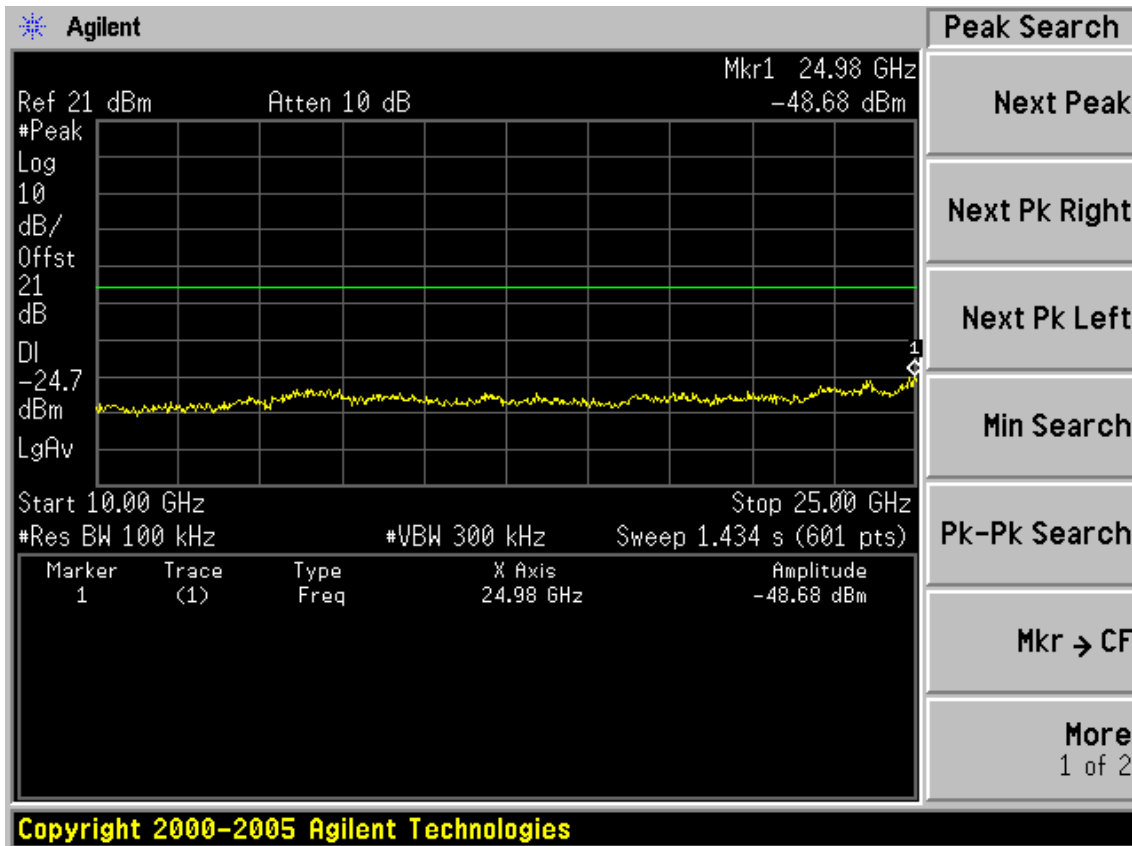
Test CH11: 2462MHz



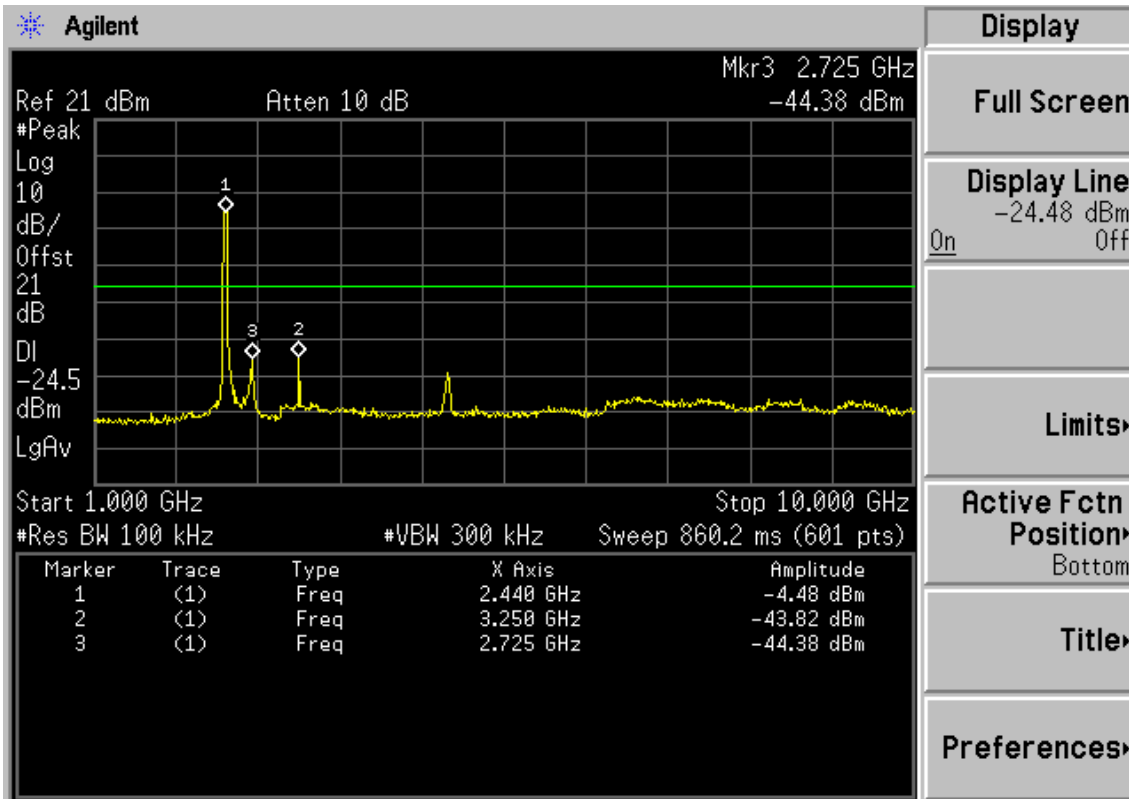


Test Mode: IEEE 802.11n HT40 TX
 Test CH1: 2422MHz

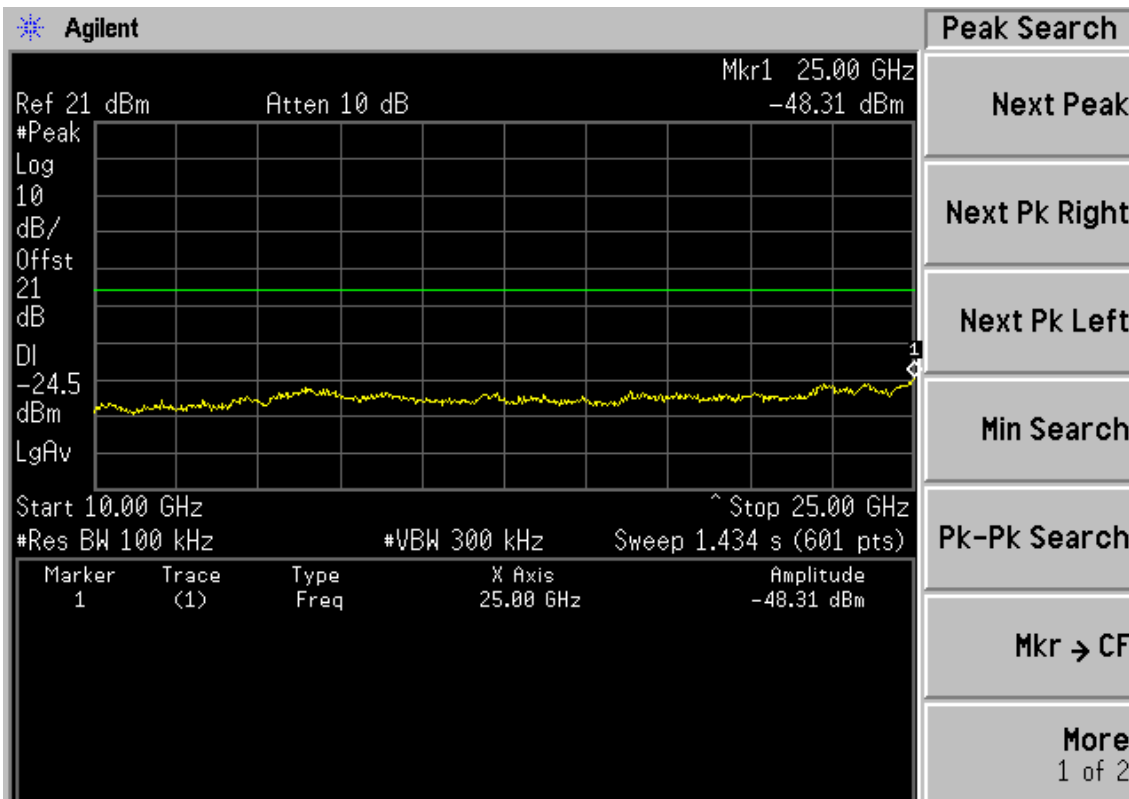




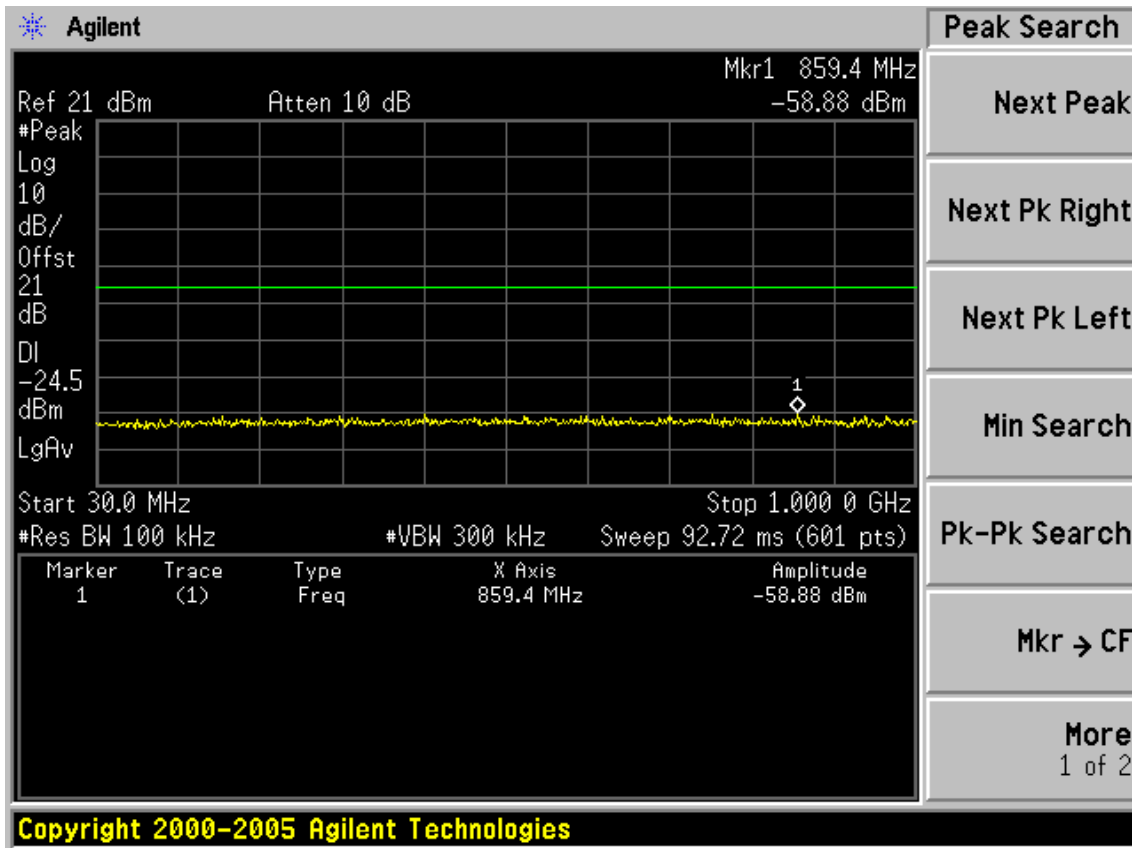
Test CH4: 2437MHz



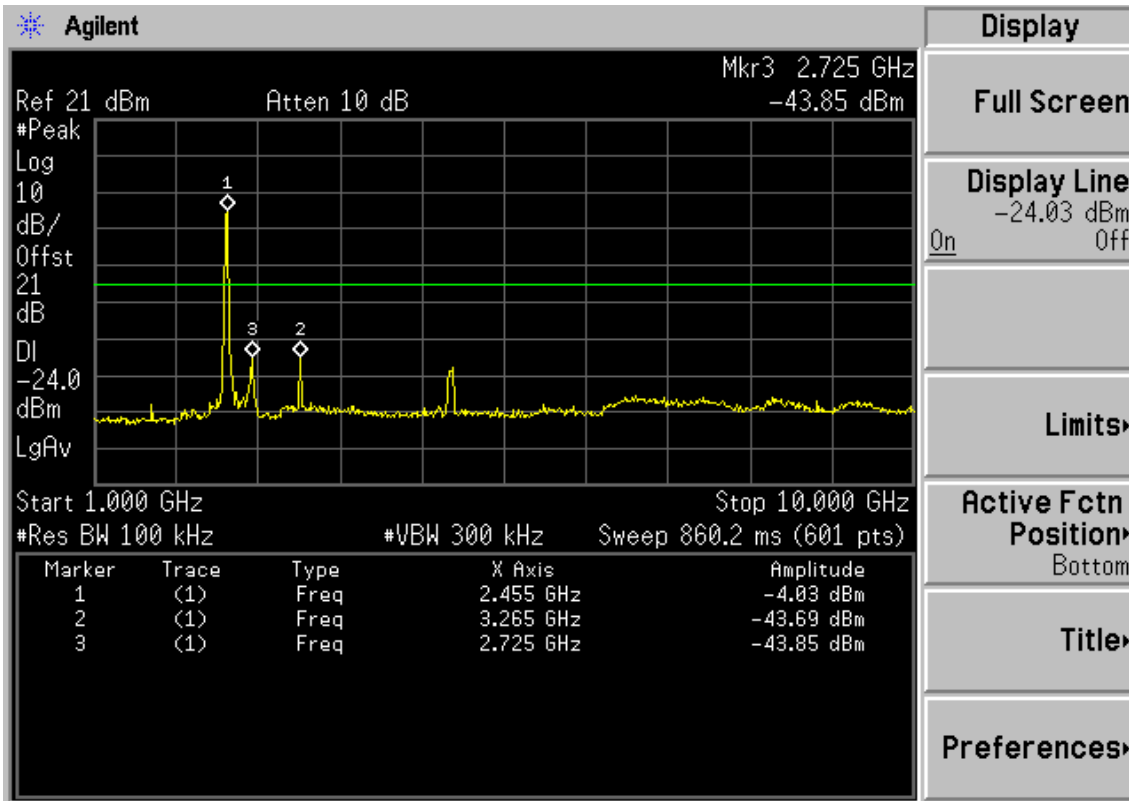
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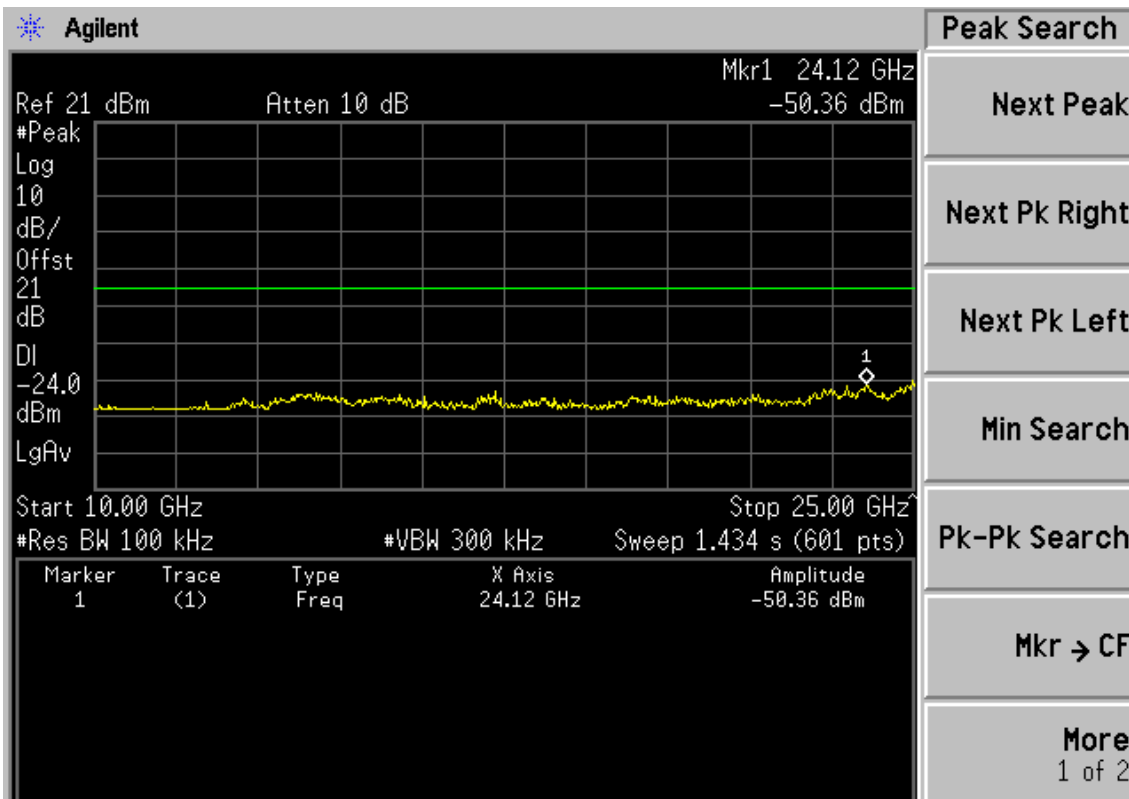
Copyright 2000-2005 Agilent Technologies



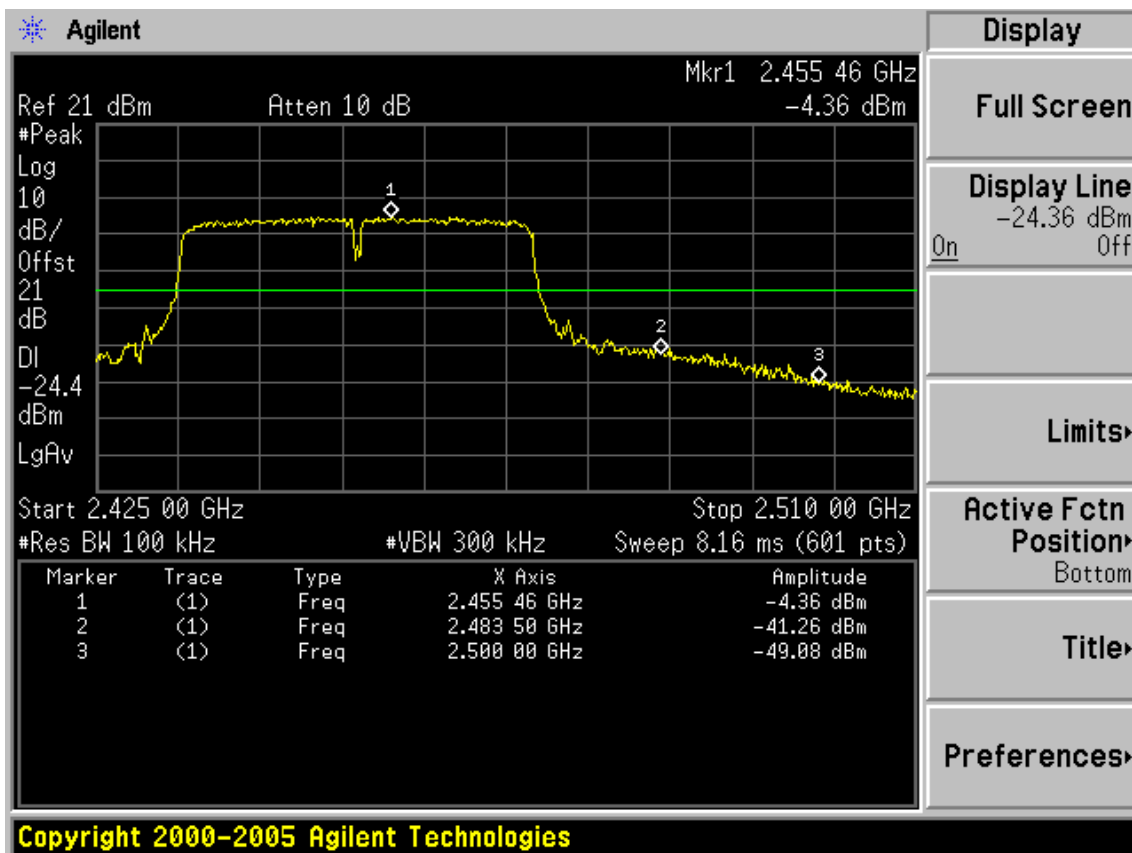
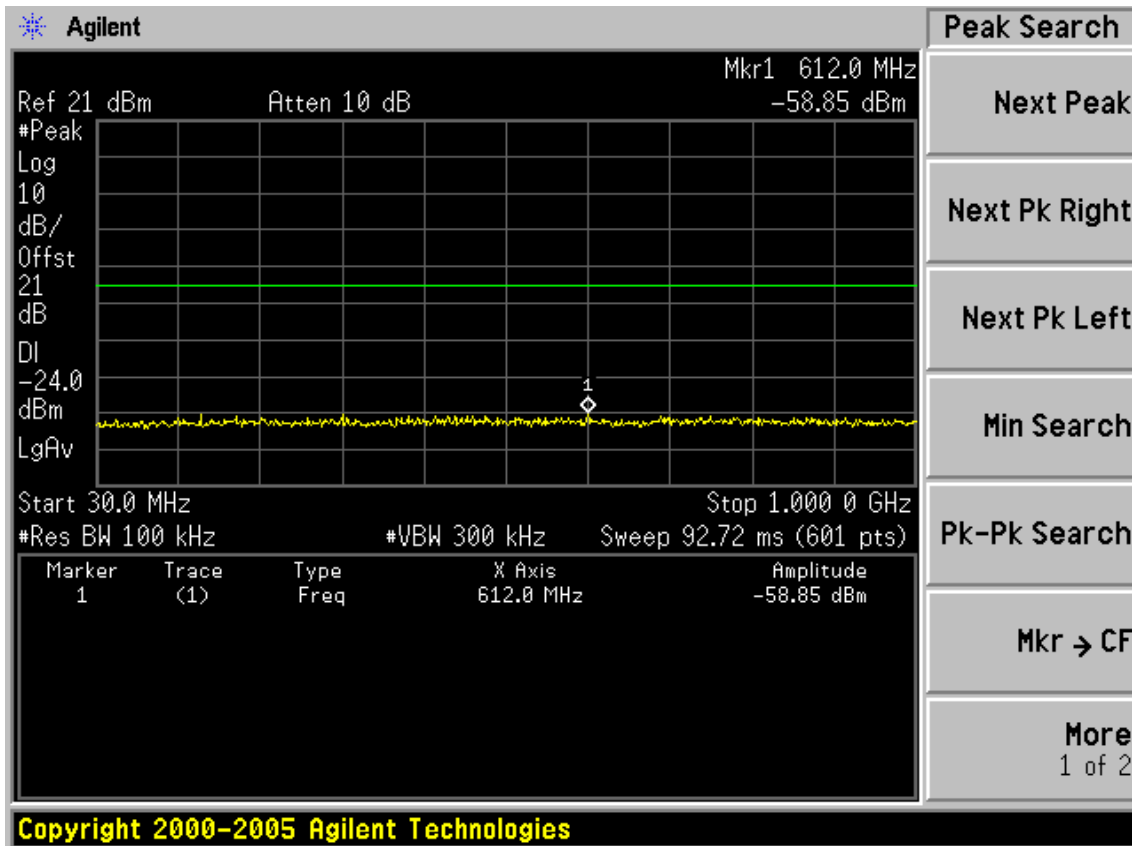
Test CH7: 2452MHz



File Operation Status, A:\SCREN822.GIF file saved



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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, 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

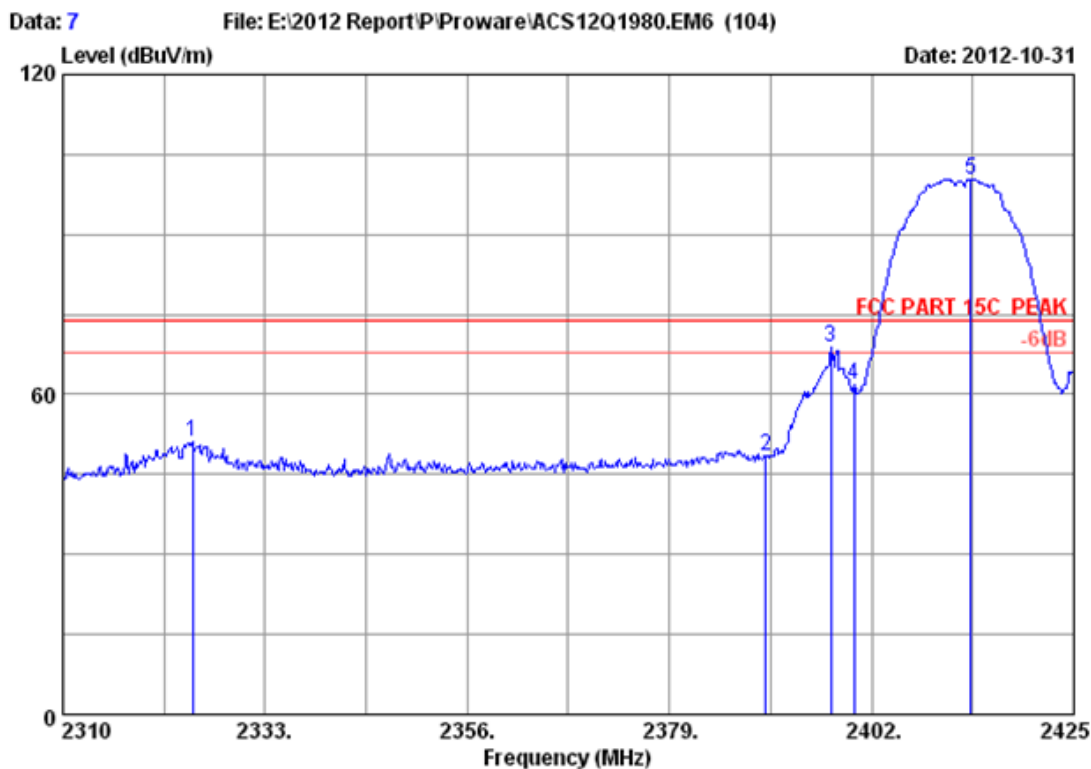
All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental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

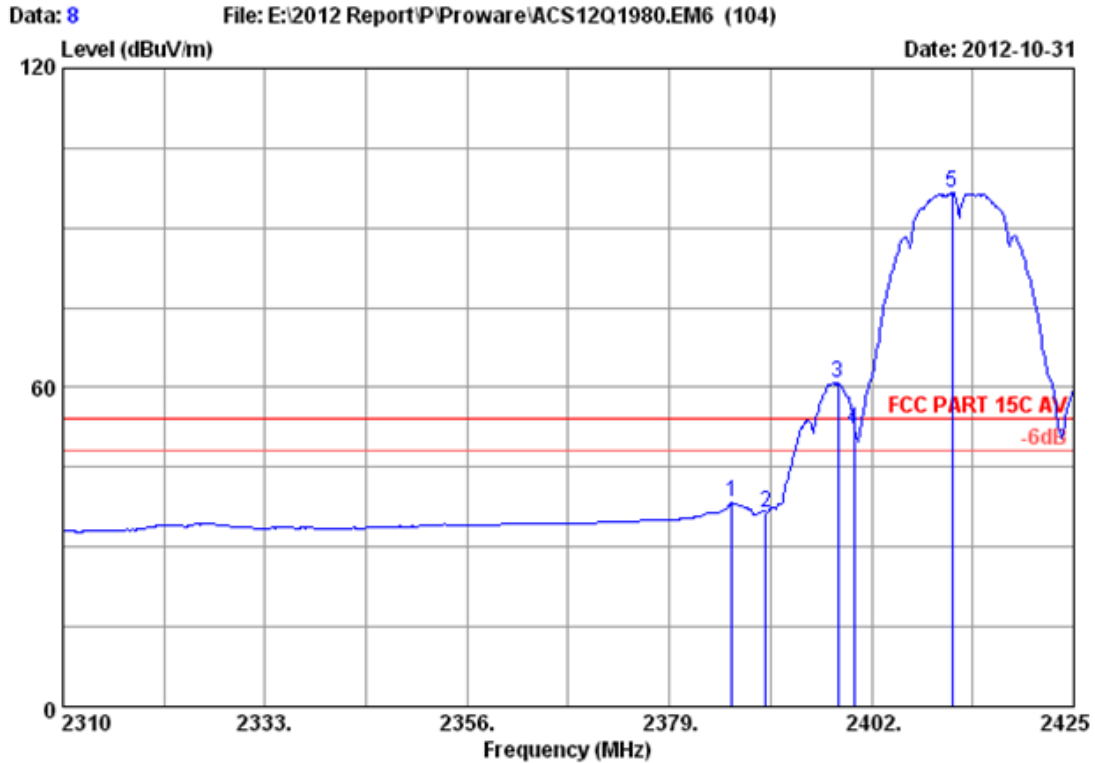


Site no. : 3m Chamber Data no. : 7
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11b CH 1 2412MHz Tx
 M/N : PW-3G401M

	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	2324.720	26.28	5.89	35.92	54.84	51.09	74.00	22.91	Peak
2	2390.000	26.70	6.00	35.92	51.81	48.59	74.00	25.41	Peak
3	2397.400	26.74	6.01	35.92	71.96	68.79	74.00	5.21	Peak
4	2400.000	26.76	6.02	35.92	64.89	61.75	74.00	12.25	Peak
5	2413.270	26.84	6.04	35.92	103.40	100.36	74.00	-26.36	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.

