

APPLICATION FOR CERTIFICATION  
On Behalf of

TP-LINK Technologies Co., Ltd.

150Mbps Wireless Lite N PCI-E Adapter

Model Number: TL-WN781N

FCC ID: TE7WN781N

Prepared for : TP-LINK Technologies Co., Ltd.  
Building 7, Second Part, Honghualing Industrial Zone,  
Xili town, Nanshan, Shenzhen, P.R. China

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Report Number : ACS-F10027  
Date of Test : Jan.28~30, 2010  
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## TEST REPORT CERTIFICATION

Applicant : TP-LINK Technologies Co., Ltd.  
 Manufacturer : TP-LINK Technologies Co., Ltd.  
 EUT Description : 150Mbps Wireless Lite N PCI-E Adapter  
 FCC ID : TE7WN781N  
 (A) MODEL NO. : TL-WN781N  
 (B) SERIAL NO. : N/A  
 (C) POWER SUPPLY : DC 3.3V From PC  
 (D) TEST VOLTAGE : DC 3.3V From PC Input  
 AC 120V/60Hz

Test Procedure Used:

FCC Rules and Regulations Part 15 Subpart C 2008

The device described above is tested by AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C limits both radiated and conducted emissions.

The test results are contained in this test report and AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. is assumed full responsibility for the accuracy and completeness of these tests. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

Date of Test : Jan.28~ 30, 2010

Prepared by :

Edie Huang  
 Edie Huang / Assistant

Reviewer :

Jam Yu  
 Jamy Yu / Supervisor

Approved & Authorized Signer :



Ken Lu  
 Ken Lu / Manager

# 1. SUMMARY OF STANDARDS AND RESULTS

## 1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION		
Description of Test Item	Standard	Results
Power Line Conducted Emission Test	FCC Part 15: 15.207 ANSI C63.10: 2009	PASS
Radiated Emission Test	FCC Part 15: 15.209 ANSI C63.10: 2009	PASS
Band Edge Compliance Test	FCC Part 15: 15.247 ANSI C63.10: 2009	PASS
Conducted spurious emissions test	FCC Part 15: 15.247 ANSI C63.10: 2009	PASS
6dB Bandwidth Test	FCC Part 15: 15.247 ANSI C63.10: 2009	PASS
Output Power Test	FCC Part 15: 15.247 ANSI C63.10: 2009	PASS
Power Spectral Density Test	FCC Part 15: 15.247 ANSI C63.10: 2009	PASS
Antenna requirement	FCC Part 15: 15.203	PASS

## 2. GENERAL INFORMATION

### 2.1. Description of Device (EUT)

Product Name	: 150Mbps Wireless Lite N PCI-E Adapter
Model Number	: TL-WN781N
FCC ID	: TE7WN781N
Operation Frequency	: IEEE 802.11b/g, 802.11n HT20: 2412MHz---2462MHz IEEE802.11n HT40: 2422MHz---2452MHz
Channel Number	: IEEE 802.11b/g, 802.11n HT20: 11 Channels IEEE 802.11n HT40: 7 Channels
Modulation Technology	: IEEE 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20, HT40: OFDM (64QAM, 16QAM, QPSK,BPSK)
Output Power	: IEEE 802.11b: 20.15dBm IEEE 802.11g: 24.14dBm IEEE 802.11n HT20: 25.32dBm IEEE 802.11n HT40: 22.61dBm
Antenna and Gain	: Dipole antenna, 2dBi gain
Applicant	: TP-LINK Technologies Co., Ltd. Building 7, Second Part, Honghualing Industrial Zone, Xili town, Nanshan, Shenzhen, P.R. China
Manufacturer	: TP-LINK Technologies Co., Ltd. Building 7, Second Part, Honghualing Industrial Zone, Xili town, Nanshan, Shenzhen, P.R. China
Date of Test	: Jan.28~30, 2010
Date of Receipt	: Jan.27, 2009
Sample Type	: Prototype production

## 2.2. Test information

The test software “art.exe” was used to control EUT work in Continuous TX mode, and select test channel, wireless mode and data rate.

Tested mode, channel, and data rate information			
Mode	data rate (Mbps)(see Note)	Channel	Frequency (MHz)
IEEE 802.11b	1	Low :CH1	2412
	1	Middle: CH6	2437
	1	High: CH11	2462
IEEE 802.11g	6	Low :CH1	2412
	6	Middle: CH6	2437
	6	High: CH11	2462
IEEE 802.11n HT20	6.5	Low :CH1	2412
	6.5	Middle: CH6	2437
	6.5	High: CH11	2462
IEEE 802.11n HT40	13.5	Low :CH1	2422
	13.5	Middle: CH4	2437
	13.5	High: CH7	2452
Note: According exploratory test, EUT will have maximum output power in those data rate, so those data rate were used for all test.			

## 2.3.Date rate VS power

Mode	Data rate(Mbps)	CH	Level (dBm)	Limit (dBm)
11b	1	CH6	20.12	30
	2	CH6	19.98	30
	5.5	CH6	19.78	30
	11	CH6	20.01	30
11g	6	CH6	24.14	30
	9	CH6	24.10	30
	12	CH6	23.68	30
	18	CH6	23.89	30
	24	CH6	23.54	30
	36	CH6	23.89	30
	48	CH6	24.09	30
	54	CH6	24.01	30
11n HT20	6.5	CH6	25.32	30
	13	CH6	25.12	30
	19.5	CH6	25.20	30
	26	CH6	24.78	30
	39	CH6	24.89	30
	52	CH6	24.68	30
	58.5	CH6	24.98	30
	65	CH6	25.21	30
11n HT40	13.5	CH4	22.61	30
	27	CH4	22.03	30
	40.5	CH4	22.43	30
	54	CH4	22.42	30
	81	CH4	22.32	30
	108	CH4	22.31	30
	121.5	CH4	22.34	30
	135	CH4	22.50	30
When IEEE 802.11b's data rate was 1Mbps ; IEEE 802.11g's data rate was 6Mbps, IEEE 802.11n HT20's data rate was 6.5 Mbps; IEEE802.11n HT40's data rate was 13.5Mbps the EUT have maximum output power and all the test was performed in this data rate set.				

## 2.4. Tested Supporting System Details

### 2.4.1. Personal Computer

EMC CODE : Test PC P  
M/N : Studio 540  
S/N : 124XK2X  
Manufacturer : DELL  
Power cord : Unshielded, Detachable, 1.8m  
FCC ID : By DoC  
BSMI ID : R33002  
Display Card : HD3450(VGA+DVI+HDMI)

### 2.4.2. Monitor

EMC CODE : ACS-EMC-LM04R  
M/N : 1907FPt  
S/N : CN-009759-71618-6AP-ACPP  
Manufacturer : DELL  
Data Cable (VGA) : Shielded, Detachable, 2.0m  
Power Cord : Unshielded, Detachable, 1.8m  
FCC ID : By DoC  
BSMI ID : R3A002

### 2.4.3. USB Mouse

EMC CODE : ACS-EMC-M02R  
M/N : M056UO  
S/N : 512024264  
Manufacturer : Dell  
Data Cable : Shielded, Undetachable, 1.8m  
FCC ID : By DoC  
BSMI ID : R41108

### 2.4.4. USB Keyboard

EMC CODE : ACS-EMC-K04R  
M/N : SK-8115  
S/N : CN-ODJ313-71616-6BB-049J  
Manufacturer : DELL  
Data Cable : Shielded, Undetachable, 2.0m  
FCC ID : By DoC  
BSMI ID : T3A002

## 2.5. Test Facility

### Site Description

Name of Firm	:	Audix Technology (Shenzhen) Co., Ltd. No. 6, Ke Feng Rd., 52 Block, Shenzhen Science & Industrial Park, Nantou, Shenzhen, Guangdong, China
3m Anechoic Chamber	:	Mar.31, 2009 File on Federal Communication Commission Registration Number: 90454
3m & 10m Anechoic Chamber	:	Dec. 30, 2009 File on Federal Communication Commission Registration Number: 794232
EMC Lab.	:	Accredited by DATech, German Registration Number: DAT-P-091/99-01 Feb. 02, 2009  Accredited by NVLAP, USA NVLAP Code: 200372-0 Apr. 01, 2009

## 2.6. Measurement Uncertainty (95% confidence levels, k=2)

Test Item	Uncertainty
Uncertainty for Conduction emission test in No. 1 Conduction	2.40dB
Uncertainty for Radiation Emission test in 3m chamber	3.78 dB (Polarize: V)
	4.20 dB (Polarize: H)
Uncertainty for Radiated Spurious Emission test in RF chamber	2.70 dB (Bilog antenna 30M~1000MHz)
	2.27 dB (Horn antenna 1000M~25000MHz)
Uncertainty for Conduction Spurious emission test	2.10 dB
Uncertainty for Output power test	0.94 dB
Uncertainty for Power density test	2.10 dB
Uncertainty for Temperature and humidity test	2%
	1°C
Uncertainty for Bandwidth test	$1 \times 10^{-9}$
Uncertainty for DC power test	0.038 %
Uncertainty for test site temperature and humidity	0.6°C
	3%

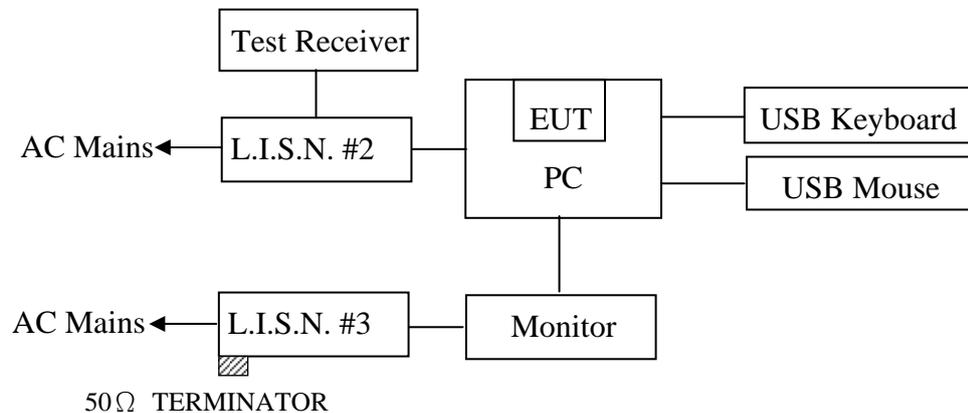
### 3. POWER LINE CONDUCTED EMISSION TEST

#### 3.1. Test Equipments

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Test Receiver	Rohde & Schwarz	ESHS20	836600/006	May.08, 09	1 Year
2	L.I.S.N.#2	Kyoritsu	KNW-407	8-1636-1	May.08, 09	1 Year
3	L.I.S.N.#3	Kyoritsu	KNW-242C	8-1920-1	May.08, 09	1 Year
4	Terminator	Hubersuhner	50Ω	No. 1	May.08, 09	1 Year
5	RF Cable	Fujikura	3D-2W	LISN Cable 1#	May.08, 09	1 Year
6	Coaxial Switch	Anritsu	MP59B	M55367	May.08, 09	1 Year
7	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100341	May.08, 09	1 Year

#### 3.2. Block Diagram of Test Setup

##### 3.2.1. Block diagram of connection between the EUT and simulators



*(EUT: 150Mbps Wireless Lite N PCI-E Adapter)*

#### 3.3. Power Line Conducted Emission Test Limits

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes: 1. \* Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

### 3.4.Configuration of EUT on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

#### 3.4.1. 150Mbps Wireless Lite N PCI-E Adapter (EUT)

Model Number : TL-WN781N

Serial Number : N/A

#### 3.4.2. Support Equipment : As Tested Supporting System Detail, in Section 2.3.

### 3.5.Operating Condition of EUT

3.5.1. Setup the EUT and simulator as shown as Section 3.2.

3.5.2. Turned on the power of all equipment.

3.5.3. PC run test software to control EUT work in Tx mode.

### 3.6.Test Procedure

The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power Via PC connected to the power mains through a line impedance stabilization network (L.I.S.N. 2#). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N.#3).This provides a 50 ohm coupling impedance for the EUT (Please refer the block diagram of the test setup and photographs). Both sides of power line were checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10: 2009 on Conducted Emission Test.

The bandwidth of test receiver (R & S ESHS20) is set at 10kHz.

The frequency range from 150kHz to 30MHz is checked.

The test result are reported on Section 3.7.,

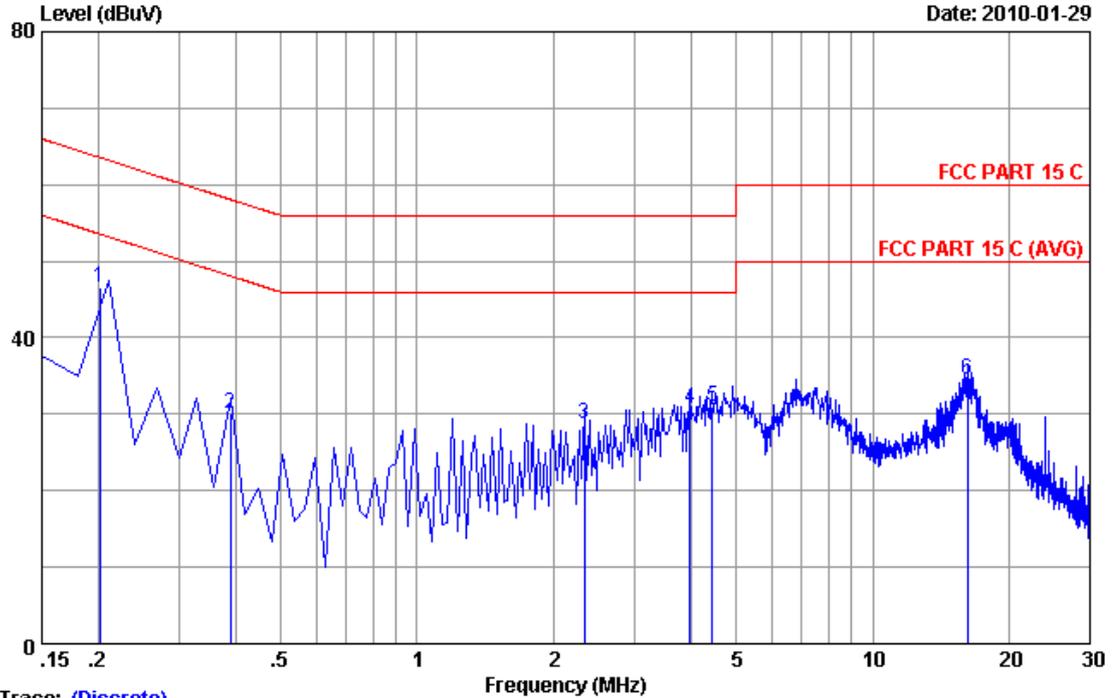
### 3.7.Power Line Conducted Emission Test Results

**PASS.** (All emissions not reported below are too low against the prescribed limits.)



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Data: 4 File: D:\DATA\2010 REPORT\TP-LINK\ACS10Q1512.EM6 (4)



Trace: (Discrete)  
 Site no :Audix No.1 Conduction Data no :4  
 Dis./Ant. \*\*: 2009 KNW407 VA  
 Limit :FCC PART 15 C  
 Env./Ins. :Temp:23'C Humi:54% Engineer :Jolly\_Xu  
 EUT :150Mbps Wireless Lite N PCI-E Adapter  
 Power Rating :DC 3.3V From PC input AC 120V/60Hz  
 Test Mode :TX Mode  
 M/N:TL-WN781N

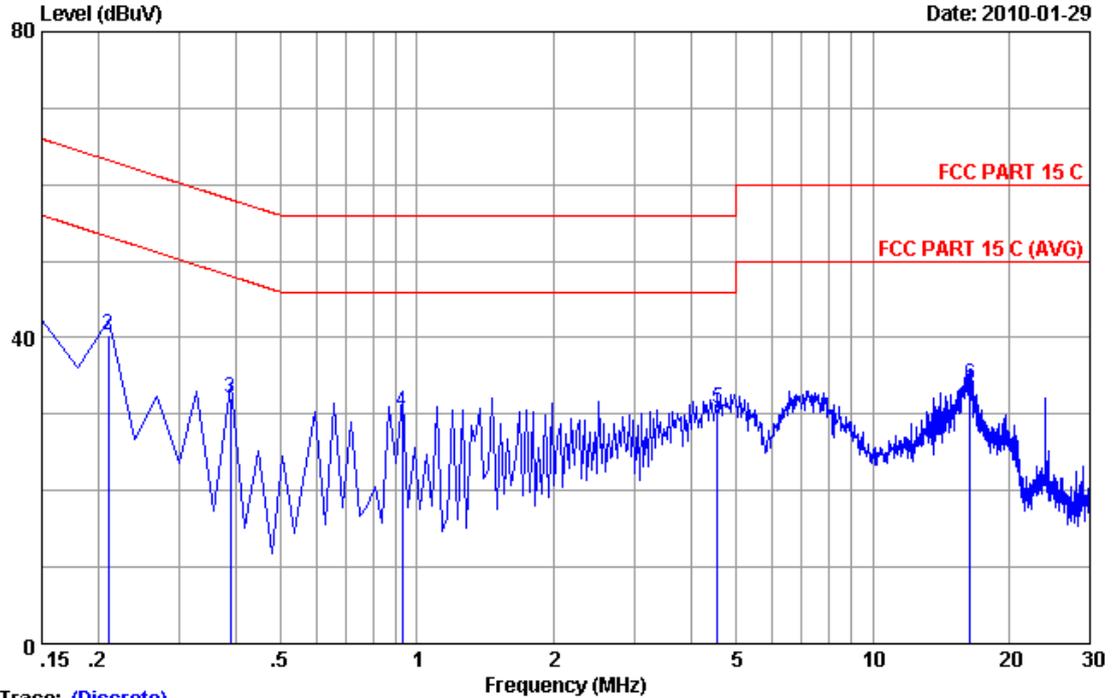
No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.20100	0.42	9.88	36.30	46.60	63.57	16.97	QP
2	0.38880	0.35	9.89	19.82	30.06	58.09	28.03	QP
3	2.329	0.36	9.90	18.39	28.65	56.00	27.35	QP
4	3.971	0.38	9.91	20.45	30.74	56.00	25.26	QP
5	4.448	0.39	9.91	20.68	30.98	56.00	25.02	QP
6	16.150	0.50	9.98	23.97	34.45	60.00	25.55	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss+Reading.  
 2.If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.



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Data: 3 File: D:\DATA\2010 REPORT\TP-LINK\ACS10Q1512.EM6 (4)



Trace: (Discrete)  
 Site no :Audix No.1 Conduction Data no :3  
 Dis./Ant. \*\*: 2009 KNW407 VB  
 Limit :FCC PART 15 C  
 Env./Ins. :Temp:23'C Humi:54% Engineer :Jolly\_Xu  
 EUT :150Mbps Wireless Lite N PCI-E Adapter  
 Power Rating :DC 3.3V From PC input AC 120V/60Hz  
 Test Mode :TX Mode  
 M/N:TL-WN781N

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.15000	0.49	9.88	29.96	40.33	66.00	25.67	QP
2	0.20970	0.44	9.88	29.92	40.24	63.22	22.98	QP
3	0.38880	0.36	9.89	21.88	32.13	58.09	25.96	QP
4	0.92610	0.35	9.89	20.12	30.36	56.00	25.64	QP
5	4.568	0.37	9.91	20.43	30.71	56.00	25.29	QP
6	16.388	0.50	9.98	23.42	33.90	60.00	26.10	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss+Reading.  
 2.If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

## 4. RADIATED EMISSION TEST

### 4.1. Test Equipment

Frequency rang: 30~1000MHz

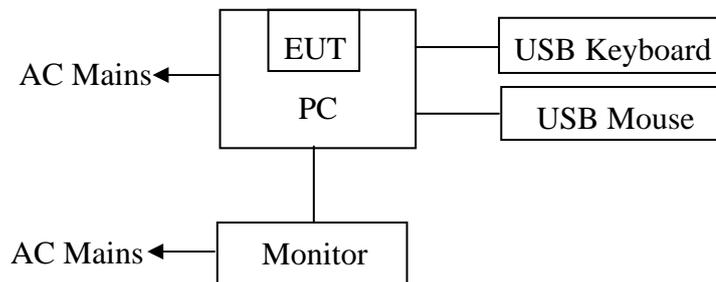
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	3#Chamber	AUDIX	N/A	N/A	Dec.05,09	1 Year
2	EMI Spectrum	Agilent	E4407B	MY41440292	May.08, 09	1 Year
3	Test Receiver	Rohde & Schwarz	ESVS10	834468/011	May.08, 09	1 Year
4	Amplifier	HP	8447D	2648A04738	May.08, 09	1 Year
5	Bilog Antenna	Schaffner	CBL6111C	2598	Dec.14, 09	1 Year
6	RF Cable	MIYAZAKI	8D-FB	3# Chamber No.1	May.08, 09	1 Year
7	Coaxial Switch	Anritsu	MP59B	M73989	May.08, 09	1 Year

Frequency rang: above 1000MHz

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	E7405A	MY45116588	Oct.20, 09	1 Year
2	Horn Antenna	EMCO	3115	9607-4877	Nov.25, 09	1.5 Year
3	Horn Antenna	EMCO	3116	00060089	Dec.03, 09	1.5 Year
4	Amplifier	Agilent	8449B	3008A00863	May.08, 09	1 Year
5	RF Cable	Hubersuhner	SUCOFLEX102	28620/2	Nov.28, 09	1 Year
6	RF Cable	Hubersuhner	SUCOFLEX102	29091/2	Nov.28, 09	1 Year
7	RF Cable	Hubersuhner	SUCOFLEX 102	28618/2	May.08, 09	1Year

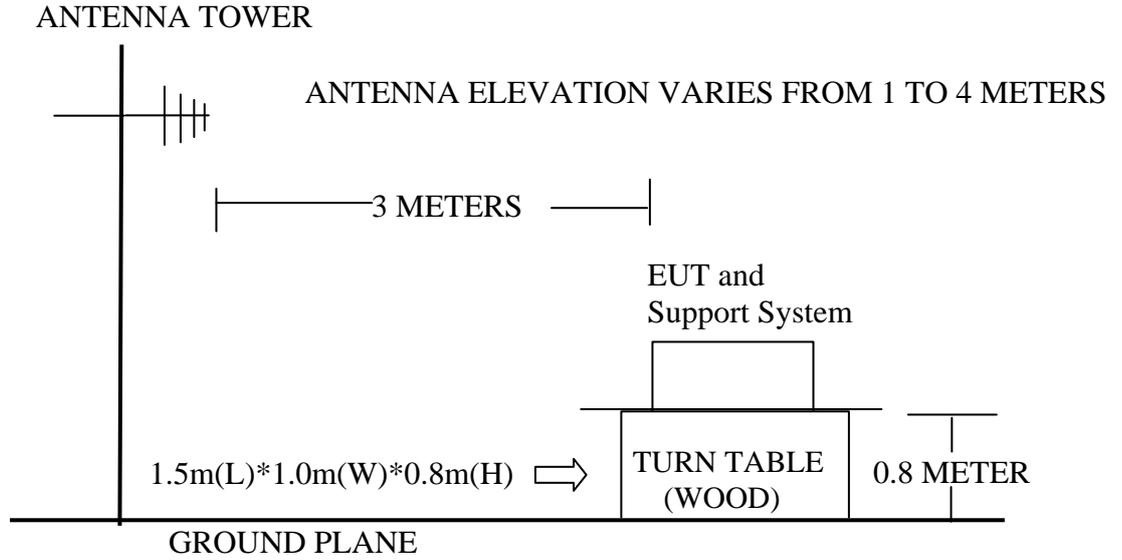
### 4.2. Block Diagram of Test Setup

#### 4.2.1. Block diagram of connection between the EUT and simulators



*(EUT: 150Mbps Wireless Lite N PCI-E Adapter)*

4.2.2. In Anechoic Chamber



4.3. Radiated Emission Limit

4.3.1. 15.209 limits

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	

- Remark :
- (1) Emission level dBμV = 20 log Emission level μV/m
  - (2) The smaller limit shall apply at the cross point between two frequency bands.
  - (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

## 4.3.2. 15.205 Restricted bands of operation

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
<sup>1</sup> 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	( <sup>2</sup> )

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

## 4.4.EUT Configuration on Test

The following equipment are installed on Radiated Emission Test to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

## 4.4.1. 150Mbps Wireless Lite N PCI-E Adapter (EUT)

Model Number : TL-WN781N  
Serial Number : N/A

## 4.4.2. Support Equipment : As Tested Supporting System Detail, in Section 2.3.

## 4.5.Operating Condition of EUT

4.5.1. Setup the EUT and simulator as shown as Section 4.2.

4.5.2. Turned on the power of all equipment.

4.5.3. PC run test software to control EUT work in test mode.

## 4.6.Test Procedure

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna are set on test.

The bandwidth of the EMI test receiver (R&S ESVS10) is set at 120kHz for frequency range from 30MHz to 1000 MHz.

The bandwidth of the Spectrum's VBW is set at 1MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emissions measure above 1GHz

The frequency range from 30MHz to 10<sup>th</sup> harmonic (25GHz) are checked. and no any emissions were found from 18GHz to 25 GHz, So the radiated emissions from 18GHz to 25GHz were not record.

#### 4.7.Radiated Emission Test Results

**PASS.**

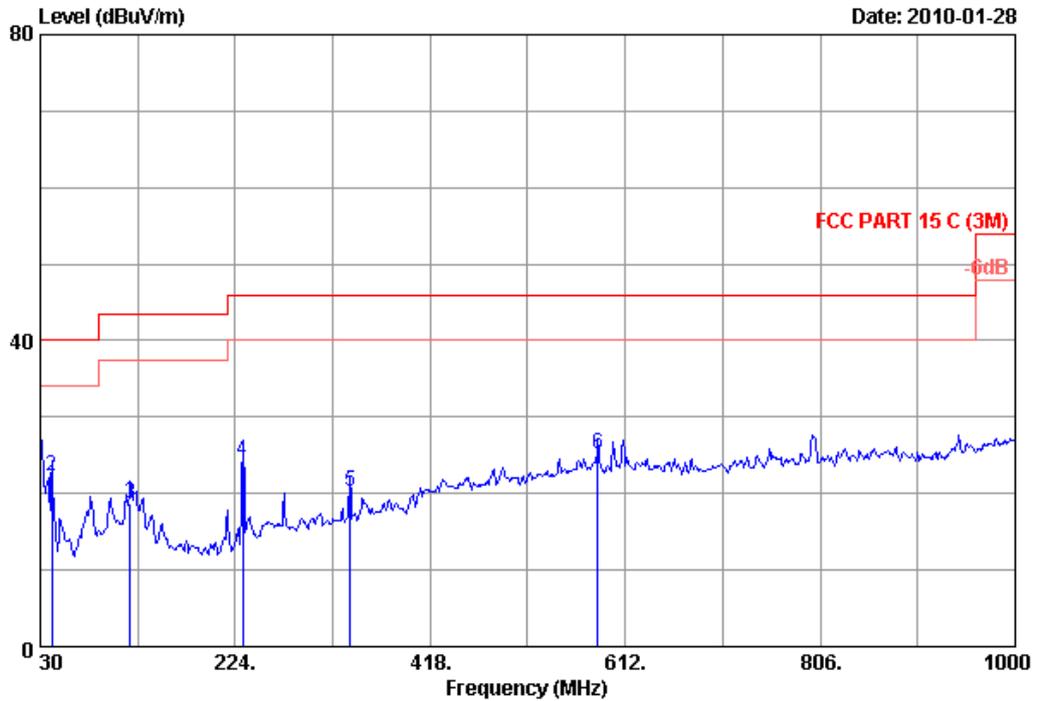
All the emissions from 30MHz to 25 GHz were comply with 15.209 limits.

Frequency: 30MHz~1GHz



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Data: 1 File: D:\2010 Reput Data\T\TP\_link\ACS10Q174.EM6 (2)



Site no. : 3m chamber Data no. : 1  
 Dis. / Ant. : 3m CBL6112D Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 C (3M)  
 Env. / Ins. : 24°C/56% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power Rating : DC 3.3V From PC input AC 120V/60Hz  
 Test Mode : Tx Mode  
 M/N:TL-WN781N

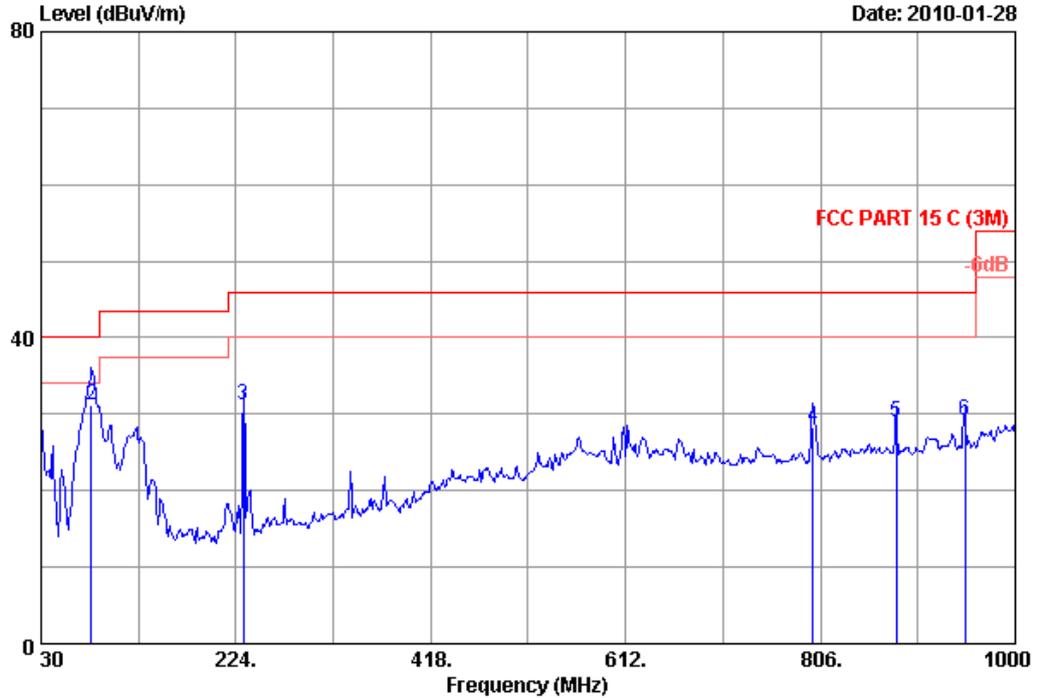
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	30.000	19.51	0.52	4.60	24.63	40.00	15.37	QP
2	41.640	12.00	0.60	9.62	22.22	40.00	17.78	QP
3	119.240	13.10	0.98	4.63	18.71	43.50	24.79	QP
4	231.760	10.36	1.51	12.50	24.37	46.00	21.63	QP
5	338.460	13.83	1.81	4.66	20.30	46.00	25.70	QP
6	584.840	18.51	2.45	4.12	25.08	46.00	20.92	QP

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



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Data: 2 File: D:\2010 Repot Data\T\TP\_link\ACS10Q174.EM6 (2)



Site no. : 3m chamber Data no. : 2  
 Dis. / Ant. : 3m CBL6112D Ant. pol. : VERTICAL  
 Limit : FCC PART 15 C (3M)  
 Env. / Ins. : 24°C/56% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power Rating : DC 3.3V From PC input AC 120V/60Hz  
 Test Mode : Tx Mode  
 M/N:TL-WN781N

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	30.000	19.51	0.52	5.75	25.78	40.00	14.22	QP
2	80.440	7.19	0.81	23.15	31.15	40.00	8.85	QP
3	231.760	10.36	1.51	19.40	31.27	46.00	14.73	QP
4	798.240	19.52	3.05	5.82	28.39	46.00	17.61	QP
5	881.660	19.96	3.16	5.80	28.92	46.00	17.08	QP
6	949.560	21.02	3.35	4.71	29.08	46.00	16.92	QP

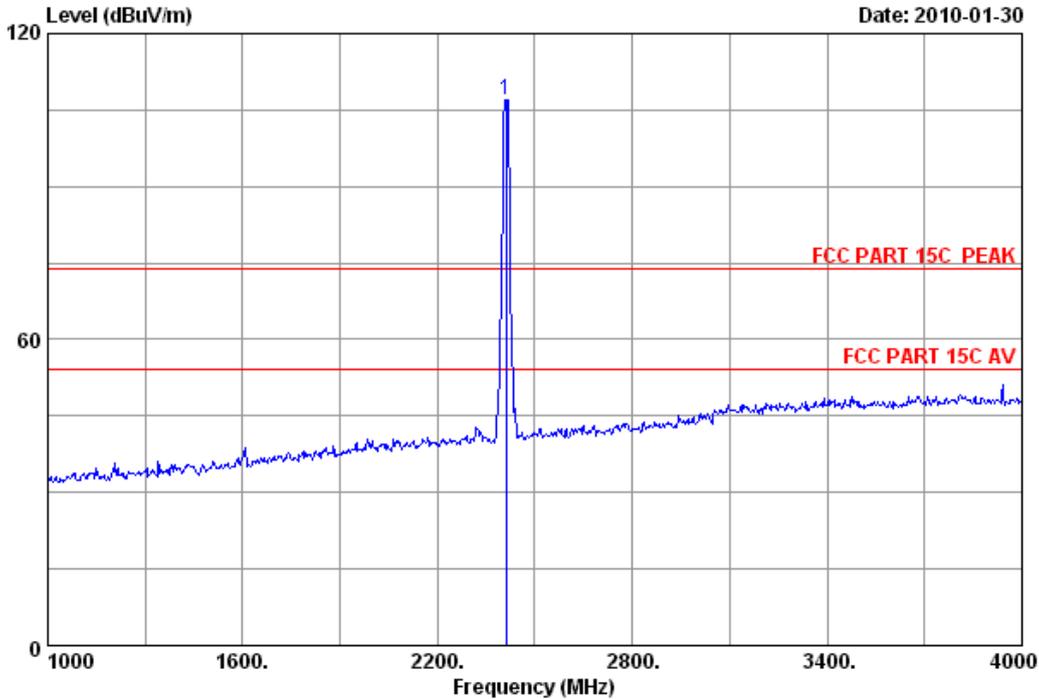
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

Frequency: 1GHz~18GHz



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Data: 1 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72) Date: 2010-01-30



Site no. : 3m Chamber Data no. : 1  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11b CH1 2412MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Cable Amp.			Emission				
		Factor (dB/m)	loss (dB)	Factor (dB)	Reading (dBUV)	Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2412.000	29.45	8.72	35.95	104.62	106.84	74.00	-32.84	Peak

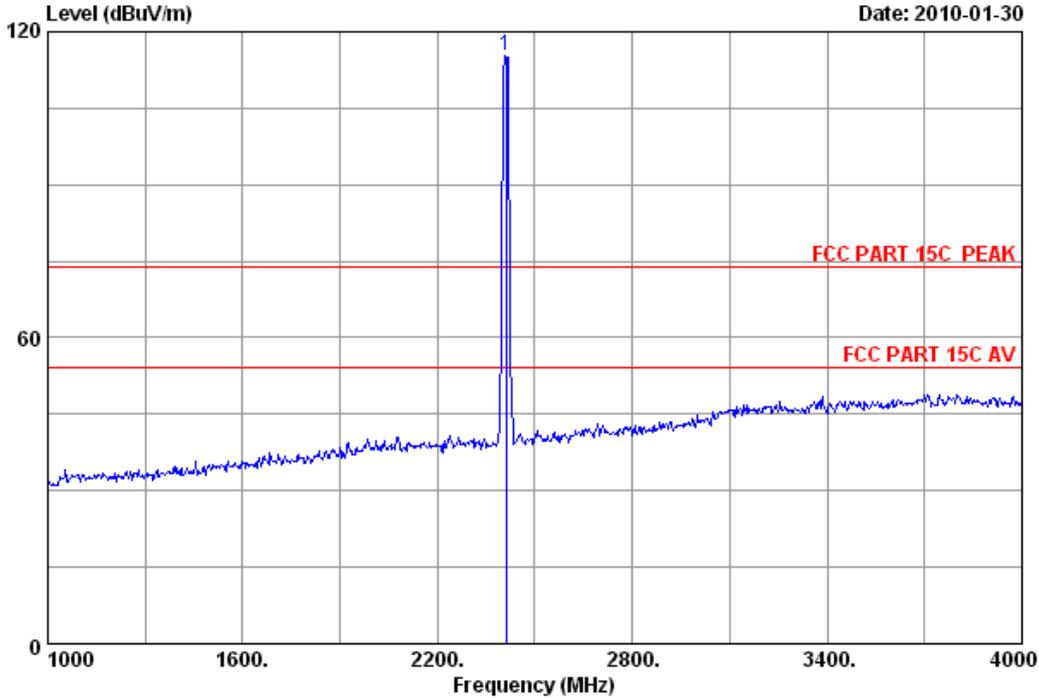
Remarks:

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



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Data: 2 File: E:\2010 report data\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 2  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11b CH1 2412MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	2412.000	29.45	8.72	35.95	113.24	115.46	74.00	-41.46	Peak

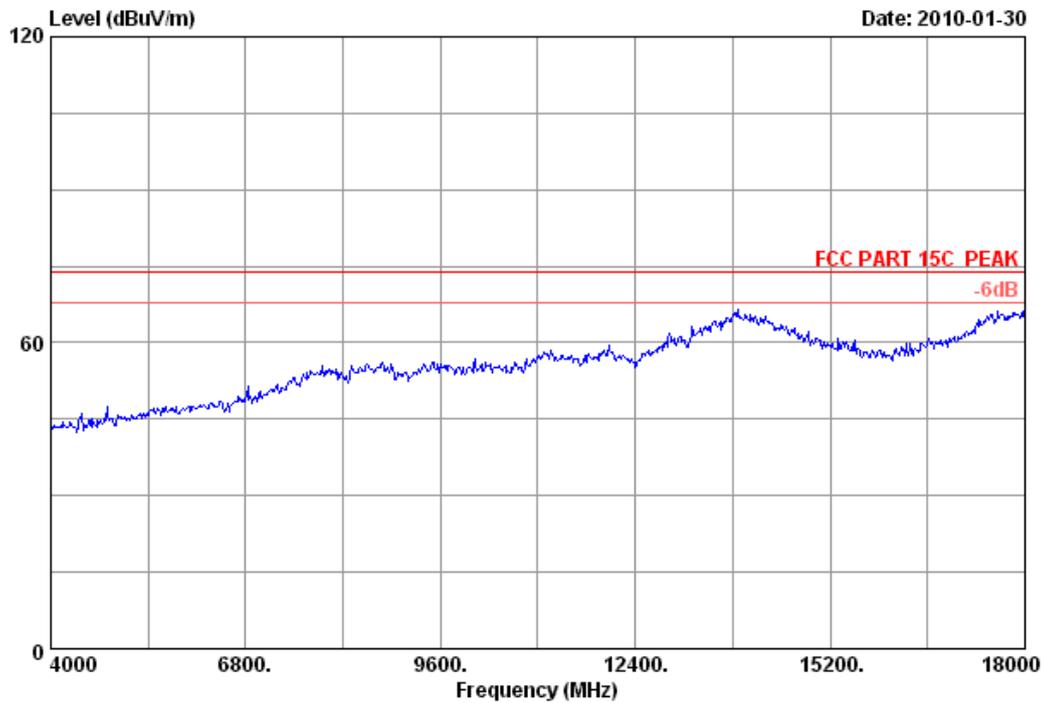
Remarks:

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



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Data: 3 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

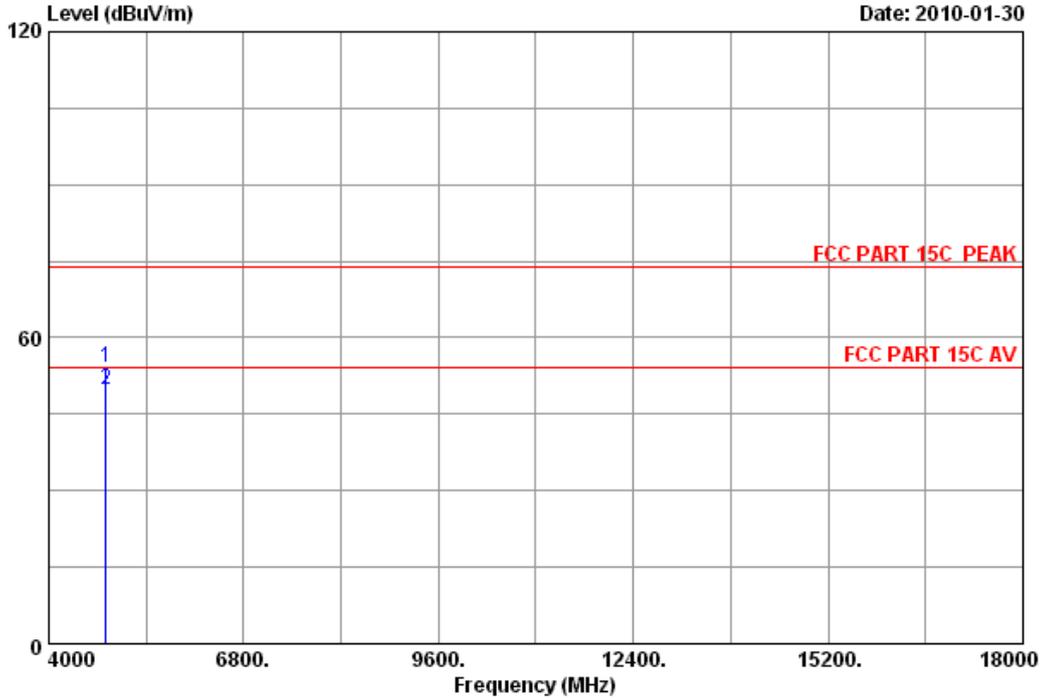


Site no.	: 3m Chamber	Data no.	: 3
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11b CH1 2412MHz Tx		
M/N	: TL-WN781N		



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Data: 4 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 4  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11b CH1 2412MHz Tx  
 M/N : TL-WN781N

	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	4824.000	34.32	12.38	35.25	42.71	54.16	74.00	19.84	Peak
2	4824.000	34.32	12.38	35.25	38.39	49.84	54.00	4.16	Average

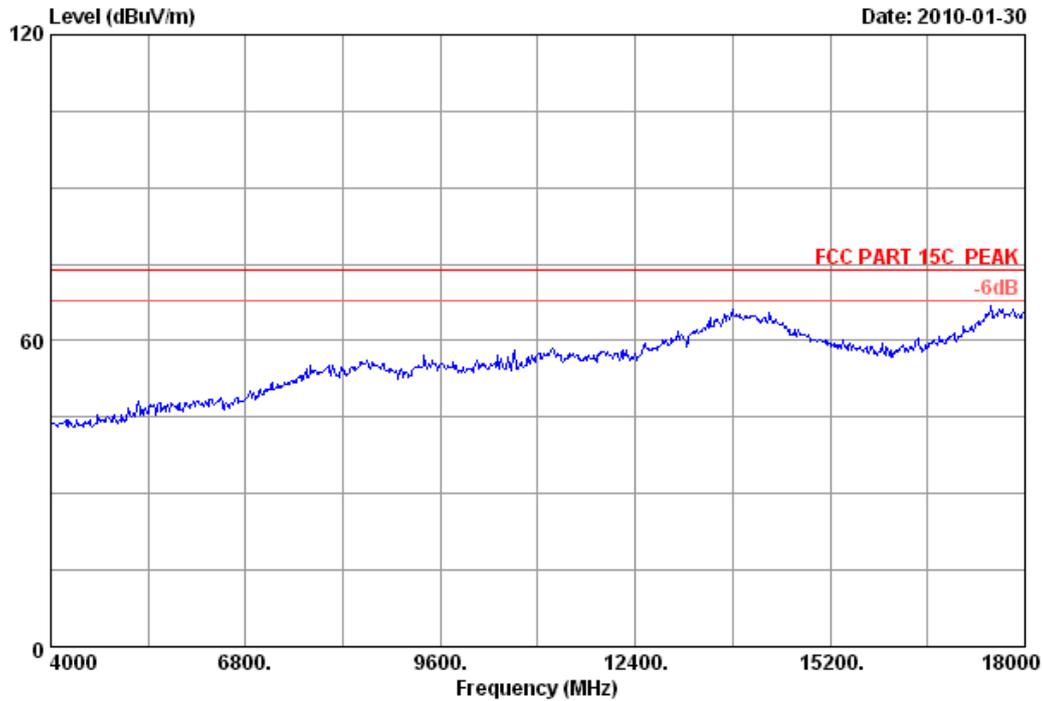
Remarks:

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



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Data: 5 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

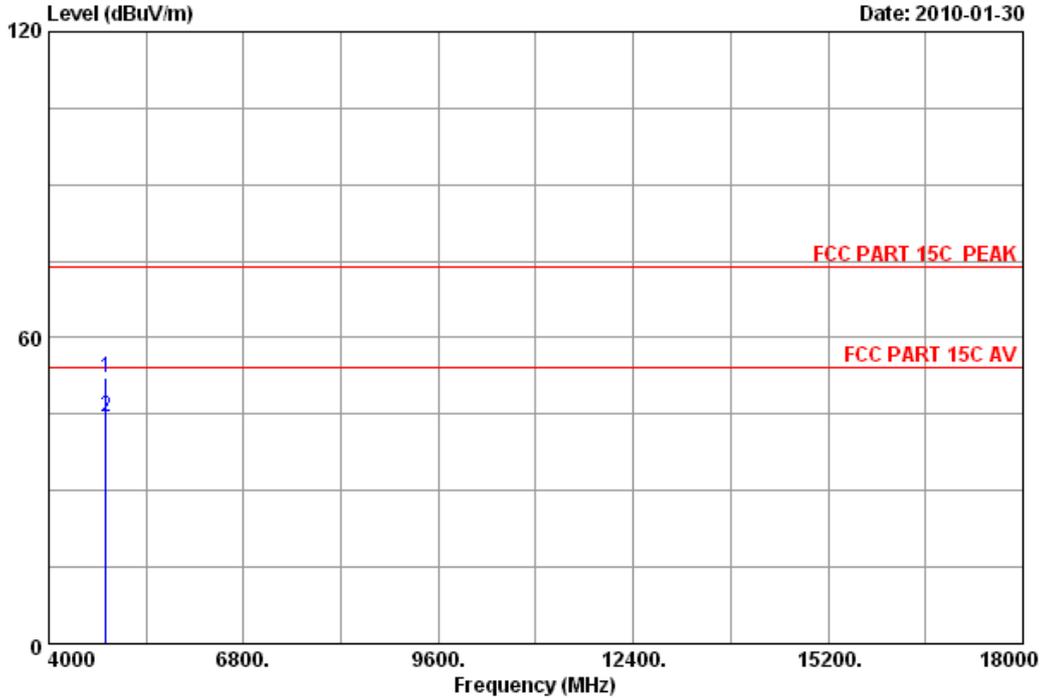


Site no.	: 3m Chamber	Data no.	: 5
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11b CH1 2412MHz Tx		
M/N	: TL-WN781N		



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Data: 6 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 6  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11b CH1 2412MHz Tx  
 M/N : TL-WN781N

	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	34.32	12.38	35.25	40.63	52.08	74.00	21.92	Peak
2	34.32	12.38	35.25	33.17	44.62	54.00	9.38	Average

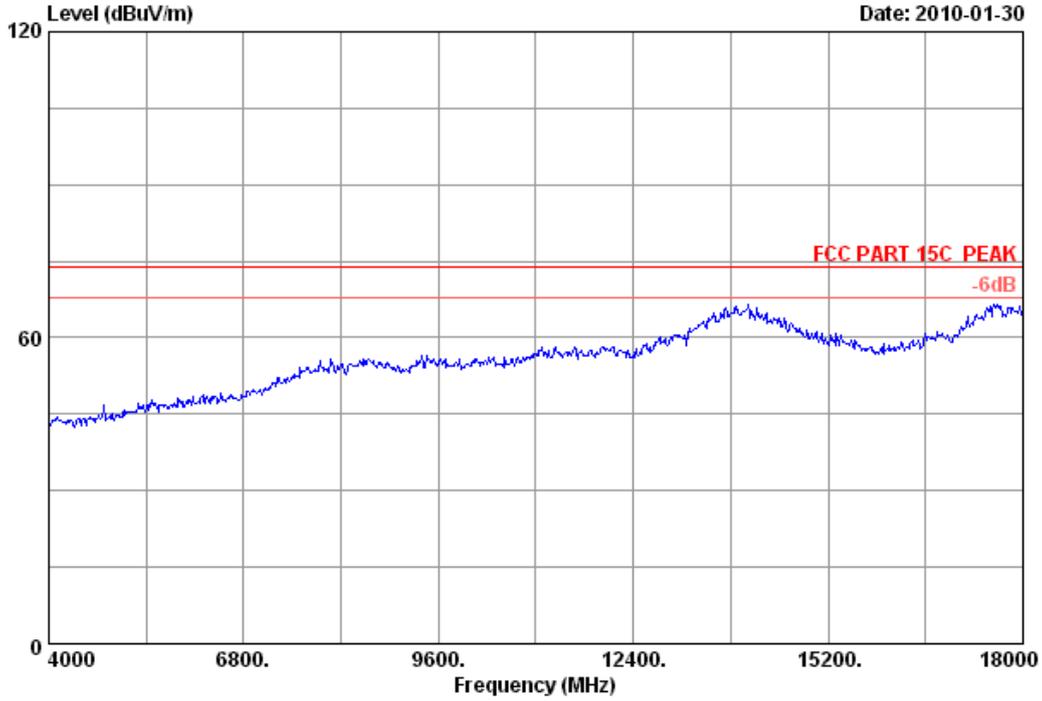
Remarks:

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



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Data: 7 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

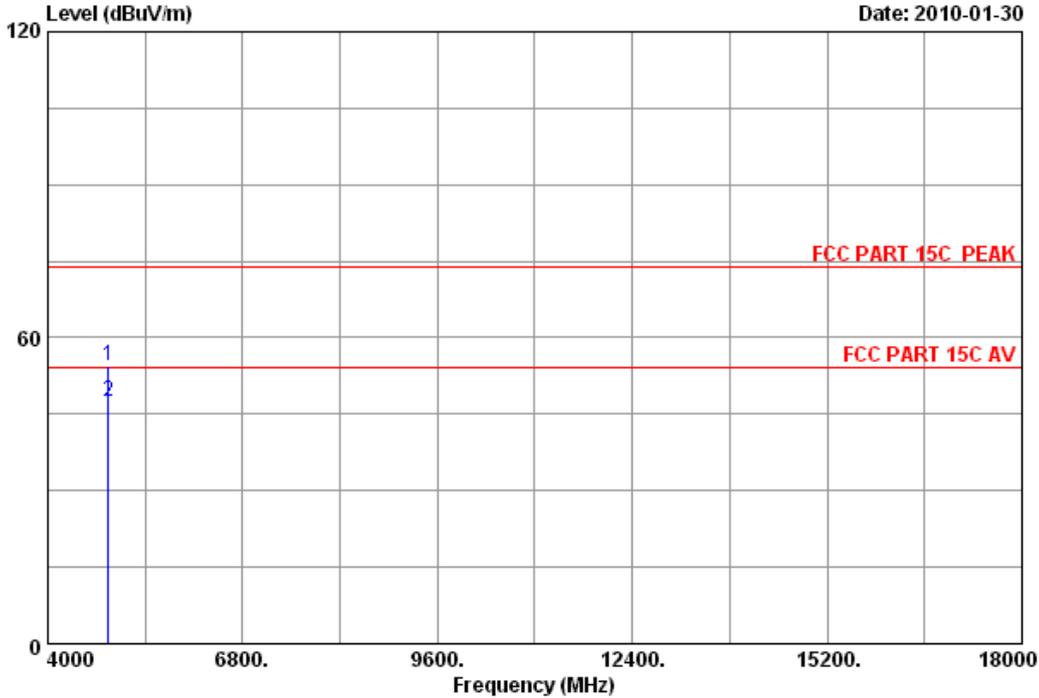


Site no.	: 3m Chamber	Data no.	: 7
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11b CH6 2437MHz Tx		
M/N	: TL-WN781N		



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Data: 8 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 8  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11b CH6 2437MHz Tx  
 M/N : TL-WN781N

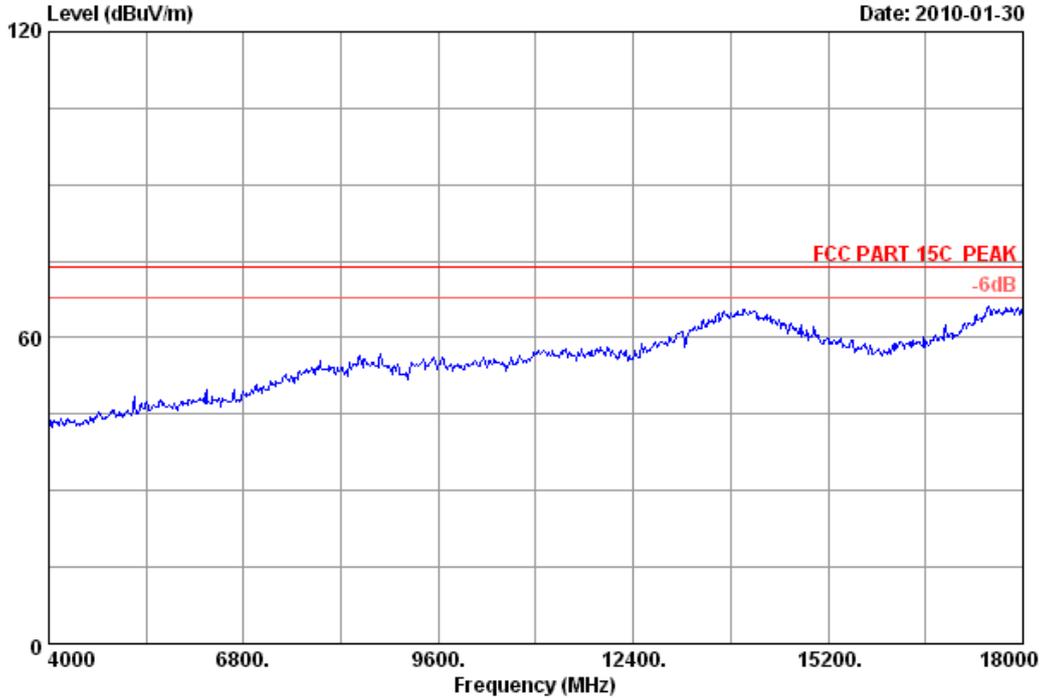
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4874.000	34.41	12.44	35.36	43.01	54.50	74.00	19.50	Peak
2	4874.000	34.41	12.44	35.36	36.12	47.61	54.00	6.39	Average

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.



