

# FCC RF EXPOSURE REPORT

## FCC ID: TE7WA801NV6

**Project No.** : 2002C019  
**Equipment** : 300Mbps Wireless N Access Point  
**Brand Name** : tp-link  
**Test Model** : TL-WA801N  
**Series Model** : N/A  
**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  
**Date of Receipt** : Feb. 17, 2020  
**Date of Test** : Feb. 19, 2020 ~ Mar. 02, 2020  
**Issued Date** : Mar. 06, 2020  
**Report Version** : R00  
**Test Sample** : Engineering Sample No.: DG202002171  
**Standard(s)** : FCC Guidelines for Human Exposure IEEE C95.1 & FCC Part 2.1091  
FCC Title 47 Part 2.1091, OET Bulletin 65 Supplement C

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

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**REPORT ISSUED HISTORY**

| Report Version | Description    | Issued Date   |
|----------------|----------------|---------------|
| R00            | Original Issue | Mar. 06, 2020 |

## 1. MPE CALCULATION METHOD

Calculation Method of RF Safety Distance:

$$S = \frac{PG}{4\pi^2} = \frac{EIRP}{4\pi^2}$$

where:

S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

Antenna Specification:

| Ant. | Brand                                                                             | P/N        | Antenna Type | Connector | Gain (dBi) |
|------|-----------------------------------------------------------------------------------|------------|--------------|-----------|------------|
| 1    |  | 3101500977 | Dipole       | Weld      | 4.71       |
| 2    |  | 3101501026 | Dipole       | Weld      | 4.71       |

Note:

This EUT supports CDD, and all antennas have the same gain,

Directional gain =  $G_{ANT} + \text{Array Gain}$ .

For power spectral density measurements,  $N_{ANT} = 2$ ,  $N_{SS} = 1$ .

Directional gain =  $G_{ANT} + \text{Array Gain} = G_{ANT} + 10 \log (N_{ANT}/N_{SS}) \text{ dB} = 4.71 + 10 \log (2/1) \text{ dB} = 7.72$ .

Then, the power density limit is  $8 - (7.72 - 6) = 6.28$ .

For power measurements, Array Gain = 0 dB ( $N_{ANT} \leq 4$ ), so the Directional gain = 4.71.

## 2. TEST RESULTS

| Directional Gain (dBi) | Directional Gain (numeric) | Max. AVG Output Power (dBm) | Max. AVG Output Power (mW) | Power Density (S) (mW/cm <sup>2</sup> ) | Limit of Power Density (S) (mW/cm <sup>2</sup> ) | Test Result |
|------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------------------|--------------------------------------------------|-------------|
| 4.71                   | 3.1623                     | 23.62                       | 7.7446                     | 0.00487                                 | 1                                                | Complies    |

Note: The calculated distance is 20 cm.

Output power including tune up tolerance (tune up tolerance: 0.5 dBm).

End of Test Report