FCC RF EXPOSURE REPORT

FCC ID: 2BCGWTBE552E

Project No.	:	2403G002
Equipment	:	BE9300 Wi-Fi 7 Bluetooth PCIe Adapter
Brand Name	:	tp-link
Test Model	:	Archer TBE552E
Series Model	:	N/A
Applicant	:	TP-LINK CORPORATION PTE. LTD.
Address	:	7 Temasek Boulevard #29-03 Suntec Tower One, Singapore 038987
Manufacturer	:	TP-LINK CORPORATION PTE. LTD.
Address	:	7 Temasek Boulevard #29-03 Suntec Tower One, Singapore 038987
Date of Receipt	:	Mar. 01, 2024
Date of Test	:	Mar. 01, 2024 ~ Jun. 03, 2024
Issued Date	:	Jul. 17, 2024
Report Version	:	R01
Test Sample	:	Engineering Sample No.: SSL20240301184
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.

Prepared by : Grani Zhou

Grani Zhou

Approved by : Chay Cai

Chay Cai

Room 108, Building 2, No.1, Yile Road, Songshan Lake Zone, Dongguan City, Guangdong, People's Republic of China

Tel: +86-769-8318-3000 Web: www.newbtl.com Service mail: btl_qa@newbtl.com

REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-7-2403G002	R00	Original Report.	Jul. 01, 2024	Invalid
BTL-FCCP-7-2403G002	R01	Revised report to address comments.	Jul. 17, 2024	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

Antenna Specification:
For 6GHz

Ant.	Manufacturer	P/N	Antenna Type	Connector	Gain (dBi)
1	TP-LINK CORPORATION PTE. LTD.	3101504215	Dipole	N/A	2.00
2	TP-LINK CORPORATION PTE. LTD.	3101504215	Dipole	N/A	2.00

Note:
a) The EUT incorporates a CDD function. Physically, the EUT provides two completed transmitters and receivers (2T2R). For Output Power, N_{ANT} = 2 < 5; so Directional gain=2.00.
The Direction gain is less than 6 dBi, so output power limits will not be reduced.
b) The above Antenna information are derived from the antenna data sheet provided by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

For BT & BLE:

Ant.	Brand Name	Model Name	Type	Connector	Gain (dBi)
1	TP-LINK CORPORATION PTE. LTD.	3101504215	Dipole	N/A	1.00

Note:
c) The above Antenna information are derived from the antenna data sheet provided by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

For 2.4GHz:

Ant.	Brand Name	Model Name	Type	Connector	Gain (dBi)
1	TP-LINK CORPORATION PTE. LTD.	3101504215	Dipole	N/A	1.00
2	TP-LINK CORPORATION PTE. LTD.	3101504215	Dipole	N/A	1.00

NOTE:
a) The EUT incorporates a CDD function. Physically, the EUT provides two completed transmitters and receivers (2T2R).
b) For Output Power
For N_{ANT} = 2 < 5,
Direction gain = G_{ANT} + 0 = 1.00 + 0 = 1.00 dBi.
The Direction gain is less than 6 dBi, so output power limits will not be reduced.

d) The above Antenna information are derived from the antenna data sheet provided by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

For 5GHz:

Ant.	Brand Name	Model Name	Type	Connector	Gain (dBi)
1	TP-LINK CORPORATION PTE. LTD.	3101504215	Dipole	N/A	2.00
2	TP-LINK CORPORATION PTE. LTD.	3101504215	Dipole	N/A	2.00

Note:

a) The EUT incorporates a CDD function. Physically, the EUT provides two completed transmitters and receivers (2T2R).

b) For Output Power and Power Spectral Density
For Non Beamforming, N_{ANT} = 2 < 5; so Directional gain=2.00.
The Direction gain is less than 6 dBi, so output power limits will not be reduced.