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Data: 9 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

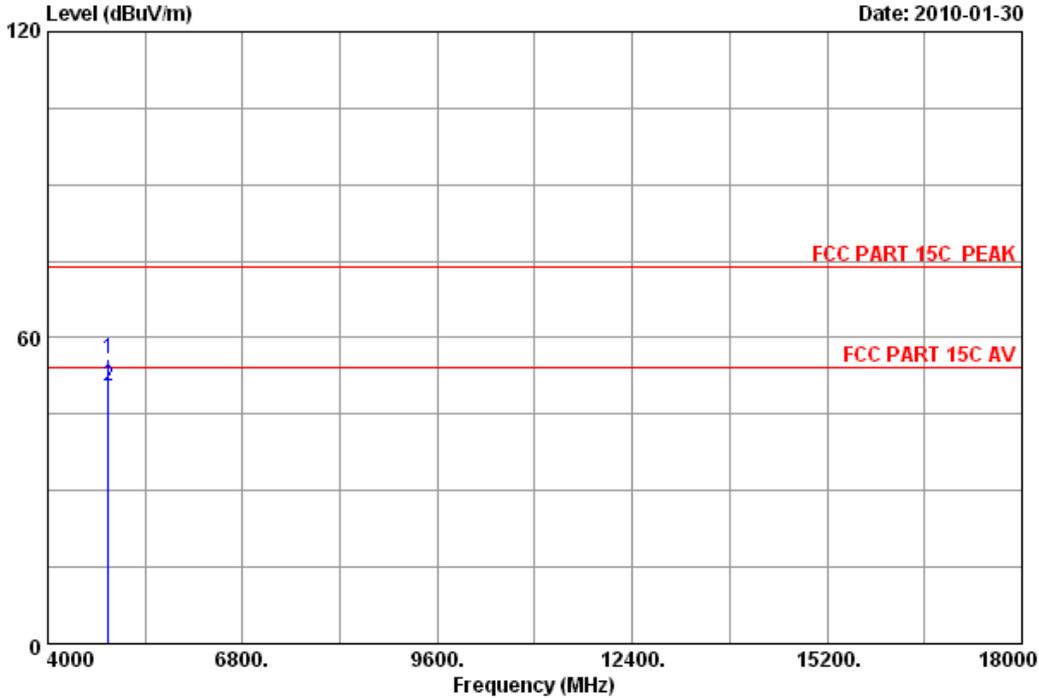


Site no.	: 3m Chamber	Data no.	: 9
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11b CH6 2437MHz Tx		
M/N	: TL-WN781N		



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Data: 10 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 10  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11b CH6 2437MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	4874.000	34.41	12.44	35.36	44.45	55.94	74.00	18.06	Peak
2	4874.000	34.41	12.44	35.36	38.84	50.33	54.00	3.67	Average

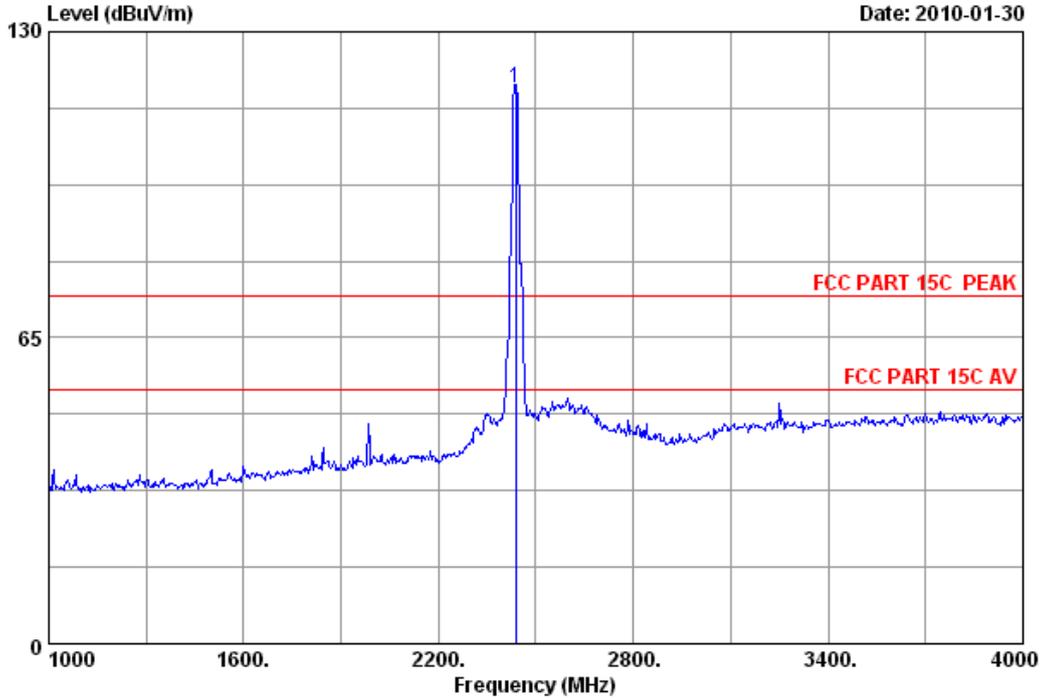
Remarks:

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



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Data: 11 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 11  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11b CH6 2437MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	2437.000	29.47	8.77	36.06	115.96	118.14	74.00	-44.14	Peak

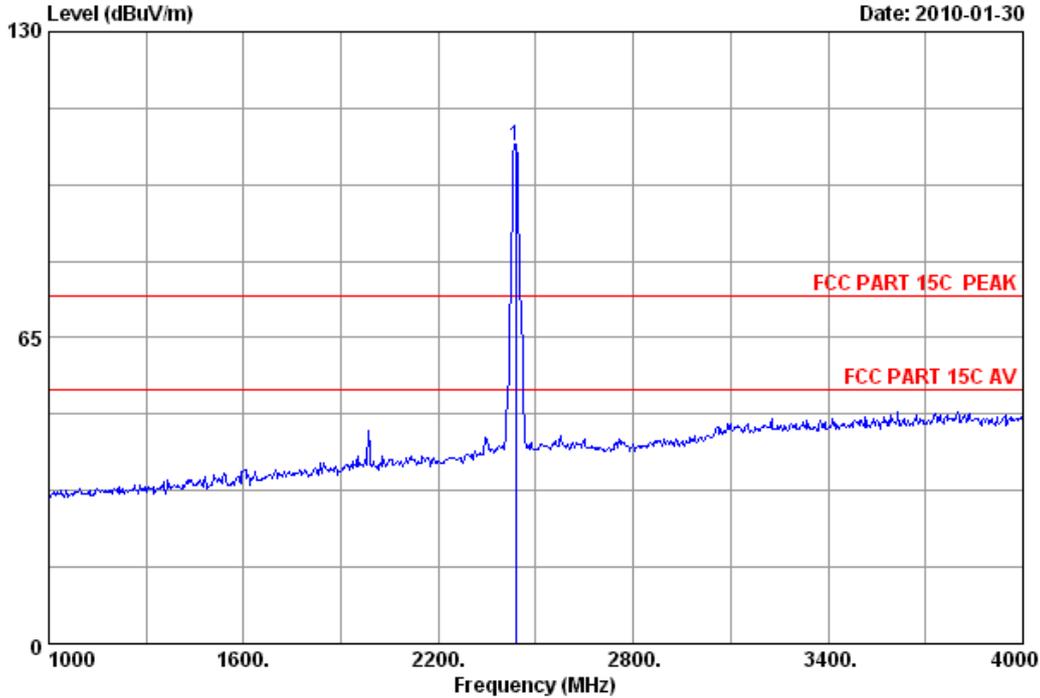
Remarks:

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



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Data: 12 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 12  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11b CH6 2437MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	2437.000	29.47	8.77	36.06	103.61	105.79	74.00	-31.79	Peak

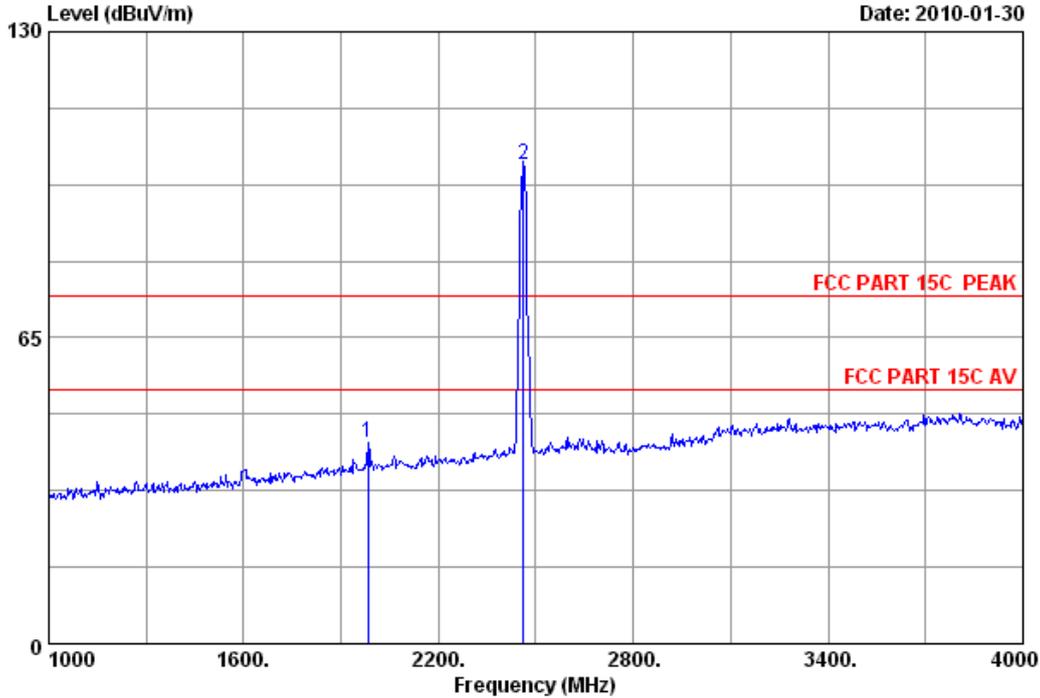
Remarks:

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



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Data: 13 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 13  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11b CH11 2462MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	1984.000	29.11	7.87	36.06	41.98	42.90	74.00	31.10	Peak
2	2462.000	29.48	8.82	36.02	99.31	101.59	74.00	-27.59	Peak

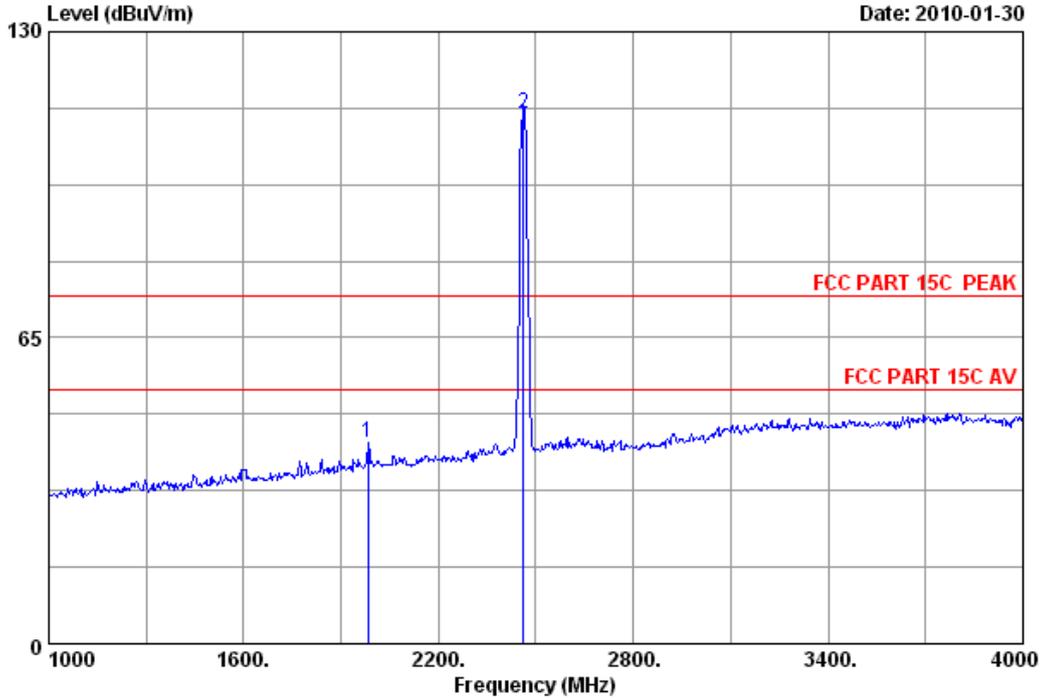
Remarks:

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



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Data: 14 File: E:\2010 report data\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 14  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11b CH11 2462MHz Tx  
 M/N : TL-WN781N

	Ant. Freq. (MHz)	Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1984.000	29.11	7.87	36.06	41.98	42.90	74.00	31.10	Peak
2	2462.000	29.48	8.82	36.02	110.23	112.51	74.00	-38.51	Peak

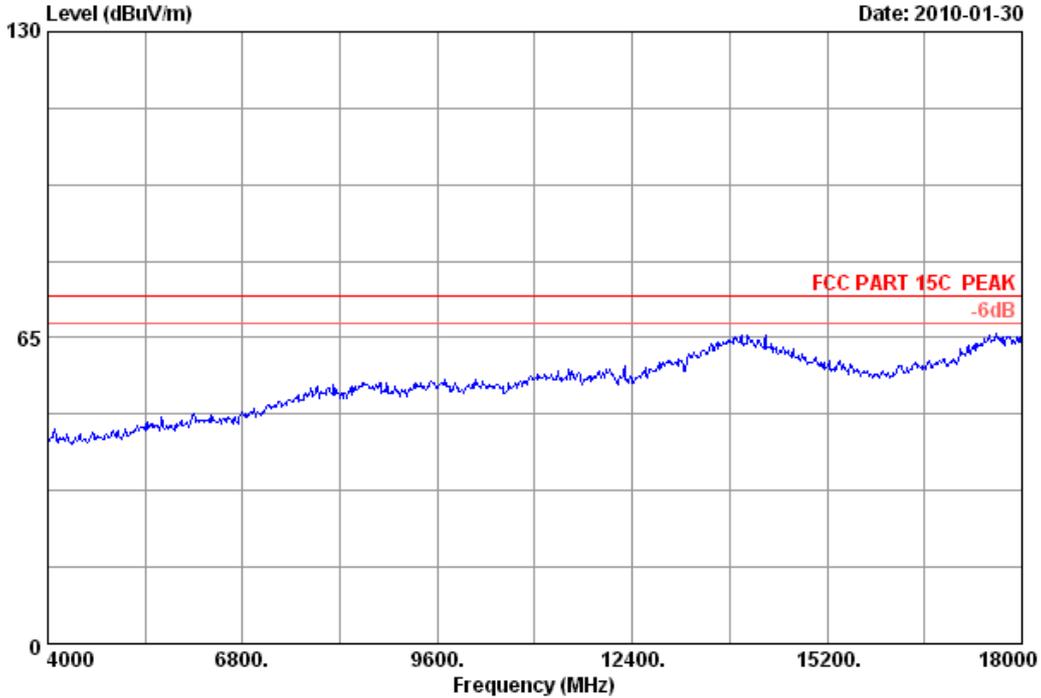
Remarks:

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



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Data: 15 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

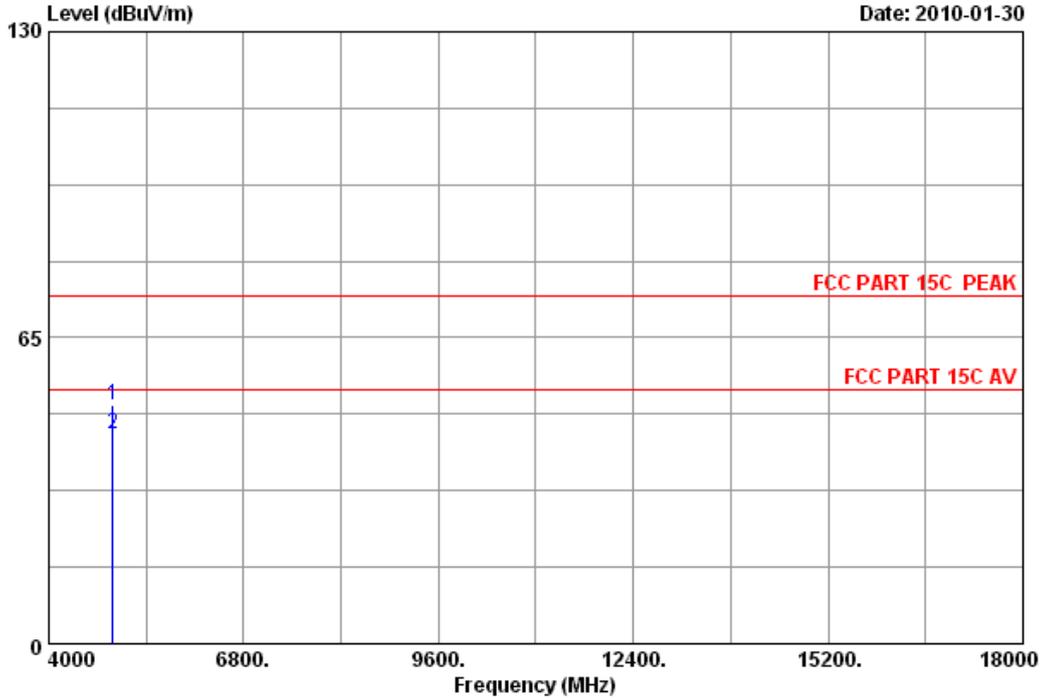


Site no.	: 3m Chamber	Data no.	: 15
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11b CH11 2462MHz Tx		
M/N	: TL-WN781N		



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Data: 16 File: E:\2010 report data\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 16  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11b CH11 2462MHz Tx  
 M/N : TL-WN781N

	Ant. Freq. (MHz)	Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4924.000	34.49	12.50	35.34	39.14	50.79	74.00	23.21	Peak
2	4924.000	34.49	12.50	35.34	33.03	44.68	54.00	9.32	Average

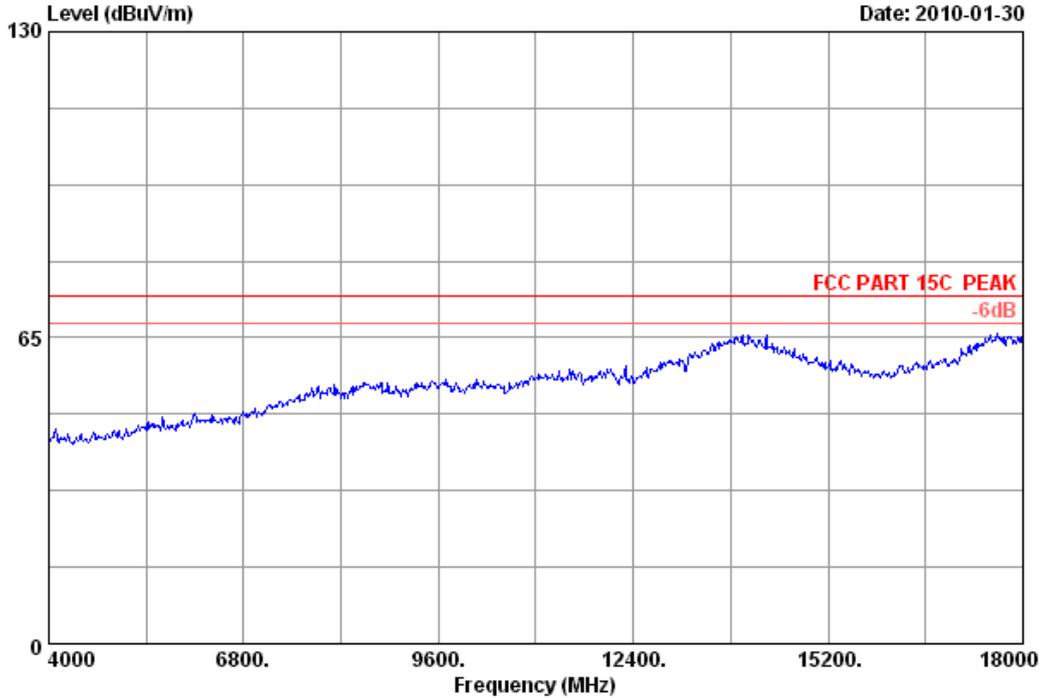
Remarks:

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



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Data: 17 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

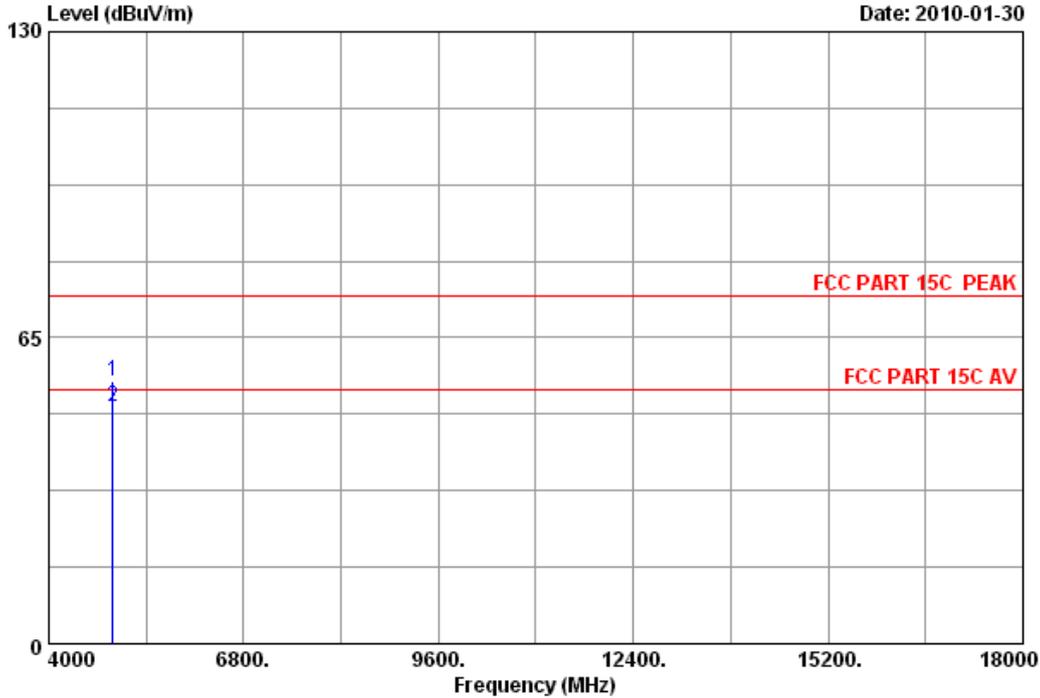


Site no.	: 3m Chamber	Data no.	: 17
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11b CH11 2462MHz Tx		
M/N	: TL-WN781N		



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Data: 18 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 18  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11b CH11 2462MHz Tx  
 M/N : TL-WN781N

	Ant. Freq. (MHz)	Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4924.000	34.49	12.50	35.34	44.14	55.79	74.00	18.21	Peak
2	4924.000	34.49	12.50	35.34	38.75	50.40	54.00	3.60	Average

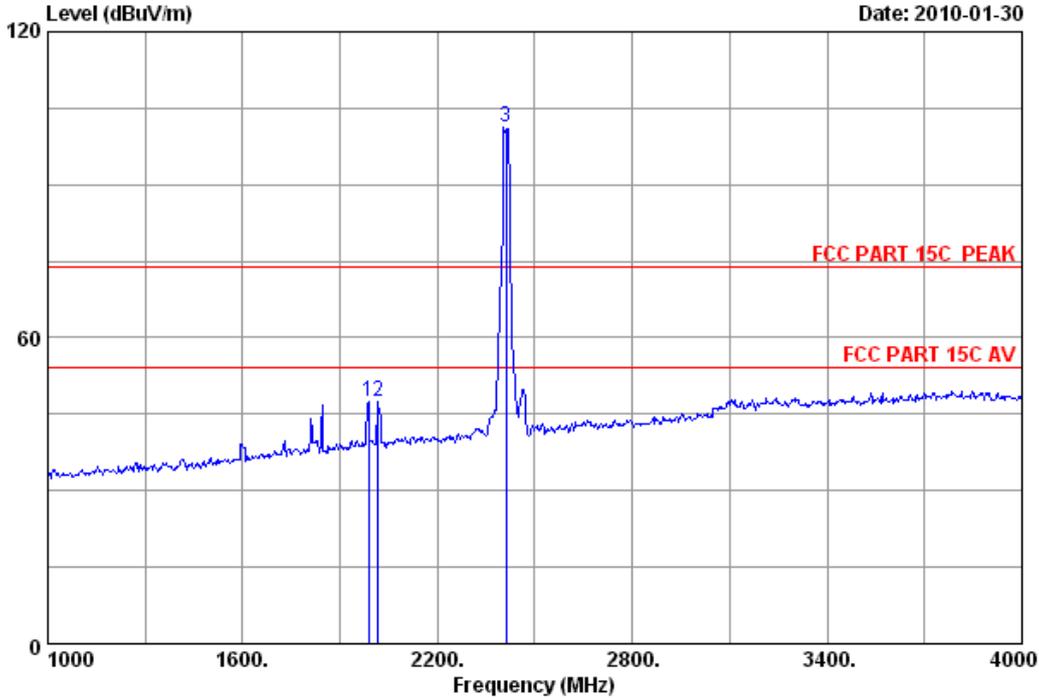
Remarks:

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



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Data: 19 File: E:\2010 report data\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 19  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11g CH1 2412MHz Tx  
 M/N : TL-WN781N

	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	1987.000	29.11	7.87	36.06	46.56	47.48	74.00	26.52	Peak
2	2017.000	29.21	7.93	36.12	46.34	47.36	74.00	26.64	Peak
3	2412.000	29.45	8.72	35.95	99.02	101.24	74.00	-27.24	Peak

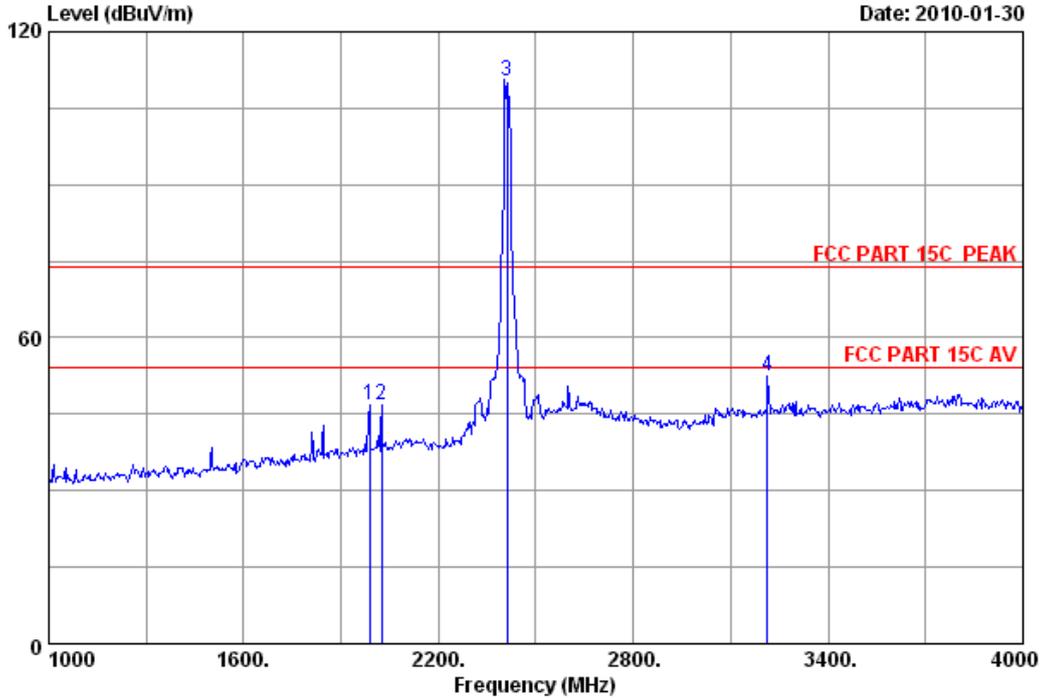
Remarks:

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



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Data: 20 File: E:\2010 report data\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 20  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11g CH1 2412MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	1987.000	29.11	7.87	36.06	45.77	46.69	74.00	27.31	Peak
2	2026.000	29.21	7.97	36.12	45.57	46.63	74.00	27.37	Peak
3	2412.000	29.45	8.72	35.95	107.92	110.14	74.00	-36.14	Peak
4	3214.000	32.54	10.21	35.86	45.57	52.46	74.00	21.54	Peak

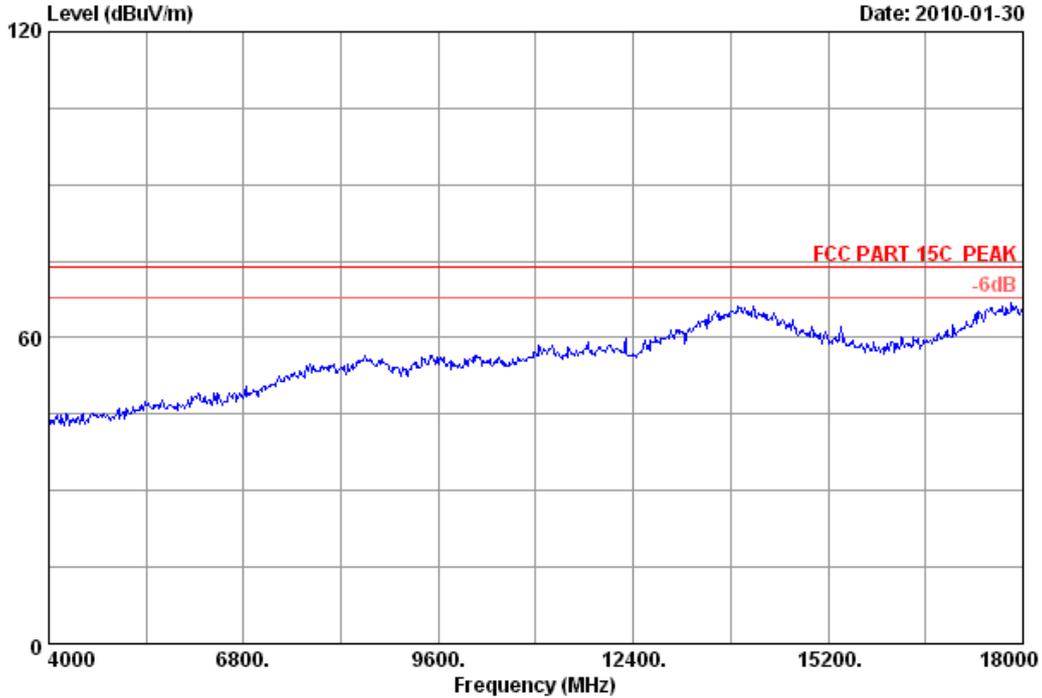
Remarks:

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



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Data: 21 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

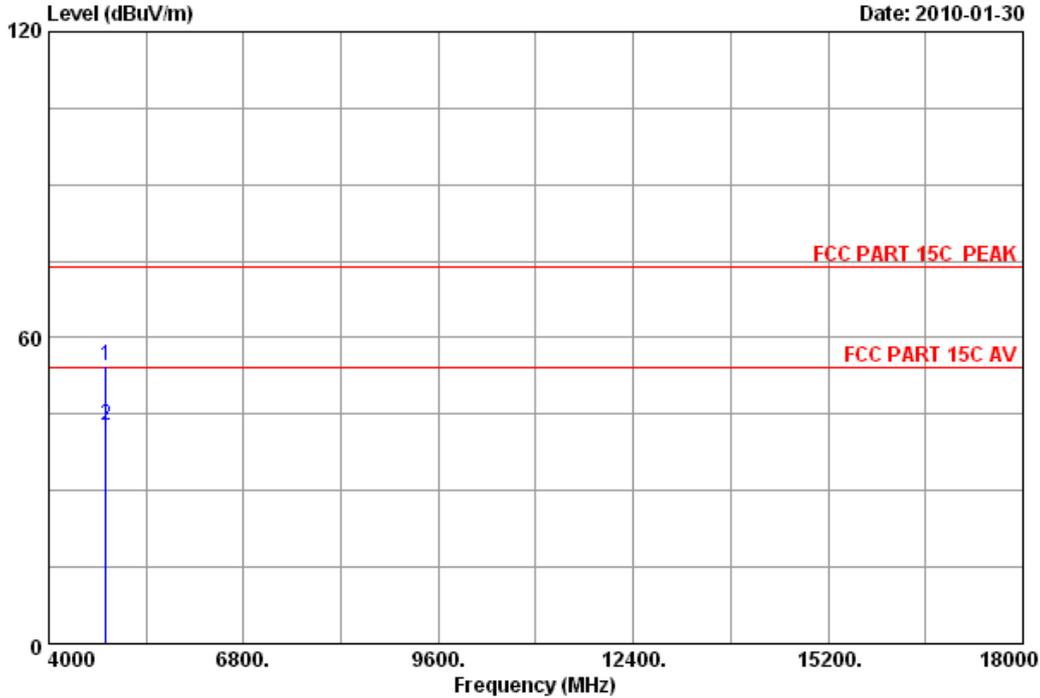


Site no.	: 3m Chamber	Data no.	: 21
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11g CH1 2412MHz Tx		
M/N	: TL-WN781N		



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Data: 22 File: E:\2010 report data\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 22  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11g CH1 2412MHz Tx  
 M/N : TL-WN781N

	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	4824.000	34.32	12.38	35.25	43.16	54.61	74.00	19.39	Peak
2	4824.000	34.32	12.38	35.25	31.24	42.69	54.00	11.31	Average

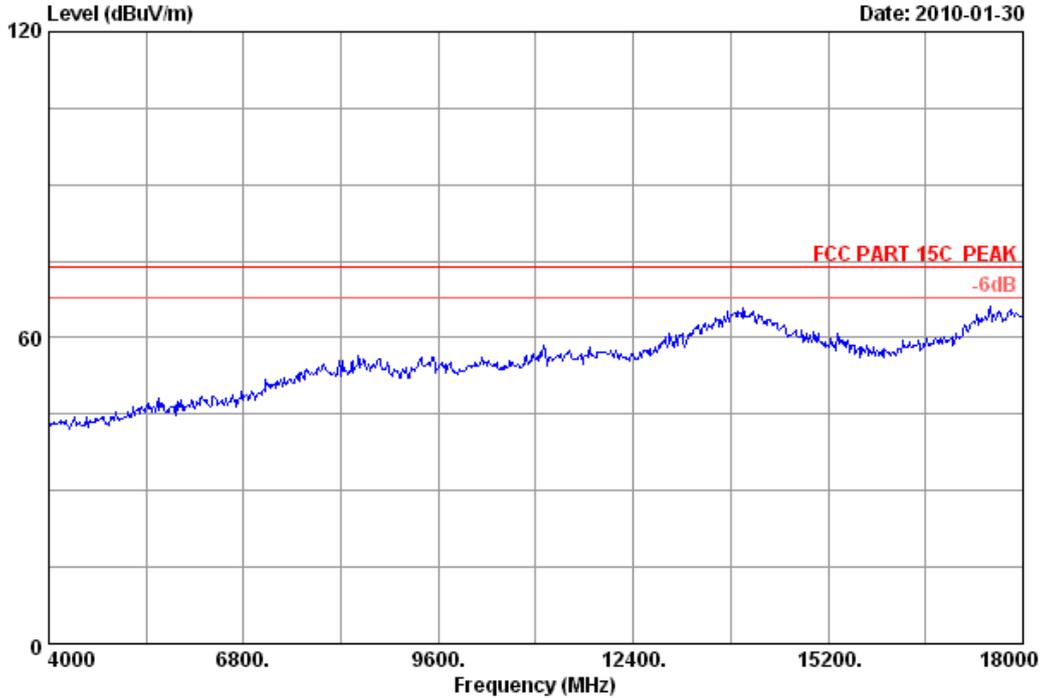
Remarks:

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



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Data: 23 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

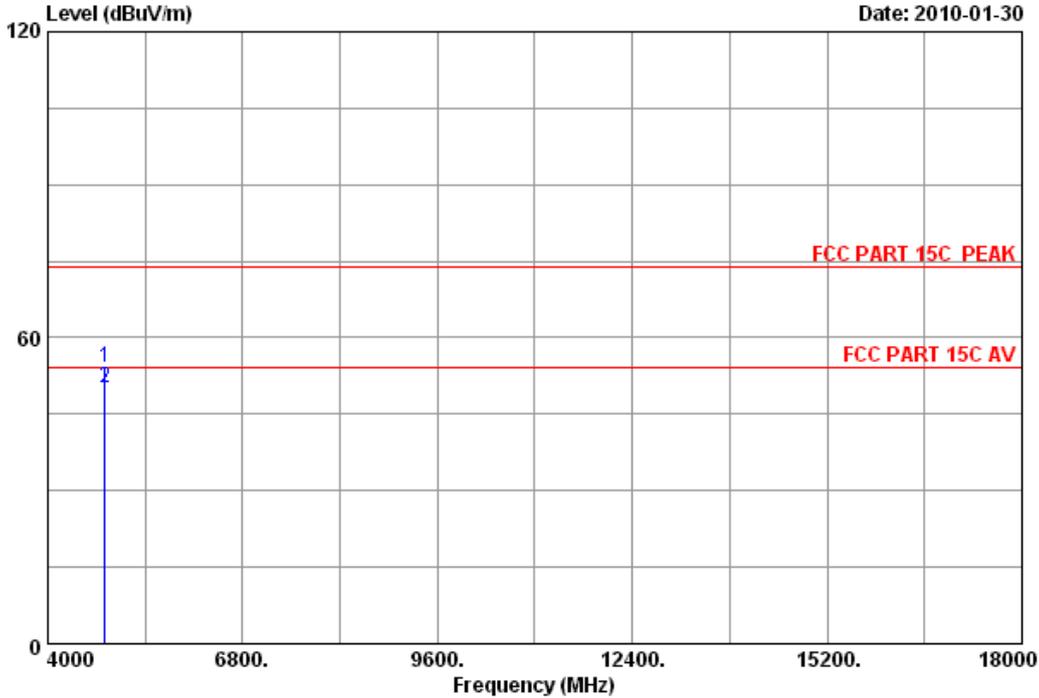


Site no.	: 3m Chamber	Data no.	: 23
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11g CH1 2412MHz Tx		
M/N	: TL-WN781N		



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Data: 24 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 24  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11g CH1 2412MHz Tx  
 M/N : TL-WN781N

	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	4824.000	34.32	12.38	35.25	42.77	54.22	74.00	19.78	Peak
2	4824.000	34.32	12.38	35.25	38.83	50.28	54.00	3.72	Average

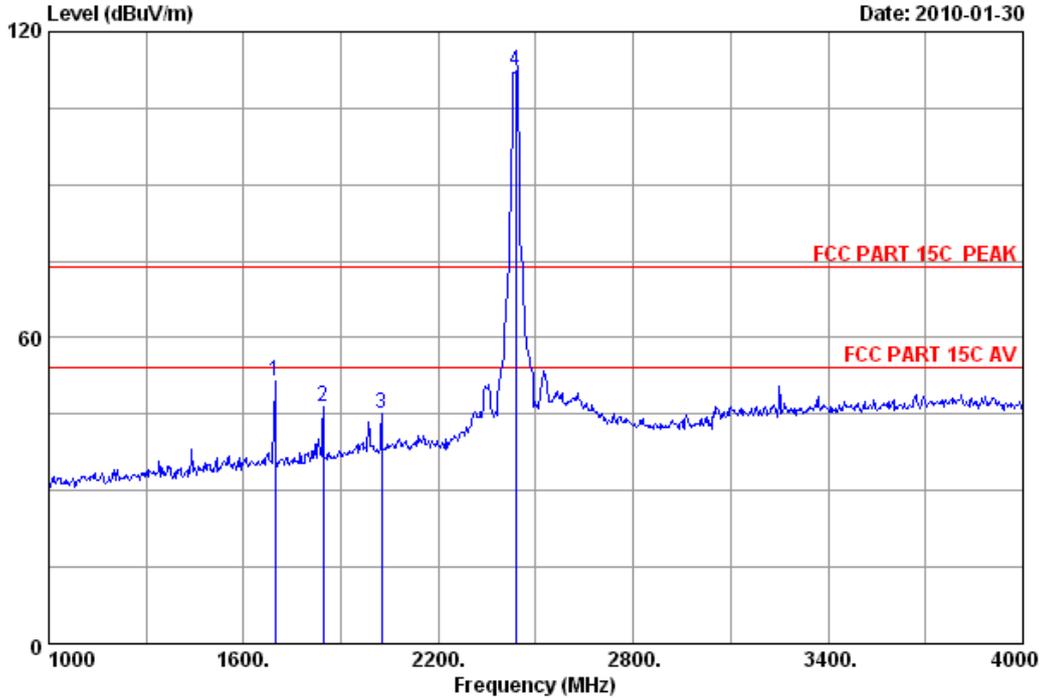
Remarks:

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



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Data: 25 File: E:\2010 report data\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 25  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11g CH6 2437MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	1696.000	27.52	7.16	36.26	53.13	51.55	74.00	22.45	Peak
2	1846.000	28.36	7.51	36.23	46.98	46.62	74.00	27.38	Peak
3	2026.000	29.21	7.97	36.12	44.05	45.11	74.00	28.89	Peak
4	2437.000	29.47	8.77	36.06	110.25	112.43	74.00	-38.43	Peak

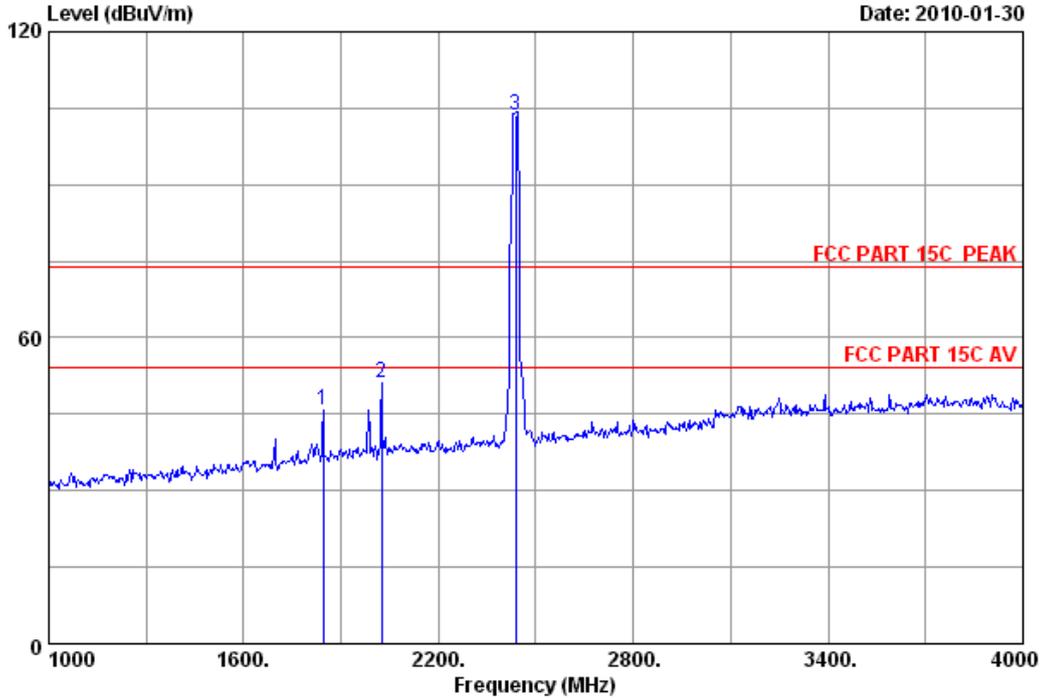
Remarks:

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



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Data: 26 File: E:\2010 report data\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 26  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11g CH6 2437MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	1846.000	28.36	7.51	36.23	46.08	45.72	74.00	28.28	Peak
2	2026.000	29.21	7.97	36.12	50.09	51.15	74.00	22.85	Peak
3	2437.000	29.47	8.77	36.06	101.36	103.54	74.00	-29.54	Peak

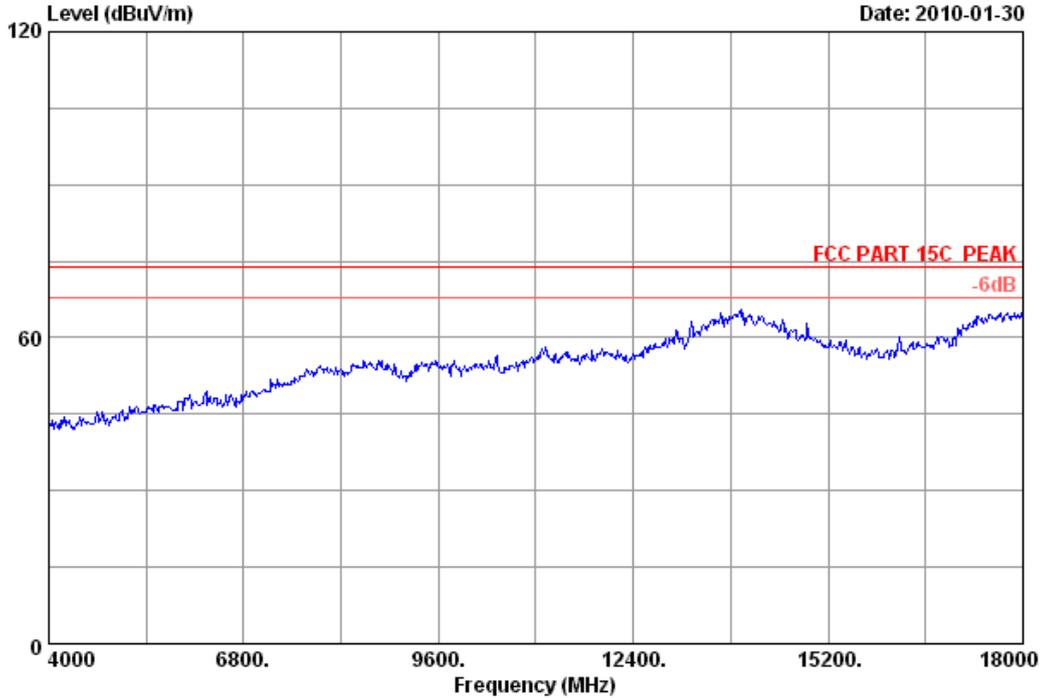
Remarks:

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



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Data: 27 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

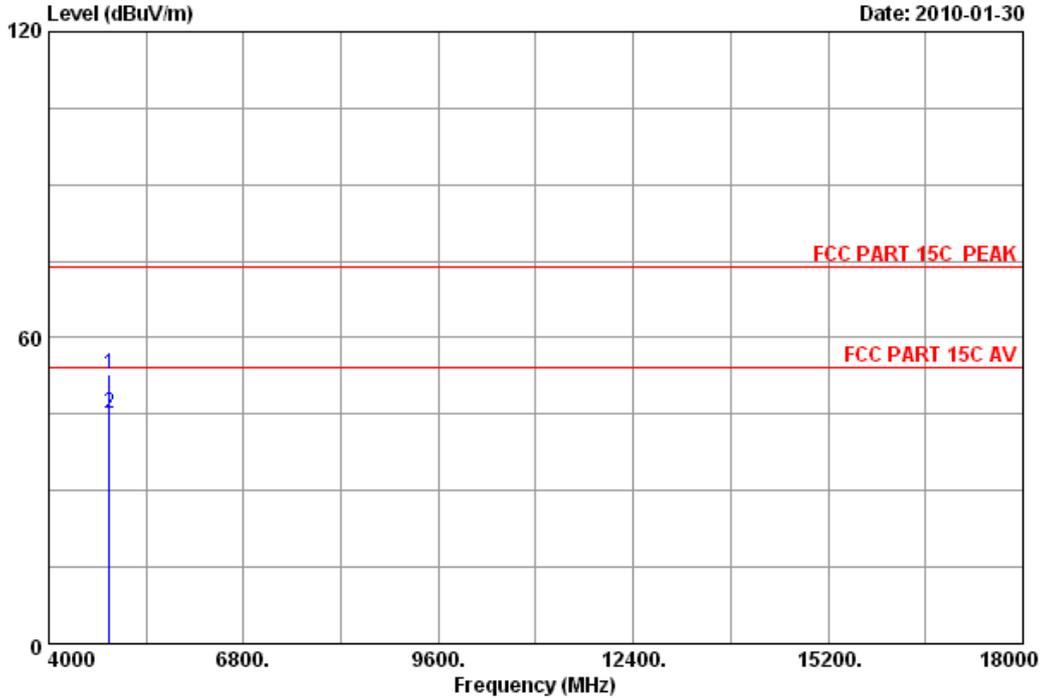


Site no.	: 3m Chamber	Data no.	: 27
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11g CH6 2437MHz Tx		
M/N	: TL-WN781N		



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Data: 28 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 28  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11g CH6 2437MHz Tx  
 M/N : TL-WN781N

	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	4874.000	34.41	12.44	35.36	41.34	52.83	74.00	21.17	Peak
2	4874.000	34.41	12.44	35.36	33.64	45.13	54.00	8.87	Average

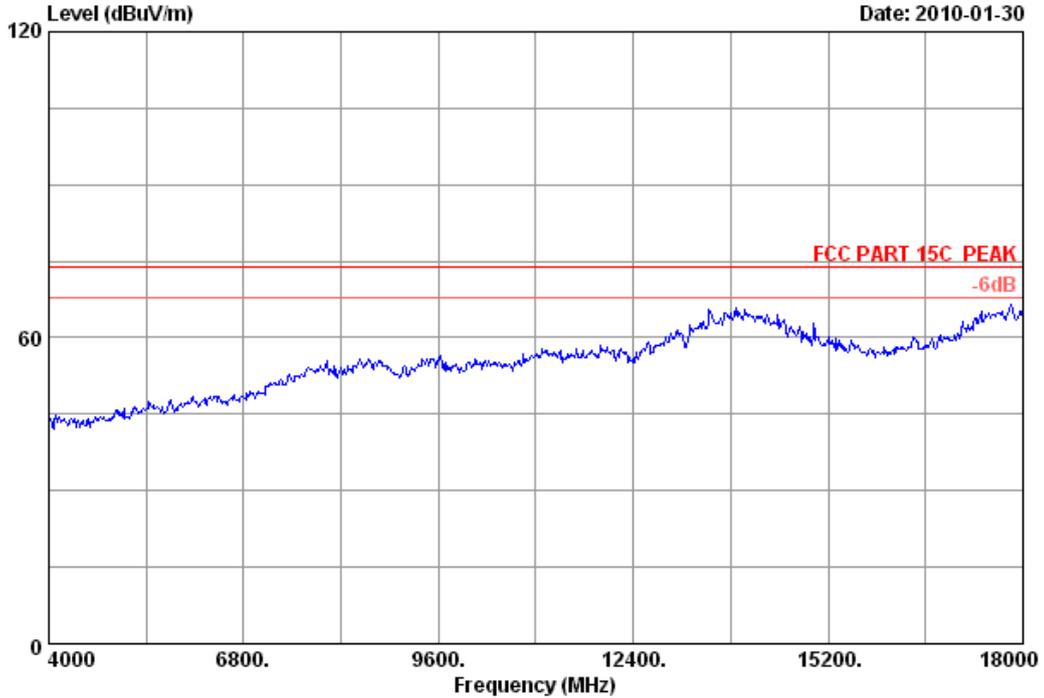
Remarks:

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



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Data: 29 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

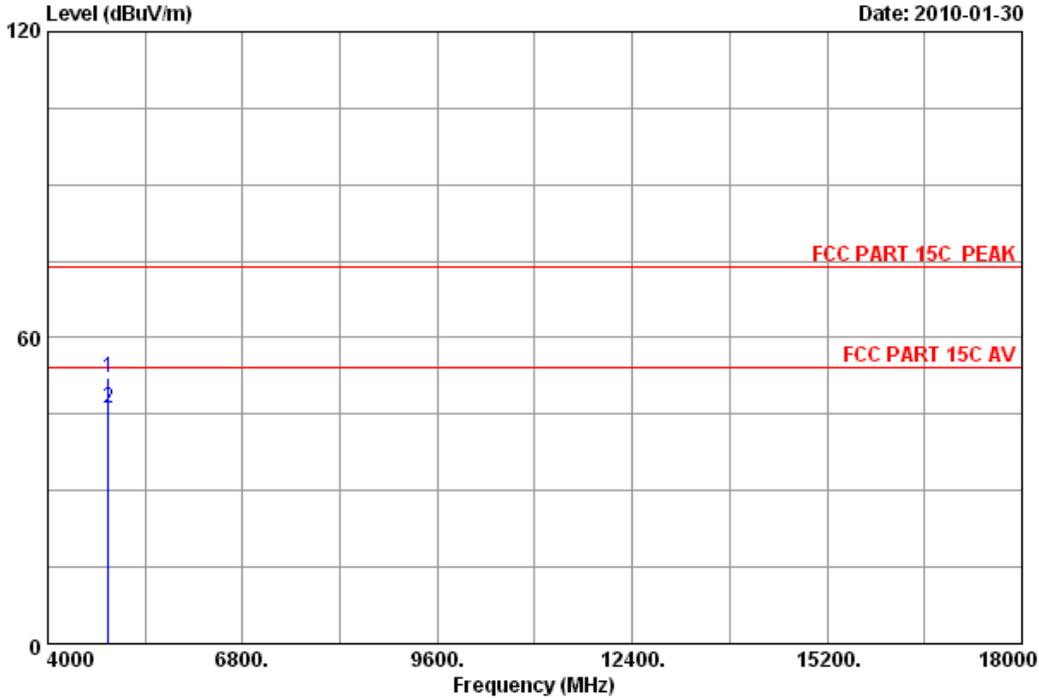


Site no.	: 3m Chamber	Data no.	: 29
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11g CH6 2437MHz Tx		
M/N	: TL-WN781N		



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Data: 30 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 30  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11g CH6 2437MHz Tx  
 M/N : TL-WN781N

	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	4874.000	34.41	12.44	35.36	40.59	52.08	74.00	21.92	Peak
2	4874.000	34.41	12.44	35.36	34.80	46.29	54.00	7.71	Average

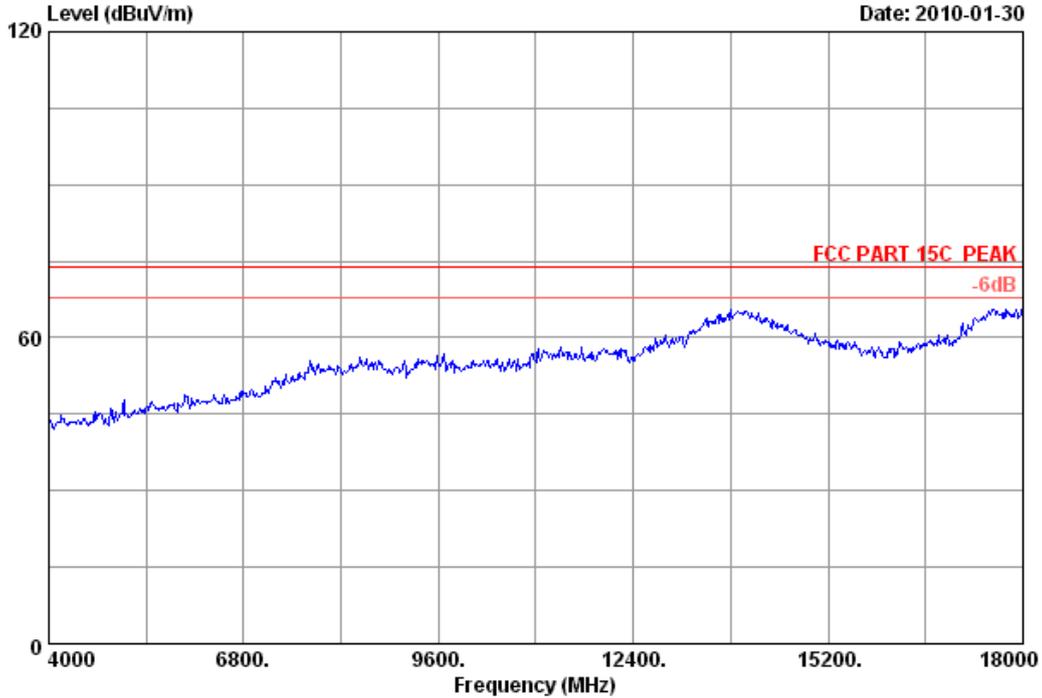
Remarks:

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



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Data: 31 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

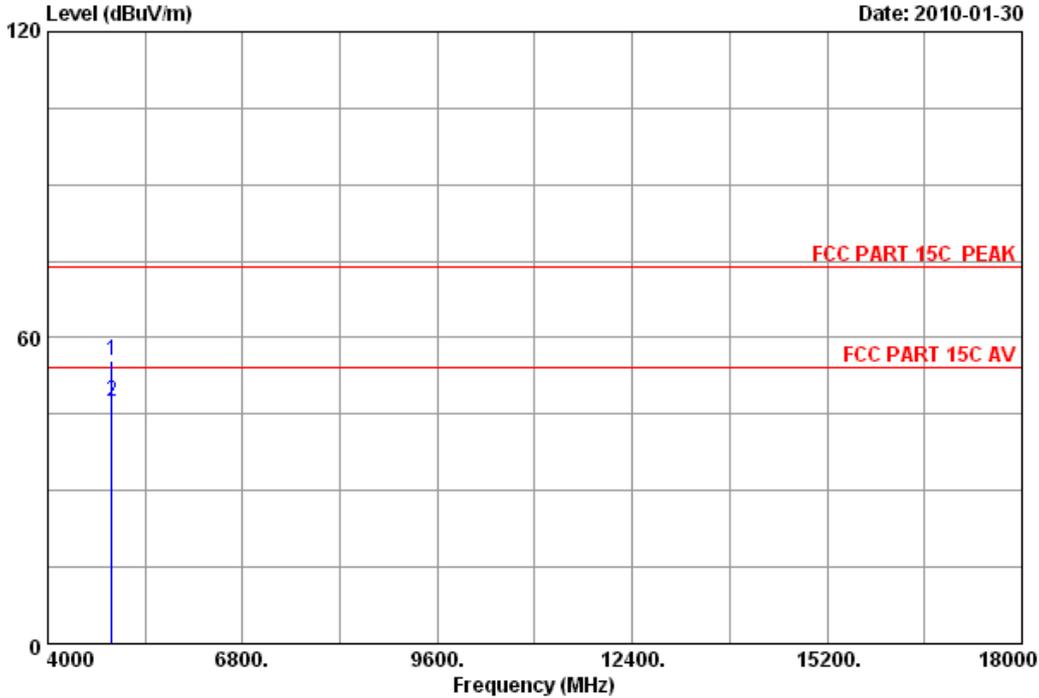


Site no.	: 3m Chamber	Data no.	: 31
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11g CH11 2462MHz Tx		
M/N	: TL-WN781N		



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 Postcode:518057

Data: 32 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 32  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11g CH11 2462MHz Tx  
 M/N : TL-WN781N

	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	4924.000	34.49	12.50	35.34	43.95	55.60	74.00	18.40	Peak
2	4924.000	34.49	12.50	35.34	35.86	47.51	54.00	6.49	Average

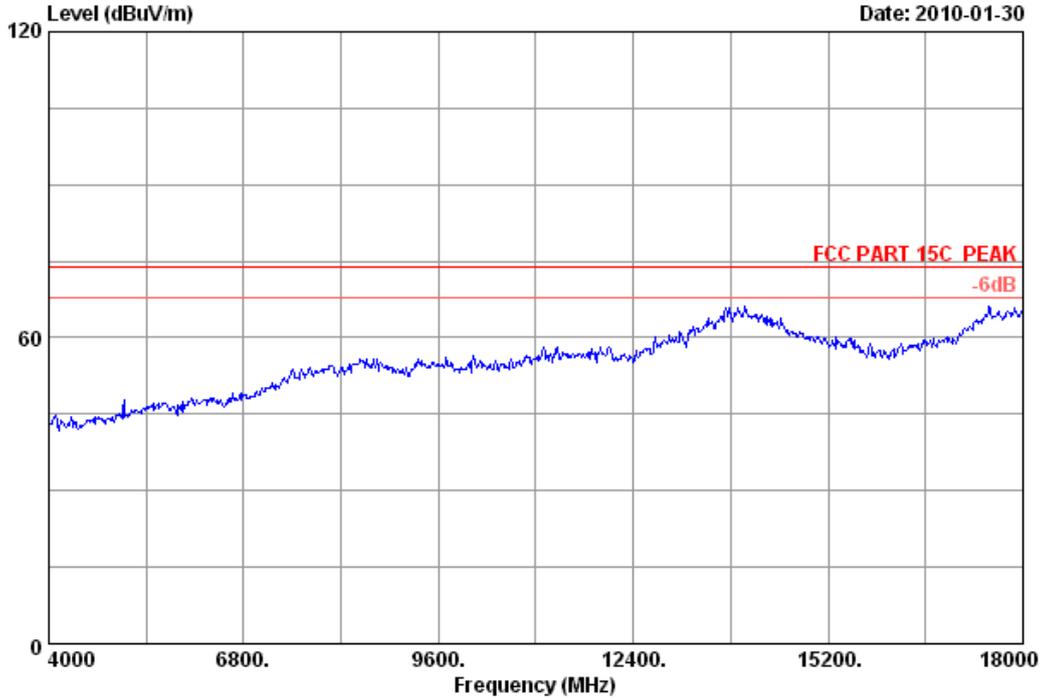
Remarks:

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



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Data: 33 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

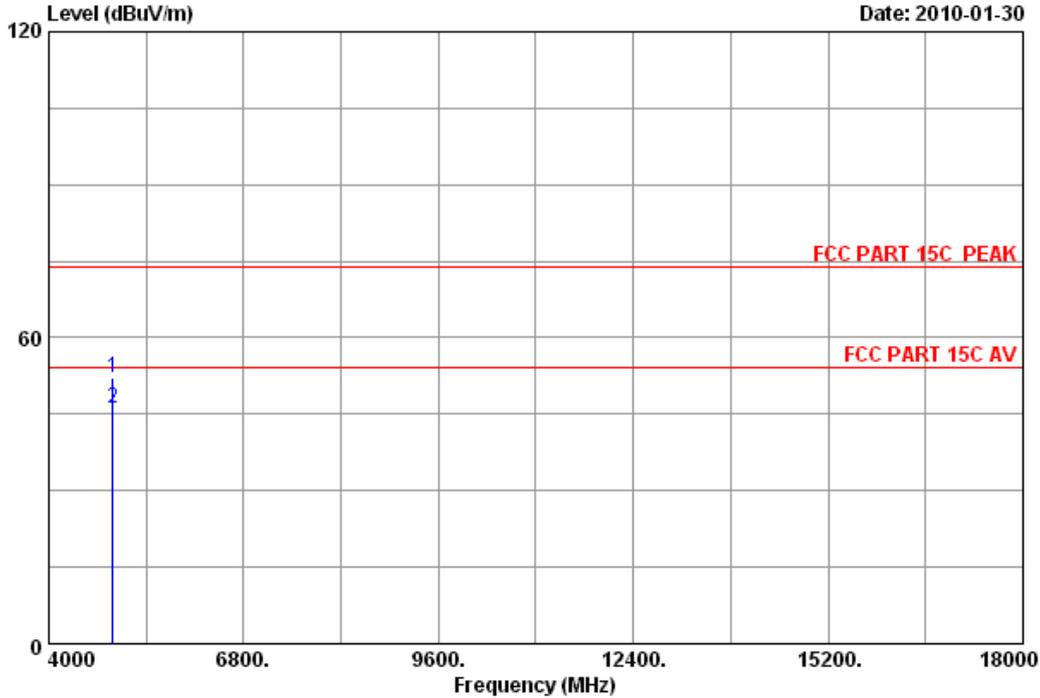


Site no.	: 3m Chamber	Data no.	: 33
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11g CH11 2462MHz Tx		
M/N	: TL-WN781N		



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Data: 34 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 34  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11g CH11 2462MHz Tx  
 M/N : TL-WN781N

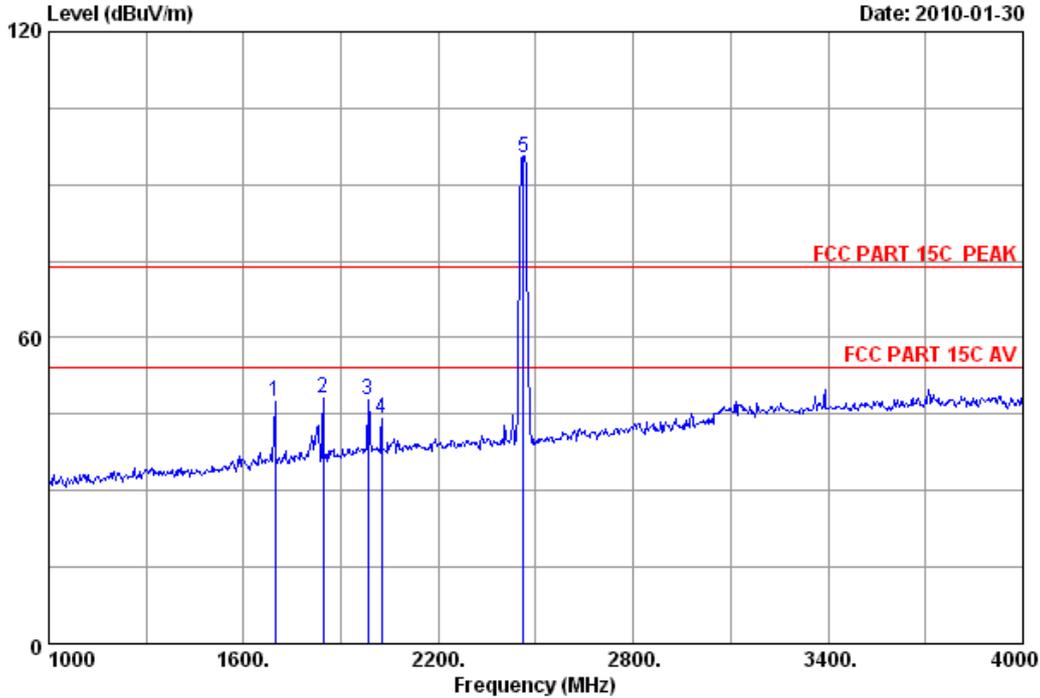
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4924.000	34.49	12.50	35.34	40.38	52.03	74.00	21.97	Peak
2	4924.000	34.49	12.50	35.34	34.39	46.04	54.00	7.96	Average

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



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Data: 35 File: E:\2010 report data\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 35  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11g CH11 2462MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	1696.000	27.52	7.16	36.26	48.92	47.34	74.00	26.66	Peak
2	1846.000	28.36	7.51	36.23	48.58	48.22	74.00	25.78	Peak
3	1984.000	29.11	7.87	36.06	46.84	47.76	74.00	26.24	Peak
4	2026.000	29.21	7.97	36.12	43.12	44.18	74.00	29.82	Peak
5	2462.000	29.48	8.82	36.02	93.01	95.29	74.00	-21.29	Peak

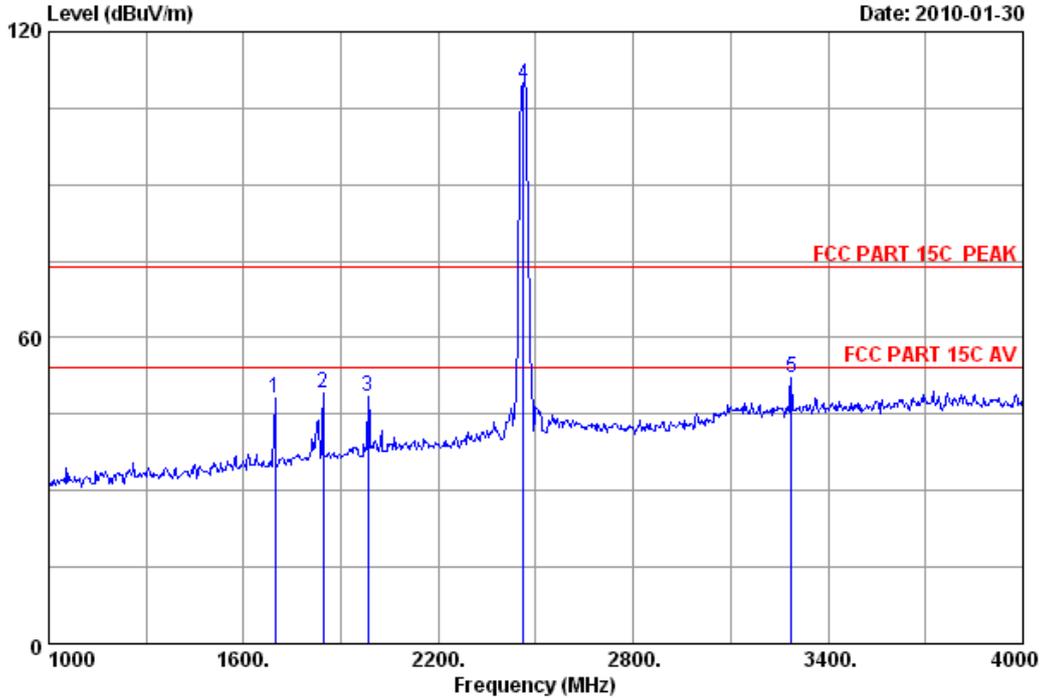
Remarks:

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



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Data: 36 File: E:\2010 report data\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 36  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11g CH11 2462MHz Tx  
 M/N : TL-WN781N

	Ant. Freq. (MHz)	Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1696.000	27.52	7.16	36.26	49.88	48.30	74.00	25.70	Peak
2	1846.000	28.36	7.51	36.23	49.40	49.04	74.00	24.96	Peak
3	1984.000	29.11	7.87	36.06	47.57	48.49	74.00	25.51	Peak
4	2462.000	29.48	8.82	36.02	107.32	109.60	74.00	-35.60	Peak
5	3286.000	32.72	10.32	35.79	44.77	52.02	74.00	21.98	Peak

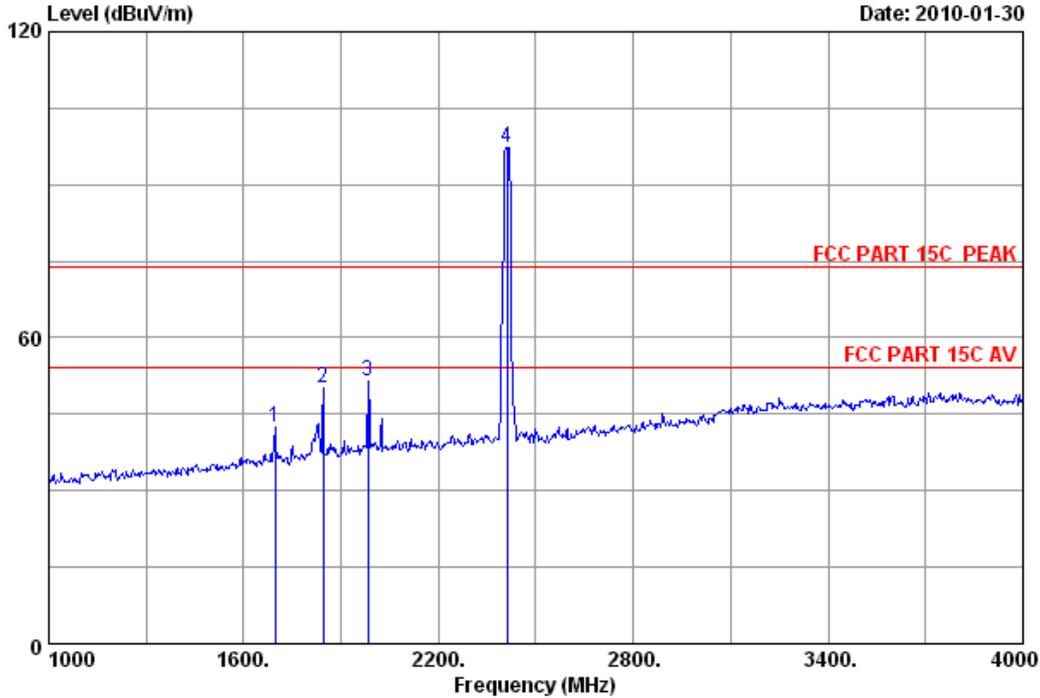
Remarks:

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



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Data: 37 File: E:\2010 report data\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 37  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT20 CH1 2412MHz Tx  
 M/N : TL-WN781N

	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	1696.000	27.52	7.16	36.26	44.14	42.56	74.00	31.44	Peak
2	1846.000	28.36	7.51	36.23	50.38	50.02	74.00	23.98	Peak
3	1984.000	29.11	7.87	36.06	50.55	51.47	74.00	22.53	Peak
4	2412.000	29.45	8.72	35.95	94.93	97.15	74.00	-23.15	Peak

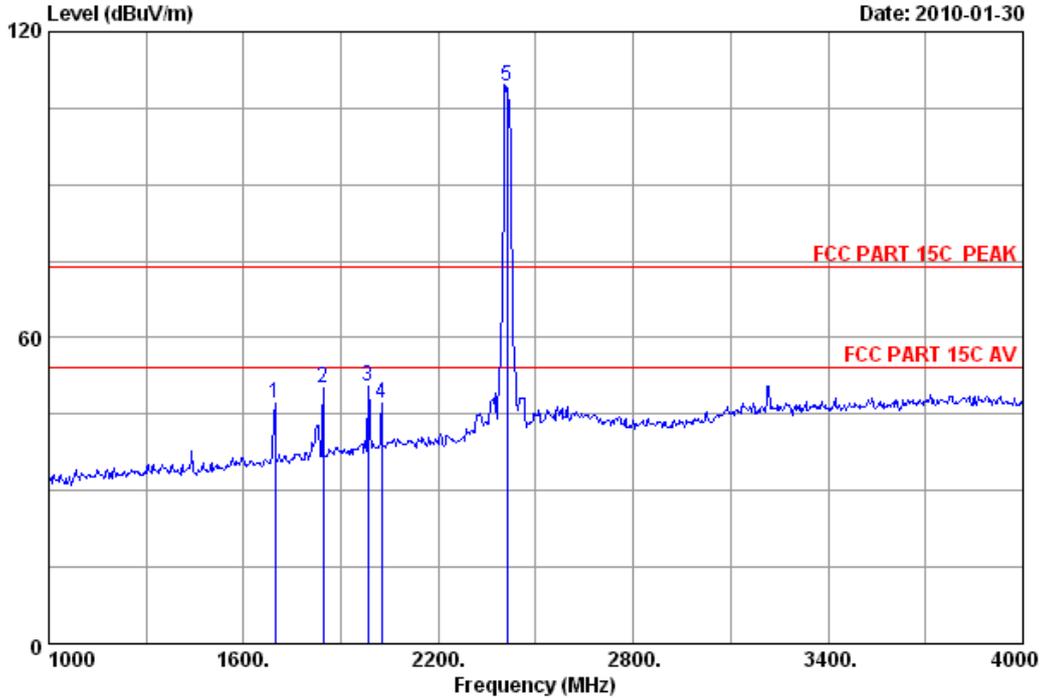
Remarks:

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



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Data: 38 File: E:\2010 report data\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 38  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT20 CH1 2412MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	1696.000	27.52	7.16	36.26	48.63	47.05	74.00	26.95	Peak
2	1846.000	28.36	7.51	36.23	50.62	50.26	74.00	23.74	Peak
3	1984.000	29.11	7.87	36.06	49.53	50.45	74.00	23.55	Peak
4	2026.000	29.21	7.97	36.12	45.96	47.02	74.00	26.98	Peak
5	2412.000	29.45	8.72	35.95	107.12	109.34	74.00	-35.34	Peak

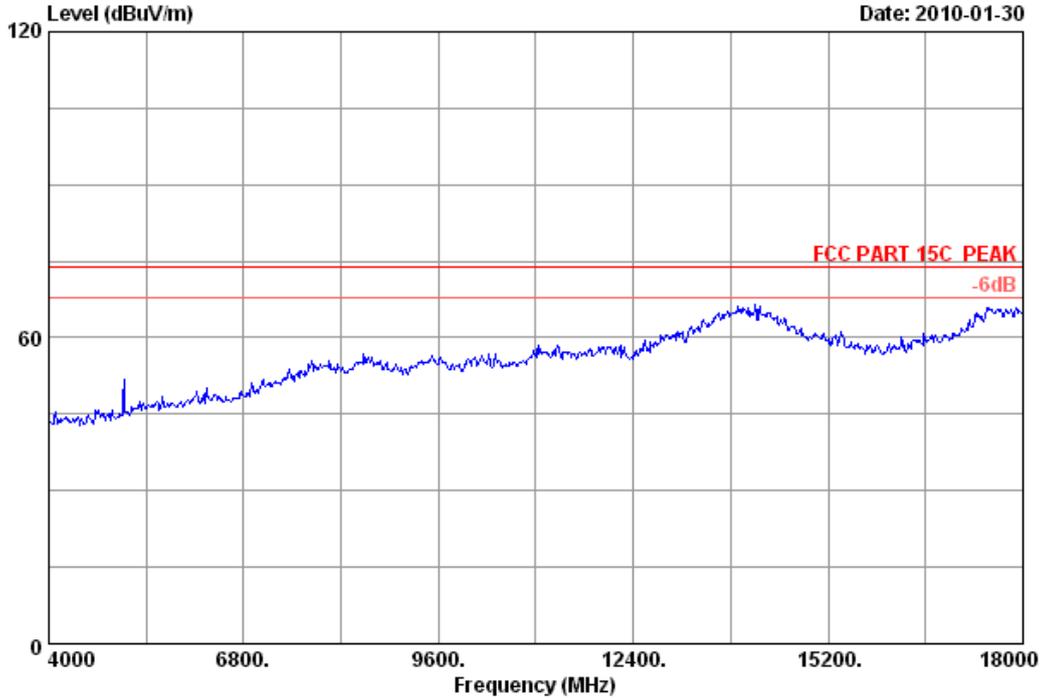
Remarks:

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



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Data: 39 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

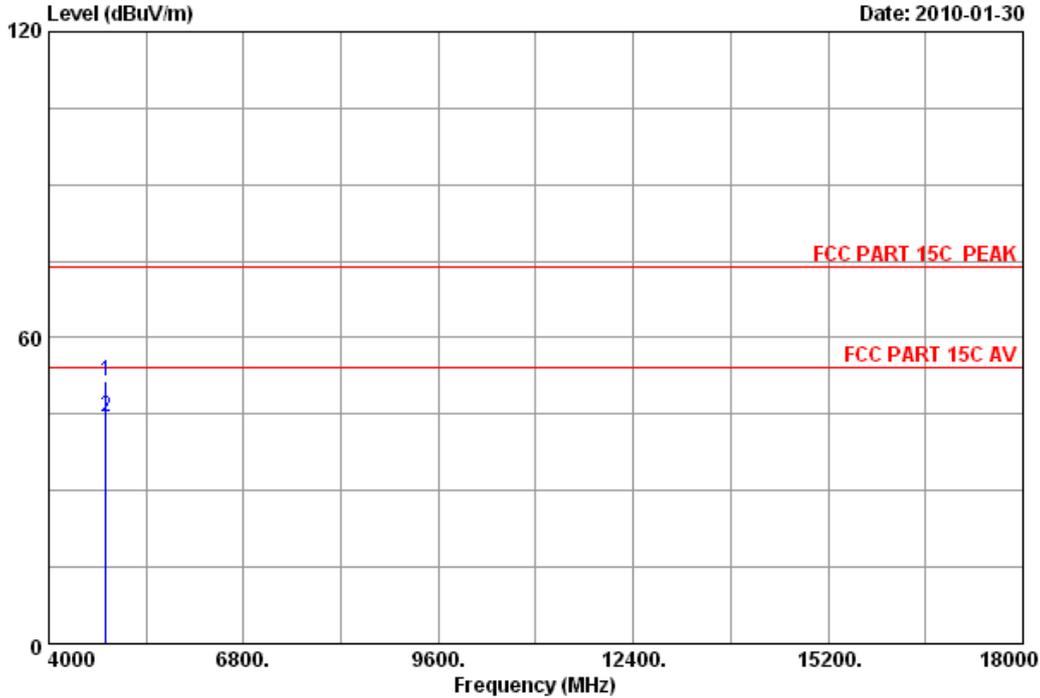


Site no.	: 3m Chamber	Data no.	: 39
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11nHT20 CH1 2412MHz Tx		
M/N	: TL-WN781N		



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Data: 40 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 40  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT20 CH1 2412MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	4824.000	34.32	12.38	35.25	39.94	51.39	74.00	22.61	Peak
2	4824.000	34.32	12.38	35.25	33.09	44.54	54.00	9.46	Average

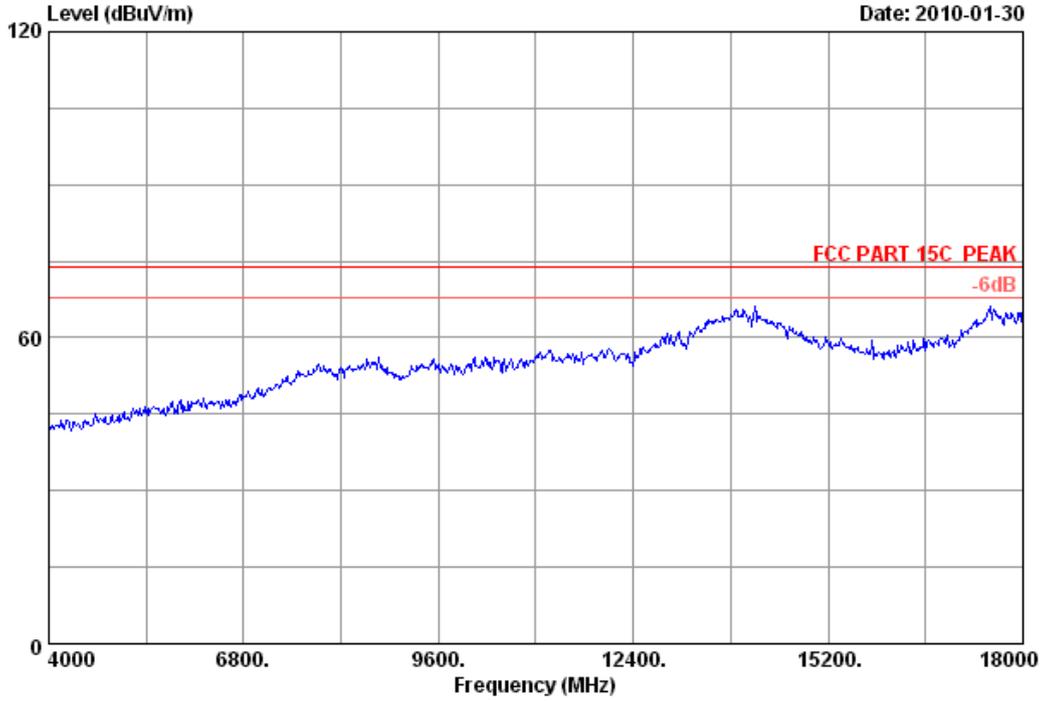
Remarks:

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



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Data: 41 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

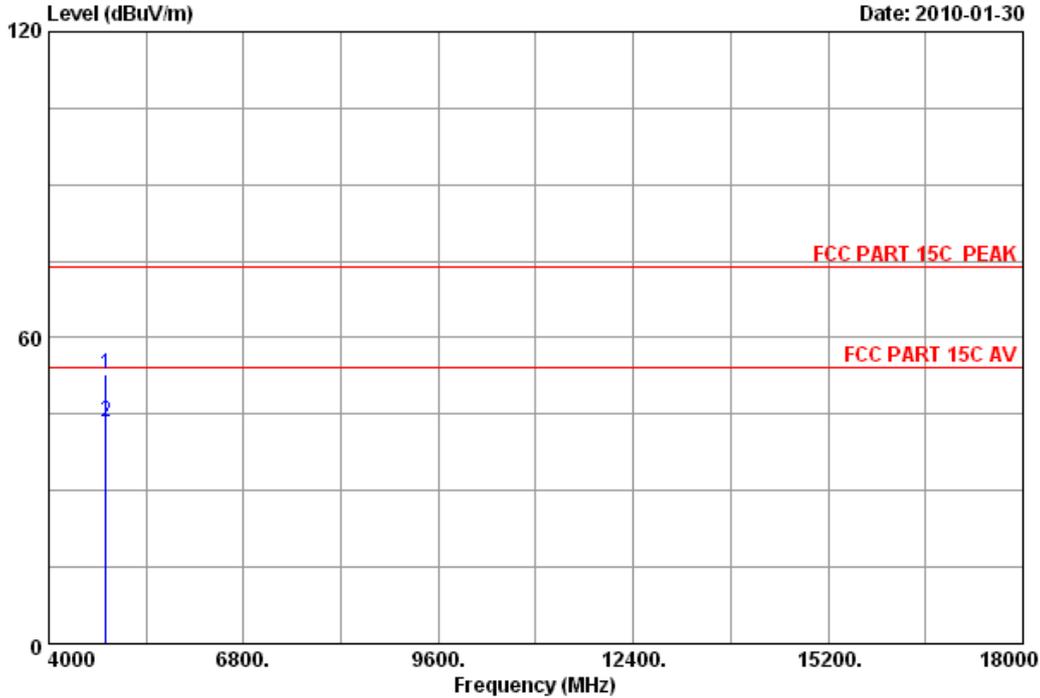


Site no.	: 3m Chamber	Data no.	: 41
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11nHT20 CH1 2412MHz Tx		
M/N	: TL-WN781N		



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Data: 42 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 42  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT20 CH1 2412MHz Tx  
 M/N : TL-WN781N

	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	4824.000	34.32	12.38	35.25	41.36	52.81	74.00	21.19	Peak
2	4824.000	34.32	12.38	35.25	31.91	43.36	54.00	10.64	Average

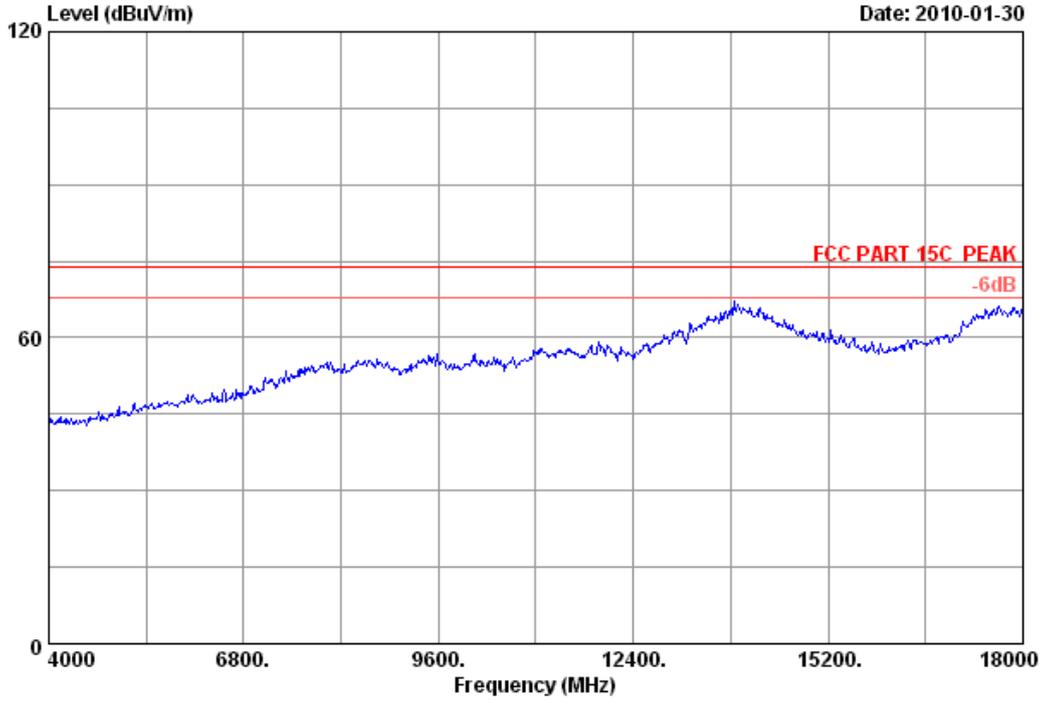
Remarks:

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



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Data: 43 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

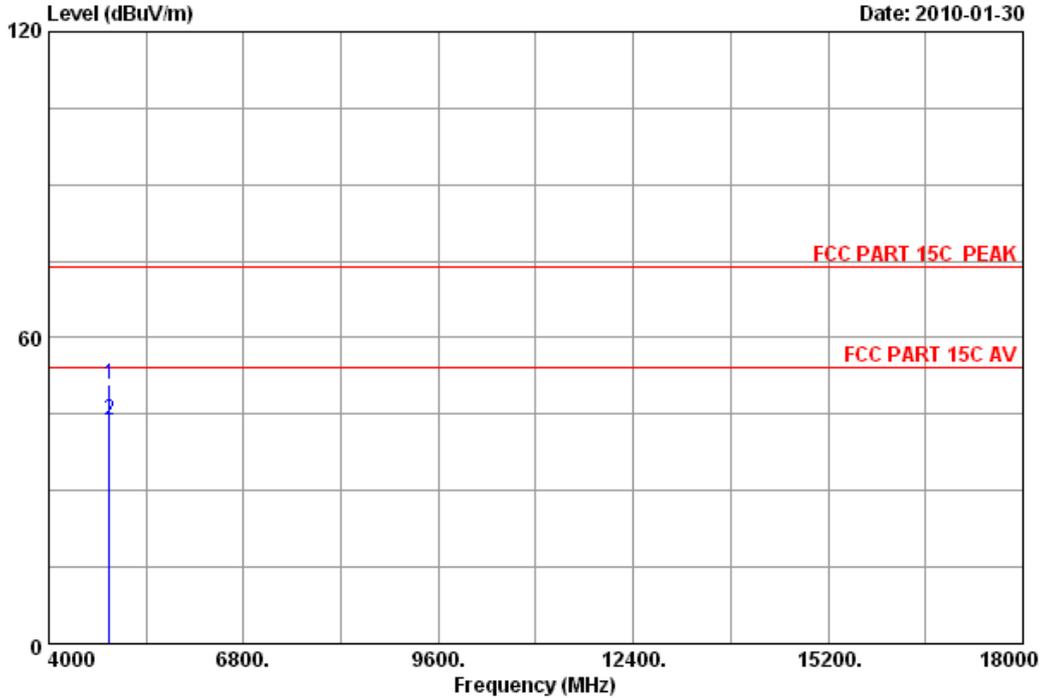


Site no.	: 3m Chamber	Data no.	: 43
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11nHT20 CH6 2437MHz Tx		
M/N	: TL-WN781N		



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Data: 44 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 44  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT20 CH6 2437MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	4874.000	34.41	12.44	35.36	39.36	50.85	74.00	23.15	Peak
2	4874.000	34.41	12.44	35.36	32.14	43.63	54.00	10.37	Average

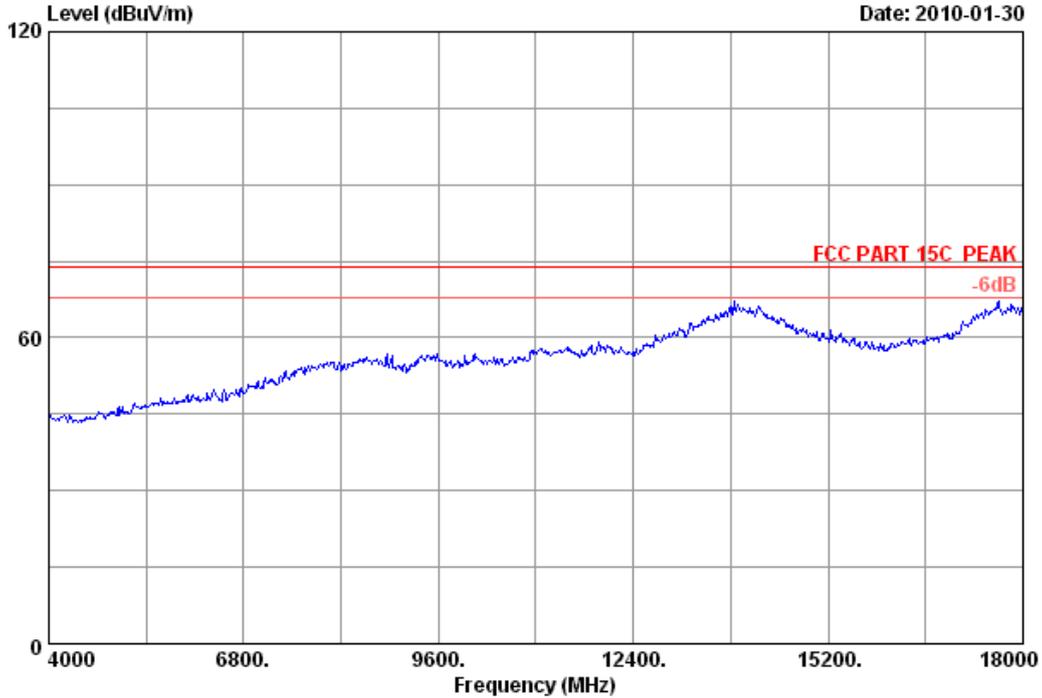
Remarks:

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



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Data: 45 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

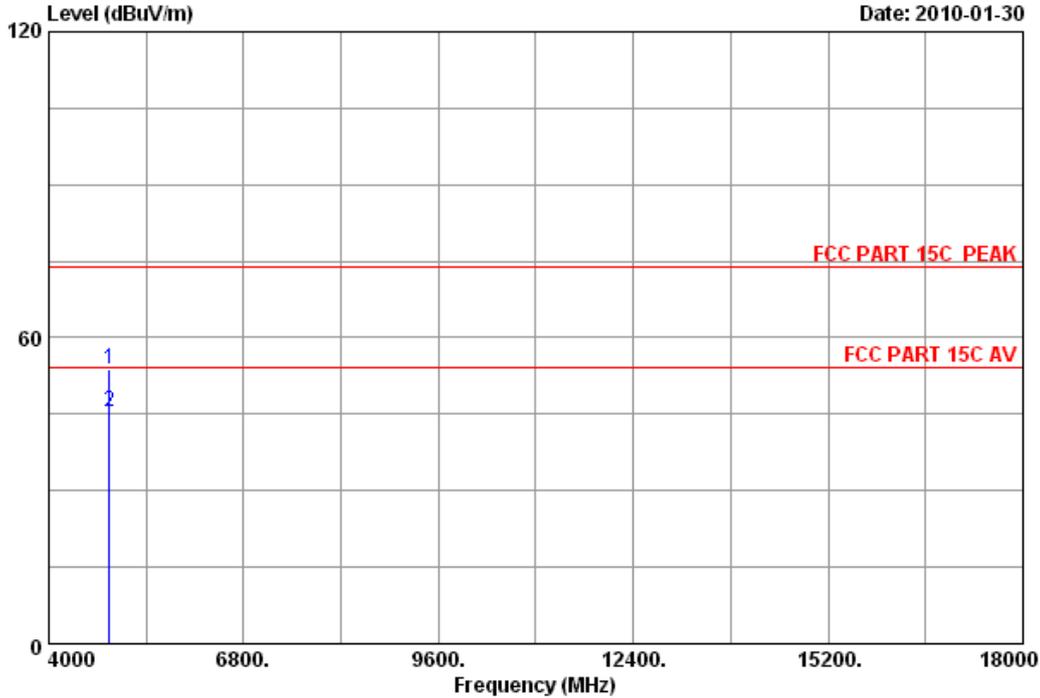


Site no.	: 3m Chamber	Data no.	: 45
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11nHT20 CH6 2437MHz Tx		
M/N	: TL-WN781N		



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Data: 46 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 46  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT20 CH6 2437MHz Tx  
 M/N : TL-WN781N

	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	4874.000	34.41	12.44	35.36	42.49	53.98	74.00	20.02	Peak
2	4874.000	34.41	12.44	35.36	33.94	45.43	54.00	8.57	Average

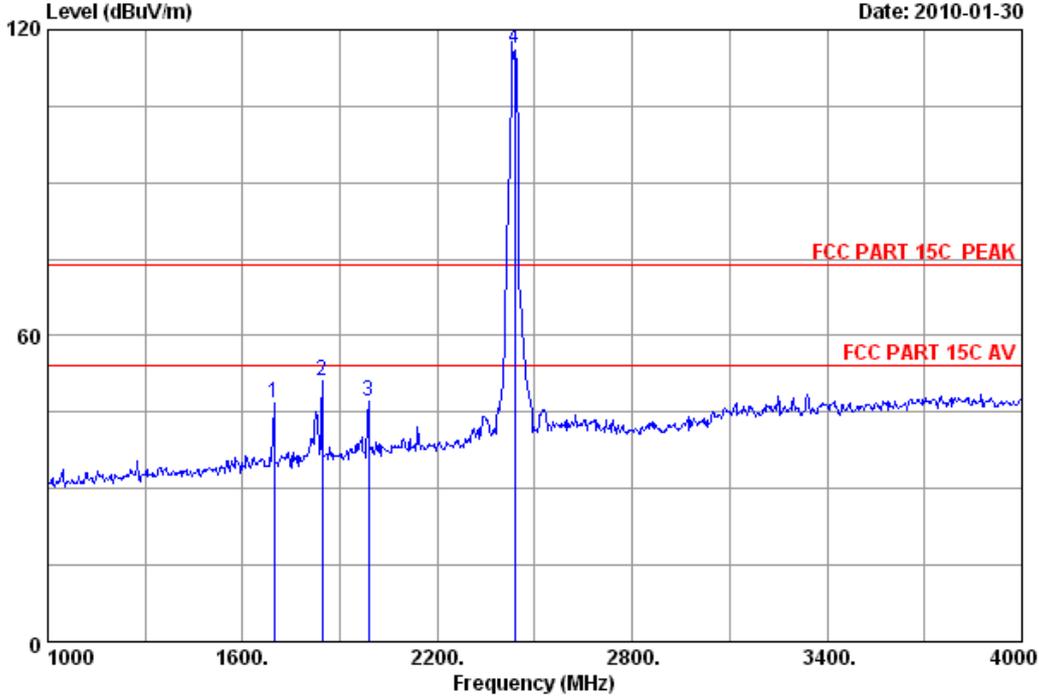
Remarks:

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



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Postcode:518057

Data: 47 File: E:\2010 report data\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 47  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT20 CH6 2437MHz Tx  
 M/N : TL-WN781N

	Ant. Freq. (MHz)	Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1696.000	27.52	7.16	36.26	48.26	46.68	74.00	27.32	Peak
2	1846.000	28.36	7.51	36.23	51.36	51.00	74.00	23.00	Peak
3	1987.000	29.11	7.87	36.06	46.13	47.05	74.00	26.95	Peak
4	2437.000	29.47	8.77	36.06	114.23	116.41	74.00	-42.41	Peak

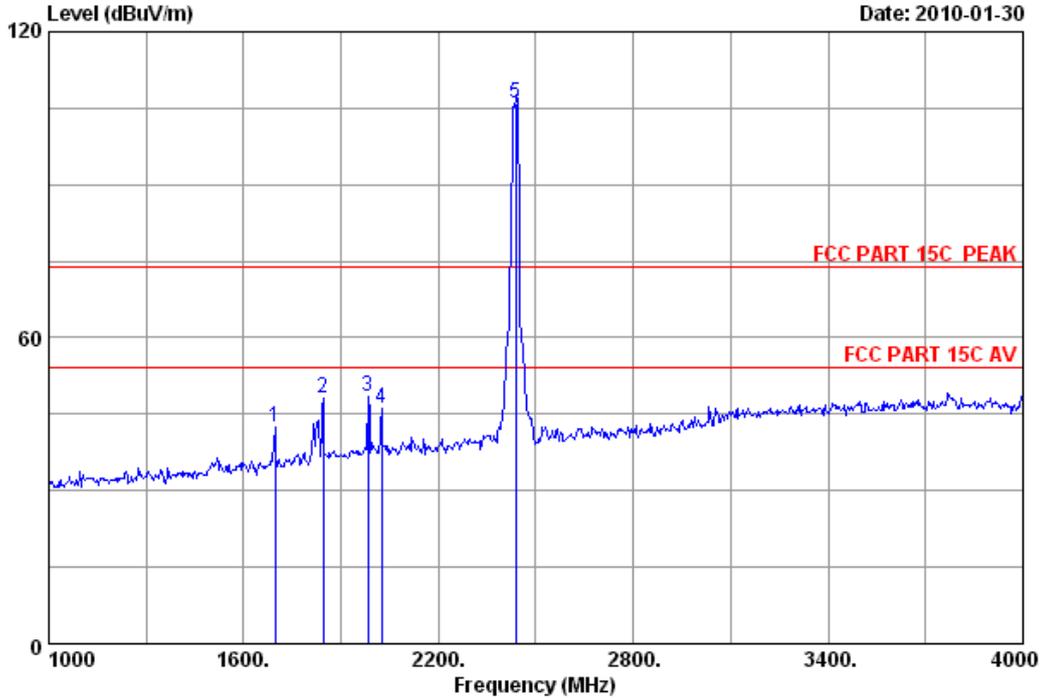
Remarks:

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



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Data: 48 File: E:\2010 report data\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 48  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT20 CH6 2437MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	1696.000	27.52	7.16	36.26	44.01	42.43	74.00	31.57	Peak
2	1846.000	28.36	7.51	36.23	48.50	48.14	74.00	25.86	Peak
3	1984.000	29.11	7.87	36.06	47.52	48.44	74.00	25.56	Peak
4	2026.000	29.21	7.97	36.12	44.93	45.99	74.00	28.01	Peak
5	2437.000	29.47	8.77	36.06	103.86	106.04	74.00	-32.04	Peak

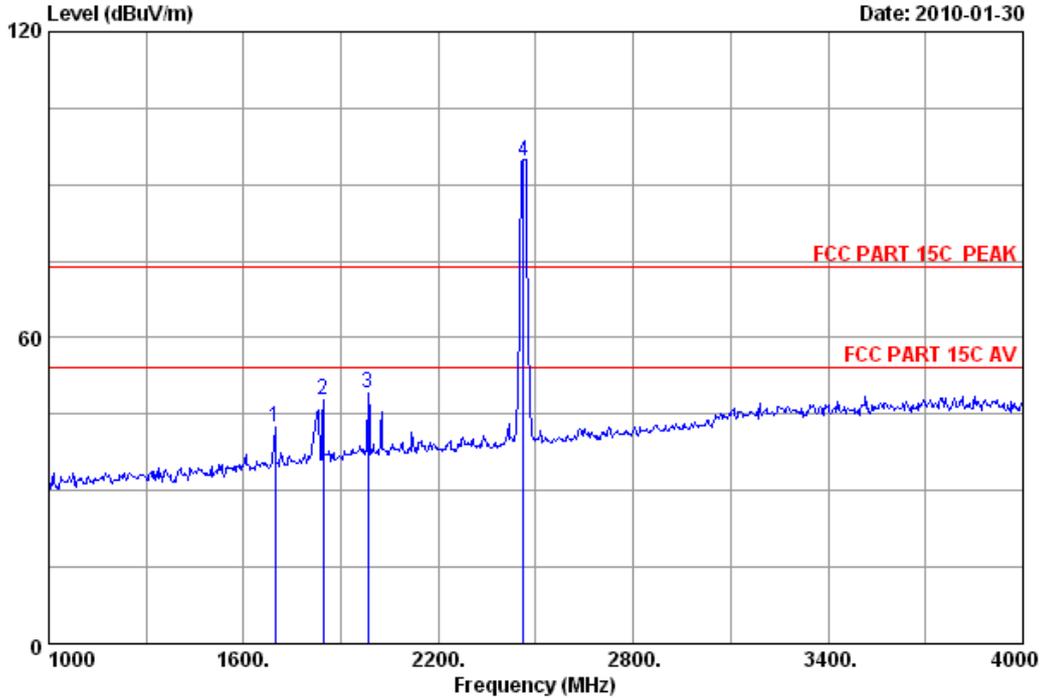
Remarks:

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



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Data: 49 File: E:\2010 report data\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 49  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT20 CH11 2462MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	1696.000	27.52	7.16	36.26	44.20	42.62	74.00	31.38	Peak
2	1846.000	28.36	7.51	36.23	48.20	47.84	74.00	26.16	Peak
3	1984.000	29.11	7.87	36.06	48.30	49.22	74.00	24.78	Peak
4	2462.000	29.48	8.82	36.02	92.30	94.58	74.00	-20.58	Peak

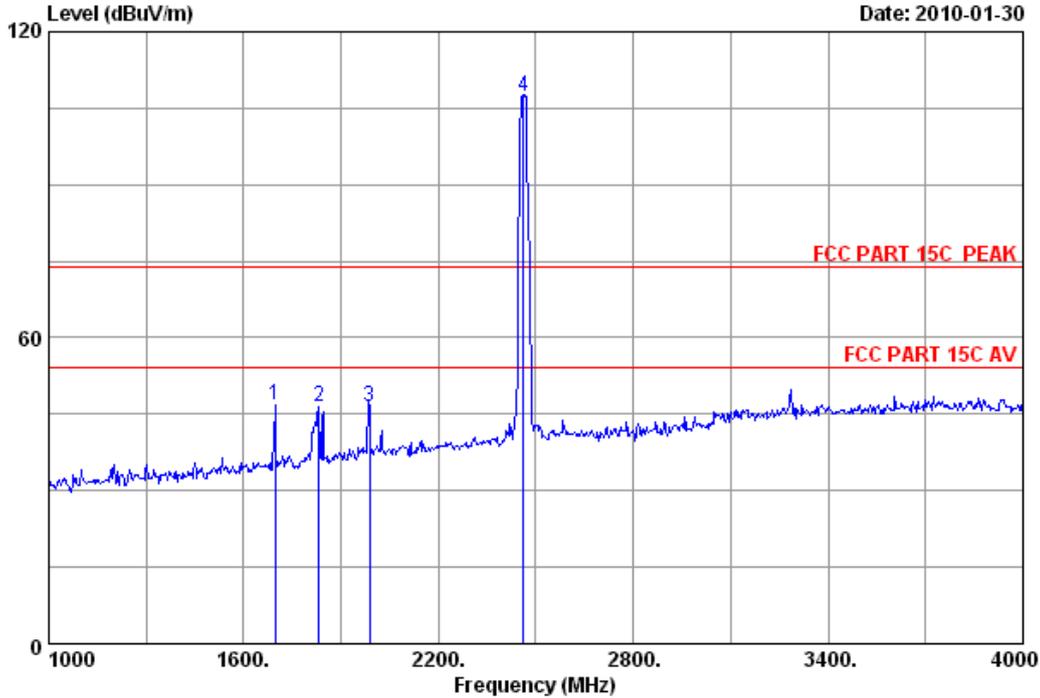
Remarks:

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



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Data: 50 File: E:\2010 report data\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 50  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT20 CH11 2462MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	1696.000	27.52	7.16	36.26	48.37	46.79	74.00	27.21	Peak
2	1831.000	28.27	7.51	36.28	47.04	46.54	74.00	27.46	Peak
3	1987.000	29.11	7.87	36.06	45.40	46.32	74.00	27.68	Peak
4	2462.000	29.48	8.82	36.02	104.85	107.13	74.00	-33.13	Peak

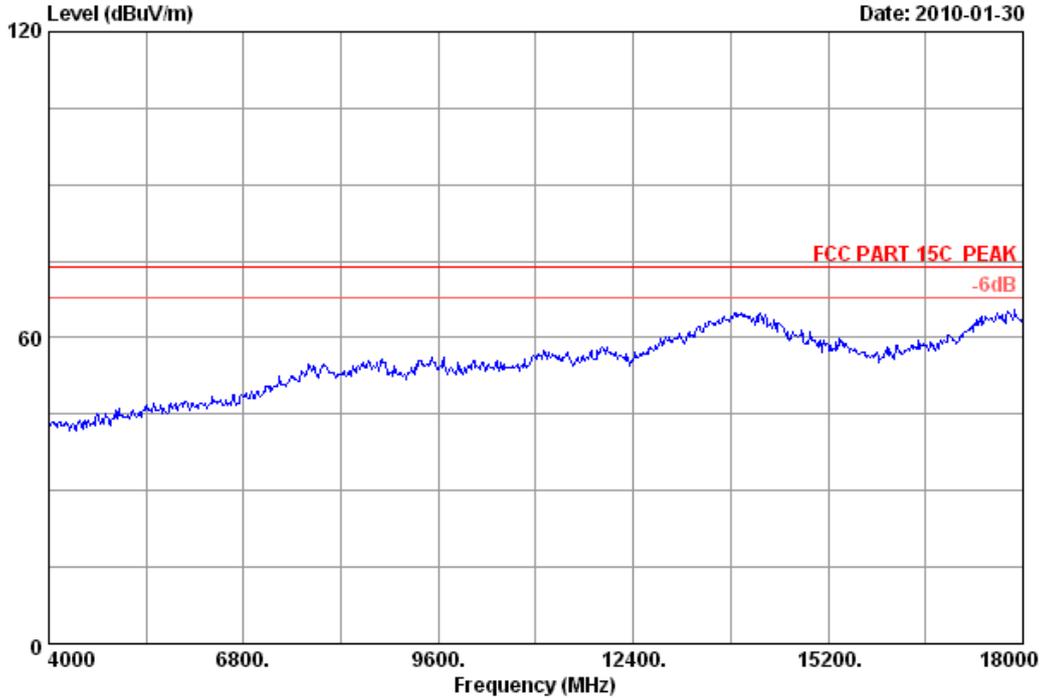
Remarks:

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



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Data: 51 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

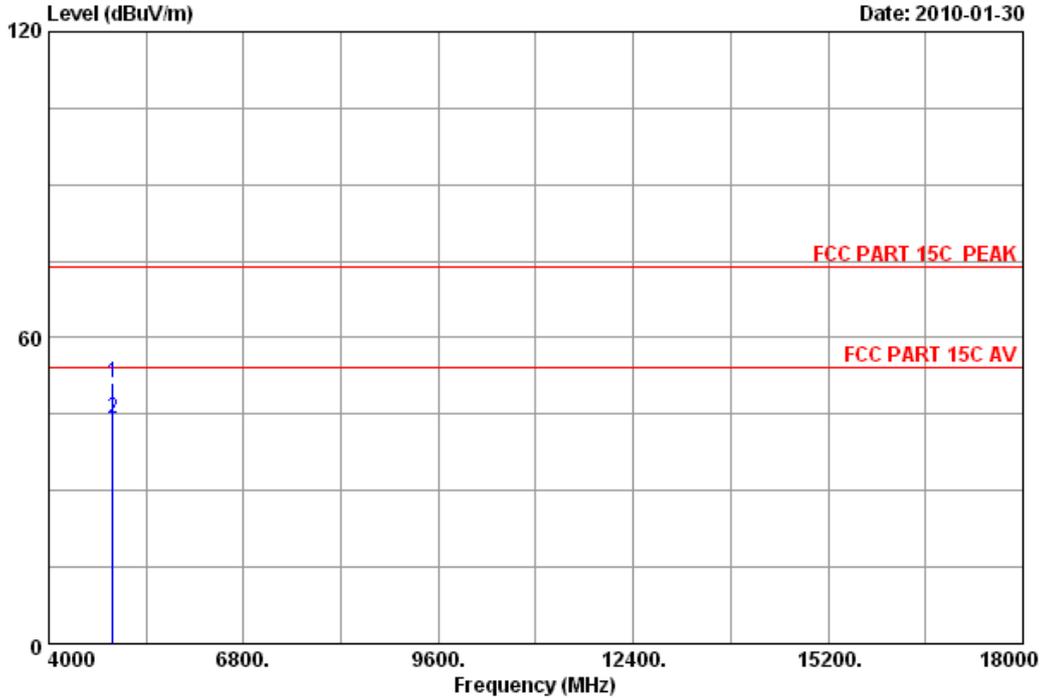


Site no.	: 3m Chamber	Data no.	: 51
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11nHT20 CH11 2462MHz Tx		
M/N	: TL-WN781N		



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Data: 52 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 52  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT20 CH11 2462MHz Tx  
 M/N : TL-WN781N

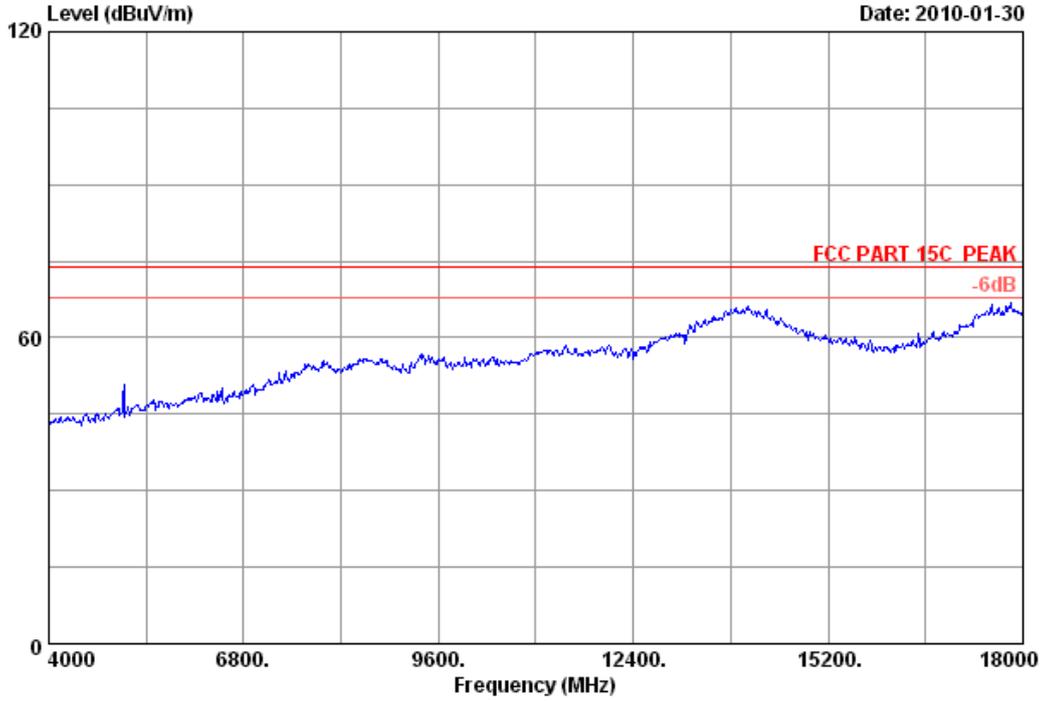
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4924.000	34.49	12.50	35.34	39.45	51.10	74.00	22.90	Peak
2	4924.000	34.49	12.50	35.34	32.58	44.23	54.00	9.77	Average

- 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.



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Data: 53 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

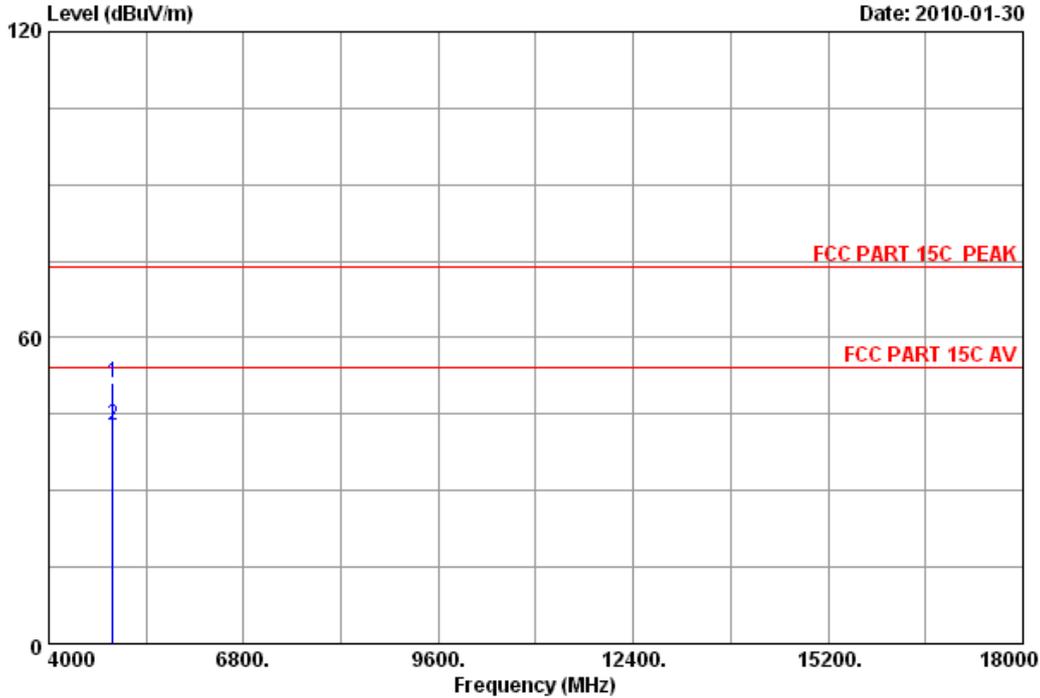


Site no.	: 3m Chamber	Data no.	: 53
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11nHT20 CH11 2462MHz Tx		
M/N	: TL-WN781N		



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Data: 54 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 54  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT20 CH11 2462MHz Tx  
 M/N : TL-WN781N

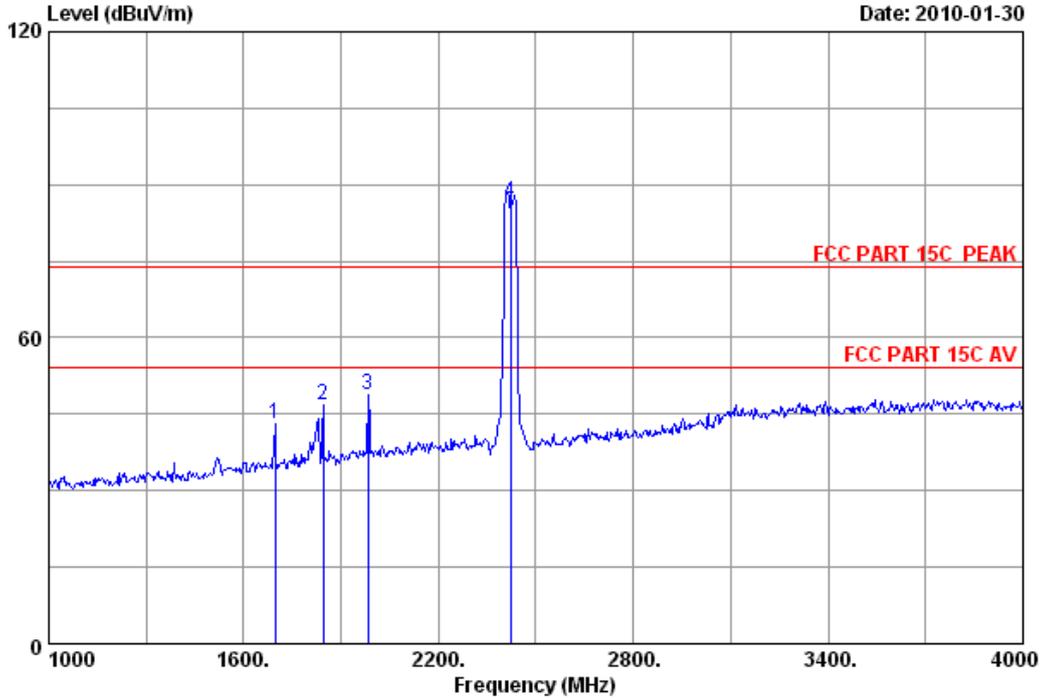
	Ant. Freq. (MHz)	Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4924.000	34.49	12.50	35.34	39.53	51.18	74.00	22.82	Peak
2	4924.000	34.49	12.50	35.34	31.20	42.85	54.00	11.15	Average

- 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.



