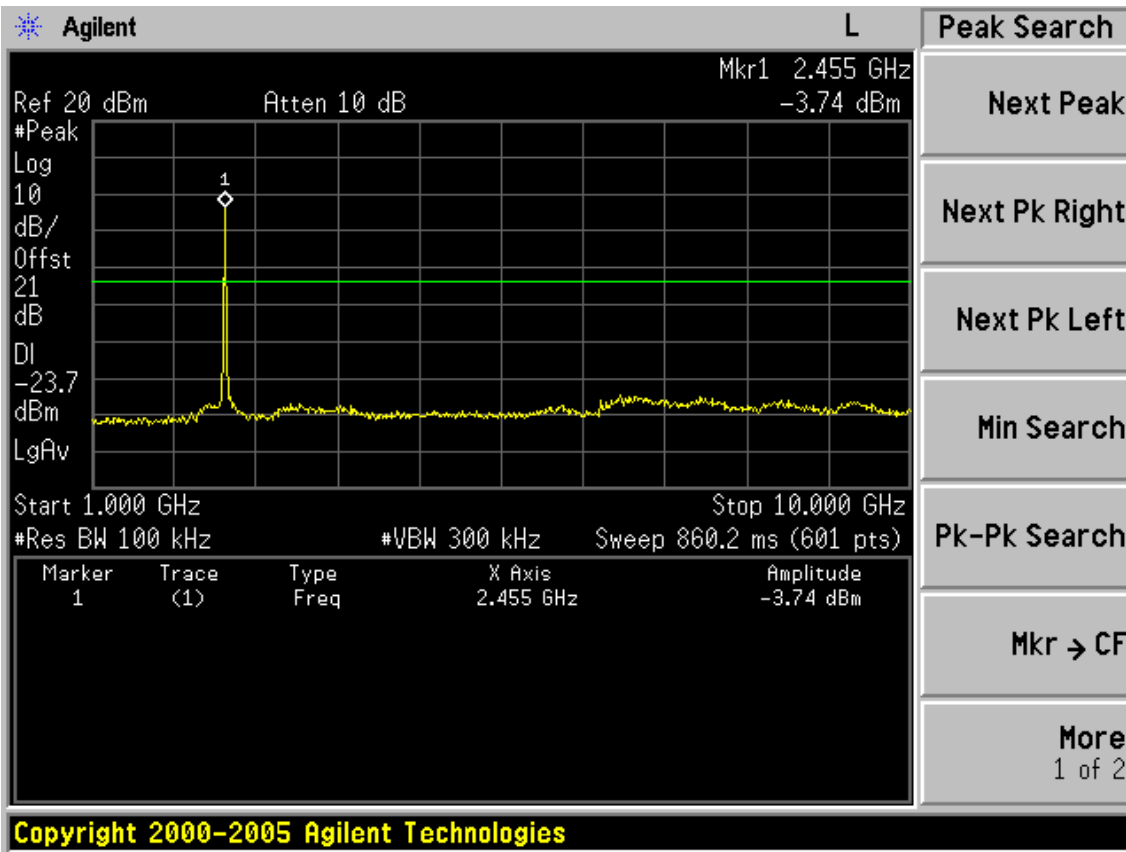
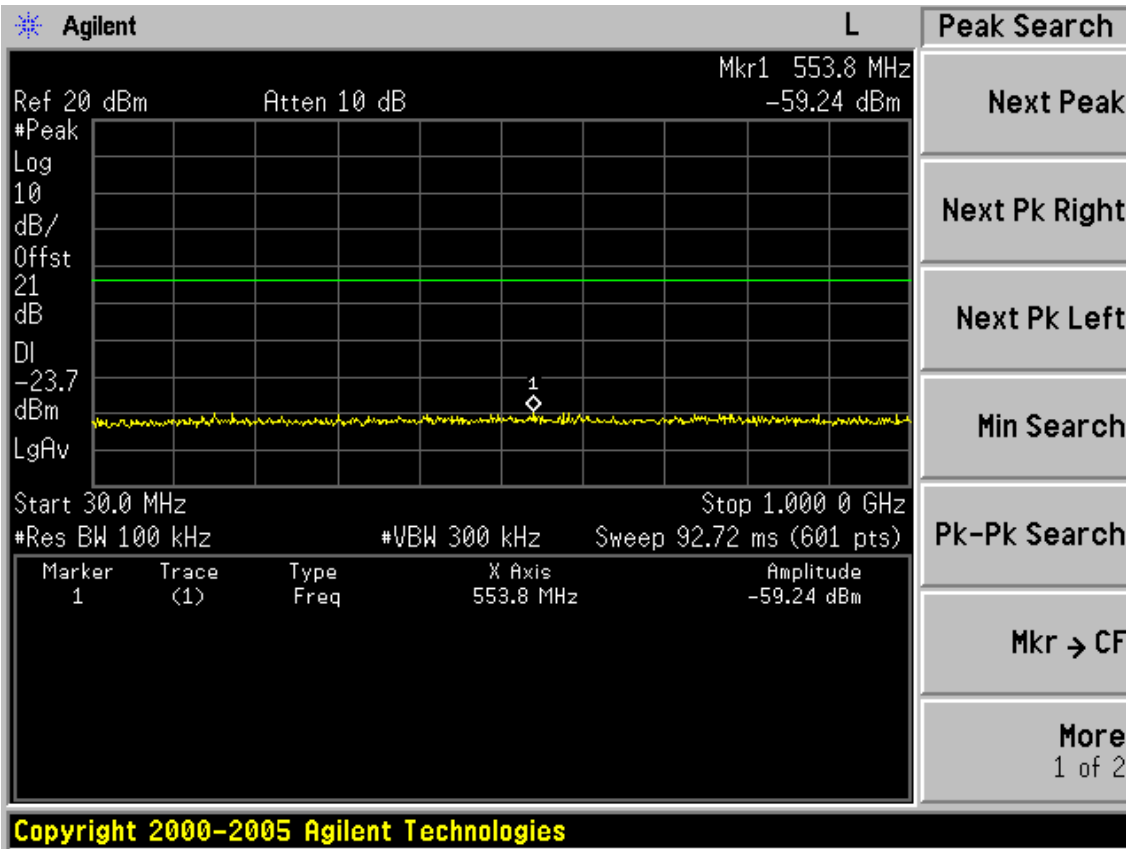
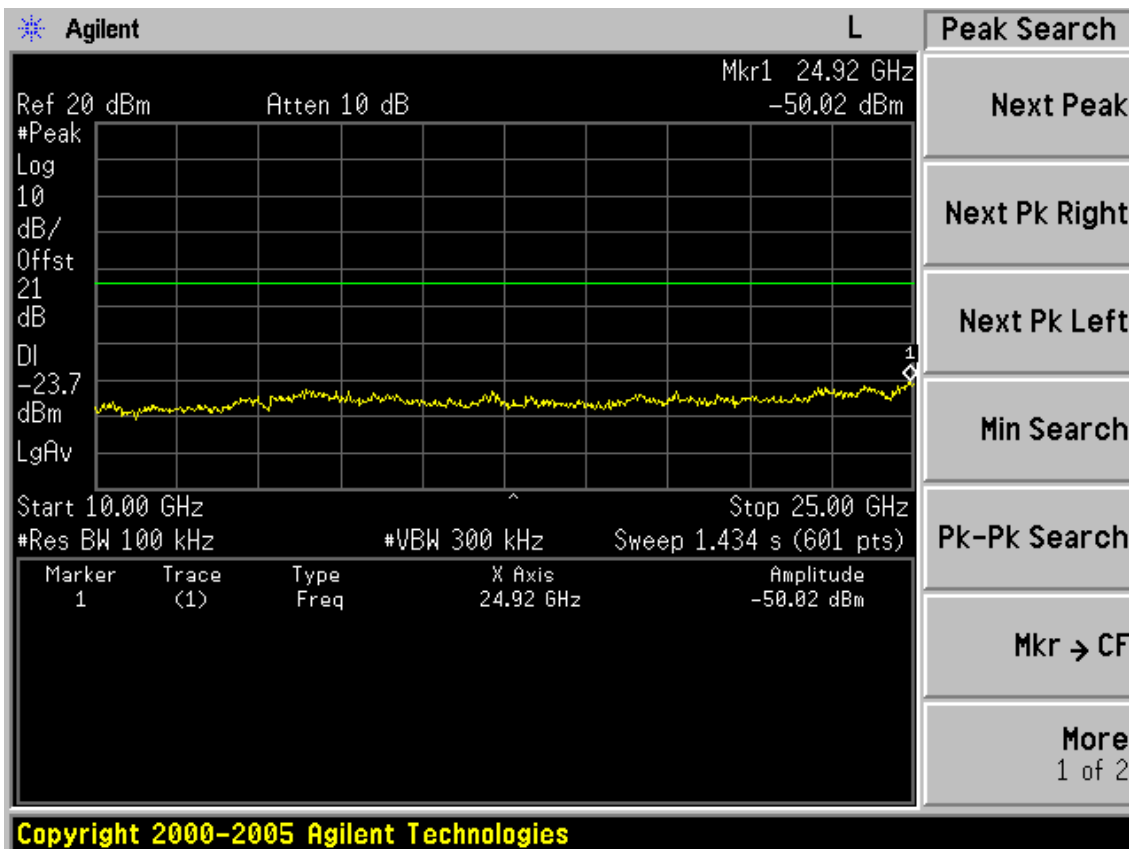
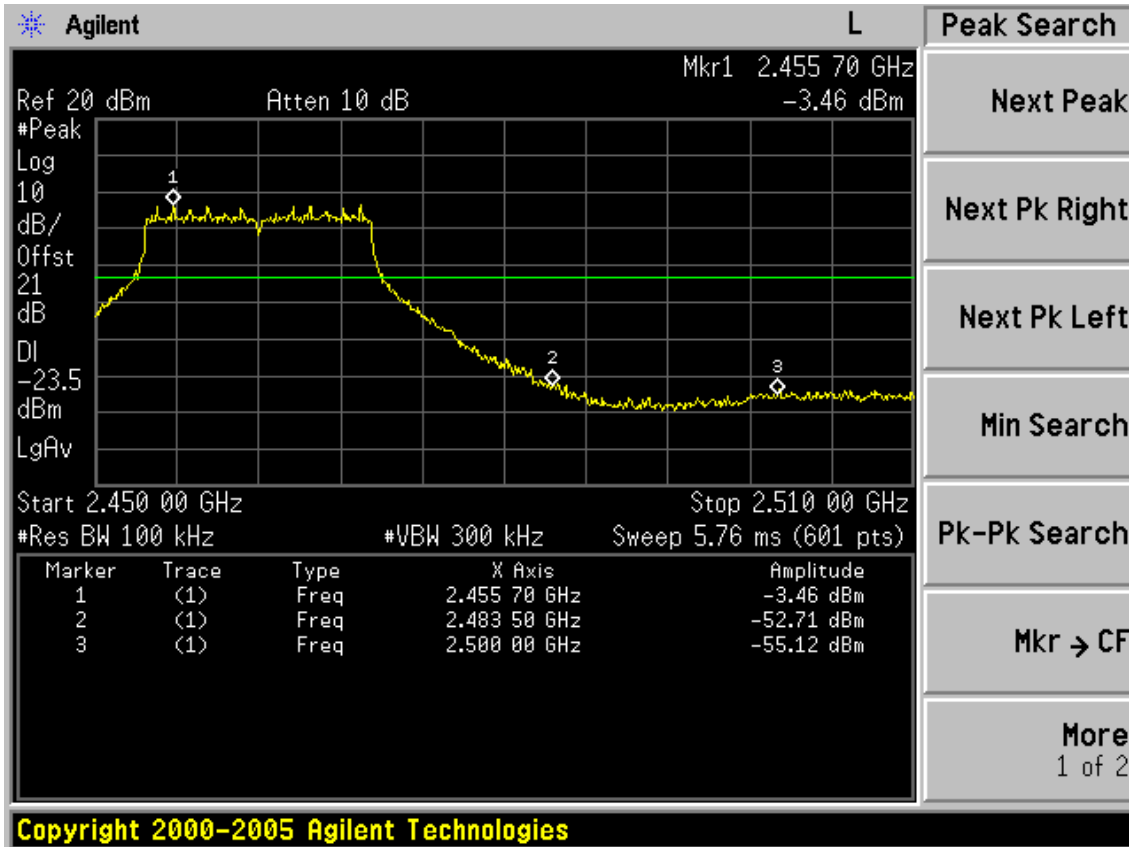
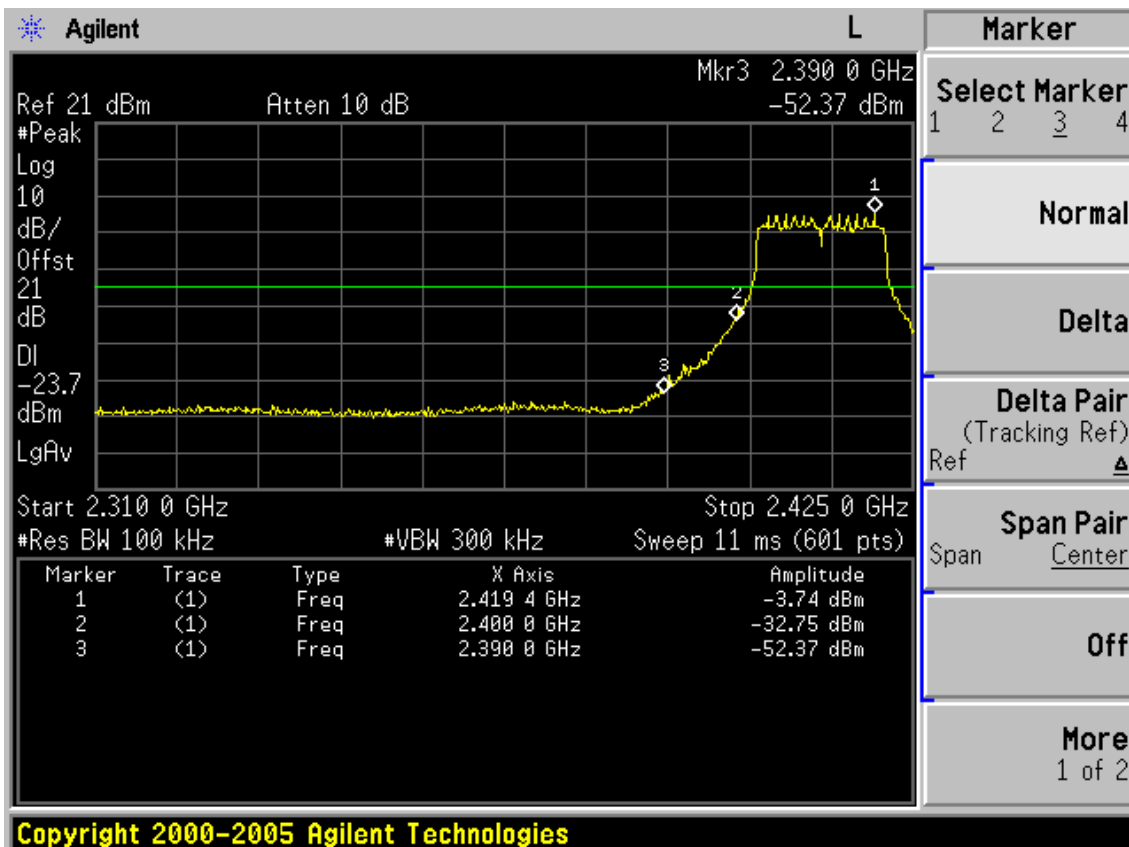
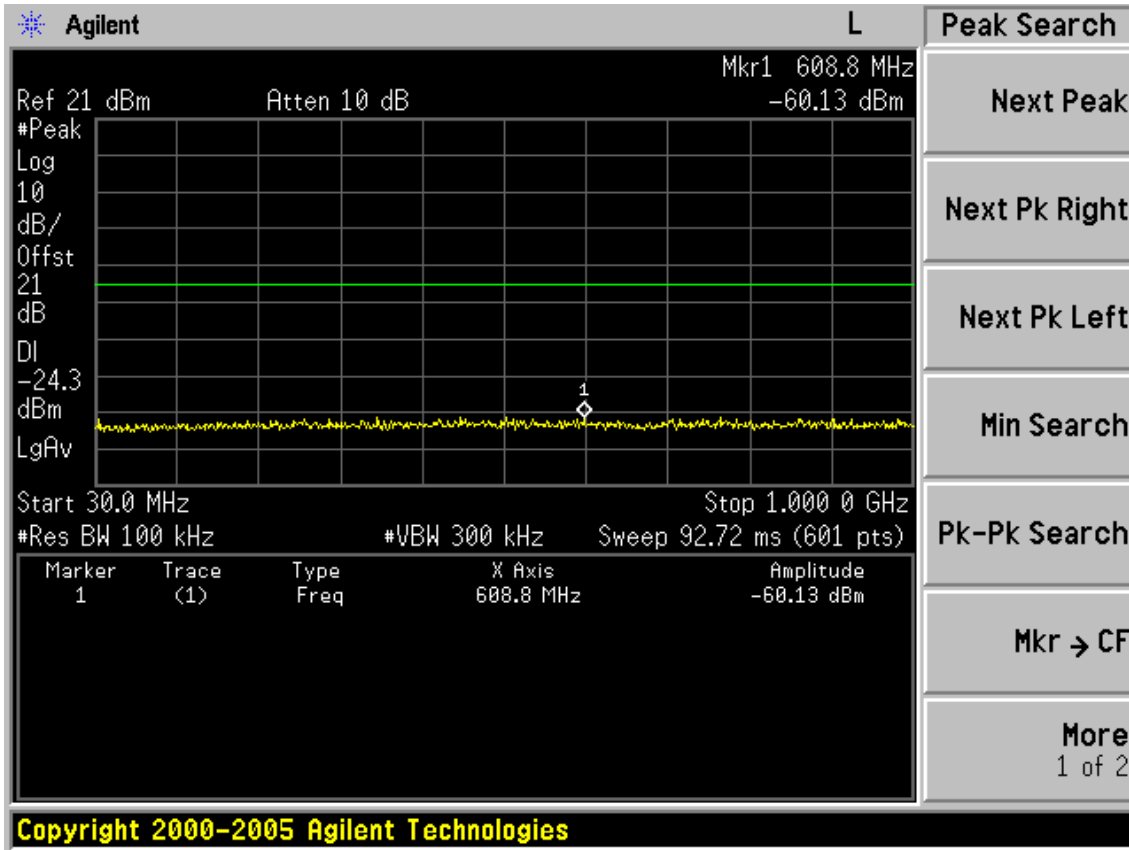


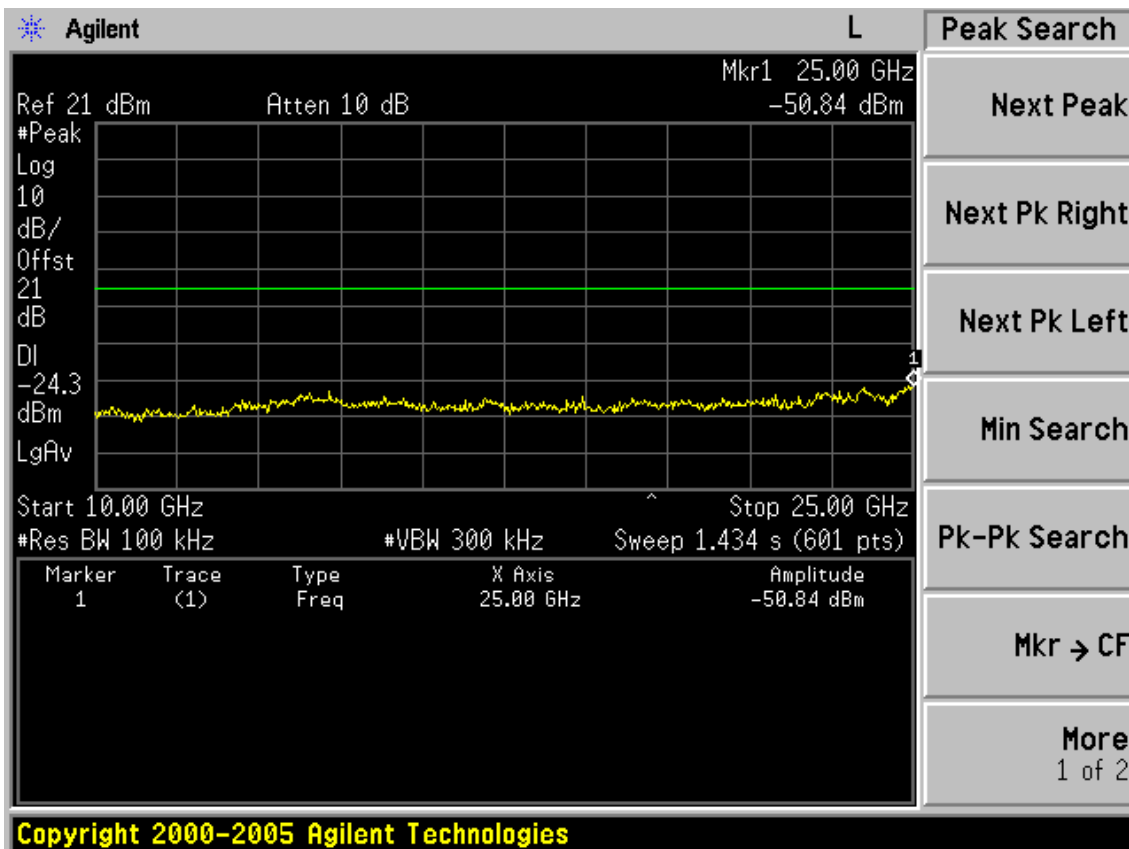
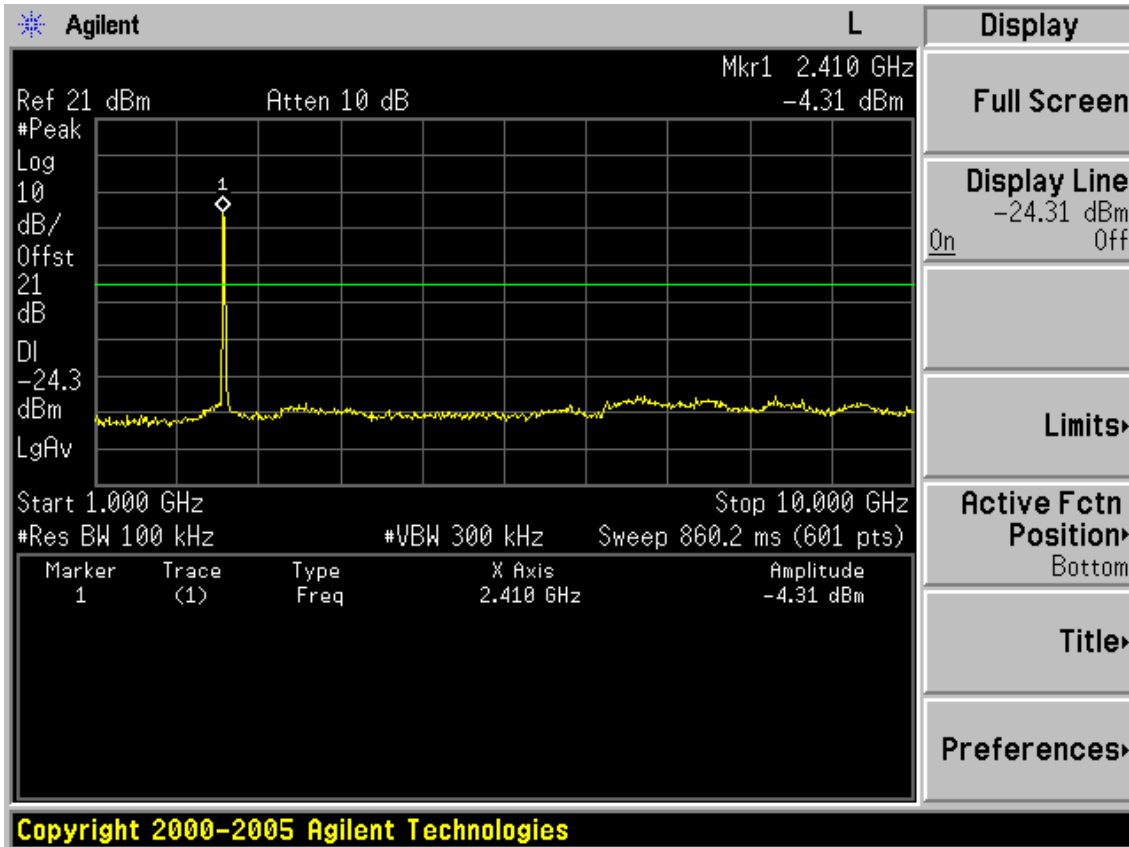
Test CH11: 2462MHz



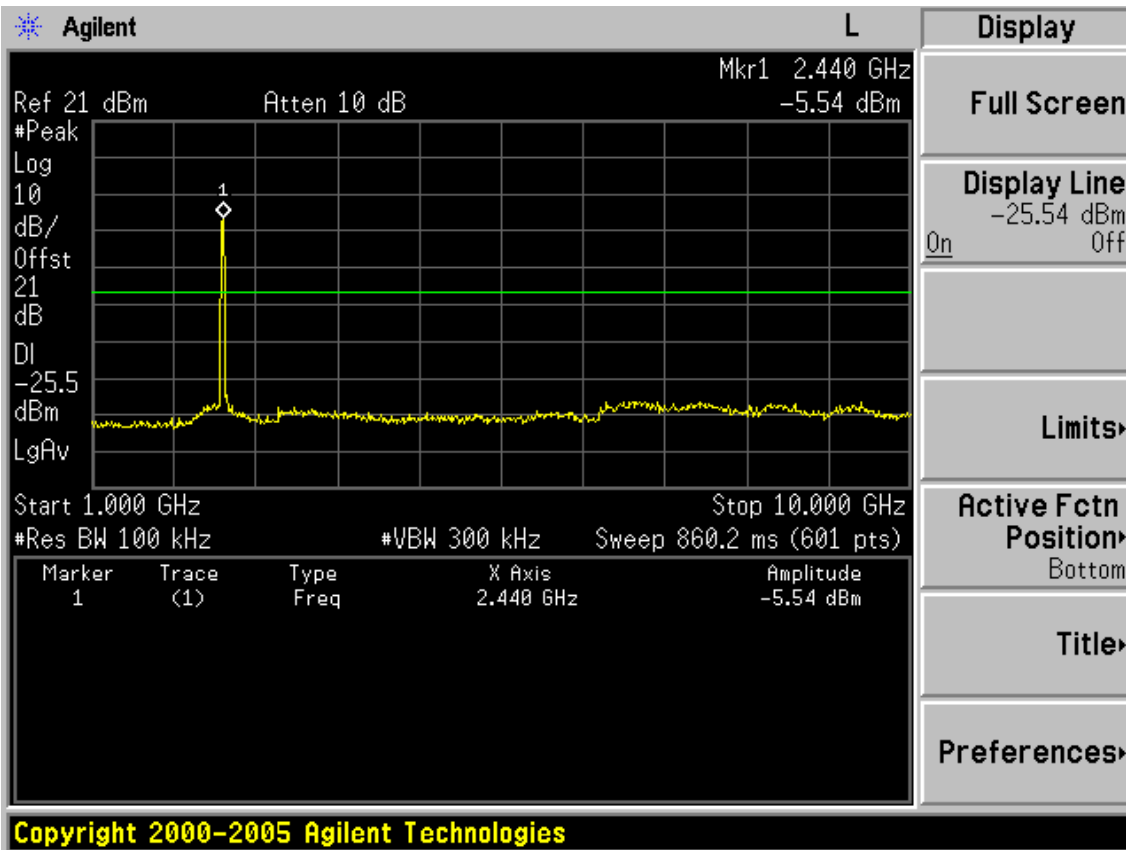
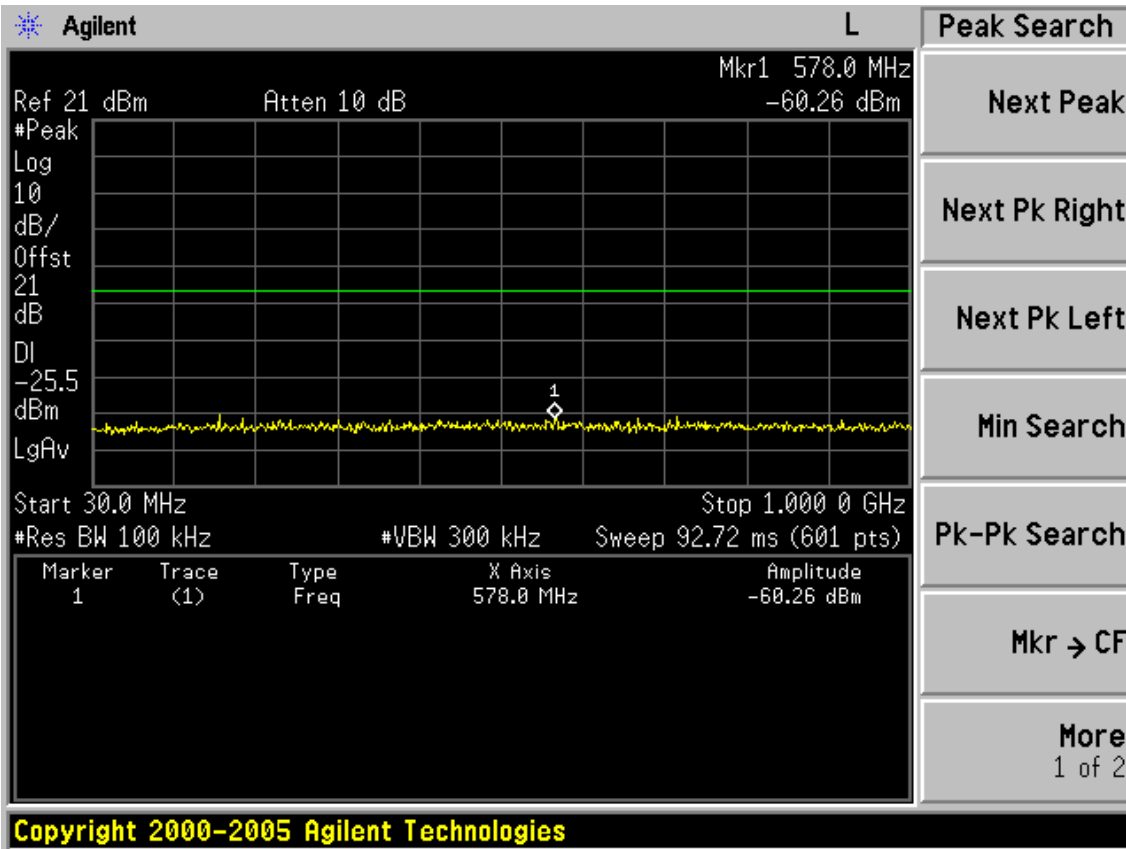


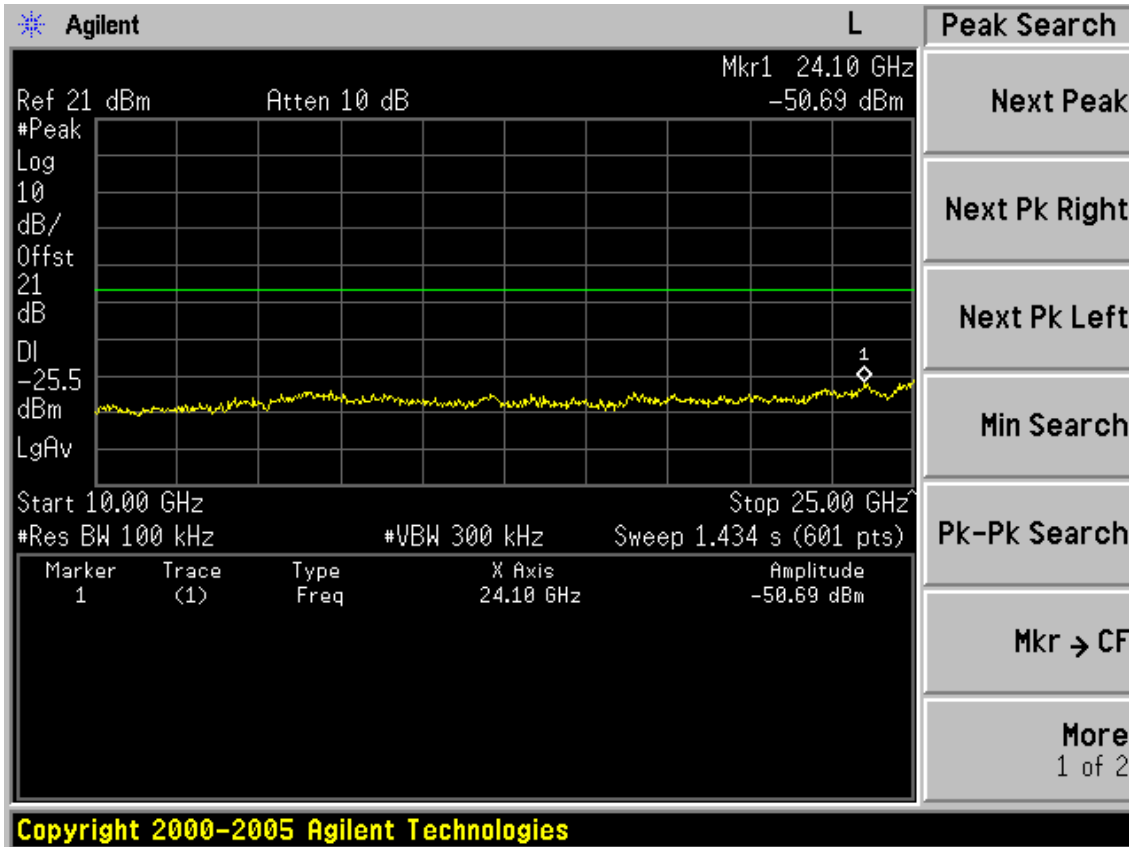
Test Mode: IEEE 802.11n HT20 TX
 Test CH1: 2412MHz



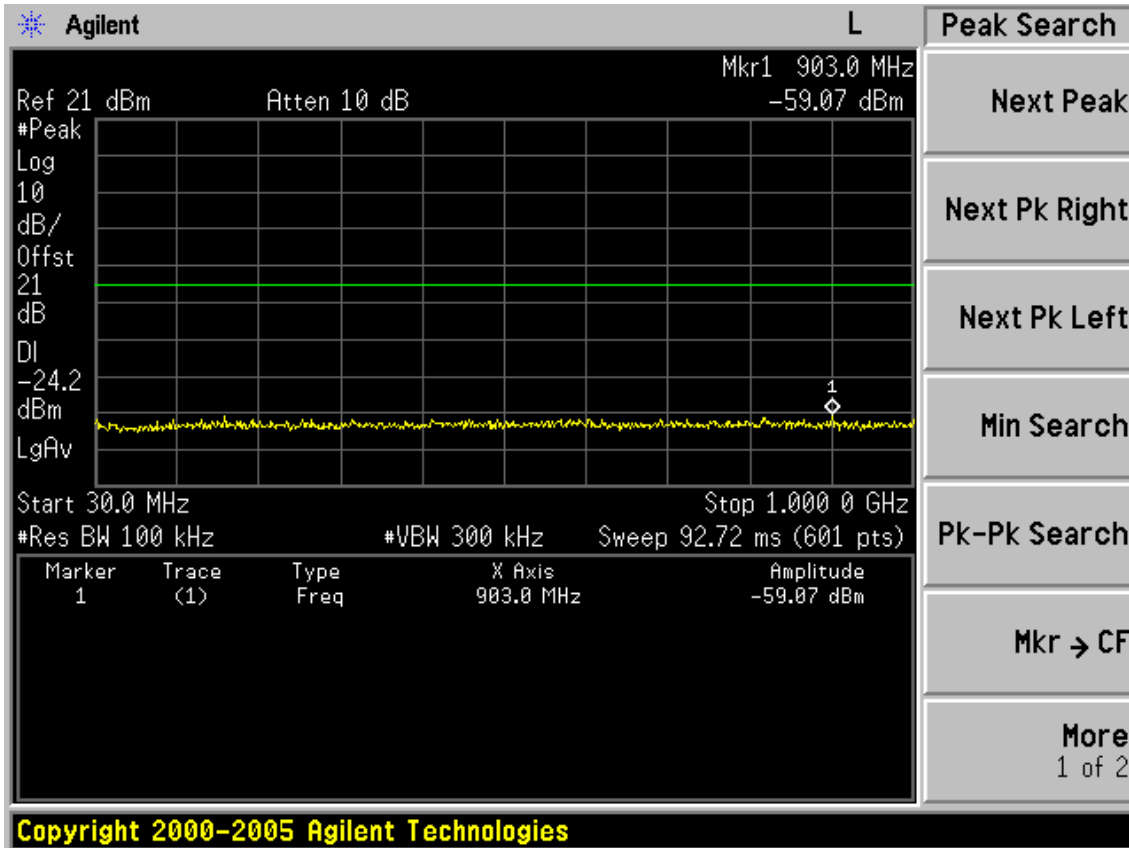


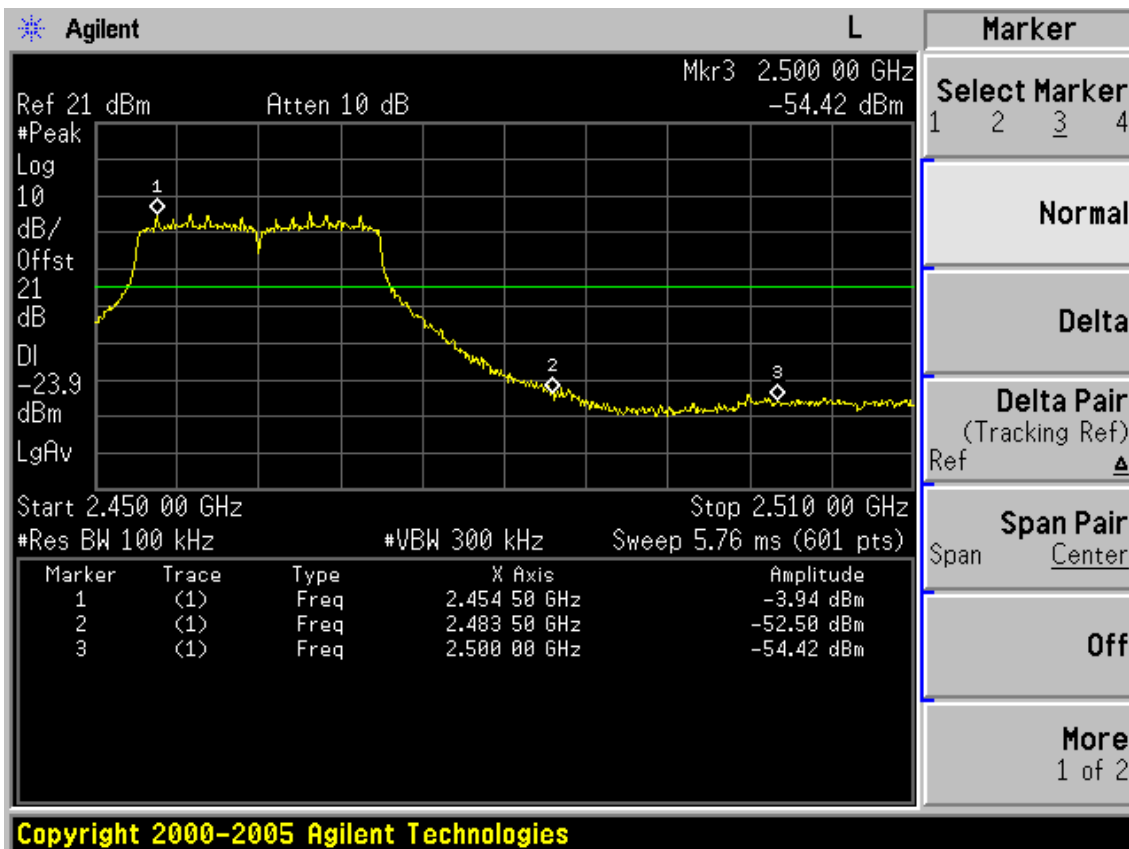
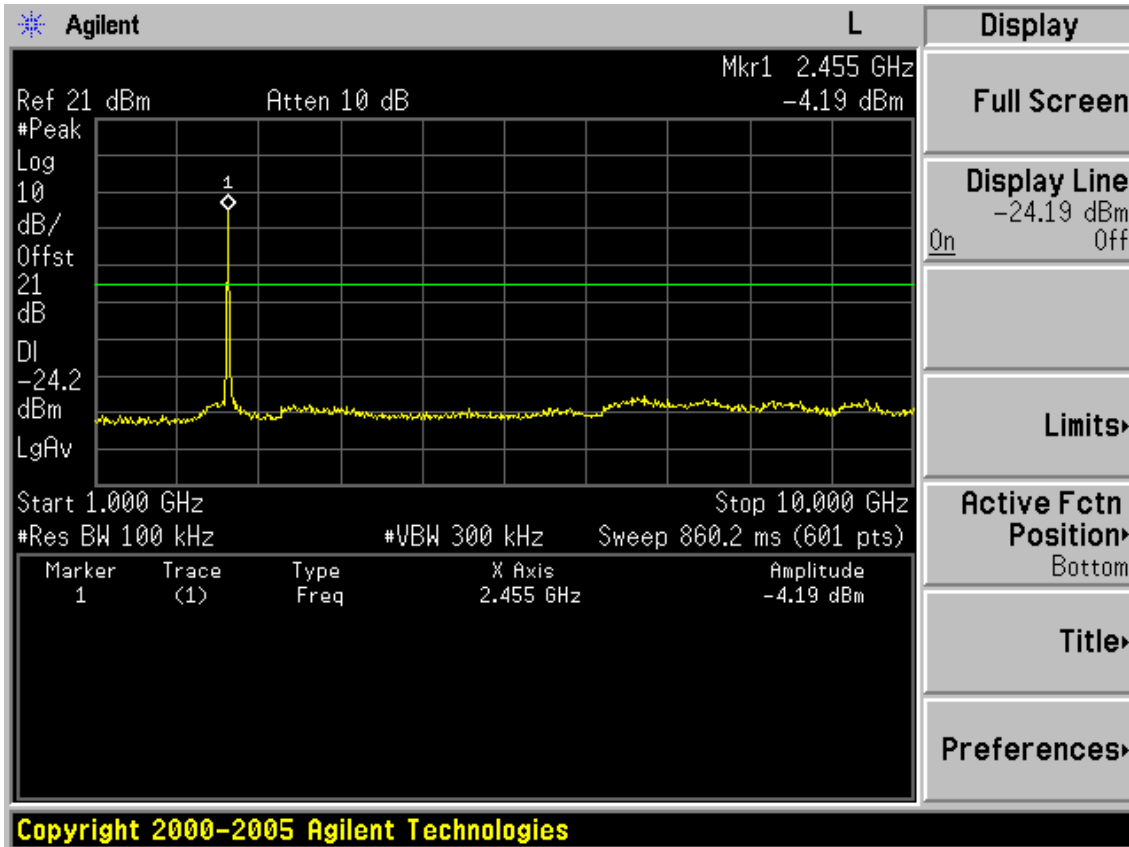
Test CH6: 2437MHz

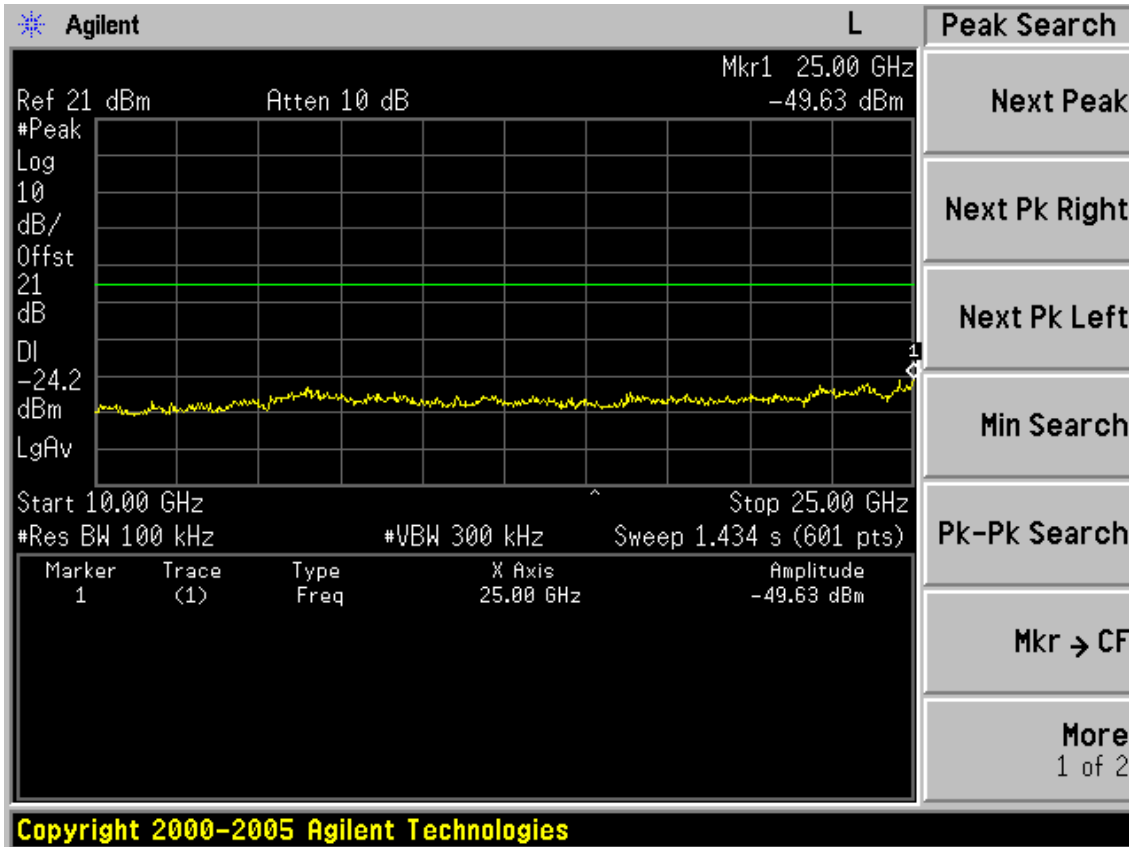




Test CH11: 2462MHz

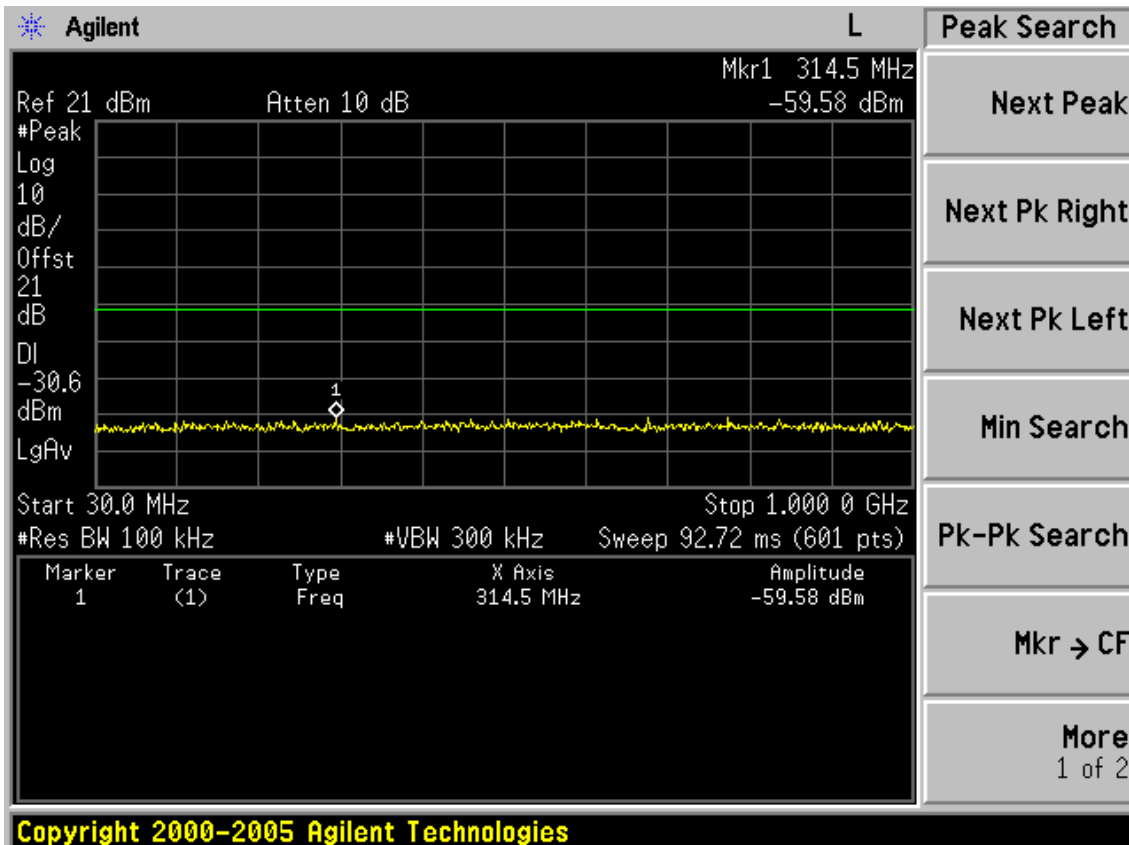


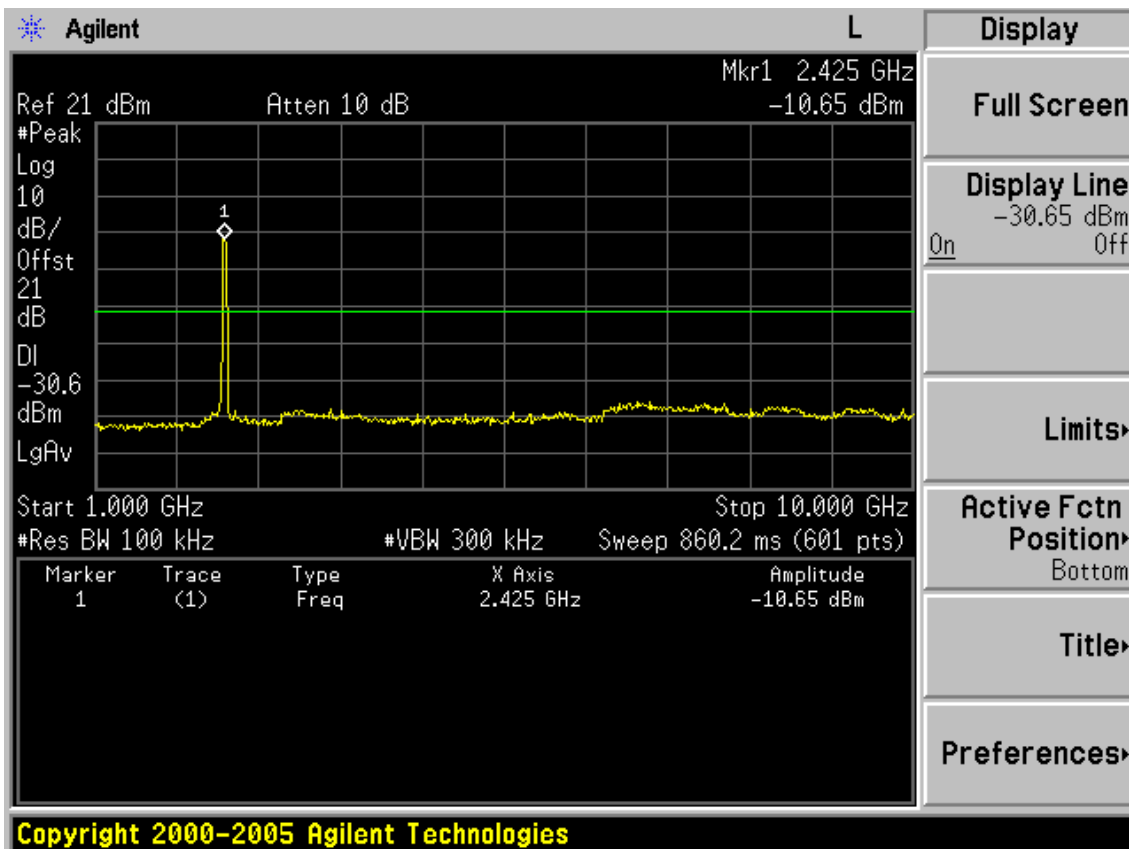
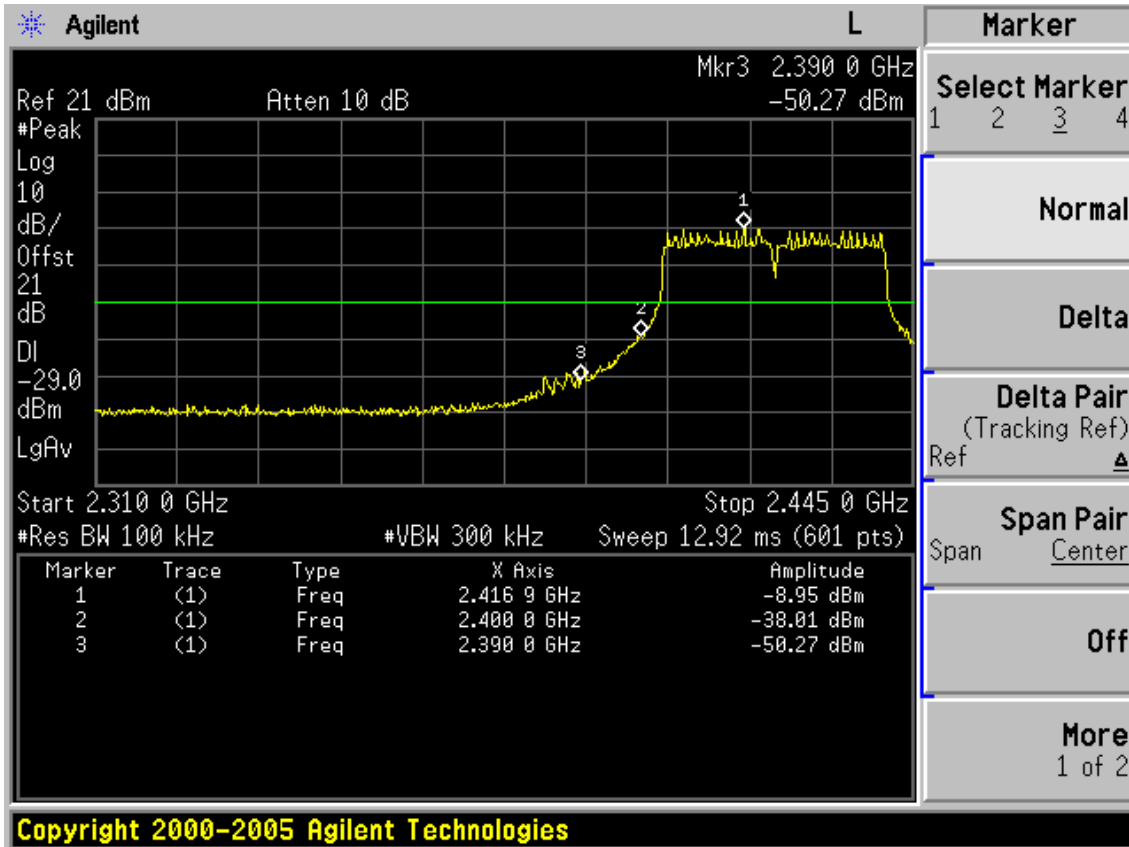


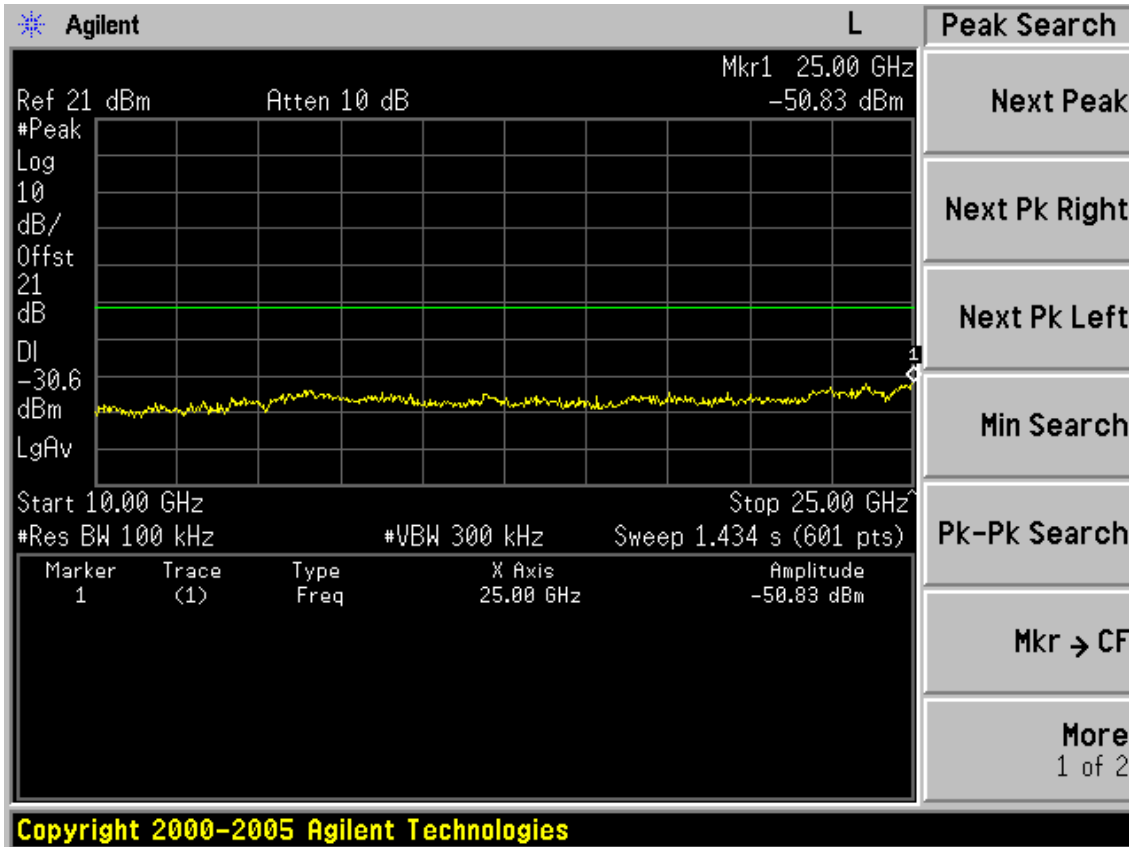


Test Mode: IEEE 802.11n HT40 TX

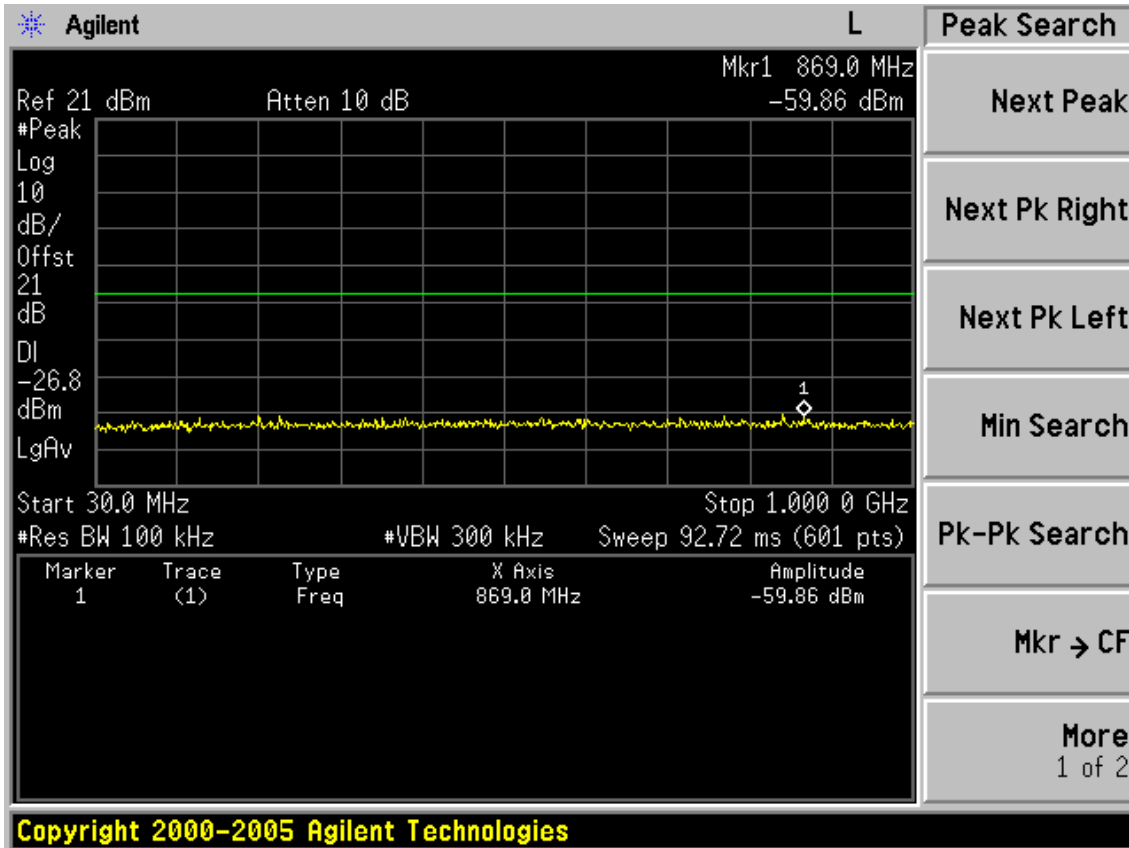
Test CH1: 2422MHz

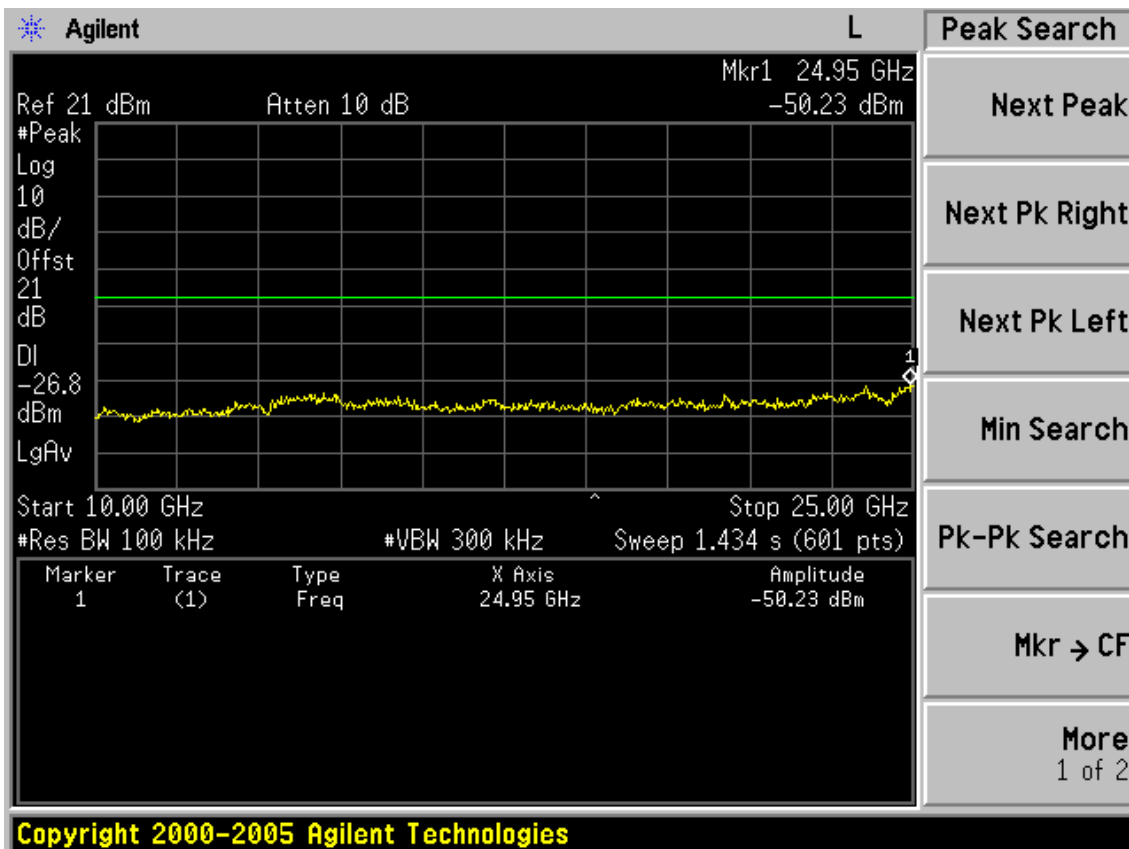
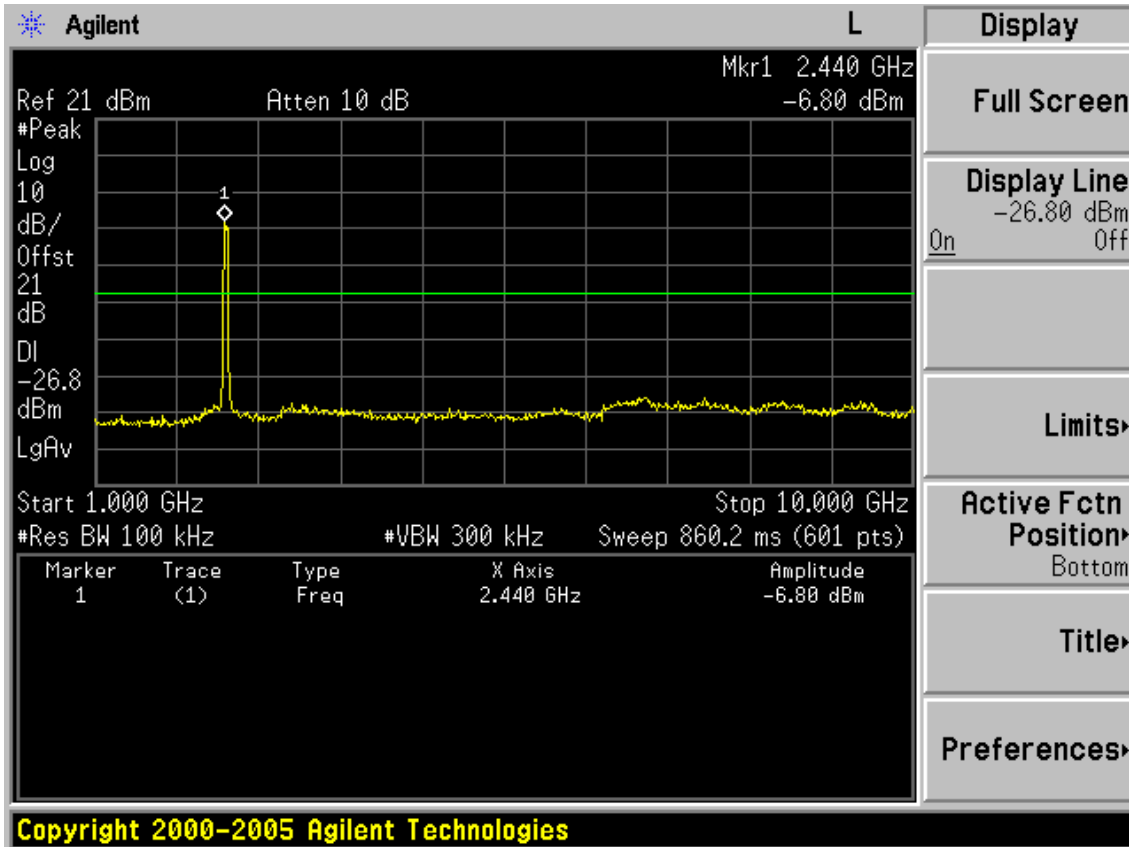




