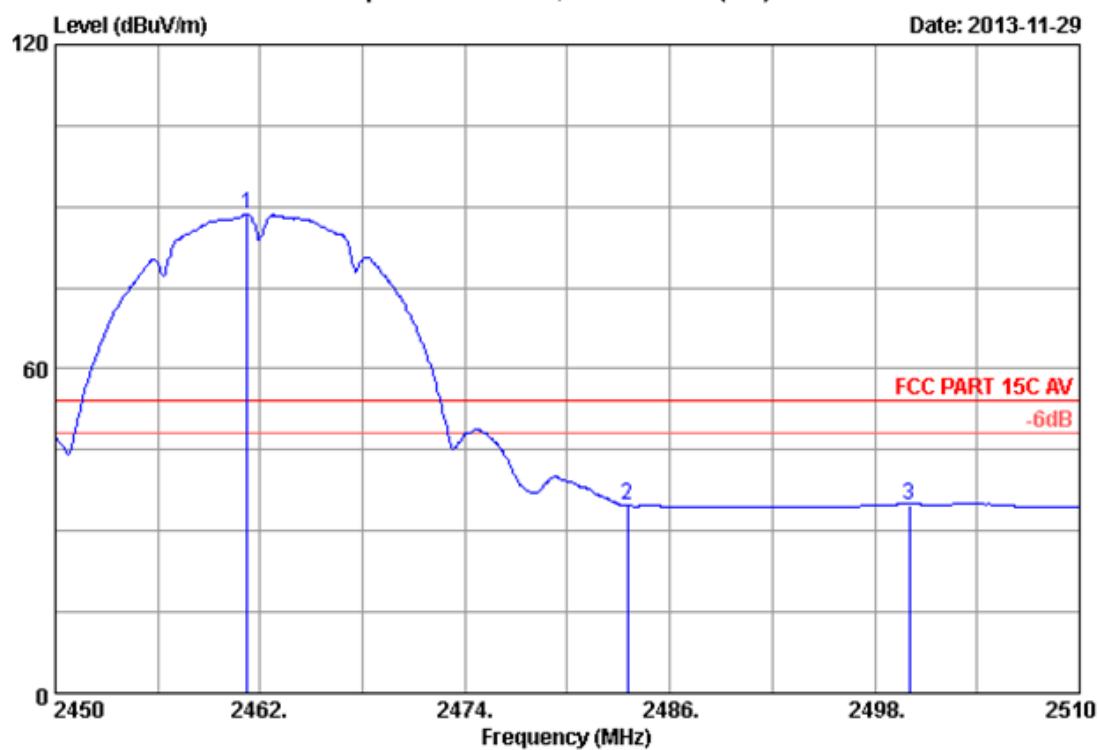


Data: 24 File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)



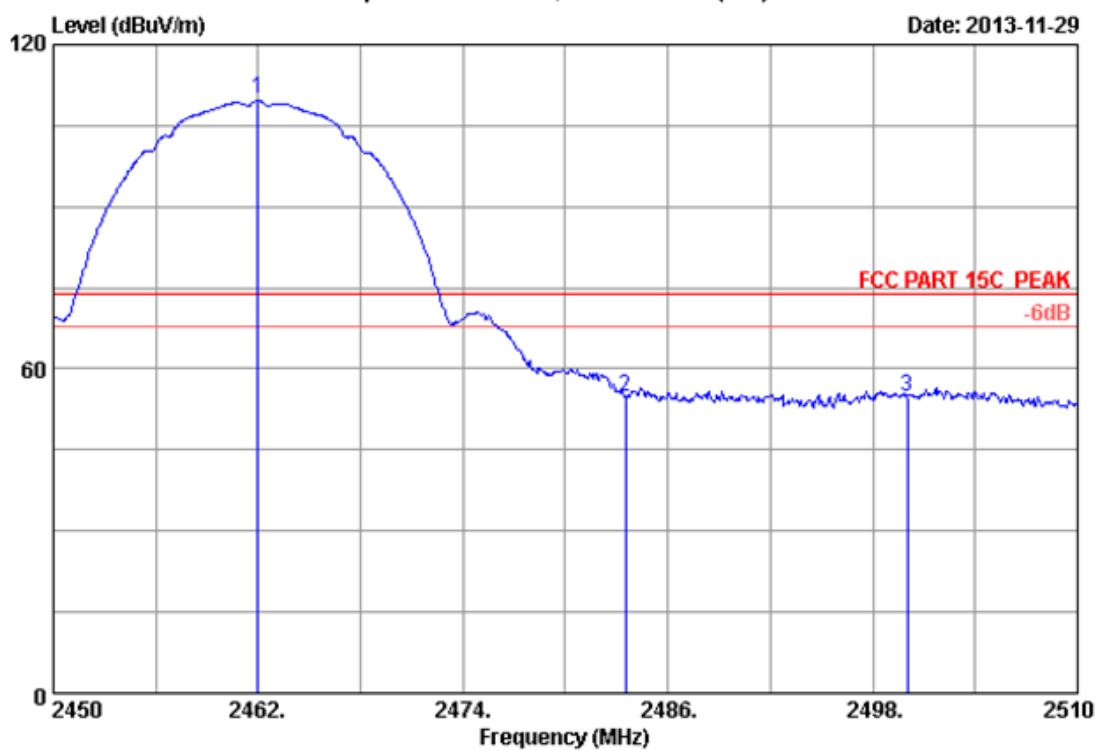
Site no. : 3m Chamber Data no. : 24
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11b 2462MHz Tx Mode
MT-WN731NM

Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2461.220	28.31	5.89	35.70	90.08	88.58	54.00	-34.58	Average
2 2483.500	28.36	5.92	35.70	36.15	34.73	54.00	19.27	Average
3 2500.000	28.40	5.94	35.70	36.28	34.92	54.00	19.08	Average

Remarks:

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

Data: 25 File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)



Site no. : 3m Chamber Data no. : 25
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11b 2462MHz Tx Mode
MT-WN731NM

Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2462.000	28.32	5.89	35.70	111.42	109.93	74.00	-35.93	Peak
2 2483.500	28.36	5.92	35.70	56.24	54.82	74.00	19.18	Peak
3 2500.000	28.40	5.94	35.70	56.27	54.91	74.00	19.09	Peak

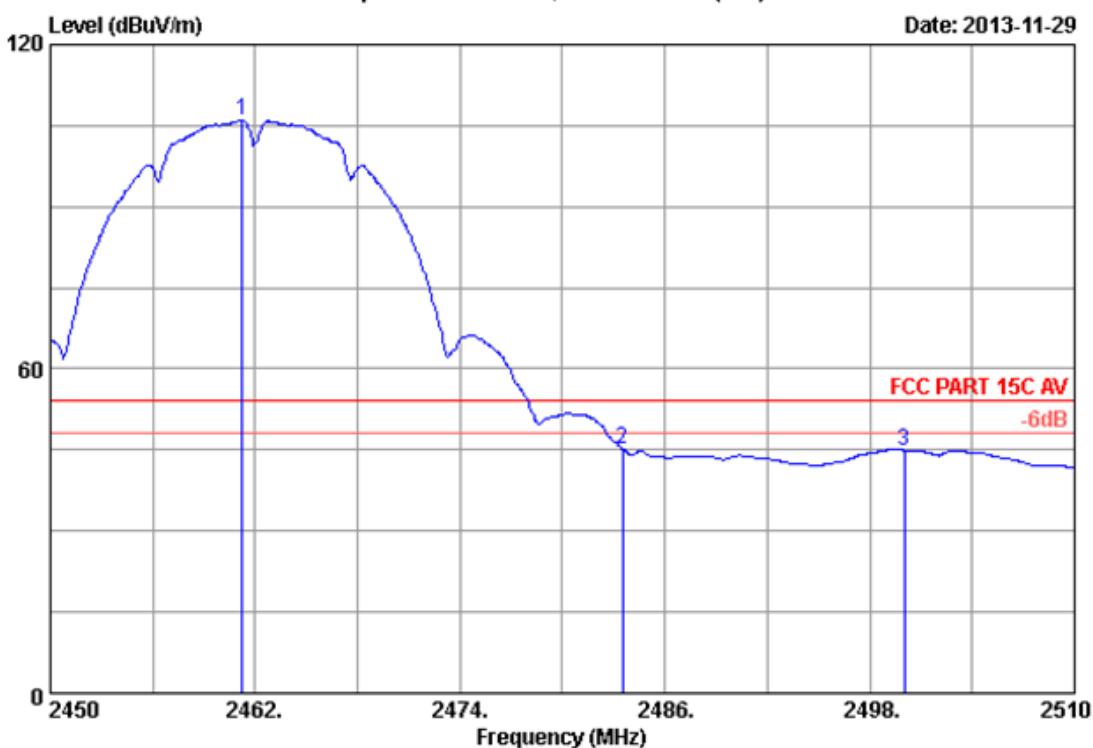
Remarks:

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

Data: 26

File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)

Date: 2013-11-29



Site no. : 3m Chamber Data no. : 26
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11b 2462MHz Tx Mode
MT-WN731NM

Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Emission					
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark	
<hr/>									
1 2461.220	28.31	5.89	35.70	107.54	106.04	54.00	-52.04	Average	
2 2483.500	28.36	5.92	35.70	46.68	45.26	54.00	8.74	Average	
3 2500.000	28.40	5.94	35.70	46.28	44.92	54.00	9.08	Average	
<hr/>									

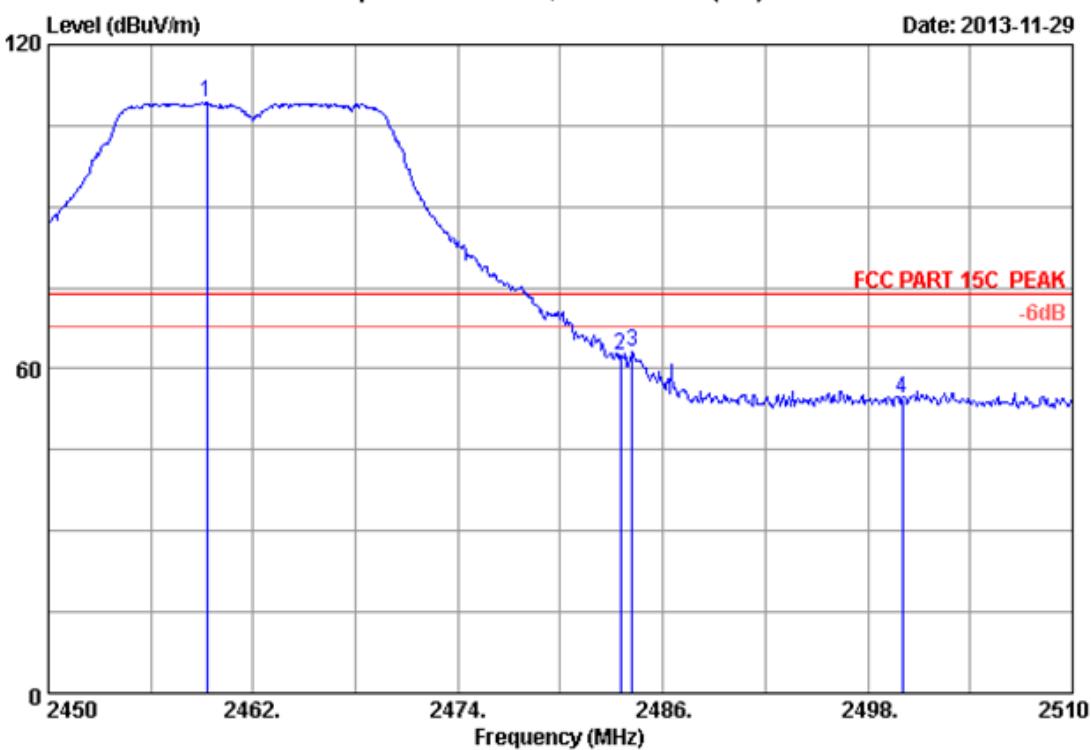
Remarks:

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: 27

File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)

Date: 2013-11-29



Site no. : 3m Chamber Data no. : 27
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11g 2462MHz Tx Mode
MT-WN731NM

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 2459.300	28.31	5.88	35.70	110.71	109.20	74.00	-35.20	Peak
2 2483.500	28.36	5.92	35.70	64.03	62.61	74.00	11.39	Peak
3 2484.200	28.37	5.92	35.70	64.71	63.30	74.00	10.70	Peak
4 2500.000	28.40	5.94	35.70	55.95	54.59	74.00	19.41	Peak

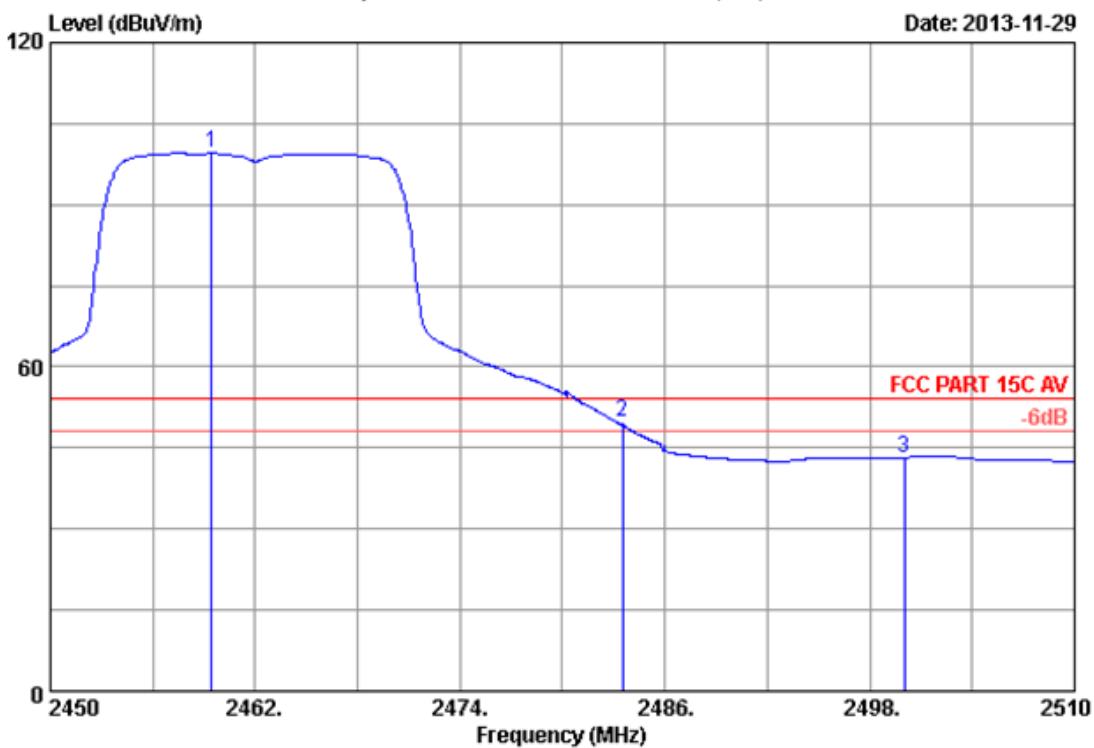
Remarks:

