

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

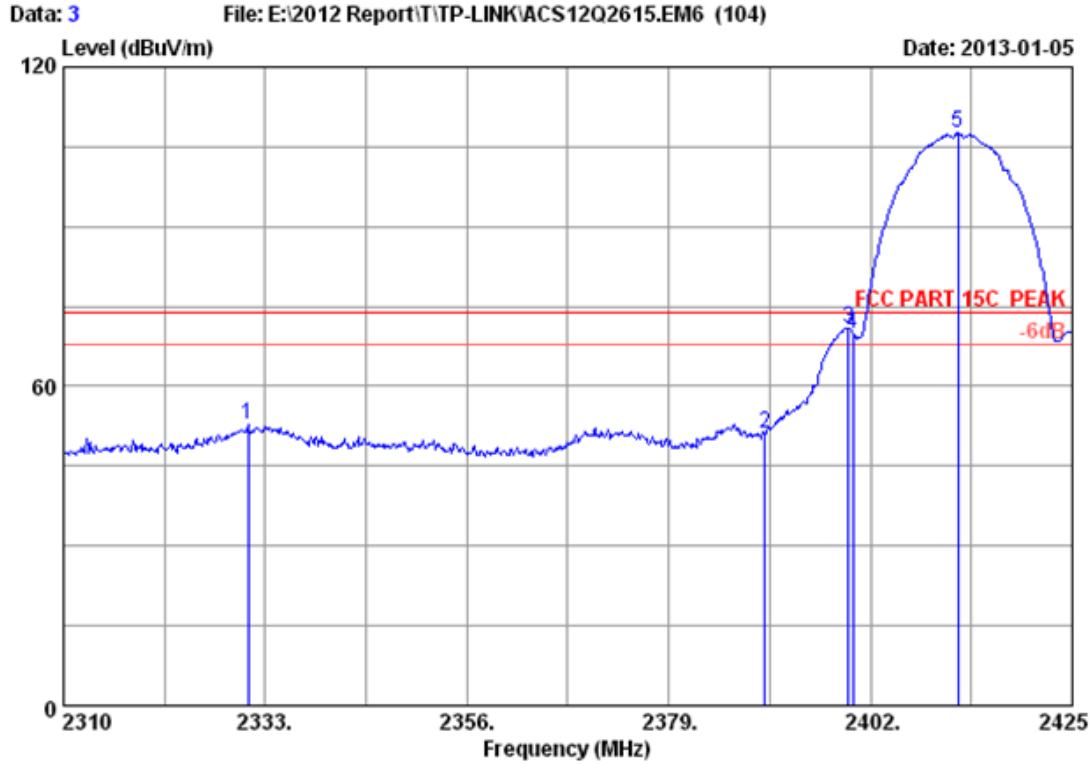
All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental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

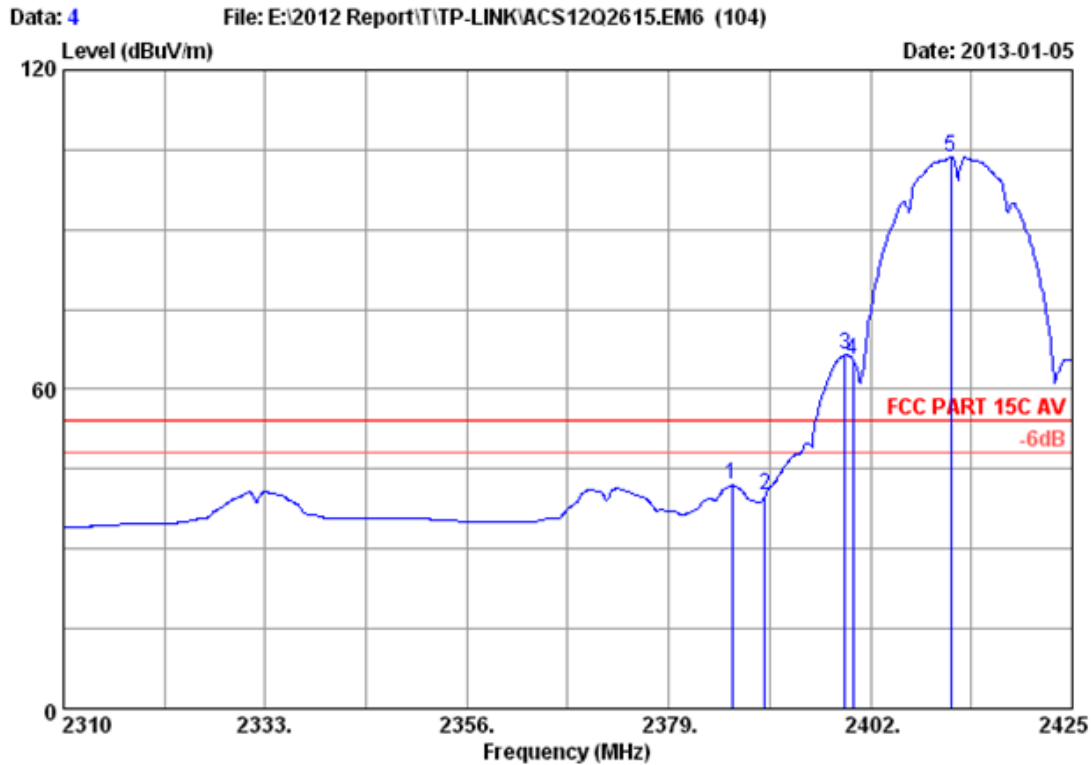


Site no. : 3m Chamber Data no. : 3
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11b CH1 2412MHz Tx
 M/N : TL-WN822N
 :

	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	2331.045	26.32	5.90	35.92	56.47	52.77	74.00	21.23	Peak
2	2390.000	26.70	6.00	35.92	54.43	51.21	74.00	22.79	Peak
3	2399.470	26.76	6.02	35.92	74.09	70.95	74.00	3.05	Peak
4	2400.000	26.76	6.02	35.92	72.85	69.71	74.00	4.29	Peak
5	2412.005	26.84	6.04	35.92	110.63	107.59	74.00	-33.59	Peak

Remarks:

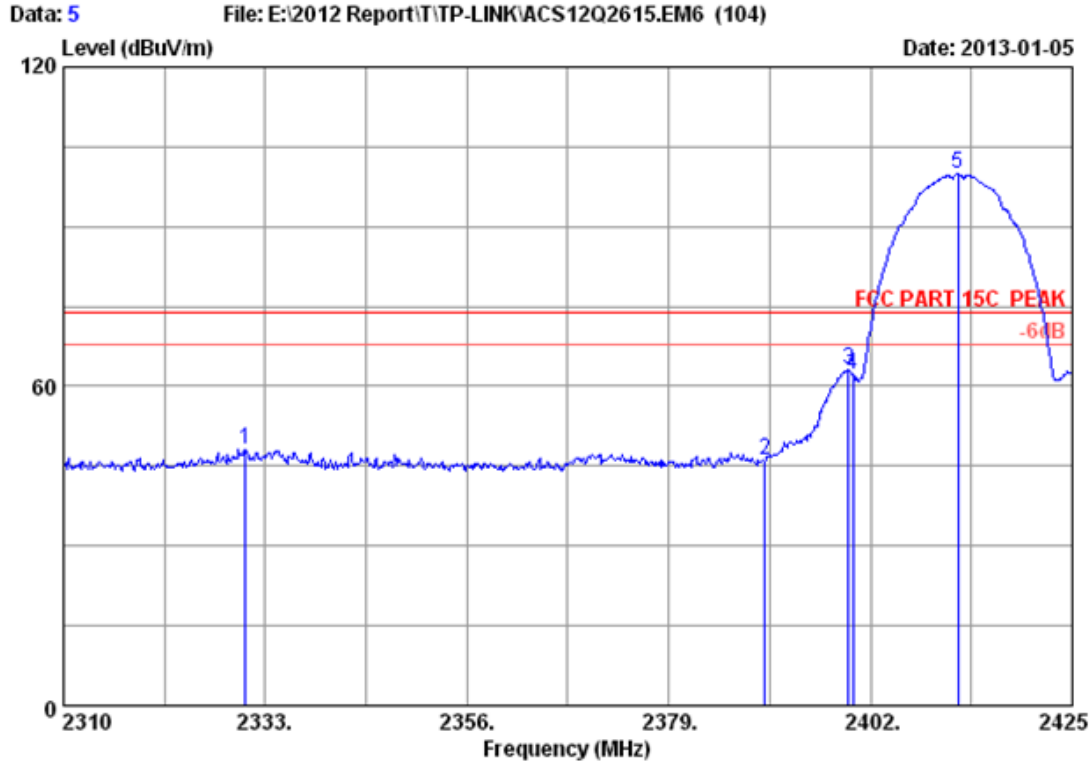
1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 4
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11b CH1 2412MHz Tx
 M/N : TL-WN822N
 :

	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	45.21	41.95	54.00	12.05	Average
2	2390.000	26.70	6.00	35.92	43.33	40.11	54.00	13.89	Average
3	2399.125	26.75	6.02	35.92	69.52	66.37	54.00	-12.37	Average
4	2400.000	26.76	6.02	35.92	68.52	65.38	54.00	-11.38	Average
5	2411.200	26.83	6.04	35.92	106.71	103.66	54.00	-49.66	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.

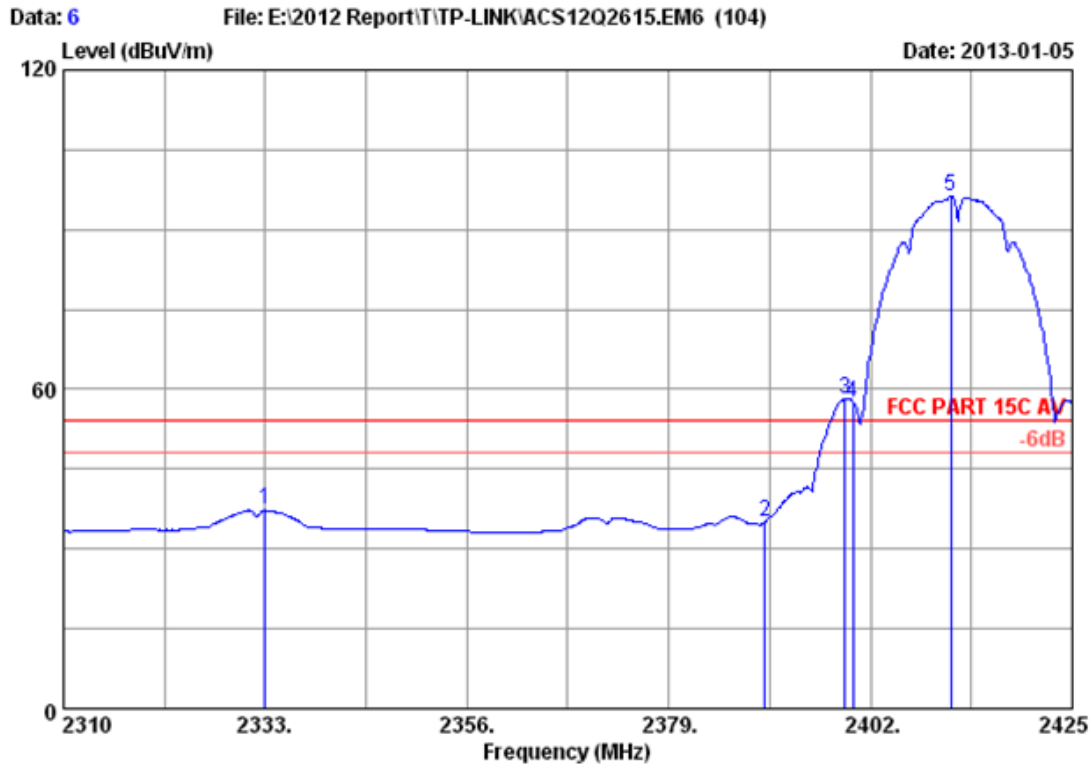


Site no. : 3m Chamber Data no. : 5
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11b CH1 2412MHz Tx
 M/N : TL-WN822N
 :

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2330.700	26.32	5.90	35.92	51.89	48.19	74.00	25.81	Peak
2	2390.000	26.70	6.00	35.92	49.51	46.29	74.00	27.71	Peak
3	2399.470	26.76	6.02	35.92	66.33	63.19	74.00	10.81	Peak
4	2400.000	26.76	6.02	35.92	65.30	62.16	74.00	11.84	Peak
5	2412.005	26.84	6.04	35.92	102.99	99.95	74.00	-25.95	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.

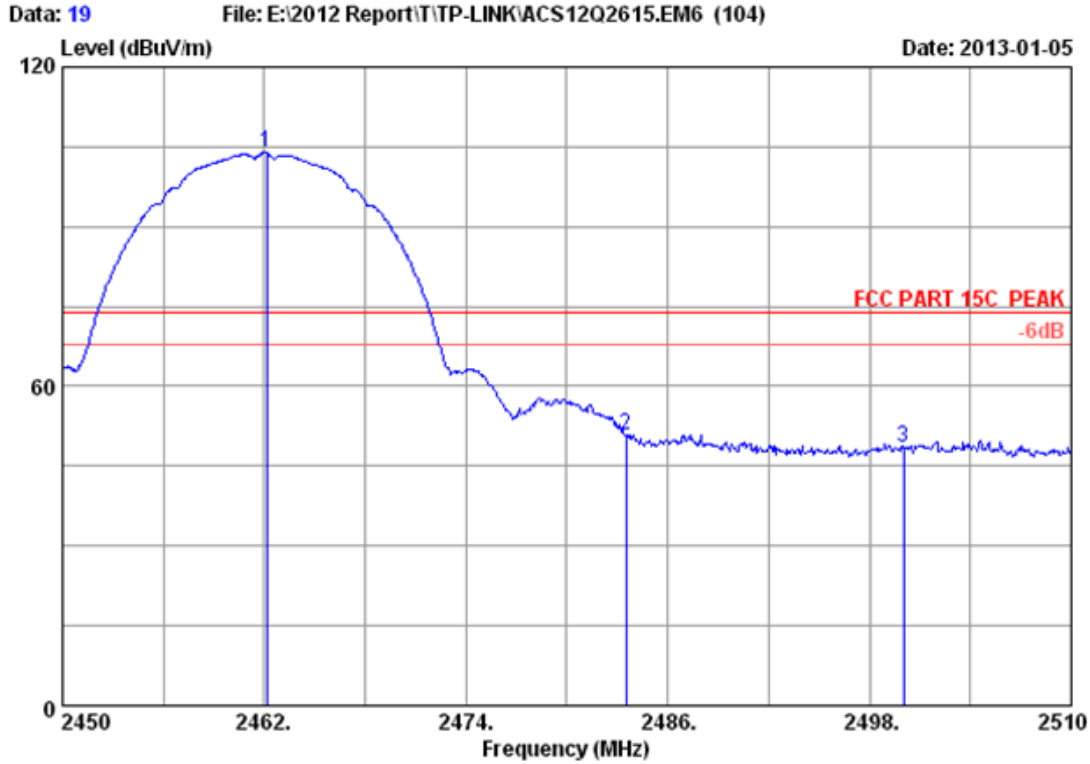


Site no. : 3m Chamber Data no. : 6
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11b CH1 2412MHz Tx
 M/N : TL-WN822N
 :

	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	2333.000	26.33	5.90	35.92	40.97	37.28	54.00	16.72	Average
2	2390.000	26.70	6.00	35.92	38.37	35.15	54.00	18.85	Average
3	2399.125	26.75	6.02	35.92	61.42	58.27	54.00	-4.27	Average
4	2400.000	26.76	6.02	35.92	60.56	57.42	54.00	-3.42	Average
5	2411.200	26.83	6.04	35.92	99.26	96.21	54.00	-42.21	Average

Remarks:

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

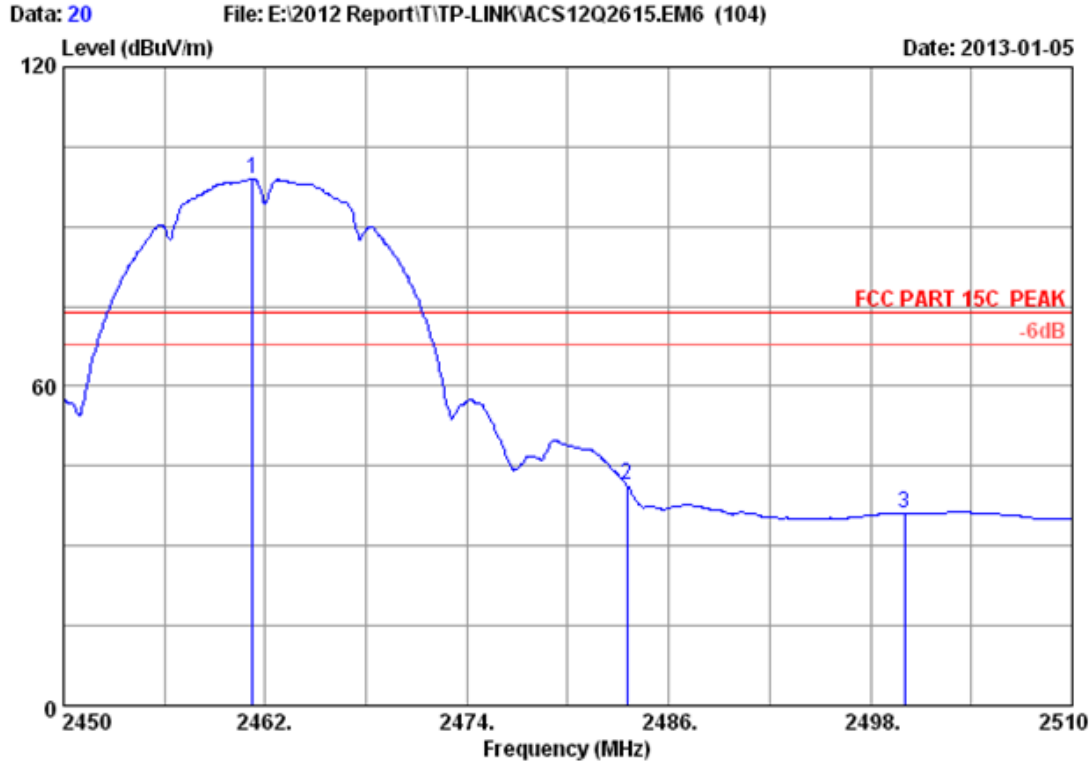


Site no. : 3m Chamber Data no. : 19
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11b CH11 2462MHz Tx
 M/N : TL-WN822N
 :

	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	27.16	6.12	35.92	106.50	103.86	74.00	-29.86	Peak
2	2483.500	27.29	6.16	35.92	53.16	50.69	74.00	23.31	Peak
3	2500.000	27.40	6.19	35.93	50.95	48.61	74.00	25.39	Peak

Remarks:

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

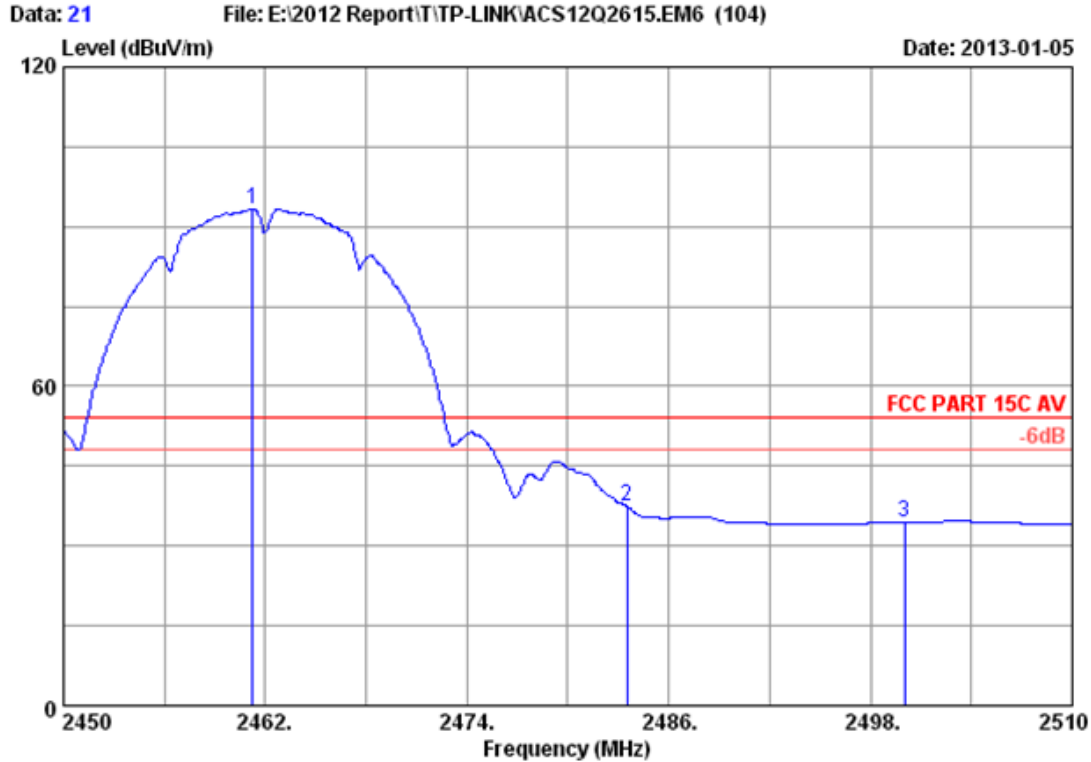


Site no. : 3m Chamber Data no. : 20
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11b CH11 2462MHz Tx
 M/N : TL-WN822N
 :

	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	101.71	99.06	74.00	-25.06	Peak
2	2483.500	27.29	6.16	35.92	43.92	41.45	74.00	32.55	Peak
3	2500.000	27.40	6.19	35.93	38.47	36.13	74.00	37.87	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.

