FCC RF EXPOSURE REPORT

FCC ID: 2BH7FA6V6

Project No.	:	2506C458
Equipment	:	AC1200 MU-MIMO Wi-Fi Router
Brand Name	:	tp-link
Test Model	:	Archer C6
Model Name	:	Archer C6, Archer A6
Hardware Version	:	6.0
Software Version	:	6.0
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	:	Jun. 26, 2025
Date of Test	:	Jun. 27, 2025 ~ Aug. 08, 2025
Issued Date	:	Aug. 15, 2025
Test Sample	:	Engineering Sample No.: DG2025062683
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-3-2506C458	R00	Original Report.	Aug. 15, 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

For 2.4GHz:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	tp-link	Archer C6 6.0	Dipole	IPEX	5.62
2	tp-link	Archer C6 6.0	Dipole	IPEX	5.12

Note:
1) This EUT supports CDD, and all antennas gains are not equal, Directional gain = G_{ANT}+Array Gain.
For power measurements, Array Gain=0dB ($N_{ANT}\leq 4$), so the Directional gain=5.62.
For power spectral density measurements, Directional gain(each angle)=
$10\log[(10^{G1/20}+10^{G2/20}+...10^{GN/20})^2/N]dBi=10\log[(10^{4.96/20}+10^{4.97/20})^2/2]=7.98$.
2) The antenna gain is provided by the manufacturer.

For 5GHz:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	tp-link	Archer C6 6.0	Dipole	IPEX	3.85	UNII-1
2	tp-link	Archer C6 6.0	Dipole	IPEX	4.06	
1	tp-link	Archer C6 6.0	Dipole	IPEX	4.95	UNII-3
2	tp-link	Archer C6 6.0	Dipole	IPEX	4.94	

Note:
1) This EUT supports CDD, and all antenna gains are not equal, Directional gain = G_{ANT}+Array Gain.
For power measurements, Array Gain=0dB ($N_{ANT}\leqslant 4$), so the UNII-1 Directional gain=4.06, the UNII-3 Directional gain=4.95.
For power spectral density measurements, Directional gain(each angle)
$=10\log[(10^{G1/20}+10^{G2/20}+...10^{GN/20})^2/N]$dBi
For the UNII-1 Directional gain(each angle)$=10\log[(10^{3.35/20}+10^{3.64/20})^2/2]=6.51$.
For the UNII-3 Directional gain(each angle)$=10\log[(10^{4.96/20}+10^{4.93/20})^2/2]=7.96$.
2) Beamforming Gain: 3 dB. So the UNII-1 Directional gain=6.51+3=9.51, the UNII-3 Directional gain=7.96+3=10.96.
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
5.62	3.6475	24.31	269.7739	0.19586	1	Complies

For 5GHz UNII-1:

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
4.06	2.5468	25.34	341.9794	0.17336	1	Complies

For 5GHz UNII-3:

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
4.95	3.1261	25.18	329.6097	0.20509	1	Complies

For the max simultaneous transmission MPE:

Ratio		Total	Limit of Ratio	Test Result
2.4GHz	5GHz			
0.19586	0.20509	0.40095	1	Complies

Note:
(1) The calculated distance is 20 cm.
(2) Ratio=Power Density (S) (mW/cm^2)/Limit of Power Density (S) (mW/cm^2)

End of Test Report