

APPLICATION FOR CERTIFICATION  
On Behalf of

TP-LINK Technologies Co., Ltd.

54M Wireless ADSL2 + Router

Model Number: TD-W8900G; TD-W8910G

Prepared for : TP-LINK Technologies Co., Ltd.  
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Report Number : ACS-F07518  
Date of Test : Nov.22 ~Dec.06, 2007  
Date of Report : Dec.12, 2007

## TABLE OF CONTENTS

Description	Page
FCC Test Report for Declaration of Conformity	
<b>1. SUMMARY OF STANDARDS AND RESULTS.....</b>	<b>1-1</b>
1.1. Description of Standards and Results .....	1-1
<b>2. GENERAL INFORMATION .....</b>	<b>2-1</b>
2.1. Description of Device (EUT).....	2-1
2.2. Tested Supporting System Details .....	2-2
2.3. Test Facility .....	2-5
2.4. Measurement Uncertainty .....	2-5
<b>3. POWER LINE CONDUCTED EMISSION TEST .....</b>	<b>3-1</b>
3.1. Test Equipments.....	3-1
3.2. Block Diagram of Test Setup.....	3-1
3.3. Power Line Conducted Emission Test Limits.....	3-2
3.4. Configuration of EUT on Test .....	3-2
3.5. Operating Condition of EUT.....	3-2
3.6. Test Procedure.....	3-2
3.7. Power Line Conducted Emission Test Results .....	3-2
<b>4. RADIATED EMISSION TEST .....</b>	<b>4-1</b>
4.1. Test Equipment .....	4-1
4.2. Block Diagram of Test Setup.....	4-2
4.3. Radiated Emission Limit.....	4-3
4.4. EUT Configuration on Test.....	4-3
4.5. Operating Condition of EUT.....	4-3
4.6. Test Procedure.....	4-4
4.7. Radiated Emission Test Results .....	4-4
<b>5. 6dB Bandwidth Test.....</b>	<b>5-1</b>
5.1. Test Equipment .....	5-1
5.2. Test Information .....	5-1
5.3. Test Procedure.....	5-1
5.4. Test Results .....	5-2
<b>6. OUTPUT POWER TEST.....</b>	<b>6-1</b>
6.1. Test Equipment .....	6-1
6.2. Test Information .....	6-1
6.3. Test Procedure.....	6-1
6.4. Test Results .....	6-2
<b>7. BAND EDGE COMPLIANCE TEST .....</b>	<b>7-1</b>
7.1. Test Equipment .....	7-1
7.2. Test Information .....	7-1
7.3. Test Results .....	7-1
<b>8. POWER SPECTRAL DENSITY TEST .....</b>	<b>8-1</b>
8.1. Test Equipment .....	8-1
8.2. Test Information .....	8-1
8.3. Test Procedure.....	8-1
8.4. Test Results .....	8-2
<b>9. MPE ESTIMATION.....</b>	<b>9-1</b>
9.1. Limit for General Population / Uncontrolled Exposures .....	9-1
9.2. Estimation Result .....	9-1

- 10. ANTENNA REQUIREMENT ..... 10-1
- 11. DEVIATION TO TEST SPECIFICATIONS..... 11-1
- 12. PHOTOGRAPH..... 12-1
  - 12.1. Photos of Power Line Conducted Emission Test..... 12-1
  - 12.2. Photos of Radiated Emission Test..... 12-2

## TEST REPORT CERTIFICATION

Applicant : TP-LINK Technologies Co., Ltd.  
 Manufacturer : TP-LINK Technologies Co., Ltd.  
 EUT Description : 54M Wireless ADSL2 + Router  
                   (A) MODEL NO. : TD-W8900G; TD-W8910G  
                   (B) SERIAL NO. : N/A  
                   (C) POWER SUPPLY : DC 12V From Adapter AC 120V/60Hz

Test Procedure Used:

FCC Rules and Regulations Part 15 Subpart C 2007

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 : Nov.22 ~ Dec.06, 2007

Prepared by : Edie Huang / Assistant

Reviewer : Iceman Hu / Supervisor

Approved & Authorized Signer : Ken Lu / Deputy 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
Conducted Emission Test	FCC Part 15: 15.207 ANSI C63.4: 2003 KDB58074	PASS
Radiated Emission Test	FCC Part 15: 15.209 ANSI C63.4: 2003 KDB58074	PASS
6dB Bandwidth Test	FCC Part 15: 15.247 KDB58074	PASS
Output Power Test	FCC Part 15: 15.247 KDB58074	PASS
Band Edge Compliance Test	FCC Part 15: 15.247 KDB58074	PASS
Power Spectral Density Test	FCC Part 15: 15.247 KDB58074	PASS
MPE ESTIMATION	FCC Part 2: 2.1093	PASS
Antenna requirement	FCC Part 15: 15.203	PASS

## 2. GENERAL INFORMATION

### 2.1. Description of Device (EUT)

Product name	:	54M Wireless ADSL2 + Router
Model Number	:	TD-W8900G; TD-W8910G
Operation frequency	:	2.412GHz-----2.462GHz ISM Band
Channel Number	:	11
Channel frequency	:	$F = 2412 + 5(K-1)$ K=1,2,.....11
Radio Technology	:	IEEE 802.11b/g
Modulation Technology	:	DSSS for IEEE 802.11b and OFDM for IEEE802.11g
Output power	:	20.13dBm(Maximum measured)
Power	:	DC 12V from adapter AC 120V/60Hz
Antenna Assembly Gain	:	3dBi (maximum)
Applicant	:	TP-LINK Technologies Co., Ltd. Building 7, Second Part, Honghualing Industrial Zone, Xili town, Nanshan District, Shenzhen, China
Manufacturer	:	TP-LINK Technologies Co., Ltd. Building 7, Second Part, Honghualing Industrial Zone, Xili town, Nanshan District, Shenzhen, China
Power Adapter	:	Manufacture: LEADER ELECTRONICS INC. M/N: MT12-4120100-A1 Cable: Unshielded, Undetectable, 2.0m
Date of Test	:	Nov.22~Dec.06, 2007
Date of Receipt	:	Nov.21, 2007

Note: This EUT have two Model Number and the test data below only TD-W8900G was recorded.

## 2.2. Tested Supporting System Details

### 2.2.1. PC 1#

EMC CODE : Test PC E  
M/N : HP Pavilion W1000  
S/N : THT504101L  
Manufacturer : HP  
Power Cord : Unshielded, Detachable, 1.8m  
FCC ID : By DoC  
BSMI ID : R31001

### 2.2.2. PC 2#

EMC CODE : Test PC G  
M/N : AG017PA#AB2  
S/N : CN5470G18  
Manufacturer : HP  
Power cord : Unshielded, detachable , 1.8m  
FCC ID : By DoC  
BSMI ID : R33001

### 2.2.3. PC 3#

EMC CODE : Test PC F  
M/N : HP Pavilion W1000  
S/N : THT442106N  
Manufacturer : HP  
Power Cord : Unshielded, Detachable, 1.8m  
FCC ID : By DoC  
BSMI ID : R33001

### 2.2.4. MONITOR 1#

EMC CODE : ACS-EMC-LM02R  
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

## 2.2.5.MONITOR 2#

EMC CODE : ACS-EMC-LM03R  
M/N : 1907FPt  
S/N : CN-009759-71618-6AP-ACPP  
Manufacturer : DELL  
Data Cable (VGA) : Shielded, Detachabled, 2.0m  
Power Cord : Unshielded, Detachabled, 1.8m  
FCC ID : By DoC  
BSMI ID : R3A002

## 2.2.6.MONITOR 3#

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

## 2.2.7.PS/2 MOUSE 1#

EMC CODE : ACS-EMC-M05R  
M/N : N3+ Optical  
S/N : K043240960  
Manufacturer : HP  
Data Cable : Shielded, Undetachabled, 1.8m  
FCC ID : By DoC  
BSMI ID : R31258

## 2.2.8.PS/2 MOUSE 2#

EMC CODE : ACS-EMC-M06R  
M/N : N3+ Optical  
S/N : K043801559  
Manufacturer : HP  
Data Cable : Shielded, Undetachabled, 1.8m  
FCC ID : By DoC  
BSMI ID : R31258



## 2.2.9.USB MOUSE 3#

EMC CODE : ACS-EMC-M08R  
M/N : M056UOA  
S/N : F1800P4E  
Manufacturer : DELL  
Data Cable : Shielded, Undetachabled, 2.0m  
FCC ID : By DoC  
BSMI ID : R41108

## 2.2.10.PS/2 KEYBOARD 1#

EMC CODE : ACS-EMC-K08R  
M/N : 5219  
S/N : BN44300510  
Manufacturer : HP  
Data Cable : Shielded, Undetachabled, 1.8m  
FCC ID : E5XKB5209  
BSMI ID : R31213

## 2.2.11.PS/2 KEYBOARD 2#

EMC CODE : ACS-EMC-K09R  
M/N : 5219  
S/N : BN43300914  
Manufacturer : HP  
Data Cable : Shielded, Undetachabled, 1.8m  
FCC ID : E5XKB5209  
BSMI ID : R31213

## 2.2.12.USB KEYBOARD 3#

EMC CODE : ACS-EMC-K11R  
M/N : SK-8115  
S/N : CN-ODJ313-71616-6BB-049J  
Manufacturer : DELL  
Data Cable : Shielded, Undetachabled, 2.0m  
FCC ID : By DoC  
BSMI ID : T3A002

## 2.2.13.Communications Corporation

Manufacturer : ZYXEL  
M/N : IES-1000  
S/N : S525128668

2.2.14.LAN Cable : Unshielded, Detachable 10m

2.2.15.LINE Cable : Unshielded, Detachable 10m

2.2.16.LAN Cable : Unshielded, Detachable 1.0m

### 2.3. 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 : Certificated by FCC, USA  
Registration Number: 90454  
Jun. 13, 2006
- 3m & 10m Anechoic Chamber : Certificated by FCC, USA  
Registration Number: 794232  
Jan. 31, 2007
- EMC Lab. : Certificated by DATech, German  
Registration Number: DAT-P-091/99-01  
Feb. 02, 2004
- Certificated by NVLAP, USA  
NVLAP Code: 200372-0  
Apr. 01, 2006
- Certificated by Nemko, Norway  
Aut. No.: ELA135  
April. 22, 2004
- Certificated by Industry Canada  
Registration Number: IC 5183A-1  
Aug. 10, 2007

### 2.4. Measurement Uncertainty

No.	Item	Uncertainty
1.	Uncertainty for Conducted Emission Test	1.22dB
2.	Uncertainty for Radiated Emission Test<1GHz	4.62dB
3.	Uncertainty for Radiated Emission Test>1GHz	4.79dB
4.	Uncertainty for Frequency measure	$0.42 \times 10^{-6}$
5.	Uncertainty for conducted power measure	0.112

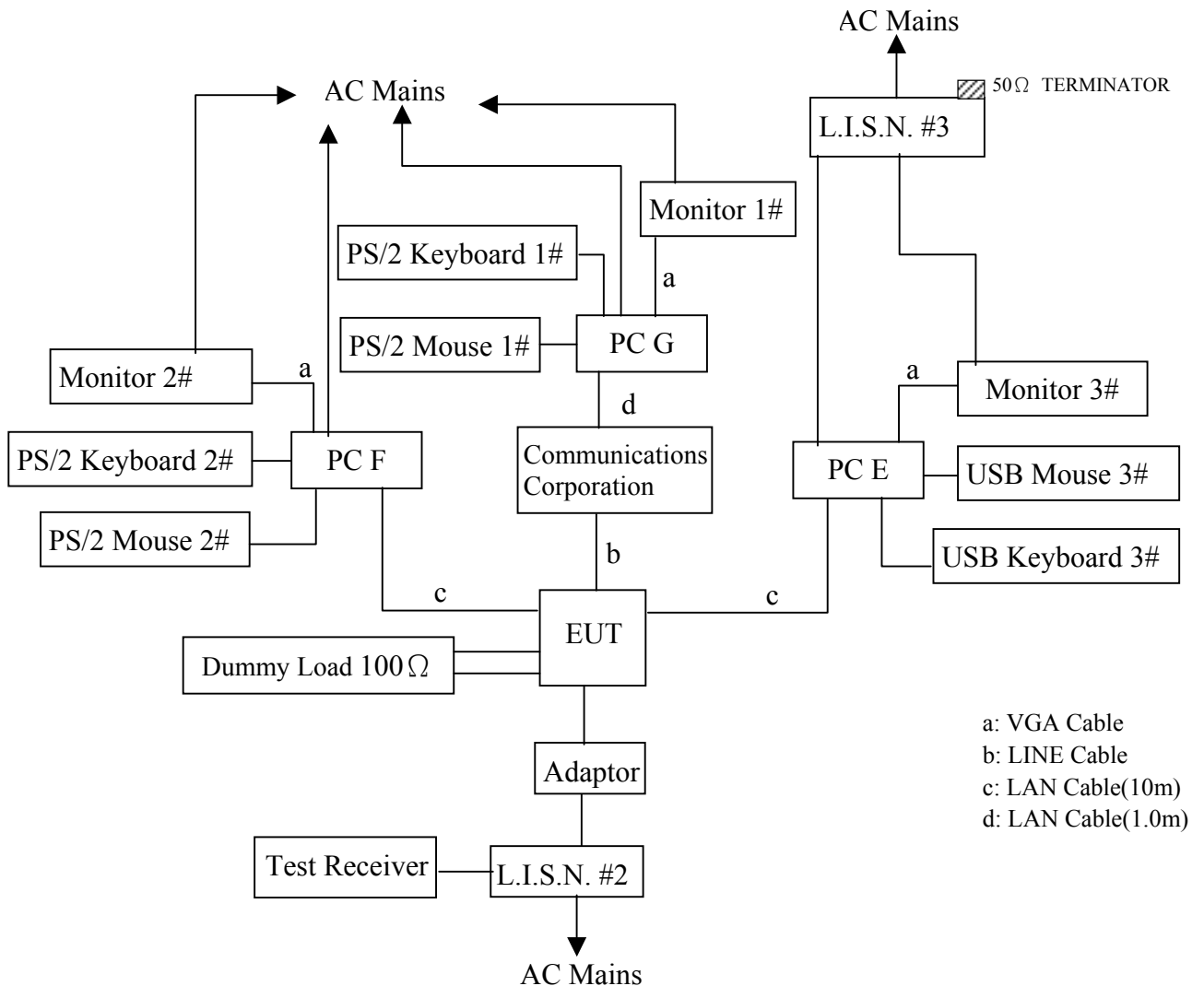
### 3. POWER LINE CONDUCTED EMISSION TEST

#### 3.1. Test Equipments

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESHS10	838693/001	May 11, 07	1 Year
2.	L.I.S.N.#2	Kyoritsu	KNW-407	8-1636-1	May 11, 07	1 Year
3.	L.I.S.N.#3	EMCO	3825/2	9006-1660	May 11, 07	1 Year
4.	Terminator	Hubersuhner	50Ω	No. 1	May 11, 07	1 Year
5.	RF Cable	MIYAZAKI	5D-2W	LISN Cable 1#	Aug.11, 07	1/2 Year
6.	Passive Probe	Rohde & Schwarz	ESH2-Z3	299.7810.52	May 11, 07	1 Year
7.	Coaxial Switch	Anritsu	MP59B	M55367	Aug.11, 07	1/2 Year
8.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100340	Aug.11, 07	1/2 Year

#### 3.2. Block Diagram of Test Setup

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



(EUT: 54M Wireless ADSL2 + Router)

### 3.3. Power Line Conducted Emission Test Limits

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB( $\mu$ V)	Average Level dB( $\mu$ V)
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. 54M Wireless ADSL2 + Router (EUT)

Model Number : TD-W8900G  
Serial Number : N/A  
Manufacturer : TP-LINK Technologies Co., Ltd.

#### 3.4.2. Support Equipment : As Tested Supporting System Detail, in Section 2.2..

### 3.5. Operating Condition of EUT

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

3.5.2. Turn on the power of all equipment.

3.5.3. PC G ping data with PC F; PC F ping data with PC E; PC E ping data with PC G

3.5.4. PC E also running the Control program which can make the EUT work in test mode (TX mode)

3.5.5. The other port of the EUT was connected to a 100 $\Omega$  Dummy Load.

### 3.6. Test Procedure

The EUT is connected to the power mains through a line impedance stabilization network (L.I.S.N.#2). This provides a 50 ohm coupling impedance for the EUT. Please refer the block diagram of the test setup and photographs. The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N.#3). Power on the PC and let it work normally, we use a keyboard test soft ware, let EUT working in test mode, then test it. Both sides of AC line are 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 C63.4: 2003 on Conducted Emission Test.

The bandwidth of test receiver (R & S ESHS10) is set at 10kHz.

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

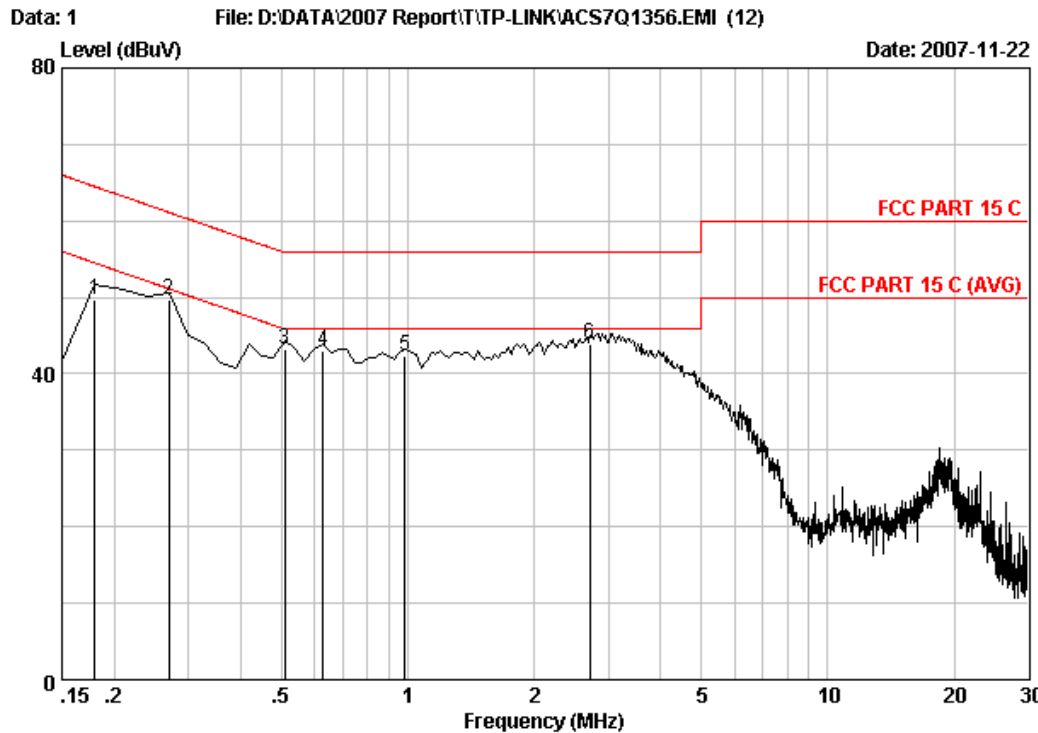
The test result are reported on Section 3.7.,

### 3.7. Power Line Conducted Emission Test Results

**PASS.**



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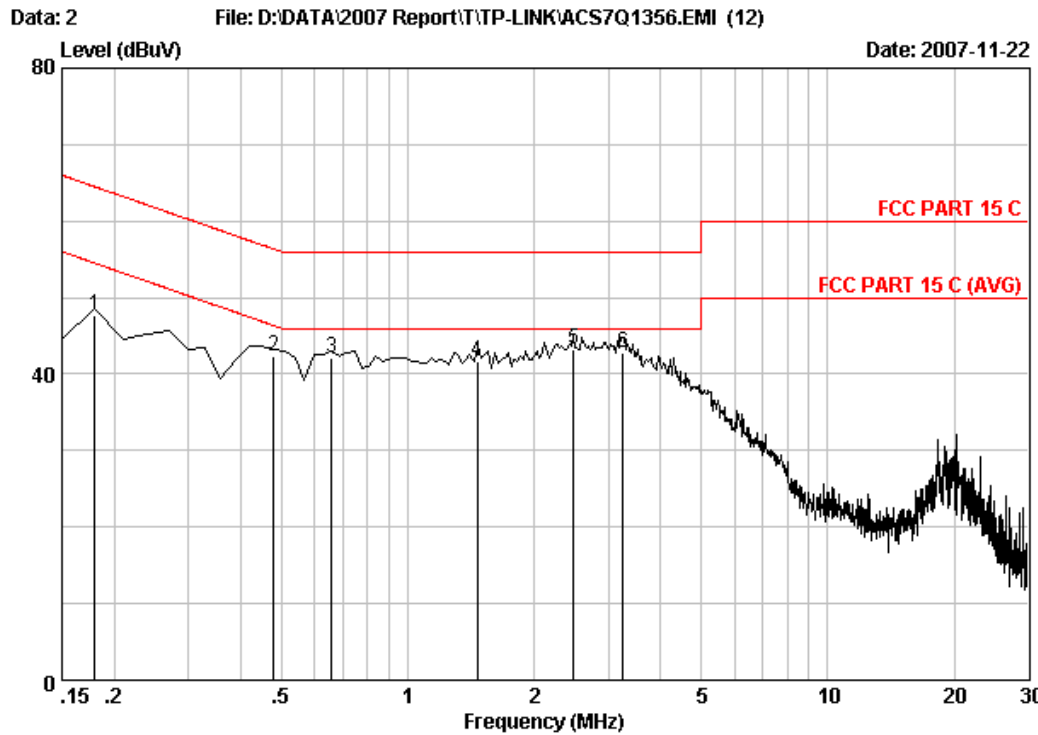
Site no. : Audix 1# Conduction Data no. : 1  
 Dis. / Ant. : -- KNW407 VA (1#) LISN Phase :  
 Limit : FCC PART 15 C  
 Env. / Ins. : Temp:23' Humi:54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2+Router  
 Power Rating : DC 12V from adapter 120V/60Hz  
 Test Mode : Tx Mode  
 Memo : TD-W8900G

