

## RF Exposure Report

**Report No.:** SA150408C04A

**FCC ID:** TE7AP500

**Test Model:** AP500

**Received Date:** Apr. 08, 2015

**Test Date:** Aug. 18 to 21, 2015

**Issued Date:** Nov. 02, 2015

**Applicant:** TP-LINK TECHNOLOGIES CO., LTD.

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**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Hsin Chu Laboratory

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### Release Control Record

Issue No.	Description	Date Issued
SA150408C04A	Original release.	Nov. 02, 2015



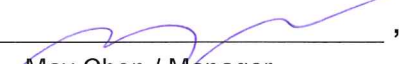
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## 1 Certificate of Conformity

**Product:** AC1900 Wireless Gigabit Access Point  
**Brand:** TP-LINK  
**Test Model:** AP500  
**Sample Status:** PROTOTYPE  
**Applicant:** TP-LINK TECHNOLOGIES CO., LTD.  
**Test Date:** Aug. 18 to 21, 2015  
**Standards:** FCC Part 2 (Section 2.1091)  
KDB 447498 D03  
IEEE C95.1

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**Prepared by :** , **Date:** Nov. 02, 2015  
Elsie Hsu / Specialist

**Approved by :** , **Date:** Nov. 02, 2015  
May Chen / Manager

## 2 RF Exposure

### 2.1 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)
Limits For General Population / Uncontrolled Exposure				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

### 2.2 MPE Calculation Formula

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

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

### 2.3 Classification

The antenna of this product, under normal use condition, is at least 26cm away from the body of the user.

So, this device is classified as **Mobile Device**.

## 3 Antenna Gain

Transmitter Circuit	Brand	Model	Antenna Gain (dBi)	Frequency range (GHz to GHz)	Antenna Type	Connector Type
Chain (0)	NA	NA	1.59	2.4-2.4835	Dipole	RP-SMA-F
			1.03	5.15-5.25		
			1.43	5.725-5.850		
Chain (1)	NA	NA	1.59	2.4-2.4835	Dipole	RP-SMA-F
			1.03	5.15-5.25		
			1.43	5.725-5.850		
Chain (2)	NA	NA	1.59	2.4-2.4835	Dipole	RP-SMA-F
			1.03	5.15-5.25		
			1.43	5.725-5.850		

#### 4 Calculation Result Of Maximum Conducted Power

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2412-2462	985.832	6.36	26	0.50193	1
5180-5240	129.773	5.8	26	0.05808	1
5745-5825	941.704	6.2	26	0.46212	1

**NOTE:**

For 2412-2462MHz: Directional gain = 1.59dBi + 10log(3) = 6.36dBi

For 5180-5240MHz: Directional gain = 1.03dBi + 10log(3) = 5.8dBi

For 5745-5825MHz: Directional gain = 1.43dBi + 10log(3) = 6.2dBi

**Conclusion:**

Both of the 2.4GHz/5GHz can transmit simultaneously, the formula of calculated the MPE is

$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

Therefore, the worst-case situation is  $0.50193 / 1 + 0.46212 / 1 = 0.964$ , which is less than "1". This confirmed that the device comply with FCC 1.1310 MPE limit.

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