FCC TEST REPORT

On Behalf of

Panda Wireless, Inc.

Wireless USB Adapter

Model No.: PAU07

Prepared for	:	Panda Wireless, Inc.
Address	:	15559 Union Ave, Suite 300, Los Gatos, CALIFORNIA 95032
Prepared by	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Address	:	1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China
Tel	:	(+86)755-82591330
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Web	:	www.LCS-cert.com
Mail	:	webmaster@LCS-cert.com
Date of receipt of test sample	:	December 17, 2014
Number of tested samples	:	1
Serial number	:	Prototype
Date of Test	:	December 17, 2014 - January 06, 2015
Date of Report	:	January 06, 2015

FCC TEST REPORT

FCC CFR 47 PART 15 Subpart B: 2014

Report Reference No.	**:**	**LCS1501120364E**
Date Of Issue	:	January 06, 2015
Testing Laboratory Name.....	**:**	**Shenzhen LCS Compliance Testing Laboratory Ltd.**
Address	:	1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China
Testing Location/ Procedure.....	:	Full application of Harmonised standards ■ Partial application of Harmonised standards □ Other standard testing method □
**Applicant's Name ..... **	**:**	**Panda Wireless, Inc.**
Address	:	15559 Union Ave, Suite 300, Los Gatos, CALIFORNIA 95032
Test Specification		
Standard.....	:	FCC CFR 47 PART 15 Subpart B: 2014, ANSI C63.4-2009
Test Report Form No.....	:	LCSEMC-1.0
TRF Originator	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Master TRF.....	:	Dated 2011-03

**Test Item Description. ..... **	**:**	**Wireless USB Adapter**
Trade Mark	:	Panda Wireless
Model/ Type Reference	:	PAU07
Ratings.....	:	DC 5.0V, 330mA
**Result ..... **	**:**	**Positive**

Compiled by:	**Supervised by:**	**Approved by:**
Jacky Li/ File administrators	Danny Huang/ Technique principal	Gavin Liang/ Manager

FCC -- TEST REPORT

Test Report No. : LCS1501120364E	January 06, 2015 Date of issue

Type / Model.....	: PAU07
EUT.....	: Wireless USB Adapter
Applicant.....	**: Panda Wireless, Inc.**
Address.....	: 15559 Union Ave, Suite 300, Los Gatos, CALIFORNIA 95032
Telephone.....	: /
Fax.....	: /
Contact.....	: /
Manufacturer.....	**: Panda Wireless, Inc.**
Address.....	: 15559 Union Ave, Suite 300, Los Gatos, CALIFORNIA 95032
Telephone.....	: /
Fax.....	: /
Contact.....	: /
Factory.....	: **Panda Wireless, Inc.**
Address.....	: 15559 Union Ave, Suite 300, Los Gatos, CALIFORNIA 95032
Telephone.....	: /
Fax.....	: /
Contact.....	: /

Test Result according to the standards on page 5: **Positive**

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

TABLE OF CONTENTS

Test Report Description Page

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**	**Limits**	**Results**
Conducted disturbance at mains terminals	FCC CFR 47 PART 15 Subpart B: 2014	Class B	PASS
Radiated disturbance	FCC CFR 47 PART 15 Subpart B: 2014	Class B	PASS
N/A is an abbreviation for Not Applicable.			

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

EUT	:	Wireless USB Adapter
Model No.	:	PAU07
Channel frequency	:	2412.00-2462.00MHz (Channel Frequency=2412+5(K-1), K=1, 2, 3 ……11) for 11 channels 2422.00-2452.00MHz (Channel Frequency=2412+5(K-1), K=1, 2, 3 ……9) for 7channels 5180.00-5240.00MHz(Channel Frequency=5180+20(K-1), K=1, 2, 3, 4) for 4 channels 5745.00-5805.00MHz(Channel Frequency=5745+20(K-1), K=1, 2, 3, 4) for 4 channels
Channel Spacing	:	5MHz for 802.11b/g/n 20MHz for 802.11a
Modulation Type	:	IEEE 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM (64QAM, 16QAM,QPSK,BPSK) IEEE 802.11a: OFDM (64QAM, 16QAM,QPSK,BPSK)
Antenna Gain	:	PCB antenna, 2.0dBi(Max.)
Input Voltage	:	DC 5.0V, 330mA