Freq. (MHz)	LISN. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.18	10.15	39.45	49.78	64.49	14.71	QP
2	0.27	10.15	39.39	49.67	61.14	11.47	QP
3	0.51	10.14	33.05	43.24	56.00	12.76	QP
4	0.63	10.14	32.76	42.95	56.00	13.05	QP
5	0.99	10.15	32.15	42.34	56.00	13.66	QP
6	2.72	10.16	33.77	44.00	56.00	12.00	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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 Postcode:518057



Site no. : Audix 1# Conduction Data no. : 2  
 Dis. / Ant. : -- KNW407 VB (1#) LISN Phase :  
 Limit : FCC PART 15 C  
 Env. / Ins. : Temp:23' Humi:54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2+Router  
 Power Rating : DC 12V from adapter 120V/60Hz  
 Test Mode : Tx Mode  
 Memo : TD-W8900G

Freq. (MHz)	LISN. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission		Margin (dB)	Remark
				Level (dBuV)	Limits (dBuV)		
1	0.19	10.15	37.25	47.59	64.49	16.90	QP
2	0.06	10.14	32.10	42.30	56.37	14.07	QP
3	0.04	10.14	31.92	42.10	56.00	13.90	QP
4	0.04	10.15	31.44	41.63	56.00	14.37	QP
5	0.06	10.16	32.92	43.14	56.00	12.86	QP
6	0.08	10.17	32.58	42.83	56.00	13.17	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

The following test equipments are used during the radiated emission test:

#### 4.1.1. For Anechoic Chamber

Frequency rang: 30~1000MHz

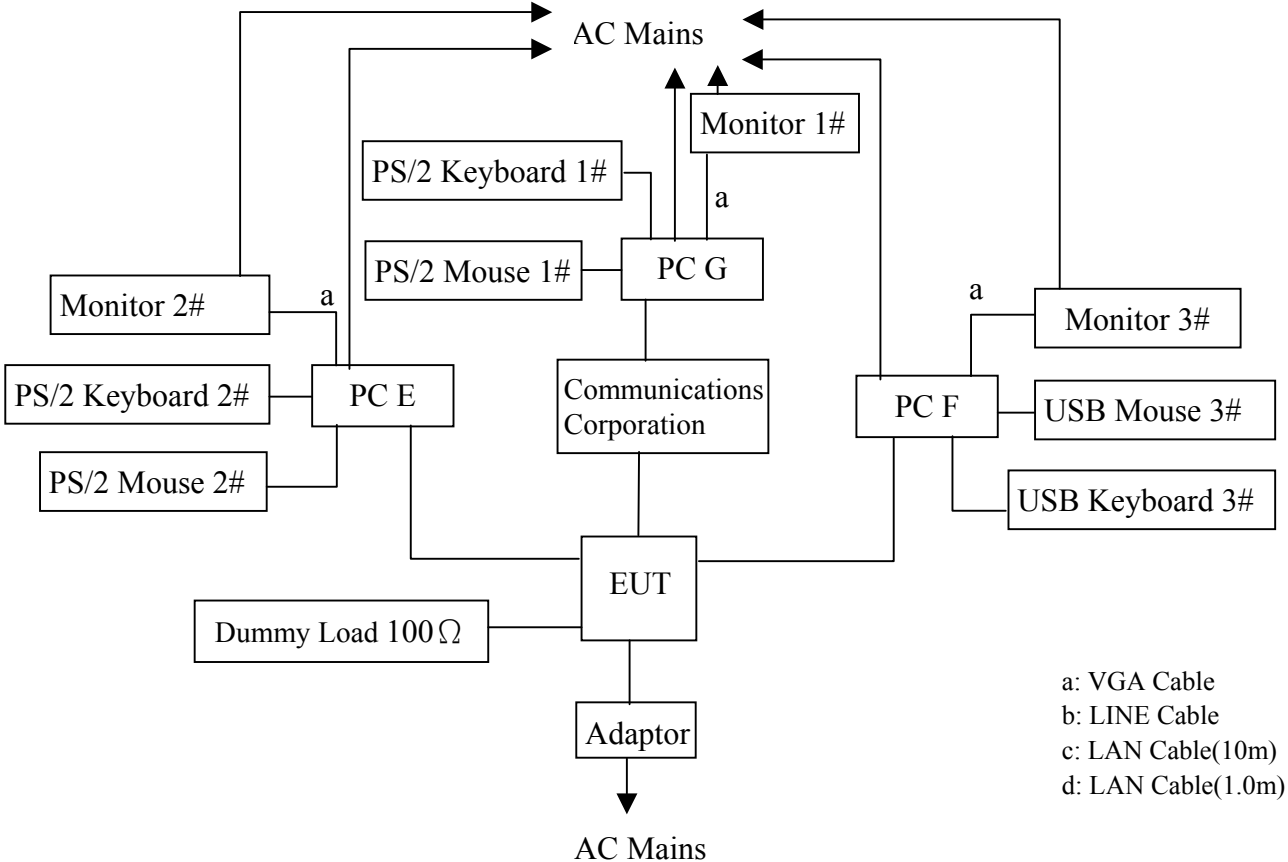
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	3#Chamber	AUDIX	N/A	N/A	June.25.07	1/2 Year
2	EMI Spectrum	Agilent	E7403A	MY42000106	May 11, 07	1 Year
3	Test Receiver	Rohde & Schwarz	ESVS20	830350/005	May 11, 07	1 Year
4	Amplifier	HP	8447D	2944A07794	Sep.11, 07	1/2 Year
5	Bilog Antenna	Schaffner	CBL6111C	2598	Feb.22, 07	1 Year
6	RF Cable	MIYAZAKI	5D-2W	3# Chamber No.1	July. 16, 07	1/2 Year
7	RF Cable	MIYAZAKI	5D-2W	3# Chamber No.2	July. 16, 07	1/2 Year
8	RF Cable	FUJIKURAw	RG-55/U	3# Chamber No.3	July. 16, 07	1/2 Year
9	RF Cable	FUJIKURA	RG-55/U	3# Chamber No.4	July. 16, 07	1/2 Year
10	Coaxial Switch	Anritsu	MP59B	M73989	July. 16, 07	1/2 Year

Frequency rang: above 1000MHz

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	MY41440292	May 11, 07	1 Year
2.	Amp	HP	8449B	3008A00863	May 11, 07	1 Year
3.	Antenna	EMCO	3115	9607-4877	Jan. 23, 07	1.5 Year
4	Antenna	EMCO	3116	00060088	May 28, 07	1 Year
5.	HF Cable	Hubersuhne	Sucoflex104	-	May 11, 07	1 Year

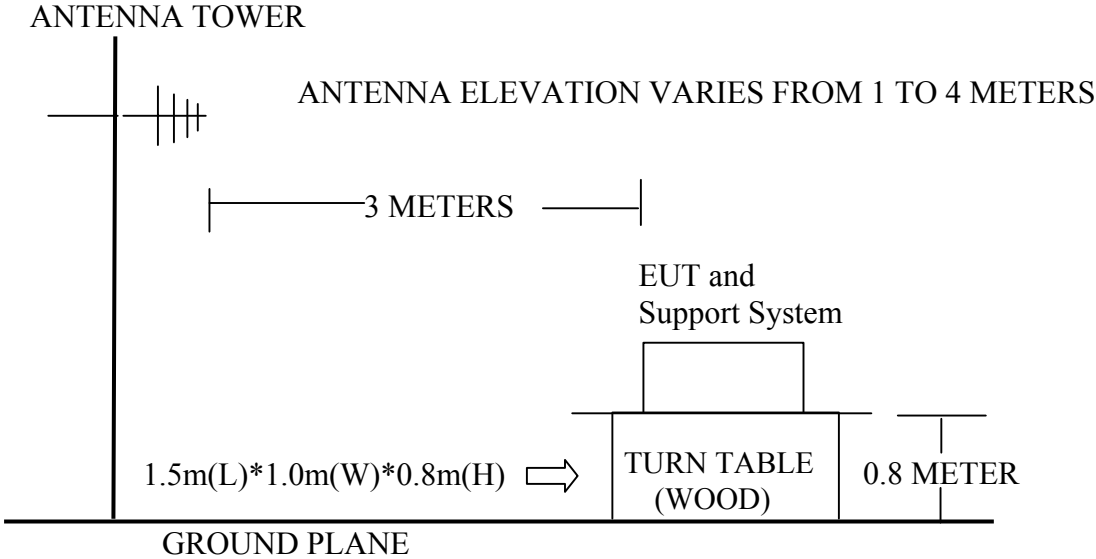
### 4.2. Block Diagram of Test Setup

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



(EUT: 54M Wireless ADSL2 + Router)

#### 4.2.2. In Anechoic Chamber





### 4.3. Radiated Emission Limit

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V}/\text{m}$	$\text{dB}(\mu\text{V})/\text{m}$
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 $\text{dB}(\mu\text{V})/\text{m}$ (Peak) 54.0 $\text{dB}(\mu\text{V})/\text{m}$ (Average)	

- Remark :
- (1) Emission level  $\text{dB}\mu\text{V} = 20 \log$  Emission level  $\mu\text{V}/\text{m}$
  - (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.

### 4.4. 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.

#### 4.4.1.54M Wireless ADSL2 + Router (EUT)

Model Number : TD-W8900G  
 Serial Number : N/A  
 Manufacturer : TP-LINK Technologies Co., Ltd.

4.4.2. Support Equipment : As Tested Supporting System Detail, in Section 2.2.

### 4.5. Operating Condition of EUT

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

4.5.2. Turn on the power of all equipment.

4.5.3. PC G ping data with PC F; PC F ping data with PC E; PC E ping data with PC G

4.5.4. PC E also running the Control program which can make the EUT work in test mode (TX mode)

4.5.5. The other ports of the EUT was connected to a  $100\Omega$  Dummy Load

#### 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 work normally, we use a keyboard test software, let EUT working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on an 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 ESVS20) is set at 120kHz.

Frequency range from 30MHz to 1000 MHz.

The bandwidth of the VBW is set at 1MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW 10Hz VBW for average emission above 1GHz

The frequency range from 30MHz to 10<sup>th</sup> harmonic are checked.

The test modes (IEEE 802.11b TX/ IEEE 802.11g TX) are tested in Anechoic Chamber and all the scanning waveforms are reported with antenna in horizontal and vertical polarization on Section 4.7.

#### 4.7. Radiated Emission Test Results

**PASS.**

The frequency range from 30MHz to 1000MHz and above 1GHz is investigated. Please see the following pages.

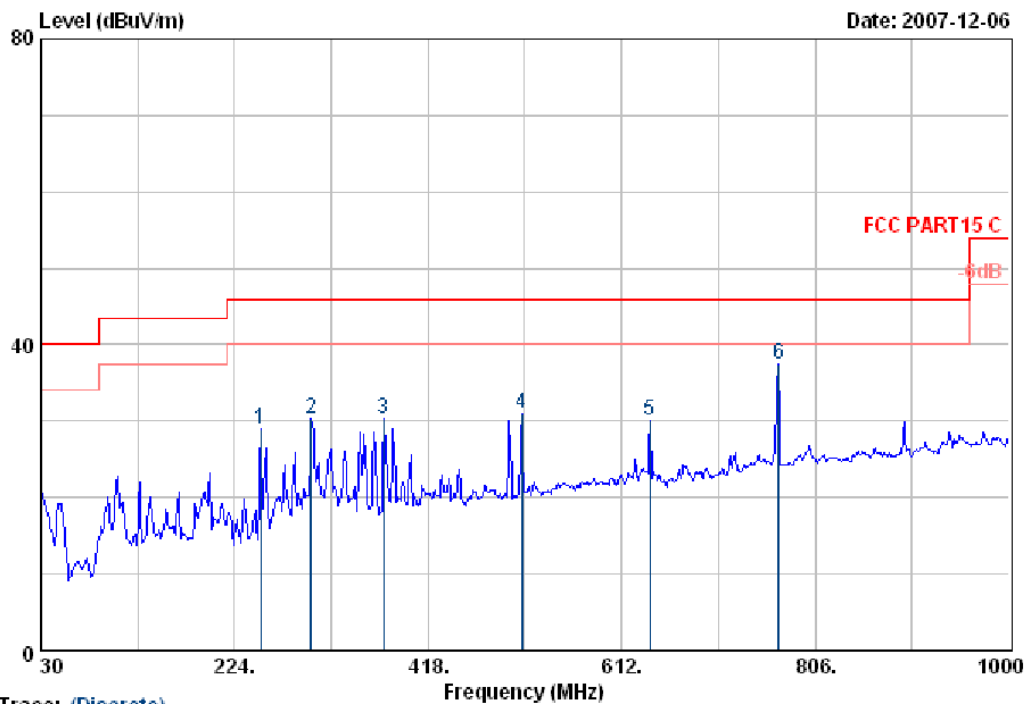
All the emissions 18GHz~25GHz are peak measured and comply with average limit.



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Nan shan Science&Industry  
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http://www.audix.com.cn

Data: 17 File: D:\2007 Report Data\TTP-LINK\ACS7Q1356.EMI (17)

Date: 2007-12-06



Trace: (Discrete)

Site no. : 3# Chamber Radiation Data no. : 17  
 Dis / Ant. : 3m 2598 Ant. pol. : HORIZONTAL  
 Limit : FCC PART15 C  
 Env. / Ins. : 24\*C/56% ESVS20 Engineer : Jamy  
 EUT : 54M Wireless ADSL2+Router  
 Power Rating : DC 12V From adapter 120V/60Hz  
 Test mode : Tx mode  
 M/N : TD-W8900G

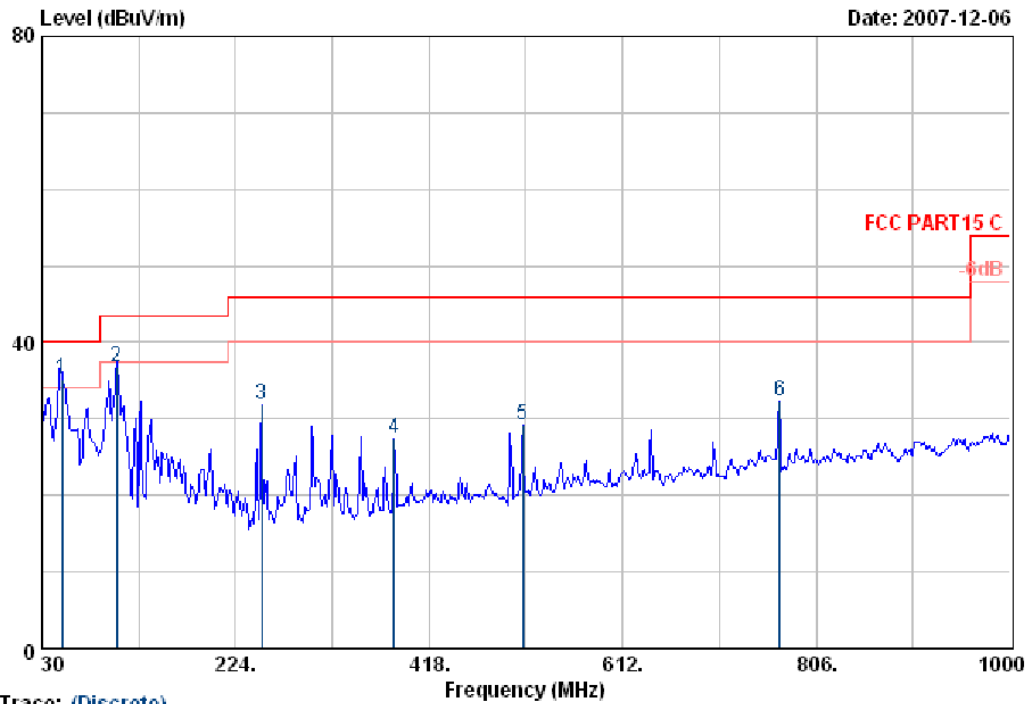
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	250.19	12.70	1.51	14.70	28.91	46.00	17.09	QP
2	300.63	13.82	1.64	14.92	30.38	46.00	15.62	QP
3	373.38	15.62	1.78	12.91	30.31	46.00	15.69	QP
4	512.09	18.24	2.18	10.57	30.99	46.00	15.01	QP
5	640.13	20.30	2.32	7.41	30.03	46.00	15.97	QP
6	769.14	21.80	2.23	13.39	37.42	46.00	8.58	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: 16 File: D:\2007 Report Data\TTP-LINK\ACS7Q1356.EMI (17)



Trace: (Discrete)  
 Site no. : 3# Chamber Radiation Data no. : 16  
 Dis. / Ant. : 3m 2598 Ant. pol. : VERTICAL  
 Limit : FCC PART15 C  
 Env. / Ins. : 24\*C/56% ESVS20 Engineer : Jamy  
 EUT : 54M Wireless ADSL2+Router  
 Power Rating : DC 12V From adapter 120V/60Hz  
 Test mode : Tx mode  
 M/N : TD-W8900G

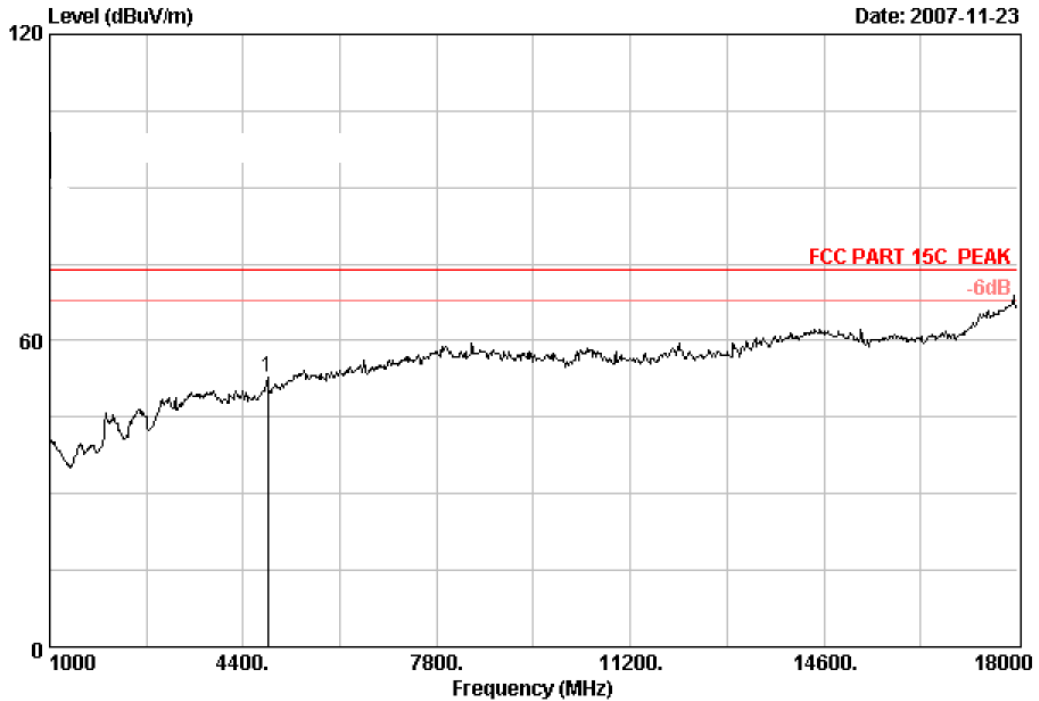
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	50.40	8.80	0.85	25.50	35.15	40.00	4.85	QP
2	104.69	11.10	1.11	24.50	36.71	43.50	6.79	QP
3	250.19	12.70	1.51	17.71	31.92	46.00	14.08	QP
4	383.08	15.96	1.78	9.74	27.48	46.00	18.52	QP
5	512.09	18.24	2.18	8.72	29.14	46.00	16.86	QP
6	769.14	21.80	2.23	8.21	32.24	46.00	13.76	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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 Postcode:518057

Data: 3 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



Site no. : Data no. : 3  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE 802.11b CH1 2412MHz Tx Mode  
 M/N : TD-W8900G

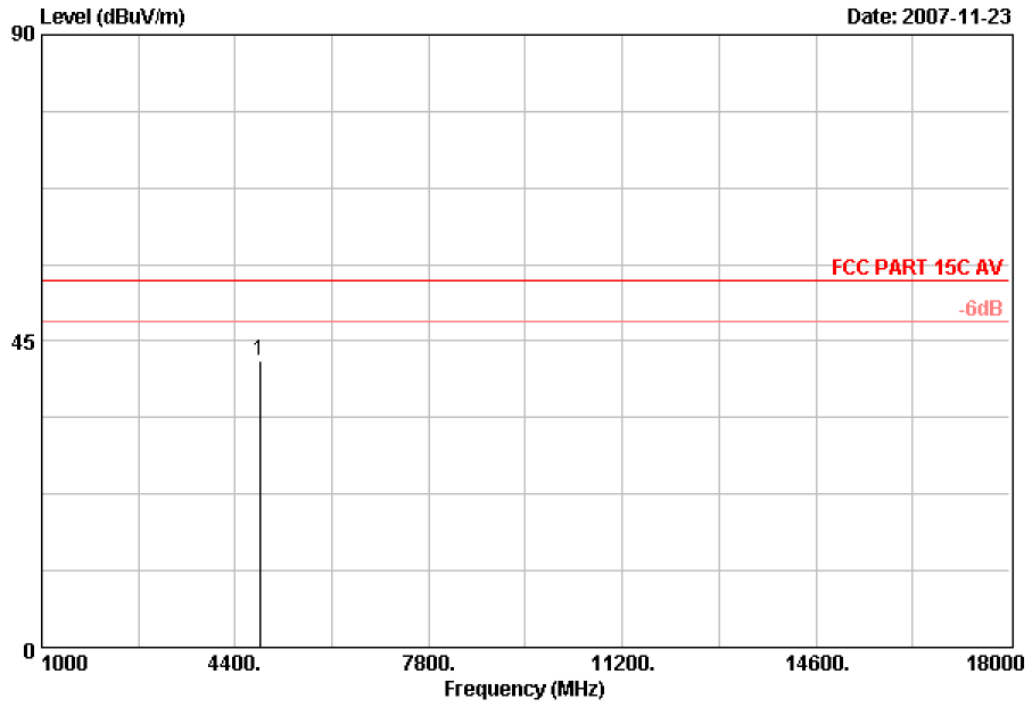
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)			
1 4824.00	34.02	9.59	34.49	43.81	52.93	74.00	21.07	Peak