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

Data: 28

File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)

Date: 2013-11-29



Site no. : 3m Chamber Data no. : 28
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11g 2462MHz Tx Mode
MT-WN731NM

Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Emission					
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark	
<hr/>									
1 2459.420	28.31	5.88	35.70	101.04	99.53	54.00	-45.53	Average	
2 2483.500	28.36	5.92	35.70	51.10	49.68	54.00	4.32	Average	
3 2500.000	28.40	5.94	35.70	44.56	43.20	54.00	10.80	Average	
<hr/>									

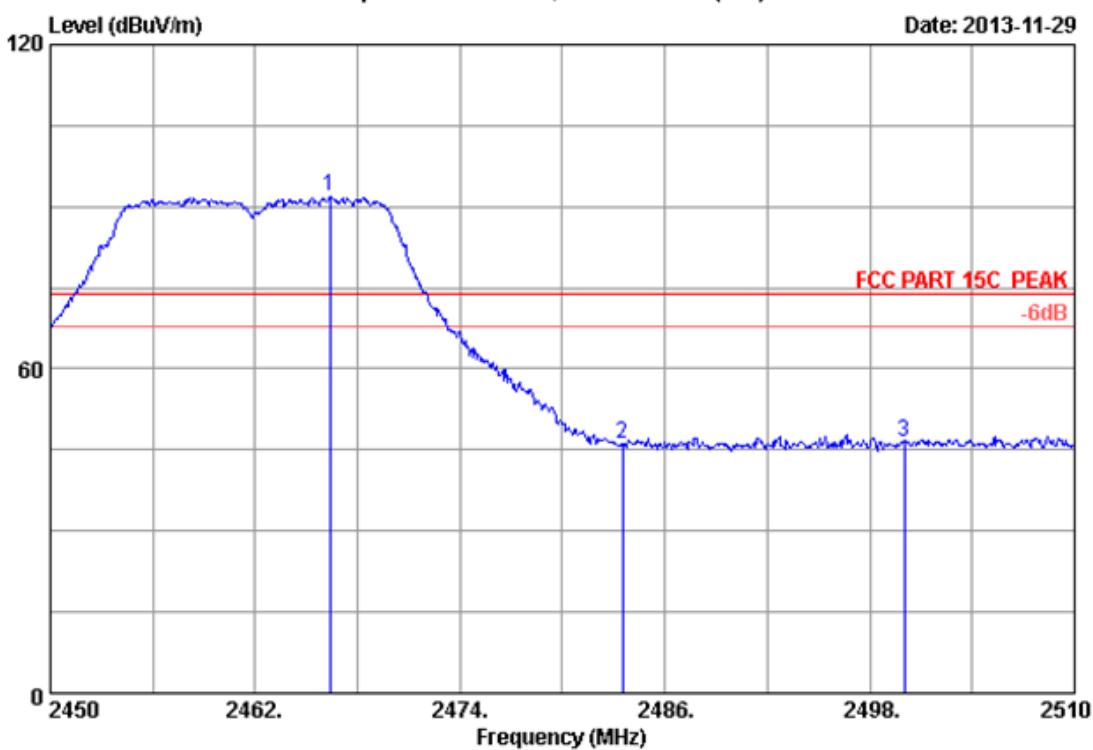
Remarks:

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: 29

File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)

Date: 2013-11-29



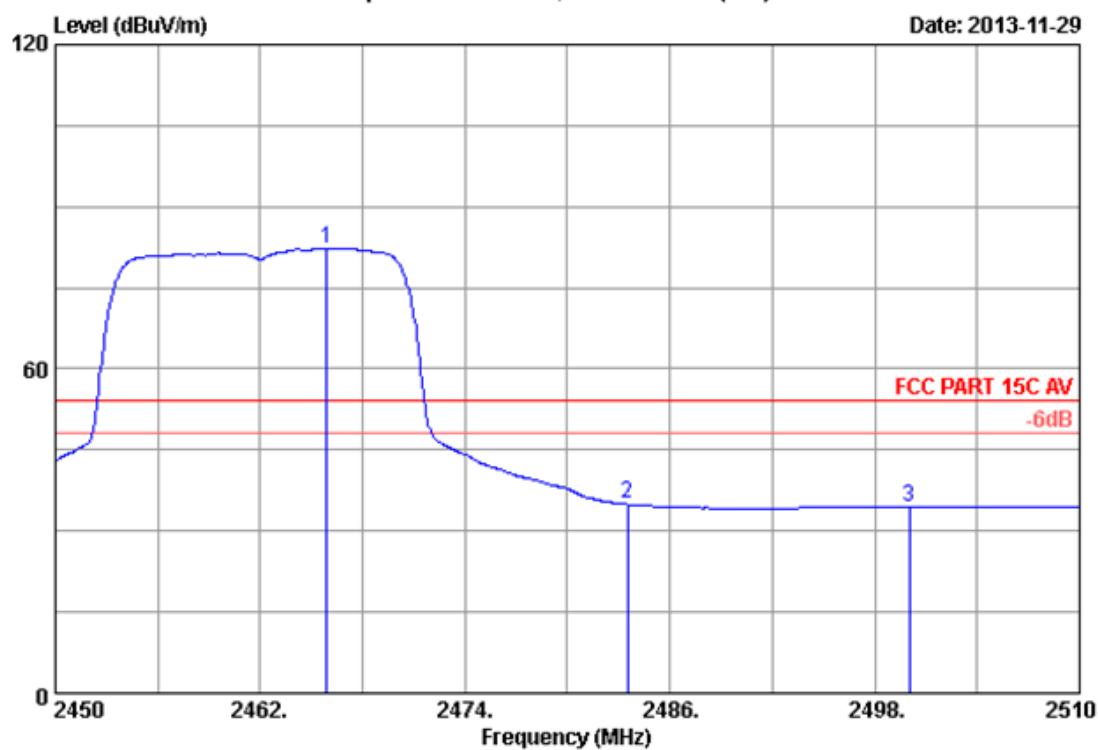
Site no. : 3m Chamber Data no. : 29
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11g 2462MHz Tx Mode
MT-WN731NM

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 2466.380	28.33	5.89	35.70	93.25	91.77	74.00	-17.77	Peak
2 2483.500	28.36	5.92	35.70	47.71	46.29	74.00	27.71	Peak
3 2500.000	28.40	5.94	35.70	47.67	46.31	74.00	27.69	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.

Data: 30 File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)



Site no. : 3m Chamber Data no. : 30
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11g 2462MHz Tx Mode
MT-WN731NM

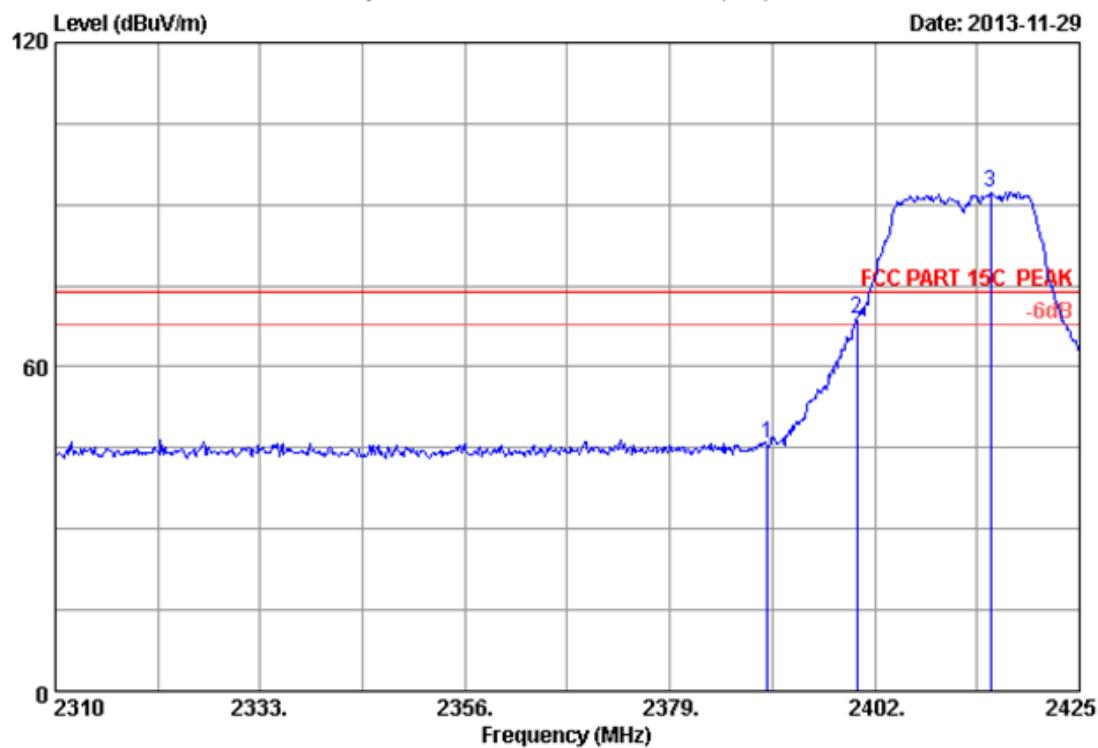
Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2465.900	28.32	5.89	35.70	83.77	82.28	54.00	-28.28	Average
2 2483.500	28.36	5.92	35.70	36.41	34.99	54.00	19.01	Average
3 2500.000	28.40	5.94	35.70	35.68	34.32	54.00	19.68	Average

Remarks:

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

Data: 49

File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)



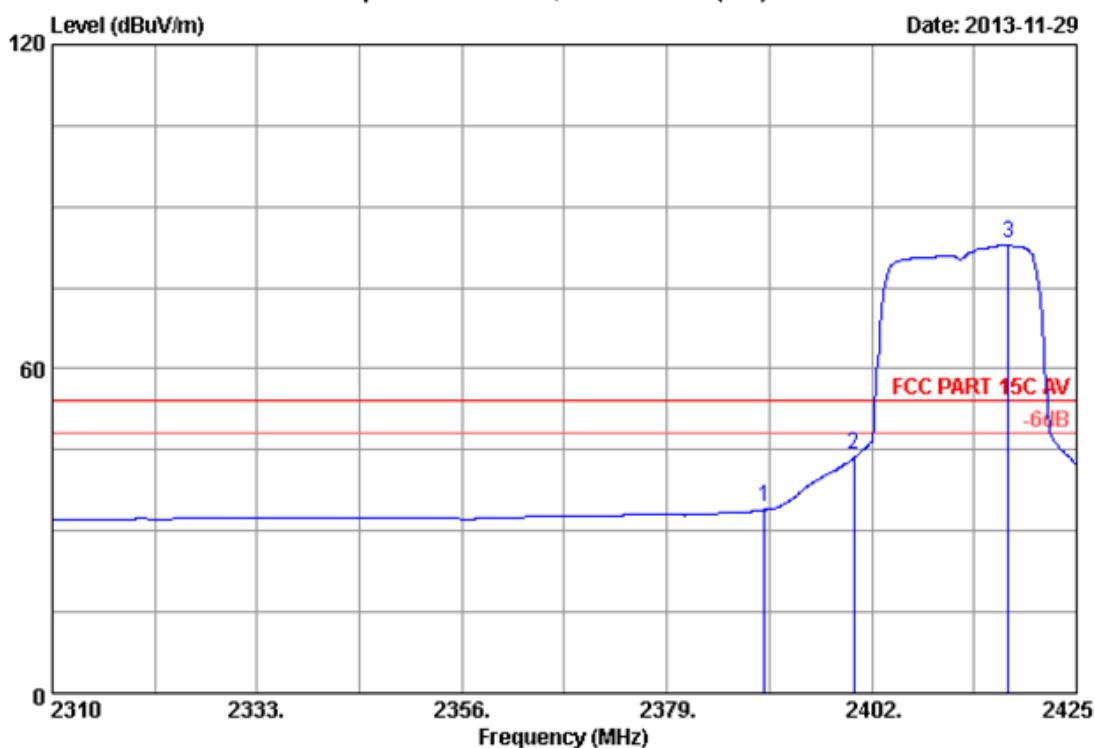
Site no. : 3m Chamber Data no. : 49
 Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
 EUT : WIRELESS USB ADAPTER
 Power supply : DC 3.3V
 Test mode : IEEE802.11g 2412MHz Tx Mode
 MT-WN731NM

Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Emission					
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark	
<hr/>									
1 2390.000	28.16	5.78	35.70	47.49	45.73	74.00	28.27	Peak	
2 2400.000	28.18	5.80	35.70	70.46	68.74	74.00	5.26	Peak	
3 2414.995	28.21	5.82	35.70	94.02	92.35	74.00	-18.35	Peak	
<hr/>									

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: 50 File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)



Site no. : 3m Chamber Data no. : 50
 Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
 EUT : WIRELESS USB ADAPTER
 Power supply : DC 3.3V
 Test mode : IEEE802.11g 2412MHz Tx Mode
 MT-WN731NM

Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2390.000	28.16	5.78	35.70	36.14	34.38	54.00	19.62	Average
2 2400.000	28.18	5.80	35.70	45.69	43.97	54.00	10.03	Average
3 2417.295	28.22	5.82	35.70	85.03	83.37	54.00	-29.37	Average

