

FCC RF EXPOSURE REPORT

FCC ID: 2BH7FWR1502XV2

Project No. : 2508C642
Equipment : AX1500 Wi-Fi 6 Portable Router
Brand Name : tp-link
Test Model : TL-WR1502X
Model Name : TL-WR1502X
Hardware Version : 2.0
Software Version : 2.0
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 : Aug. 22, 2025
Date of Test : Aug. 26, 2025 ~ Nov. 10, 2025
Issued Date : Dec. 09, 2025
Test Sample : Engineering Sample No.: DG920250821198
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 tested and found compliance with the requirement of the relative standards by BTL Inc. (Dongguan)

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REVISION HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-4-2508C642	R00	Original Report.	Dec. 09, 2025	Valid

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

2. ANTENNA SPECIFICATION

For 2.4GHz:

Ant.	Manufacturer	P/N	Antenna Type	Connector	Gain (dBi)
1	tp-link	N/A	Dipole	IPEX	3.35
2	tp-link	N/A	Dipole	IPEX	3.18

Note:

- 1) This EUT supports CDD, and all antenna gains are not equal, Directional gain = $G_{ANT} + \text{Array Gain}$. For power measurements, Array Gain=0dB ($N_{ANT} \leq 4$), so the Directional gain=3.35.
- 2) The antenna gain is provided by the manufacturer

For 5GHz:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	tp-link	N/A	Dipole	IPEX	2.78	UNII-1
					3.15	UNII-2A
					3.02	UNII-2C
					3.48	UNII-3
2	tp-link	N/A	Dipole	IPEX	4.21	UNII-1
					4.17	UNII-2A
					4.84	UNII-2C
					3.92	UNII-3

Note:

- 1) This EUT supports CDD, and all antenna gains are not equal, Directional gain = $G_{ANT} + \text{Array Gain}$. For power measurements, Array Gain=0dB ($N_{ANT} \leq 4$), so the UNII-1 Directional gain=4.21, the UNII-2A Directional gain=4.17, the UNII-2C Directional gain=4.84, the UNII-3 Directional gain=3.92.
- 2) Beamforming Gain is 3dB.
- 3) The antenna gain and beamforming gain are provided by the manufacturer.

3. CALCULATED RESULT

For 2.4GHz:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
3.35	2.1627	26.85	484.1724	0.2084	1	Complies

For 5GHz:

Band	Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
UNII-1	4.21	2.6363	26.87	486.4072	0.2552	1	Complies
UNII-2A	4.17	2.6122	23.87	243.7811	0.1268	1	Complies
UNII-2C	4.84	3.0479	23.57	227.5097	0.1380	1	Complies
UNII-3	3.92	2.4660	25.85	384.5918	0.1888	1	Complies

For the max simultaneous transmission MPE:

Ratio		Total	Limit of Ratio	Test Result
2.4GHz	5GHz			
0.2084	0.2552	0.4636	1	Complies

Note:

(1) The calculated distance is 20 cm.

(2) Ratio=Power Density (S) (mW/cm²)/Limit of Power Density (S) (mW/cm²)

End of Test Report