



中国认可
国际互认
检测
TESTING
CNAS L5313



DEKRA

RF Exposure Evaluation Declaration

Product Name : AC1200 Wireless Dual Band Gigabit Router
Model No. : Archer C1200
FCC ID : TE7C1200V3

Applicant : TP-Link Technologies Co., Ltd.
Address : Building 24(floors1,3,4,5) and 28(floors1-4) Central
Science and Technology Park, Shennan Rd,
Nanshan, Shenzhen, China

Date of Receipt : Sep. 21st, 2016
Test Date : Sep. 21st, 2016~ Mar. 15th, 2017
Issued Date : Apr. 25th, 2017
Report No. : 1692075R-RF-US-P20V01
Report Version : V1.0

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by TAF, CNAS or any agency of the government.

The test report shall not be reproduced without the written approval of DEKRA Testing and Certification (Suzhou) Co., Ltd.

Test Report Certification

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Applicant : TP-Link Technologies Co., Ltd.

Address : Building 24(floors1,3,4,5) and 28(floors1-4) Central
Science and Technology Park, Shennan Rd, Nanshan,
Shenzhen, China

Manufacturer : TP-Link Technologies Co., Ltd.

Address : Building 24(floors1,3,4,5) and 28(floors1-4) Central
Science and Technology Park, Shennan Rd, Nanshan,
Shenzhen, China

Model No. : Archer C1200

FCC ID : TE7C1200V3

Brand Name : TP-Link

EUT Voltage : DC 12V

Applicable Standard : KDB 447498D01V06
FCC Part1.1310

Test Result : Complied

Performed Location : DEKRA Testing and Certification (Suzhou) Co., Ltd.
No.99 Hongye Rd., Suzhou Industrial Park, Suzhou,
215006, Jiangsu, China
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FCC Registration Number: 800392

Documented By :



(Adm. Specialist: Kathy Feng)

Reviewed By :



(Senior Engineer: Frank He)

Approved By :



(Engineering Manager: Harry Zhao)

1. RF Exposure Evaluation

1.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, 1 mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18°C and 78% RH.

1.3. Test Result of RF Exposure Evaluation

Product	:	AC1200 Wireless Dual Band Gigabit Router
Test Item	:	RF Exposure Evaluation
Test Site	:	AC-6

Antenna Information:

2.4G:

Antenna manufacturer	N/A								
Antenna Delivery	☐	1*TX+1*RX		☒	2*TX+2*RX		☐	3*TX+3*RX	
Antenna technology	☐	SISO							
	☒	MIMO	☐	Basic					
			☐	Sectorized antenna systems					
			☐	Cross-polarized antennas					
			☐	Unequal antenna gains, with equal transmit powers					
			☐	Spatial Multiplexing					
			☒	CDD					
			☐	Beam-forming					
Antenna Type	☒	External	☒	Dipole					
	☐	Internal	☐	PIFA					
			☐	PCB					
			☐	Ceramic Chip Antenna					
			☐	Metal plate type F antenna					
			☐	Cross-polarize Antenna					
	Antenna Gain #0	1.5dBi							
Antenna Gain #1	1.5dBi								

5G:

Antenna Model No.	N/A					
Antenna manufacturer	N/A					
Antenna Delivery	☐	1*TX+1*RX	☒	2*TX+2*RX	☐	3*TX+3*RX
Antenna technology	☐	SISO				
	☒	MIMO	☐	Basic		
			☐	Sectorized antenna systems		
			☐	Cross-polarized antennas		
			☐	Unequal antenna gains, with equal transmit powers		
			☐	Spatial Multiplexing		
			☒	CDD		
			☒	Beam-forming		
Antenna Type	☒	External	☒	Dipole		
	☐	Internal	☐	PIFA		
			☐	PCB		
			☐	Ceramic Chip Antenna		
			☐	Metal plate type F antenna		
			☐	Cross-polarize Antenna		
Antenna Gain #1	2.5dBi					
Antenna Gain #2	2.5dBi					

- Output Power into Antenna & RF Exposure Evaluation Distance:

Standalone modes:

Test Mode	Frequency Band (MHz)	Maximum Output Power to Antenna (dBm)	Power Density at R = 20 cm (mW/cm ²)	Power Density Limit at R = 20 cm (mW/cm ²)
802.11b/g/n(20MHz)	2412 ~ 2462 MHz	22.98	0.0558	1.0
802.11n(40MHz)	2422 ~ 2452 MHz	15.59	0.0102	1.0
802.11a/n/ac(20MHz)	5150 ~ 5875 MHz	25.85	0.1361	1.0
802.11n/ac(40MHz)	5150 ~ 5875 MHz	25.76	0.1333	1.0
802.11ac(80MHz)	5150 ~ 5875 MHz	21.66	0.0518	1.0

Simultaneous transmission:

Operation Mode	Frequency Range (MHz)	Maximum EIRP (dBm)	Limit of Power Density S(mW/cm ²)	Power Density S(mW/cm ²)
802.11b/g/n(20MHz)	2412 ~ 2462 MHz	24.48	1.0	0.0558
802.11a/n/ac(20MHz)	5150 ~ 5875 MHz	28.35	1.0	0.1361
Simultaneous transmission				0.1919

Note: The simultaneous transmission power density is 0.1919mW/cm² for AC1200 Wireless Dual Band Gigabit Router without any other radio equipment.

_____ The End _____