

# FCC RF EXPOSURE REPORT

## FCC ID: 2BH7FWR802NV4

**Project No.** : 2010C076B  
**Equipment** : 300Mbps Wireless N Nano Router  
**Brand Name** : tp-link  
**Test Model** : TL-WR802N  
**Series Model** : N/A  
**Applicant** : TP-Link Systems Inc.  
**Address** : 10 Mauchly, Irvine, CA 92618  
**Manufacturer** : TP-Link Systems Inc.  
**Address** : 10 Mauchly, Irvine, CA 92618  
**Date of Receipt** : Jan. 06, 2025  
**Issued Date** : Mar. 13, 2025  
**Report Version** : R00  
**Test Sample** : Engineering Sample  
**Standard(s)** : FCC Guidelines for Human Exposure IEEE C95.1 & FCC Part 2.1091  
FCC Title 47 Part 2.1091 & KDB 447498 D01 v06

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

**Prepared by** :   
Sheldon Ou

**Approved by** :   
Chay Cai

Room 108-116, 309-310, Building 2, No.1, Yile Road, Songshan Lake Zone, Dongguan City,  
Guangdong, People's Republic of China

Tel: +86-769-8318-3000    Web: [www.newbtl.com](http://www.newbtl.com)    Service mail: [btl\\_qa@newbtl.com](mailto:btl_qa@newbtl.com)

**REPORT ISSUED HISTORY**

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-2-2010C076B	R00	Original Report.	Mar. 13, 2025	Valid

## 1. MPE CALCULATION METHOD

Calculation Method of RF Safety Distance:

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

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

## 2. ANTENNA SPECIFICATION

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	Printed Inverted-F	N/A	2.85
2	N/A	N/A	Printed Inverted-F	N/A	2.85

Note:

- 1) This EUT supports CDD, and all antennas have the same gain, Directional gain =  $G_{ANT} + \text{Array Gain}$ .

For power measurements, Array Gain=0dB ( $N_{ANT} \leq 4$ ), so the Directional gain=2.85

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

So the Directional gain= $G_{ANT} + \text{Array Gain} = G_{ANT} + 10\log(N_{ANT}/N_{SS})\text{dBi} = 2.85 + 10\log(2/1)\text{dBi} = 5.86$ .

- 2) The antenna gain is provided by the manufacturer.

## 3. CALCULATED RESULT

Directional Gain (dBi)	Directional Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
2.85	1.9275	26.03	400.8667	0.15380	1	Complies

Note:

- (1) The calculated distance is 20 cm.

- (2) Ratio=Power Density (S) (mW/cm<sup>2</sup>)/Limit of Power Density (S) (mW/cm<sup>2</sup>)

- (3) The Max. Output Power is provided by the manufacturer.

**End of Test Report**