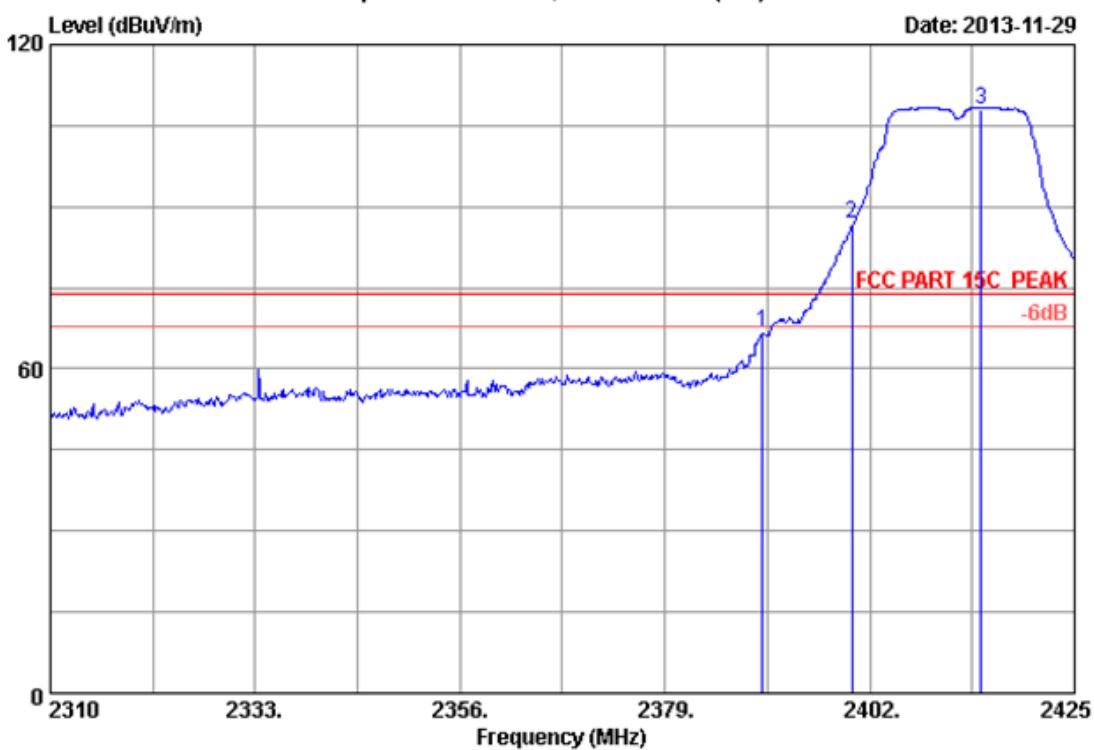
Remarks:

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: 51

File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)

Date: 2013-11-29



Site no. : 3m Chamber Data no. : 51
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11g 2412MHz Tx Mode
MT-WN731NM

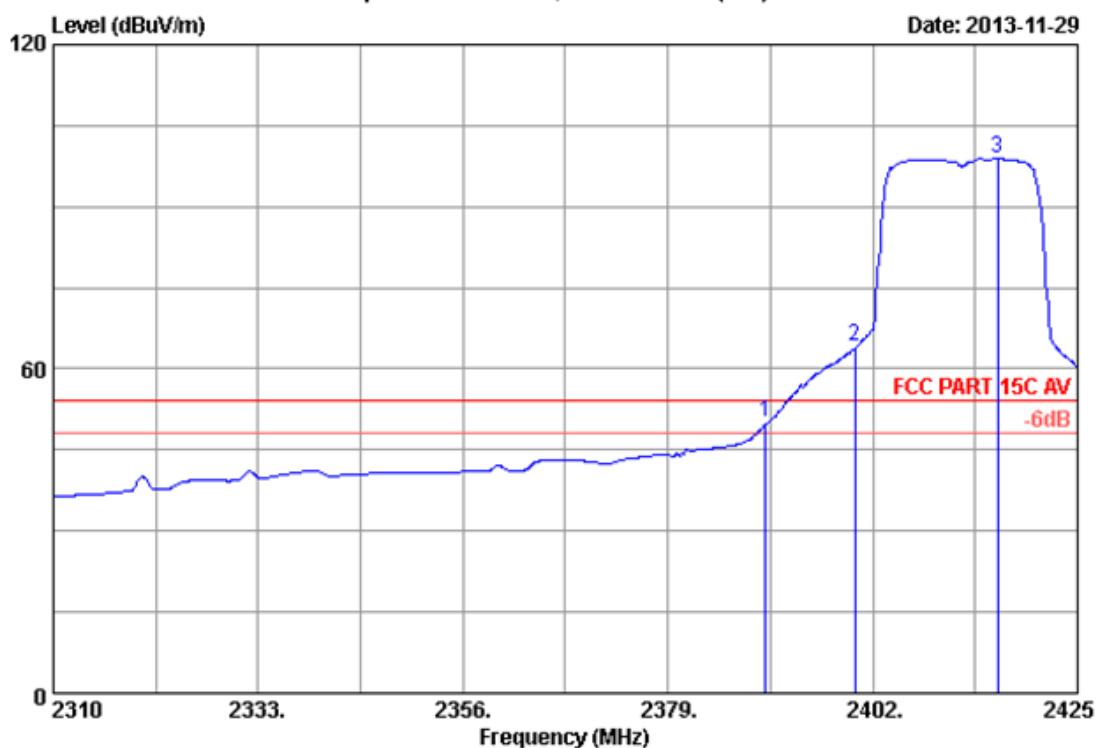
Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			
					Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2390.000	28.16	5.78	35.70	68.67	66.91	74.00	7.09	Peak
2 2400.000	28.18	5.80	35.70	88.71	86.99	74.00	-12.99	Peak
3 2414.530	28.21	5.82	35.70	109.79	108.12	74.00	-34.12	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.

Data: 52

File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)



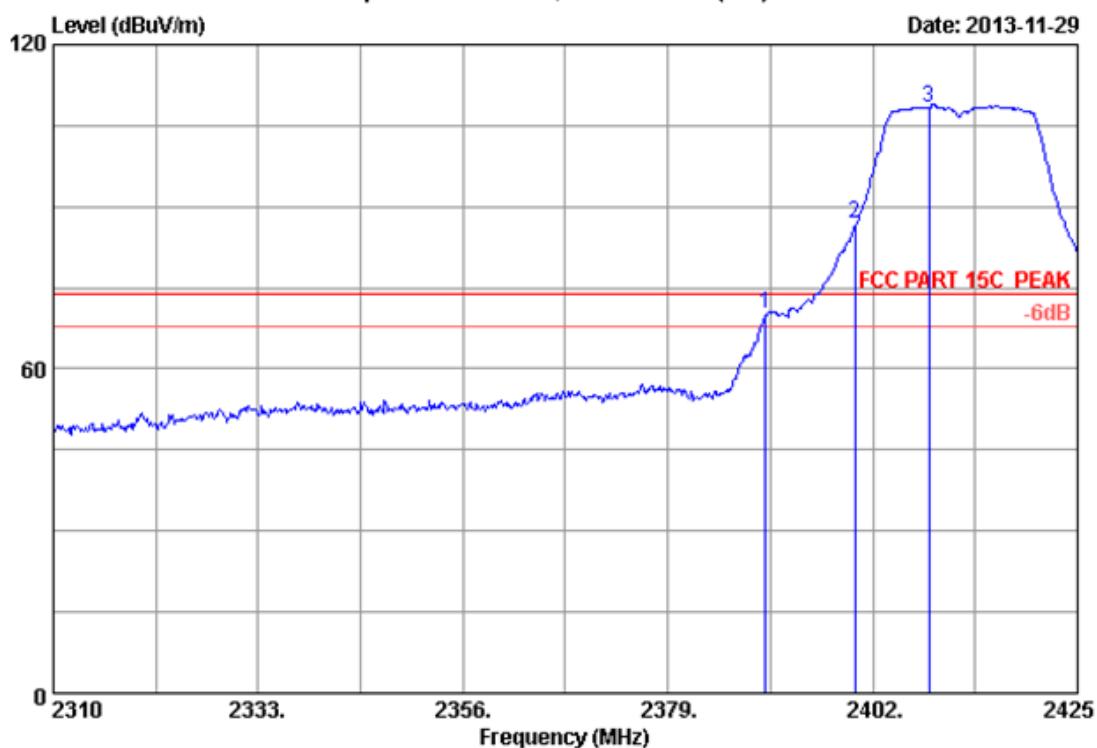
Site no. : 3m Chamber Data no. : 52
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11g 2412MHz Tx Mode
MT-WN731NM

Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2390.000	28.16	5.78	35.70	51.92	50.16	54.00	3.84	Average
2 2400.000	28.18	5.80	35.70	66.01	64.29	54.00	-10.29	Average
3 2416.030	28.22	5.82	35.70	100.51	98.85	54.00	-44.85	Average

Remarks:

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

Data: 53 File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)



Site no. : 3m Chamber Data no. : 53
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11nHT20 2412MHz Tx Mode
MT-WN731NM

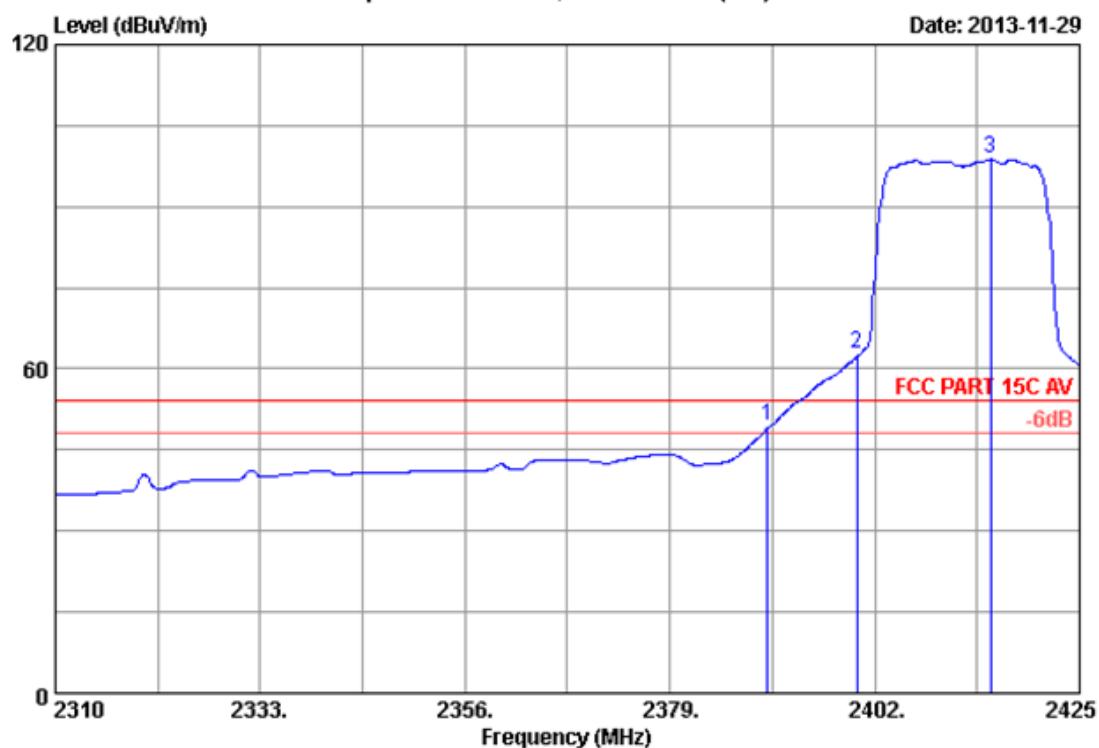
Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2390.000	28.16	5.78	35.70	72.00	70.24	74.00	3.76	Peak
2 2400.000	28.18	5.80	35.70	88.68	86.96	74.00	-12.96	Peak
3 2408.320	28.20	5.81	35.70	110.15	108.46	74.00	-34.46	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.

Data: 54

File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)



Site no. : 3m Chamber Data no. : 54
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11nHT20 2412MHz Tx Mode
MT-WN731NM

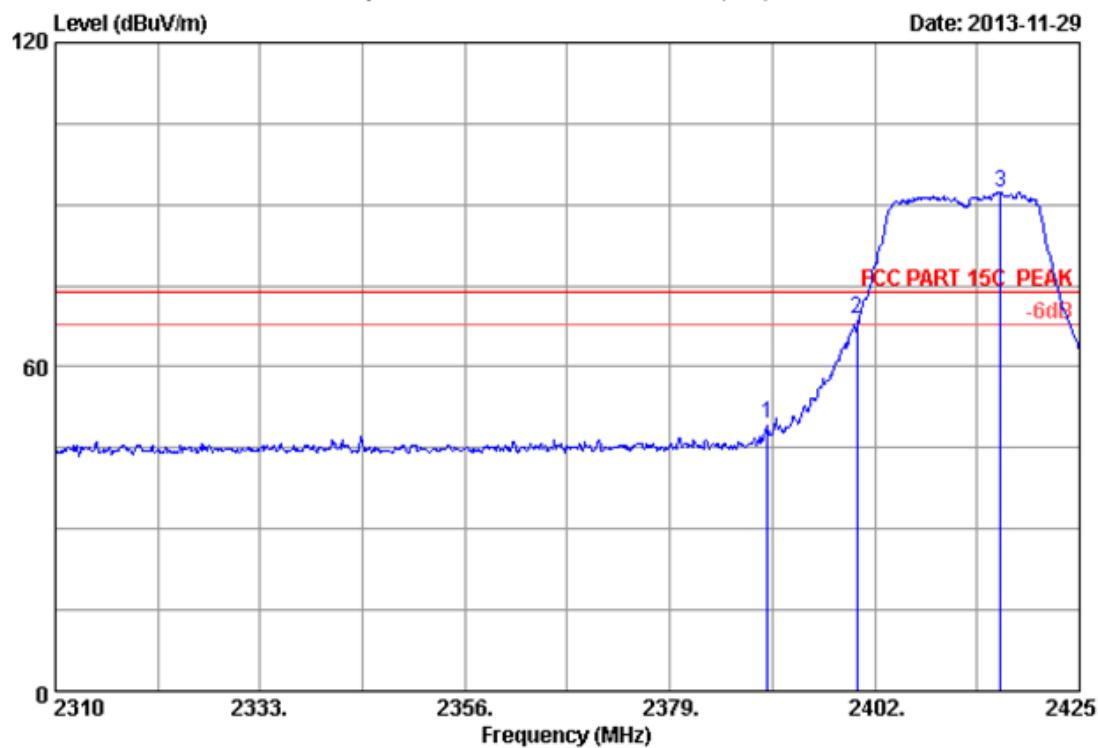
Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2390.000	28.16	5.78	35.70	51.22	49.46	54.00	4.54	Average
2 2400.000	28.18	5.80	35.70	64.43	62.71	54.00	-8.71	Average
3 2414.995	28.21	5.82	35.70	100.45	98.78	54.00	-44.78	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: 55

File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)



Site no. : 3m Chamber Data no. : 55
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11nHT20 2412MHz Tx Mode
MT-WN731NM