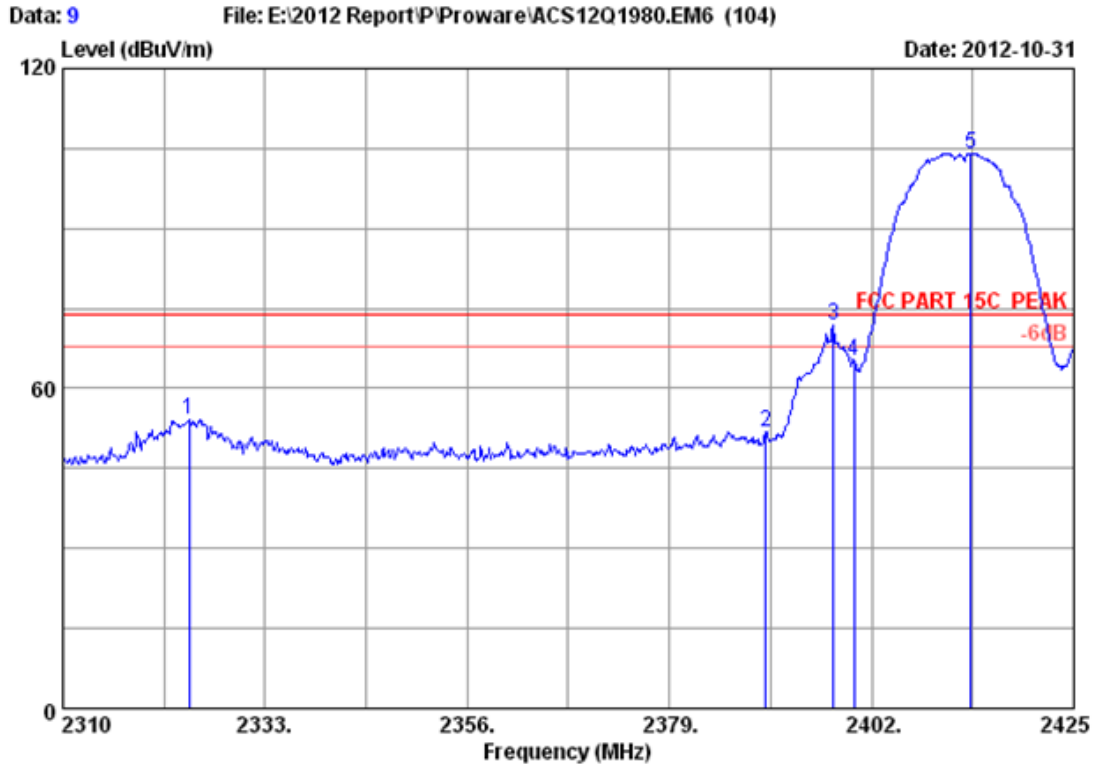


Site no. : 3m Chamber Data no. : 8
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11b CH 1 2412MHz Tx
 M/N : PW-3G401M

	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	2386.130	26.67	5.99	35.92	41.58	38.32	54.00	15.68	Average
2	2390.000	26.70	6.00	35.92	39.81	36.59	54.00	17.41	Average
3	2398.205	26.75	6.01	35.92	63.89	60.73	54.00	-6.73	Average
4	2400.000	26.76	6.02	35.92	55.44	52.30	54.00	1.70	Average
5	2411.200	26.83	6.04	35.92	99.56	96.51	54.00	-42.51	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.

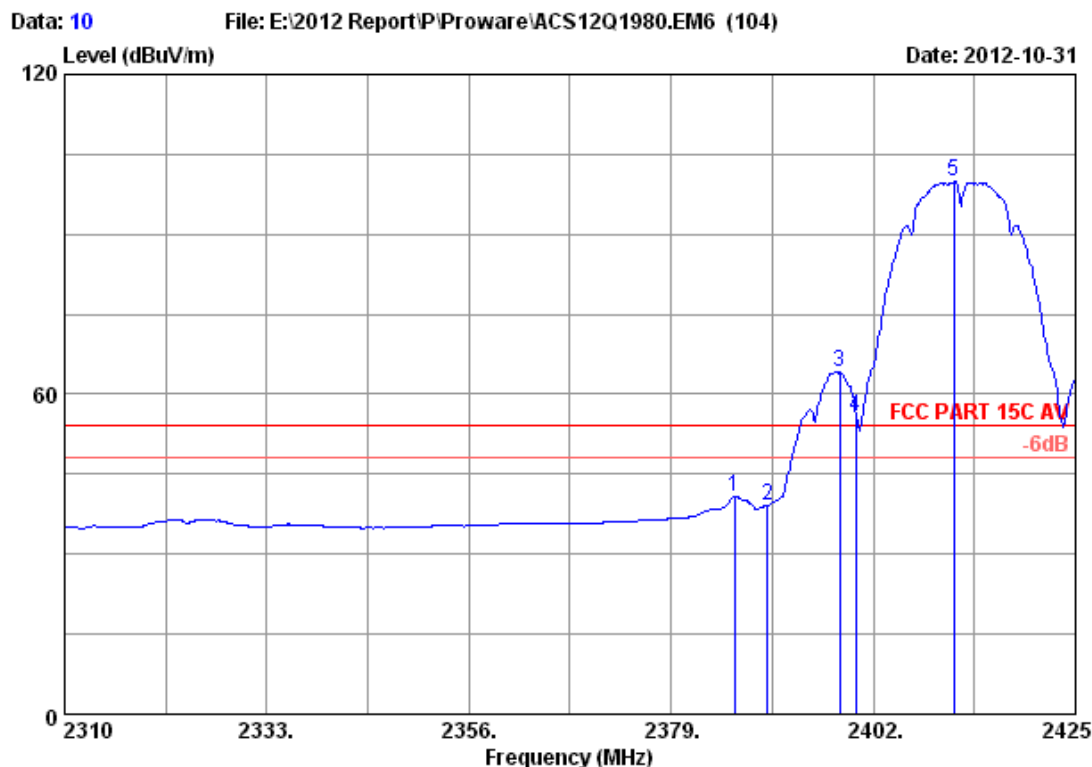


Site no. : 3m Chamber Data no. : 9
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11b CH 1 2412MHz Tx
 M/N : PW-3G401M

	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	2324.375	26.28	5.89	35.92	57.91	54.16	74.00	19.84	Peak
2	2390.000	26.70	6.00	35.92	54.89	51.67	74.00	22.33	Peak
3	2397.630	26.74	6.01	35.92	75.03	71.86	74.00	2.14	Peak
4	2400.000	26.76	6.02	35.92	68.28	65.14	74.00	8.86	Peak
5	2413.270	26.84	6.04	35.92	107.12	104.08	74.00	-30.08	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.

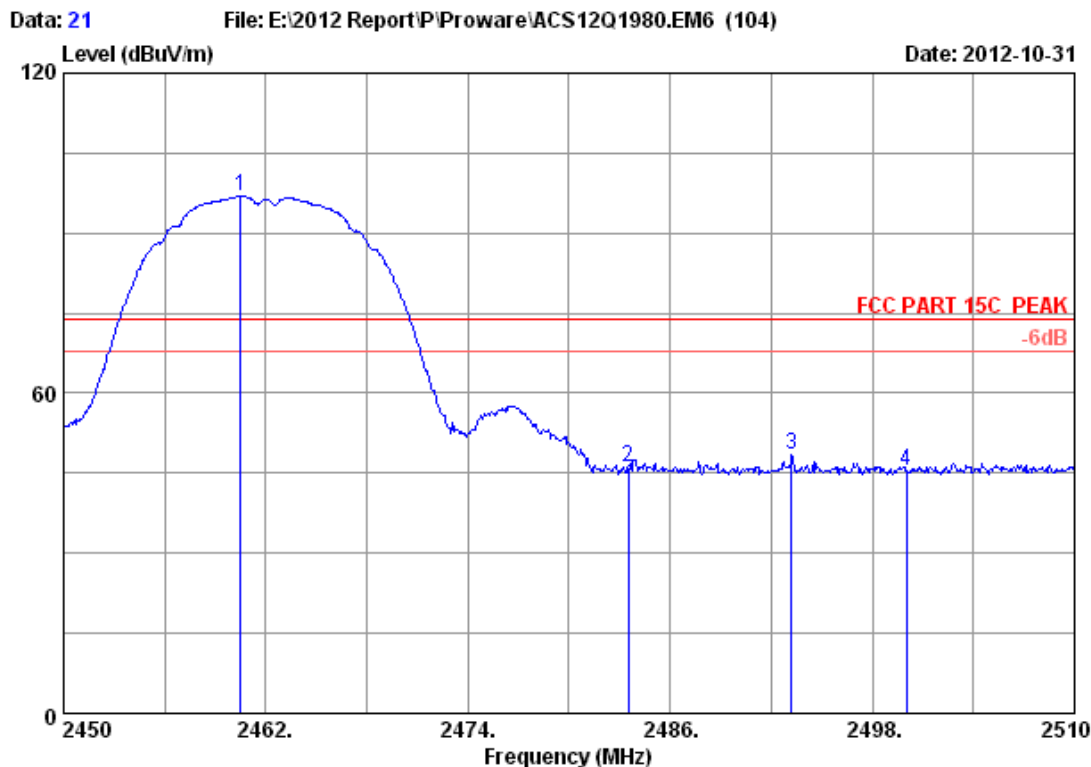


Site no. : 3m Chamber Data no. : 10
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11b CH 1 2412MHz Tx
 M/N : PW-3G401M

	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	2386.245	26.67	5.99	35.92	44.10	40.84	54.00	13.16	Average
2	2390.000	26.70	6.00	35.92	42.30	39.08	54.00	14.92	Average
3	2398.205	26.75	6.01	35.92	67.25	64.09	54.00	-10.09	Average
4	2400.000	26.76	6.02	35.92	58.83	55.69	54.00	-1.69	Average
5	2411.200	26.83	6.04	35.92	102.88	99.83	54.00	-45.83	Average

Remarks:

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

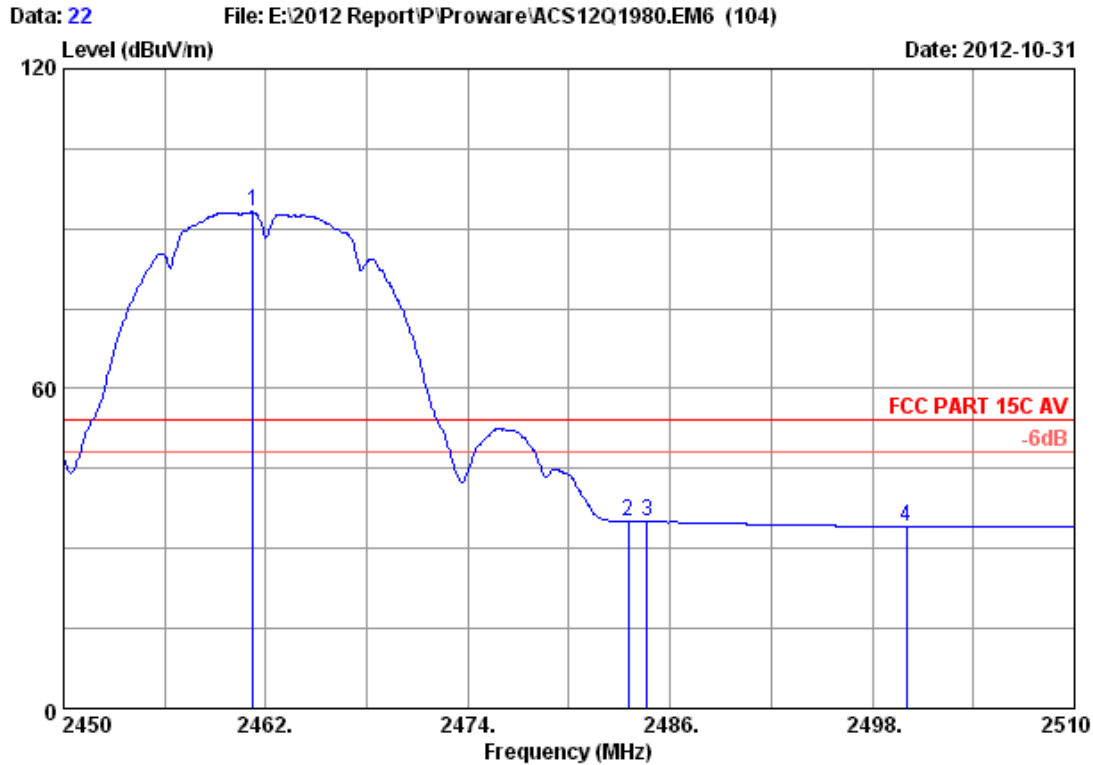


Site no. : 3m Chamber Data no. : 21
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11b CH 11 2462MHz Tx
 M/N : PW-3G401M

	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	2460.500	27.15	6.12	35.92	99.49	96.84	74.00	-22.84	Peak
2	2483.500	27.29	6.16	35.92	48.54	46.07	74.00	27.93	Peak
3	2493.200	27.36	6.18	35.92	50.72	48.34	74.00	25.66	Peak
4	2500.000	27.40	6.19	35.93	47.96	45.62	74.00	28.38	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.

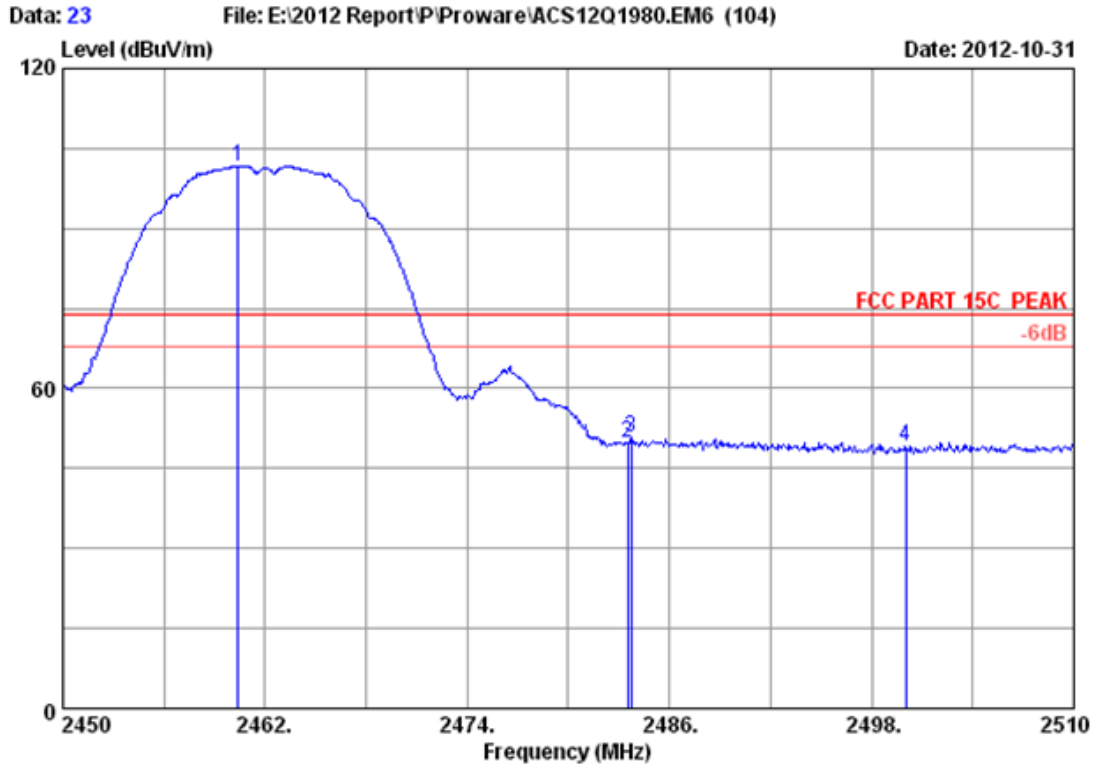


Site no. : 3m Chamber Data no. : 22
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11b CH 11 2462MHz Tx
 M/N : PW-3G401M

	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	27.15	6.12	35.92	95.77	93.12	54.00	-39.12	Average
2	2483.500	27.29	6.16	35.92	37.45	34.98	54.00	19.02	Average
3	2484.620	27.30	6.16	35.92	37.54	35.08	54.00	18.92	Average
4	2500.000	27.40	6.19	35.93	36.38	34.04	54.00	19.96	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.

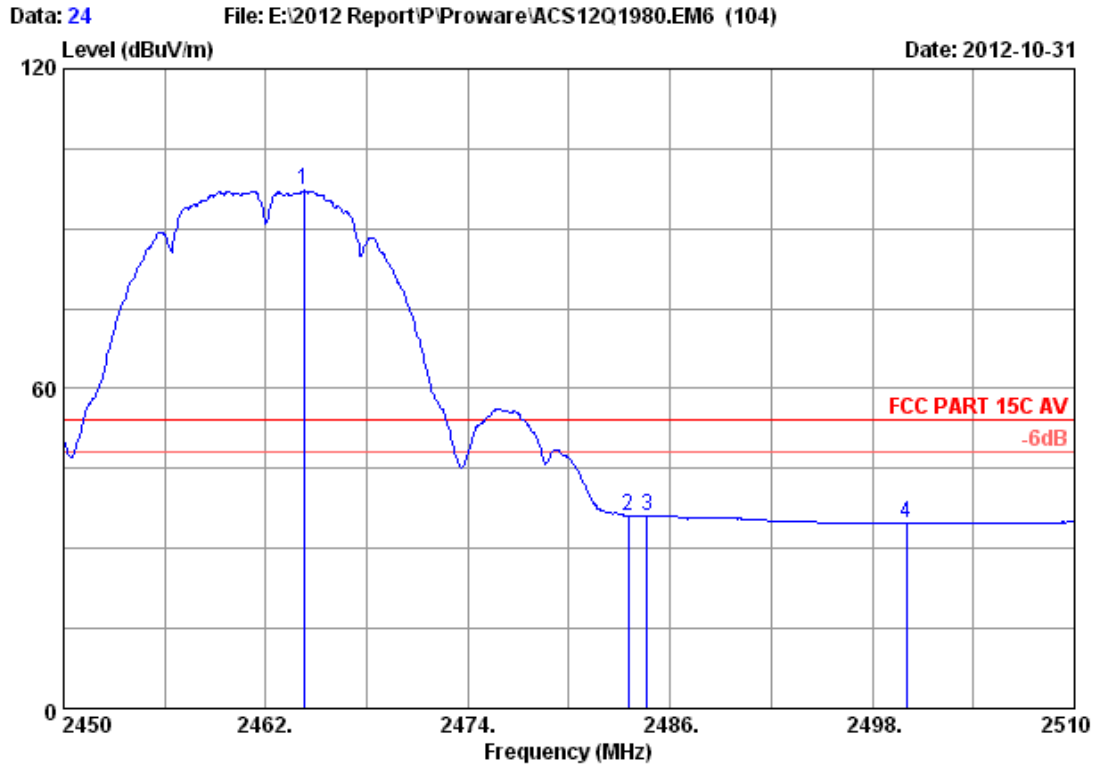


Site no. : 3m Chamber Data no. : 23
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11b CH 11 2462MHz Tx
 M/N : PW-3G401M

	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	2460.380	27.15	6.12	35.92	104.42	101.77	74.00	-27.77	Peak
2	2483.500	27.29	6.16	35.92	52.14	49.67	74.00	24.33	Peak
3	2483.720	27.30	6.16	35.92	53.19	50.73	74.00	23.27	Peak
4	2500.000	27.40	6.19	35.93	51.41	49.07	74.00	24.93	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.

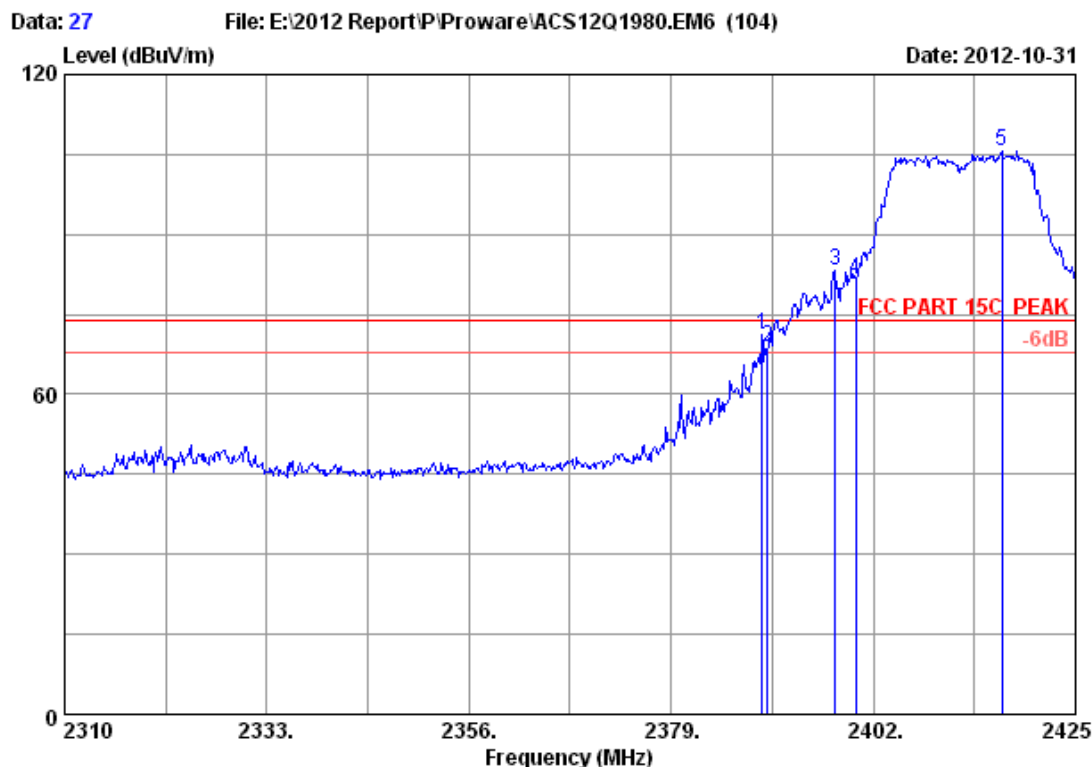


Site no. : 3m Chamber Data no. : 24
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11b CH 11 2462MHz Tx
 M/N : PW-3G401M

	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	2464.280	27.17	6.13	35.92	99.73	97.11	54.00	-43.11	Average
2	2483.500	27.29	6.16	35.92	38.56	36.09	54.00	17.91	Average
3	2484.620	27.30	6.16	35.92	38.72	36.26	54.00	17.74	Average
4	2500.000	27.40	6.19	35.93	37.02	34.68	54.00	19.32	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.

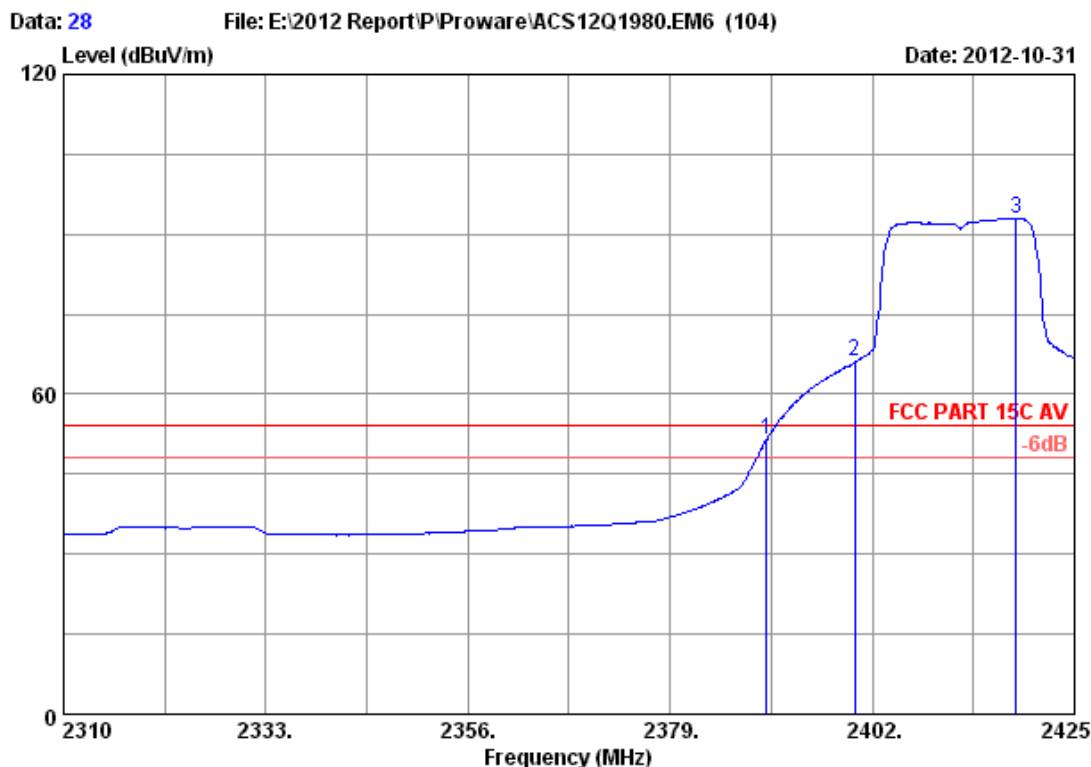


Site no. : 3m Chamber Data no. : 27
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11g CH 1 2412MHz Tx
 M/N : PW-3G401M

	Ant.	Cable	Amp.	Emission		Limits	Margin	Remark
Freq. (MHz)	Factor (dB/m)	loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	(dBuV/m)	(dB)	
1	2389.350	26.69	6.00	35.92	74.41	74.00	2.82	Peak
2	2390.000	26.70	6.00	35.92	71.91	74.00	5.31	Peak
3	2397.630	26.74	6.01	35.92	86.46	74.00	-9.29	Peak
4	2400.000	26.76	6.02	35.92	84.54	74.00	-7.40	Peak
5	2416.605	26.87	6.05	35.92	108.68	74.00	-31.68	Peak

Remarks:

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

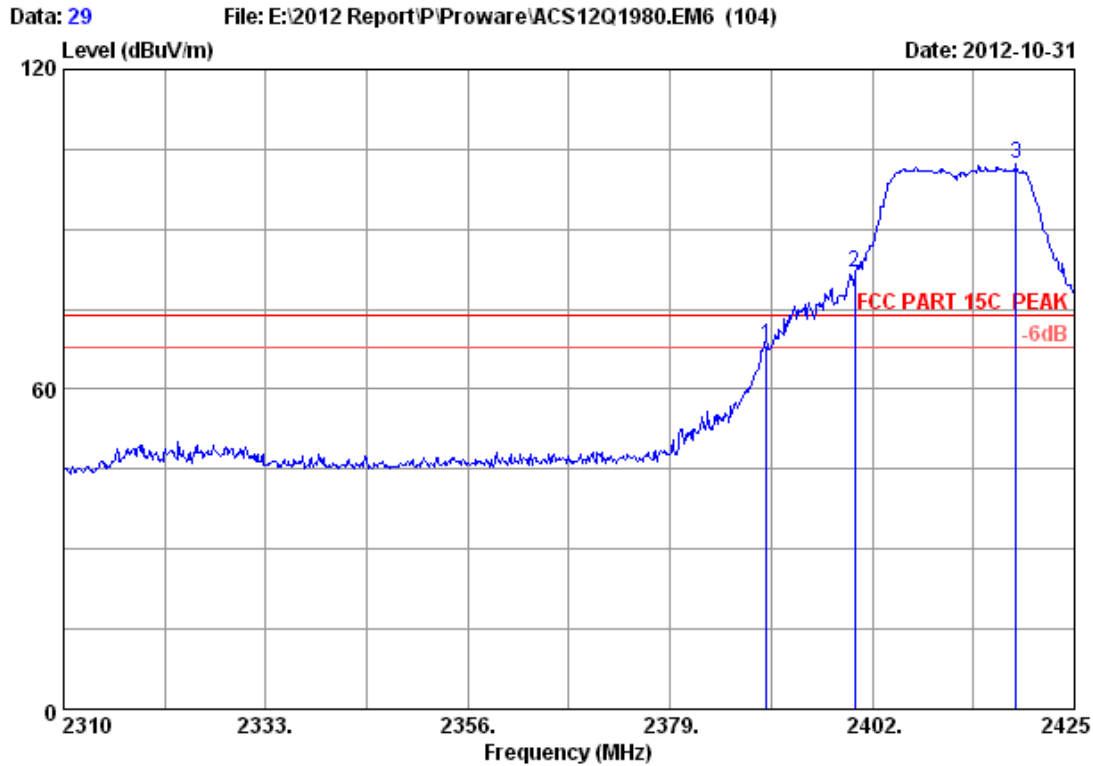


Site no. : 3m Chamber Data no. : 28
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11g CH 1 2412MHz Tx
 M/N : PW-3G401M

	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	26.70	6.00	35.92	54.81	51.59	54.00	2.41	Average
2	2400.000	26.76	6.02	35.92	69.20	66.06	54.00	-12.06	Average
3	2418.330	26.88	6.05	35.92	95.88	92.89	54.00	-38.89	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.

