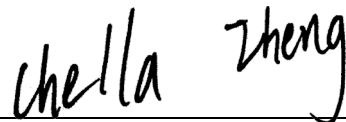


# FCC RF EXPOSURE REPORT

## FCC ID: TE7C54

**Project No.** : 2008C039  
**Equipment** : AC1200 Dual Band Wi-Fi Router  
**Brand Name** : tp-link  
**Test Model** : Archer C54  
**Series Model** : N/A  
**Applicant** : TP-Link Technologies Co., Ltd.  
**Address** : Building 24(floors1,3,4,5) and 28(floors1-4) Central Science and Technology Park, Shennan Rd, Nanshan, Shenzhen, China  
**Manufacturer** : TP-Link Technologies Co., Ltd.  
**Address** : Building 24(floors1,3,4,5) and 28(floors1-4) Central Science and Technology Park, Shennan Rd, Nanshan, Shenzhen, China  
**Date of Receipt** : Aug. 10, 2020  
**Date of Test** : Aug. 11, 2020 ~ Oct. 12, 2020  
**Issued Date** : Oct. 21, 2020  
**Report Version** : R00  
**Test Sample** : Engineering Sample No.: DG2020081118  
**Standard(s)** : FCC Guidelines for Human Exposure IEEE C95.1 & FCC Part 2.1091  
FCC Title 47 Part 2.1091, OET Bulletin 65 Supplement C

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



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**REPORT ISSUED HISTORY**

Report Version	Description	Issued Date
R00	Original Issue	Oct. 21, 2020

## 1. TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No.3,Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

BTL's Test Firm Registration Number for FCC: 357015

BTL's Designation Number for FCC: CN1240

## 2. MPE CALCULATION METHOD

Calculation Method of RF Safety Distance:

$$S = \frac{PG}{4\pi^2 R^2} = \frac{EIRP}{4\pi^2 R^2}$$

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

Table for Filed Antenna:

For 2.4GHz:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	tp-link	N/A	Dipole	Weld	0.97
2	tp-link	N/A	Dipole	Weld	0.97

Note:

This EUT supports CDD, and all antennas have the same gain, Directional gain =  $G_{ANT} + \text{Array Gain}$ .

For power measurements, Array Gain=0dB ( $N_{ANT} \leq 4$ ), so the Directional gain=0.97.

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

So the Directional gain= $G_{ANT} + \text{Array Gain} = G_{ANT} + 10\log(N_{ANT}/N_{SS})\text{dBi} = 0.97 + 10\log(2/1)\text{dBi} = 3.98$ .

For 5GHz:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	tp-link	N/A	Dipole	Weld	1.1
2	tp-link	N/A	Dipole	Weld	1.1

Note:

1) This EUT supports CDD, and all antennas have the same gain, Directional gain =  $G_{ANT} + \text{Array Gain}$ .

For power measurements, Array Gain=0dB ( $N_{ANT} \leq 4$ ), so the Directional gain=1.1.

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

So the Directional gain= $G_{ANT} + \text{Array Gain} = G_{ANT} + 10\log(N_{ANT}/N_{SS})\text{dBi} = 1.1 + 10\log(2/1)\text{dBi} = 3.11$ .

2) Beamforming Gain:3 dB. So Directional gain= $3 + 1.1 = 4.1$ .

### 3. TEST RESULTS

For 2.4GHz:

Directional Gain (dBi)	Directional Gain (numeric)	Max. Average Output Power (dBm)	Max. Average Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
0.97	1.2503	22.57	180.7174	0.04497	1	Complies

For 5GHz UNII-1 Non Beamforming:

Directional Gain (dBi)	Directional Gain (numeric)	Max. Average Output Power (dBm)	Max. Average Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
1.1	1.2882	24.92	310.4560	0.07961	1	Complies

For 5GHz UNII-1 Beamforming:

Directional Gain (dBi)	Directional Gain (numeric)	Max. Average Output Power (dBm)	Max. Average Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4.1	2.5704	24.74	297.8516	0.15239	1	Complies

For 5GHz UNII-3 Non Beamforming:

Directional Gain (dBi)	Directional Gain (numeric)	Max. Average Output Power (dBm)	Max. Average Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
1.1	1.2882	25.37	344.3499	0.08830	1	Complies

For 5GHz UNII-3 Beamforming:

Directional Gain (dBi)	Directional Gain (numeric)	Max. Average Output Power (dBm)	Max. Average Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4.1	2.5704	25.38	345.1437	0.17658	1	Complies

#### For the max simultaneous transmission MPE:

Power Density (S) (mW/cm <sup>2</sup> )	Power Density (S) (mW/cm <sup>2</sup> )	Total	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
2.4GHz	5GHz			
0.04497	0.17658	0.22155	1	Complies

Note: The calculated distance is 20 cm.  
Output power including tune up tolerance.

**End of Test Report**