

FCC RF EXPOSURE REPORT

FCC ID: 2AIMRRN09

Report No. : BTL-FCCP-5-2410C004
Equipment : Xiaomi Mesh System BE3600 Pro
Model Name : RN09
Brand Name : Xiaomi
Applicant : Beijing Xiaomi Electronics Co., Ltd.
Address : Room 802, Floor 8, Building 5, No.15 KeChuang 10th Road, Beijing
Economic and Technological Development Zone, Beijing City, China.
Manufacturer : Beijing Xiaomi Electronics Co., Ltd.
Address : Room 802, Floor 8, Building 5, No.15 KeChuang 10th Road, Beijing
Economic and Technological Development Zone, Beijing City, China.
Factory : AZROAD (Zhongshan) Technology Company Limited
Address : (Factory Building 2), No.39 Jinchang Industrial Road, West District,
Zhongshan City, Guangdong Province, China
Radio Function : Bluetooth Low Energy
WLAN 2.4 GHz
RLAN 5 GHz (U-NII 1, U-NII 2a, U-NII 2c, U-NII 3)
FCC Rule Part(s) : FCC Guidelines for Human Exposure IEEE C95.1 & FCC Part 2.1091
FCC Title 47 Part 2.1091 & KDB 447498 D01 v06
Date of Receipt : 2024/12/11
Date of Test : 2024/12/11 ~ 2025/1/17
Issued Date : 2025/1/23

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

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**BTL Inc.**

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REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-5-2410C004	R00	Original Report.	2025/1/23	Valid

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

2. ANTENNA SPECIFICATION

For BT LE:

Ant.	Brand Name	Model Name	Antenna Type	Connector	Gain (dBi)
1	South star	NR01	PCB	IPEX	5.56

NOTE: The antenna gain is provided by the manufacturer.

For WLAN 2.4 GHz:

Ant.	Brand Name	Model Name	Antenna Type	Connector	Gain (dBi)
1	South star	NR01	PCB	IPEX	5.92
2	South star	NR01	PCB	IPEX	6.18

NOTE:

- 1) This EUT supports CDD(except the IEEE 802.11b and g mode), and all antenna gains are not equal, Directional gain = $G_{ANT} + \text{Array Gain}$. For power measurements, Array Gain=0dB ($N_{ANT} \leq 4$), so the Directional gain=6.18.
- 2) Beamforming gain: 3dB. The the Directional gain=6.18+3=9.19 dB.
- 3) The antenna gain and beamforming gain are provided by the manufacturer.

Operating Mode	TX Mode	1TX	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 RLAN 5 GHz:

Ant.	Brand Name	Model Name	Antenna Type	Connector	Gain (dBi)
1	South star	NR01	PCB	IPEX	7.18
2	South star	NR01	PCB	IPEX	7.62

NOTE:

- 1) The EUT incorporates a CDD function(except the IEEE 802.11a mode), and all antenna gains are not equal, Directional gain = $G_{ANT} + \text{Array Gain}$. For power measurements, Array Gain=0dB ($N_{ANT} \leq 4$), so the Directional gain=7.62.
- 2) Beamforming gain: 3dB. The the Directional gain=7.63+3=9.63 dB.
- 3) The antenna gain and beamforming gain are provided by the manufacturer.

Operating Mode TX Mode	1TX	2TX
IEEE 802.11a	V(Ant. 1)	-
IEEE 802.11n(HT20)	-	V (Ant. 1+Ant. 2)
IEEE 802.11n(HT40)	-	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)

3. CALCULATED RESULT

For BT LE:

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
5.56	3.5975	7.24	5.2966	0.00379	1	Complies

For WLAN 2.4 GHz:

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
6.18	4.1495	27.01	502.3426	0.41491	1	Complies

For RLAN 5 GHz:

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
7.62	5.7810	26.99	500.0345	0.57537	1	Complies

For the max simultaneous transmission MPE:

Ratio			Total	Limit of Ratio	Test Result
BT LE	2.4GHz	5GHz			
0.00379	0.41491	0.57537	0.9941	1	Complies

Note:

- (1) The calculated distance is 20 cm.
- (2) $\text{Ratio} = \text{Power Density (S) (mW/cm}^2\text{)} / \text{Limit of Power Density (S) (mW/cm}^2\text{)}$

End of Test Report