

FCC RF EXPOSURE REPORT

FCC ID: TE7CPE210V32

Project No. : 1908C055
Equipment : 2.4GHz 300Mbps 9dBi Outdoor CPE
Brand Name : tp-link
Test Model : CPE210
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. 07, 2019
Date of Test : Aug. 08, 2019 ~ Aug. 21, 2019
Issued Date : Oct. 29, 2019
Report Version : R01
Test Sample : Engineering Sample No.: DG190807117
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	Sep. 25, 2019
R01	Modified the comments of TCB.	Oct. 29, 2019

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

Table for Filed Antenna:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1		N/A	PCB	Weld	8.07
2		N/A	PCB	Weld	9.64

Note:

This EUT supports CDD, and antenna gains are not equal, so Directional gain= $10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N]$ dBi=11.90. For fixed point-to-point operation, the directional gain greater than 6 dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. So the average output power limit is $30 - [(Directional\ gain - 6) * 1/3] = 30 - 1.97 = 28.03$, the power spectral density limit is $8 - (Directional\ gain - 6) = 8 - 5.9 = 2.10$.

2. TEST RESULTS

Directional gain (dBi)	Directional Gain (numeric)	Max. Average Output Power (dBm)	Max. Average Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
11.90	15.4882	25.60	363.0781	0.71636	1	Complies

Note: The calculated distance is 25 cm.

Output power including tune up tolerance.

End of Test Report