

FCC RF EXPOSURE REPORT

FCC ID: 2APRGWR3000H

Project No. : 2502C176
Equipment : AX3000 2.5G Mesh Wi-Fi 6 Router
Brand Name : Cudy
Test Model : WR3000H
Series Model : N/A
Applicant : Shenzhen Cudy Technology Co., Ltd.
Address : 7/F, Lepu Tower (West), 66 Xingke Rd, Nanshan, Shenzhen, China
Manufacturer : Shenzhen Cudy Technology Co., Ltd.
Address : 7/F, Lepu Tower (West), 66 Xingke Rd, Nanshan, Shenzhen, China
Factory : Shenzhen Cudy Technology Co., Ltd.
Address : 7/F, Lepu Tower (West), 66 Xingke Rd, Nanshan, Shenzhen, China
Date of Receipt : Feb. 21, 2025
Date of Test : Feb. 26, 2025 ~ Apr. 27, 2025
Issued Date : May 13, 2025
Report Version : R00
Test Sample : Engineering Sample No.: DG20250221202
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)

Prepared by

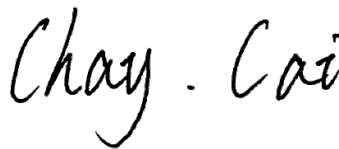
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REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-4-2502C176	R00	Original Report.	May 13, 2025	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 2.4GHz:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	 South star	WR3000H	Dipole	IPEX	5.17
2	 South star	WR3000S	Dipole	IPEX	5.49

Note:

- 1) This EUT supports CDD, 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=5.49.
For power spectral density measurements, $N_{ANT}=4$, $N_{SS} = 1$.
So the Directional gain= $G_{ANT} + \text{Array Gain} = G_{ANT} + 10\log(N_{ANT}/N_{SS})\text{dBi} = 5.49 + 10\log(2/1)\text{dBi} = 8.5$.
Then, the power spectral density limit is $8 - (8.5 - 6) = 5.5$.
- 2) Beamforming Gain=4.5 dBi, Directional gain=4.5+5.49=9.99 dBi.
- 3) The antenna gain and beamforming gain are provided by the manufacturer.

For 5GHz:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	 South star	WR3000H	Dipole	IPEX	5.31
2	 South star	WR3000S	Dipole	IPEX	5.81
3	 South star	WR3000H	Dipole	IPEX	5.44

Note:

- 1) This EUT supports CDD, 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=5.81.
For power spectral density measurements, $N_{ANT}=3$, $N_{SS} = 1$.
So the Directional gain= $G_{ANT} + \text{Array Gain} = G_{ANT} + 10\log(N_{ANT}/N_{SS})\text{dBi} = 5.81 + 10\log(3/1)\text{dBi} = 10.58$.
Then, the UNII-1 power spectral density limit is $17 - (10.58 - 6) = 12.42$, UNII-2A and UNII-2C power spectral density limit is $11 - (10.58 - 6) = 6.42$, the UNII-3 power spectral density limit is $30 - (10.58 - 6) = 25.42$.
- 2) Beamforming Gain=4.5 dBi, Directional gain=4.5+5.81=10.31 dBi.
- 3) The antenna gain and beamforming gain are 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
5.49	3.5400	24.66	292.4152	0.20604	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
5.81	3.8107	28.63	729.4575	0.55329	1	Complies

For the max simultaneous transmission MPE:

Ratio		Total	Limit of Ratio	Test Result
2.4GHz	5GHz			
0.20604	0.55329	0.75933	1	Complies

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