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Site no. : 3m Chamber Data no. : 55  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT40 CH1 2422MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	1696.000	27.52	7.16	36.26	44.63	43.05	74.00	30.95	Peak
2	1846.000	28.36	7.51	36.23	47.29	46.93	74.00	27.07	Peak
3	1984.000	29.11	7.87	36.06	47.84	48.76	74.00	25.24	Peak
4	2422.000	29.46	8.77	36.01	84.50	86.72	74.00	-12.72	Peak

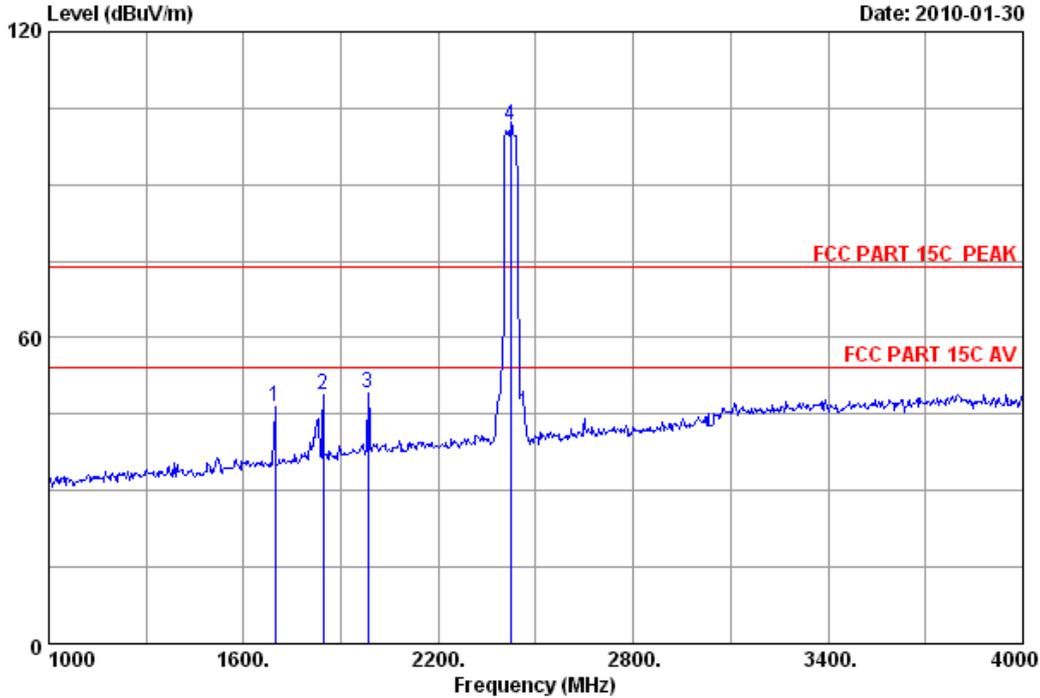
Remarks:

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



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Data: 56 File: E:\2010 report data\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 56  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT40 CH1 2422MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	1696.000	27.52	7.16	36.26	48.03	46.45	74.00	27.55	Peak
2	1846.000	28.36	7.51	36.23	49.30	48.94	74.00	25.06	Peak
3	1984.000	29.11	7.87	36.06	48.08	49.00	74.00	25.00	Peak
4	2422.000	29.46	8.77	36.01	99.32	101.54	74.00	-27.54	Peak

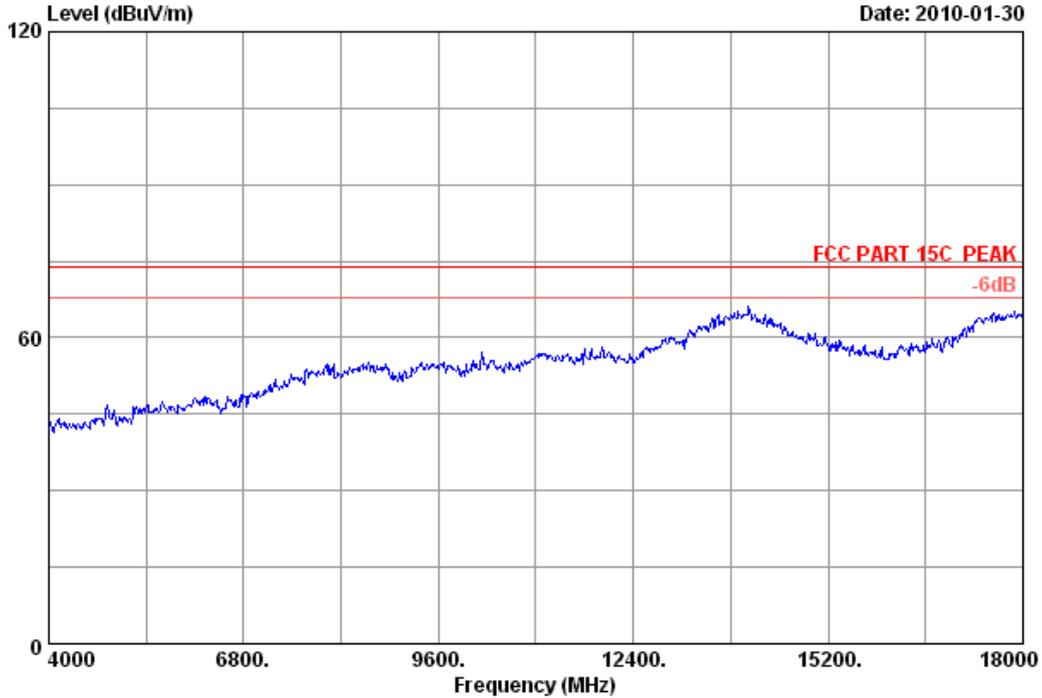
Remarks:

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



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Data: 57 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

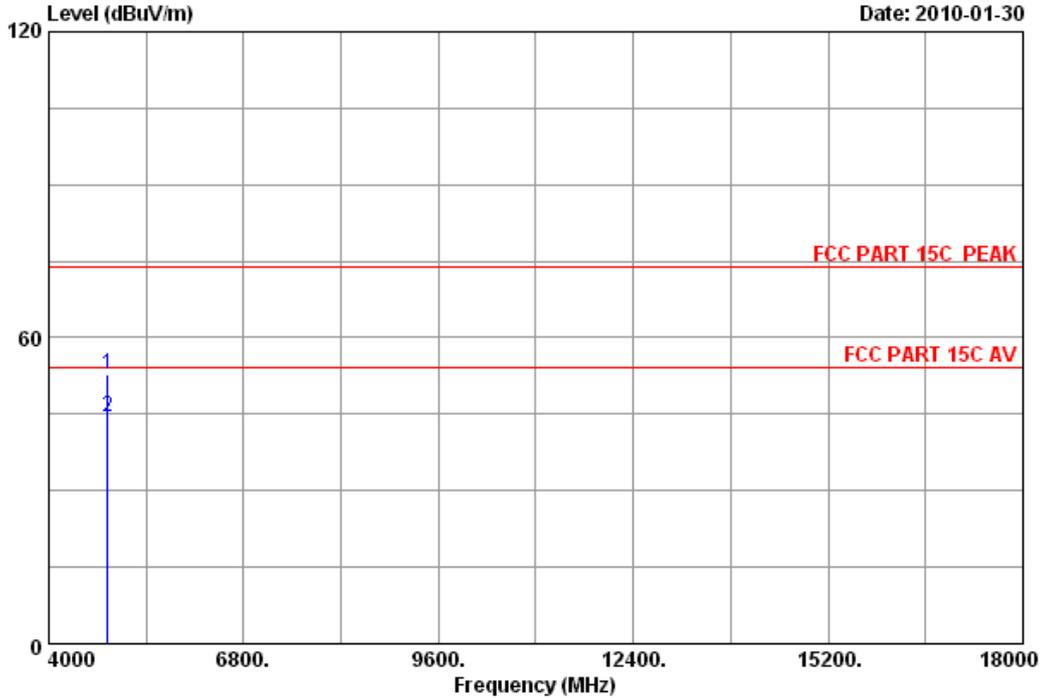


Site no.	: 3m Chamber	Data no.	: 57
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11nHT40 CH1 2422MHz Tx		
M/N	: TL-WN781N		



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Data: 58 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 58  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT40 CH1 2422MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	4844.000	34.35	12.38	35.25	41.19	52.67	74.00	21.33	Peak
2	4844.000	34.35	12.38	35.25	33.07	44.55	54.00	9.45	Average

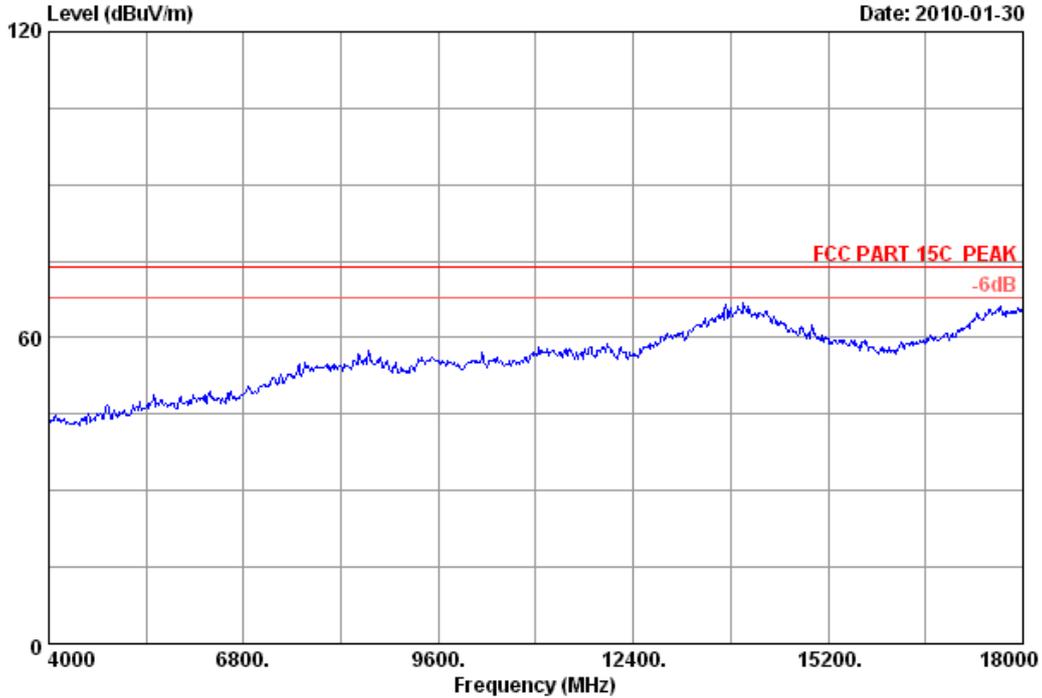
Remarks:

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



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Data: 59 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

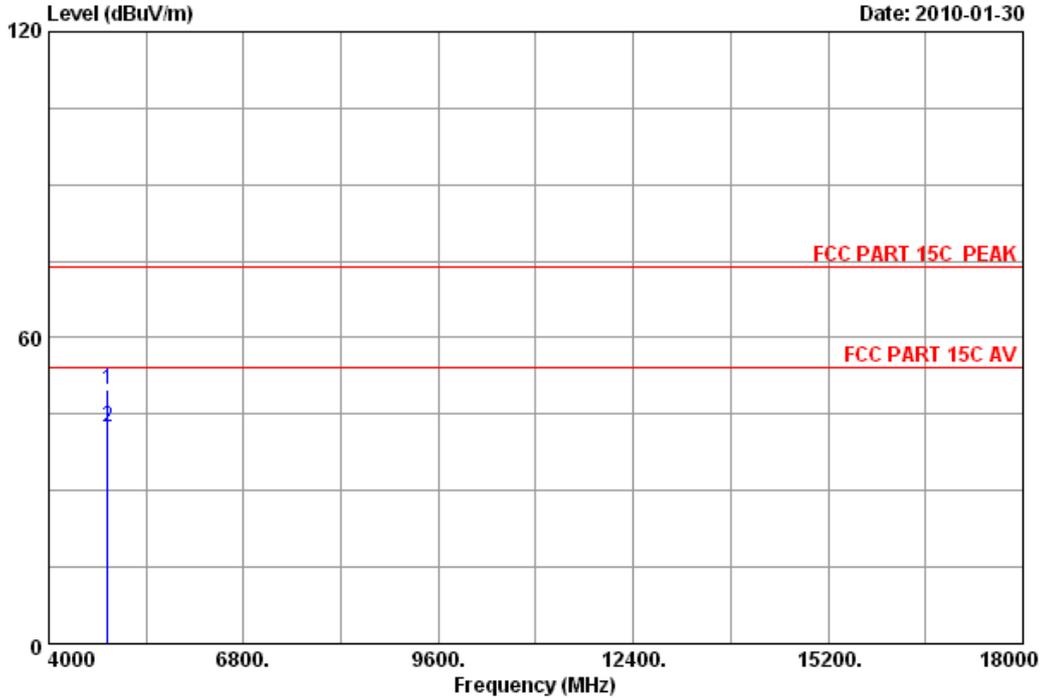


Site no.	: 3m Chamber	Data no.	: 59
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11nHT40 CH1 2422MHz Tx		
M/N	: TL-WN781N		



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Data: 60 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 60  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT40 CH1 2422MHz Tx  
 M/N : TL-WN781N

	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	4844.000	34.35	12.38	35.25	38.45	49.93	74.00	24.07	Peak
2	4844.000	34.35	12.38	35.25	31.02	42.50	54.00	11.50	Average

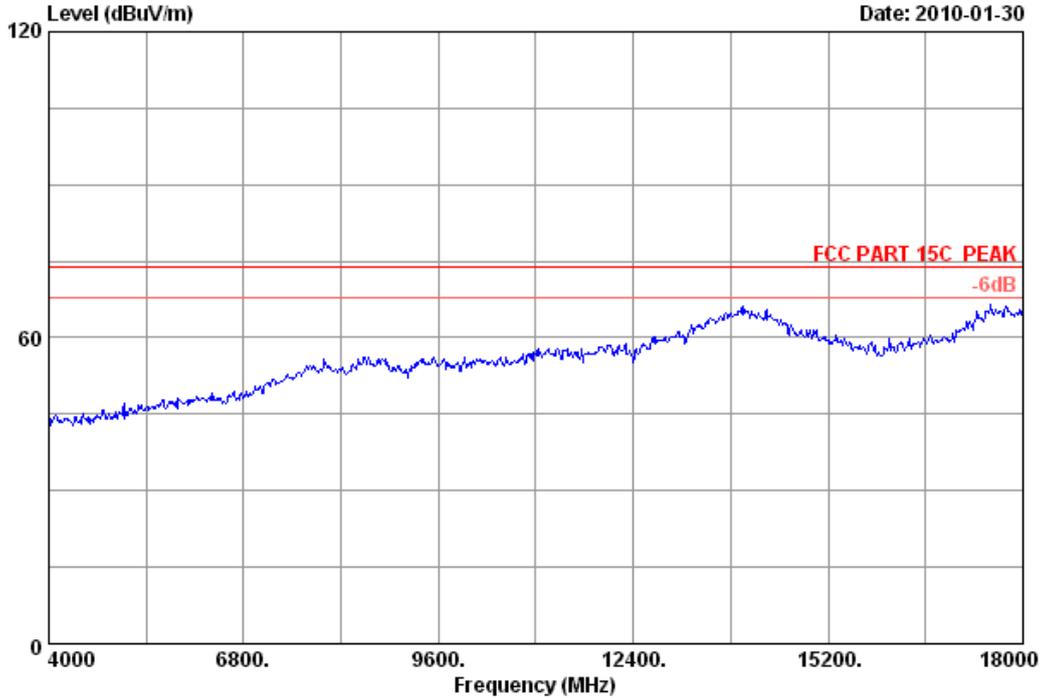
Remarks:

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



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Data: 61 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

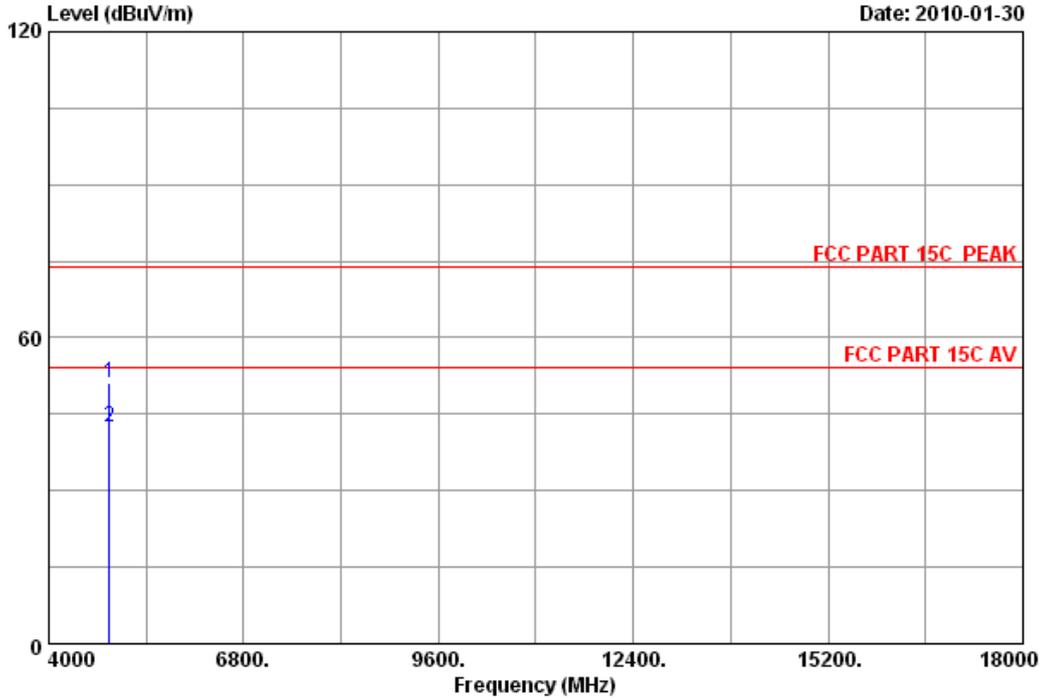


Site no.	: 3m Chamber	Data no.	: 61
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11nHT40 CH4 2437MHz Tx		
M/N	: TL-WN781N		



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Data: 62 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 62  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT40 CH4 2437MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	4874.000	34.41	12.44	35.36	39.56	51.05	74.00	22.95	Peak
2	4874.000	34.41	12.44	35.36	31.07	42.56	54.00	11.44	Average

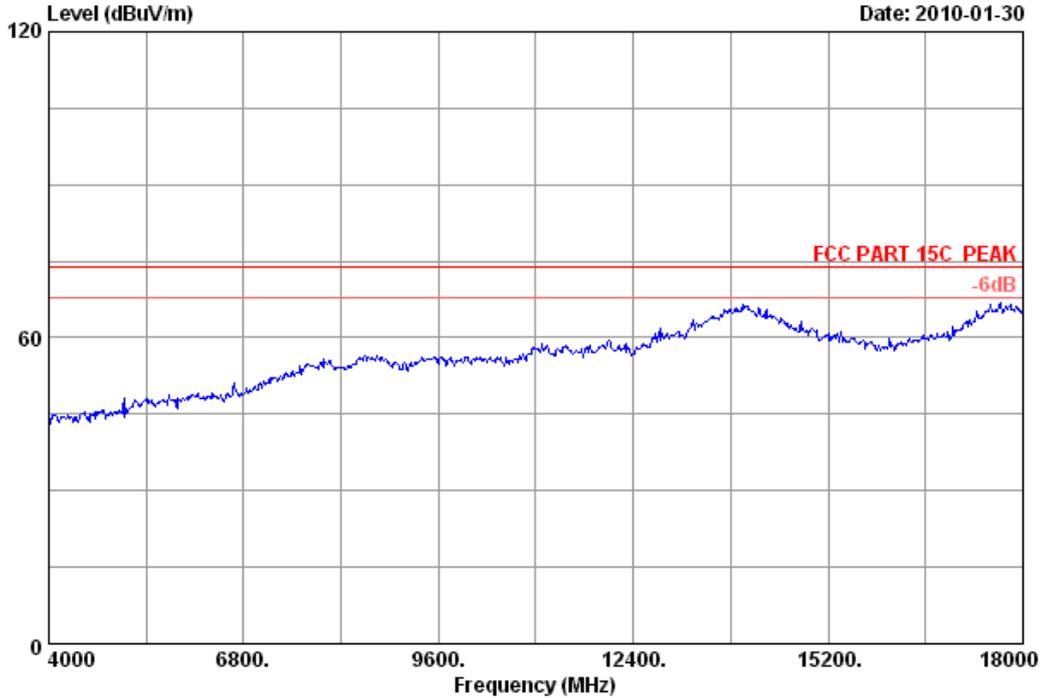
Remarks:

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



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Data: 63 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

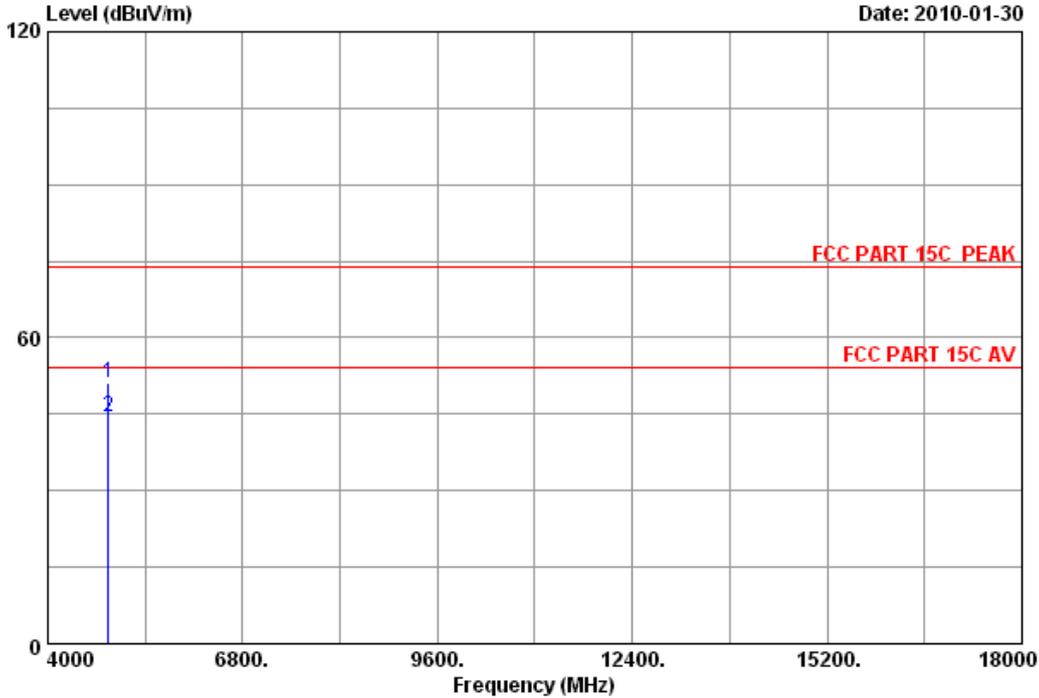


Site no.	: 3m Chamber	Data no.	: 63
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11nHT40 CH4 2437MHz Tx		
M/N	: TL-WN781N		



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Data: 64 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 64  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT40 CH4 2437MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	4874.000	34.41	12.44	35.36	39.57	51.06	74.00	22.94	Peak
2	4874.000	34.41	12.44	35.36	32.95	44.44	54.00	9.56	Average

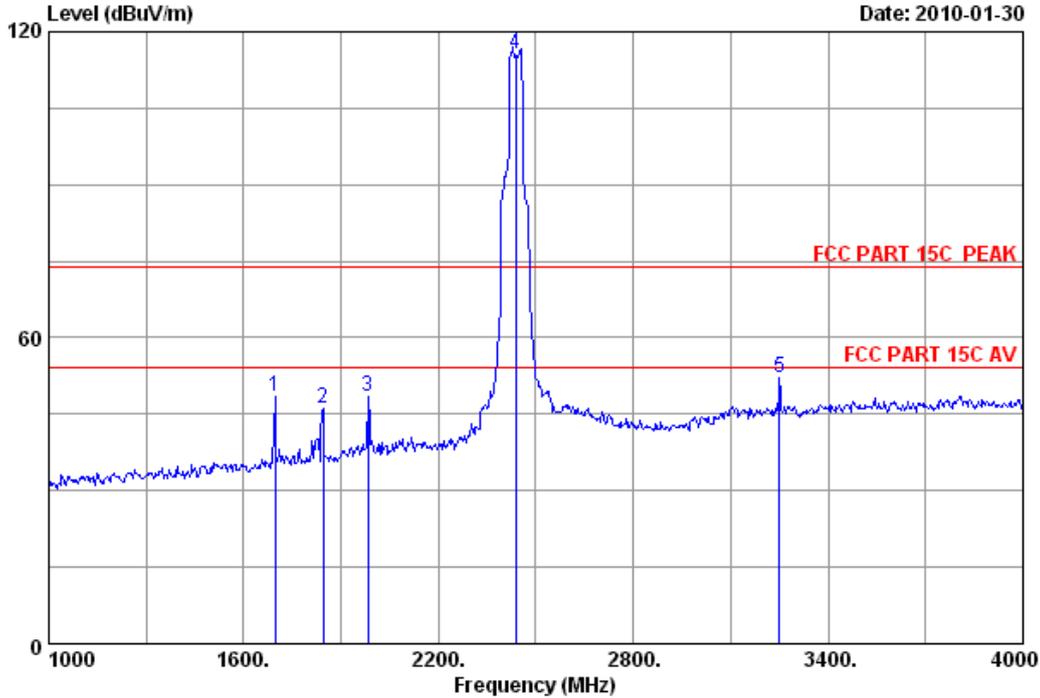
Remarks:

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



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Fax:+86-755-26632877  
Postcode:518057

Data: 65 File: E:\2010 report data\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 65  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT40 CH4 2437MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	1696.000	27.52	7.16	36.26	50.12	48.54	74.00	25.46	Peak
2	1846.000	28.36	7.51	36.23	46.62	46.26	74.00	27.74	Peak
3	1984.000	29.11	7.87	36.06	47.69	48.61	74.00	25.39	Peak
4	2437.000	29.47	8.77	36.06	113.56	115.74	74.00	-41.74	Peak
5	3250.000	32.63	10.28	35.68	44.99	52.22	74.00	21.78	Peak

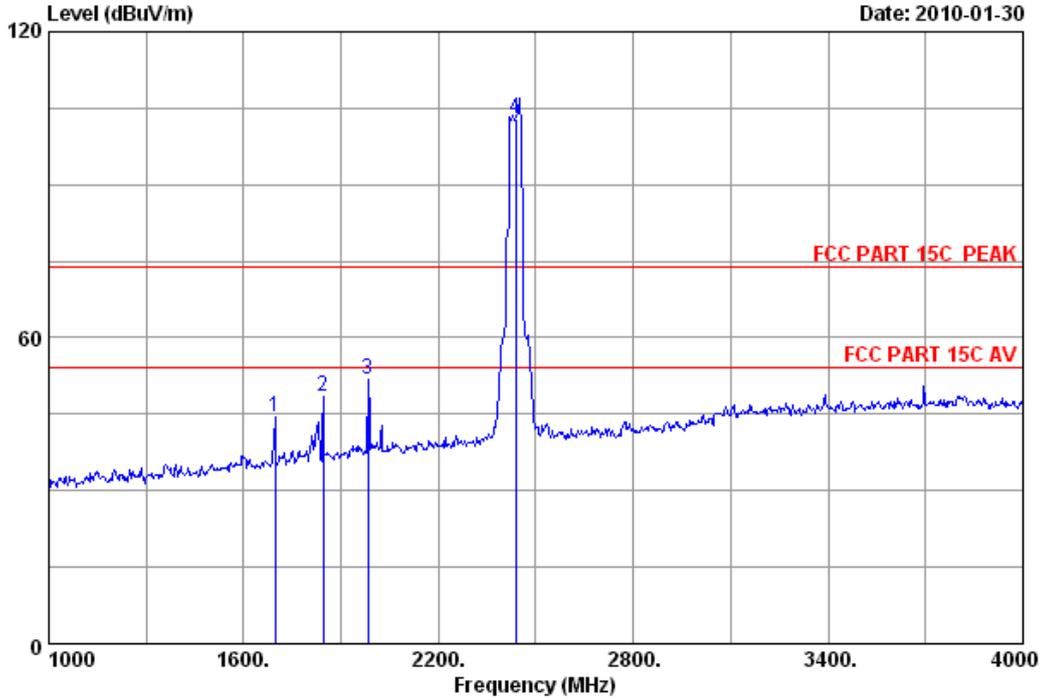
Remarks:

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



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Data: 66 File: E:\2010 report data\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 66  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT40 CH4 2437MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	1696.000	27.52	7.16	36.26	46.13	44.55	74.00	29.45	Peak
2	1846.000	28.36	7.51	36.23	48.74	48.38	74.00	25.62	Peak
3	1984.000	29.11	7.87	36.06	50.90	51.82	74.00	22.18	Peak
4	2437.000	29.47	8.77	36.06	100.70	102.88	74.00	-28.88	Peak

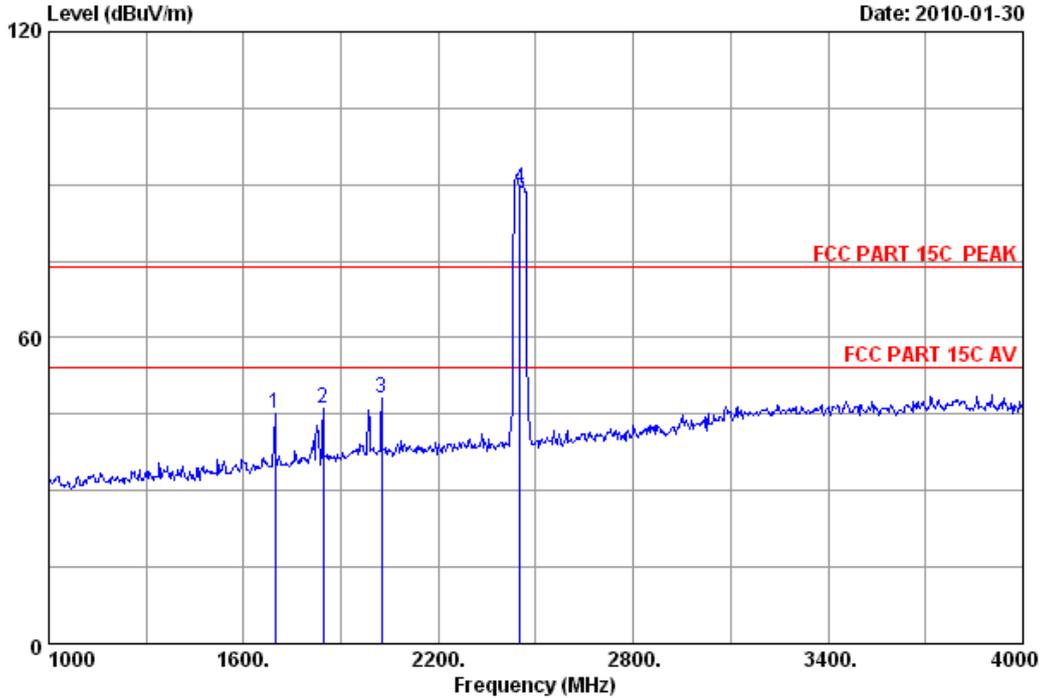
Remarks:

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



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Data: 67 File: E:\2010 report data\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 67  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT40 CH7 2452MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	1696.000	27.52	7.16	36.26	46.61	45.03	74.00	28.97	Peak
2	1846.000	28.36	7.51	36.23	46.56	46.20	74.00	27.80	Peak
3	2026.000	29.21	7.97	36.12	46.94	48.00	74.00	26.00	Peak
4	2452.000	29.47	8.82	36.06	87.13	89.36	74.00	-15.36	Peak

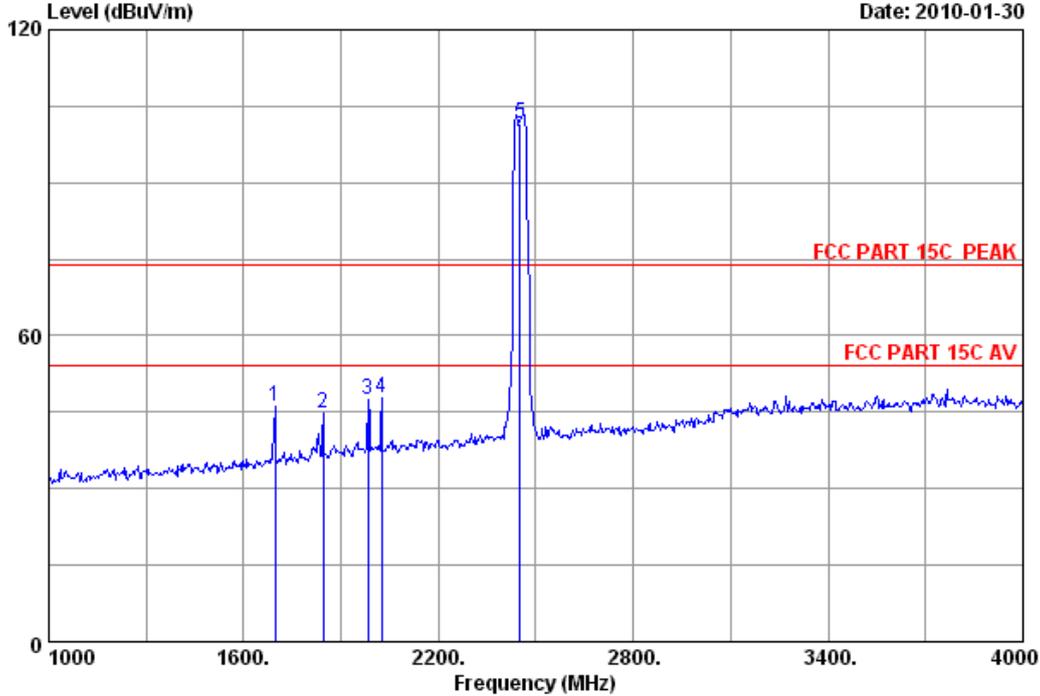
Remarks:

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



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Data: 68 File: E:\2010 report data\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 68  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT40 CH7 2452MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	1696.000	27.52	7.16	36.26	47.74	46.16	74.00	27.84	Peak
2	1846.000	28.36	7.51	36.23	45.02	44.66	74.00	29.34	Peak
3	1984.000	29.11	7.87	36.06	46.47	47.39	74.00	26.61	Peak
4	2026.000	29.21	7.97	36.12	46.58	47.64	74.00	26.36	Peak
5	2452.000	29.47	8.82	36.06	99.35	101.58	74.00	-27.58	Peak

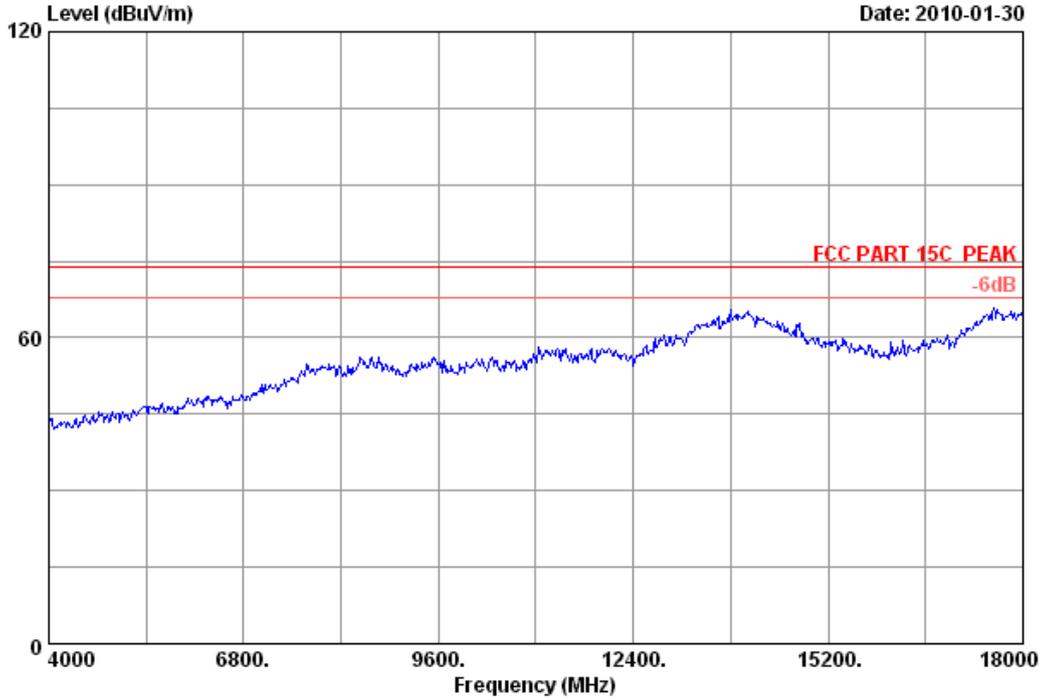
Remarks:

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



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Data: 69 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

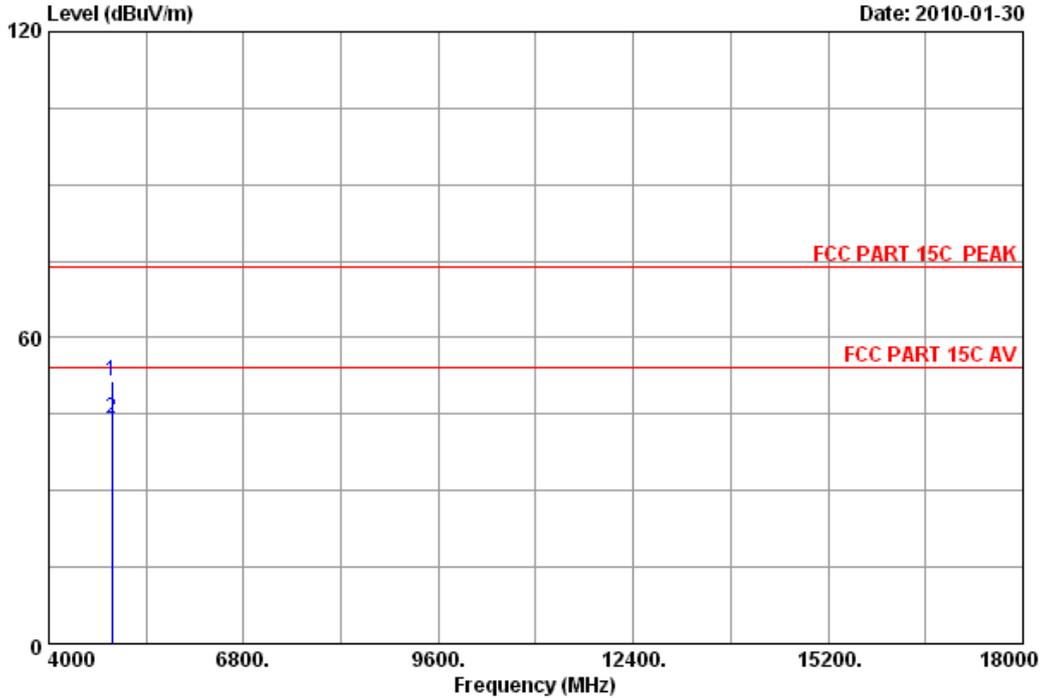


Site no.	: 3m Chamber	Data no.	: 69
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11nHT40 CH7 2452MHz Tx		
M/N	: TL-WN781N		



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Data: 70 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 70  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT40 CH7 2452MHz Tx  
 M/N : TL-WN781N

	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	4904.000	34.46	12.47	35.27	39.82	51.48	74.00	22.52	Peak
2	4904.000	34.46	12.47	35.27	32.58	44.24	54.00	9.76	Average

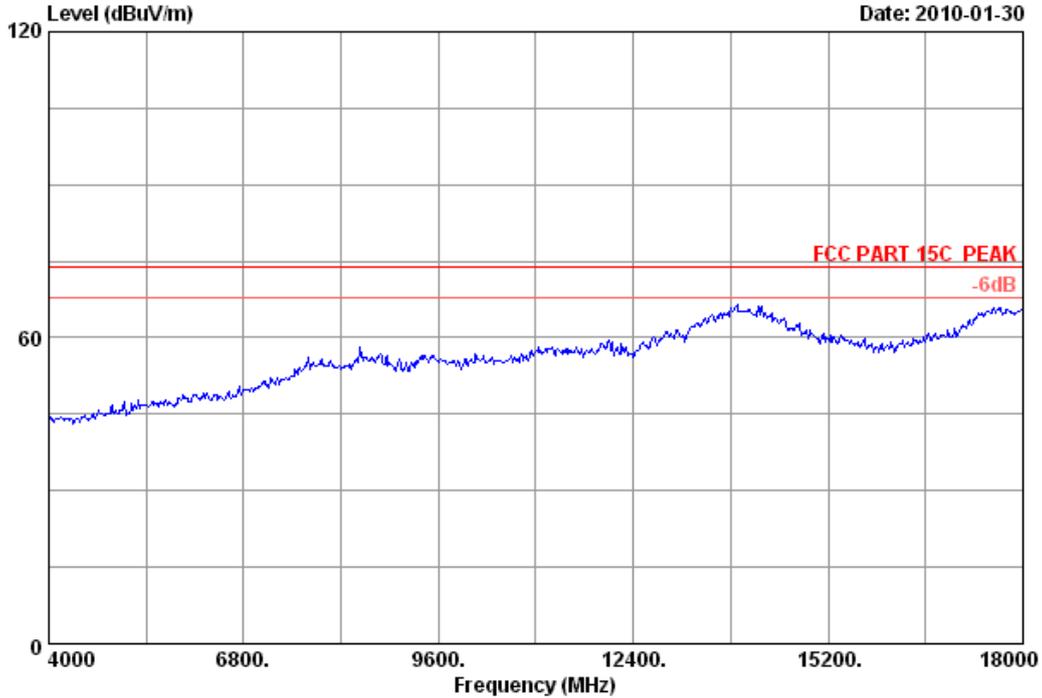
Remarks:

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



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Data: 71 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)

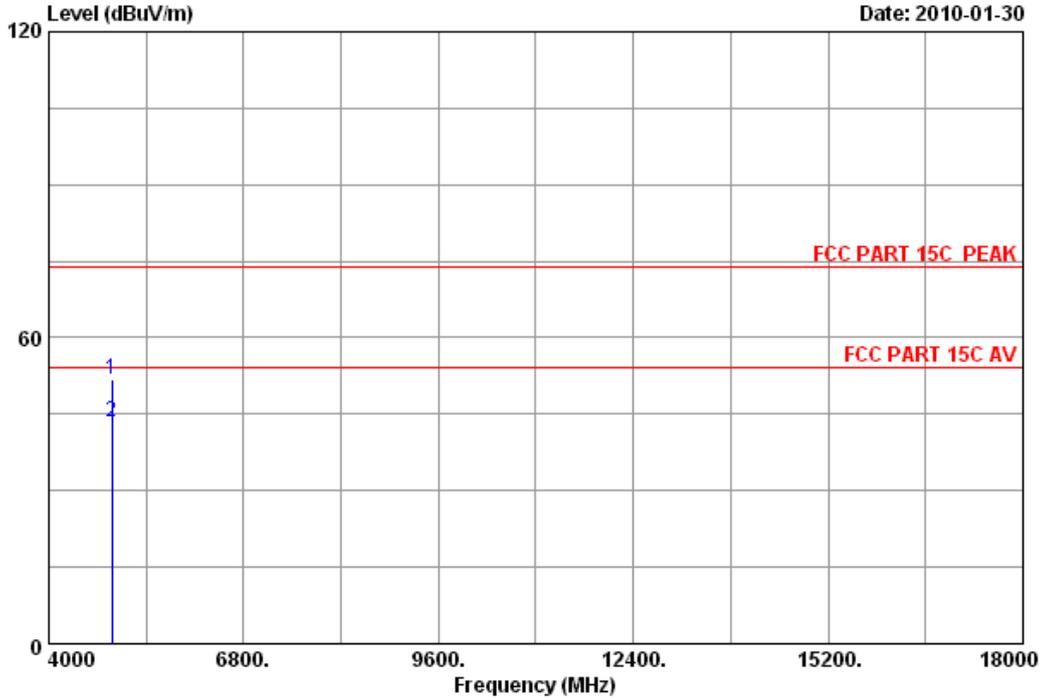


Site no.	: 3m Chamber	Data no.	: 71
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Sunny-lu
EUT	: 150Mbps Wireless Lite N PCI-E Adapter		
Power	: DC 3.3V From PC input AC 120V/60Hz		
Test mode	: IEEE802.11nHT40 CH7 2452MHz Tx		
M/N	: TL-WN781N		



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Data: 72 File: E:\2010 report data\T\TP-LINK\ACS10Q174.EM6 (72)



Site no. : 3m Chamber Data no. : 72  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT40 CH7 2452MHz Tx  
 M/N : TL-WN781N

	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	4904.000	34.46	12.47	35.27	40.16	51.82	74.00	22.18	Peak
2	4904.000	34.46	12.47	35.27	31.87	43.53	54.00	10.47	Average

Remarks:

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

## 5. CONDUCTED SPURIOUS EMISSIONS

### 5.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08, 09	1 Year
2.	Attenuator	Agilent	8491B	MY39262165	May.08, 09	1 Year
3.	RF Cable	Hubersuhner	SUCOFLEX 102	28618/2	May.08, 09	1Year

### 5.2. Limit

In any 100kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in 15.209(a).

### 5.3. Test Procedure

The transmitter output was connected to a spectrum analyzer, The resolution bandwidth is set to 100 kHz, The video bandwidth is set to 300 kHz.

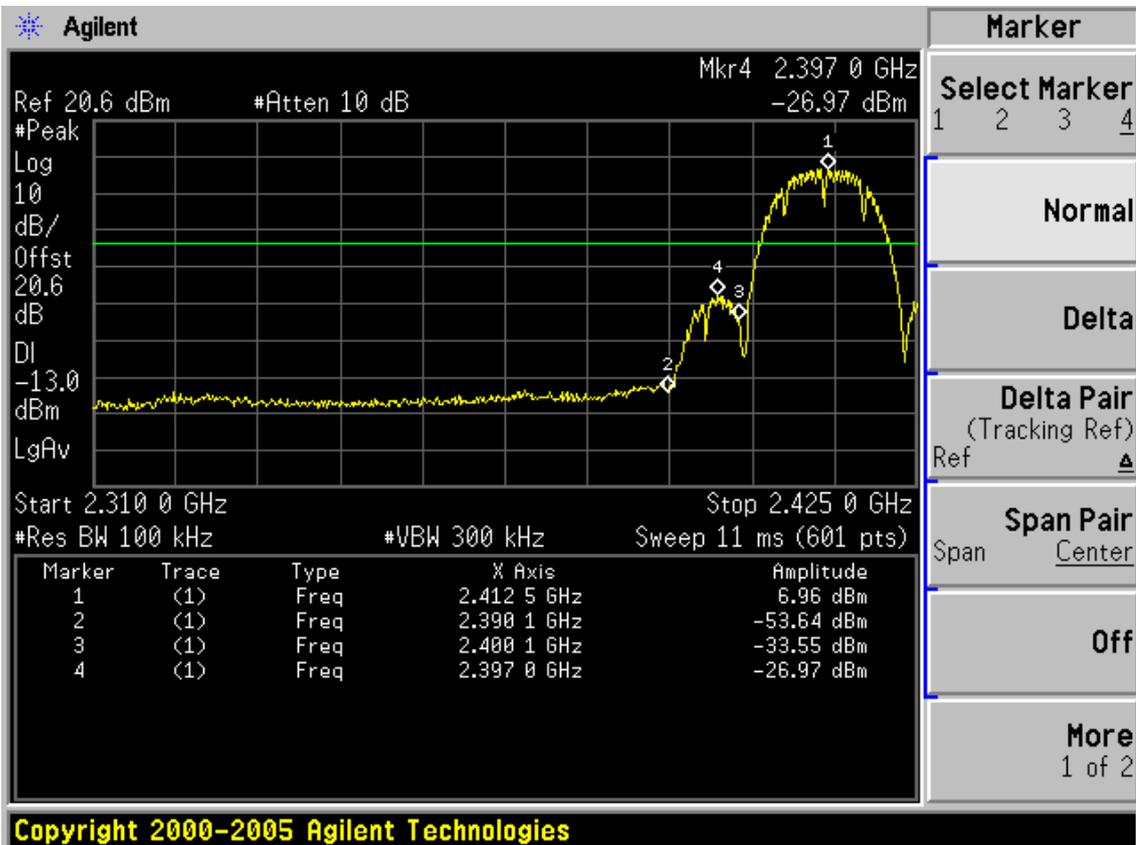
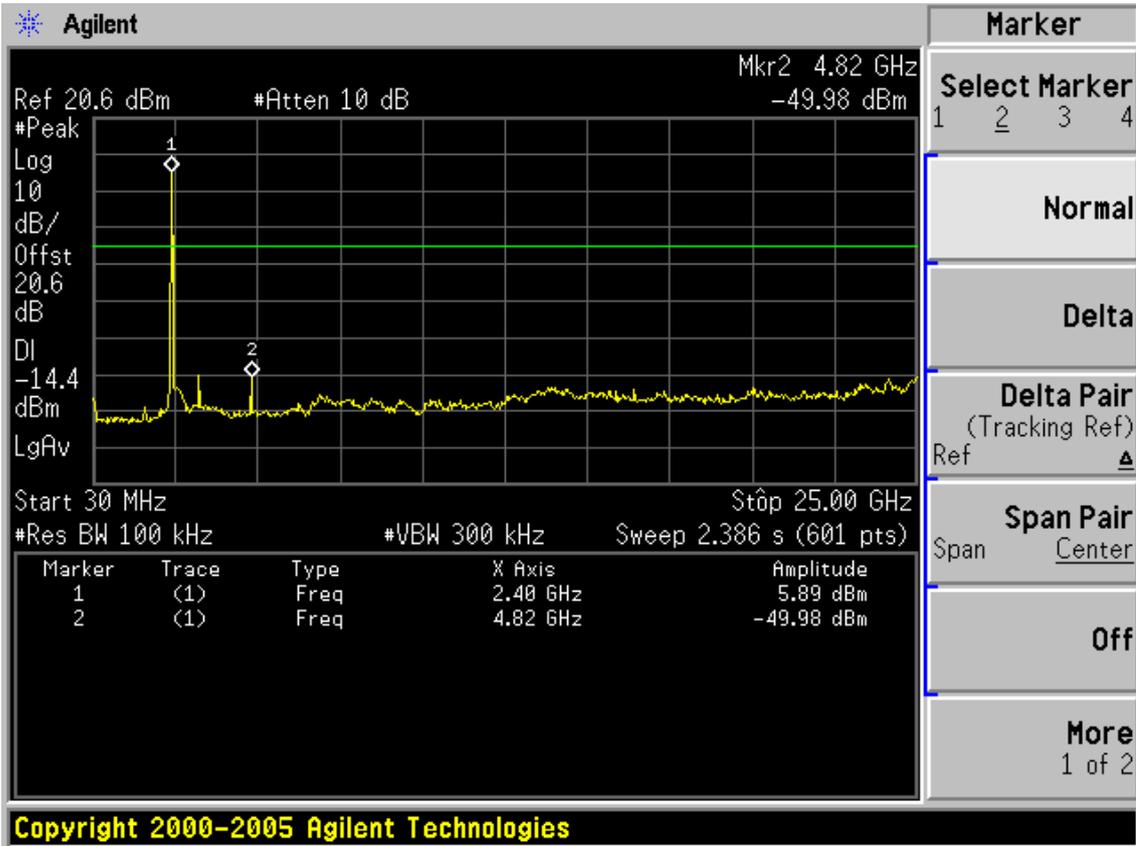
### 5.4. Test result

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

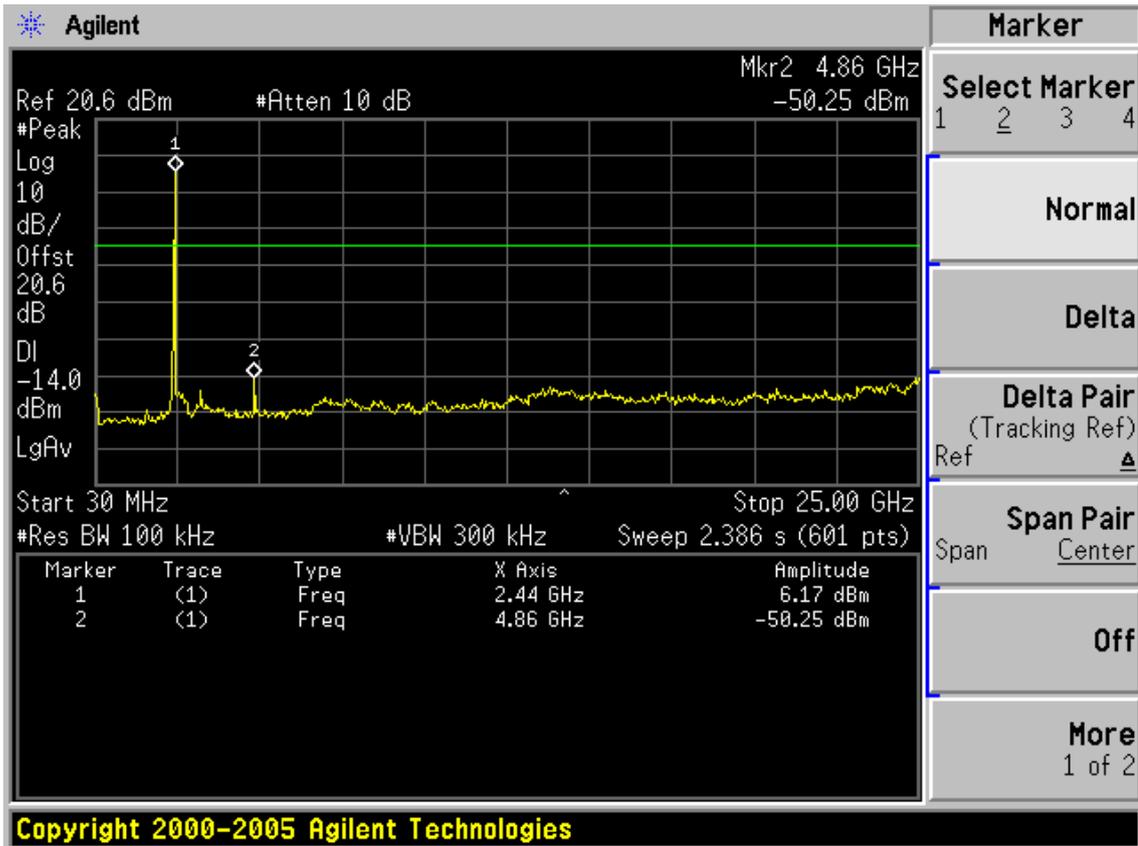
**Conducted emission test data:**

Test Mode: IEEE 802.11b TX

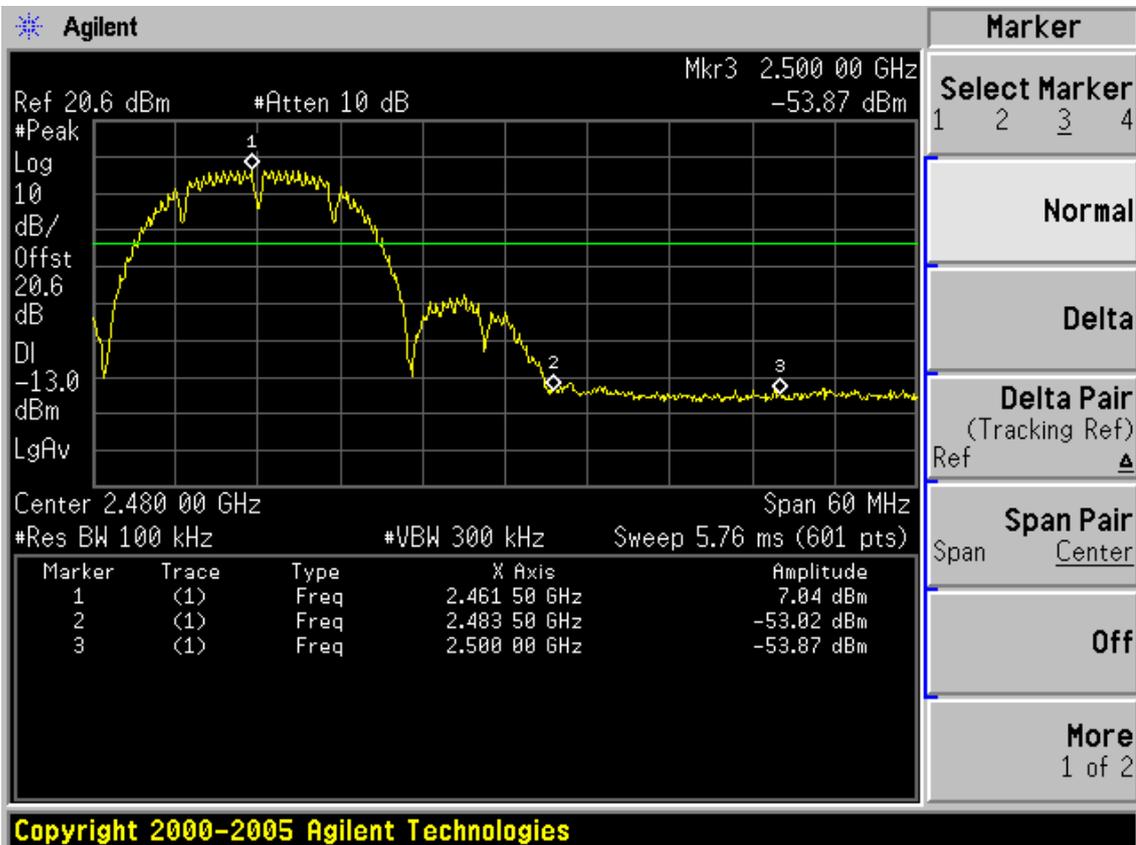
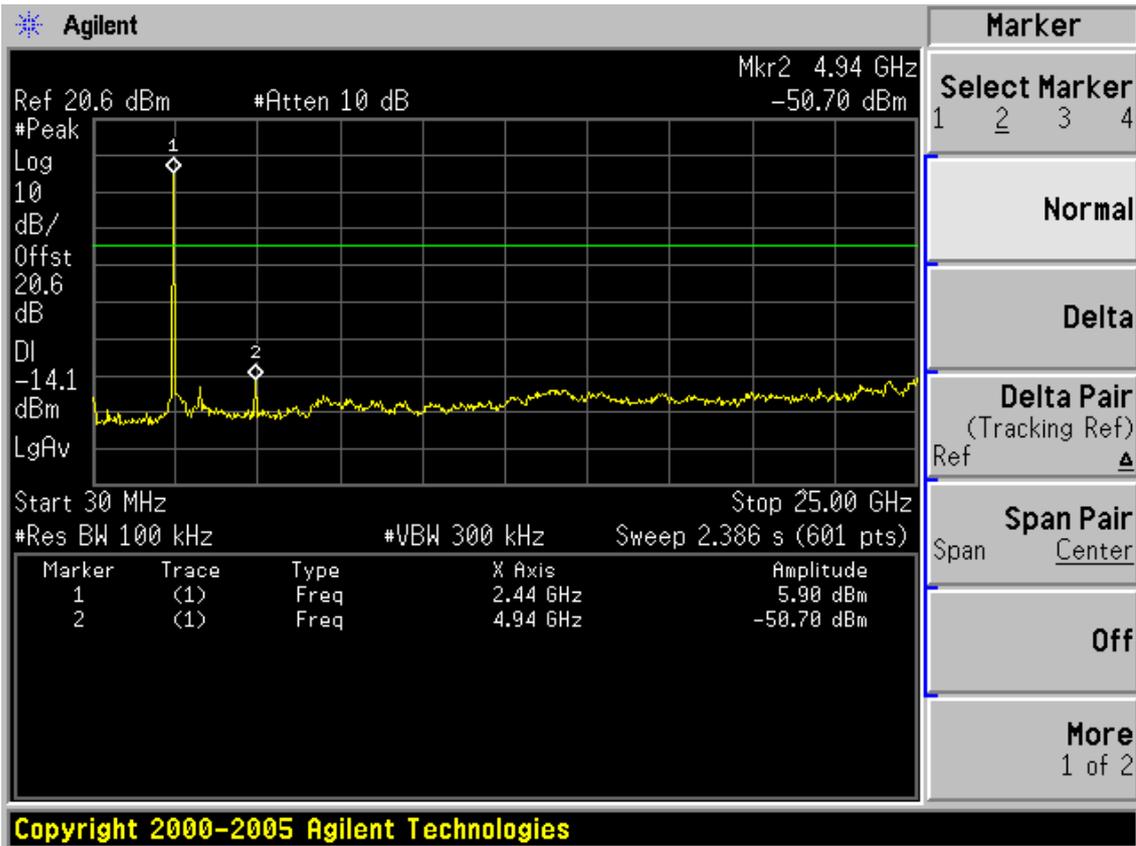
Test CH1: 2412MHz