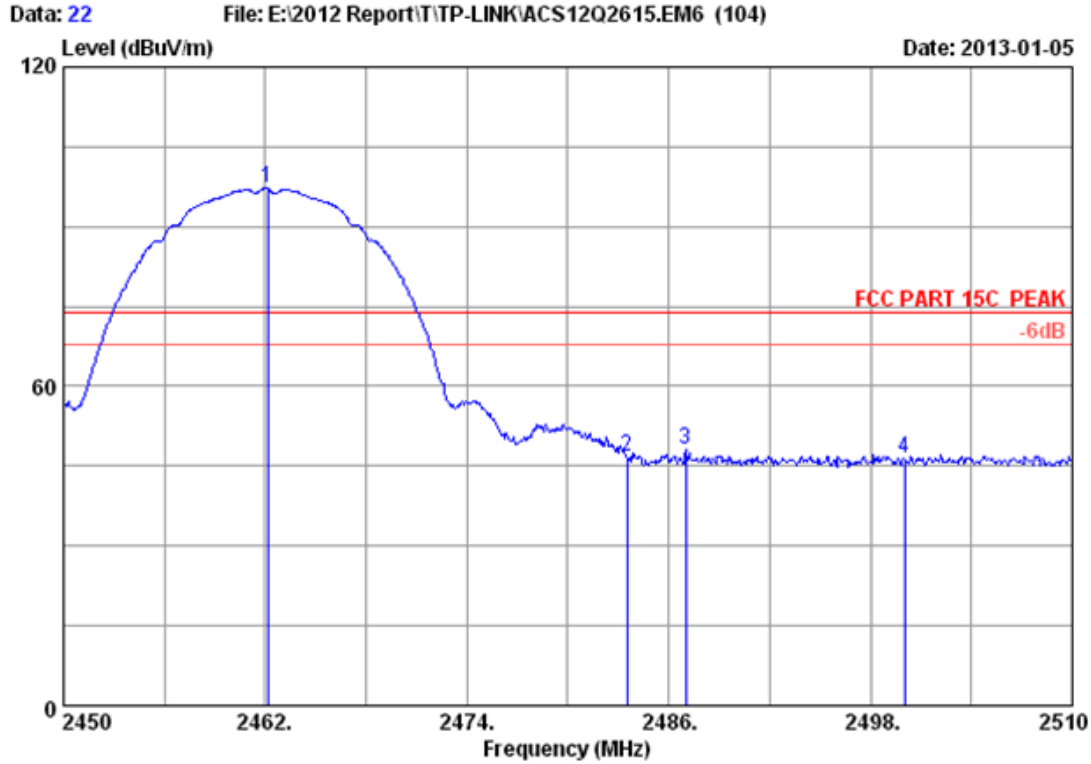


Site no. : 3m Chamber Data no. : 21
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11b CH11 2462MHz Tx
 M/N : TL-WN822N
 :

	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	96.06	93.41	54.00	-39.41	Average
2	2483.500	27.29	6.16	35.92	39.97	37.50	54.00	16.50	Average
3	2500.000	27.40	6.19	35.93	36.85	34.51	54.00	19.49	Average

Remarks:

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

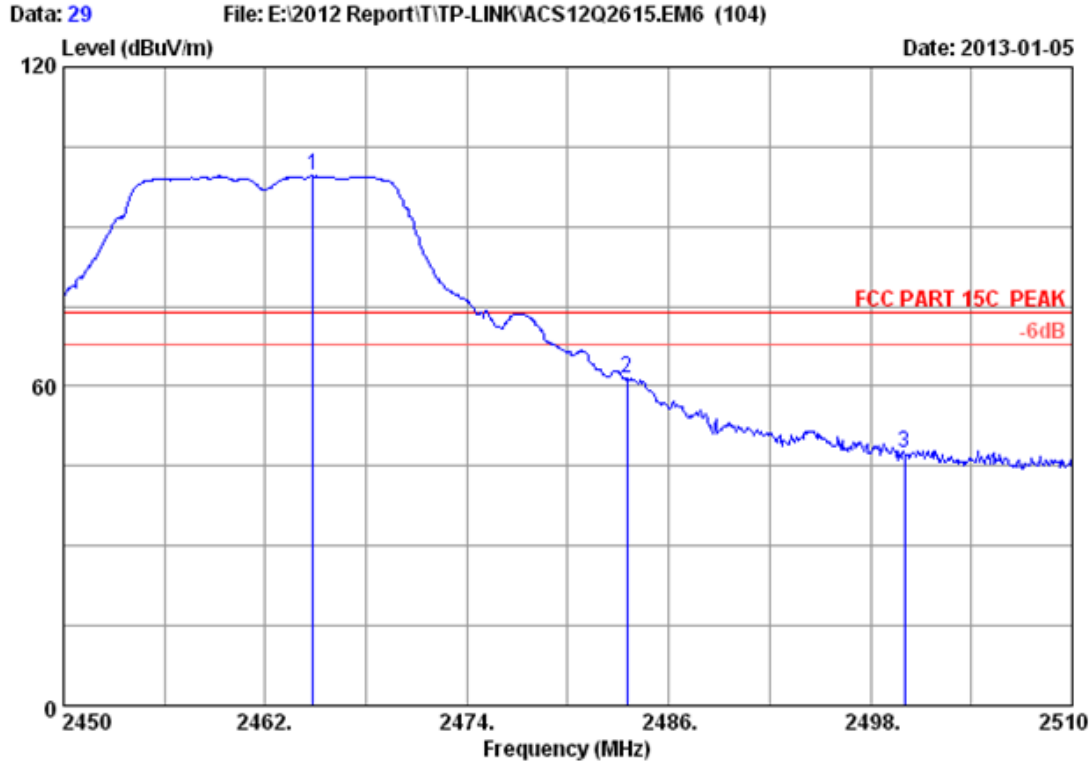


Site no. : 3m Chamber Data no. : 22
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11b CH11 2462MHz Tx
 M/N : TL-WN822N
 :

	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	27.16	6.12	35.92	100.01	97.37	74.00	-23.37	Peak
2	2483.500	27.29	6.16	35.92	49.17	46.70	74.00	27.30	Peak
3	2487.020	27.32	6.17	35.92	50.73	48.30	74.00	25.70	Peak
4	2500.000	27.40	6.19	35.93	48.87	46.53	74.00	27.47	Peak

Remarks:

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

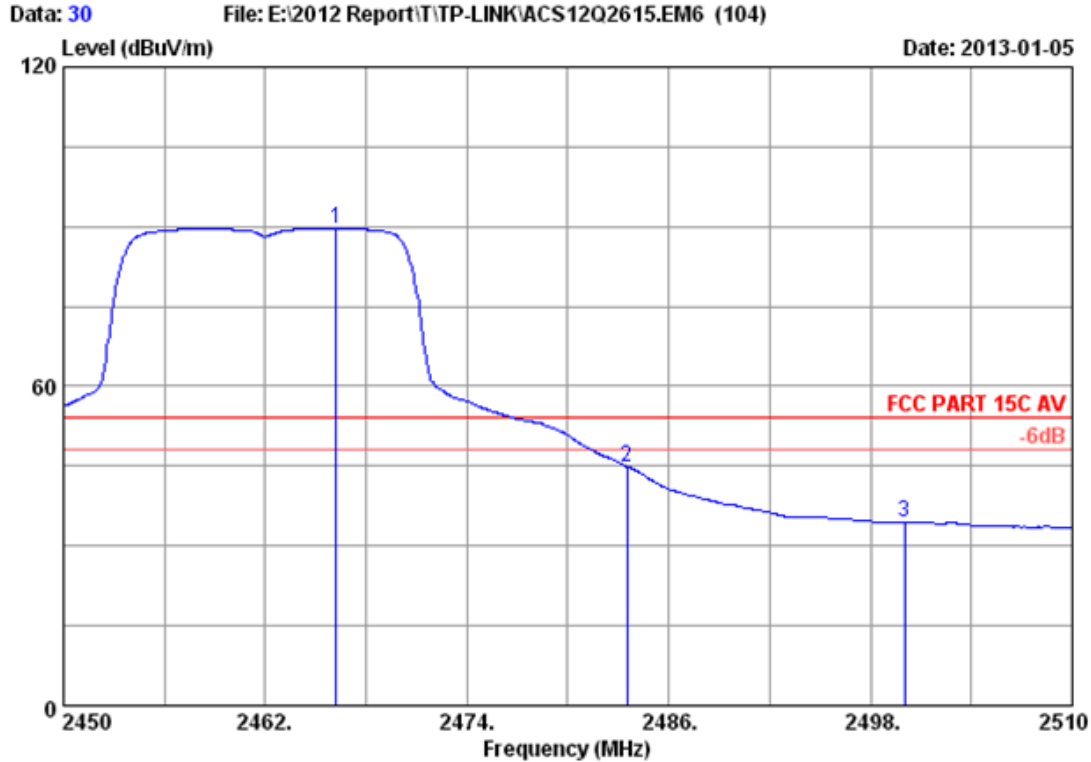


Site no. : 3m Chamber Data no. : 29
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11g CH11 2462MHz Tx
 M/N : TL-WN822N
 :

	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	2464.820	27.17	6.13	35.92	102.10	99.48	74.00	-25.48	Peak
2	2483.500	27.29	6.16	35.92	63.99	61.52	74.00	12.48	Peak
3	2500.000	27.40	6.19	35.93	49.97	47.63	74.00	26.37	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.

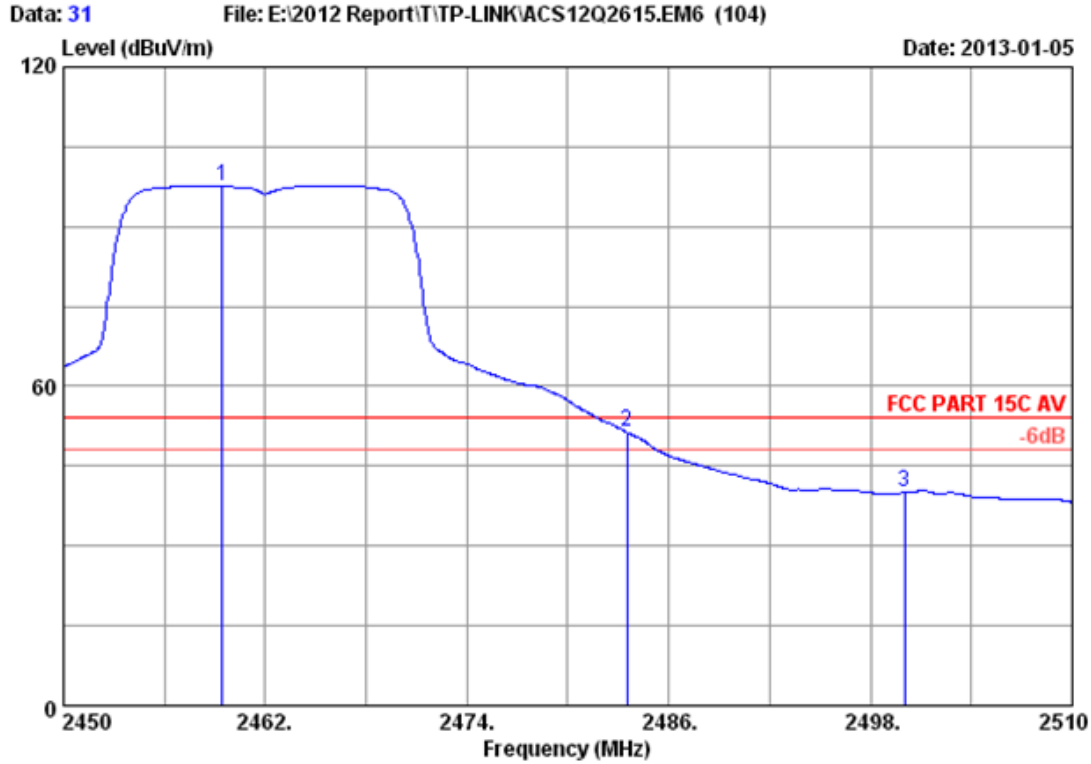


Site no. : 3m Chamber Data no. : 30
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11g CH11 2462MHz Tx
 M/N : TL-WN822N
 :

	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	2466.200	27.18	6.13	35.92	92.33	89.72	54.00	-35.72	Average
2	2483.500	27.29	6.16	35.92	47.43	44.96	54.00	9.04	Average
3	2500.000	27.40	6.19	35.93	36.79	34.45	54.00	19.55	Average

Remarks:

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

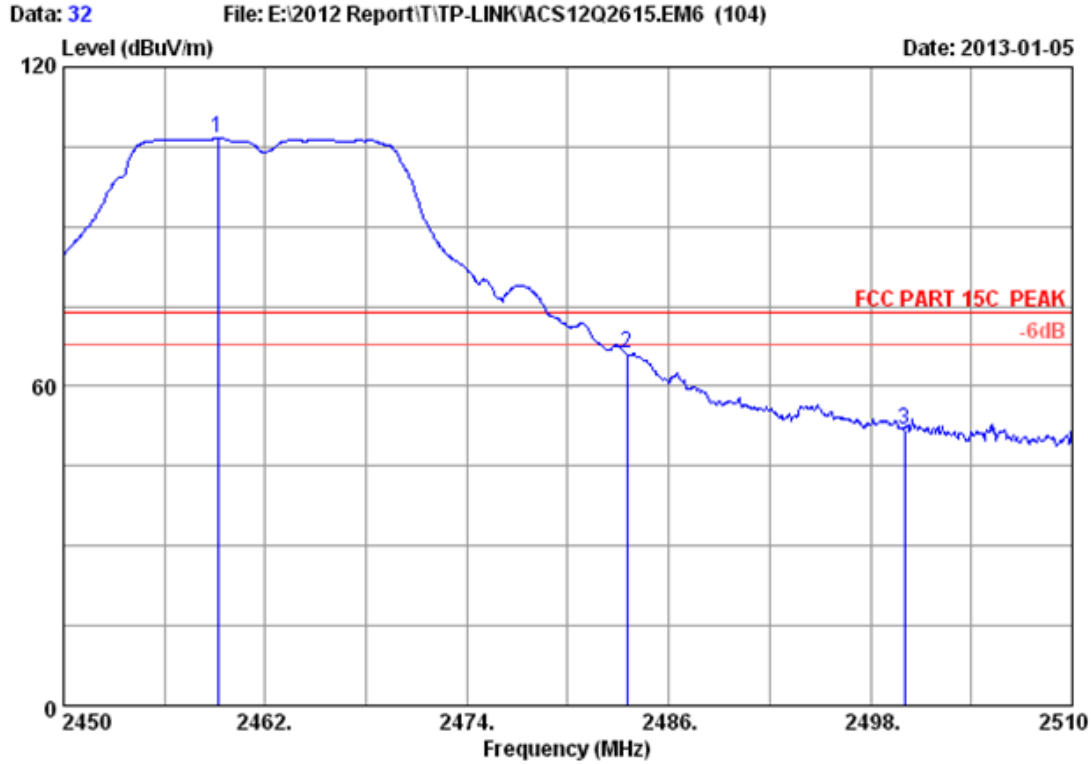


Site no. : 3m Chamber Data no. : 31
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11g CH11 2462MHz Tx
 M/N : TL-WN822N
 :

	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	2459.420	27.14	6.12	35.92	100.39	97.73	54.00	-43.73	Average
2	2483.500	27.29	6.16	35.92	53.79	51.32	54.00	2.68	Average
3	2500.000	27.40	6.19	35.93	42.31	39.97	54.00	14.03	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.

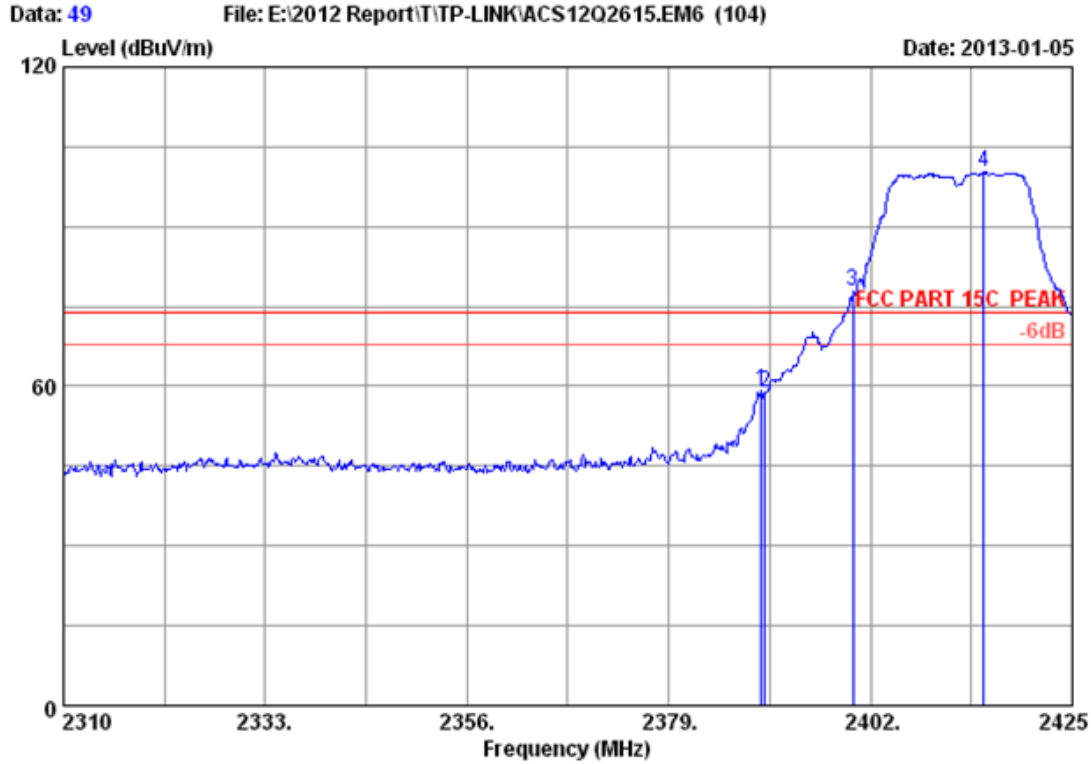


Site no. : 3m Chamber Data no. : 32
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11g CH11 2462MHz Tx
 M/N : TL-WN822N
 :

	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	2459.180	27.14	6.12	35.92	109.24	106.58	74.00	-32.58	Peak
2	2483.500	27.29	6.16	35.92	68.51	66.04	74.00	7.96	Peak
3	2500.000	27.40	6.19	35.93	54.22	51.88	74.00	22.12	Peak

Remarks:

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

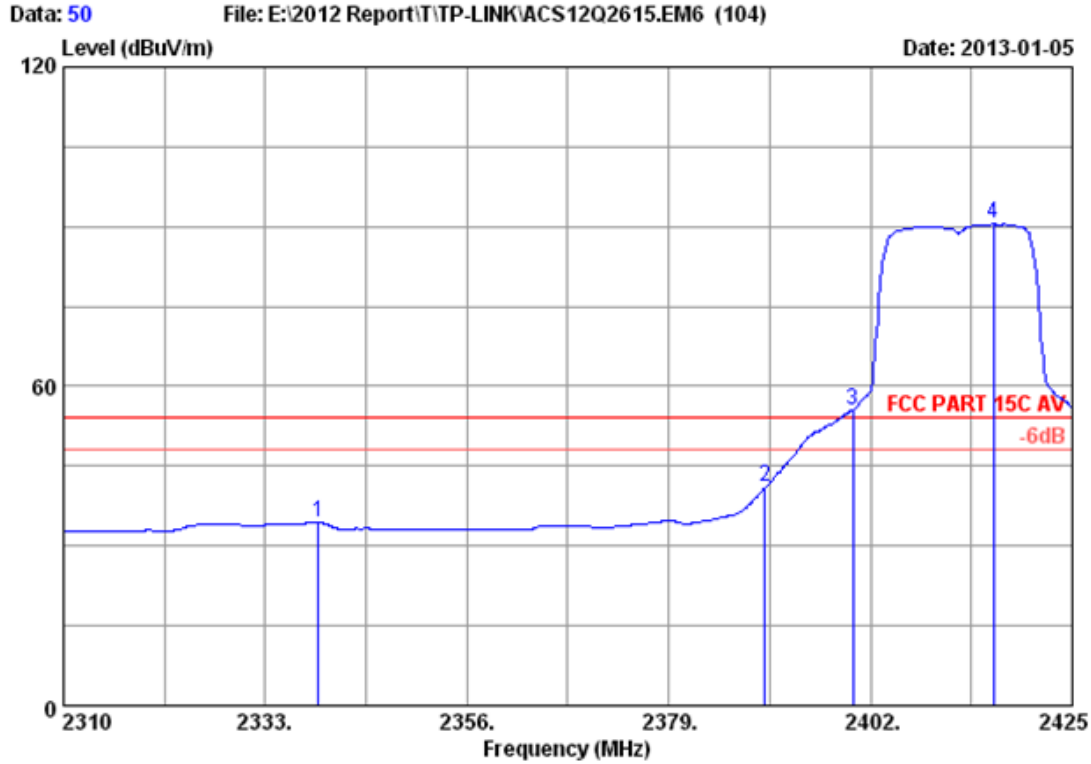


Site no. : 3m Chamber Data no. : 49
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11g CH1 2412MHz Tx
 M/N : TL-WN822N
 :

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2389.580	26.69	6.00	35.92	62.33	59.10	74.00	14.90	Peak
2	2390.000	26.70	6.00	35.92	62.02	58.80	74.00	15.20	Peak
3	2400.000	26.76	6.02	35.92	80.86	77.72	74.00	-3.72	Peak
4	2414.880	26.86	6.04	35.92	103.36	100.34	74.00	-26.34	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.