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: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



Site no. : Data no. : 4  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE 802.11b CH1 2412MHz Tx Mode  
 M/N : TD-W8900G

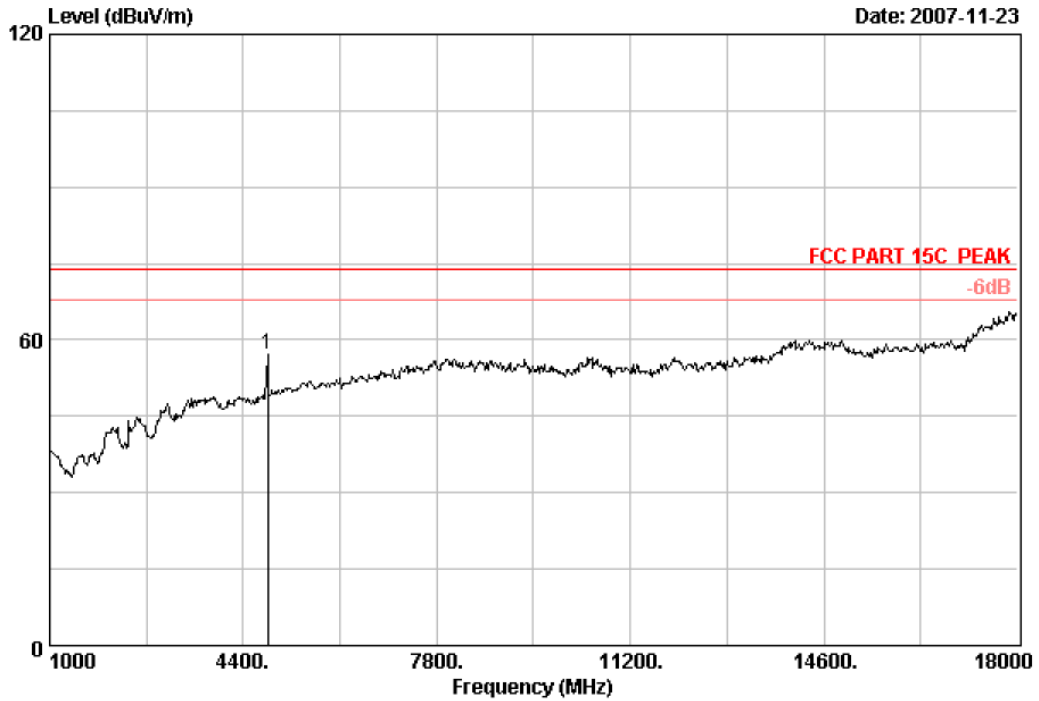
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark	
-----	1	4824.00	34.02	9.59	34.49	33.08	42.20	54.00	11.80	Average

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: 1 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



Site no. : Data no. : 1  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE 802.11b CH1 2412MHz Tx Mode  
 M/N : TD-W8900G

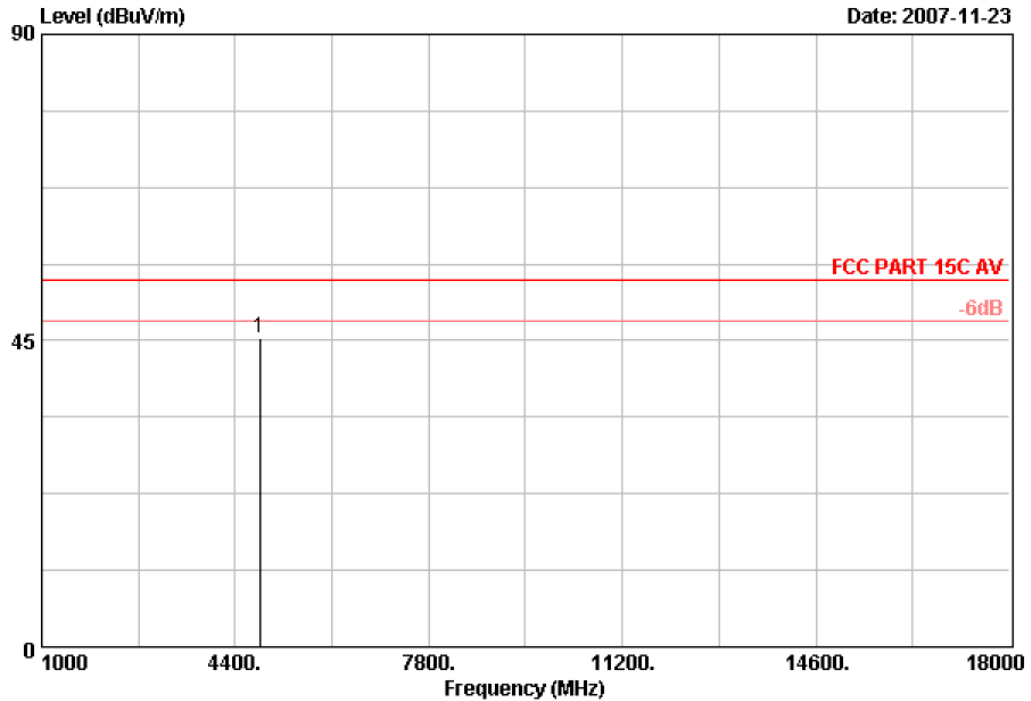
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark
					Reading (dBuV)	Level (dBuV/m)			
1	4824.00	34.02	9.59	34.49	48.17	57.29	74.00	16.71	Peak

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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Data: 2 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



Site no. : Data no. : 2  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE 802.11b CH1 2412MHz Tx Mode  
 M/N : TD-W8900G

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission			Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)		
1 4824.00	34.02	9.59	34.49	36.18	45.30	54.00	8.70	Average

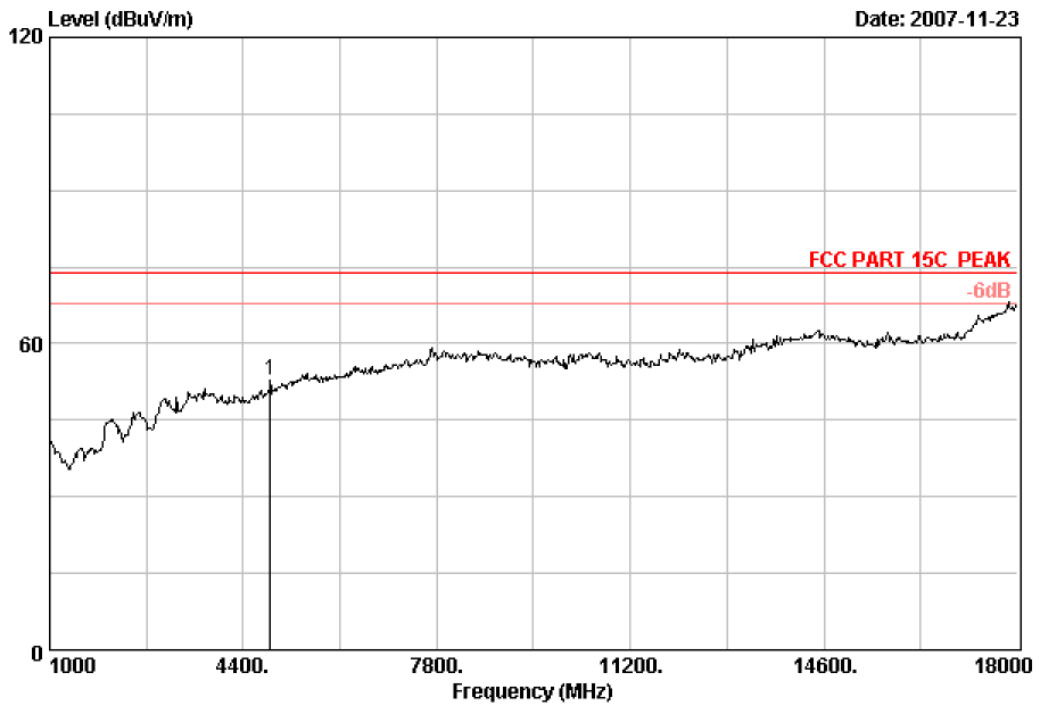
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.





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Data: 5 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



Site no. : Data no. : 5  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE 802.11b CH6 2437MHz Tx Mode  
 M/N : TD-W8900G

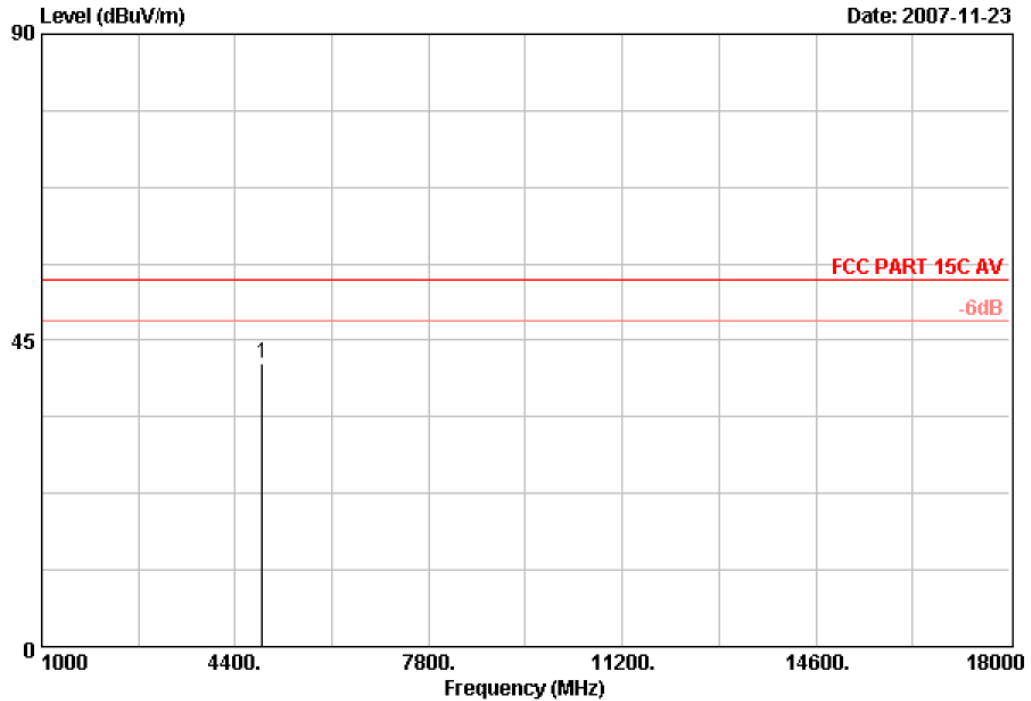
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission		Margin (dB)	Remark
					Level (dBuV/m)	Limits (dBuV/m)		
1 4874.00	34.16	9.67	34.48	43.44	52.79	74.00	21.21	Peak

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: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



Site no. : Data no. : 6  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE 802.11b CH6 2437MHz Tx Mode  
 M/N : TD-W8900G

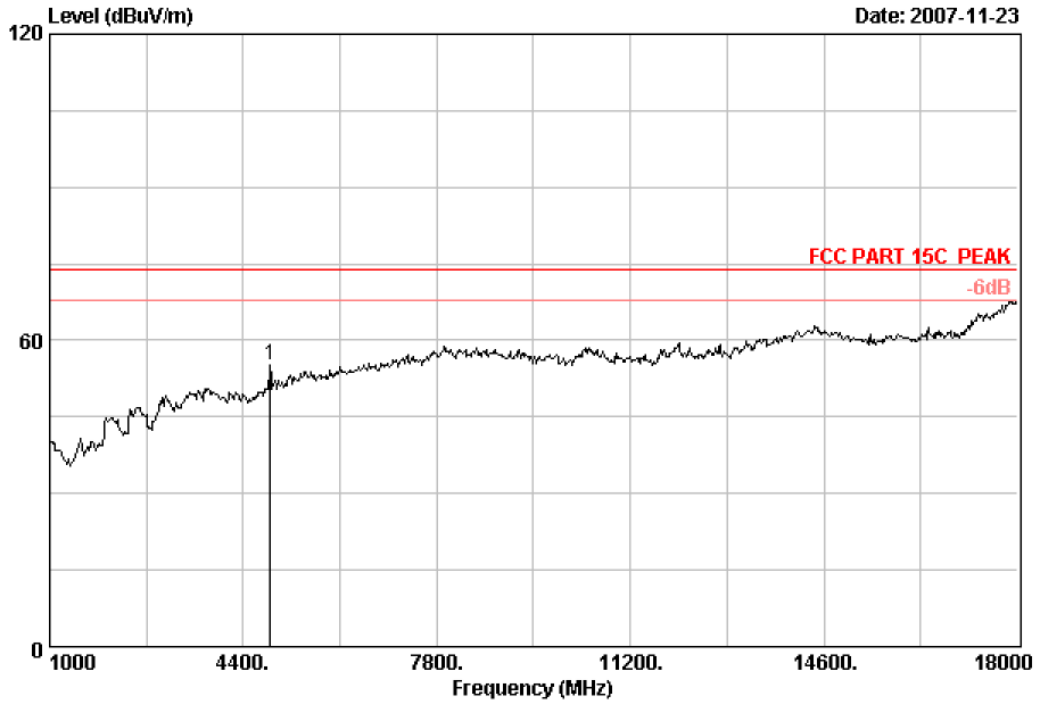
No.	Freq. (MHz)	Ant. Cable Amp			Emission				Remark
		Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	4874.00	34.16	9.67	34.48	32.15	41.50	54.00	12.50	Average

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



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Data: 7 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



Site no. : Data no. : 7  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE 802.11b CH6 2437MHz Tx Mode  
 M/N : TD-W8900G

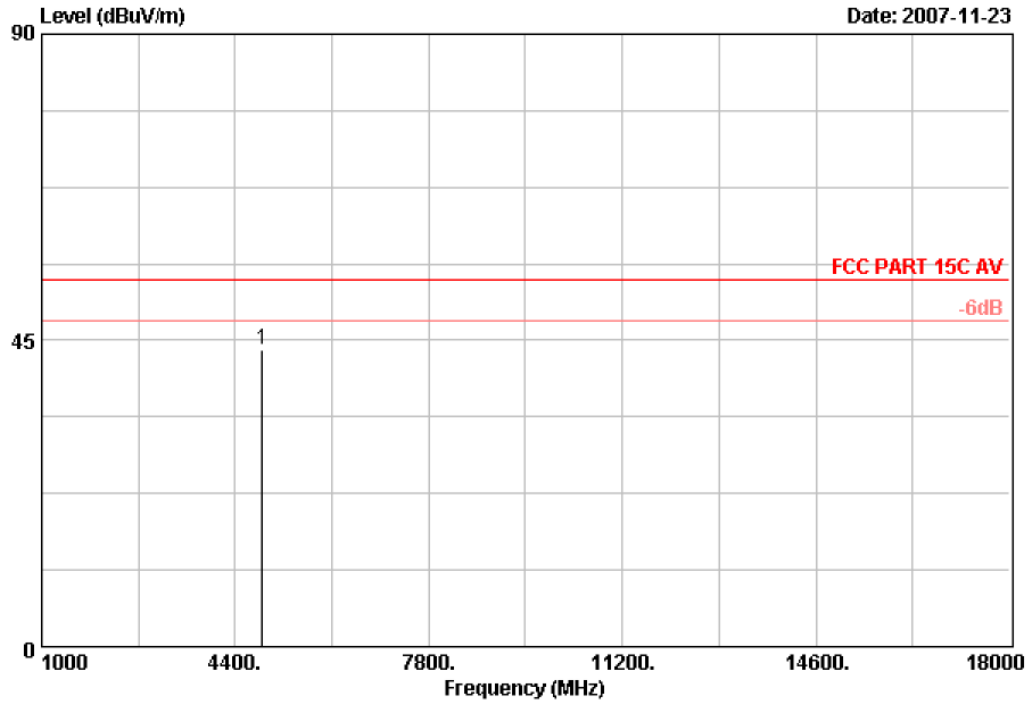
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)			
1 4874.00	34.16	9.67	34.48	45.89	55.24	74.00	18.76	Peak

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



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Data: 8 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



Site no. : Data no. : 8  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE 802.11b CH6 2437MHz Tx Mode  
 M/N : TD-W8900G

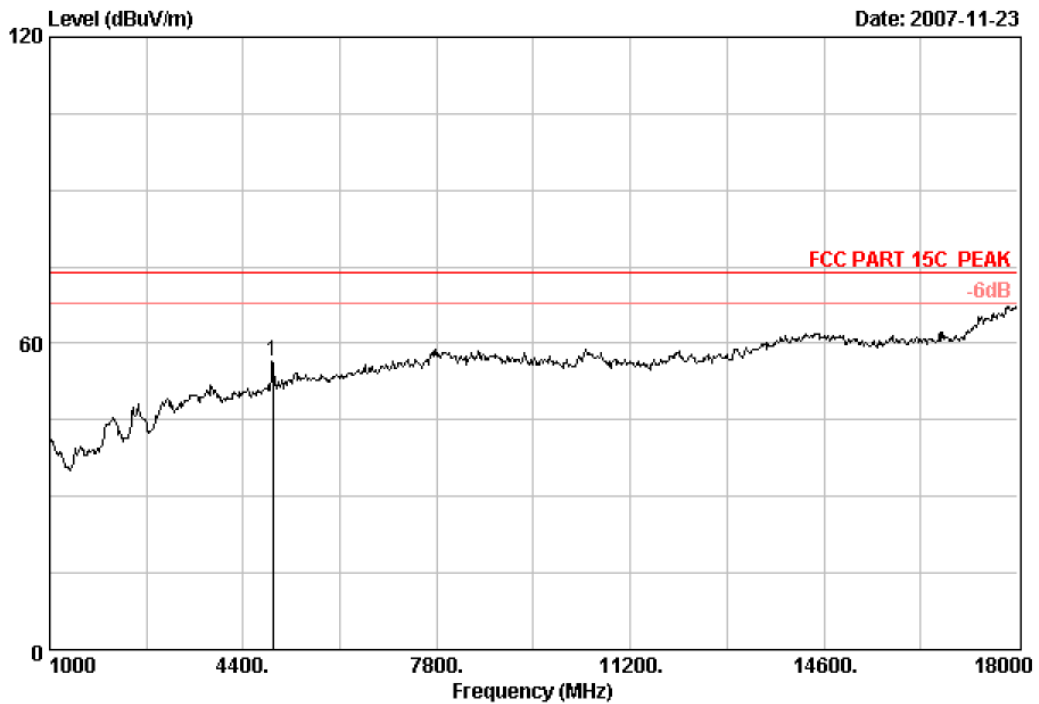
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)			
1 4874.00	34.16	9.67	34.48	34.21	43.56	54.00	10.44	Average

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: 11 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



Site no. : Data no. : 11  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE 802.11b CH11 2462MHz Tx Mode  
 M/N : TD-W8900G

	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	4924.00	34.29	9.79	34.47	46.97	56.58	74.00	17.42	Peak

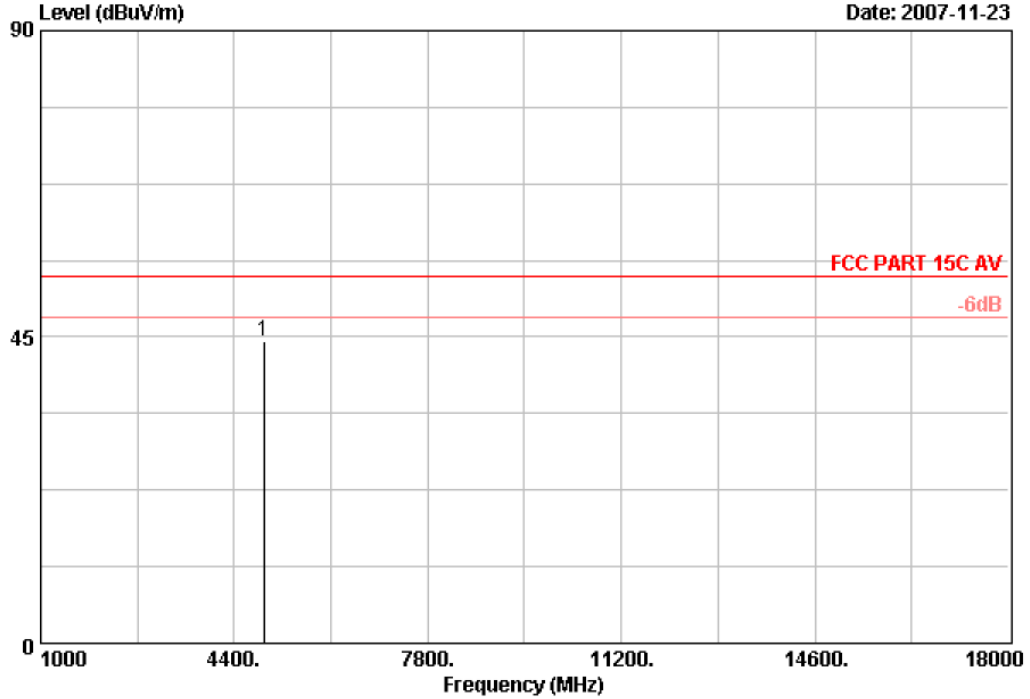
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 12 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)