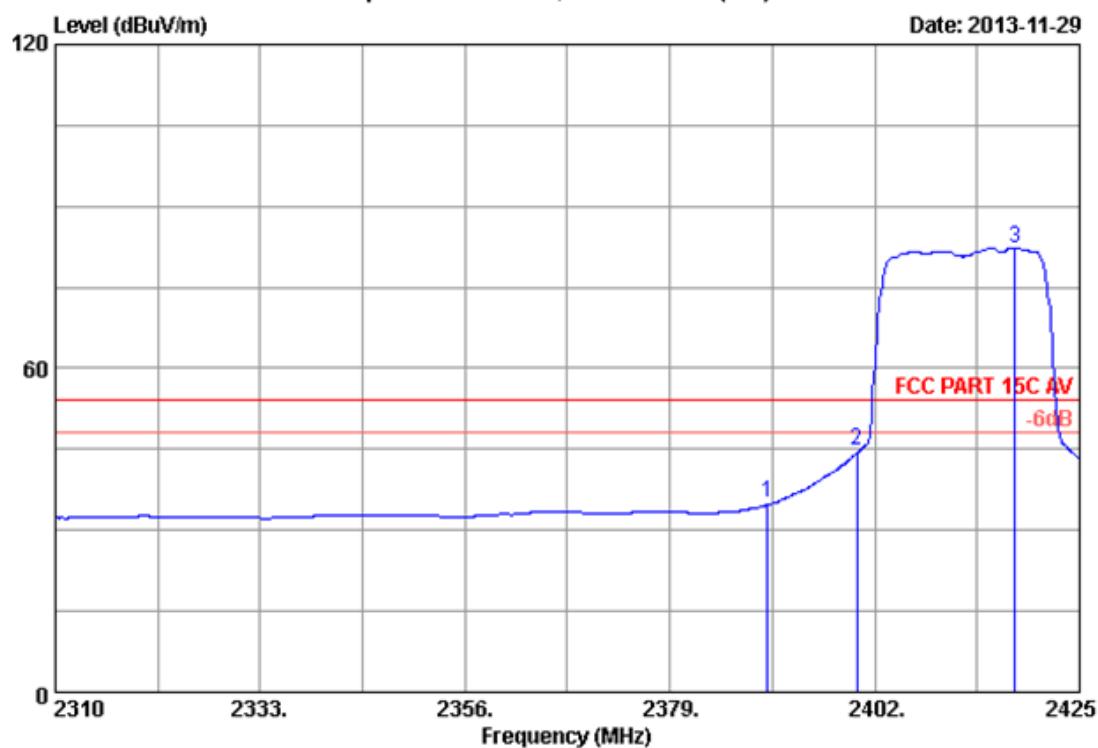
Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			
					Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2390.000	28.16	5.78	35.70	51.20	49.44	74.00	24.56	Peak
2 2400.000	28.18	5.80	35.70	70.73	69.01	74.00	4.99	Peak
3 2416.145	28.22	5.82	35.70	94.06	92.40	74.00	-18.40	Peak

Remarks:

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

Data: 56

File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)



Site no. : 3m Chamber Data no. : 56
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11nHT20 2412MHz Tx Mode
MT-WN731NM

Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2390.000	28.16	5.78	35.70	36.95	35.19	54.00	18.81	Average
2 2400.000	28.18	5.80	35.70	46.53	44.81	54.00	9.19	Average
3 2417.755	28.22	5.82	35.70	83.99	82.33	54.00	-28.33	Average

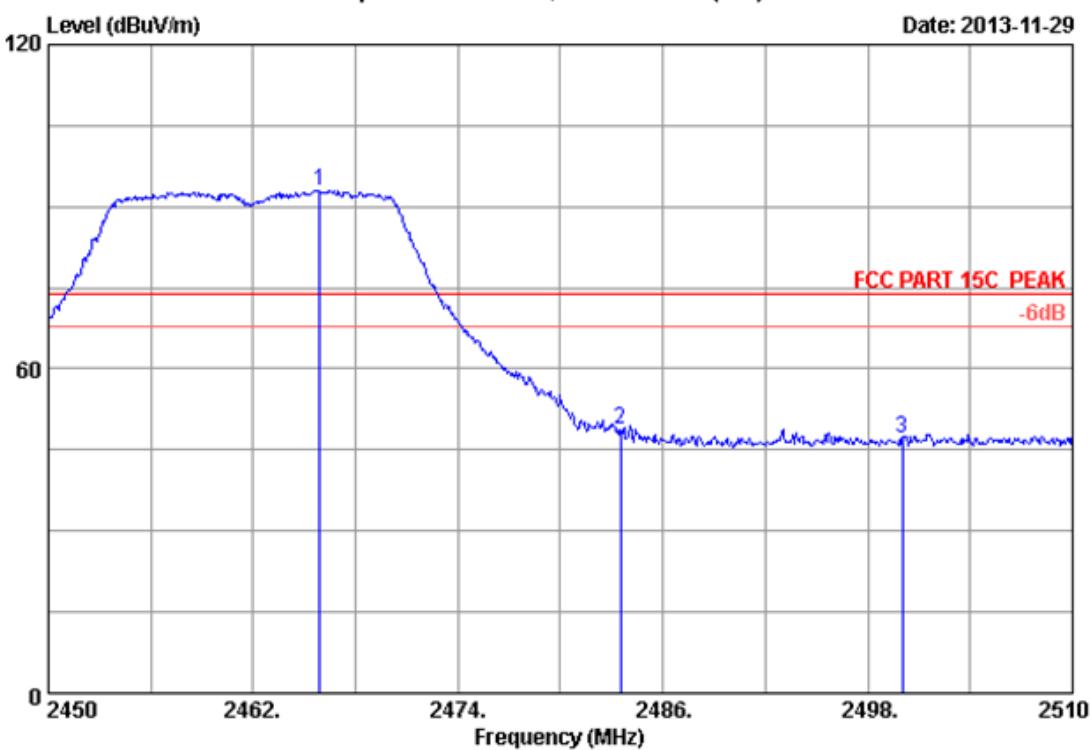
Remarks:

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: 75

File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)

Date: 2013-11-29



Site no. : 3m Chamber Data no. : 75
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11nHT20 2462MHz Tx Mode
MT-WN731NM

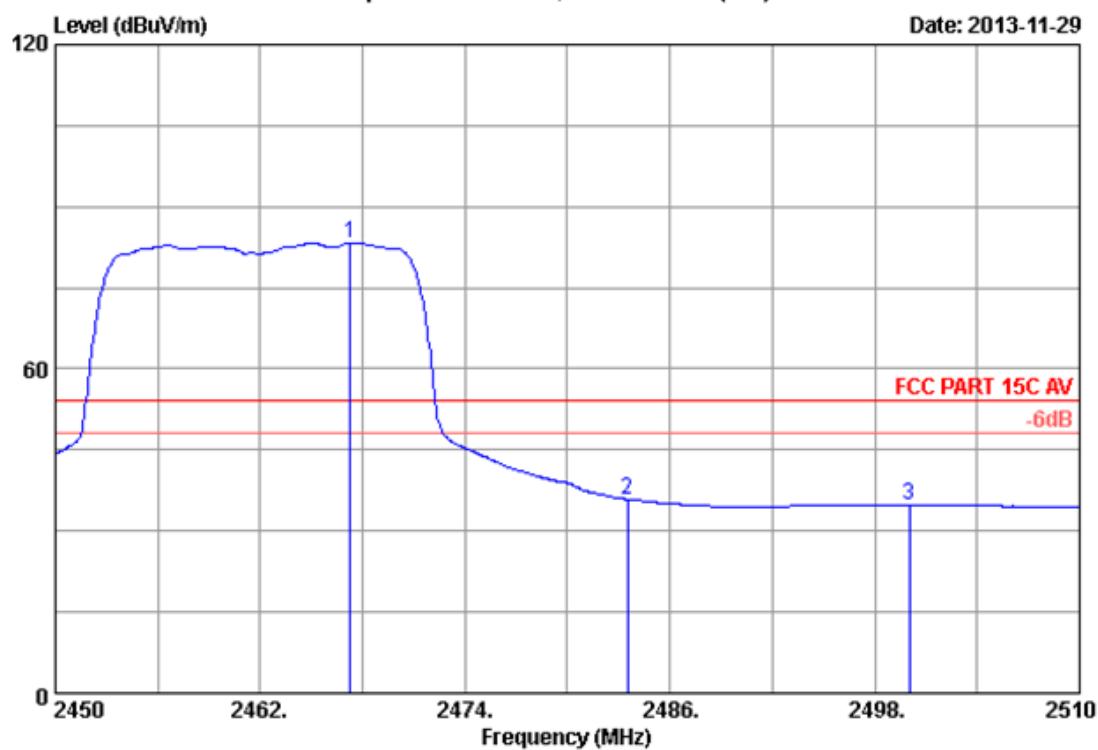
Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			
					Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2465.900	28.32	5.89	35.70	94.43	92.94	74.00	-18.94	Peak
2 2483.500	28.36	5.92	35.70	50.20	48.78	74.00	25.22	Peak
3 2500.000	28.40	5.94	35.70	48.60	47.24	74.00	26.76	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.

Data: 76

File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)



Site no. : 3m Chamber Data no. : 76
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11nHT20 2462MHz Tx Mode
MT-WN731NM

Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2467.280	28.33	5.89	35.70	84.79	83.31	54.00	-29.31	Average
2 2483.500	28.36	5.92	35.70	37.33	35.91	54.00	18.09	Average
3 2500.000	28.40	5.94	35.70	35.99	34.63	54.00	19.37	Average

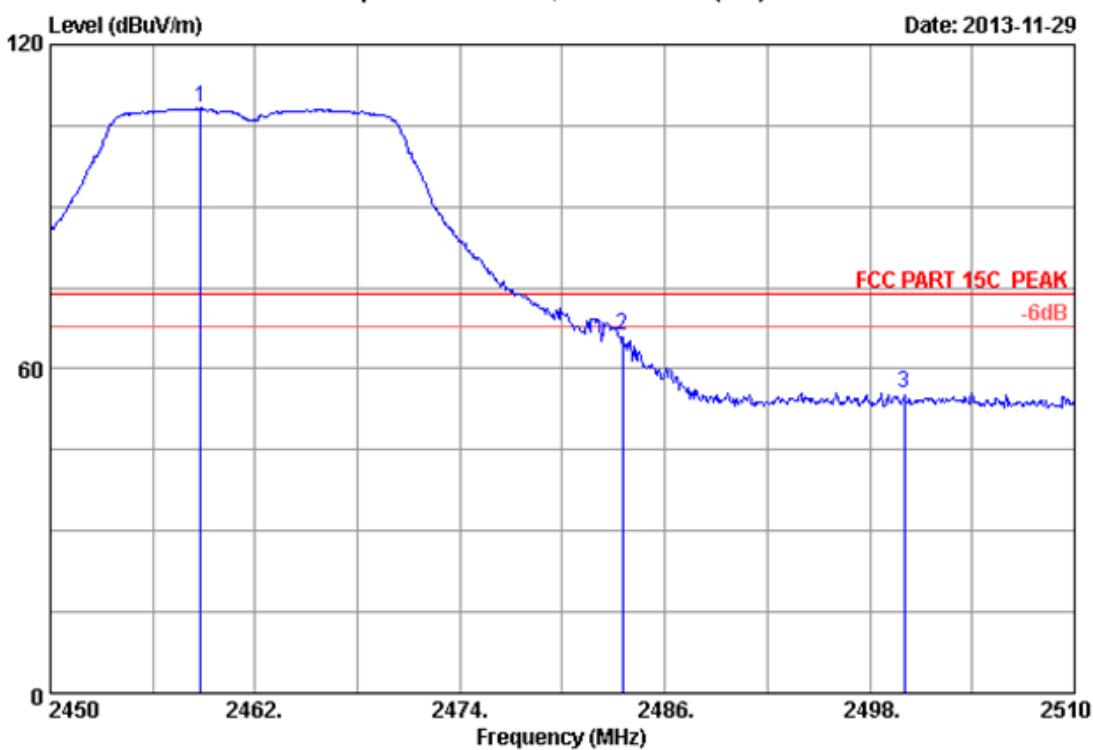
Remarks:

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: 77

File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)

Date: 2013-11-29



Site no. : 3m Chamber Data no. : 77
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11nHT20 2462MHz Tx Mode
MT-WN731NM

Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2458.820	28.31	5.88	35.70	109.73	108.22	74.00	-34.22	Peak
2 2483.500	28.36	5.92	35.70	67.57	66.15	74.00	7.85	Peak
3 2500.000	28.40	5.94	35.70	56.91	55.55	74.00	18.45	Peak

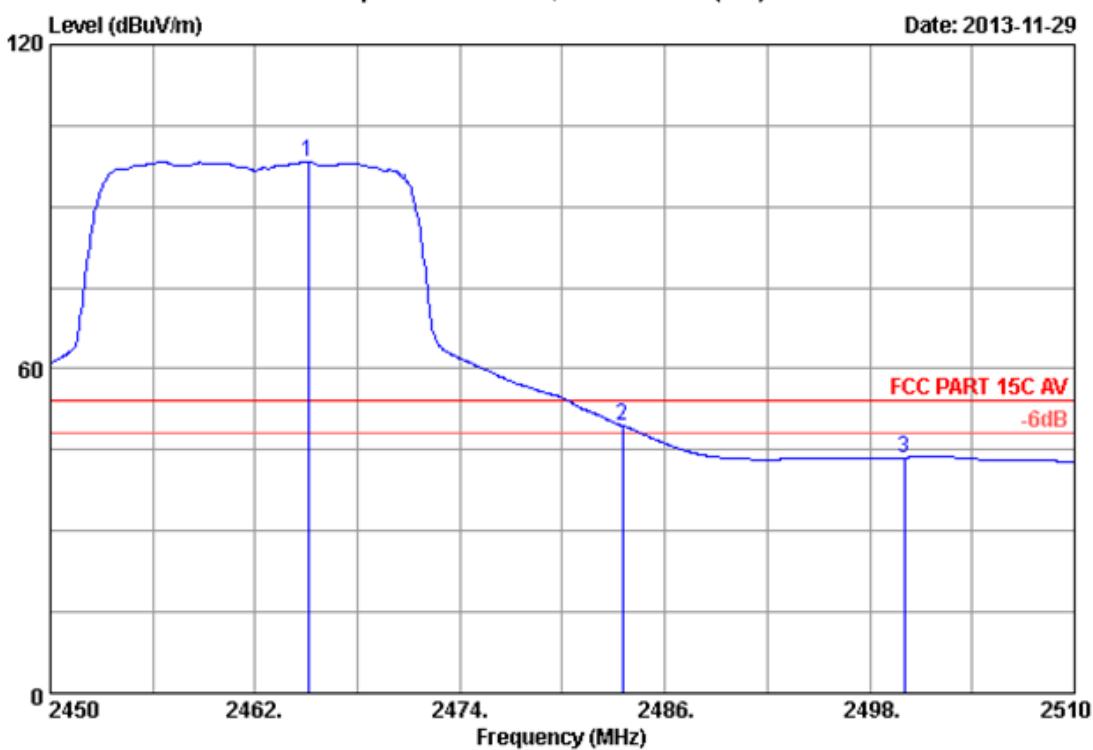
Remarks:

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

Data: 78

File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)

Date: 2013-11-29



Site no. : 3m Chamber Data no. : 78
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11nHT20 2462MHz Tx Mode
MT-WN731NM

Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Emission					
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark	
<hr/>									
1 2465.120	28.32	5.89	35.70	99.74	98.25	54.00	-44.25	Average	
2 2483.500	28.36	5.92	35.70	50.94	49.52	54.00	4.48	Average	
3 2500.000	28.40	5.94	35.70	44.88	43.52	54.00	10.48	Average	
<hr/>									

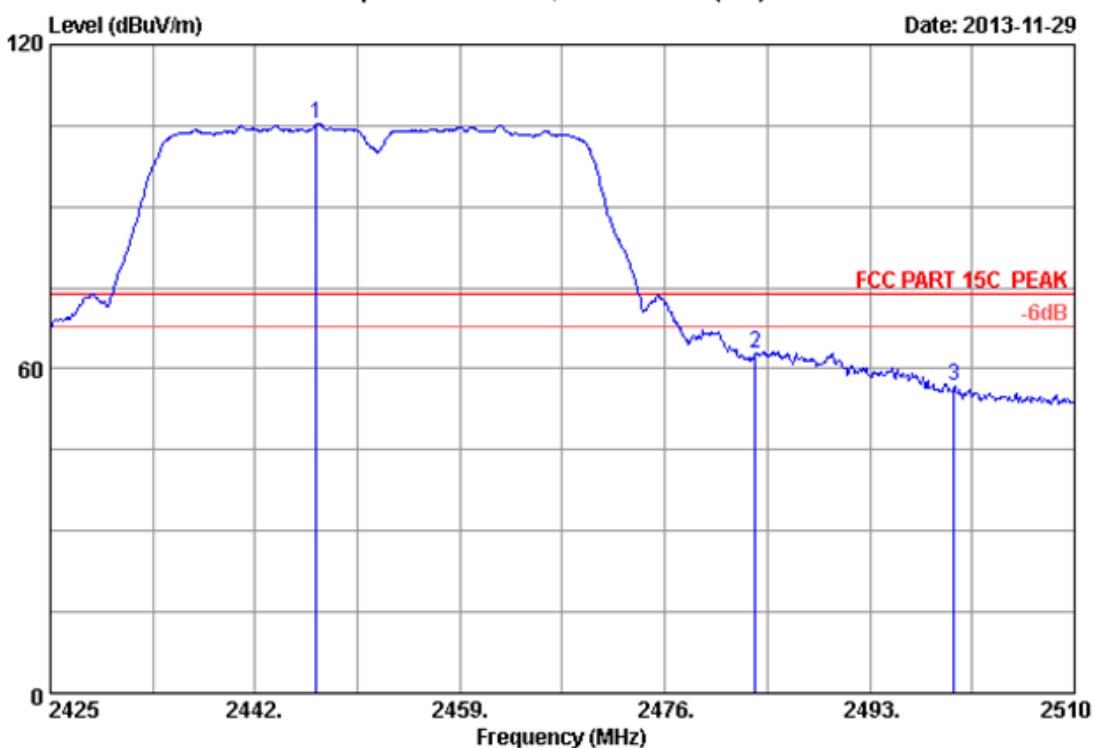
Remarks:

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: 79

File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)

Date: 2013-11-29



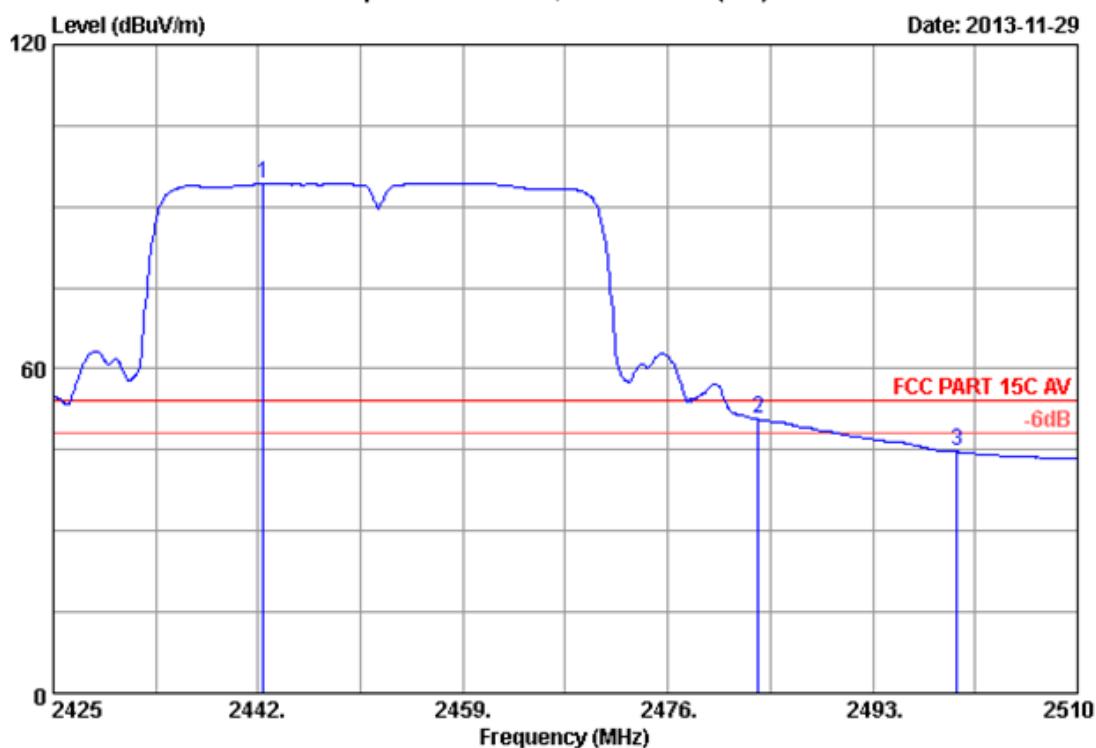
Site no. : 3m Chamber Data no. : 79
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11nHT40 2452MHz Tx Mode
MT-WN731NM

Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Emission					
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark	
<hr/>									
1 2447.100	28.28	5.87	35.70	106.96	105.41	74.00	-31.41	Peak	
2 2483.500	28.36	5.92	35.70	64.31	62.89	74.00	11.11	Peak	
3 2500.000	28.40	5.94	35.70	58.24	56.88	74.00	17.12	Peak	
<hr/>									

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: 80 File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)



Site no. : 3m Chamber Data no. : 80
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11nHT40 2452MHz Tx Mode
MT-WN731NM

Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2442.425	28.27	5.86	35.70	95.93	94.36	54.00	-40.36	Average
2 2483.500	28.36	5.92	35.70	52.08	50.66	54.00	3.34	Average
3 2500.000	28.40	5.94	35.70	45.99	44.63	54.00	9.37	Average

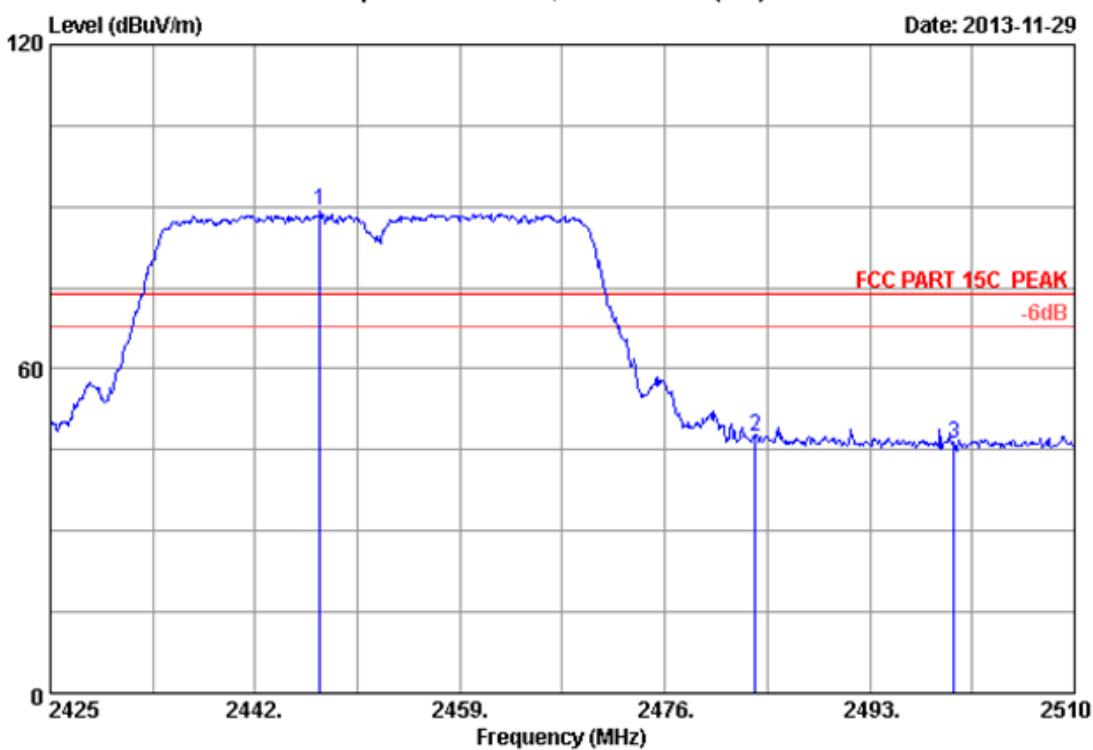
Remarks:

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: 81

File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)

Date: 2013-11-29



Site no. : 3m Chamber Data no. : 81
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11nHT40 2452MHz Tx Mode
MT-WN731NM

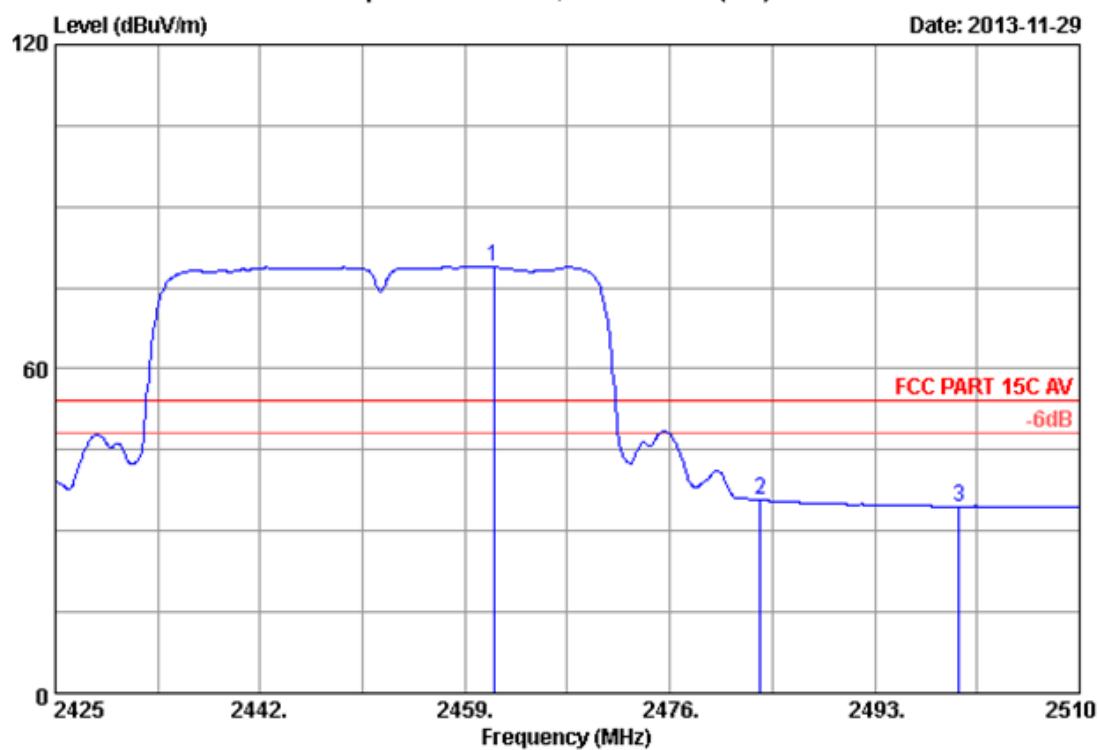
Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			
					Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2447.355	28.28	5.87	35.70	90.91	89.36	74.00	-15.36	Peak
2 2483.500	28.36	5.92	35.70	48.88	47.46	74.00	26.54	Peak
3 2500.000	28.40	5.94	35.70	47.65	46.29	74.00	27.71	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.