Test CH6: 2437MHz

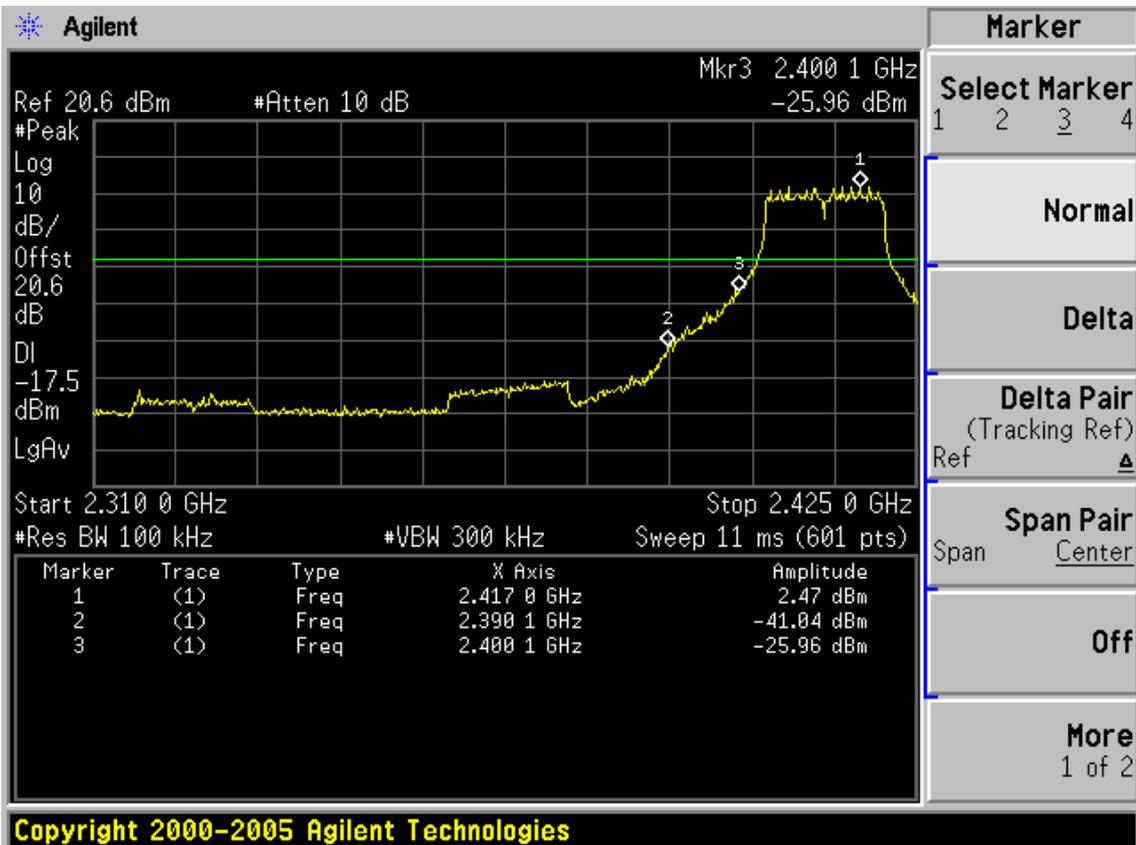
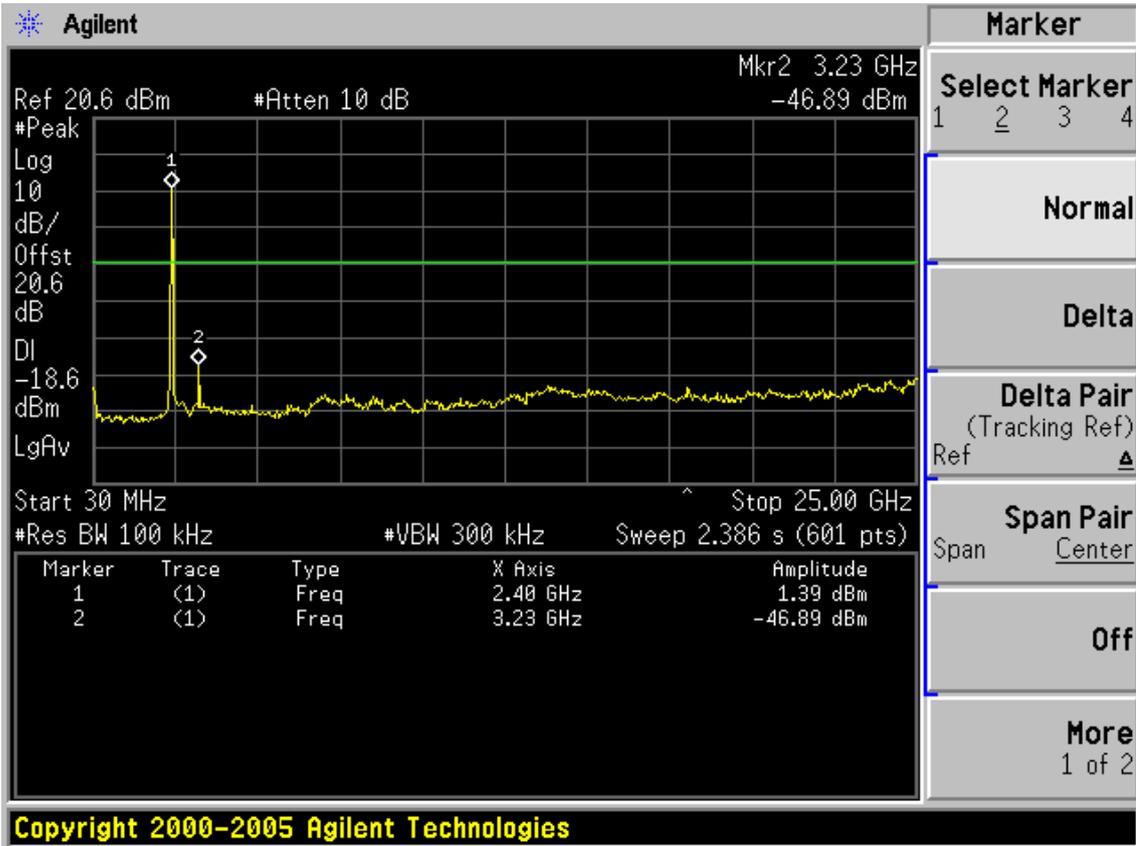


Test CH11: 2462MHz

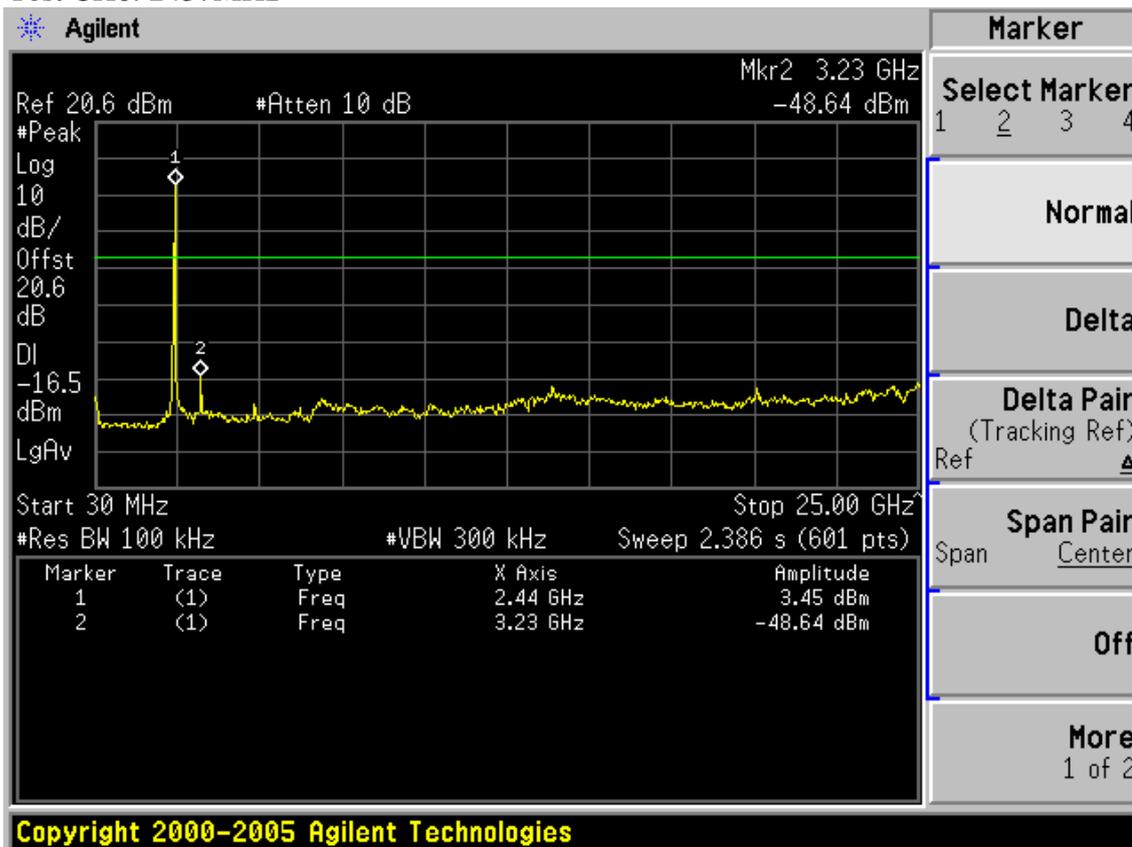


Test Mode: IEEE 802.11g TX

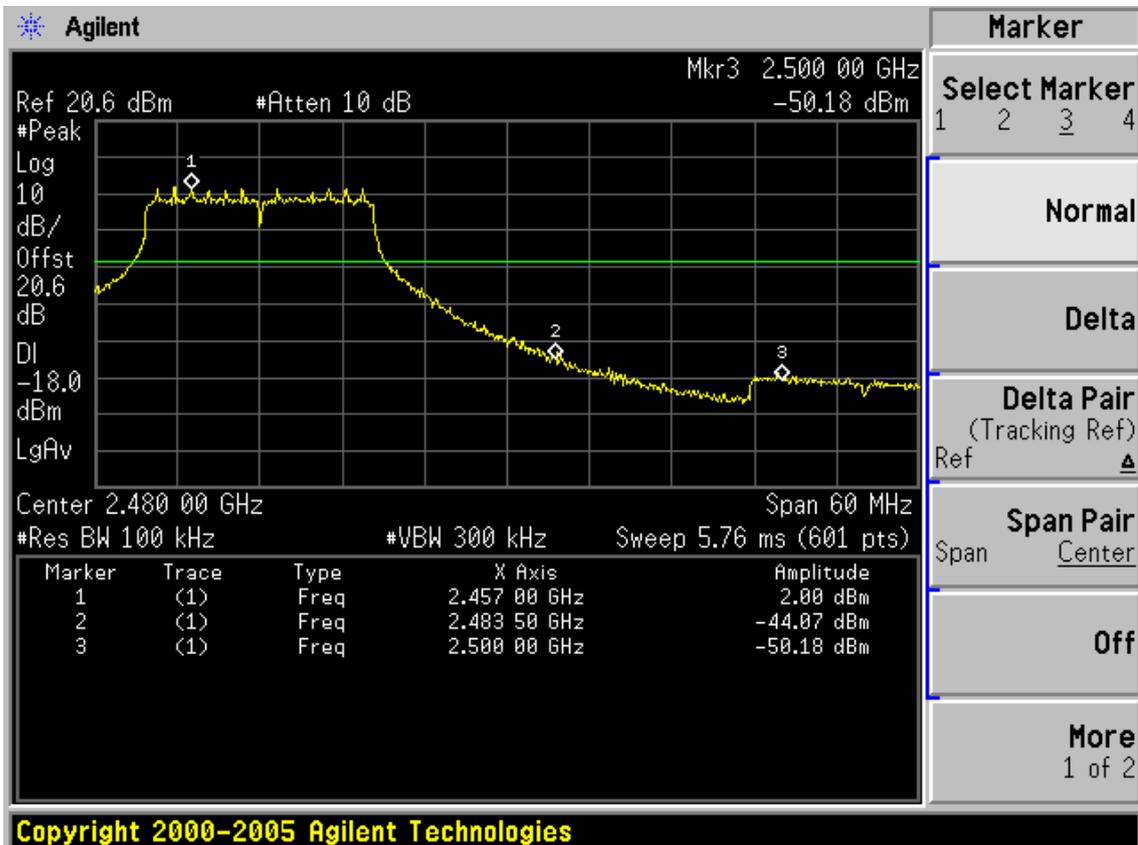
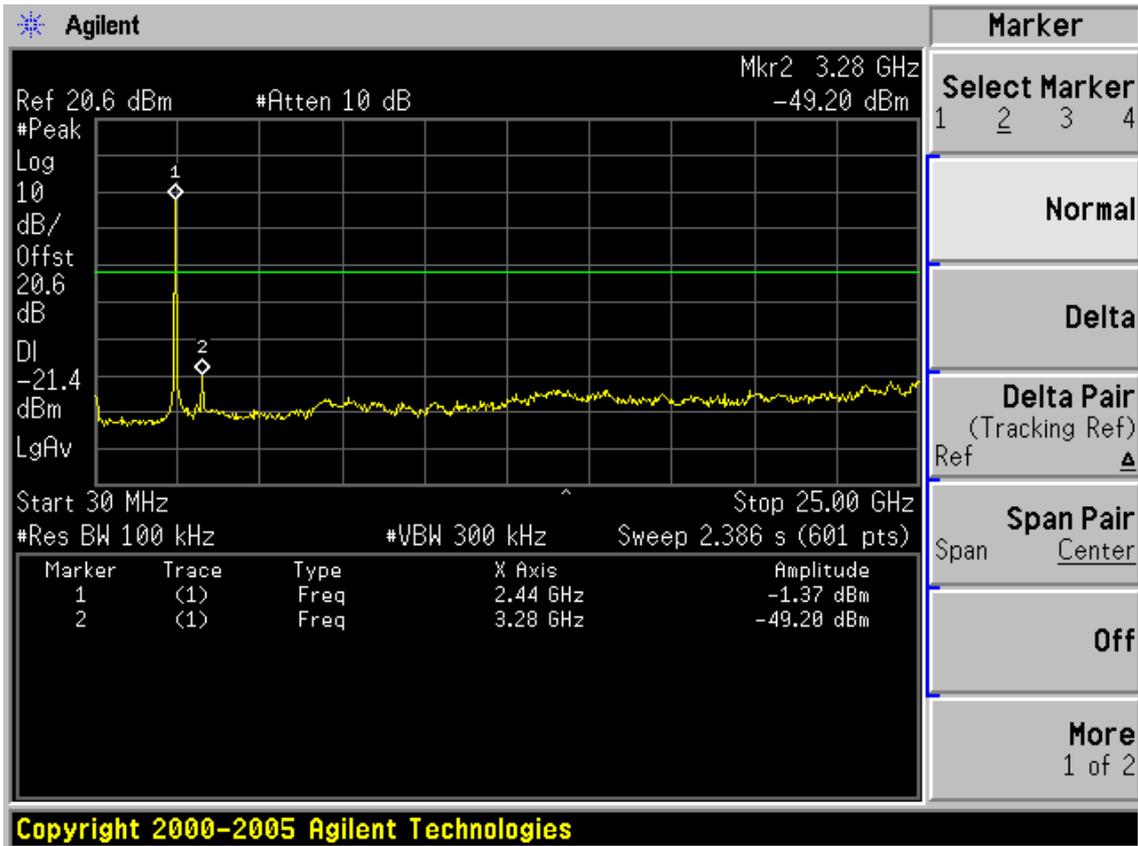
Test CH1: 2412MHz



Test CH6: 2437MHz

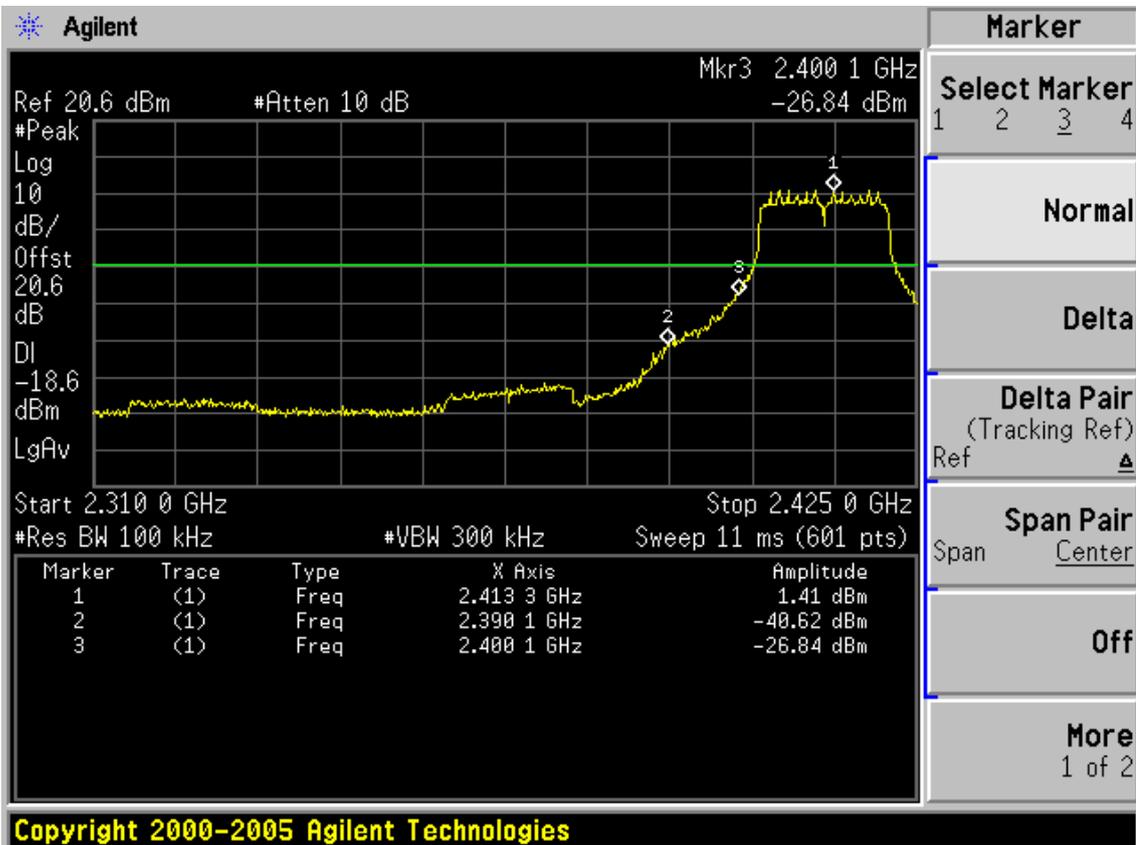
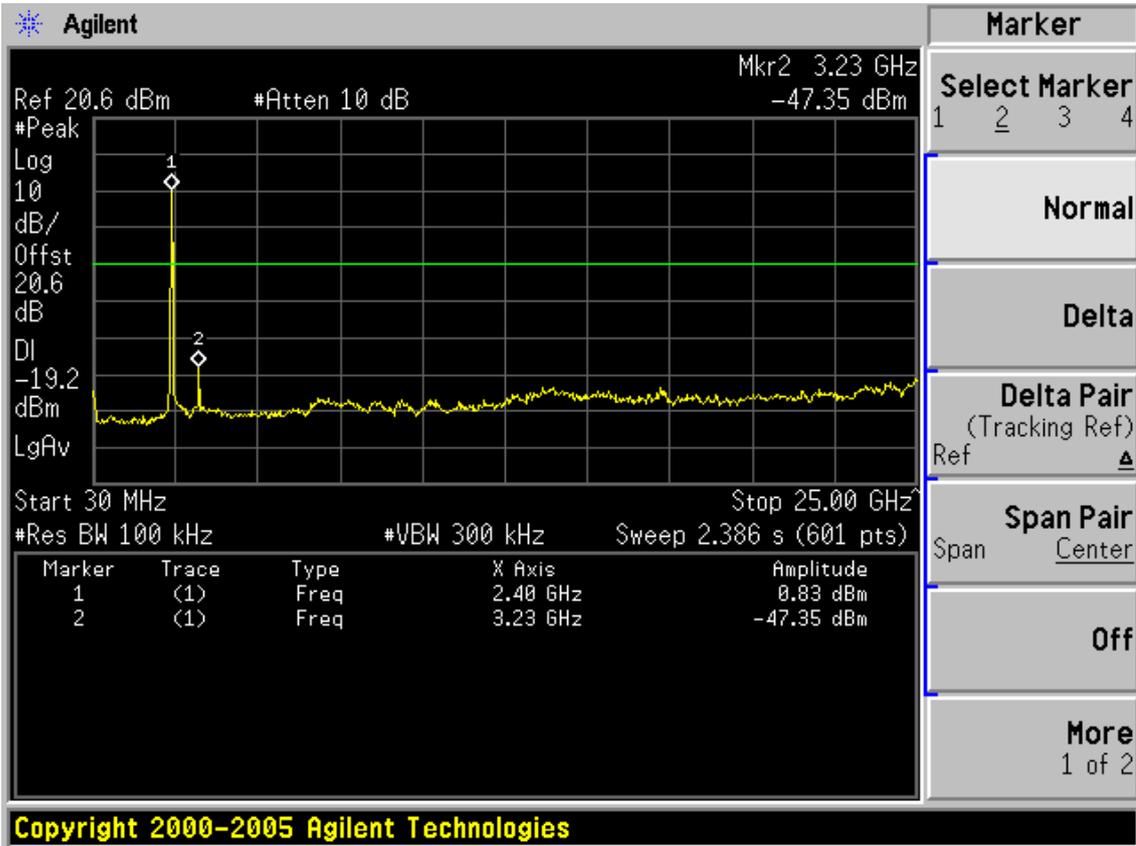


Test CH11: 2462MHz

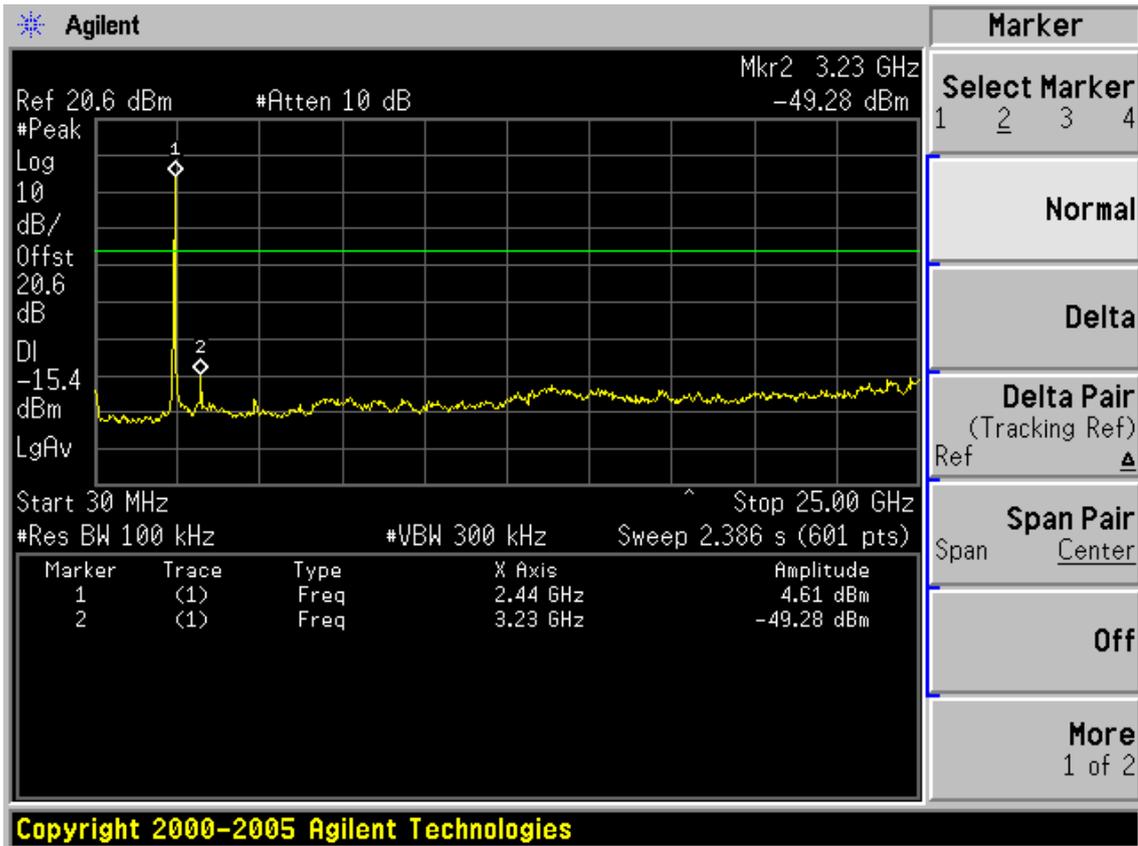


Test Mode: IEEE 802.11n HT20 TX

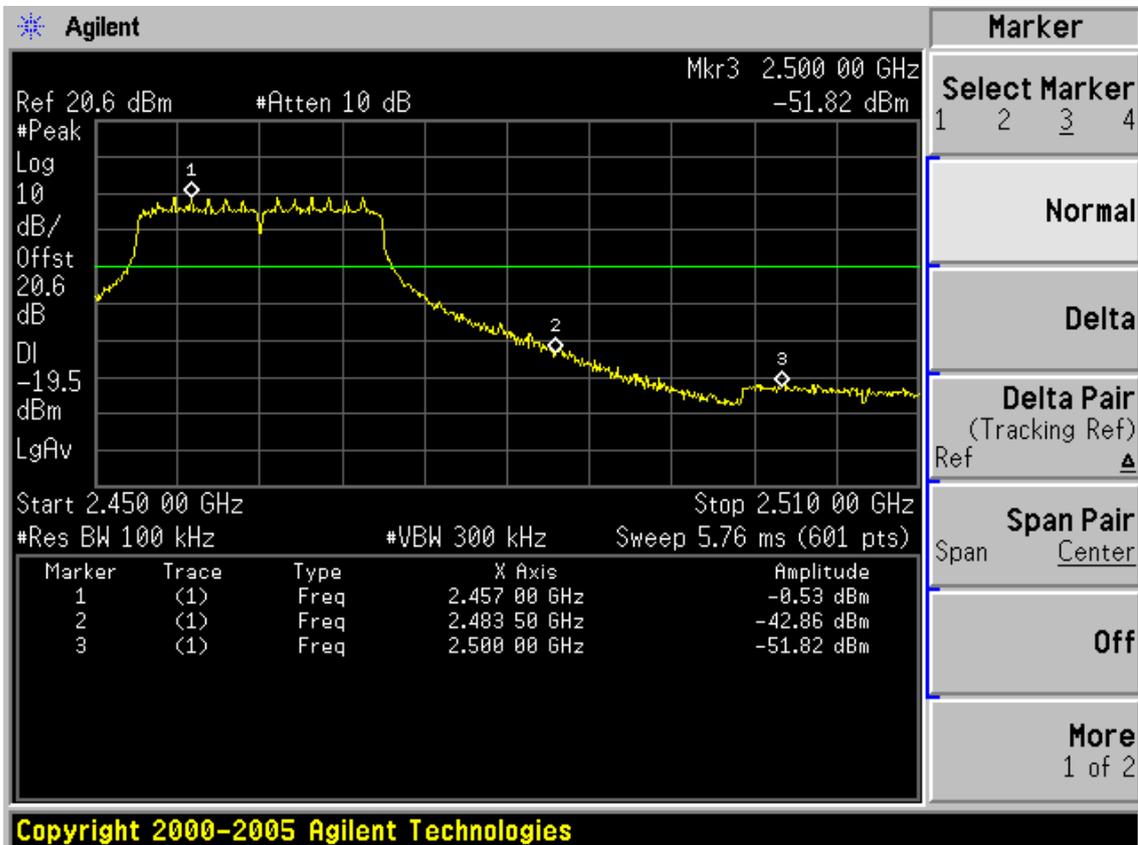
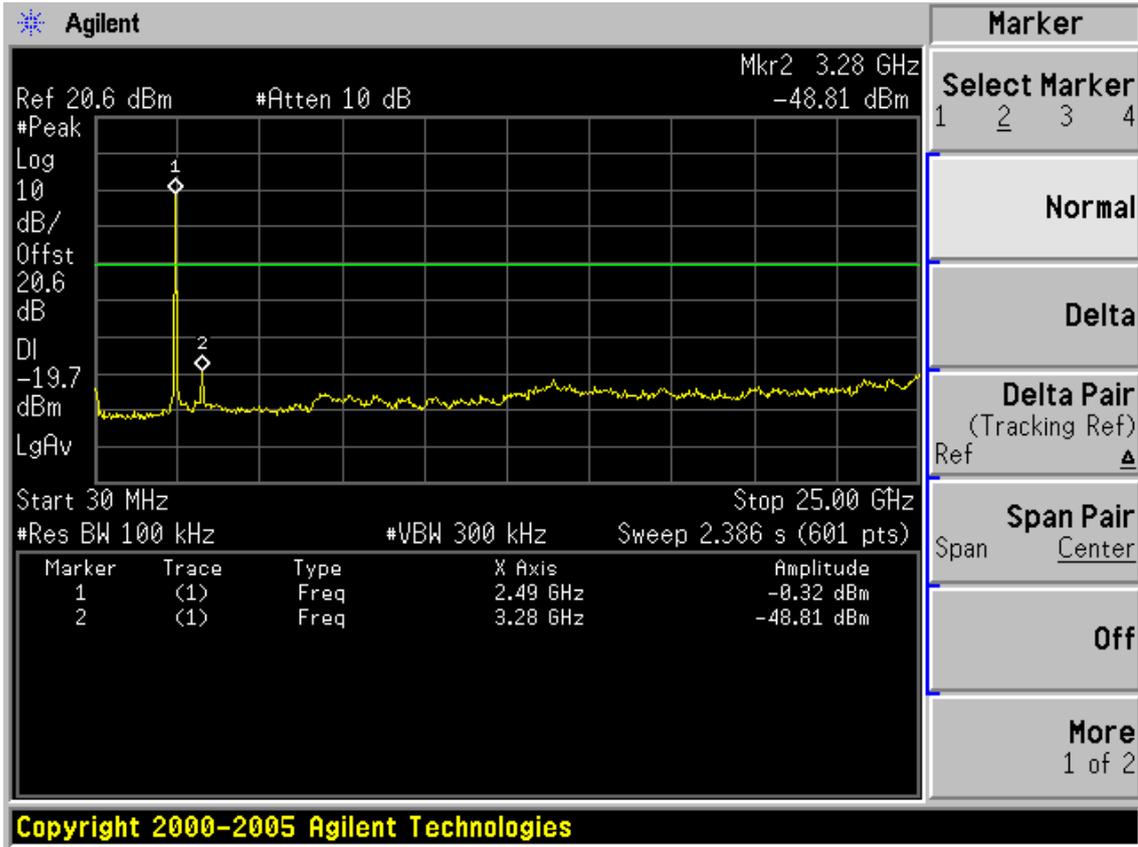
Test CH1: 2412MHz



Test CH6: 2437MHz

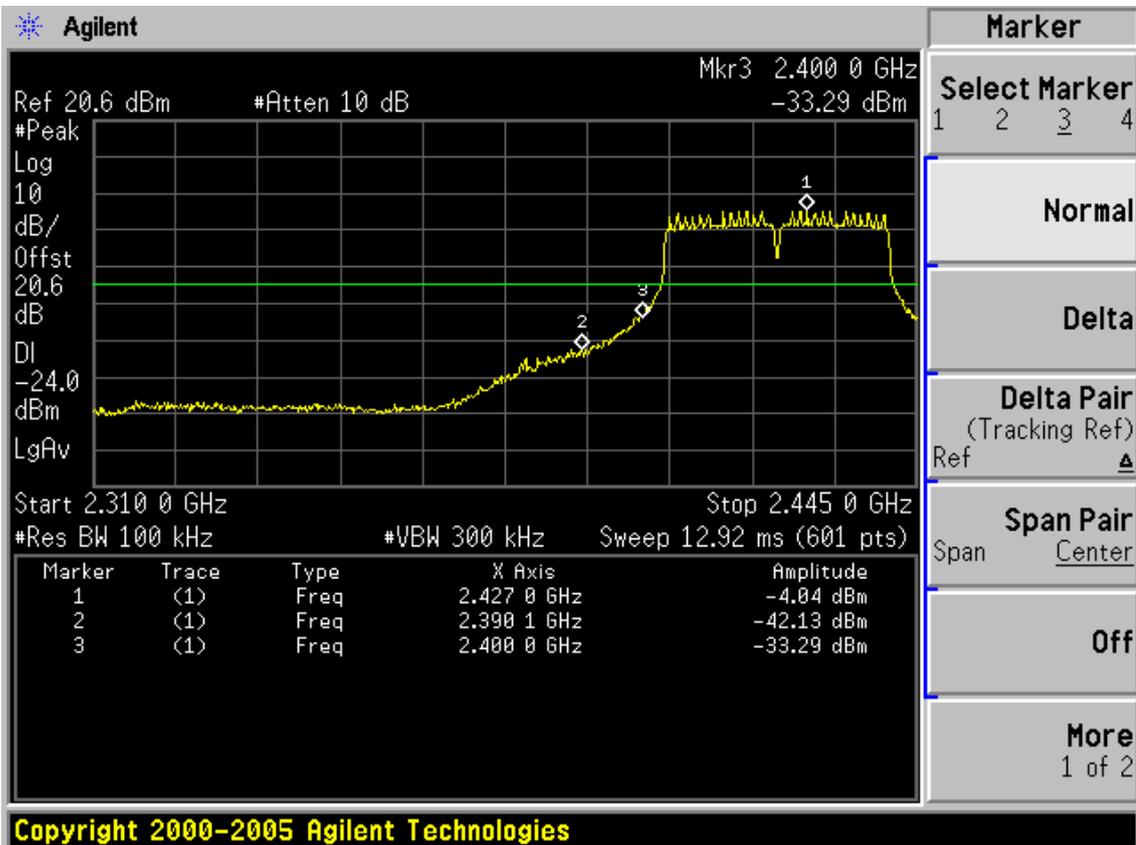
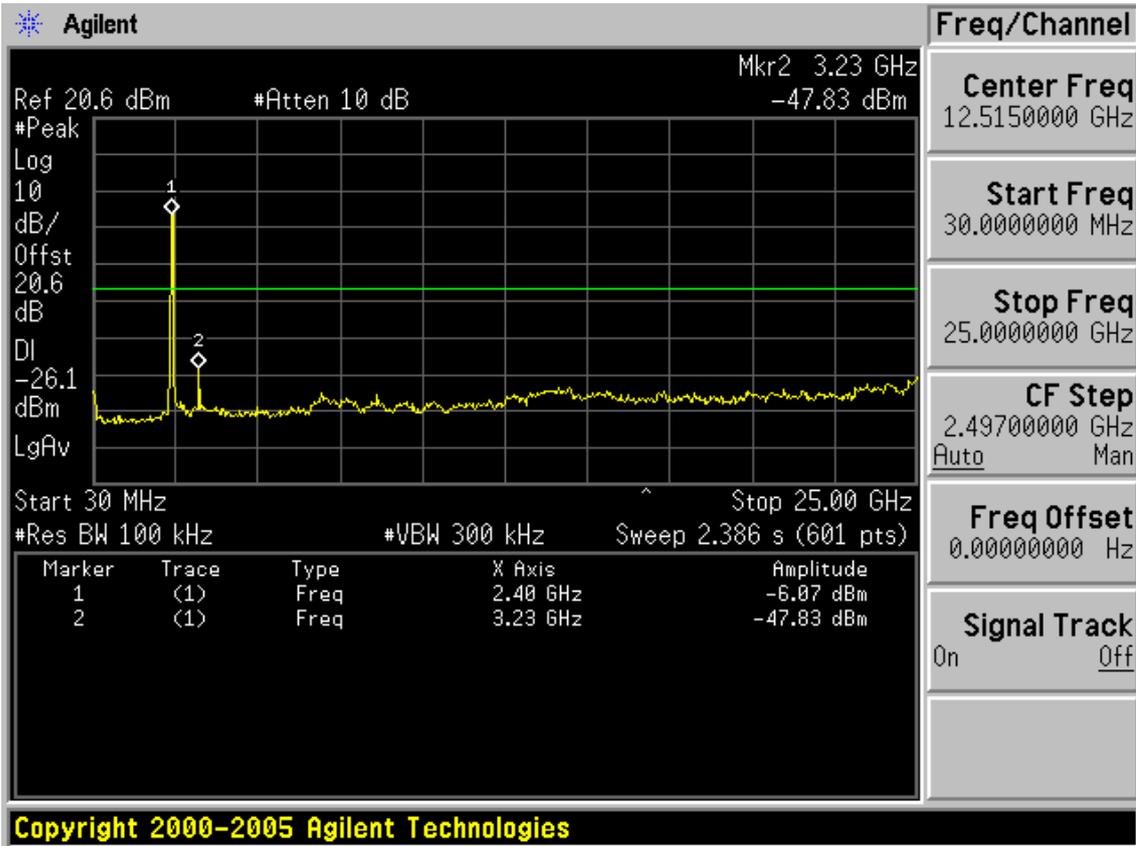


Test CH11: 2462MHz

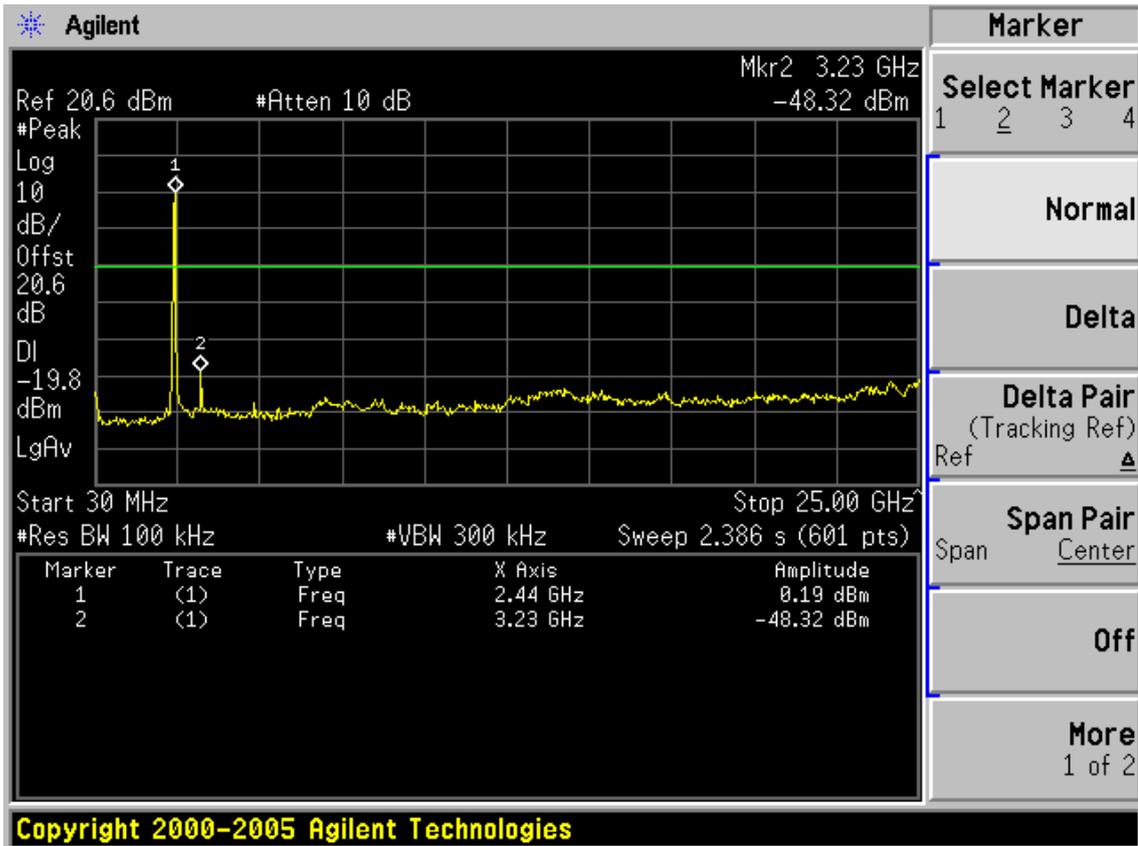


Test Mode: IEEE 802.11n HT40 TX

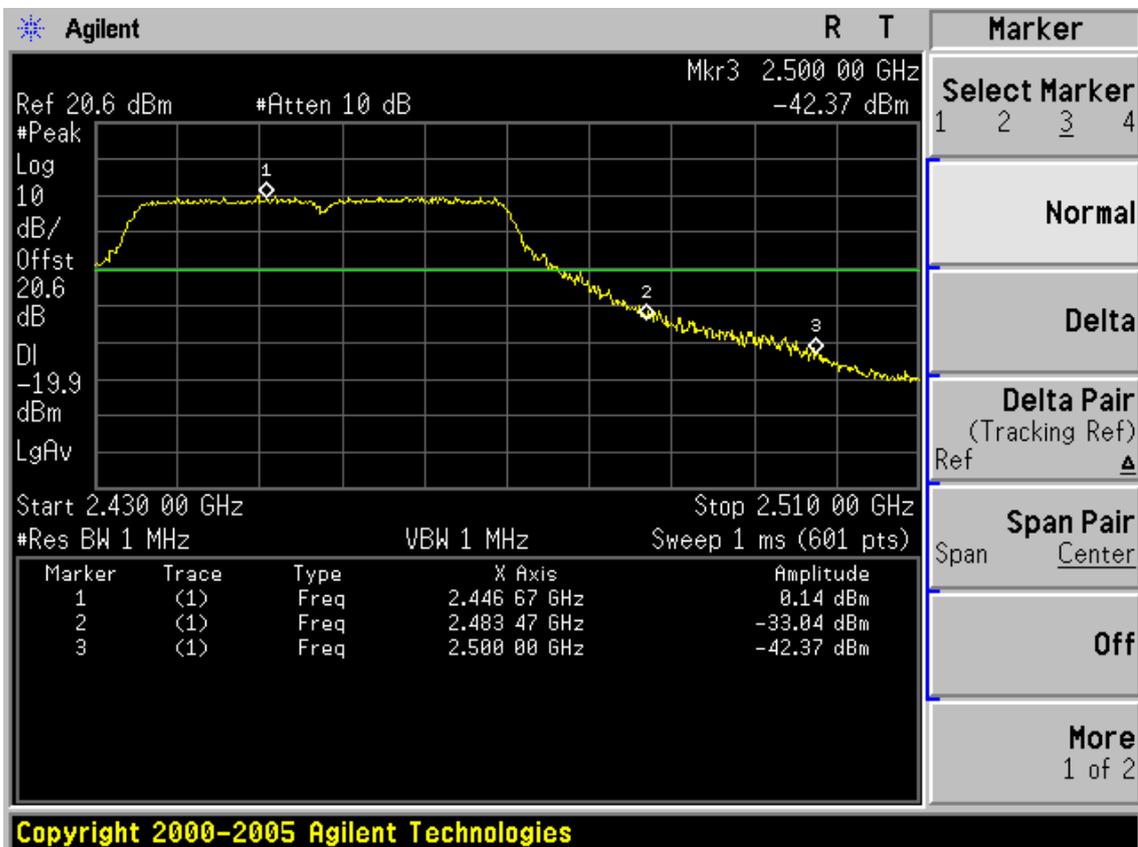
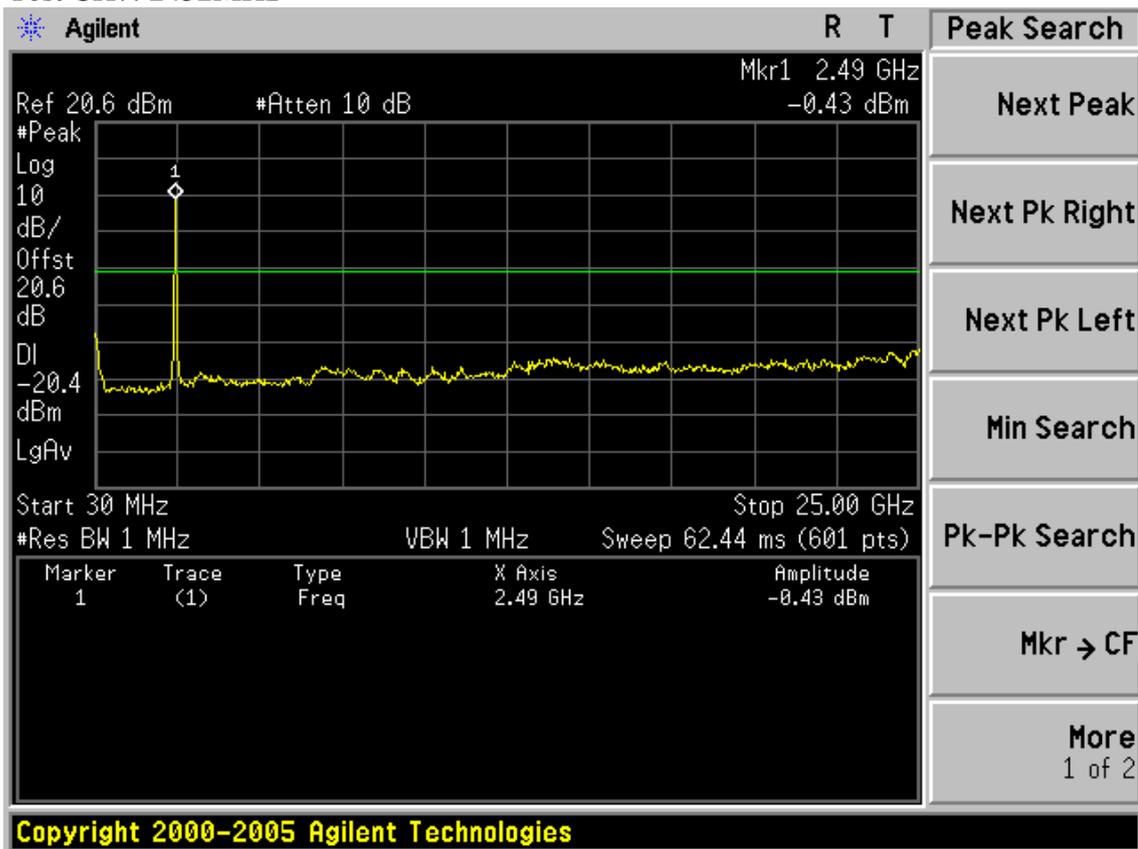
Test CH1: 2422MHz



Test CH4: 2437MHz



Test CH7: 2452MHz



## 6. BAND EDGE COMPLIANCE TEST

### 6.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08, 09	1 Year
2.	Horn Antenna	EMCO	3115	9607-4877	Nov.25, 09	1.5 Year
3.	Amplifier	Agilent	8449B	3008A02495	May.08, 09	1 Year
4.	RF Cable	Hubersuhner	SUCOFLEX 102	28620/2	May.08, 09	1 Year
5.	RF Cable	Hubersuhner	SUCOFLEX 102	271471/4	May.08, 09	1 Year
6.	RF Cable	Hubersuhner	SUCOFLEX 102	29086/2	May.08, 09	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 upperband-edges of the emission:
  - (a) PEAK: RBW=VBW=1MHz / Sweep=AUTO
  - (b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO

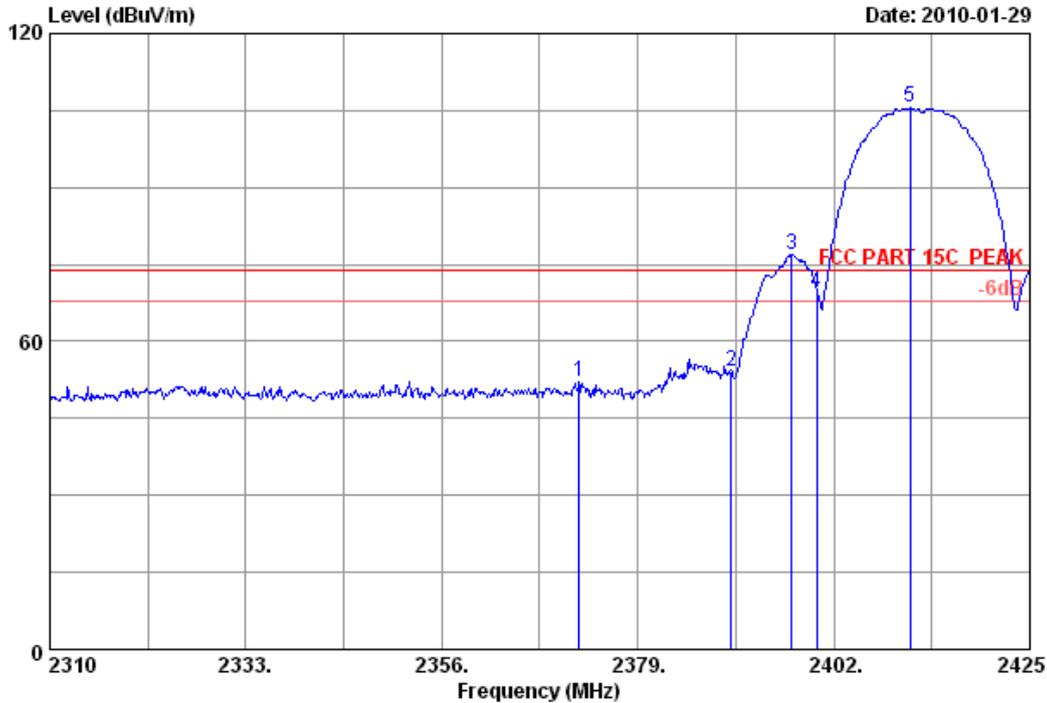
### 6.4. Test Results

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



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Postcode:518057

Data: 1 File: E:\2010 report data\TP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 1  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11b CH1 2412MHz Tx  
 M/N : TL-WN781N

	Ant. 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	2372.100	29.43	8.67	36.00	49.92	52.02	74.00	21.98	Peak
2	2390.000	29.44	8.67	36.09	51.99	54.01	74.00	19.99	Peak
3	2397.055	29.44	8.72	36.09	74.89	76.96	74.00	-2.96	Peak
4	2400.000	29.44	8.72	36.09	67.30	69.37	74.00	4.63	Peak
5	2410.970	29.45	8.72	35.95	103.33	105.55	74.00	-31.55	Peak

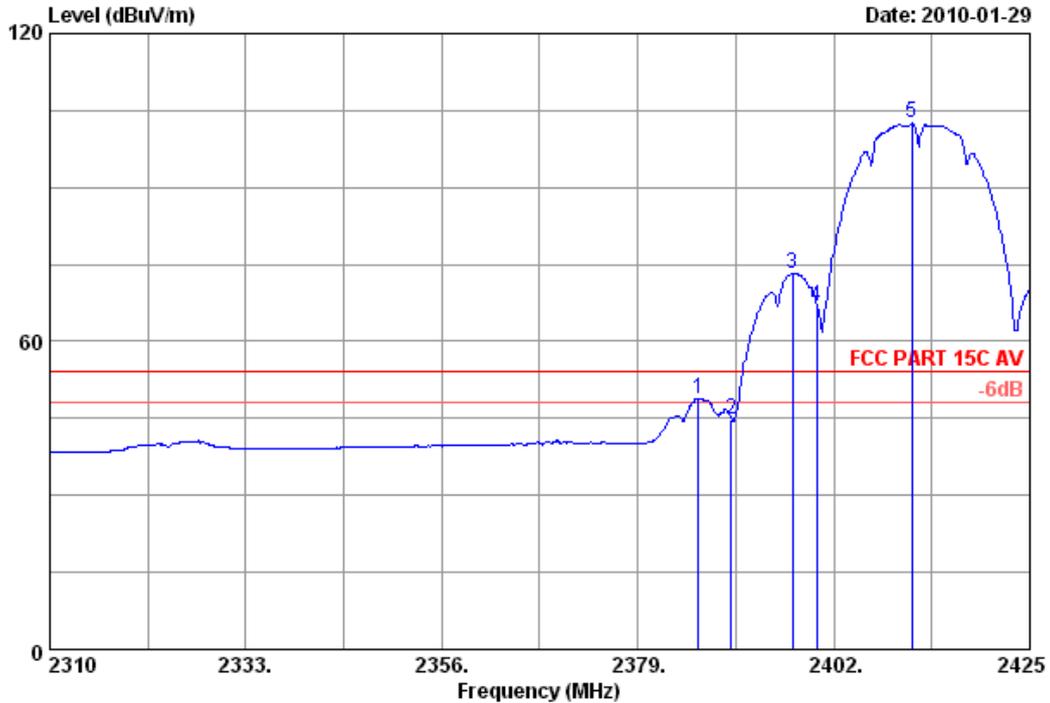
Remarks:

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



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Postcode:518057

Data: 2 File: E:\2010 report data\TP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 2  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11b CH1 2412MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2386.130	29.44	8.67	36.09	46.73	48.75	54.00	5.25	Average
2	2390.000	29.44	8.67	36.09	42.93	44.95	54.00	9.05	Average
3	2397.170	29.44	8.72	36.09	71.25	73.32	54.00	-19.32	Average
4	2400.000	29.44	8.72	36.09	64.91	66.98	54.00	-12.98	Average
5	2411.200	29.45	8.72	35.95	100.24	102.46	54.00	-48.46	Average