Date: 2007-11-23



Site no. : Data no. : 12  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE 802.11b CH11 2462MHz Tx Mode  
 M/N : TD-W8900G

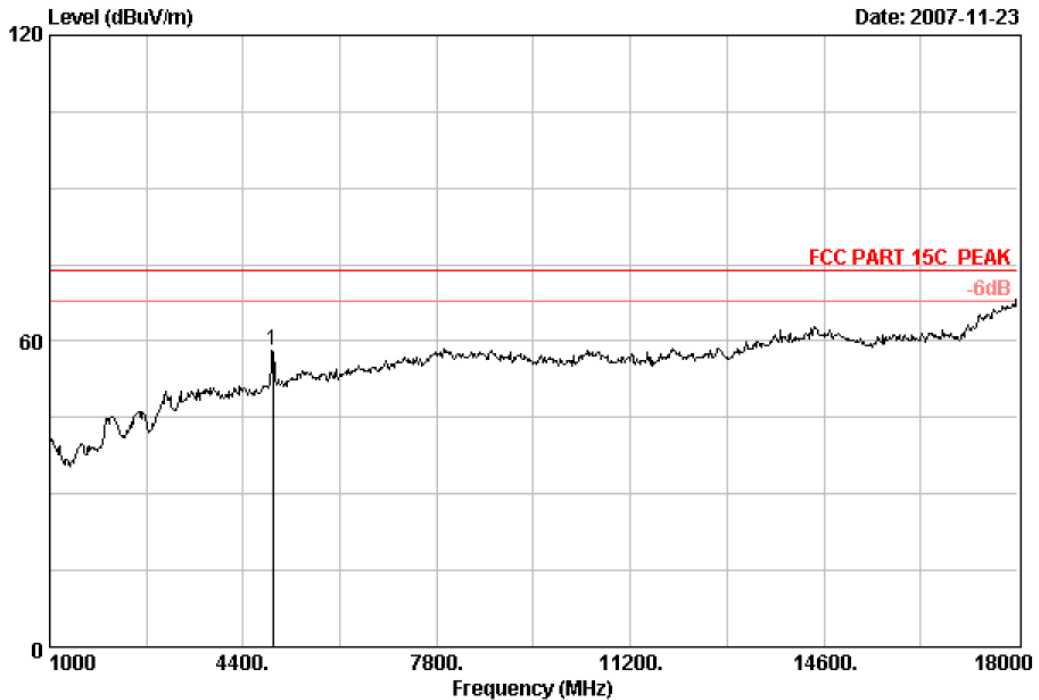
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark	
				Reading (dBuV)	Level (dBuV/m)				
1	4924.00	34.29	9.79	34.47	34.84	44.45	54.00	9.55	Average

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



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Data: 9 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



Site no. : Data no. : 9  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE 802.11b CH11 2462MHz Tx Mode  
 M/N : TD-W8900G

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)			
1 4924.00	34.29	9.79	34.47	48.71	58.32	74.00	15.68	Peak

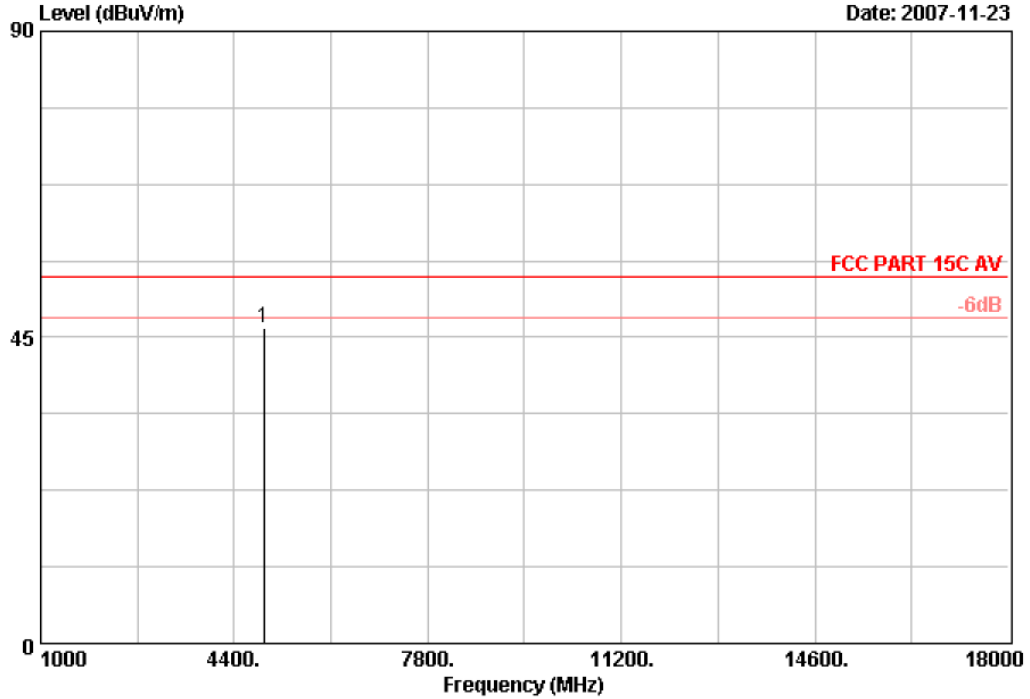
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 10 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)

Date: 2007-11-23



Site no. : Data no. : 10  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE 802.11b CH11 2462MHz Tx Mode  
 M/N : TD-W8900G

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark	
				Reading (dBuV)	Level (dBuV/m)				
1	4924.00	34.29	9.79	34.47	36.78	46.39	54.00	7.61	Average

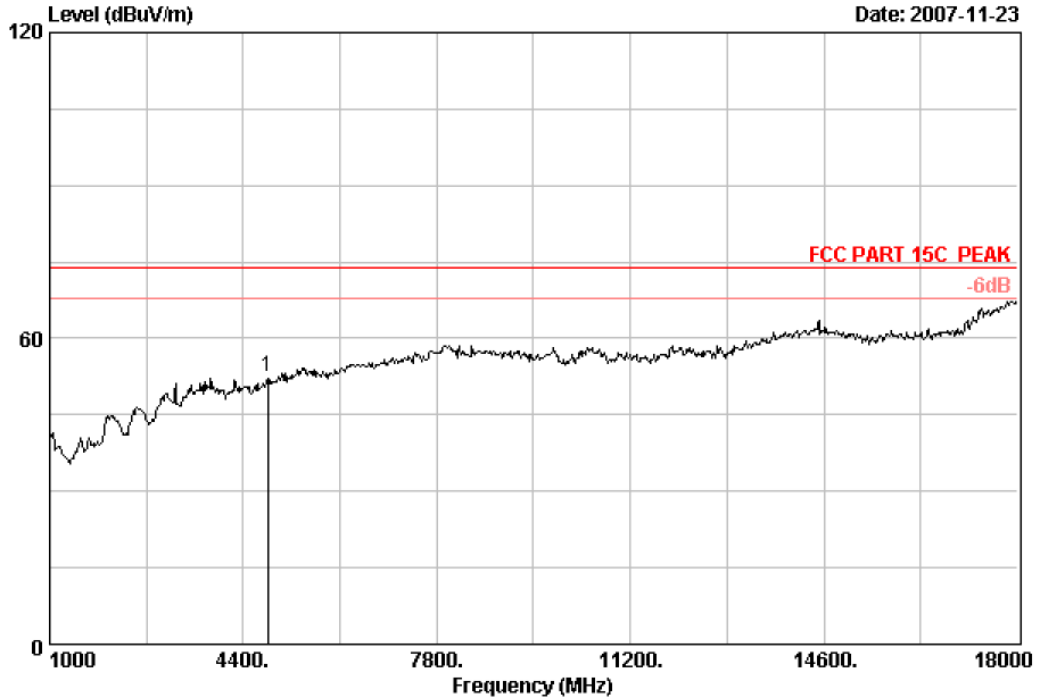
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.





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Data: 13 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



Site no. : Data no. : 13  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE802.11g CH1 2412MHz Tx Mode  
 M/N : TD-W8900G

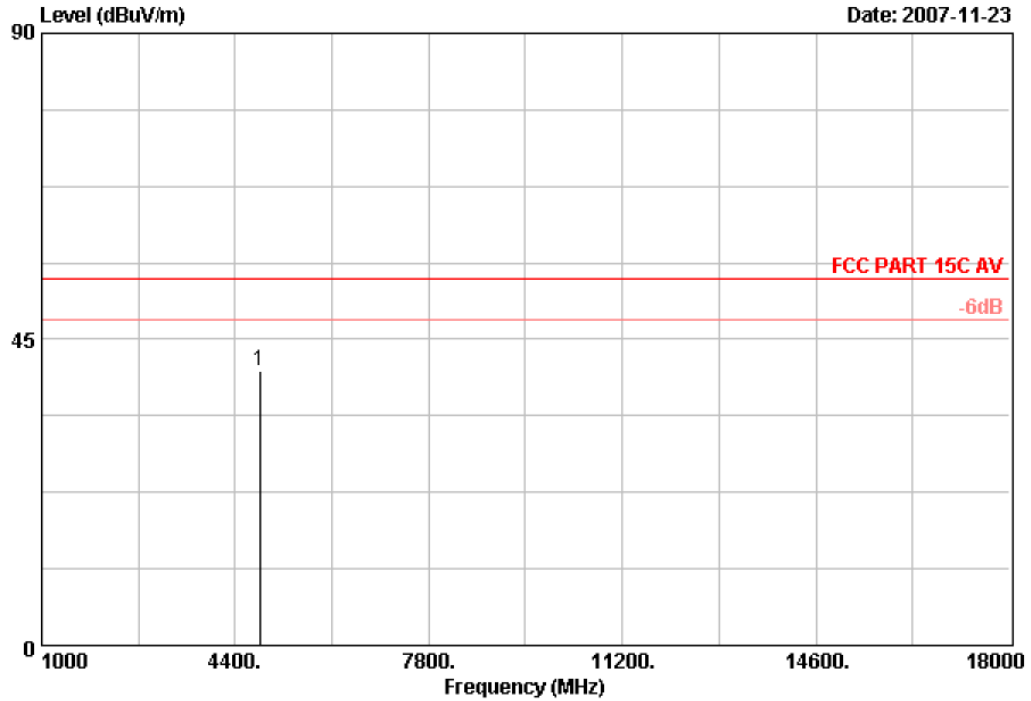
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)			
1 4824.00	34.02	9.59	34.49	43.29	52.41	74.00	21.59	Peak

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: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



Site no. : Data no. : 14  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE802.11g CH1 2412MHz Tx Mode  
 M/N : TD-W8900G

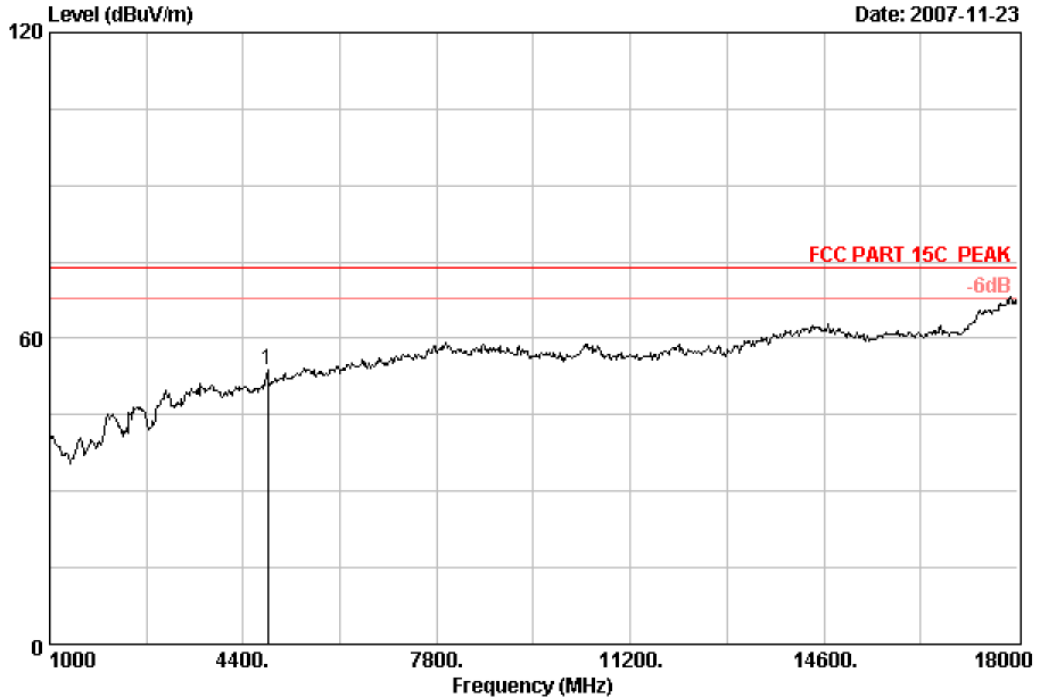
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark
					Reading (dBuV)	Level (dBuV/m)			
1	4824.00	34.02	9.59	34.49	31.25	40.37	54.00	13.63	Average

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



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Data: 15 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



Site no. : Data no. : 15  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE802.11g CH1 2412MHz Tx Mode  
 M/N : TD-W8900G

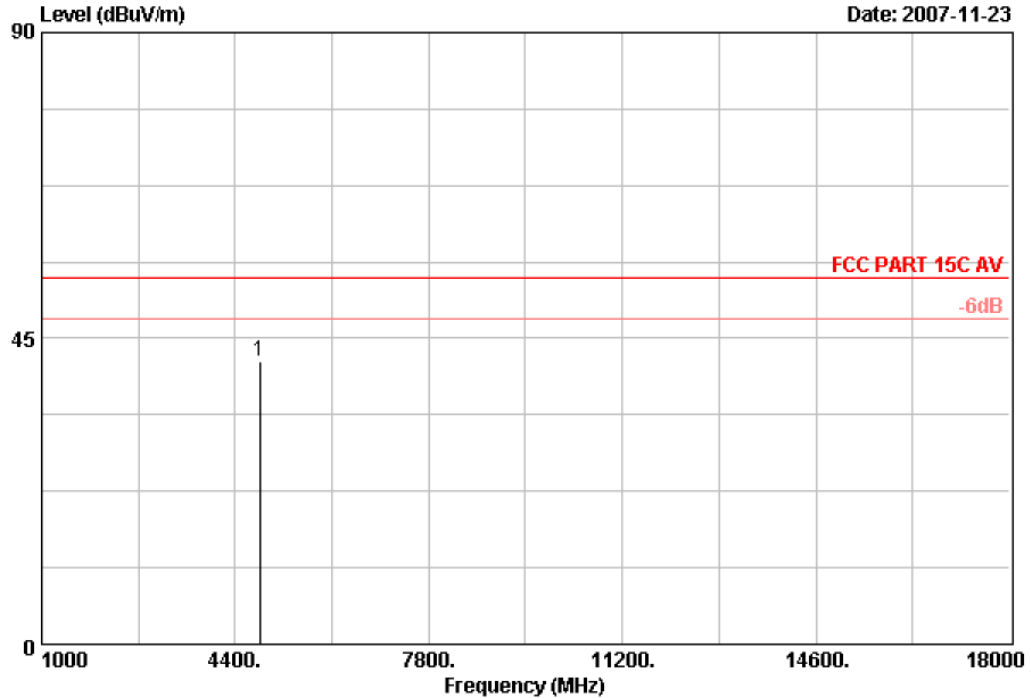
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)			
1 4824.00	34.02	9.59	34.49	44.84	53.96	74.00	20.04	Peak

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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 Fax:+86-755-26632877  
 Postcode:518057

Data: 16 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



Site no. : Data no. : 16  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE802.11g CH1 2412MHz Tx Mode  
 M/N : TD-W8900G

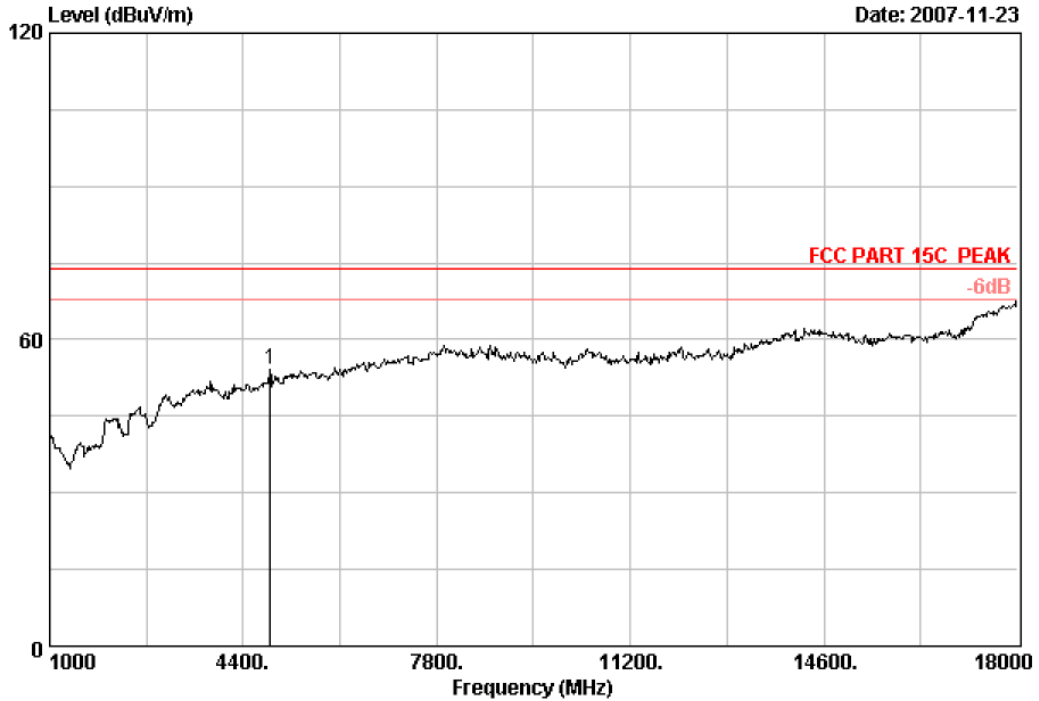
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark
					Reading (dBuV)	Level (dBuV/m)			
1	4824.00	34.02	9.59	34.49	32.45	41.57	54.00	12.43	Average

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: 17 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



Site no. : Data no. : 17  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE802.11g CH6 2437MHz Tx Mode  
 M/N : TD-W8900G

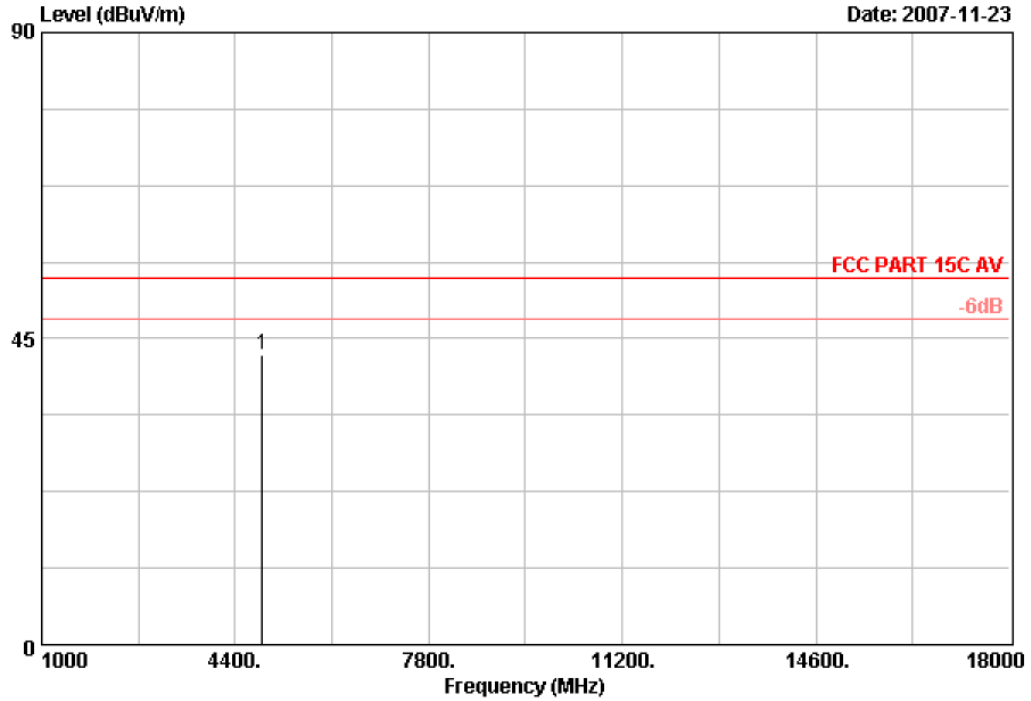
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)			
1 4874.00	34.16	9.67	34.48	44.66	54.01	74.00	19.99	Peak

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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 Postcode:518057

Data: 18 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



Site no. : Data no. : 18  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE802.11g CH6 2437MHz Tx Mode  
 M/N : TD-W8900G