Data: 82

File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)



Site no. : 3m Chamber Data no. : 82
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11nHT40 2452MHz Tx Mode
MT-WN731NM

Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2461.380	28.32	5.89	35.70	80.35	78.86	54.00	-24.86	Average
2 2483.500	28.36	5.92	35.70	37.14	35.72	54.00	18.28	Average
3 2500.000	28.40	5.94	35.70	35.89	34.53	54.00	19.47	Average

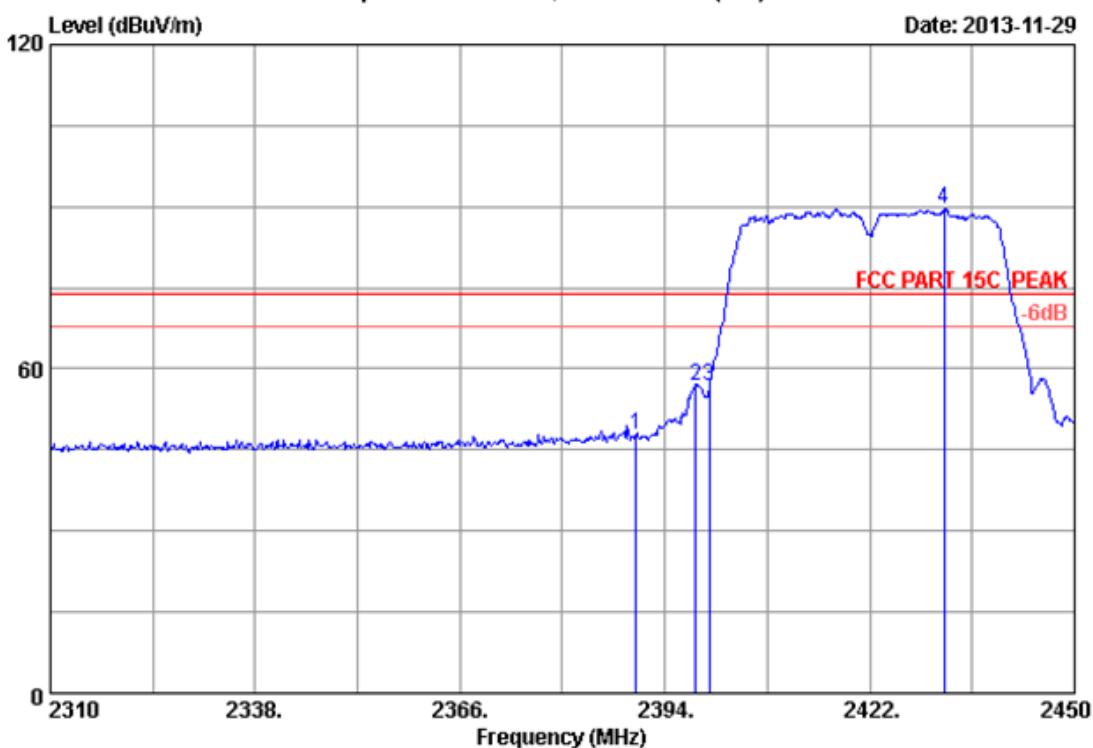
Remarks:

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

Data: 101

File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)

Date: 2013-11-29



Site no. : 3m Chamber Data no. : 101
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11nHT40 2422MHz Tx Mode
MT-WN731NM

	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	2390.000	28.16	5.78	35.70	49.52	47.76	74.00	26.24 Peak
2	2398.160	28.18	5.79	35.70	58.56	56.83	74.00	17.17 Peak
3	2400.000	28.18	5.80	35.70	58.41	56.69	74.00	17.31 Peak
4	2432.220	28.25	5.84	35.70	91.16	89.55	74.00	-15.55 Peak

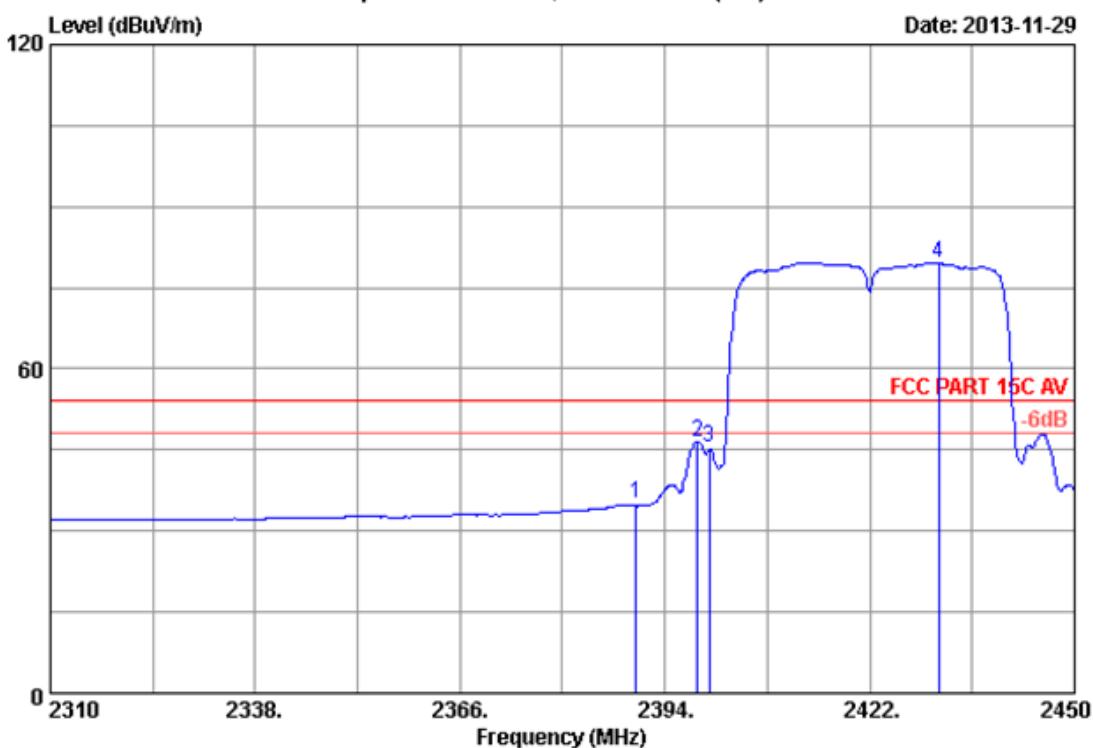
Remarks:

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

Data: 102

File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)

Date: 2013-11-29



Site no. : 3m Chamber Data no. : 102
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11nHT40 2422MHz Tx Mode
MT-WN731NM

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	28.16	5.78	35.70	36.86	35.10	54.00	18.90	Average
2 2398.480	28.18	5.79	35.70	48.28	46.55	54.00	7.45	Average
3 2400.000	28.18	5.80	35.70	47.14	45.42	54.00	8.58	Average
4 2431.380	28.25	5.84	35.70	81.22	79.61	54.00	-25.61	Average

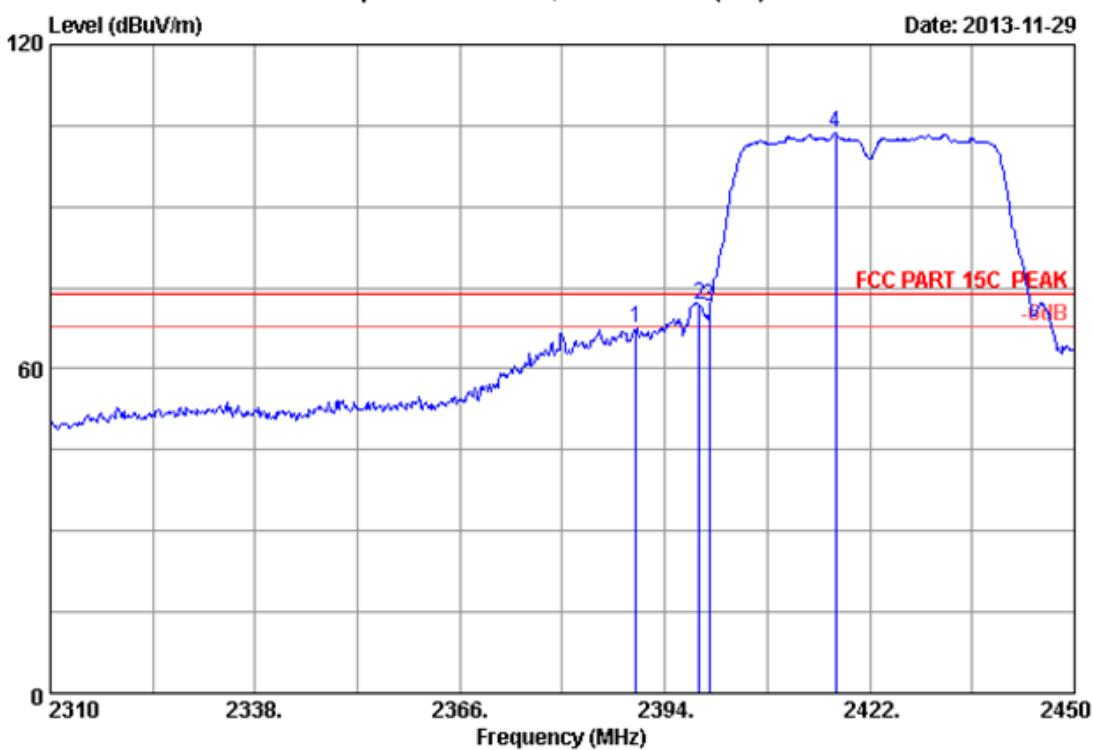
Remarks:

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

Data: 103

File: G:\2013 report\T\TCL\ACS13Q2179-FCC.EM6 (104)

Date: 2013-11-29

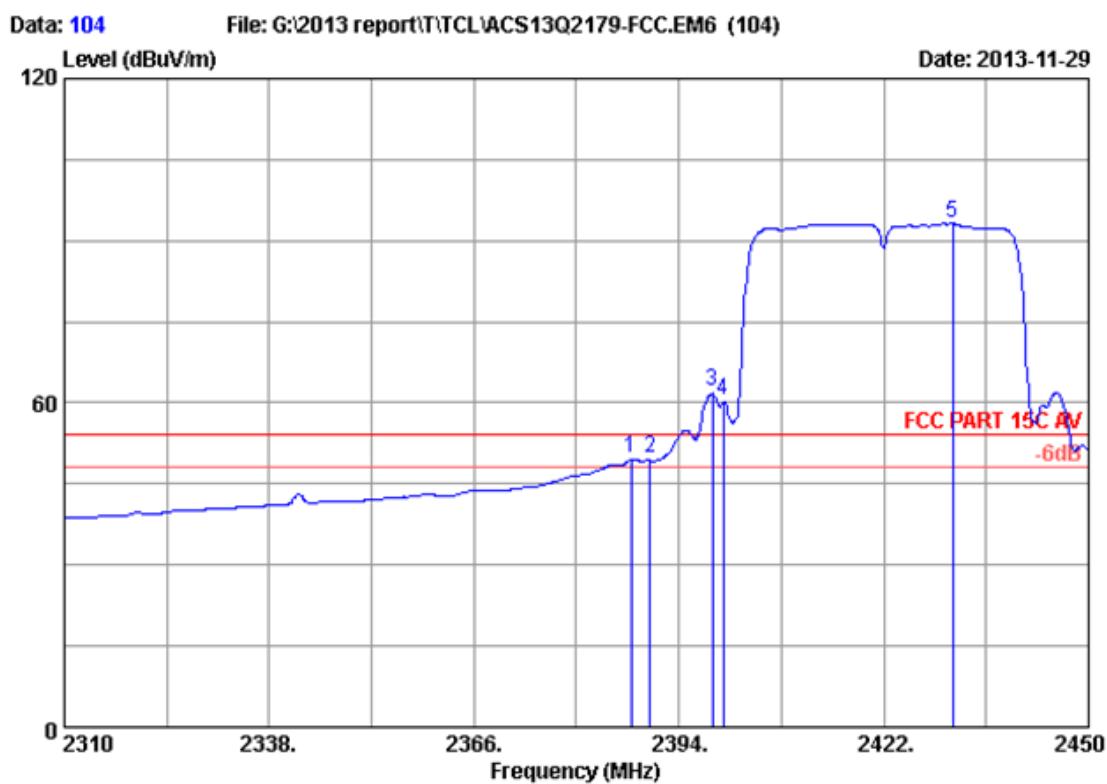


Site no. : 3m Chamber Data no. : 103
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11nHT40 2422MHz Tx Mode
MT-WN731NM

	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	2390.000	28.16	5.78	35.70	69.39	67.63	74.00	6.37 Peak
2	2398.660	28.18	5.80	35.70	73.42	71.70	74.00	2.30 Peak
3	2400.000	28.18	5.80	35.70	73.11	71.39	74.00	2.61 Peak
4	2417.380	28.22	5.82	35.70	105.29	103.63	74.00	-29.63 Peak

Remarks:

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



Site no. : 3m Chamber Data no. : 104
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Kevin_Hu
EUT : WIRELESS USB ADAPTER
Power supply : DC 3.3V
Test mode : IEEE802.11nHT40 2422MHz Tx Mode
MT-WN731NM

Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			
					Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2387.430	28.15	5.78	35.70	51.63	49.86	54.00	4.14	Average
2 2390.000	28.16	5.78	35.70	51.58	49.82	54.00	4.18	Average
3 2398.550	28.18	5.79	35.70	63.84	62.11	54.00	-8.11	Average
4 2400.000	28.18	5.80	35.70	62.16	60.44	54.00	-6.44	Average
5 2431.380	28.25	5.84	35.70	94.79	93.18	54.00	-39.18	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	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Oct.31, 13	1 Year
2	Horn Antenna	EMCO	3115	9510-4580	May.28, 13	1 Year
3	HF Cable	Hubersuhner	Sucoflex104	-	May.08, 13	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 300kHz RBW and 1MHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

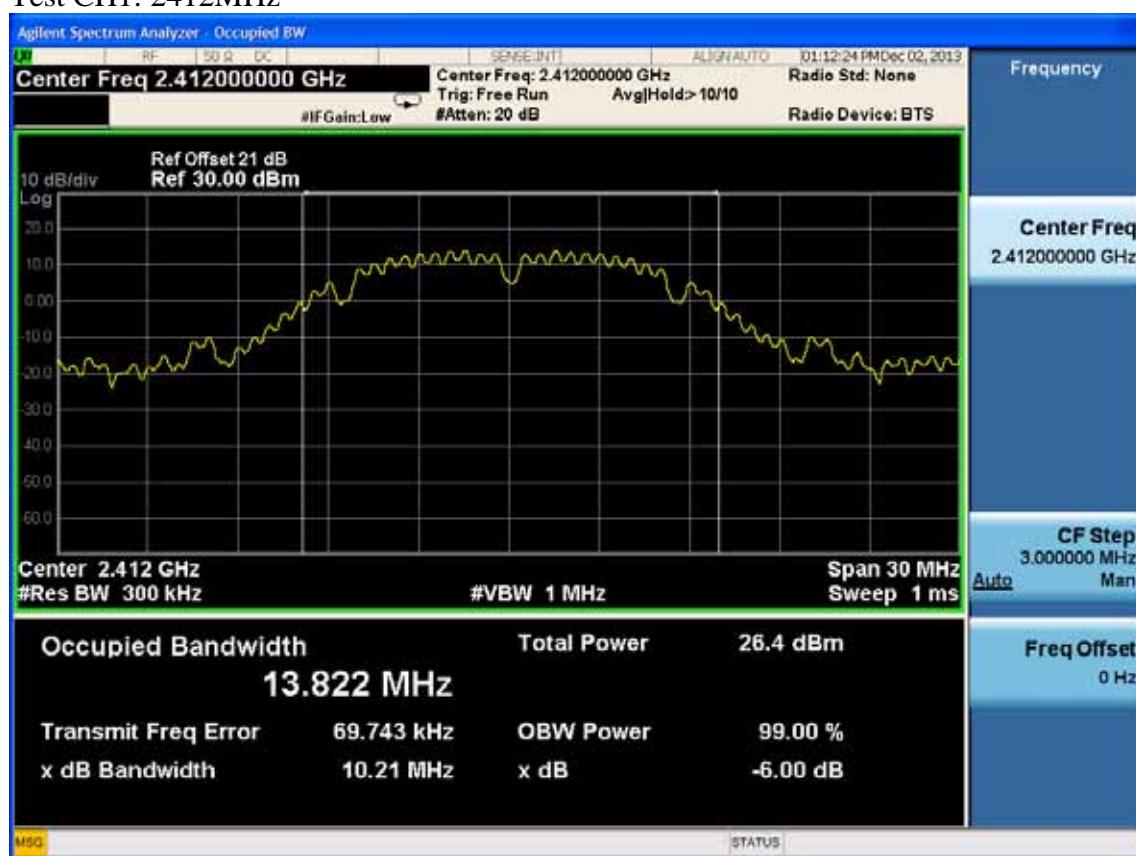
7.4. Test Results

EUT: WIRELESS USB ADAPTER			
M/N: MT-WN731NM			
Test date: 2013-12-02	Pressure: 101.1±1.0 kpa	Humidity: 53.2±3.0%	
Tested by: Leo-Li	Test site: RF Site	Temperature: 23.1±0.6°C	