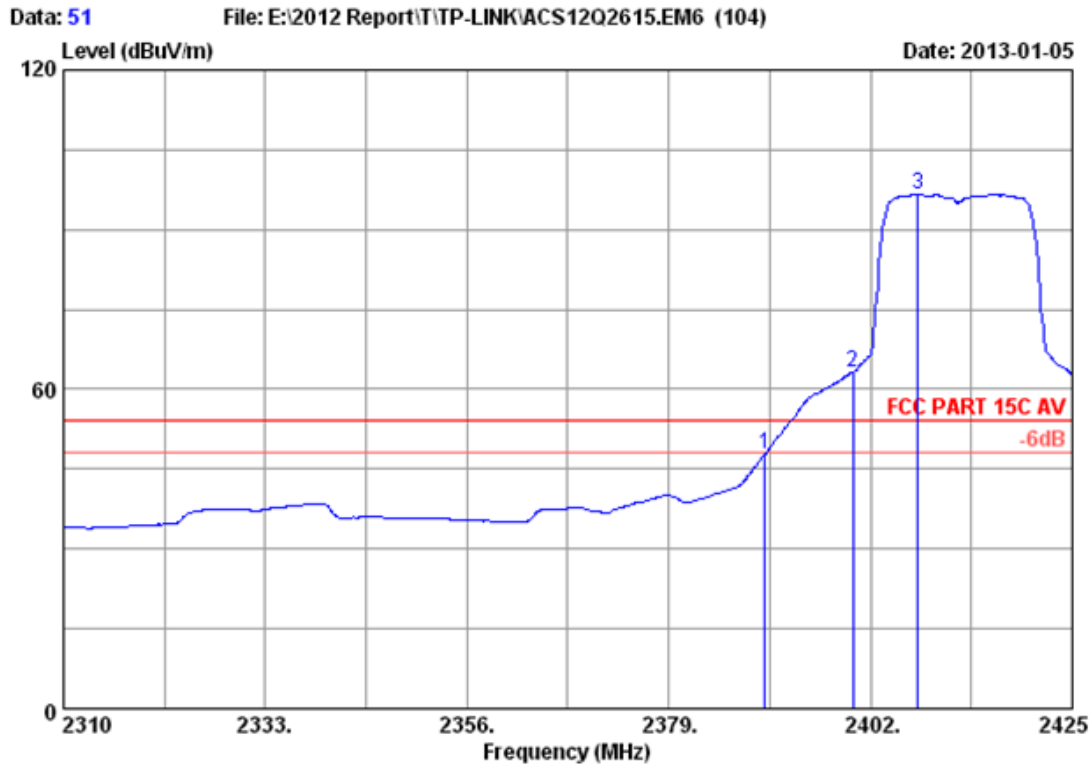


Site no. : 3m Chamber Data no. : 50
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23*C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11g CH1 2412MHz Tx
 M/N : TL-WN822N
 :

	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	2339.095	26.37	5.91	35.92	38.00	34.36	54.00	19.64	Average
2	2390.000	26.70	6.00	35.92	44.21	40.99	54.00	13.01	Average
3	2400.000	26.76	6.02	35.92	58.79	55.65	54.00	-1.65	Average
4	2416.030	26.86	6.04	35.92	93.45	90.43	54.00	-36.43	Average

Remarks:

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

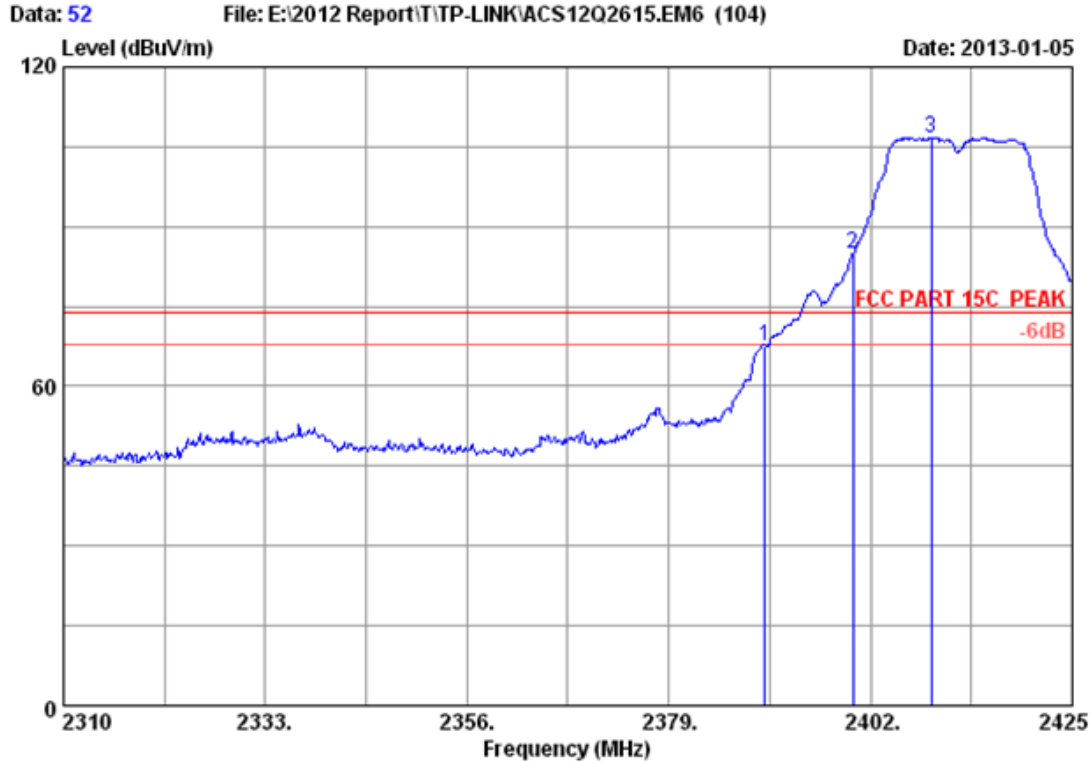


Site no. : 3m Chamber Data no. : 51
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11g CH1 2412MHz Tx
 M/N : TL-WN822N
 :

	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	51.18	47.96	54.00	6.04	Average
2	2400.000	26.76	6.02	35.92	66.40	63.26	54.00	-9.26	Average
3	2407.405	26.81	6.03	35.92	99.63	96.55	54.00	-42.55	Average

Remarks:

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

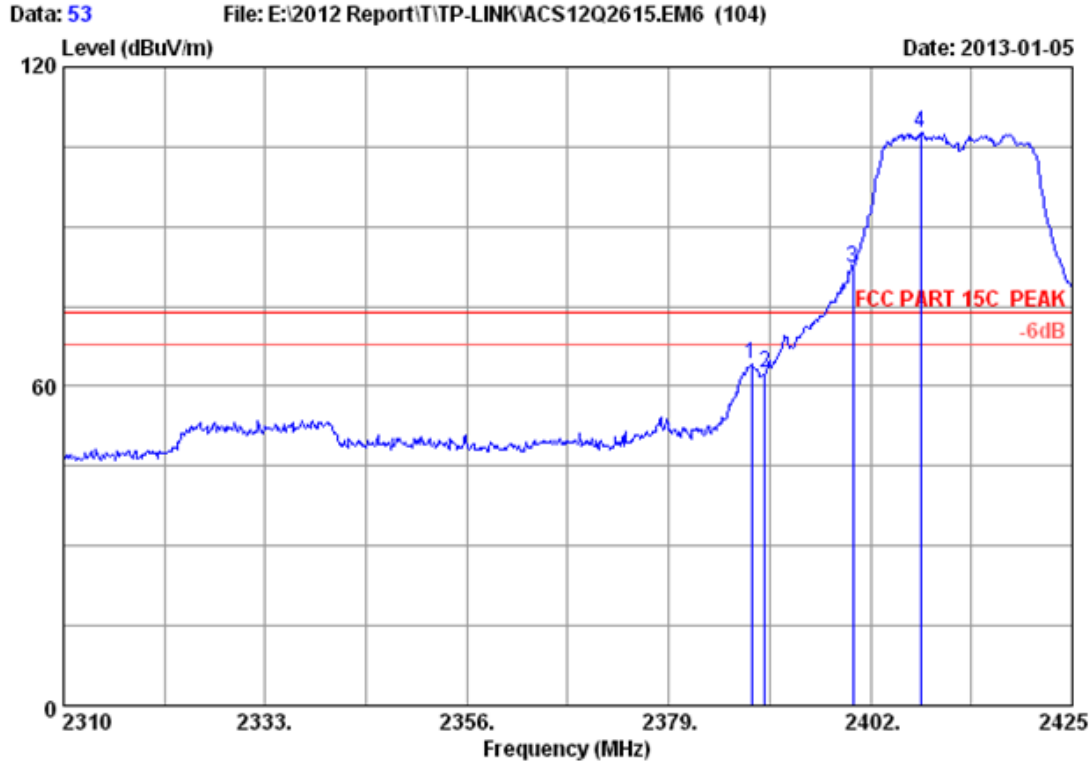


Site no. : 3m Chamber Data no. : 52
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11g CH1 2412MHz Tx
 M/N : TL-WN822N
 :

	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	70.88	67.66	74.00	6.34	Peak
2	2400.000	26.76	6.02	35.92	88.14	85.00	74.00	-11.00	Peak
3	2408.900	26.82	6.03	35.92	109.81	106.74	74.00	-32.74	Peak

Remarks:

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

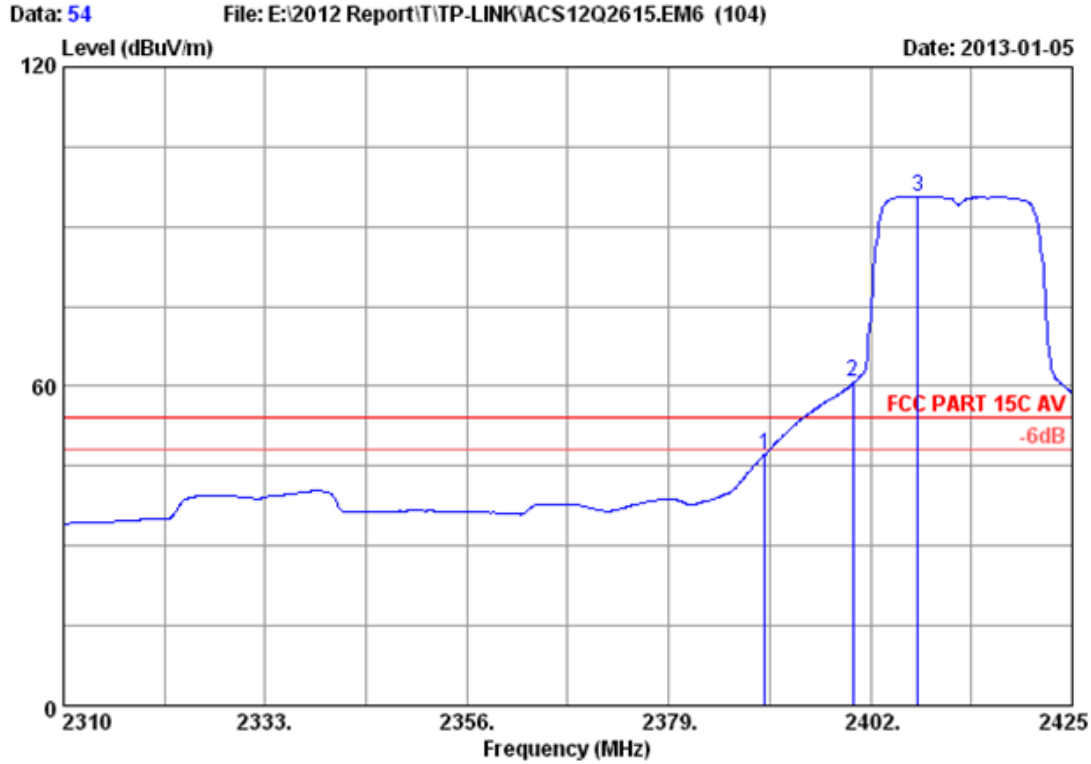


Site no. : 3m Chamber Data no. : 53
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11nHT20 CH1 2412MHz Tx
 M/N : TL-WN822N
 :

	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	2388.430	26.69	6.00	35.92	67.47	64.24	74.00	9.76	Peak
2	2390.000	26.70	6.00	35.92	65.68	62.46	74.00	11.54	Peak
3	2400.000	26.76	6.02	35.92	85.45	82.31	74.00	-8.31	Peak
4	2407.750	26.81	6.03	35.92	110.83	107.75	74.00	-33.75	Peak

Remarks:

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

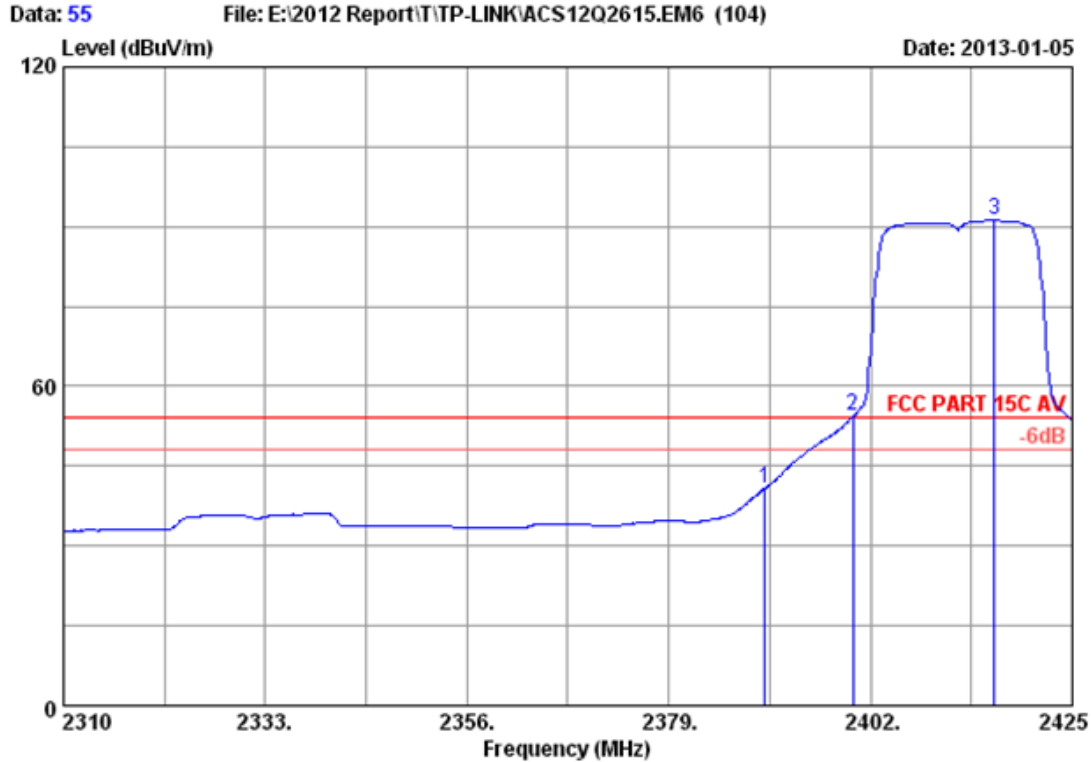


Site no. : 3m Chamber Data no. : 54
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11nHT20 CH1 2412MHz Tx
 M/N : TL-WN822N
 :

	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	50.50	47.28	54.00	6.72	Average
2	2400.000	26.76	6.02	35.92	63.82	60.68	54.00	-6.68	Average
3	2407.405	26.81	6.03	35.92	98.78	95.70	54.00	-41.70	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.

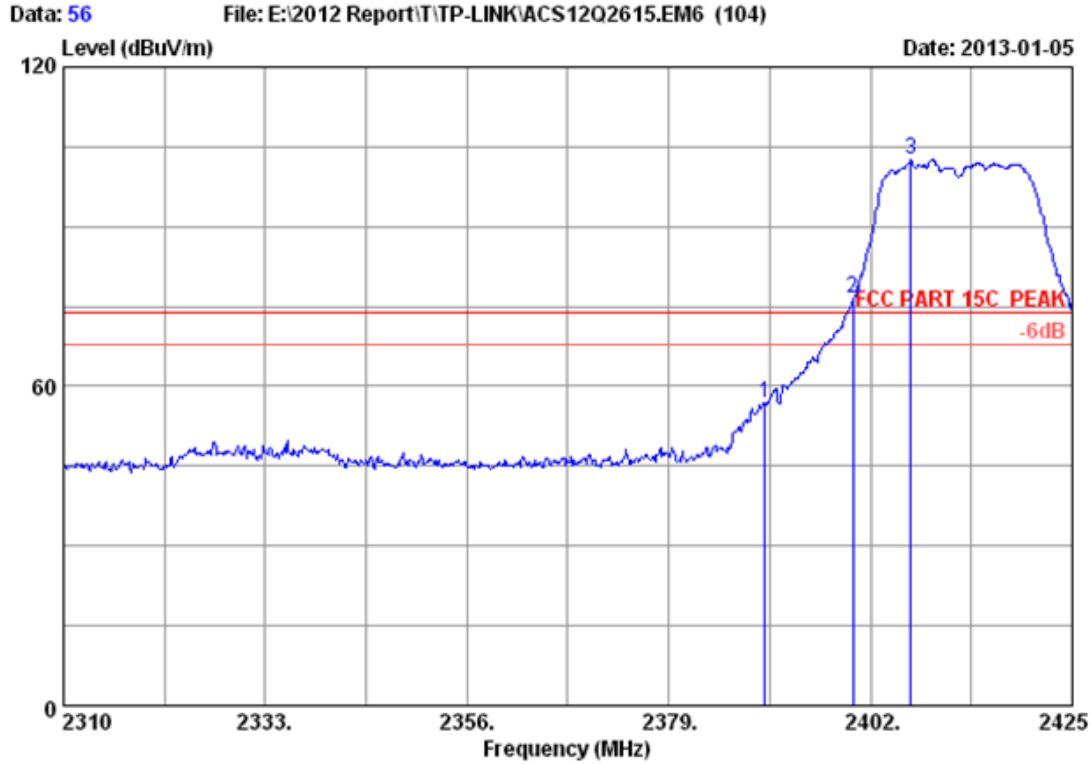


Site no. : 3m Chamber Data no. : 55
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11nHT20 CH1 2412MHz Tx
 M/N : TL-WN822N
 :

	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	44.12	40.90	54.00	13.10	Average
2	2400.000	26.76	6.02	35.92	57.61	54.47	54.00	-0.47	Average
3	2416.145	26.86	6.04	35.92	94.26	91.24	54.00	-37.24	Average

Remarks:

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

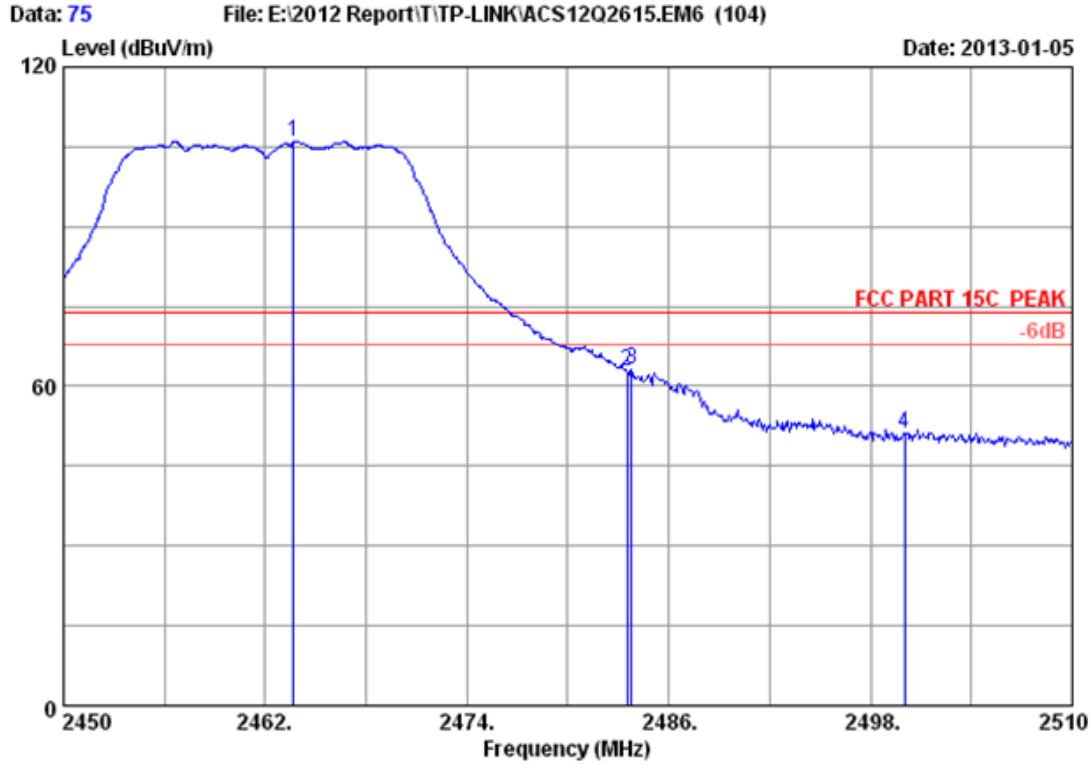


Site no. : 3m Chamber Data no. : 56
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11nHT20 CH1 2412MHz Tx
 M/N : TL-WN822N
 :

	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	59.97	56.75	74.00	17.25	Peak
2	2400.000	26.76	6.02	35.92	79.75	76.61	74.00	-2.61	Peak
3	2406.600	26.80	6.03	35.92	105.81	102.72	74.00	-28.72	Peak

