

FCC RF EXPOSURE REPORT

FCC ID: 2BH7FRE815XV2

Project No. : 2512C072
Equipment : AX5400 Tri-Band Wi-Fi 6 Range Extender
Brand Name : tp-link
Test Model : RE815X
Model Name : RE815X
Hardware Version : V2.0
Software Version : V2.0
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 ~ Mar. 10, 2026
Issued Date : Mar. 31, 2026
Test Sample : Engineering Sample No.: DG920251204166
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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Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. BTL assumes no responsibility for the data provided by the customer, any statements, inferences or generalizations drawn by the customer or others from the reports issued by BTL.

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BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

REVISION HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-4-2512C072	R00	Original Report.	Mar. 25, 2026	Invalid
BTL-FCCP-4-2512C072	R01	This report revised the calculated results in chapter 3. It is a revision of the report BTL-FCCP-4-2512C07 R00. This is a newly released report, replacing the BTL-FCCP-4-2512C07 R00 report.	Mar. 31, 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 2.4GHz:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	tp-link	RE815X 2.6	Dipole	IPEX	5.84
2	tp-link	RE815X 2.6	Dipole	IPEX	5.33

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=5.84.
- 2) Beamforming Gain is 3dB.
- 3) The antenna gain and beamforming gain are provided by the manufacturer.

For 5GHz:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	tp-link	RE815X 2.6	Dipole	IPEX	6.15	UNII-1
					6.96	UNII-2A
2	tp-link	RE815X 2.6	Dipole	IPEX	6.30	UNII-1
					6.99	UNII-2A
1	tp-link	RE815X 2.6	Dipole	IPEX	4.93	UNII-2C
					4.73	UNII-3
2	tp-link	RE815X 2.6	Dipole	IPEX	5.66	UNII-2C
					4.56	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=6.30, the UNII-2A Directional gain=6.99, the UNII-2C Directional gain=5.66, the UNII-3 Directional gain=4.73. So, the UNII-1 output power limit is $30 - (6.30 - 6) = 29.70$, the UNII-2A output power limit is $23.98 - (6.99 - 6) = 22.99$.
- 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
5.84	3.8371	27.93	620.8690	0.4299	1	Complies

For 5GHz:

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
4.73	2.9717	29.86	968.2779	0.5192	1	Complies

For the max simultaneous transmission MPE:

Ratio		Total	Limit of Ratio	Test Result
2.4GHz	5GHz			
0.4299	0.5192	0.9491	1	Complies

Note:

- (1) The calculated distance is 21 cm.
- (2) $\text{Ratio} = \text{Power Density (S) (mW/cm}^2\text{)} / \text{Limit of Power Density (S) (mW/cm}^2\text{)}$

End of Test Report