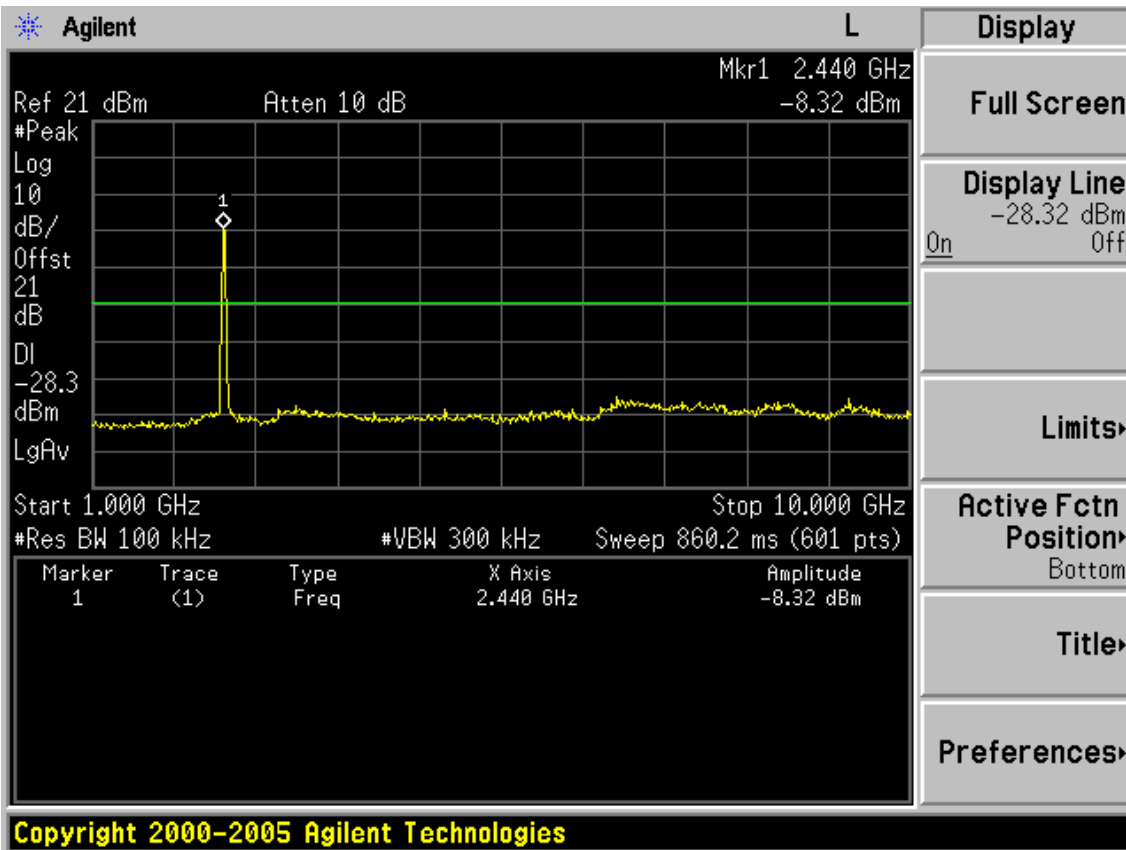
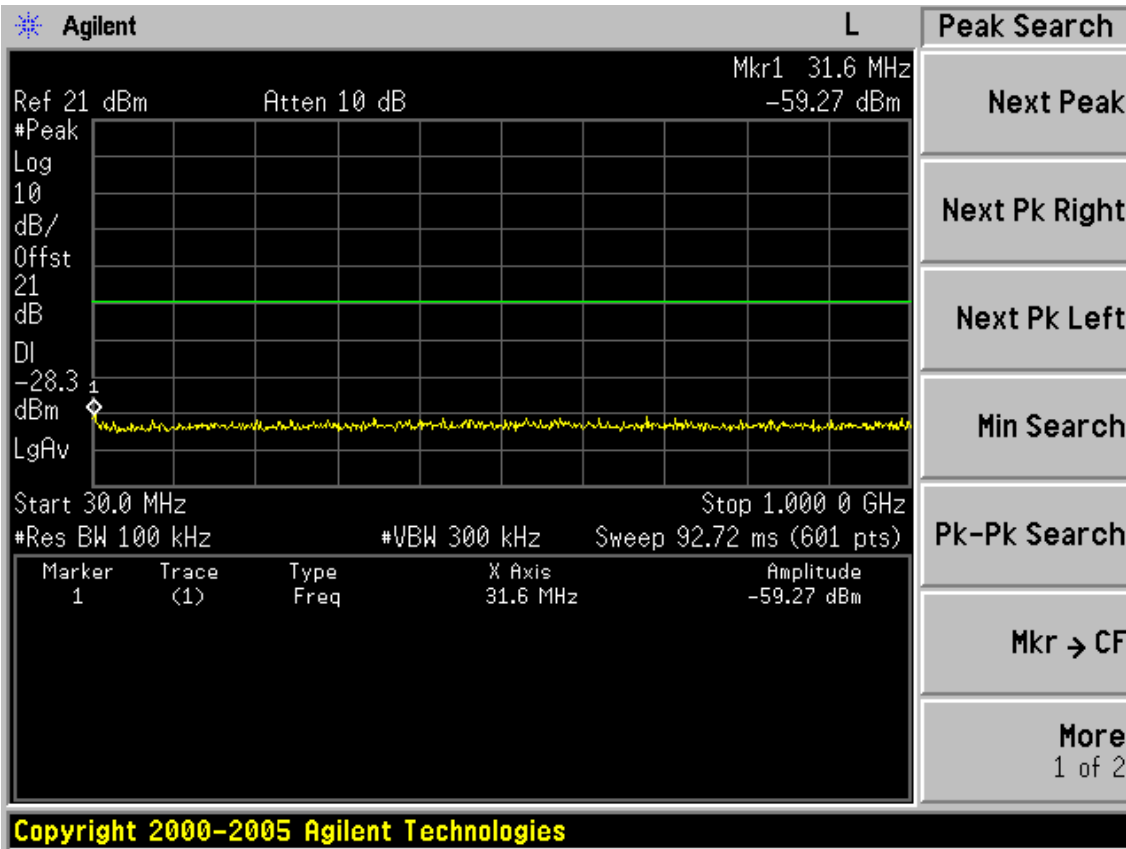


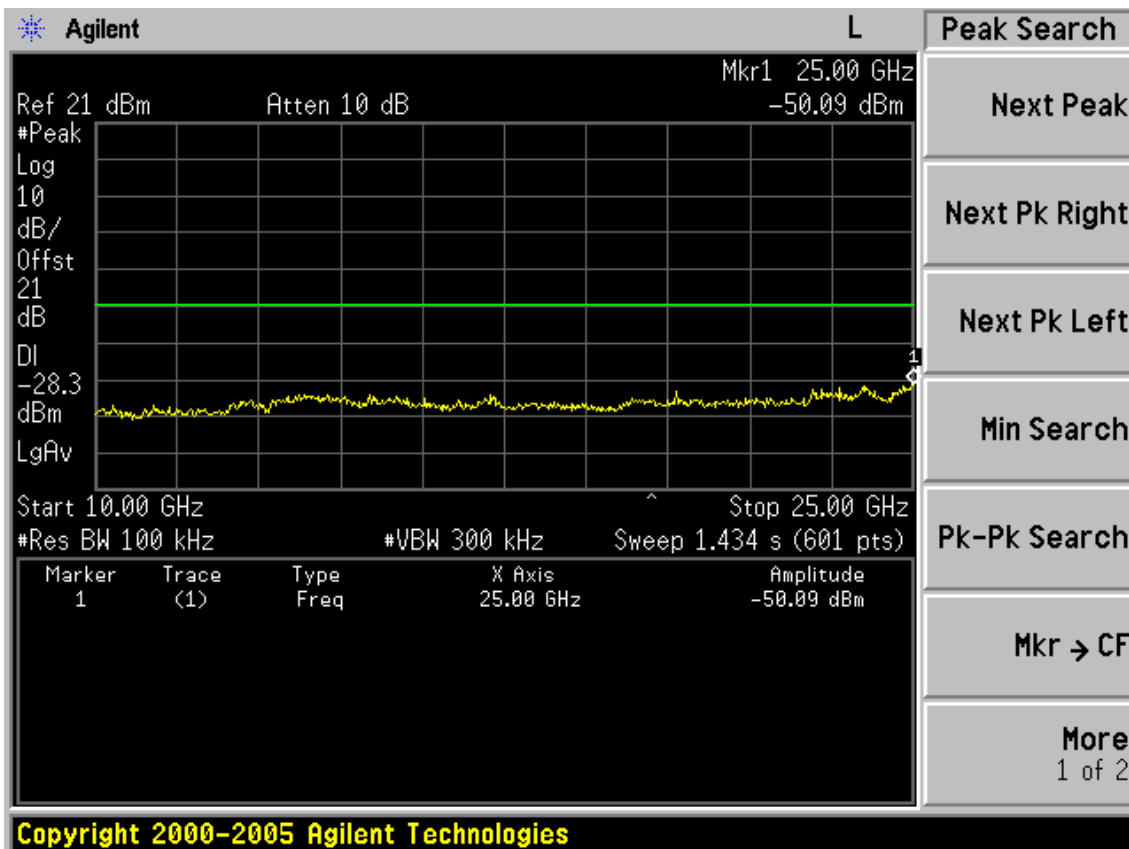
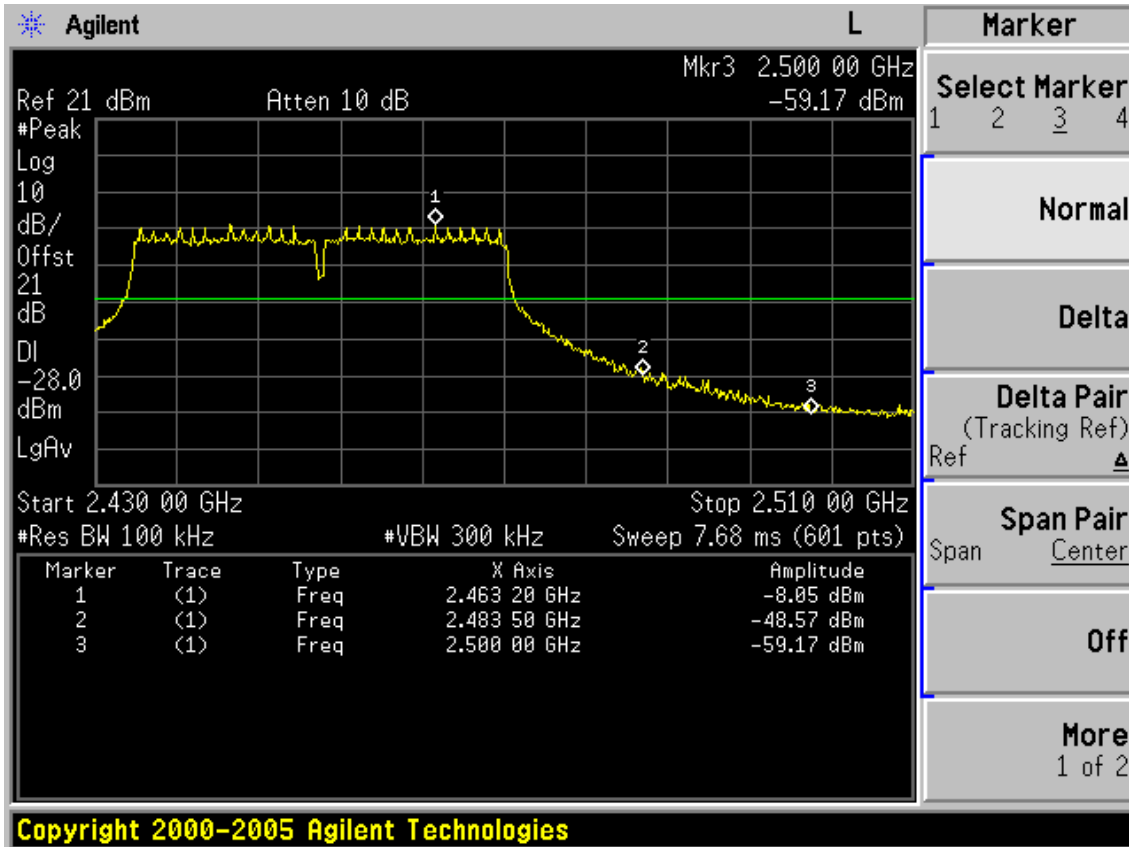
Test CH4: 2437MHz





Test CH7: 2452MHz

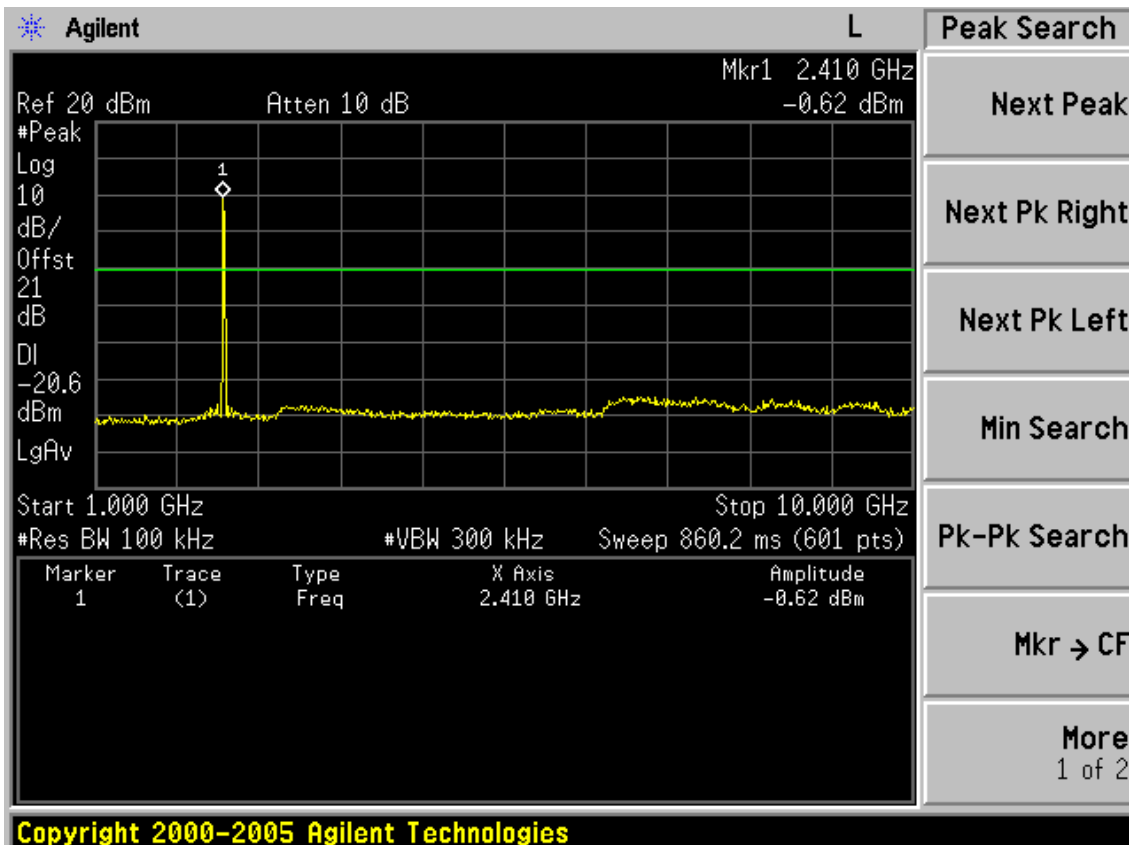
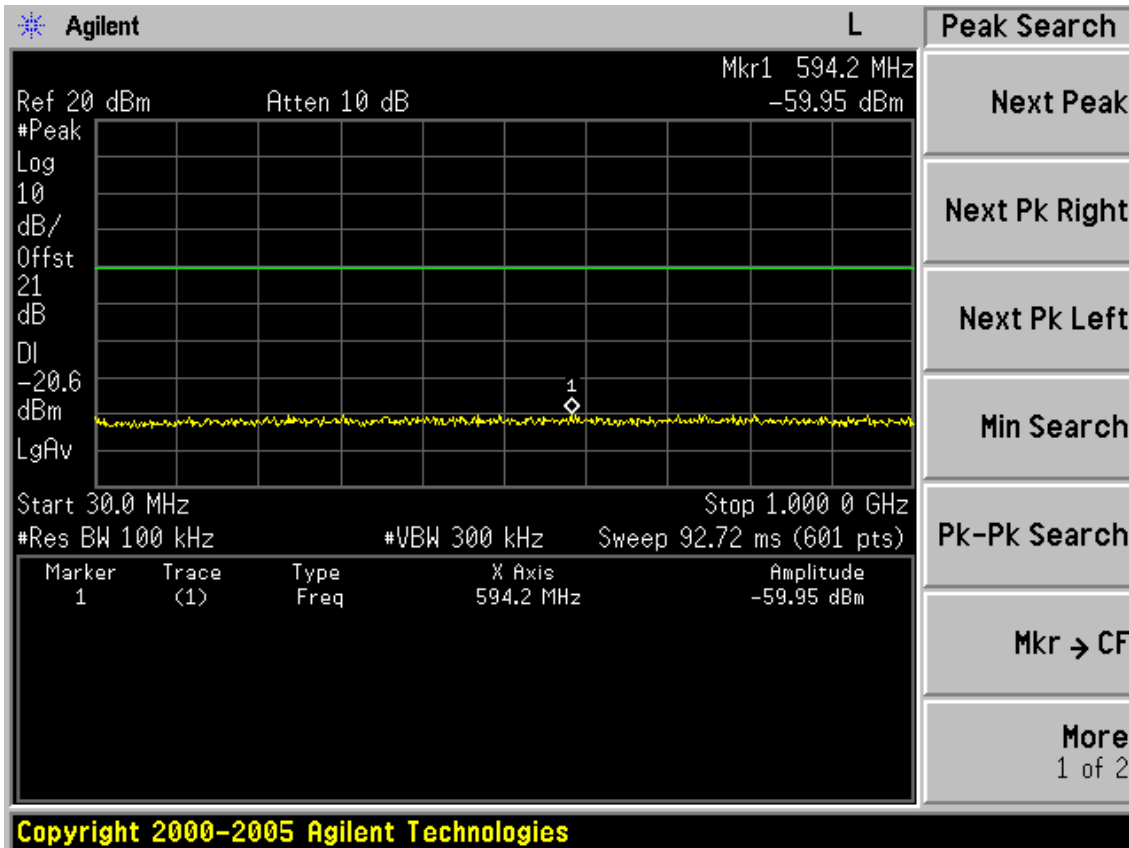


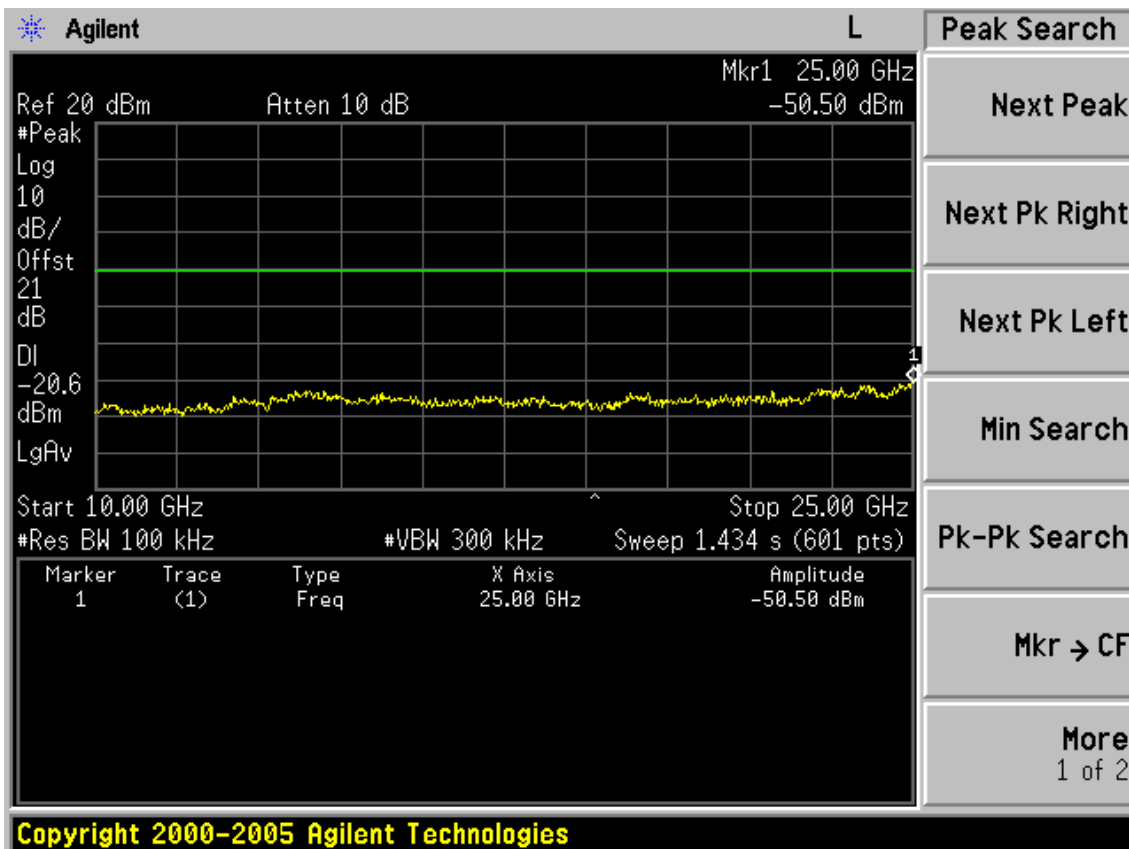
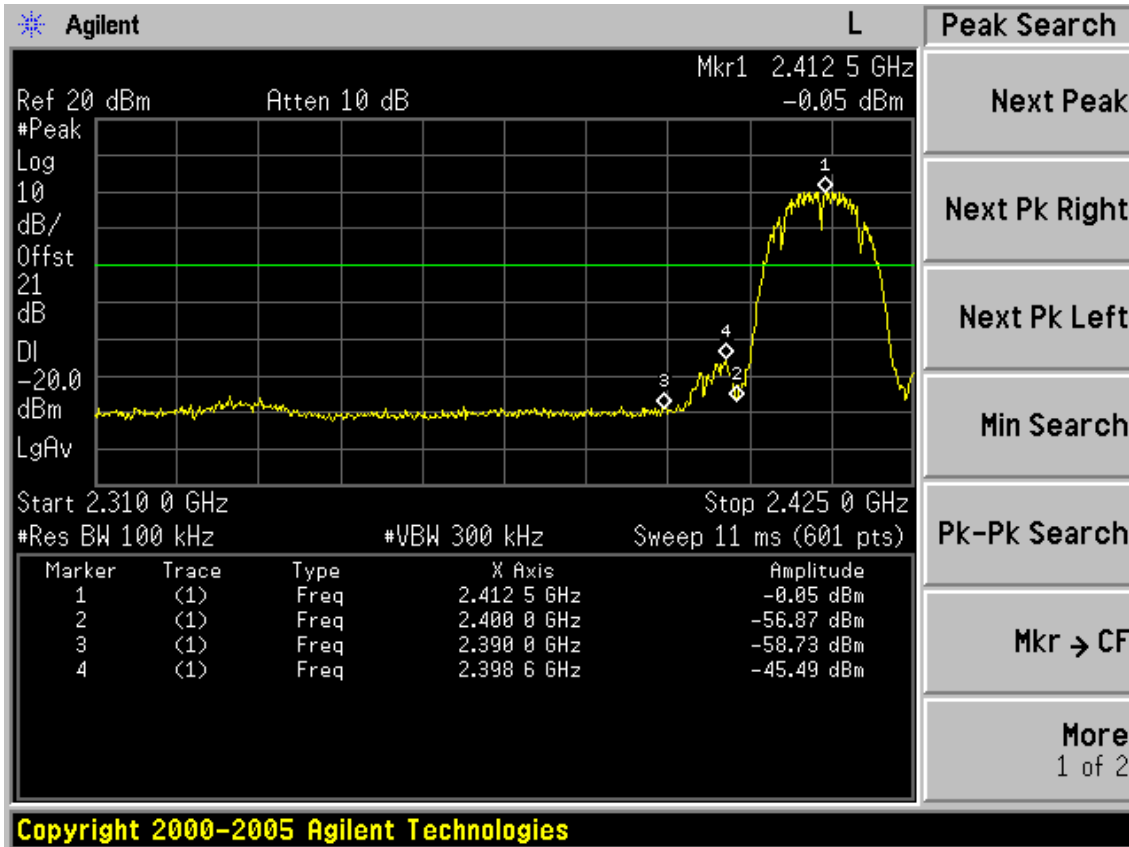


Chain 1:

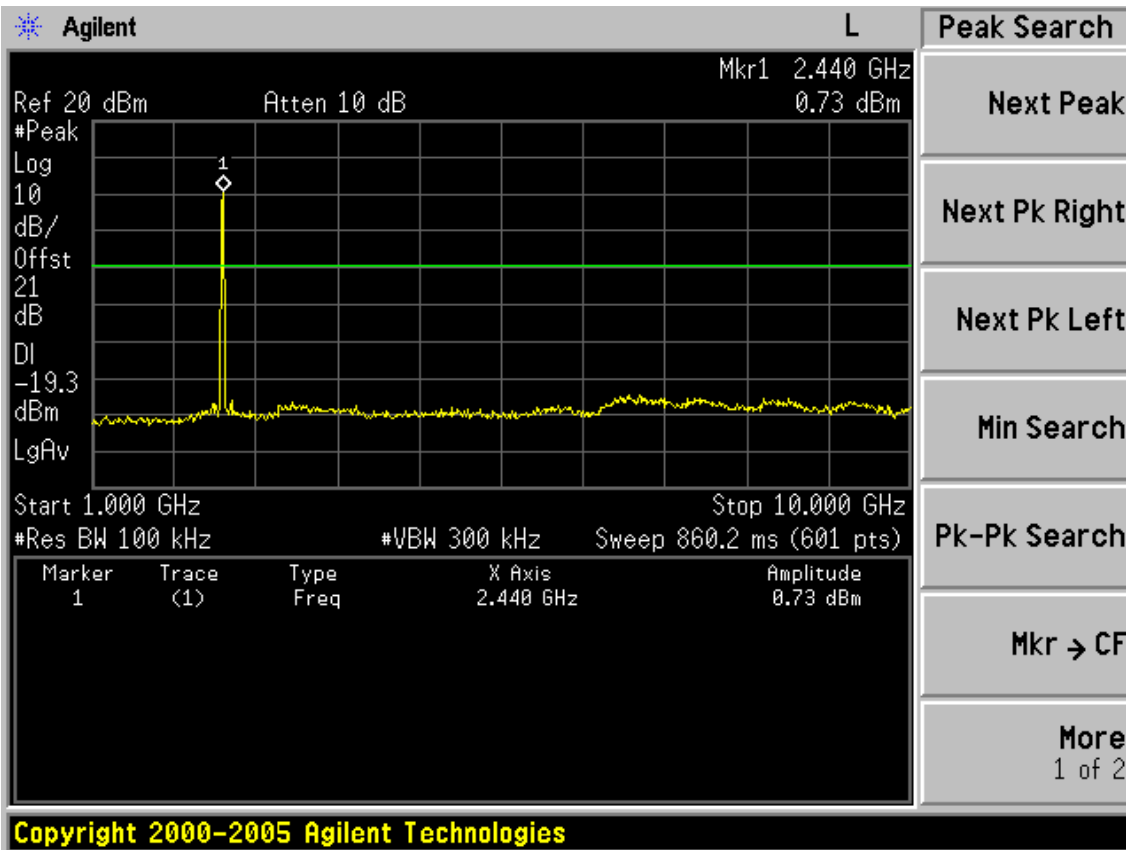
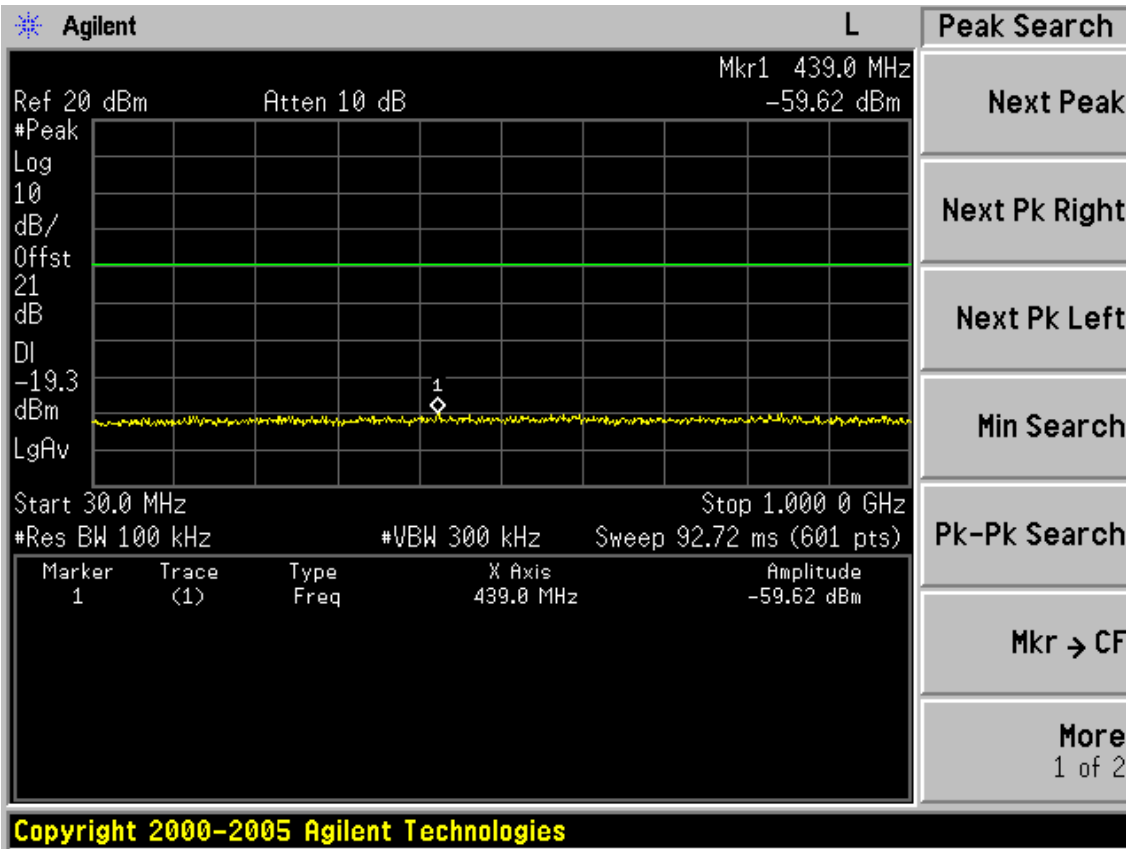
Test Mode: IEEE 802.11b TX

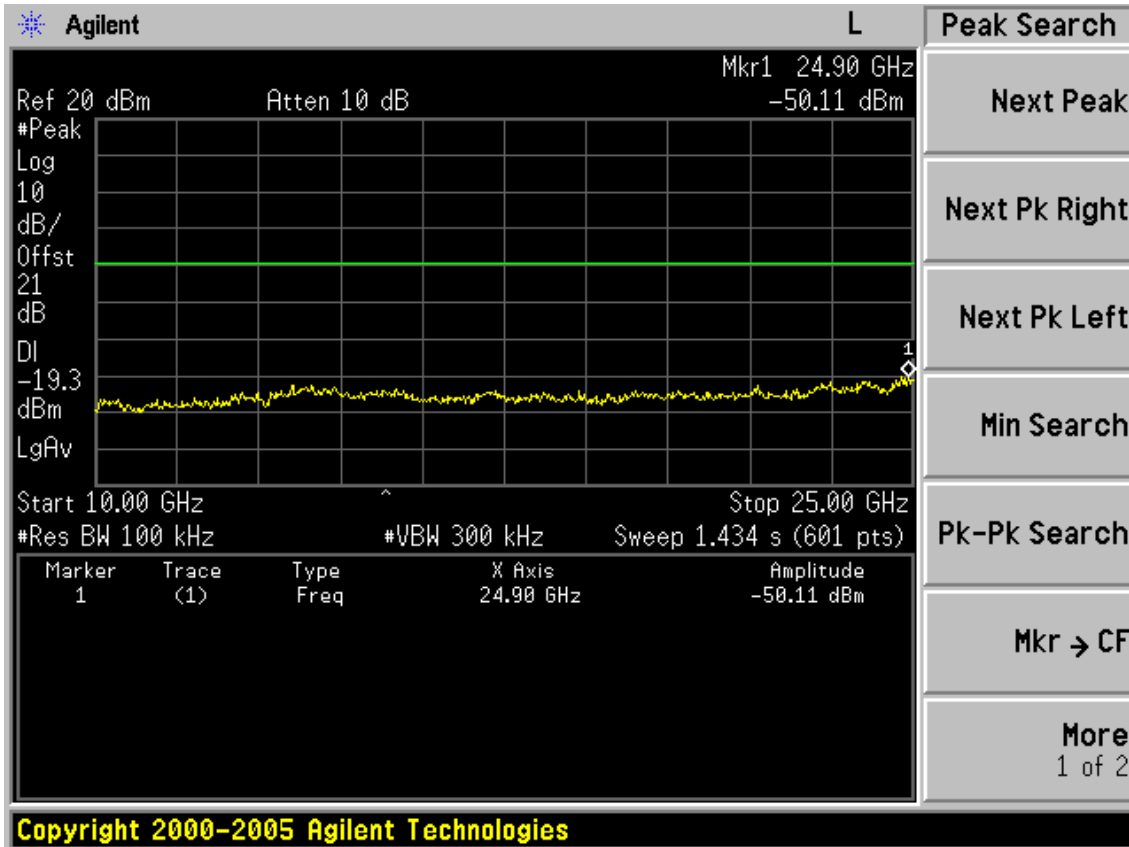
Test CH1: 2412MHz



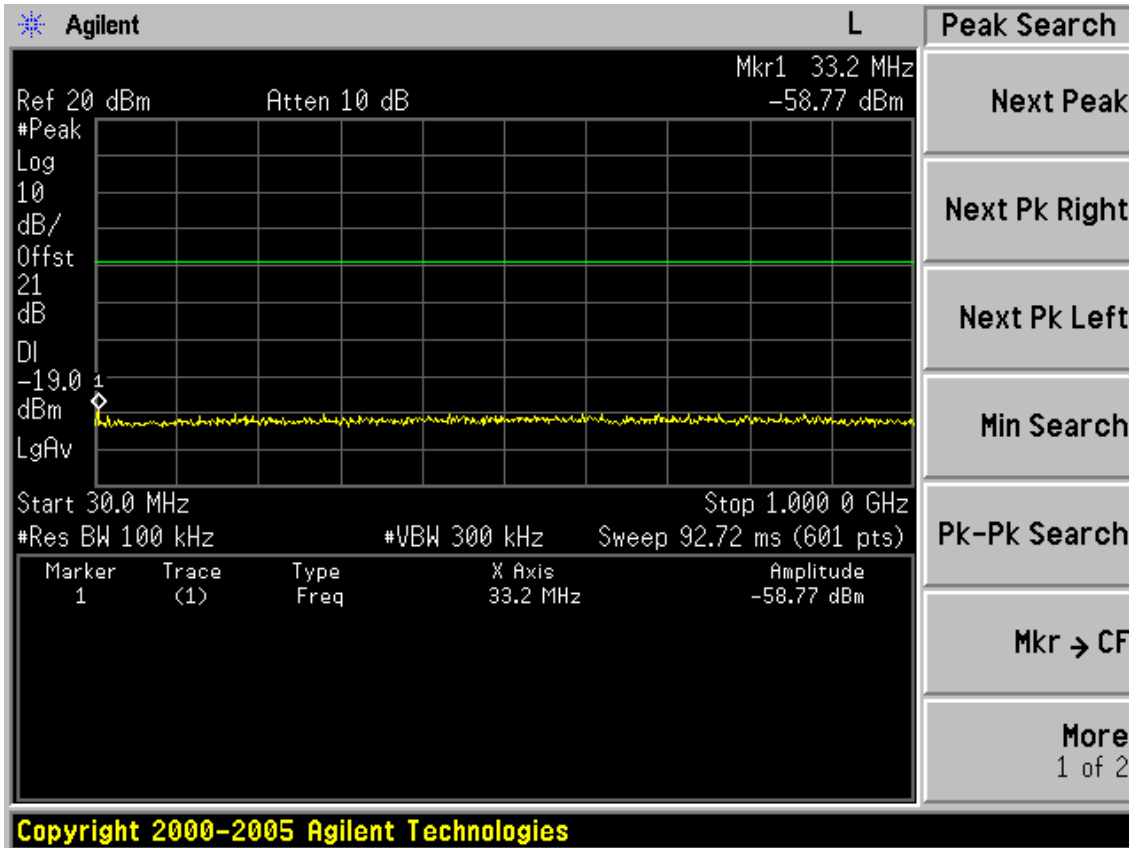


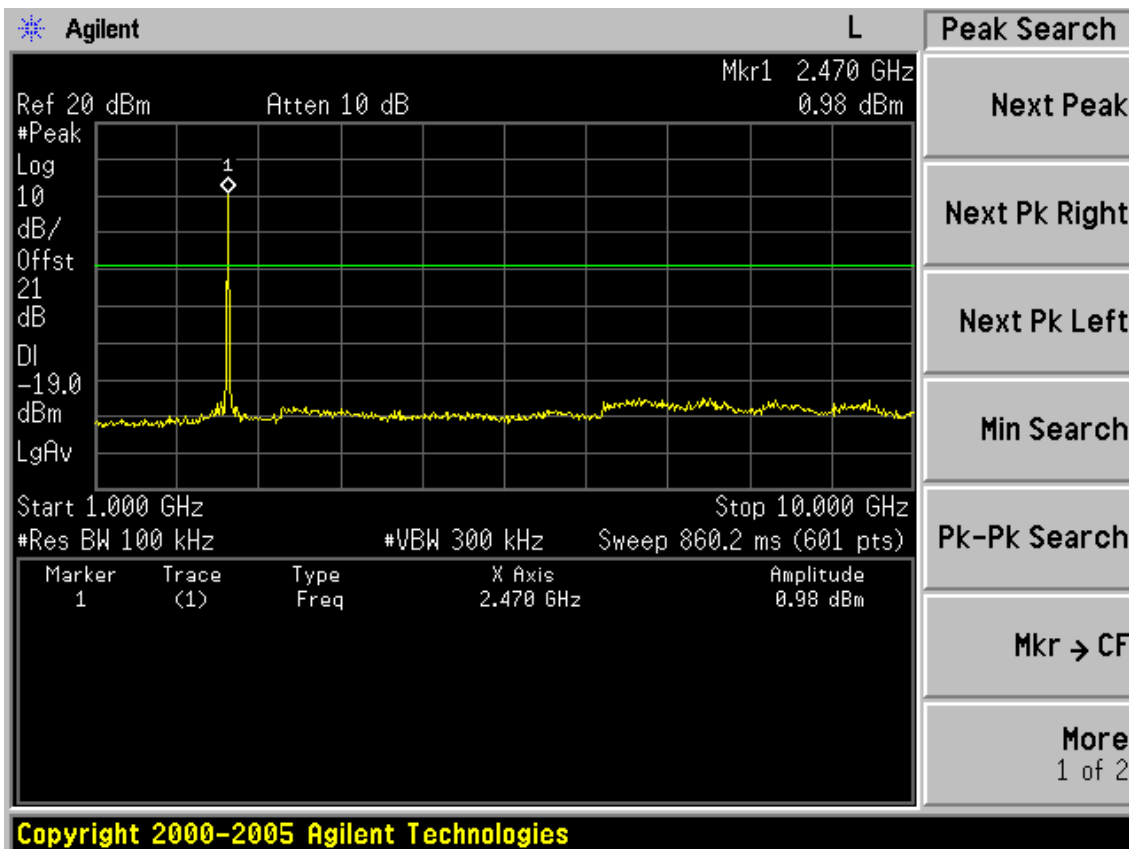
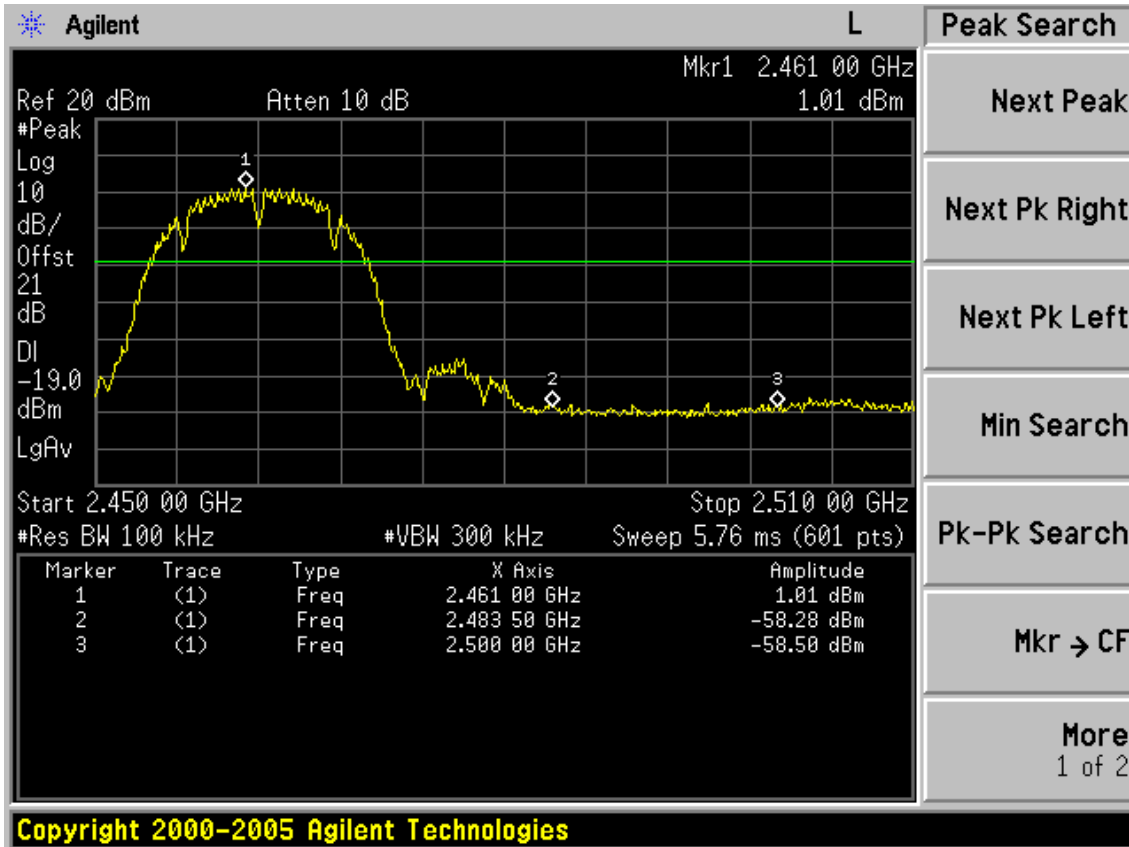
Test CH6: 2437MHz

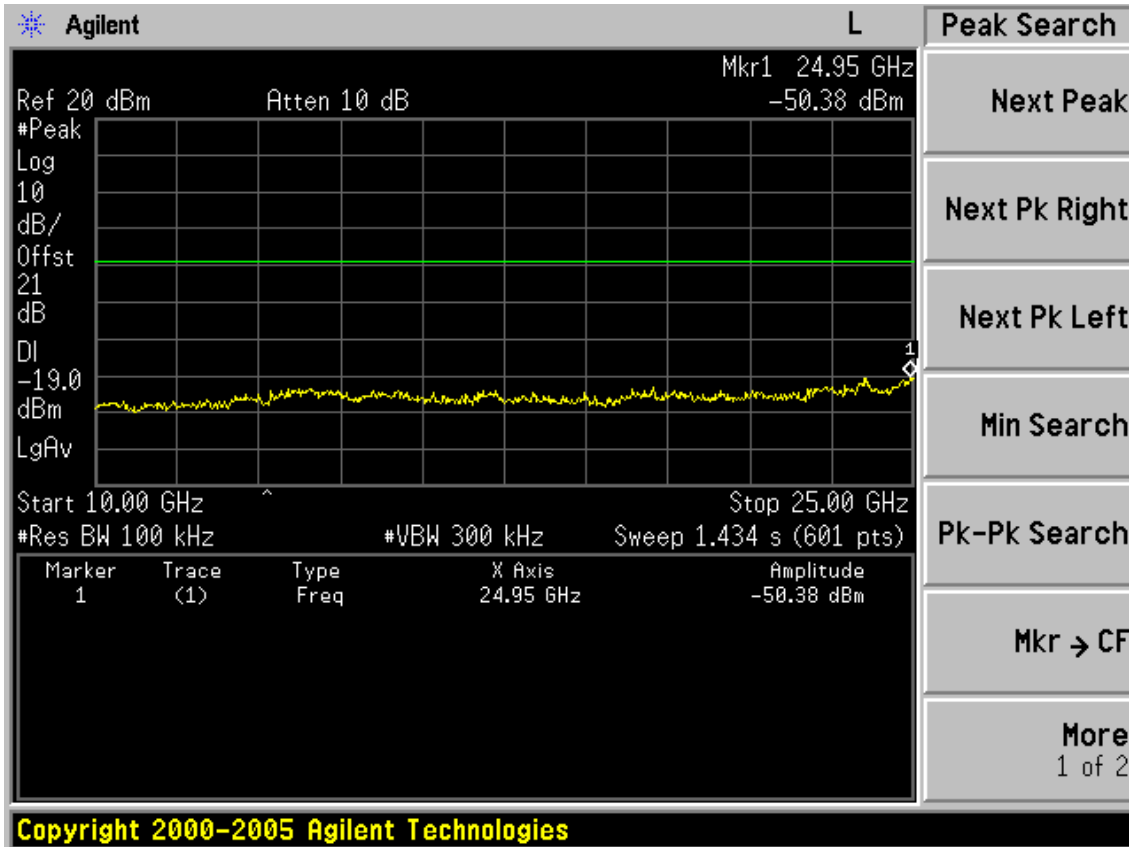




Test CH11: 2462MHz

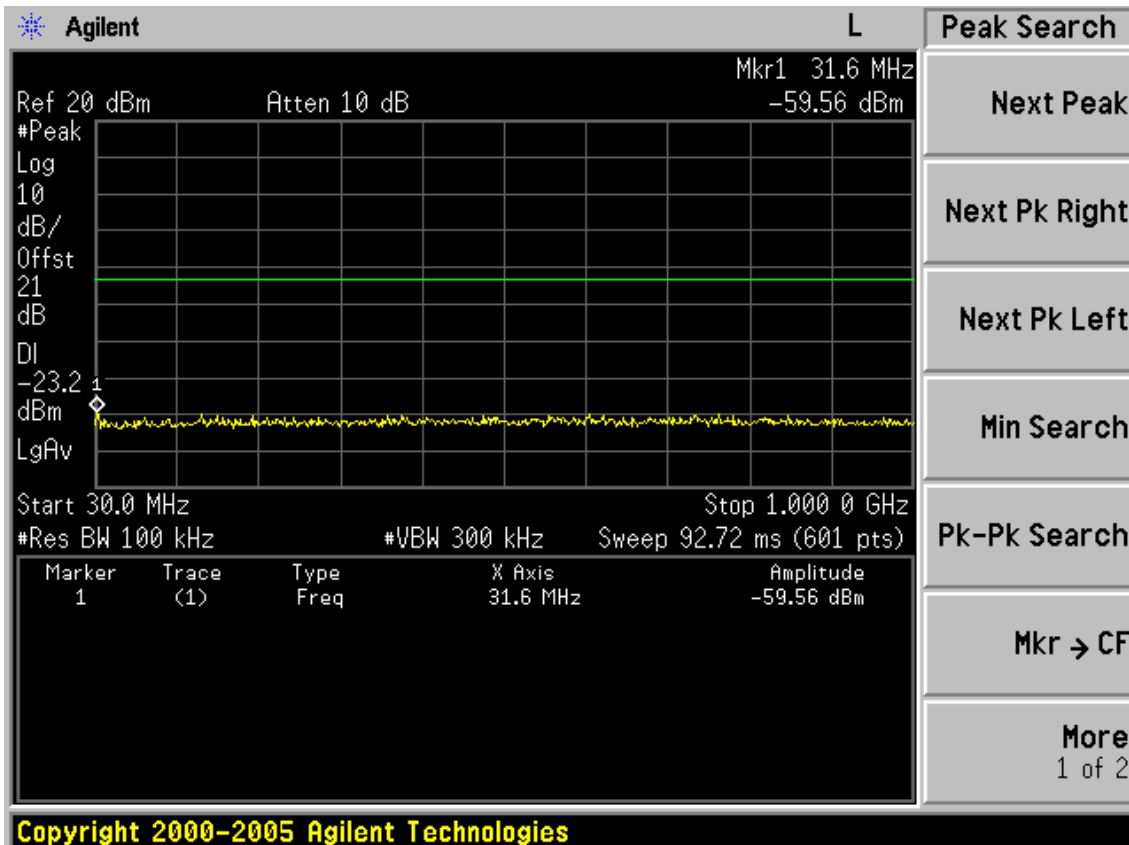


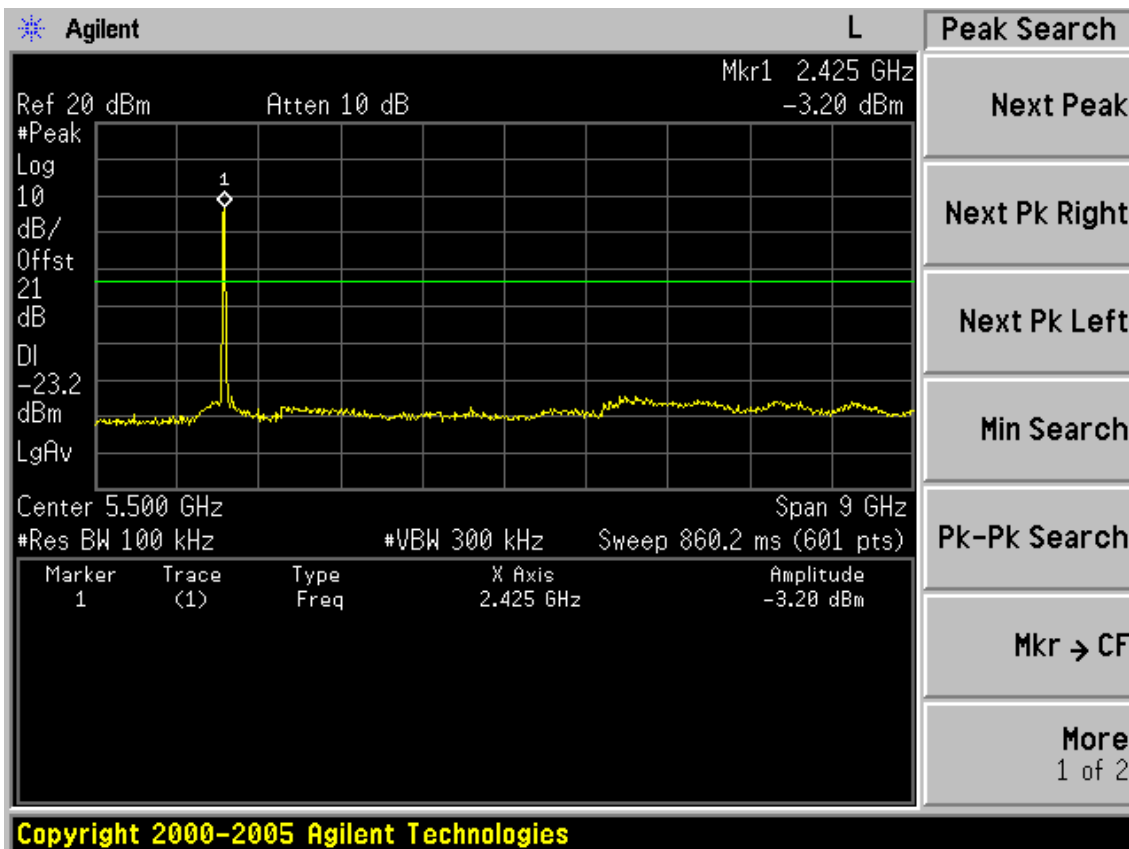
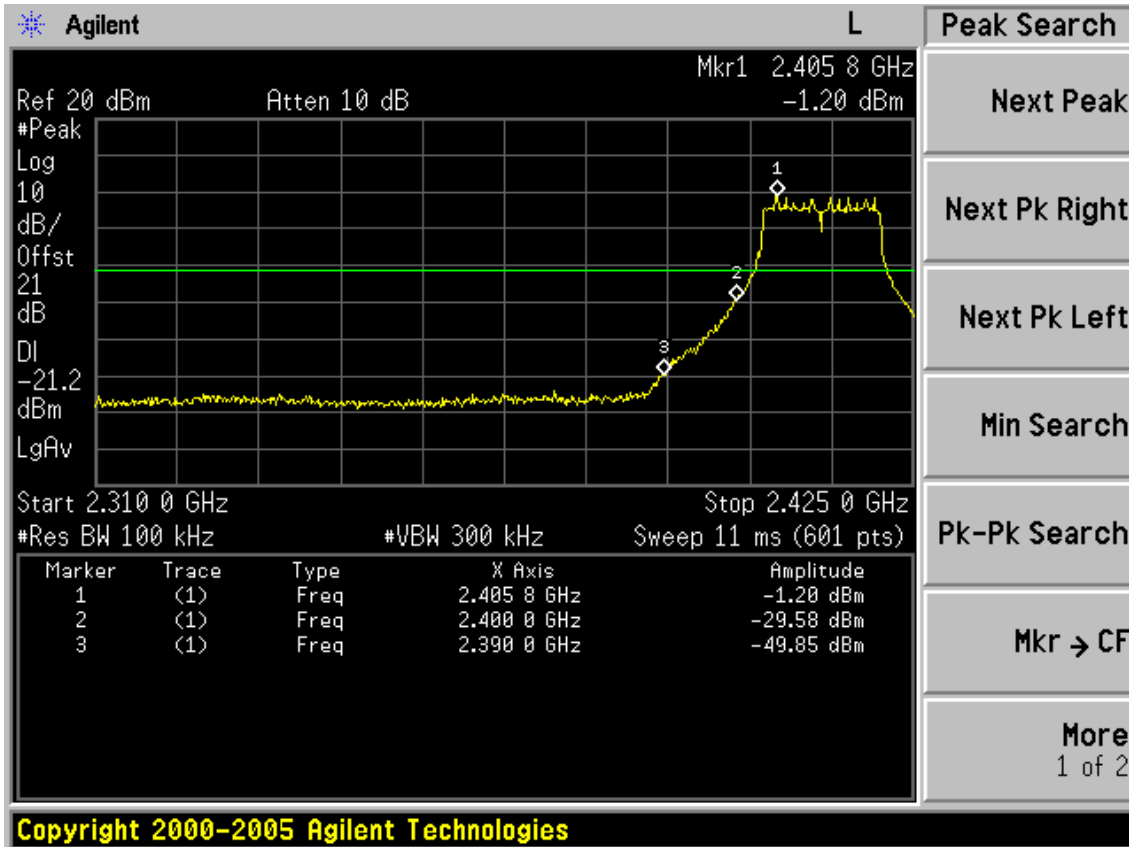