Cable loss: 1 dB		Attenuator loss: 20 dB	
Test Mode	CH	6dB bandwidth (MHz)	Limit (KHz)
11b	CH1	10.21	>500
	CH6	10.22	>500
	CH11	10.20	>500
11g	CH1	16.56	>500
	CH6	16.53	>500
	CH11	16.59	>500
11n HT20	CH1	17.61	>500
	CH6	17.62	>500
	CH11	17.61	>500
11n HT40	CH1	36.60	>500
	CH4	36.57	>500
	CH7	36.58	>500
Conclusion : PASS			

Test Mode: IEEE 802.11b TX

Test CH1: 2412MHz



Test CH6: 2437MHz



Test CH11: 2462MHz

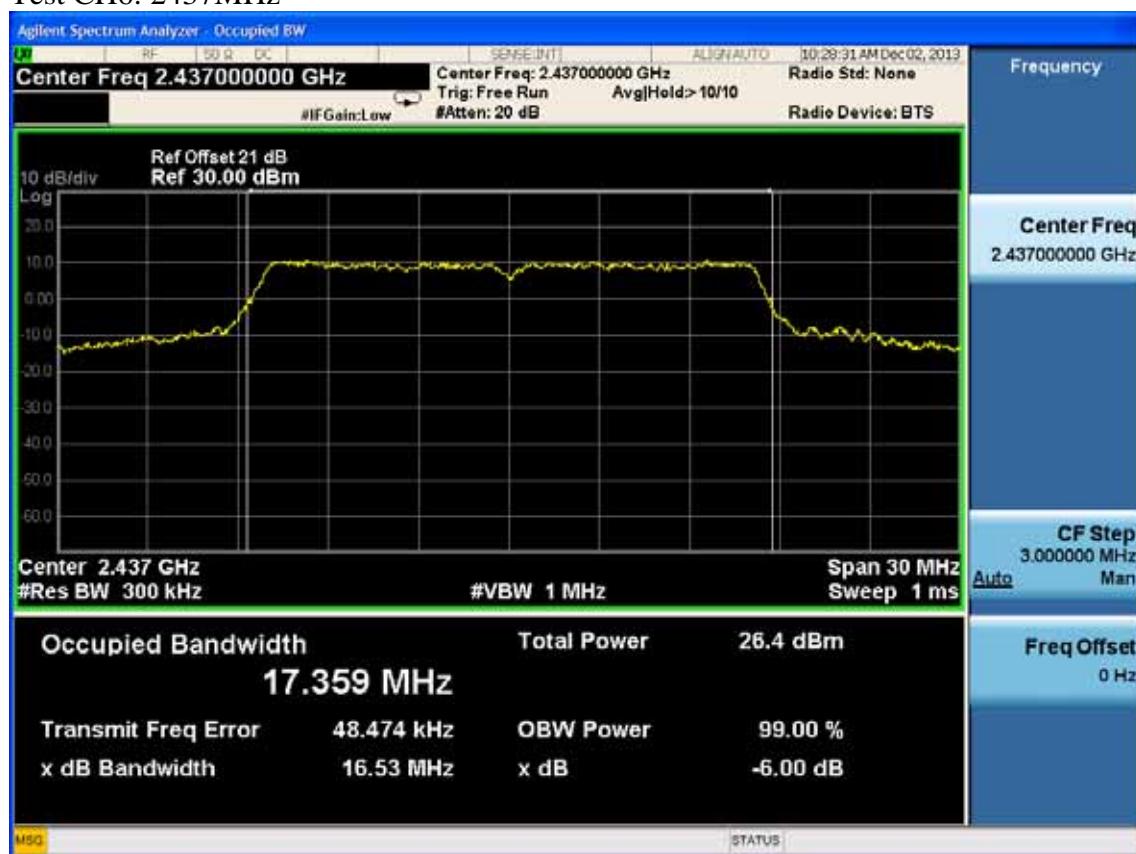


Test Mode: IEEE 802.11g TX

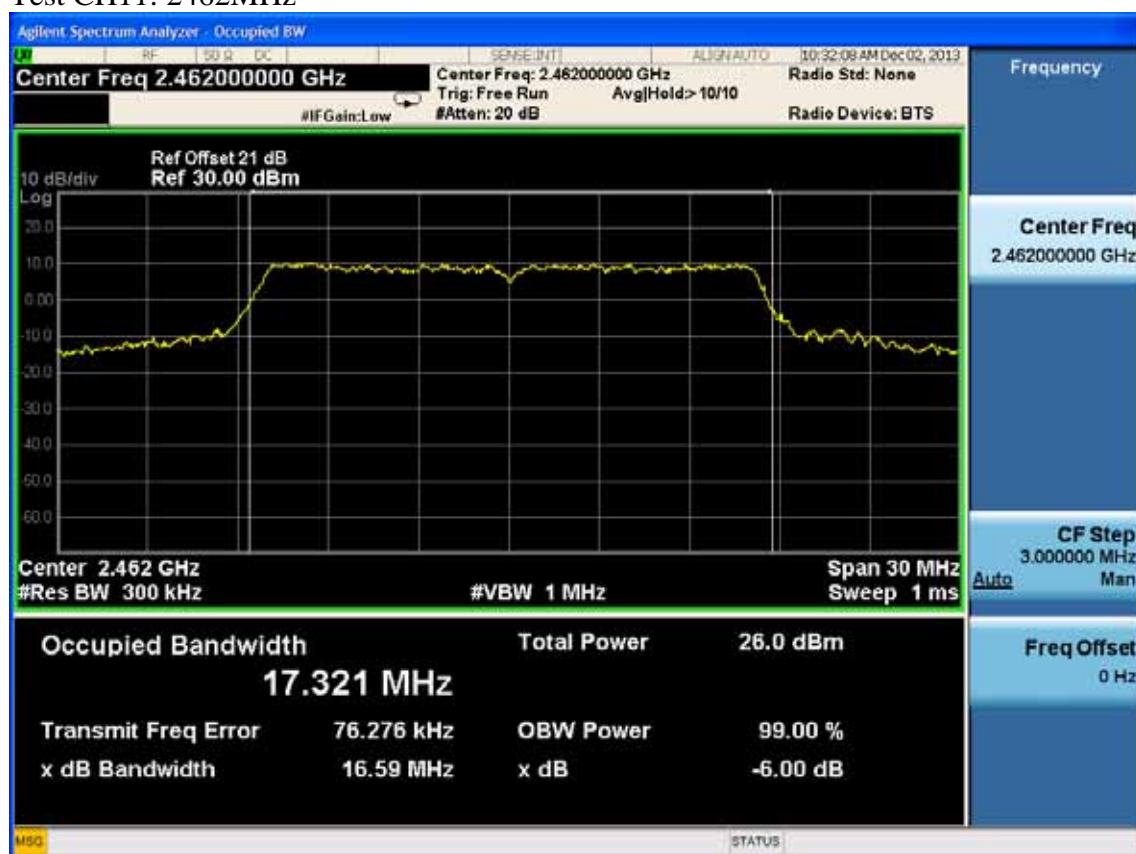
Test CH1: 2412MHz



Test CH6: 2437MHz



Test CH11: 2462MHz

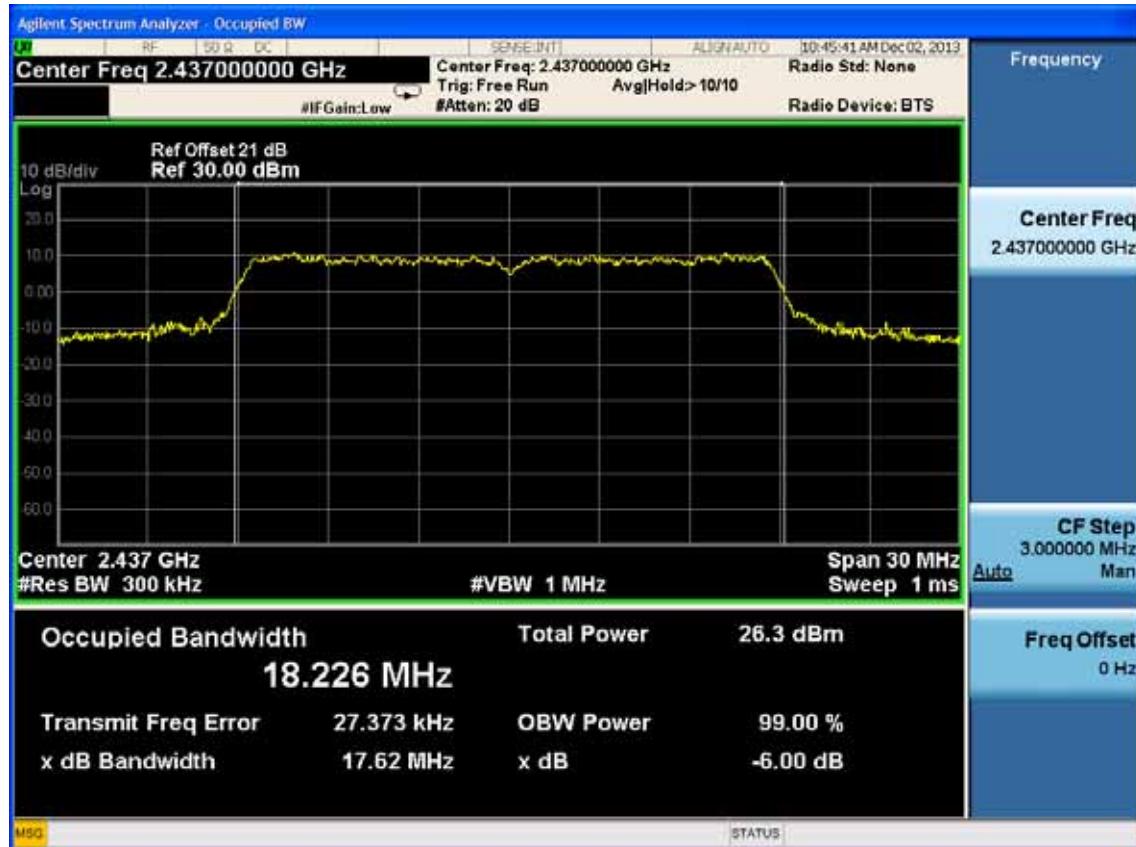


Test Mode: IEEE 802.11n HT20 TX

Test CH1: 2412MHz



Test CH6: 2437MHz



Test CH11: 2462MHz

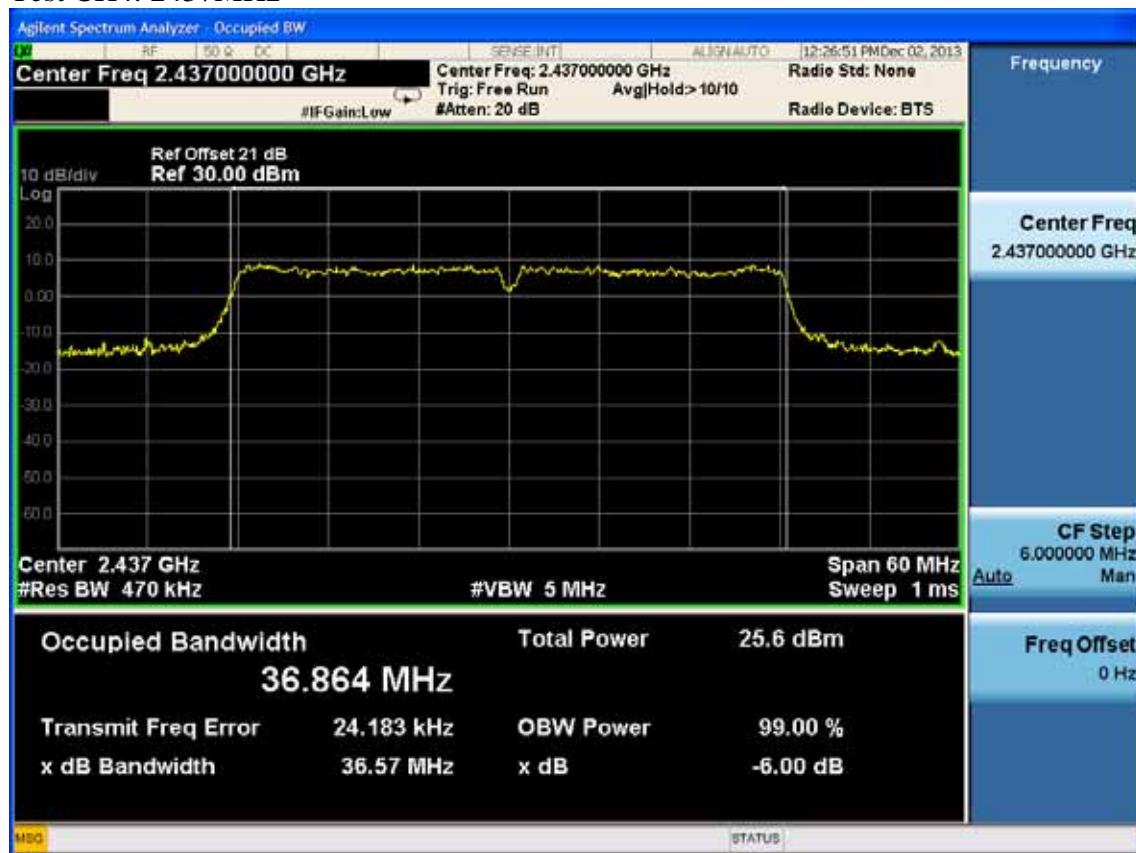


Test Mode: IEEE 802.11n HT40 TX

Test CH1: 2422MHz



Test CH4: 2437MHz



Test CH7: 2452MHz



8. OUTPUT POWER TEST

8.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Oct.31, 13	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 13	1 Year
3.	Horn Antenna	EMCO	3115	9510-4580	May.28, 13	1 Year
4.	HF Cable	Hubersuhne	Succoflex104	-	May.08, 13	1 Year
5.	Power Meter	Anritsu	ML2487A	6K00002472	May.08, 13	1 Year
6.	Power Sensor	Anritsu	MA2491A	033005	May.08, 13	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