Remarks:

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

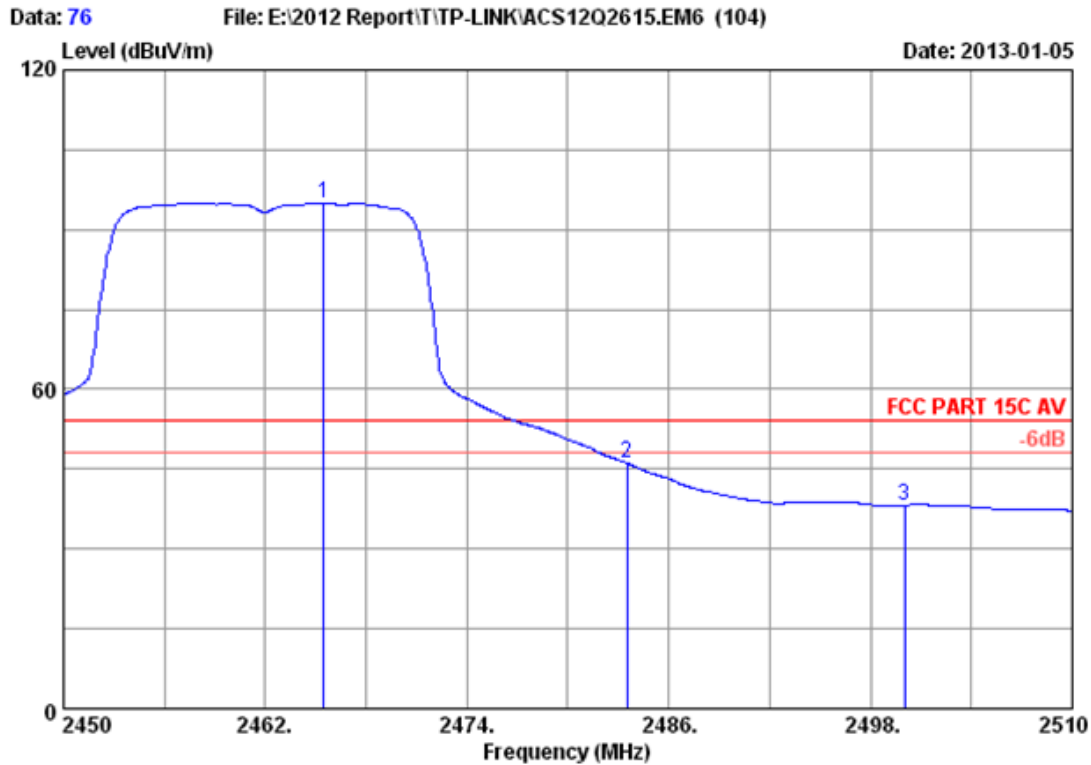


Site no. : 3m Chamber Data no. : 75
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11nHT20 CH11 2462MHz Tx
 M/N : TL-WN822N
 :

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2463.680	27.17	6.13	35.92	108.51	105.89	74.00	-31.89	Peak
2	2483.500	27.29	6.16	35.92	65.46	62.99	74.00	11.01	Peak
3	2483.780	27.30	6.16	35.92	65.75	63.29	74.00	10.71	Peak
4	2500.000	27.40	6.19	35.93	53.64	51.30	74.00	22.70	Peak

Remarks:

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

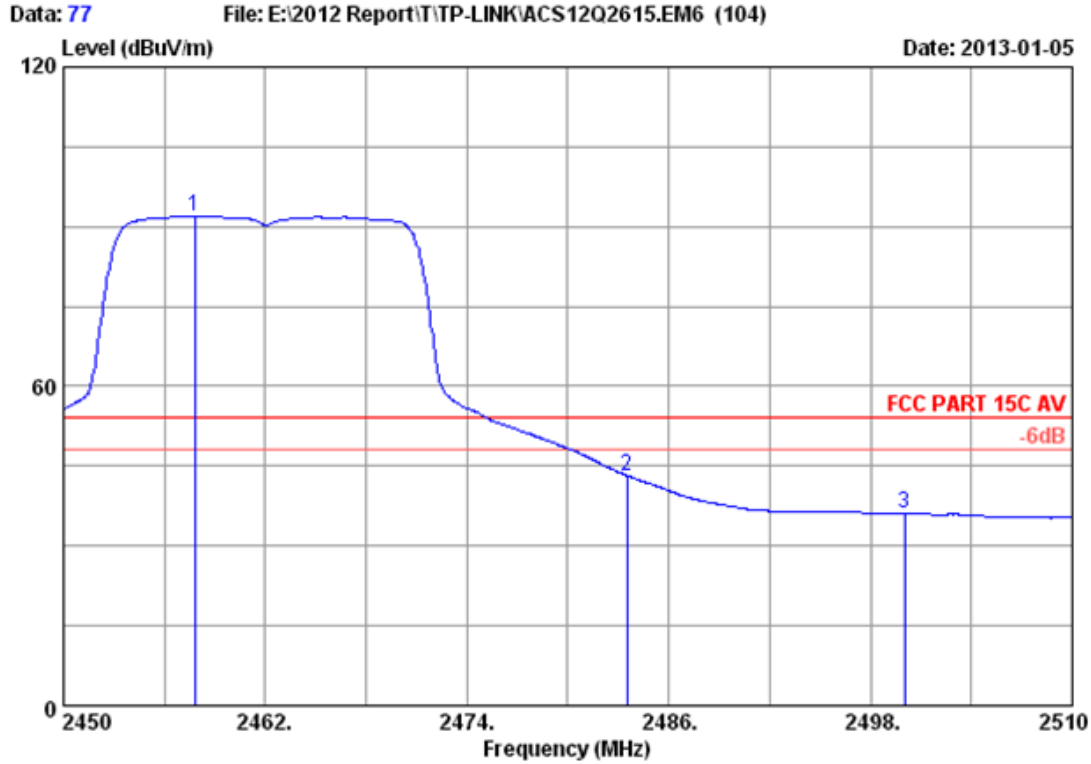


Site no. : 3m Chamber Data no. : 76
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11nHT20 CH11 2462MHz Tx
 M/N : TL-WN822N
 :

	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	2465.480	27.18	6.13	35.92	97.62	95.01	54.00	-41.01	Average
2	2483.500	27.29	6.16	35.92	48.60	46.13	54.00	7.87	Average
3	2500.000	27.40	6.19	35.93	40.55	38.21	54.00	15.79	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.

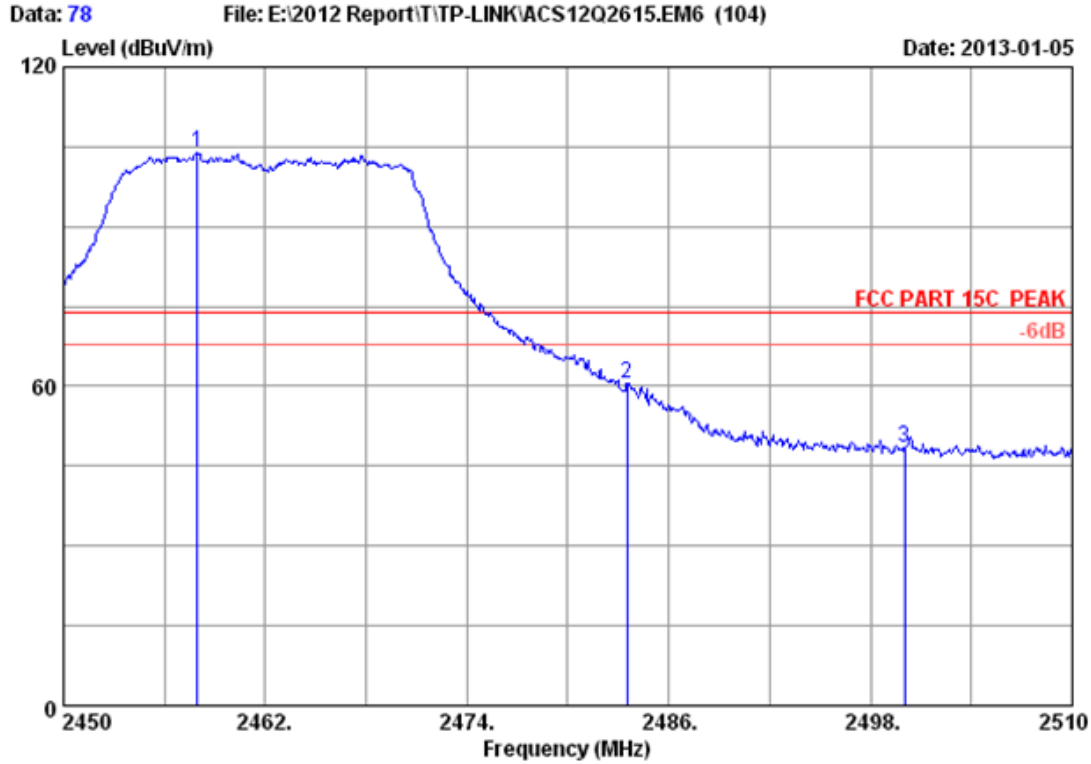


Site no. : 3m Chamber Data no. : 77
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11nHT20 CH11 2462MHz Tx
 M/N : TL-WN822N
 :

	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	2457.800	27.13	6.12	35.92	94.54	91.87	54.00	-37.87	Average
2	2483.500	27.29	6.16	35.92	45.75	43.28	54.00	10.72	Average
3	2500.000	27.40	6.19	35.93	38.42	36.08	54.00	17.92	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.

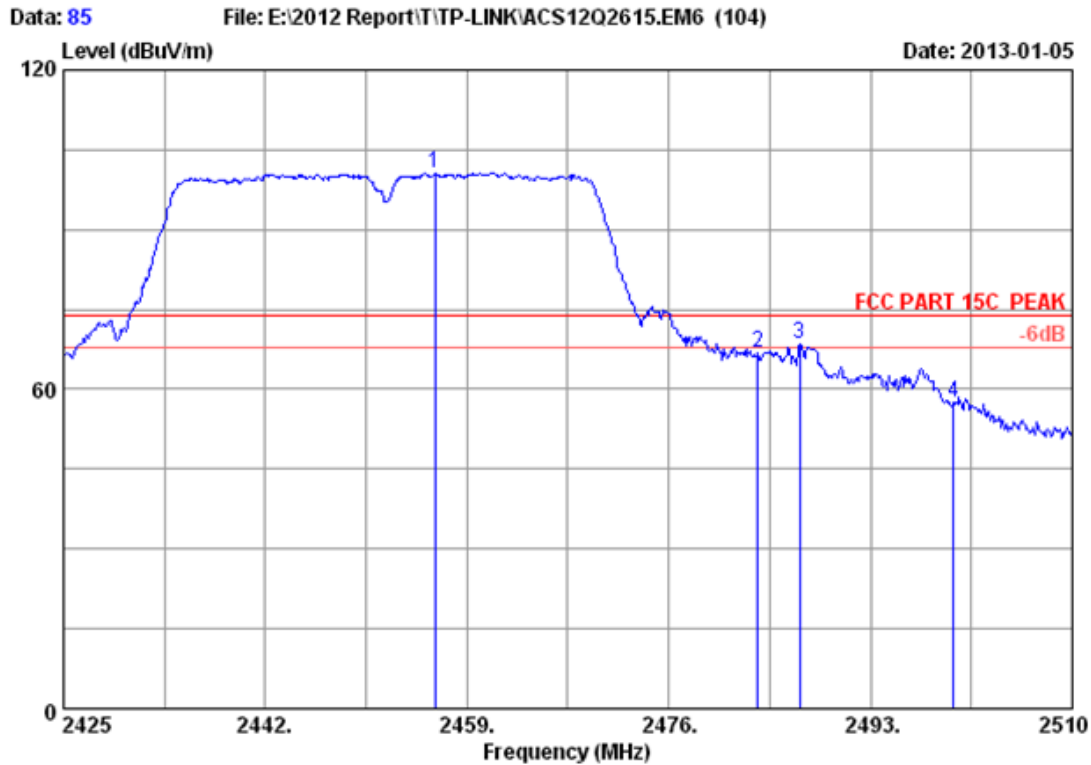


Site no. : 3m Chamber Data no. : 78
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11nHT20 CH11 2462MHz Tx
 M/N : TL-WN822N
 :

	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	2457.980	27.13	6.12	35.92	106.62	103.95	74.00	-29.95	Peak
2	2483.500	27.29	6.16	35.92	62.96	60.49	74.00	13.51	Peak
3	2500.000	27.40	6.19	35.93	50.80	48.46	74.00	25.54	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.

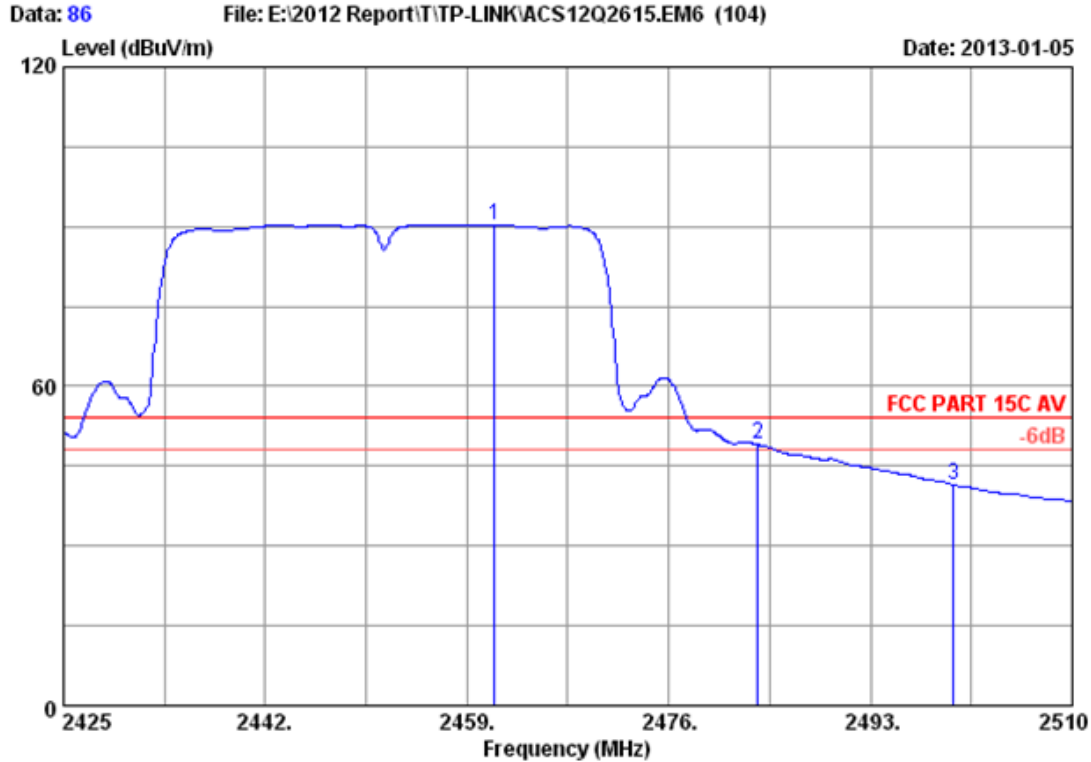


Site no. : 3m Chamber Data no. : 85
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11nHT40 CH7 2452MHz Tx
 M/N : TL-WN822N
 :

	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	2456.280	27.12	6.11	35.92	103.27	100.58	74.00	-26.58	Peak
2	2483.500	27.29	6.16	35.92	69.26	66.79	74.00	7.21	Peak
3	2487.050	27.32	6.17	35.92	71.06	68.63	74.00	5.37	Peak
4	2500.000	27.40	6.19	35.93	59.90	57.56	74.00	16.44	Peak

Remarks:

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

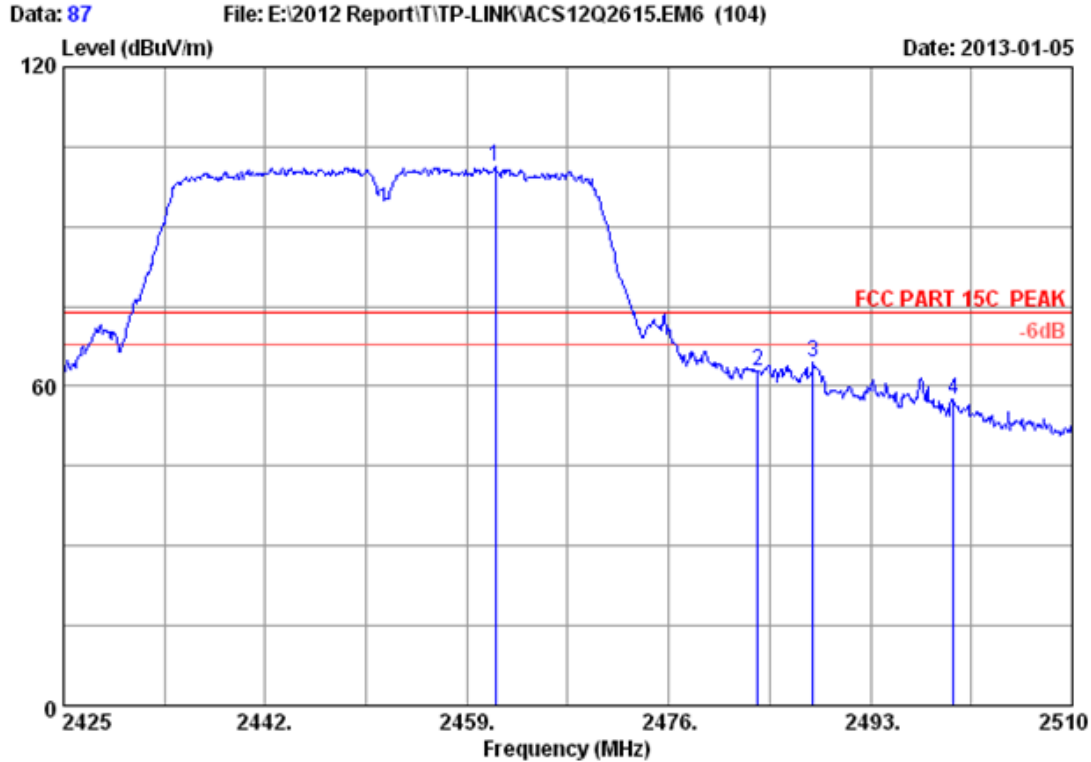


Site no. : 3m Chamber Data no. : 86
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11nHT40 CH7 2452MHz Tx
 M/N : TL-WN822N
 :

	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	2461.295	27.15	6.12	35.92	93.04	90.39	54.00	-36.39	Average
2	2483.500	27.29	6.16	35.92	51.48	49.01	54.00	4.99	Average
3	2500.000	27.40	6.19	35.93	43.84	41.50	54.00	12.50	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.

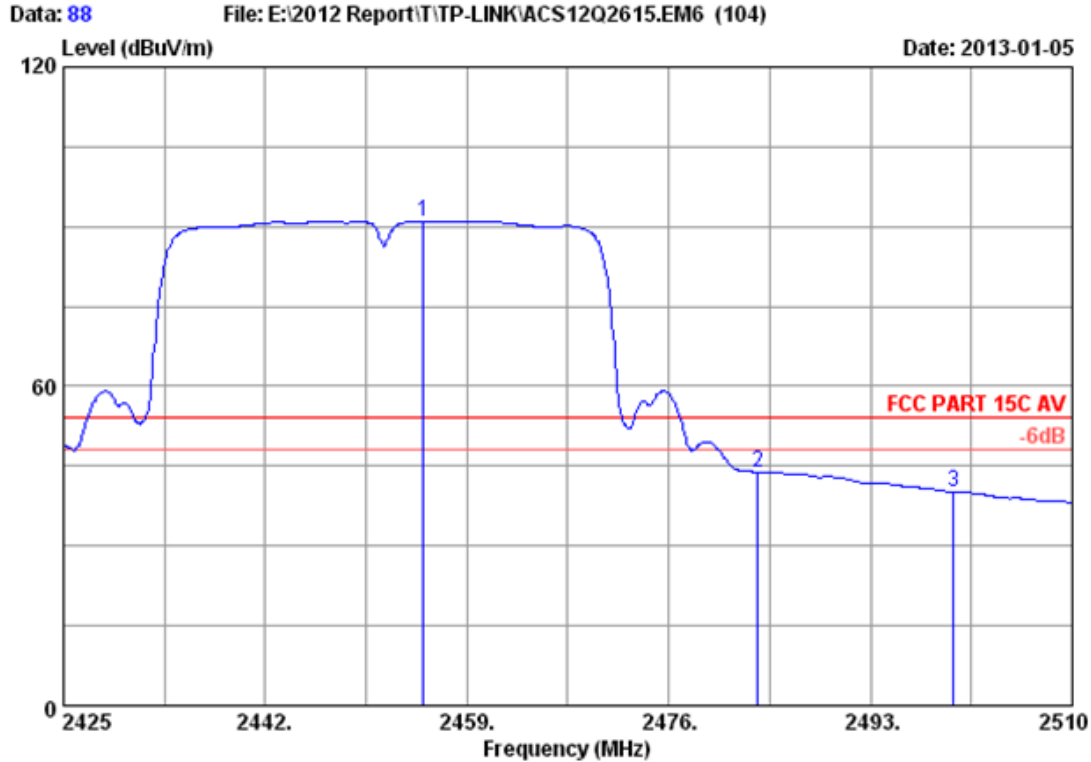


Site no. : 3m Chamber Data no. : 87
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11nHT40 CH7 2452MHz Tx
 M/N : TL-WN822N
 :

	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	2461.380	27.15	6.12	35.92	103.82	101.17	74.00	-27.17	Peak
2	2483.500	27.29	6.16	35.92	65.33	62.86	74.00	11.14	Peak
3	2488.155	27.32	6.17	35.92	66.80	64.37	74.00	9.63	Peak
4	2500.000	27.40	6.19	35.93	59.72	57.38	74.00	16.62	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.

