FCC RF EXPOSURE REPORT

FCC ID: TE7X60

Project No.	:	1910C039A
Equipment	:	AX3000 Whole Home Mesh Wi-Fi System
Brand Name	:	tp-link
Test Model	:	Deco X60
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	:	Apr. 07, 2019
Date of Test	:	Apr. 08, 2019 ~ Apr. 24, 2020
Issued Date	:	May 09, 2020
Report Version	:	R00
Test Sample	:	Engineering Sample No.: DG2020040786
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	Compared with the previous report (BTL-FCCP-3-1910C039), added the description and test data of UNII-3.	May 09, 2020

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

Antenna Specification:

For 2.4GHz:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)
1	TP-LINK	3101502756	Internal	I-PEX	1.93
2	TP-LINK	3101502757	Internal	I-PEX	1.94

Note: This EUT supports CDD, and antenna gains are not equal,
so Directional gain= $10\log[(10^{G1/20}+10^{G2/20}+...10^{GN/20})^2/N]$dBi,
that is Directional gain=$10\log[(10^{1.93/20}+10^{1.94/20})^2/2]$dBi =4.95.

For 5GHz UNII-1:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)
1	TP-LINK	3101502754	Internal	I-PEX	0.76
2	TP-LINK	3101502755	Internal	I-PEX	0.80
3	TP-LINK	3101502756	Internal	I-PEX	0.90
4	TP-LINK	3101502757	Internal	I-PEX	0.97

Note: This EUT supports CDD, and antenna gains are not equal,
so Directional gain= $10\log[(10^{G1/20}+10^{G2/20}+...10^{GN/20})^2/N]$dBi,
that is Directional gain=$10\log[(10^{0.76/20}+10^{0.80/20}+10^{0.90/20}+10^{0.97/20})^2/4]$dBi =6.88.

For 5GHz UNII-3:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)
1	TP-LINK	3101502754	Internal	I-PEX	0.81
2	TP-LINK	3101502755	Internal	I-PEX	0.88
3	TP-LINK	3101502756	Internal	I-PEX	0.85
4	TP-LINK	3101502757	Internal	I-PEX	0.94

Note: This EUT supports CDD, and antenna gains are not equal,
so Directional gain= $10\log[(10^{G1/20}+10^{G2/20}+...10^{GN/20})^2/N]$dBi,
that is Directional gain=$10\log[(10^{0.81/20}+10^{0.88/20}+10^{0.85/20}+10^{0.94/20})^2/4]$dBi =6.89.
So, the output power limit is 30-6.89+6=29.11, the power spectral density limit is 30-6.89+6=29.11.

2. 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^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
4.95	3.1261	27.89	615.1769	0.24498	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
6.88	4.8753	29.11	814.7043	0.50598	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
6.89	4.8753	28.38	688.6523	0.42769	1	Complies

For the max simultaneous transmission MPE:

Power Density (S) (mW/cm^2) 2.4GHz	Power Density (S) (mW/cm^2) 5GHz	Total	Limit of Power Density (S) (mW/cm^2)	Test Result
0.24498	0.50598	0.75096	1	Complies

Note: The calculated distance is 25 cm.
    Output power including tune up tolerance.

End of Test Report