



中国认可  
国际互认  
检测  
TESTING  
CNAS L5313



# RF Exposure Evaluation Declaration

Product Name : 300Mbps Wireless N Outdoor Access Point

Model No. : CAP300-Outdoor

FCC ID : TE7CAP300OD

Applicant : TP-Link Technologies Co., Ltd.

Address : Building 24(floors 1,3,4,5) and 28(floors 1-4) Central  
Science and Technology Park, Shennan Rd,  
Nanshan, Shenzhen, China

Date of Receipt : Dec. 15th, 2016

Test Date : Dec. 15th, 2016~ Mar. 06th, 2017

Issued Date : Mar. 27th, 2017

Report No. : 16C2083R-RF-US- P20V01

Report Version : V 1.0

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 CNAS, TAF or any agency of the government.

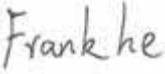
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# Test Report Certification

Issued Date : Mar. 27th, 2017

Report No. : 16C2083R-RF-US-P20V01



Product Name : 300Mbps Wireless N Outdoor Access Point  
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. : CAP300-Outdoor  
FCC ID : TE7CAP300OD  
Brand Name : TP-Link  
EUT Voltage : PoE 36-57V, 0.35A  
Test Voltage : AC 120V/60Hz  
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  
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098  
FCC Registration Number: 800392  
Documented By :   
(Adm. Specialist: Kitty Li)  
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 <sup>2</sup> )	Average Time (Minutes)
<b>(A) Limits for Occupational/ Control Exposures</b>				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
<b>(B) Limits for General Population/ Uncontrolled Exposures</b>				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

#### Formula

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

Where

$P_d$  = power density in mW/ cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

$G$  = gain of antenna in linear scale

$\pi$  = 3.1416

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

$P_d$  is the limit of MPE, 1 mW/cm<sup>2</sup>. 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	:	300Mbps Wireless N Outdoor Access Point
Test Item	:	RF Exposure Evaluation
Test Site	:	AC-6

### ● Antenna Information

Model No.		N/A					
Antenna manufacturer		TP-Link					
Antenna Delivery		<input type="checkbox"/>	1*TX+1*RX	<input checked="" type="checkbox"/>	2*TX+2*RX	<input type="checkbox"/>	3*TX+3*RX
Antenna technology		<input type="checkbox"/>	SISO	<input type="checkbox"/>	Basic		
		<input checked="" type="checkbox"/>	MIMO	<input type="checkbox"/>	CDD		
		<input type="checkbox"/>		<input type="checkbox"/>	Sectorized		
		<input type="checkbox"/>		<input type="checkbox"/>	Beam-forming		
Antenna Type		<input checked="" type="checkbox"/>	External	<input checked="" type="checkbox"/>	Dipole		
		<input type="checkbox"/>		<input type="checkbox"/>	Sectorized		
		<input type="checkbox"/>	Internal	<input type="checkbox"/>	PIFA		
		<input type="checkbox"/>		<input type="checkbox"/>	PCB		
		<input type="checkbox"/>		<input type="checkbox"/>	Ceramic Chip Antenna		
		<input type="checkbox"/>		<input type="checkbox"/>	Metal plate type F antenna		
Antenna Technology		Ant Gain (dBi)			Directional Gain (dBi)		
					For Power For PSD		
<input checked="" type="checkbox"/>	CDD	Ant1:5 Ant2: 5			5 8		

- Power Density:

**Standalone modes:**

Test Mode	Frequency Band (MHz)	Maximum Output Power (dBm)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Limit of Power Density S(mW/cm <sup>2</sup> )
Wifi	2400~2483.5	26.70	0.2943	1

Note: The transmission power density is 0.2943 mW/cm<sup>2</sup> for 300Mbps Wireless N Outdoor Access Point without any other radio equipment.

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The End

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