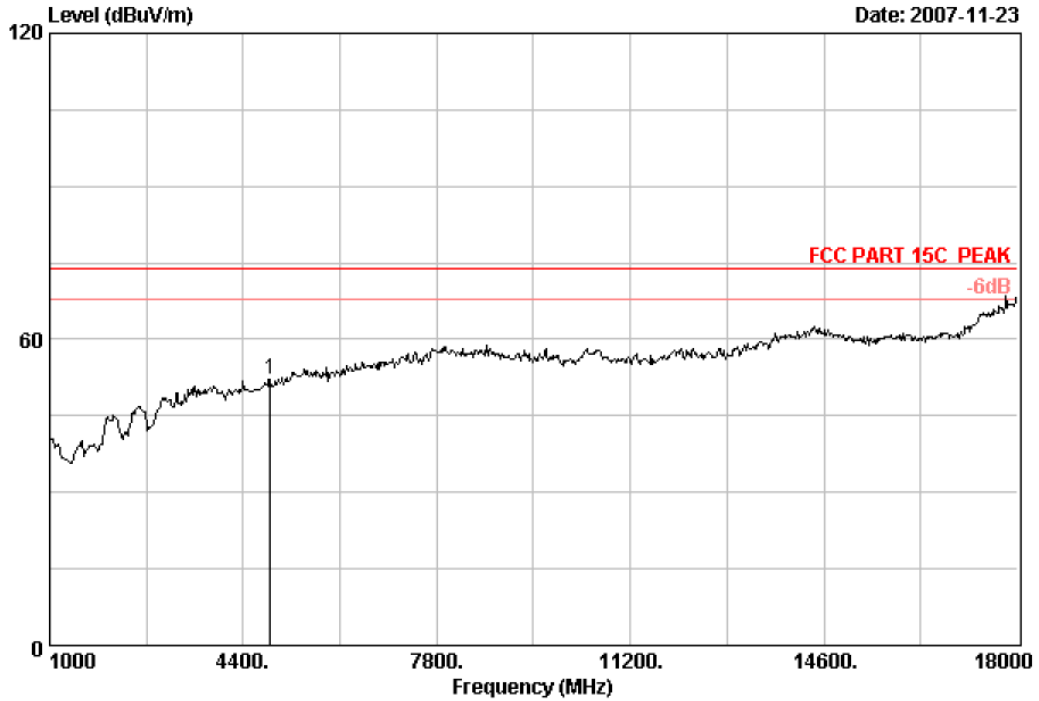
Freq. (MHz)	Ant. Factor (dB/m)	Cable Amp		Emission		Limits (dBuV/m)	Margin (dB)	Remark
		Loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)			
1 4874.00	34.16	9.67	34.48	33.15	42.50	54.00	11.50	Average

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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 Postcode:518057

Data: 19 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



Site no. : Data no. : 19  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE802.11g CH6 2437MHz Tx Mode  
 M/N : TD-W8900G

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)			
1 4874.00	34.16	9.67	34.48	42.95	52.30	74.00	21.70	Peak

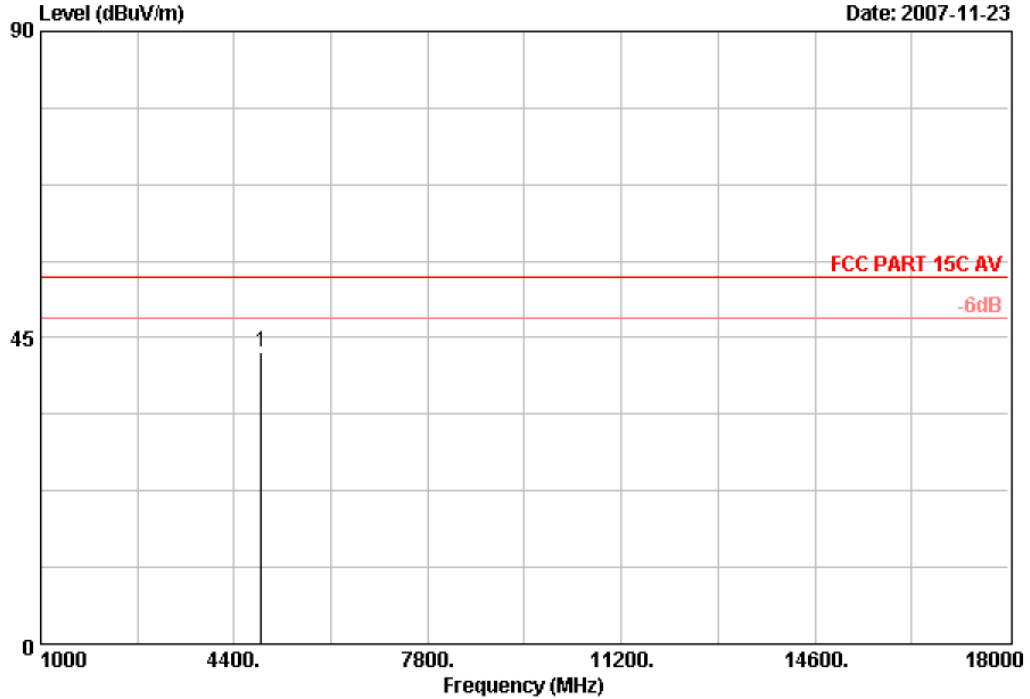
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 20 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)

Date: 2007-11-23



Site no. : Data no. : 20  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE802.11g CH6 2437MHz Tx Mode  
 M/N : TD-W8900G

	Freq. (MHz)	Ant.		Cable Amp		Emission			Remark
		Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	4874.00	34.16	9.67	34.48	33.59	42.94	54.00	11.06	Average

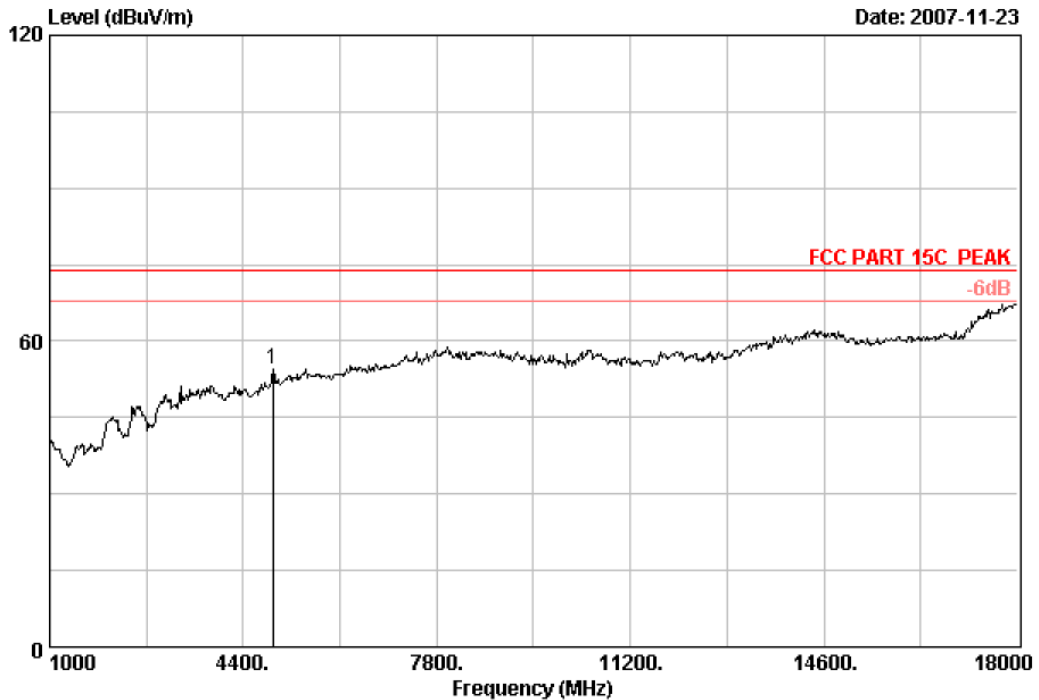
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.





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 Postcode:518057

Data: 21 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



Site no. : Data no. : 21  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE802.11g CH11 2462MHz Tx Mode  
 M/N : TD-W8900G

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)			
1 4924.00	34.29	9.79	34.47	44.72	54.33	74.00	19.67	Peak

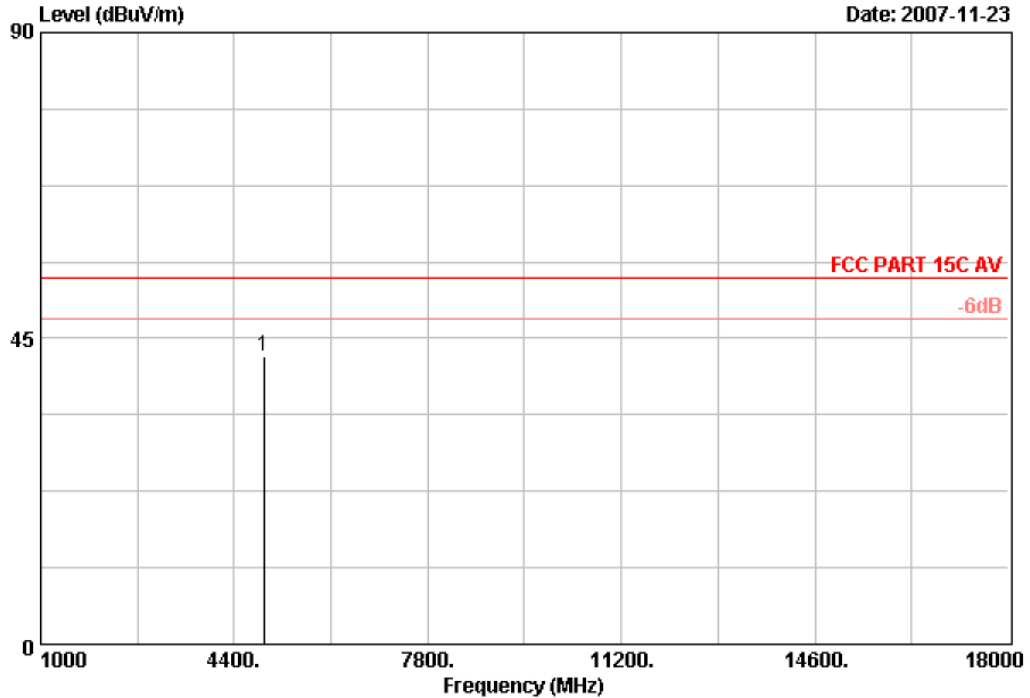
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 22 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)

Date: 2007-11-23



Site no. : Data no. : 22  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE802.11g CH11 2462MHz Tx Mode  
 M/N : TD-W8900G

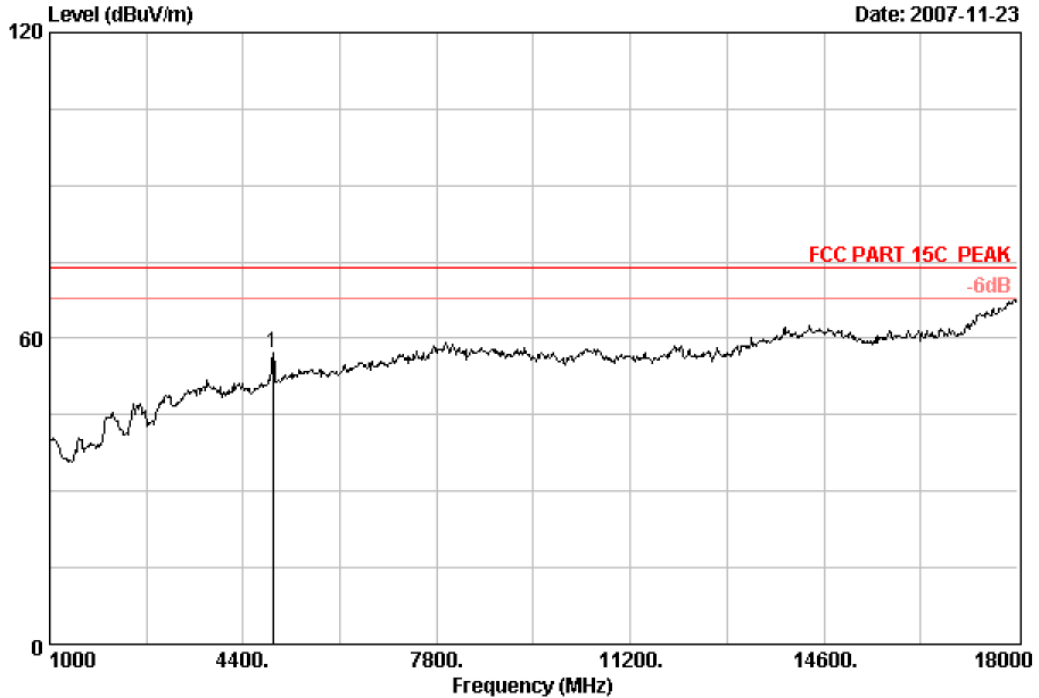
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark
					Reading (dBuV)	Level (dBuV/m)			
1	4924.00	34.29	9.79	34.47	32.84	42.45	54.00	11.55	Average

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



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 Postcode:518057

Data: 23 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



Site no. : Data no. : 23  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23°C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE802.11g CH11 2462MHz Tx Mode  
 M/N : TD-W8900G

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission		Margin (dB)	Remark
						Level (dBuV/m)	Limits (dBuV/m)		
1	4924.00	34.29	9.79	34.47	47.49	57.10	74.00	16.90	Peak

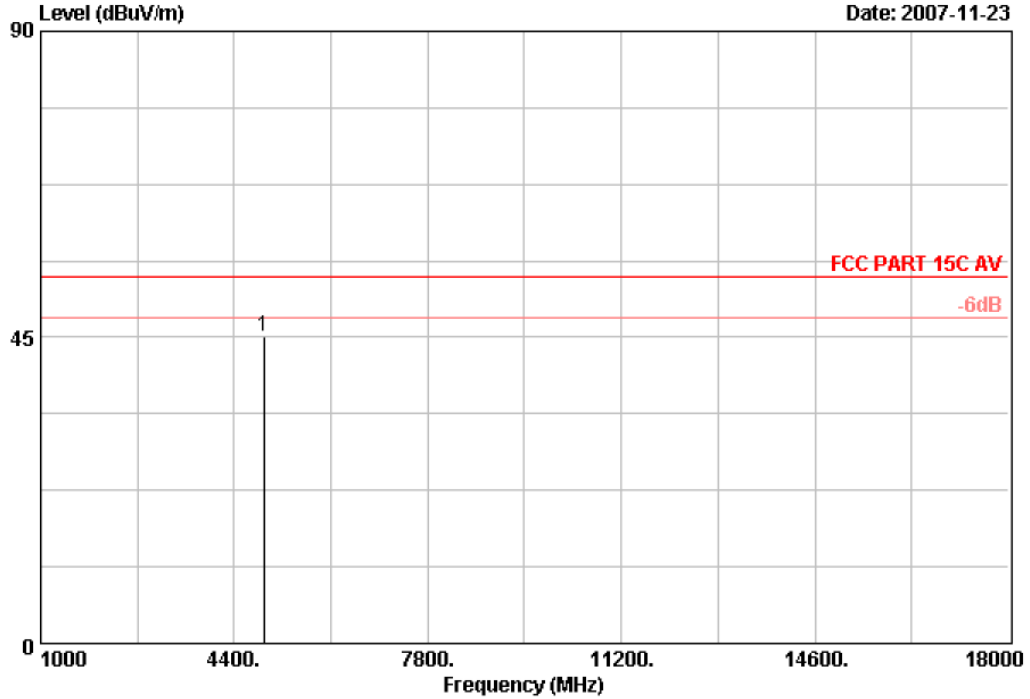
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 24 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)

Date: 2007-11-23



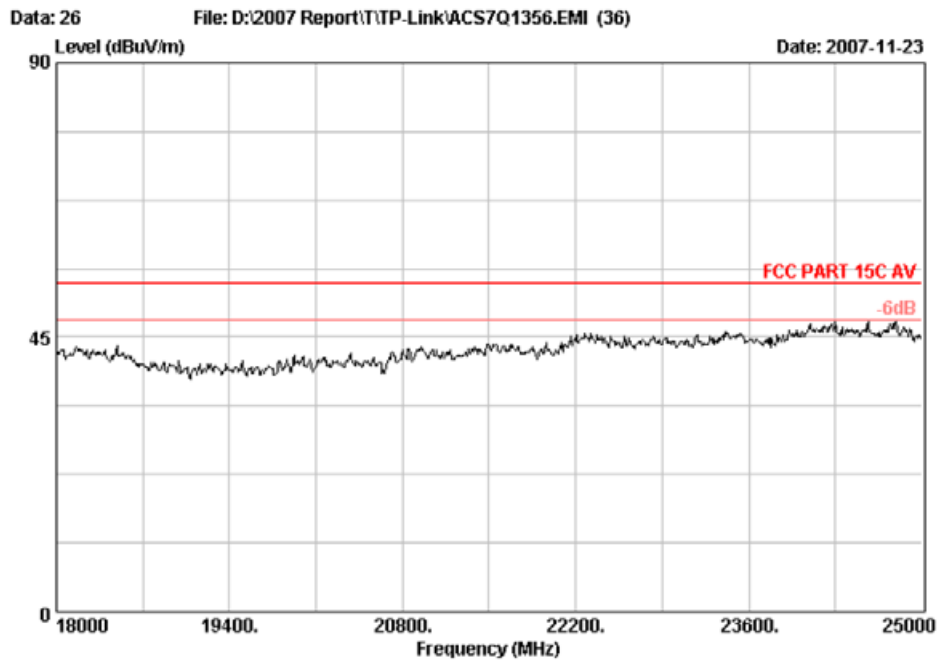
Site no. : Data no. : 24  
 Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV  
 Env. / Ins. : 23°C/54% Engineer : Jamy  
 EUT : 54M Wireless ADSL2 +Router  
 Power Rating: DC 12V From adapter 120V/60Hz  
 Test Mode : IEEE802.11g CH11 2462MHz Tx Mode  
 M/N : TD-W8900G

	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	4924.00	34.29	9.79	34.47	35.41	45.02	54.00	8.98	Average

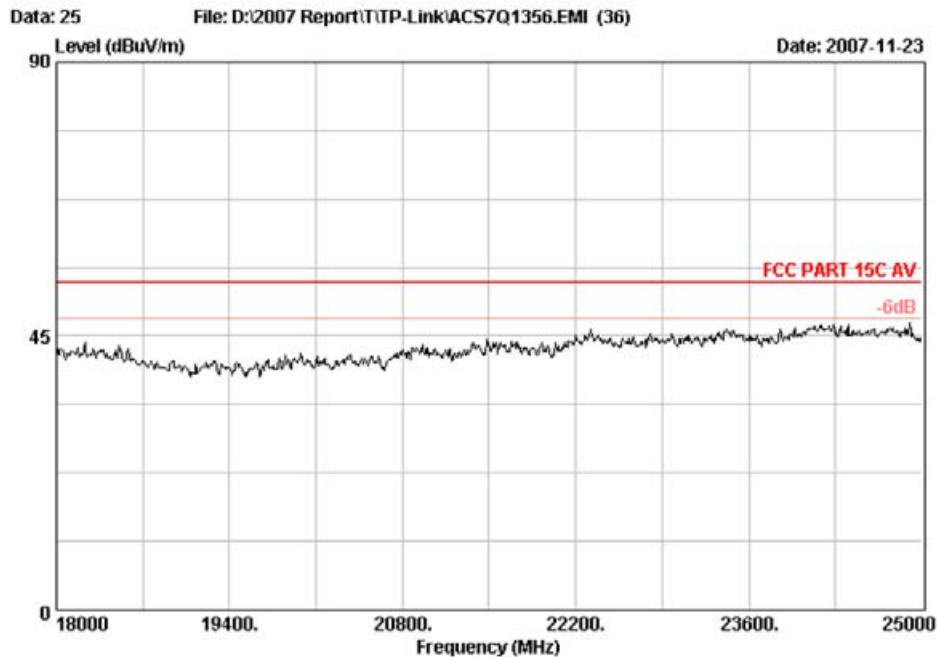
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



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Postcode:518057



Site no. : Data no. : 26  
Dis. / Ant. : 3m Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C AV  
Env. / Ins. : 23°C/54% Engineer : Jamy  
EUT : 54M Wireless ADSL2 +Router  
Power Rating: DC 12V From adapter 120V/60Hz  
Test Mode : IEEE802.11b CH1 2412MHz Tx Mode  
M/N : TD-W8900G

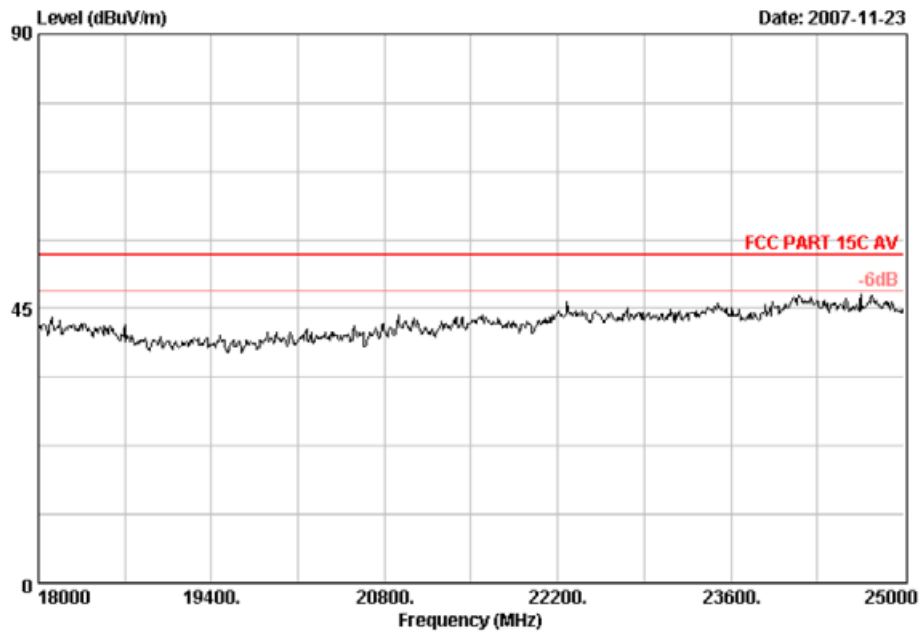


Site no. : Data no. : 25  
Dis. / Ant. : 3m Ant. pol. : VERTICAL  
Limit : FCC PART 15C AV  
Env. / Ins. : 23°C/54% Engineer : Jamy  
EUT : 54M Wireless ADSL2 +Router  
Power Rating: DC 12V From adapter 120V/60Hz  
Test Mode : IEEE802.11b CH1 2412MHz Tx Mode  
M/N : TD-W8900G



