

FCC RF EXPOSURE REPORT

For

BE17000 Whole Home Mesh Wi-Fi 7 System

MODEL NUMBER: Deco BE75

REPORT NUMBER: 4790897082-RF-4

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Prepared for

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Prepared by

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	September 4, 2023	Initial Issue	

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: TP-Link Corporation Limited
Address: Room 901, 9/F. , New East Ocean Centre, 9 Science Museum Road, Tsim Sha Tsui, Kowloon, Hong Kong

Manufacturer Information

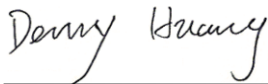
Company Name: TP-Link Corporation Limited
Address: Room 901, 9/F. , New East Ocean Centre, 9 Science Museum Road, Tsim Sha Tsui, Kowloon, Hong Kong

EUT Information

EUT Name: BE17000 Whole Home Mesh Wi-Fi 7 System
Model: Deco BE75
Sample Received Date: June 19, 2023
Sample ID: 6198157
Date of Tested: August 7, 2023 to September 1, 2023

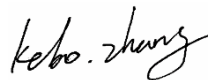
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47CFR§2.1091	PASS
KDB-447498 D01 V06	PASS

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 and KDB 447498 D01 General RF Exposure Guidance v06.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	<p>A2LA (Certificate No.: 4102.01) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA.</p> <p>FCC (FCC Designation No.: CN1187) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules</p> <p>ISED (Company No.: 21320) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046.</p> <p>VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793. Facility Name: Chamber D, the VCCI registration No. is G-20019 and R-20004 Shielding Room B , the VCCI registration No. is C-20012 and T-20011</p>
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Note 1: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China

Note 2: The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.

Note 3: For below 30MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30MHz had been correlated to measurements performed on an OFS.

4. DESCRIPTION OF EUT

EUT Name:		BE17000 Whole Home Mesh Wi-Fi 7 System
Model:		Deco BE75
Product Description (2.4G WLAN)	Frequency Range:	2412 MHz to 2462 MHz
	Type of Modulation:	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g/n: OFDM (64-QAM, 16-QAM, QPSK, BPSK) IEEE 802.11ax: OFDMA (1024-QAM, 64-QAM, 16-QAM, QPSK, BPSK) IEEE 802.11be: OFDMA (4096QAM, 1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK)
	Radio Technology:	IEEE802.11b/g/n HT20/n HT40/n VHT20/n VHT40/ax HE20/ax HE40/be EHT20/be EHT40
Product Description (5G RLAN)	Frequency Range:	U-NII-1 Band: 5180 MHz to 5240 MHz U-NII-2A Band: 5260 MHz to 5320 MHz U-NII-2C Band: 5500 MHz to 5700 MHz U-NII-3 Band: 5745 MHz to 5825 MHz
	Type of Modulation:	IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ax: OFDMA (1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK) IEEE 802.11be: OFDMA (4096QAM, 1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK)
	Radio Technology:	IEEE802.11a/n HT20/n HT40/ ac VHT20/ac VHT40/ac VHT80/ac VHT160/ ax HE20/ax HE40/ax HE80/ax HE160/ be EHT20/be EHT40/be EHT80/be EHT160/be EHT240
Product Description (6G RLAN)	Operation Frequency:	UNII-5 Band: 5925 MHz ~ 6425 MHz UNII-6 Band: 6425 MHz ~ 6525 MHz UNII-7 Band: 6525 MHz ~ 6875 MHz UNII-8 Band: 6875 MHz ~ 7125 MHz
	Type of Modulation:	IEEE 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM) IEEE 802.11be: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM, 4096QAM)
	Radio Technology:	IEEE802.11ax HE20/ax HE40/ax HE80/ax HE160/ be EHT20/be EHT40/be EHT80/be EHT160/be EHT320
Normal Test Voltage:		DC 12 V via adapter
Software Version:		20230512 Rel. 46407

5. REQUIREMENT

LIMIT AND CALCULATION METHOD

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

Limits for General Population/Uncontrolled Exposure

RF EXPOSURE LIMIT

Frequency Range (MHz)	E-field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (Minutes)
0.3 -- 1.34	614	1.63	(100)*	30
1.34 -- 30	824/f	2.19/f	(180/f ²)*	30
30 -- 300	27.5	0.073	0.2	30
300 -- 1500	--	--	f/1500	30
1500 -- 100,000	--	--	1.0	30

CALCULATION METHOD

$$S = PG / 4\pi R^2$$

Where:

S=power density

P=power input to 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

CALCULATED RESULTS

Radio Frequency Radiation Exposure Evaluation

2.4GHz WIFI (Worst case)				
Operating Mode	Max. Tune up Power	Max. Directional Antenna Gain	Power density	Limit
	(dBm)	(dBi)	(mW/ cm ²)	
2.4GHz WIFI	27.44	2	0.1749	1

5 GHz WIFI (Worst case)				
Operating Mode	Max. Tune up Power	Max. Directional Antenna Gain	Power density	Limit
	(dBm)	(dBi)	(mW/ cm ²)	
5 GHz WIFI	28.48	3	0.2798	1

6 GHz WIFI (Worst case)				
Operating Mode	Max. Tune up Power	Max. Directional Antenna Gain	Power density	Limit
	(dBm)	(dBi)	(mW/ cm ²)	
6 GHz WIFI	23.68	4.99	0.1465	1

Note:

1. The calculated distance is 20 cm.
2. The power comes from test report 4790897082-RF-1/2/3.
3. 6 GHz WiFi + 5 GHz WiFi + 2.4 GHz WiFi = 0.1465 + 0.2798 + 0.1749 = 0.6012 (mW/cm²)
Therefore the maximum calculations of above situations are less than the “1” limit.

END OF REPORT