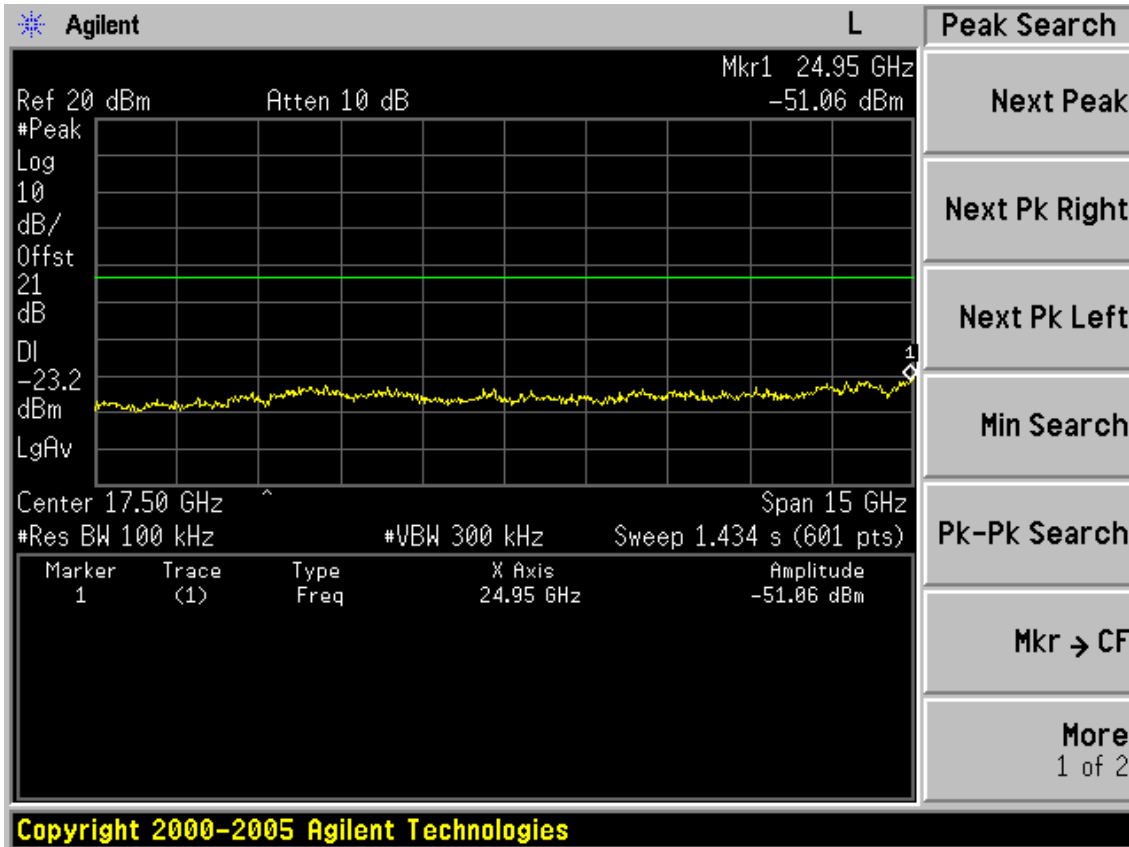


Test Mode: IEEE 802.11g TX

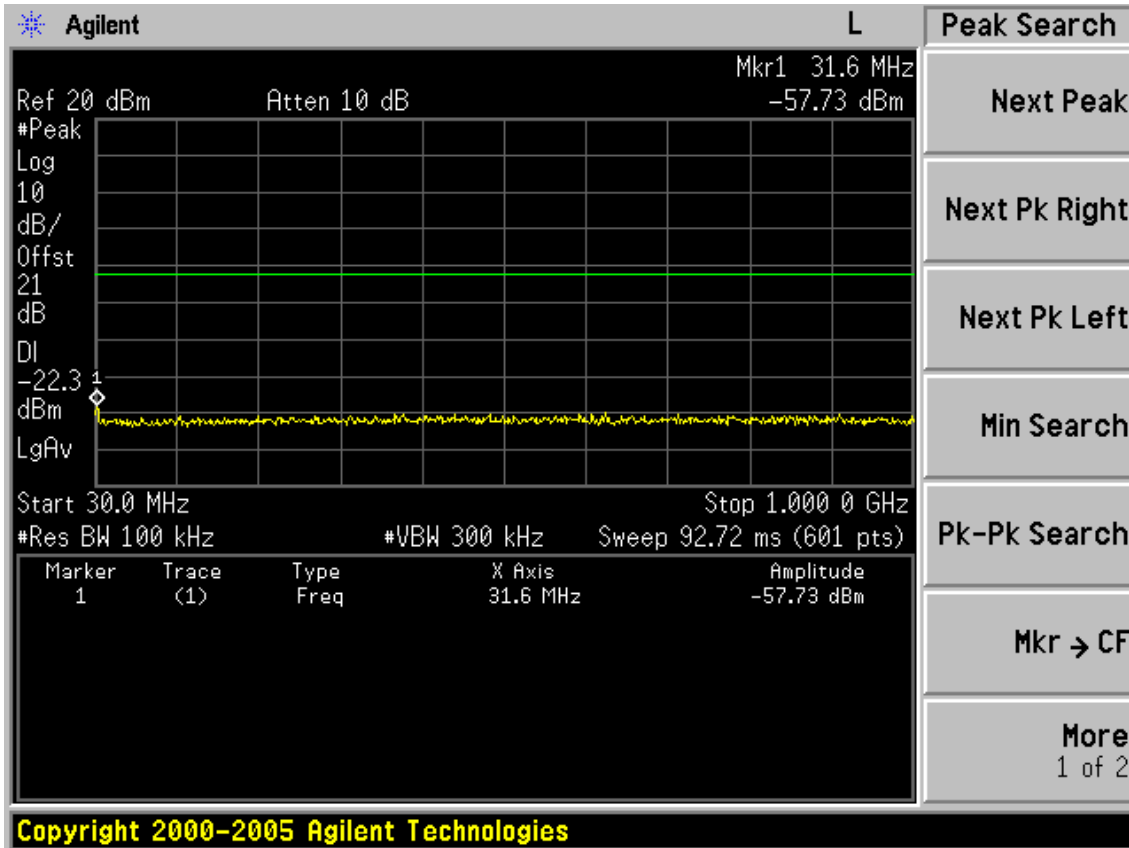
Test CH1: 2412MHz

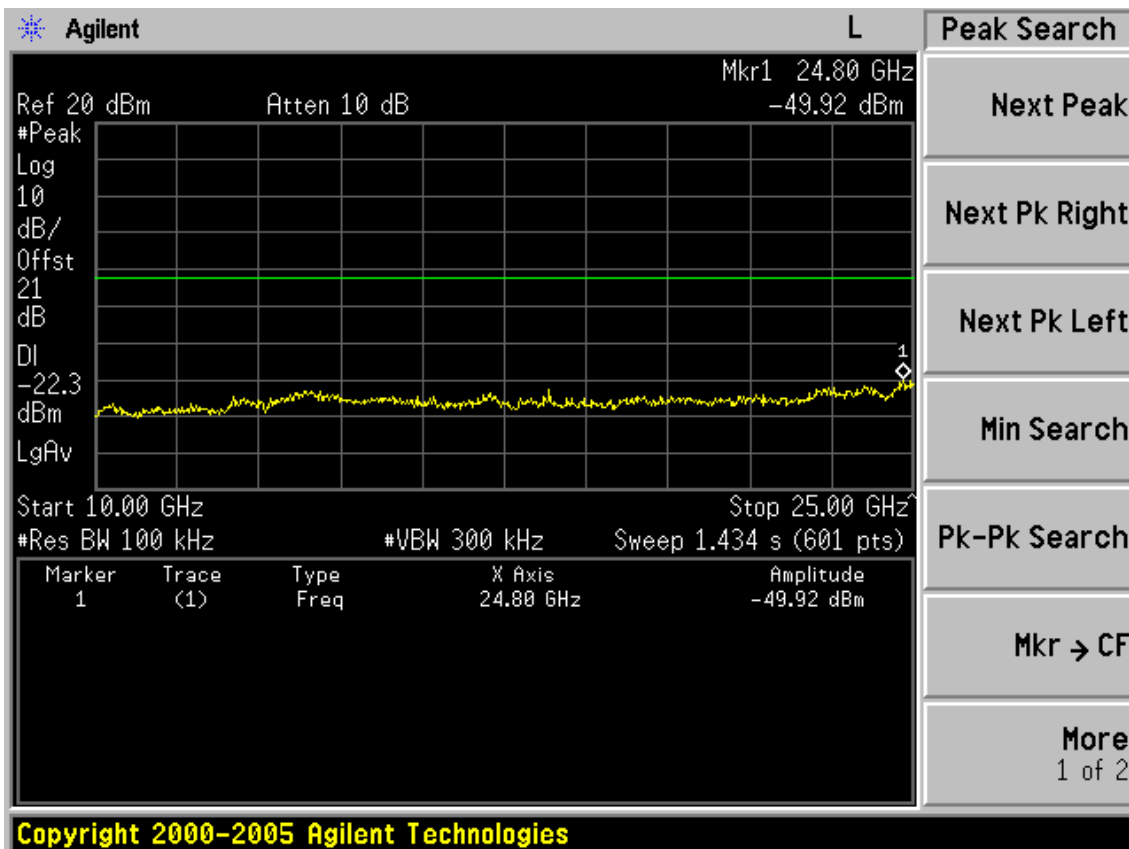
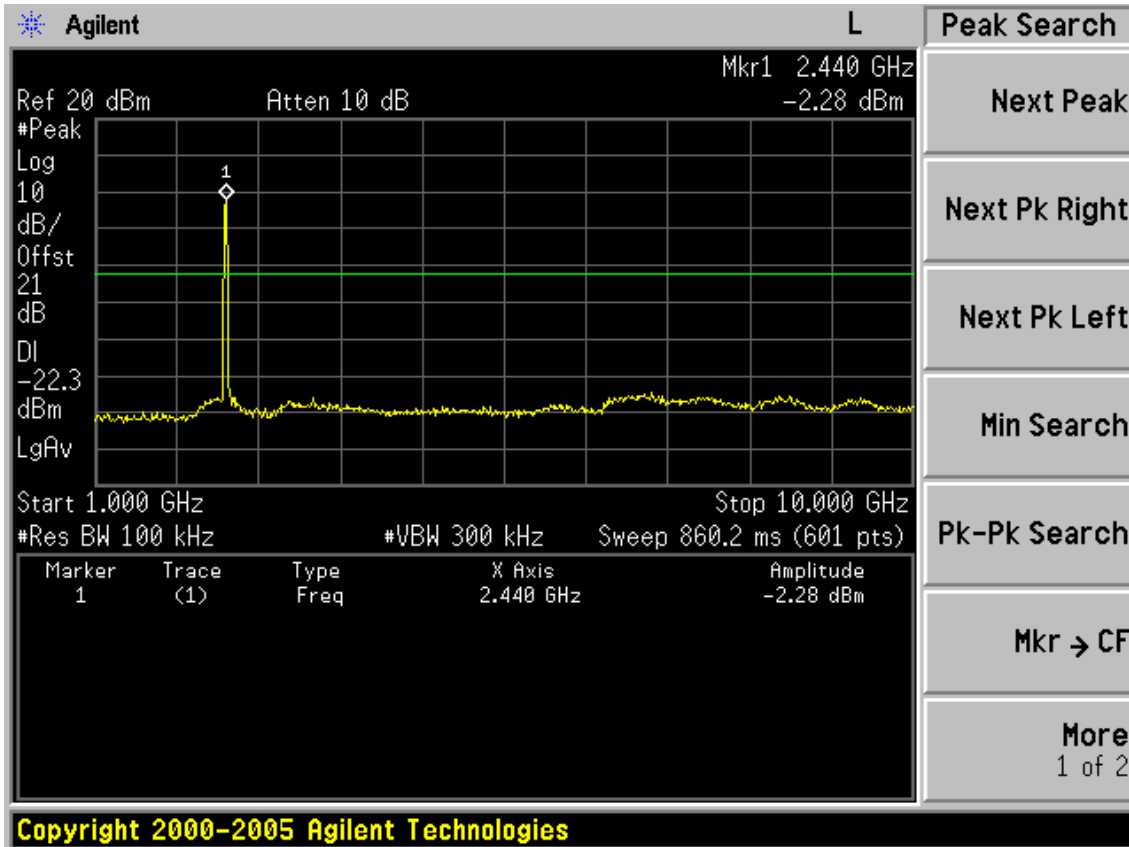




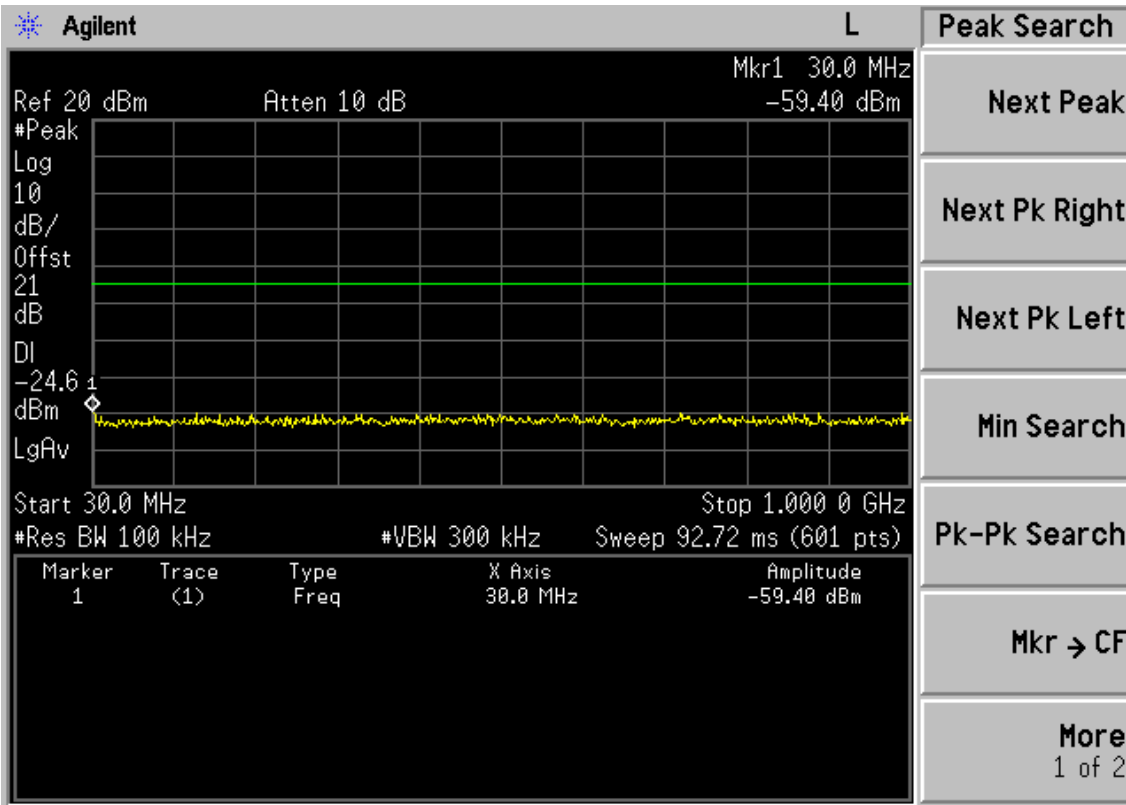


Test CH6: 2437MHz

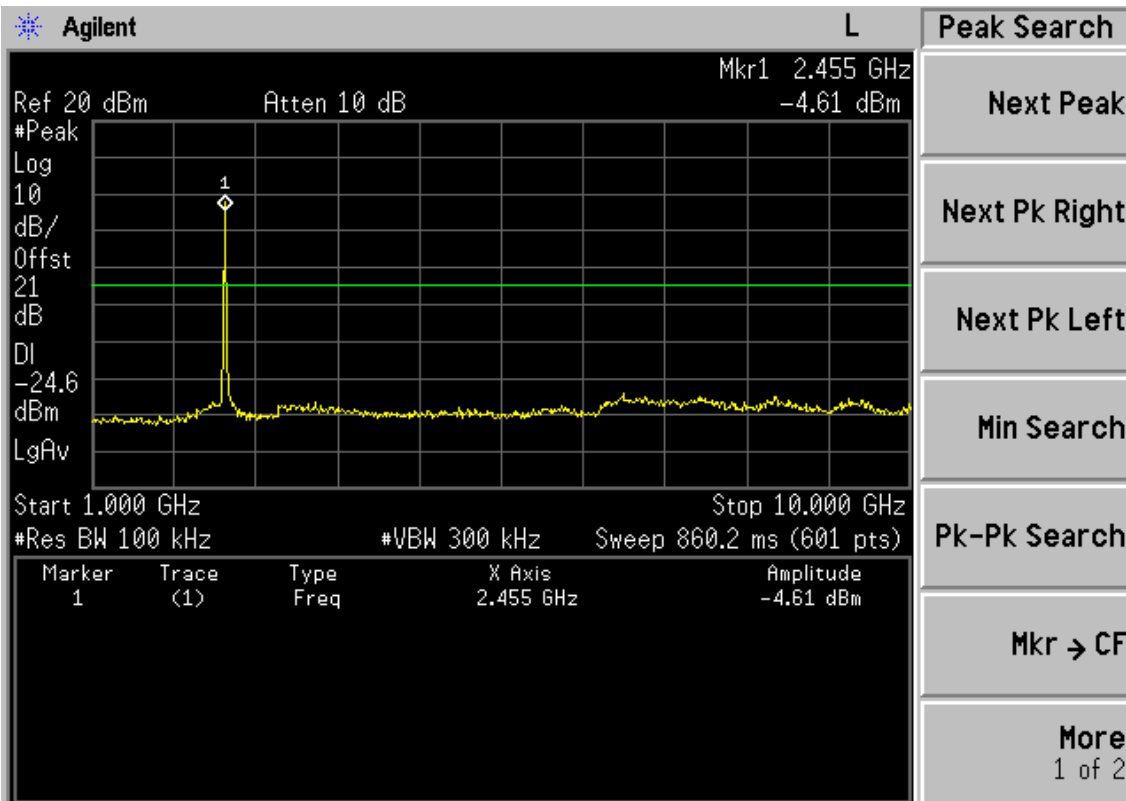




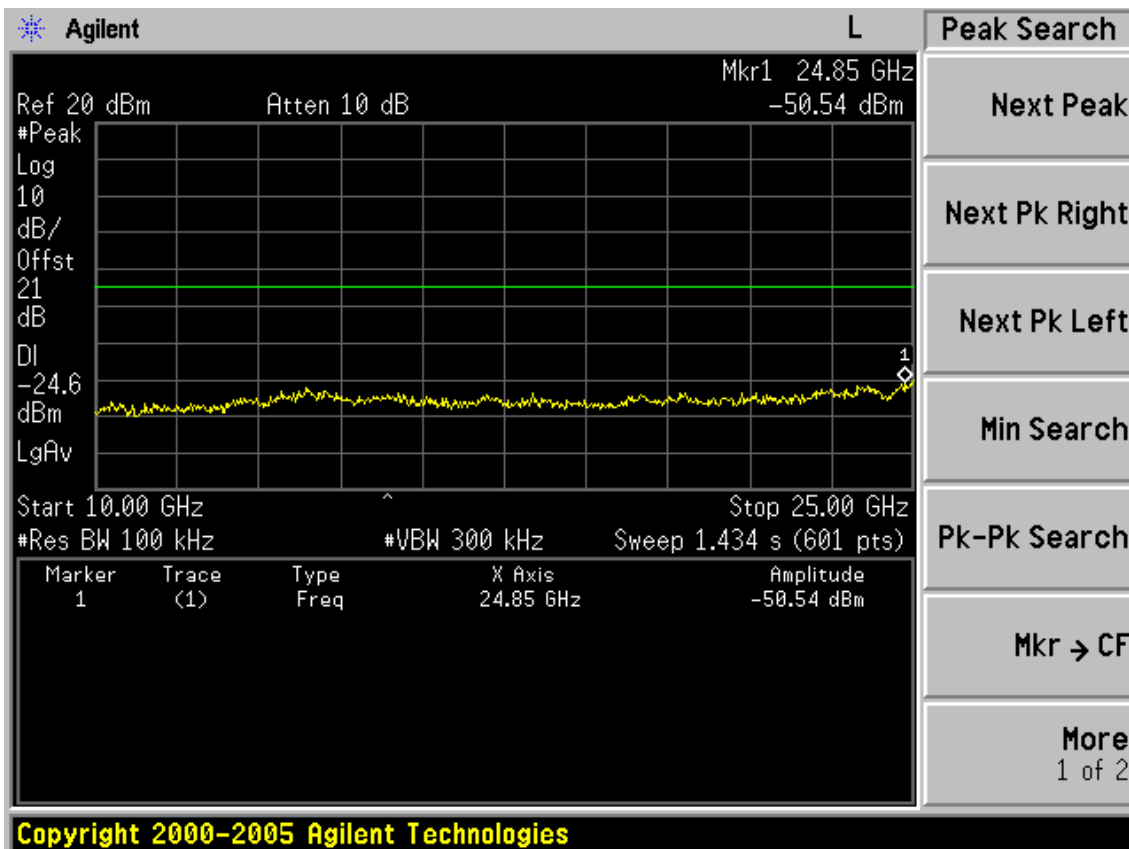
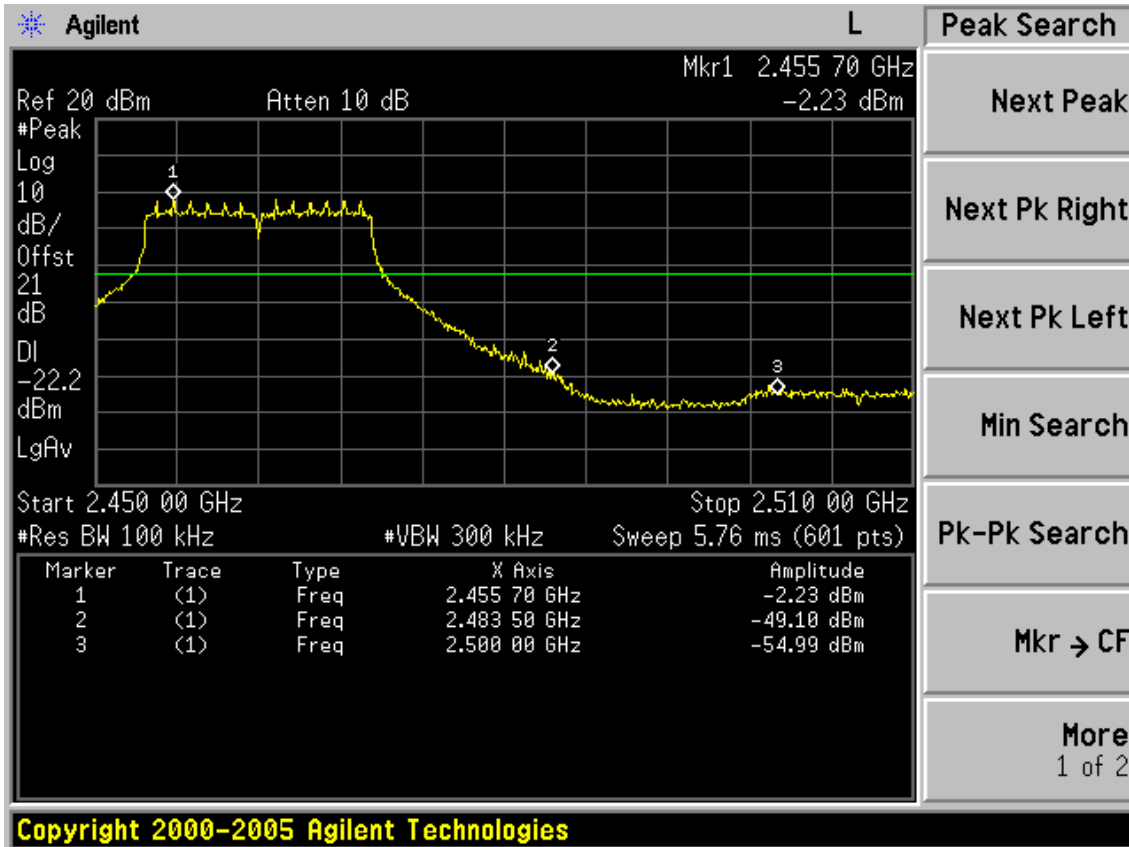
Test CH11: 2462MHz



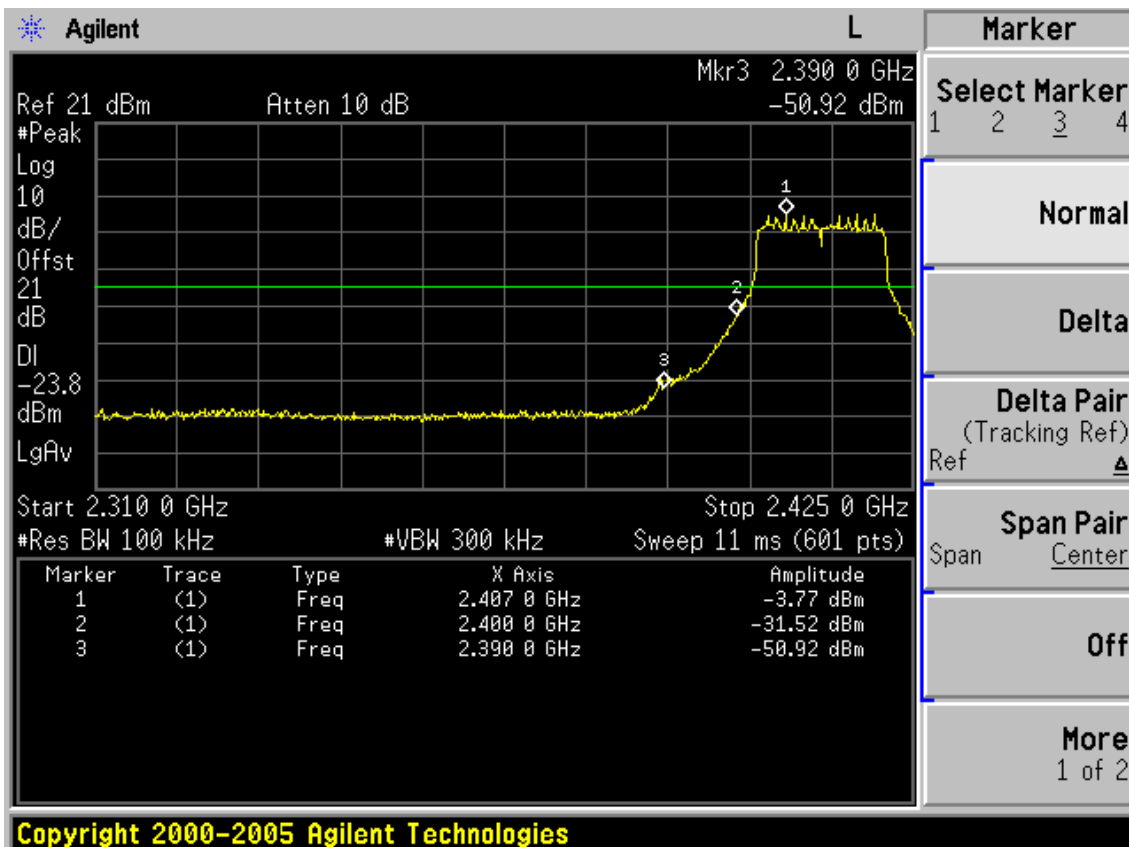
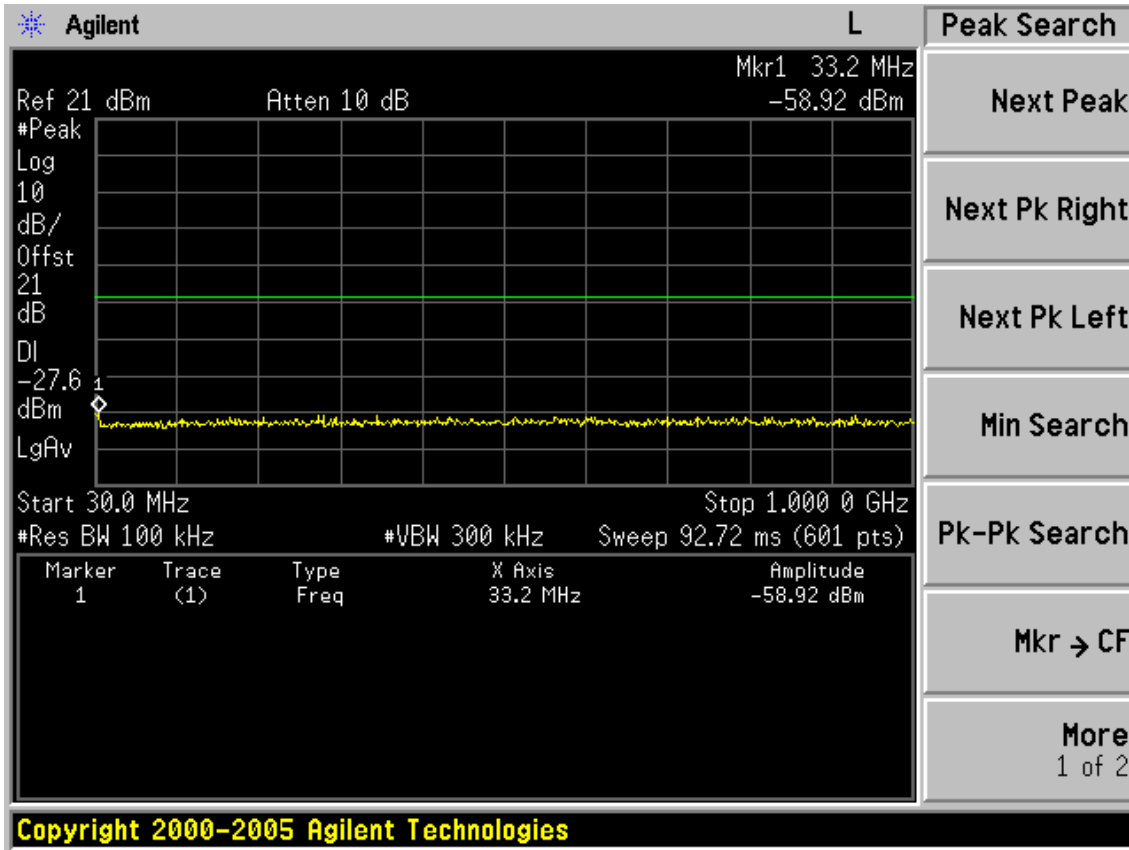
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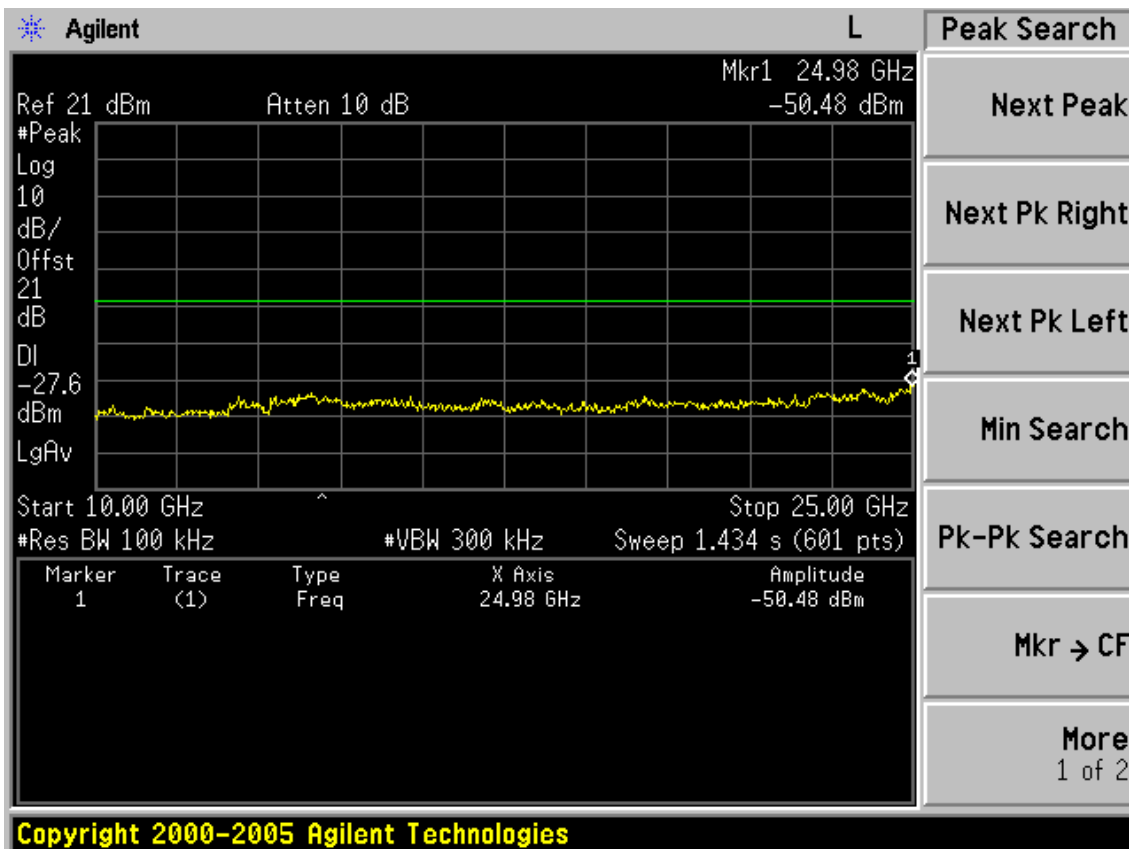
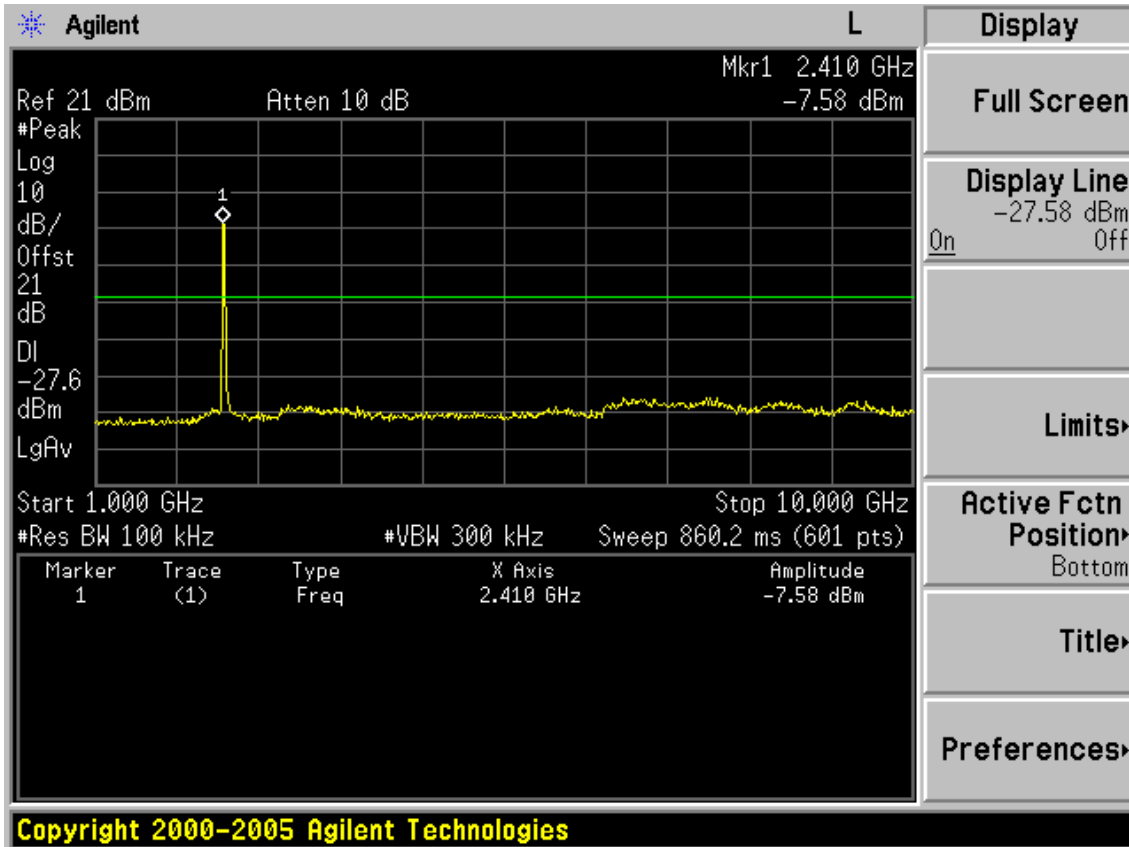


Copyright 2000-2005 Agilent Technologies

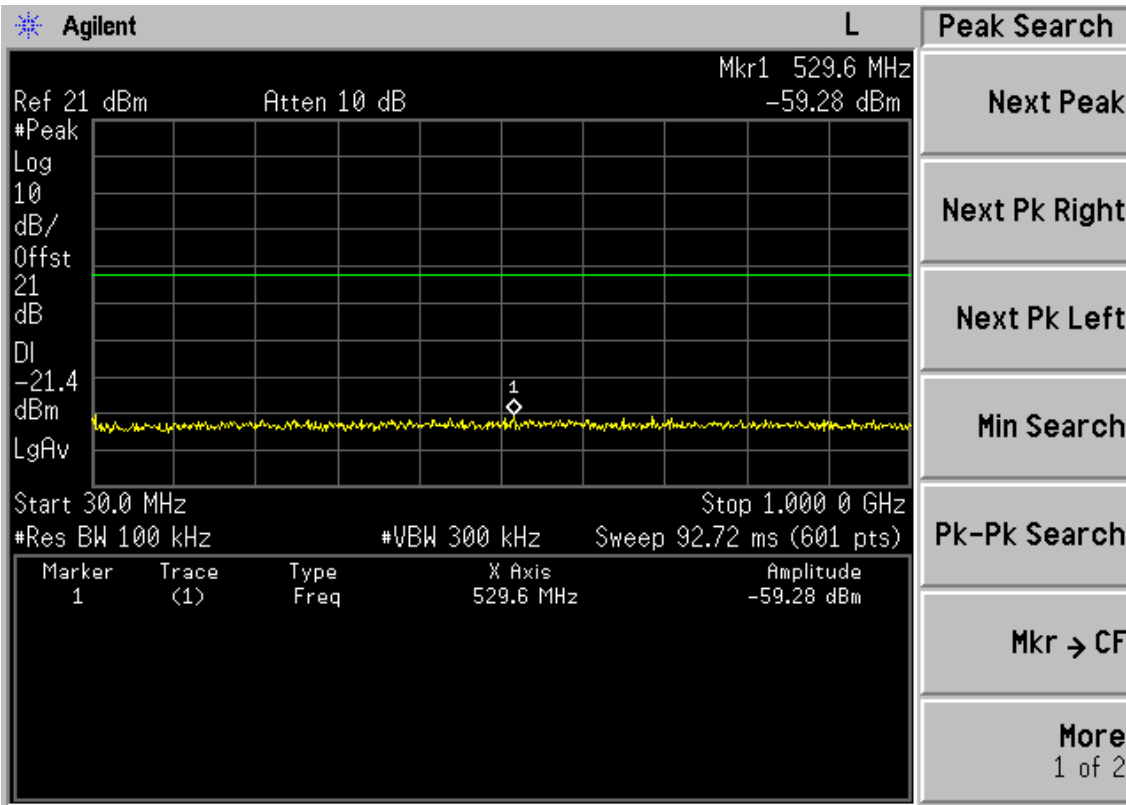


Test Mode: IEEE 802.11n HT20 TX
 Test CH1: 2412MHz

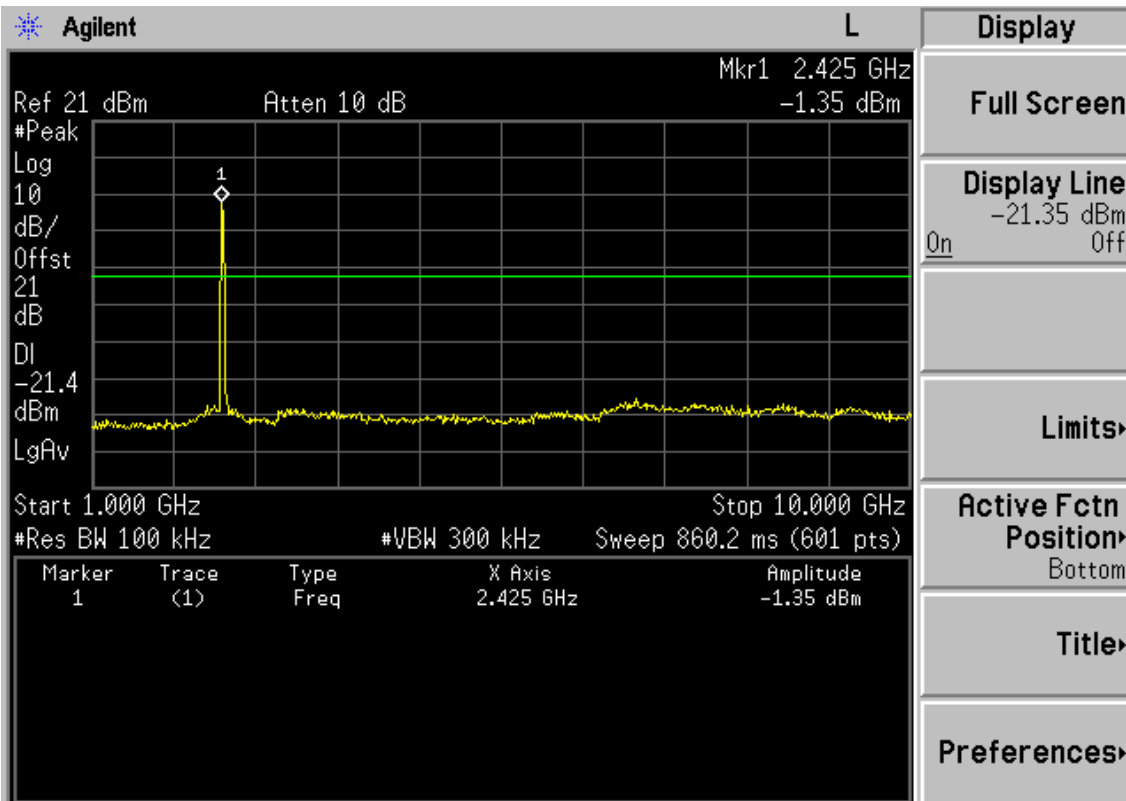




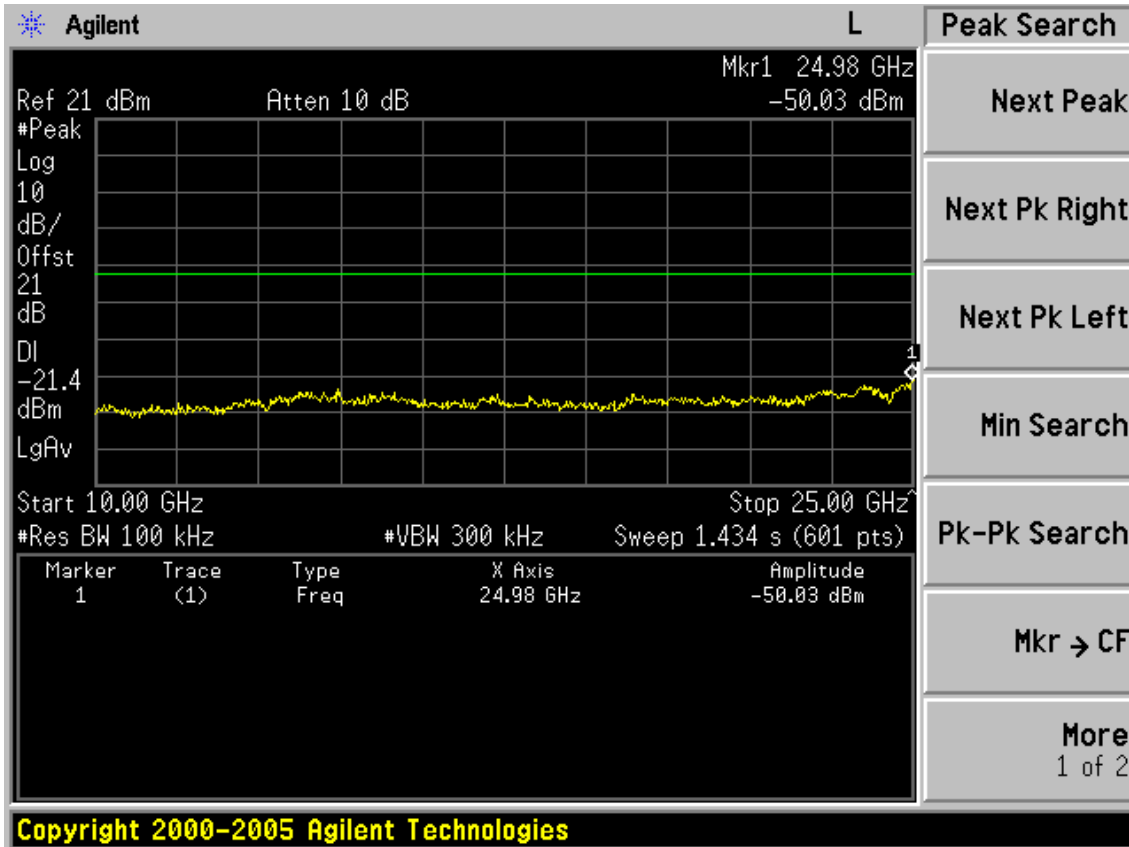
Test CH6: 2437MHz



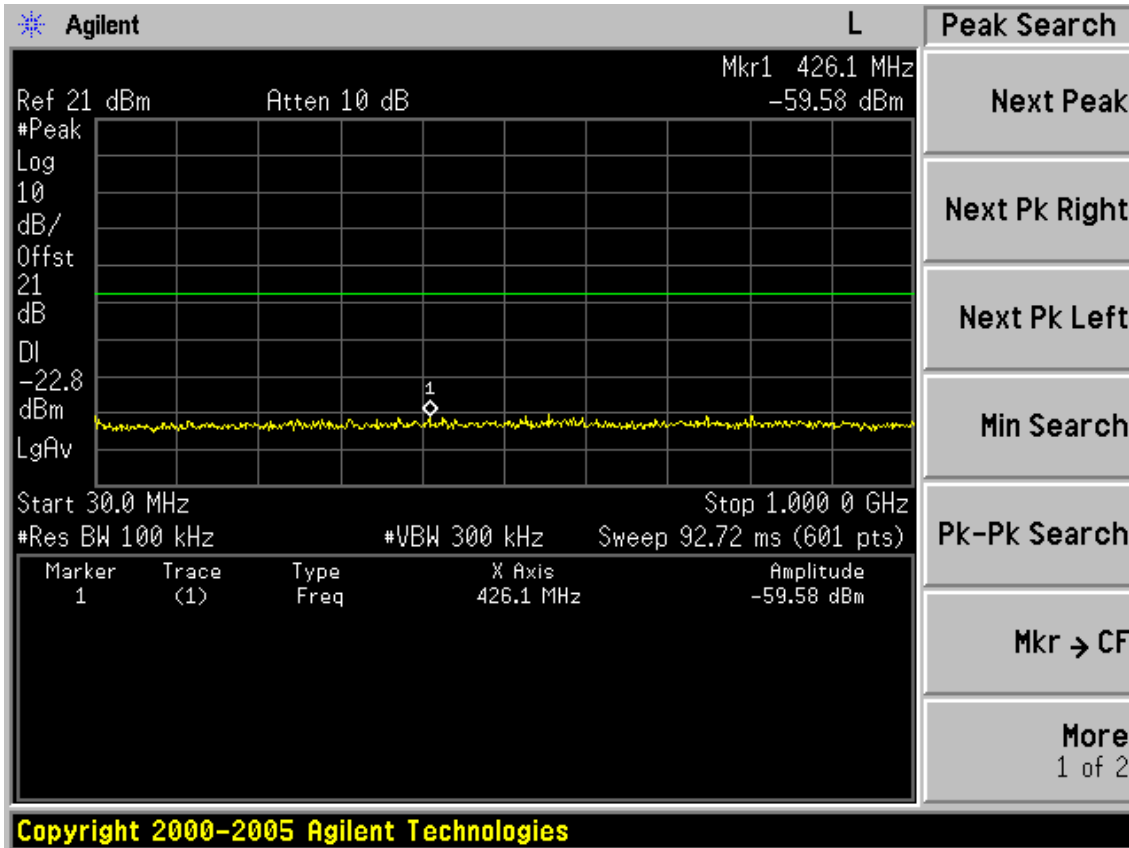
Copyright 2000-2005 Agilent Technologies

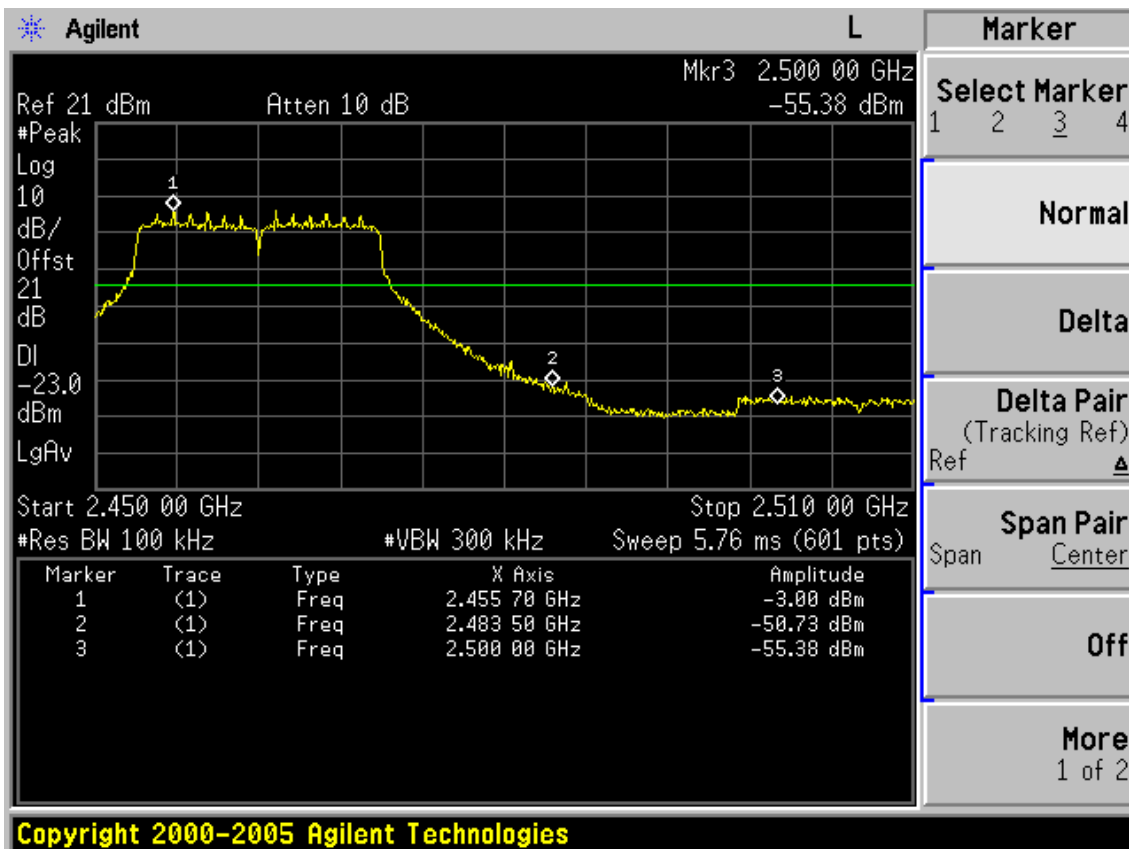
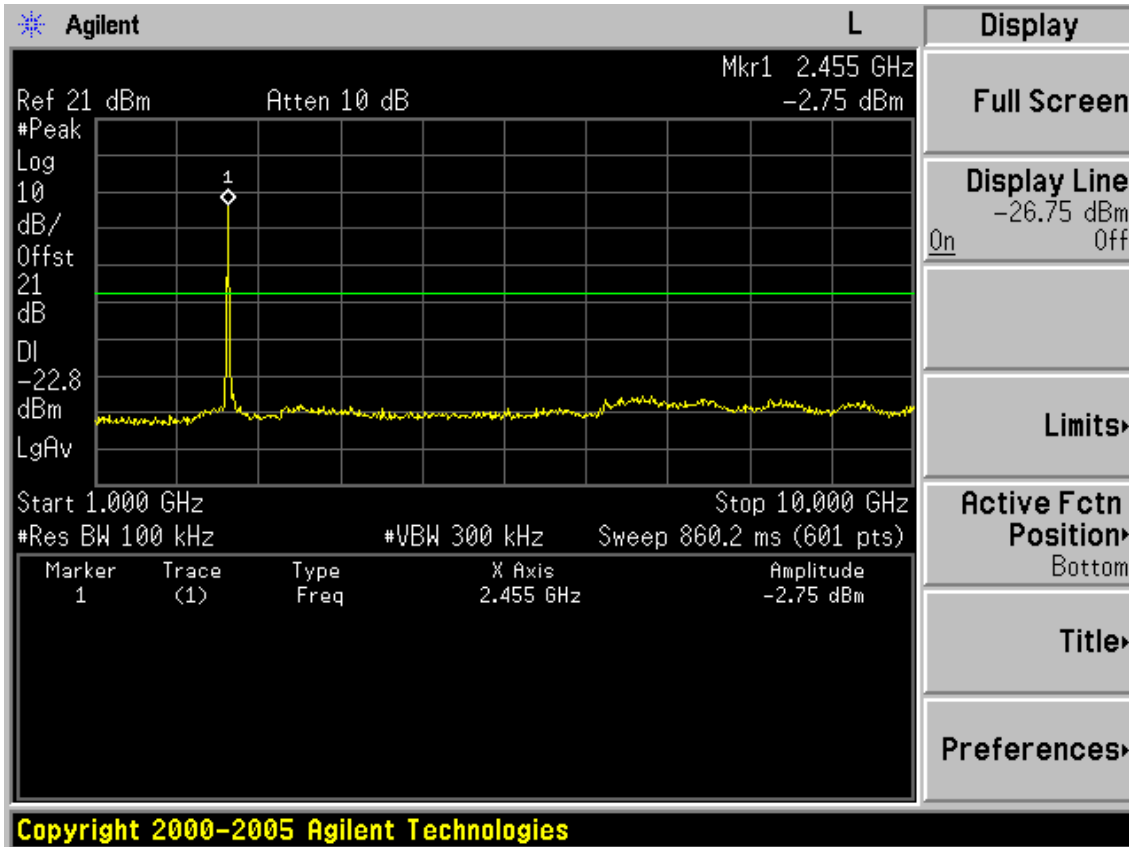


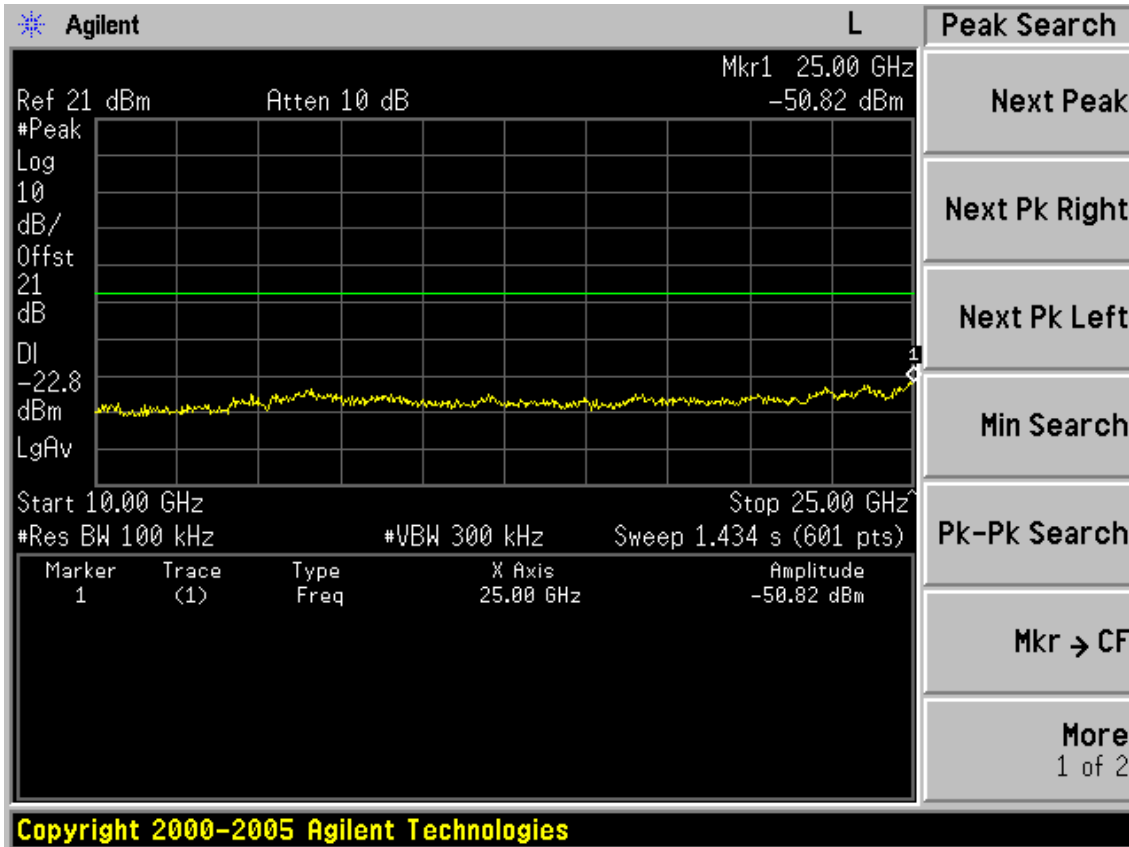
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Test CH11: 2462MHz

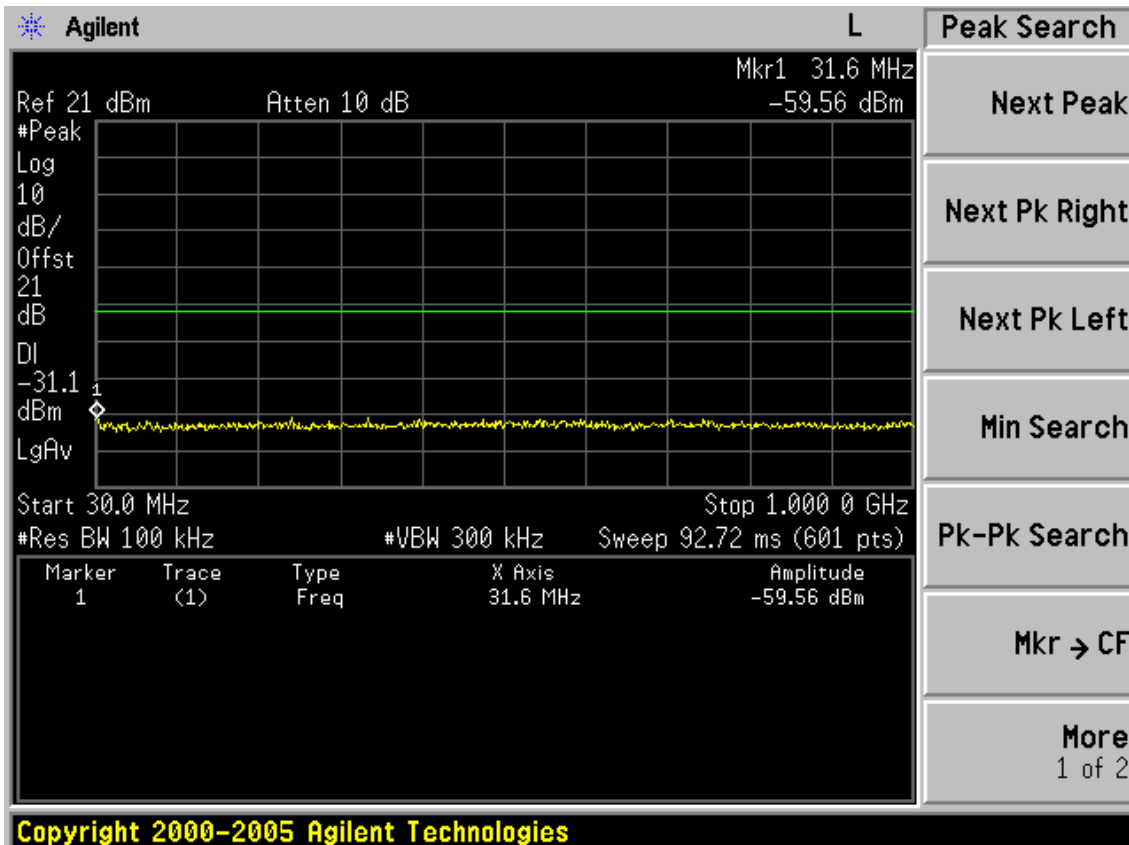


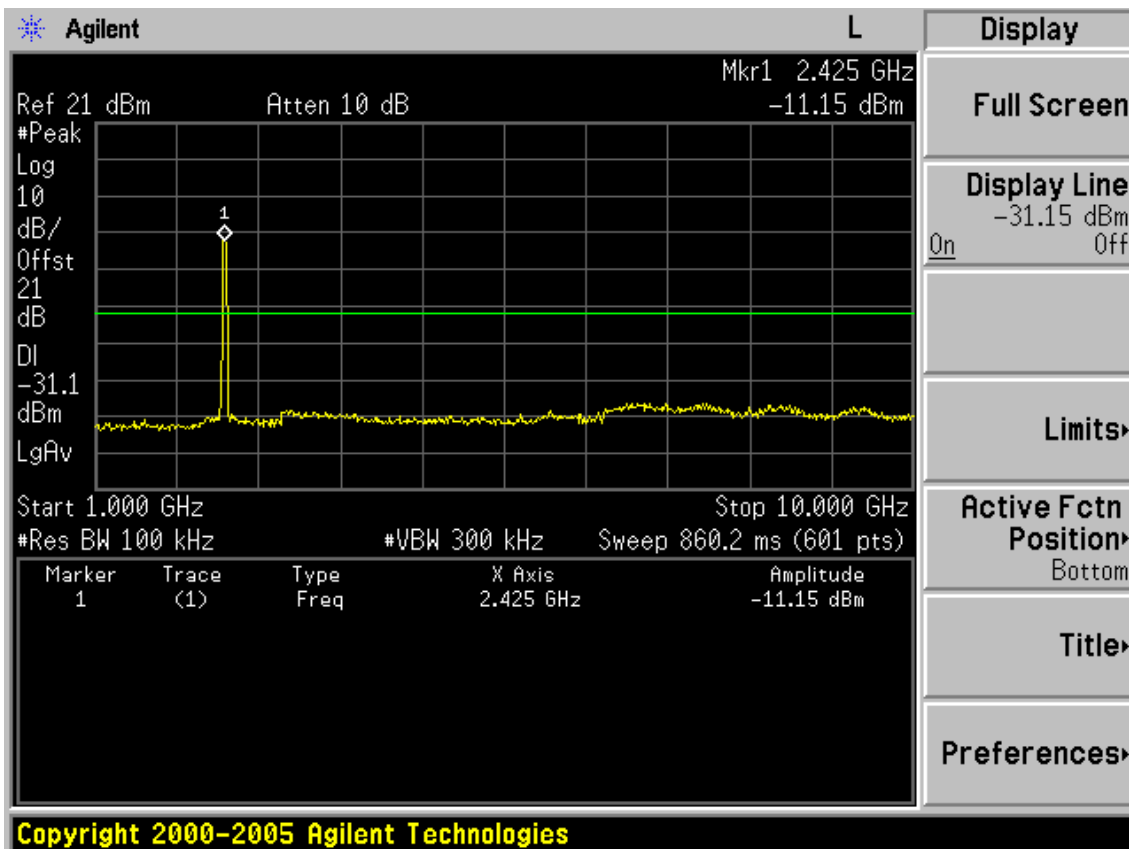
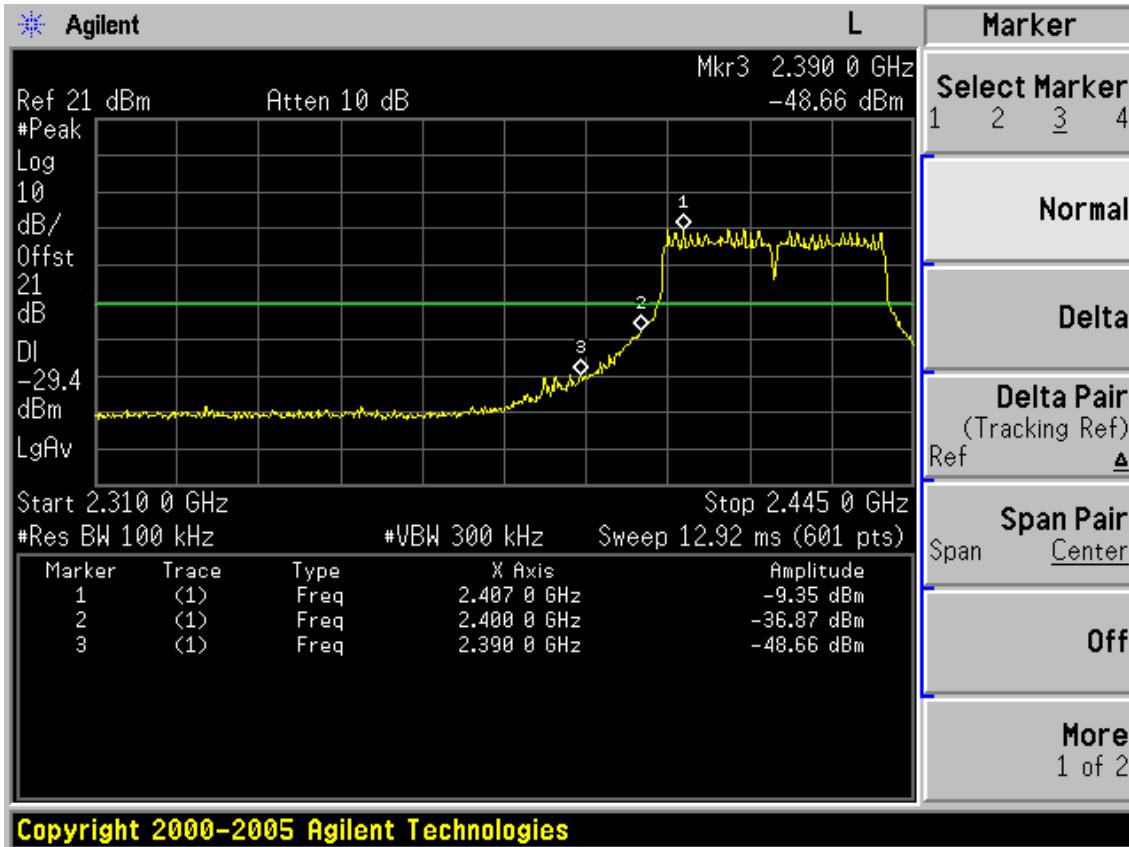