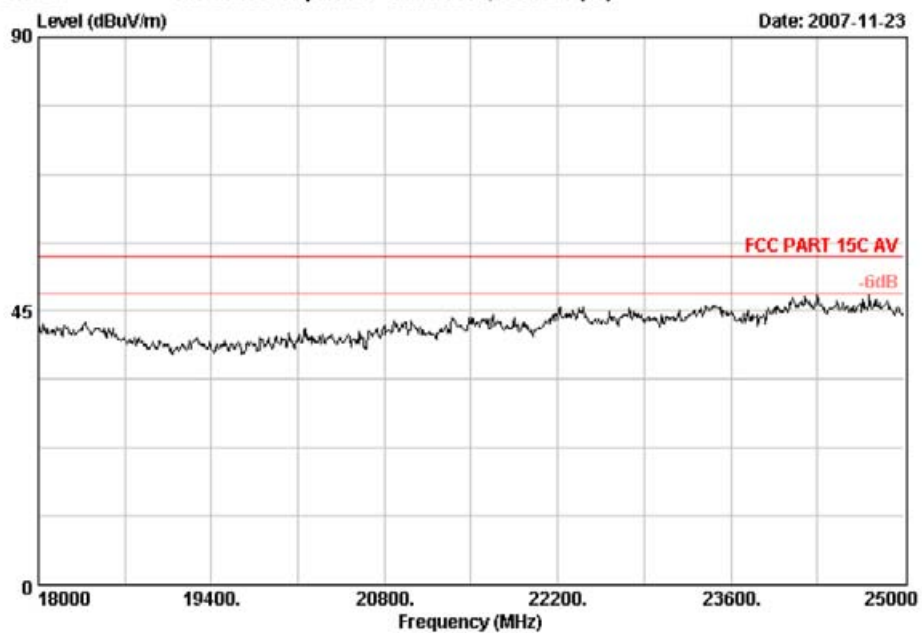
No.6 Ke Feng Road,B1:ck 52,  
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Tel:+86-755-26639495-7  
Fax:+86-755-26632877  
Postcode:518057

Data: 27 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



Site no. : Data no. : 27  
Dis. / Ant. : 3m Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C AV  
Env. / Ins. : 23°C/54% Engineer : Jamy  
EUT : 54M Wireless ADSL2 +Router  
Power Rating: DC 12V From adapter 120V/60Hz  
Test Mode : IEEE802.11b CH6 2437MHz Tx Mode  
M/N : TD-W8900G

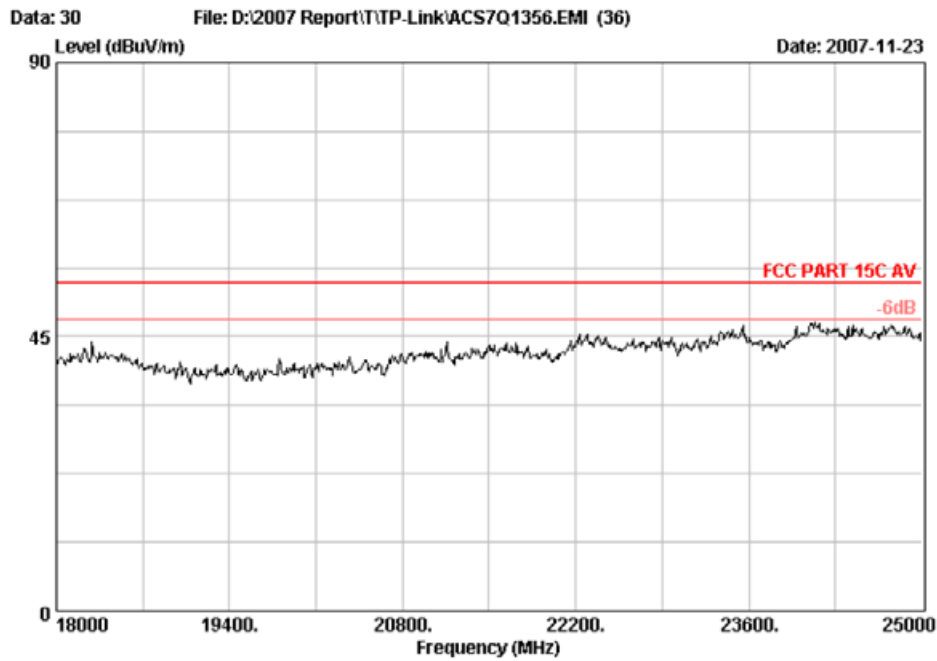
Data: 28 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



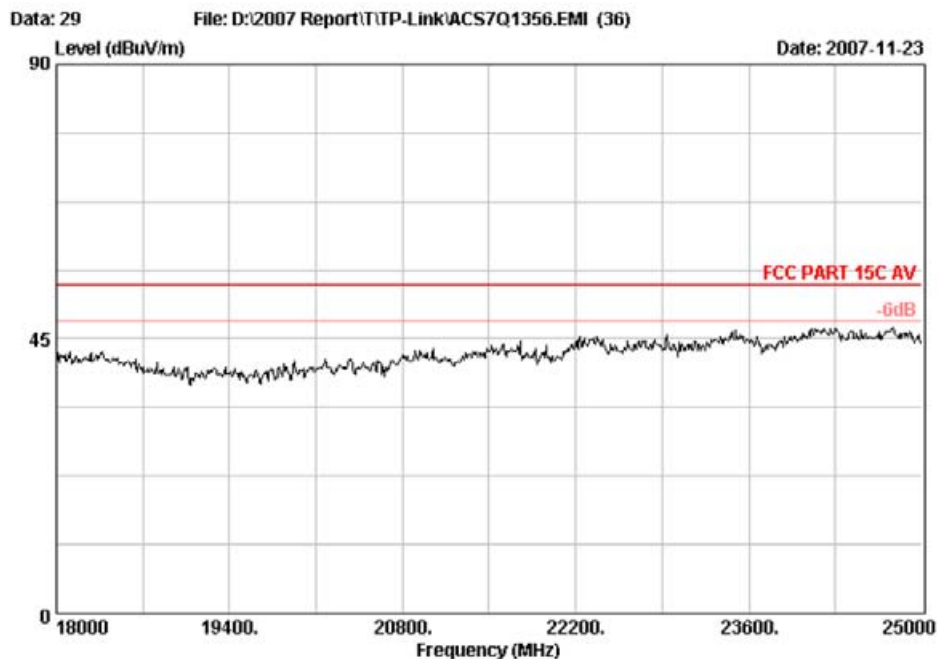
Site no. : Data no. : 28  
Dis. / Ant. : 3m Ant. pol. : VERTICAL  
Limit : FCC PART 15C AV  
Env. / Ins. : 23°C/54% Engineer : Jamy  
EUT : 54M Wireless ADSL2 +Router  
Power Rating: DC 12V From adapter 120V/60Hz  
Test Mode : IEEE802.11b CH6 2437MHz Tx Mode  
M/N : TD-W8900G



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Postcode:518057



Site no. : Data no. : 30  
Dis. / Ant. : 3m Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C AV  
Env. / Ins. : 23°C/54% Engineer : Jamy  
EUT : 54M Wireless ADSL2 +Router  
Power Rating: DC 12V From adapter 120V/60Hz  
Test Mode : IEEE802.11b CH11 2462MHz Tx Mode  
M/N : TD-W8900G

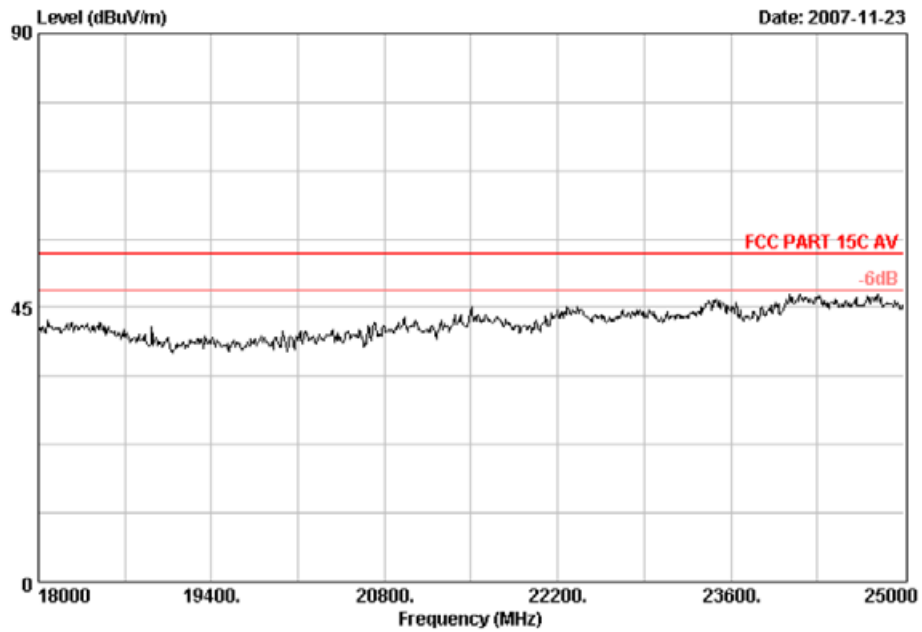


Site no. : Data no. : 29  
Dis. / Ant. : 3m Ant. pol. : VERTICAL  
Limit : FCC PART 15C AV  
Env. / Ins. : 23°C/54% Engineer : Jamy  
EUT : 54M Wireless ADSL2 +Router  
Power Rating: DC 12V From adapter 120V/60Hz  
Test Mode : IEEE802.11b CH11 2462MHz Tx Mode  
M/N : TD-W8900G



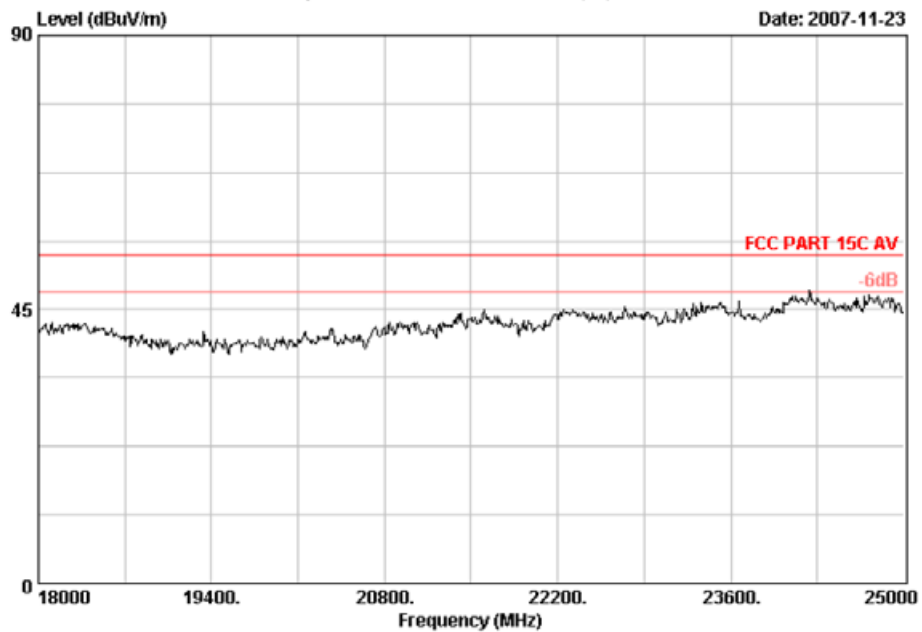
No.6 Ke Feng Road,B1:ck 52,  
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Fax:+86-755-26632877  
Postcode:518057

Data: 31 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



Site no. : Data no. : 31  
Dis. / Ant. : 3m Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C AV  
Env. / Ins. : 23°C/54% Engineer : Jamy  
EUT : 54M Wireless ADSL2 +Router  
Power Rating: DC 12V From adapter 120V/60Hz  
Test Mode : IEEE802.11g CH1 2412MHz Tx Mode  
M/N : TD-W8900G

Data: 32 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



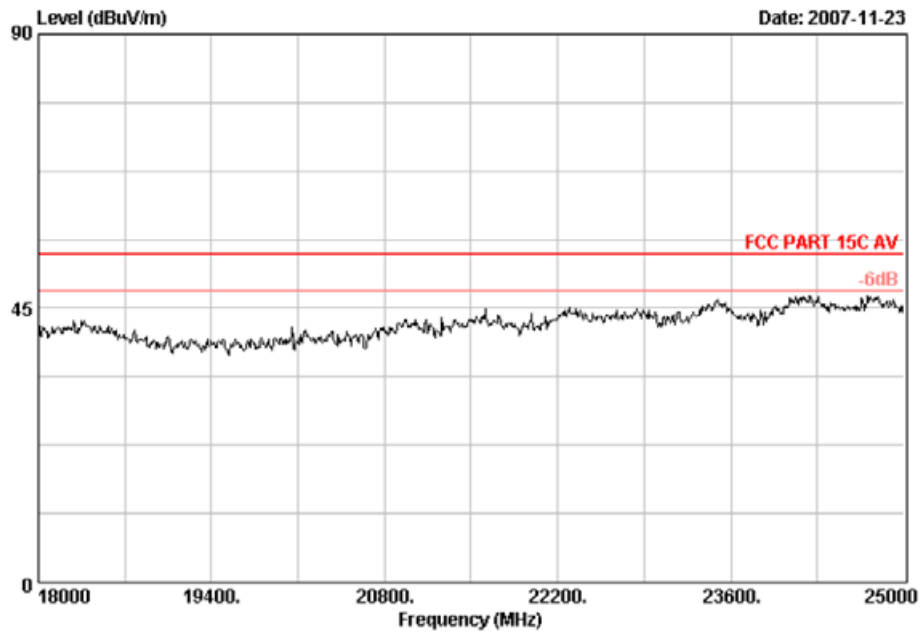
Site no. : Data no. : 32  
Dis. / Ant. : 3m Ant. pol. : VERTICAL  
Limit : FCC PART 15C AV  
Env. / Ins. : 23°C/54% Engineer : Jamy  
EUT : 54M Wireless ADSL2 +Router  
Power Rating: DC 12V From adapter 120V/60Hz  
Test Mode : IEEE802.11g CH1 2412MHz Tx Mode  
M/N : TD-W8900G





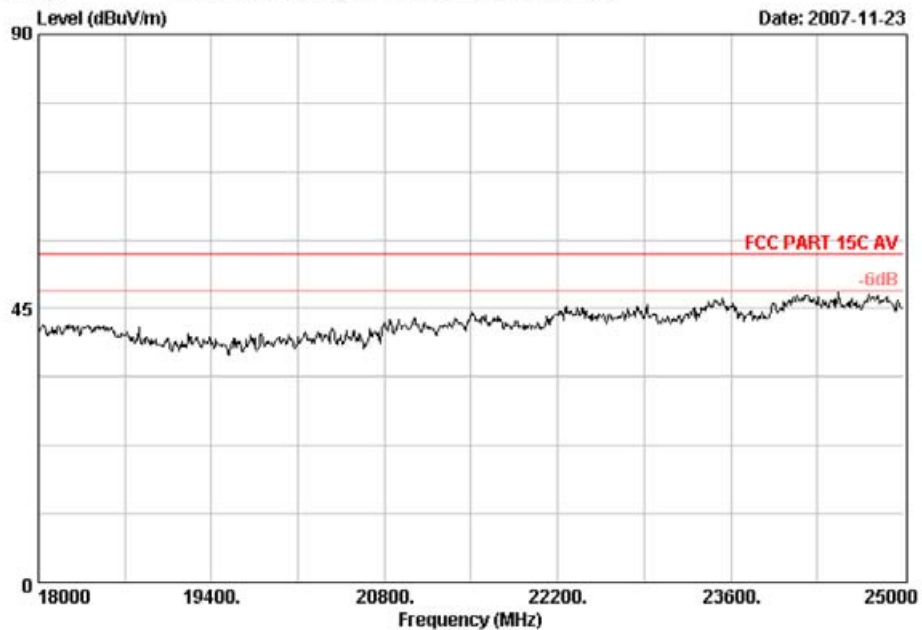
No.6 Ke Feng Road,B1:ck 52,  
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Tel:+86-755-26639495-7  
Fax:+86-755-26632877  
Postcode:518057

Data: 34 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



Site no. : Data no. : 34  
Dis. / Ant. : 3m Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C AV  
Env. / Ins. : 23°C/54% Engineer : Jamy  
EUT : 54M Wireless ADSL2 +Router  
Power Rating: DC 12V From adapter 120V/60Hz  
Test Mode : IEEE802.11g CH6 2437MHz Tx Mode  
M/N : TD-W8900G

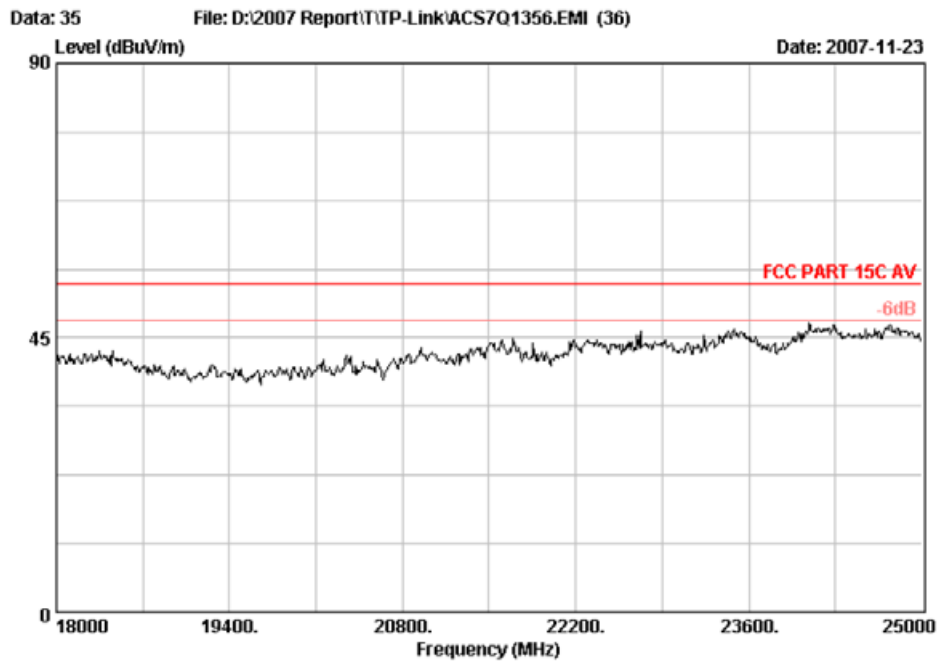
Data: 33 File: D:\2007 Report\T\TP-Link\ACS7Q1356.EMI (36)



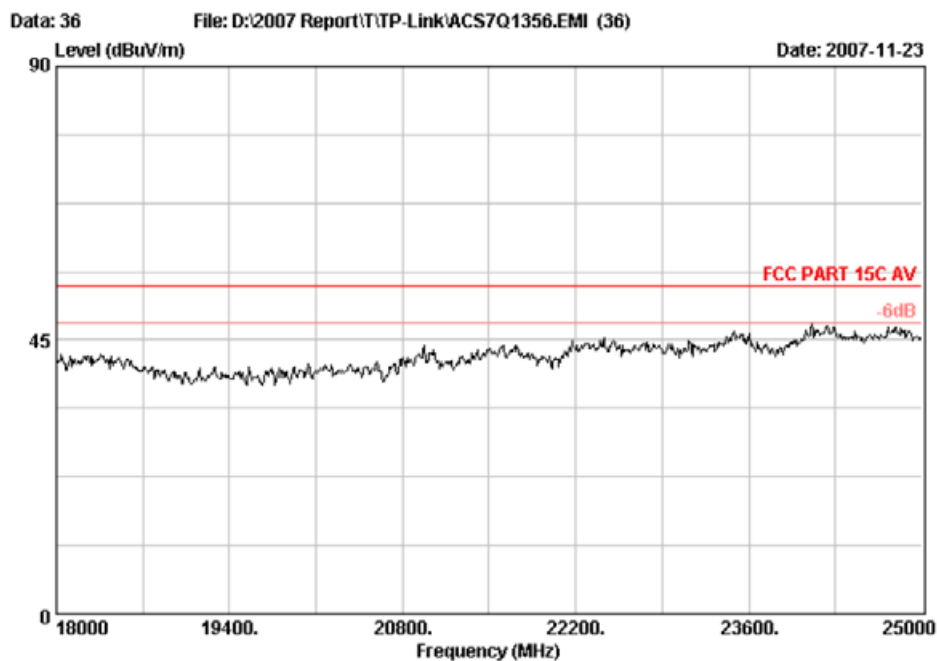
Site no. : Data no. : 33  
Dis. / Ant. : 3m Ant. pol. : VERTICAL  
Limit : FCC PART 15C AV  
Env. / Ins. : 23°C/54% Engineer : Jamy  
EUT : 54M Wireless ADSL2 +Router  
Power Rating: DC 12V From adapter 120V/60Hz  
Test Mode : IEEE802.11g CH6 2437MHz Tx Mode  
M/N : TD-W8900G



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Site no. : Data no. : 35  
Dis. / Ant. : 3m Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C AV  
Env. / Ins. : 23°C/54% Engineer : Jamy  
EUT : 54M Wireless ADSL2 +Router  
Power Rating: DC 12V From adapter 120V/60Hz  
Test Mode : IEEE802.11g CH11 2462MHz Tx Mode  
M/N : TD-W8900G

