

FCC RF EXPOSURE REPORT

FCC ID: 2BH7FER703WP4GOD

Project No. : 2409G003A
Equipment : 4G+Cat6 AX3000 Outdoor/Indoor Gateway
Brand Name : tp-link
Test Model : ER703WP-4G-Outdoor
Model Name : ER703WP-4G-Outdoor
Hardware Version : v1.20
Software Version : ER703WP-4G-Outdoor_V1_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 : Mar. 20, 2025
Date of Test : Mar. 27, 2025 ~ Aug. 29, 2025
Issued Date : Nov. 28, 2025
Test Sample : Engineering Sample No.: DG2025032077 for WIFI.
Standard(s) : FCC Guidelines for Human Exposure IEEE C95.1 & FCC Part 2.1091
FCC Title 47 Part 2.1091 & KDB 447498 D01 v06

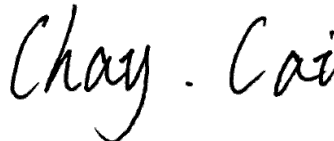
The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc. (Dongguan)

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REVISION HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-4-2409G003A	R00	Original Report.	Oct. 17, 2025	Invalid
BTL-FCCP-4-2409G003A	R01	This report updated beamforming gain in page 3. It is a revision of the report BTL-FCCP-4-2409G003A R00. This is a newly released report, replacing the BTL-FCCP-4-2409G003A R00 report.	Nov. 28, 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.	Brand	P/N	Antenna Type	Connector	Gain (dBi)
1	tp-link	ER703WP –Ant3	Dipole	N/A	3
2	tp-link	ER703WP –Ant4	Dipole	N/A	3.48

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=3.48.
- 2) Beamforming Gain: 3dB.
- 3) The antenna gain and beamforming gain are provided by the manufacturer.

For 5GHz:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)	Note
1	tp-link	ER703WP –Ant3	Dipole	N/A	3.84	UNII-1
2	tp-link	ER703WP –Ant4	Dipole	N/A	5.08	
1	tp-link	ER703WP –Ant3	Dipole	N/A	3.59	UNII-2A
2	tp-link	ER703WP –Ant4	Dipole	N/A	5.33	
1	tp-link	ER703WP –Ant3	Dipole	N/A	3.83	UNII-2C
2	tp-link	ER703WP –Ant4	Dipole	N/A	5.29	
1	tp-link	ER703WP –Ant3	Dipole	N/A	4.47	UNII-3
2	tp-link	ER703WP –Ant4	Dipole	N/A	4.50	

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=5.08, the UNII-2A Directional gain=5.33, the UNII-2C Directional gain=5.29, the UNII-3 Directional gain=4.50.
- 2) Beamforming Gain: 3 dB.
- 3) The antenna gain and beamforming gain are provided by the manufacturer.

For LTE:

Brand	P/N	Antenna Type	Connector	Gain (dBi)	Note
tp-link	ER703WP -Ant1	Dipole	N/A	1.96	LTE Band 5 (Ant. 1)
				2.13	LTE Band 26 (Ant. 1)
				2.76	LTE Band 2 (Ant. 1)
				2.76	LTE Band 25 (Ant. 1)
				2.54	LTE Band 4 (Ant. 1)
				1.12	LTE Band 7 (Ant. 1)
				0.94	LTE Band 12 (Ant. 1)
				2.04	LTE Band 13 (Ant. 1)
				0.85	LTE Band 30 (Ant. 1)
				1.23	LTE Band 41 (Ant. 1)
				2.59	LTE Band 66 (Ant. 1)
				0.63	LTE Band 71 (Ant. 1)
				1.67	LTE Band 14 (Ant. 1)
				-0.12	LTE Band 48 (Ant. 1)

Note: The antenna gain is provided by the manufacturer.

3. CALCULATED RESULT

For 2.4GHz:

Directional gain (dBi)	Directional 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
3.48	2.2284	23.89	244.9063	0.08978	1	Complies

For 5GHz(UNII-1):

Directional gain (dBi)	Directional 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
5.08	3.2211	27.29	535.7967	0.28390	1	Complies

For 5GHz(UNII-2A):

Directional gain (dBi)	Directional 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
5.33	3.4119	23.96	248.8857	0.13969	1	Complies

For 5GHz(UNII-2C):

Directional gain (dBi)	Directional 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
5.29	3.3806	23.93	247.1724	0.13746	1	Complies

For 5GHz(UNII-3):

Directional gain (dBi)	Directional 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
4.50	2.8184	29.64	920.4496	0.42674	1	Complies

For LTE:

Band	Frequency (MHz)	Max. Tune up Power (dBm)	Antenna Gain (dBi)	Antenna Gain (linear)	Output Power to Antenna	Power Density (mW/cm ²)	Power Density Limit (mW/cm ²)	Test Result
Band 5	824.7	25	1.96	1.5704	496.5923	0.0817	0.5498	Complies
Band 26 (824-849)	824.7	25	2.13	1.6331	516.4164	0.0849	0.5498	Complies
Band 2	1850.7	25	2.76	1.8880	597.04	0.0982	1.0000	Complies
Band 25	1850.7	25	2.76	1.8880	597.04	0.0982	1.0000	Complies
Band 4	1710.7	25	2.54	1.7947	567.54	0.0933	1.0000	Complies
Band 7	2502.5	25	1.12	1.2942	409.26	0.0673	1.0000	Complies
Band 12	699.7	25	0.94	1.2417	392.6449	0.0646	0.4665	Complies
Band 13	779.5	25	2.04	1.5996	505.8247	0.0832	0.5197	Complies
Band 30	2307.5	23	0.85	1.2162	242.66	0.0399	1.0000	Complies
Band 41	2498.5	25	1.23	1.3274	419.76	0.0690	1.0000	Complies
Band 66	1710.7	25	2.59	1.8155	574.12	0.0944	1.0000	Complies
Band 71	665.5	25	0.63	1.1561	365.5948	0.0601	0.4437	Complies
Band 26 (814-824)	814.7	25	2.13	1.6331	516.4164	0.0849	0.5431	Complies
Band 14	790.5	25	1.67	1.4689	464.5153	0.0764	0.5270	Complies
Band 48	3552.5	23	-0.12	0.9727	194.09	0.0319	1.0000	Complies

For the max simultaneous transmission MPE:

Ratio			Total	Limit of Ratio	Test Result
2.4GHz	5GHz	WWAN			
0.08978	0.42674	0.1601	0.6766	1	Complies

Note:

- (1) The calculated distance is 22 cm.
- (2) Ratio=Power Density (S) (mW/cm²)/Limit of Power Density (S) (mW/cm²)
- (3) The Max. Tune Up Power test results reference to module report which is provided by the manufacturer.(Report No.: SEWA2208000035RG03)

End of Test Report