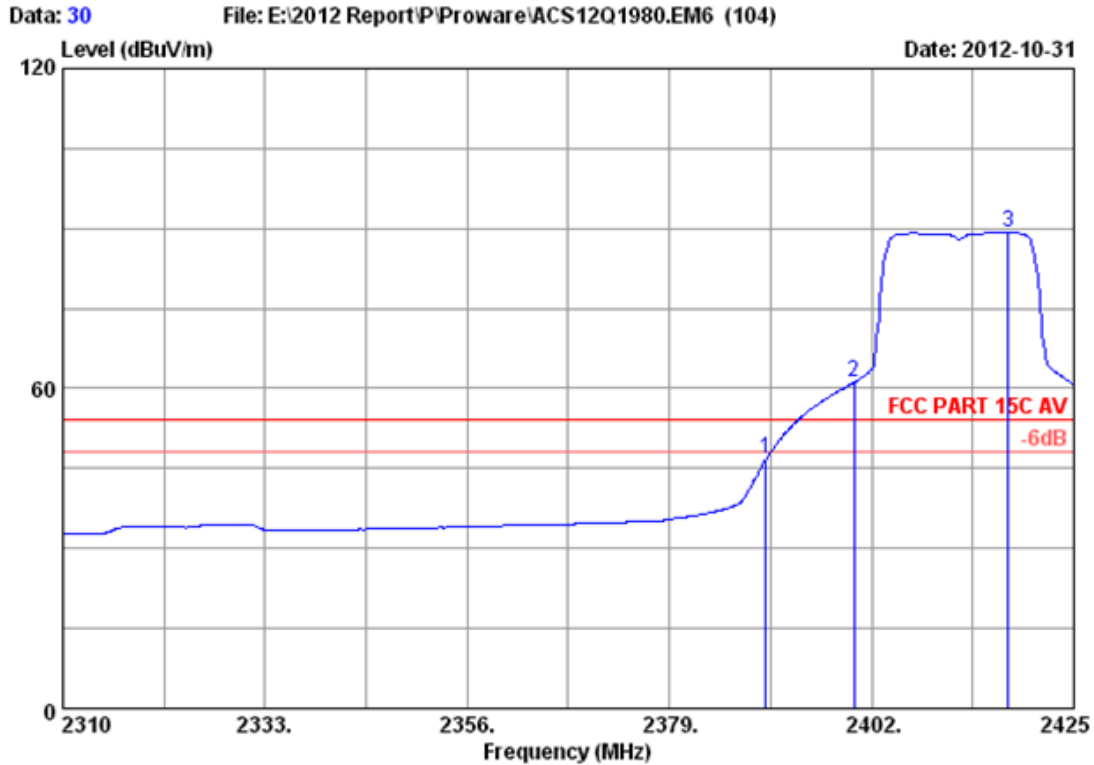


Site no. : 3m Chamber Data no. : 29
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11g CH 1 2412MHz Tx
 M/N : PW-3G401M

	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	26.70	6.00	35.92	71.57	68.35	74.00	5.65	Peak
2	2400.000	26.76	6.02	35.92	85.06	81.92	74.00	-7.92	Peak
3	2418.330	26.88	6.05	35.92	105.39	102.40	74.00	-28.40	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.

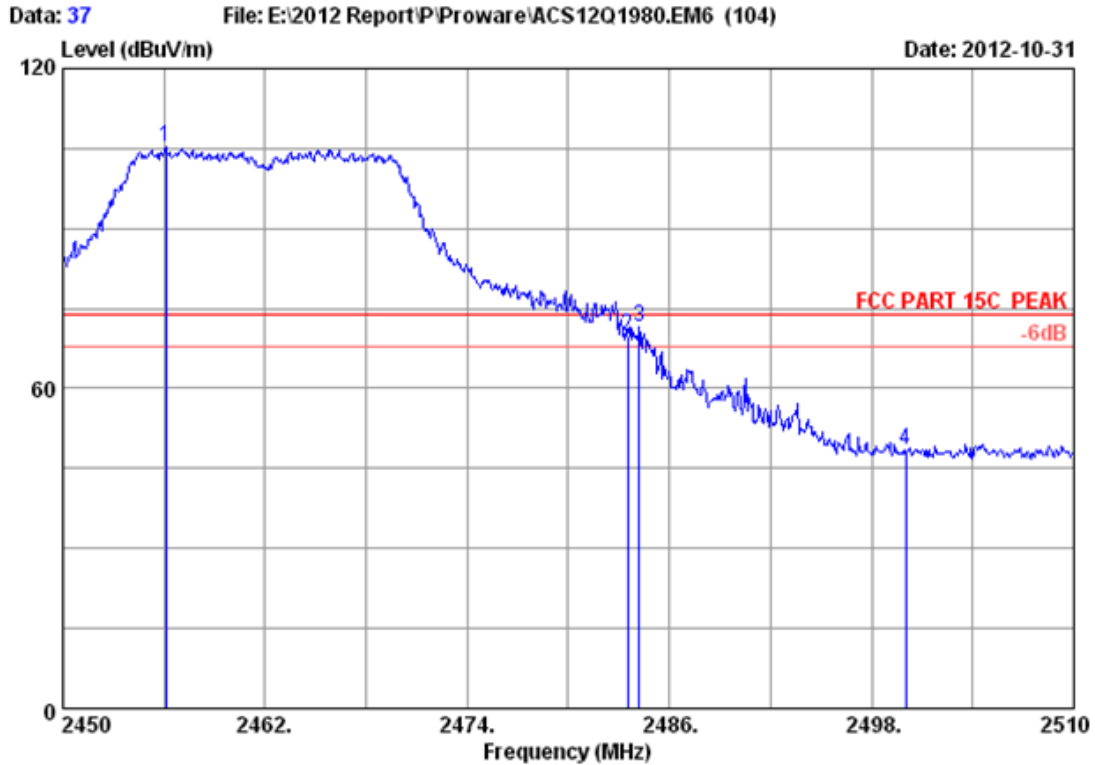


Site no. : 3m Chamber Data no. : 30
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11g CH 1 2412MHz Tx
 M/N : PW-3G401M

	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	26.70	6.00	35.92	50.04	46.82	54.00	7.18	Average
2	2400.000	26.76	6.02	35.92	64.38	61.24	54.00	-7.24	Average
3	2417.525	26.87	6.05	35.92	92.20	89.20	54.00	-35.20	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.

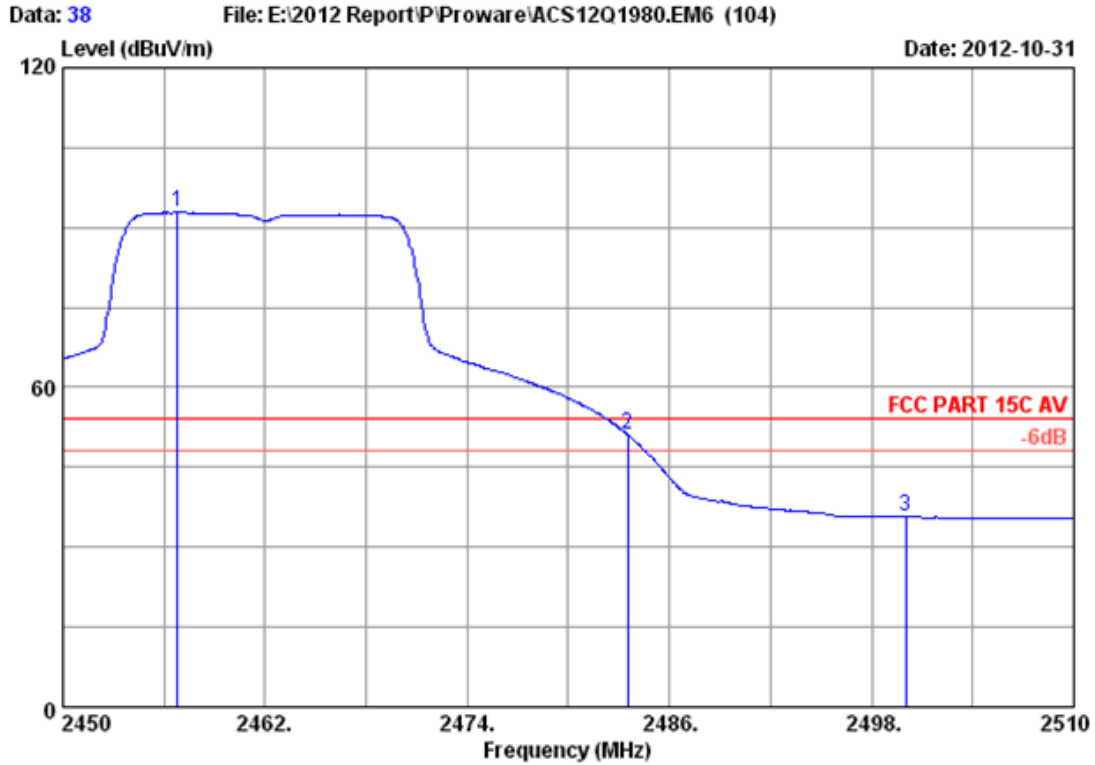


Site no. : 3m Chamber Data no. : 37
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11g CH 11 2462MHz Tx
 M/N : PW-3G401M

	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	2456.120	27.12	6.11	35.92	107.82	105.13	74.00	-31.13	Peak
2	2483.500	27.29	6.16	35.92	72.42	69.95	74.00	4.05	Peak
3	2484.200	27.30	6.16	35.92	74.00	71.54	74.00	2.46	Peak
4	2500.000	27.40	6.19	35.93	50.78	48.44	74.00	25.56	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.

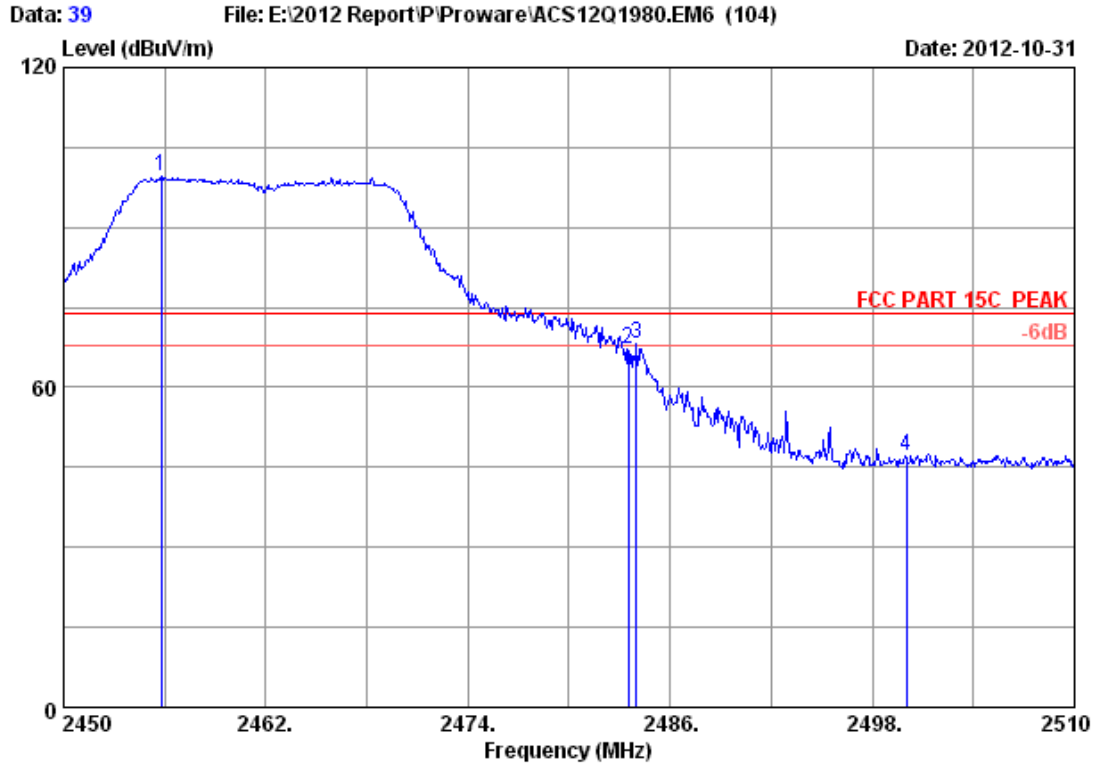


Site no. : 3m Chamber Data no. : 38
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11g CH 11 2462MHz Tx
 M/N : PW-3G401M

	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	27.12	6.11	35.92	95.51	92.82	54.00	-38.82	Average
2	2483.500	27.29	6.16	35.92	53.56	51.09	54.00	2.91	Average
3	2500.000	27.40	6.19	35.93	38.02	35.68	54.00	18.32	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.

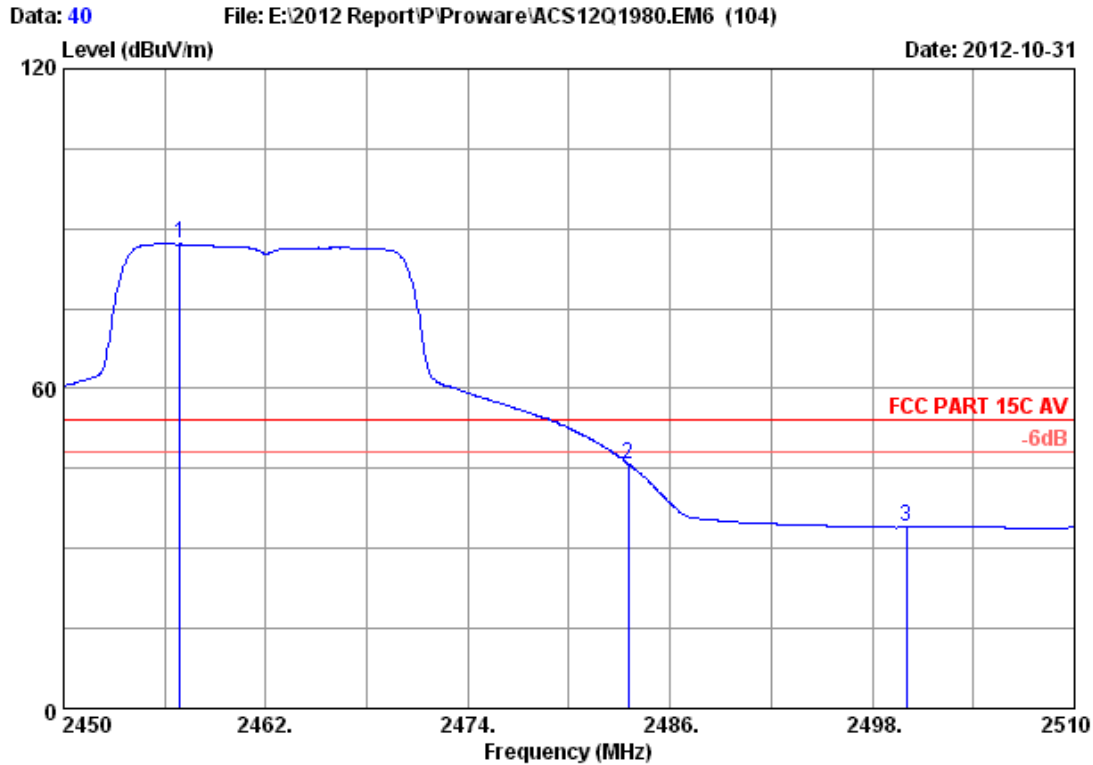


Site no. : 3m Chamber Data no. : 39
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23*C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11g CH 11 2462MHz Tx
 M/N : PW-3G401M

	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	2455.820	27.12	6.11	35.92	102.34	99.65	74.00	-25.65	Peak
2	2483.500	27.29	6.16	35.92	69.59	67.12	74.00	6.88	Peak
3	2484.020	27.30	6.16	35.92	70.55	68.09	74.00	5.91	Peak
4	2500.000	27.40	6.19	35.93	49.40	47.06	74.00	26.94	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.

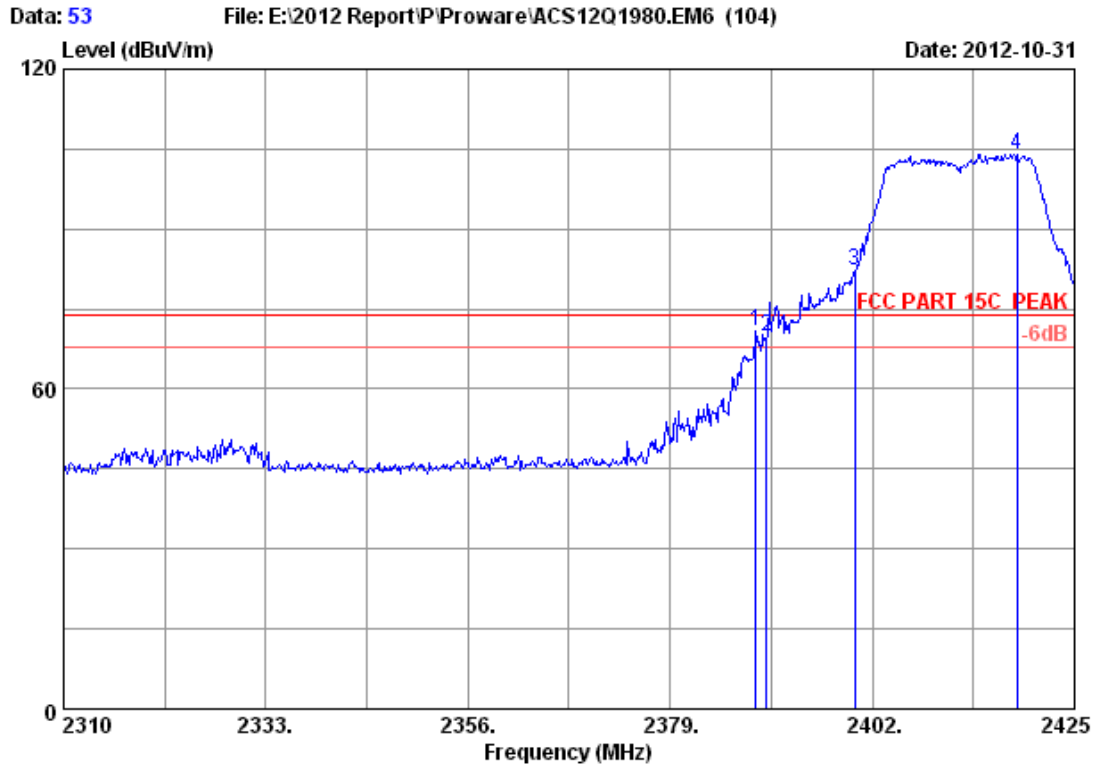


Site no. : 3m Chamber Data no. : 40
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11g CH 11 2462MHz Tx
 M/N : PW-3G401M

	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	2456.900	27.12	6.11	35.92	89.80	87.11	54.00	-33.11	Average
2	2483.500	27.29	6.16	35.92	48.41	45.94	54.00	8.06	Average
3	2500.000	27.40	6.19	35.93	36.31	33.97	54.00	20.03	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.

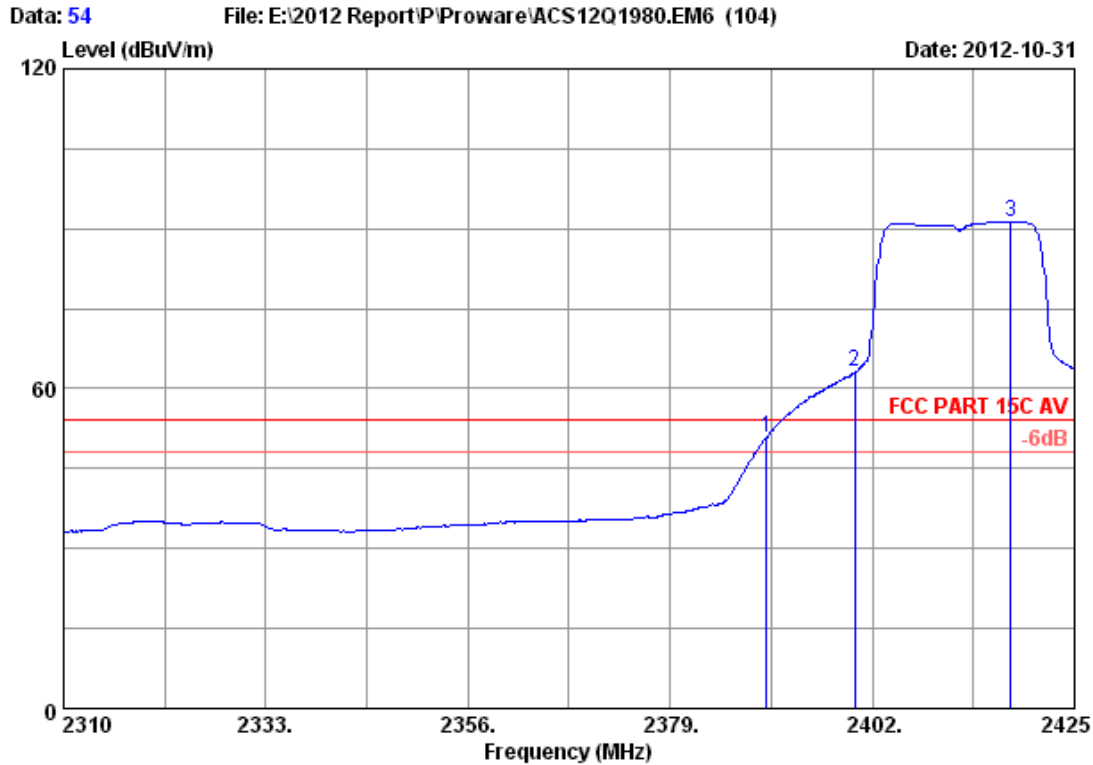


Site no. : 3m Chamber Data no. : 53
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11nHT20 CH 1 2412MHz Tx
 M/N : PW-3G401M

	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	2388.775	26.69	6.00	35.92	73.99	70.76	74.00	3.24	Peak
2	2390.000	26.70	6.00	35.92	73.21	69.99	74.00	4.01	Peak
3	2400.000	26.76	6.02	35.92	85.30	82.16	74.00	-8.16	Peak
4	2418.445	26.88	6.05	35.92	107.08	104.09	74.00	-30.09	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.

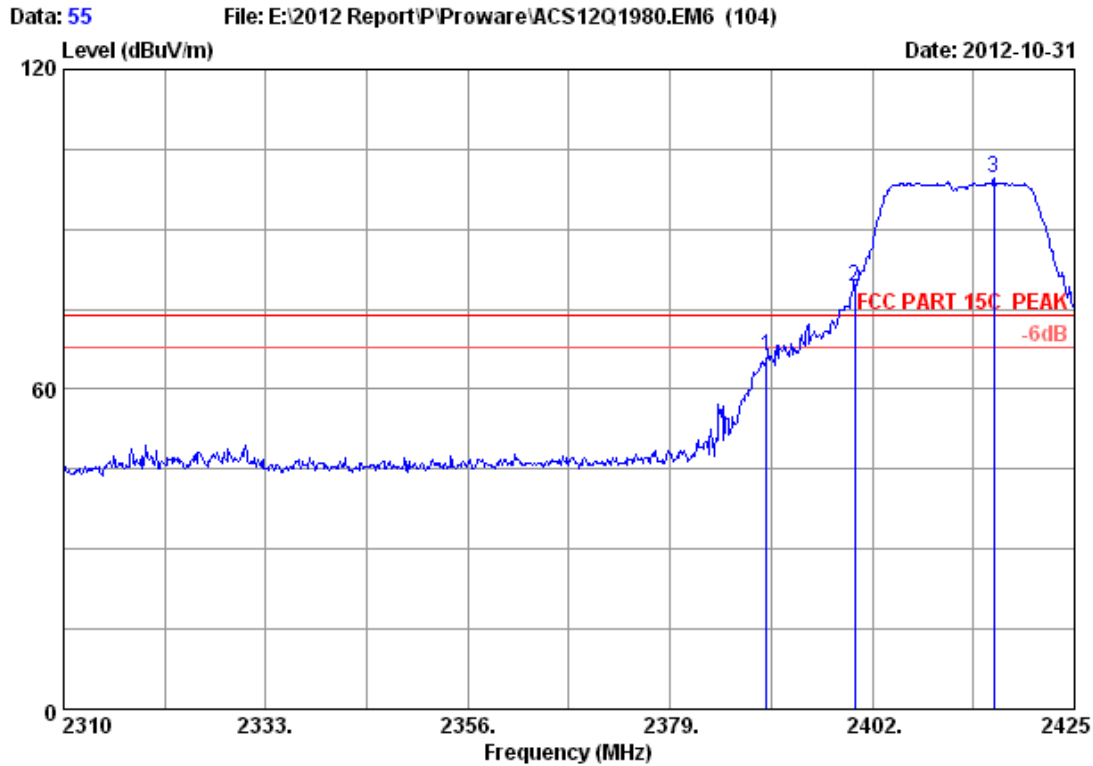


Site no. : 3m Chamber Data no. : 54
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11nHT20 CH 1 2412MHz Tx
 M/N : PW-3G401M

	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	26.70	6.00	35.92	54.19	50.97	54.00	3.03	Average
2	2400.000	26.76	6.02	35.92	66.23	63.09	54.00	-9.09	Average
3	2417.755	26.87	6.05	35.92	94.36	91.36	54.00	-37.36	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.