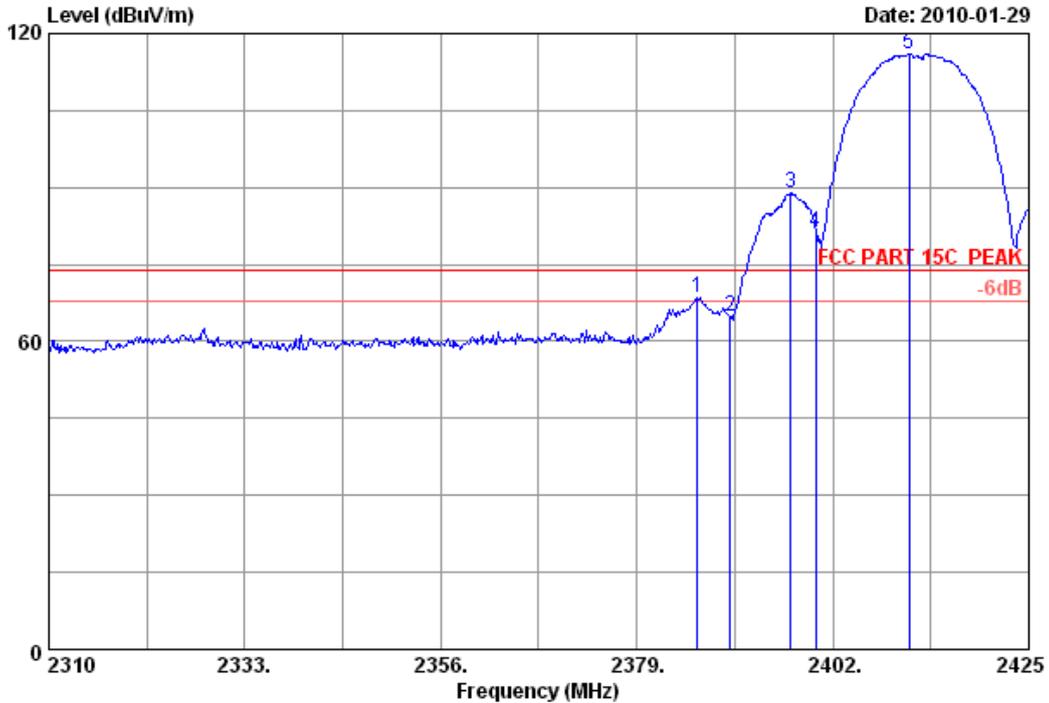
Remarks:

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



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Data: 3 File: E:\2010 report data\TP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 3  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11b CH1 2412MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2386.130	29.44	8.67	36.09	66.63	68.65	74.00	5.35	Peak
2	2390.000	29.44	8.67	36.09	62.92	64.94	74.00	9.06	Peak
3	2397.055	29.44	8.72	36.09	86.79	88.86	74.00	-14.86	Peak
4	2400.000	29.44	8.72	36.09	79.29	81.36	74.00	-7.36	Peak
5	2410.970	29.45	8.72	35.95	113.76	115.98	74.00	-41.98	Peak

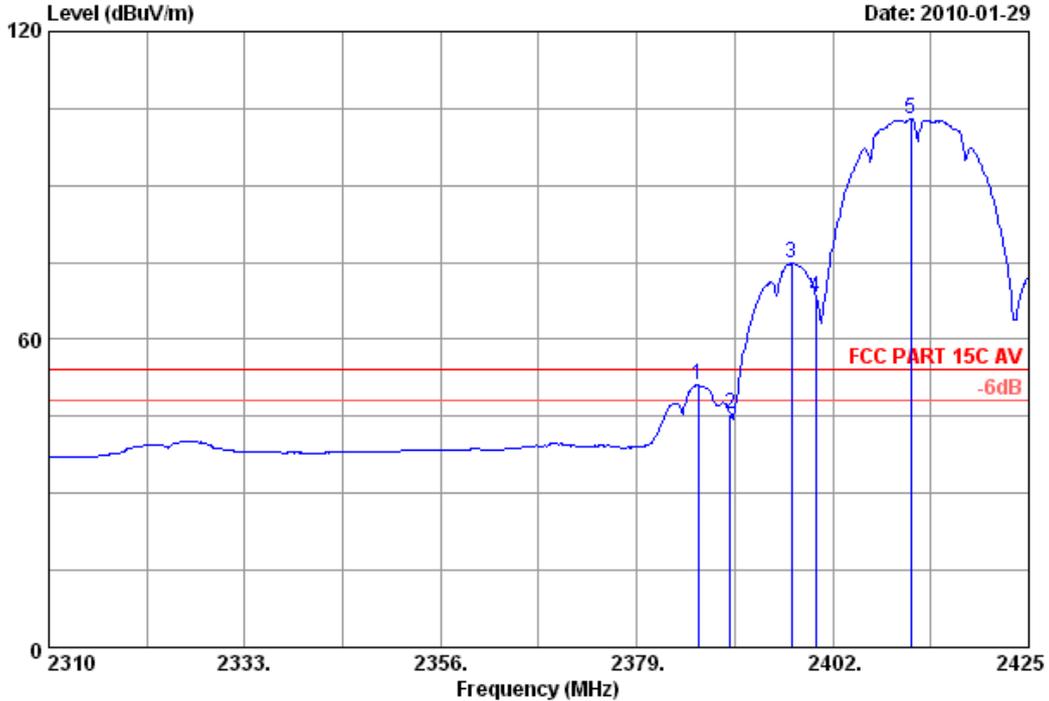
Remarks:

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



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Data: 4 File: E:\2010 report data\TP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 4  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11b CH1 2412MHz Tx  
 M/N : TL-WN781N

	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	29.44	8.67	36.09	49.17	51.19	54.00	2.81	Average
2	2390.000	29.44	8.67	36.09	43.28	45.30	54.00	8.70	Average
3	2397.170	29.44	8.72	36.09	72.81	74.88	54.00	-20.88	Average
4	2400.000	29.44	8.72	36.09	66.25	68.32	54.00	-14.32	Average
5	2411.200	29.45	8.72	35.95	100.70	102.92	54.00	-48.92	Average

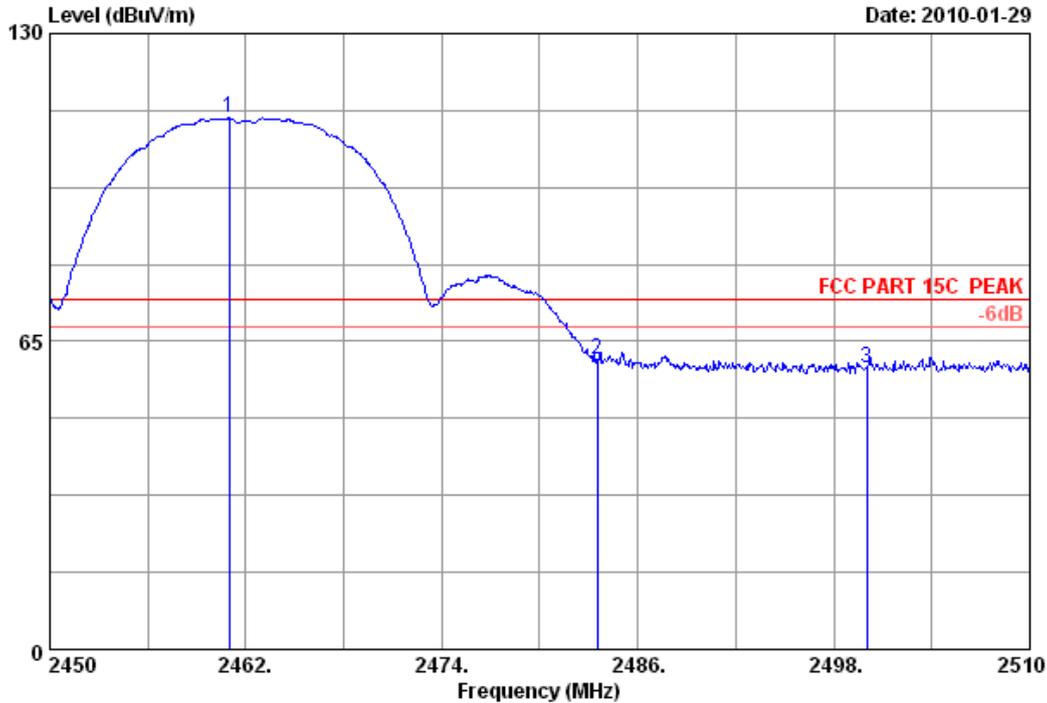
Remarks:

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



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Data: 5 File: E:\2010 report data\TTP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 5  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11b CH11 2462MHz Tx  
 M/N : TL-WN781N

	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 2460.980	29.48	8.82	36.02	109.86	112.14	74.00	-38.14	Peak
2 2483.500	29.49	8.87	35.97	58.67	61.06	74.00	12.94	Peak
3 2500.000	29.50	8.92	36.00	56.92	59.34	74.00	14.66	Peak

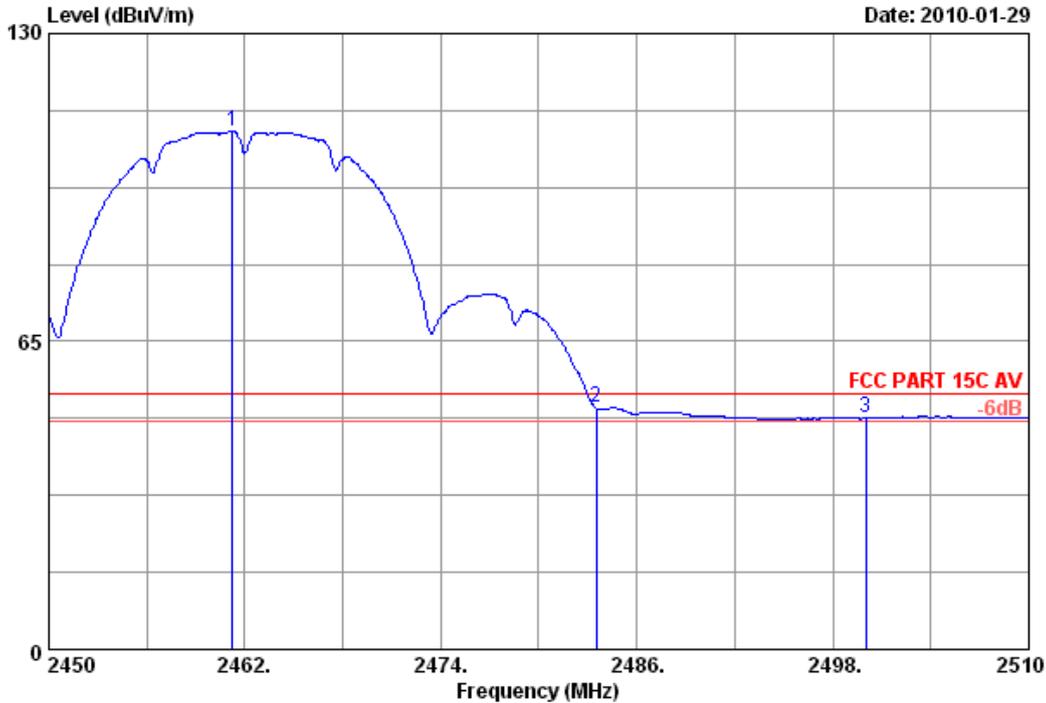
Remarks:

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



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Data: 6 File: E:\2010 report data\TP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 6  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11b CH11 2462MHz Tx  
 M/N : TL-WN781N

	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 2461.220	29.48	8.82	36.02	107.09	109.37	54.00	-55.37	Average	
2 2483.500	29.49	8.87	35.97	48.50	50.89	54.00	3.11	Average	
3 2500.000	29.50	8.92	36.00	46.35	48.77	54.00	5.23	Average	

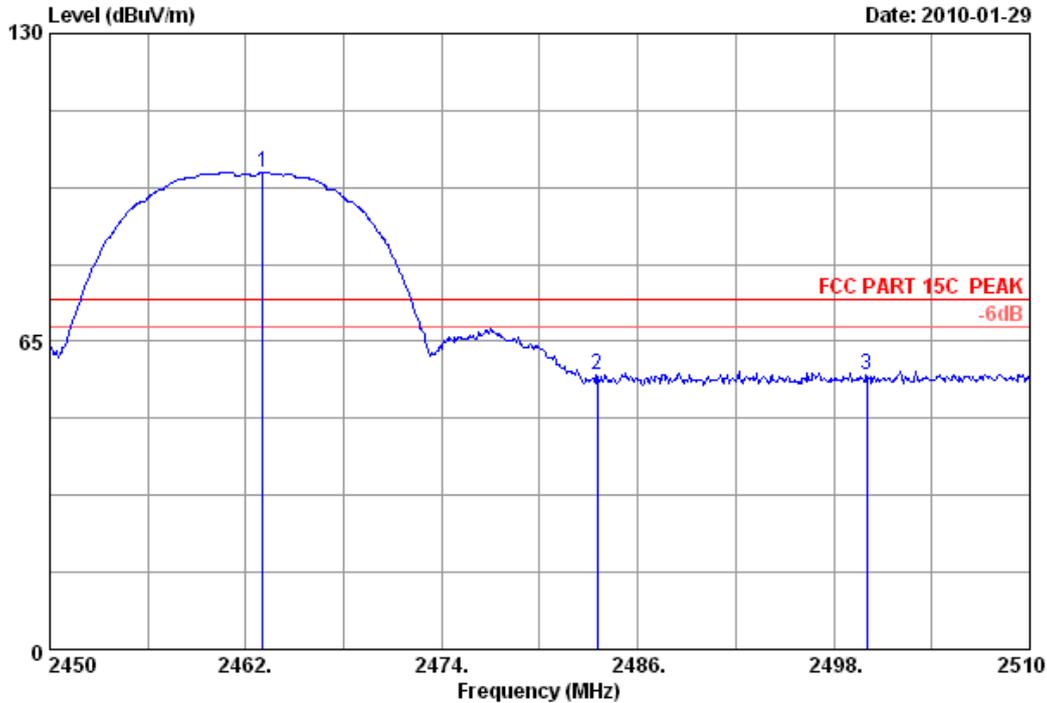
Remarks:

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



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Data: 7 File: E:\2010 report data\TTP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 7  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11b CH11 2462MHz Tx  
 M/N : TL-WN781N

	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 2463.020	29.48	8.82	36.02	98.47	100.75	74.00	-26.75	Peak	
2 2483.500	29.49	8.87	35.97	55.56	57.95	74.00	16.05	Peak	
3 2500.000	29.50	8.92	36.00	55.67	58.09	74.00	15.91	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.



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Data: 8 File: E:\2010 report data\TTP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 8  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11b CH11 2462MHz Tx  
 M/N : TL-WN781N

	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 2461.220	29.48	8.82	36.02	95.77	98.05	54.00	-44.05	Average	
2 2483.500	29.49	8.87	35.97	43.84	46.23	54.00	7.77	Average	
3 2500.000	29.50	8.92	36.00	43.82	46.24	54.00	7.76	Average	

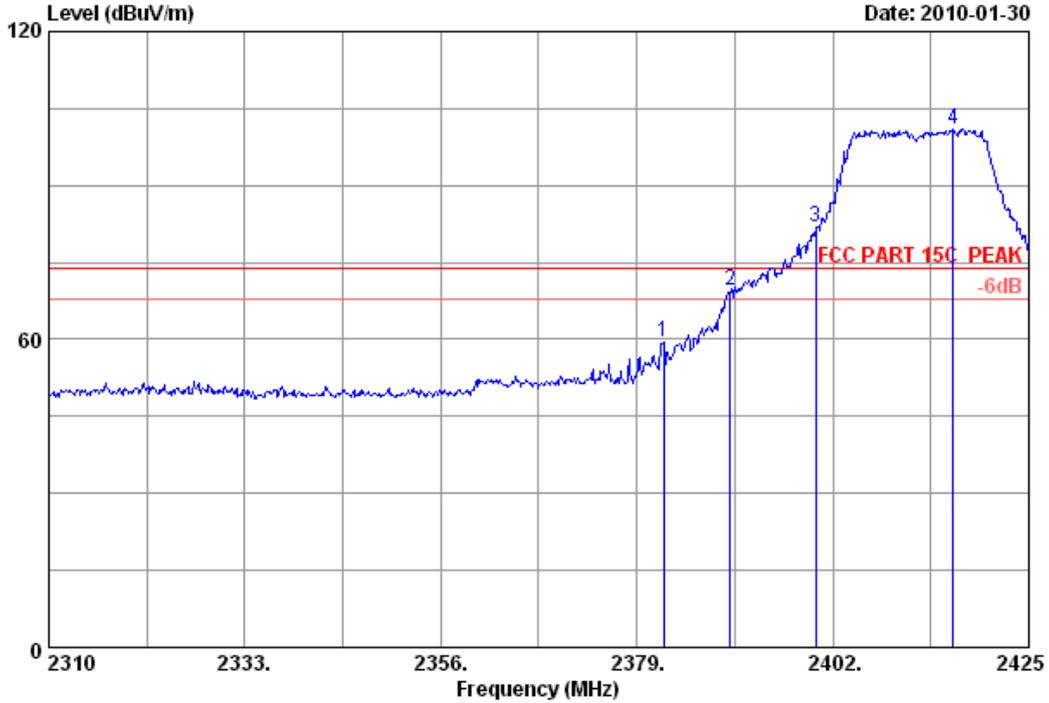
Remarks:

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



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Data: 9 File: E:\2010 report data\TP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 9  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11g CH1 2412MHz Tx  
 M/N : TL-WN781N

	Ant. 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	2382.105	29.43	8.67	36.00	57.27	59.37	74.00	14.63	Peak
2	2390.000	29.44	8.67	36.09	67.58	69.60	74.00	4.40	Peak
3	2400.000	29.44	8.72	36.09	79.97	82.04	74.00	-8.04	Peak
4	2416.145	29.45	8.72	35.95	98.88	101.10	74.00	-27.10	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.



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Data: 10 File: E:\2010 report data\TTP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 10  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11g CH1 2412MHz Tx  
 M/N : TL-WN781N

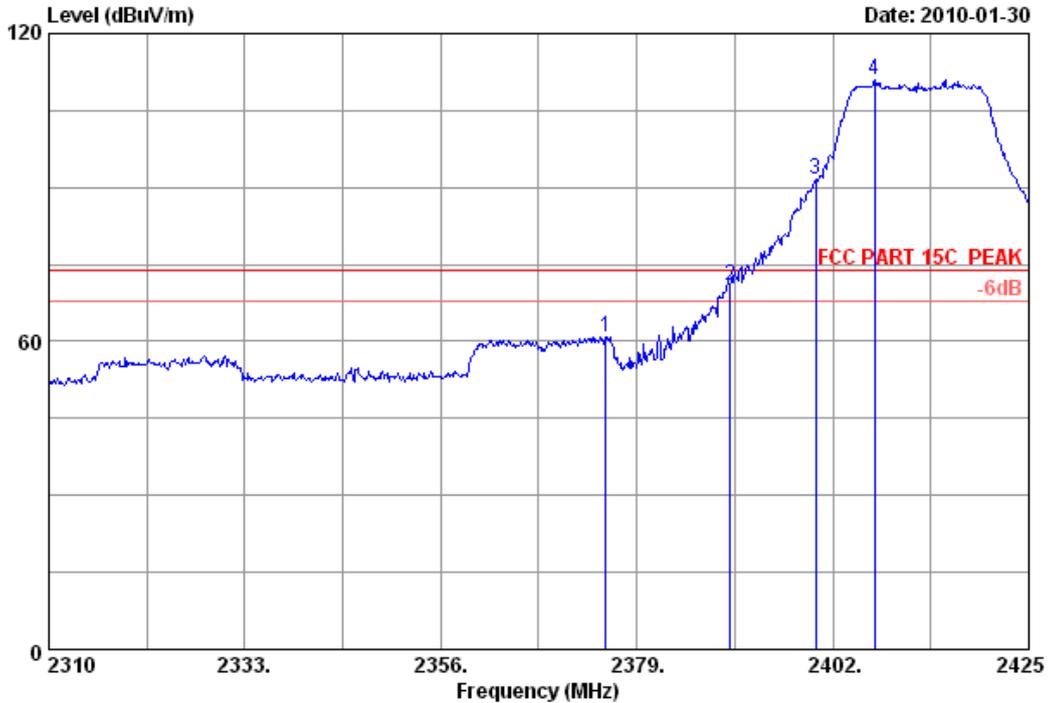
	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2374.745	29.43	8.67	36.00	38.78	40.88	54.00	13.12	Average
2	2390.000	29.44	8.67	36.09	47.70	49.72	54.00	4.28	Average
3	2400.000	29.44	8.72	36.09	58.67	60.74	54.00	-6.74	Average
4	2418.330	29.45	8.72	35.95	88.40	90.62	54.00	-36.62	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.



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Data: 11 File: E:\2010 report data\TP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 11  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11g CH1 2412MHz Tx  
 M/N : TL-WN781N

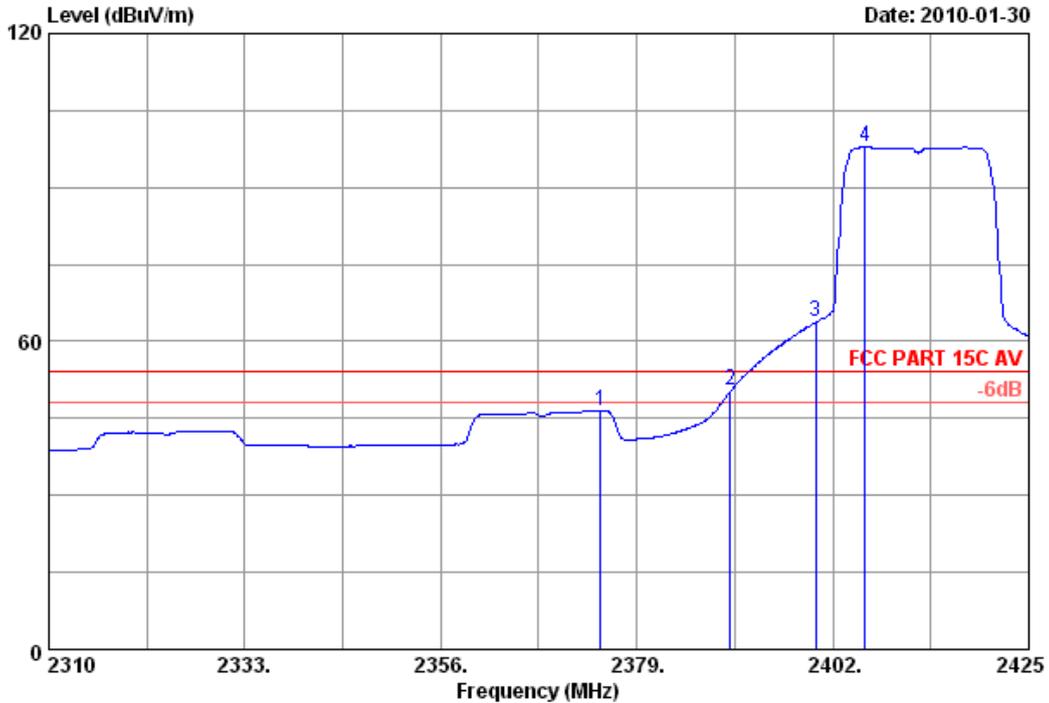
	Ant.	Cable	Amp.	Emission					
Freq.	Factor	loss	Factor	Reading	Level	Limits	Margin	Remark	
(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		
1 2375.320	29.43	8.67	36.00	58.79	60.89	74.00	13.11	Peak	
2 2390.000	29.44	8.67	36.09	68.75	70.77	74.00	3.23	Peak	
3 2400.000	29.44	8.72	36.09	89.45	91.52	74.00	-17.52	Peak	
4 2406.945	29.45	8.72	35.95	108.64	110.86	74.00	-36.86	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.



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Data: 12 File: E:\2010 report data\TP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 12  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11g CH1 2412MHz Tx  
 M/N : TL-WN781N

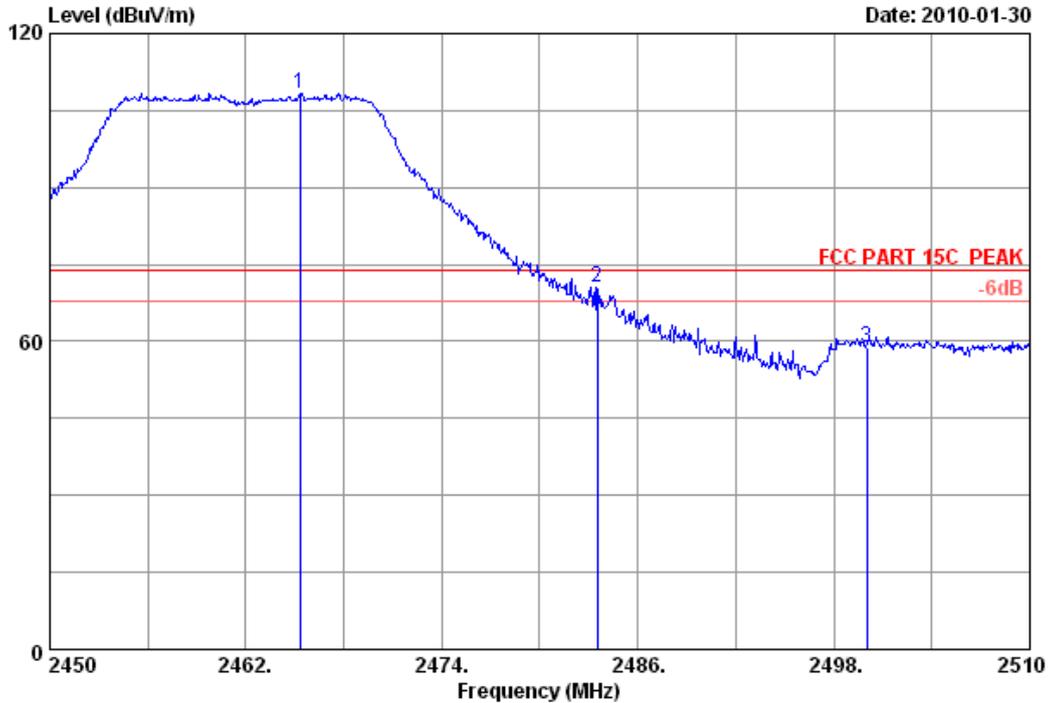
	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2374.745	29.43	8.67	36.00	44.44	46.54	54.00	7.46	Average
2	2390.000	29.44	8.67	36.09	48.32	50.34	54.00	3.66	Average
3	2400.000	29.44	8.72	36.09	61.75	63.82	54.00	-9.82	Average
4	2405.795	29.45	8.72	35.95	95.65	97.87	54.00	-43.87	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.



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Data: 13 File: E:\2010 report data\TTP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 13  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11g CH11 2462MHz Tx  
 M/N : TL-WN781N

	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	2465.300	29.48	8.82	36.02	106.12	108.40	74.00	-34.40	Peak
2	2483.500	29.49	8.87	35.97	68.14	70.53	74.00	3.47	Peak
3	2500.000	29.50	8.92	36.00	56.57	58.99	74.00	15.01	Peak

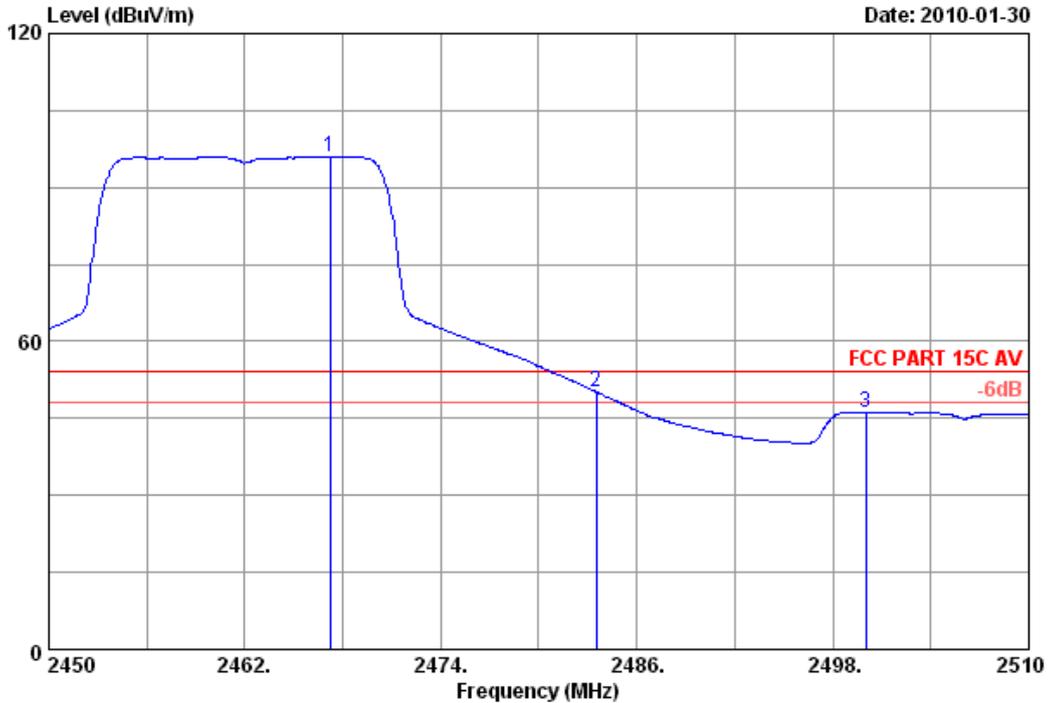
Remarks:

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



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Data: 14 File: E:\2010 report data\TTP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 14  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11g CH11 2462MHz Tx  
 M/N : TL-WN781N

	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 2467.220	29.48	8.82	36.02	93.70	95.98	54.00	-41.98	Average	
2 2483.500	29.49	8.87	35.97	47.77	50.16	54.00	3.84	Average	
3 2500.000	29.50	8.92	36.00	43.74	46.16	54.00	7.84	Average	

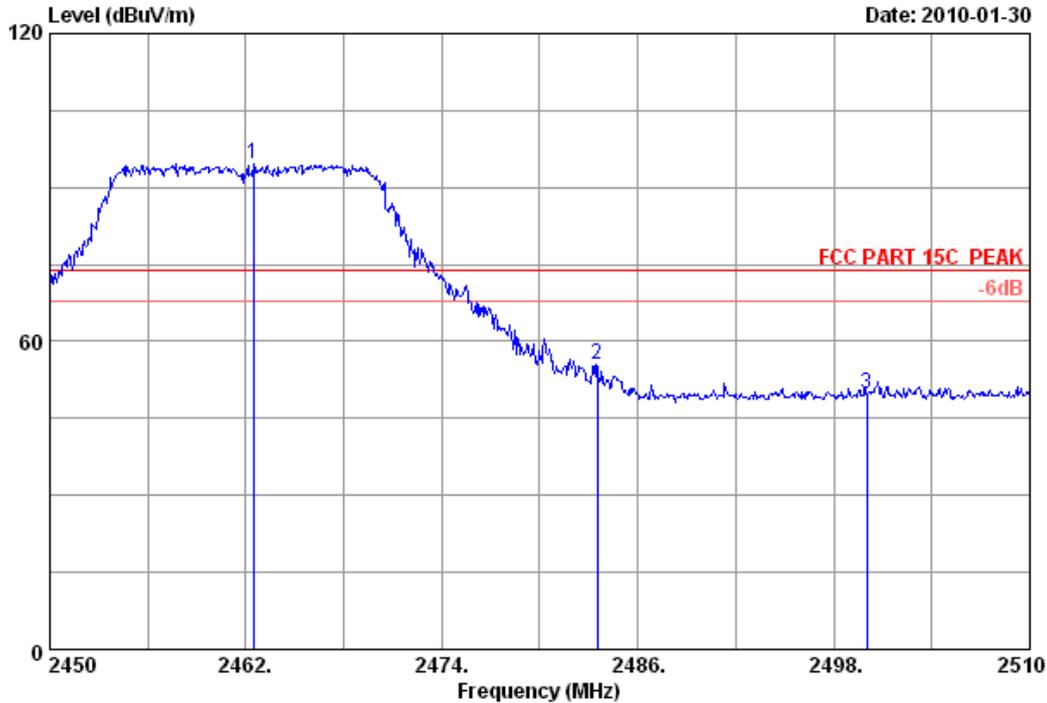
Remarks:

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



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Data: 15 File: E:\2010 report data\TTP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 15  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11g CH11 2462MHz Tx  
 M/N : TL-WN781N

	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 2462.480	29.48	8.82	36.02	92.39	94.67	74.00	-20.67	Peak
2 2483.500	29.49	8.87	35.97	53.09	55.48	74.00	18.52	Peak
3 2500.000	29.50	8.92	36.00	47.48	49.90	74.00	24.10	Peak

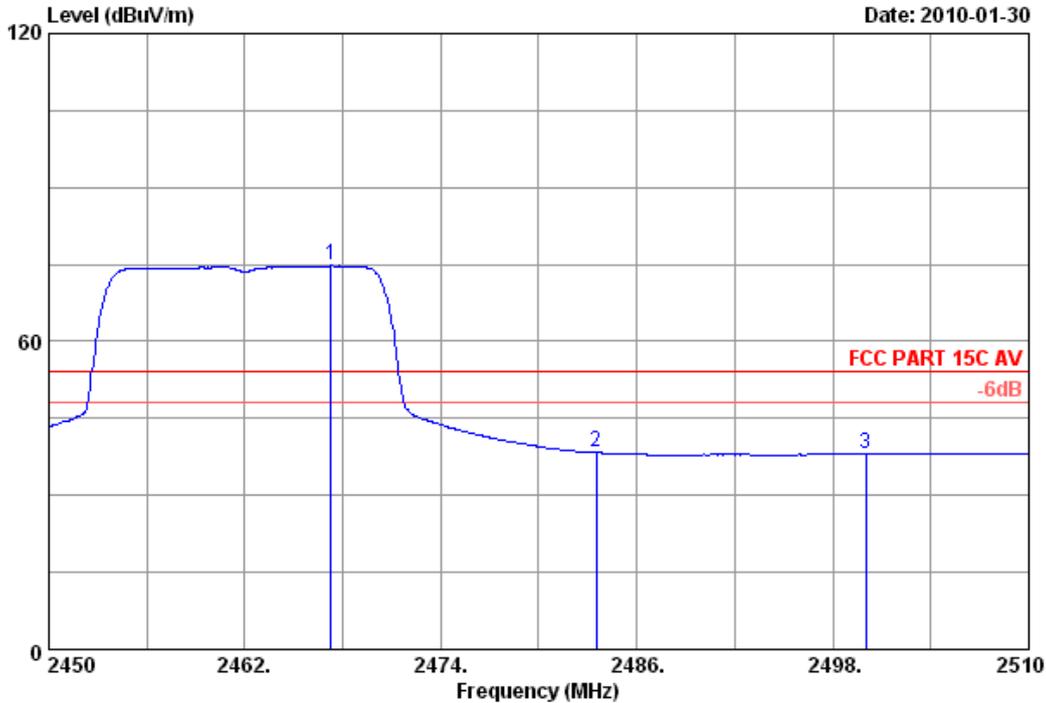
Remarks:

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



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Data: 16 File: E:\2010 report data\TP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 16  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11g CH11 2462MHz Tx  
 M/N : TL-WN781N

	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 2467.280	29.48	8.82	36.02	72.44	74.72	54.00	-20.72	Average
2 2483.500	29.49	8.87	35.97	35.95	38.34	54.00	15.66	Average
3 2500.000	29.50	8.92	36.00	35.66	38.08	54.00	15.92	Average

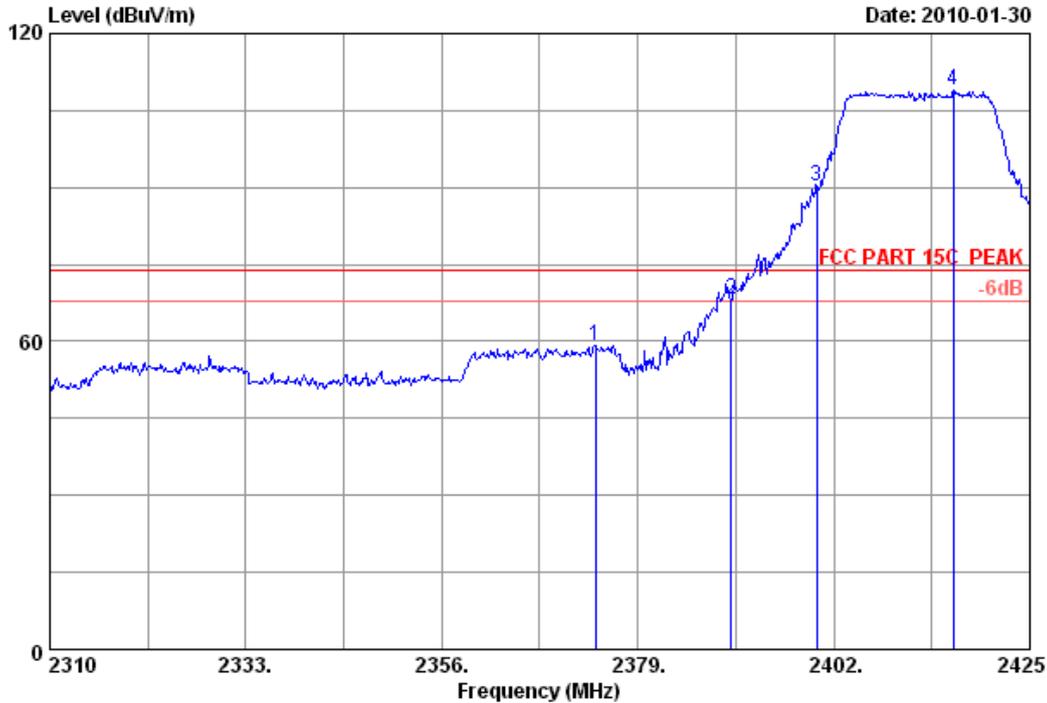
Remarks:

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



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Data: 17 File: E:\2010 report data\TTP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 17  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT20 CH1 2412MHz Tx  
 M/N : TL-WN781N

	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	2374.055	29.43	8.67	36.00	57.13	59.23	74.00	14.77	Peak
2	2390.000	29.44	8.67	36.09	66.20	68.22	74.00	5.78	Peak
3	2400.000	29.44	8.72	36.09	88.19	90.26	74.00	-16.26	Peak
4	2416.030	29.45	8.72	35.95	106.77	108.99	74.00	-34.99	Peak

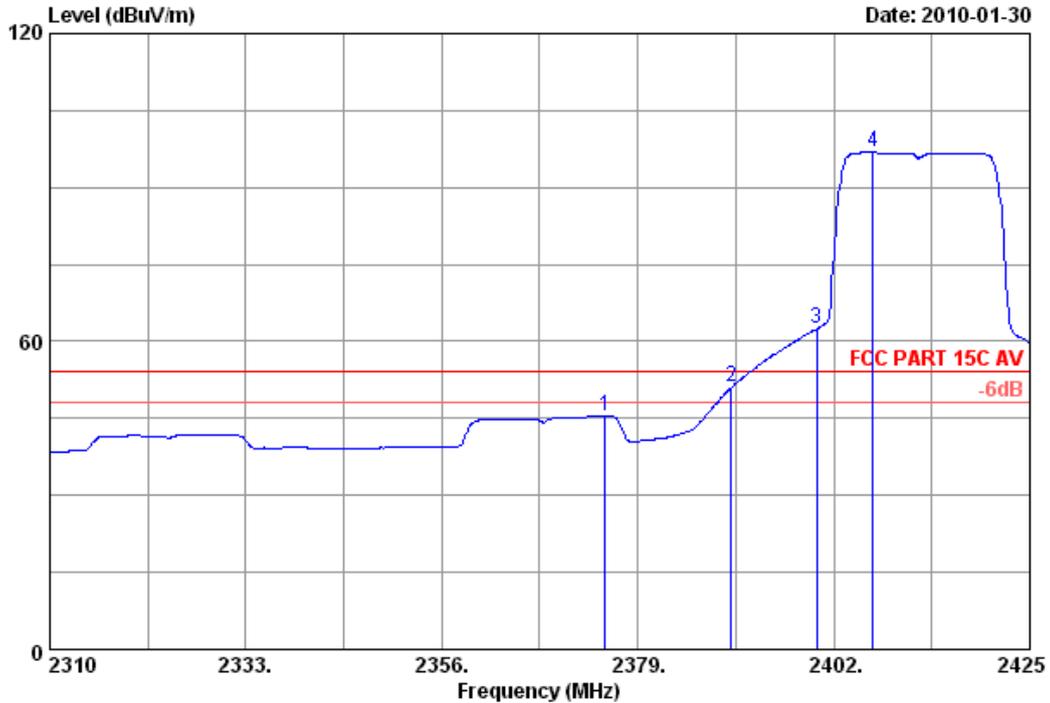
Remarks:

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



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Data: 18 File: E:\2010 report data\TTP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 18  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT20 CH1 2412MHz Tx  
 M/N : TL-WN781N

	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	2375.205	29.43	8.67	36.00	43.39	45.49	54.00	8.51	Average
2	2390.000	29.44	8.67	36.09	49.01	51.03	54.00	2.97	Average
3	2400.000	29.44	8.72	36.09	60.42	62.49	54.00	-8.49	Average
4	2406.600	29.45	8.72	35.95	94.60	96.82	54.00	-42.82	Average

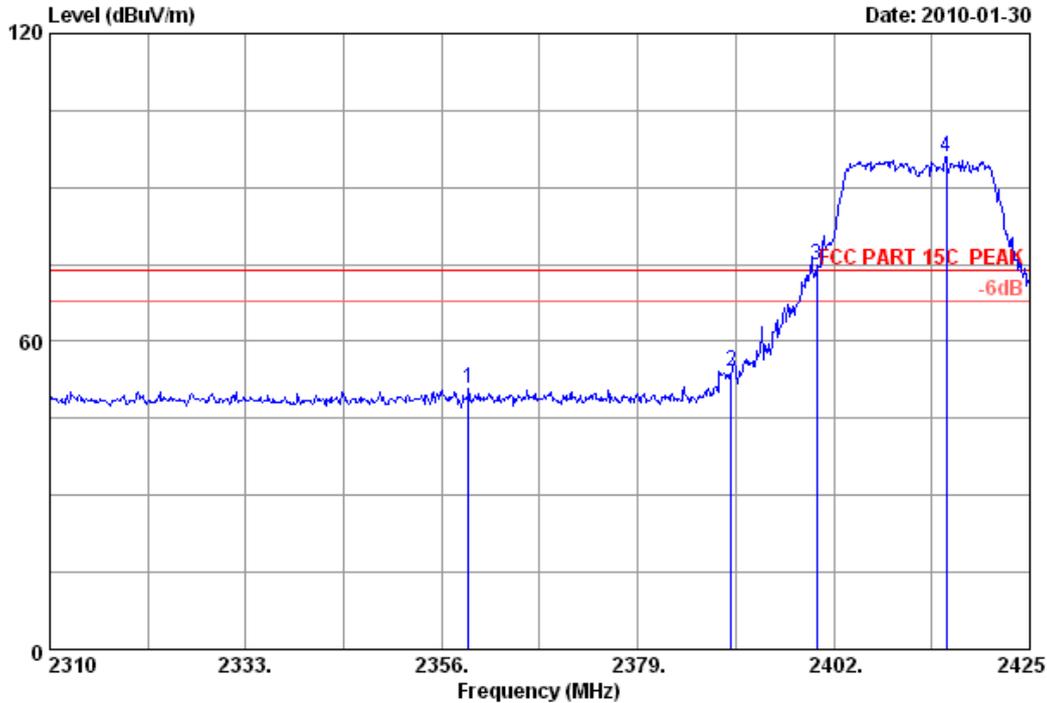
Remarks:

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



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Data: 19 File: E:\2010 report data\TTP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 19  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT20 CH1 2412MHz Tx  
 M/N : TL-WN781N

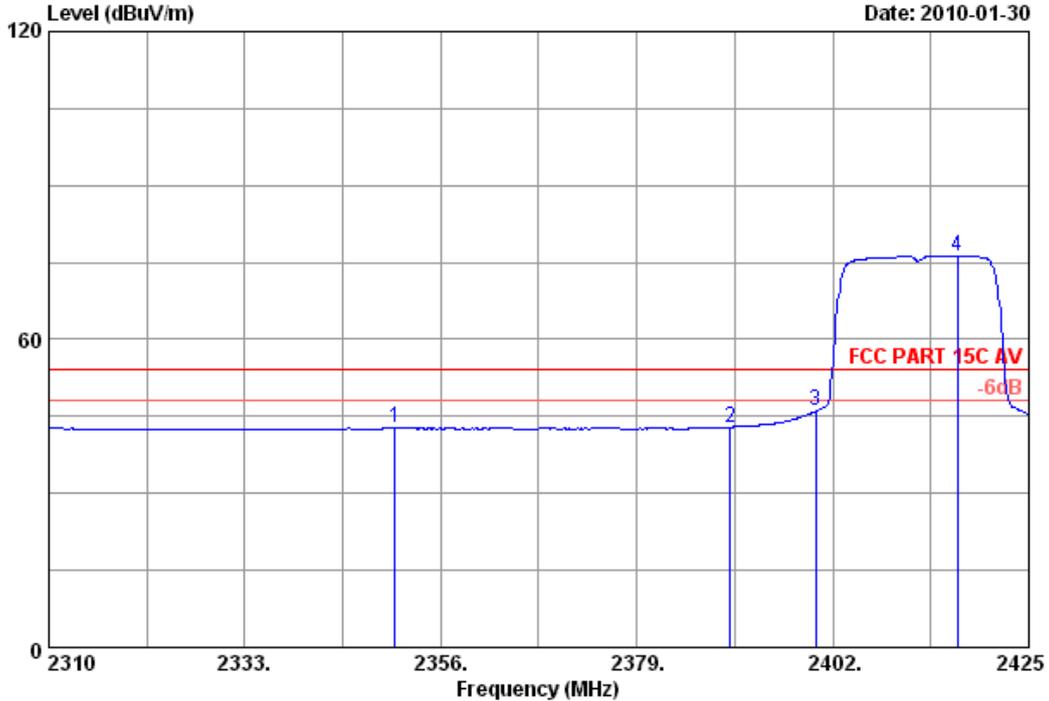
	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2359.105	29.42	8.62	35.91	48.55	50.68	74.00	23.32	Peak
2	2390.000	29.44	8.67	36.09	52.28	54.30	74.00	19.70	Peak
3	2400.000	29.44	8.72	36.09	72.78	74.85	74.00	-0.85	Peak
4	2415.225	29.45	8.72	35.95	93.67	95.89	74.00	-21.89	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.



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Data: 20 File: E:\2010 report data\TP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 20  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT20 CH1 2412MHz Tx  
 M/N : TL-WN781N

	Ant. 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	2350.595	29.41	8.62	35.99	40.64	42.68	54.00	11.32	Average
2	2390.000	29.44	8.67	36.09	40.91	42.93	54.00	11.07	Average
3	2400.000	29.44	8.72	36.09	44.01	46.08	54.00	7.92	Average
4	2416.605	29.45	8.72	35.95	74.06	76.28	54.00	-22.28	Average

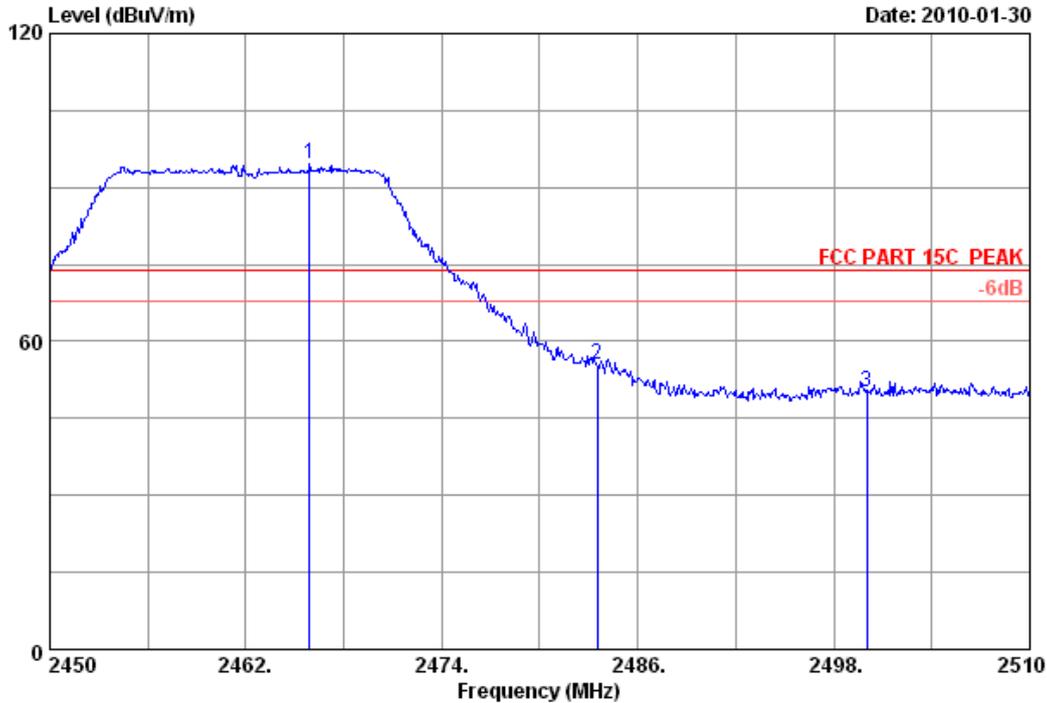
Remarks:

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



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Data: 21 File: E:\2010 report data\TTP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 21  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT20 CH11 2462MHz Tx  
 M/N : TL-WN781N

	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 2465.900	29.48	8.82	36.02	92.20	94.48	74.00	-20.48	Peak	
2 2483.500	29.49	8.87	35.97	53.21	55.60	74.00	18.40	Peak	
3 2500.000	29.50	8.92	36.00	47.65	50.07	74.00	23.93	Peak	

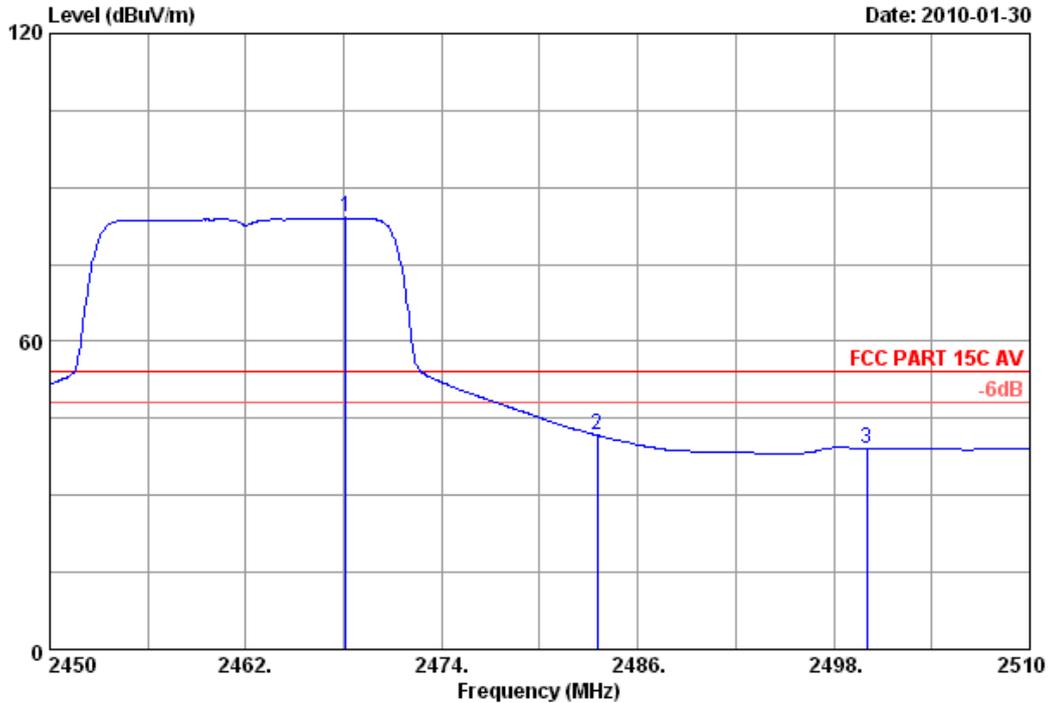
Remarks:

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



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Data: 22 File: E:\2010 report data\TP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 22  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT20 CH11 2462MHz Tx  
 M/N : TL-WN781N

	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 2468.120	29.48	8.82	36.02	81.79	84.07	54.00	-30.07	Average	
2 2483.500	29.49	8.87	35.97	39.35	41.74	54.00	12.26	Average	
3 2500.000	29.50	8.92	36.00	36.76	39.18	54.00	14.82	Average	

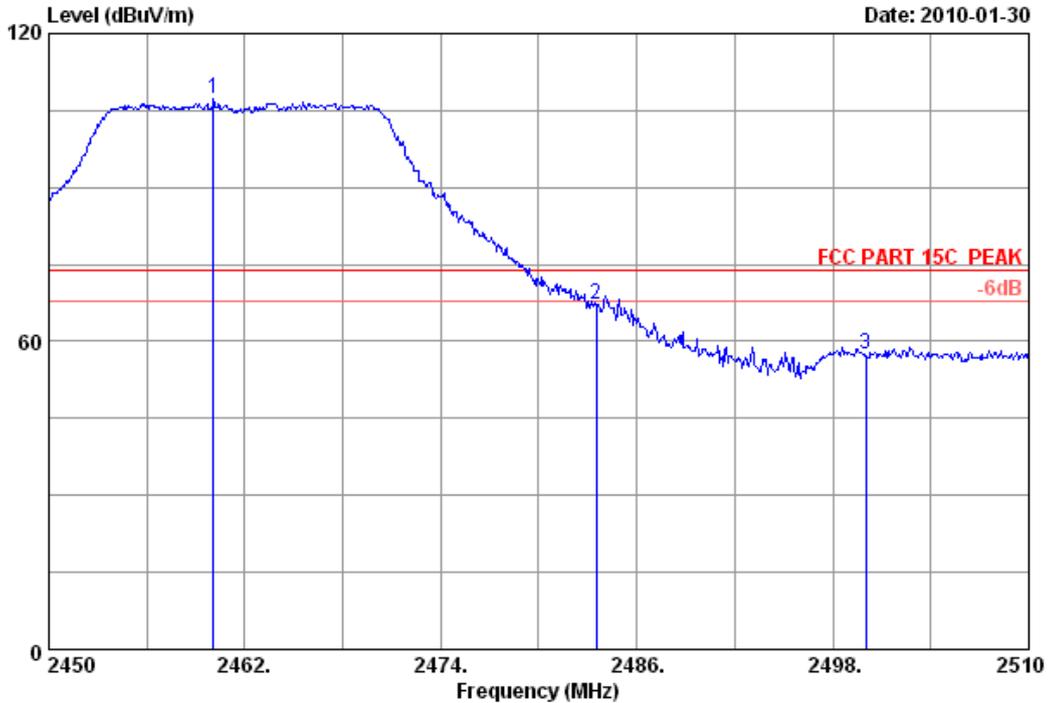
Remarks:

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



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Data: 23 File: E:\2010 report data\TTP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 23  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT20 CH11 2462MHz Tx  
 M/N : TL-WN781N

	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 2460.080	29.48	8.82	36.02	104.85	107.13	74.00	-33.13	Peak	
2 2483.500	29.49	8.87	35.97	64.94	67.33	74.00	6.67	Peak	
3 2500.000	29.50	8.92	36.00	55.00	57.42	74.00	16.58	Peak	

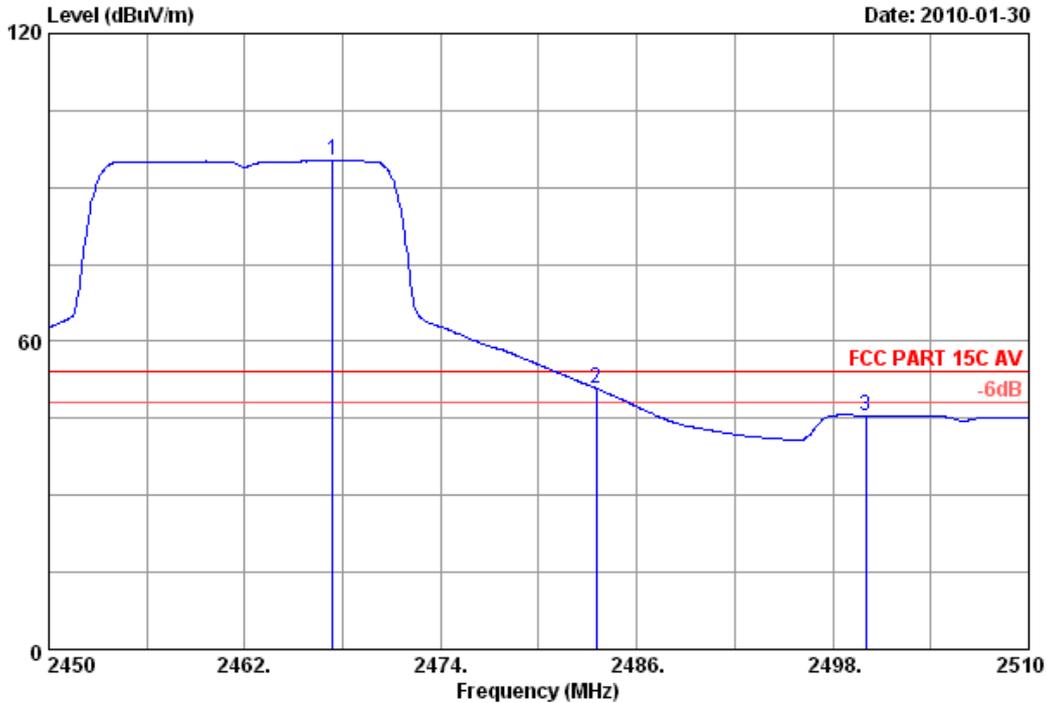
Remarks:

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



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Data: 24 File: E:\2010 report data\TTP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 24  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT20 CH11 2462MHz Tx  
 M/N : TL-WN781N

	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 2467.400	29.48	8.82	36.02	92.98	95.26	54.00	-41.26	Average	
2 2483.500	29.49	8.87	35.97	48.52	50.91	54.00	3.09	Average	
3 2500.000	29.50	8.92	36.00	43.11	45.53	54.00	8.47	Average	

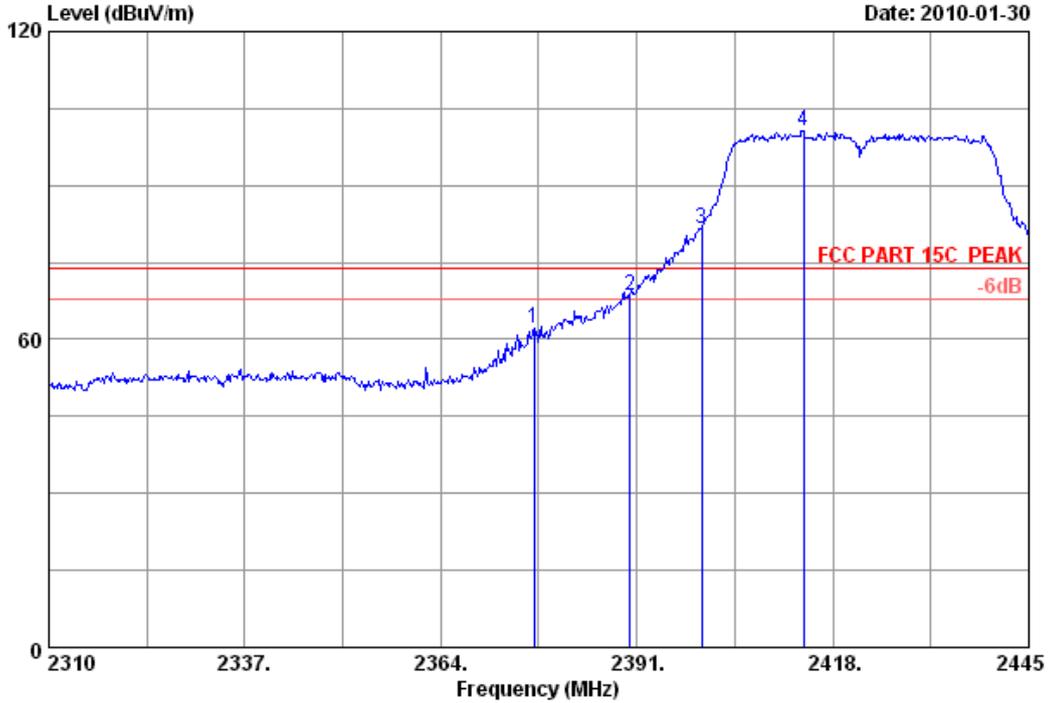
Remarks:

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



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Data: 25 File: E:\2010 report data\TTP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 25  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT40 CH1 2422MHz Tx  
 M/N : TL-WN781N

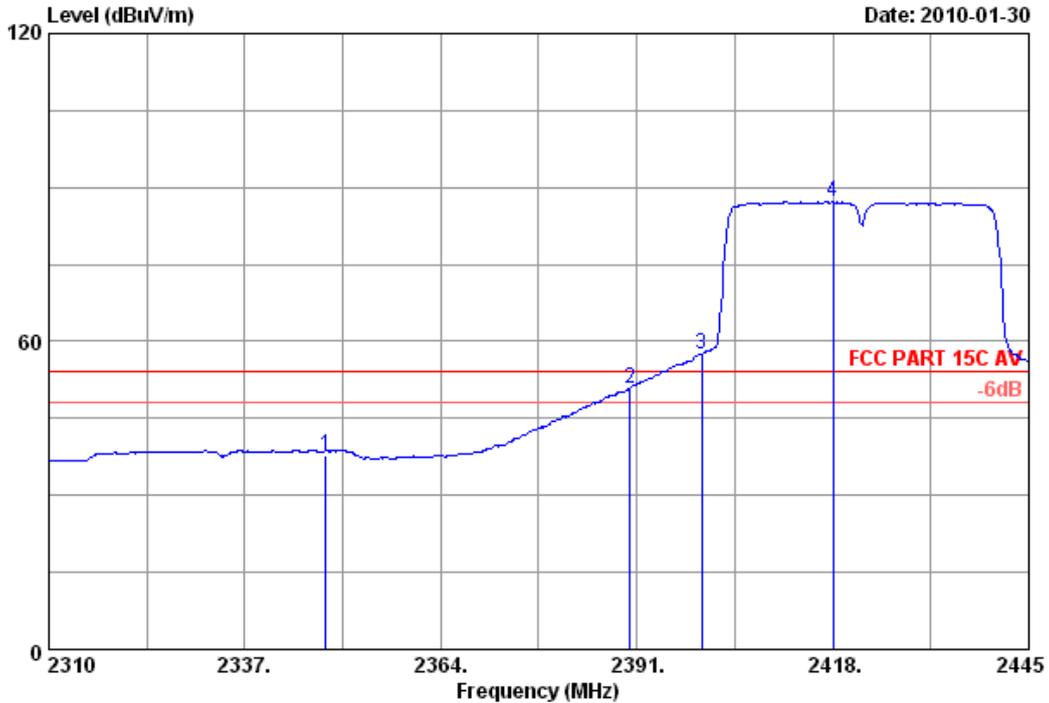
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	2376.825	29.43	8.67	36.00	60.22	62.32	74.00	11.68	Peak
2	2390.000	29.44	8.67	36.09	66.63	68.65	74.00	5.35	Peak
3	2400.000	29.44	8.72	36.09	79.42	81.49	74.00	-7.49	Peak
4	2413.950	29.45	8.72	35.95	98.50	100.72	74.00	-26.72	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.



