

FCC RF EXPOSURE REPORT

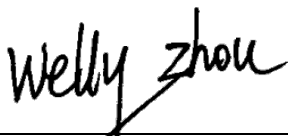
FCC ID: 2BMSX-A100WE

Project No. : 2504C049
Equipment : AX3000 WiFi-6 Repeater
Brand Name : **KATALYST**

Test Model : a100we
Series Model : N/A
Hardware Version : VER1.1
Software Version : V1.0
Applicant : Bolt Brands, LLC.
Address : 8435 Ellerson Dr unit 7 Mechanicsville, Va 23111 America
Manufacturer : Bolt Brands, LLC.
Address : 8435 Ellerson Dr unit 7 Mechanicsville, Va 23111 America
Date of Receipt : Apr. 02, 2025
Date of Test : Apr. 07, 2025 ~ May 08, 2025
Issued Date : May 15, 2025
Report Version : R00
Test Sample : Engineering Sample No.: DG2025040273, DG2025040276
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. (Dongguan)

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REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-4-2504C049	R00	Original Report.	May 15, 2025	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

For 2.4GHz:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)
1		YJC-6N160-B30	Dipole	N/A	4.86
2		YJC-6N160-B30	Dipole	N/A	4.86

Note:

- 1) This EUT supports CDD, and all antennas have the same gain, Directional gain = $G_{ANT} + \text{Array Gain}$.

For power measurements, Array Gain=0dB ($N_{ANT} \leq 4$), so the Directional gain=4.86.

For power spectral density measurements, $N_{ANT}=2$, $N_{SS}=1$.

So the Directional gain= $G_{ANT} + \text{Array Gain} = G_{ANT} + 10\log(N_{ANT}/N_{SS})\text{dBi} = 4.86 + 10\log(2/1)\text{dBi} = 7.87$.

Then, the power spectral density limit is $8 - (7.87 - 6) = 6.13$.

- 2) The antenna gain is provided by the manufacturer.

For 5GHz:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)
1		YJC-6N160-B30	Dipole	N/A	5.71
2		YJC-6N160-B30	Dipole	N/A	5.71
3		YJC-6N160-B30	Dipole	N/A	5.71

Note:

- 1) This EUT supports CDD, and all antennas have the same gain, Directional gain = $G_{ANT} + \text{Array Gain}$.

For power measurements, Array Gain=0dB ($N_{ANT} \leq 4$), so the Directional gain=5.71.

For power spectral density measurements, $N_{ANT}=3$, $N_{SS}=1$.

So the Directional gain= $G_{ANT} + \text{Array Gain} = G_{ANT} + 10\log(N_{ANT}/N_{SS})\text{dBi} = 5.71 + 10\log(3/1)\text{dBi} = 10.48$.

Then, the UNII-1 power spectral density limit is $17 - (10.48 - 6) = 12.52$, the UNII-2A, UNII-2C power

spectral density limit is $11 - (10.48 - 6) = 6.52$, the UNII-3 power spectral density limit is

$30 - (10.48 - 6) = 25.52$.

- 2) The antenna gain is provided by the manufacturer.

3. CALCULATED RESULT

For 2.4GHz:

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
4.86	3.0620	20.95	124.4515	0.07585	1	Complies

For 5GHz:

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
5.71	3.7239	23.88	244.3431	0.18111	1	Complies

For the max simultaneous transmission MPE:

Ratio		Total	Limit of Ratio	Test Result
2.4GHz	5GHz			
0.07585	0.18111	0.25696	1	Pass

Note:

- (1) The calculated distance is 20 cm.
- (2) Ratio=Power Density (S) (mW/cm²)/Limit of Power Density (S) (mW/cm²)

End of Test Report