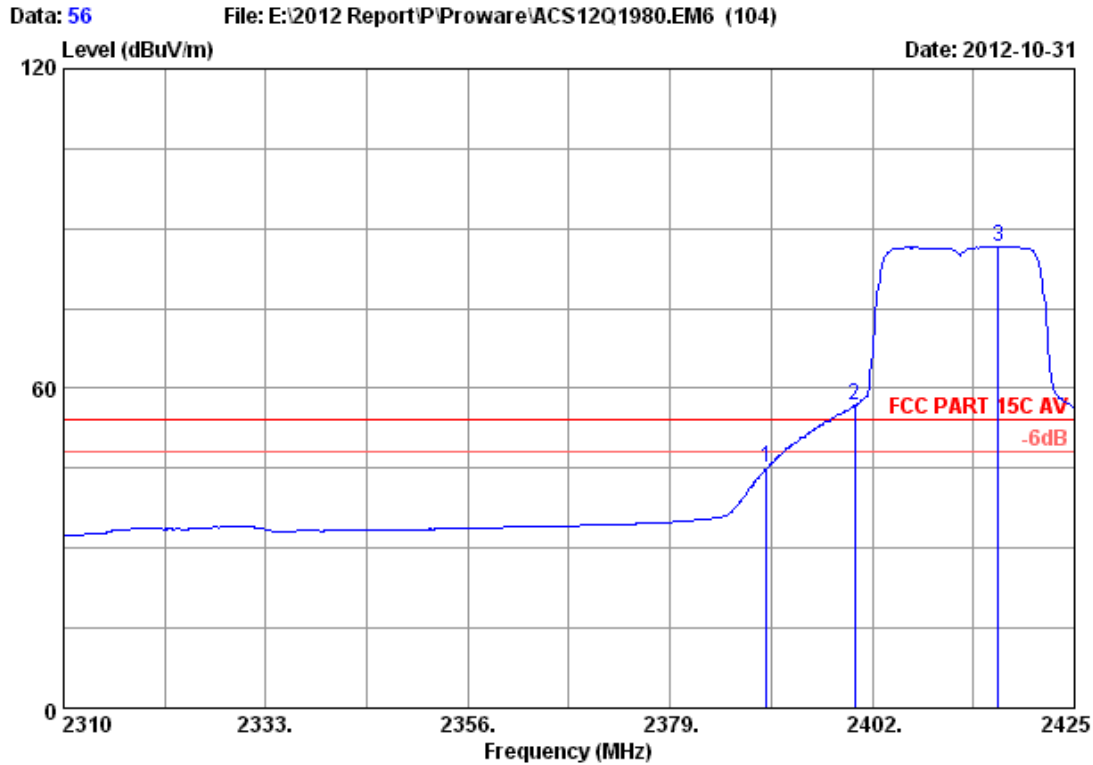


Site no. : 3m Chamber Data no. : 55
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11nHT20 CH 1 2412MHz Tx
 M/N : PW-3G401M

	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	26.70	6.00	35.92	69.49	66.27	74.00	7.73	Peak
2	2400.000	26.76	6.02	35.92	82.52	79.38	74.00	-5.38	Peak
3	2415.800	26.86	6.04	35.92	102.62	99.60	74.00	-25.60	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.

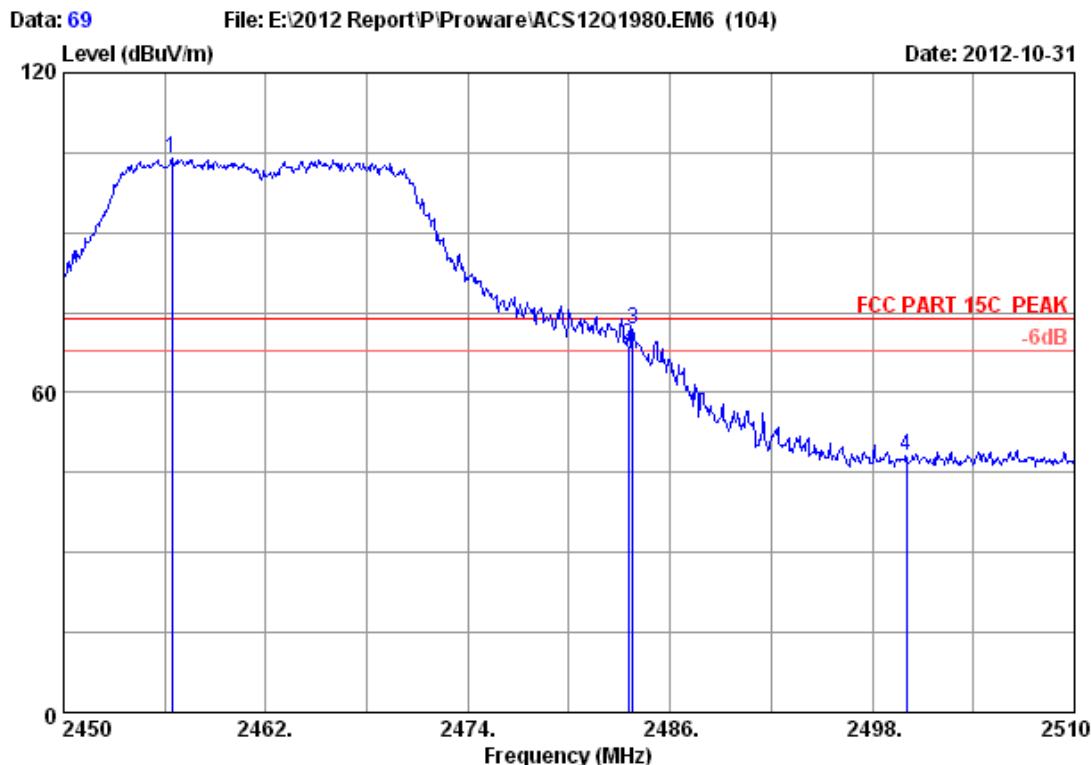


Site no. : 3m Chamber Data no. : 56
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23*C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11nHT20 CH 1 2412MHz Tx
 M/N : PW-3G401M

	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	26.70	6.00	35.92	48.27	45.05	54.00	8.95	Average
2	2400.000	26.76	6.02	35.92	59.96	56.82	54.00	-2.82	Average
3	2416.375	26.86	6.04	35.92	89.65	86.63	54.00	-32.63	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.

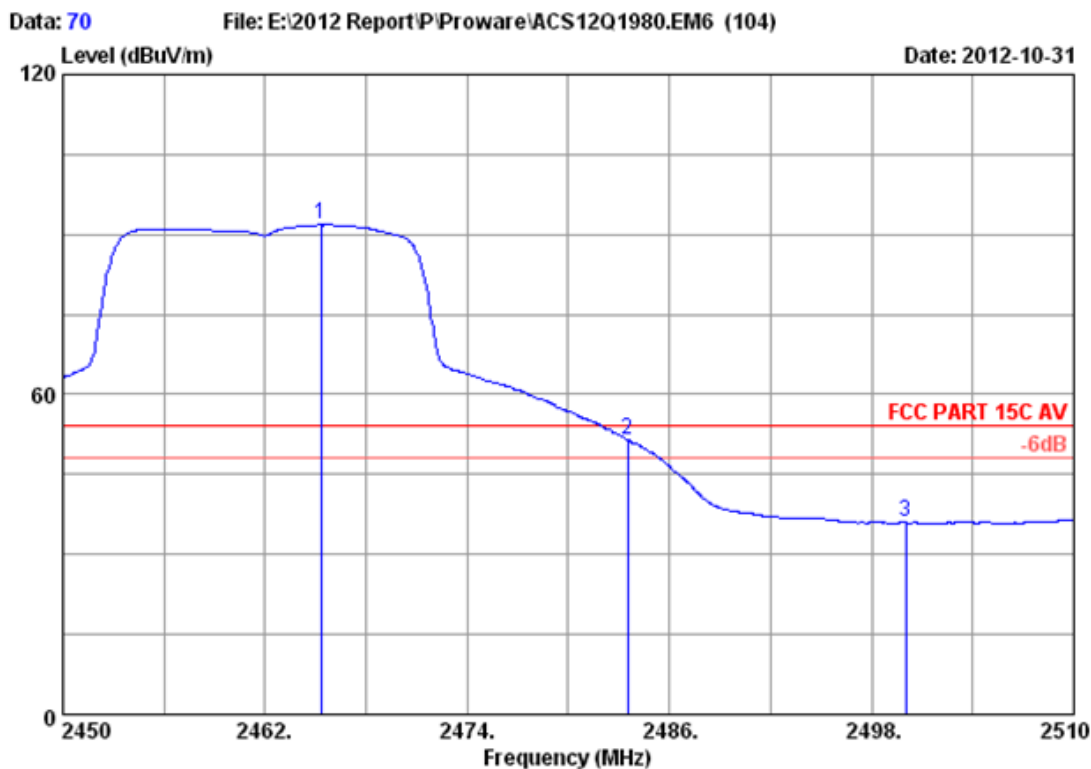


Site no. : 3m Chamber Data no. : 69
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11nHT20 CH 11 2462MHz Tx
 M/N : PW-3G401M

	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	2456.420	27.12	6.11	35.92	106.69	104.00	74.00	-30.00	Peak
2	2483.500	27.29	6.16	35.92	71.47	69.00	74.00	5.00	Peak
3	2483.780	27.30	6.16	35.92	74.39	71.93	74.00	2.07	Peak
4	2500.000	27.40	6.19	35.93	50.47	48.13	74.00	25.87	Peak

Remarks:

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

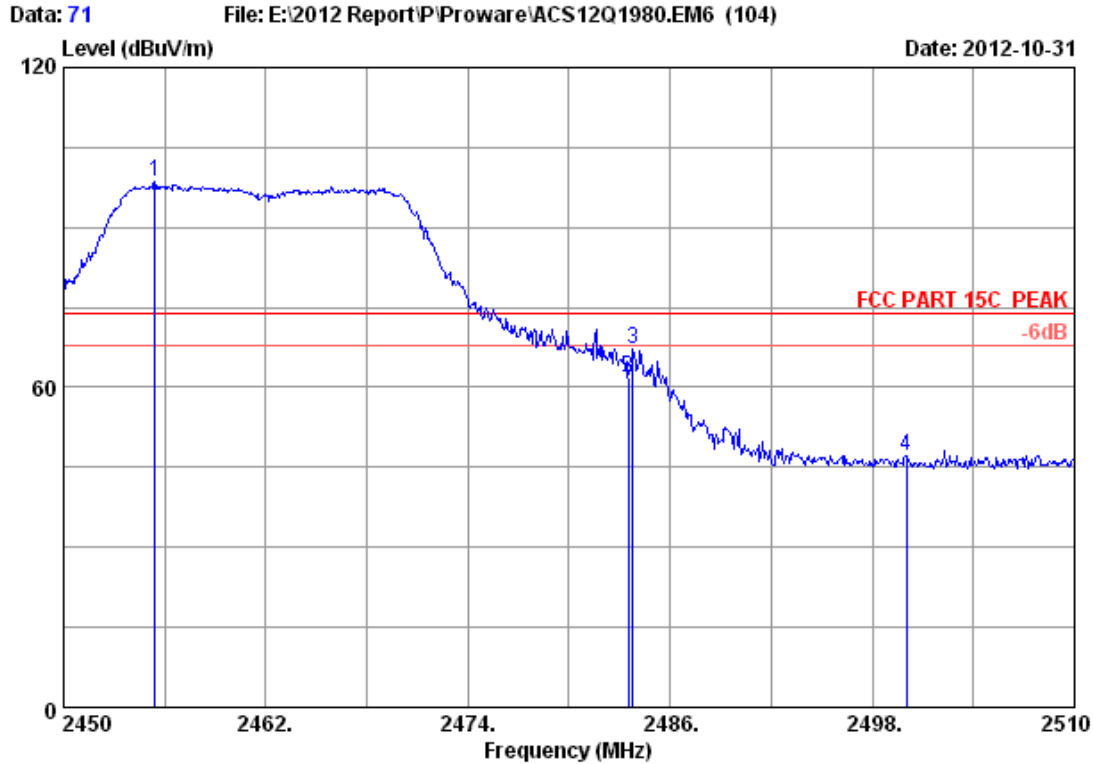


Site no. : 3m Chamber Data no. : 70
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11nHT20 CH 11 2462MHz Tx
 M/N : PW-3G401M

	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	2465.300	27.18	6.13	35.92	94.42	91.81	54.00	-37.81	Average
2	2483.500	27.29	6.16	35.92	54.03	51.56	54.00	2.44	Average
3	2500.000	27.40	6.19	35.93	38.32	35.98	54.00	18.02	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.

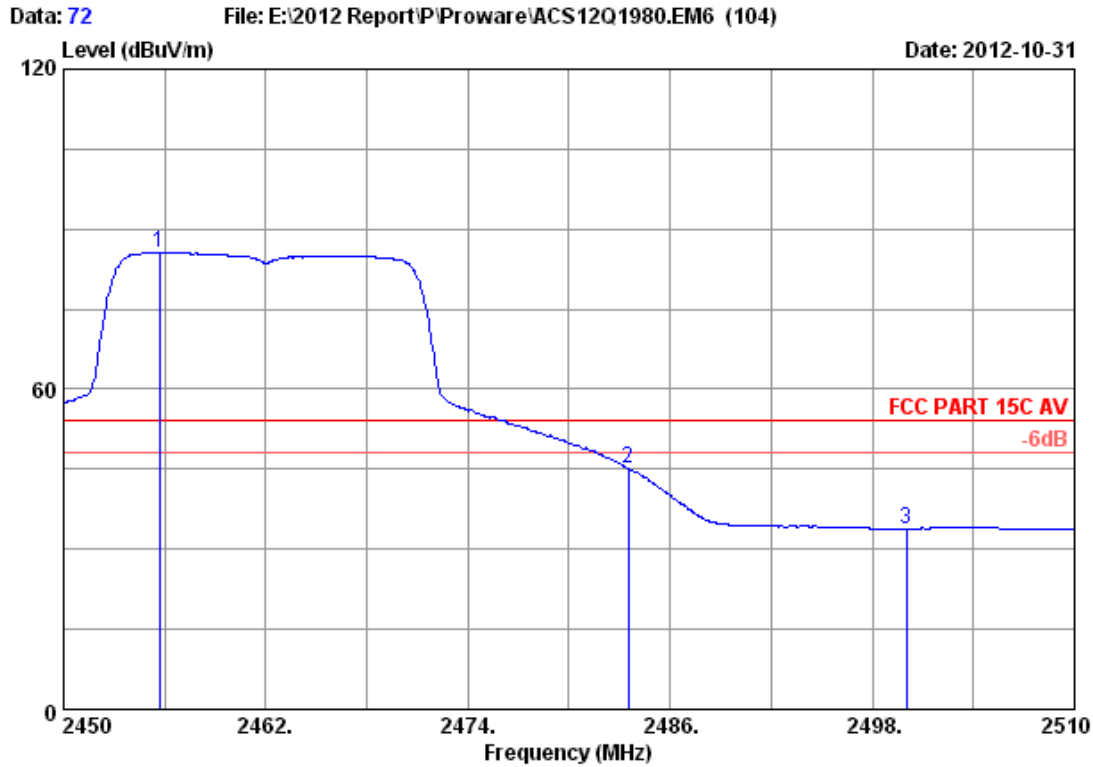


Site no. : 3m Chamber Data no. : 71
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23*C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11nHT20 CH 11 2462MHz Tx
 M/N : PW-3G401M

	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	27.11	6.11	35.92	101.24	98.54	74.00	-24.54	Peak
2	27.29	6.16	35.92	64.38	61.91	74.00	12.09	Peak
3	27.30	6.16	35.92	69.58	67.12	74.00	6.88	Peak
4	27.40	6.19	35.93	49.48	47.14	74.00	26.86	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.

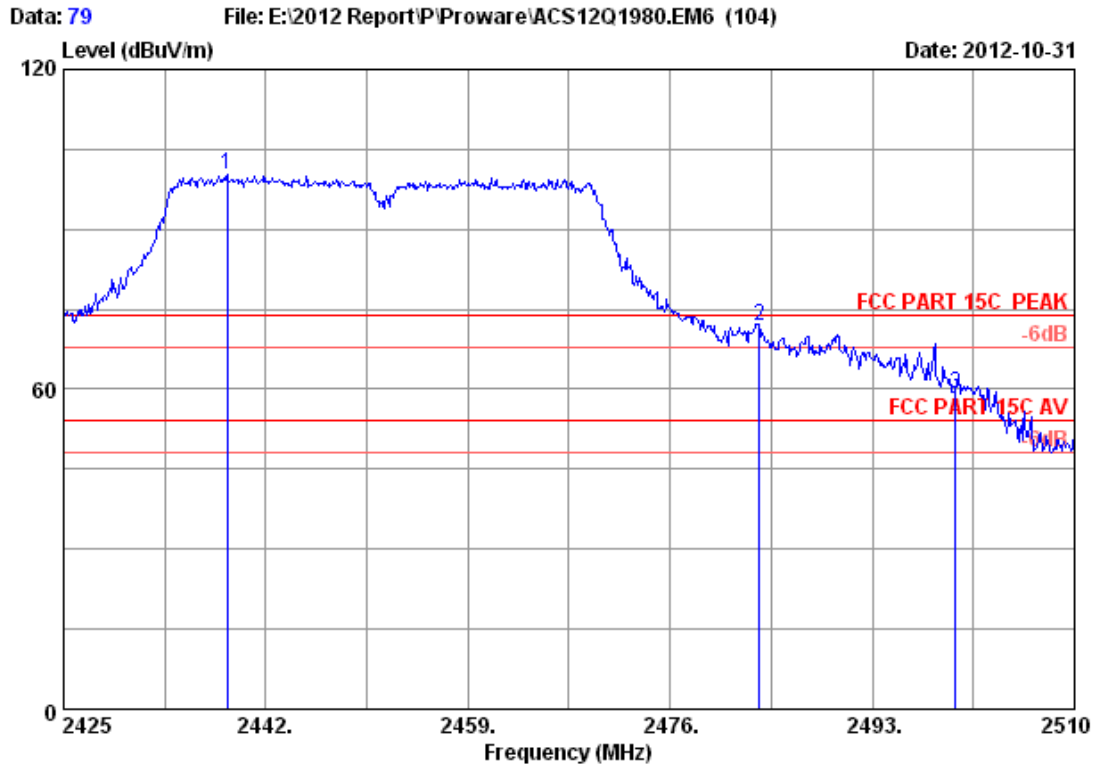


Site no. : 3m Chamber Data no. : 72
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23*C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11nHT20 CH 11 2462MHz Tx
 M/N : PW-3G401M

	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	2455.700	27.12	6.11	35.92	88.37	85.68	54.00	-31.68	Average
2	2483.500	27.29	6.16	35.92	47.58	45.11	54.00	8.89	Average
3	2500.000	27.40	6.19	35.93	36.21	33.87	54.00	20.13	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.

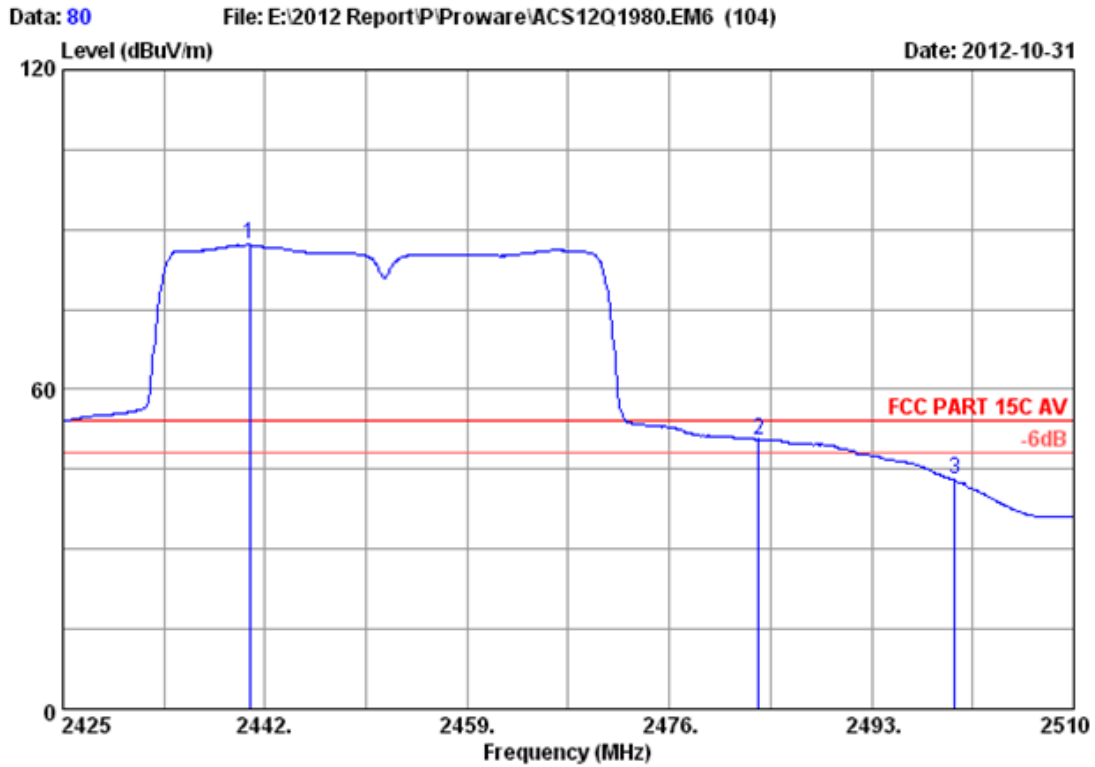


Site no. : 3m Chamber Data no. : 79
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11nHT40 CH 7 2452MHz Tx
 M/N : PW-3G401M

	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	2438.770	27.01	6.08	35.92	102.97	100.14	74.00	-26.14	Peak
2	2483.500	27.29	6.16	35.92	74.33	71.86	74.00	2.14	Peak
3	2500.000	27.40	6.19	35.93	61.57	59.23	74.00	14.77	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.

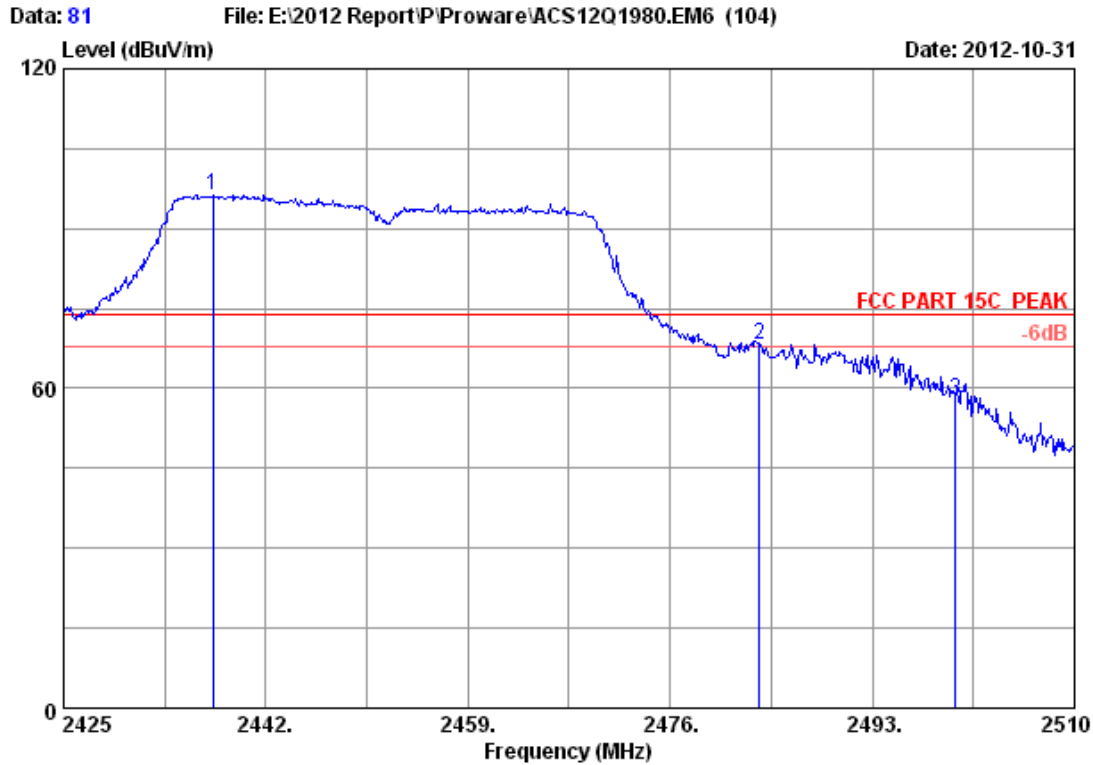


Site no. : 3m Chamber Data no. : 80
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11nHT40 CH 7 2452MHz Tx
 M/N : PW-3G401M

	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	2440.725	27.02	6.09	35.92	89.95	87.14	54.00	-33.14	Average
2	2483.500	27.29	6.16	35.92	52.98	50.51	54.00	3.49	Average
3	2500.000	27.40	6.19	35.93	45.32	42.98	54.00	11.02	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.

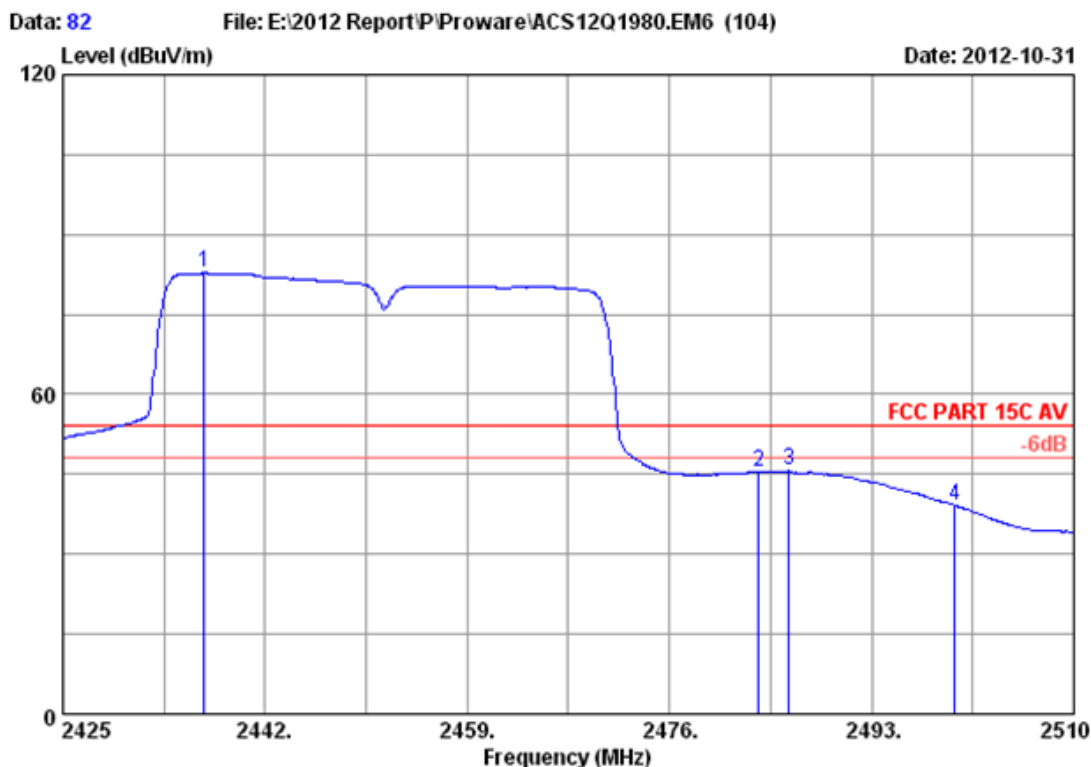


Site no. : 3m Chamber Data no. : 81
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11nHT40 CH 7 2452MHz Tx
 M/N : PW-3G401M

	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	2437.580	27.00	6.08	35.92	99.21	96.37	74.00	-22.37	Peak
2	2483.500	27.29	6.16	35.92	70.75	68.28	74.00	5.72	Peak
3	2500.000	27.40	6.19	35.93	60.07	57.73	74.00	16.27	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.

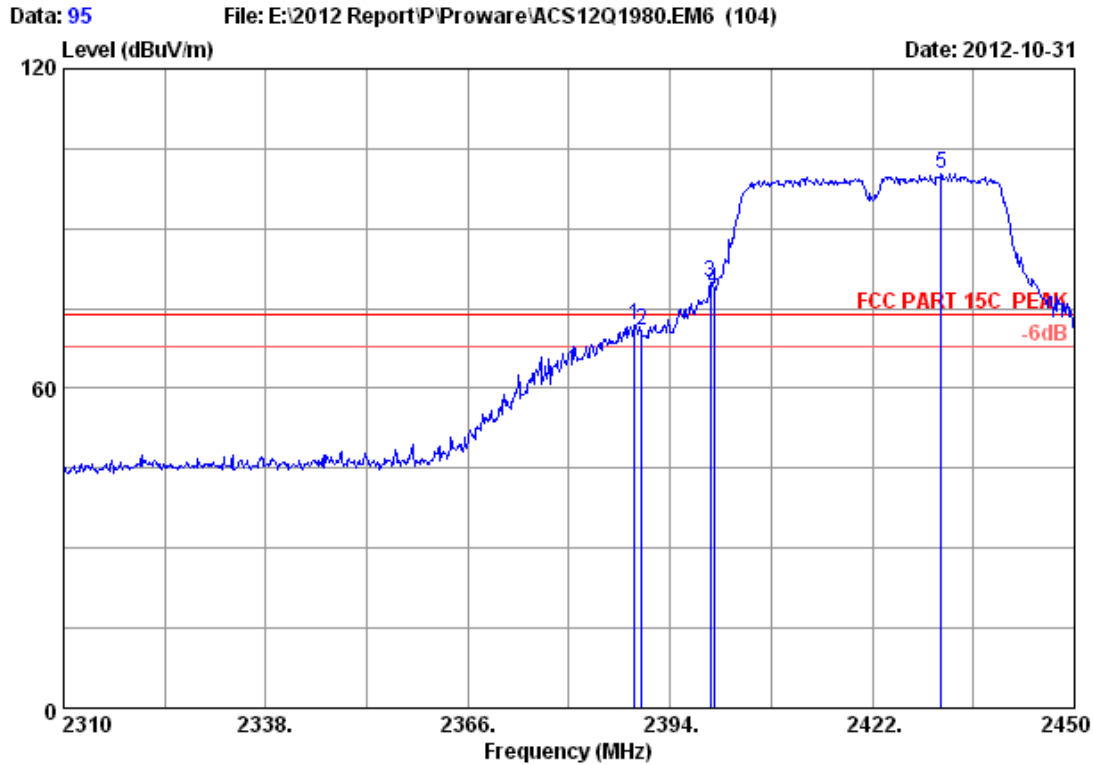


Site no. : 3m Chamber Data no. : 82
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11nHT40 CH 7 2452MHz Tx
 M/N : PW-3G401M

	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	2436.900	27.00	6.08	35.92	85.62	82.78	54.00	-28.78	Average
2	2483.500	27.29	6.16	35.92	47.98	45.51	54.00	8.49	Average
3	2486.030	27.31	6.16	35.92	48.08	45.63	54.00	8.37	Average
4	2500.000	27.40	6.19	35.93	41.48	39.14	54.00	14.86	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.