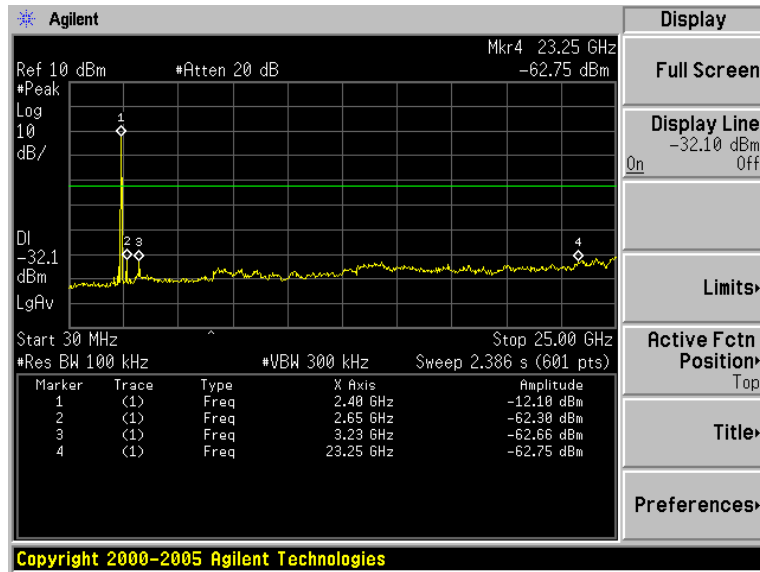


Site no. : Data no. : 36  
Dis. / Ant. : 3m Ant. pol. : VERTICAL  
Limit : FCC PART 15C AV  
Env. / Ins. : 23°C/54% Engineer : Jamy  
EUT : 54M Wireless ADSL2 +Router  
Power Rating: DC 12V From adapter 120V/60Hz  
Test Mode : IEEE802.11g CH11 2462MHz Tx Mode  
M/N : TD-W8900G

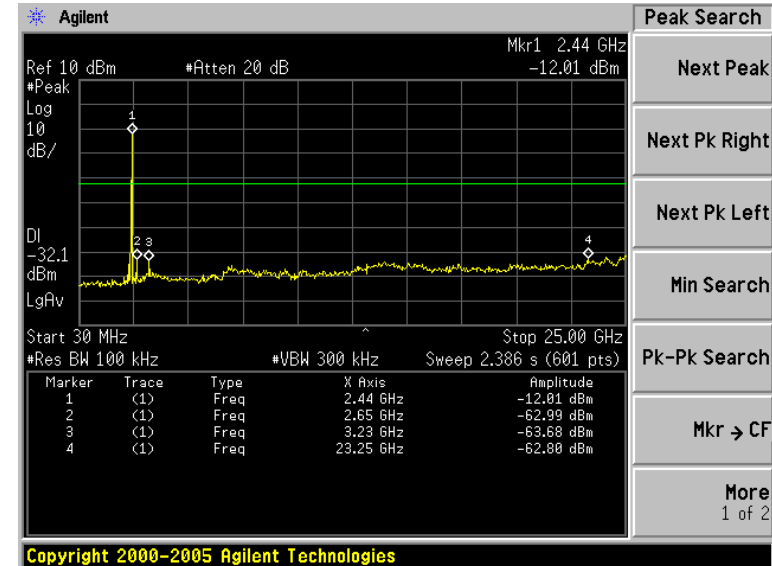
**Conducted emission test data:**

Test Mode: IEEE 802.11b TX

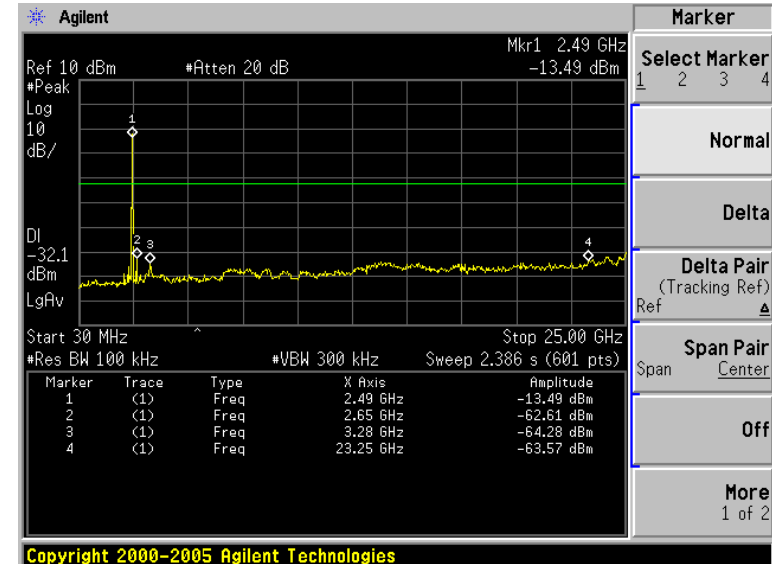
Test CH1: 2412MHz



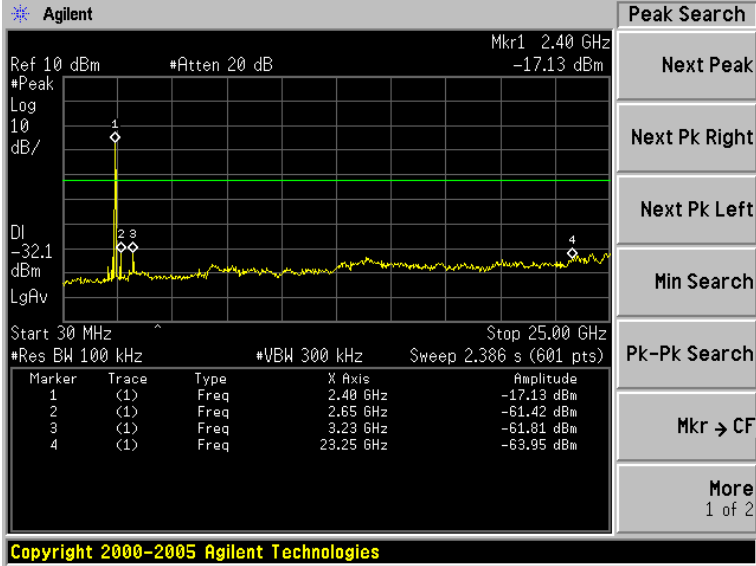
**Test CH6: 2437MHz**



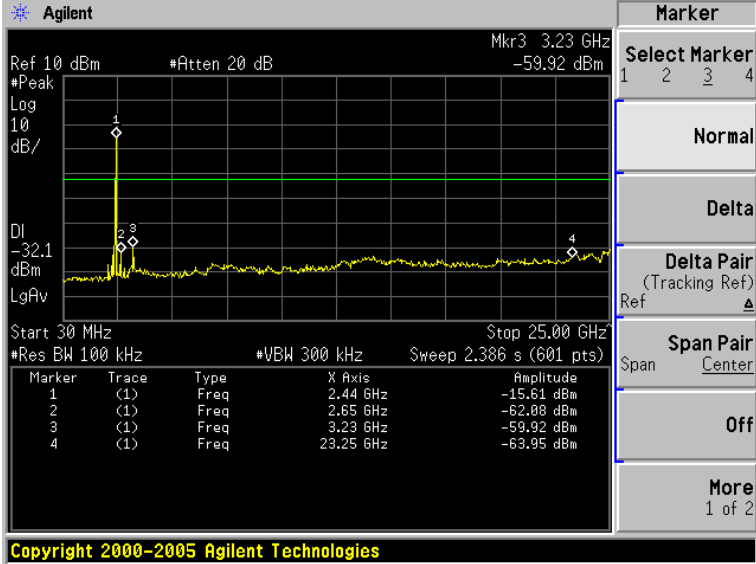
**Test CH11: 2462MHz**



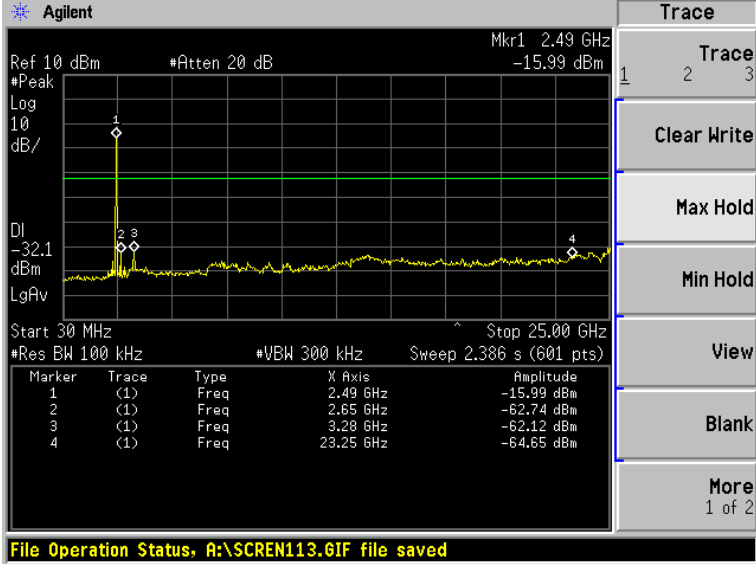
Test Mode: IEEE 802.11g TX  
Test CH1: 2412MHz



Test CH6: 2437MHz



Test CH11: 2462MHz



File Operation Status, A:\SCREEN113.6IF file saved

## 5. 6dB Bandwidth Test

### 5.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum	Agilent	E4407B	MY41440292	May 11, 07	1 Year
2	Amp	HP	8449B	3008A00863	May 11, 07	1 Year
3	Antenna	EMCO	3115	9607-4877	Jan. 23, 07	1.5 Year
4	HF Cable	Hubersuhne	Sucoflex104	-	May 11, 07	1 Year

### 5.2. Test Information

EUT:	54M Wireless ADSL2 + Router
M/N:	TD-W8900G
Test Date:	Nov.28, 2007
Ambient Temperature:	23°C
Relative Humidity:	60%
Test standard:	FCC PART 15C: 15.247
Test mode:	IEEE 802.11b TX / IEEE 802.11g TX
Test Frequency:	CH1: 2412MHz CH6: 2437MHz CH11: 2462MHz
Tested By:	Jamy

### 5.3. Test Procedure

The transmitter output was connected to a spectrum analyzer via a Attenuator . The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100 KHz 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.

#### 5.4. Test Results

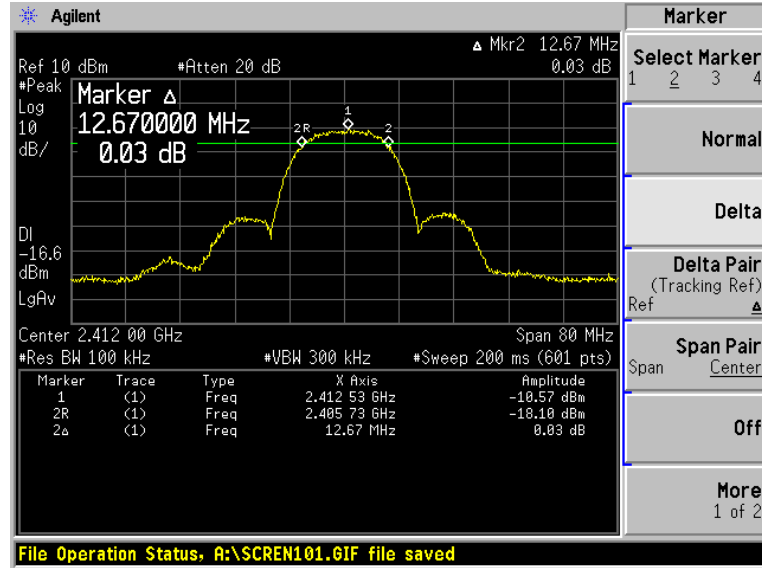
Test Mode: IEEE 802.11b TX

CH	6dB Bandwidth (MHz)	Limit	Conclusion
1	12.67	>500	PASS
6	12.27	>500	PASS
11	12.67	>500	PASS

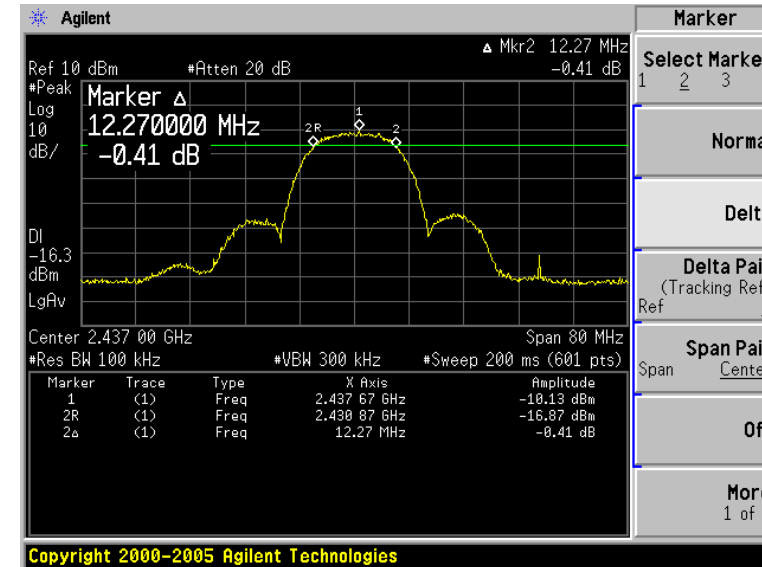
Test Mode: IEEE 802.11g TX

CH	6dB Bandwidth (MHz)	Limit	Conclusion
1	16.53	>500	PASS
6	16.53	>500	PASS
11	16.53	>500	PASS

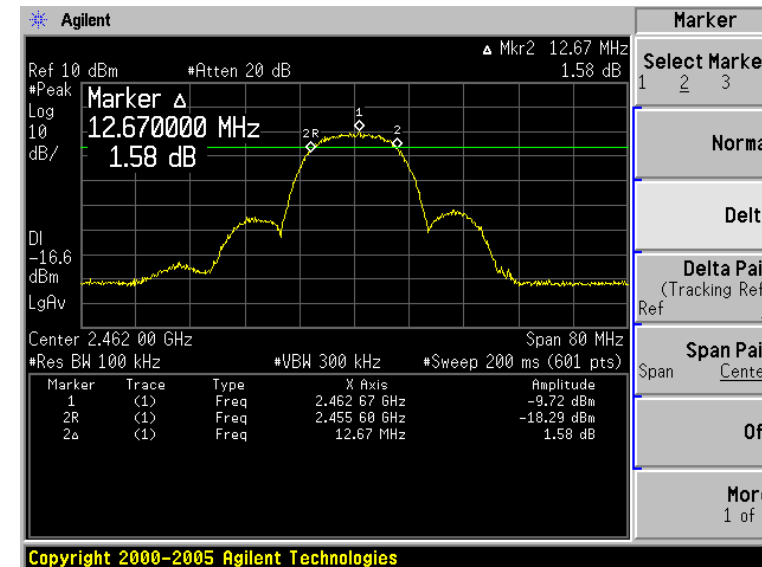
Test Mode: IEEE 802.11b TX  
 Test CH1: 2412MHz



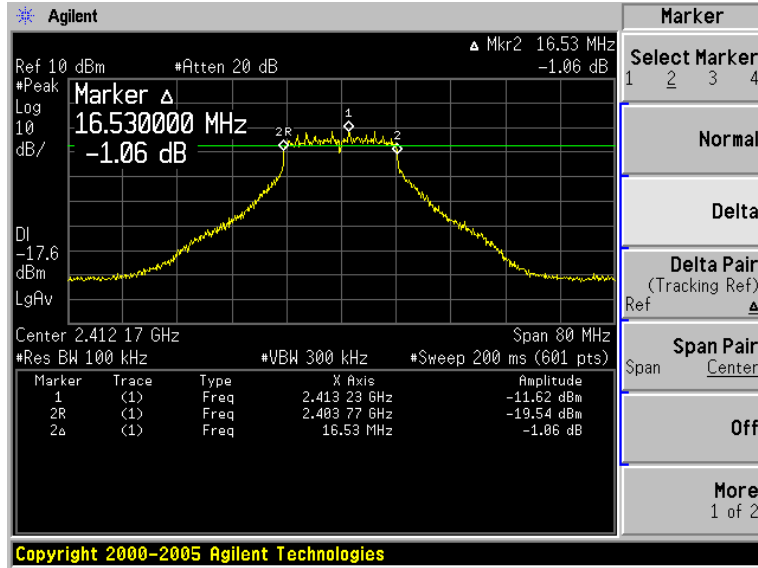
Test CH6: 2437MHz



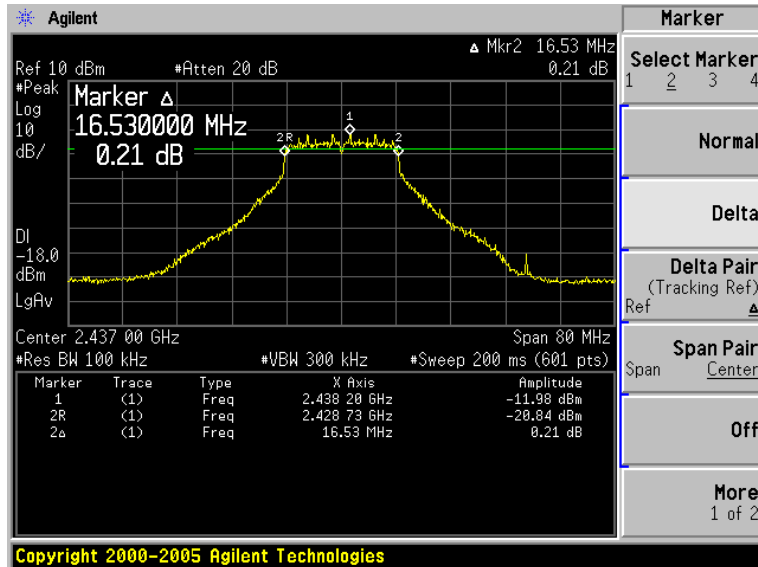
Test CH11: 2462MHz



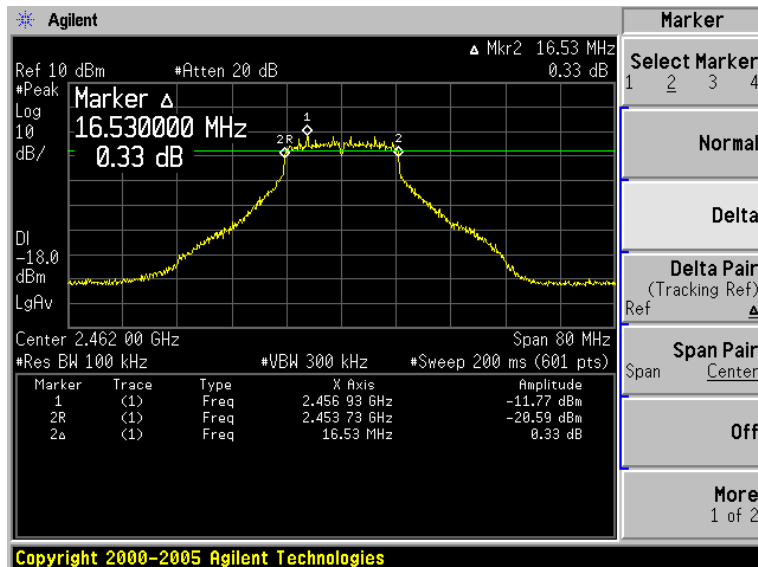
Test Mode: IEEE 802.11g TX  
 Test CH1: 2412MHz



Test CH6: 2437MHz



Test CH11: 2462MHz





## 6. OUTPUT POWER TEST

### 6.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4407B	MY41440292	May 11, 07	1 Year
2.	Amp	HP	8449B	3008A00863	May 11, 07	1 Year
3.	Antenna	EMCO	3115	9607-4877	Jan. 23, 07	1.5 Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May 11, 07	1 Year
5.	Power meter	HP	436A	2016A07891	May 11, 07	1 Year
6.	Power Sensor	Agilent	8482B	My41090514	May 11, 07	1Year

### 6.2. Test Information

EUT:	54M Wireless ADSL2 + Router
M/N:	TD-W8900G
Test Date:	Nov.28, 2007
Ambient Temperature:	23°C
Relative Humidity:	60%
Test standard:	FCC PART 15C: 15.247
Test mode:	IEEE 802.11b TX / IEEE 802.11g TX
Test Frequency:	CH1: 2412MHz CH6: 2437MHz CH11: 2462MHz
Tested By:	Jamy

### 6.3. Test Procedure

The transmitter output was connected to a power meter via a Attenuator, use the power meter to read out the peak out put power.