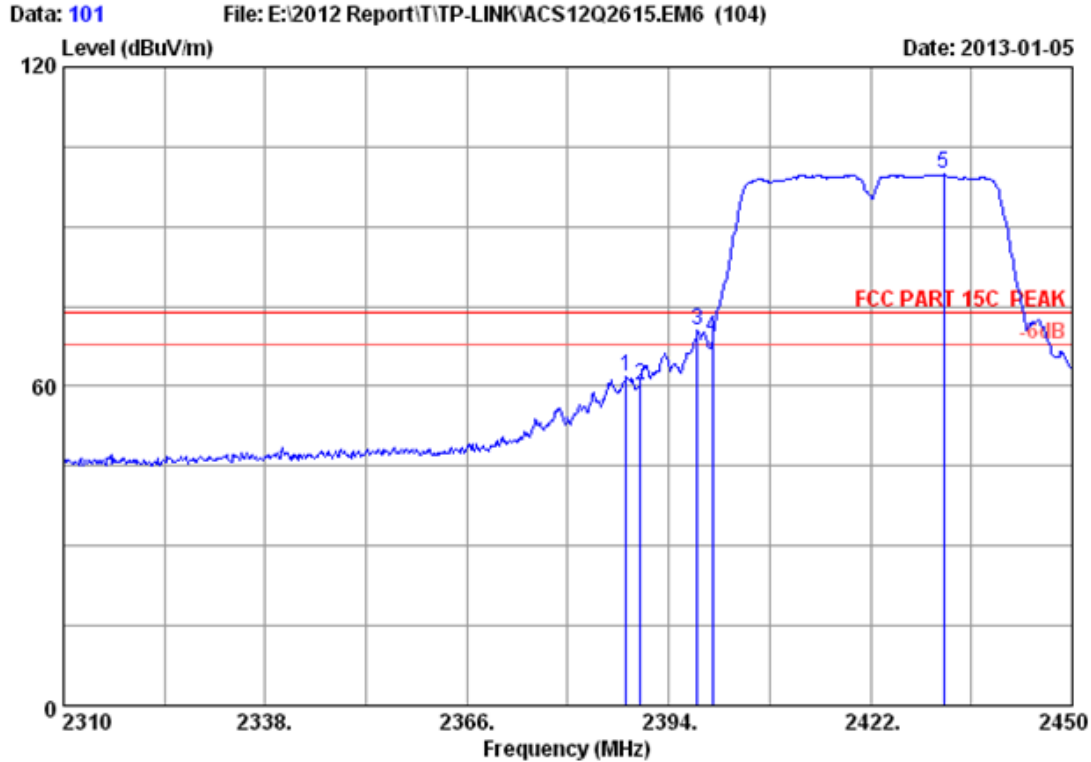


Site no. : 3m Chamber Data no. : 88
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11nHT40 CH7 2452MHz Tx
 M/N : TL-WN822N
 :

	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	2455.345	27.11	6.11	35.92	93.64	90.94	54.00	-36.94	Average
2	2483.500	27.29	6.16	35.92	46.26	43.79	54.00	10.21	Average
3	2500.000	27.40	6.19	35.93	42.45	40.11	54.00	13.89	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.

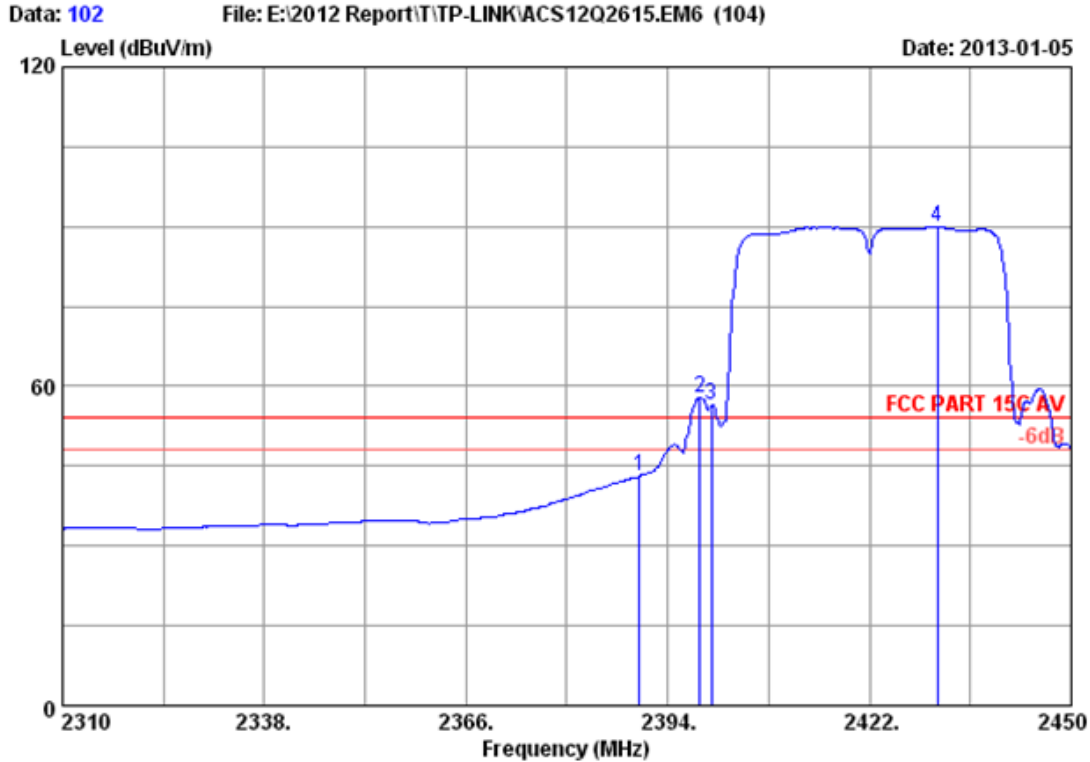


Site no. : 3m Chamber Data no. : 101
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11nHT40 CH1 2422MHz Tx
 M/N : TL-WN822N
 :

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2388.120	26.68	6.00	35.92	65.02	61.78	74.00	12.22	Peak
2	2390.000	26.70	6.00	35.92	63.47	60.25	74.00	13.75	Peak
3	2397.920	26.75	6.01	35.92	73.53	70.37	74.00	3.63	Peak
4	2400.000	26.76	6.02	35.92	72.35	69.21	74.00	4.79	Peak
5	2432.220	26.97	6.07	35.92	102.74	99.86	74.00	-25.86	Peak

Remarks:

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

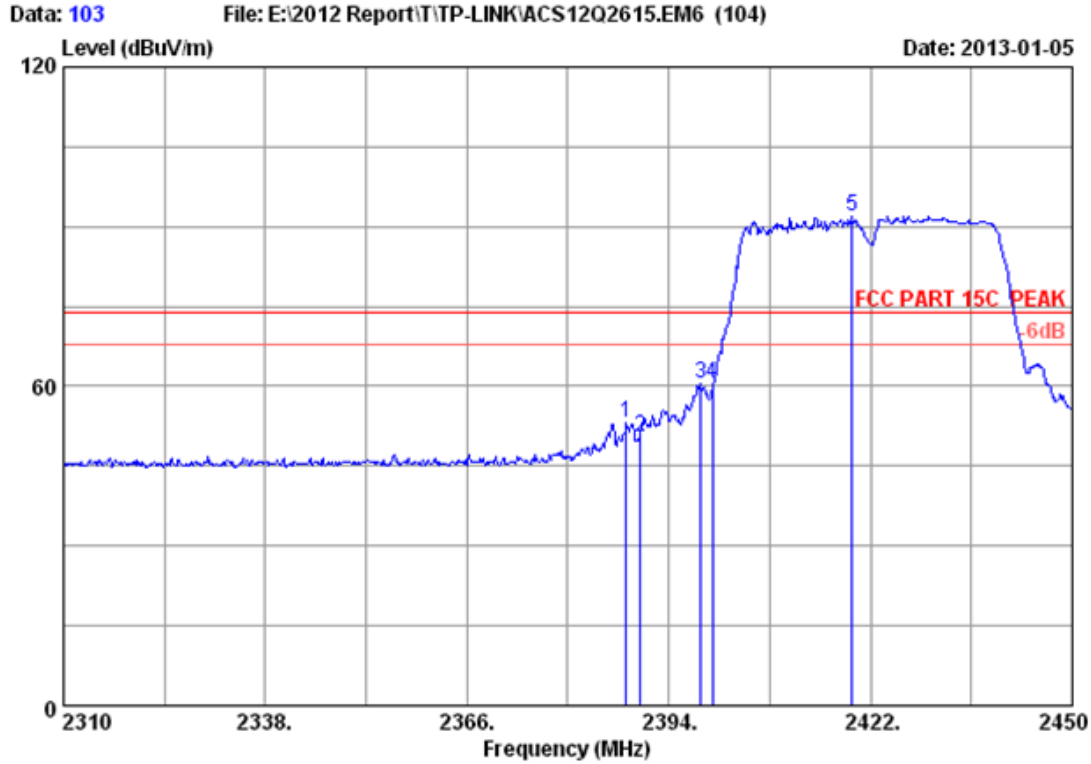


Site no. : 3m Chamber Data no. : 102
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11nHT40 CH1 2422MHz Tx
 M/N : TL-WN822N
 :

	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	46.19	42.97	54.00	11.03	Average
2	2398.480	26.75	6.01	35.92	61.02	57.86	54.00	-3.86	Average
3	2400.000	26.76	6.02	35.92	59.56	56.42	54.00	-2.42	Average
4	2431.380	26.96	6.07	35.92	92.82	89.93	54.00	-35.93	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.

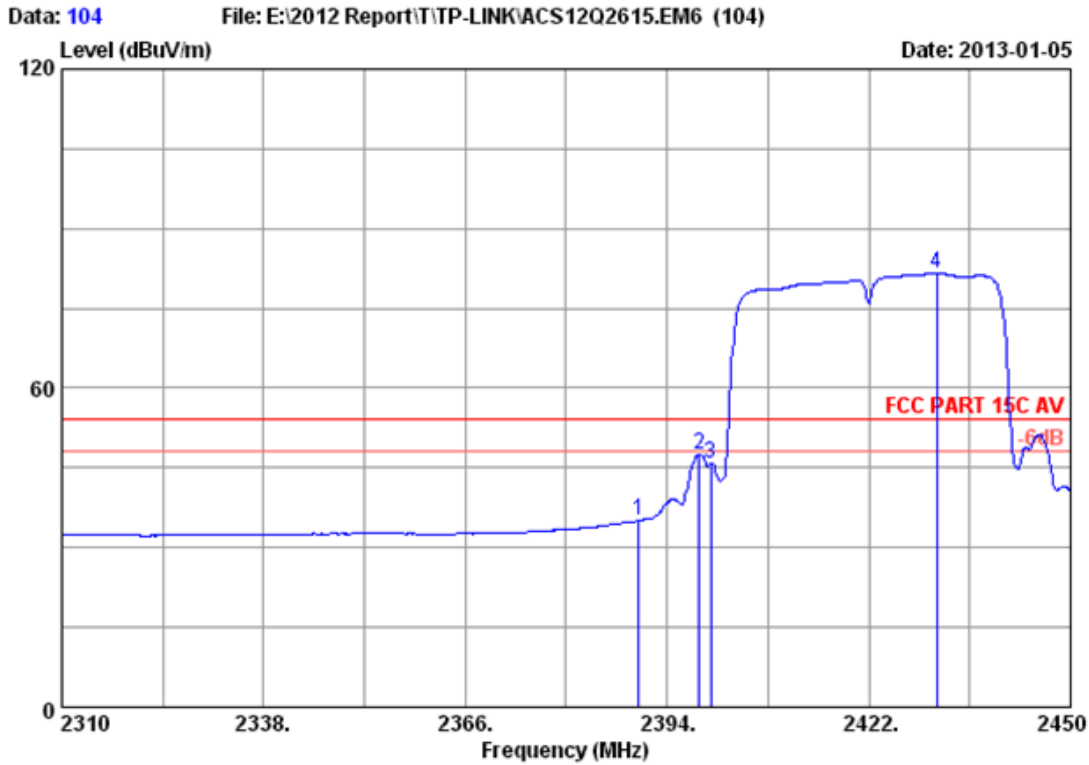


Site no. : 3m Chamber Data no. : 103
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11nHT40 CH1 2422MHz Tx
 M/N : TL-WN822N
 :

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2388.120	26.68	6.00	35.92	56.32	53.08	74.00	20.92	Peak
2	2390.000	26.70	6.00	35.92	53.60	50.38	74.00	23.62	Peak
3	2398.480	26.75	6.01	35.92	63.69	60.53	74.00	13.47	Peak
4	2400.000	26.76	6.02	35.92	63.54	60.40	74.00	13.60	Peak
5	2419.480	26.88	6.05	35.92	94.93	91.94	74.00	-17.94	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. : 104
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : 300Mbps High Gain Wireless USB Adapter
 Power supply : DC 5V From PC input AC 120V/60Hz
 Test mode : IEEE802.11nHT40 CH1 2422MHz Tx
 M/N : TL-WN822N

	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	38.24	35.02	54.00	18.98	Average
2	2398.480	26.75	6.01	35.92	50.63	47.47	54.00	6.53	Average
3	2400.000	26.76	6.02	35.92	49.10	45.96	54.00	8.04	Average
4	2431.380	26.96	6.07	35.92	84.47	81.58	54.00	-27.58	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	N9030A	MY5138022	May.08, 12	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 12	1 Year
3.	Antenna	EMCO	3115	9510-4580	May.08, 12	1 Year
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: 300Mbps High Gain Wireless USB Adapter		
M/N: TL-WN822N		
Test date:2012-12-31	Pressure: 101.3 kpa	Humidity: 52.3±3.0%
Tested by: Leo-Li	Test site: RF Site	Temperature : 24.2±0.6 °C

Cable loss: 1 dB		Attenuator loss: 20 dB		
Test Mode	CH	6dB bandwidth (MHz)		Limit (KHz)
		Chain a	Chainb	
11b	CH1	10.20	10.19	>500
	CH6	10.19	10.18	>500
	CH11	10.20	10.19	>500
11g	CH1	16.40	16.40	>500
	CH6	16.40	16.42	>500
	CH11	16.38	16.40	>500
11n HT20	CH1	17.65	17.64	>500
	CH6	17.59	17.64	>500
	CH11	17.65	17.64	>500
11n HT40	CH1	36.08	35.97	>500
	CH4	36.02	35.88	>500
	CH7	36.12	36.00	>500