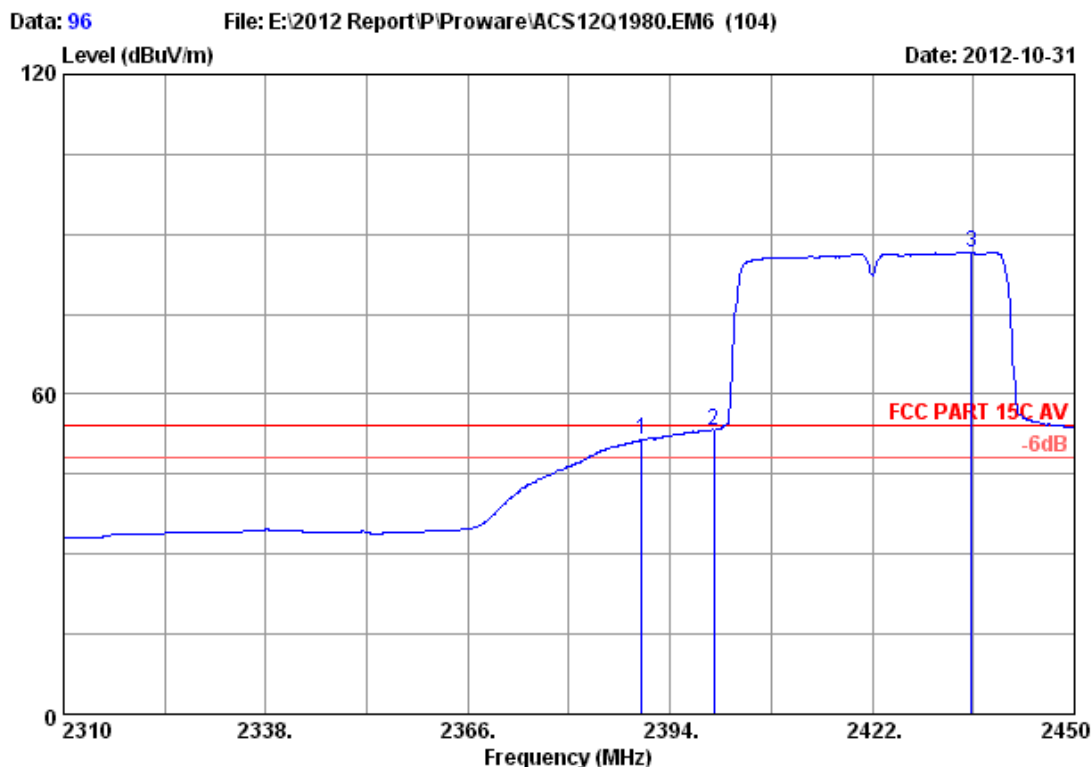


Site no. : 3m Chamber Data no. : 95
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11nHT40 CH 1 2422MHz Tx
 M/N : PW-3G401M

	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	2389.100	26.69	6.00	35.92	75.14	71.91	74.00	2.09	Peak
2	2390.000	26.70	6.00	35.92	74.03	70.81	74.00	3.19	Peak
3	2399.600	26.76	6.02	35.92	83.11	79.97	74.00	-5.97	Peak
4	2400.000	26.76	6.02	35.92	81.59	78.45	74.00	-4.45	Peak
5	2431.520	26.96	6.07	35.92	103.12	100.23	74.00	-26.23	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.

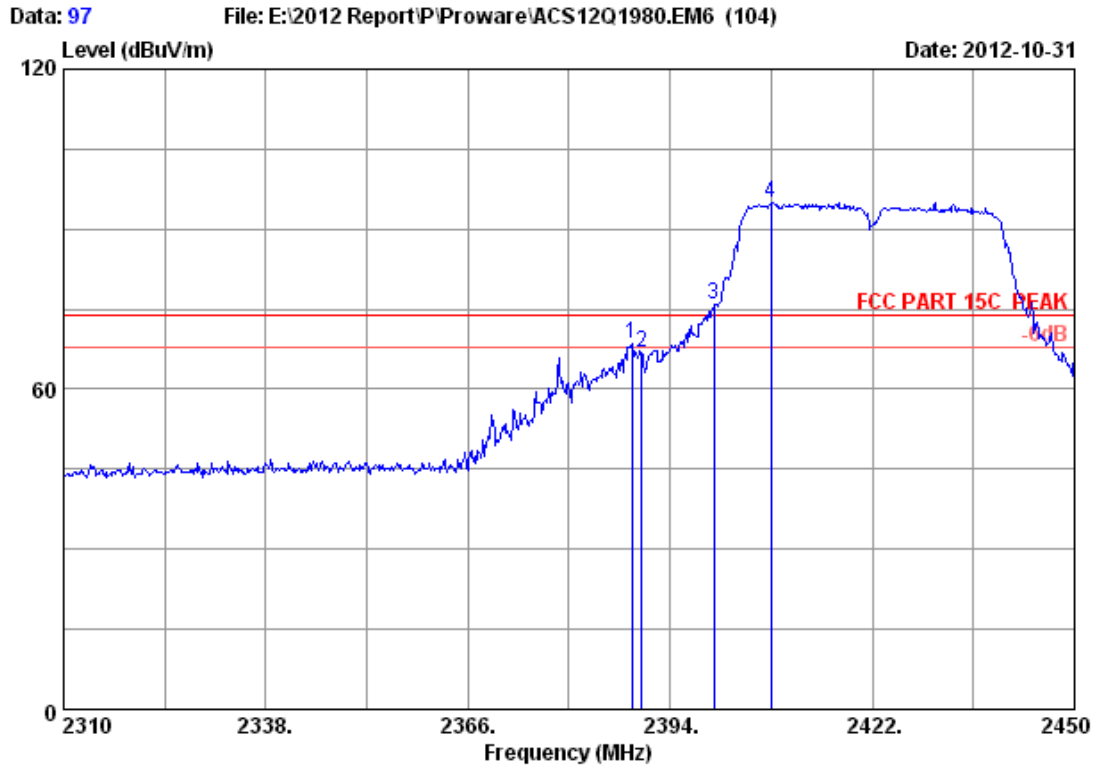


Site no. : 3m Chamber Data no. : 96
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11nHT40 CH 1 2422MHz Tx
 M/N : PW-3G401M

	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	26.70	6.00	35.92	54.59	51.37	54.00	2.63	Average
2	2400.000	26.76	6.02	35.92	56.37	53.23	54.00	0.77	Average
3	2435.720	26.99	6.08	35.92	89.35	86.50	54.00	-32.50	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.

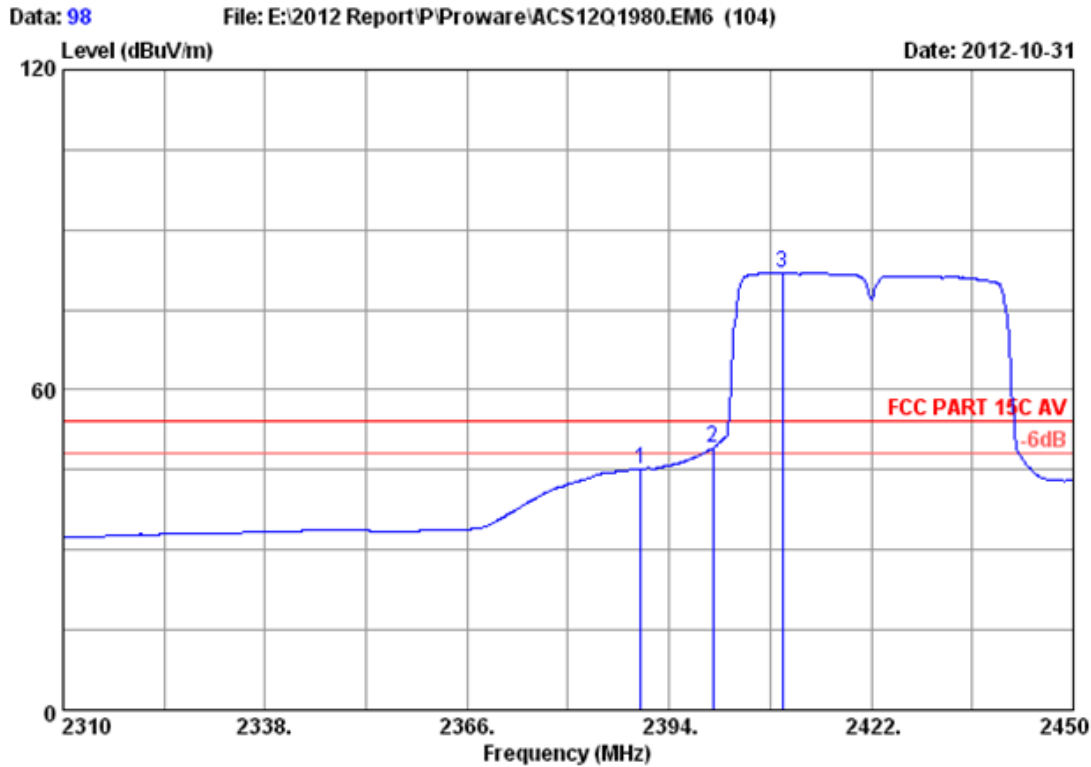


Site no. : 3m Chamber Data no. : 97
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11nHT40 CH 1 2422MHz Tx
 M/N : PW-3G401M

	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	2388.680	26.69	6.00	35.92	71.82	68.59	74.00	5.41	Peak
2	2390.000	26.70	6.00	35.92	69.92	66.70	74.00	7.30	Peak
3	2400.000	26.76	6.02	35.92	78.86	75.72	74.00	-1.72	Peak
4	2408.000	26.81	6.03	35.92	98.09	95.01	74.00	-21.01	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. : 98
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 3G Wireless N Nano Router
 Power supply : DC 5V From Adapter Input AC 120V/60Hz
 Test mode : IEEE802.11nHT40 CH 1 2422MHz Tx
 M/N : PW-3G401M

	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	26.70	6.00	35.92	48.40	45.18	54.00	8.82	Average
2	2400.000	26.76	6.02	35.92	52.26	49.12	54.00	4.88	Average
3	2409.680	26.82	6.03	35.92	85.03	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.

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

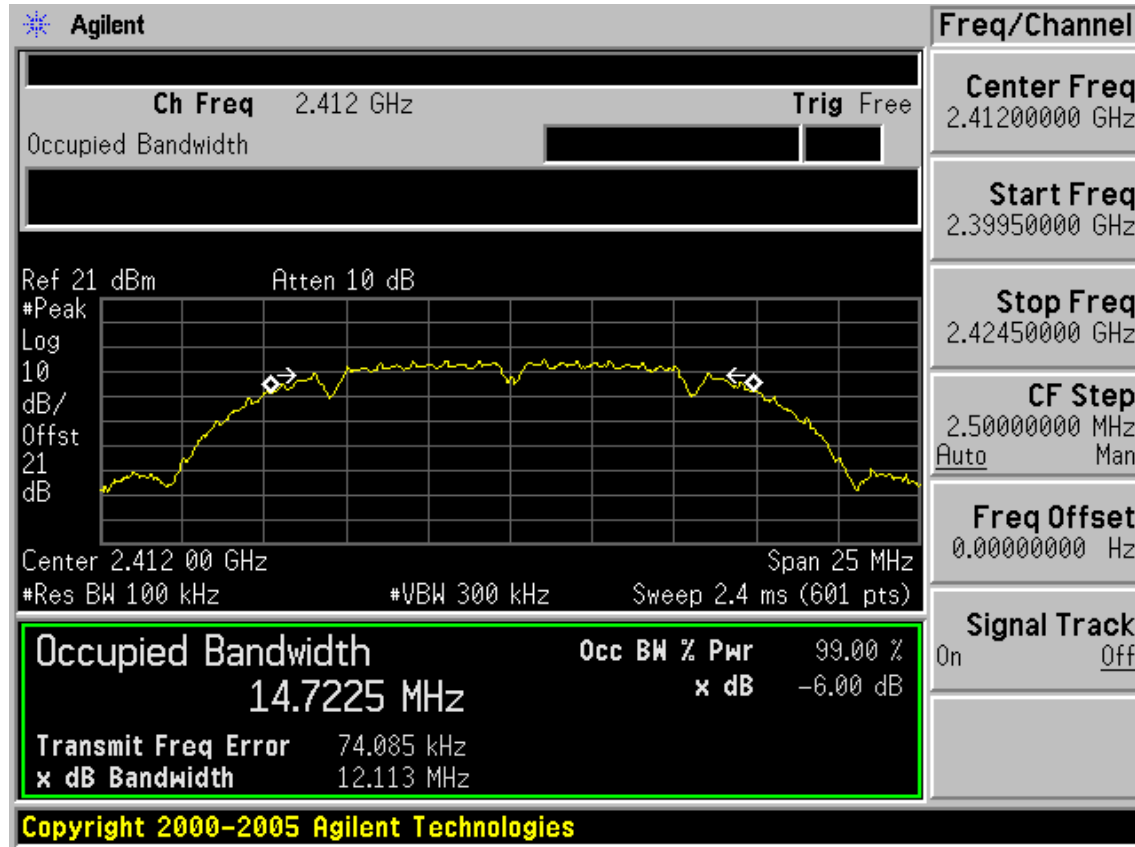
The transmitter output was connected to a spectrum analyzer, The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 300 kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

7.4. Test Results

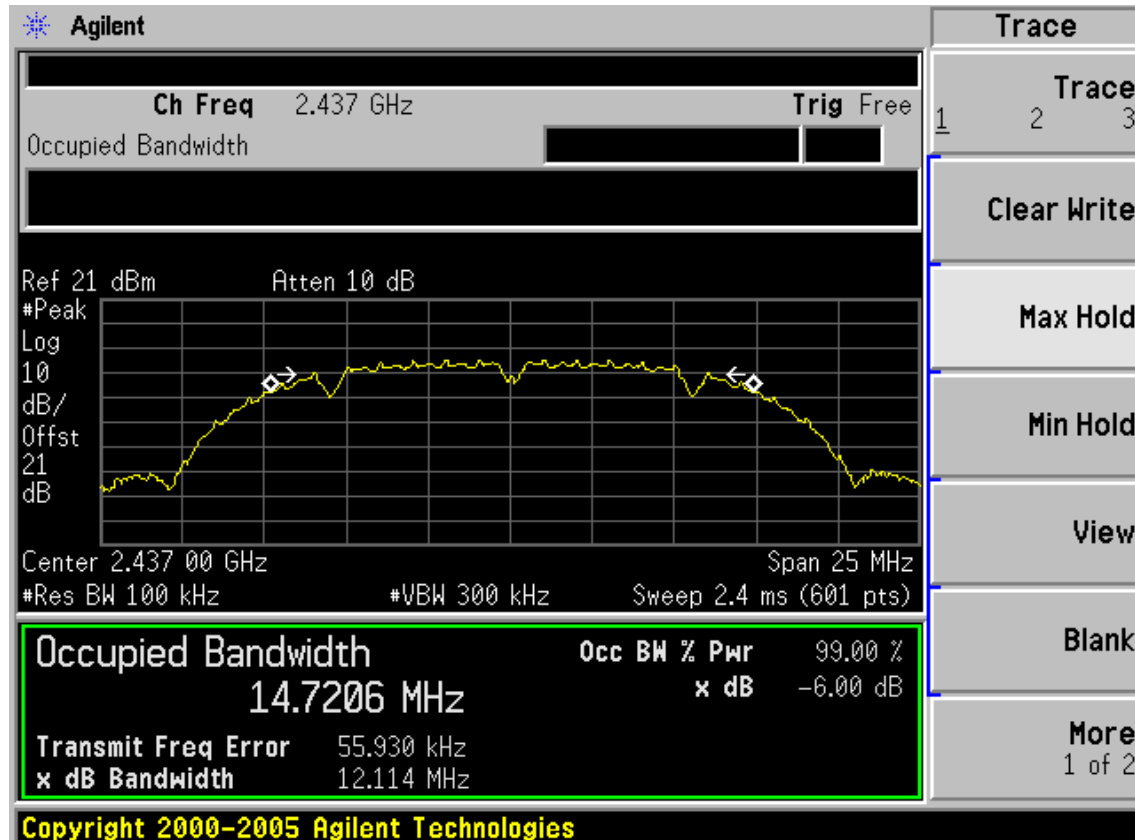
EUT: 3G Wireless N Nano Router		
M/N: PW-3G401M		
Test date: 2012-11-07	Pressure: 101.4 ± 1.0 kpa	Humidity: 53.4 ± 3.0%
Tested by: Leo-Li	Test site: RF Site	Temperature: 21.6 ± 0.6°C

Cable loss: 1 dB		Attenuator loss: 20 dB	Antenna Gain: 0 dBi
Test Mode	CH	6dB bandwidth (MHz)	Limit (KHz)
11b	CH1	12.113	>500
	CH6	12.114	>500
	CH11	12.116	>500
11g	CH1	16.539	>500
	CH6	16.532	>500
	CH11	16.562	>500
11n HT20	CH1	17.665	>500
	CH6	17.647	>500
	CH11	17.653	>500
11n HT40	CH1	35.739	>500
	CH4	35.940	>500
	CH7	35.920	>500
Conclusion: PASS			

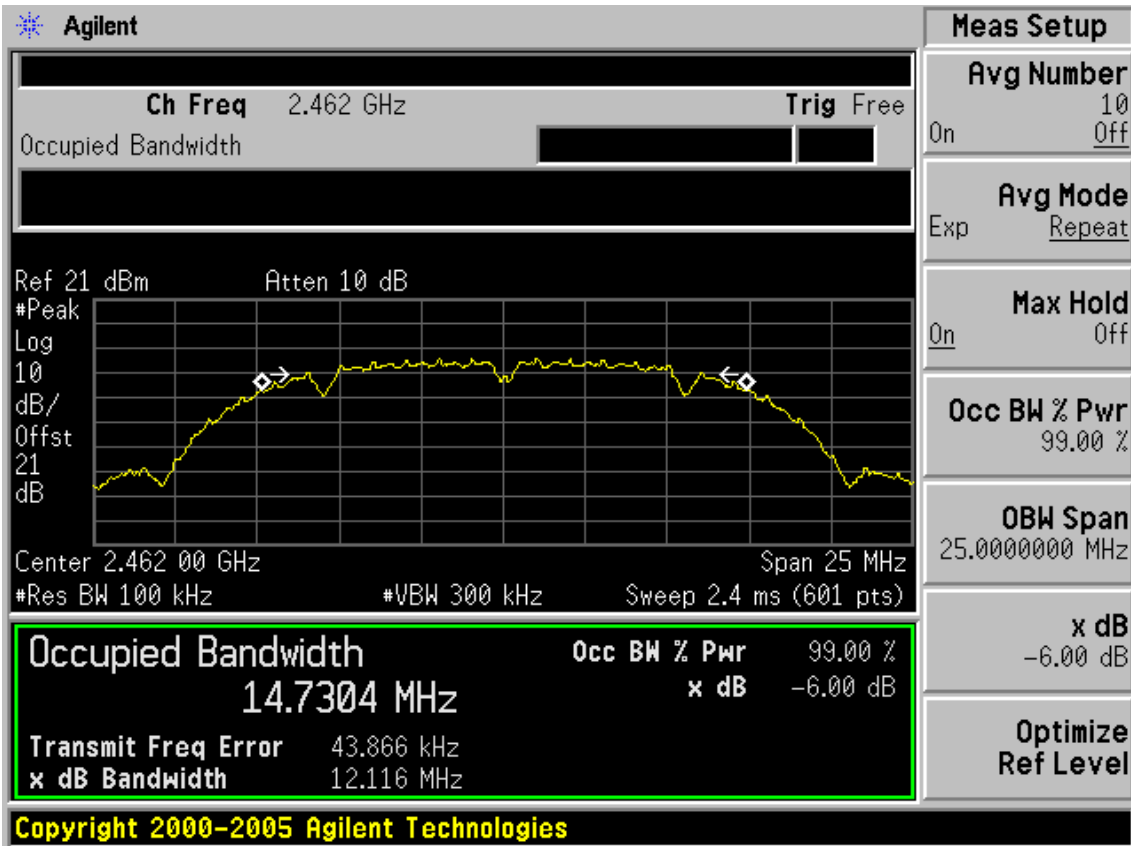
Test Mode: IEEE 802.11b TX
 Test CH1: 2412MHz