## 6.4. Test Results

Test mode: IEEE 802.11b TX

Test CH	Read(PK) (dBm)	Cable loss(dB)	Atten loss (dB)	Result (dBm)	Limit (dBm)	Conclusion
1	-0.8	0.6	20	19.8	30	<b>PASS</b>
6	-1.09	0.6	20	19.51	30	<b>PASS</b>
11	-0.47	0.6	20	20.13	30	<b>PASS</b>

Test mode: IEEE 802.11g TX

Test CH	Read (dBm)	Cable loss(dB)	Atten loss (dB)	Result (dBm)	Limit (dBm)	Conclusion
1	-1.63	0.6	20	18.97	30	<b>PASS</b>
6	-1.41	0.6	20	19.19	30	<b>PASS</b>
11	-1.42	0.6	20	19.18	30	<b>PASS</b>

Note: Result= Read + Cable loss + Atten loss

## 7. BAND EDGE COMPLIANCE TEST

### 7.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4407B	MY41440292	May 11, 07	1 Year
2.	Amp	HP	8449B	3008A00863	May 11, 07	1 Year
3.	Antenna	EMCO	3115	9607-4877	Jan. 23, 07	1.5 Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May 11, 07	1 Year

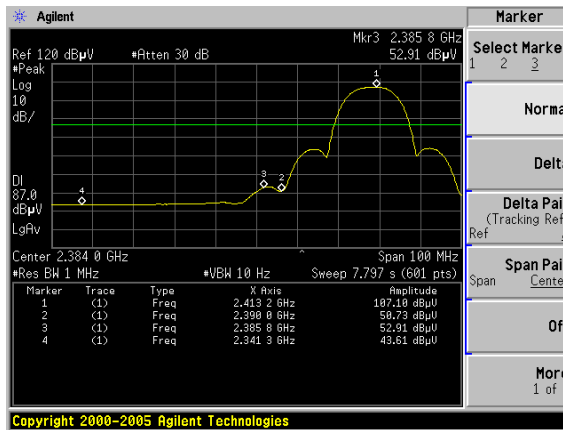
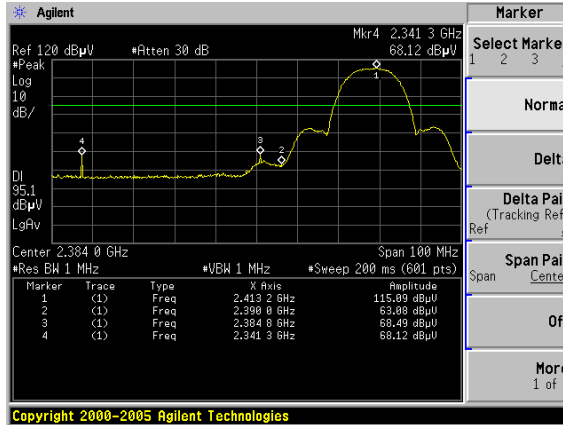
### 7.2. Test Information

EUT:	54M Wireless ADSL2 + Router
M/N:	TD-W8900G
Test Date:	Nov.28, 2007
Ambient Temperature:	23°C
Relative Humidity:	60%
Test standard:	FCC PART 15C: 15.247
Test mode:	IEEE 802.11b TX / IEEE 802.11g TX
Test Frequency:	CH1: 2412MHz CH6: 2437MHz CH11: 2462MHz
Test By:	Jamy

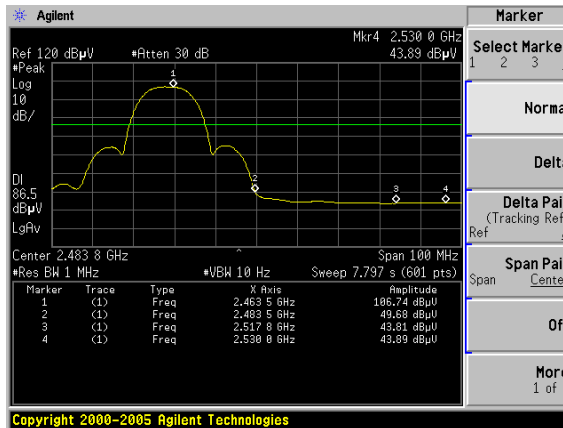
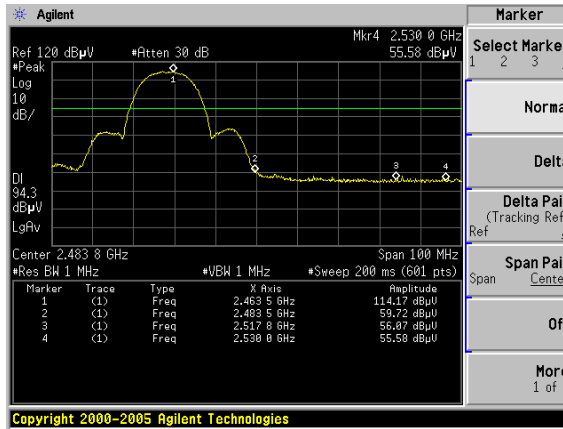
### 7.3. Test Results

Pass

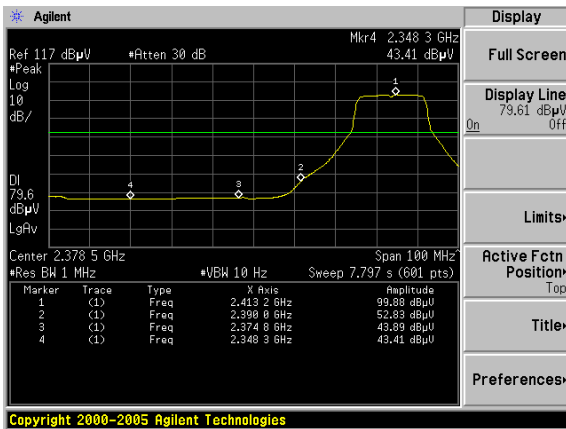
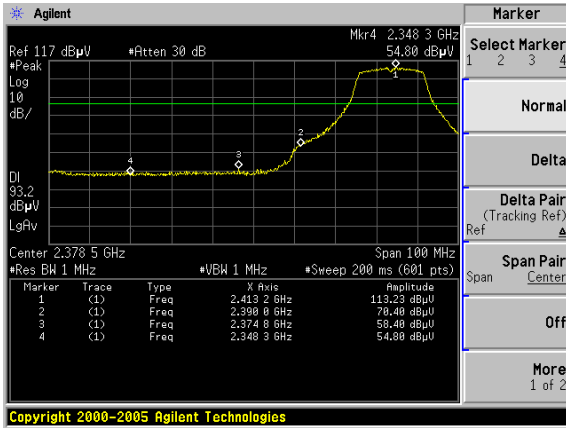
Test mode: IEEE 802.11b TX  
CH1: 2412MHz



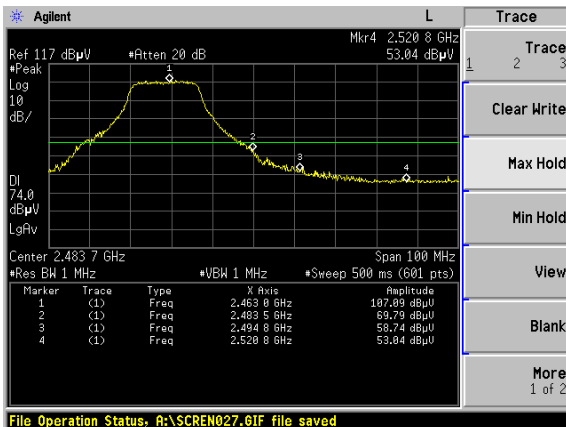
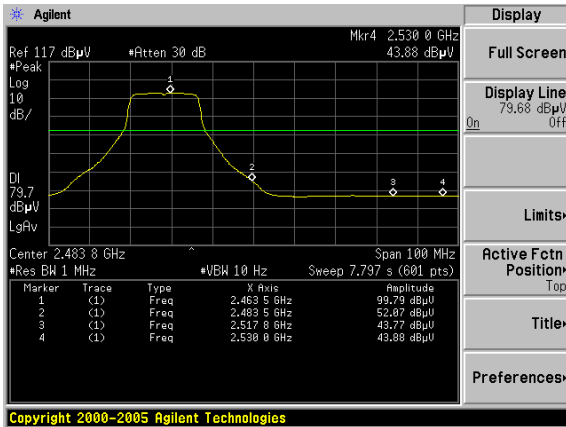
CH11: 2462MHz



Test mode: IEEE 802.11g TX  
CH1: 2412MHz



CH11: 2462MHz



## 8. POWER SPECTRAL DENSITY TEST

### 8.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4407B	MY41440292	May 11, 07	1 Year
2.	Amp	HP	8449B	3008A00863	May 11, 07	1 Year
3.	Antenna	EMCO	3115	9607-4877	Jan. 23, 07	1.5 Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May 11, 07	1 Year

### 8.2. Test Information

EUT:	54M Wireless ADSL2 + Router
M/N:	TD-W8900G
Test Date:	Nov.28, 2007
Ambient Temperature:	23°C
Relative Humidity:	60%
Test standard:	FCC PART 15C: 15.247
Test mode:	IEEE 802.11b TX / IEEE 802.11g TX
Test Frequency:	CH1: 2412MHz CH6: 2437MHz CH11: 2462MHz
Test By:	Jamy

### 8.3. Test Procedure

The transmitter output was connected to a spectrum analyzer via a Attenuator . The power density was measured by spectrum analyzer with 3 KHz RBW and 30KHz VBW, sweep time=span/3KHz.

## 8.4. Test Results

Test mode: IEEE 802.11b TX

Test CH	Read(PK) (dBm/3KHz)	Cable loss(dB)	Atten loss (dB)	Result (dBm/3KHz)	Limit (dBm/3KHz)	Conclusion
1	-23.91	0.6	20	-3.31	8	<b>PASS</b>
6	-21.69	0.6	20	-1.09	8	<b>PASS</b>
11	-21.58	0.6	20	-0.98	8	<b>PASS</b>

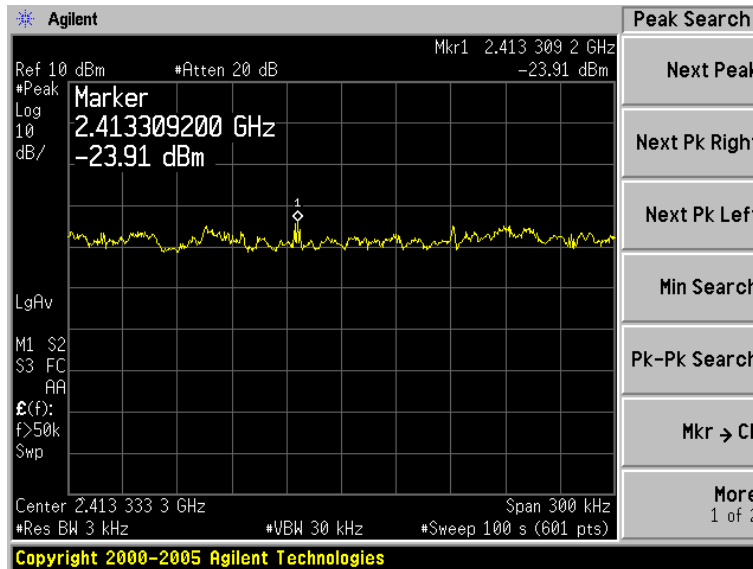
Test mode: IEEE 802.11g TX

Test CH	Read (dBm/3KHz)	Cable loss(dB)	Atten loss (dB)	Result (dBm)	Limit (dBm)	Conclusion
1	-26.78	0.6	20	-6.81	8	<b>PASS</b>
6	-27.05	0.6	20	-6.45	8	<b>PASS</b>
11	-28.70	0.6	20	-8.10	8	<b>PASS</b>

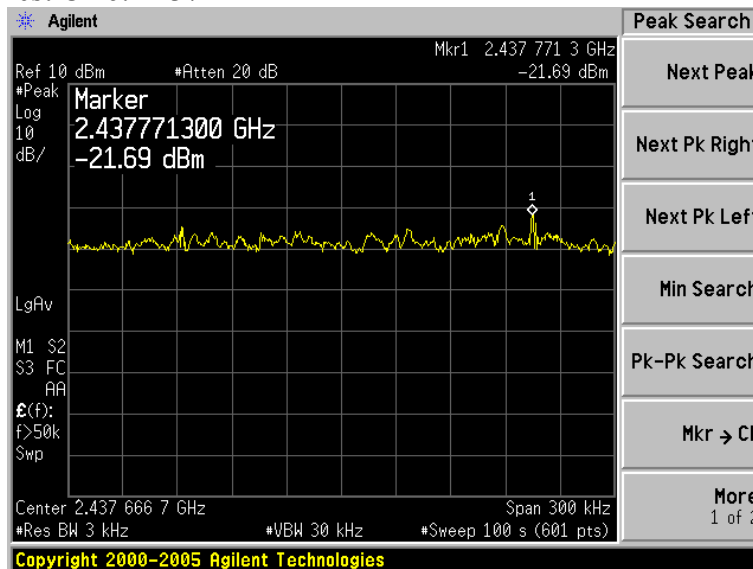
Note: Result= Read + Cable loss + Atten loss

Test Mode: IEEE 802.11b TX

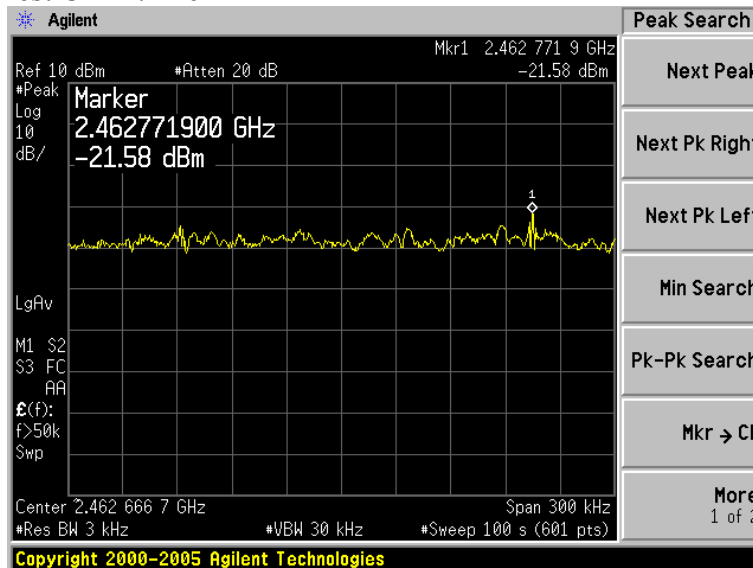
Test CH1: 2412MHz



Test CH6: 2437MHz



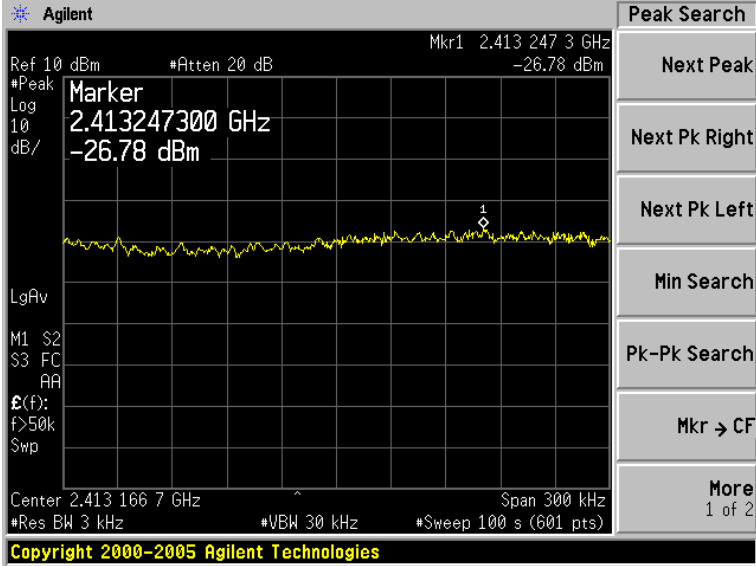
Test CH11: 2462MHz



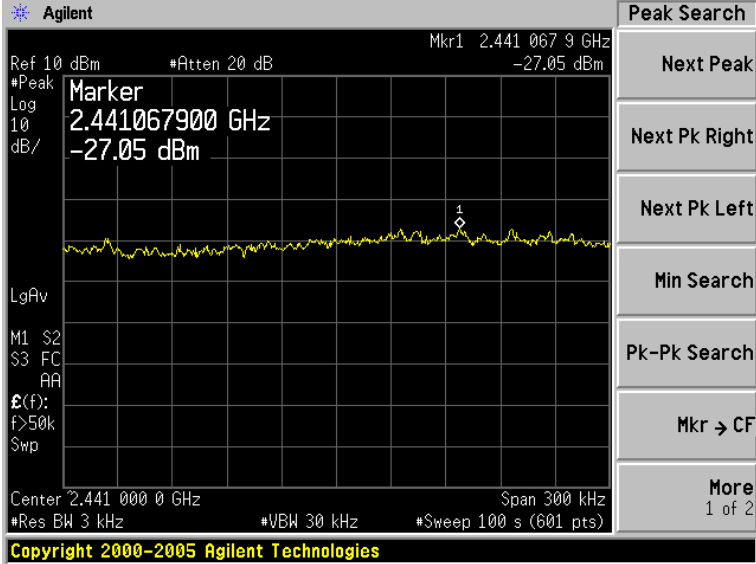


Test Mode: IEEE 802.11g TX

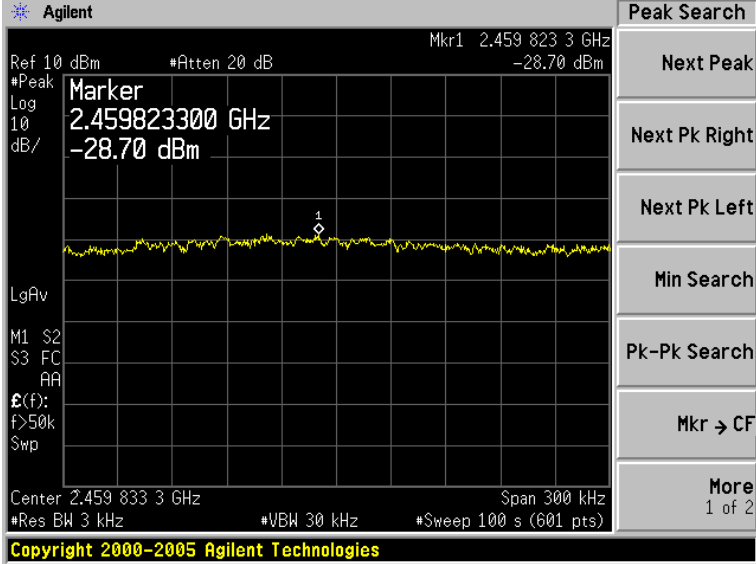
Test CH1: 2412MHz



Test CH6: 2437MHz



Test CH11: 2462MHz



## 9. MPE ESTIMATION

### 9.1.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

### 9.2.Estimation Result

#### 2.1 IEEE 802.11b Mode

Channel	Frequency(MHz)	Peak output power(dBm)	antenna gain(dBi)	antenna gain (Linear)
1	2412	19.8	3	2
6	2437	19.51	3	2
11	2462	20.13	3	2

Channel	Frequency(MHz)	Peak output power to antenna (mW)	Power density at 20cm(mW/ cm <sup>2</sup> )
1	2412	95.50	0.038
6	2437	89.33	0.030
11	2462	103.04	0.041

#### 2.2 IEEE 802.11g Mode

Channel	Frequency(MHz)	Peak output power(dBm)	antenna gain(dBi)	antenna gain (Linear)
1	2412	18.97	3	2
6	2437	19.19	3	2
11	2462	19.18	3	2

Channel	Frequency(MHz)	Peak output power to antenna (mW)	Power density at 20cm(mW/ cm <sup>2</sup> )
1	2412	78.89	0.031
6	2437	82.99	0.033
11	2462	82.79	0.033

## **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 antenna used for this product is antenna with SMA-B connector (see EUT photo) that no antenna other than that furnished by the responsible party shall be used with the device, The maximum peak gain of this antenna is only 3dBi.

## **11.DEVIATION TO TEST SPECIFICATIONS**

[ NONE ]

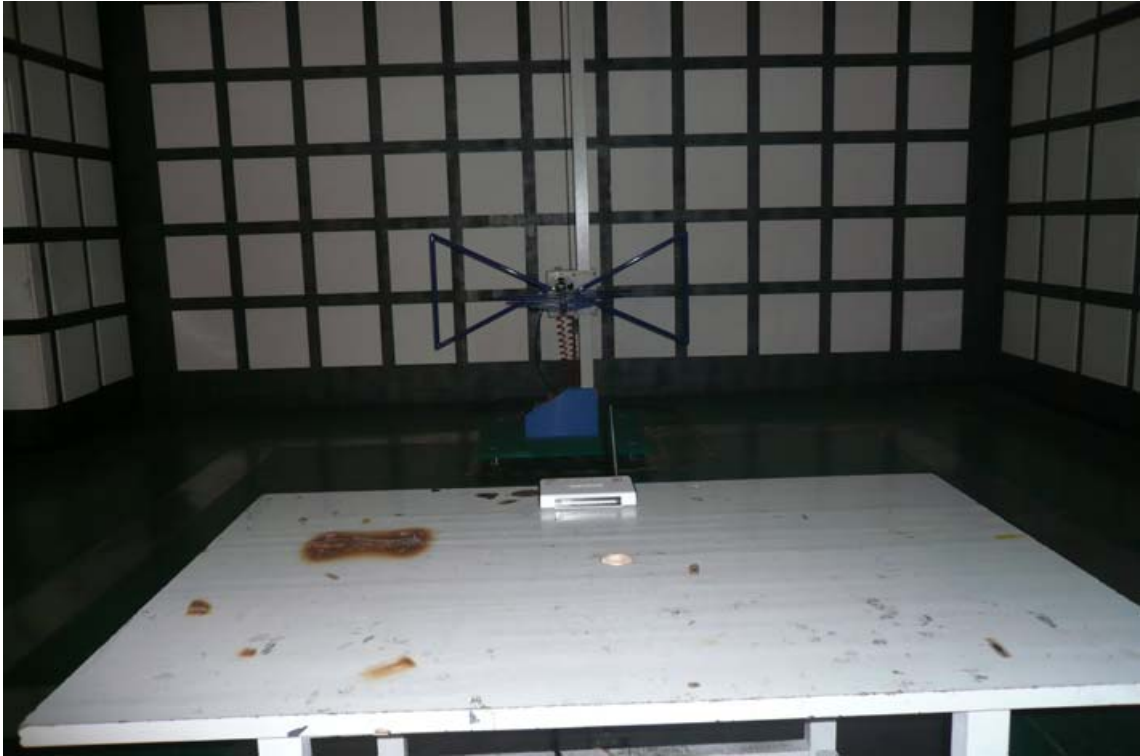
# 12.PHOTOGRAPH

## 12.1.Photos of Power Line Conducted Emission Test



12.2.Photos of Radiated Emission Test

30-1000MHz



Above 1000MHz