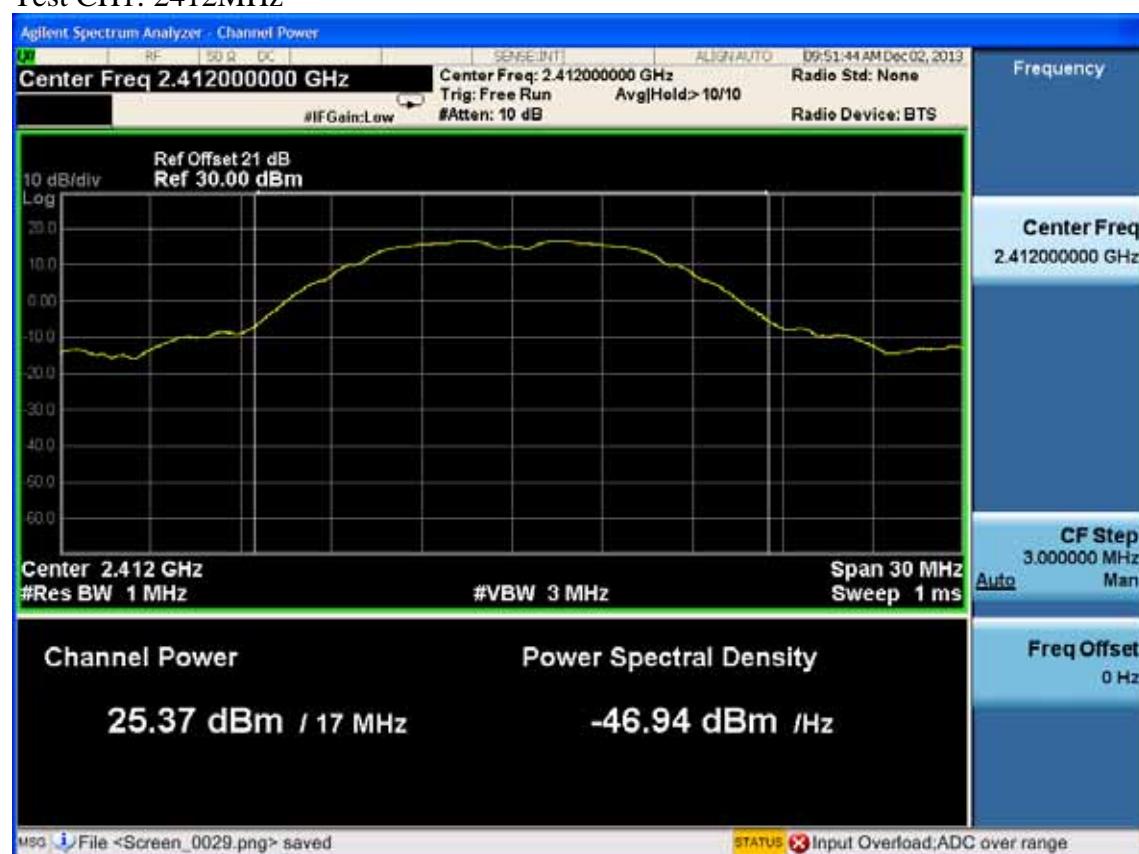
- 1, Use the spectrum analyzer's channel power function.
- 2, Set the RBW=1MHz
- 3, Set the VBW=3MHz
- 4, Set the span to a value that is 5-30% greater than the EBW.
- 5, Detector=Peak
- 6, Sweep time=auto couple
- 7, Trace mode=max hold
- 8, Allow trace to fully stabilize
- 9, Record the measurement power.

8.4. Test Results

EUT: WIRELESS USB ADAPTER			
M/N: MT-WN731NM			
Test date: 2013-12-02	Pressure: 101.3±1.0kpa	Humidity: 55.6±3.0%	
Tested by: Leo-Li	Test site: RF site	Temperature: 25.4±0.6°C	
Cable loss: 1 dB		Attenuator loss: 20 dB	
Test Mode	CH (MHz)	Peak output Power (dBm)	Limit (dBm)
11b	CH1	25.37	30
	CH6	26.31	30
	CH11	26.03	30
11g	CH1	27.21	30
	CH6	27.85	30
	CH11	27.48	30
11n HT20	CH1	25.74	30
	CH6	27.69	30
	CH11	27.32	30
11n HT40	CH1	26.01	30
	CH4	27.52	30
	CH7	27.27	30

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



9. POWER SPECTRAL DENSITY TEST

9.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Oct.31,13	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 13	1 Year
3.	Horn Antenna	EMCO	3115	9510-4580	May.28, 13	1 Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 13	1 Year

9.2. Limit

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

9.3. Test Procedure

1. Connected the EUT's antenna port to spectrum analyzer device by 20dB attenuator.
2. Set the test frequency as center frequency, Set RBW=3KHz, VBW=10KHz, Span large enough capture the entire frequency, Read out maximum peak 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: WIRELESS USB ADAPTER		
M/N: MT-WN731NM		
Test date: 2013-12-02	Pressure: 101.6±1.0 kpa	Humidity: 53.6±3.0%
Tested by: Leo-Li	Test site: RF Site	Temperature : 25.2±0.6°C

Cable loss: 1 dB		Attenuator loss: 20 dB	
Test Mode	CH	Power density (dBm/3KHz)	Limit (dBm/3KHz)
11b	CH1	-3.814	8
	CH6	-2.799	8
	CH11	-2.867	8
11g	CH1	-7.241	8
	CH6	-6.213	8
	CH11	-7.068	8
11n HT20	CH1	-8.494	8
	CH6	-7.836	8
	CH11	-8.016	8
11n HT40	CH1	-9.876	8
	CH4	-10.192	8
	CH7	-13.046	8
Conclusion : PASS			

Test Mode: IEEE 802.11b TX

Test CH1: 2412MHz



Test CH6: 2437MHz



Test CH11: 2462MHz



Test Mode: IEEE 802.11g TX

Test CH1: 2412MHz



Test CH6: 2437MHz



Test CH11: 2462MHz



Test Mode: IEEE 802.11n HT20 TX

Test CH1: 2412MHz



Test CH6: 2437MHz

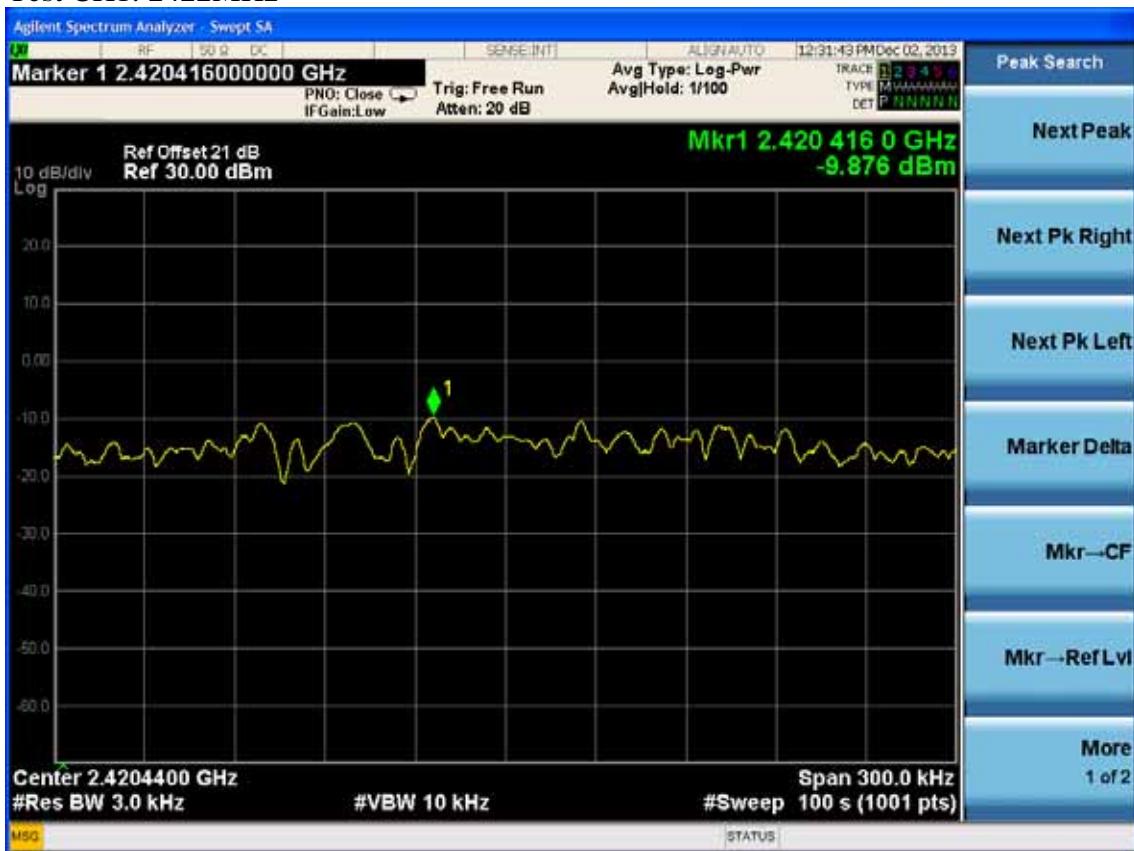


Test CH11: 2462MHz



Test Mode: IEEE 802.11n HT40 TX

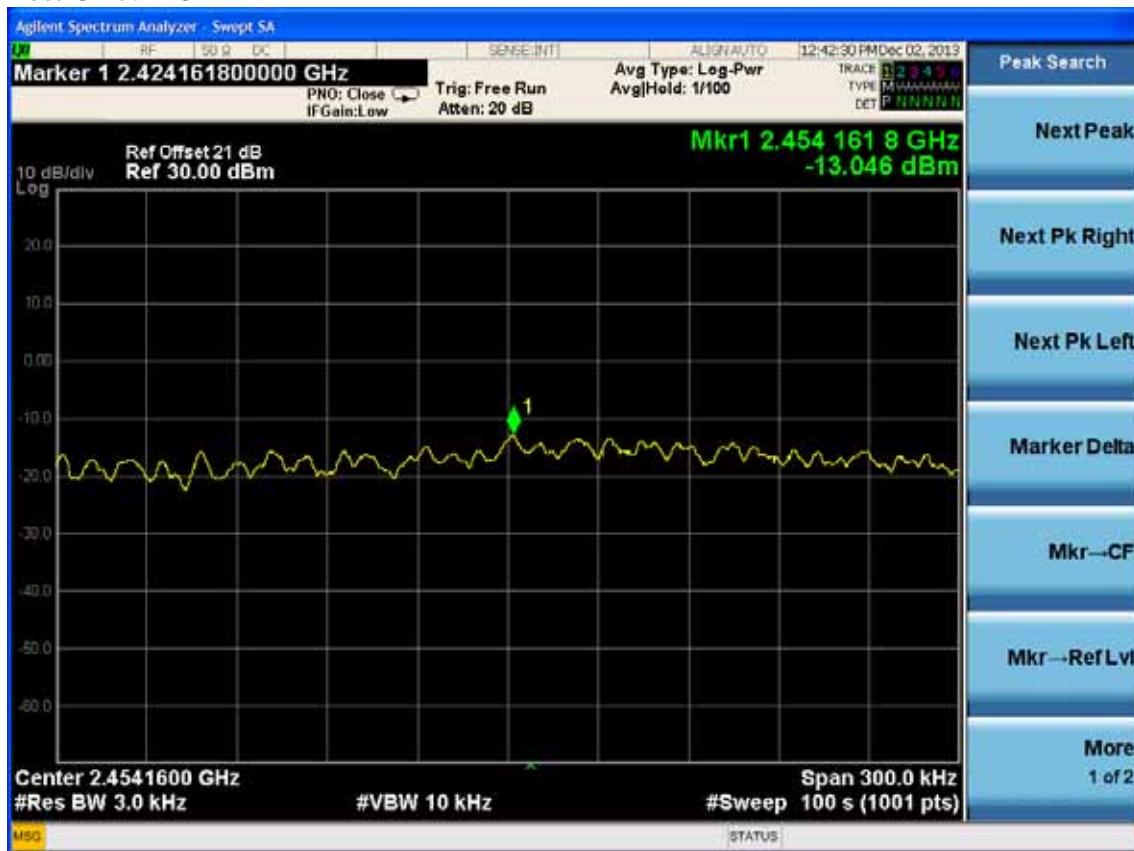
Test CH1: 2422MHz



Test CH4: 2437MHz



Test CH7: 2452MHz



10.MPE ESTIMATION

10.1.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

10.2. Estimation Result

EUT: WIRELESS USB ADAPTER			
M/N: MT-WN731NM			
Test date:2013-12-02	Pressure: 101.2±1.0 kpa	Humidity: 48.4±3.0%	
Tested by: Leo-Li	Test site: RF site	Temperature:20.7±0.6 °C	

Cable loss: 1 dB		Attenuator loss: 20 dB				Antenna Gain:1.06dBi	
Test Mode	CH	Frequency (MHz)	Peak Output Power (dBm)	Output Power (mW)	Antenna Gain (dBi)	Antenna Gain (Linear)	MPE
11b	CH1	2412	25.37	344.35	1.06	1.28	0.0875
	CH6	2437	26.31	427.56	1.06	1.28	0.1086
	CH11	2462	26.03	400.87	1.06	1.28	0.1018
11g	CH1	2412	27.21	526.02	1.06	1.28	0.1336
	CH6	2437	27.85	609.54	1.06	1.28	0.1549
	CH11	2462	27.48	559.76	1.06	1.28	0.1422
11n HT20	CH1	2412	25.74	374.97	1.06	1.28	0.0953
	CH6	2437	27.69	587.49	1.06	1.28	0.1493
	CH11	2462	27.32	539.51	1.06	1.28	0.1371
11n HT40	CH1	2422	26.01	399.02	1.06	1.28	0.1014
	CH4	2437	27.52	564.94	1.06	1.28	0.1435
	CH7	2452	27.27	533.33	1.06	1.28	0.1359

11. ANTENNA REQUIREMENT

11.1. 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.

11.2. ANTENNA CONNECTED CONSTRUCTION

The antennas used for this product are PCB antenna that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is 1.06dBi.



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12.DEVIATION TO TEST SPECIFICATIONS

[NONE]