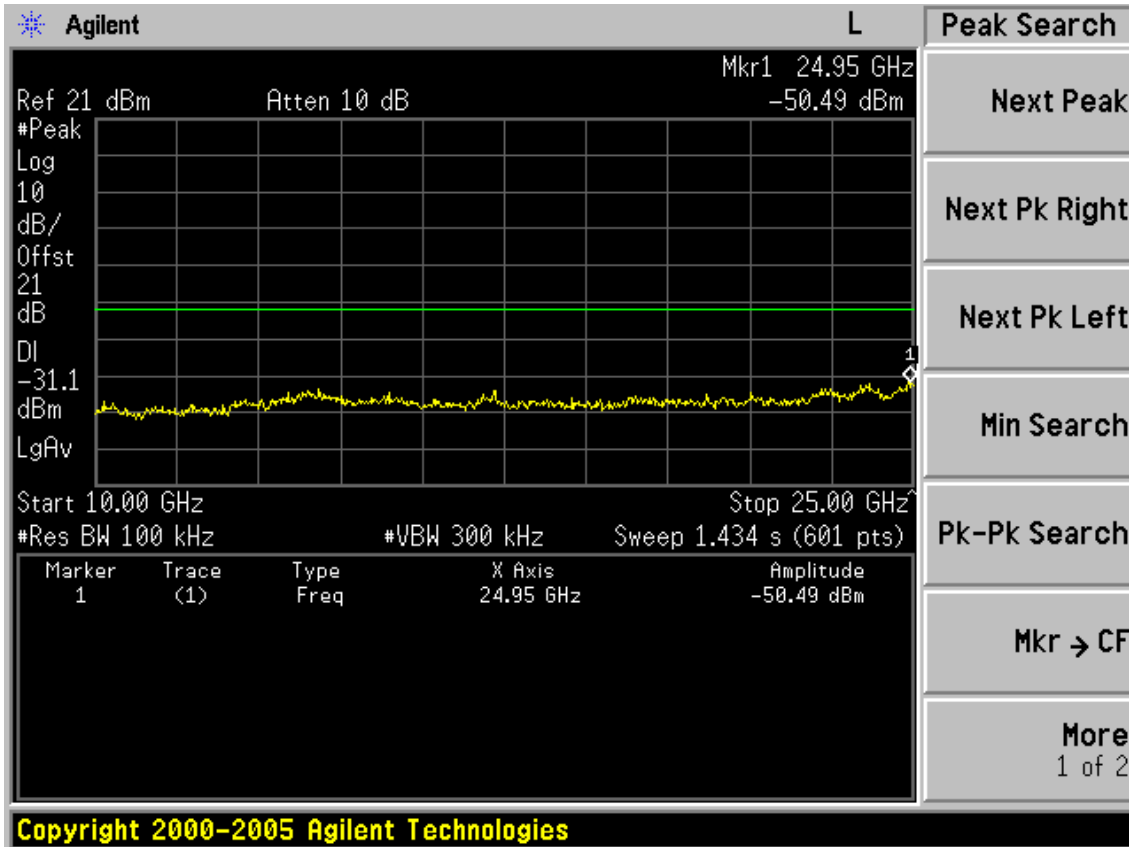


Test Mode: IEEE 802.11n HT40 TX

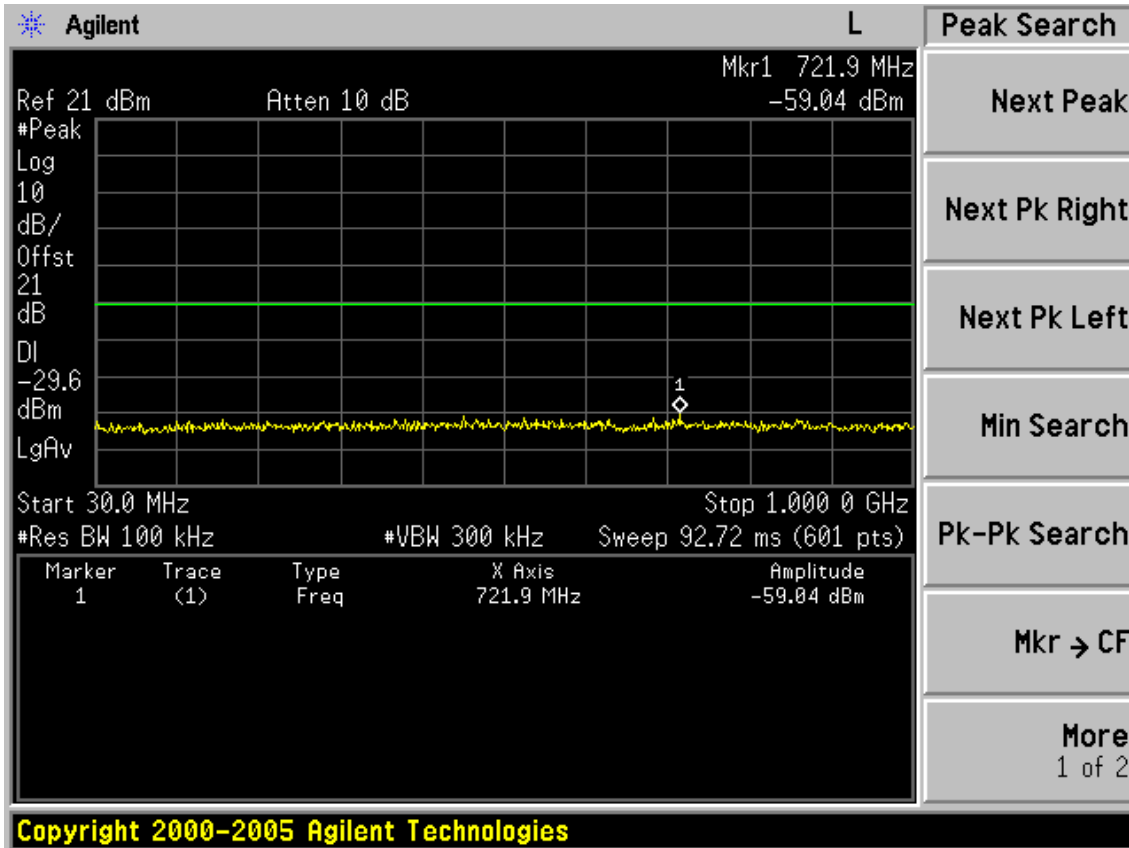
Test CH1: 2422MHz

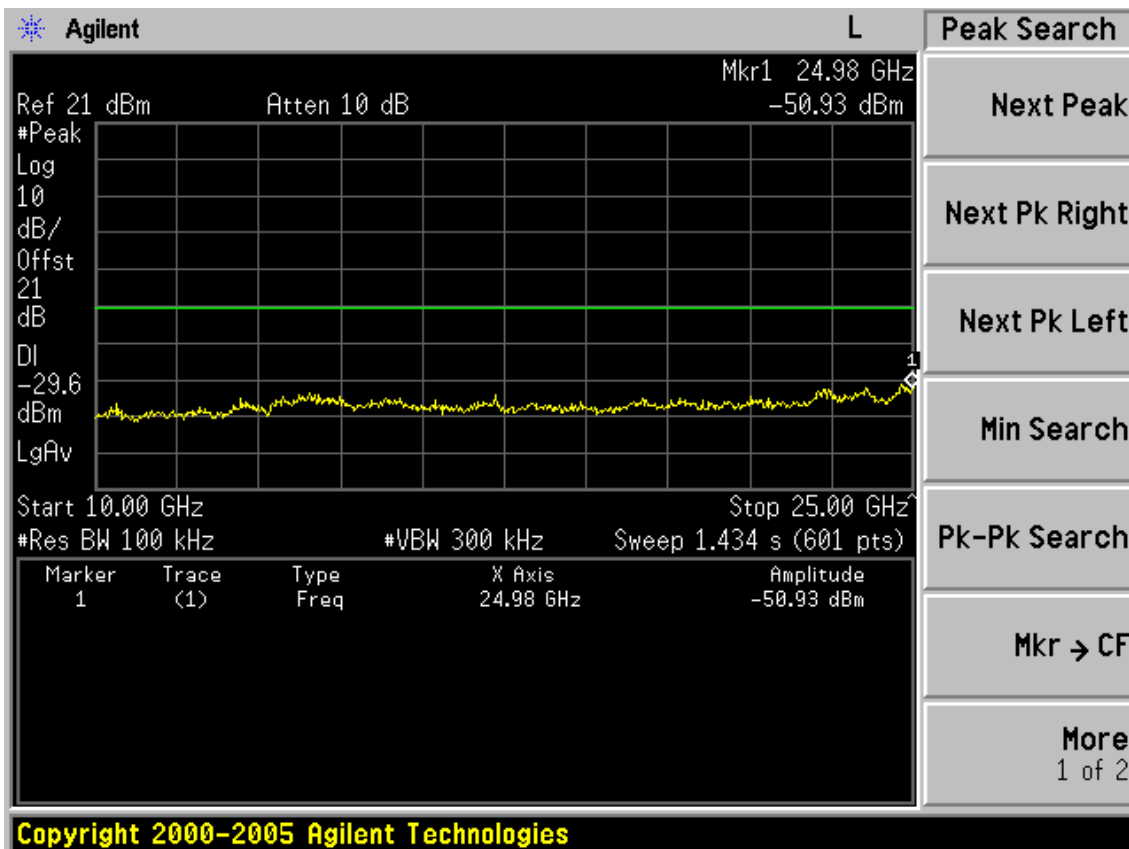
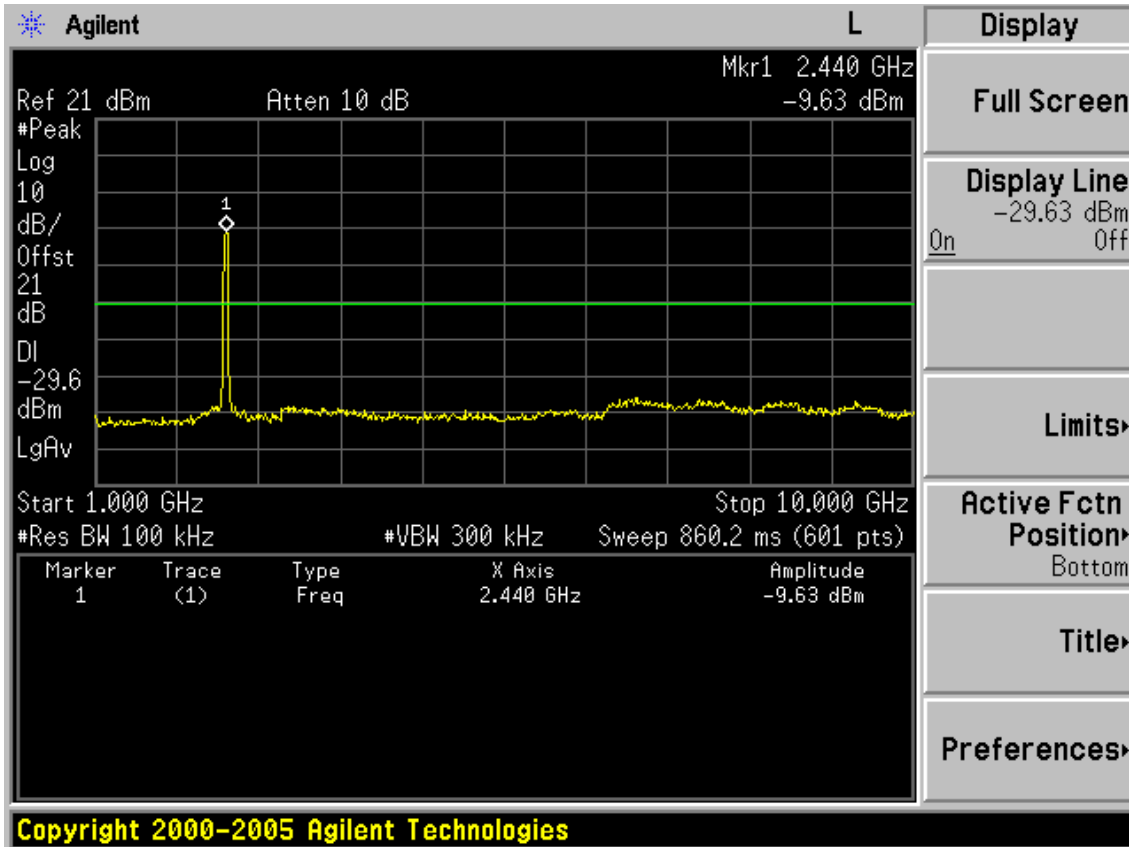




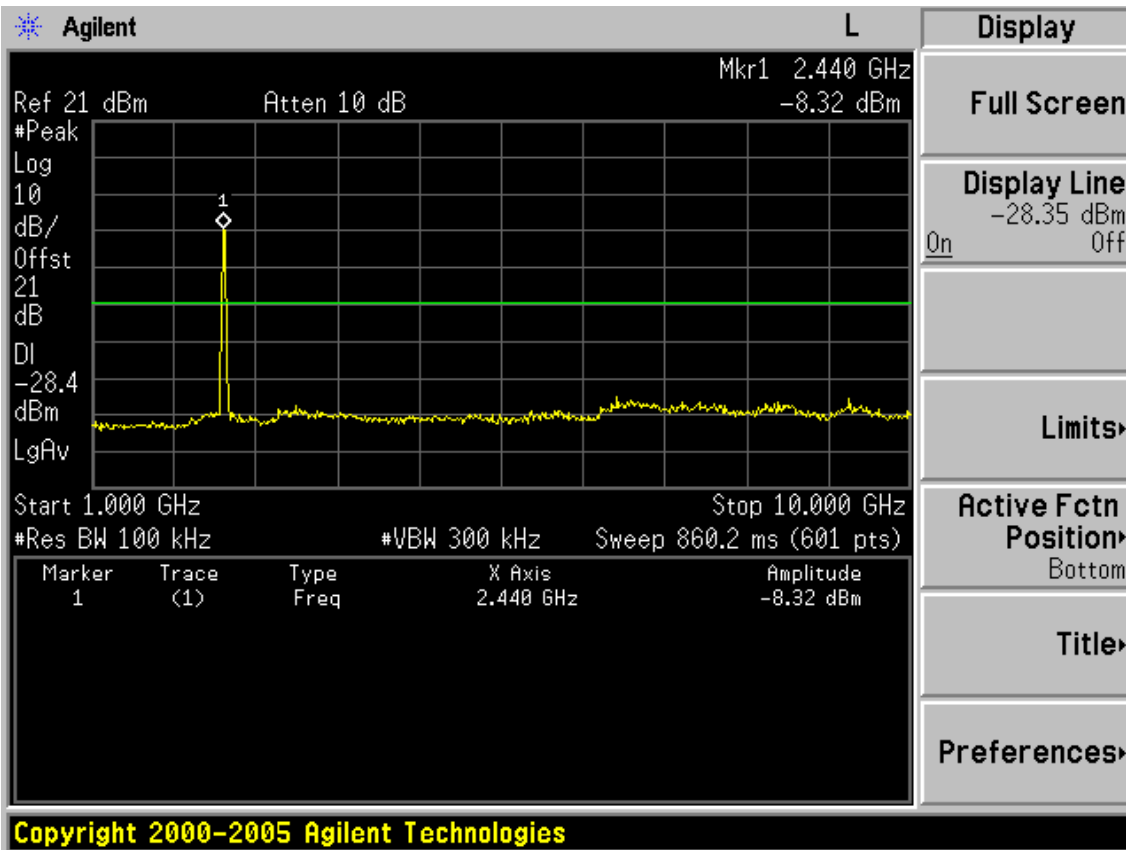
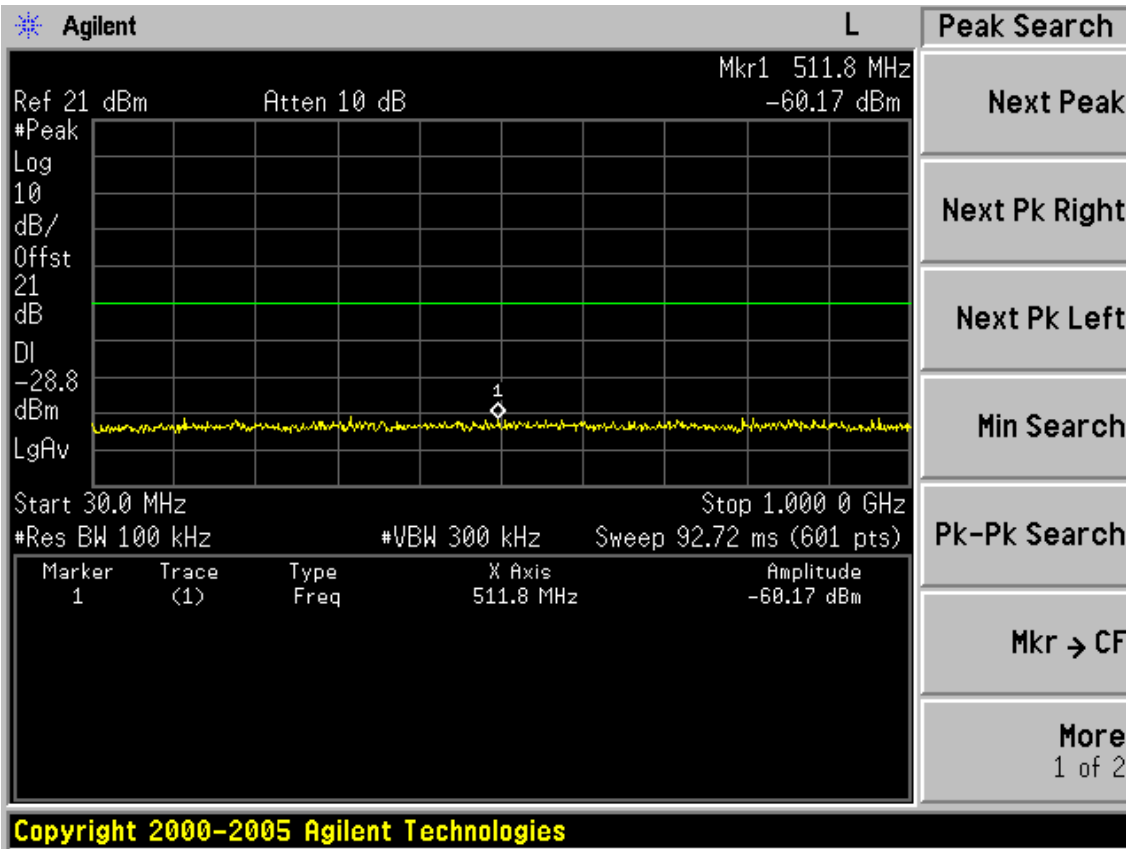


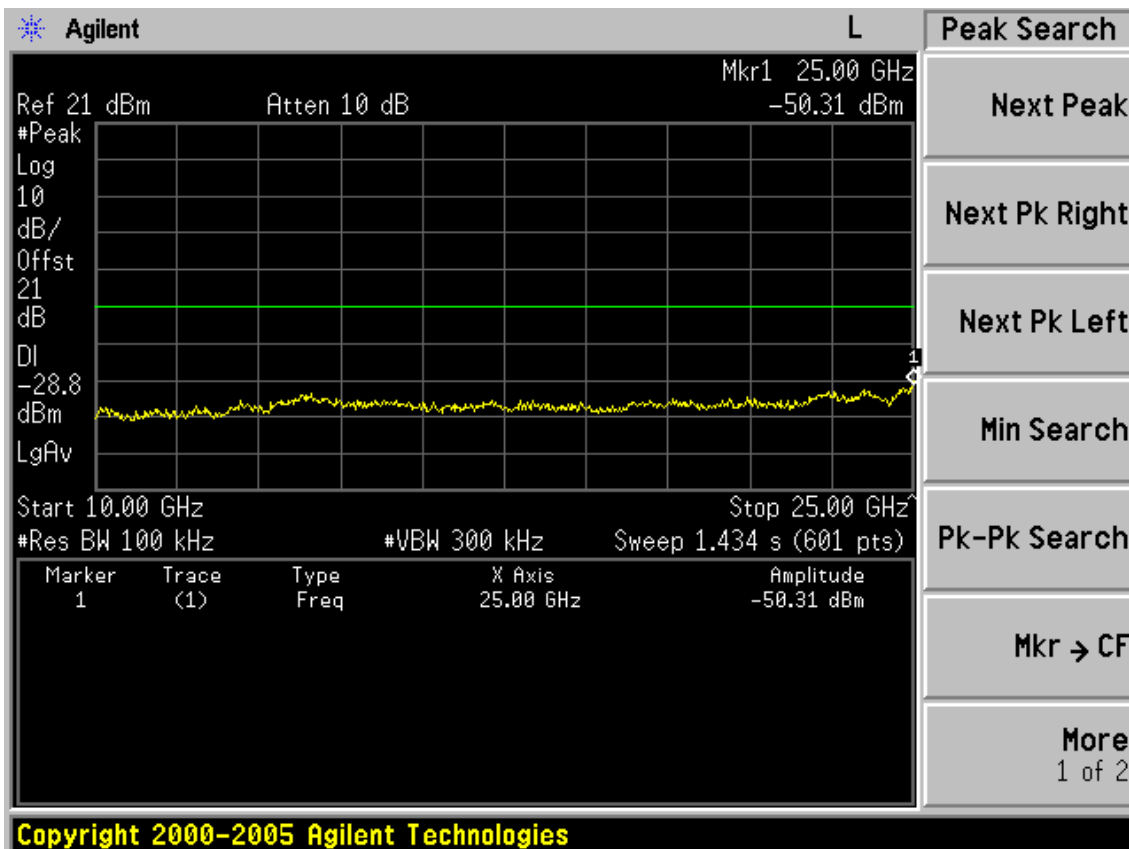
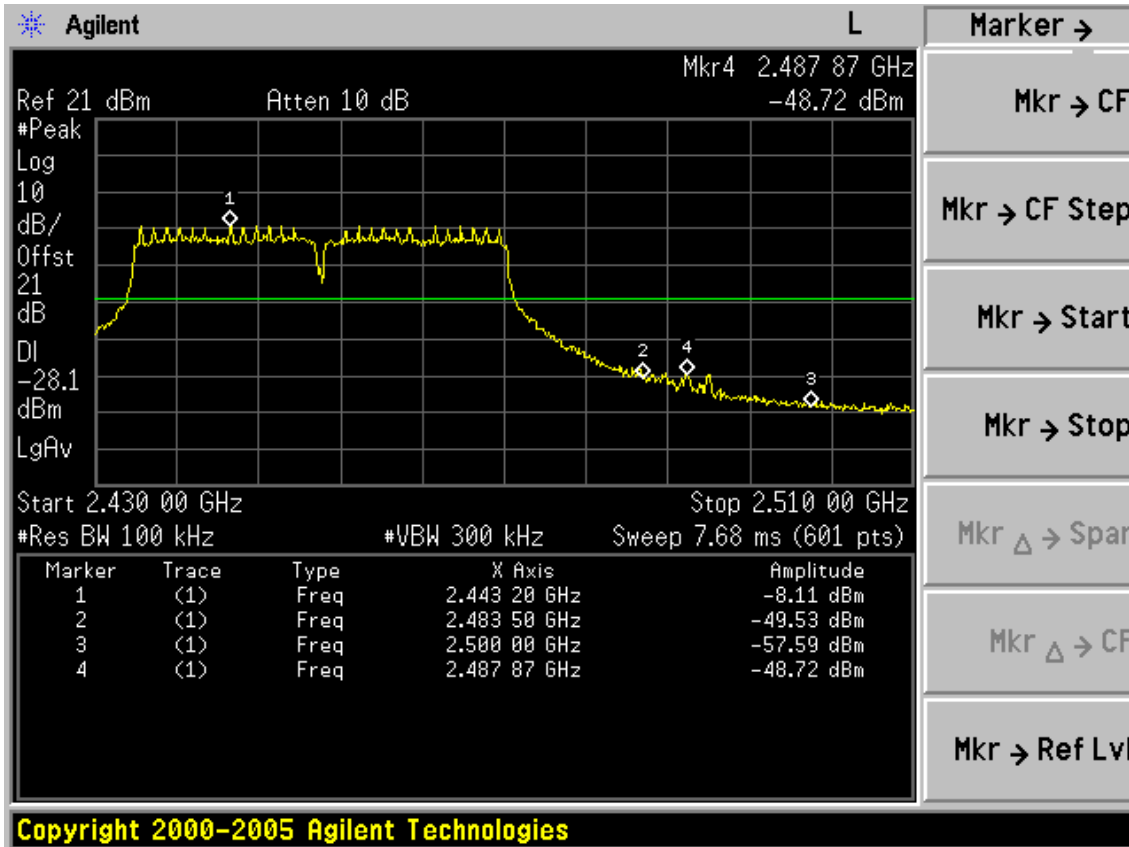
Test CH4: 2437MHz





Test CH7: 2452MHz





6. BAND EDGE COMPLIANCE TEST

6.1. Test Equipment

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

6.2. Limit

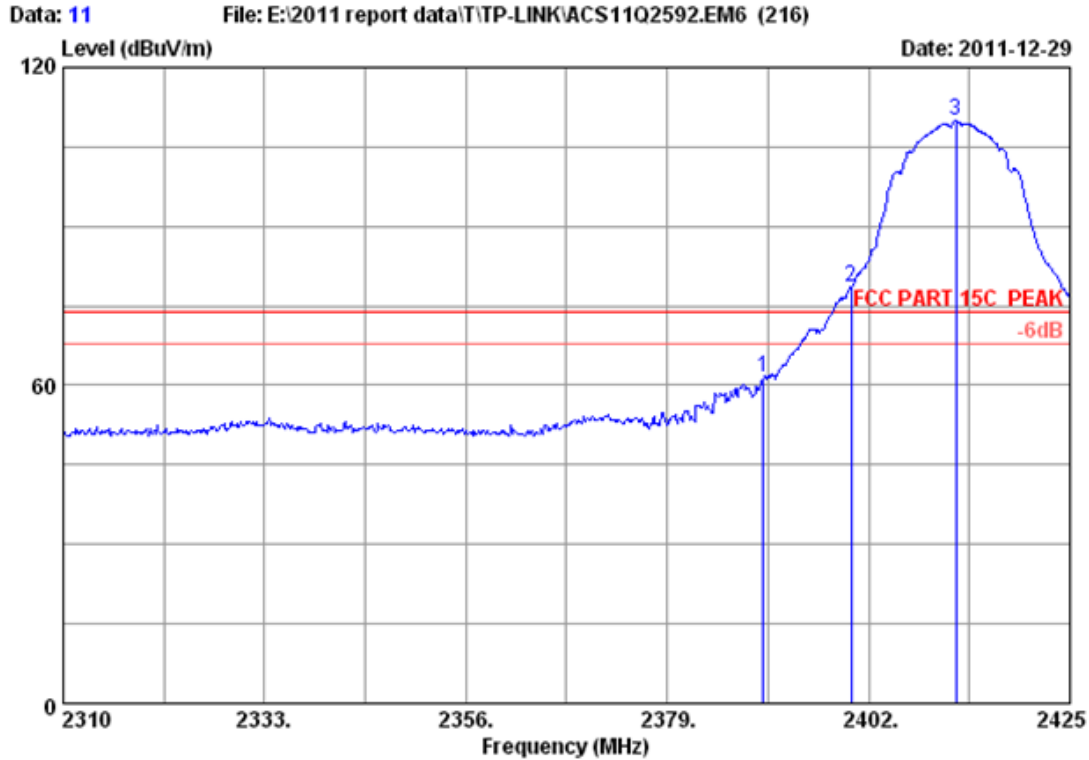
All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental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

6.3. Test Produce

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

6.4. Test Results

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

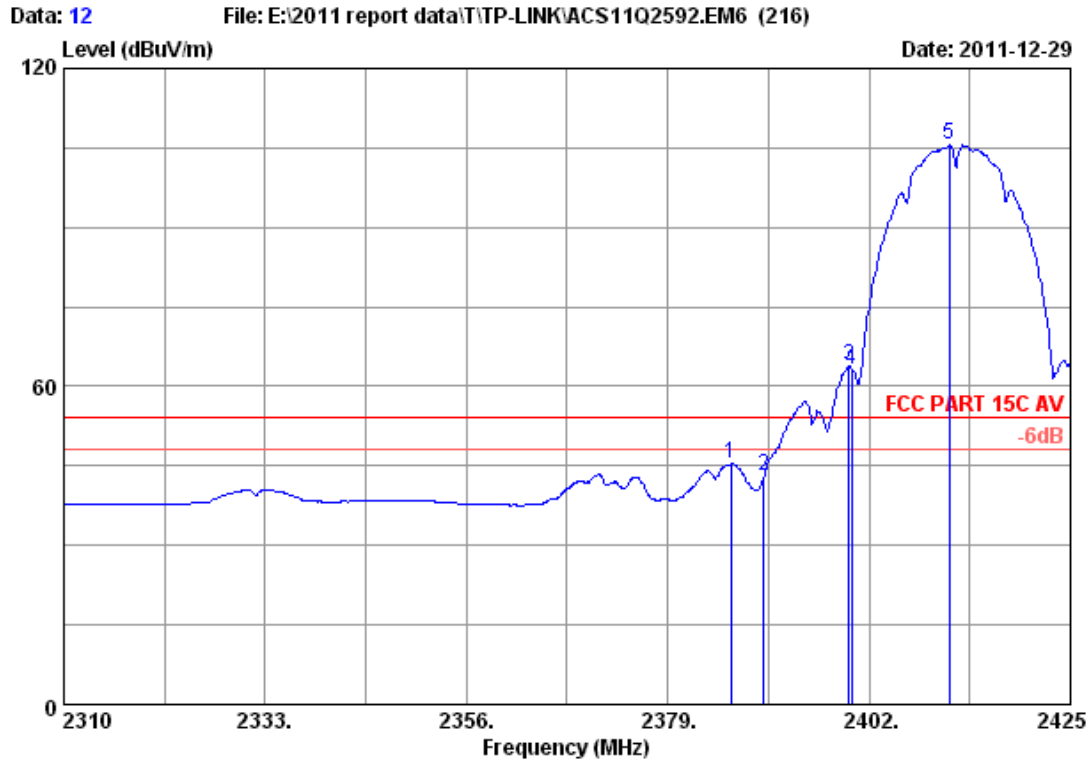


Site no. : 3m Chamber Data no. : 11
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11b CH1 2412MHz Tx
 M/N : TL-WR1042ND

	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	61.84	61.37	74.00	12.63	Peak
2	2400.000	27.96	6.01	34.44	79.06	78.59	74.00	-4.59	Peak
3	2412.005	27.98	6.03	34.44	110.34	109.91	74.00	-35.91	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.

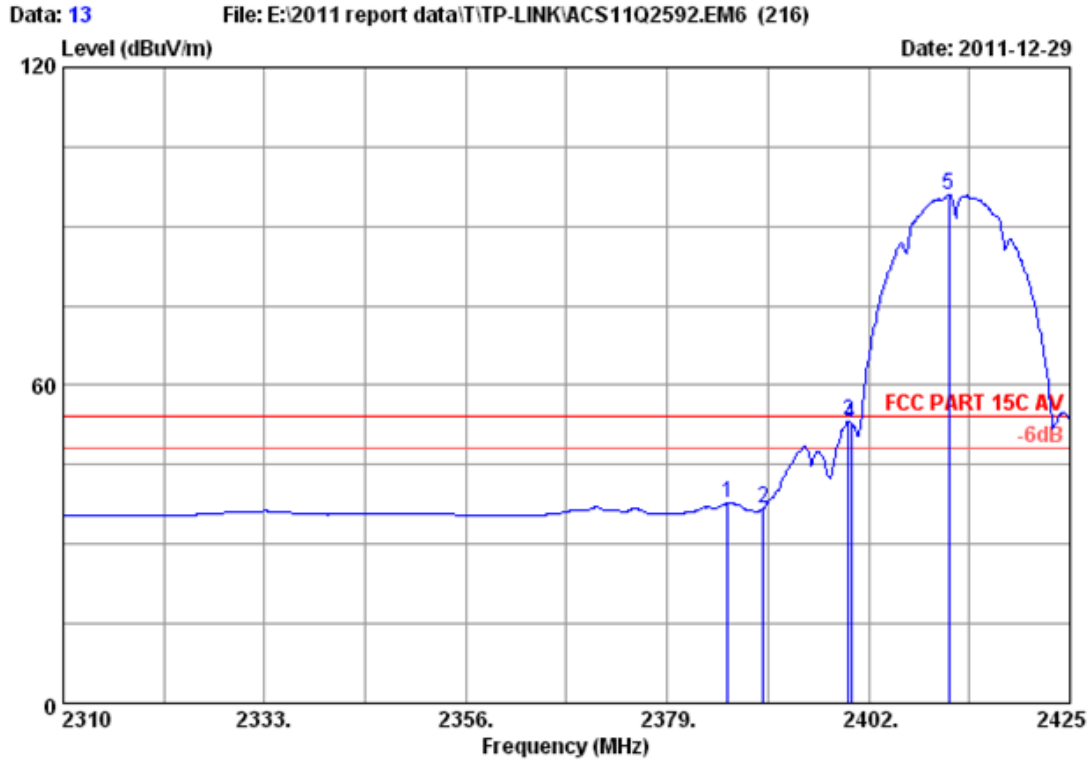


Site no. : 3m Chamber Data no. : 12
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11b CH1 2412MHz Tx
 M/N : TL-WR1042ND

	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	27.96	6.01	34.44	45.82	45.35	54.00	8.65	Average
2	2390.000	27.96	6.01	34.44	43.48	43.01	54.00	10.99	Average
3	2399.700	27.96	6.01	34.44	64.23	63.76	54.00	-9.76	Average
4	2400.000	27.96	6.01	34.44	63.61	63.14	54.00	-9.14	Average
5	2411.200	27.98	6.03	34.44	105.93	105.50	54.00	-51.50	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.

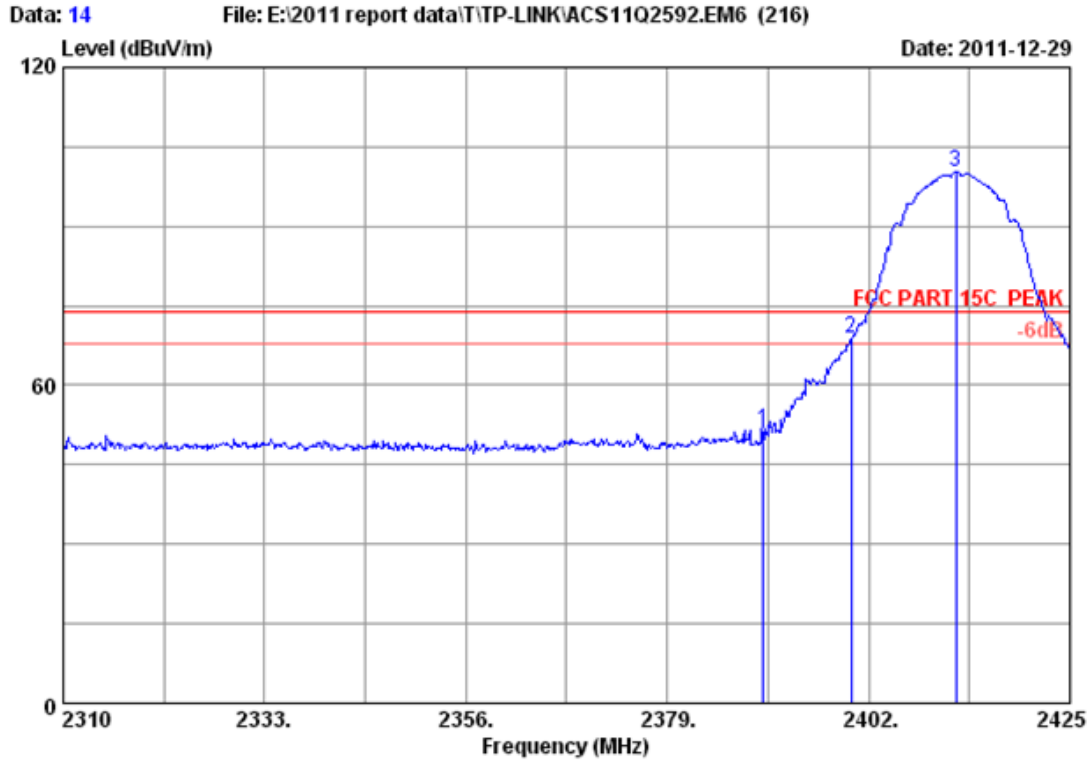


Site no. : 3m Chamber Data no. : 13
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11b CH1 2412MHz Tx
 M/N : TL-WR1042ND

	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	27.96	6.01	34.44	38.26	37.79	54.00	16.21	Average
2	27.96	6.01	34.44	37.38	36.91	54.00	17.09	Average
3	27.96	6.01	34.44	53.68	53.21	54.00	0.79	Average
4	27.96	6.01	34.44	53.19	52.72	54.00	1.28	Average
5	27.98	6.03	34.44	96.35	95.92	54.00	-41.92	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.

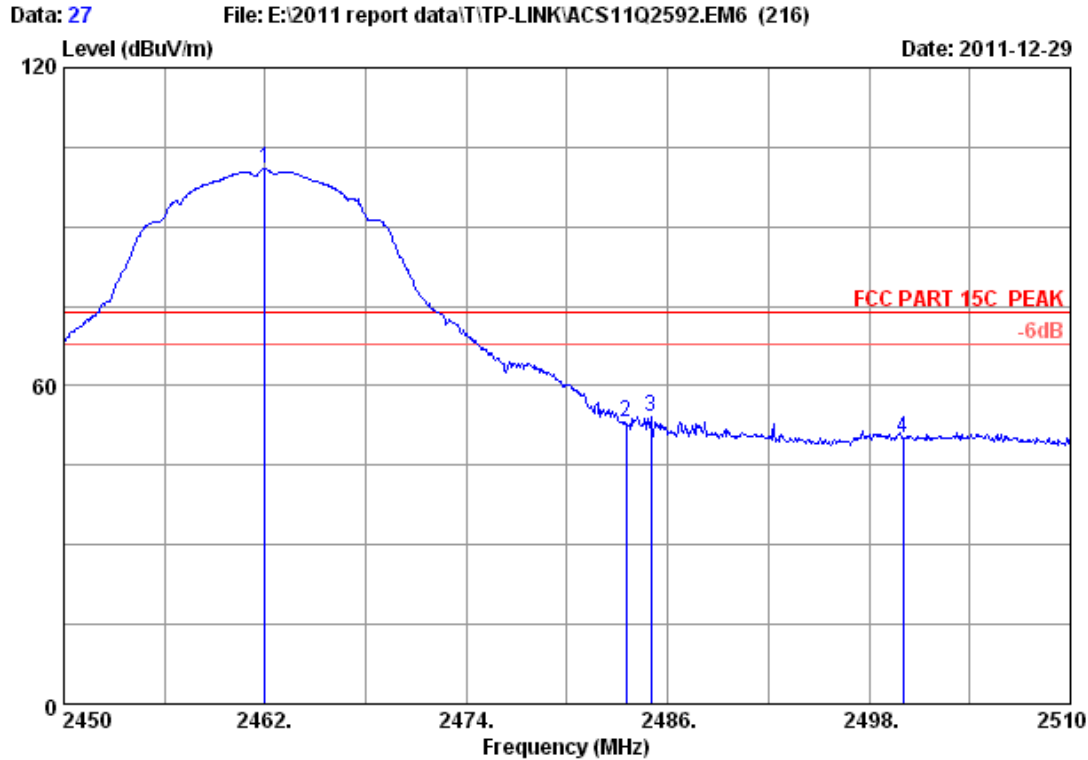


Site no. : 3m Chamber Data no. : 14
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11b CH1 2412MHz Tx
 M/N : TL-WR1042ND

	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	27.96	6.01	34.44	51.80	51.33	74.00	22.67	Peak
2	27.96	6.01	34.44	69.24	68.77	74.00	5.23	Peak
3	27.98	6.03	34.44	100.85	100.42	74.00	-26.42	Peak

Remarks:

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

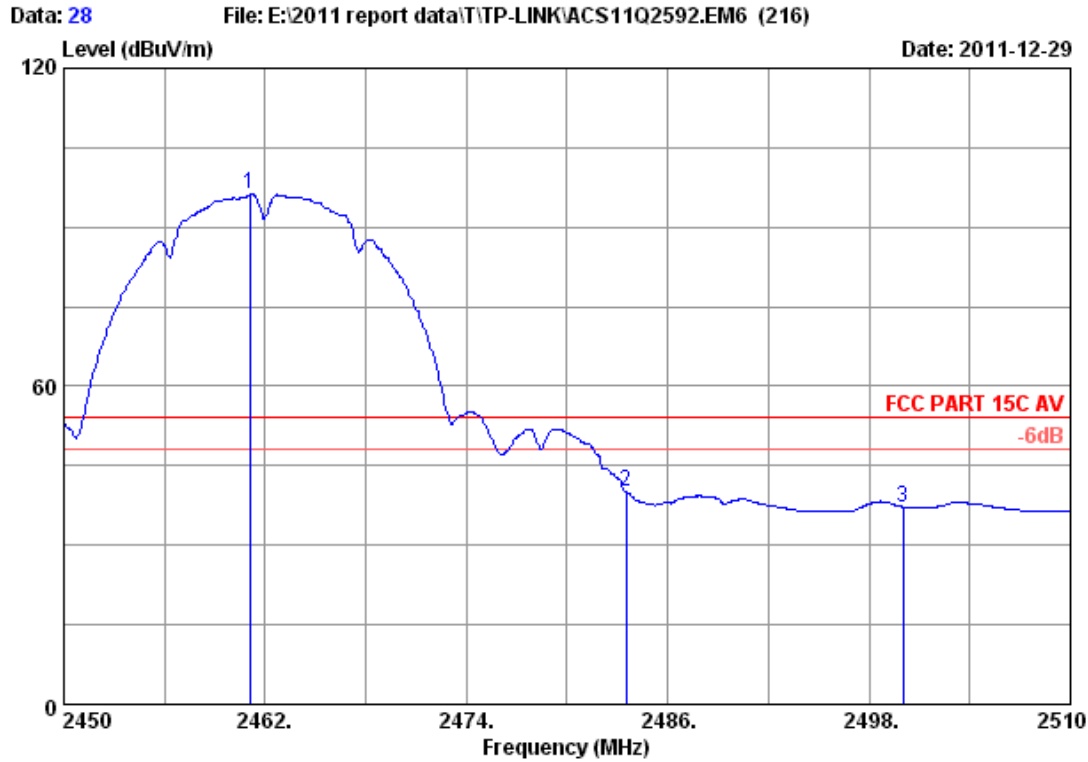


Site no. : 3m Chamber Data no. : 27
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11b CH11 2462MHz Tx
 M/N : TL-WR1042ND

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.000	28.05	6.12	34.44	101.15	100.88	74.00	-26.88	Peak
2	2483.500	28.08	6.15	34.45	53.37	53.15	74.00	20.85	Peak
3	2484.980	28.08	6.15	34.45	54.30	54.08	74.00	19.92	Peak
4	2500.000	28.10	6.18	34.45	50.22	50.05	74.00	23.95	Peak

Remarks:

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

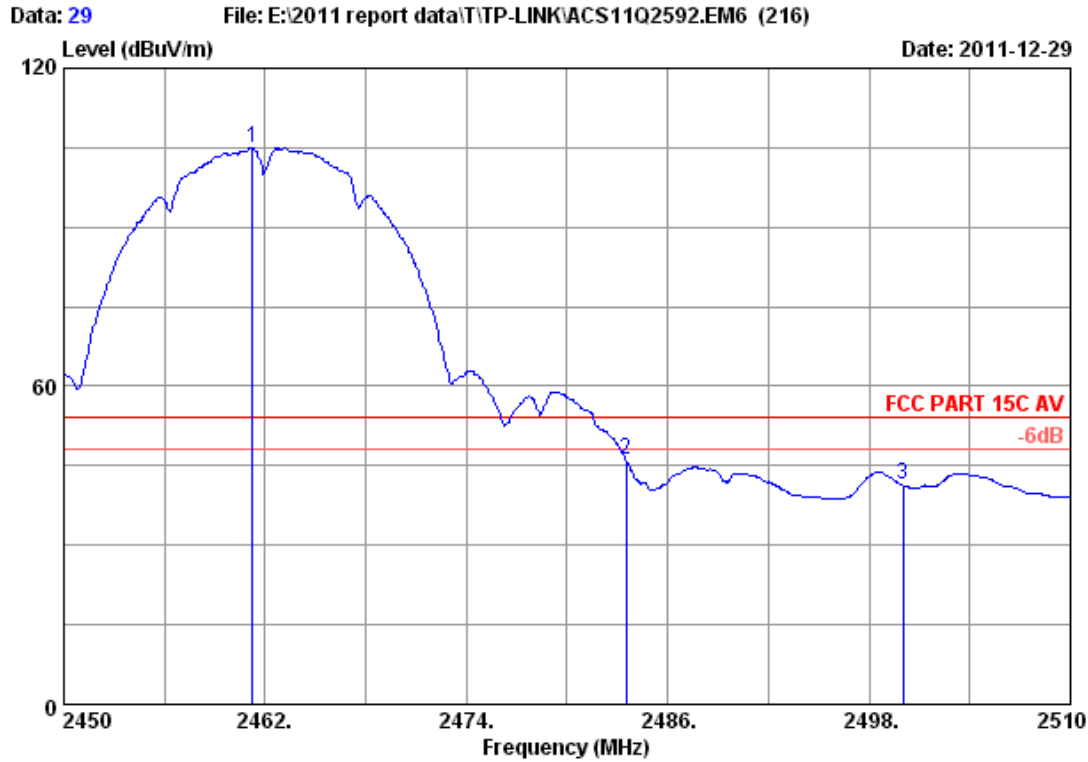


Site no. : 3m Chamber Data no. : 28
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23*C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11b CH11 2462MHz Tx
 M/N : TL-WR1042ND

	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	2461.100	28.05	6.12	34.44	96.43	96.16	54.00	-42.16	Average
2	2483.500	28.08	6.15	34.45	40.29	40.07	54.00	13.93	Average
3	2500.000	28.10	6.18	34.45	37.38	37.21	54.00	16.79	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.

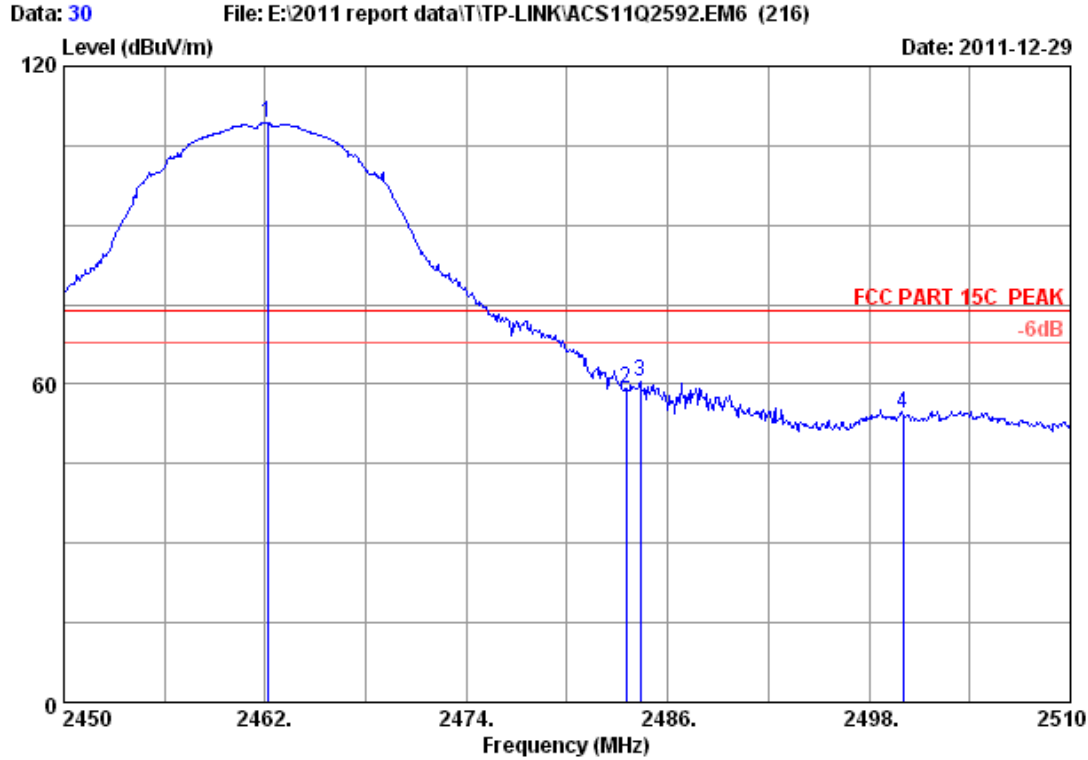


Site no. : 3m Chamber Data no. : 29
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23*C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11b CH11 2462MHz Tx
 M/N : TL-WR1042ND

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2461.220	28.05	6.12	34.44	105.32	105.05	54.00	-51.05	Average
2	2483.500	28.08	6.15	34.45	46.46	46.24	54.00	7.76	Average
3	2500.000	28.10	6.18	34.45	41.47	41.30	54.00	12.70	Average

Remarks:

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

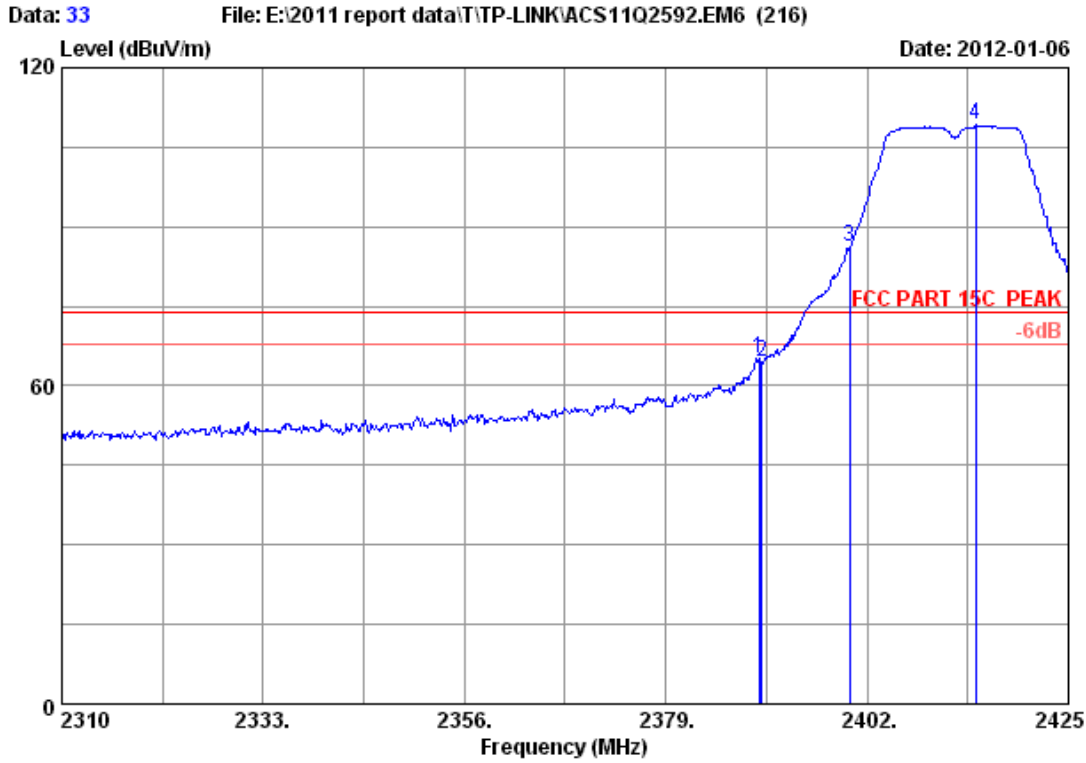


Site no. : 3m Chamber Data no. : 30
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11b CH11 2462MHz Tx
 M/N : TL-WR1042ND

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.120	28.05	6.12	34.44	109.72	109.45	74.00	-35.45	Peak
2	2483.500	28.08	6.15	34.45	59.49	59.27	74.00	14.73	Peak
3	2484.380	28.08	6.15	34.45	60.66	60.44	74.00	13.56	Peak
4	2500.000	28.10	6.18	34.45	54.67	54.50	74.00	19.50	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.

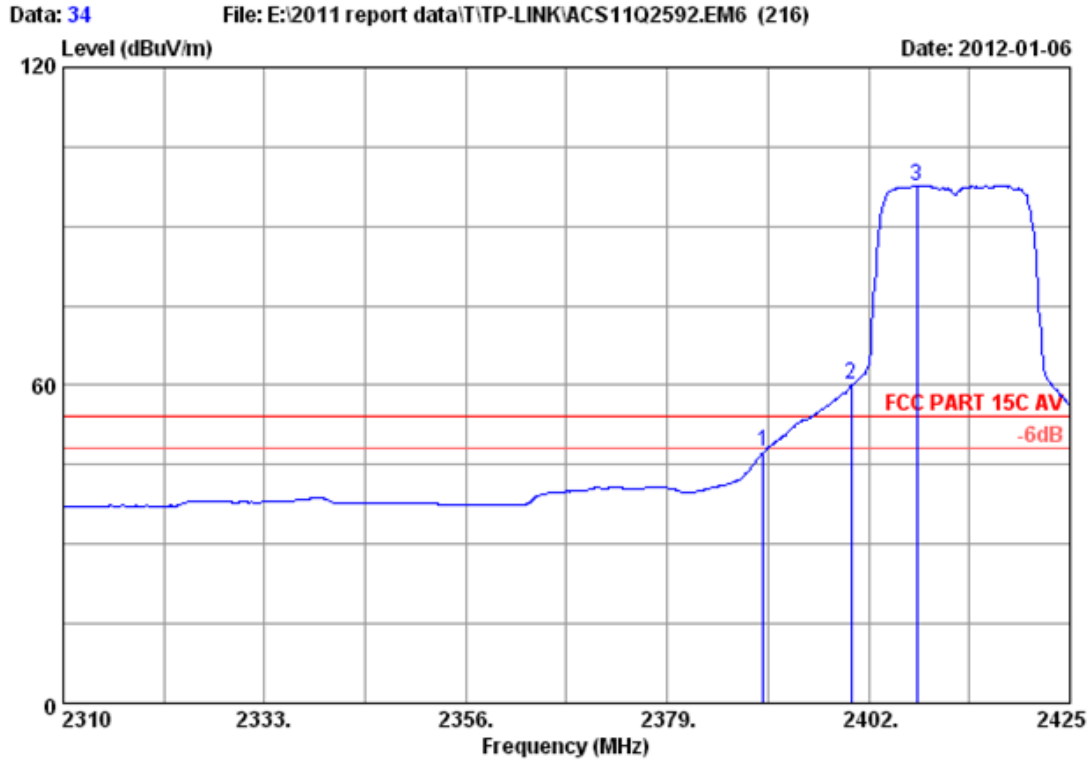


Site no. : 3m Chamber Data no. : 33
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11g CH1 2412MHz Tx
 M/N : TL-WR1042ND

	Ant.	Cable	Amp.	Emission					
Freq. (MHz)	Factor (dB/m)	loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark	
1	27.96	6.01	34.44	65.78	65.31	74.00	8.69	Peak	
2	27.96	6.01	34.44	64.89	64.42	74.00	9.58	Peak	
3	27.96	6.01	34.44	86.73	86.26	74.00	-12.26	Peak	
4	27.98	6.03	34.44	109.76	109.33	74.00	-35.33	Peak	

Remarks:

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

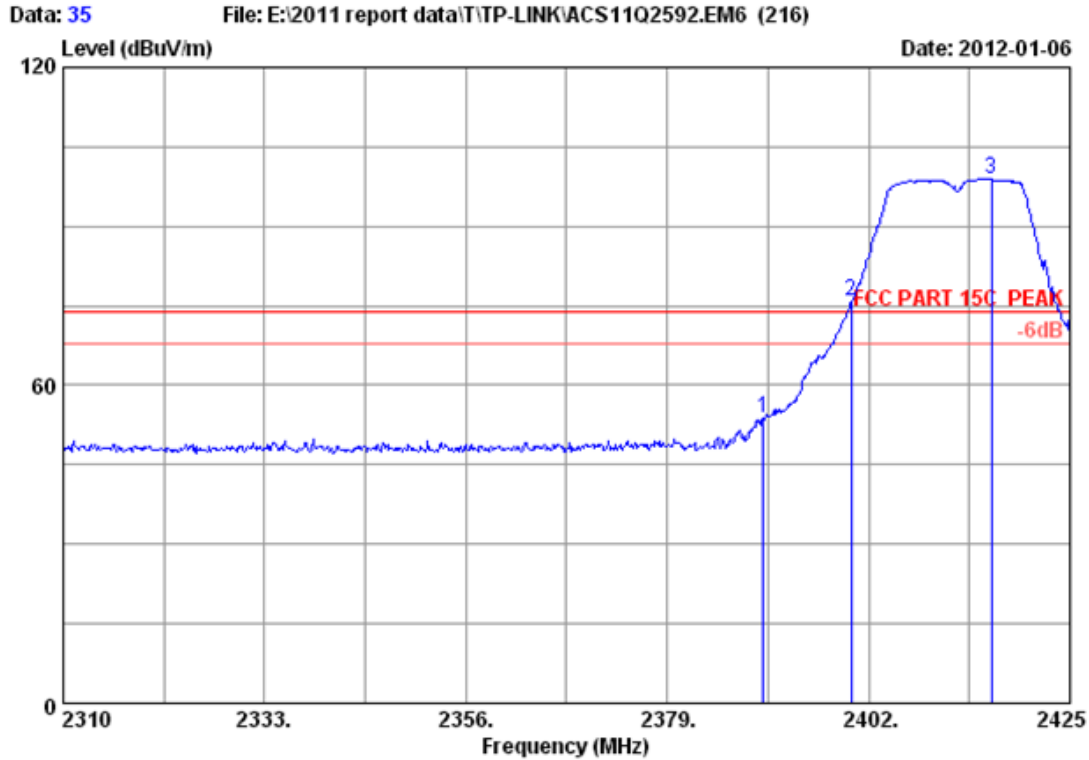


Site no. : 3m Chamber Data no. : 34
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11g CH1 2412MHz Tx
 M/N : TL-WR1042ND

	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	27.96	6.01	34.44	47.84	47.37	54.00	6.63	Average
2	27.96	6.01	34.44	60.51	60.04	54.00	-6.04	Average
3	27.98	6.03	34.44	98.18	97.75	54.00	-43.75	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.

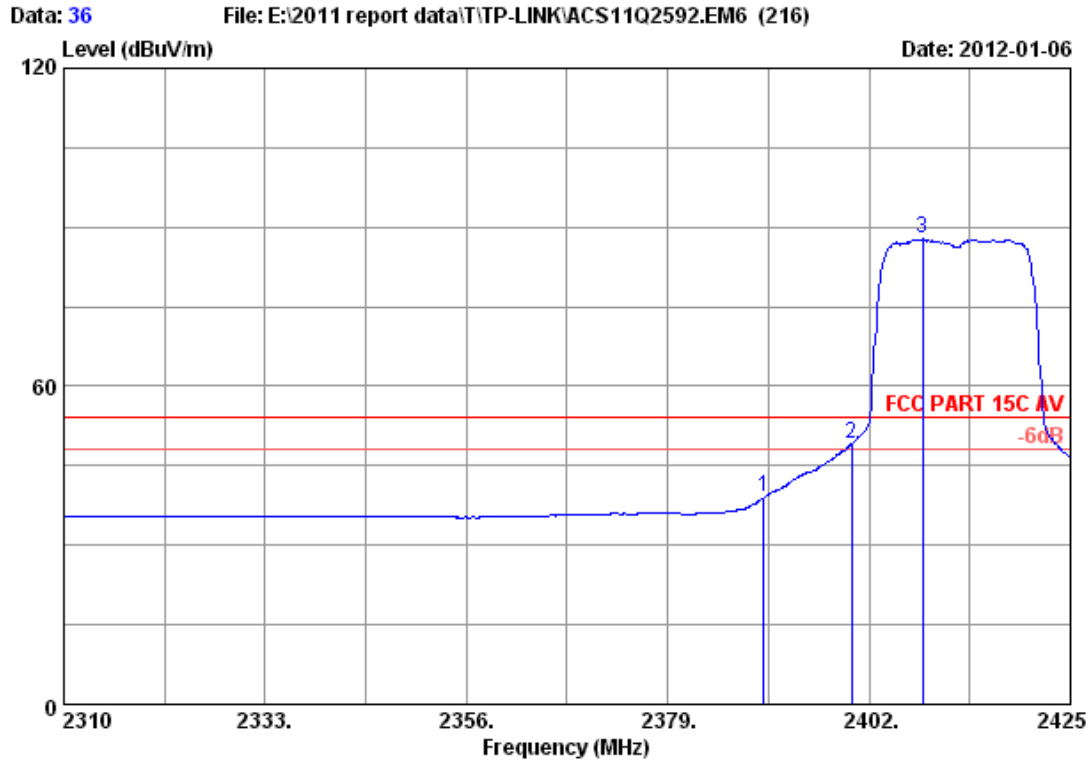


Site no. : 3m Chamber Data no. : 35
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11g CH1 2412MHz Tx
 M/N : TL-WR1042ND

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	27.96	6.01	34.44	54.24	53.77	74.00	20.23	Peak
2	2400.000	27.96	6.01	34.44	76.19	75.72	74.00	-1.72	Peak
3	2416.030	27.98	6.03	34.44	99.34	98.91	74.00	-24.91	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.

