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}+Array Gain.
   For power measurements, Array Gain=0dB (N_{ANT}≤4), so the Directional gain=4.86.
   For power spectral density measurements, N_{ANT}=2, N_{SS}= 1.
   So the Directional gain=G_{ANT}+Array Gain=G_{ANT}+10log(N_{ANT}/ N_{SS})dBi=4.86+10log(2/1)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}+Array Gain.
   For power measurements, Array Gain=0dB (N_{ANT}≤4), so the Directional gain=5.71.
   For power spectral density measurements, N_{ANT}=3, N_{SS}= 1.
   So the Directional gain=G_{ANT}+Array Gain=G_{ANT}+10log(N_{ANT}/ N_{SS})dBi=5.71+10log(3/1)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/cm^2)/Limit of Power Density (S) (mW/cm^2)

End of Test Report