Test CH6: 2437MHz

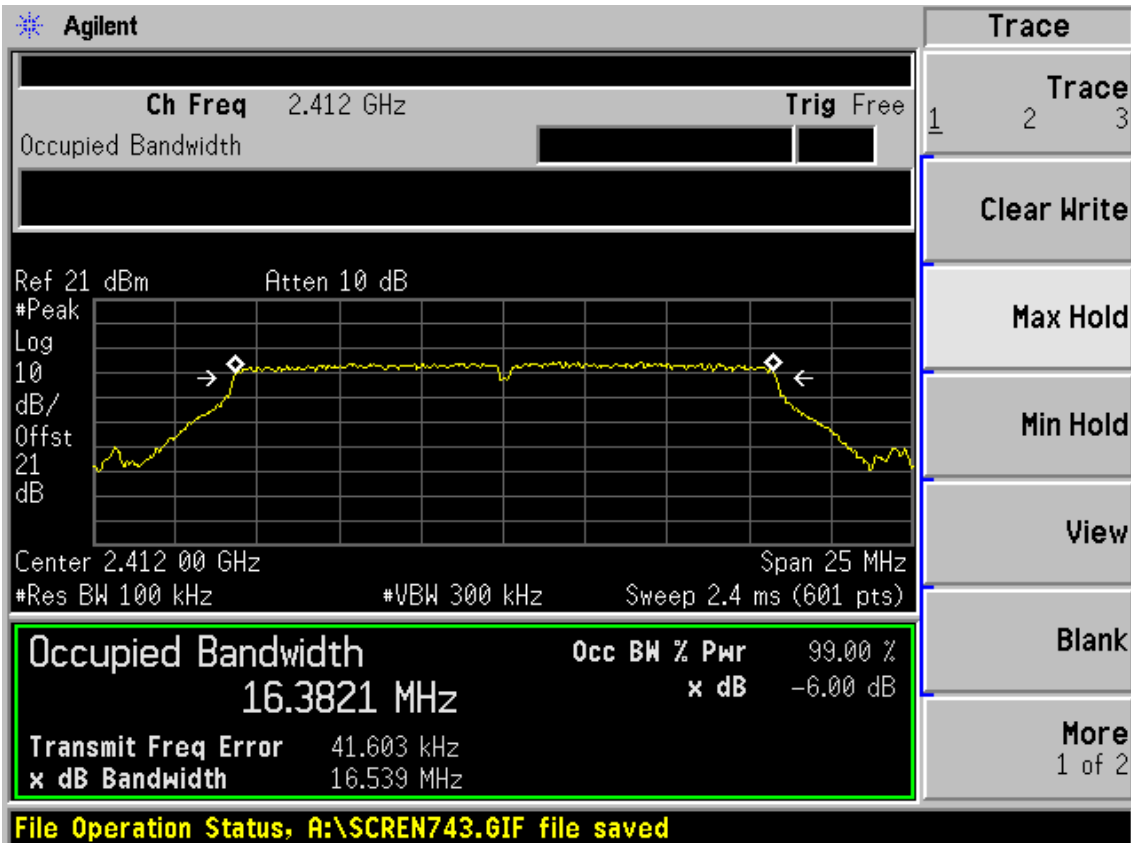


Test CH11: 2462MHz

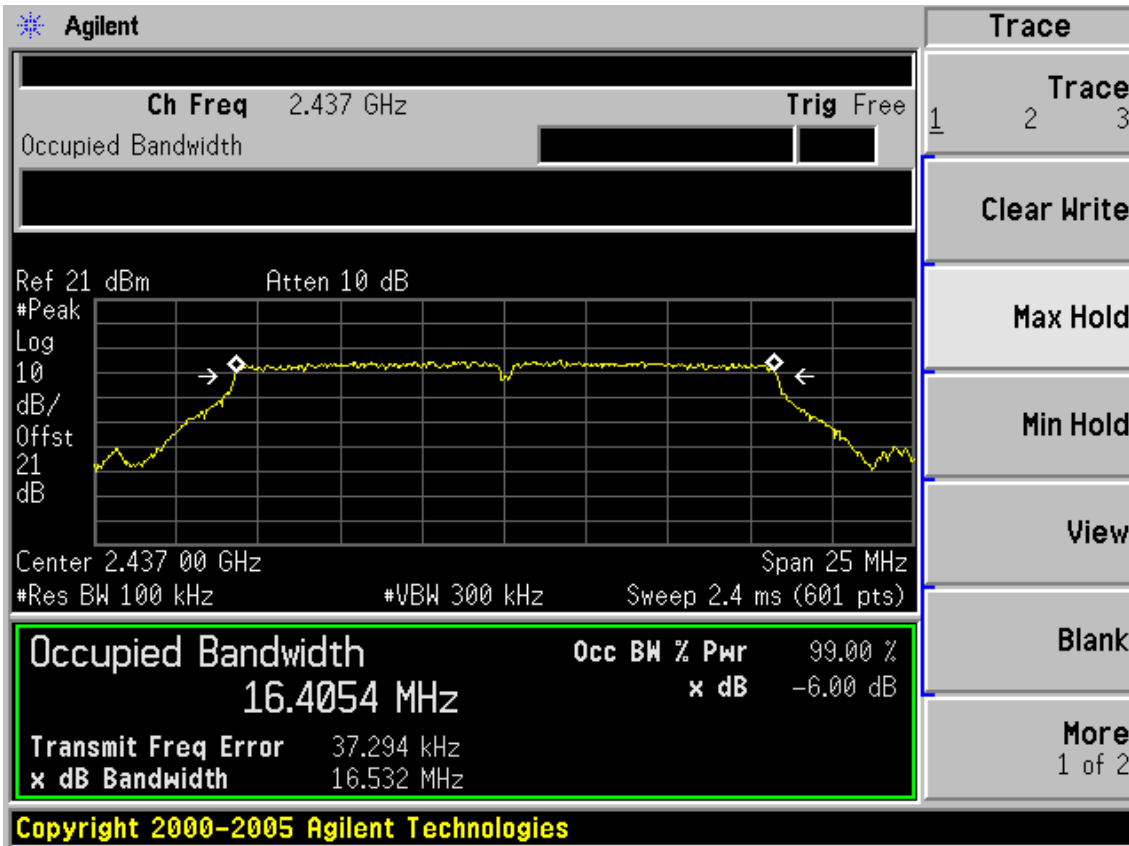


Test Mode: IEEE 802.11g TX

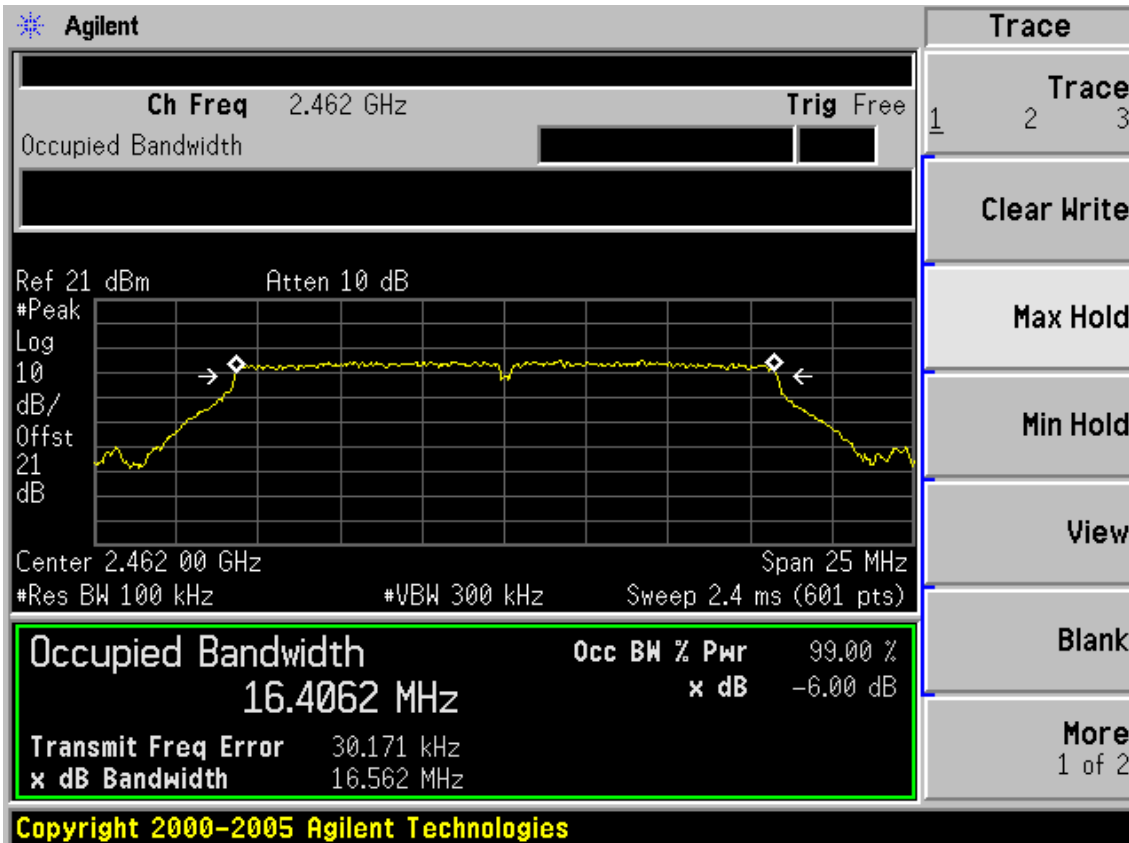
Test CH1: 2412MHz



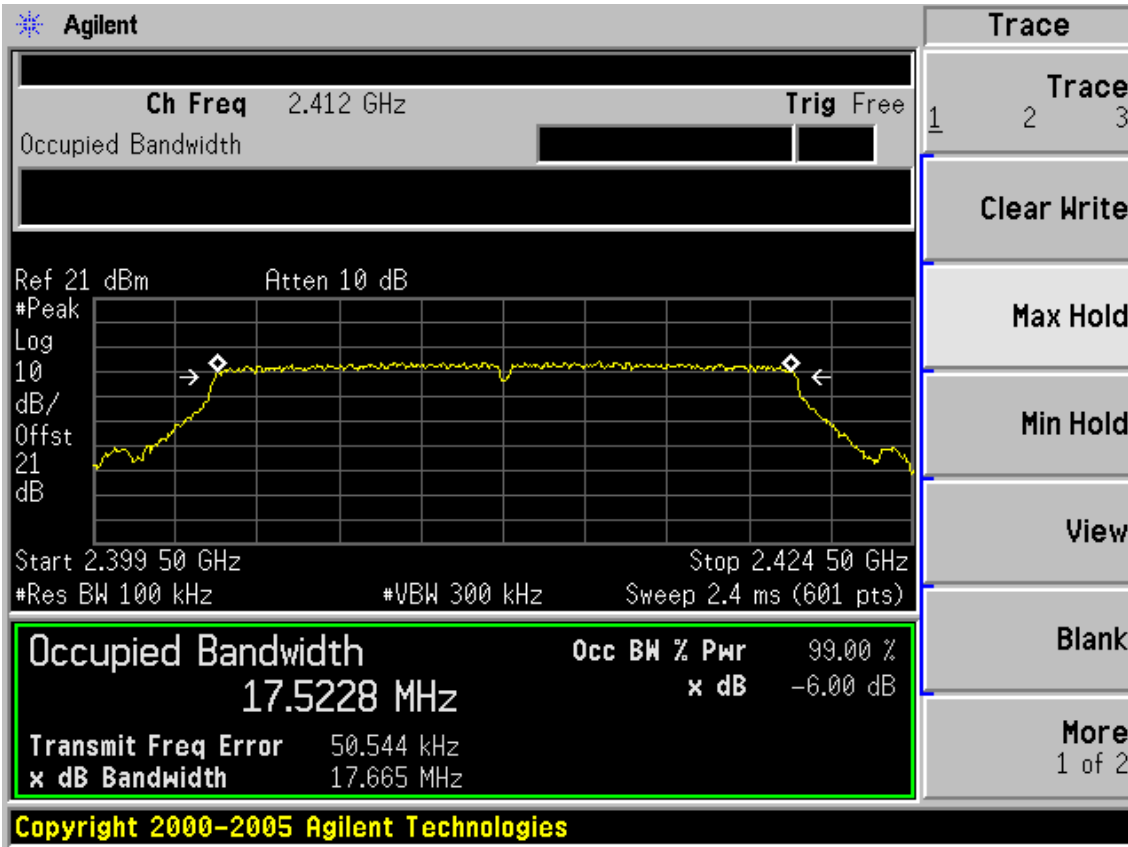
Test CH6: 2437MHz



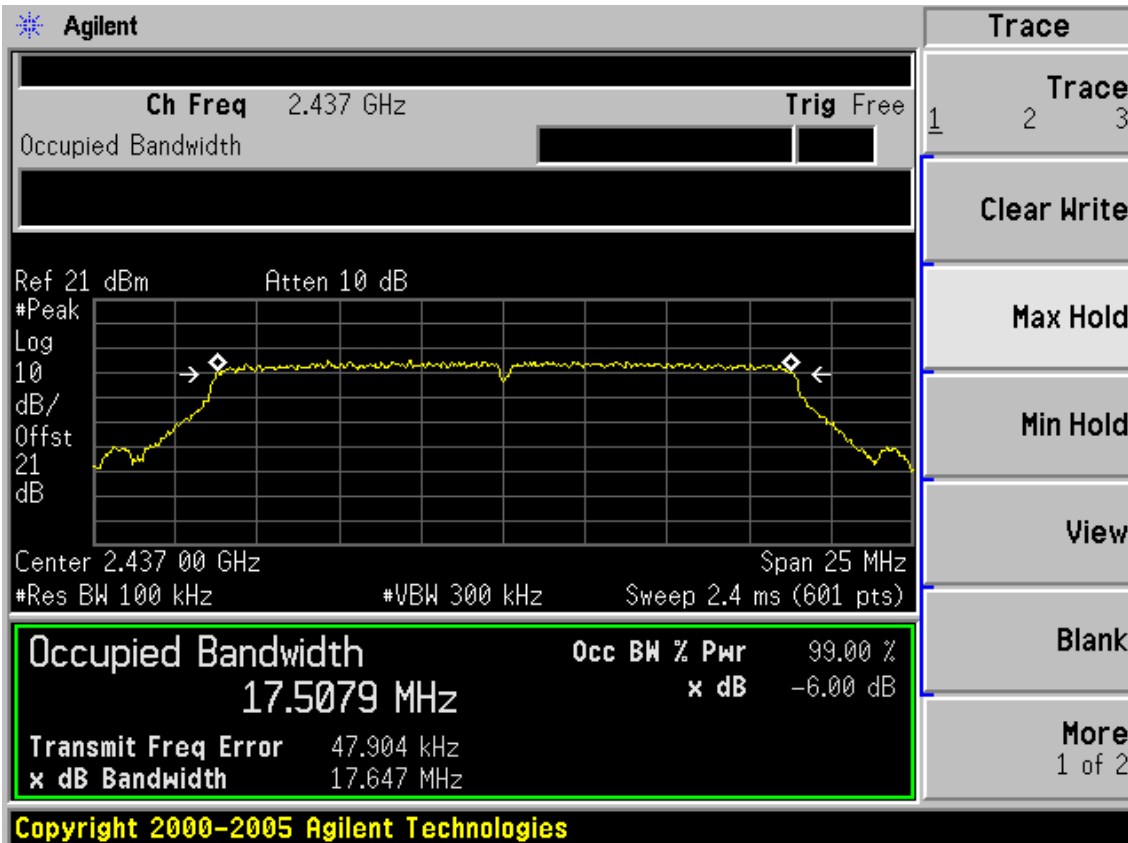
Test CH11: 2462MHz



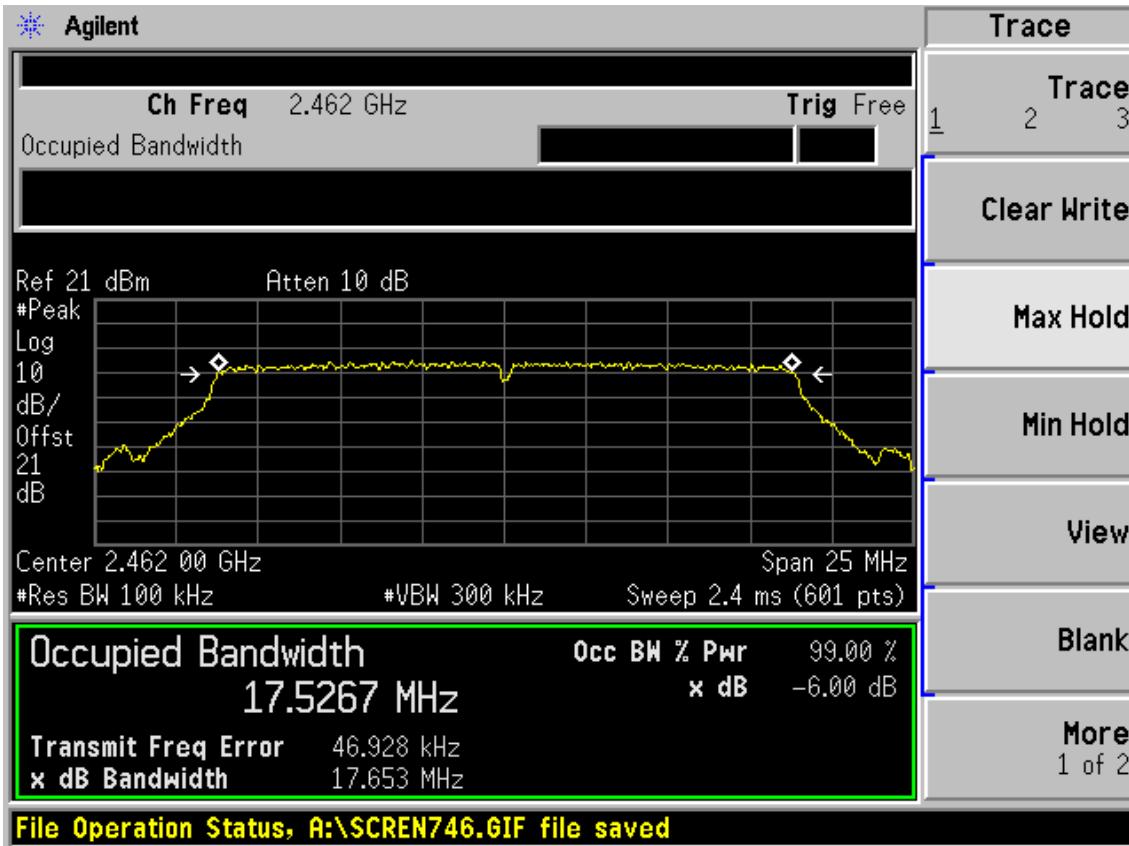
Test Mode: IEEE 802.11n HT20 TX
 Test CH1: 2412MHz



Test CH6: 2437MHz

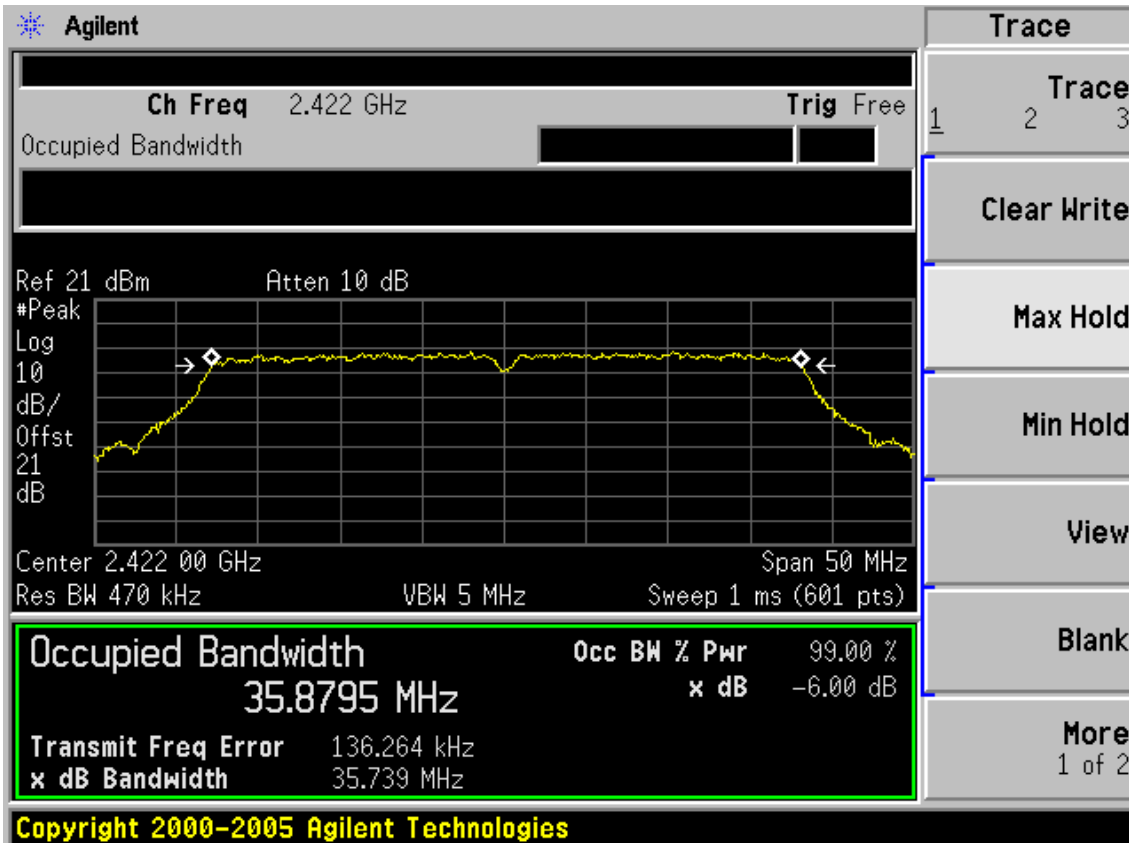


Test CH11: 2462MHz

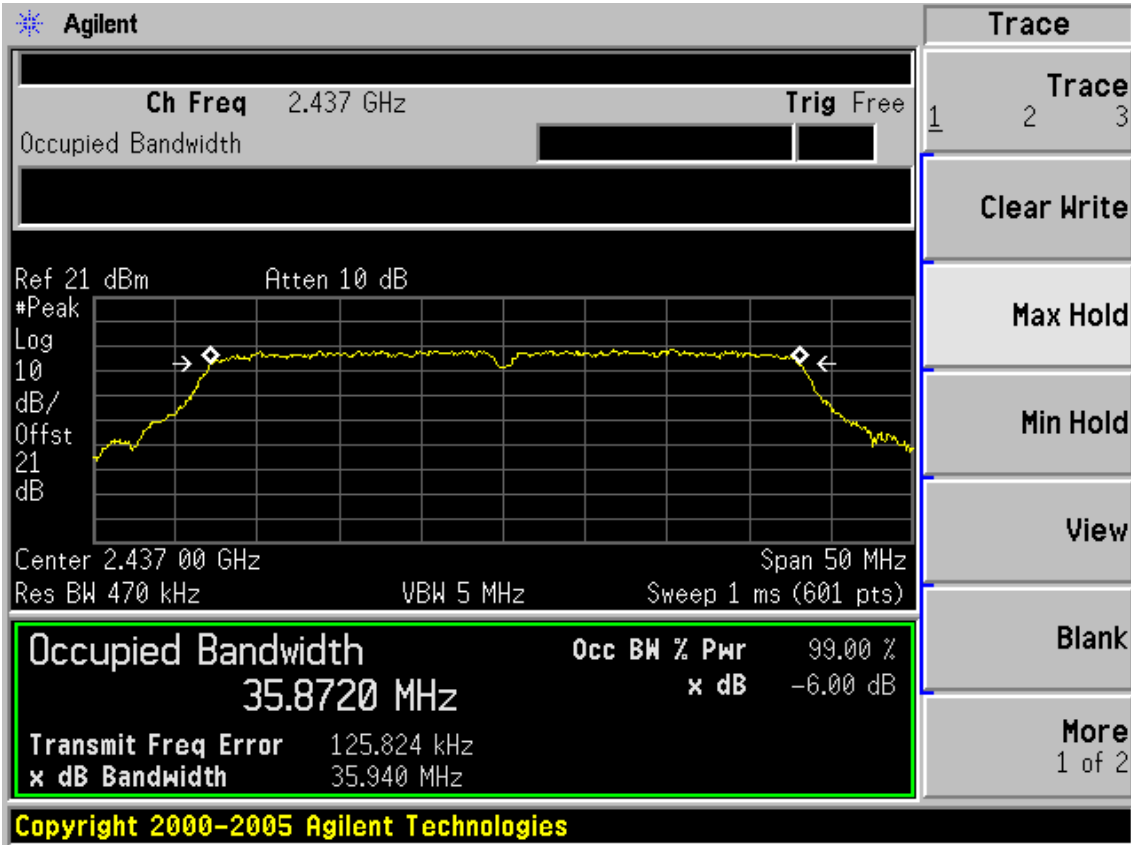


Test Mode: IEEE 802.11n HT40 TX

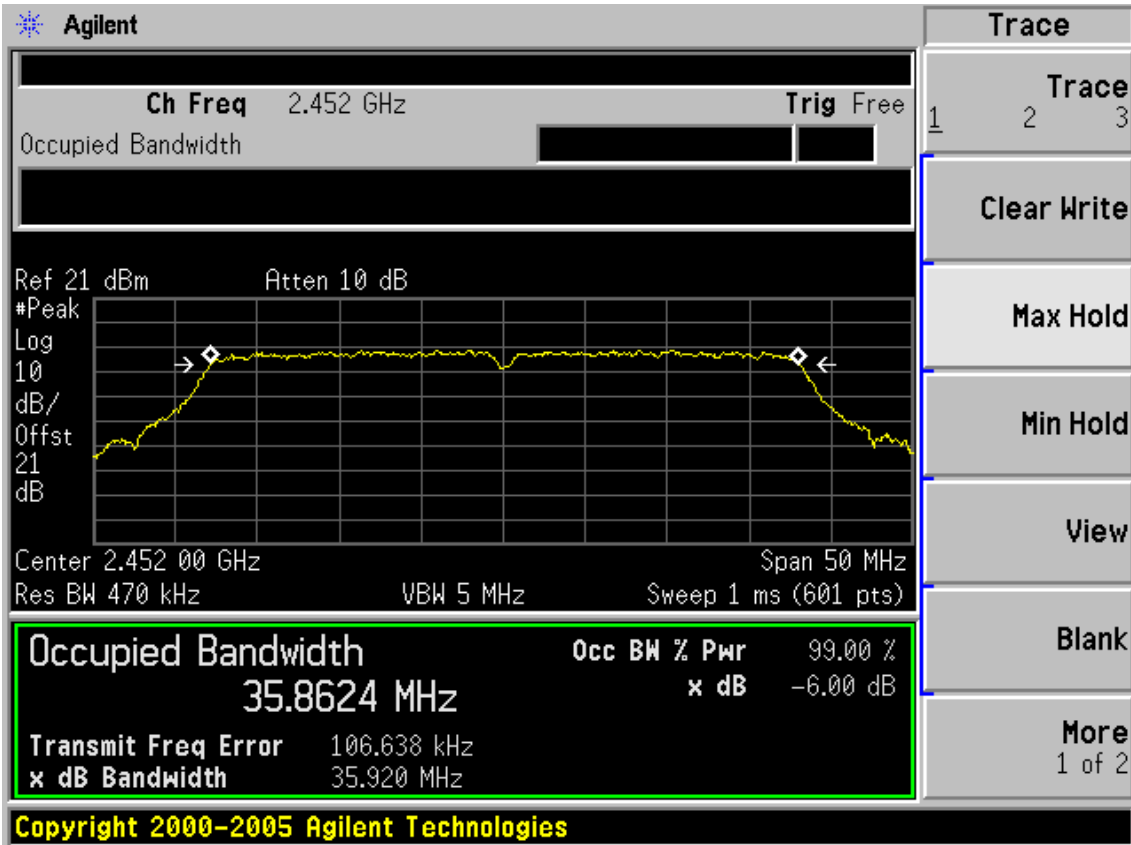
Test CH1: 2422MHz



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, 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)]

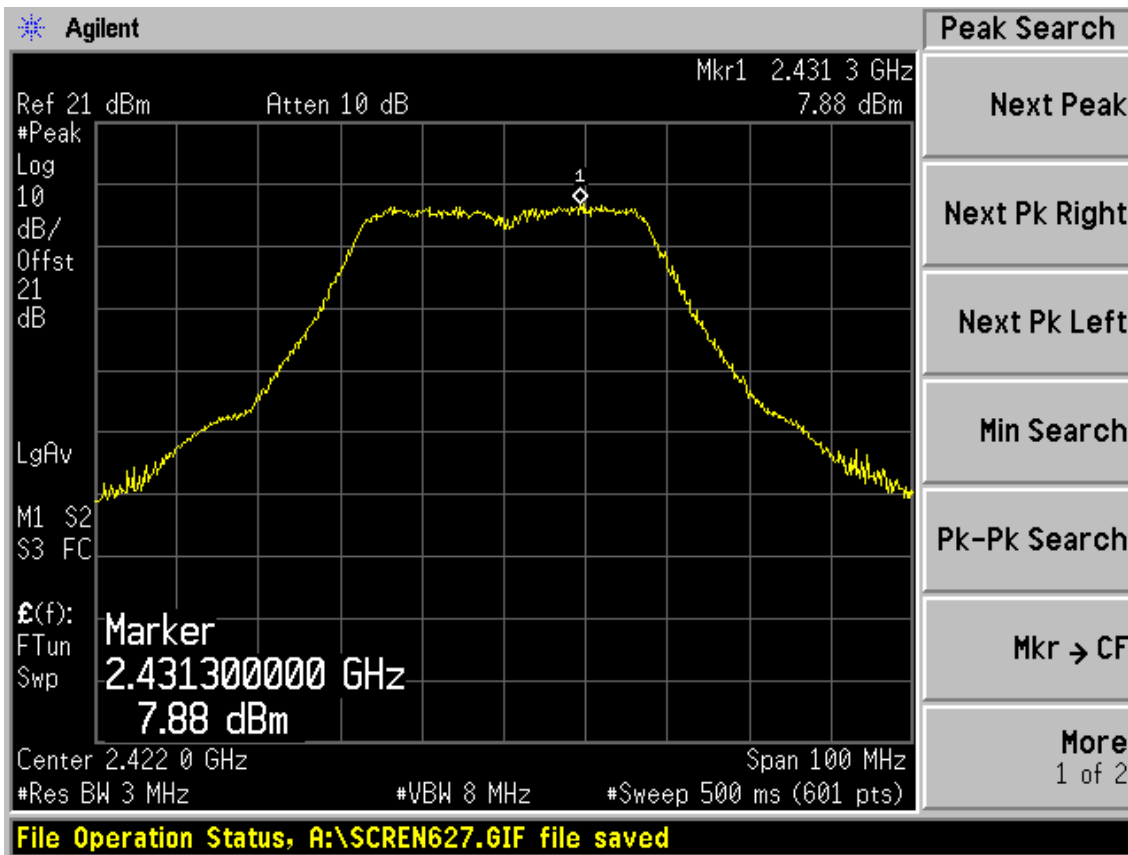
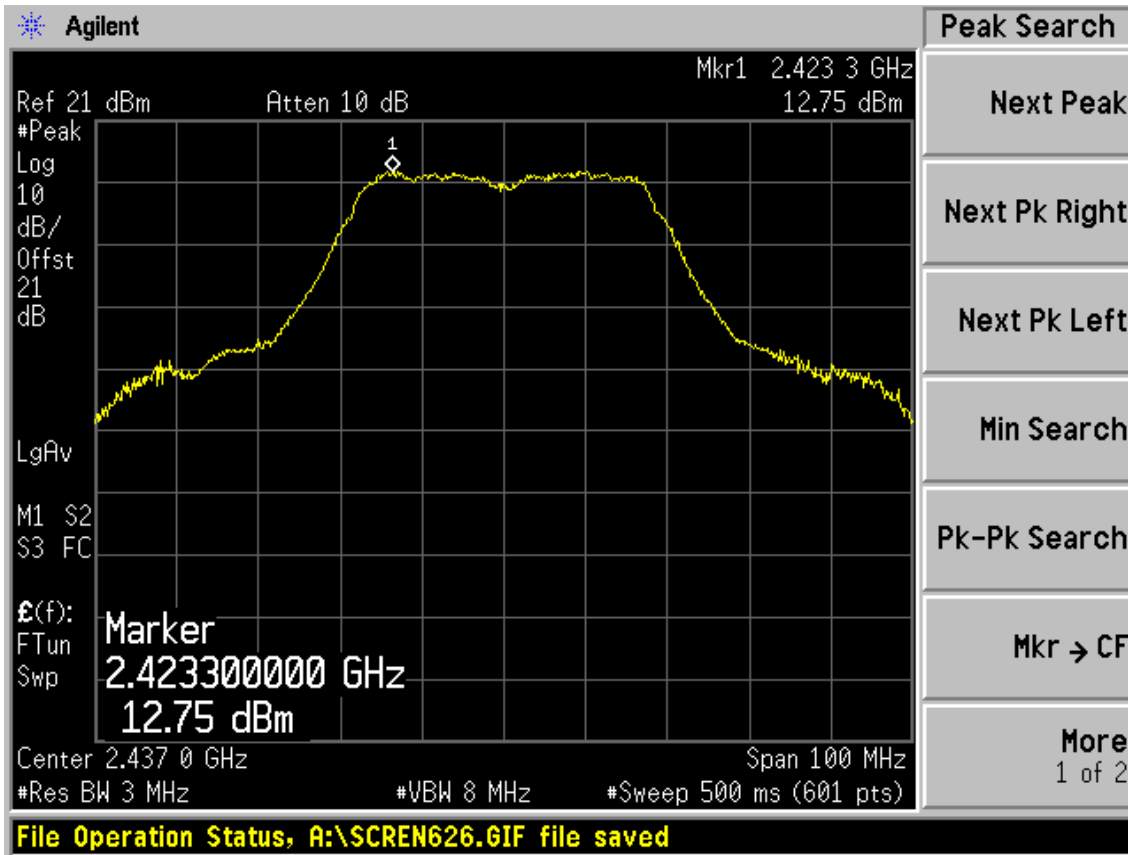
Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