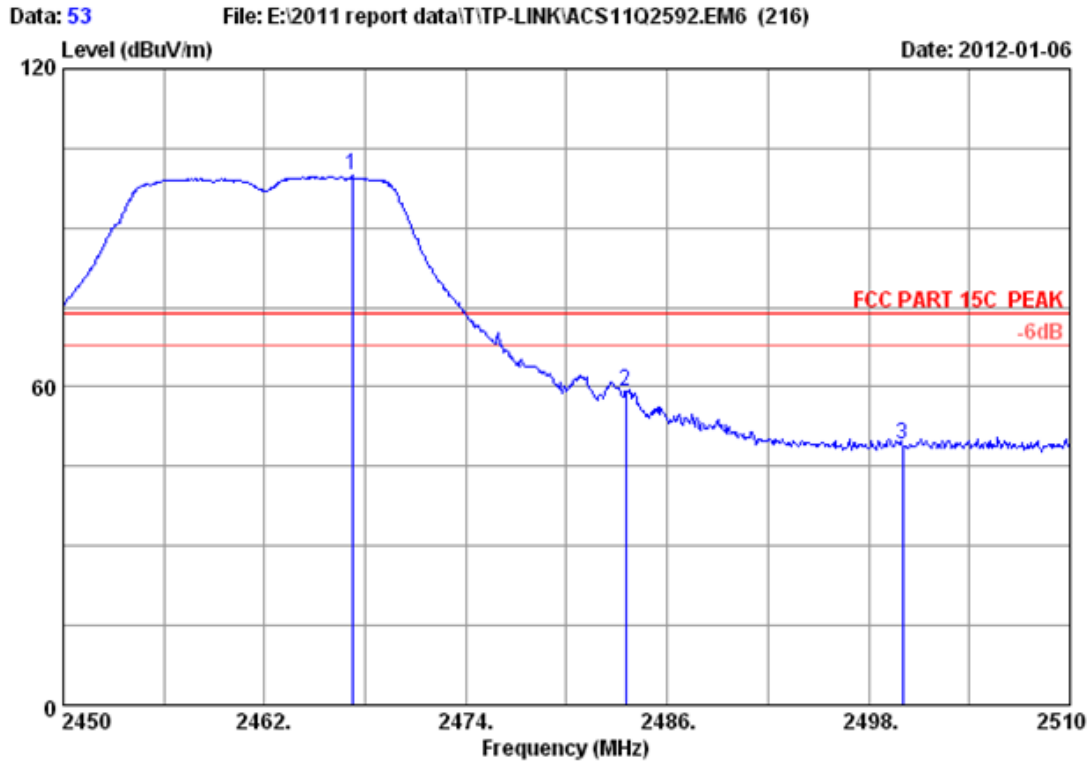


Site no. : 3m Chamber Data no. : 36
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23*C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11g CH1 2412MHz Tx
 M/N : TL-WR1042ND

	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	39.50	39.03	54.00	14.97	Average
2	2400.000	27.96	6.01	34.44	49.71	49.24	54.00	4.76	Average
3	2408.095	27.98	6.03	34.44	88.20	87.77	54.00	-33.77	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.

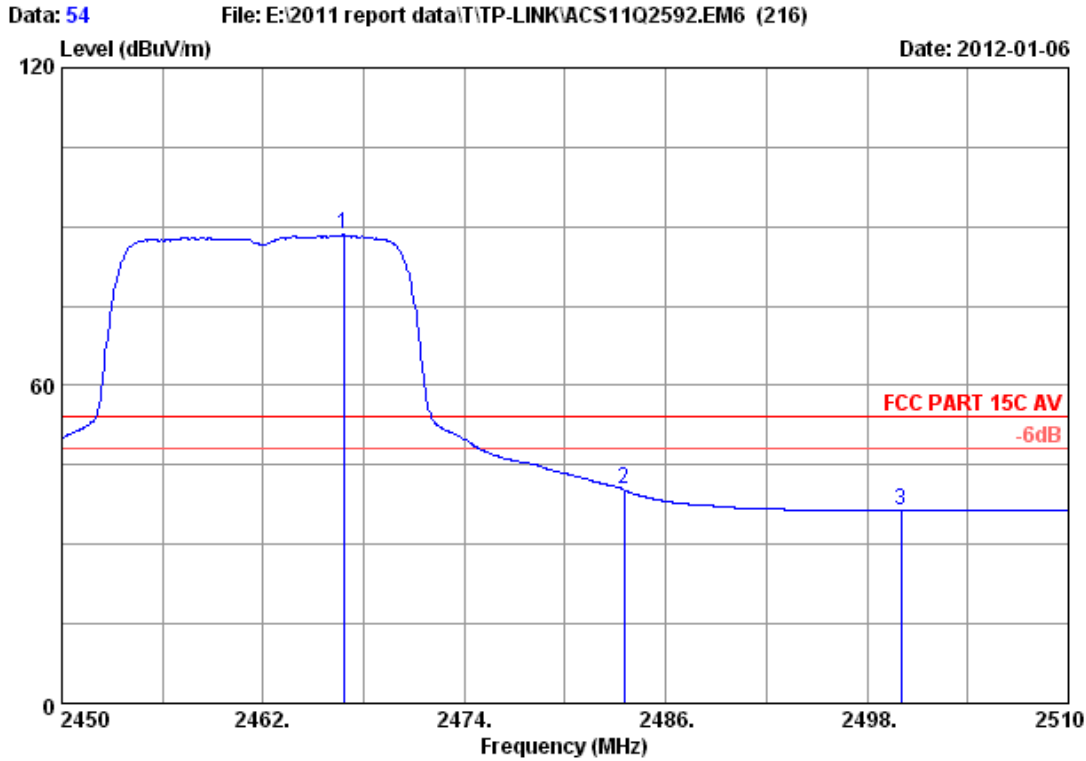


Site no. : 3m Chamber Data no. : 53
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11g CH11 2462MHz Tx
 M/N : TL-WR1042ND

	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	2467.220	28.05	6.12	34.45	100.11	99.83	74.00	-25.83	Peak
2	2483.500	28.08	6.15	34.45	59.38	59.16	74.00	14.84	Peak
3	2500.000	28.10	6.18	34.45	49.33	49.16	74.00	24.84	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.

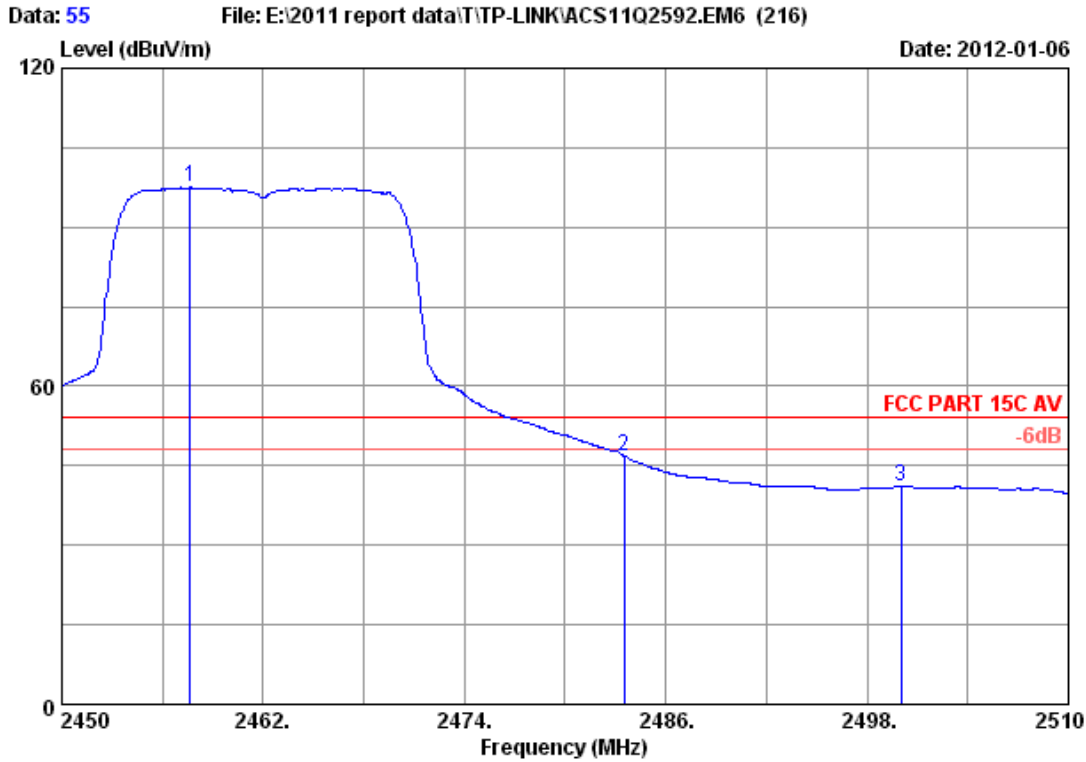


Site no. : 3m Chamber Data no. : 54
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11g CH11 2462MHz Tx
 M/N : TL-WR1042ND

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2466.800	28.05	6.12	34.45	88.74	88.46	54.00	-34.46	Average
2	2483.500	28.08	6.15	34.45	40.54	40.32	54.00	13.68	Average
3	2500.000	28.10	6.18	34.45	36.55	36.38	54.00	17.62	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.



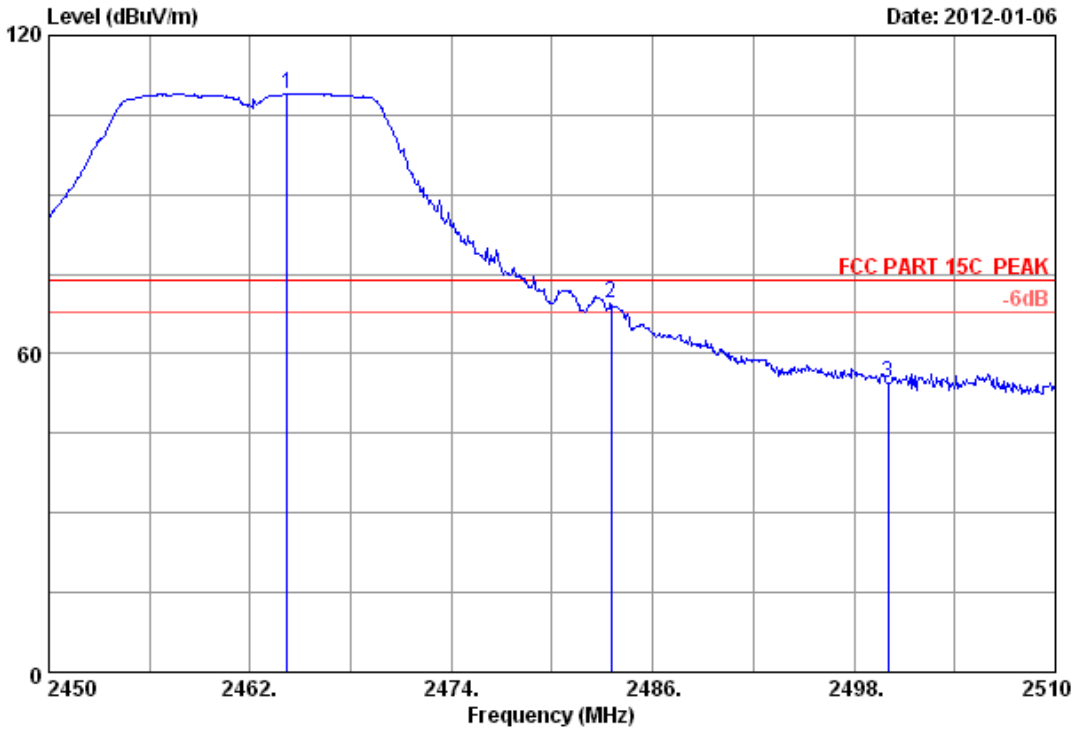
Site no. : 3m Chamber Data no. : 55
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23*C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11g CH11 2462MHz Tx
 M/N : TL-WR1042ND

	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	2457.620	28.05	6.12	34.44	97.79	97.52	54.00	-43.52	Average
2	2483.500	28.08	6.15	34.45	47.17	46.95	54.00	7.05	Average
3	2500.000	28.10	6.18	34.45	41.34	41.17	54.00	12.83	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.

Data: 56 File: E:\2011 report data\TP-LINK\ACS11Q2592.EM6 (216) Date: 2012-01-06

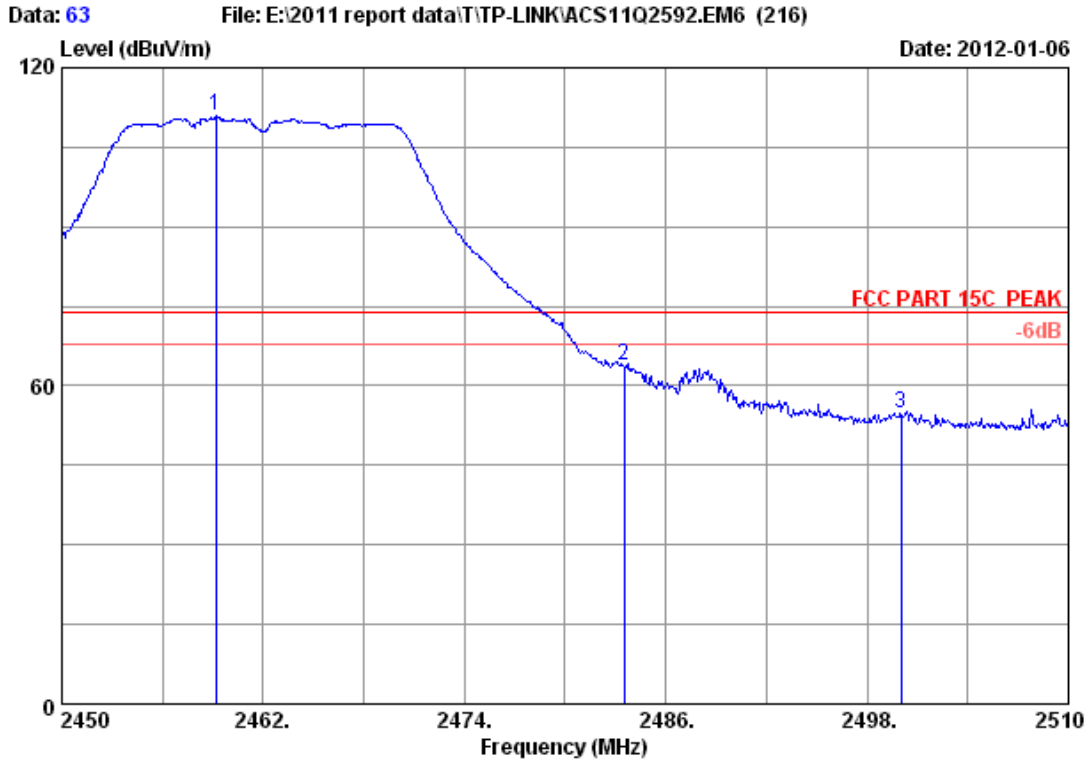


Site no. : 3m Chamber Data no. : 56
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23*C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11g CH11 2462MHz Tx
 M/N : TL-WR1042ND

	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	2464.220	28.05	6.12	34.45	109.35	109.07	74.00	-35.07	Peak
2	2483.500	28.08	6.15	34.45	69.60	69.38	74.00	4.62	Peak
3	2500.000	28.10	6.18	34.45	54.71	54.54	74.00	19.46	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.

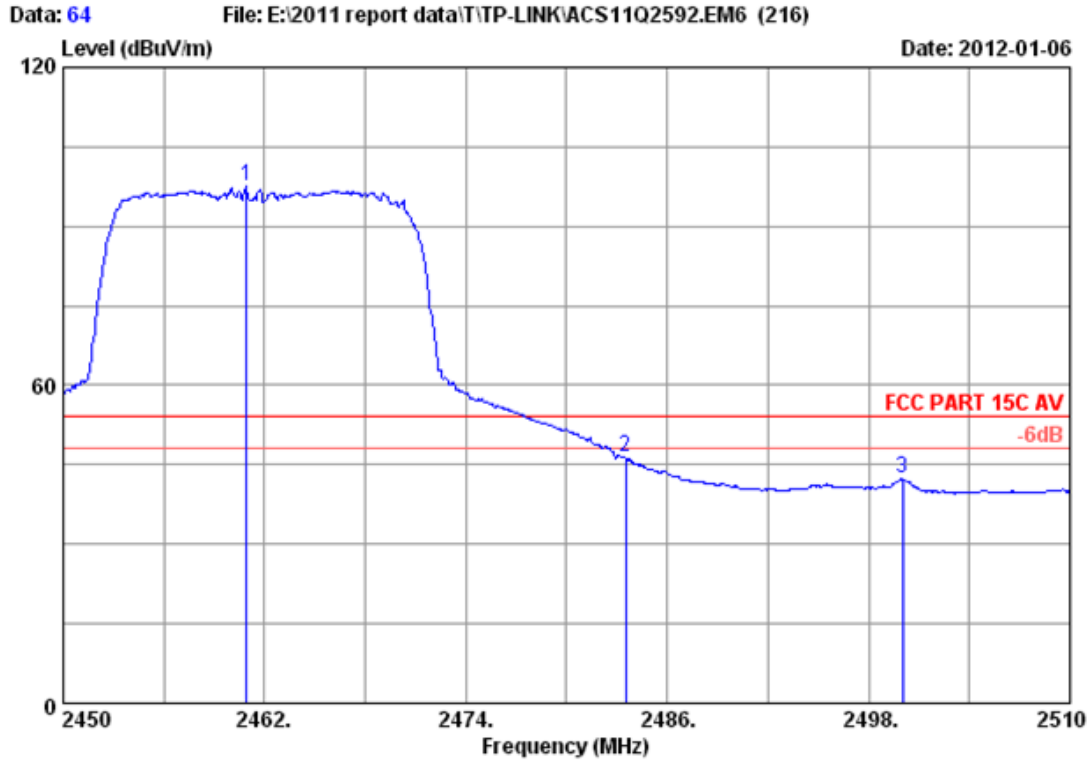


Site no. : 3m Chamber Data no. : 63
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11nHT20 CH11 2462MHz Tx
 M/N : TL-WR1042ND

	Ant.	Cable	Amp.	Emission					
Freq.	Factor	loss	Factor	Reading	Level	Limits	Margin	Remark	
(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		
1	2459.180	28.05	6.12	34.44	111.11	110.84	74.00	-36.84	Peak
2	2483.500	28.08	6.15	34.45	63.91	63.69	74.00	10.31	Peak
3	2500.000	28.10	6.18	34.45	54.90	54.73	74.00	19.27	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.

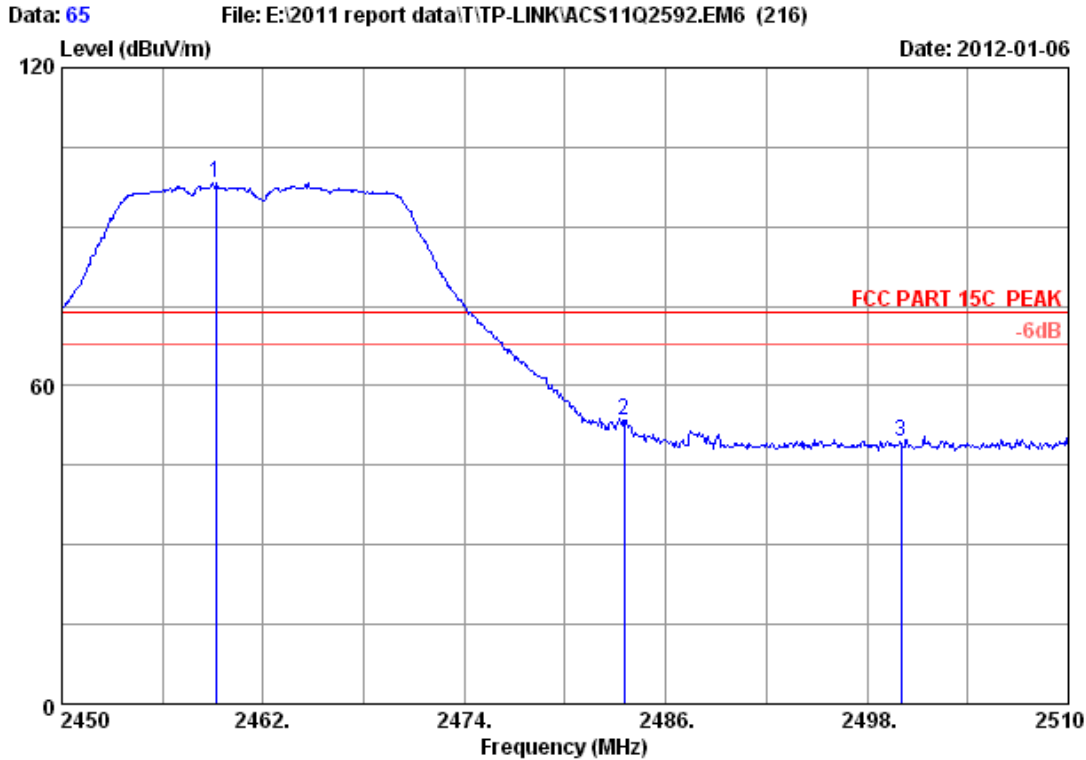


Site no. : 3m Chamber Data no. : 64
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11nHT20 CH11 2462MHz Tx
 M/N : TL-WR1042ND

	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	2460.920	28.05	6.12	34.44	97.72	97.45	54.00	-43.45	Average
2	2483.500	28.08	6.15	34.45	46.53	46.31	54.00	7.69	Average
3	2500.000	28.10	6.18	34.45	42.48	42.31	54.00	11.69	Average

Remarks:

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

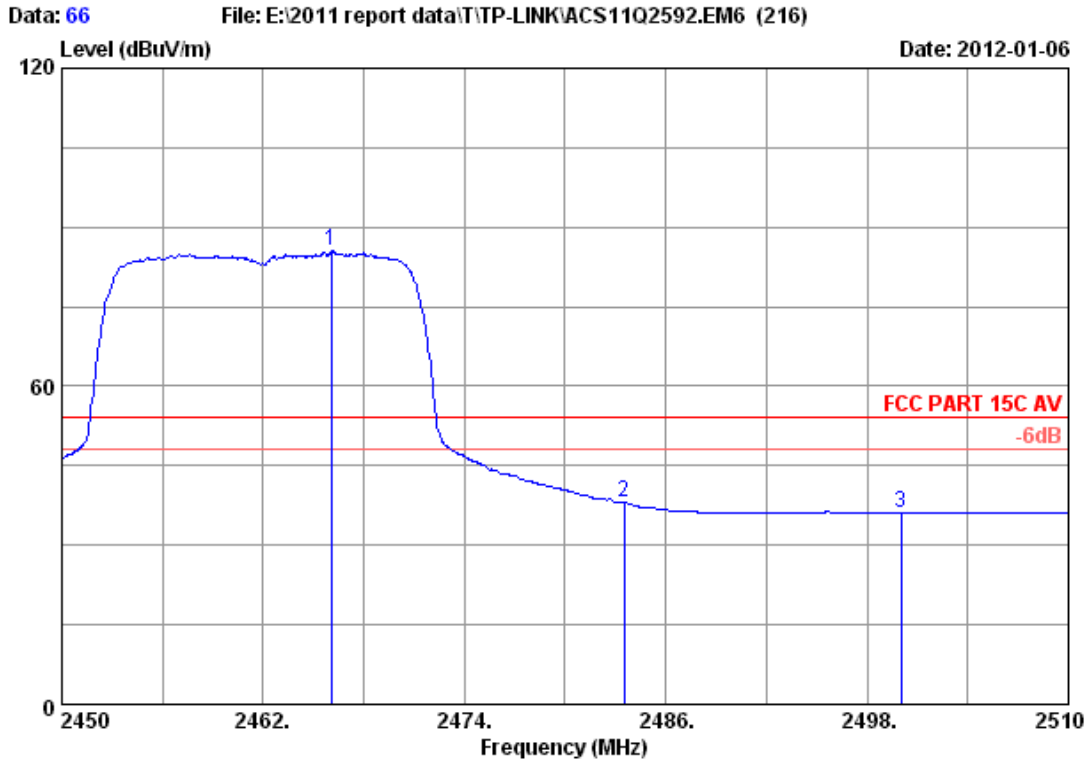


Site no. : 3m Chamber Data no. : 65
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11nHT20 CH11 2462MHz Tx
 M/N : TL-WR1042ND

	Ant.	Cable	Amp.	Emission					
Freq.	Factor	loss	Factor	Reading	Level	Limits	Margin	Remark	
(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		
1 2459.180	28.05	6.12	34.44	98.52	98.25	74.00	-24.25	Peak	
2 2483.500	28.08	6.15	34.45	53.56	53.34	74.00	20.66	Peak	
3 2500.000	28.10	6.18	34.45	49.53	49.36	74.00	24.64	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.

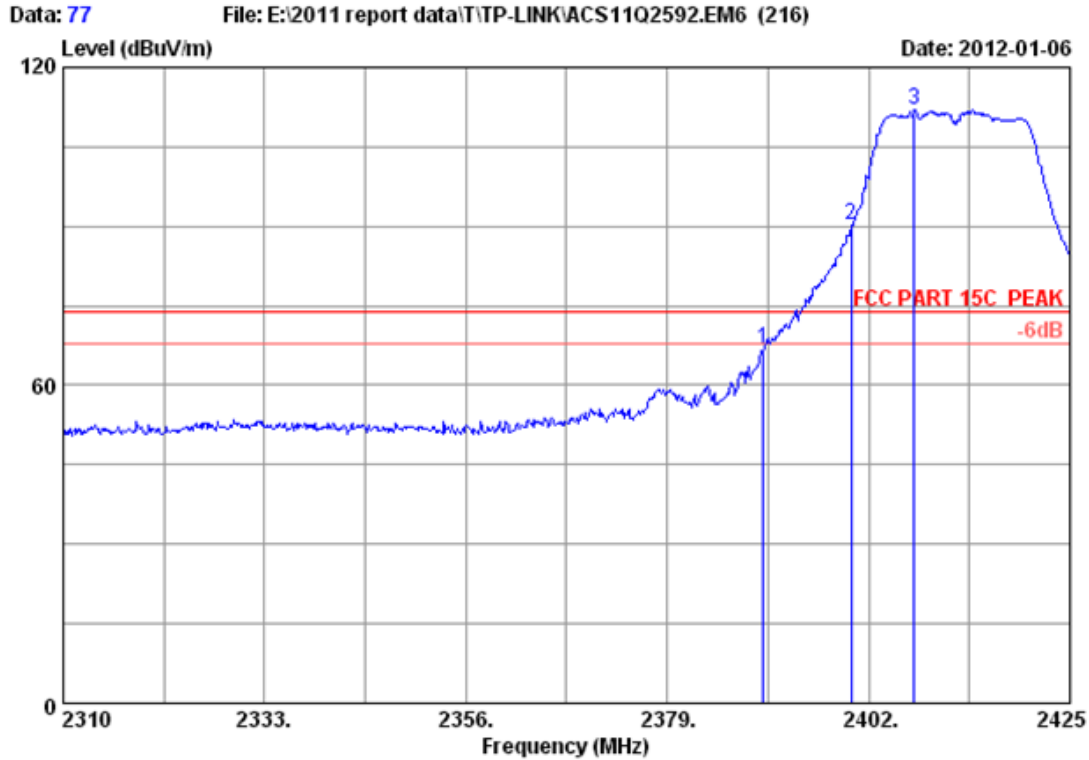


Site no. : 3m Chamber Data no. : 66
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23*C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11nHT20 CH11 2462MHz Tx
 M/N : TL-WR1042ND

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2466.080	28.05	6.12	34.45	85.92	85.64	54.00	-31.64	Average
2	2483.500	28.08	6.15	34.45	38.39	38.17	54.00	15.83	Average
3	2500.000	28.10	6.18	34.45	36.29	36.12	54.00	17.88	Average

Remarks:

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

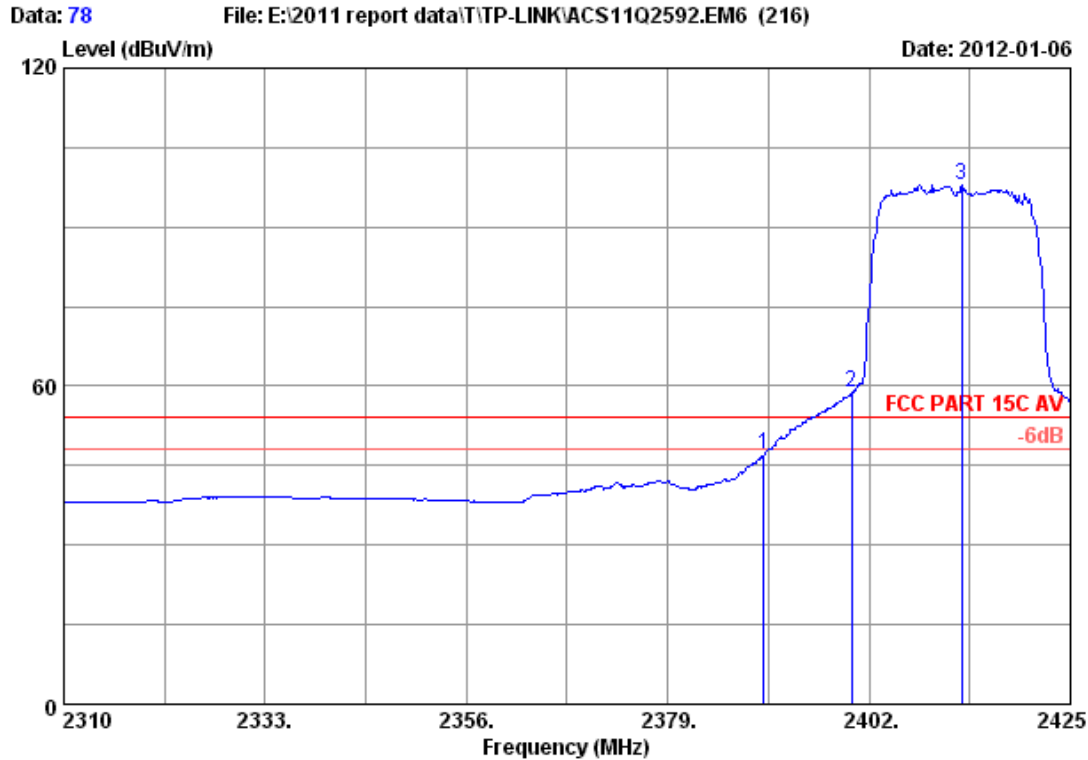


Site no. : 3m Chamber Data no. : 77
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11nHT20 CH1 2412MHz Tx
 M/N : TL-WR1042ND

	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	67.39	66.92	74.00	7.08	Peak
2	2400.000	27.96	6.01	34.44	90.65	90.18	74.00	-16.18	Peak
3	2407.175	27.98	6.03	34.44	112.40	111.97	74.00	-37.97	Peak

Remarks:

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

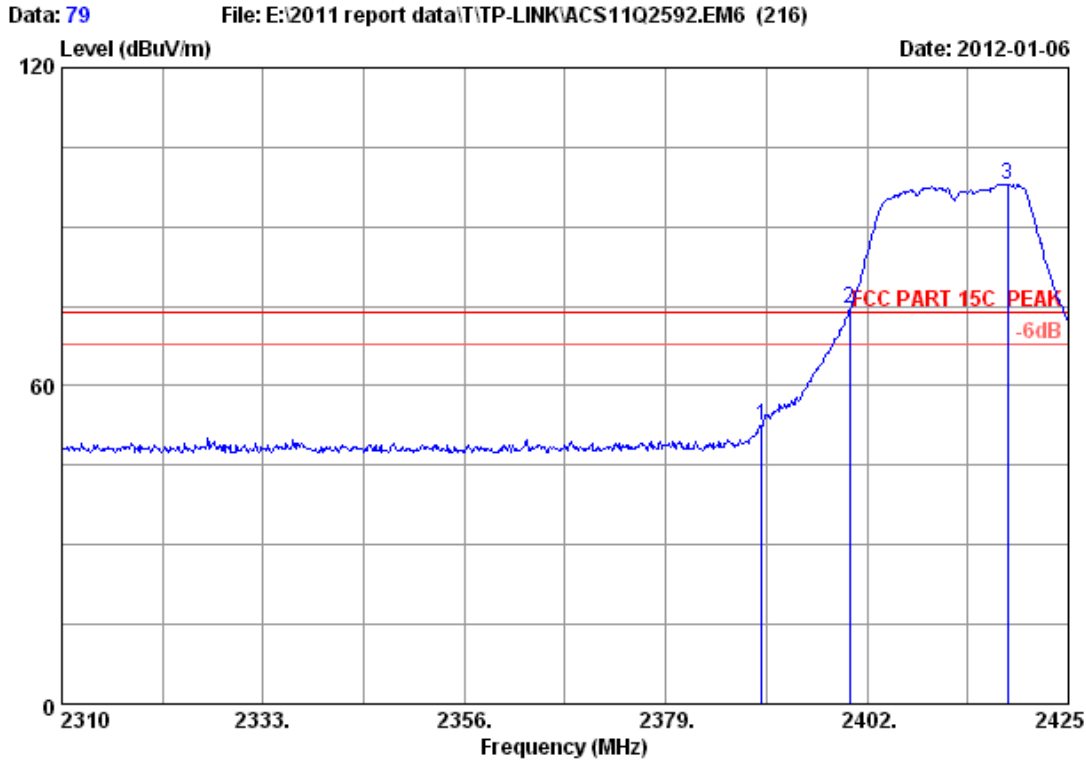


Site no. : 3m Chamber Data no. : 78
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11nHT20 CH1 2412MHz Tx
 M/N : TL-WR1042ND

	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	47.44	46.97	54.00	7.03	Average
2	2400.000	27.96	6.01	34.44	59.29	58.82	54.00	-4.82	Average
3	2412.580	27.98	6.03	34.44	98.38	97.95	54.00	-43.95	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.

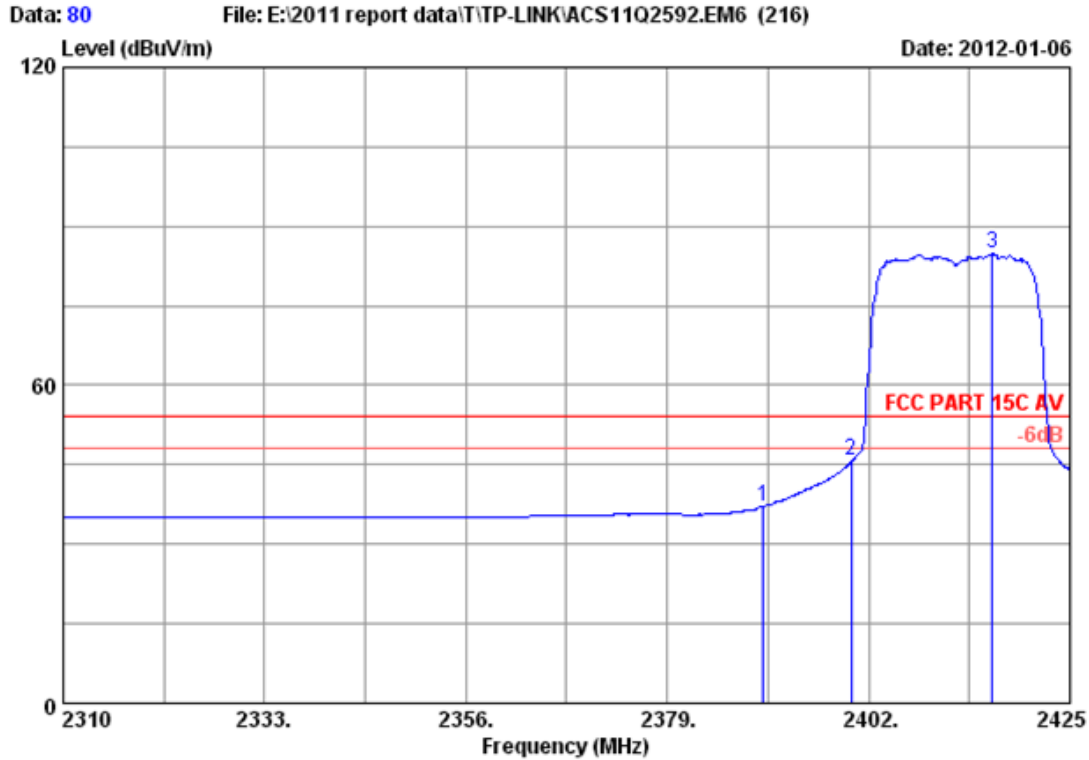


Site no. : 3m Chamber Data no. : 79
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11nHT20 CH1 2412MHz Tx
 M/N : TL-WR1042ND

	Ant.	Cable	Amp.	Emission					
Freq.	Factor	loss	Factor	Reading	Level	Limits	Margin	Remark	
(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		
1	27.96	6.01	34.44	53.08	52.61	74.00	21.39	Peak	
2	27.96	6.01	34.44	75.01	74.54	74.00	-0.54	Peak	
3	27.98	6.03	34.44	98.46	98.03	74.00	-24.03	Peak	

Remarks:

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

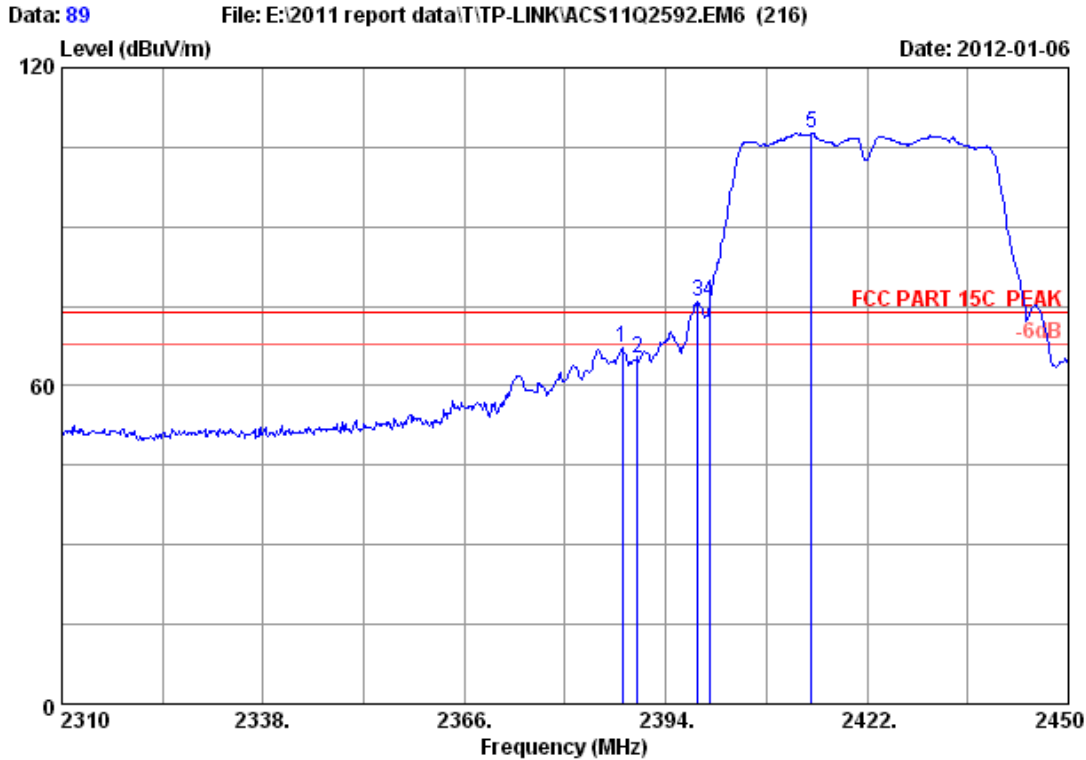


Site no. : 3m Chamber Data no. : 80
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11nHT20 CH1 2412MHz Tx
 M/N : TL-WR1042ND

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	27.96	6.01	34.44	37.70	37.23	54.00	16.77	Average
2	2400.000	27.96	6.01	34.44	46.10	45.63	54.00	8.37	Average
3	2416.145	27.98	6.03	34.44	85.36	84.93	54.00	-30.93	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.

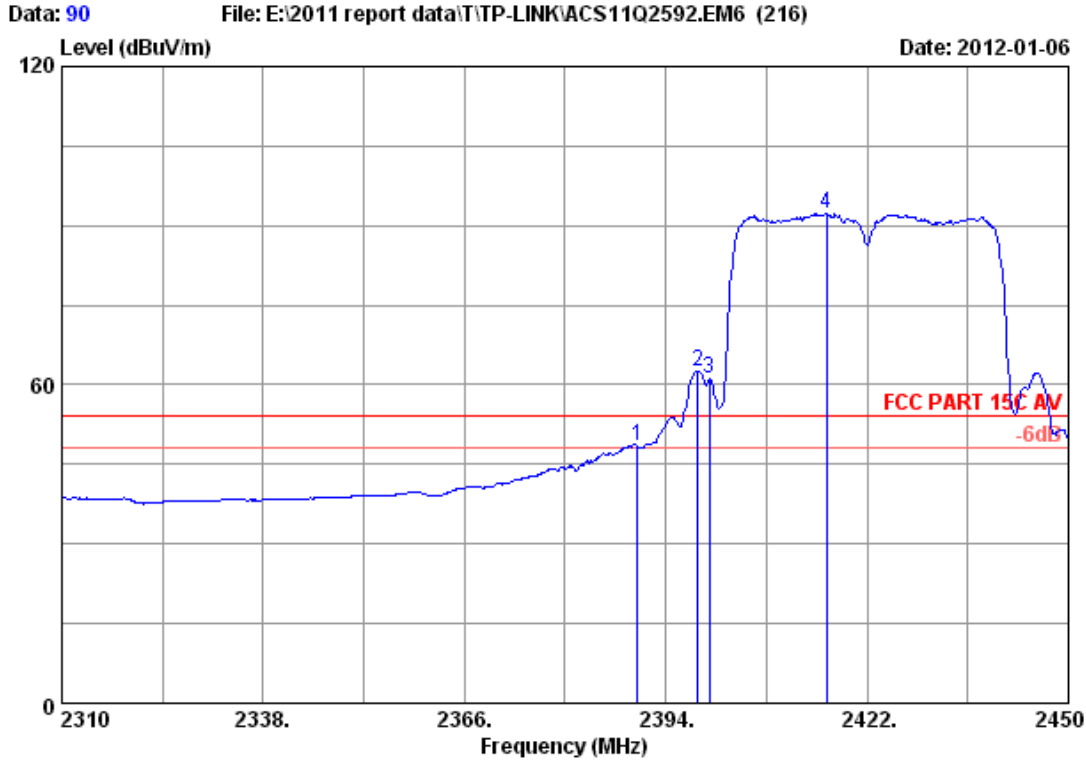


Site no. : 3m Chamber Data no. : 89
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11nHT40 CH1 2422MHz Tx
 M/N : TL-WR1042ND

	Ant.	Cable	Amp.	Emission					
Freq.	Factor	loss	Factor	Reading	Level	Limits	Margin	Remark	
(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		
1	27.96	6.01	34.44	67.55	67.08	74.00	6.92	Peak	
2	27.96	6.01	34.44	65.53	65.06	74.00	8.94	Peak	
3	27.96	6.01	34.44	76.40	75.93	74.00	-1.93	Peak	
4	27.96	6.01	34.44	76.21	75.74	74.00	-1.74	Peak	
5	27.98	6.03	34.44	108.20	107.77	74.00	-33.77	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.

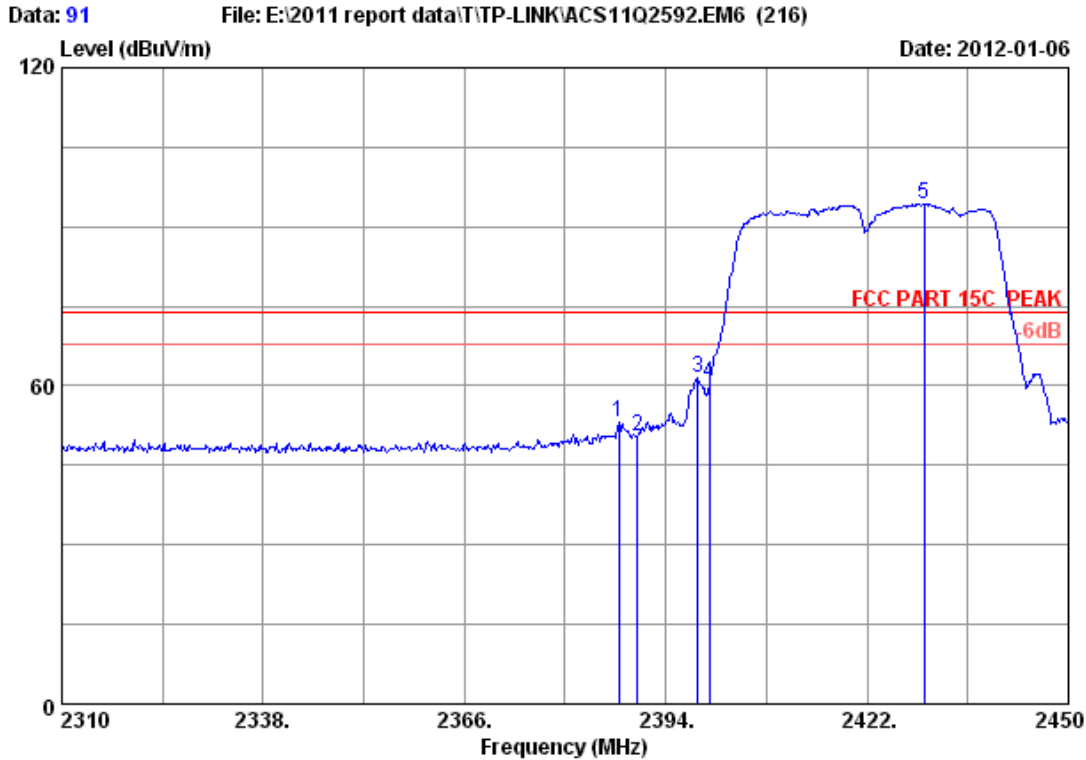


Site no. : 3m Chamber Data no. : 90
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11nHT40 CH1 2422MHz Tx
 M/N : TL-WR1042ND

	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	49.06	48.59	54.00	5.41	Average
2	2398.480	27.96	6.01	34.44	62.98	62.51	54.00	-8.51	Average
3	2400.000	27.96	6.01	34.44	61.72	61.25	54.00	-7.25	Average
4	2416.400	27.98	6.03	34.44	92.63	92.20	54.00	-38.20	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.

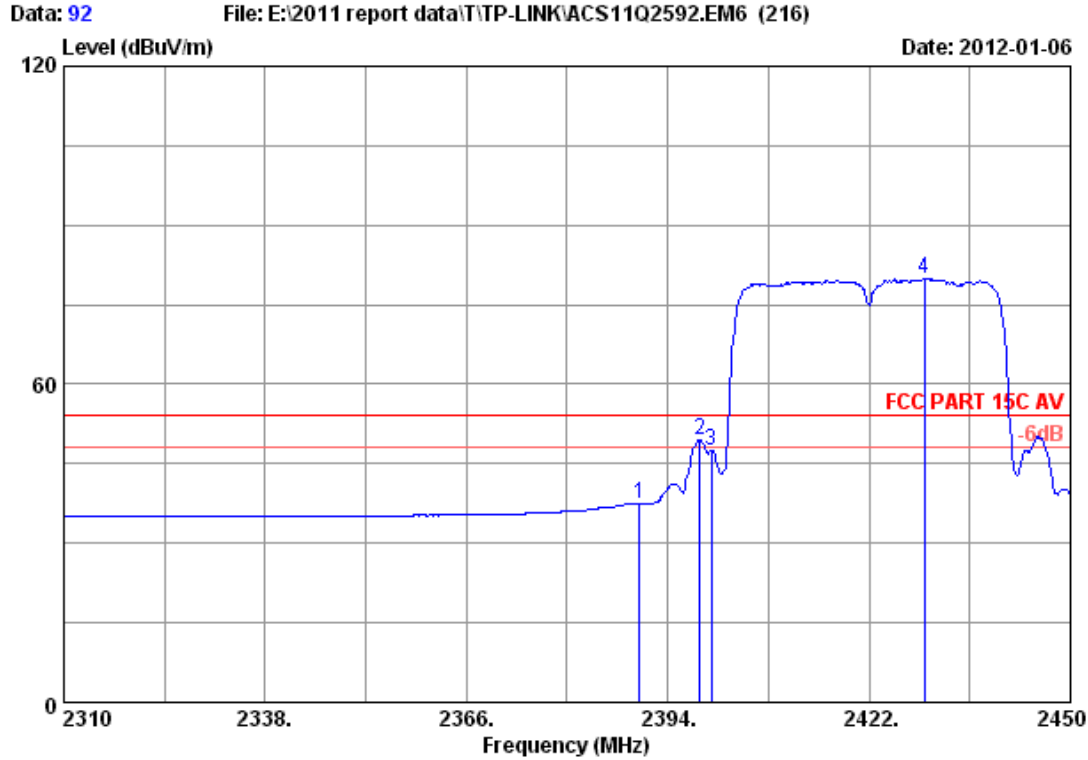


Site no. : 3m Chamber Data no. : 91
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11nHT40 CH1 2422MHz Tx
 M/N : TL-WR1042ND

	Ant.	Cable	Amp.	Emission					
Freq. (MHz)	Factor (dB/m)	loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark	
1	27.96	6.01	34.44	53.76	53.29	74.00	20.71	Peak	
2	27.96	6.01	34.44	50.96	50.49	74.00	23.51	Peak	
3	27.96	6.01	34.44	62.03	61.56	74.00	12.44	Peak	
4	27.96	6.01	34.44	61.03	60.56	74.00	13.44	Peak	
5	28.00	6.06	34.44	94.67	94.29	74.00	-20.29	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.

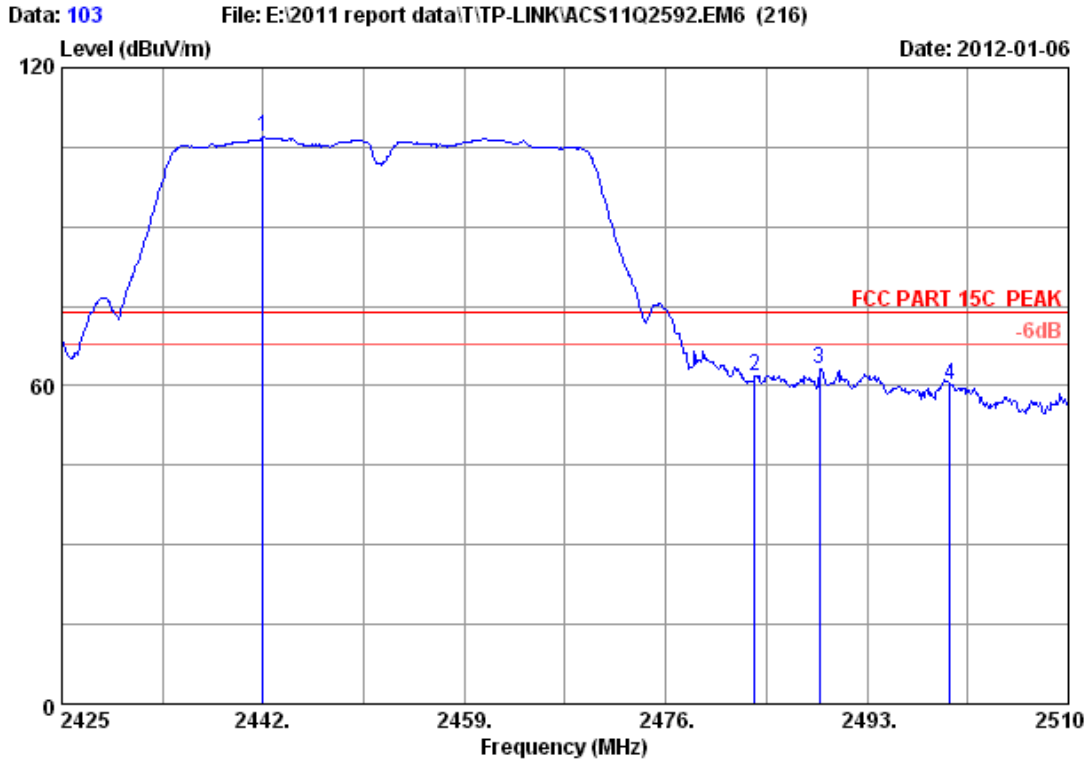


Site no. : 3m Chamber Data no. : 92
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11nHT40 CH1 2422MHz Tx
 M/N : TL-WR1042ND

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	27.96	6.01	34.44	37.84	37.37	54.00	16.63	Average
2	2398.480	27.96	6.01	34.44	49.87	49.40	54.00	4.60	Average
3	2400.000	27.96	6.01	34.44	48.09	47.62	54.00	6.38	Average
4	2429.700	28.00	6.06	34.44	80.40	80.02	54.00	-26.02	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.

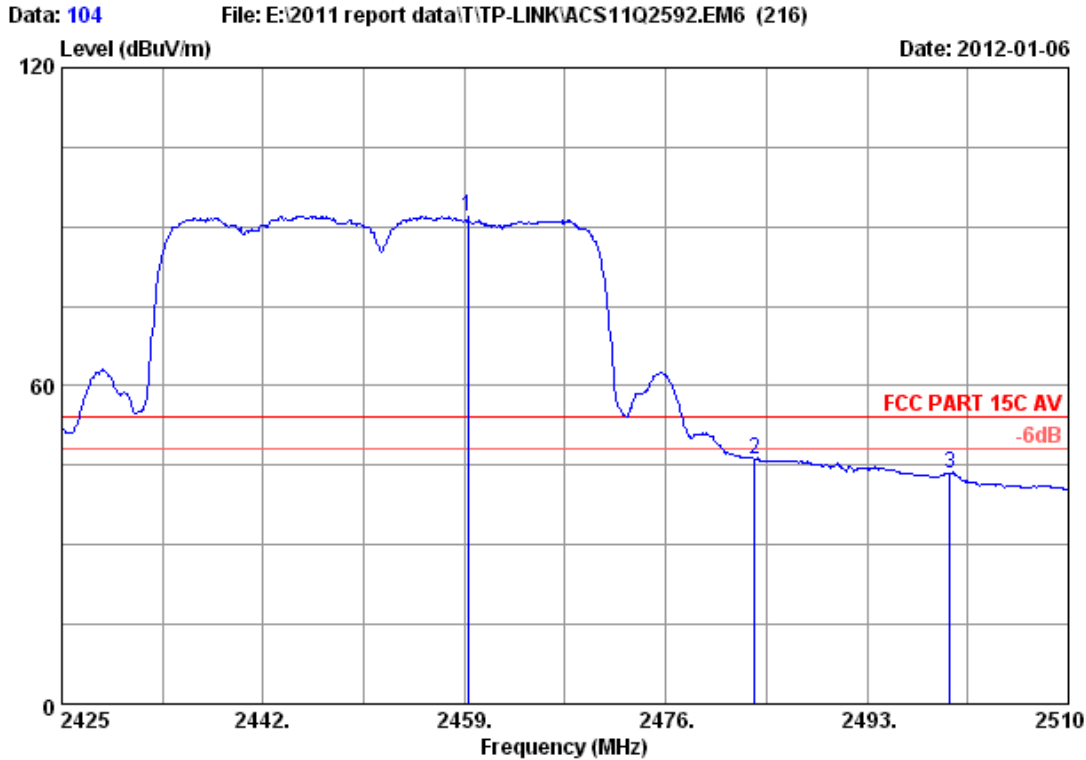


Site no. : 3m Chamber Data no. : 103
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11nHT40 CH7 2452MHz Tx
 M/N : TL-WR1042ND

	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	2442.000	28.03	6.09	34.44	107.24	106.92	74.00	-32.92	Peak
2	2483.500	28.08	6.15	34.45	62.06	61.84	74.00	12.16	Peak
3	2489.005	28.10	6.15	34.45	63.32	63.12	74.00	10.88	Peak
4	2500.000	28.10	6.18	34.45	60.22	60.05	74.00	13.95	Peak

Remarks:

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



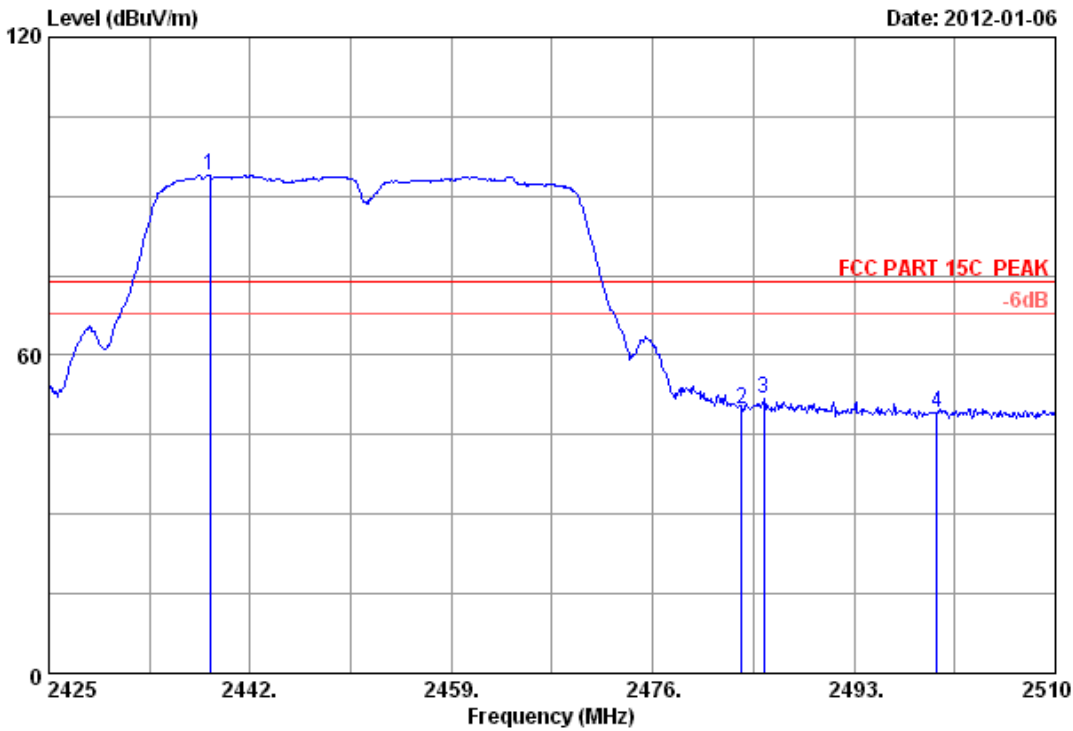
Site no. : 3m Chamber Data no. : 104
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11nHT40 CH7 2452MHz Tx
 M/N : TL-WR1042ND

	Ant.	Cable	Amp.	Emission					
Freq.	Factor	loss	Factor	Reading	Level	Limits	Margin	Remark	
(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		
1 2459.255	28.05	6.12	34.44	92.27	92.00	54.00	-38.00	Average	
2 2483.500	28.08	6.15	34.45	46.35	46.13	54.00	7.87	Average	
3 2500.000	28.10	6.18	34.45	43.57	43.40	54.00	10.60	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.

Data: 105 File: E:\2011 report data\T\TP-LINK\ACS11Q2592.EM6 (216) Date: 2012-01-06

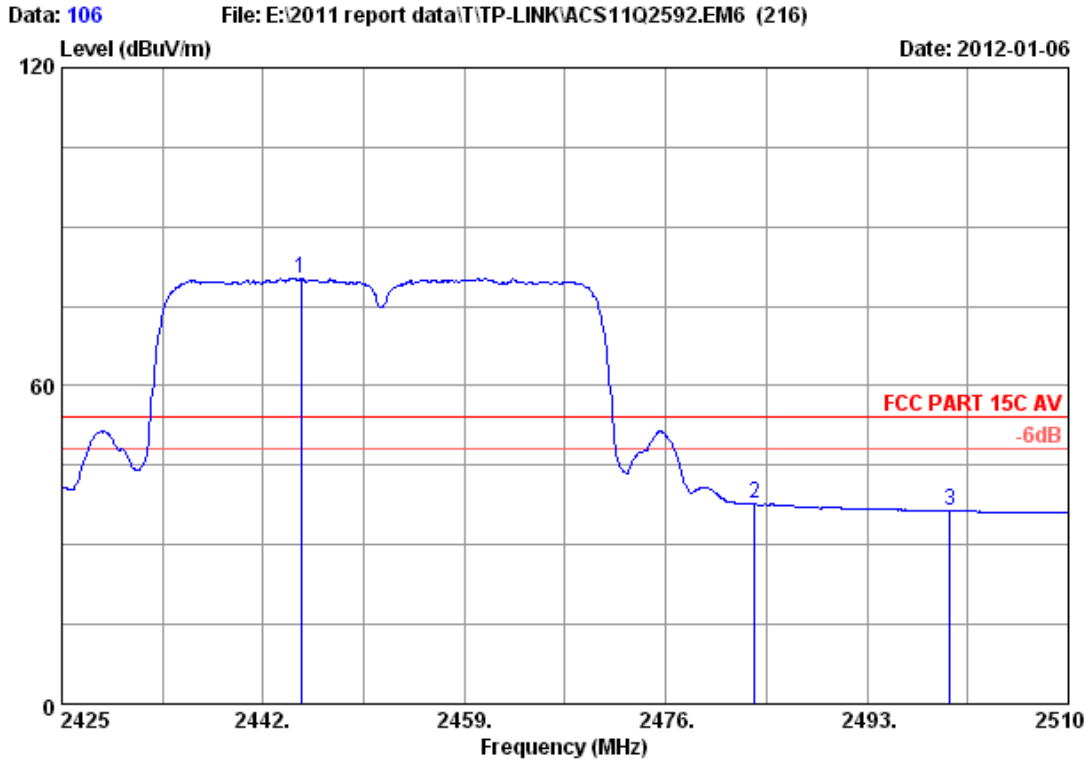


Site no. : 3m Chamber Data no. : 105
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23*C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11nHT40 CH7 2452MHz Tx
 M/N : TL-WR1042ND

	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	2438.600	28.03	6.09	34.44	94.22	93.90	74.00	-19.90	Peak
2	2483.500	28.08	6.15	34.45	50.09	49.87	74.00	24.13	Peak
3	2485.350	28.08	6.15	34.45	51.98	51.76	74.00	22.24	Peak
4	2500.000	28.10	6.18	34.45	49.44	49.27	74.00	24.73	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. : 106
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps Wireless N Gigabit Router
 Power supply : DC 12V From Adapter input AC 120V/60Hz
 Test mode : IEEE 802.11nHT40 CH7 2452MHz Tx
 M/N : TL-WR1042ND

	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	2445.230	28.03	6.09	34.44	80.68	80.36	54.00	-26.36	Average
2	2483.500	28.08	6.15	34.45	37.84	37.62	54.00	16.38	Average
3	2500.000	28.10	6.18	34.45	36.54	36.37	54.00	17.63	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.