2.2. Description of Test Facility

Site Description

EMC Lab. : Accredited by CNAS, June 04, 2010
The Certificate Registration Number. is L4595.
Accredited by FCC, July 14, 2011
The Certificate Registration Number. is 899208.
Accredited by Industry Canada, May. 02, 2011
The Certificate Registration Number. is 9642A-1
Accredited by VCCI, Japan January 30, 2012
The Certificate Registration Number. is C-4260 and R-3804
Accredited by ESMD, April 24, 2012
The Certificate Registration Number. is ARCB0108.
Accredited by UL, June 11, 2012
The Certificate Registration Number. is 100571-492.
Accredited by TUV, November 21, 2012
The Certificate Registration Number. is SCN1081
Accredited by Intertek, December 21, 2012
The Certificate Registration Number. is 2011-RTL-L1-50.

2.3. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

2.4. Measurement Uncertainty

Test Item		Frequency Range	Uncertainty	Note
Radiation Uncertainty	:	30MHz~200MHz	±2.96dB	(1)
		200MHz~1000MHz	±3.10dB	(1)
Conduction Uncertainty	:	150kHz~30MHz	±1.63dB	(1)
Power disturbance	:	30MHz~300MHz	±1.60dB	(1)

(1). This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

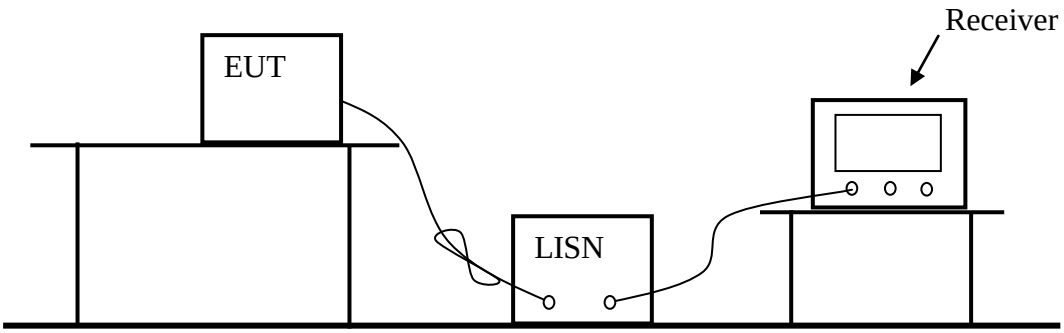
3. POWER LINE CONDUCTED MEASUREMENT

3.1. Test Equipment

The following test equipments are used during the power line conducted measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1	EMI Test Receiver	R & S	ESCI	101142	2014/06/18	2015/06/17
2	EMI Test Receiver	R & S	ESPI	101840	2014/06/18	2015/06/17
3	Artificial Mains	R & S	ENV216	101288	2014/06/19	2015/06/18
4	EMI Test Software	AUDIX	E3	N/A	2014/06/18	2015/06/17

3.2. Block Diagram of Test Setup



3.3. Power Line Conducted Emission Measurement Limits (Class B)

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 ~ 0.50	66-56	56-46
0.50 ~ 5.00	56	46
5.00 ~ 30.00	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 Measurement

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

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.Let the EUT work in test mode (ON) and measure it.

3.6. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. 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 FCC/ANSI C63.4-2009 on Conducted Emission Measurement.

The bandwidth of test receiver is set at 9kHz.