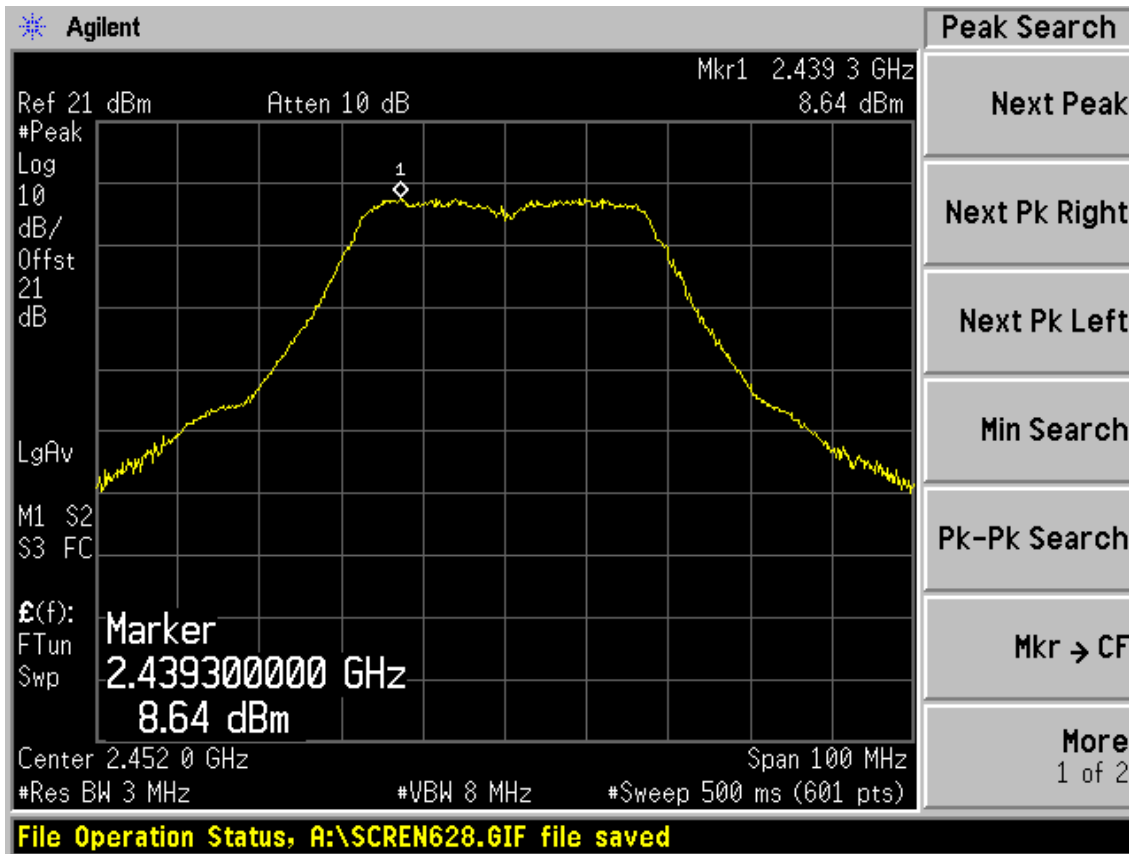
8.4. Test Results

EUT: 3G Wireless N Nano Router			
M/N: PW-3G401M			
Test date: 2012-11-07		Pressure: 101.4±1.0 kpa	Humidity: 53.4±3.0%
Tested by: Leo-Li		Test site: RF Site	Temperature 21.6±0.6°C
Cable loss: 1 dB		Attenuator loss: 20 dB	Antenna Gain: 0 dBi
Test Mode	CH (MHz)	Peak output Power (dBm)	Limit (dBm)
11b	CH1	18.69	30
	CH6	19.58	30
	CH11	19.50	30
11g	CH1	21.70	30
	CH6	24.52	30
	CH11	22.14	30
11n HT20	CH1	20.60	30
	CH6	23.96	30
	CH11	24.19	30

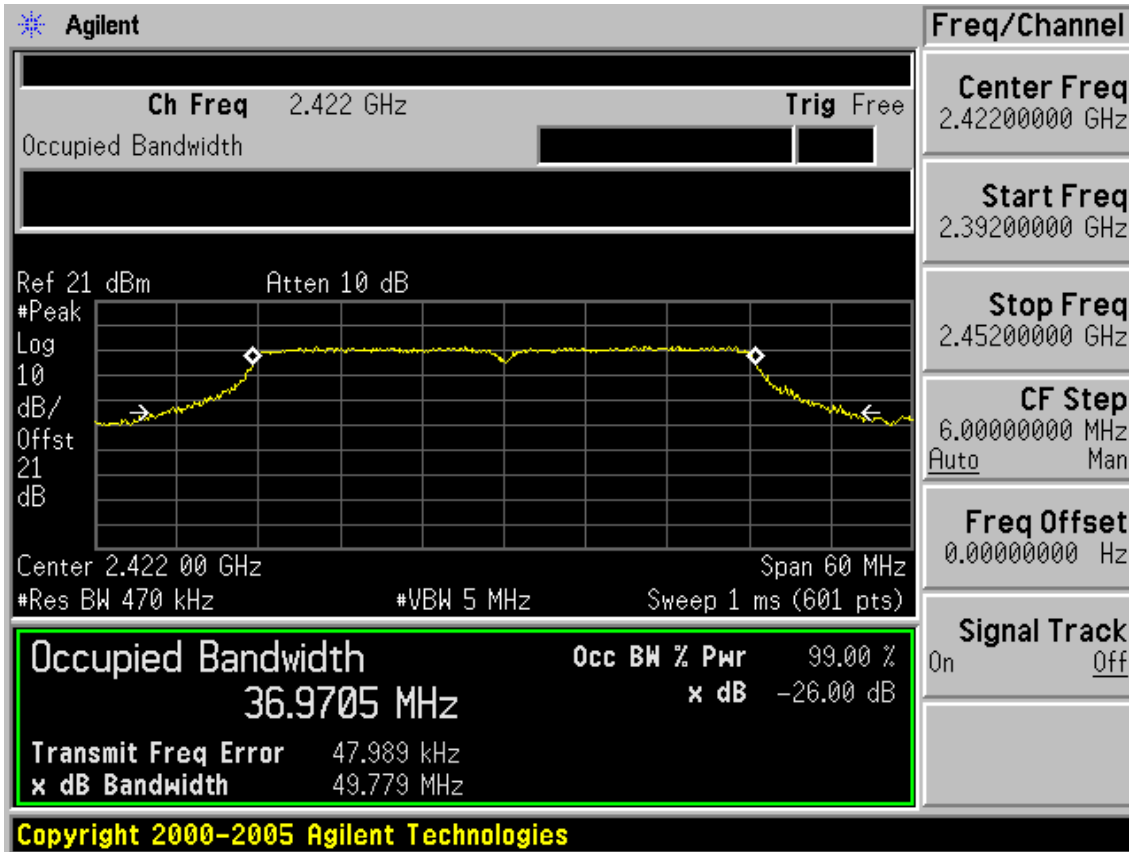
Test Mode	CH	Result		Limit (dBm)
		Measured power(dBm)/3MHz	PK Output power (dBm)	
11n HT40	CH1	7.88	20.08	30
	CH4	12.75	24.95	30
	CH7	8.64	20.84	30
26dB Bandwidth for 11n HT40:49.834MHz				
BW correction factor = 10log[(35.940MHz)/(3MHz)] = 12.20dB				
Conclusion: PASS				

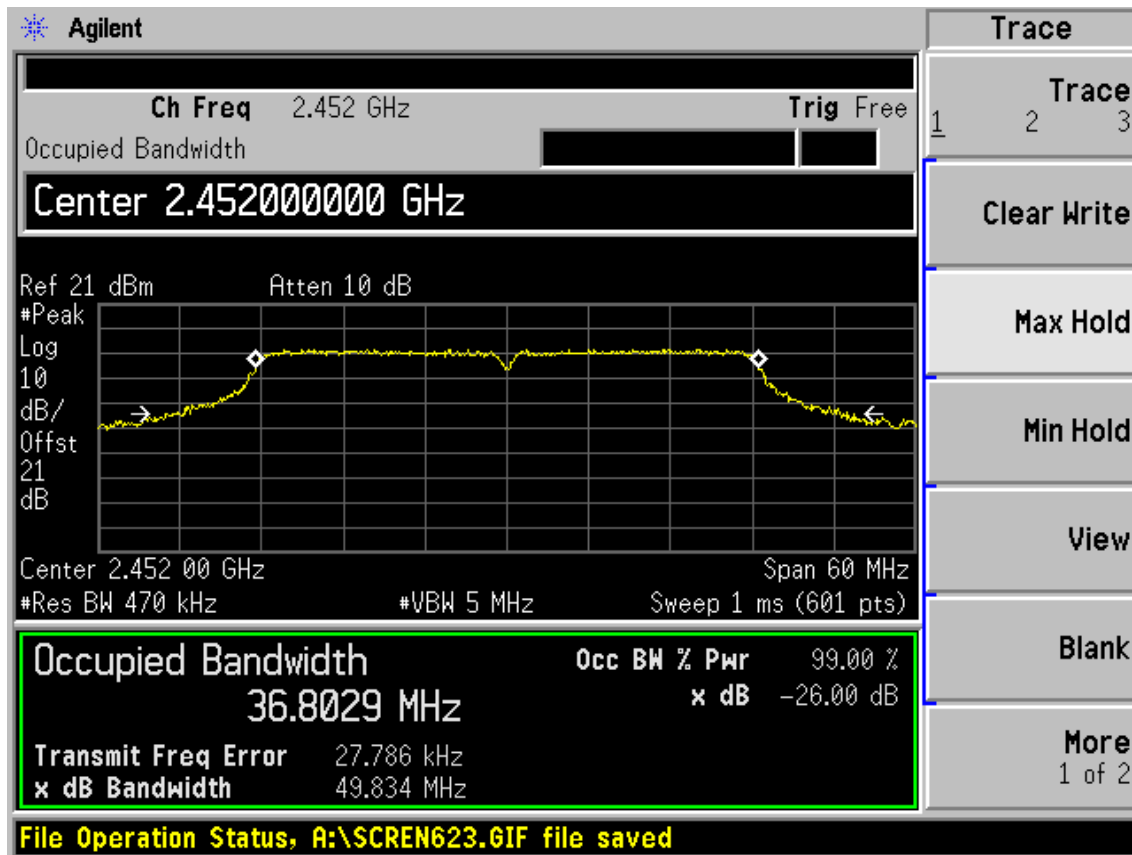
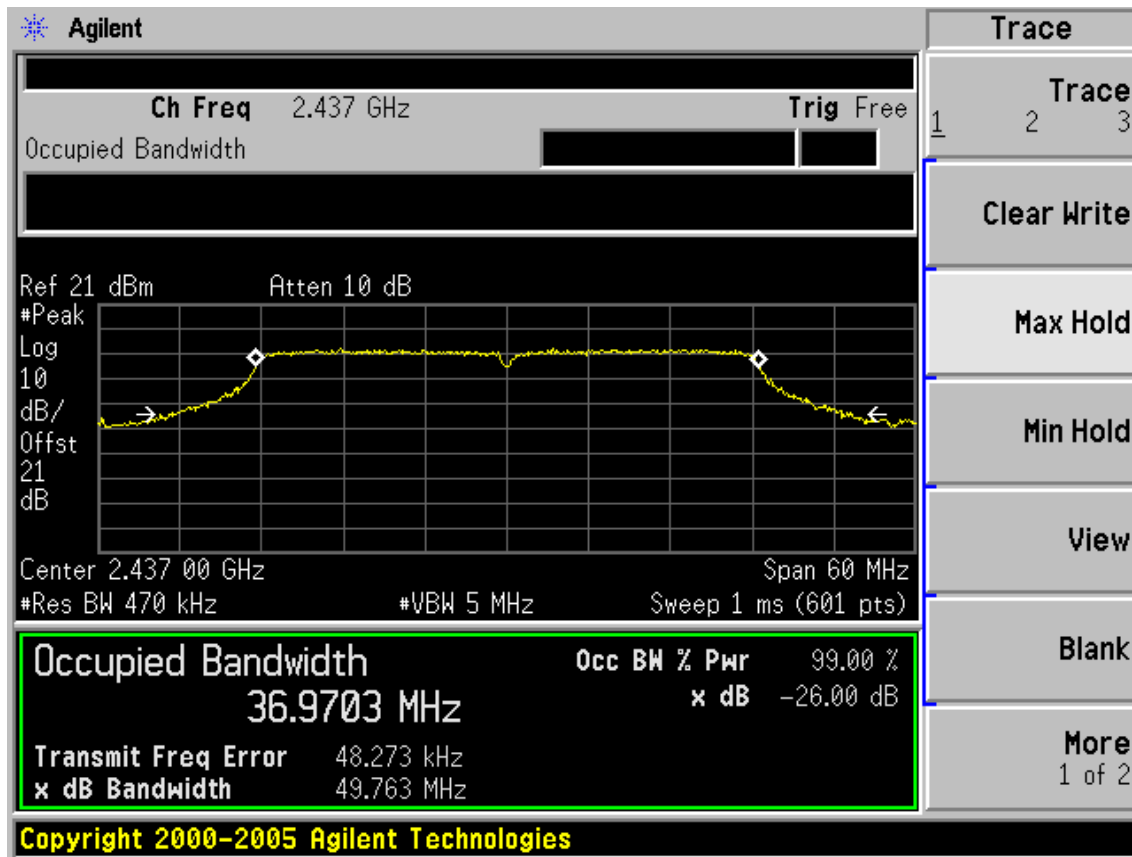
Test Mode: IEEE 802.11n HT40





26dB Bandwidth





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=100KHz, VBW=300KHz, Span large enough capture the entire frequency the max hold, Read out maximum peak power level Value
- 3, Scale the observed power level get from step to an equivalent value in 3KHz by adjusting the measured power by a bandwidth correction factor (BWCF), where $BWCF=10\log(3KHz/100KHz)=-15.2dB$

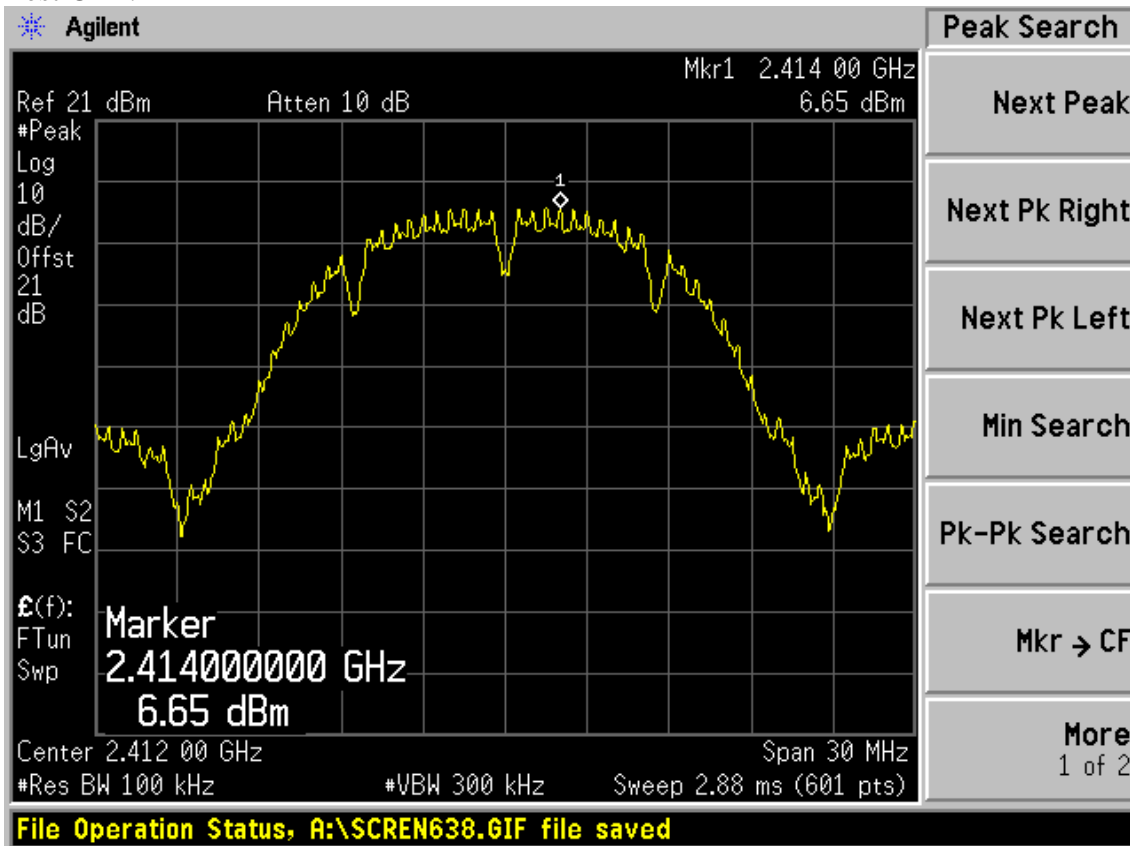
Note: The cable loss and attenuator loss were offset into measure device as an amplitude

9.4. Test Results

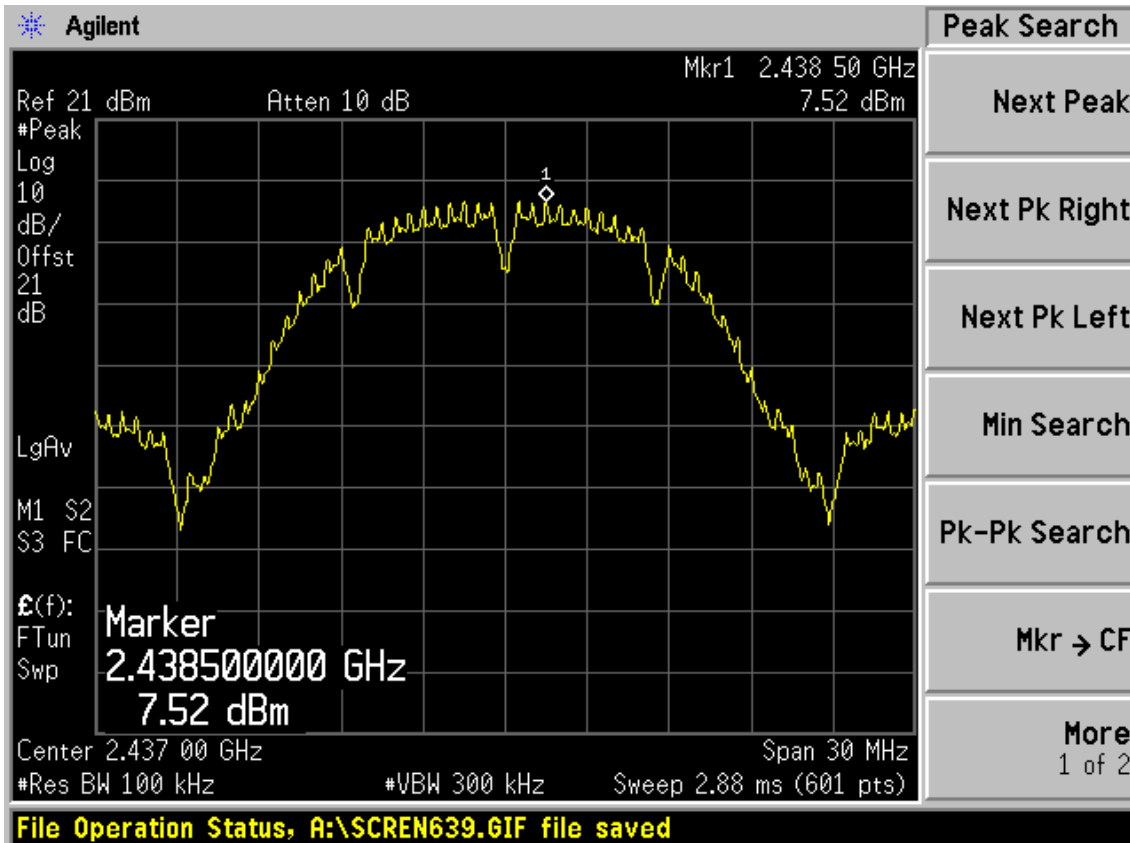
EUT: 3G Wireless N Nano Router		
M/N: PW-3G401M		
Test date: 2012-11-07	Pressure: 101.4 ± 1.0 kpa	Humidity: 53.4 ± 3.0%
Tested by: Leo-Li	Test site: RF Site	Temperature: 21.6 ± 0.6°C

Cable loss: 1 dB		Attenuator loss: 20 dB		Antenna Gain: 0 dBi
Test Mode	CH	Power density (dBm/100KH)	Power density (dBm/3KHz)	Limit (dBm/3KHz)
11b	CH1	6.65	-8.55	8
	CH6	7.52	-7.68	8
	CH11	7.00	-8.2	8
11g	CH1	3.38	-11.82	8
	CH6	6.34	-8.86	8
	CH11	3.61	-11.59	8
11n HT20	CH1	2.74	-12.46	8
	CH6	6.35	-8.85	8
	CH11	3.05	-12.15	8
11n HT40	CH1	-1.30	-16.5	8
	CH4	3.39	-11.81	8
	CH7	-0.64	-15.84	8
BW correction factor = 10log[(3/100KHz)] = -15.2				
Conclusion: PASS				

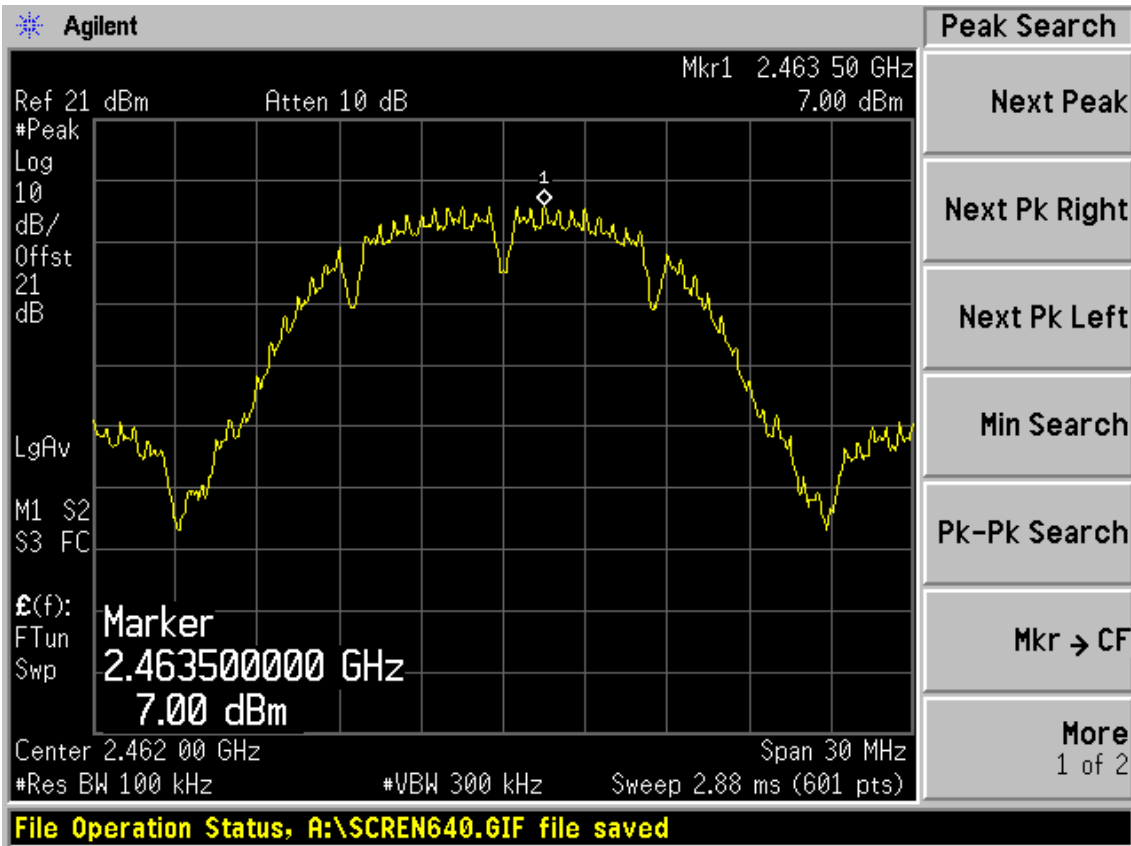
Test Mode: IEEE 802.11b TX
 Test CH1: 2412MHz