7. 6dB Bandwidth Test

7.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08,11	1 Year
2.	Attenuator	Agilent	8491B	MY39262165	May.08,11	1 Year
3.	RF Cable	Hubersuhner	SUCOFLEX102	28618/2	May.08,11	1Year

7.2. Limit

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

7.3. Test Procedure

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

7.4. Test Results

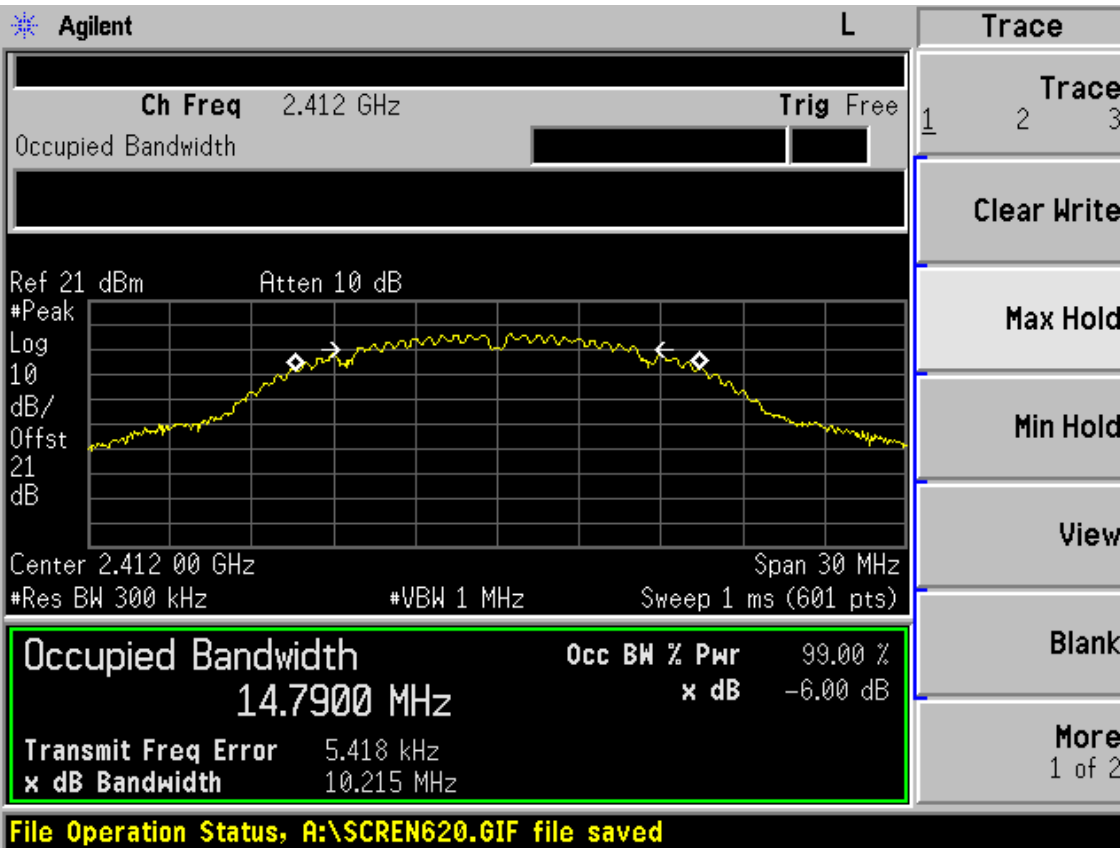
EUT: 300Mbps Wireless N Gigabit Router		
M/N: TL-WR1042ND		
Test date:2012-01-09	Pressure: 101.4 kpa	Humidity: 52.3%
Tested by: Leo-Li	Test site: RF Site	Temperature : 22.6 °C

Cable loss: 1 dB		Attenuator loss: 20 dB		
Test Mode	CH	6dB bandwidth (MHz)		Limit (KHz)
		Chain 0	Chain 1	
11b	CH1	10.215	10.223	>500
	CH6	10.203	10.200	>500
	CH11	10.228	10.221	>500
11g	CH1	16.413	16.396	>500
	CH6	16.406	16.397	>500
	CH11	16.409	16.407	>500
11n HT20	CH1	17.576	17.544	>500
	CH6	17.572	17.602	>500
	CH11	17.536	17.559	>500
11n HT40	CH1	36.127	36.081	>500
	CH4	36.323	36.220	>500
	CH7	36.114	36.271	>500
Conclusion : PASS				

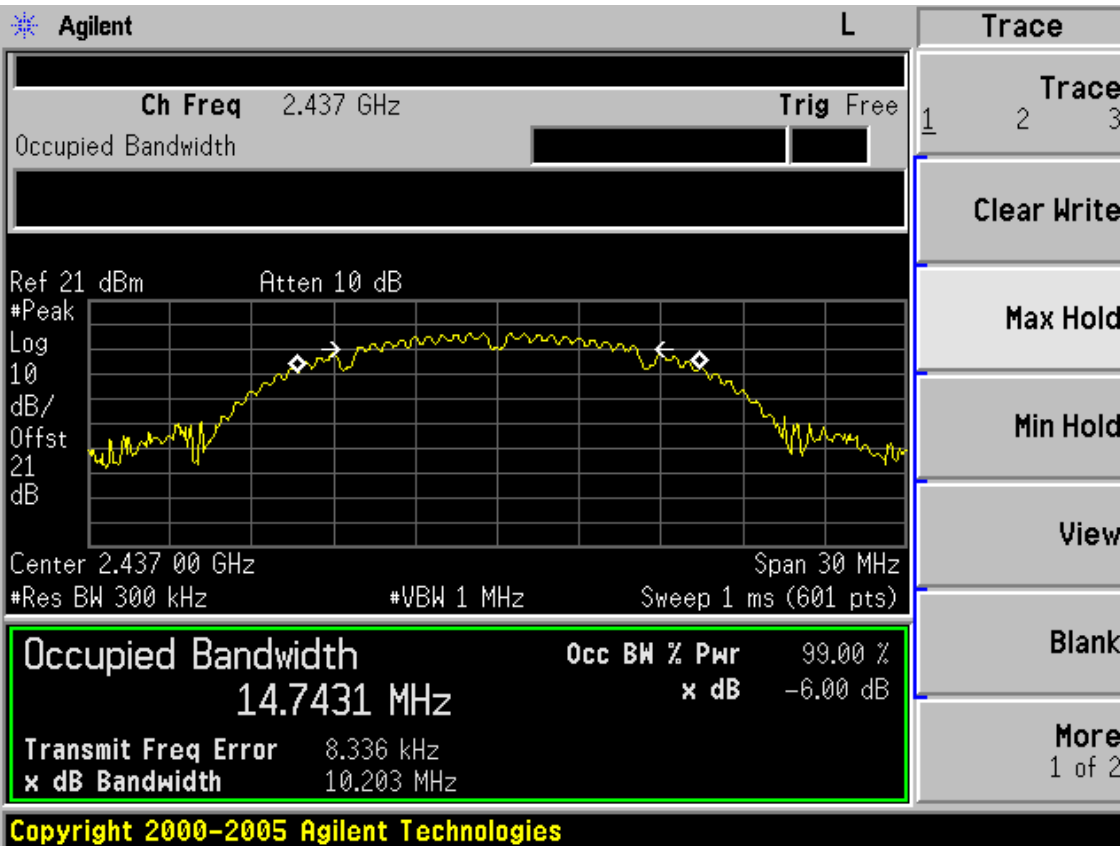
Chain 0:

Test Mode: IEEE 802.11b TX

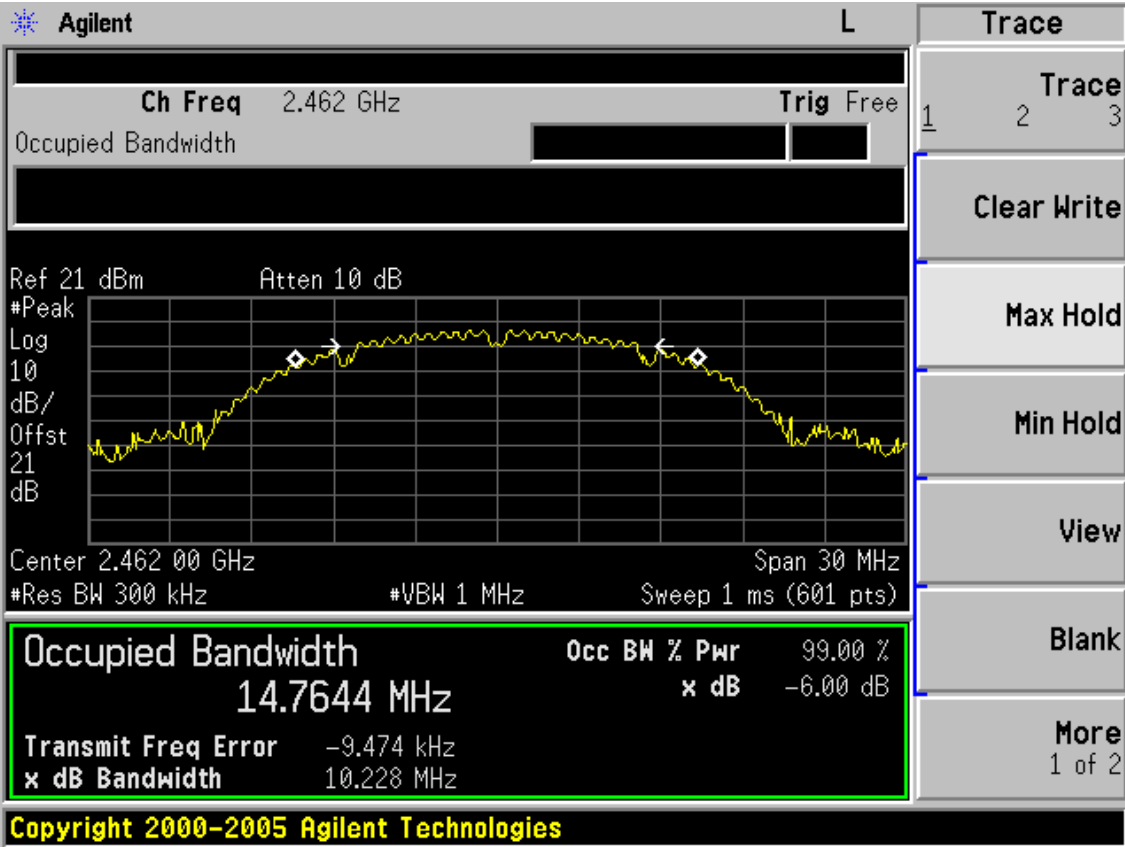
Test CH1: 2412MHz



Test CH6: 2437MHz

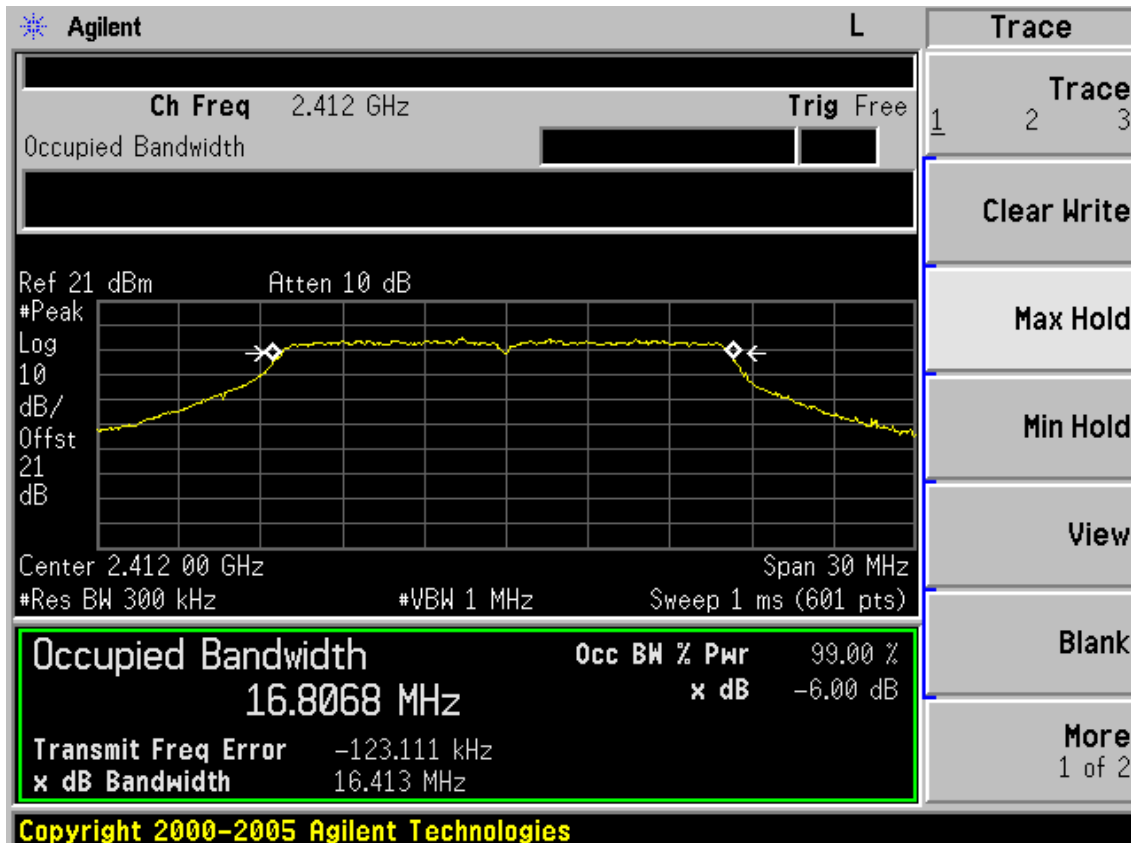


Test CH11: 2462MHz

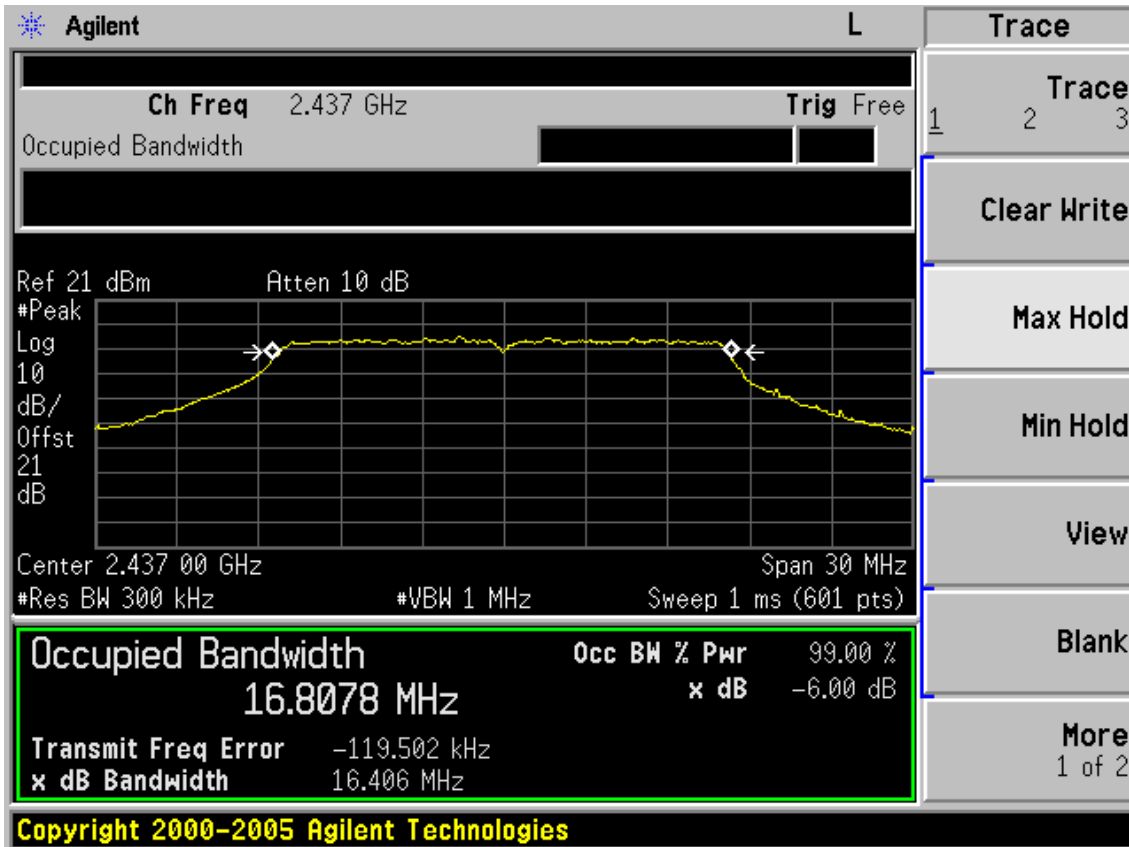


Test Mode: IEEE 802.11g TX

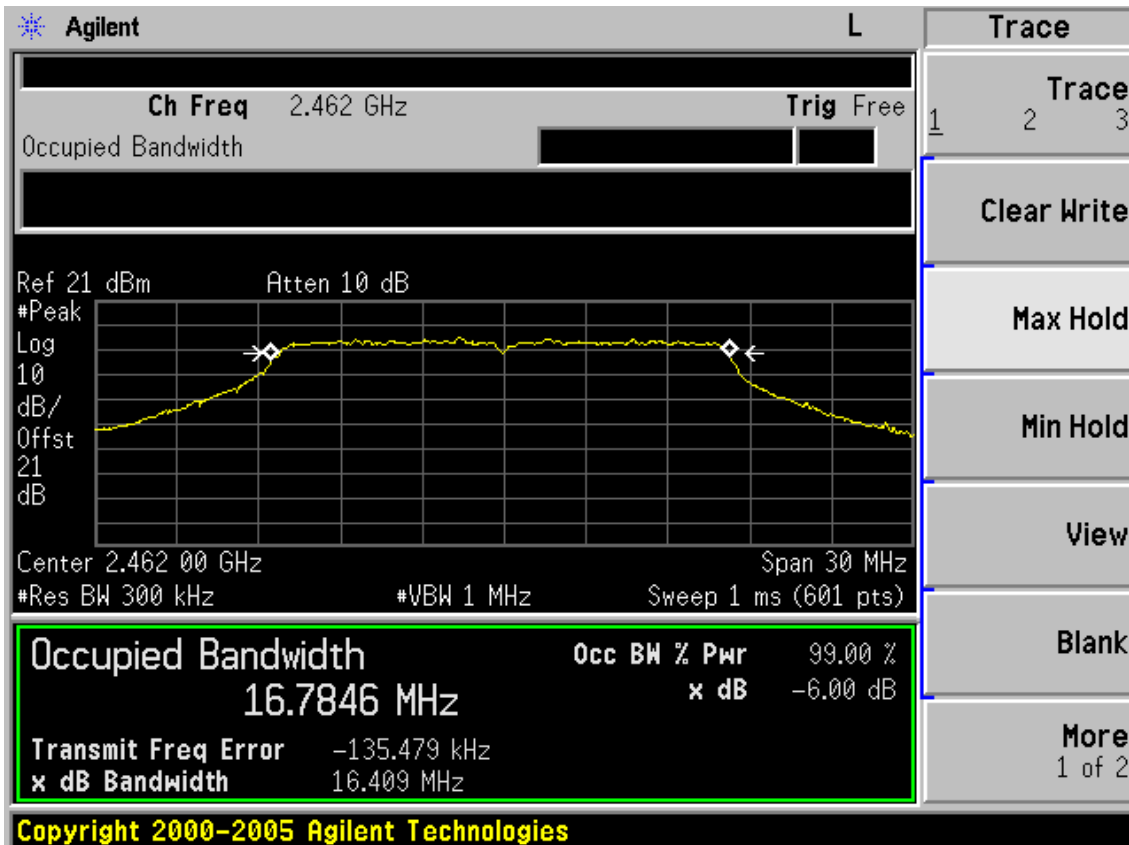
Test CH1: 2412MHz



Test CH6: 2437MHz

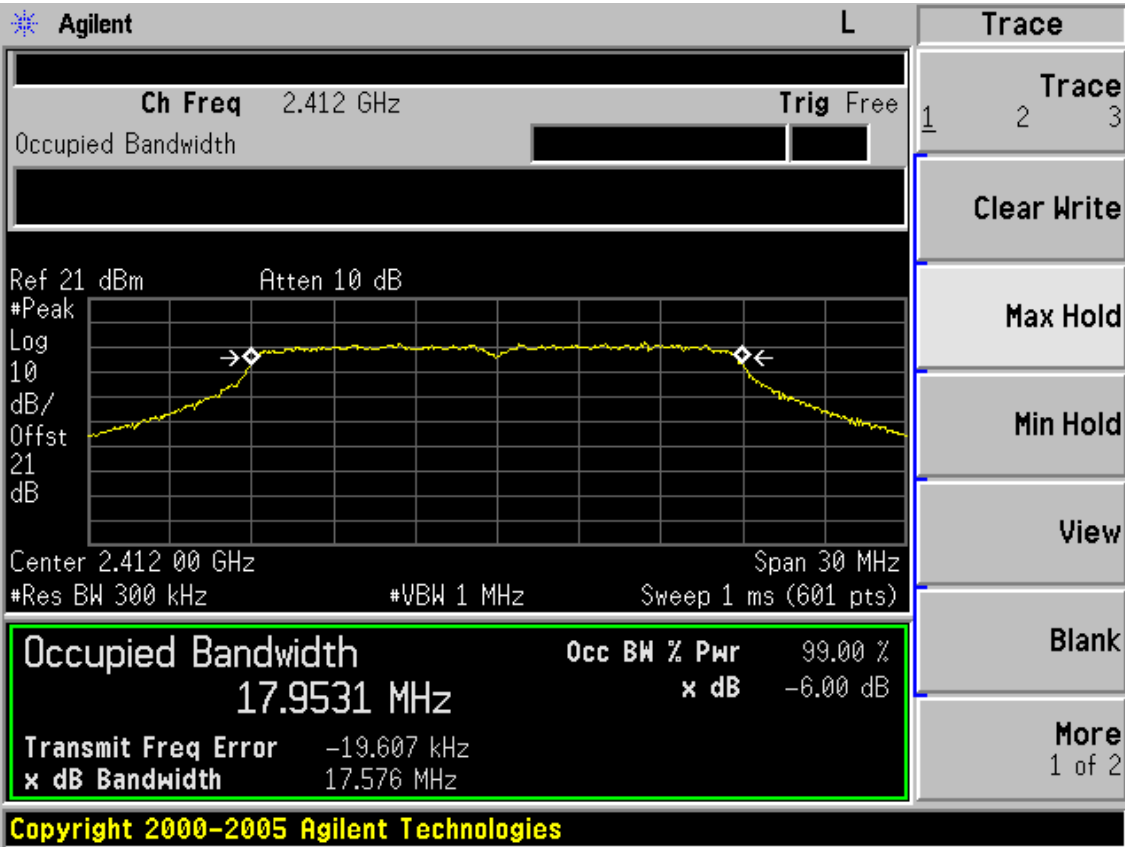


Test CH11: 2462MHz

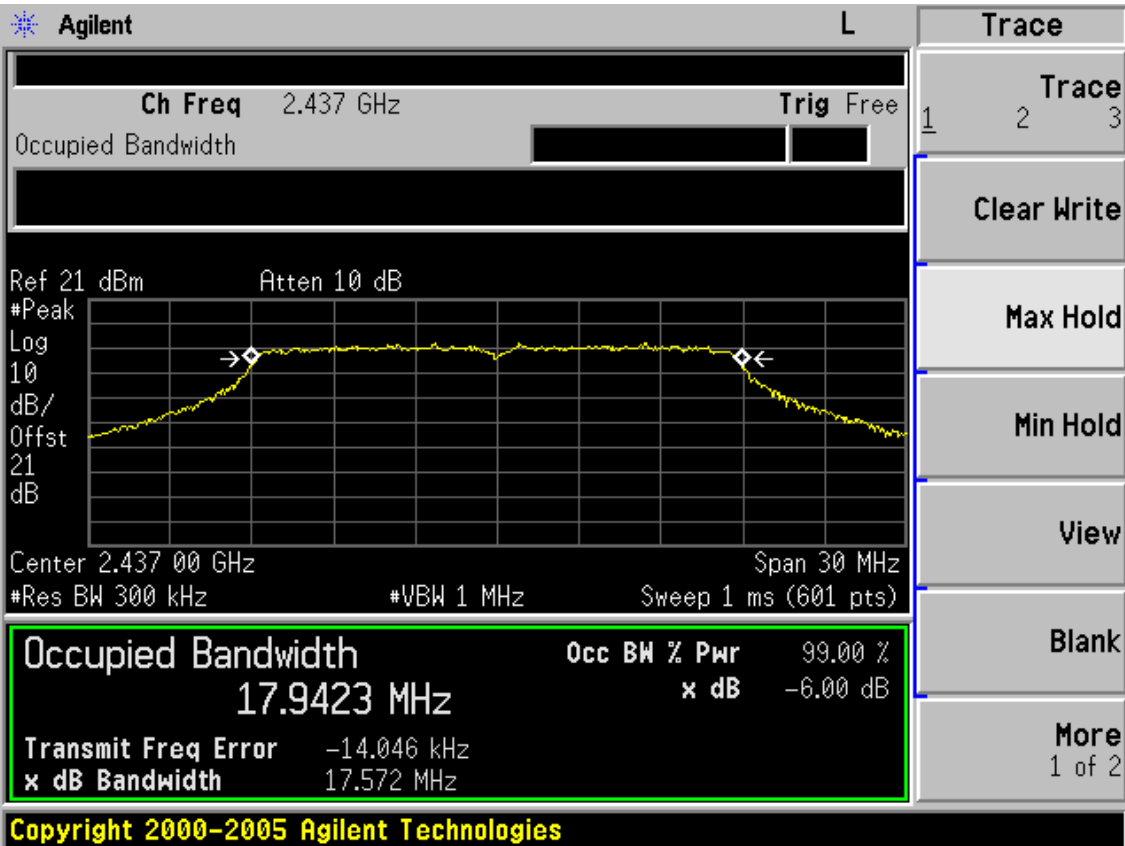


Test Mode: IEEE 802.11n HT20 TX

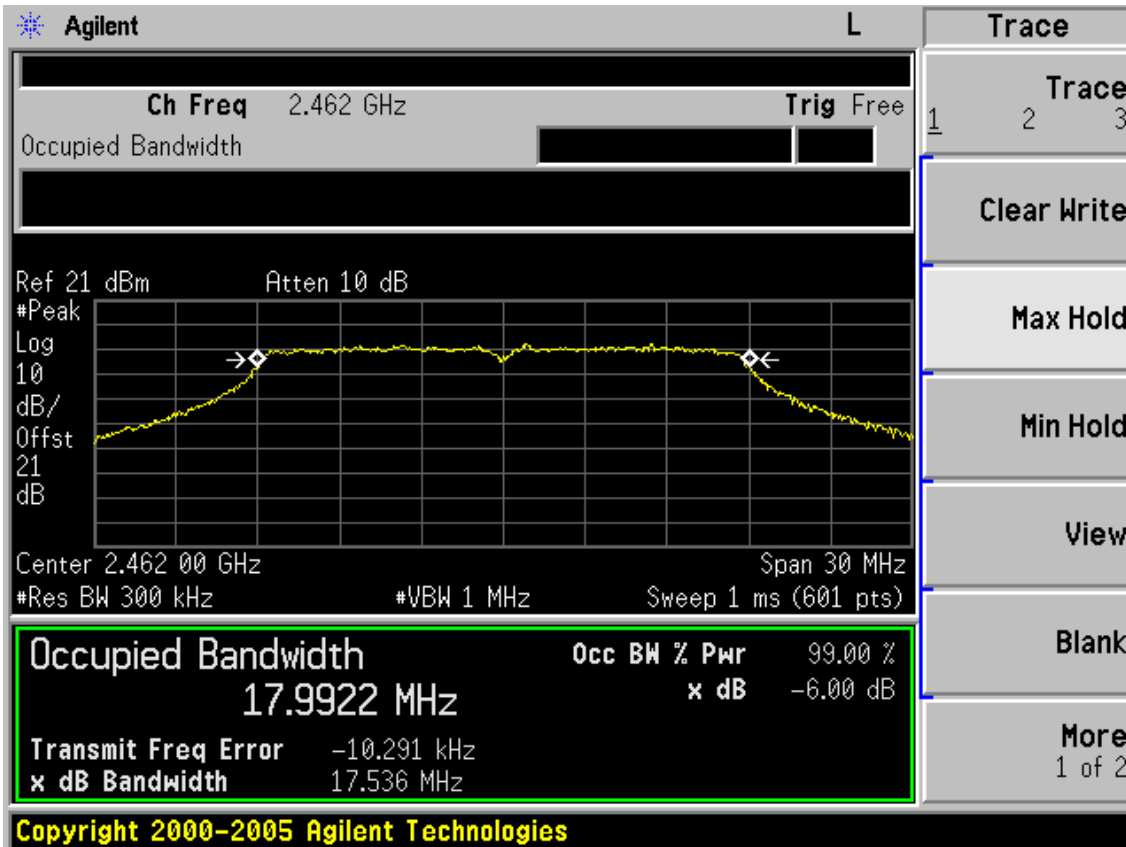
Test CH1: 2412MHz



Test CH6: 2437MHz

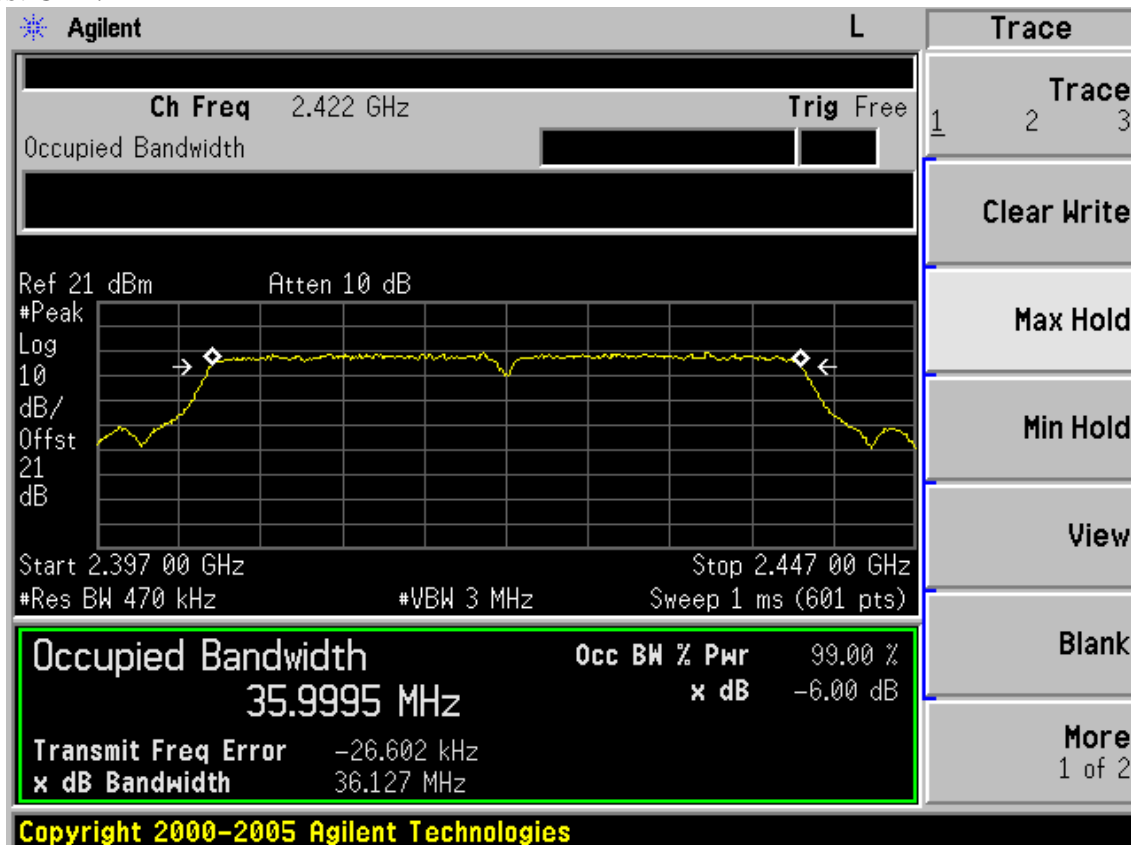


Test CH11: 2462MHz

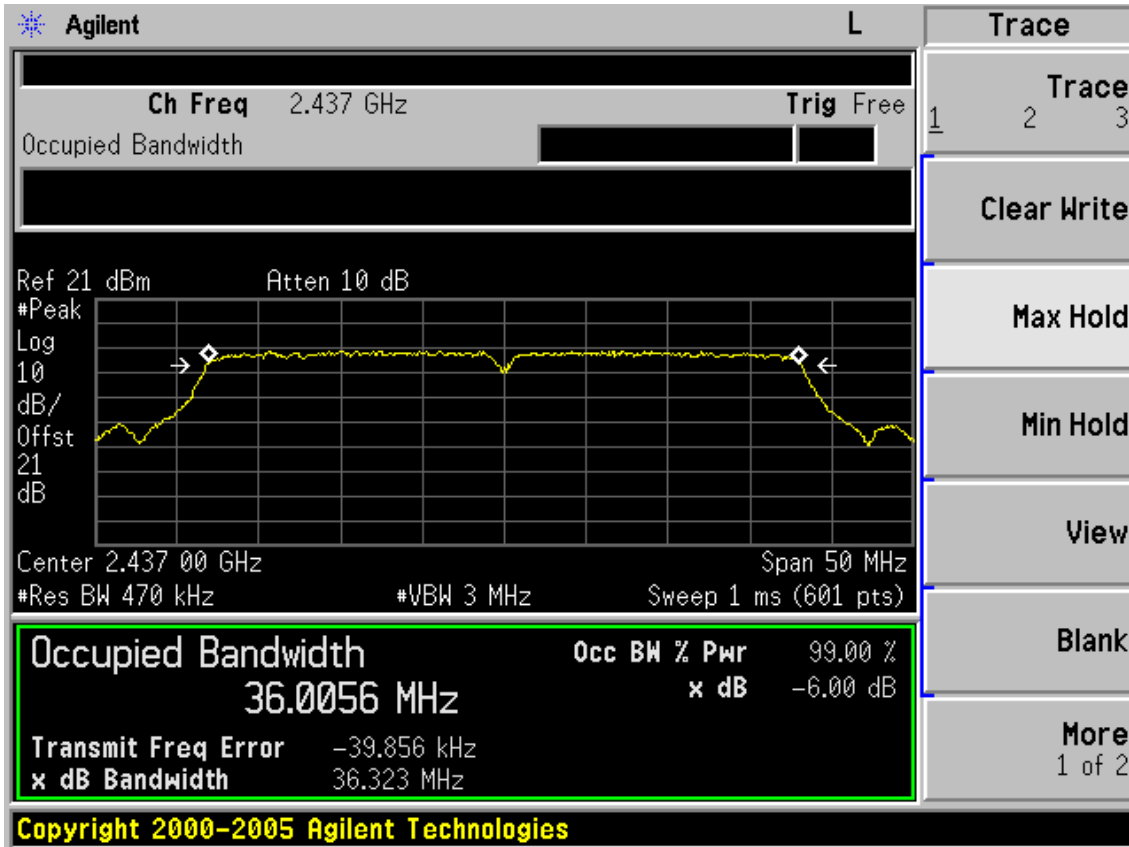


Test Mode: IEEE 802.11n HT40 TX

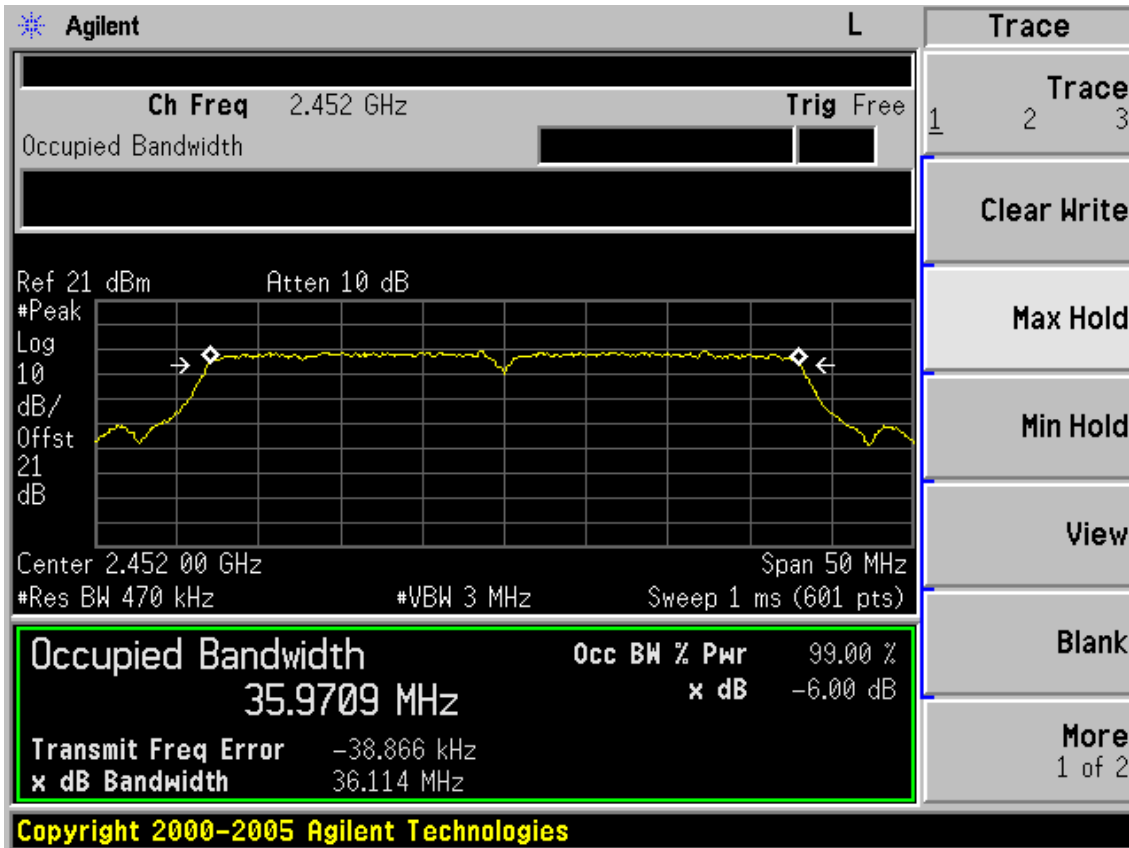
Test CH1: 2422MHz



Test CH4: 2437MHz



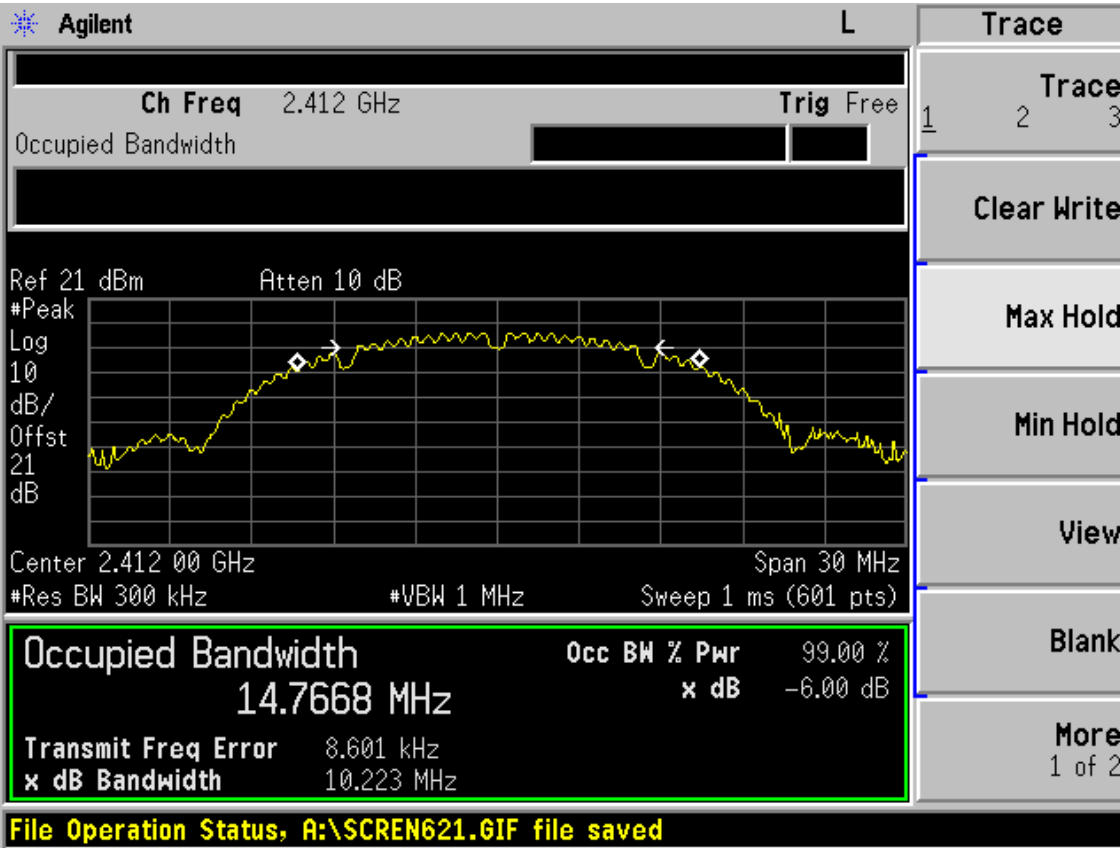
Test CH7: 2452MHz



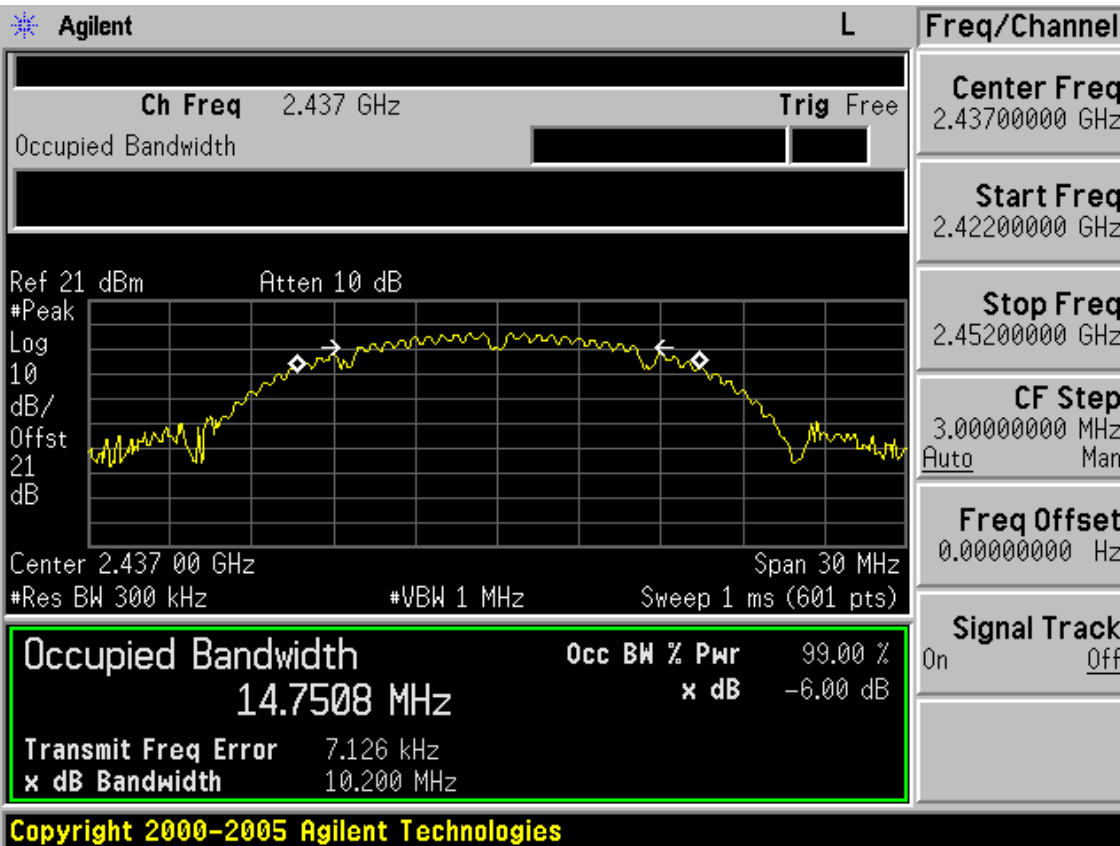
Chain 1:

Test Mode: IEEE 802.11b TX

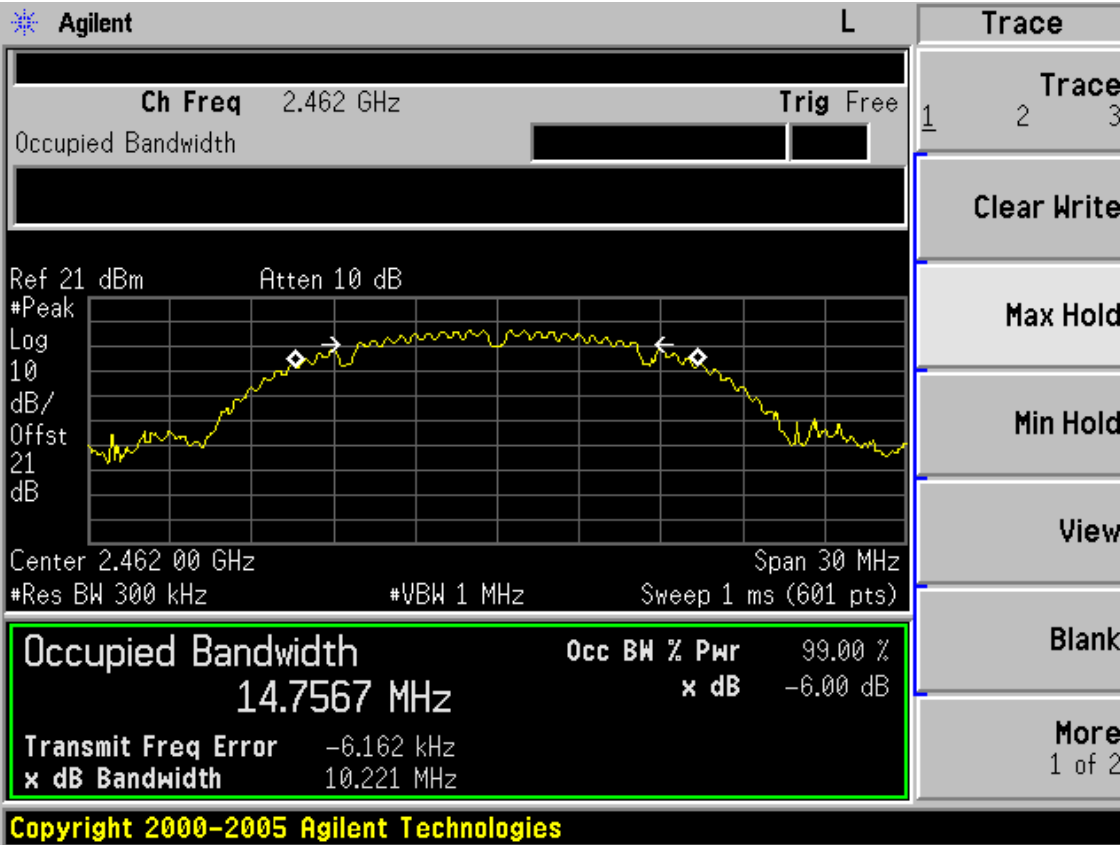
Test CH1: 2412MHz



Test CH6: 2437MHz

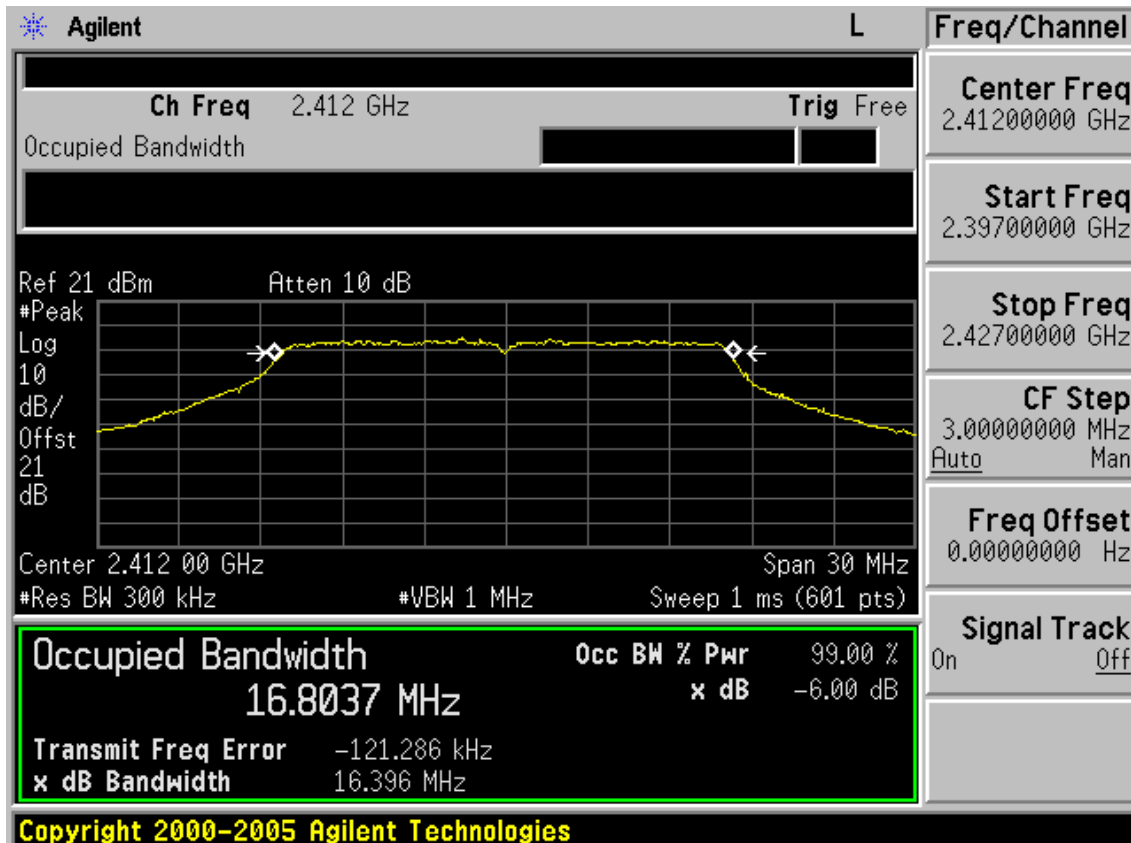


Test CH11: 2462MHz

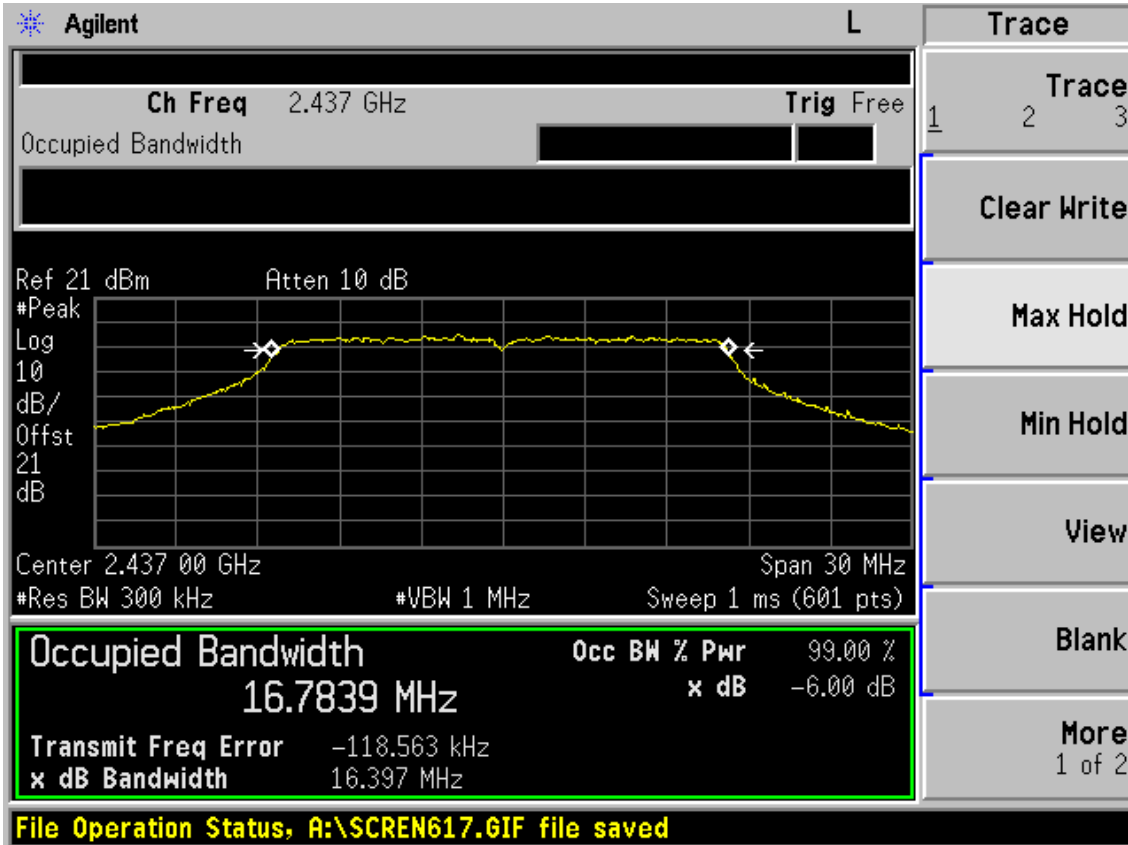


Test Mode: IEEE 802.11g TX

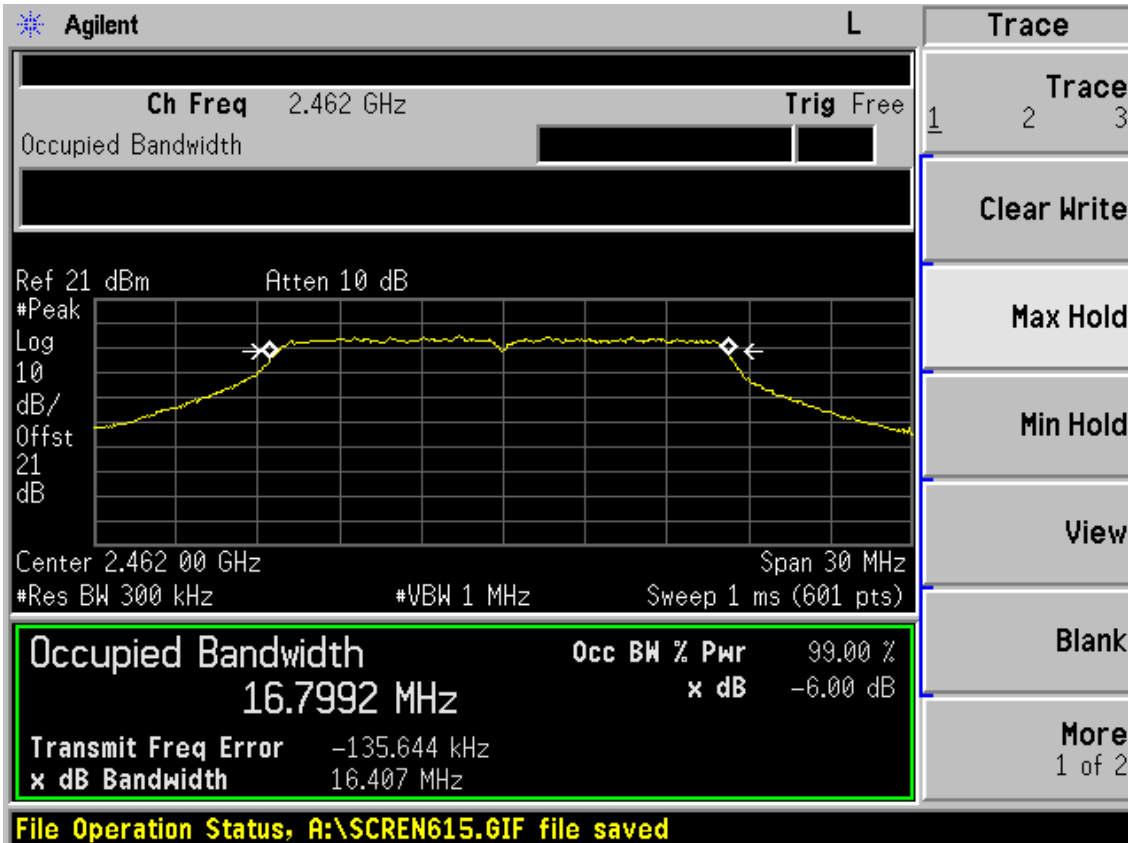
Test CH1: 2412MHz



Test CH6: 2437MHz



Test CH11: 2462MHz



Test Mode: IEEE 802.11n HT20 TX

Test CH1: 2412MHz

Agilent
L

Ch Freq 2.412 GHz Trig Free

Occupied Bandwidth

Ref 21 dBm Atten 10 dB

Center 2.412 00 GHz Span 30 MHz

#Res BW 300 kHz #VBW 1 MHz Sweep 1 ms (601 pts)

Trace

Trace 1 2 3

Clear Write

Max Hold

Min Hold

View

Blank

More 1 of 2

Occupied Bandwidth	Occ BW % Pwr	99.00 %
18.0159 MHz	x dB	-6.00 dB
Transmit Freq Error	-867.762 Hz	
x dB Bandwidth	17.544 MHz	

File Operation Status, A:\SCREN613.GIF file saved

Test CH6: 2437MHz

Agilent
L

Ch Freq 2.437 GHz Trig Free

Occupied Bandwidth

Ref 21 dBm Atten 10 dB

Center 2.437 00 GHz Span 30 MHz

#Res BW 300 kHz #VBW 1 MHz Sweep 1 ms (601 pts)

Freq/Channel

Center Freq 2.43700000 GHz

Start Freq 2.42200000 GHz

Stop Freq 2.45200000 GHz

CF Step 3.00000000 MHz Auto Man

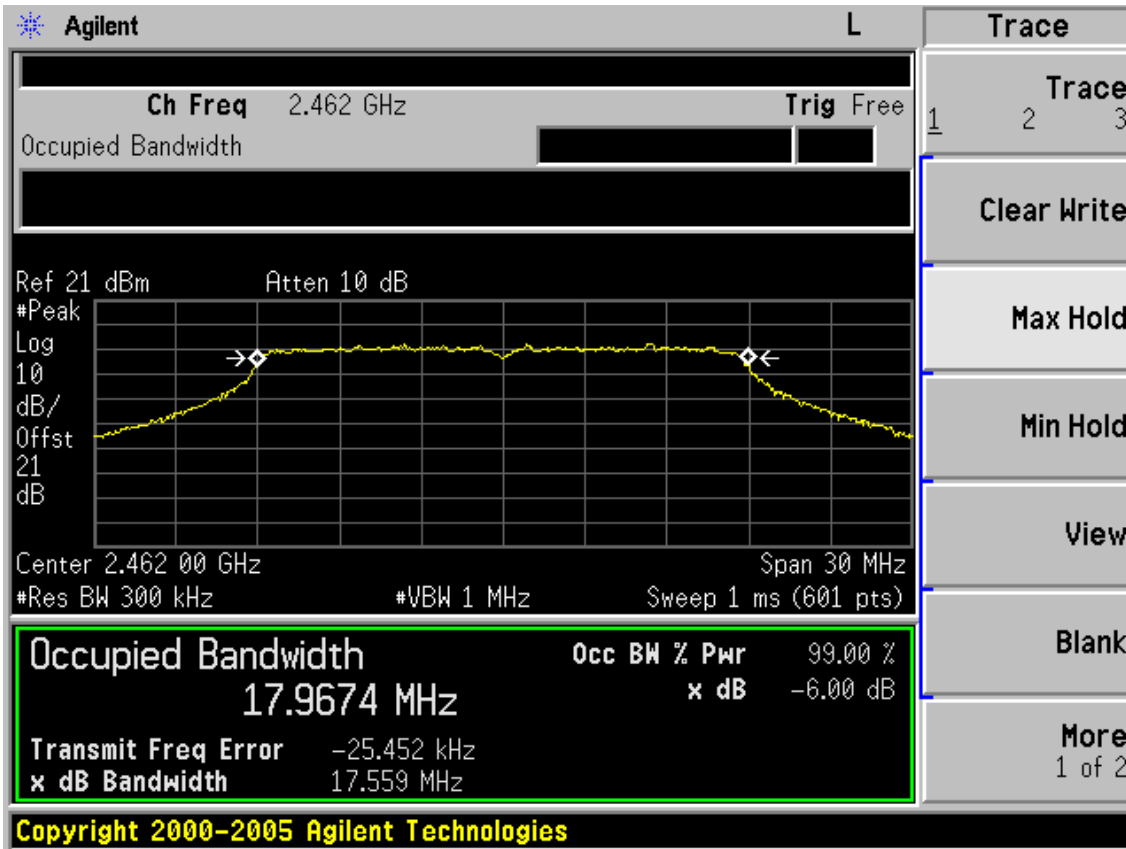
Freq Offset 0.00000000 Hz

Signal Track On Off

Occupied Bandwidth	Occ BW % Pwr	99.00 %
18.0103 MHz	x dB	-6.00 dB
Transmit Freq Error	-341.756 Hz	
x dB Bandwidth	17.602 MHz	