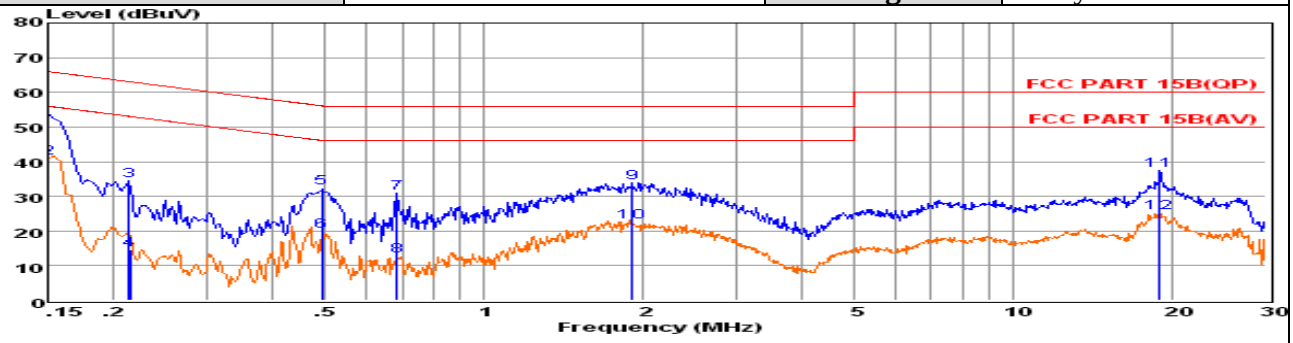
The frequency range from 150kHz to 30MHz is checked.

3.7. Power Line Conducted Emission Measurement Results

PASS.

All the scanning waveforms for Conducted Emission Measurement are refer to the next page. Only record the worst results.

Model No.	PAU07	Test Date	January 06, 2015
Environmental Conditions	24℃, 56% RH	Test Mode	Connect to PC
Pol	Line	Test Engineer	Jacky

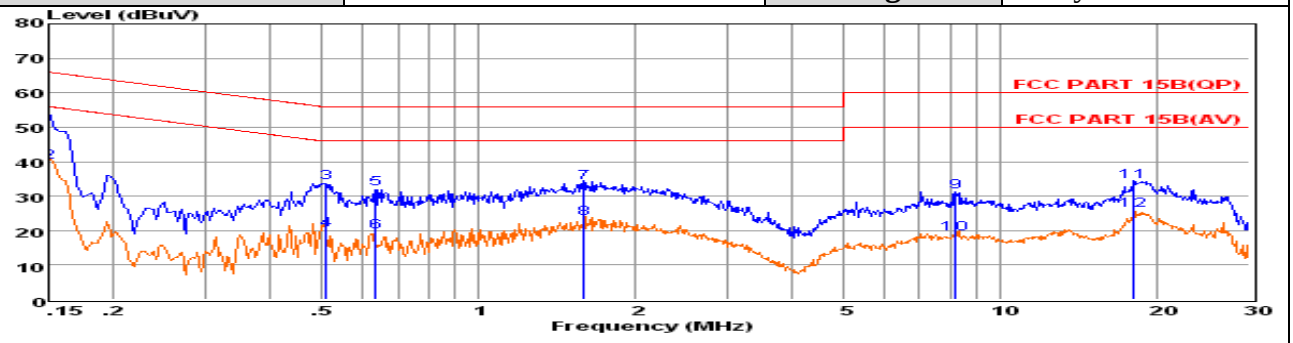


Env. Ins: 24*/56%
EUT: Wireless USB Adapter
M/N: PAU07
Power Rating: AC 120V/60Hz
Test Mode: Connect to PC
Operator: Jacky
Memo:
Pol: LINE

	Freq	Reading	LisnFac	CabLos	Atten_Fac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.15000	34.09	9.57	0.02	10.00	53.68	66.00	-12.32	QP
2	0.15010	21.41	9.57	0.02	10.00	41.00	55.99	-14.99	Average
3	0.21392	14.85	9.63	0.03	10.00	34.51	63.05	-28.54	QP
4	0.21412	-5.15	9.63	0.03	10.00	14.51	53.04	-38.53	Average
5	0.49411	12.68	9.62	0.04	10.00	32.34	56.10	-23.76	QP
6	0.49421	0.18	9.62	0.04	10.00	19.84	46.10	-26.26	Average
7	0.68626	11.34	9.64	0.04	10.00	31.02	56.00	-24.98	QP
8	0.68636	-6.99	9.64	0.04	10.00	12.69	46.00	-33.31	Average
9	1.90803	14.09	9.64	0.05	10.00	33.78	56.00	-22.22	QP
10	1.90903	2.87	9.64	0.05	10.00	22.56	46.00	-23.44	Average
11	18.92046	17.71	9.75	0.11	10.00	37.57	60.00	-22.43	QP
12	18.92146	5.47	9.75	0.11	10.00	25.33	50.00	-24.67	Average