1) The above Antenna information are derived from the antenna data sheet provided by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

3. TABLE FOR ANTENNA CONFIGURATION

For 6GHz:

Operating Mode / TX Mode	2TX
IEEE 802.11ax(HE20)	V (Ant. 1 + Ant. 2)
IEEE 802.11ax(HE40)	V (Ant. 1 + Ant. 2)
IEEE 802.11ax(HE80)	V (Ant. 1 + Ant. 2)
IEEE 802.11ax(HE160)	V (Ant. 1 + Ant. 2))
IEEE 802.11be(EHT20)	V (Ant. 1 + Ant. 2)
IEEE 802.11be(EHT40)	V (Ant. 1 + Ant. 2)
IEEE 802.11be(EHT80)	V (Ant. 1 + Ant. 2)
IEEE 802.11be(EHT160)	V (Ant. 1 + Ant. 2)
IEEE 802.11be(EHT320)	V (Ant. 1 + Ant. 2)

For 2.4GHz:

Operating Mode / TX Mode	2TX
IEEE 802.11b	V (Ant. 1+Ant. 2)
IEEE 802.11g	V (Ant. 1+Ant. 2)
IEEE 802.11n (HT20)	V (Ant. 1+Ant. 2)
IEEE 802.11n (HT40)	V (Ant. 1+Ant. 2)
IEEE 802.11ax (HE20)	V (Ant. 1+Ant. 2)
IEEE 802.11ax (HE40)	V (Ant. 1+Ant. 2)
IEEE 802.11be (EHT20)	V (Ant. 1+Ant. 2)
IEEE 802.11be (EHT40)	V (Ant. 1+Ant. 2)

For 5GHz:

Operating Mode / TX Mode	2TX
IEEE 802.11a	V (Ant. 1 + Ant. 2)
IEEE 802.11ac (VHT20)	V (Ant. 1 + Ant. 2)
IEEE 802.11ac (VHT40)	V (Ant. 1 + Ant. 2)
IEEE 802.11ac (VHT80)	V (Ant. 1 + Ant. 2))
IEEE 802.11ac (VHT160)	V (Ant. 1 + Ant. 2)
IEEE 802.11ax (HE20)	V (Ant. 1 + Ant. 2)
IEEE 802.11ax (HE40)	V (Ant. 1 + Ant. 2)
IEEE 802.11ax (HE80)	V (Ant. 1 + Ant. 2)
IEEE 802.11ax (HE160)	V (Ant. 1 + Ant. 2)
IEEE 802.11be (EHT20)	V (Ant. 1 + Ant. 2)
IEEE 802.11be (EHT40)	V (Ant. 1 + Ant. 2)
IEEE 802.11be (EHT80)	V (Ant. 1 + Ant. 2)
IEEE 802.11be (EHT160)	V (Ant. 1 + Ant. 2)

4. CALCULATED RESULT

For 6GHz:

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
2.00	1.5849	18.70	74.1310	0.02339	1	Complies

For BT:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Peak Output Power (dBm)	Max. Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
1.00	1.2589	13.47	22.2331	0.00557	1	Complies

Note: The output power test records and results please refer to the test report number:
BTL-FCCP-2-2403G002, and issued by:
Test Laboratory: BTL Inc.
Address: No.64, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan (R.O.C.)

For LE:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Peak Output Power (dBm)	Max. Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
1.00	1.2589	13.45	22.1309	0.00555	1	Complies

Note: The output power test records and results please refer to the test report number:
BTL-FCCP-3-2403G002, and issued by:
Test Laboratory: BTL Inc.
Address: No.64, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan (R.O.C.)

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
1.00	1.2589	26.6	457.0882	0.11454	1	Complies

Note: The output power test records and results please refer to the test report number:
BTL-FCCP-4-2403G002, and issued by:
Test Laboratory: BTL Inc.
Address: No.64, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan (R.O.C.)

For 5GHz:

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
2.00	1.5849	26.19	415.9106	0.13120	1	Complies

Note: The output power test records and results please refer to the test report number:
BTL-FCCP-5-2403G002, and issued by:
Test Laboratory: BTL Inc.
Address: No.64, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan (R.O.C.)

For the max simultaneous transmission MPE:

Ratio				Total	Limit of Ratio	Test Result
BT	2.4GHz	5GHz	6GHz			
0.00557	0.11454	0.13120	0.02339	0.27470	1	Complies

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

End of Test Report