Test CH6: 2437MHz

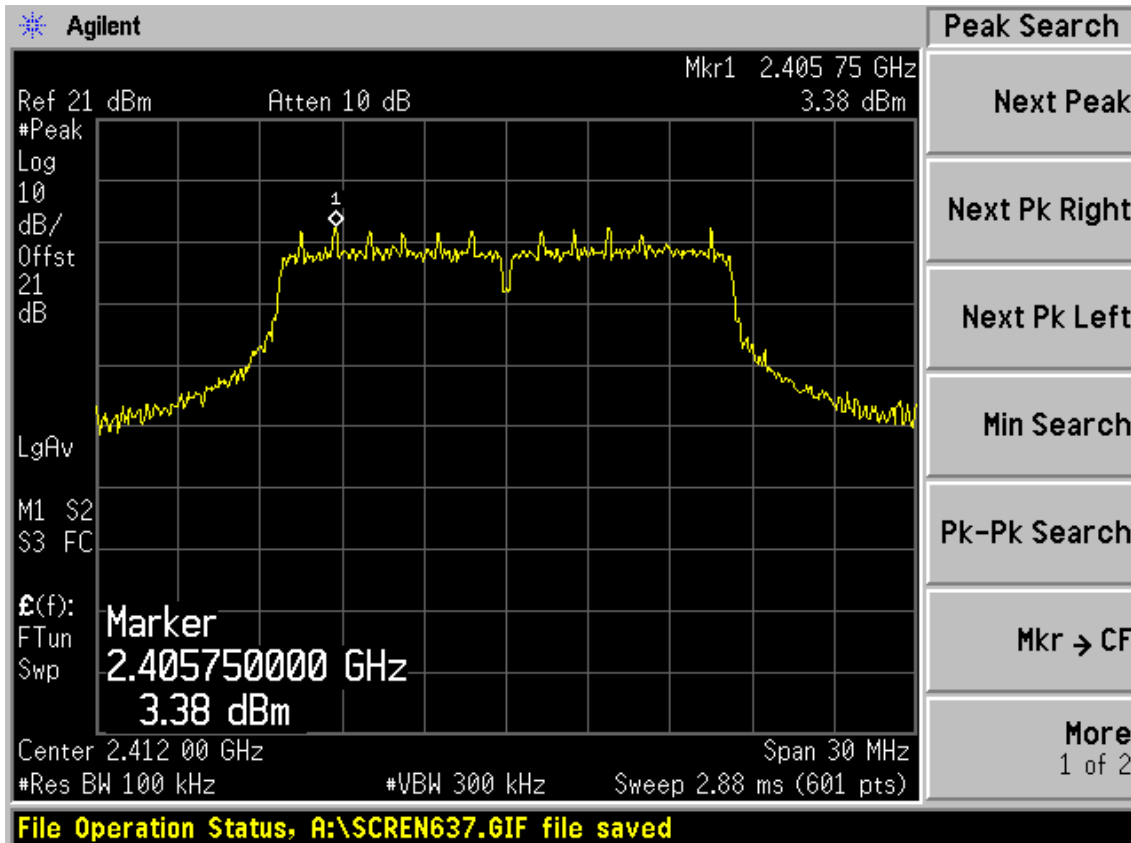


Test CH11: 2462MHz

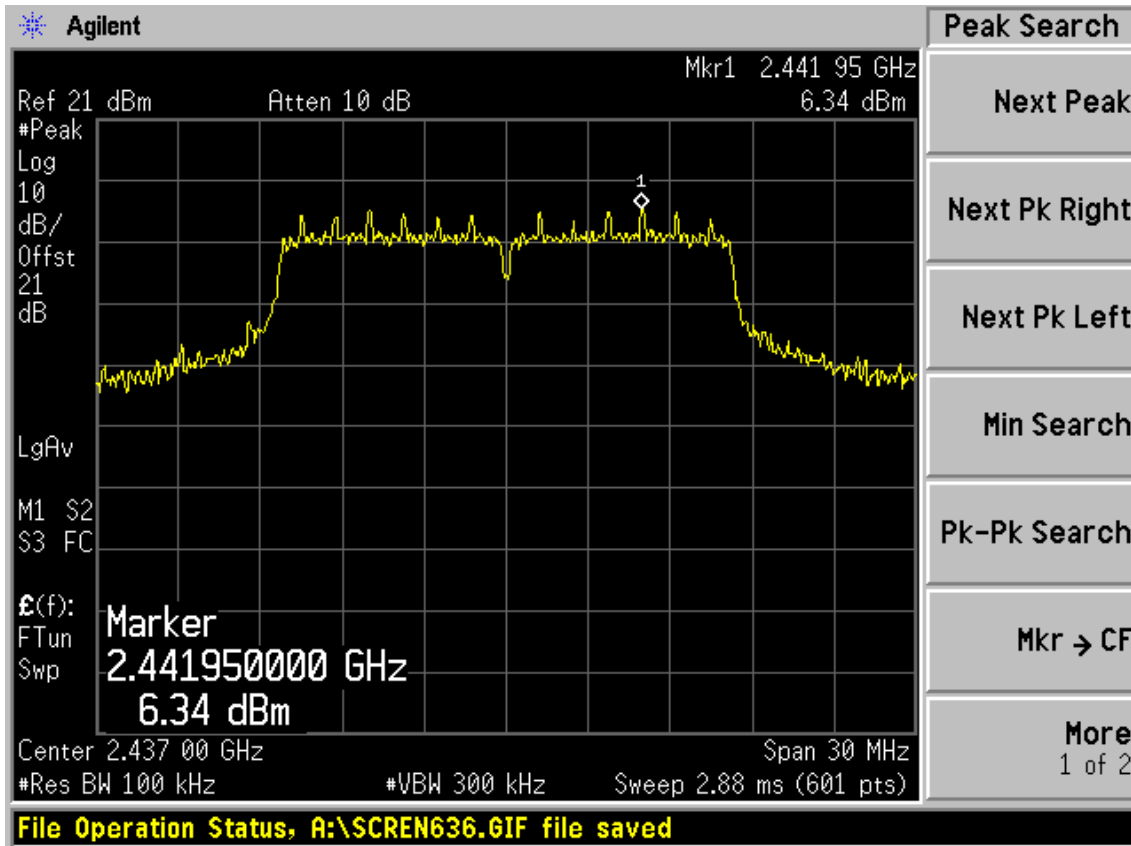


Test Mode: IEEE 802.11g TX

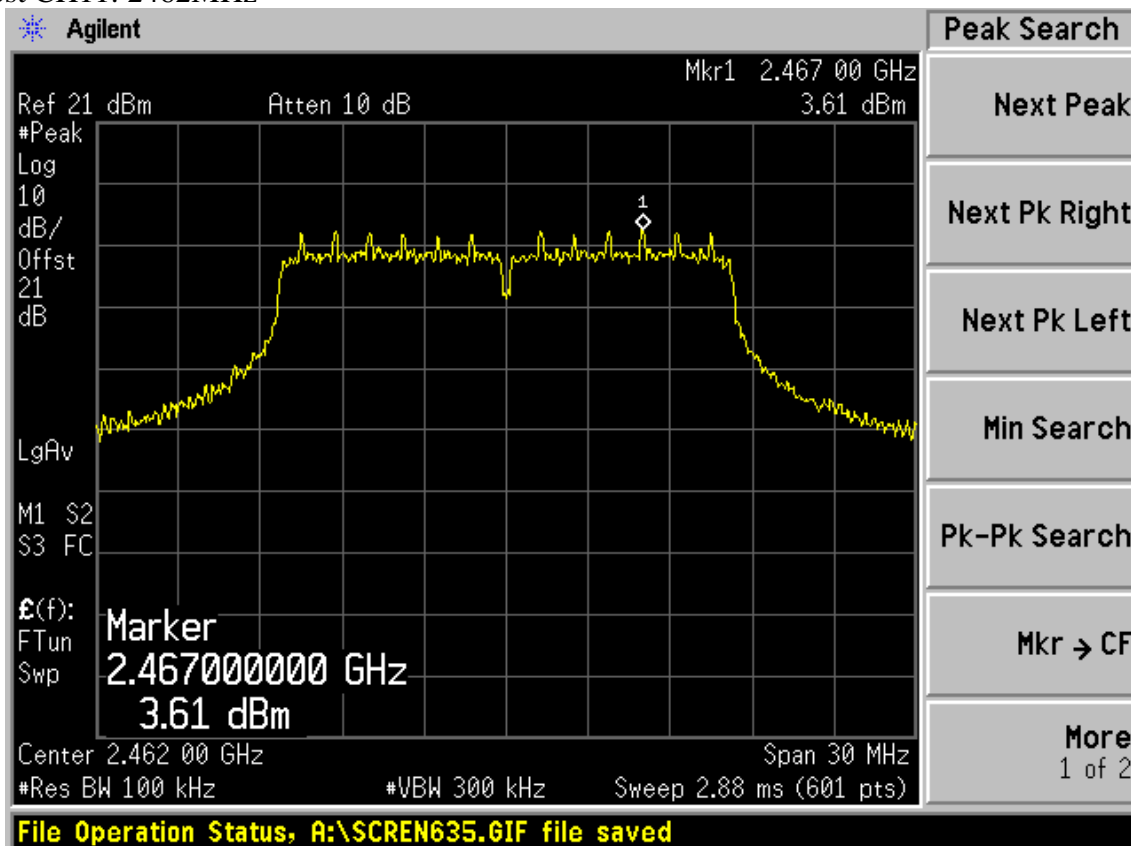
Test CH1: 2412MHz



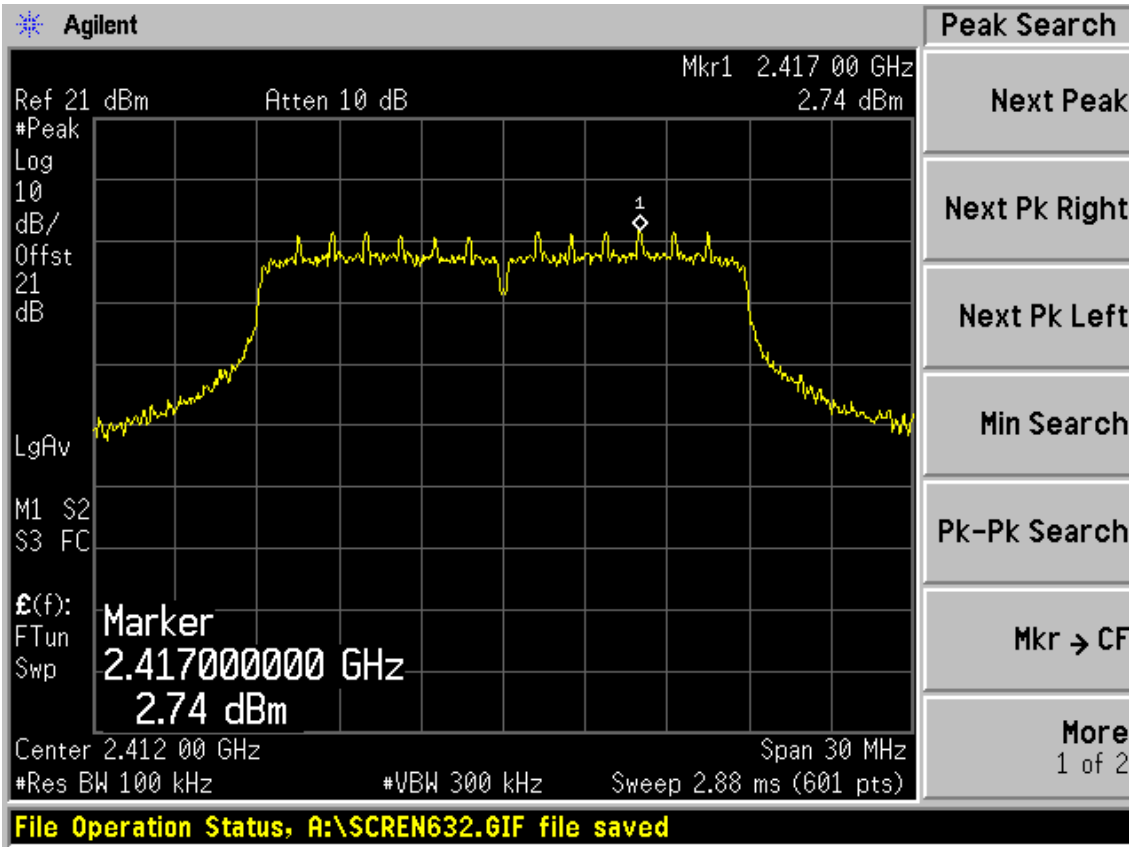
Test CH6: 2437MHz



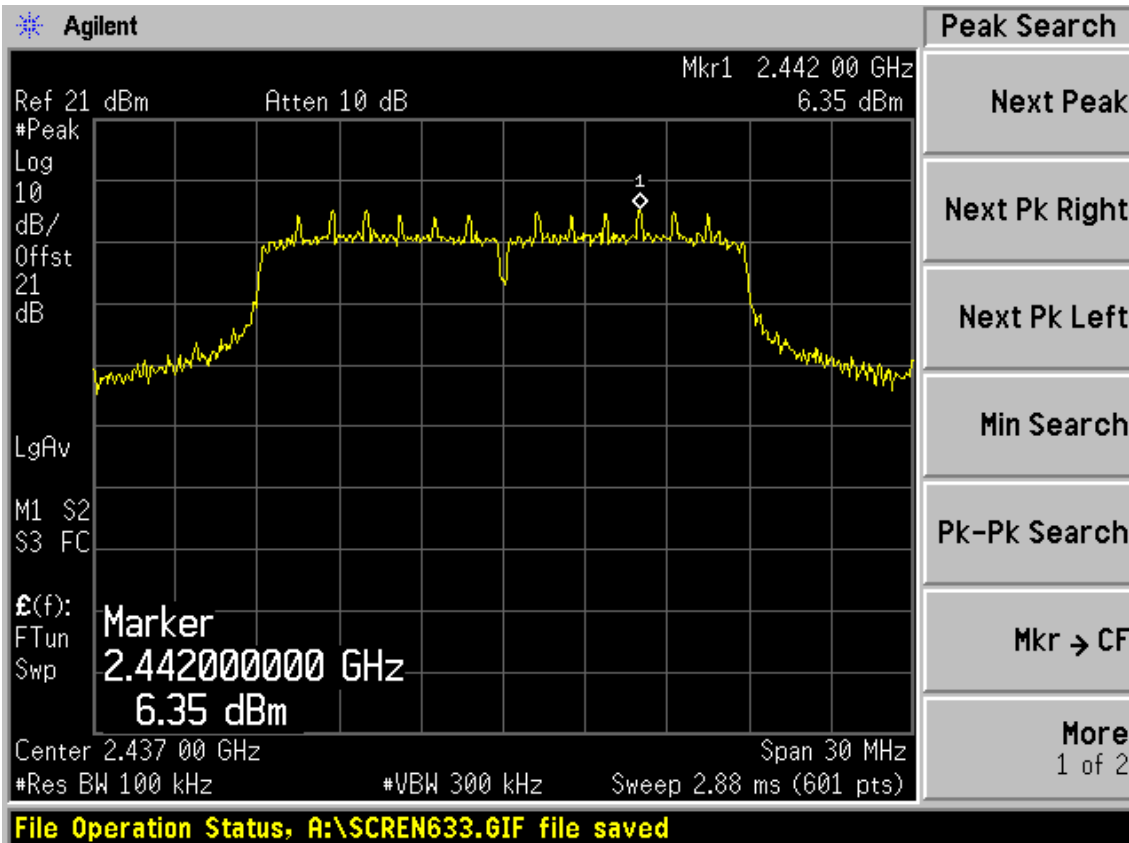
Test CH11: 2462MHz



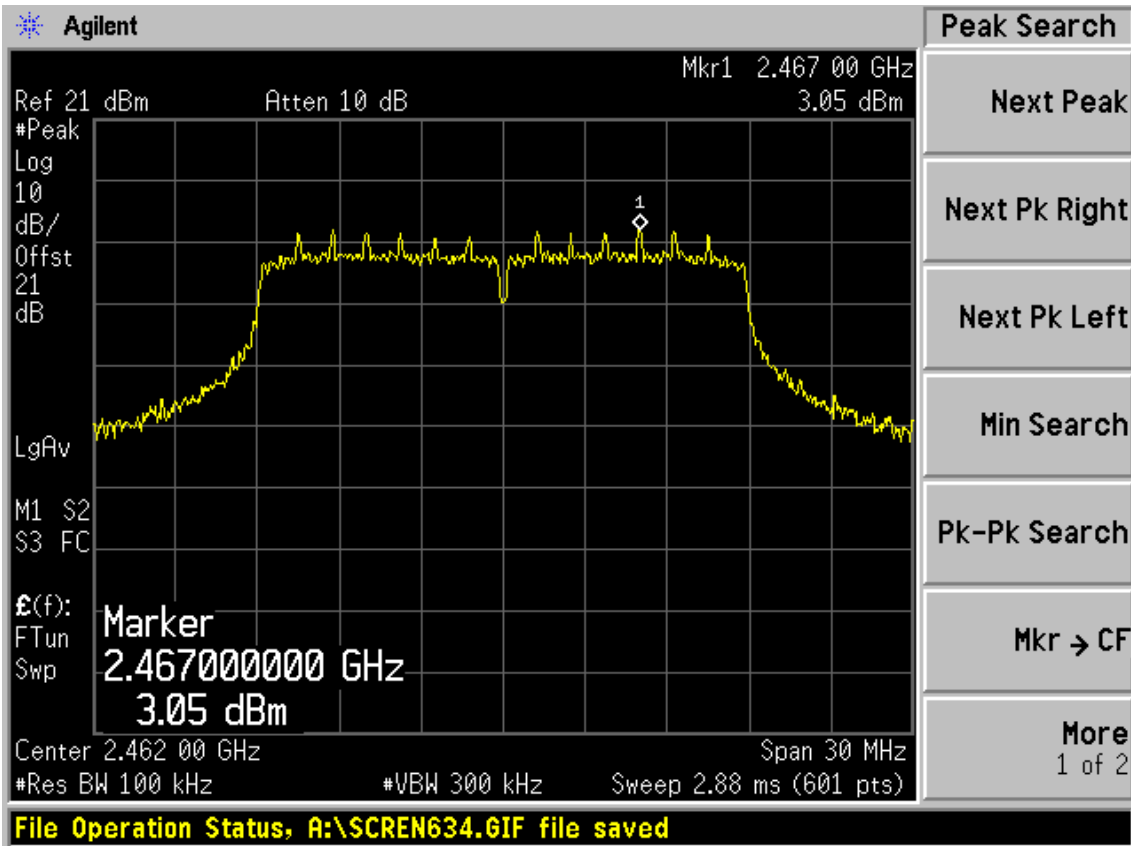
Test Mode: IEEE 802.11n HT20 TX
 Test CH1: 2412MHz



Test CH6: 2437MHz

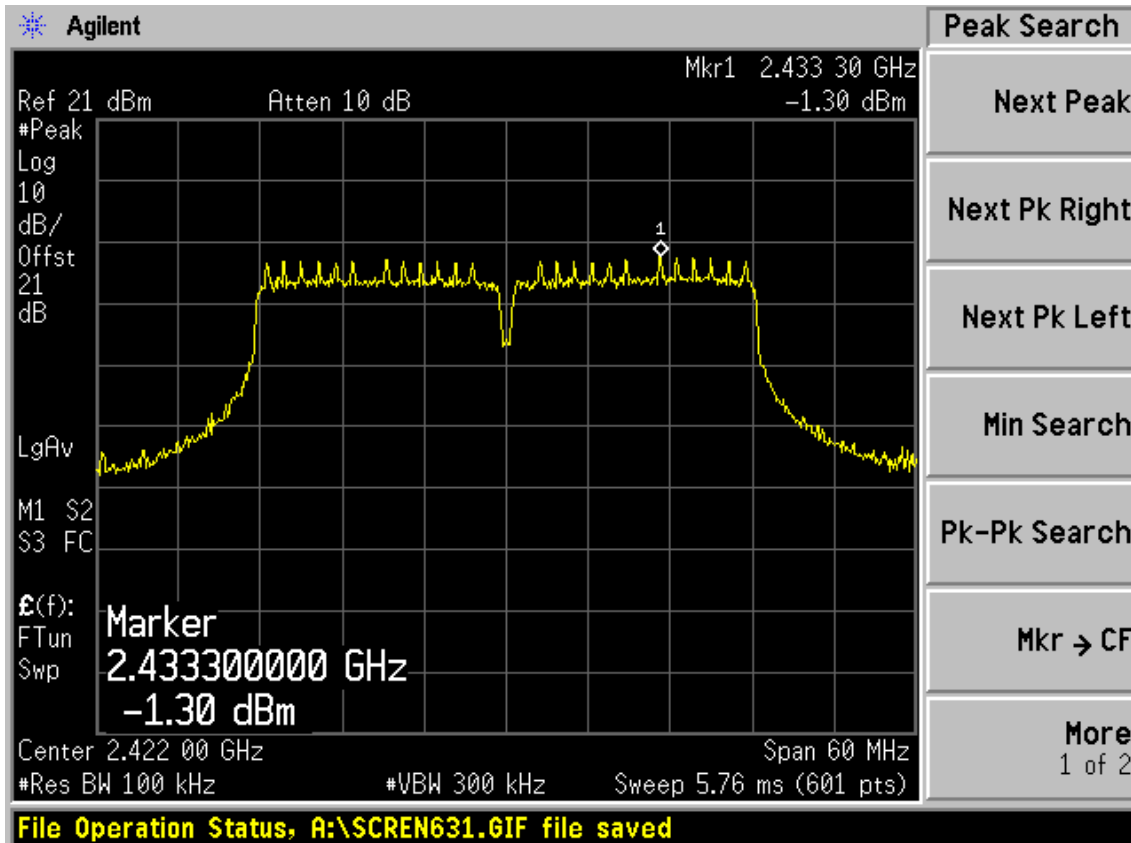


Test CH11: 2462MHz

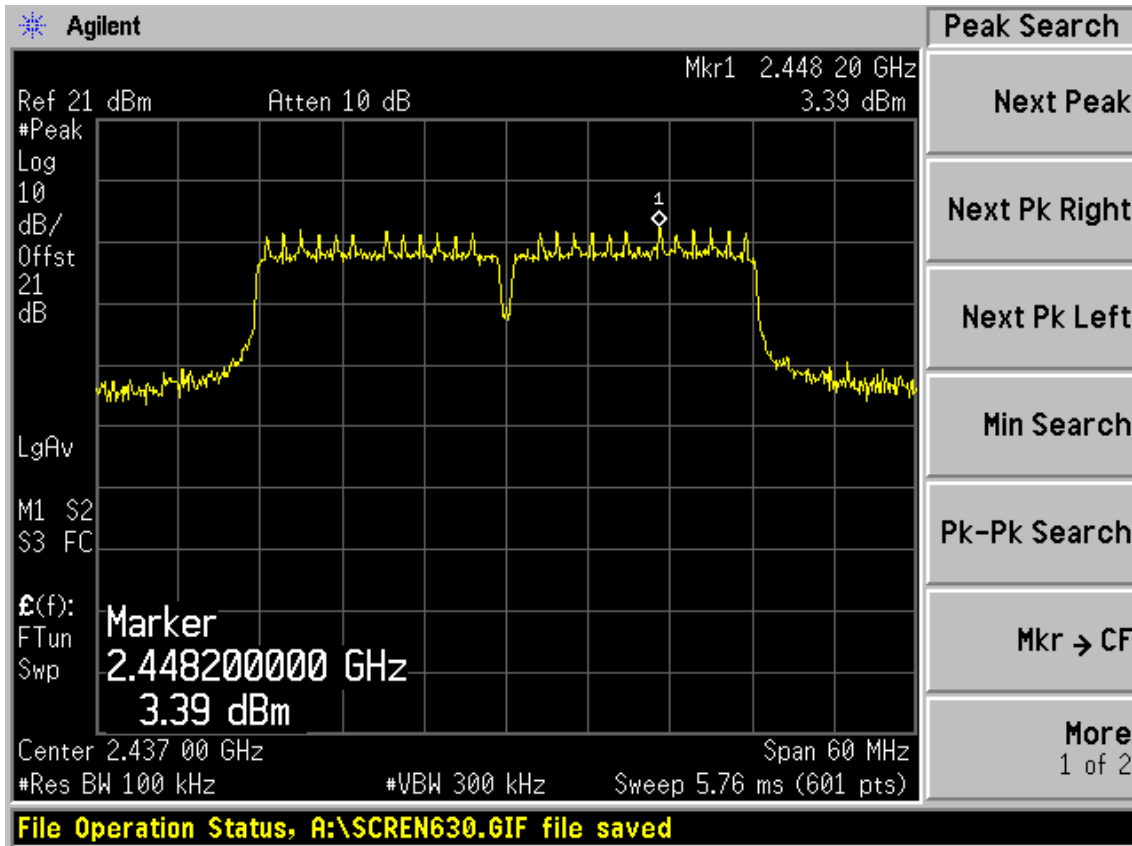


Test Mode: IEEE 802.11n HT40 TX

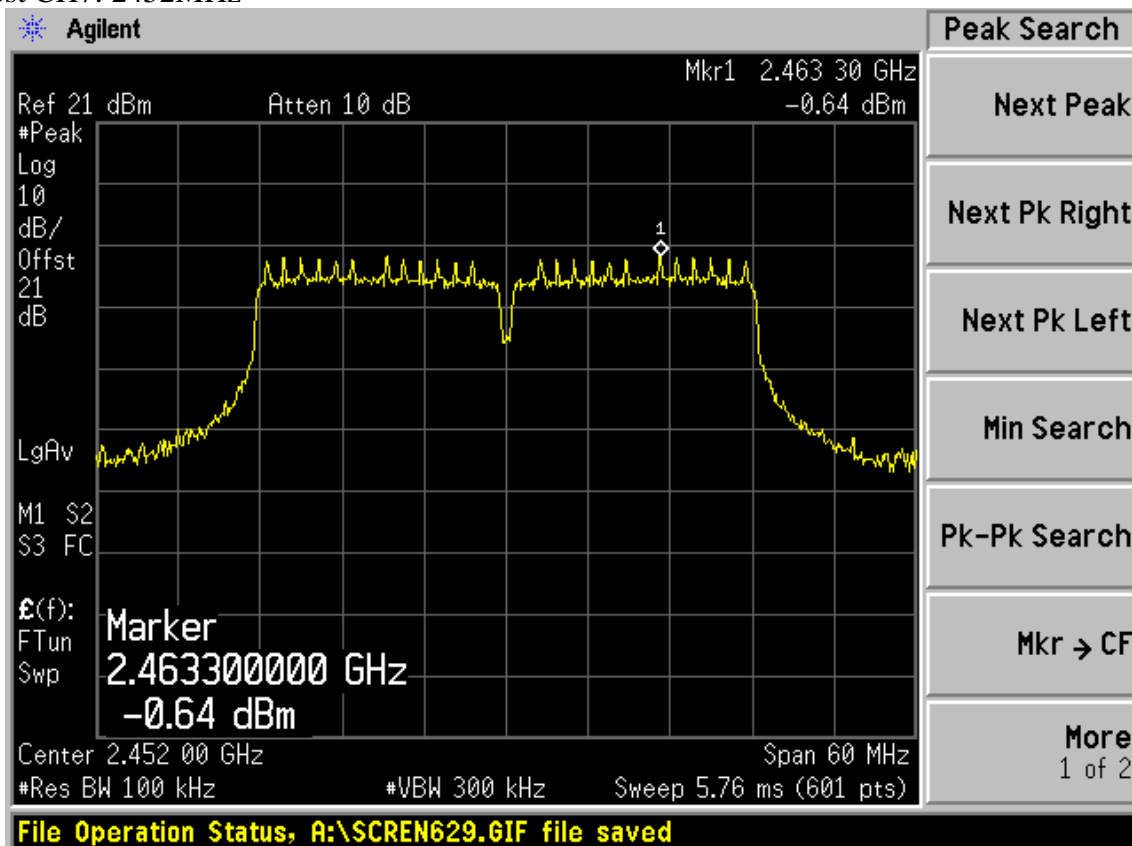
Test CH1: 2422MHz



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 PCB antenna that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is 0Bi.

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: 3G Wireless N Nano Router		
M/N: PW-3G401M		
Test date: 2012-11-01	Pressure: 101.4 ± 1.0 kpa	Humidity: 55.6 ± 3.0%
Tested by: Leo-Li	Test site: RF Site	Temperature: 22.4 ± 0.6°C

Cable loss: 1 dB		Attenuator loss: 20 dB				Antenna Gain: 0 dBi	
Test Mode	CH	Frequency (MHz)	Peak Output Power (dBm)	Output Power (mW)	Antenna Gain (dBi)	Antenna Gain (Linear)	MPE
11b	CH1	2412	18.69	73.96	0	1.00	0.0147
	CH6	2437	19.58	90.78	0	1.00	0.0181
	CH11	2462	19.5	89.13	0	1.00	0.0177
11g	CH1	2412	21.7	147.91	0	1.00	0.0294
	CH6	2437	24.52	283.14	0	1.00	0.0564
	CH11	2462	22.14	163.68	0	1.00	0.0326
11n HT20	CH1	2412	20.6	114.82	0	1.00	0.0229
	CH6	2437	23.96	248.89	0	1.00	0.0495
	CH11	2462	24.19	262.42	0	1.00	0.0522
11n HT40	CH1	2422	20.08	101.86	0	1.00	0.0203
	CH4	2437	24.95	312.61	0	1.00	0.0622
	CH7	2452	20.84	121.34	0	1.00	0.0242

11.3. This device has a SUB interface and it tends to be used for 3G/4G USB dongle, so need MPE Evaluation that this device working along with the 3G/4G USB dongle.

11.4. RF exposure limit

Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (minutes)
(A) Limits for Occupational / Control Exposures				
30-300	61.4	0.163	1.0	6
300-1500	-	-	F/300	6
1500-100,000	-	-	5	6
(B) Limits for General Population / Uncontrolled Exposure				
30-300	27.5	0.073	0.2	30
300-1500	-	-	F/1500	30
1500-100,000	-	-	1.0	30

F= Frequency in MHz

11.5. RF exposure calculations

Power density (S) is calculated by the following formula:

$$S = (P * G) / 4\pi R^2$$

where, S = Power density (mW/cm²)

P = Output power to antenna (mW)

R = Distance between radiating structure and observation point (cm)

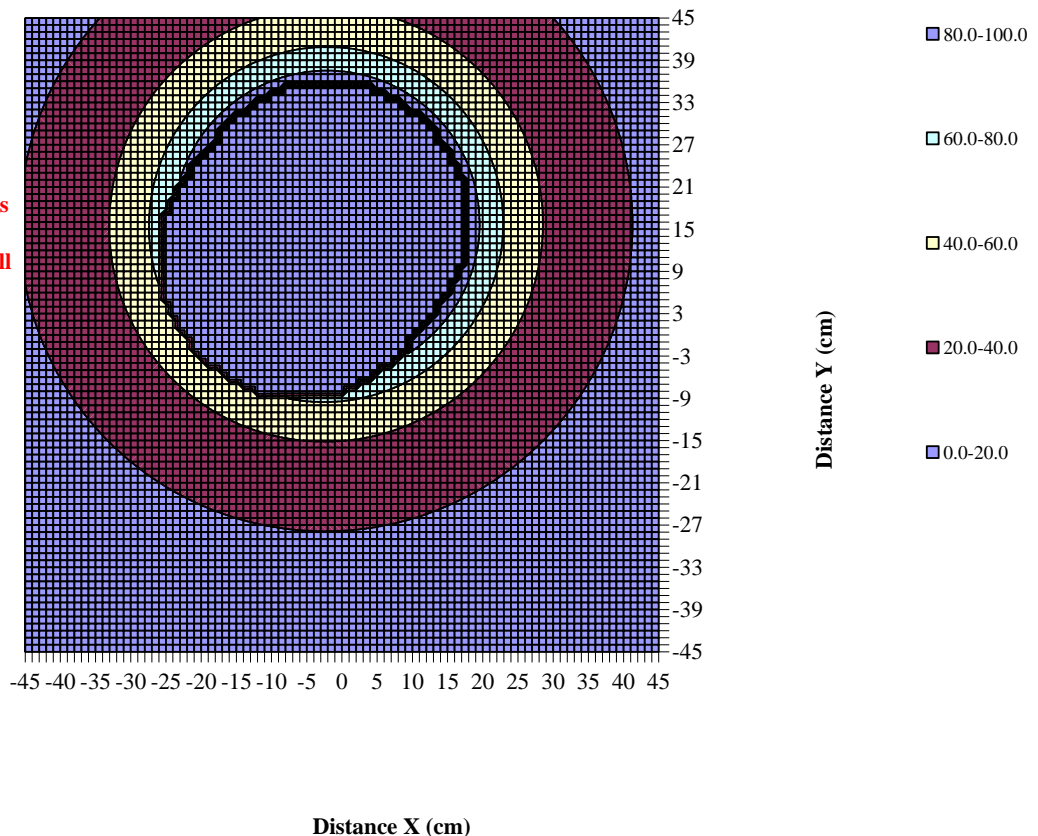
G = Gain of antenna in numeric

$\pi = 3.1416$

11.6. Test result

Antenna No.		Total	1	2	3	4	5	6
Tx Status			On	On	Off	Off	Off	Off
Frequency	MHz		850	2450	1900	2450	2450	5800
MPE Limit	mW/cm ²		0.57	1.00	0.00	0.00	0.00	0.00
Max % MPE	%	94.1	88.4	6.2	0.0	0.0	0.0	0.0
Power	(W)	2.313	2.000	0.313	0.000	0.000	0.000	0.000
Antenna Gain	dBi		1.00	0.00	3.00	1.50	0.50	1.00
EIRP	(W)	2.83	2.518	0.313	0.000	0.000	0.000	0.000
X	(cm)		-2.0	-6.0	9.0	4.0	-8.0	8.0
Y	(cm)		16.0	11.0	11.0	0.0	0.0	0.0
Sector			FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Arc			FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
θ_1	degs	input	-120	-120	-120	-120	-120	-120
θ_2			60	60	60	60	60	60
θ_1	degs	actual	-120	-120	-120	-120	-120	-120
θ_2			60	60	60	60	60	60

% MPE Contour



12.DEVIATION TO TEST SPECIFICATIONS

[NONE]