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

Model No.	PAU07	Test Date	January 06, 2015
Environmental Conditions	24℃, 56% RH	Test Mode	Connect to PC
Pol	Neutral	Test Engineer	Jacky



Env. Ins: 24*/56%
EUT: Wireless USB Adapter
M/N: PAU07
Power Rating: AC 120V/60Hz
Test Mode: Connect to PC
Operator: Jacky
Memo:
Pol: NEUTRAL

	Freq	Reading	LisnFac	CabLos	Atten_Fac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.15000	34.69	9.70	0.02	10.00	54.41	66.00	-11.59	QP
2	0.15010	20.07	9.70	0.02	10.00	39.79	55.99	-16.20	Average
3	0.51007	14.12	9.62	0.04	10.00	33.78	56.00	-22.22	QP
4	0.51017	0.45	9.62	0.04	10.00	20.11	46.00	-25.89	Average
5	0.63383	12.40	9.63	0.04	10.00	32.07	56.00	-23.93	QP
6	0.63393	-0.01	9.63	0.04	10.00	19.66	46.00	-26.34	Average
7	1.59350	14.32	9.63	0.05	10.00	34.00	56.00	-22.00	QP
8	1.59450	3.87	9.63	0.05	10.00	23.55	46.00	-22.45	Average
9	8.19160	11.32	9.70	0.07	10.00	31.09	60.00	-28.91	QP
10	8.19260	-0.70	9.70	0.07	10.00	19.07	50.00	-30.93	Average
11	18.03941	14.39	9.81	0.11	10.00	34.31	60.00	-25.69	QP
12	18.04141	5.98	9.81	0.11	10.00	25.90	50.00	-24.10	Average

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

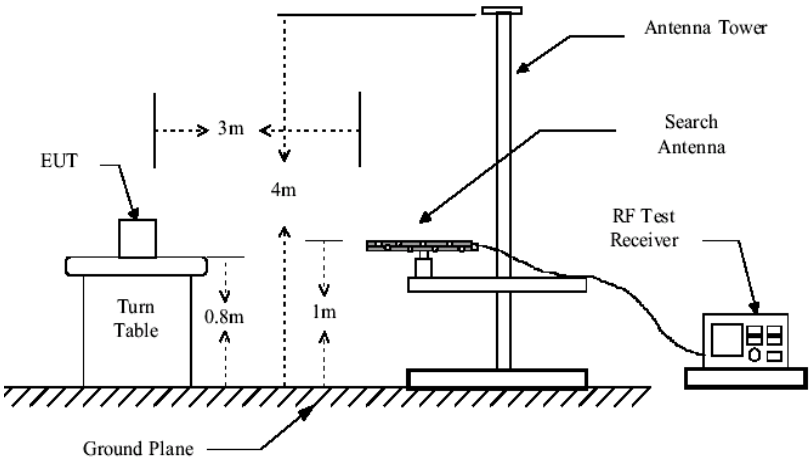
4. RADIATED EMISSION MEASUREMENT

4.1. Test Equipment

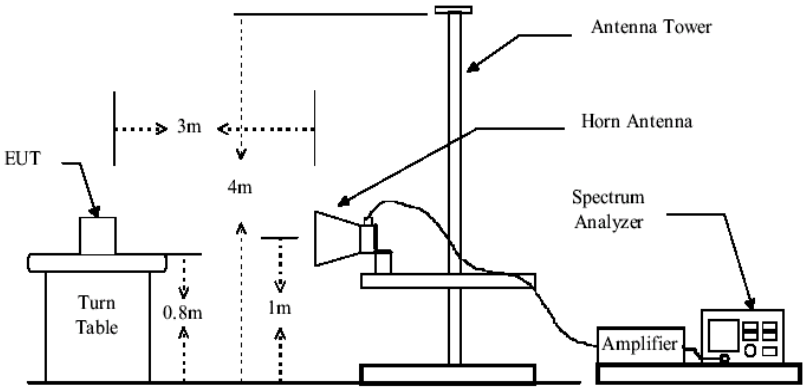
The following test equipments are used during the radiated emission measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Last Cal.
1	EMI Test Receiver	R & S	ESCI	101142	2014/06/18	2015/06/17
2	EMI Test Receiver	R & S	ESPI	101840	2014/06/18	2015/06/17
3	Log per Antenna	R & S	VULB9163	9163-470	2014/06/21	2015/06/20
4	Spectrum Analyzer	Agilent	E4407B	MY41440754	2014/07/16	2015/07/15
5	Horn Antenna	ETS.LINDGREN	3115	00034771	2014/12/11	2015/12/10
6	Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	2014/06/10	2015/07/09
7	EMI Test Software	AUDIX	E3	N/A	2014/06/18	2015/06/17

