

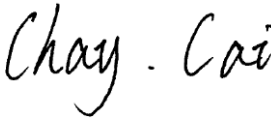
FCC RF EXPOSURE REPORT

FCC ID: 2BH7FAX56V1

Project No. : 2512C067
Equipment : AX3000 Gigabit Wi-Fi 6 Router
Brand Name : tp-link
Test Model : Archer AX56
Model Name : Archer AX56
Hardware Version : 1.0
Software Version : 1.0
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 : Dec. 05, 2025
Date of Test : Dec. 05, 2025 ~ Jan. 21, 2026
Issued Date : Feb. 04, 2026
Test Sample : Engineering Sample No.: DG920251204122
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)

Prepared by : 
 Sheldon Ou

Approved by : 
 Chay Cai

No.3, Jinshagang 1st Road, Dalang, Dongguan, Guangdong People's Republic of China.
 Tel: +86-769-8318-3000 Web: www.newbtl.com Service mail: btl_qa@newbtl.com

REVISION HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-4-2512C067	R00	Original Report.	Feb. 04, 2026	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 Wi-Fi 2.4GHz:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	tp-link	N/A	Dipole	Weld	5.34
2	tp-link	N/A	Dipole	Weld	5.69

Note:

- (1) This EUT supports CDD, and all antenna gains are not equal,
For power measurements, Directional gain = $G_{ANT} + \text{Array Gain}$, Array Gain=0dB ($N_{ANT} \leq 4$),
so the Directional gain=5.69+0=5.69.
For power spectral density measurements, $N_{ANT}=2$, $N_{SS}=1$.
So the Directional gain(each angle)= $10\log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{GN/20})^2 / N]$ dBi
= $10\log[(10^{4.83/20} + 10^{4.67/20})^2 / 2]$ dBi=7.76 dBi.
The power spectral density limit is $8 - (7.76 - 6) = 6.24$.
- (2) Beamforming Gain is 3dB.
- (3) The antenna gain and beamforming gain are provided by the manufacturer.

For Wi-Fi 5GHz:

5G_1:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	tp-link	N/A	Dipole	Weld	5.39	UNII-1
	tp-link	N/A	Dipole	Weld	5.70	UNII-2A
	tp-link	N/A	Dipole	Weld	4.65	UNII-2C
	tp-link	N/A	Dipole	Weld	4.16	UNII-3
2	tp-link	N/A	Dipole	Weld	5.60	UNII-1
	tp-link	N/A	Dipole	Weld	5.11	UNII-2A
	tp-link	N/A	Dipole	Weld	6.87	UNII-2C
	tp-link	N/A	Dipole	Weld	5.70	UNII-3

5G_2:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	tp-link	N/A	Dipole	Weld	4.16	UNII-1
	tp-link	N/A	Dipole	Weld	4.14	UNII-2A
	tp-link	N/A	Dipole	Weld	3.86	UNII-2C
	tp-link	N/A	Dipole	Weld	3.75	UNII-3
2	tp-link	N/A	Dipole	Weld	4.49	UNII-1
	tp-link	N/A	Dipole	Weld	4.38	UNII-2A
	tp-link	N/A	Dipole	Weld	4.39	UNII-2C
	tp-link	N/A	Dipole	Weld	3.64	UNII-3

Note:

(1) This EUT supports CDD, and all antenna gains are not equal,

5G_1:

For power measurements, Directional gain = $G_{ANT} + \text{Array Gain}$, Array Gain=0dB ($N_{ANT} \leq 4$), so the Directional gain=6.87+0=6.87.

The UNII-1 and UNII-3 power limit is $30 - (6.87 - 6) = 29.13$.

The UNII-2A and UNII-2C power limit is $23.98 - (6.87 - 6) = 23.11$.

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

So the Directional gain(each angle)= $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{GN/20})^2 / N] \text{ dBi}$
 $= 10 \log[(10^{4.34/20} + 10^{5.20/20})^2 / 2] \text{ dBi} = 7.79 \text{ dBi}$.

The UNII-1 power spectral density limit is $17 - (7.79 - 6) = 15.21$.

The UNII-2A and UNII-2C power spectral density limit is $11 - (7.79 - 6) = 9.21$.

The UNII-3 power spectral density limit is $30 - (7.79 - 6) = 28.21$.

5G_2:

For power measurements, Directional gain = $G_{ANT} + \text{Array Gain}$, Array Gain=0dB ($N_{ANT} \leq 4$), so the Directional gain=4.49+0=4.49.

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

So the Directional gain(each angle)= $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{GN/20})^2 / N] \text{ dBi}$
 $= 10 \log[(10^{3.54/20} + 10^{3.32/20})^2 / 2] \text{ dBi} = 6.44 \text{ dBi}$.

The UNII-1 power spectral density limit is $17 - (6.44 - 6) = 16.56$.

The UNII-2A and UNII-2C power spectral density limit is $11 - (6.44 - 6) = 10.56$.

The UNII-3 power spectral density limit is $30 - (6.44 - 6) = 29.56$.

(2) Beamforming Gain is 3dB.

(3) The antenna gain and beamforming gain are provided by the manufacturer.

3. CALCULATED RESULT

Function	Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Output Power (dBm)	Max. Tune-up (dB)	Max. Tune-up Power (dBm)	Max. Tune-up Power (W)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Ratio	Test Result
Wi-Fi 2.4GHz	2437	5.69	3.7068	28.26	0.50	28.76	751.6229	0.2828	1.0000	0.2828	Pass
Wi-Fi 5GHz_1	5825	6.87	4.8641	29.11	0.50	29.61	914.1132	0.4513	1.0000	0.4513	Pass
Wi-Fi 5GHz_2	5825	4.49	2.8119	29.22	0.50	29.72	937.5620	0.2676	1.0000	0.2676	Pass

For the max simultaneous transmission MPE:

Ratio		Total	Limit of Ratio	Test Result
Wi-Fi 2.4GHz	Wi-Fi 5GHz_1			
0.2828	0.4513	0.7341	1	Complies

Note:

- (1) The calculated distance is 28 cm.
- (2) Ratio=Power Density (S) (mW/cm²)/Limit of Power Density (S) (mW/cm²)
- (3) Output power including tune up tolerance (± 0.5 dB).
- (4) Wi-Fi 5GHz_1 and Wi-Fi 5GHz_2 can not simultaneous transmission.

End of Test Report