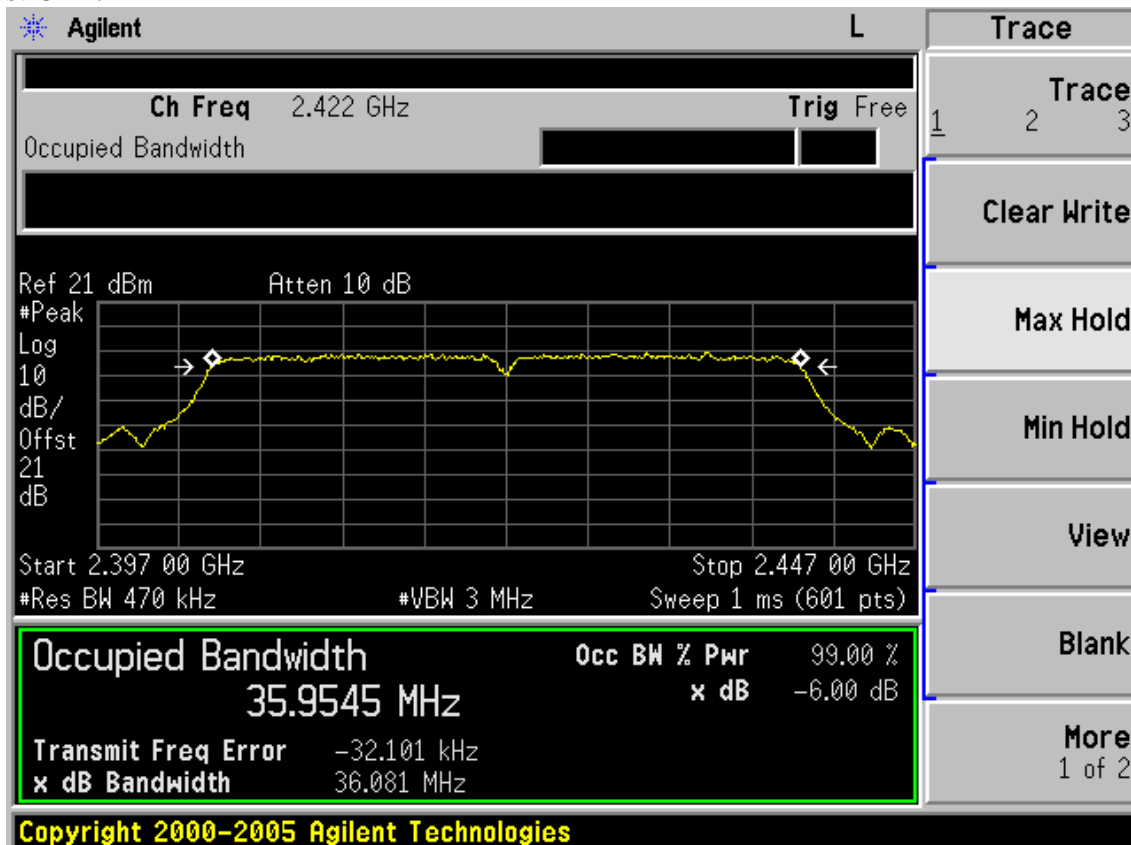
File Operation Status, A:\SCREN610.GIF file saved

Test CH11: 2462MHz

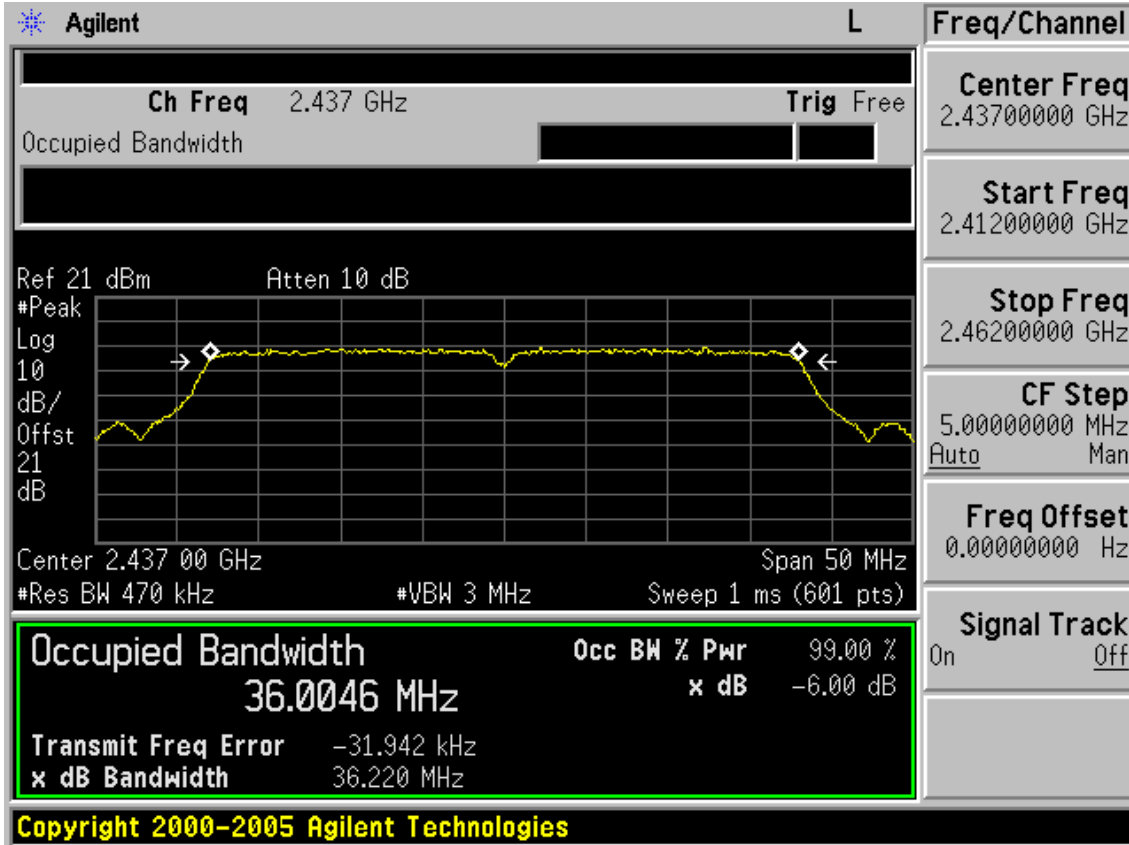


Test Mode: IEEE 802.11n HT40 TX

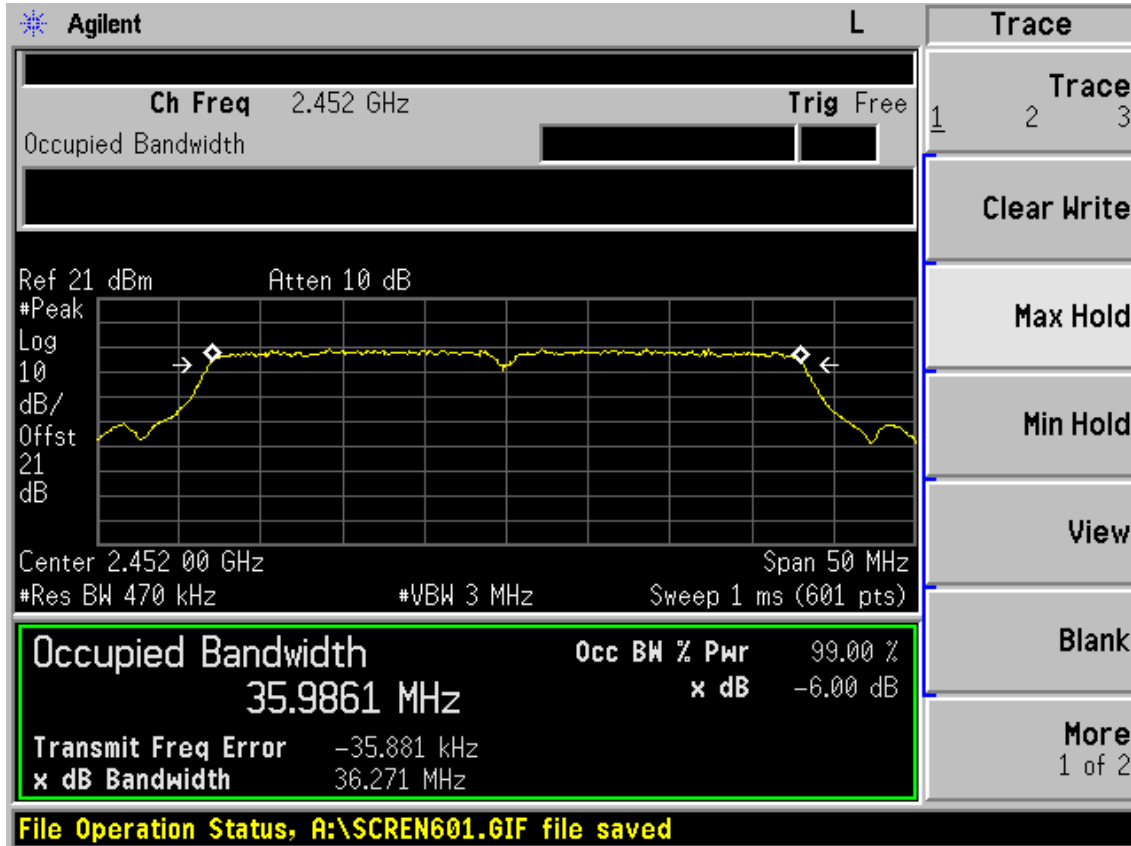
Test CH1: 2422MHz



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.	Power meter	Anritsu	ML2487A	6K00002472	May.08,11	1 Year
2.	Power sensor	Anritsu	MA2491A	0033005	May.08,11	1 Year
3	Attenuator	Agilent	8491B	MY39262165	May.08,11	1 Year
4	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08, 11	1 Year
5	RF Cable	Hubersuhner	SUCOFLEX102	28618/2	May.08,11	1 Year

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

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

8.3. Test Procedure

- 1, Connected the EUT's antenna port to measure device by 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:

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

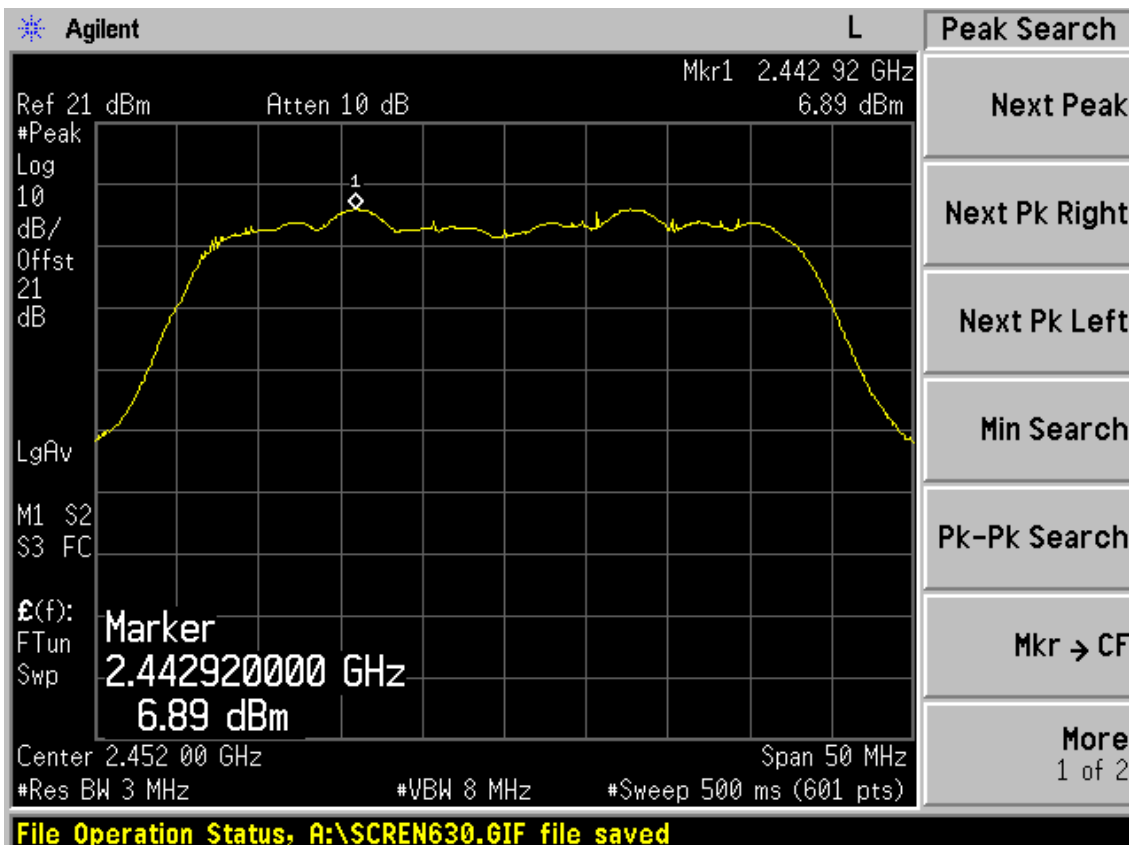
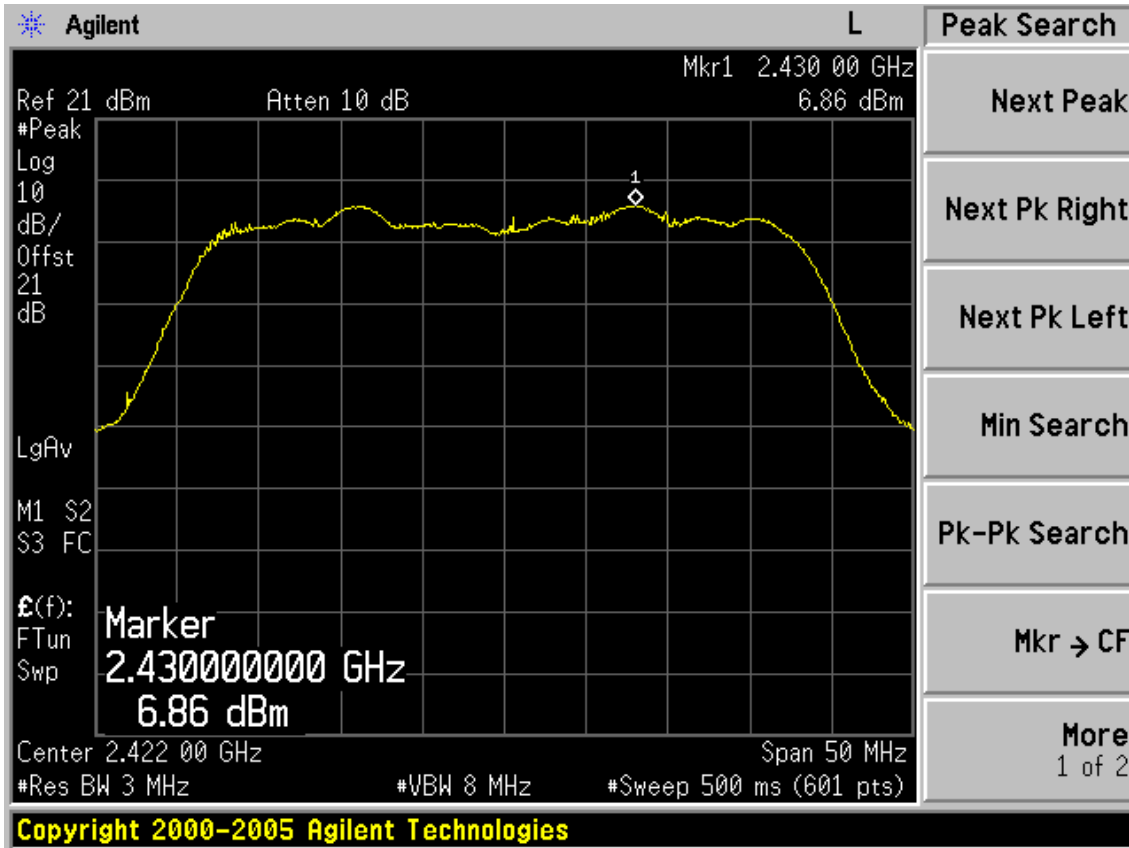
Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

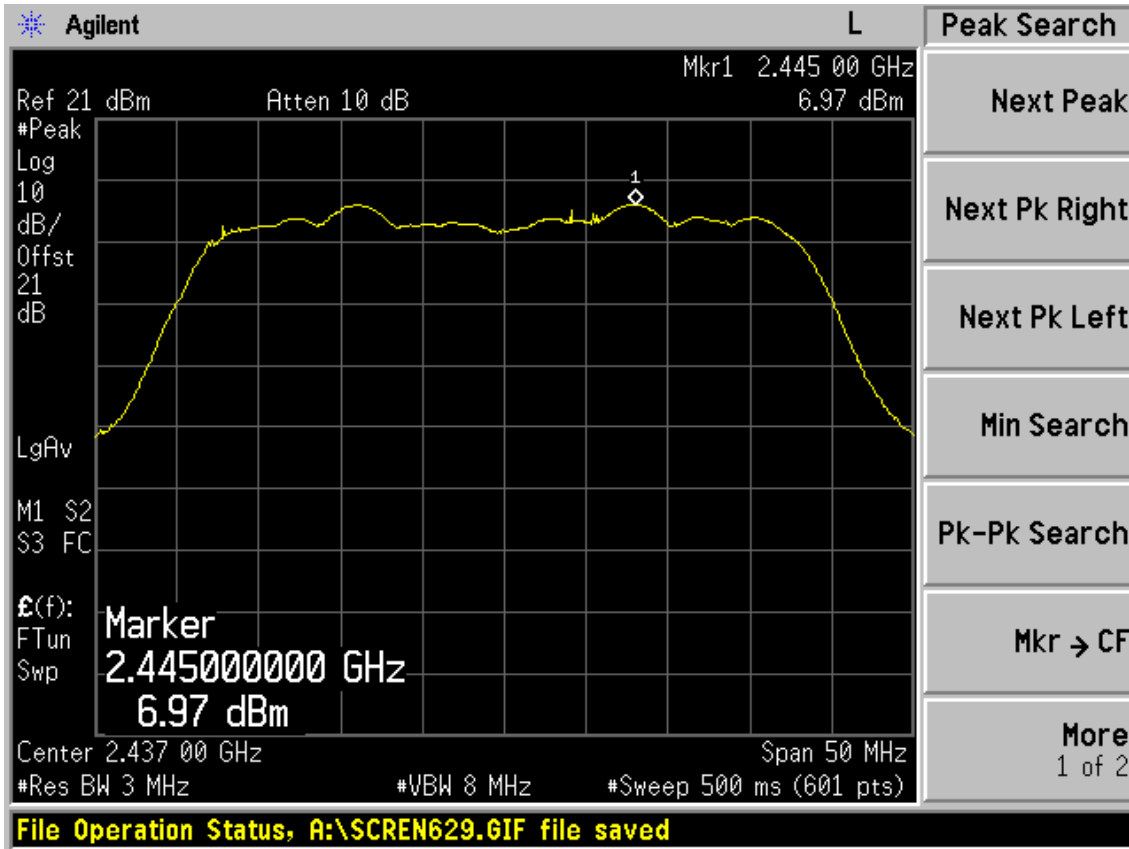
8.4. Test Results

EUT: 300Mbps Wireless N Gigabit Router					
M/N: TL-WR1042ND					
Test date: 2012-01-07		Pressure: 101.3 kpa			Humidity: 52.7 %
Tested by: Leo-Li		Test site: RF site			Temperature: 22.6 °C
Cable loss: 1 dB			Attenuator loss: 20 dB		
Test Mode	CH (MHz)	Peak output Power (dBm)			Limit (dBm)
		Chain 0	Chain 1	Total	
11b	CH1	18.84	18.49	N/A	30
	CH6	18.98	18.21	N/A	30
	CH11	19.25	17.85	N/A	30
11g	CH1	22.13	22.06	N/A	30
	CH6	22.35	21.94	N/A	30
	CH11	22.48	21.53	N/A	30
11n HT20	CH1	19.25	18.94	22.11	30
	CH6	19.43	18.68	22.08	30
	CH11	19.42	18.46	21.98	30

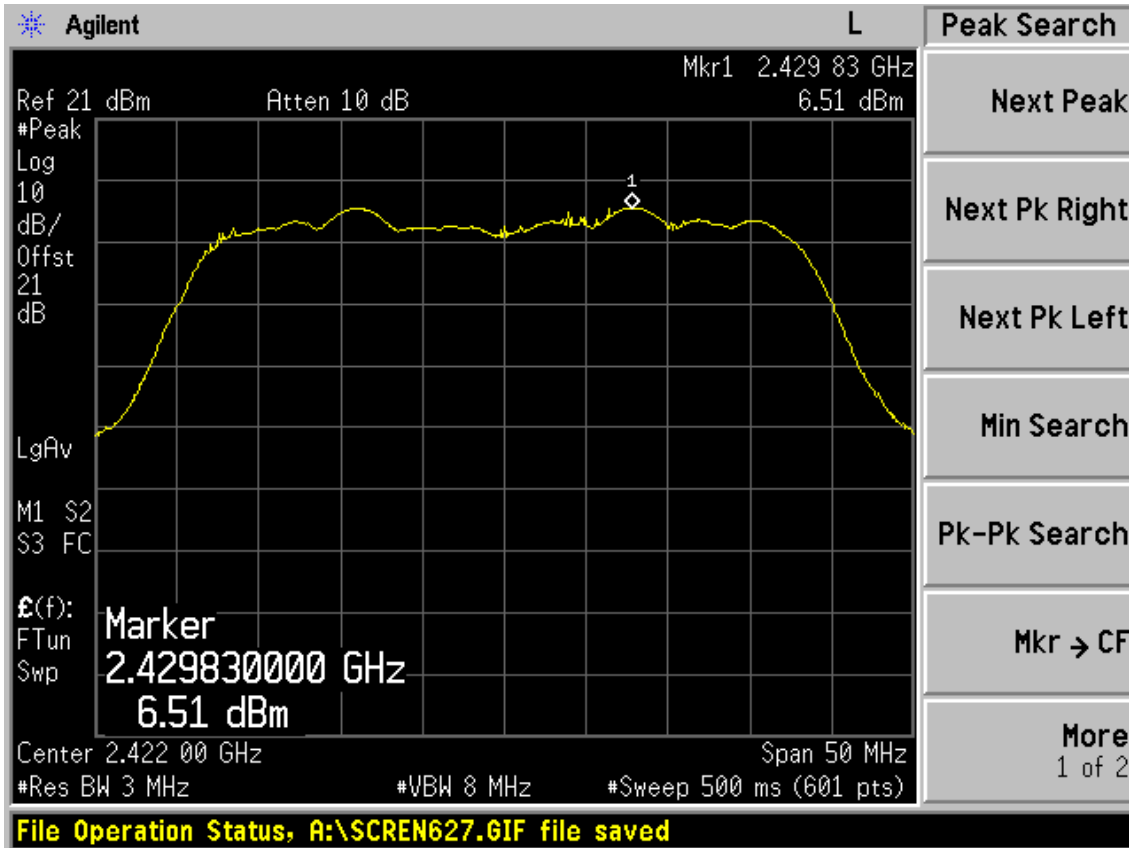
Test Mode	CH	Result					Limit (dBm)
		Measured power(dBm)/3MHz		PK Output power (dBm)			
		Chain a	Chain b	Chain a	Chain b	Total	
11n HT40	CH3	6.86	6.51	18.27	17.80	21.05	30
	CH6	6.97	6.54	18.38	17.83	21.12	30
	CH9	6.89	6.53	18.30	17.82	21.08	30
Chain a		26dB Bandwidth for 11n HT40: 41.505MHz					
Chain b		26dB Bandwidth for 11n HT40: 40.336MHz					
Chain a		BW correction factor = $10\log[(41.505\text{MHz})/(3\text{MHz})] = 11.41\text{dB}$					
Chain b		BW correction factor = $10\log[(40.336\text{MHz})/(3\text{MHz})] = 11.29\text{dB}$					
Conclusion: PASS							

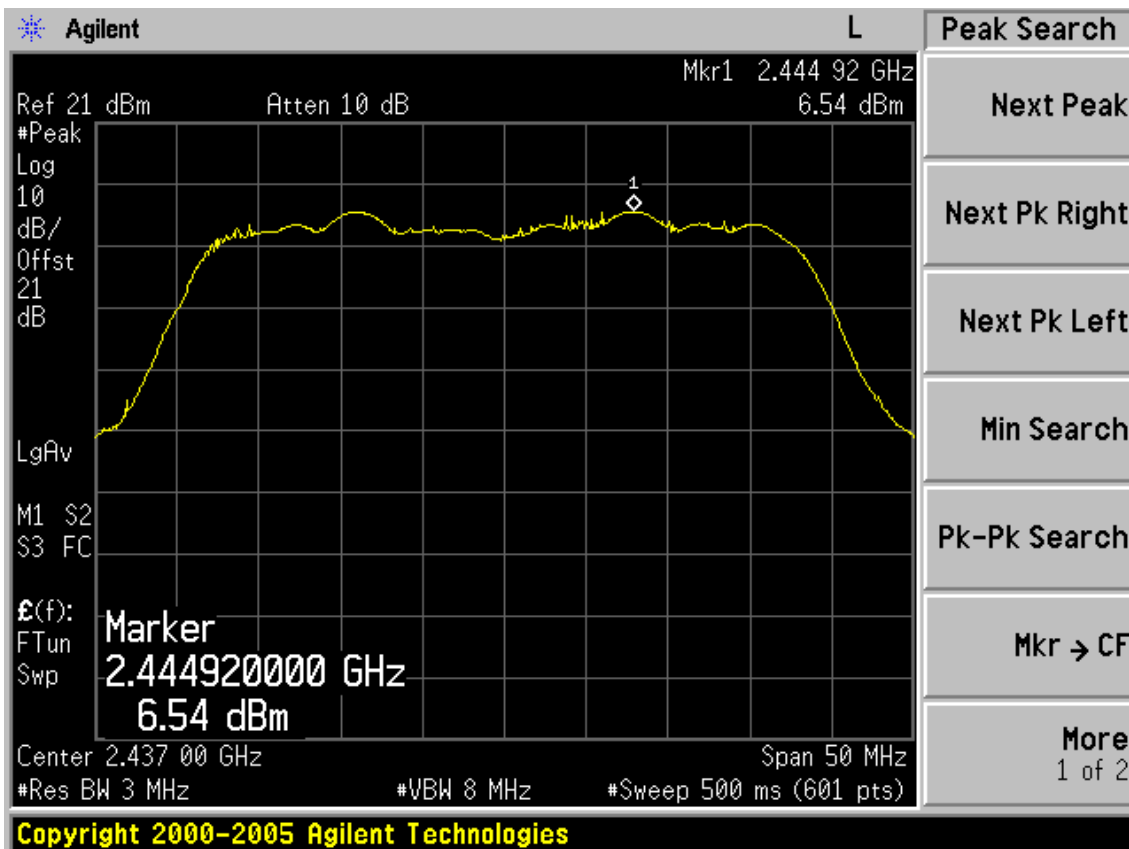
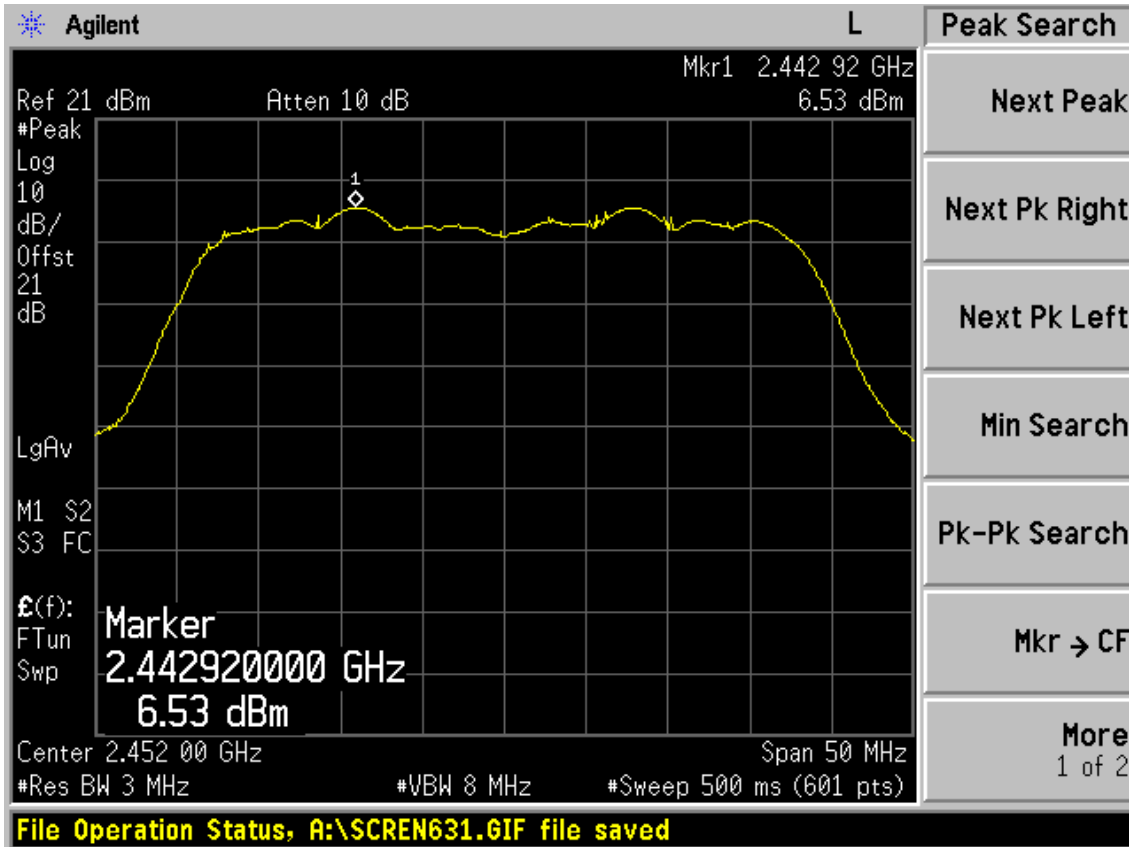
Test Mode: IEEE 802.11n HT40
Chain0



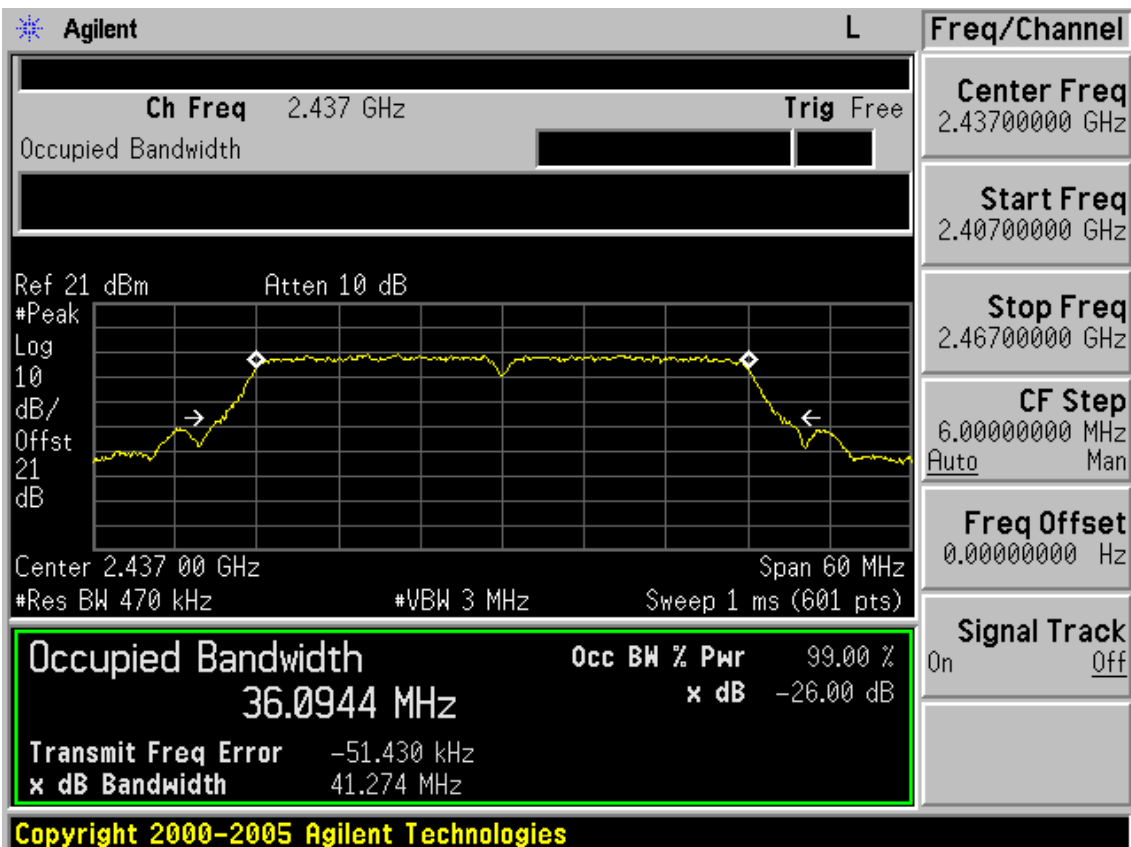
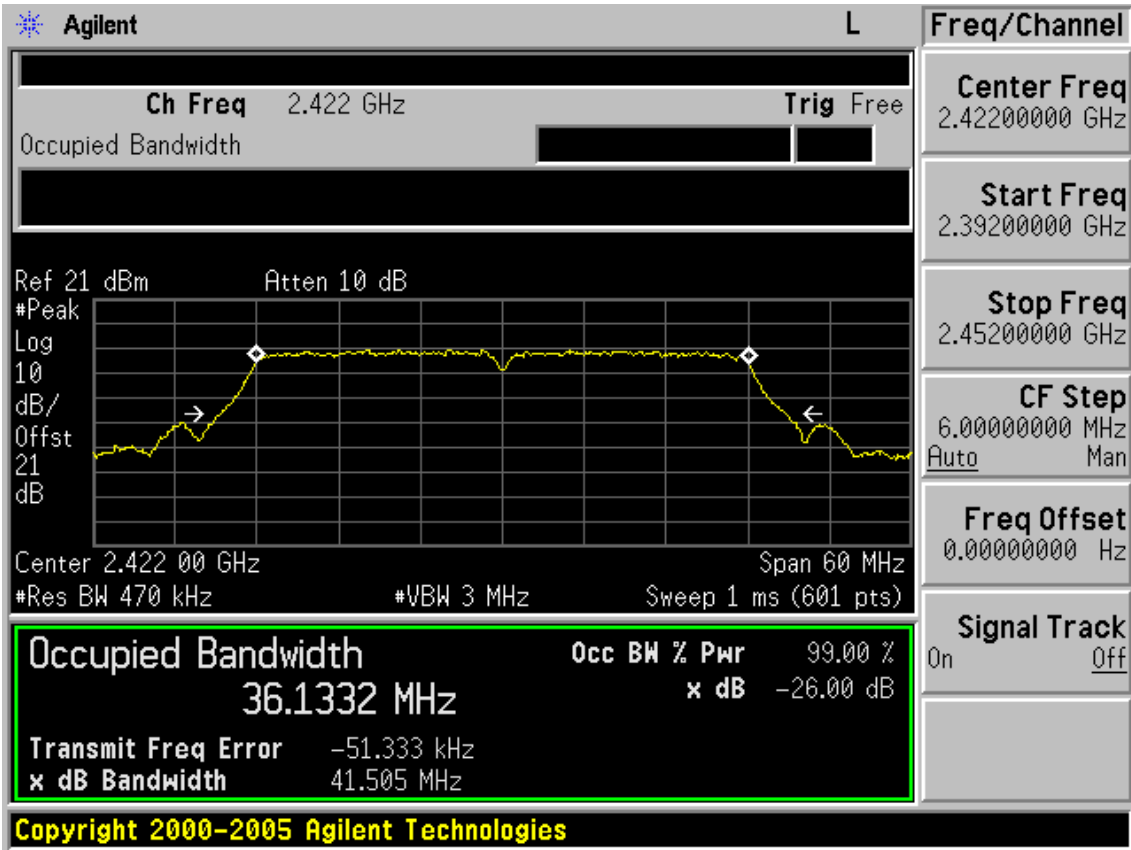


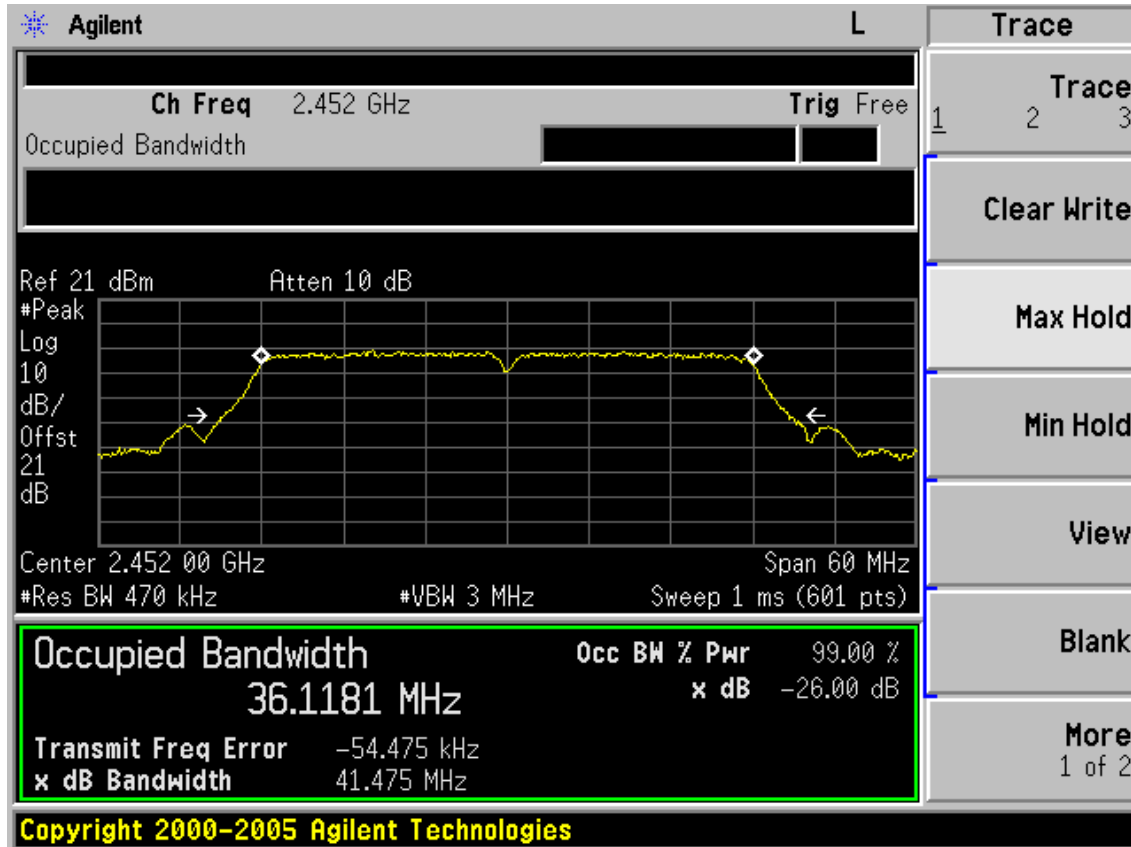
Chain1



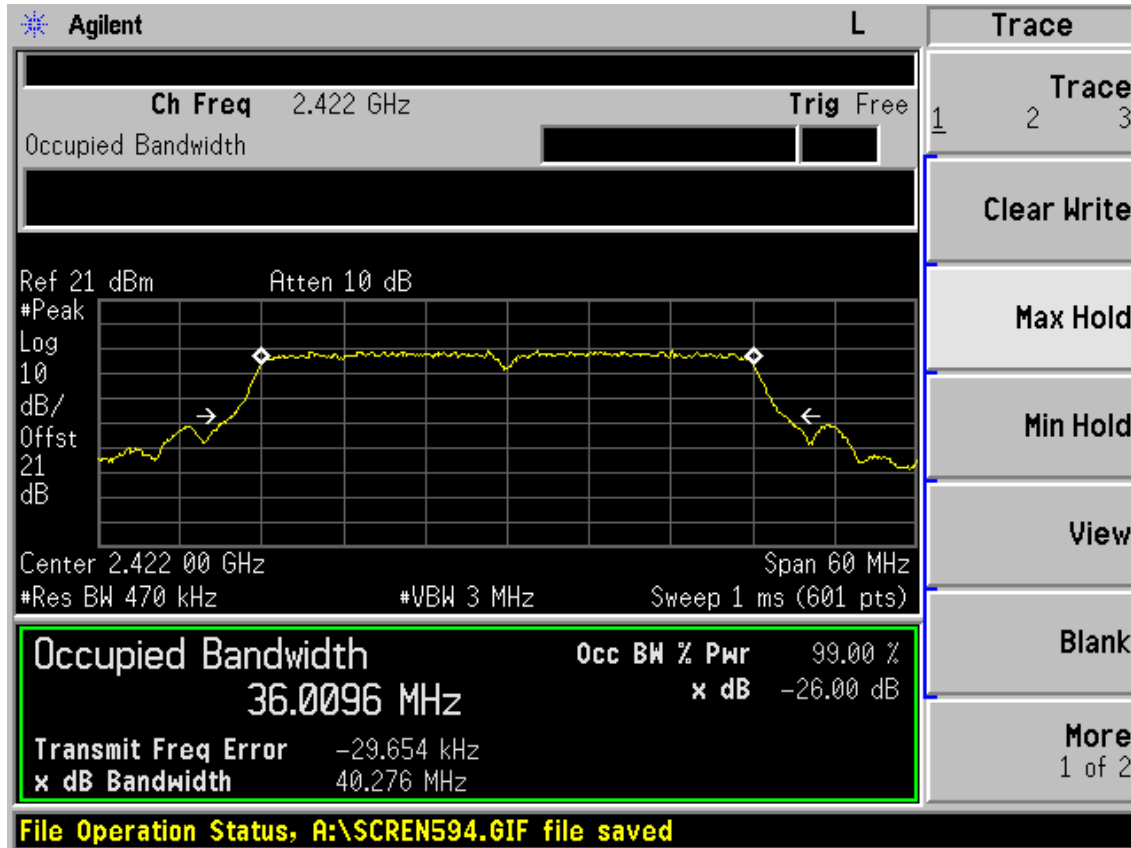


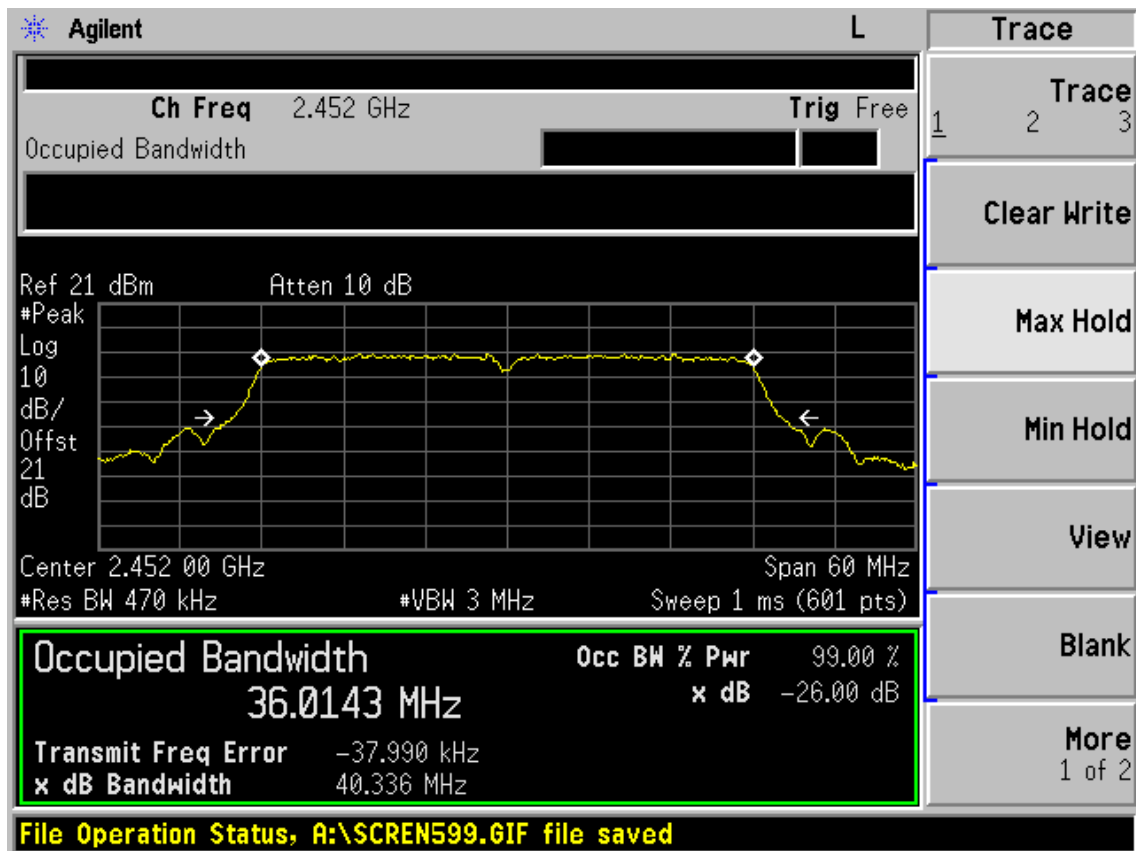
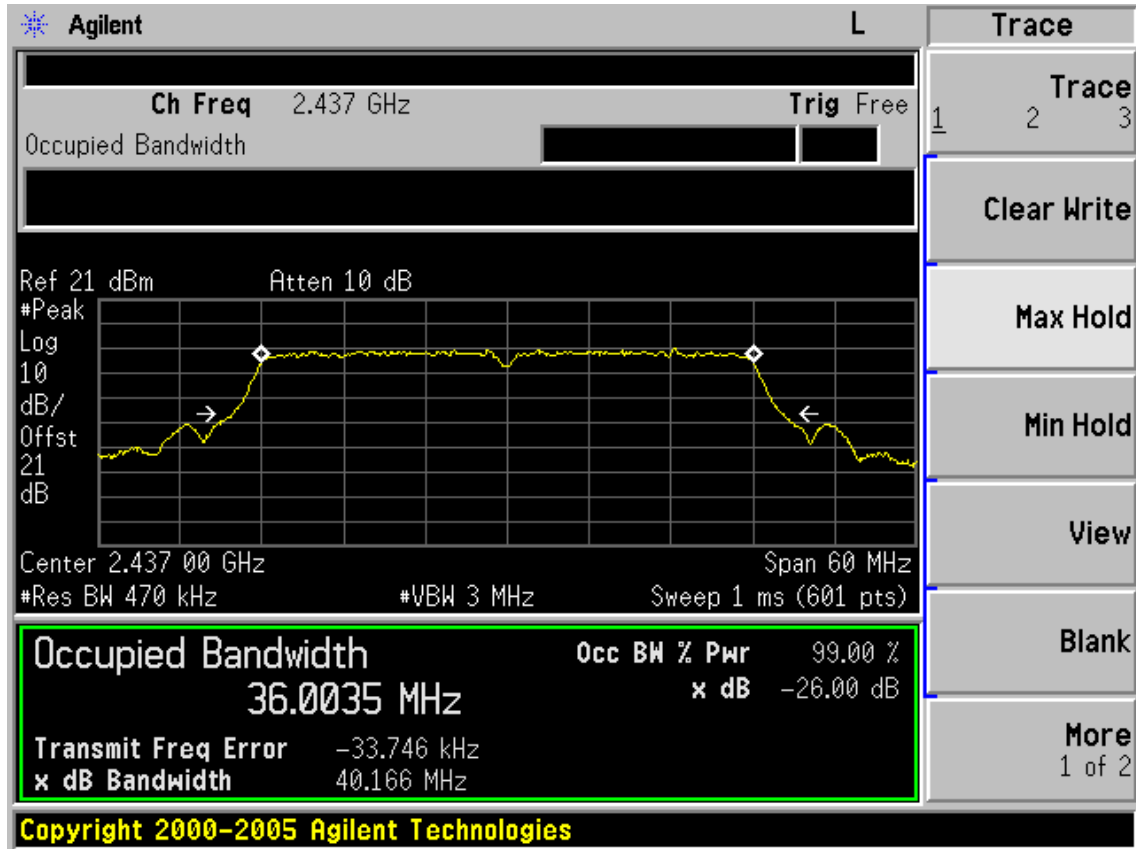
26dB Bandwidth
Chain 0





Chain 1





9. POWER SPECTRAL DENSITY TEST

9.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08, 11	1 Year
2.	Attenuator	Agilent	8491B	MY39262165	May.08, 11	1 Year
3.	RF Cable	Hubersuhner	SUCOFLEX102	28618/2	May.08, 11	1Year

9.2. Limit

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

9.3. Test Procedure

1. Connected the EUT's antenna port to spectrum analyzer device by 20dB attenuator.
- 2 , Set the test frequency as center frequency,Set RBW=3KHz,VBW=10KHz,Span large enough capture the entire frequency,Read out maximum peak level 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

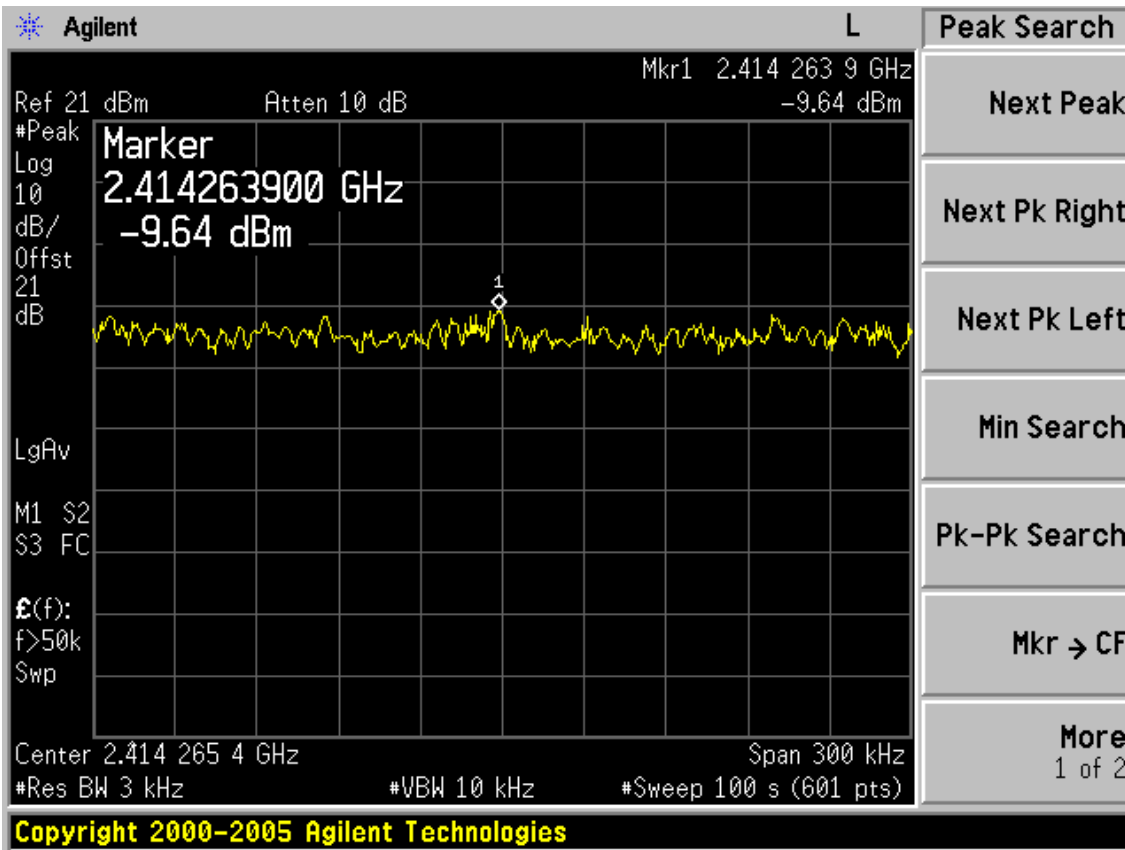
EUT: 300Mbps Wireless N Gigabit Router		
M/N: TL-WR1042ND		
Test date:2012-01-09	Pressure: 101.2 kpa	Humidity: 51.5 %
Tested by: Leo-Li	Test site: RF Site	Temperature : 22.4°C

Cable loss: 1 dB		Attenuator loss: 20 dB			
Test Mode	CH	Power density (dBm/3KHz)			Limit (dBm/3KHz)
		Chain0	Chain1	Total	
11b	CH1	-9.64	-8.38	N/A	8
	CH6	-3.92	-8.53	N/A	8
	CH11	-6.51	-9.61	N/A	8
11g	CH1	-13.39	-13.48	N/A	8
	CH6	-12.08	-12.62	N/A	8
	CH11	-11.19	-12.91	N/A	8
11n HT20	CH1	-15.81	-15.17	-12.47	8
	CH6	-15.90	-15.34	-12.60	8
	CH11	-15.89	-15.56	-12.71	8
11n HT40	CH3	-18.31	-18.68	-15.48	8
	CH6	-18.17	-20.60	-16.21	8
	CH9	-18.00	-19.09	-15.50	8
Conclusion : PASS					

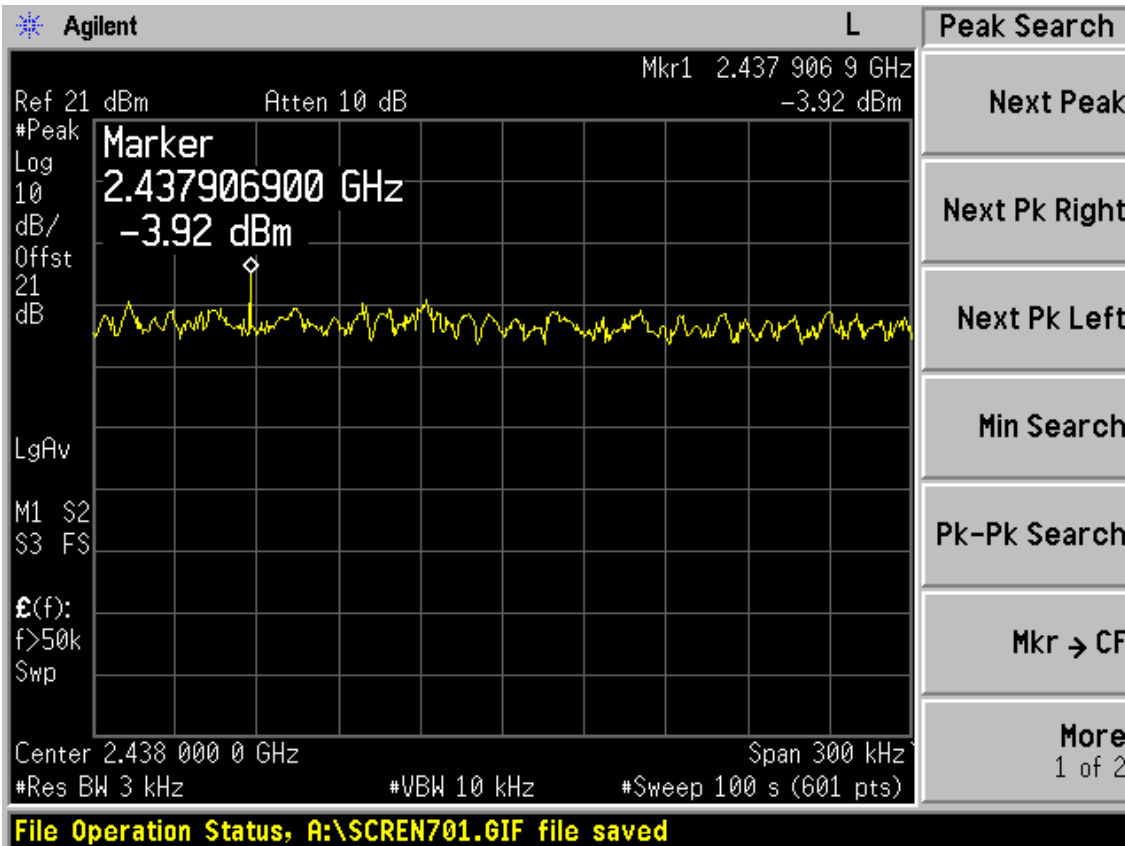
Chain 0:

Test Mode: IEEE 802.11b TX

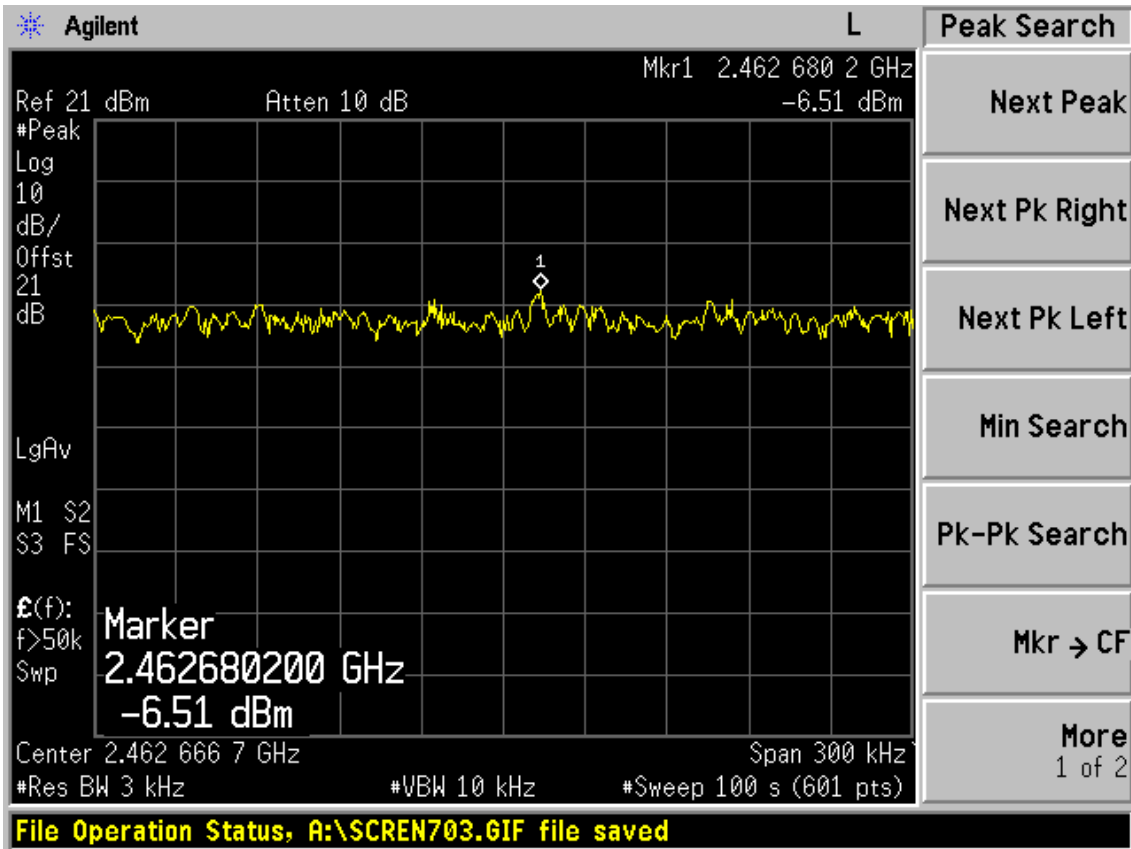
Test CH1: 2412MHz



Test CH6: 2437MHz

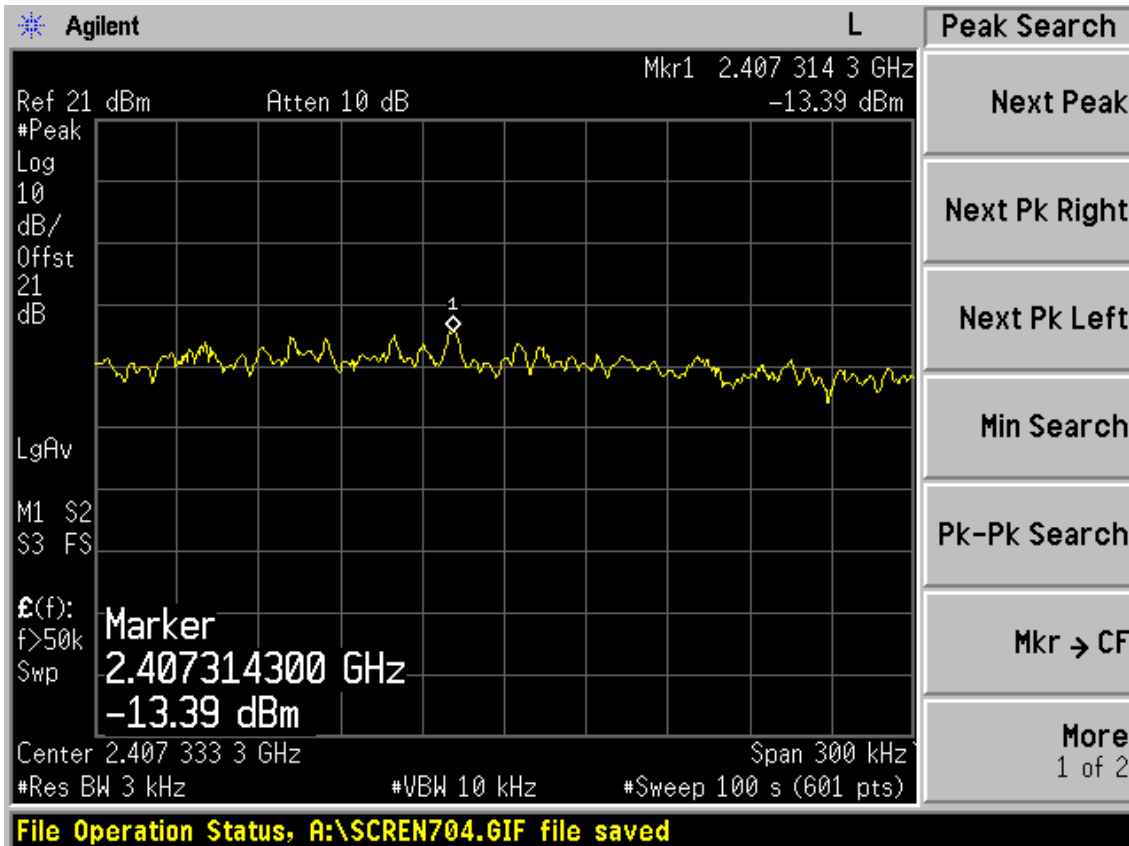


Test CH11: 2462MHz

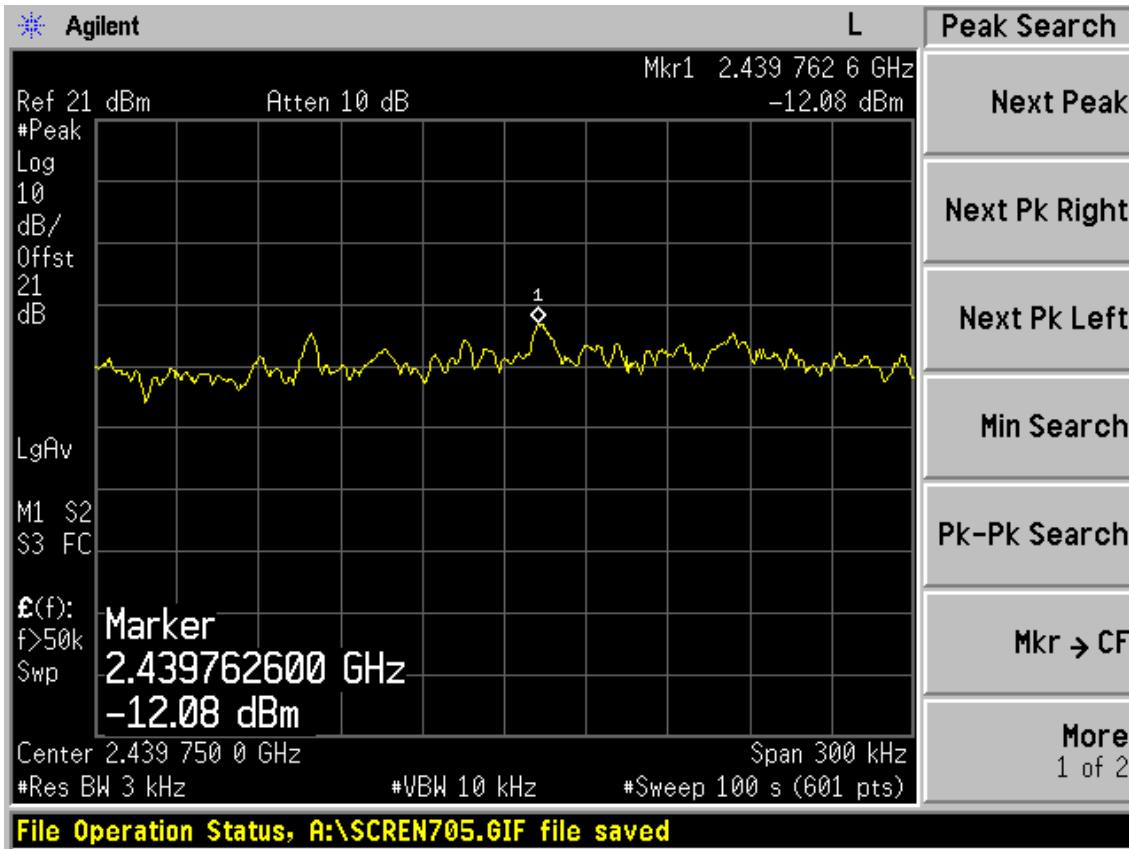


Test Mode: IEEE 802.11g TX

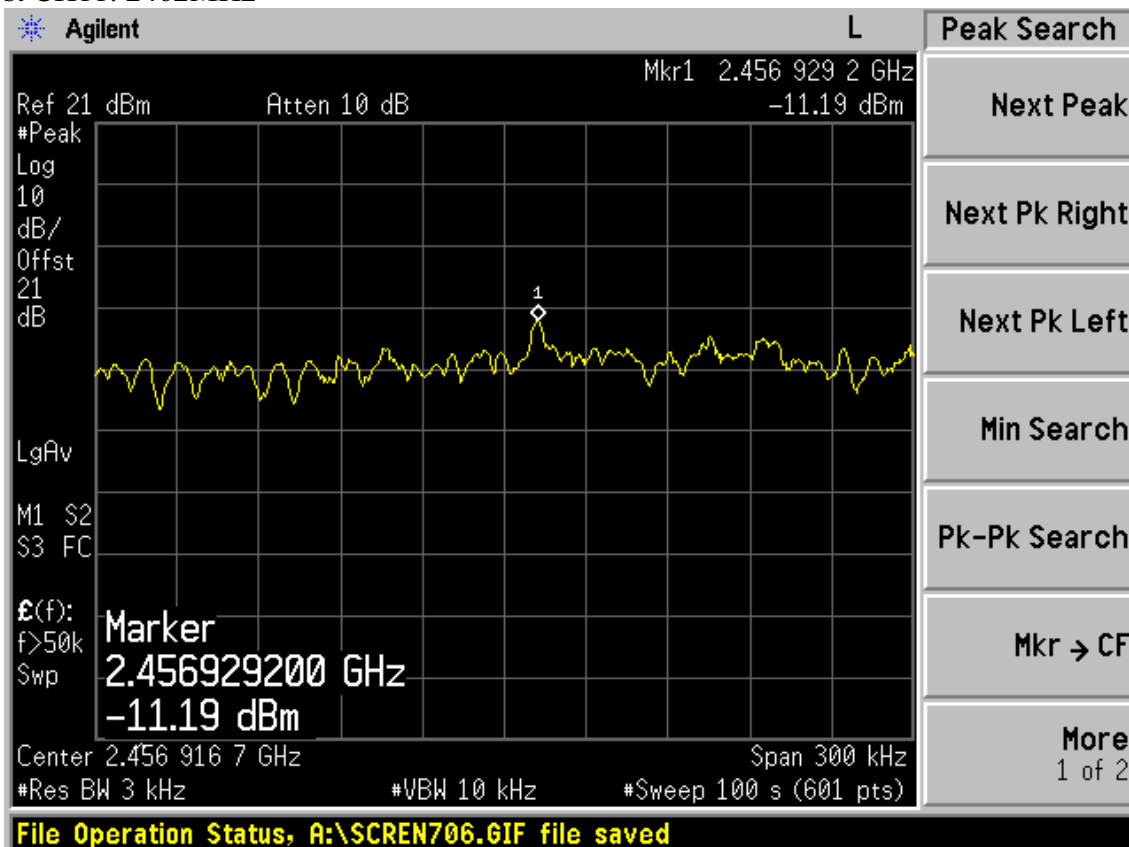
Test CH1: 2412MHz



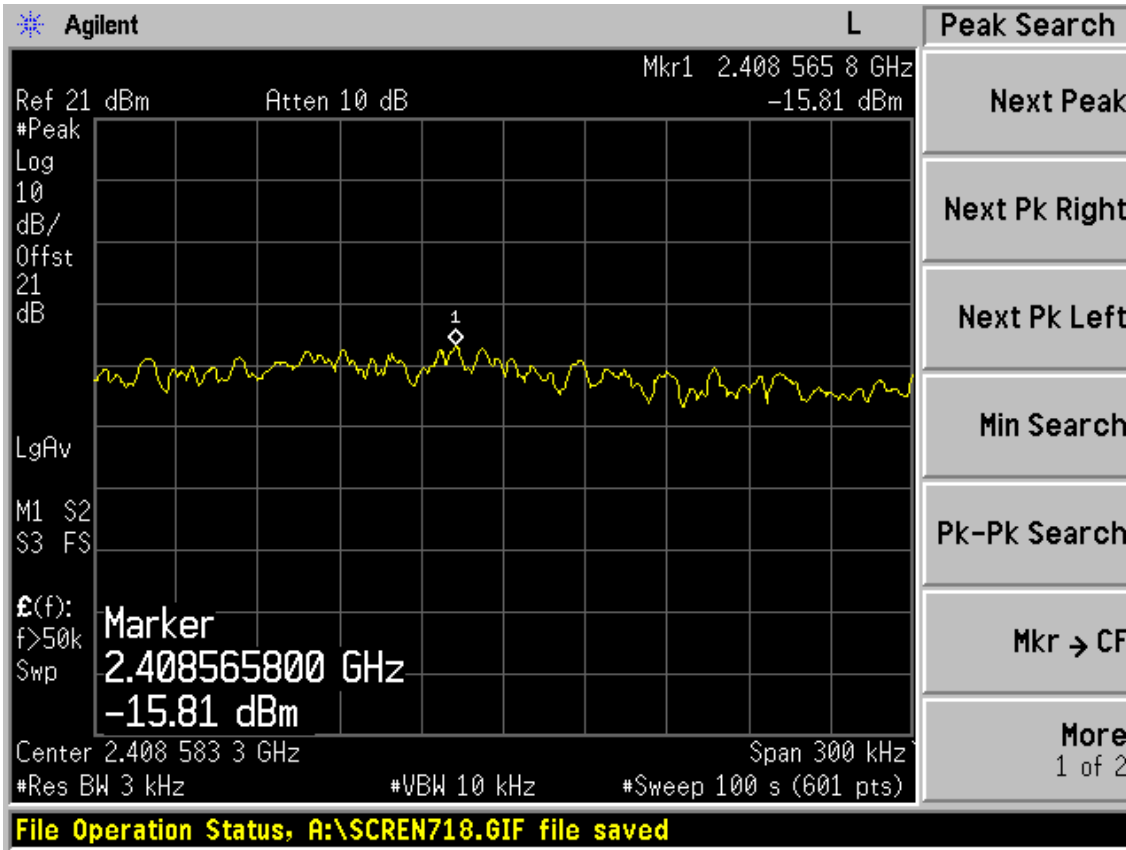
Test CH6: 2437MHz



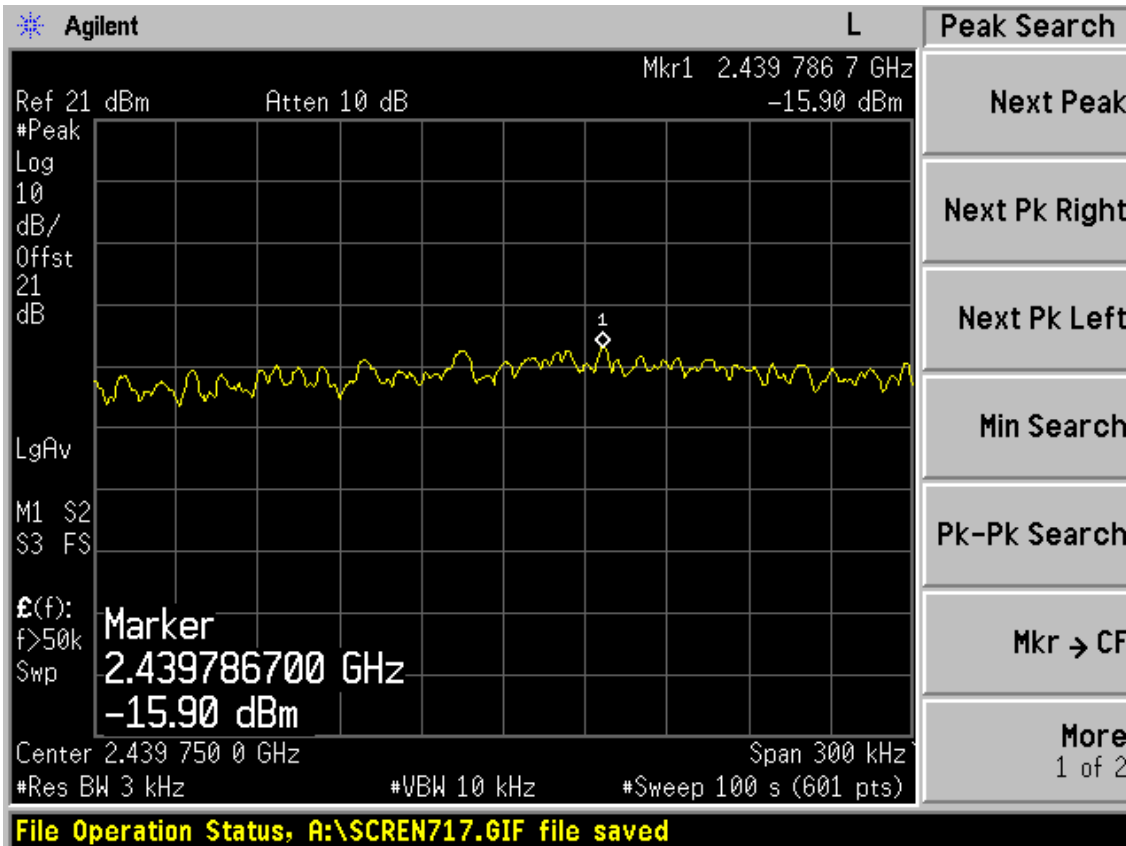
Test CH11: 2462MHz



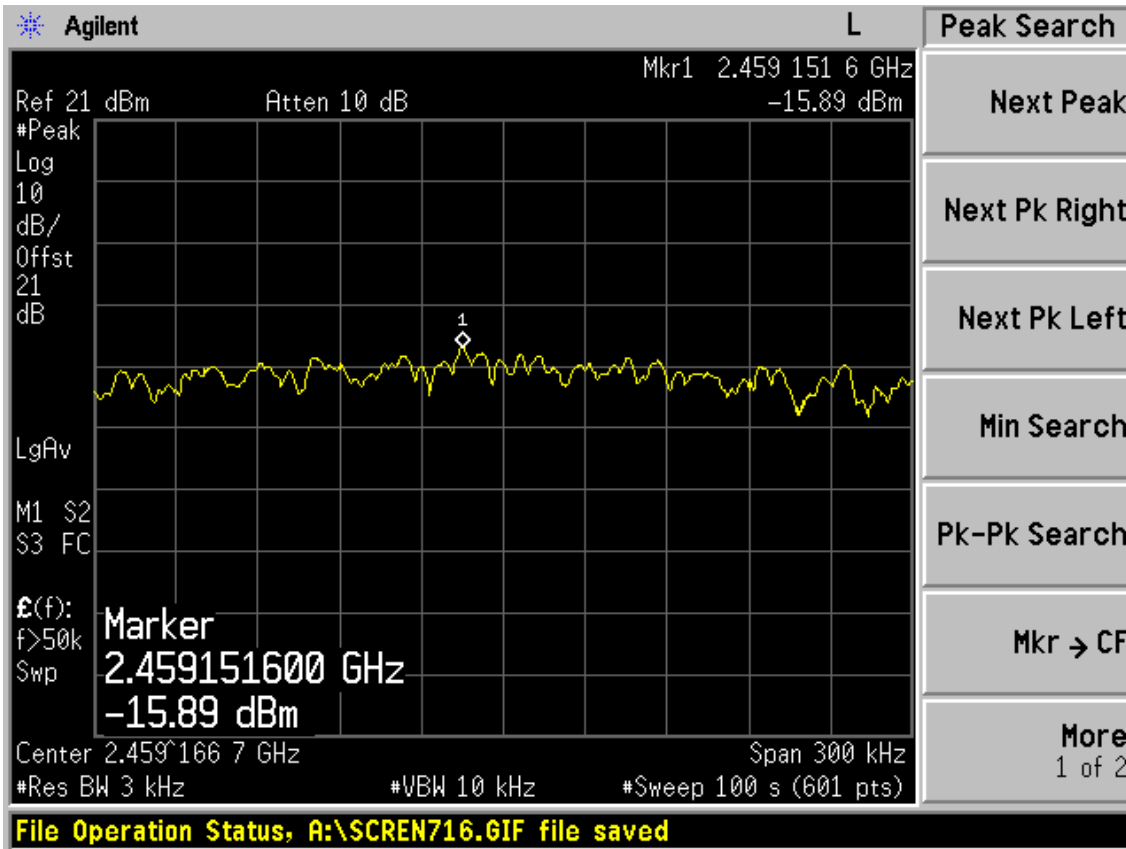
Test Mode: IEEE 802.11n HT20 TX
 Test CH1: 2412MHz



Test CH6: 2437MHz

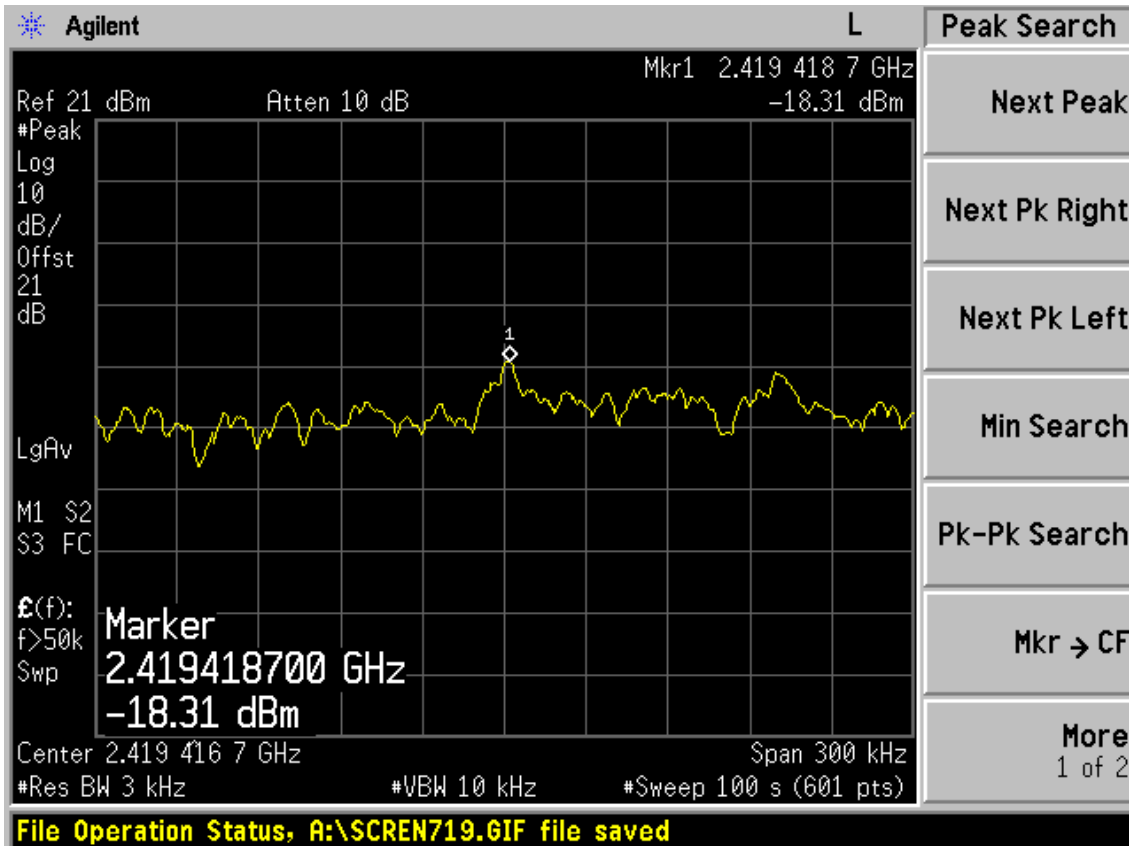


Test CH11: 2462MHz

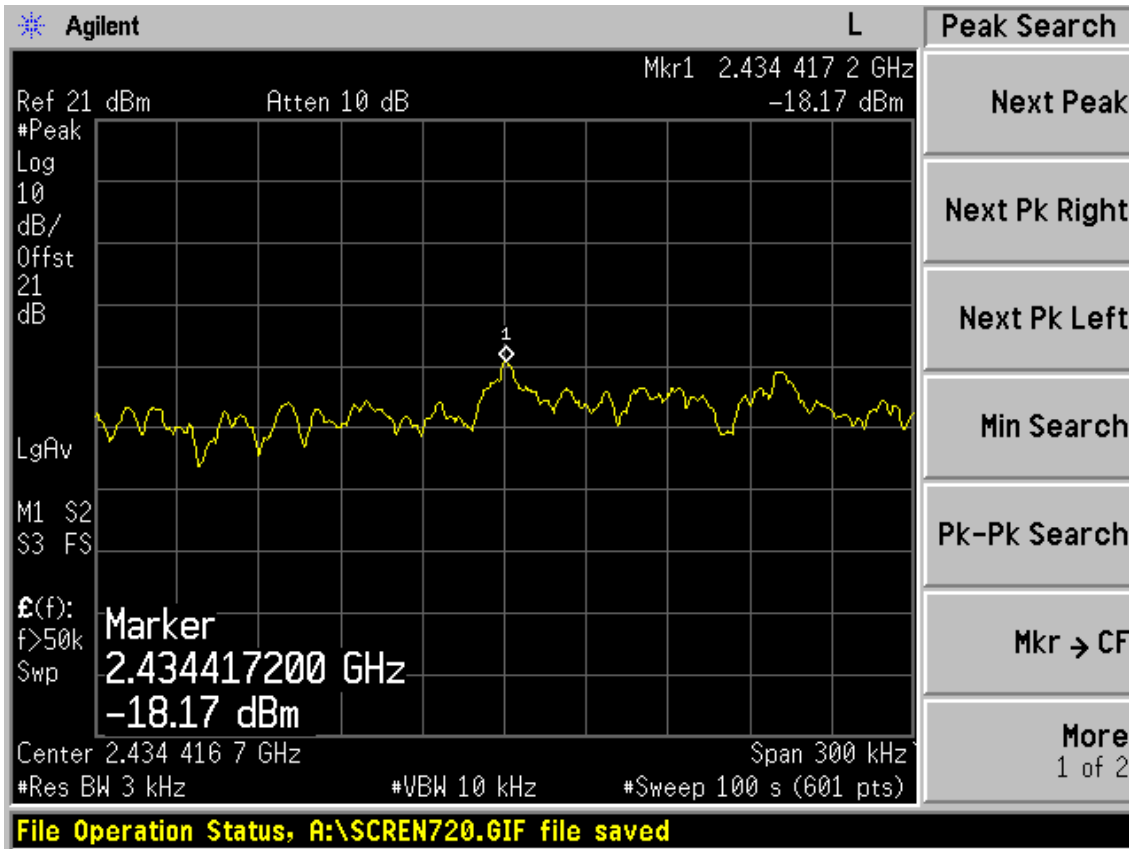


Test Mode: IEEE 802.11n HT40 TX

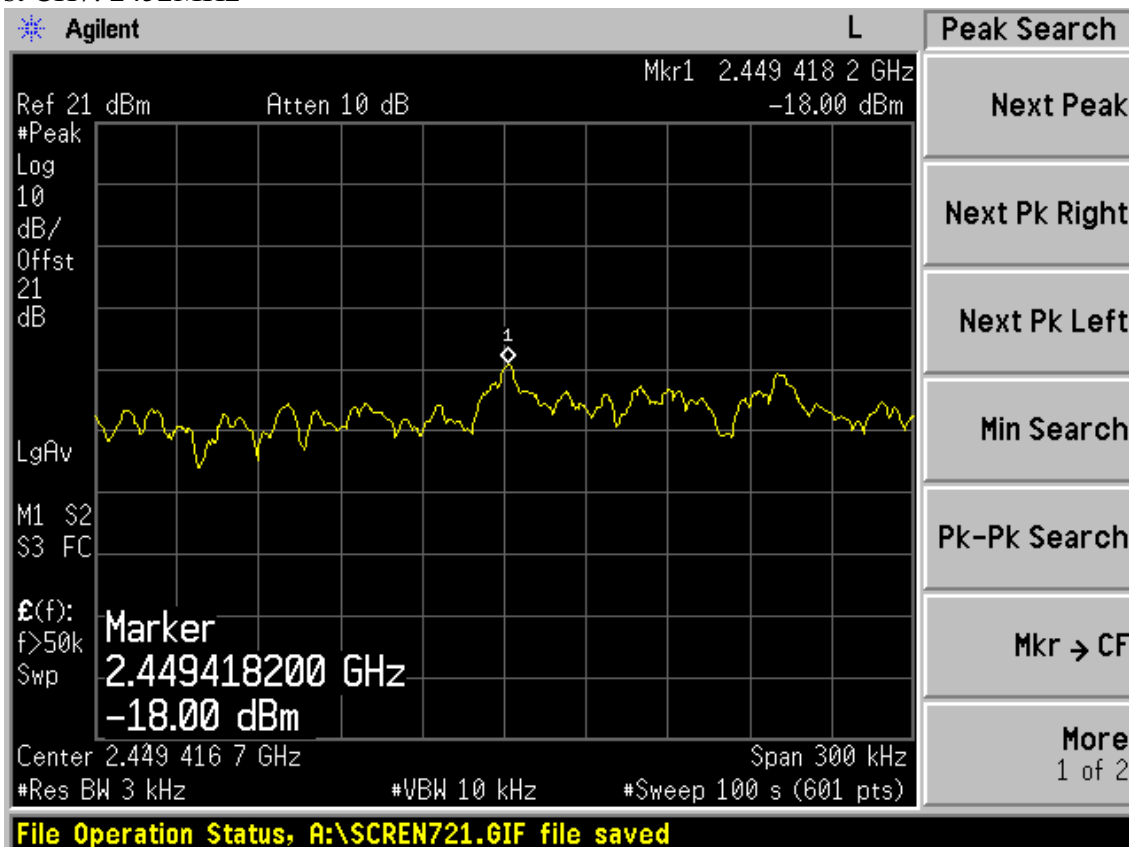
Test CH1: 2422MHz



Test CH4: 2437MHz



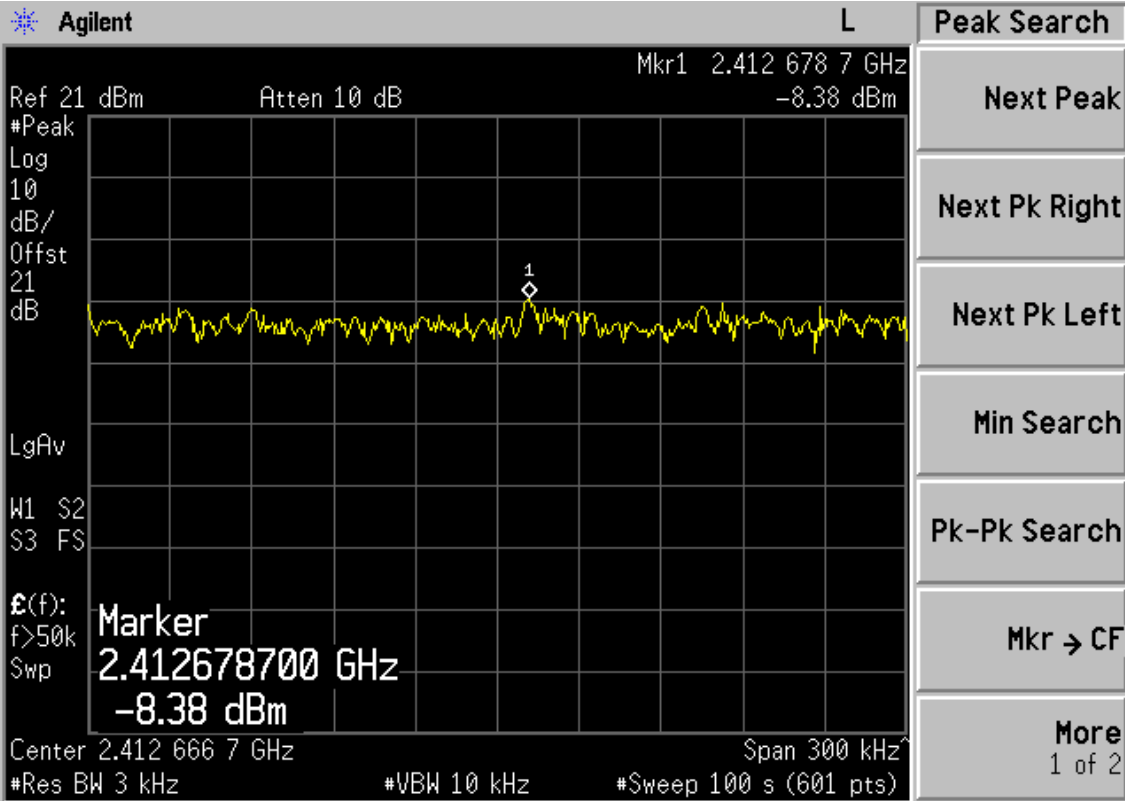
Test CH7: 2452MHz



Chain 1:

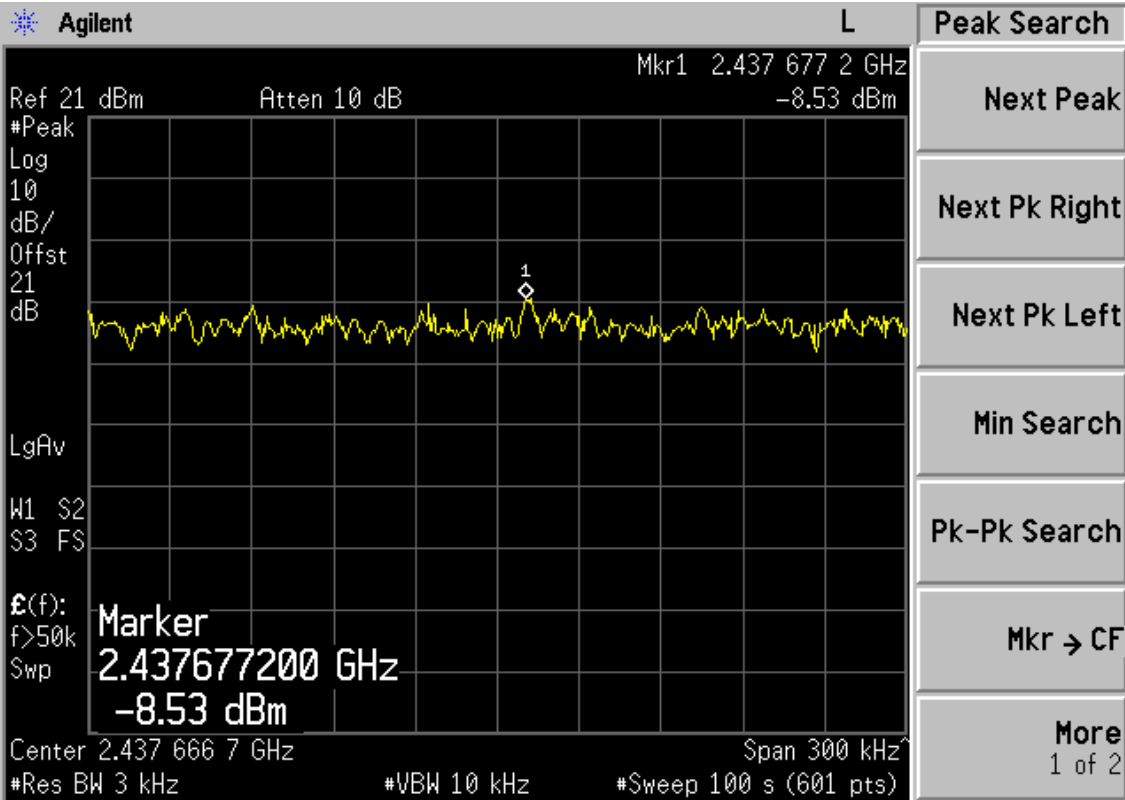
Test Mode: IEEE 802.11b TX

Test CH1: 2412MHz



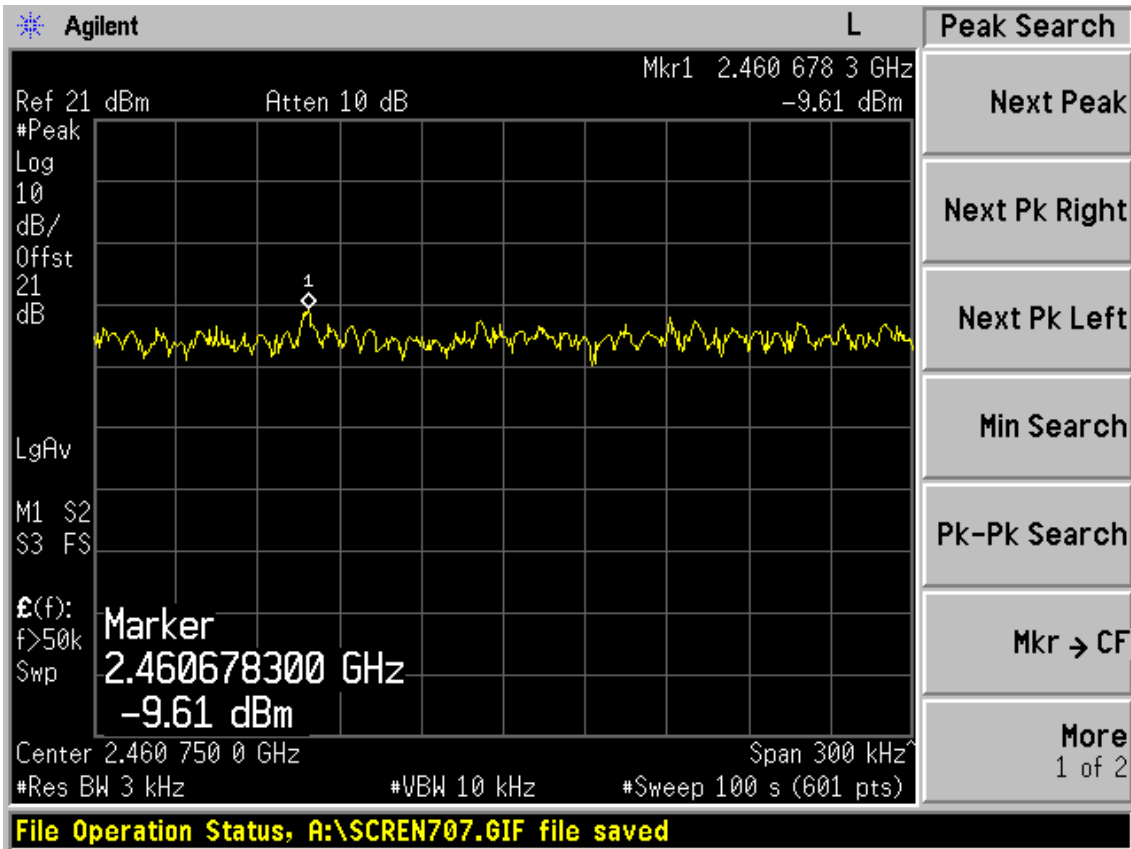
File Operation Status, A:\SCREN709.GIF file saved

Test CH6: 2437MHz



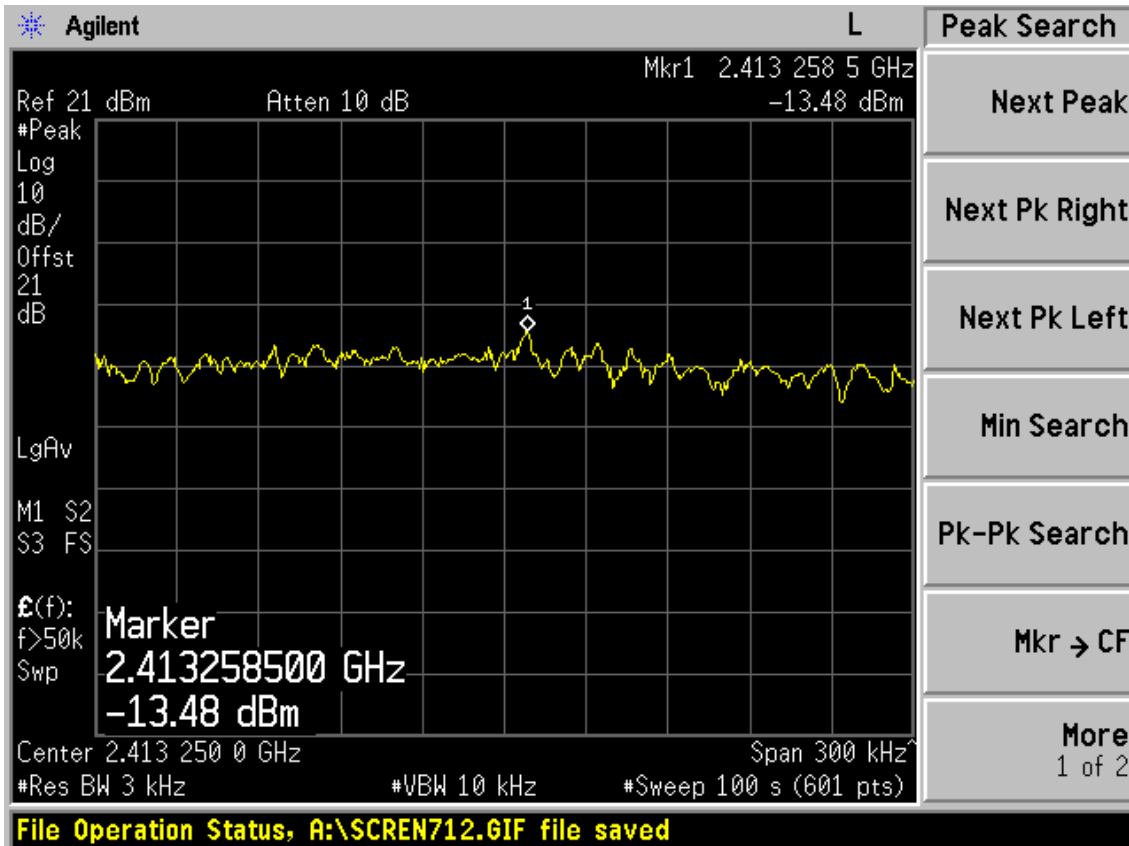
File Operation Status, A:\SCREN708.GIF file saved

Test CH11: 2462MHz

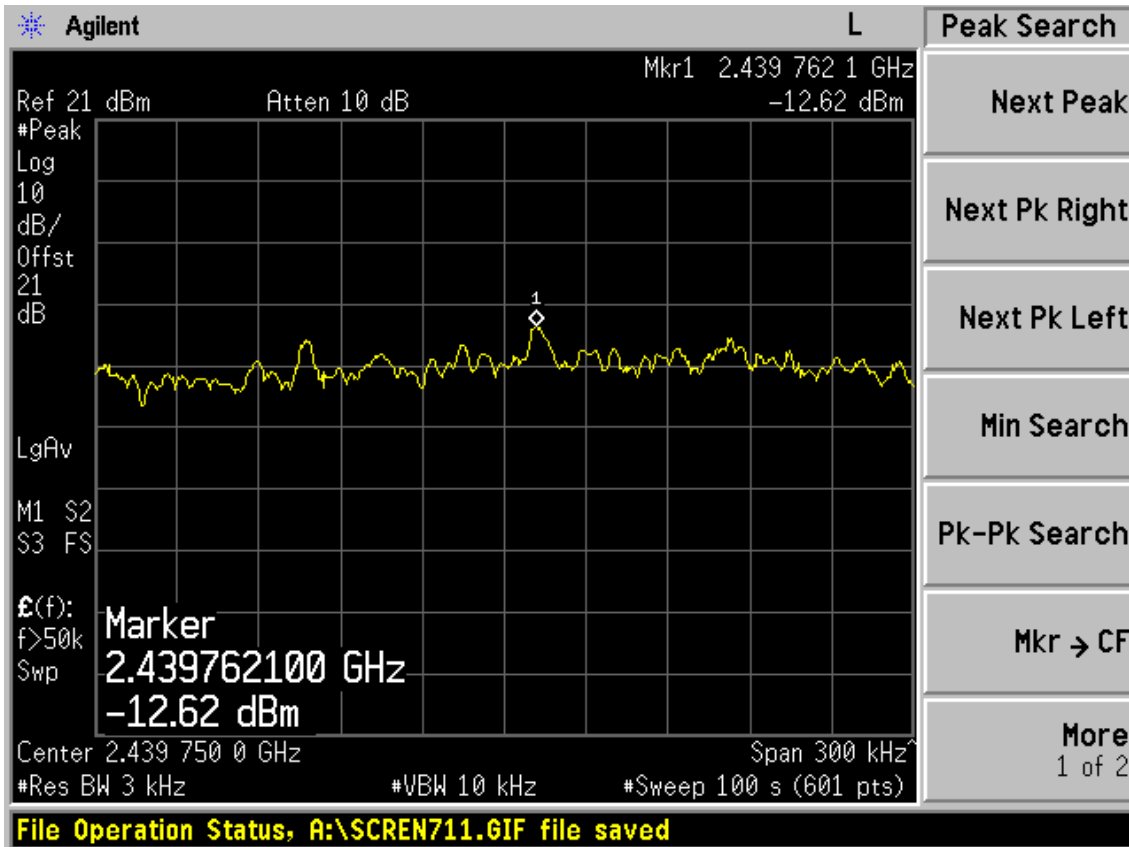


Test Mode: IEEE 802.11g TX

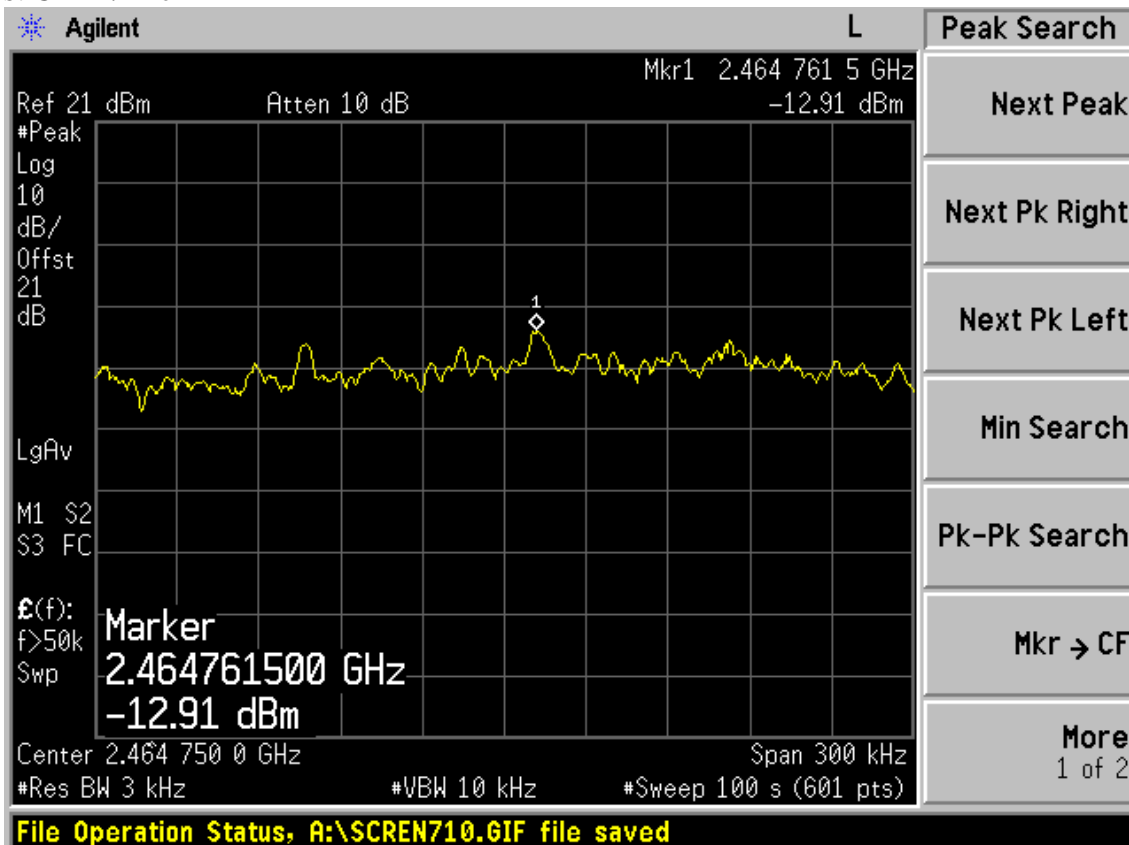
Test CH1: 2412MHz



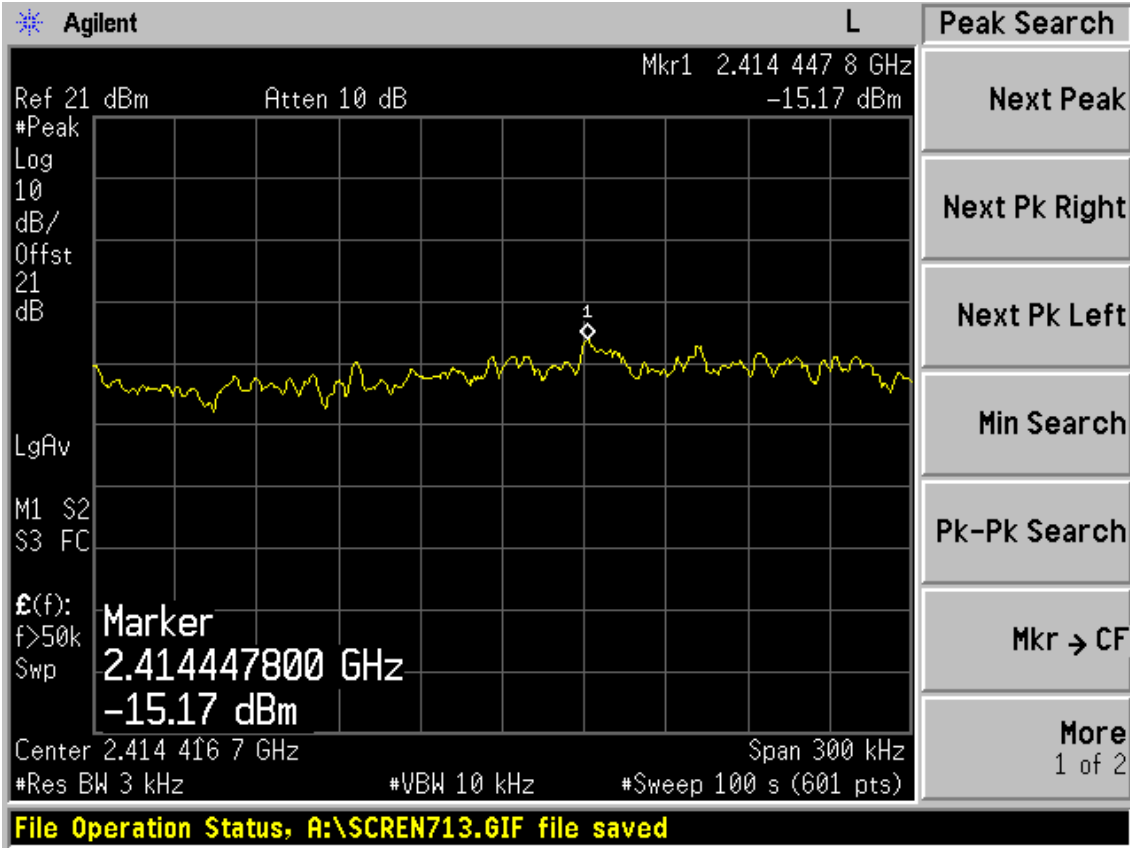
Test CH6: 2437MHz



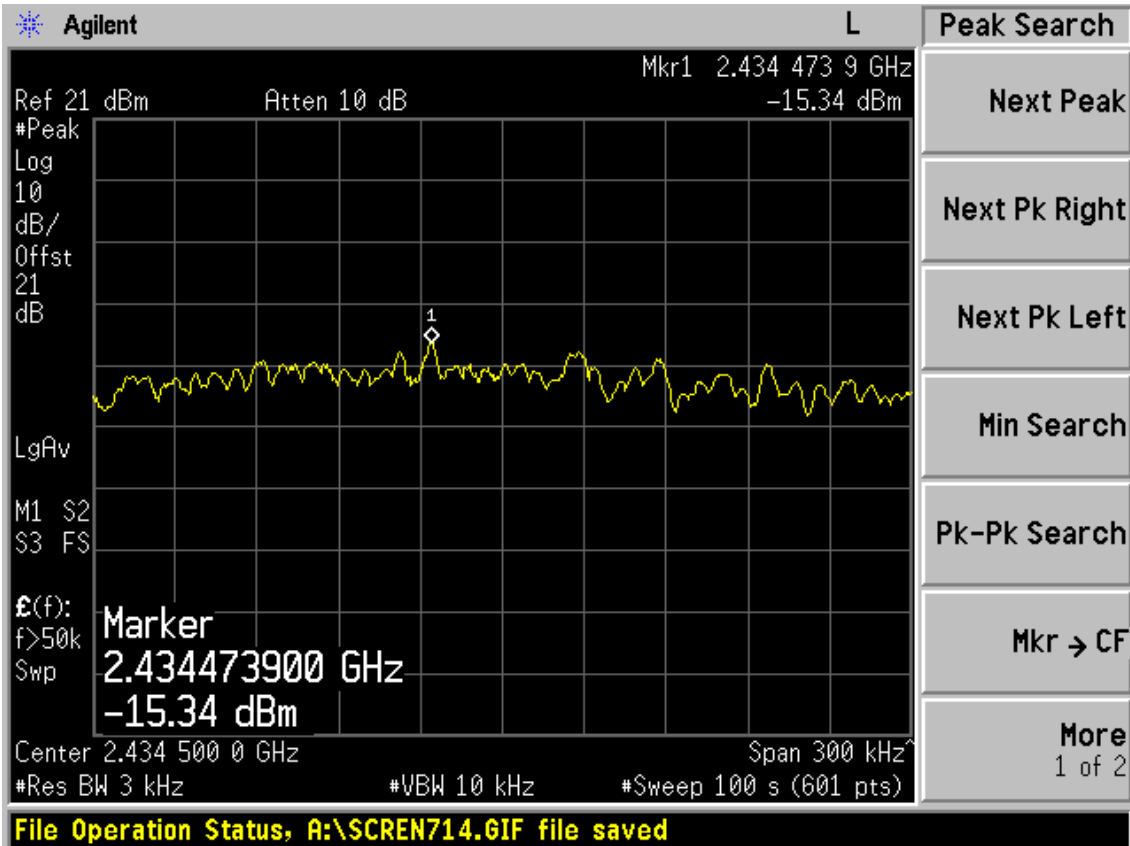
Test CH11: 2462MHz



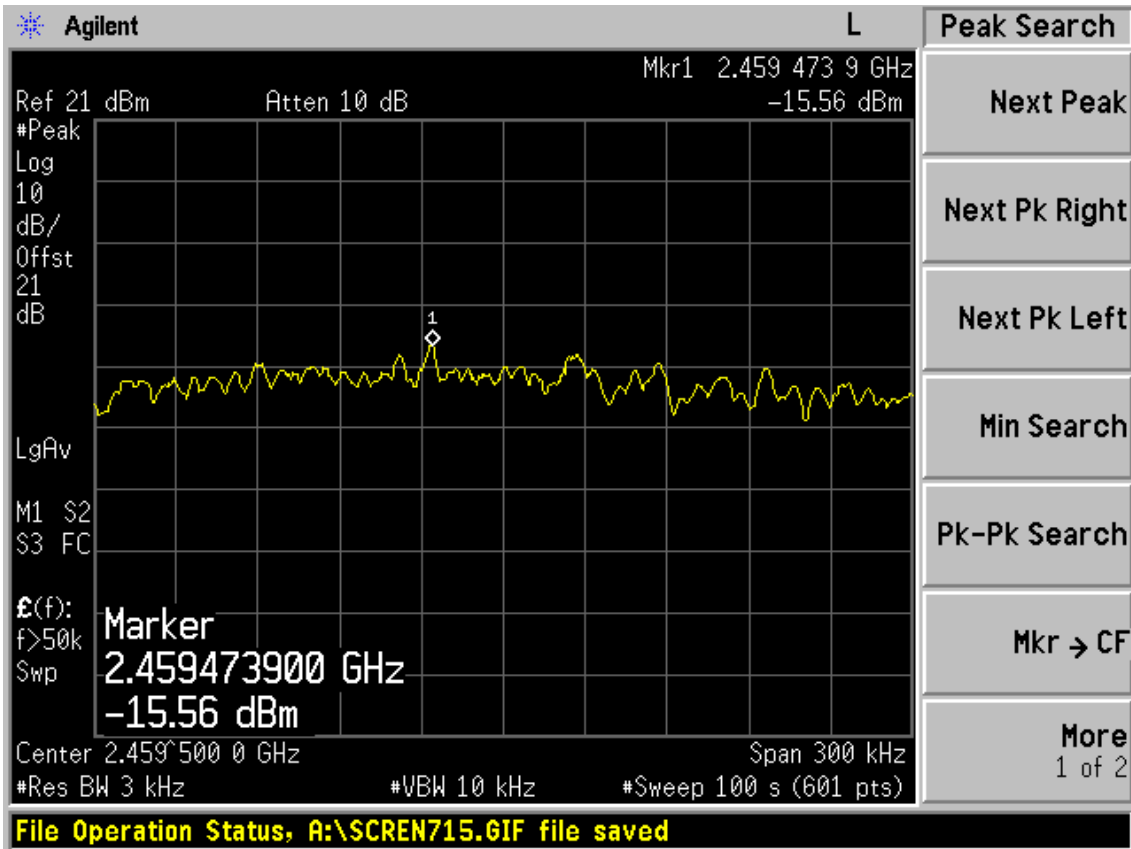
Test Mode: IEEE 802.11n HT20 TX
 Test CH1: 2412MHz



Test CH6: 2437MHz

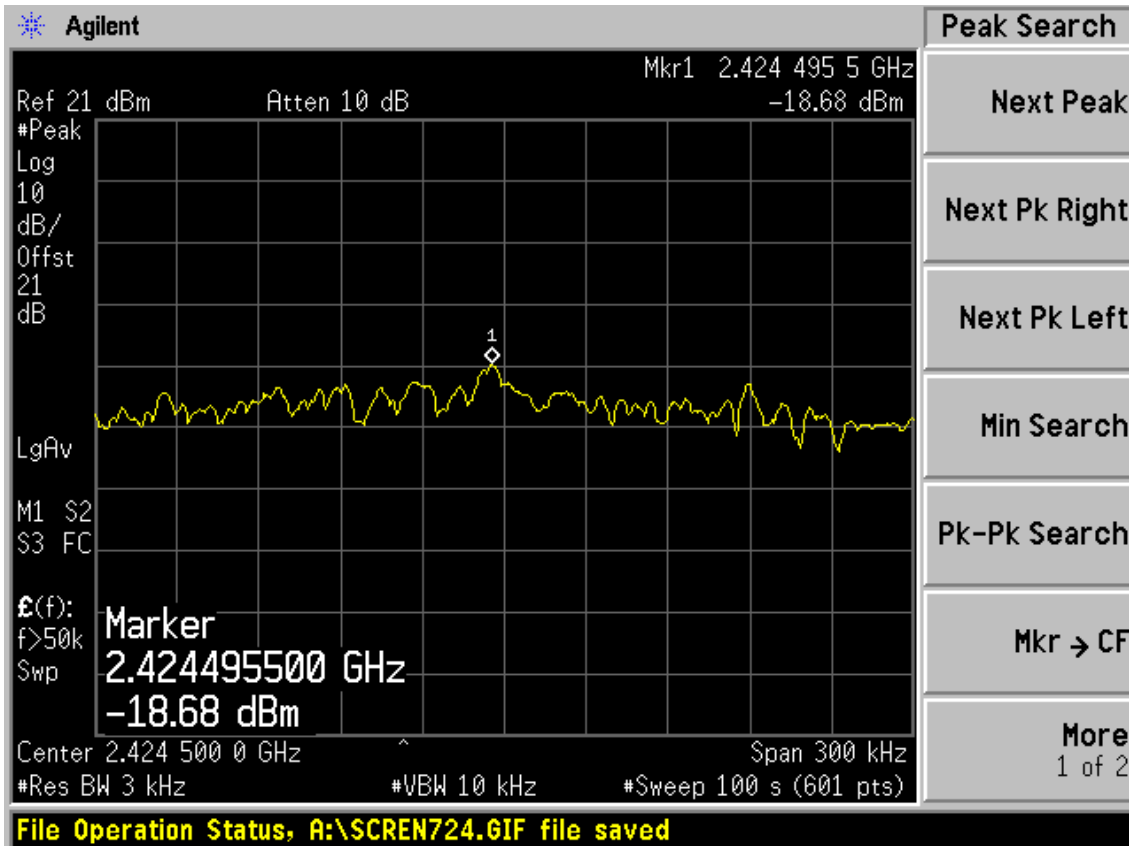


Test CH11: 2462MHz

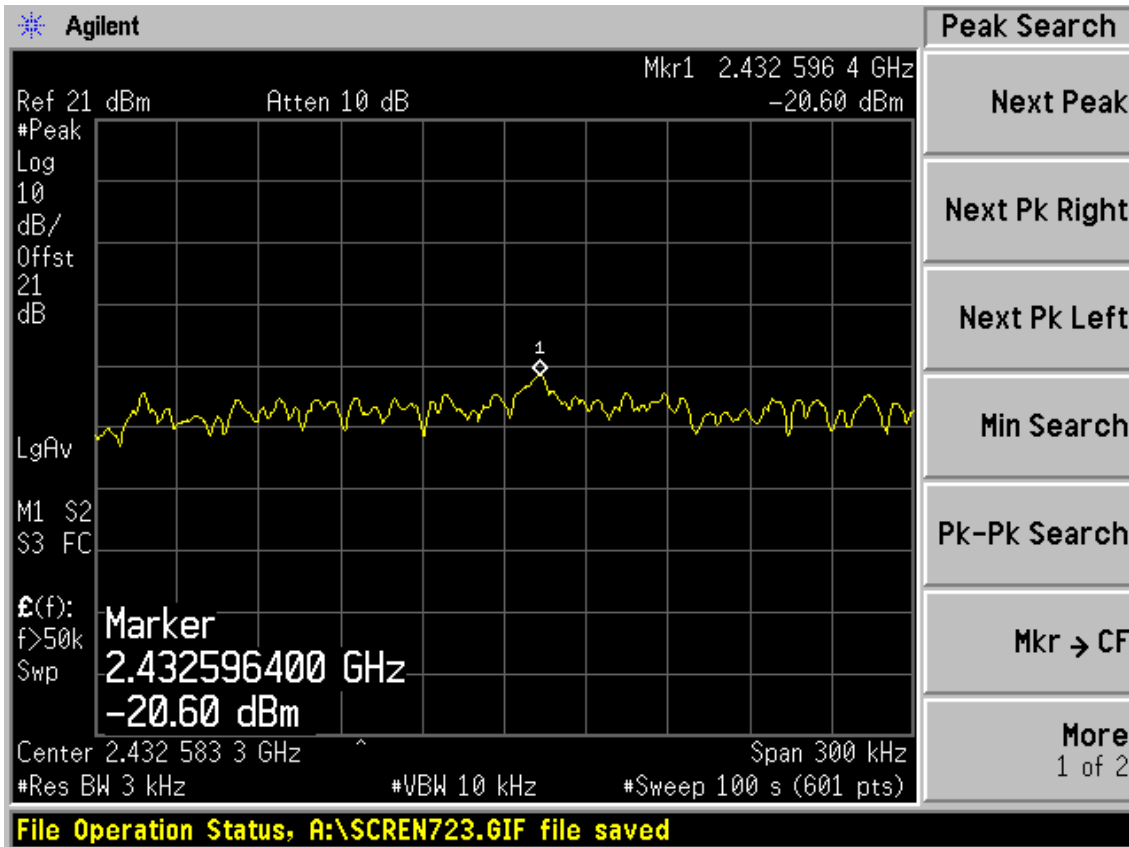


Test Mode: IEEE 802.11n HT40 TX

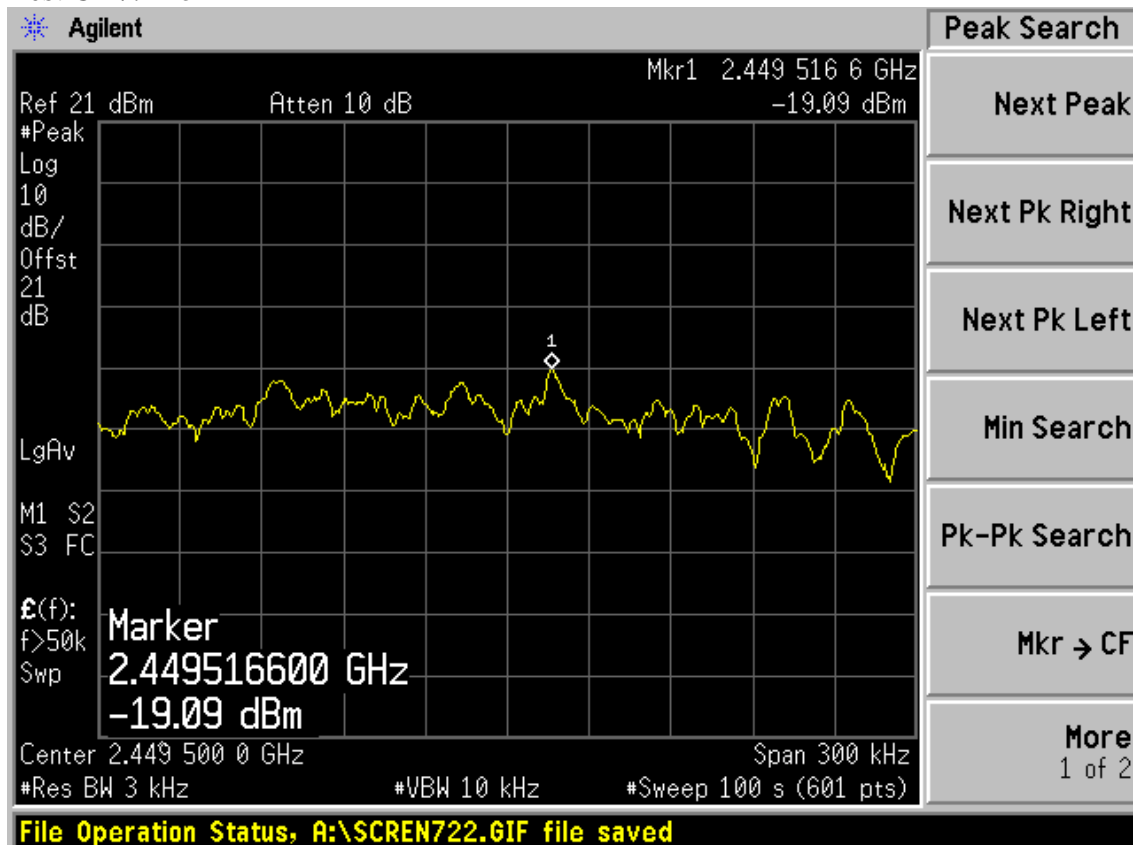
Test CH1: 2422MHz



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 MIMO 2X2 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 3dBi.

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: 300Mbps Wireless N Gigabit Router		
M/N: TL-WR1042ND		
Test date:2012-01-09	Pressure: 101.6 kpa	Humidity: 49.5%
Tested by: Leo-Li	Test site: RF Site	Temperature : 23.6°C

Cable loss: 1 dB		Attenuator loss: 20 dB				Antenna Gain: 3 dBi	
Test Mode	CH	Frequency (MHz)	Peak Output Power (dBm)	Output Power (mW)	Antenna Gain (dBi)	Antenna Gain (Linear)	MPE
11b	CH1	2412	18.84	76.56	3	2.00	0.0304
	CH6	2437	18.98	79.07	3	2.00	0.0314
	CH11	2462	19.25	84.14	3	2.00	0.0334
11g	CH1	2412	22.13	163.31	3	2.00	0.0649
	CH6	2437	22.35	171.79	3	2.00	0.0682
	CH11	2462	22.48	177.01	3	2.00	0.0703
11n HT20	CH1	2412	22.11	162.55	3	2.00	0.0646
	CH6	2437	22.08	161.44	3	2.00	0.0641
	CH11	2462	21.98	157.76	3	2.00	0.0627
11n HT40	CH1	2422	21.05	127.35	3	2.00	0.0506
	CH4	2437	21.12	129.42	3	2.00	0.0514
	CH7	2452	21.08	128.23	3	2.00	0.0509

Note: The estimation distance is 20cm

12.DEVIATION TO TEST SPECIFICATIONS

[NONE]