4.2. Block Diagram of Test Setup



Below 1G



Above 1G

4.3. Radiated Emission Limit (Class B)

Limits for radiated disturbance Blow 1GHz

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		dB(μV)/m	dB(μV)/m
30 ~ 40	3	40.0	Quasi-peak Value
88 ~ 43.5	3	43.5	Quasi-peak Value
216 ~ 46	3	46.0	Quasi-peak Value
960 ~ 54	3	54.0	Quasi-peak Value
Above 1GHz	3	54	Average Value
	3	74	Peak Value

Remark：(1) Emission level (dB)μV = 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.

4.4. EUT Configuration on Measurement

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

4.5. Operating Condition of EUT

4.5.1.Setup the EUT as shown in Section 4.2.
4.5.2.Let the EUT work in test mode (on) and measure it.

4.6. Test Procedure

EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated by-log antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2009 on radiated emission measurement. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Below 1G:
The bandwidth of the EMI test receiver is set at 120kHz, 1000kHz.

The frequency range from 30MHz to 1000MHz is checked.

Above 1G:
The bandwidth of the EMI test receiver is set at 1MHz, 3MHz for Peak detector.
The bandwidth of the EMI test receiver is set at 1MHz, 10Hz for Average detector

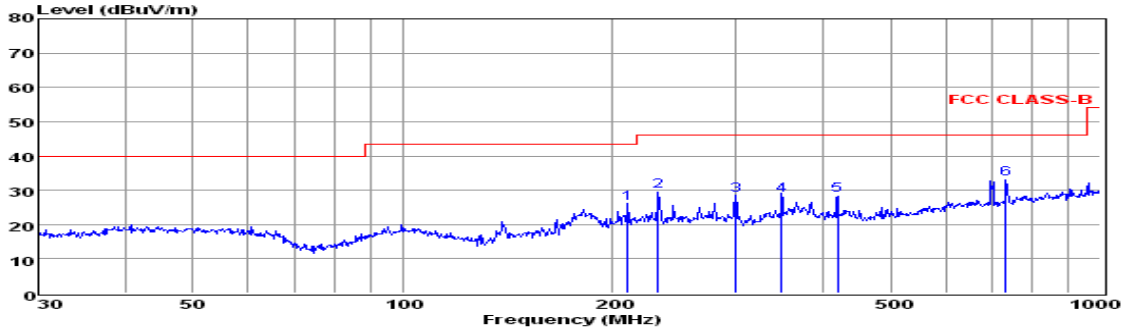
The frequency range from 1GHz to 24GHz is checked.

4.7. Radiated Emission Noise Measurement Result

PASS.

The scanning waveforms please refer to the next page. Only record the worst results.
Below 30MHz the result is too low so we did not show it.

Model No.	PAU07	Test Date	January 06, 2015
Environmental Conditions	24℃, 56% RH	Test Mode	Connect to PC
Pol	Vertical	Detector Function	Quasi-peak
Test Engineer	Jacky	Distance	3m