Conclusion : PASS

ANT a

Test Mode: IEEE 802.11b TX

Test CH1: 2412MHz



Test CH6: 2437MHz



Test CH11: 2462MHz



Test Mode: IEEE 802.11g TX

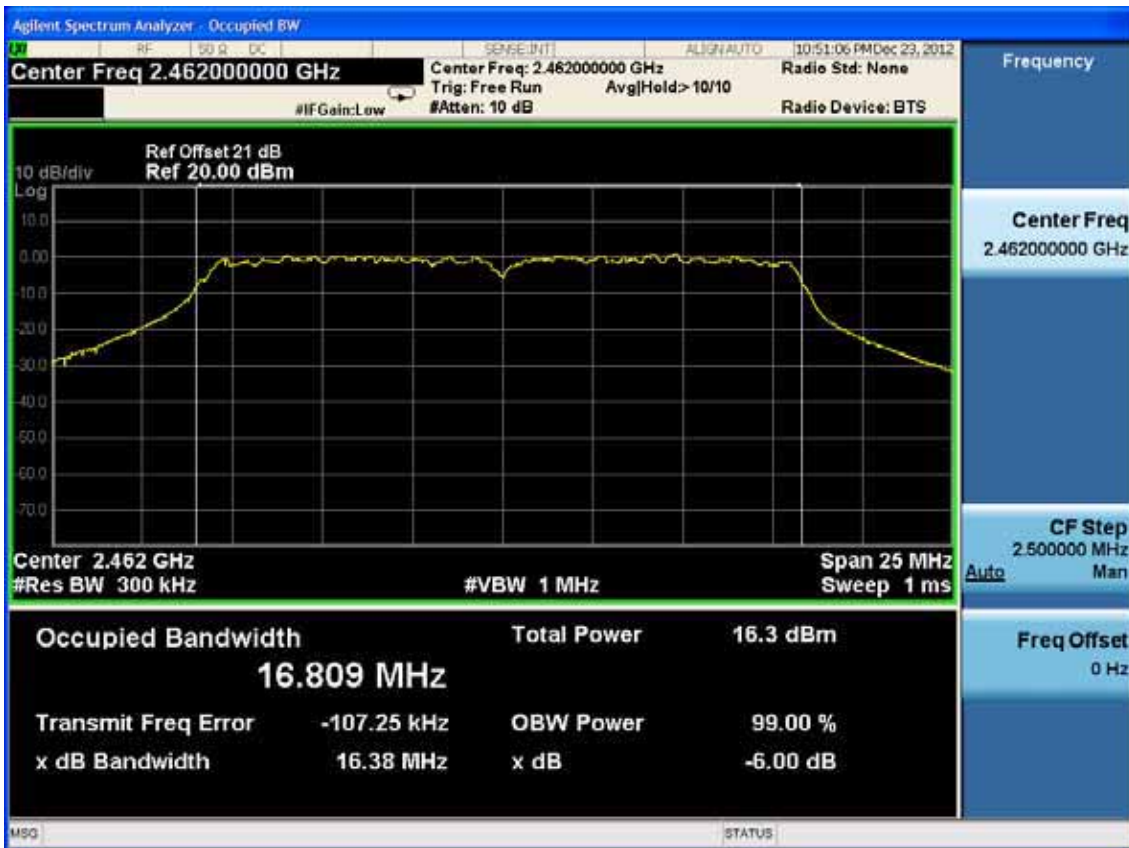
Test CH1: 2412MHz



Test CH6: 2437MHz



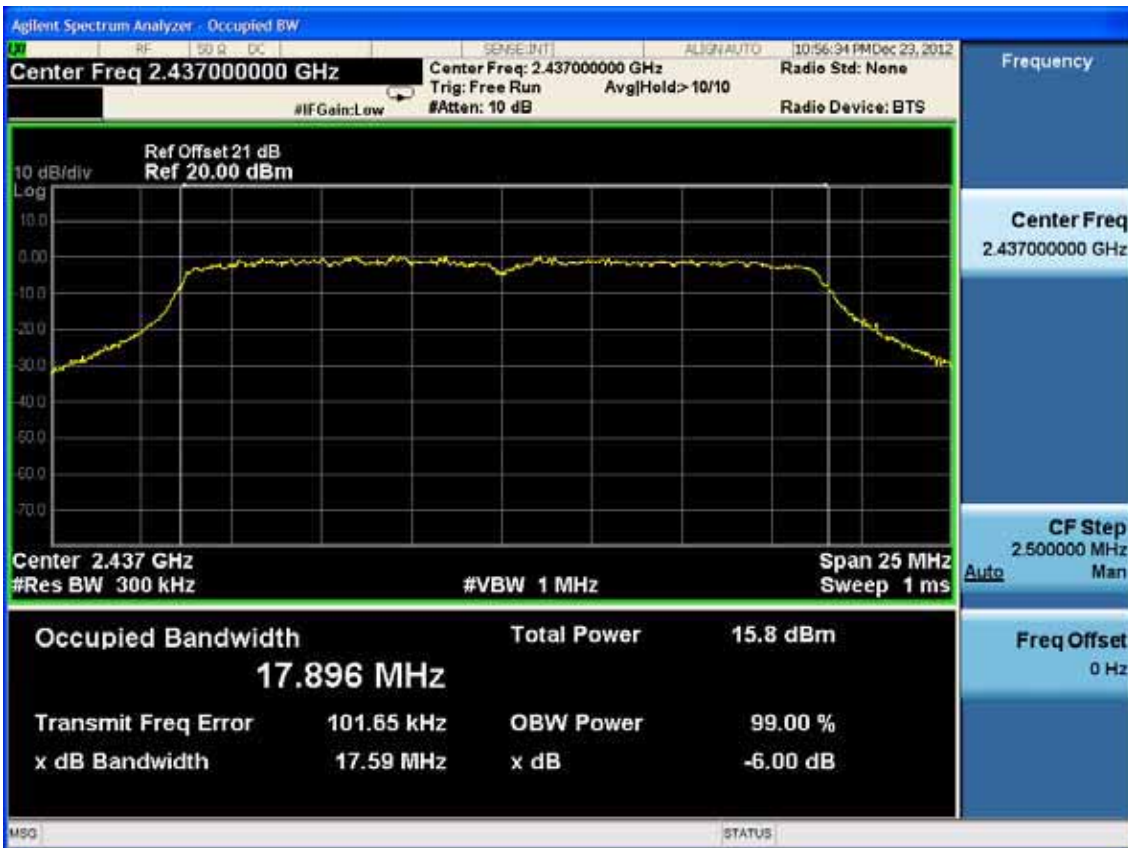
Test CH11: 2462MHz



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



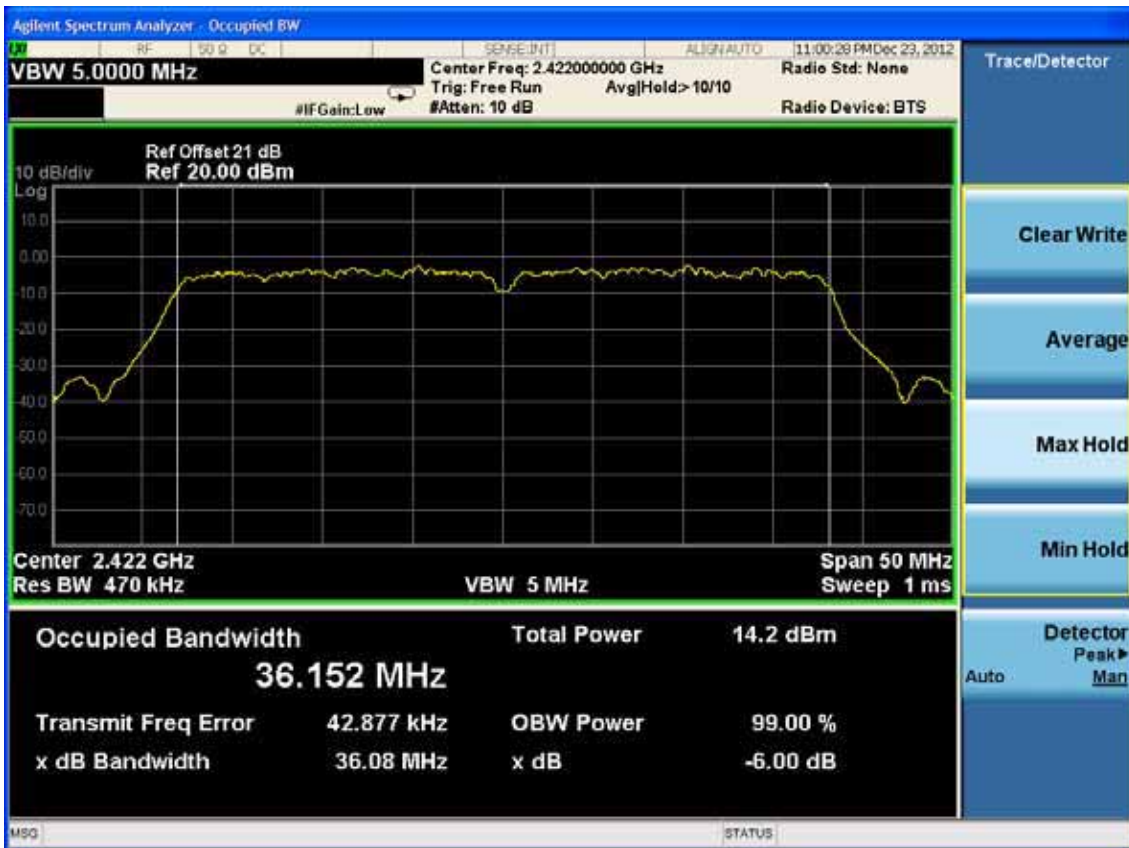
Test CH6: 2437MHz



Test CH11: 2462MHz



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



Test CH4: 2437MHz



Test CH7: 2452MHz



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



Test CH6: 2437MHz

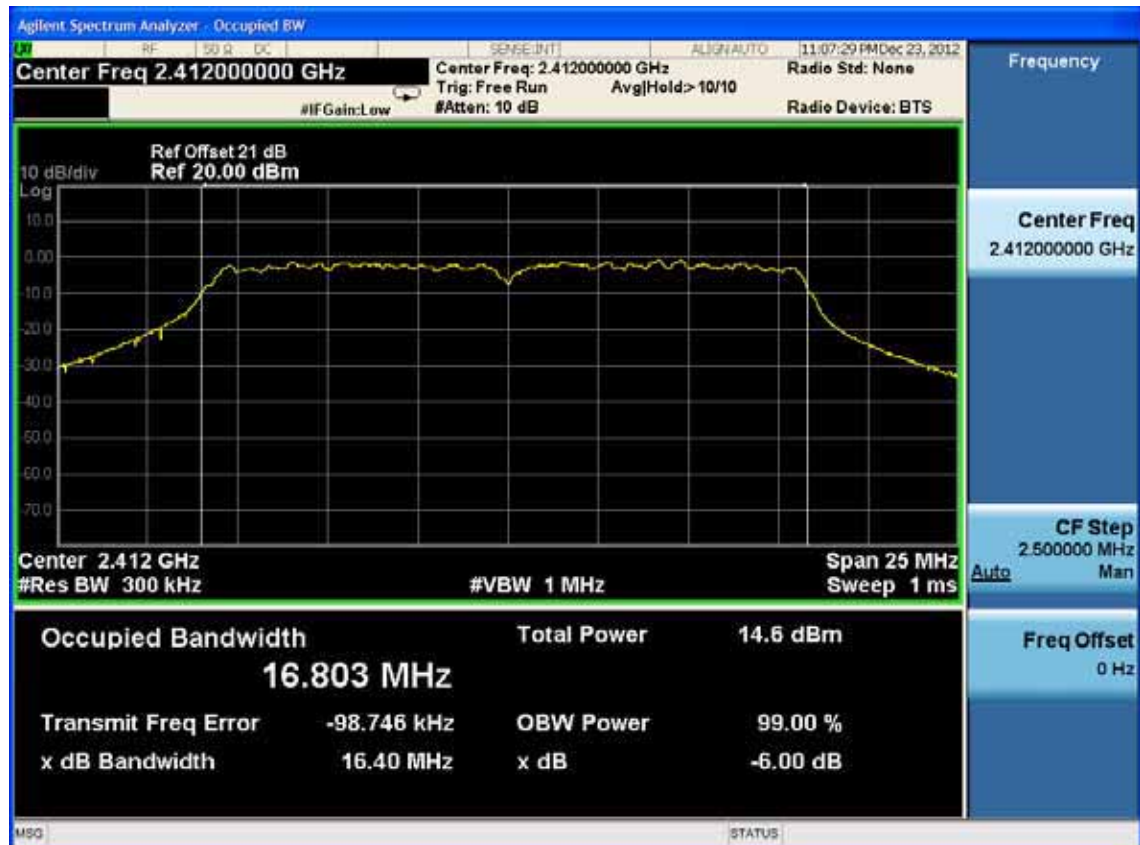


Test CH1: 2462MHz



Test Mode: IEEE 802.11g TX

Test CH1: 2412MHz



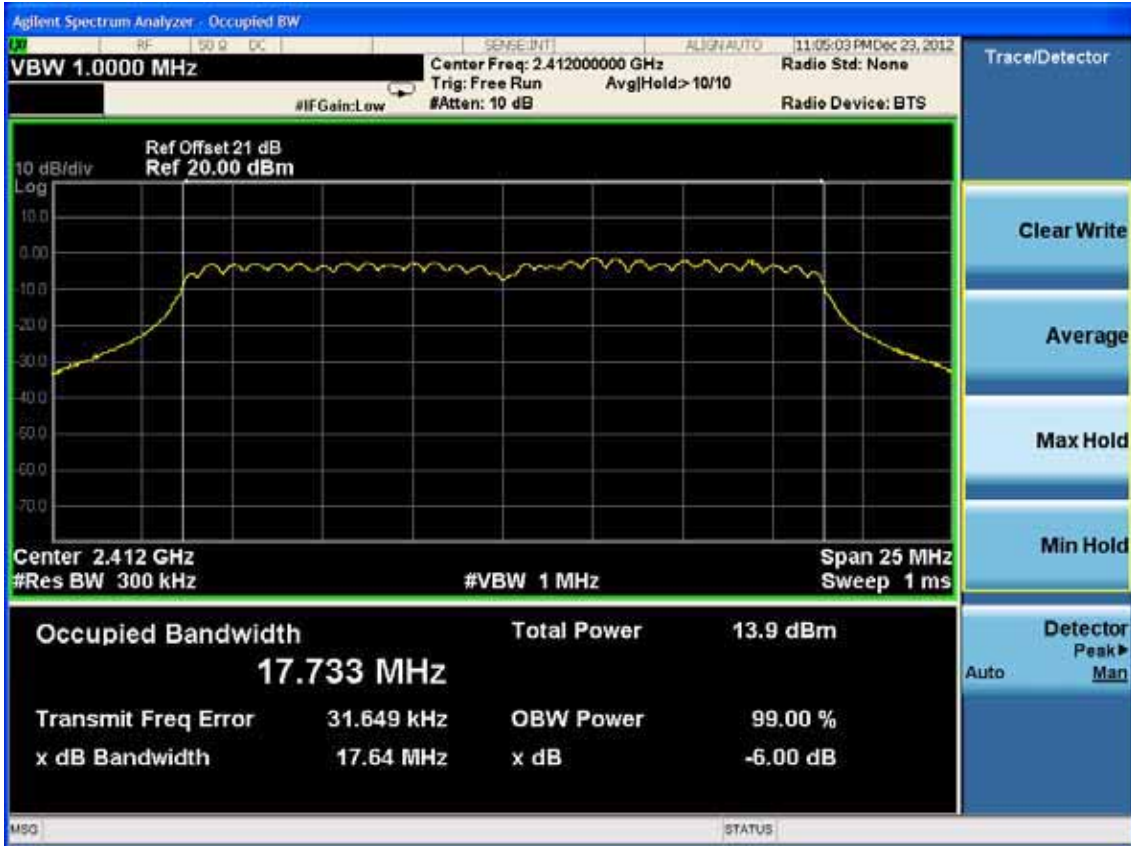
Test CH6: 2437MHz



Test CH11: 2462MHz



Test Mode: IEEE 802.11n 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.08, 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
7.	Spectrum Analyzer	Agilent	N9030A	MY5138022	May.08, 12	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.

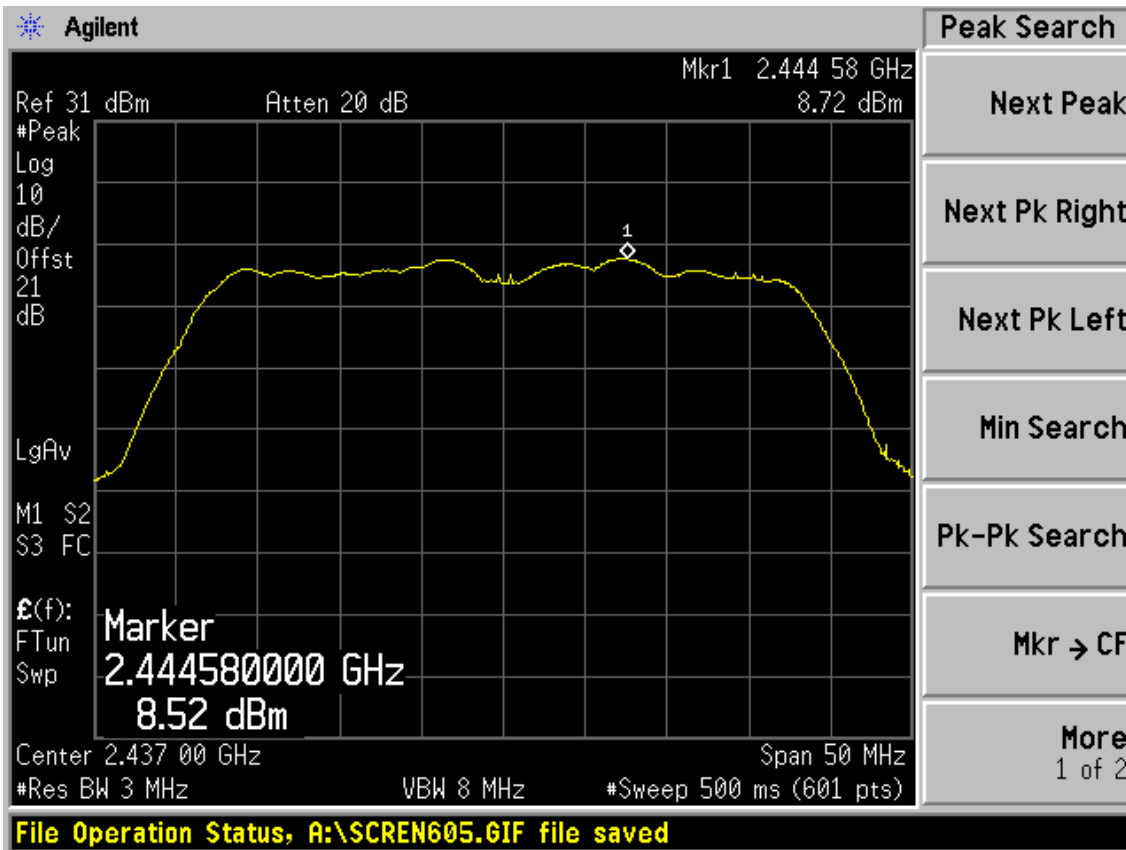
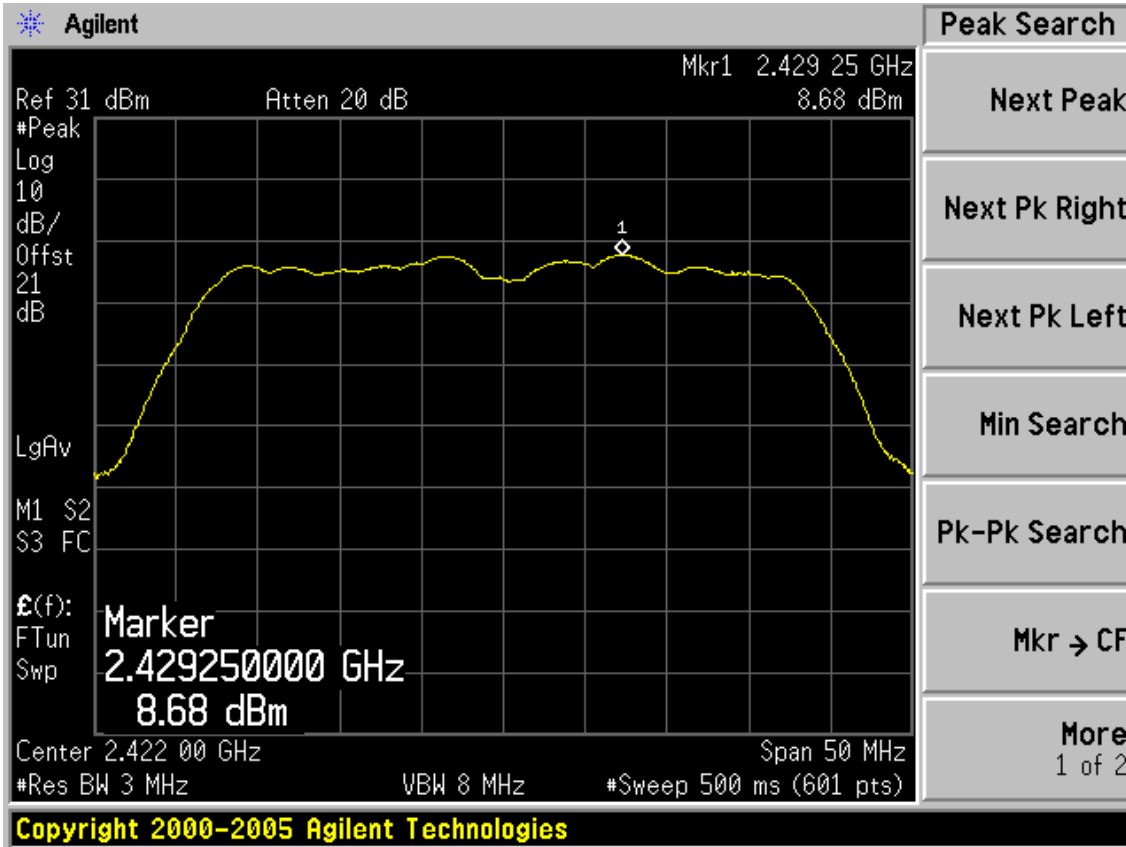
8.4. Test Results

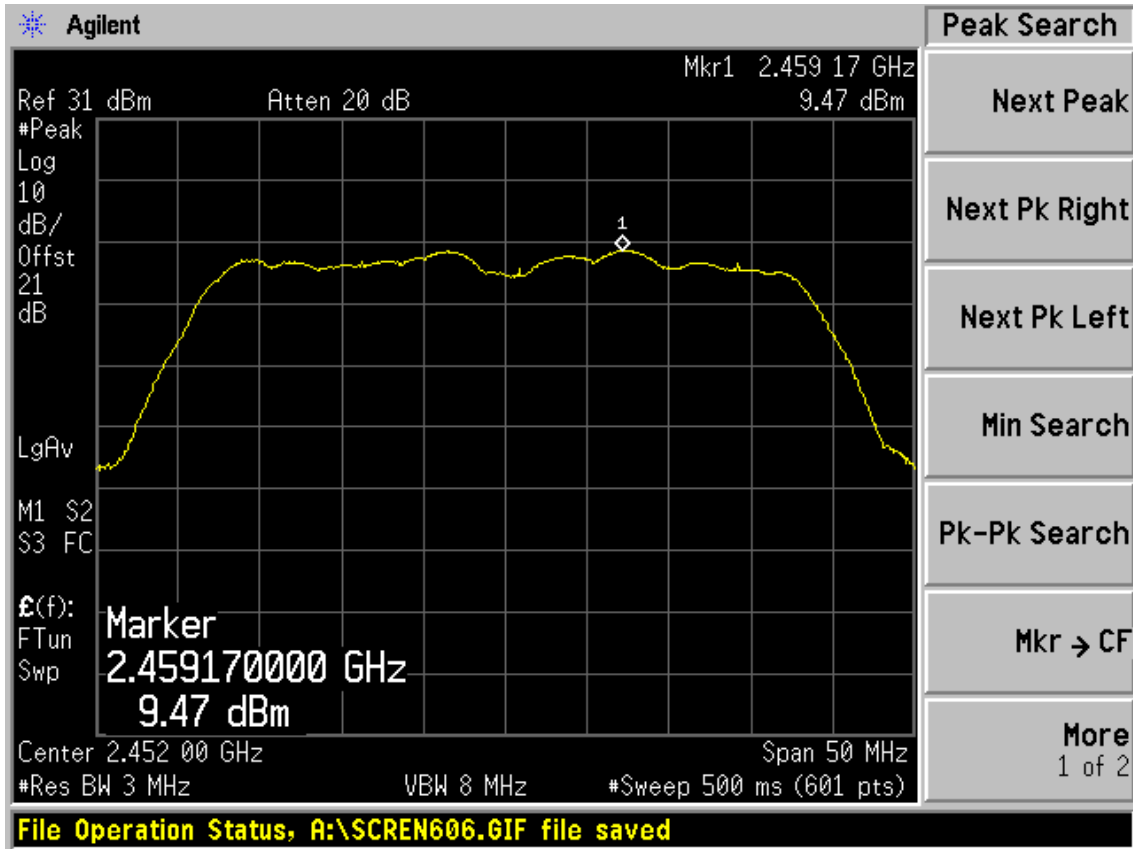
EUT: 300Mbps High Gain Wireless USB Adapter					
M/N: TL-WN822N					
Test date: 202-12-31		Pressure: 101.4±1.0 kpa		Humidity: 53.4±3.0%	
Tested by: Leo-Li		Test site: RF Site		Temperature : 21.6±0.6°C	
Cable loss: 1 dB			Attenuator loss: 20 dB		
Test Mode	CH (MHz)	Peak output Power (dBm)			Limit (dBm)
		ChainA	ChainB	Total	
11b	CH1	20.26	17.74	N/A	30
	CH6	18.10	17.90	N/A	30
	CH11	18.25	18.37	N/A	30
11g	CH1	21.29	22.27	N/A	30
	CH6	22.60	22.46	N/A	30
	CH11	21.33	21.52	N/A	30
11n HT20	CH1	20.08	20.55	23.35	30
	CH6	22.36	22.43	25.42	30
	CH11	20.93	21.54	24.27	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	CH1	8.62	7.60	20.00	18.89	22.52	30
	CH4	9.44	8.07	20.82	19.36	23.18	30
	CH7	9.00	7.86	20.38	19.15	22.84	30
Chain A		26dB Bandwidth for 11n HT40:41.25MHz					
Chain B		26dB Bandwidth for 11n HT40:40.36MHz					
Chain A		BW correction factor = $10\log[(41.25\text{MHz})/(3\text{MHz})] = 11.38\text{dB}$					
Chain B		BW correction factor = $10\log[(40.36\text{MHz})/(3\text{MHz})] = 11.29\text{ dB}$					
Conclusion: PASS							