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Data: 26 File: E:\2010 report data\TTP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 26  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT40 CH1 2422MHz Tx  
 M/N : TL-WN781N

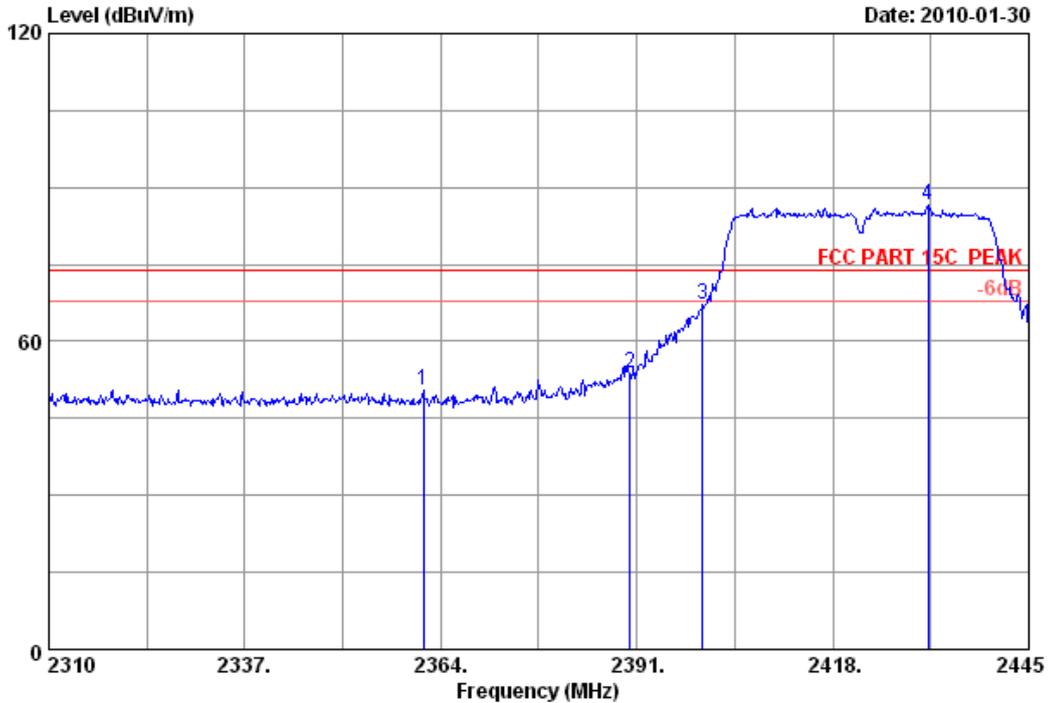
	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2348.205	29.41	8.62	35.99	35.69	37.73	54.00	16.27	Average
2	2390.000	29.44	8.67	36.09	48.90	50.92	54.00	3.08	Average
3	2400.000	29.44	8.72	36.09	55.58	57.65	54.00	-3.65	Average
4	2418.000	29.45	8.72	35.95	84.93	87.15	54.00	-33.15	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.



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Data: 27 File: E:\2010 report data\TTP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 27  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT40 CH1 2422MHz Tx  
 M/N : TL-WN781N

	Ant. 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	2361.570	29.42	8.62	35.91	48.39	50.52	74.00	23.48	Peak
2	2390.000	29.44	8.67	36.09	51.73	53.75	74.00	20.25	Peak
3	2400.045	29.44	8.72	36.09	65.06	67.13	74.00	6.87	Peak
4	2431.095	29.46	8.77	36.01	84.35	86.57	74.00	-12.57	Peak

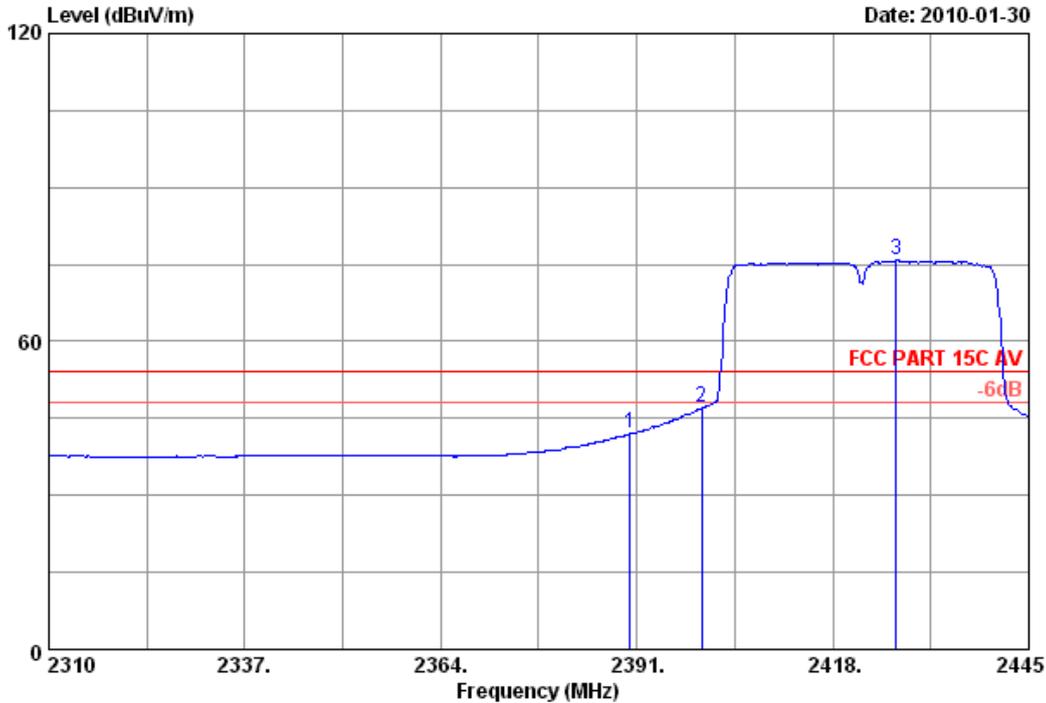
Remarks:

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



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Data: 28 File: E:\2010 report data\TTP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 28  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT40 CH1 2422MHz Tx  
 M/N : TL-WN781N

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission			
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	2390.000	29.44	8.67	36.09	39.97	41.99	54.00	12.01	Average
2	2400.000	29.44	8.72	36.09	44.91	46.98	54.00	7.02	Average
3	2426.775	29.46	8.77	36.01	73.54	75.76	54.00	-21.76	Average

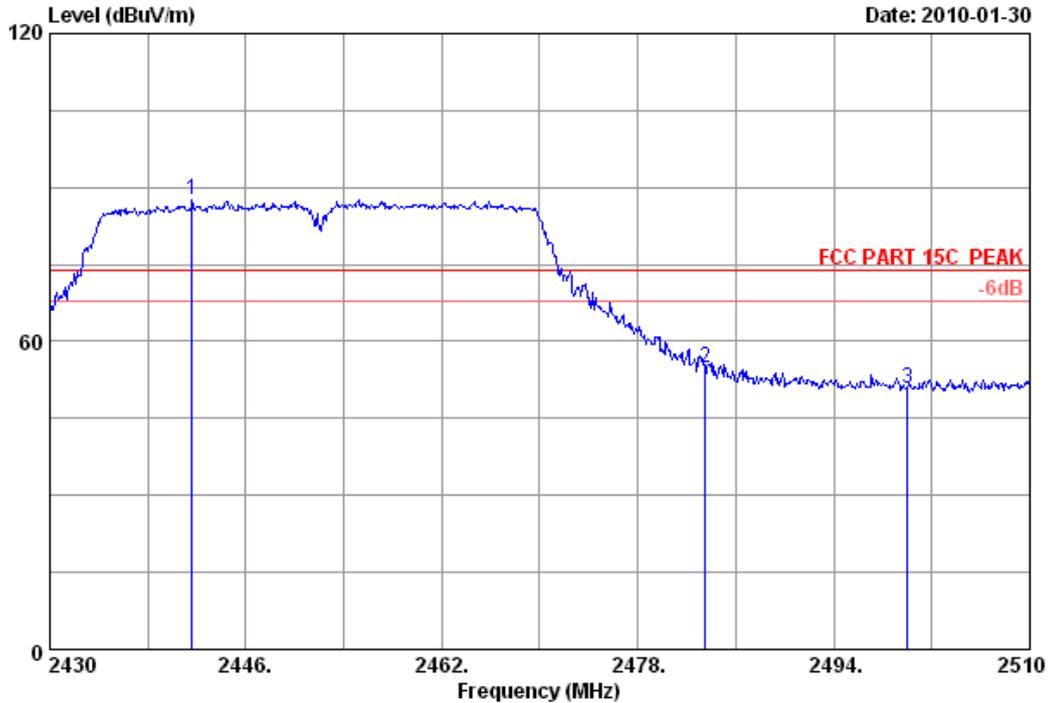
Remarks:

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



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Data: 29 File: E:\2010 report data\TTP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 29  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT40 CH7 2452MHz Tx  
 M/N : TL-WN781N

	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 2441.600	29.47	8.77	36.06	85.46	87.64	74.00	-13.64	Peak	
2 2483.500	29.49	8.87	35.97	52.35	54.74	74.00	19.26	Peak	
3 2500.000	29.50	8.92	36.00	48.54	50.96	74.00	23.04	Peak	

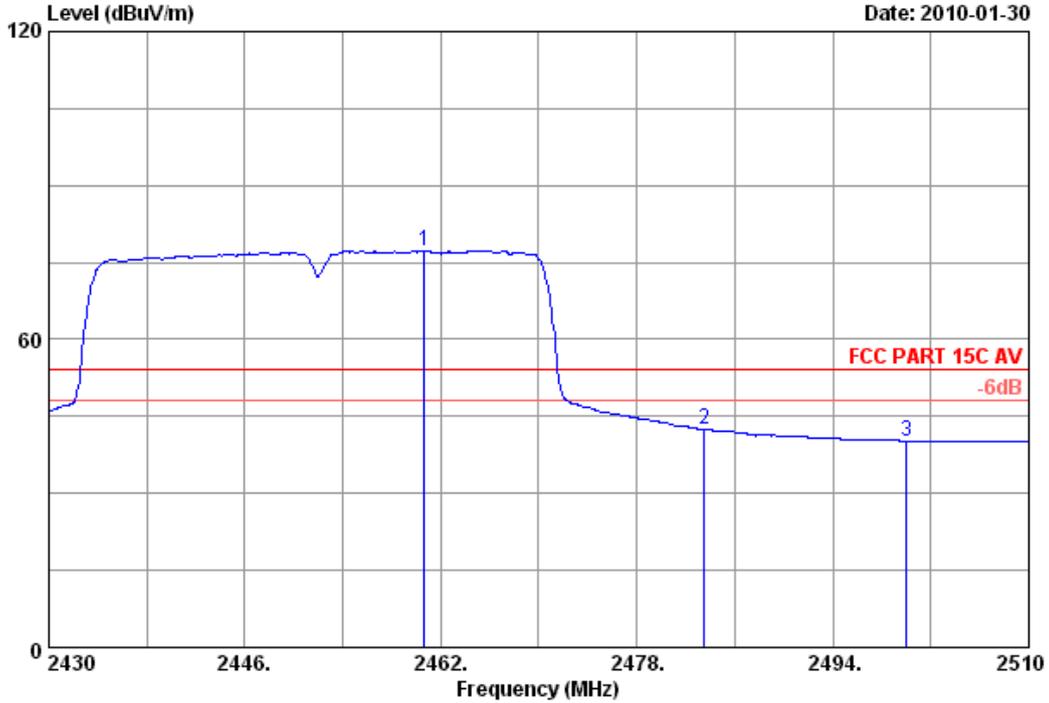
Remarks:

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



No.6 Ke Feng Road,Block 52,  
ShenZhen Science & Industry Park  
Noutou,ShenZhen,GuangDong,China  
Tel:+86-755-26639495-7  
Fax:+86-755-26632877  
Postcode:518057

Data: 30 File: E:\2010 report data\TTP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 30  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT40 CH7 2452MHz Tx  
 M/N : TL-WN781N

	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 2460.640	29.48	8.82	36.02	74.98	77.26	54.00	-23.26	Average
2 2483.500	29.49	8.87	35.97	39.96	42.35	54.00	11.65	Average
3 2500.000	29.50	8.92	36.00	37.81	40.23	54.00	13.77	Average

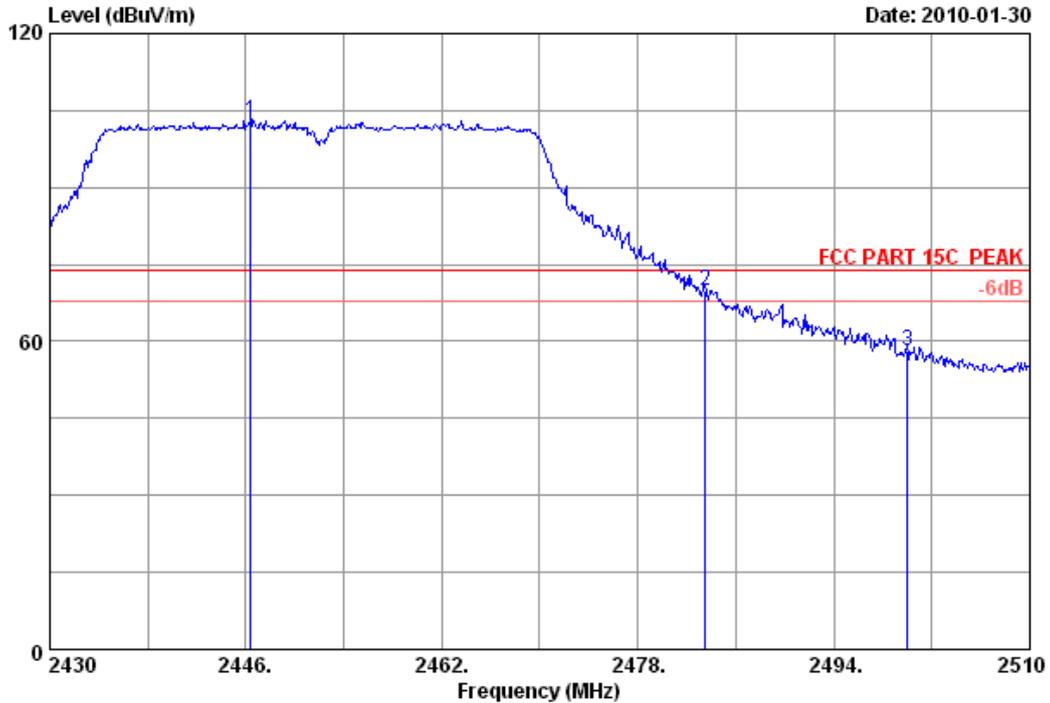
Remarks:

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



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Postcode:518057

Data: 31 File: E:\2010 report data\TTP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 31  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT40 CH7 2452MHz Tx  
 M/N : TL-WN781N

	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 2446.400	29.47	8.77	36.06	100.65	102.83	74.00	-28.83	Peak	
2 2483.500	29.49	8.87	35.97	67.30	69.69	74.00	4.31	Peak	
3 2500.000	29.50	8.92	36.00	55.87	58.29	74.00	15.71	Peak	

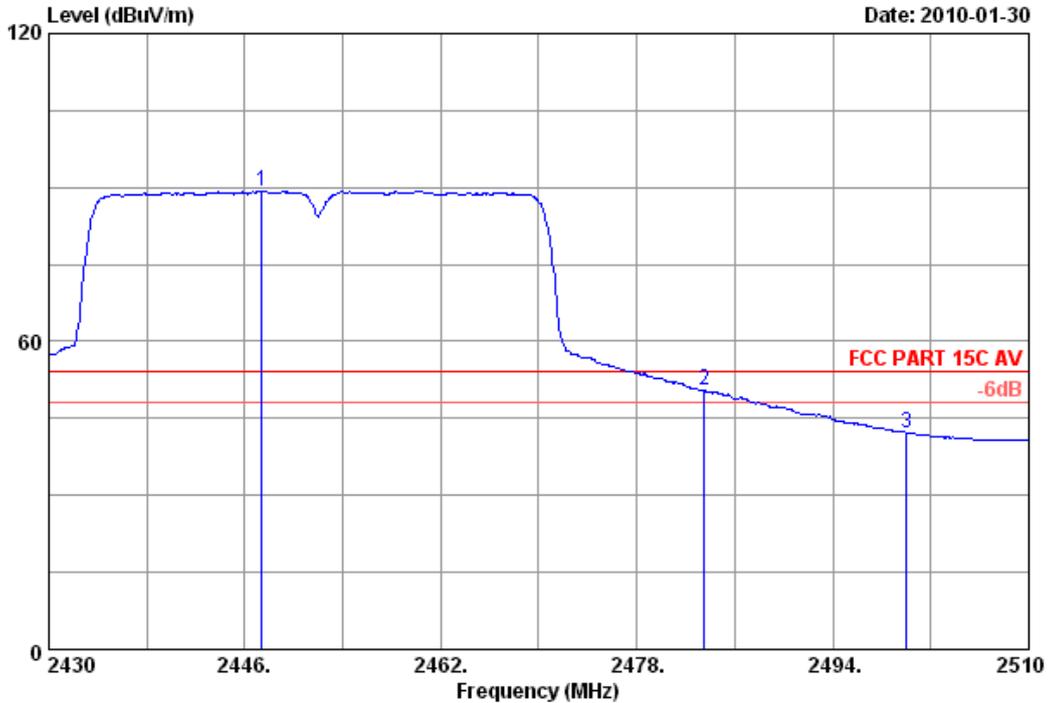
Remarks:

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



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Postcode:518057

Data: 32 File: E:\2010 report data\TTP-LINK\附件 ACS10Q174.EM6 (32)



Site no. : 3m Chamber Data no. : 32  
 Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Sunny-lu  
 EUT : 150Mbps Wireless Lite N PCI-E Adapter  
 Power : DC 3.3V From PC input AC 120V/60Hz  
 Test mode : IEEE802.11nHT40 CH7 2452MHz Tx  
 M/N : TL-WN781N

	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 2447.360	29.47	8.82	36.06	87.01	89.24	54.00	-35.24	Average
2 2483.500	29.49	8.87	35.97	47.97	50.36	54.00	3.64	Average
3 2500.000	29.50	8.92	36.00	39.85	42.27	54.00	11.73	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, 09	1 Year
2.	Attenuator	Agilent	8491B	MY39262165	May.08, 09	1 Year
3.	RF Cable	Hubersuhner	SUCOFLEX 102	28618/2	May.08, 09	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 100 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

Test Mode: IEEE 802.11b TX

CH	6dB Bandwidth (MHz)	Limit	Conclusion
1	12.069	>500	<b>PASS</b>
6	12.116	>500	<b>PASS</b>
11	12.518	>500	<b>PASS</b>

Test Mode: IEEE 802.11g TX

CH	6dB Bandwidth (MHz)	Limit	Conclusion
1	16.442	>500	<b>PASS</b>
6	16.448	>500	<b>PASS</b>
11	16.433	>500	<b>PASS</b>

Test Mode: IEEE 802.11n HT20 TX

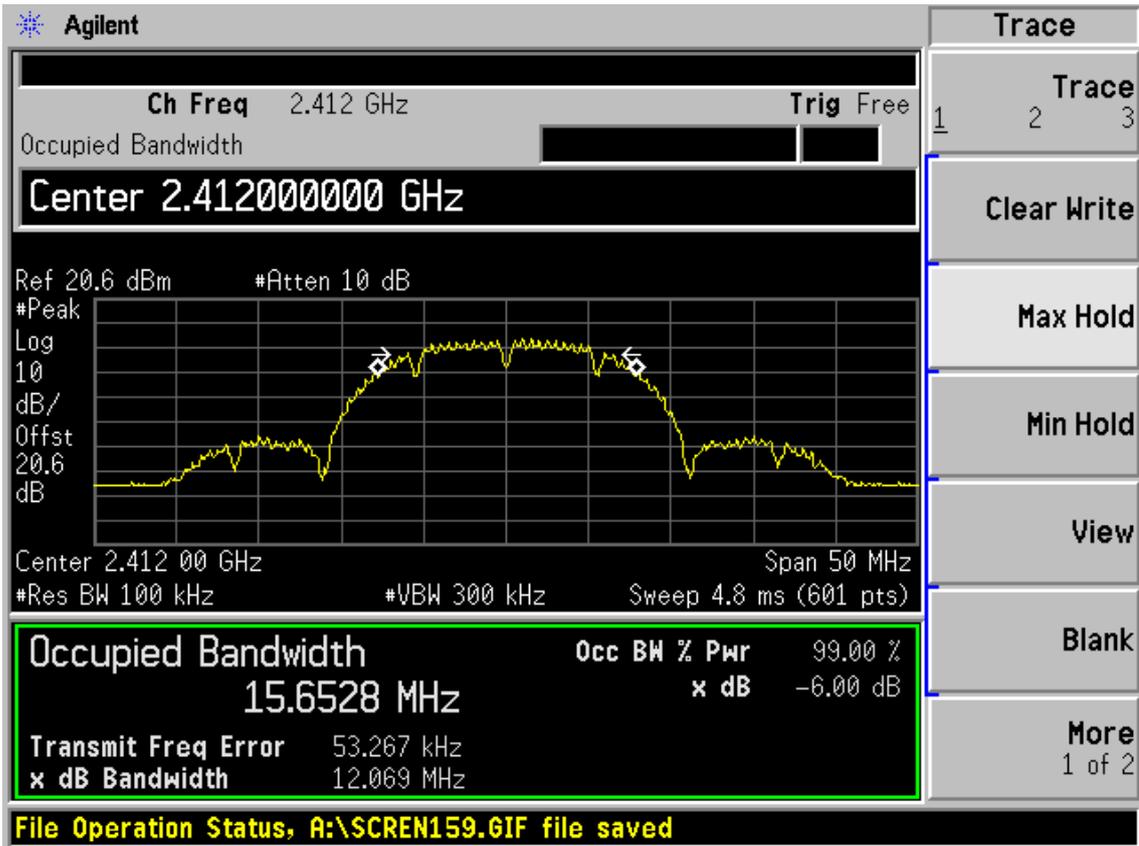
CH	6dB Bandwidth (MHz)	Limit	Conclusion
1	17.640	>500	<b>PASS</b>
6	17.656	>500	<b>PASS</b>
11	17.686	>500	<b>PASS</b>

Test Mode: IEEE 802.11n HT40 TX

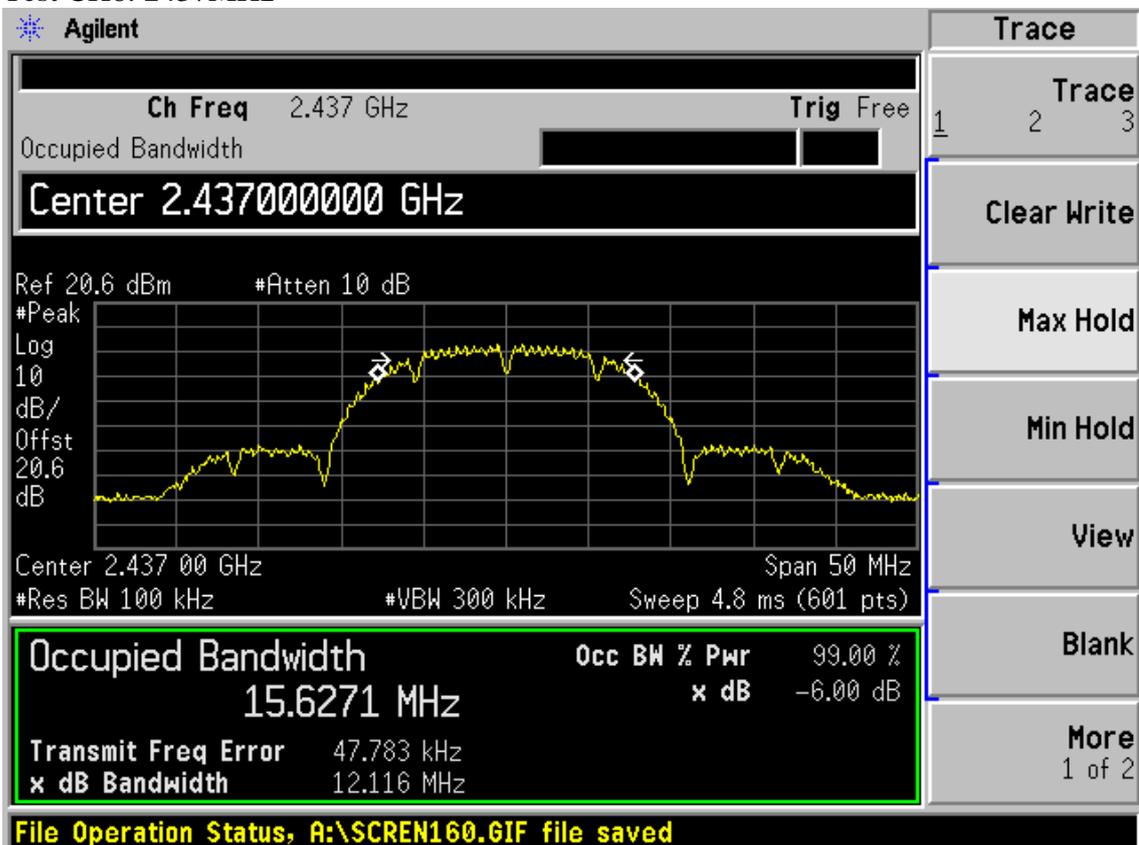
CH	6dB Bandwidth (MHz)	Limit	Conclusion
1	36.367	>500	<b>PASS</b>
4	36.156	>500	<b>PASS</b>
7	36.146	>500	<b>PASS</b>

Test Mode: IEEE 802.11b TX

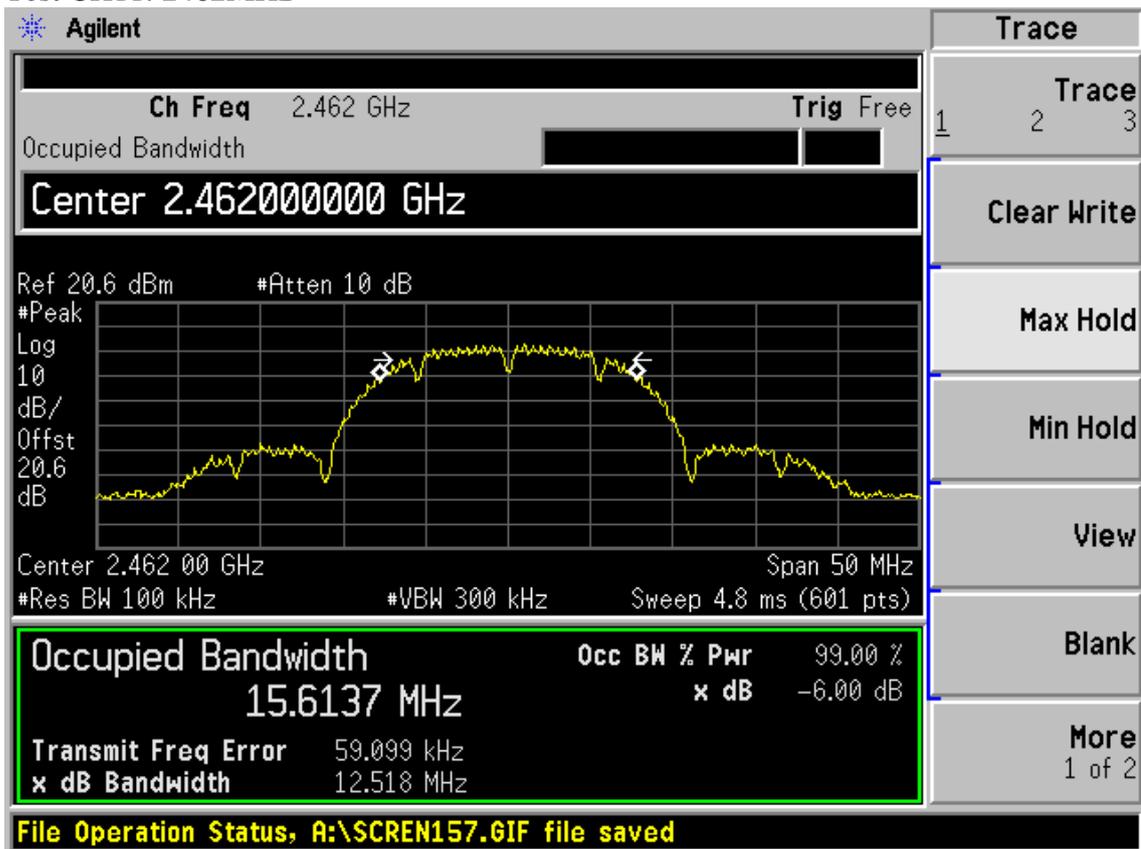
Test CH1: 2412MHz



Test CH6: 2437MHz

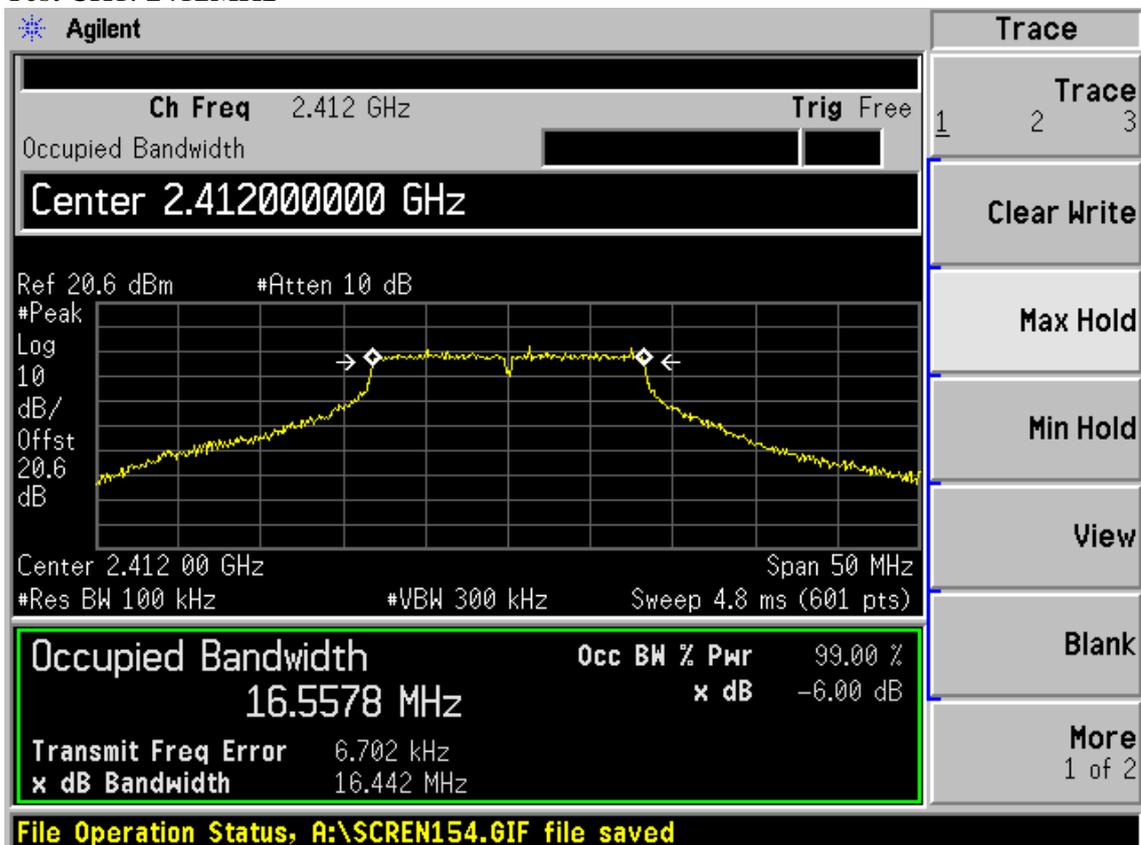


Test CH1: 2462MHz

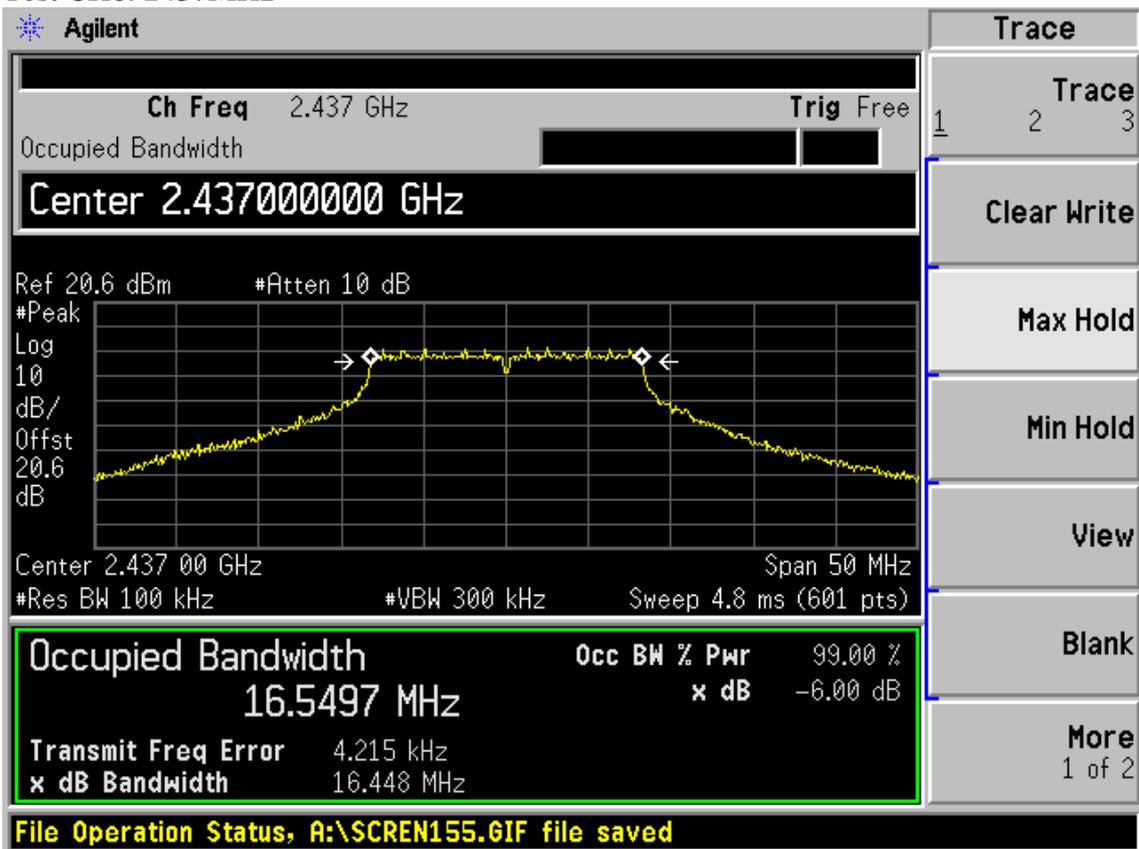


Test Mode: IEEE 802.11g TX

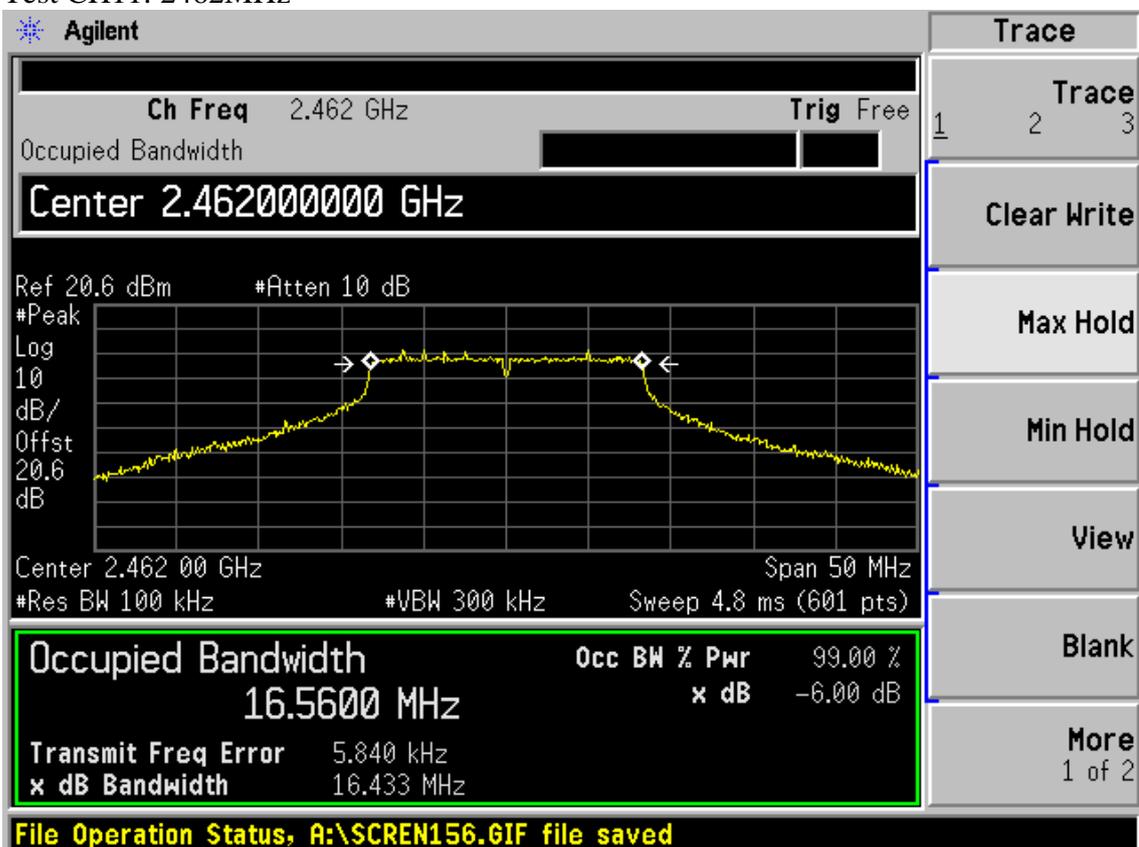
Test CH1: 2412MHz



Test CH6: 2437MHz

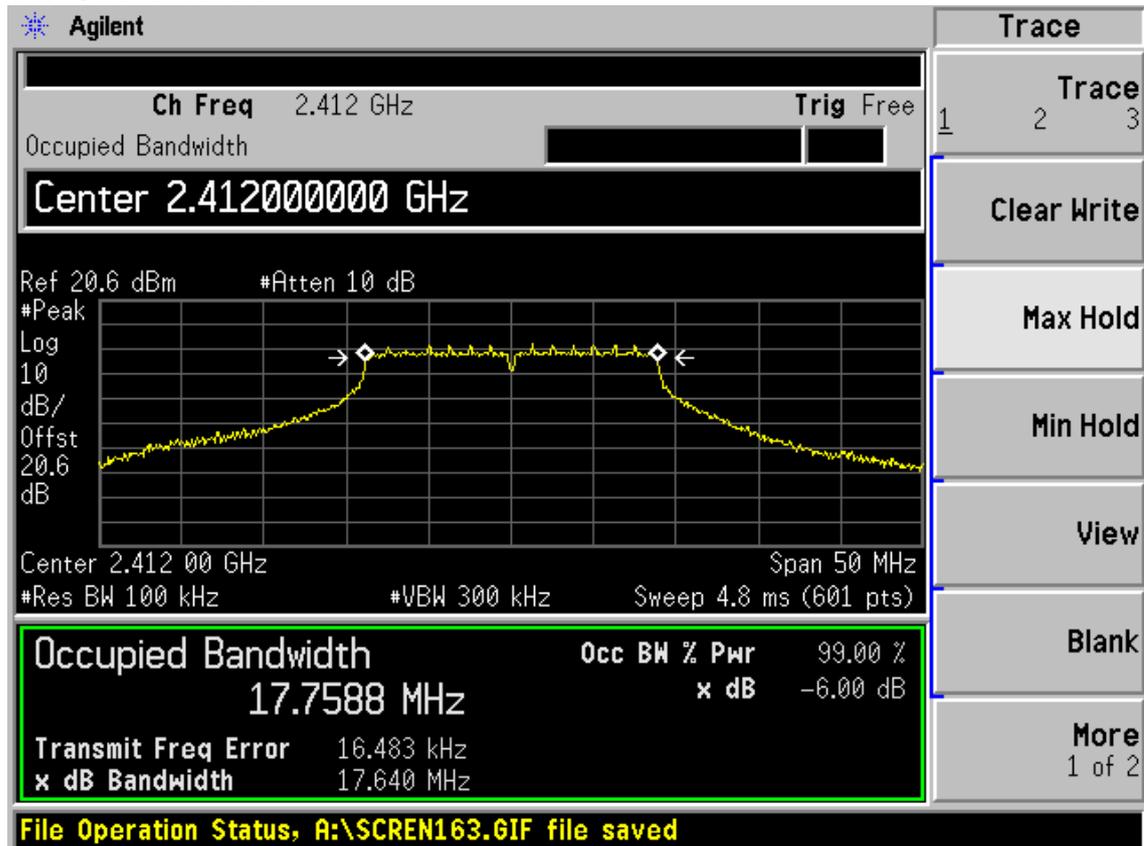


Test CH11: 2462MHz

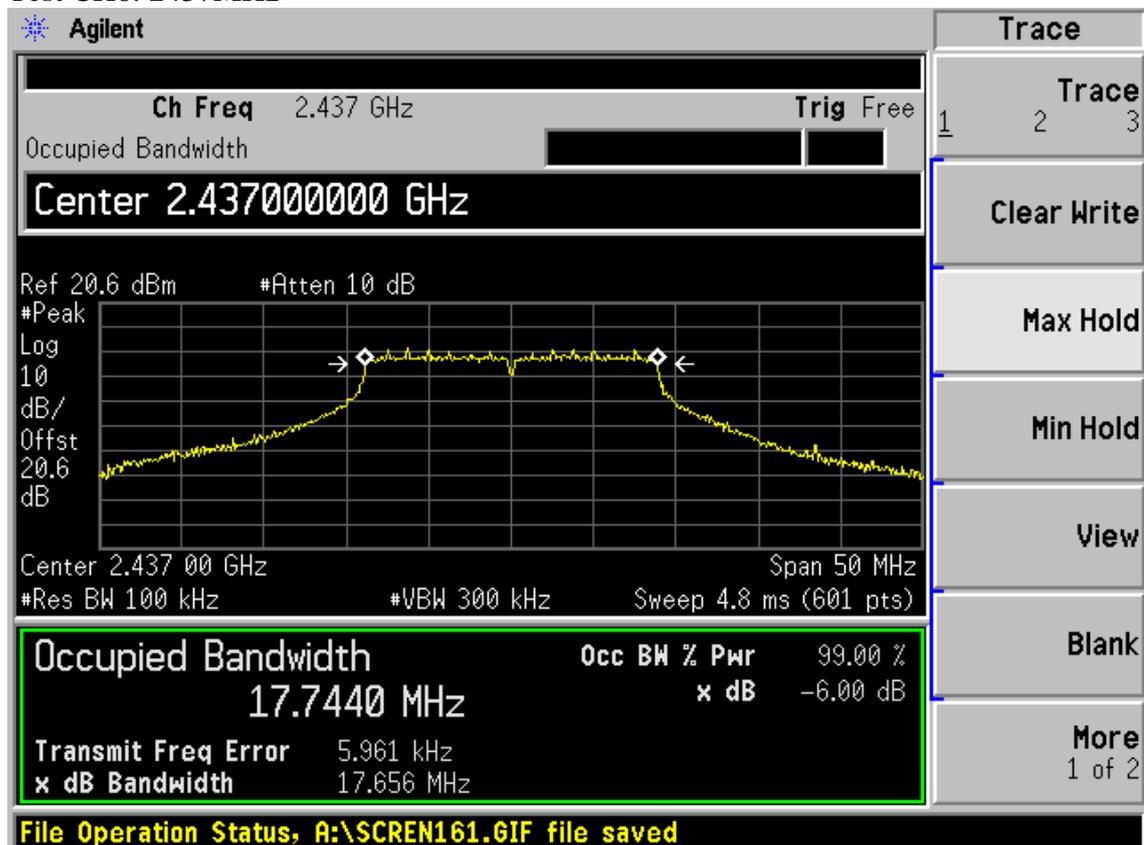


Test Mode: IEEE 802.11n HT20 TX

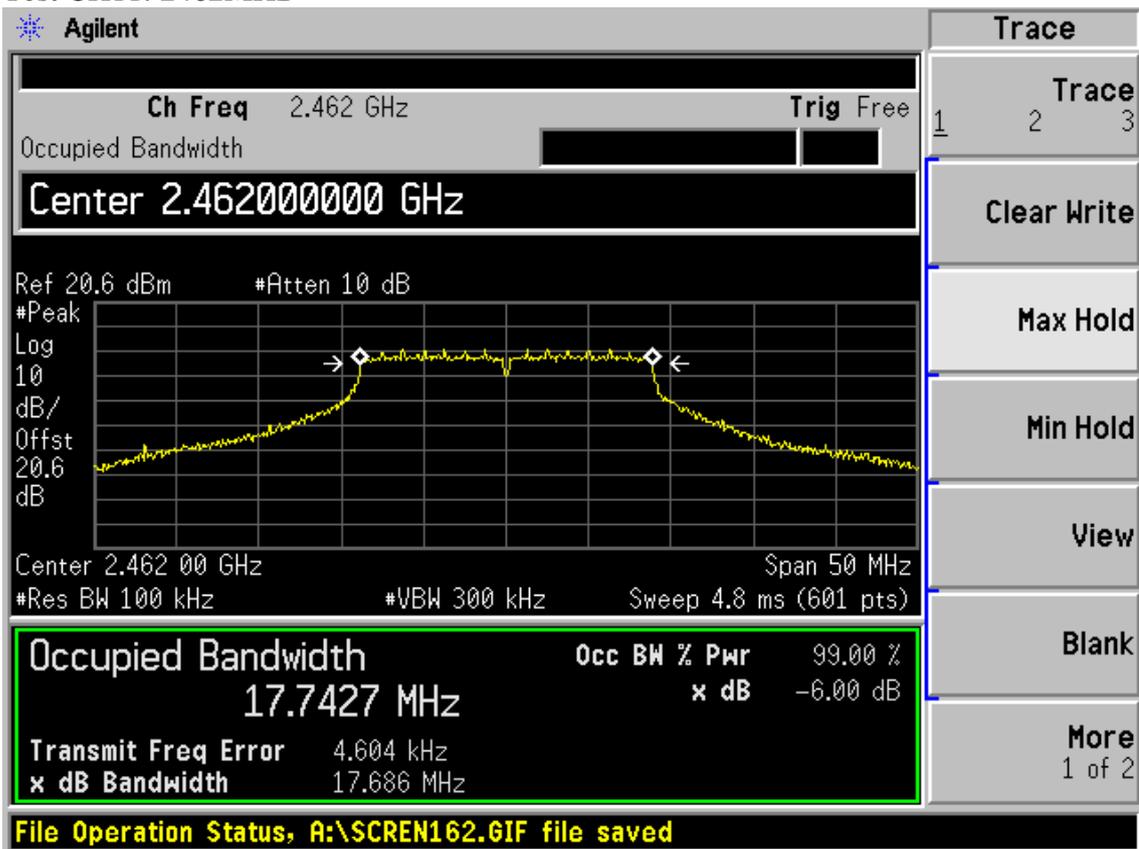
Test CH1: 2412MHz



Test CH6: 2437MHz

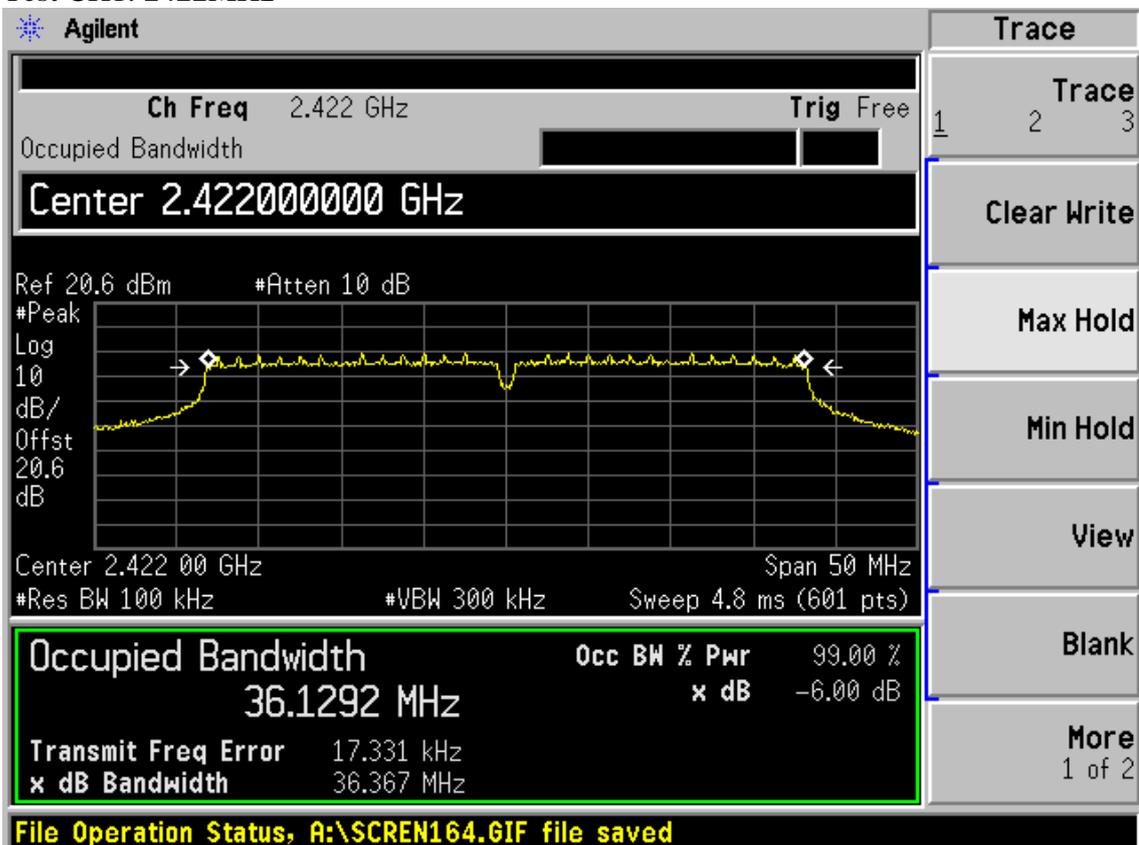


Test CH1: 2462MHz

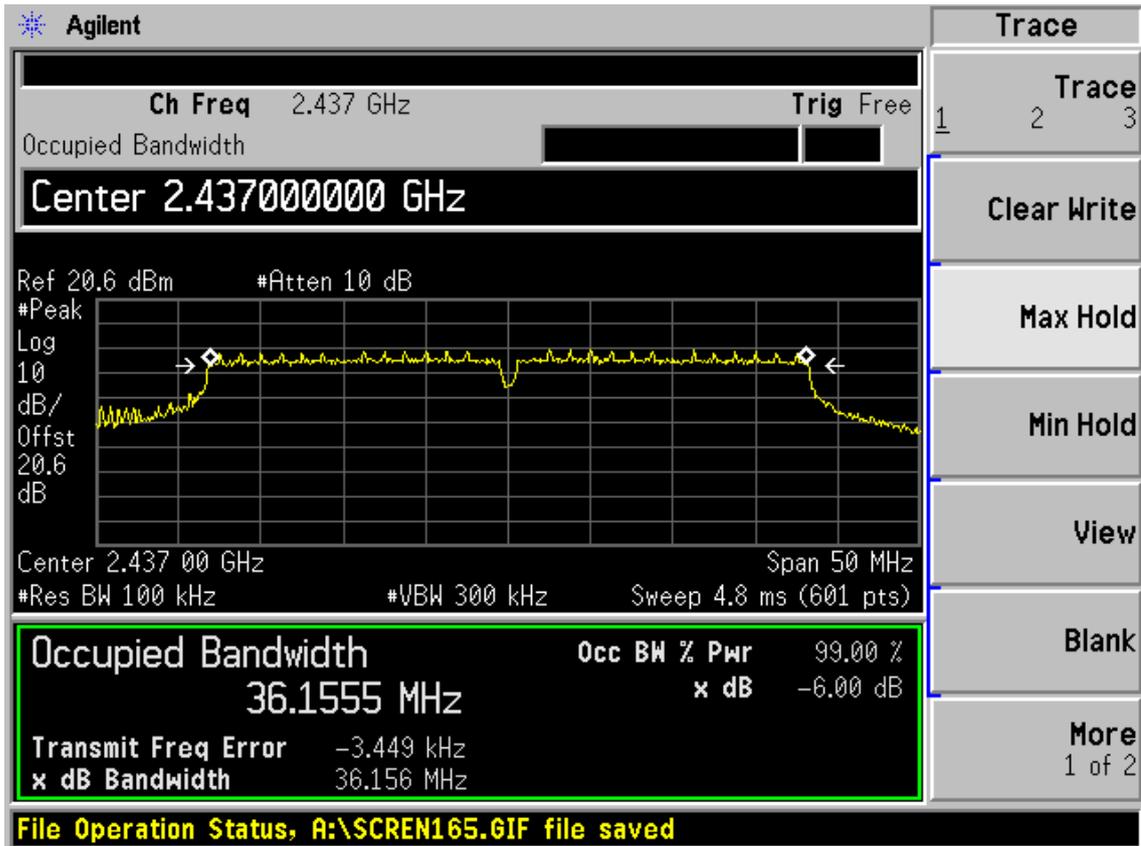


Test Mode: IEEE 802.11n HT40 TX

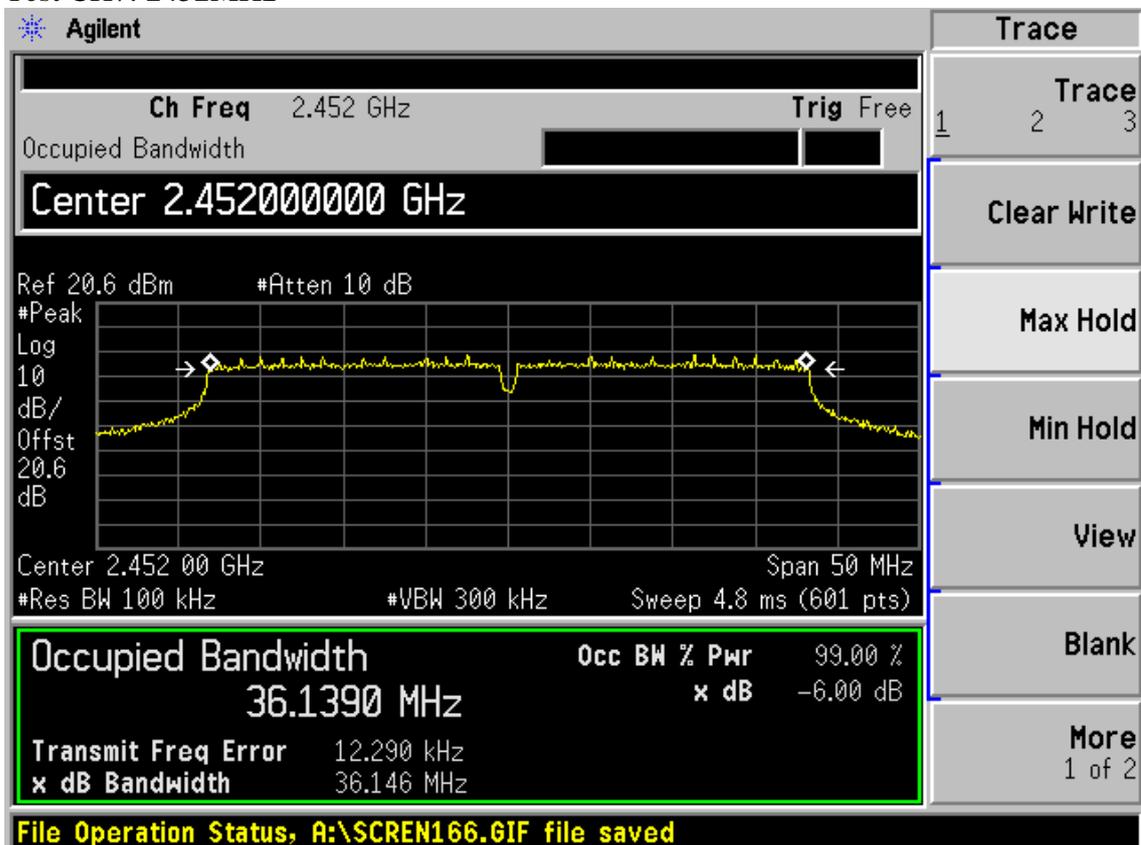
Test CH1: 2422MHz



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 Analyzer	Agilent	E4446A	US44300459	May.08, 09	1 Year
2	Power meter	Anritsu	ML2487A	6K00002472	Oct.20.09	1Year
3	Power sensor	Anritsu	MA2491A	0033005	Oct.20.09	1Year
4	Attenuator	Agilent	8491B	MY39262165	May.08, 09	1 Year
5	RF Cable	Hubersuhner	SUCOFLEX 102	28618/2	May.08, 09	1Year