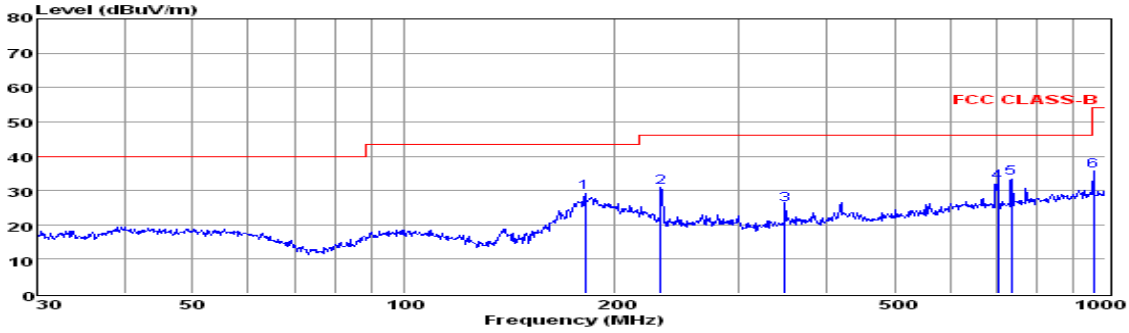


Env./Ins: 24℃/56%
EUT: Wireless USB Adapter
M/N: PAU07
Power Rating: DC 5V
Test Mode: Connect to PC
Operator: Jacky
Memo:
pol: VERTICAL

	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	210.05	14.31	0.93	10.89	26.13	43.50	-17.37	QP
2	232.53	16.91	0.98	11.76	29.65	46.00	-16.35	QP
3	300.37	14.33	1.13	13.06	28.52	46.00	-17.48	QP
4	349.25	13.14	1.13	14.26	28.53	46.00	-17.47	QP
5	420.58	11.61	1.33	15.47	28.41	46.00	-17.59	QP
6	731.92	12.61	1.62	19.21	33.44	46.00	-12.56	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that ate 20db blow the offficial limit are not reported

Model No.	PAU07	Test Date	January 06, 2015
Environmental Conditions	24℃, 56% RH	Test Mode	Connect to PC
Pol	Horizontal	Detector Function	Quasi-peak
Test Engineer	Jacky	Distance	3m



Env./Ins: 24℃/56%
EUT: Wireless USB Adapter
M/N: PAU07
Power Rating: DC 5V
Test Mode: Connect to PC
Operator: Jacky
Memo:
pol: HORIZONTAL

	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	181.28	18.86	0.89	9.79	29.54	43.50	-13.96	QP
2	232.53	18.27	0.98	11.76	31.01	46.00	-14.99	QP
3	349.25	10.39	1.13	14.26	25.78	46.00	-20.22	QP
4	701.76	12.03	1.70	18.83	32.56	46.00	-13.44	QP
5	734.49	12.69	1.74	19.24	33.67	46.00	-12.33	QP
6	962.16	12.06	2.01	21.49	35.56	54.00	-18.44	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that ate 20db blow the offficial limit are not reported

Test Mode: Mode 1(above 1GHz)	**Tested by:** Jacky
Test voltage: DC 5V	**Test Distance:** 3m
Detector Function: Peak+AV	**Test Results:** Passed

Polarization	Frequency MHz	Emission Level dBμV/m		Limits dBμV/m		Margin dBμV/m	
Horizontal	1256.31	58.02	41.16	74.00	54.00	-15.98	-12.84
	1385.48	60.71	43.74	74.00	54.00	-13.29	-10.26
	2986.85	61.84	44.32	74.00	54.00	-12.16	-9.68
	3657.47	65.36	47.48	74.00	54.00	-8.64	-6.52
	3925.08	62.29	45.08	74.00	54.00	-11.71	-8.92
	4436.74	64.12	45.94	74.00	54.00	-9.88	-8.06
Vertical	1289.54	58.41	41.69	74.00	54.00	-15.59	-12.31
	1396.74	60.74	43.13	74.00	54.00	-13.26	-10.87
	2899.07	60.86	44.81	74.00	54.00	-13.14	-9.19
	3584.64	61.09	44.26	74.00	54.00	-12.91	-9.74
	3867.41	62.41	45.55	74.00	54.00	-11.59	-8.45
	4596.68	63.87	45.47	74.00	54.00	-10.13	-8.53

Notes:

1. *Measuring frequencies from 9k~26.5GHz , No emission found between lowest internal used/generated frequency to 30MHz.*
2. *Radiated emissions measured in frequency range from 9k~26.5GHz were made with an instrument using Peak detector mode.*
3. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measure*

5. MANUFACTURER/ APPROVAL HOLDER DECLARATION

The following identical model(s):

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Belong to the tested device:

Product description : Wireless USB Adapter

Model name : PAU07

Remark: No additional models were tested.

----------THE END OF REPORT----------