ANT a

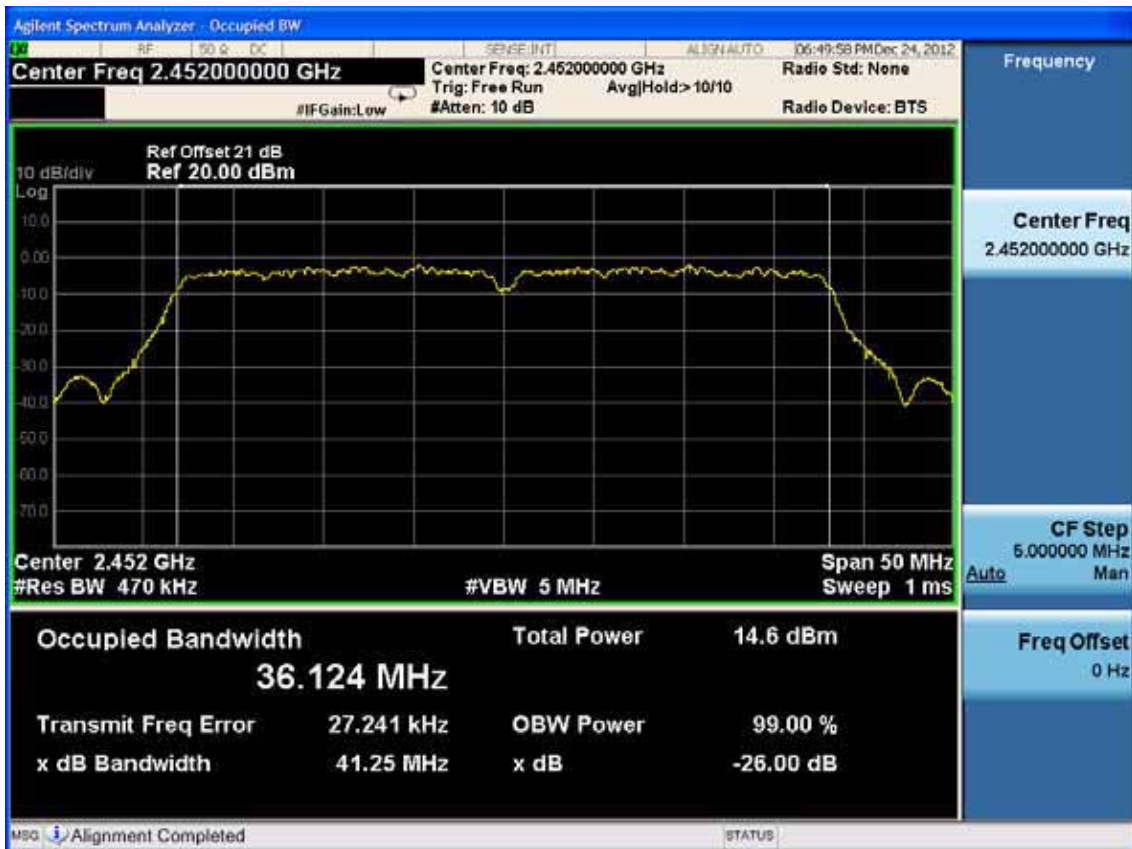
Test Mode: IEEE 802.11n HT40





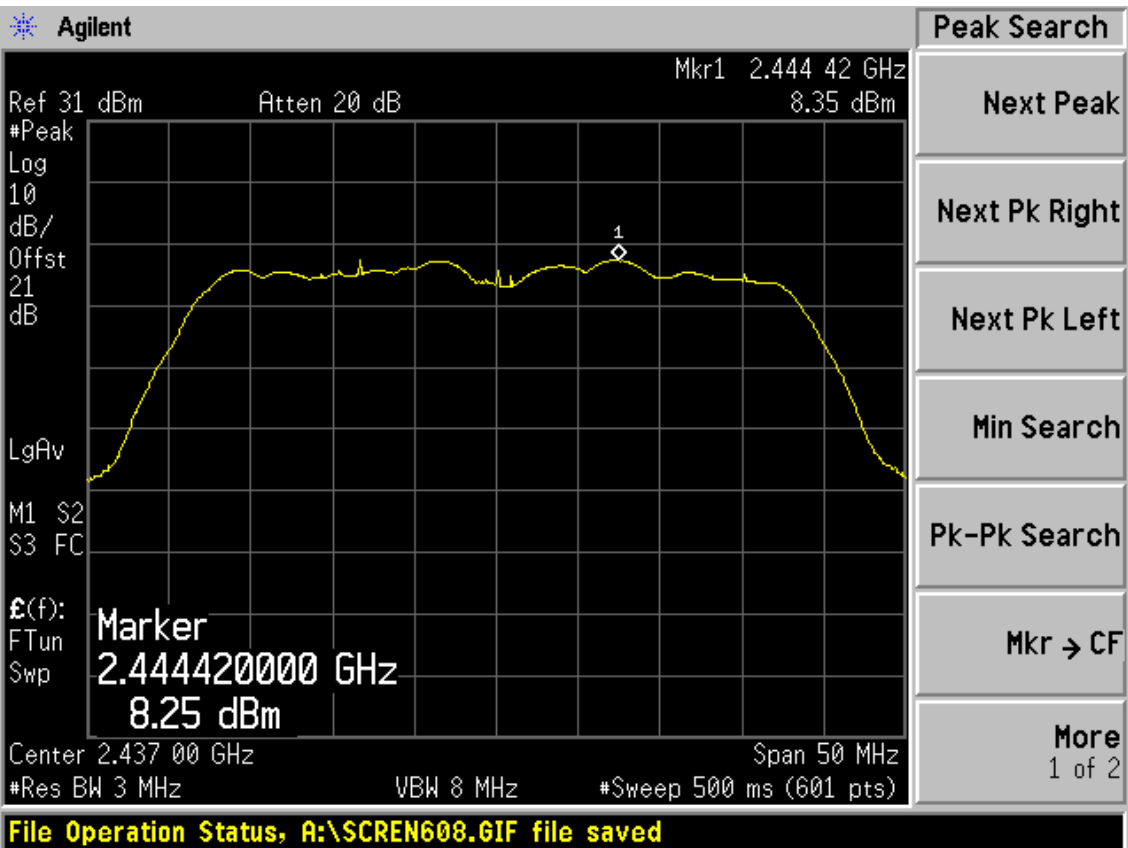
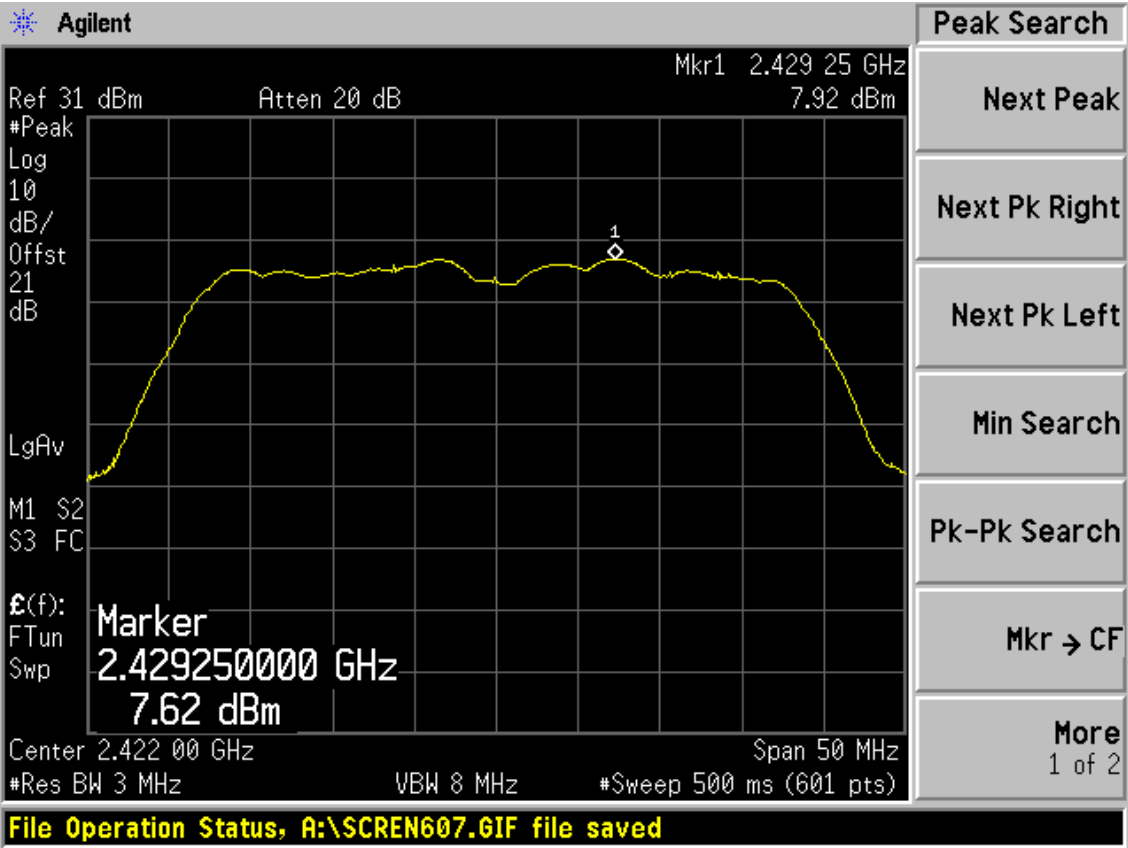
26dB Bandwidth

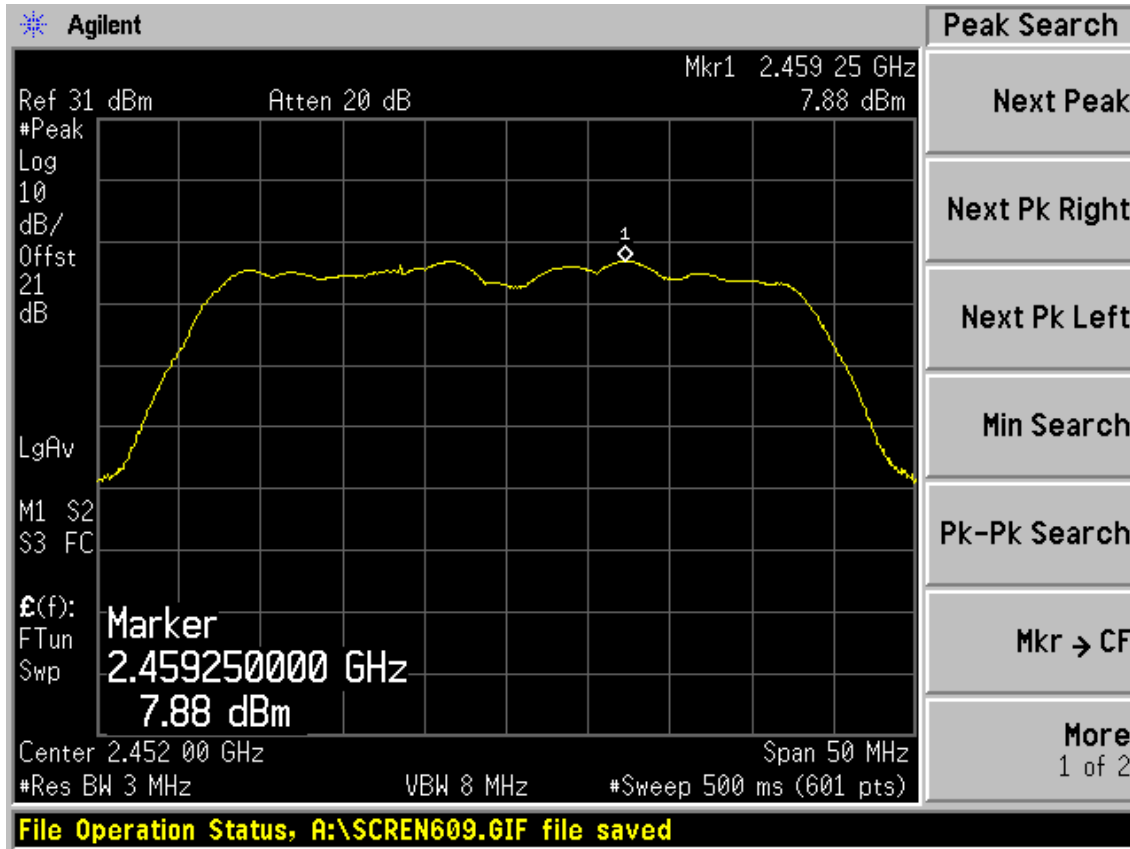




ANT b

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.08, 12	1 Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 12	1 Year
5.	Spectrum Analyzer	Agilent	N9030A	MY5138022	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 to 5-30 % greater than the EBW, Read out maximum peak level of the test frequency.
- 3, adjusting (reducing) the measured power in step 2 by a bandwidth correction factor (BWCF) where $BWCF = 10\log(3 \text{ kHz}/100 \text{ kHz} = -15.2 \text{ dB})$

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

9.4. Test Results

EUT: 300Mbps High Gain Wireless USB Adapter		
M/N: TL-MN822N		
Test date: 2012-12-31	Pressure: 101.2kpa	Humidity: 53.3 ± 3.0 %
Tested by: Leo-Li	Test site: RF Site	Temperature : 24.7 ± 0.6 °C

Cable loss: 1 dB		Attenuator loss: 20 dB				
Test Mode	CH	Power density (dBm/100KHz)		Power density (dBm/3KHz)		Limit (dBm/3KHz)
		ANT0	ANT1	ANT0	ANT1	
11b	CH1	6.651	6.060	-8.549	-9.140	8
	CH6	5.746	5.749	-9.454	-9.451	8
	CH11	6.025	5.080	-9.175	-10.120	8
11g	CH1	-5.641	-6.075	-20.841	-21.275	8
	CH6	-5.420	-5.963	-20.620	-21.163	8
	CH11	-5.549	-6.071	-20.749	-21.271	8

11n Mode						
Test Mode	CH	Power density (dBm/100KHz)			Power density (dBm/3KHz)	Limit (dBm/3KHz)
		ANT0	ANT1	Total	Total	
11n HT20	CH1	-5.923	-6.001	-2.95	-18.15	8
	CH6	-6.361	-6.495	-3.42	-18.62	8
	CH11	-6.203	-6.822	-3.49	-18.69	8
11n HT40	CH1	-2.192	-2.154	0.84	-14.36	8
	CH4	-2.212	-1.900	0.96	-14.24	8
	CH7	-2.202	-2.034	0.89	-14.31	8