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

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

### 8.3. Test Procedure

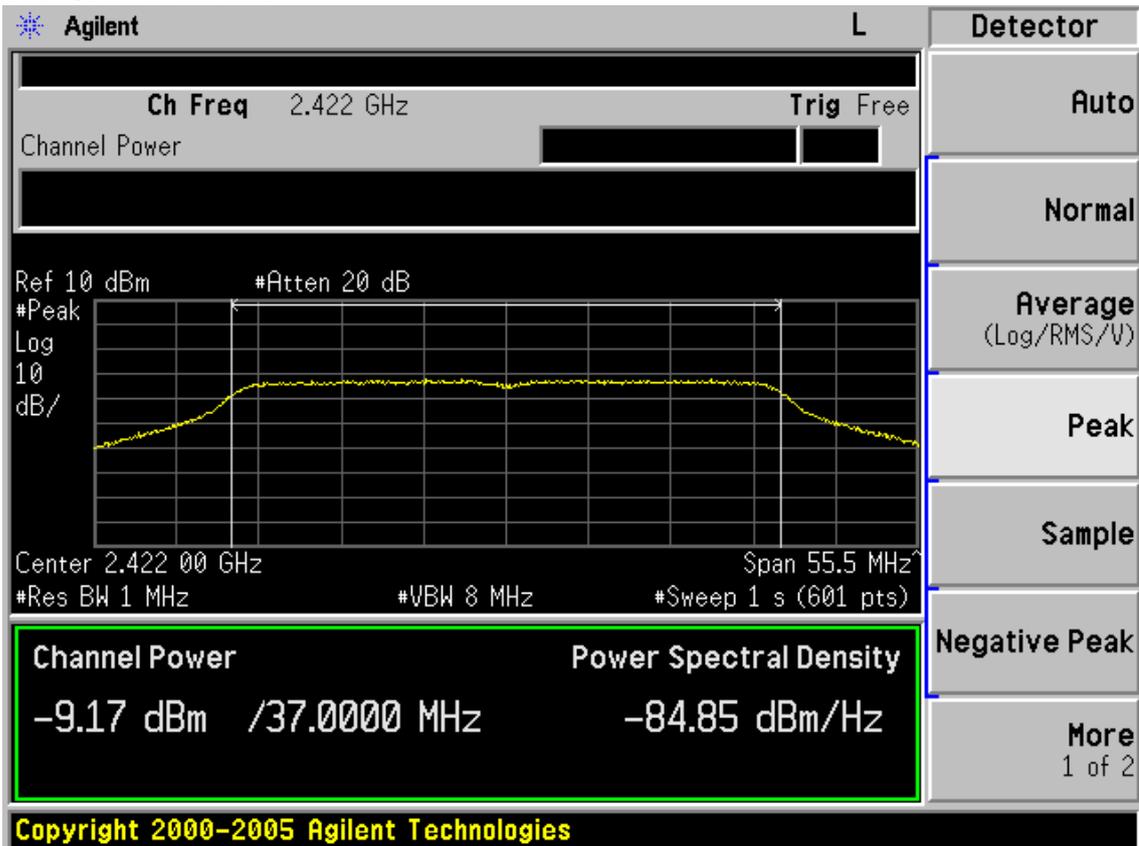
- 1, For IEEE 802.11b/g and IEEE802.11n HT20 mode, use power output option 1 method of KDB 558074, the transmitter output was connection to a power meter by suitable attenuation, read out the peak output power of device.
- 2, For IEEE802.11n HT40 mode, because the signal's EBW is about 40MHz and above 20MHz bandwidth of power sensor ML2491A. So the channel power measure function of spectrum Analyzer was used to measure out the PK output power of device. According power output option 2, method #3 of KDB558074.

## 8.4. Test Results

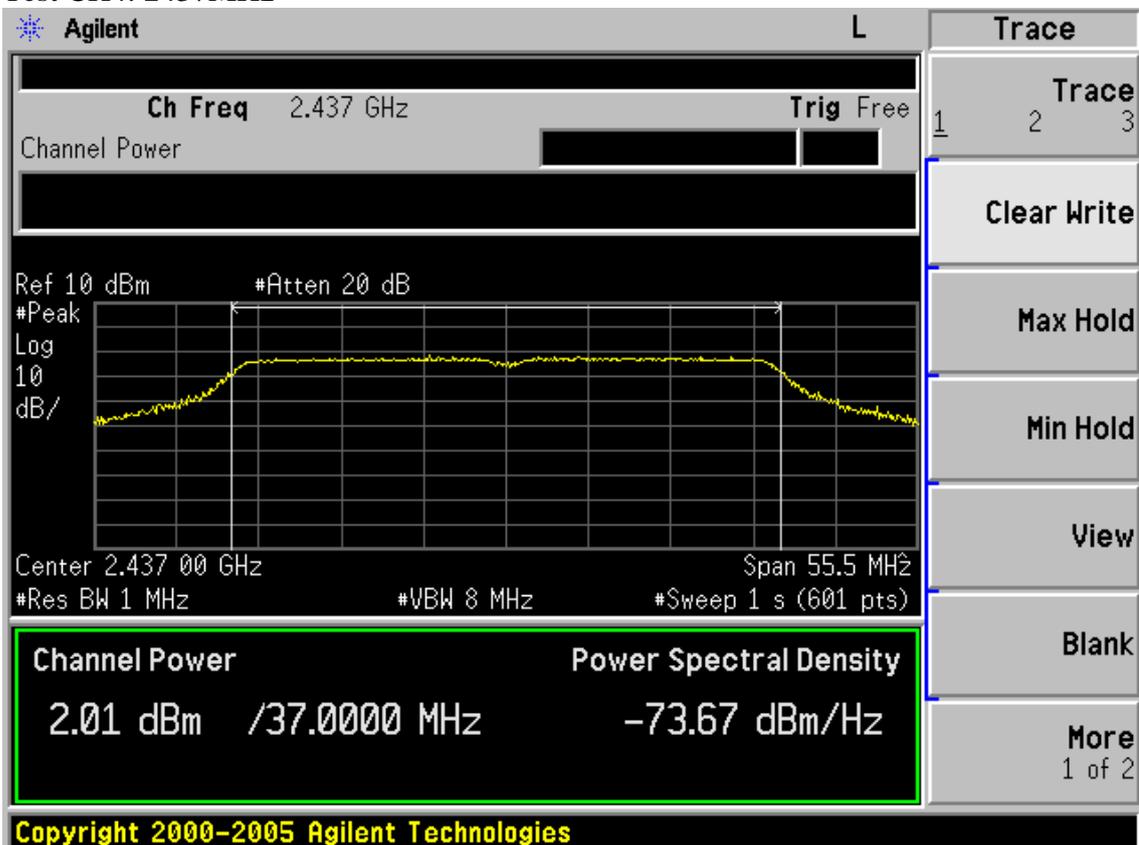
EUT: 150Mbps Wireless Lite N PCI-E Adapter M/N: TL-WN781N							
Power: DC 3.3V From PC input AC 120V/60Hz							
Data Rate:11b : 1Mbps ; 11g : 6Mbps ; 11n HT20:6.5Mbps ; 11n HT40:13.5Mbps							
Ambient Temperature:23°C				Relative Humidity: 60%			
Attenuator : 20 dB Cable loss : 0.6 dB							
Duty cycle=100% Duty factor=10log ( 1/duty cycle ) =0							
Test date: 2010-01-29				Test site: RF site		Tested by: Sunny-lu	
Test CH	11b 11g 11n HT20		CH1 2412MHz CH6 2437MHz		CH11 2462MHz		
Test CH	11n HT40		CH1 2422MHz CH4 2437MHz		CH7 2452MHz		
Mode	CH	Peak Read (dBm)	Attenuator (dB)	Cable loss (dB)	Result (dBm)	Limit (dBm)	Conclusion
11b	CH1	-2.99	20.0	0.6	17.61	30.0	PASS
	CH6	-0.48	20.0	0.6	20.12	30.0	PASS
	CH11	-0.45	20.0	0.6	20.15	30.0	PASS
11g	CH1	-3.67	20.0	0.6	16.93	30.0	PASS
	CH6	3.54	20.0	0.6	24.14	30.0	PASS
	CH11	-3.71	20.0	0.6	16.89	30.0	PASS
11n HT20	CH1	-4.54	20.0	0.6	16.06	30.0	PASS
	CH6	4.72	20.0	0.6	25.32	30.0	PASS
	CH11	-4.94	20.0	0.6	15.66	30.0	PASS
11n HT40	CH1	-9.17	20.0	0.6	11.43	30.0	PASS
	CH4	2.01	20.0	0.6	22.61	30.0	PASS
	CH7	-8.95	20.0	0.6	11.65	30.0	PASS
Note1 : Result=Peak read +cable loss +Attenuator							

Test Mode: IEEE 802.11n HT40 TX

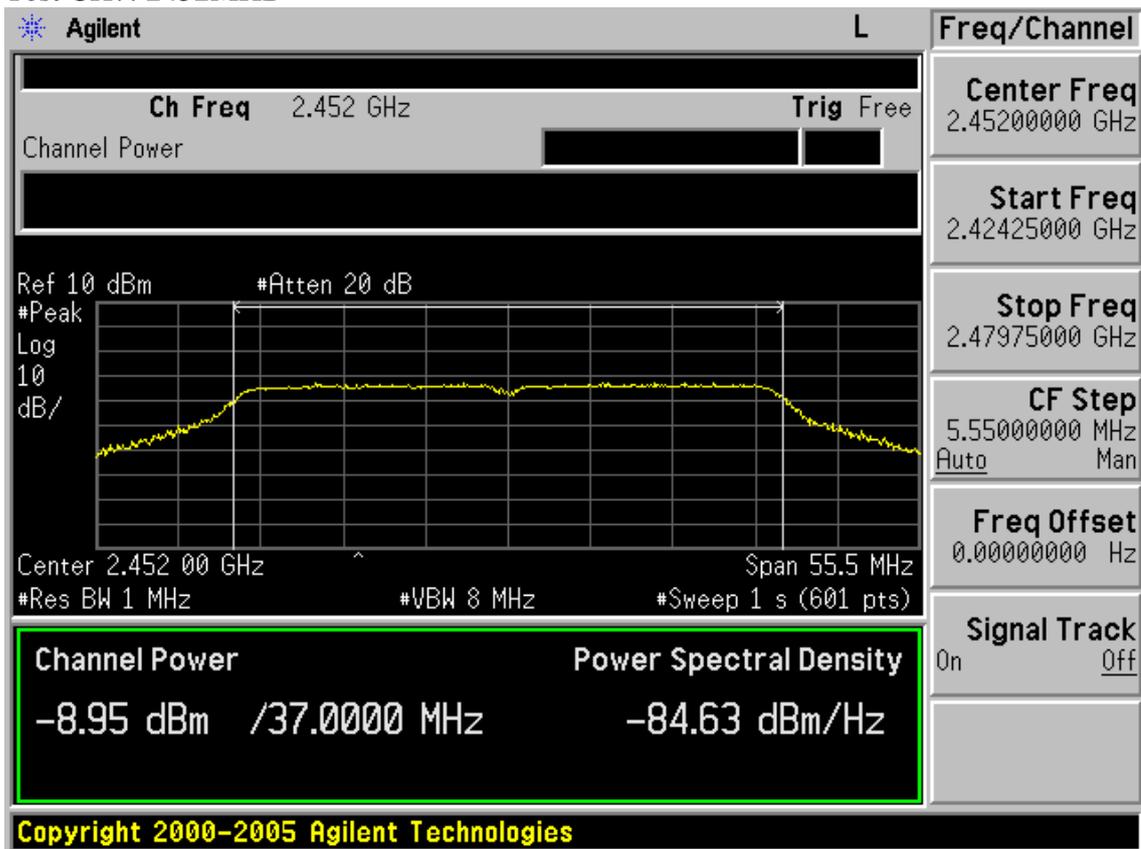
Test CH1: 2422MHz



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.	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08, 09	1 Year
2.	Attenuator	Agilent	8491B	MY39262165	May.08, 09	1 Year
3.	RF Cable	Hubersuhner	SUCOFLEX 102	28618/2	May.08, 09	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

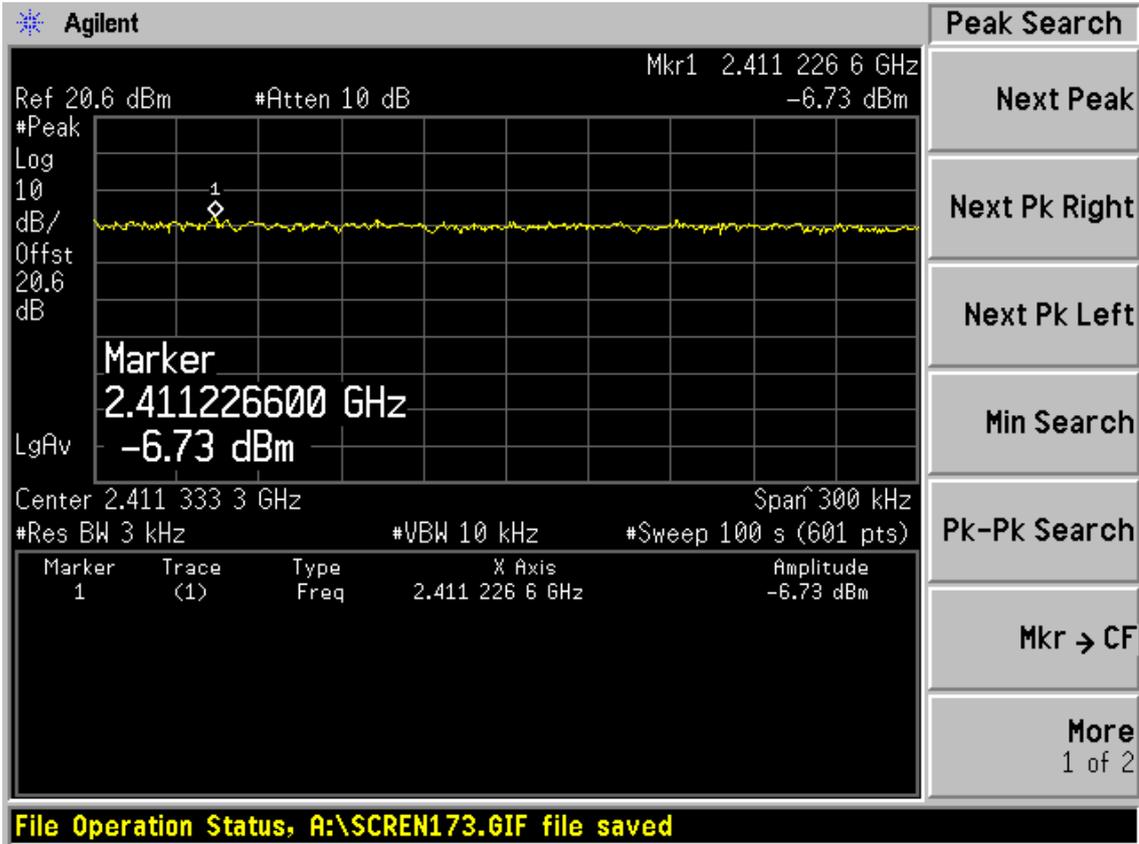
The transmitter output was connected to a spectrum analyzer. Power density was measured by spectrum analyzer with 3kHz RBW and 30kHz VBW, sweep time=span/3kHz according PSD option 1 of KDB 558074.

## 9.4.Test Results

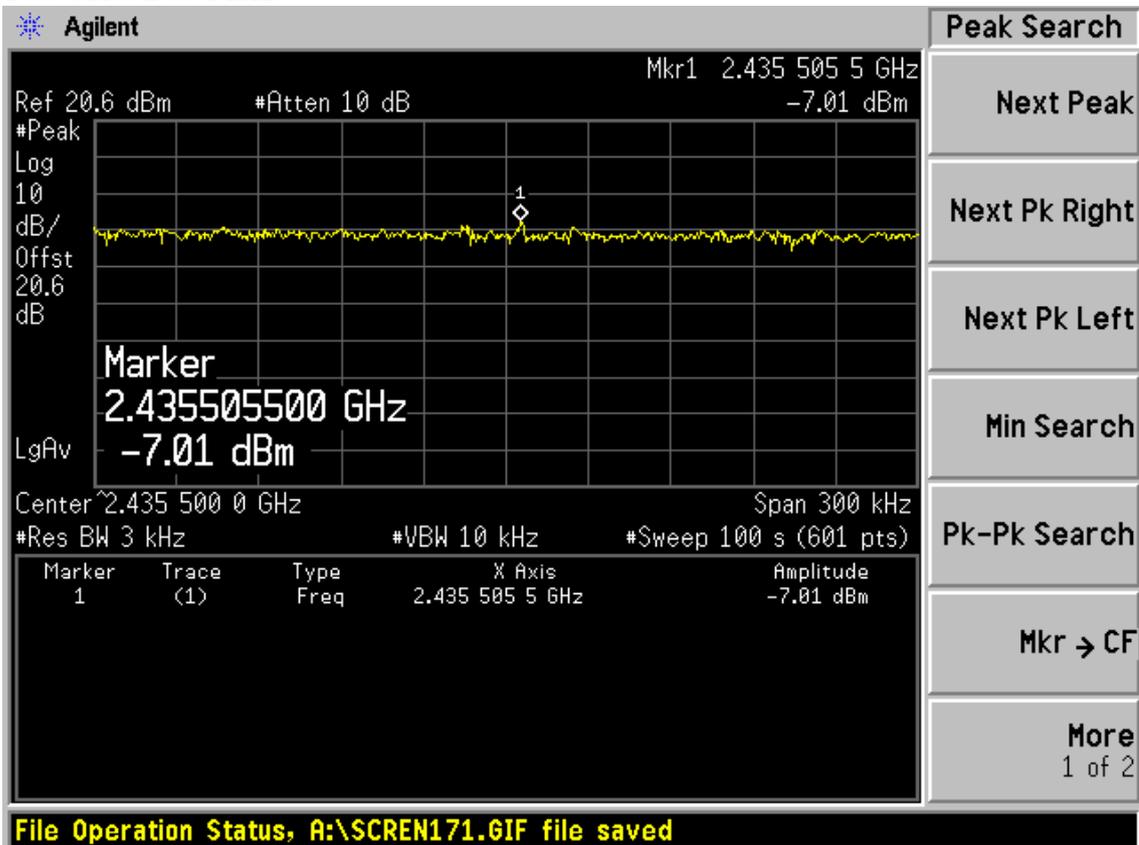
EUT: 150Mbps Wireless Lite N PCI-E Adapter M/N: TL-WN781N				
Power: DC 3.3V From PC input AC 120V/60Hz				
Data Rate:11b: 1Mbps ; 11g : 6Mbps 11n HT20:6.5Mbps 11n HT40: 13.5Mbps (Note 1)				
Ambient Temperature:23℃		Relative Humidity: 60%		
Test date:2010/01/29		Test site: RF site		Tested By: Sunny-lu
Test CH	11b 11g 11n HT20	CH1:2412MHz CH6:2437MHz CH11:2462MHz		
Test CH	11n HT40	CH1:2422MHz CH4:2437MHz CH7:2452MHz		
Mode	CH	Result (dBm)	Limit (dBm)	Conclusion
11b	CH1	-6.73	8.00	<b>Pass</b>
	CH6	-7.01	8.00	<b>Pass</b>
	CH11	-6.93	8.00	<b>Pass</b>
11g	CH1	-11.24	8.00	<b>Pass</b>
	CH6	-7.94	8.00	<b>Pass</b>
	CH11	-8.17	8.00	<b>Pass</b>
11n HT20	CH1	-11.04	8.00	<b>Pass</b>
	CH6	-9.04	8.00	<b>Pass</b>
	CH11	-14.12	8.00	<b>Pass</b>
11n HT40	CH1	-18.09	8.00	<b>Pass</b>
	CH4	-12.10	8.00	<b>Pass</b>
	CH7	-18.02	8.00	<b>Pass</b>
Note1:According Exploratory test, These data rate have the maximum output power				
Note2: Cable loss and Attenuator were input to the Spectrum Analyzer as amplitude offset				

Test Mode: IEEE 802.11b TX

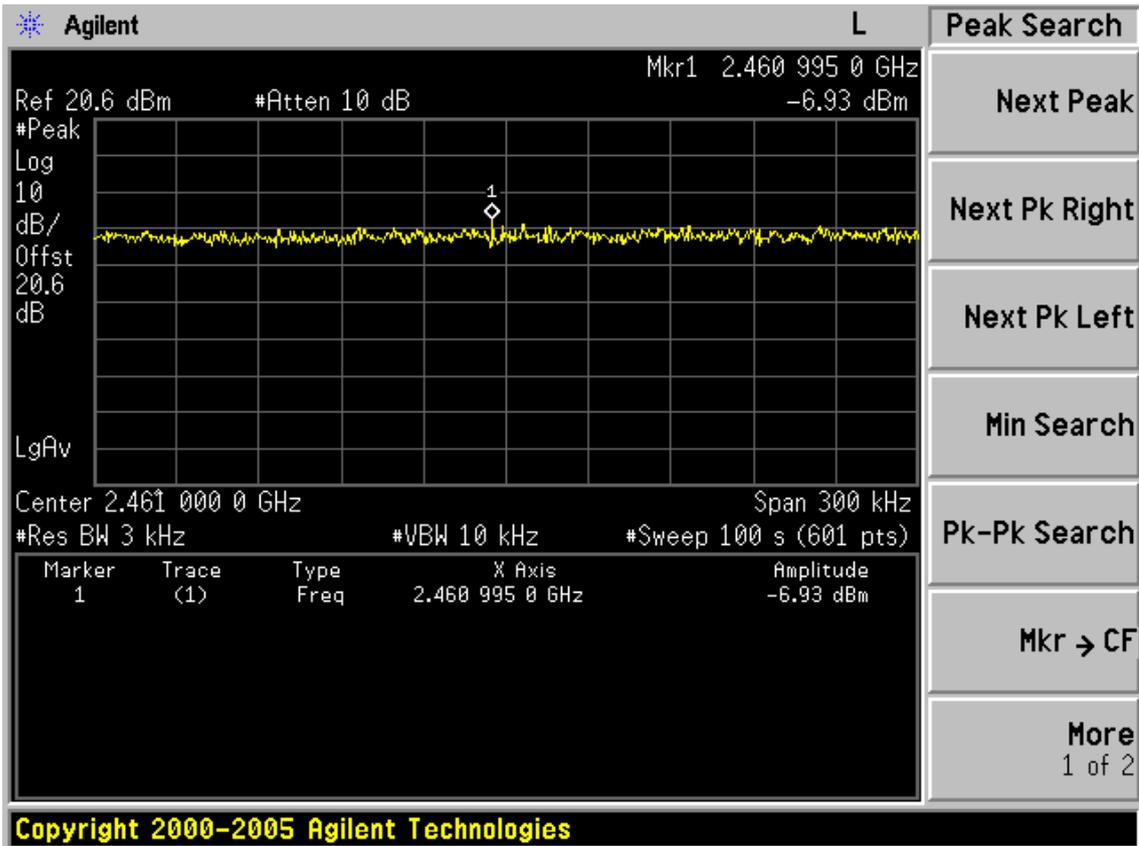
Test CH1: 2412MHz



Test CH6: 2437MHz

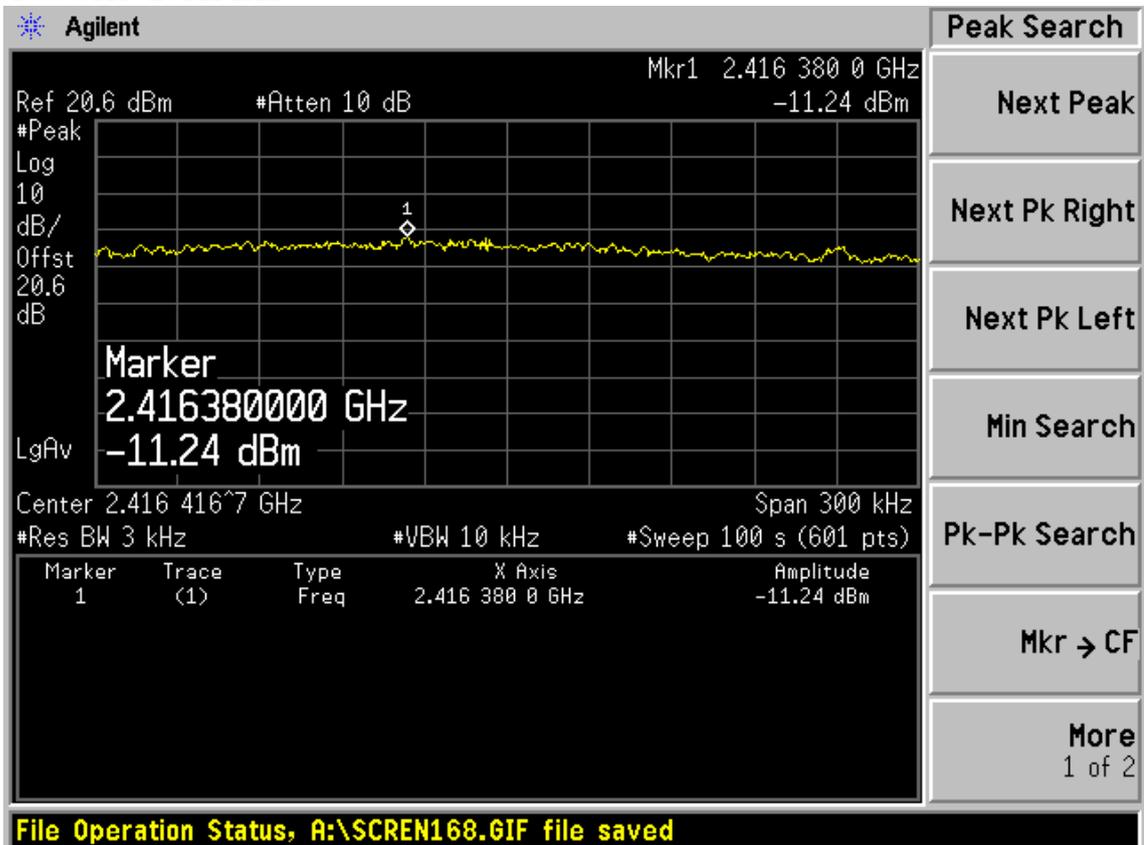


Test CH1: 2462MHz

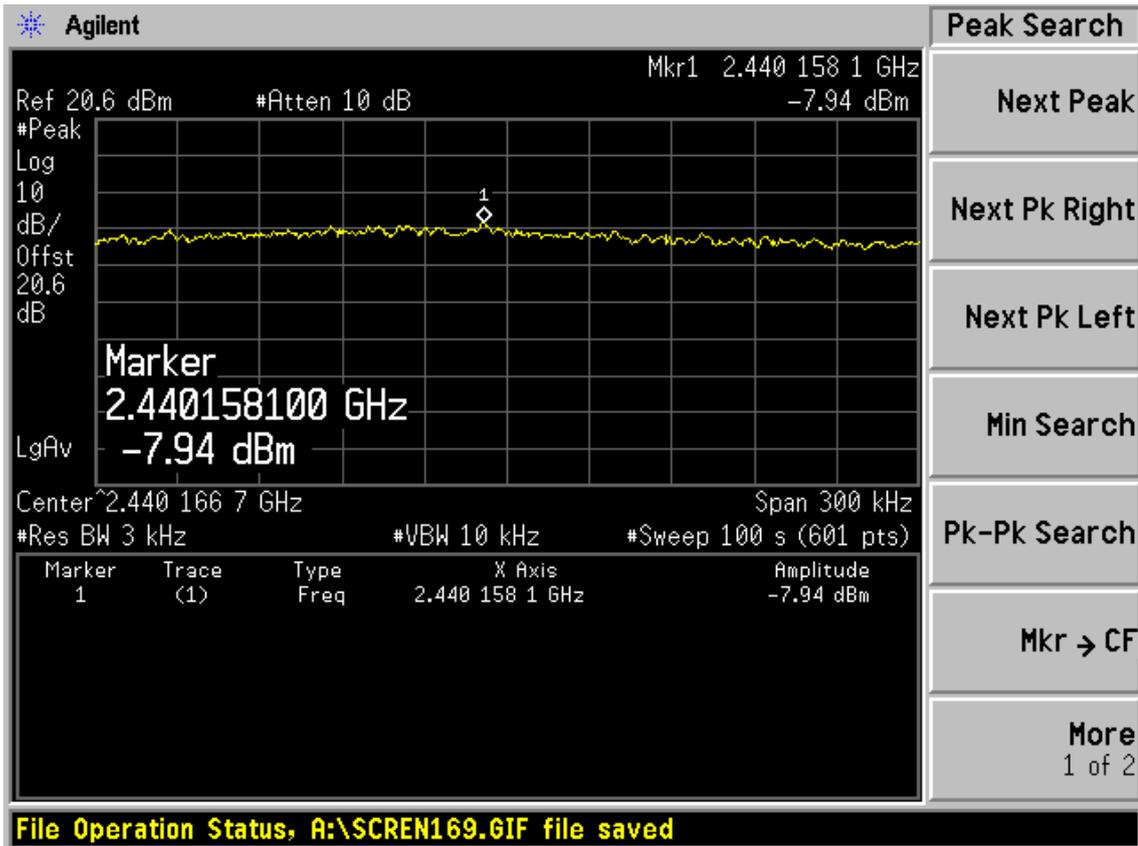


Test Mode: IEEE 802.11g TX

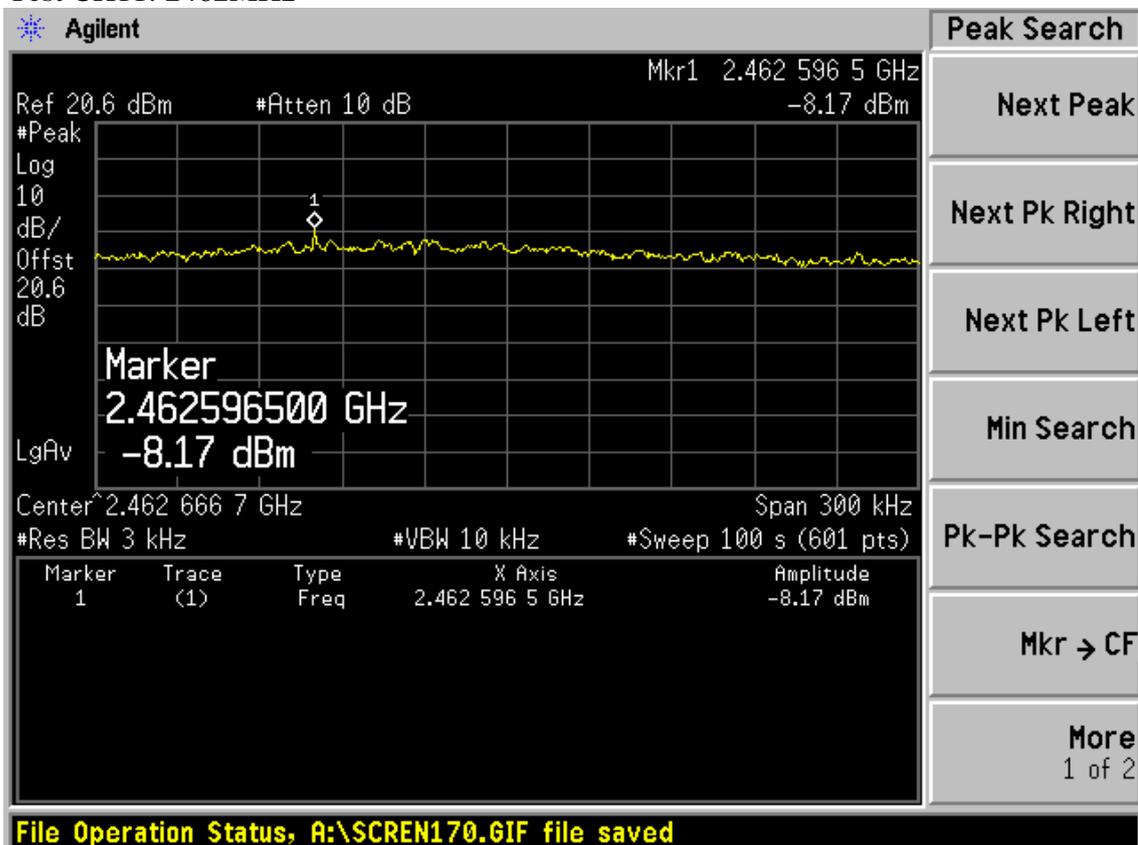
Test CH1: 2412MHz



Test CH6: 2437MHz

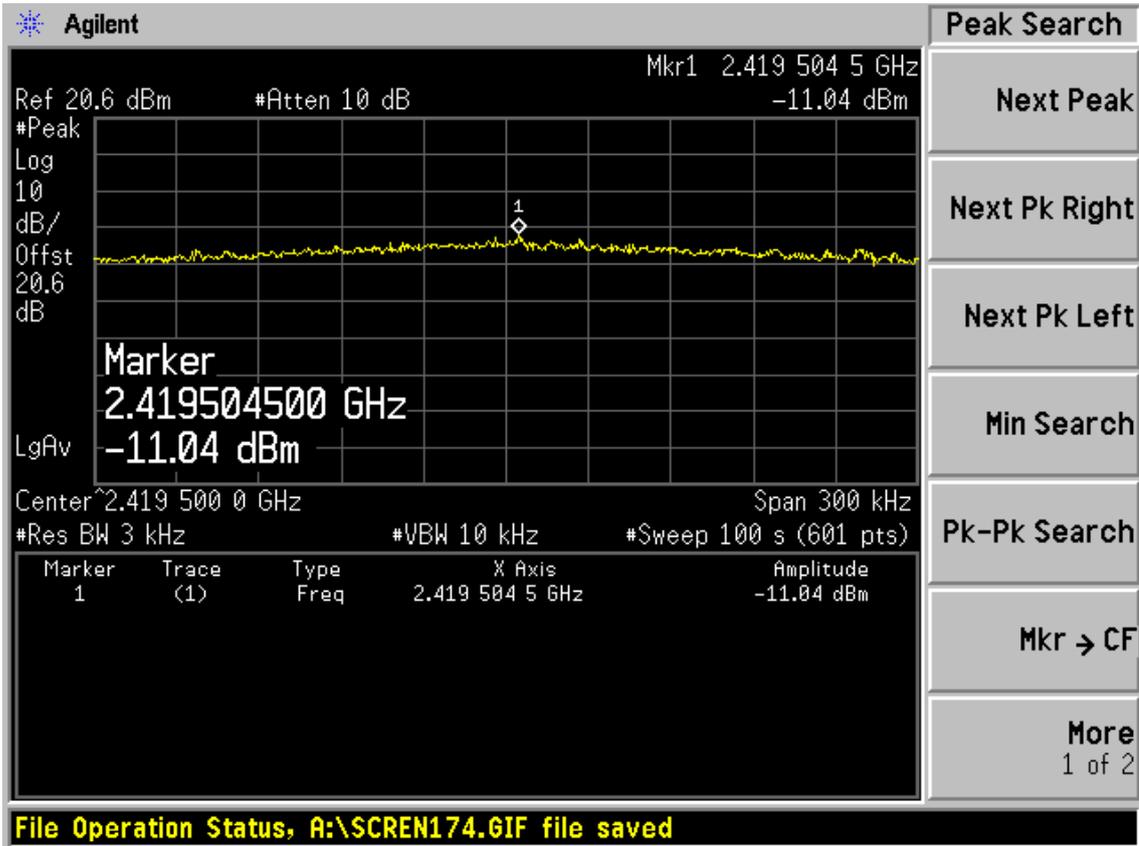


Test CH11: 2462MHz

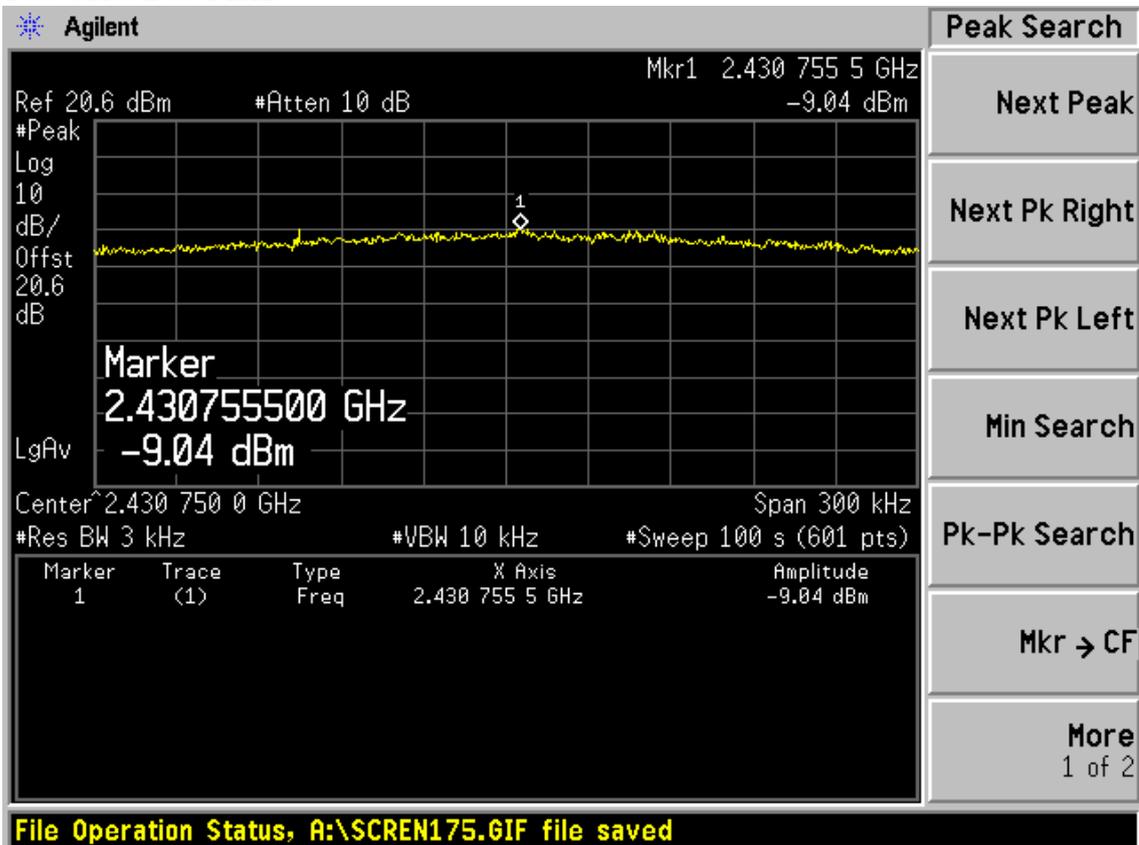


Test Mode: IEEE 802.11n HT20 TX

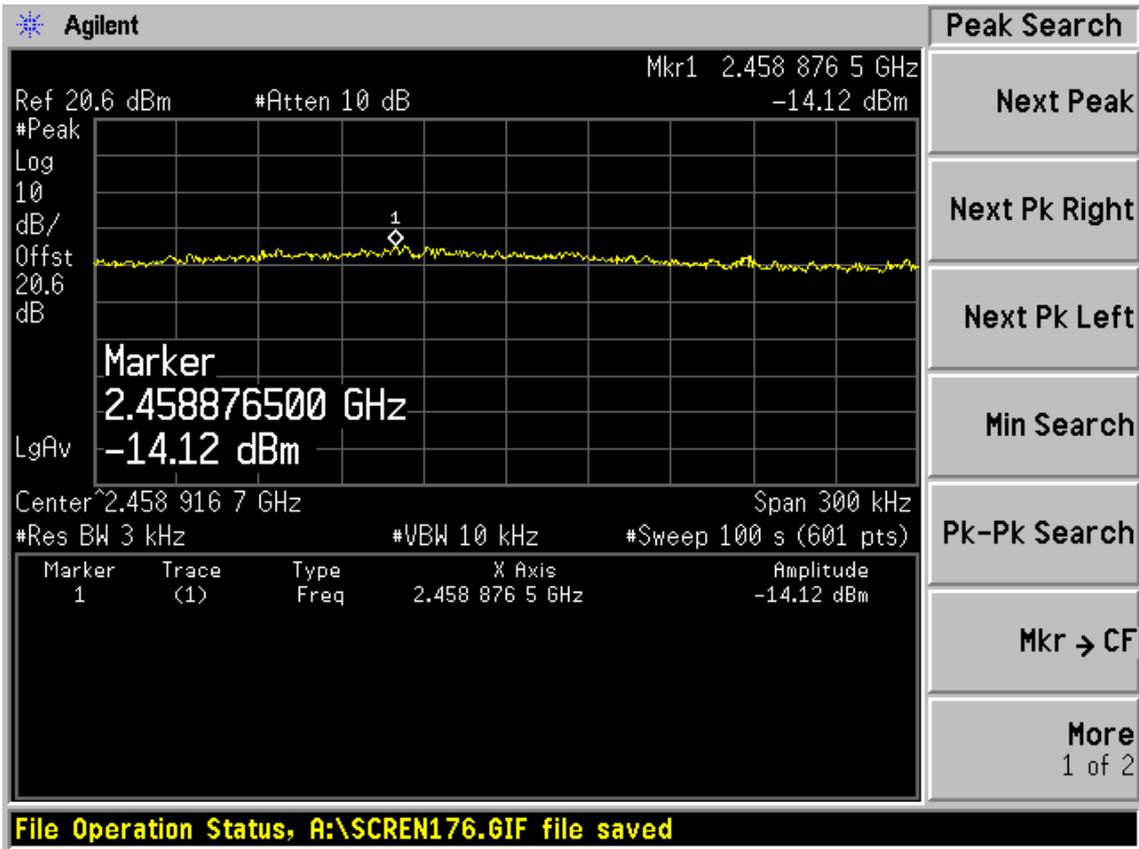
Test CH1: 2412MHz



Test CH6: 2437MHz

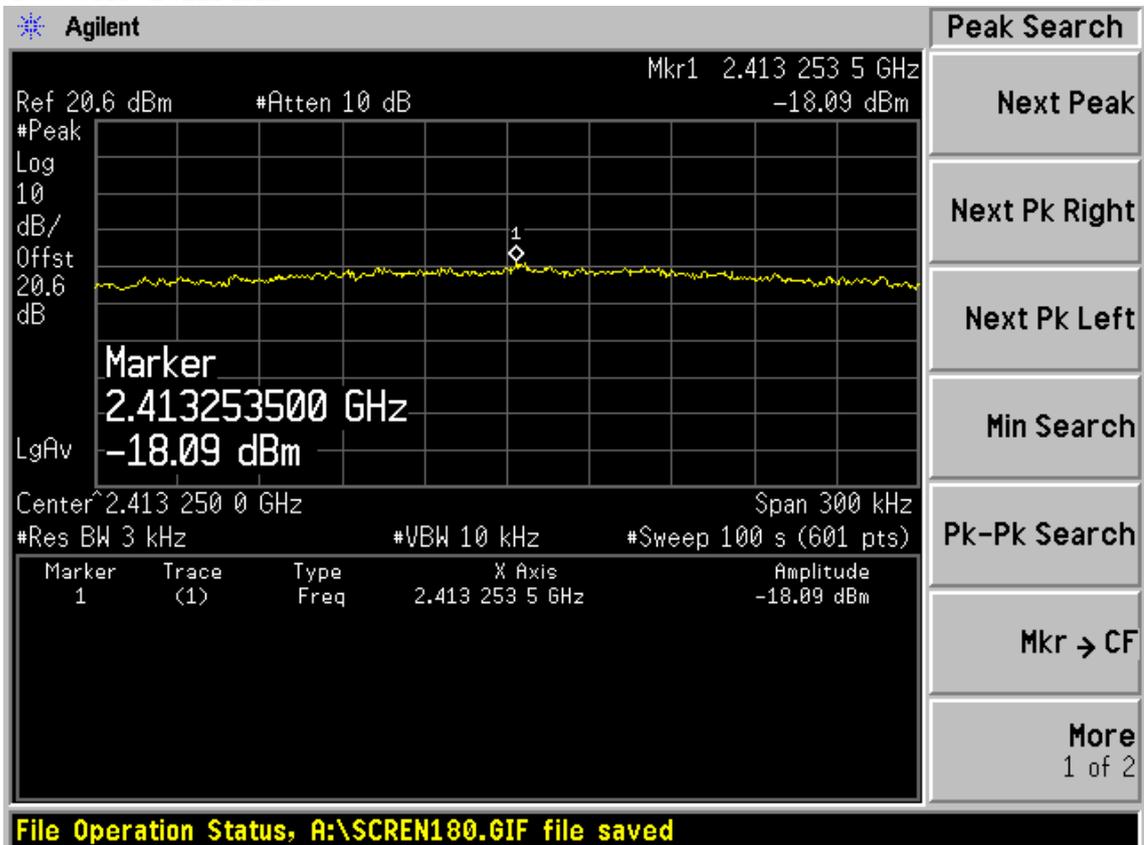


Test CH1: 2462MHz

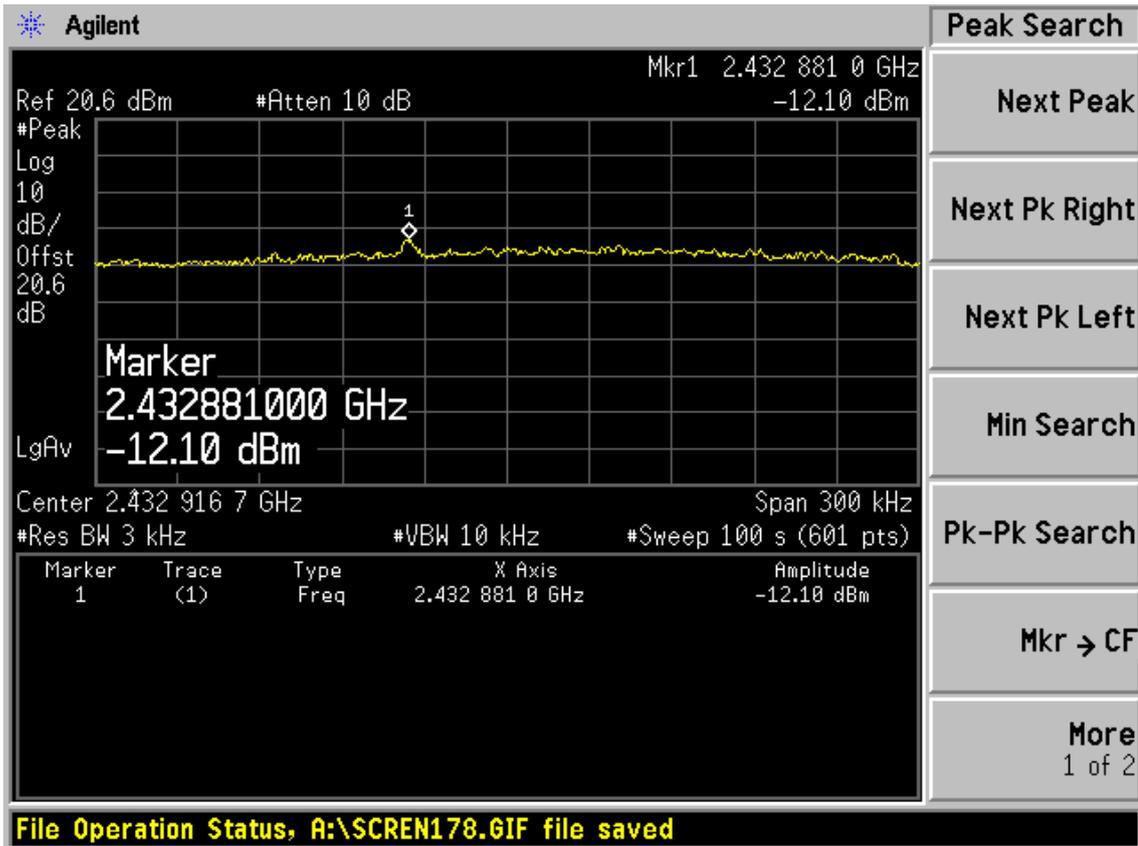


Test Mode: IEEE 802.11n HT40 TX

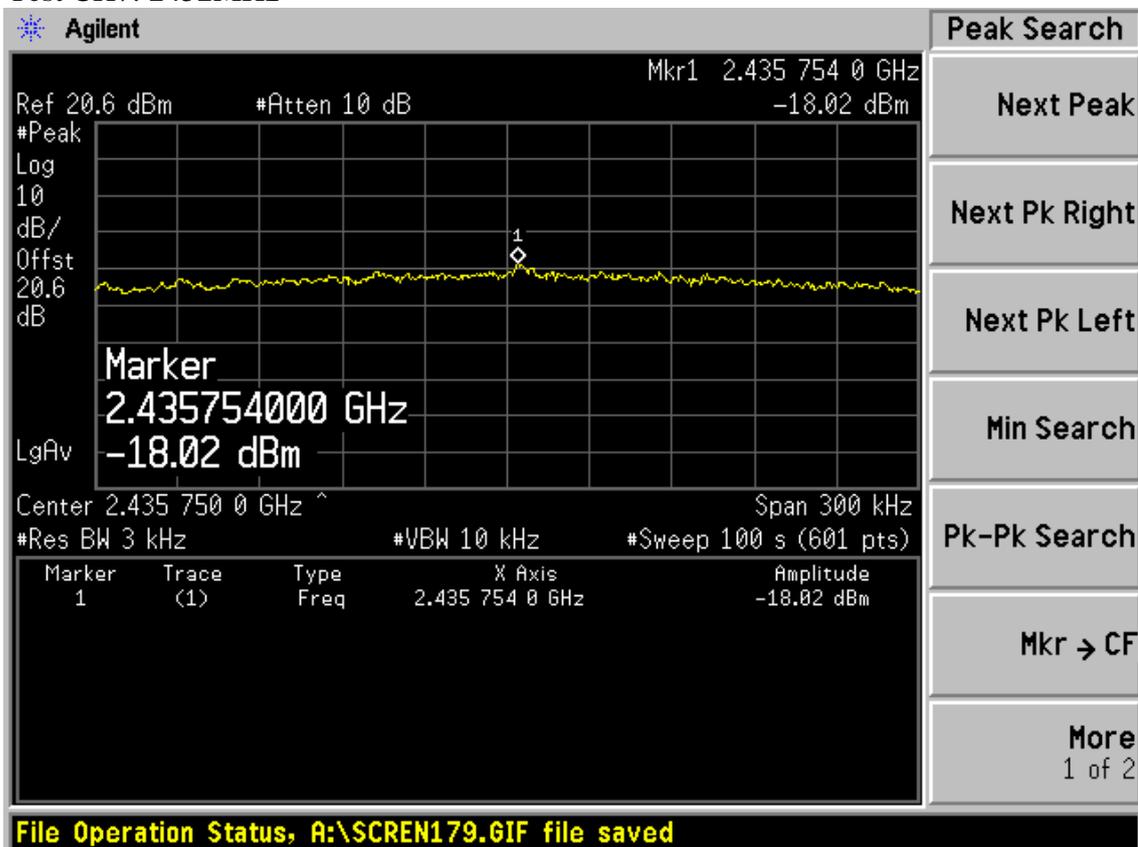
Test CH1: 2422MHz



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 is dipole antenna with SMA-B connector and 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 only 2dBi.

## 11.MPE ESTIMATION

### 11.1.Limit for General Population/ Uncontrolled Exposures

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

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

Note: F= Frequency in MHz

### 11.2.Estimation Result

Mode	CH	Frequency (MHz)	PK Output power (dBm)	Output power (mW)	Antenna Gain (dBi)	Antenna Gain(linear)	MPE (mW/ cm <sup>2</sup> )
11b	1	2412	17.61	57.68	2	1.58	0.0182
	6	2437	20.12	102.80	2	1.58	0.0324
	11	2462	20.15	103.51	2	1.58	0.0327
11g	1	2412	16.93	49.32	2	1.58	0.0156
	6	2437	24.14	259.42	2	1.58	0.0818
	11	2462	16.89	48.87	2	1.58	0.0154
11n HT20	1	2412	16.06	40.36	2	1.58	0.0127
	6	2437	25.32	340.41	2	1.58	0.1074
	11	2462	15.66	36.81	2	1.58	0.0116
11n HT40	1	2422	11.43	13.90	2	1.58	0.0044
	4	2437	22.61	182.39	2	1.58	0.0575
	7	2452	11.65	14.62	2	1.58	0.0046

Note: The estimation distance is 20cm

## **12.DEVIATION TO TEST SPECIFICATIONS**

[ NONE]