BW correction factor = 10log[(3/100KHz)] = -15.2

Conclusion : PASS

ANT a

Test Mode: IEEE 802.11b TX

Test CH1: 2412MHz



Test CH6: 2437MHz

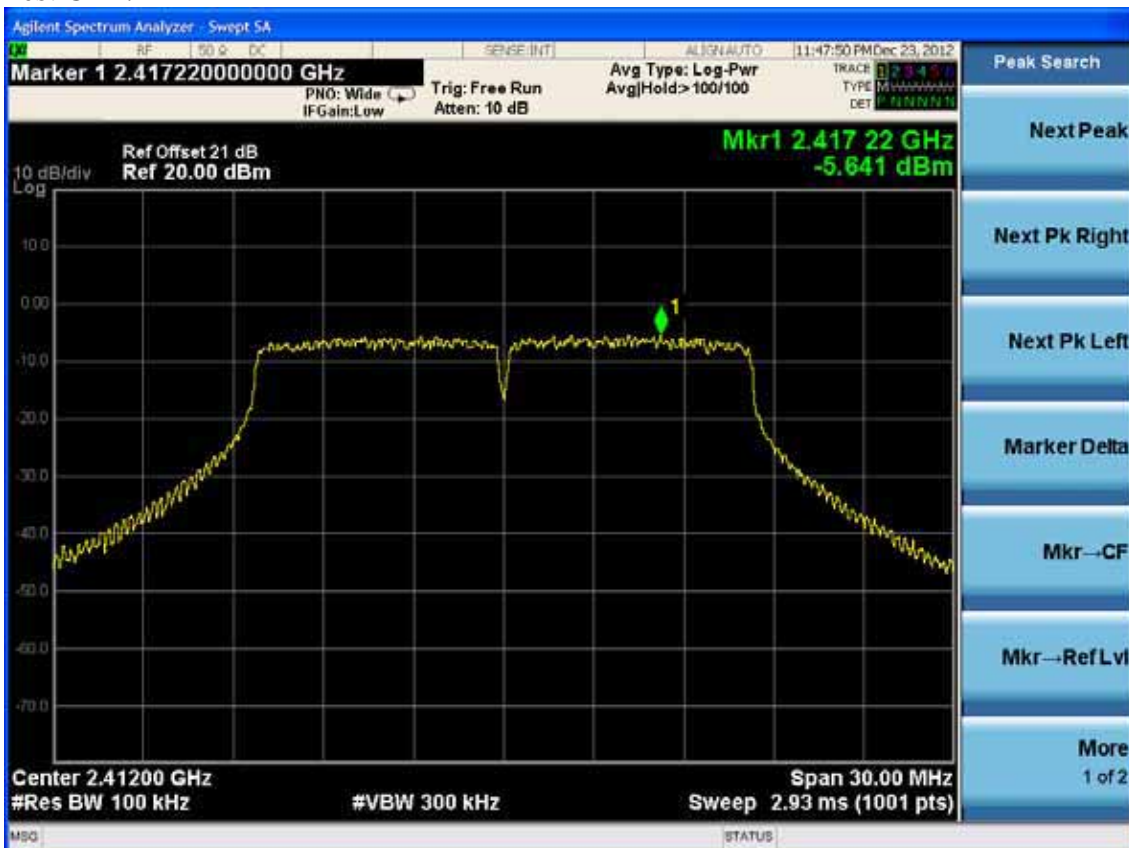


Test CH11: 2462MHz



Test Mode: IEEE 802.11g TX

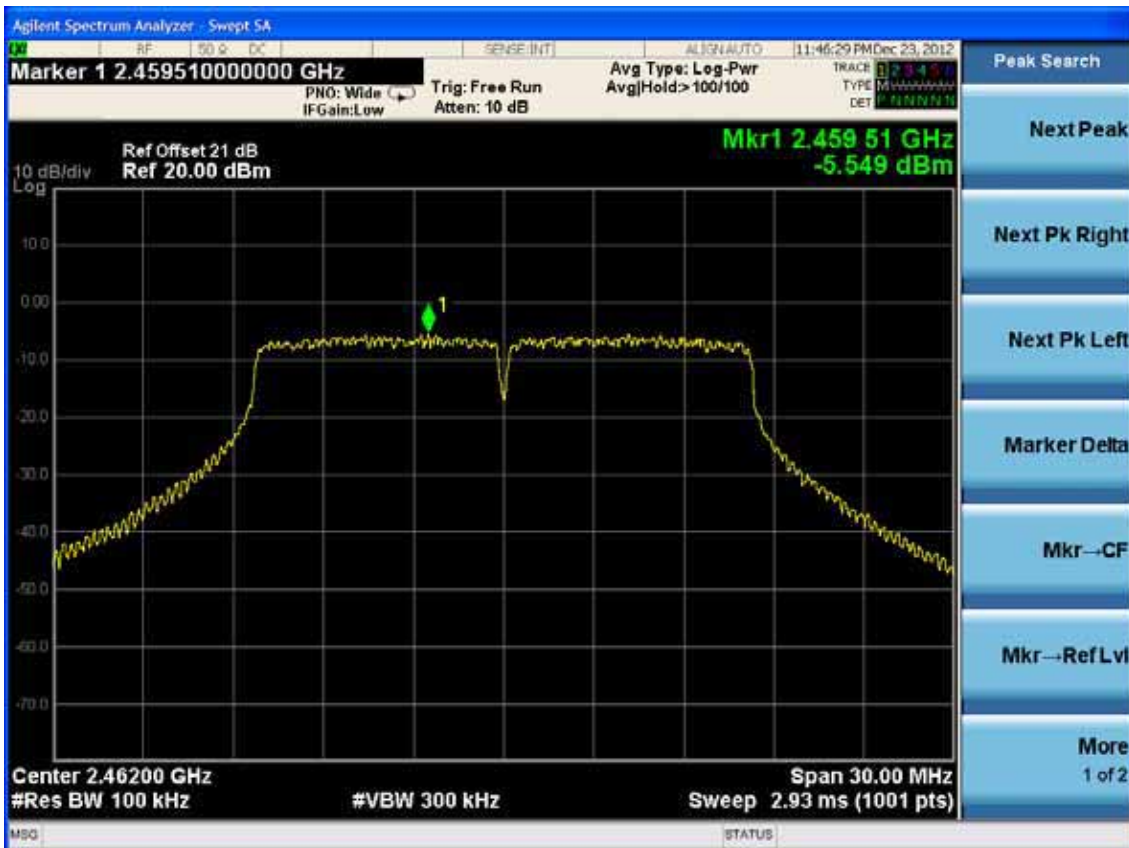
Test CH1: 2412MHz



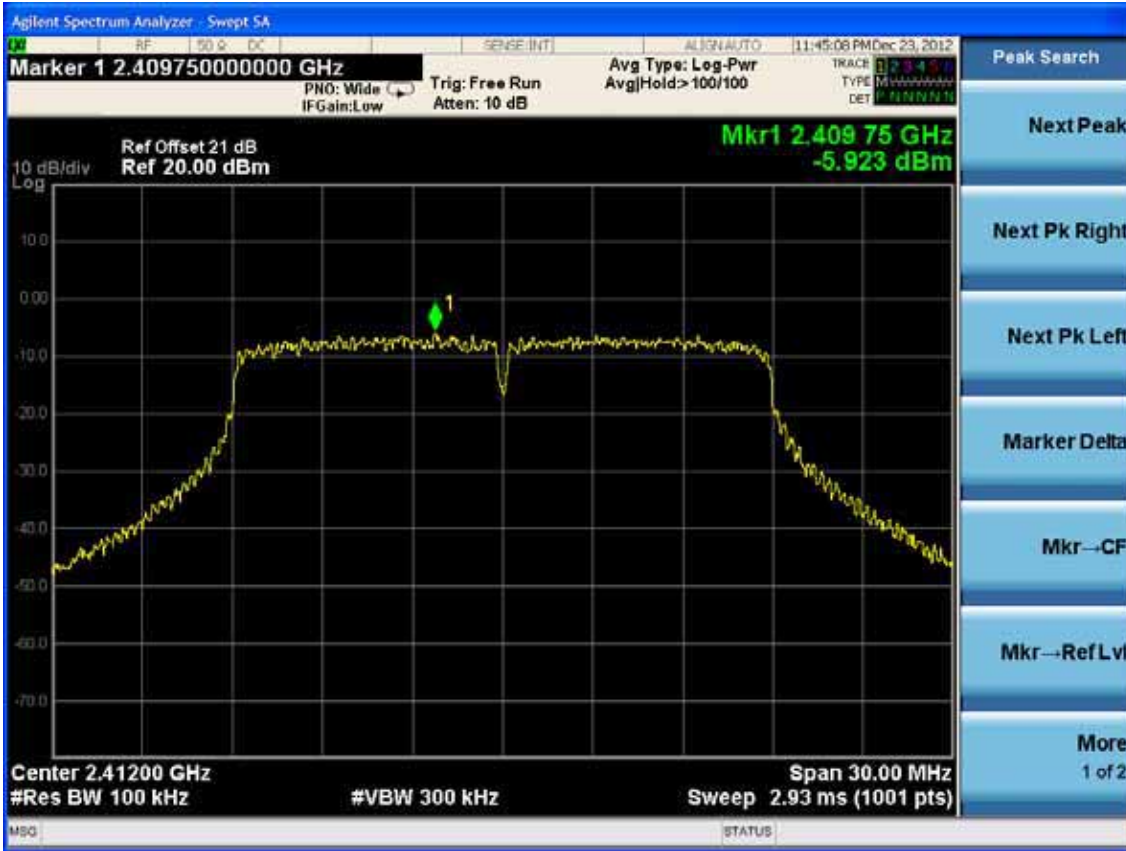
Test CH6: 2437MHz



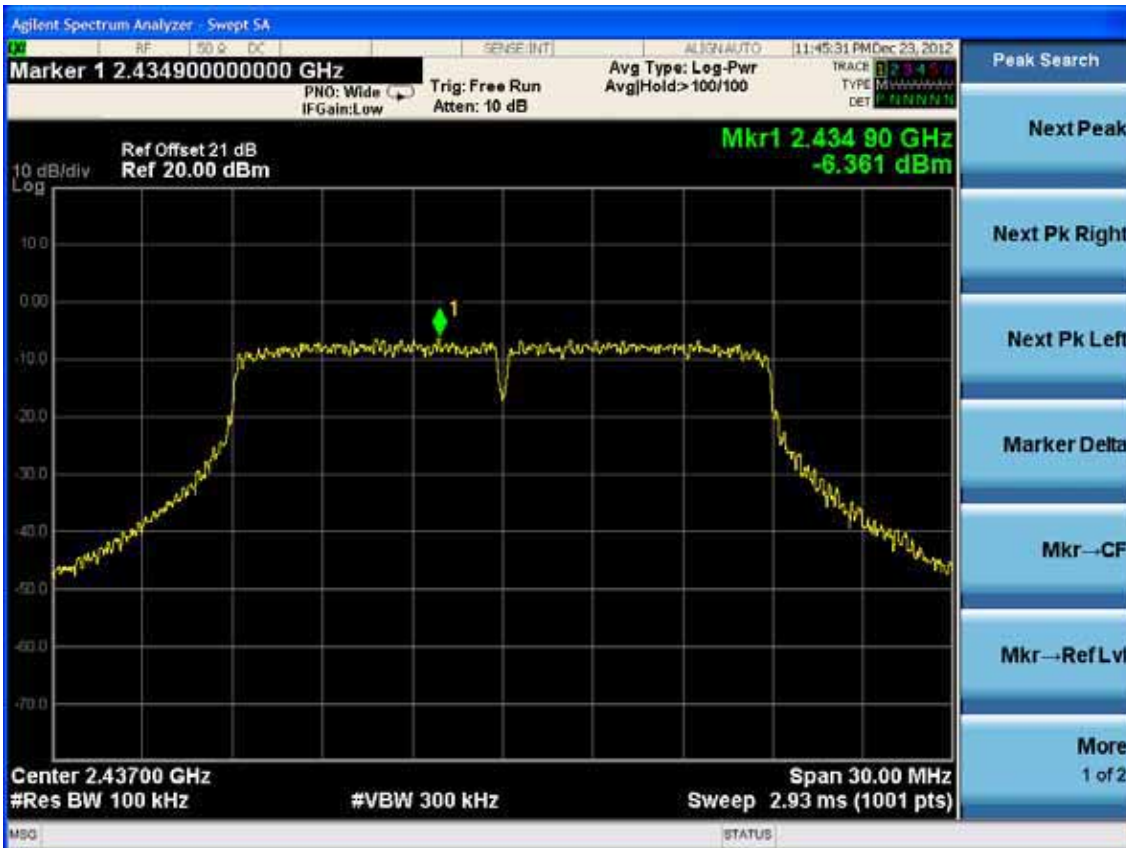
Test CH11: 2462MHz



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



Test CH6: 2437MHz



Test CH11: 2462MHz



Test Mode: IEEE 802.11n HT40 TX

Test CH1: 2422MHz



Test CH4: 2437MHz



Test CH7: 2452MHz



ANT b

Test Mode: IEEE 802.11b TX

Test CH1: 2412MHz



Test CH6: 2437MHz

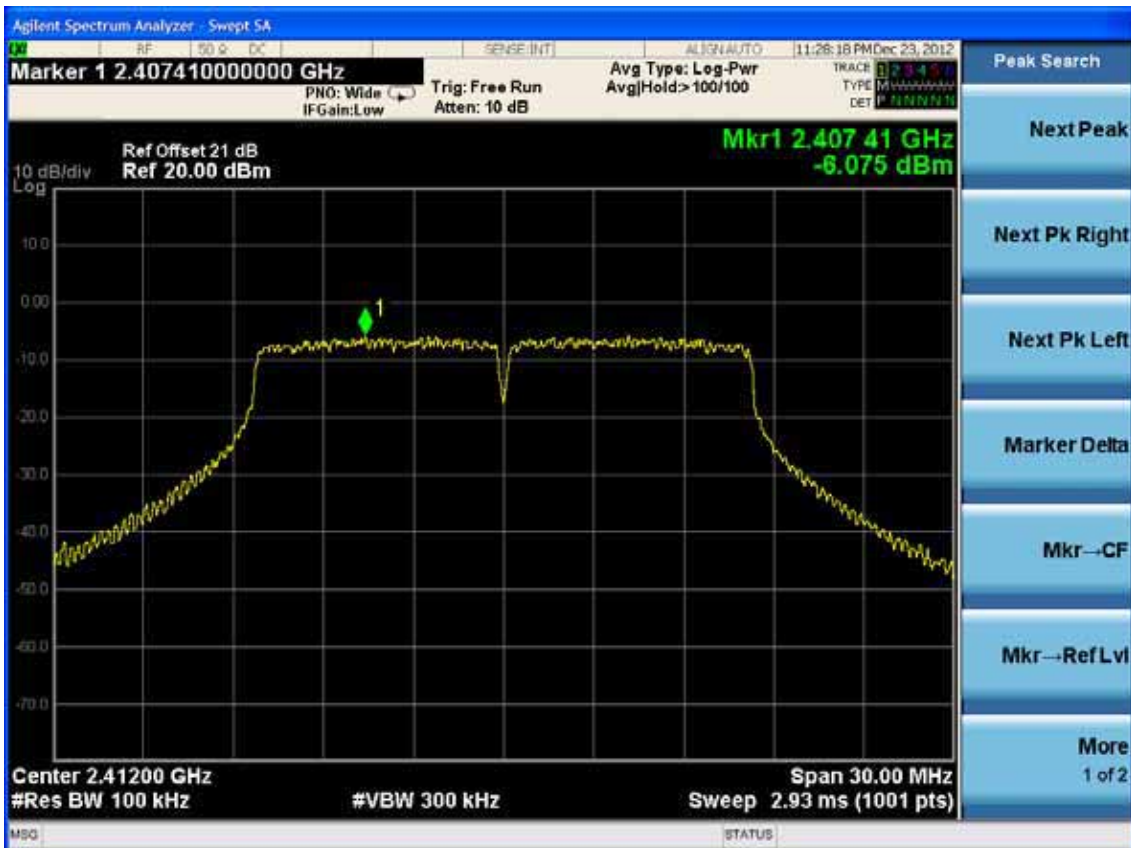


Test CH11: 2462MHz

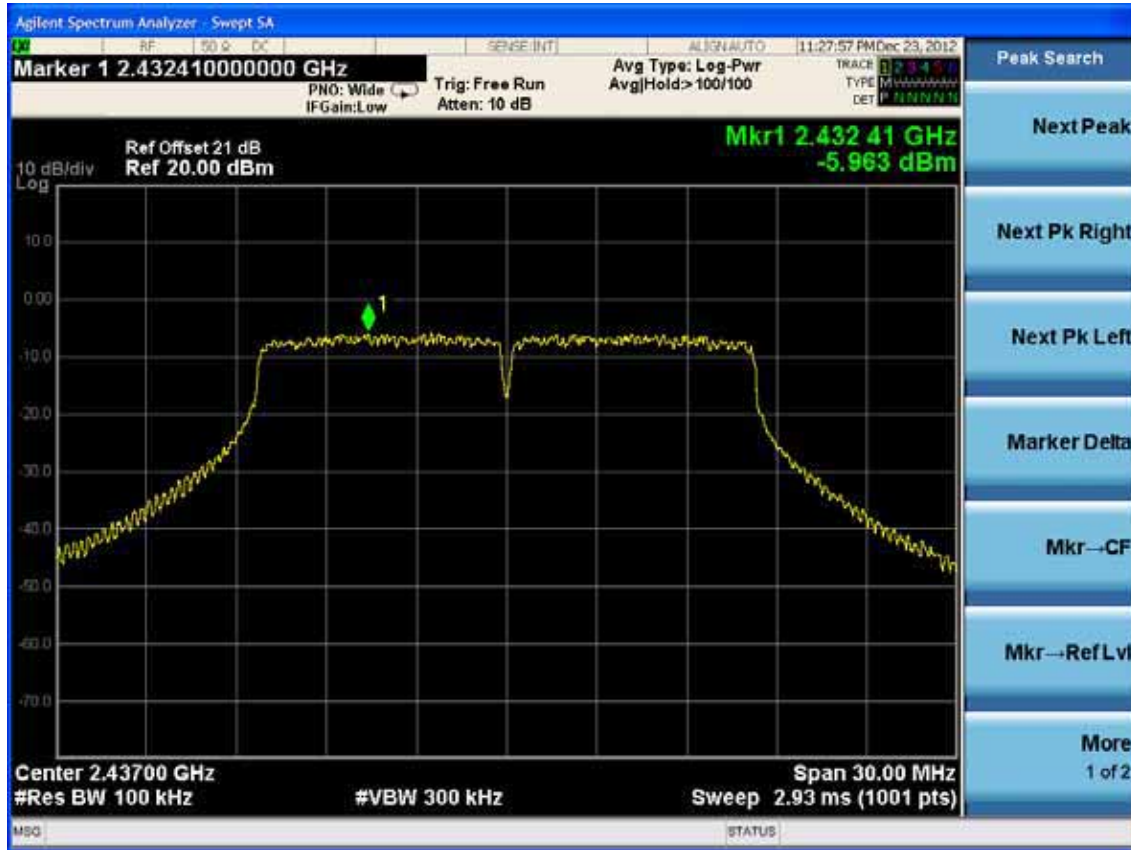


Test Mode: IEEE 802.11g TX

Test CH1: 2412MHz



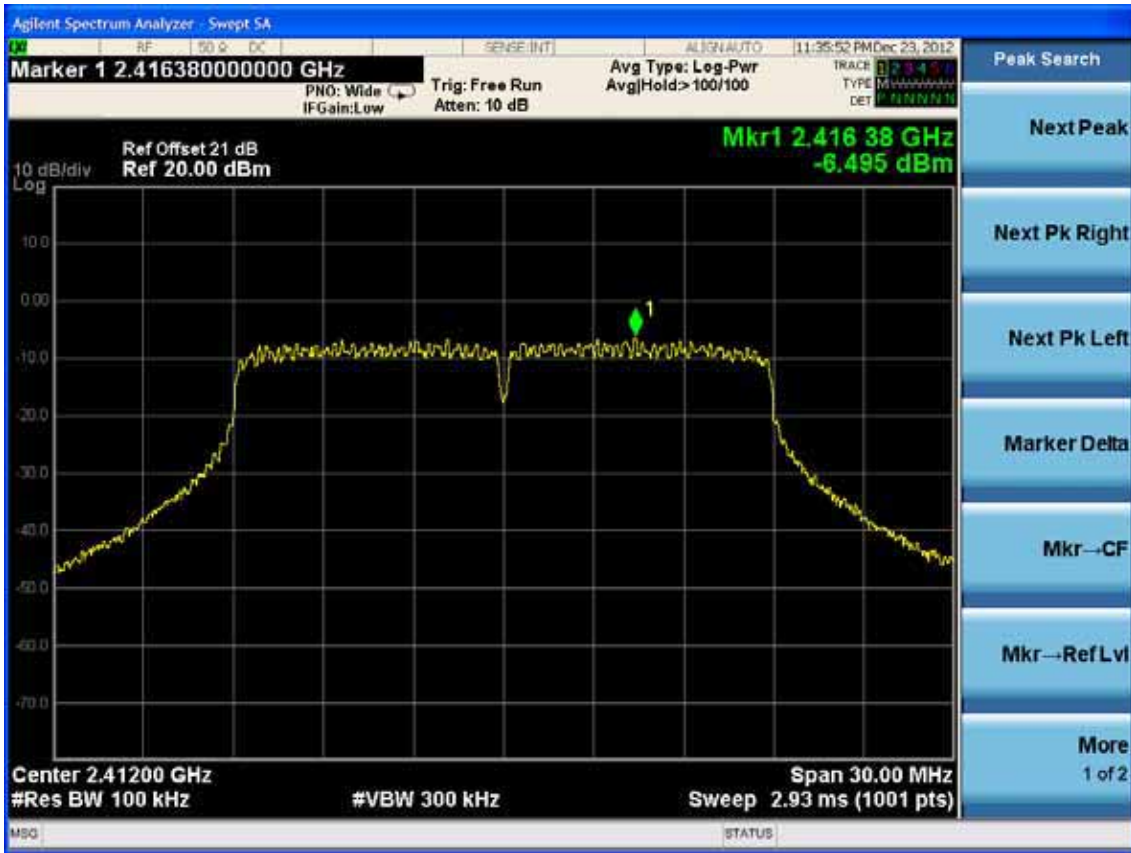
Test CH6: 2437MHz



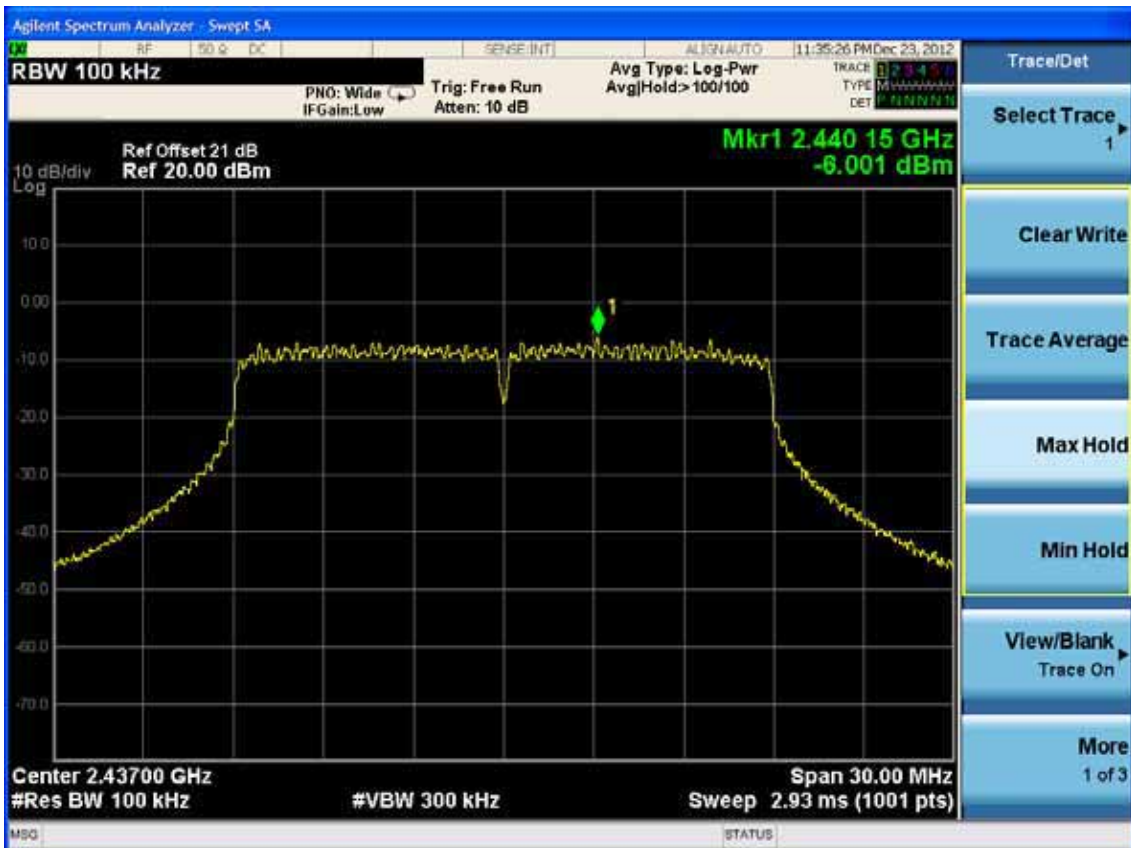
Test CH11: 2462MHz



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



Test CH6: 2437MHz



Test CH11: 2462MHz



Test Mode: IEEE 802.11n HT40 TX

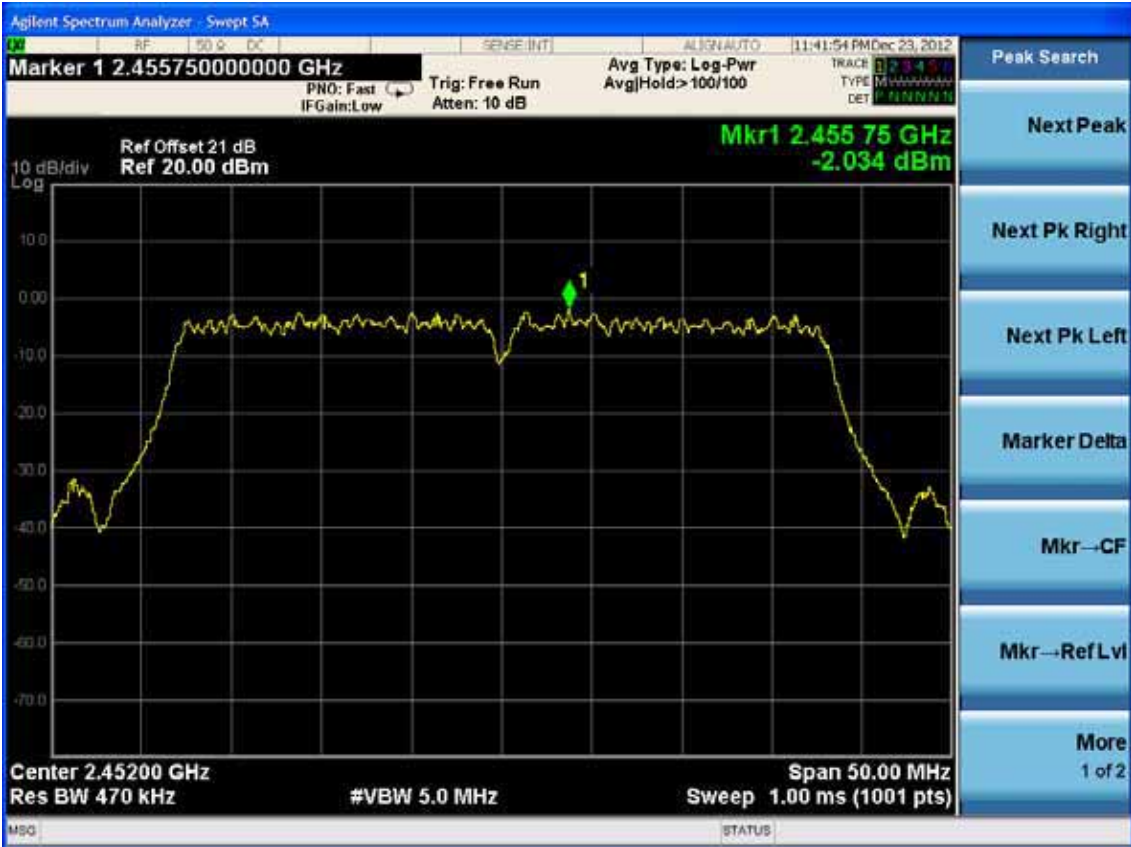
Test CH1: 2422MHz



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 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 2.5dBi.

11.MPE ESTIMATION

11.1.Limit for General Population/ Uncontrolled Exposures

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

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

Note: F= Frequency in MHz

11.2. Estimation Result

EUT: 300Mbps High Gain Wireless USB Adapter		
M/N: TL-WN822N		
Test date: 2012-13-31	Pressure: 101.2±1.0 kpa	Humidity: 51.6±3.0%
Tested by: Leo-Li	Test site: RF Site	Temperature : 20.8±0.6 °C

Cable loss: 1 dB		Attenuator loss: 20 dB					
Test Mode	CH	Frequency (MHz)	Peak Output Power (dBm)	Output Power (mW)	Antenna Gain (dBi)	Antenna Gain (Linear)	MPE
11b	CH1	2412	20.26	106.17	2.5	1.78	0.0376
	CH6	2437	18.10	64.57	2.5	1.78	0.0229
	CH11	2462	18.37	68.71	2.5	1.78	0.0243
11g	CH1	2412	21.29	134.59	2.5	1.78	0.0476
	CH6	2437	22.60	181.97	2.5	1.78	0.0644
	CH11	2462	21.52	141.91	2.5	1.78	0.0502
11n HT20	CH1	2412	23.35	216.27	2.5	1.78	0.0766
	CH6	2437	25.42	348.34	2.5	1.78	0.1233
	CH11	2462	24.27	267.30	2.5	1.78	0.0946
11n HT40	CH1	2422	22.52	178.65	2.5	1.78	0.0632
	CH4	2437	23.18	207.97	2.5	1.78	0.0736
	CH7	2452	22.84	192.31	2.5	1.78	0.0681

12.DEVIATION TO TEST SPECIFICATIONS

[NONE]