

FCC RF EXPOSURE REPORT

FCC ID: 2APRGWR6500H

Project No. : 2502C177
Equipment : 1) BE6500 2.5G Dual-Band Wi-Fi 7 Router
2) BE6500 Dual-Band Wi-Fi 7 Router
Brand Name : Cudy
Test Model : 1) WR6500H
Series Model : 2) WR6500
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. 24, 2025
Date of Test : Feb. 25, 2025 ~ Jun. 05, 2025
Issued Date : Jun. 17, 2025
Report Version : R00
Test Sample : Engineering Sample No.: DG20250224147.
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-4-2502C177	R00	Original Report.	Jun. 17, 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	P/N	Antenna Type	Connector	Gain (dBi)
1	 South star	3.N102.1302	Dipole	IPEX	5.19
2	 South star	3.N102.1303	Dipole	IPEX	5.03

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=5.19. For power spectral density measurements, $N_{ANT}=2$, $N_{SS} = 1$. So the Directional gain= $G_{ANT} + \text{Array Gain} = G_{ANT} + 10\log(N_{ANT}/N_{SS})\text{dBi} = 5.19 + 10\log(2/1)\text{dBi} = 8.2$. Then, the power spectral density limit is $8 - (8.2 - 6) = 5.8$.
- 2) Beamforming Gain: 3 dB.
- 3) The antenna gain and beamforming gain are provided by the manufacturer.

For 5GHz:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)
1	 South star	3.N102.1398	Dipole	IPEX	5.53
2	 South star	3.N102.1398	Dipole	IPEX	5.53
3	 South star	3.N102.1398	Dipole	IPEX	5.53
4	 South star	3.N102.1305	Dipole	IPEX	5.14

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=5.53. For power spectral density measurements, $N_{ANT}=4$, $N_{SS} = 1$. So the Directional gain= $G_{ANT} + \text{Array Gain} = G_{ANT} + 10\log(N_{ANT}/N_{SS})\text{dBi} = 5.53 + 10\log(4/1)\text{dBi} = 11.55$. Then, the UNII-1 power spectral density limit is $17 - (11.55 - 6) = 11.45$, the UNII-2A, UNII-2C power spectral density limit is $11 - (11.55 - 6) = 5.45$, the UNII-3 power spectral density limit is $30 - (11.55 - 6) = 24.45$.
- 2) Beamforming Gain: 6 dB.
- 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
5.19	3.3037	24.92	310.4560	0.13066	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
5.53	3.5727	29.79	952.7962	0.43364	1	Complies

For the max simultaneous transmission MPE:

Ratio		Total	Limit of Ratio	Test Result
2.4GHz	5GHz			
0.13066	0.43364	0.5643	1	Pass

Note:

- (1) The calculated distance is 25 cm.
- (2) Ratio=Power Density (S) (mW/cm²)/Limit of Power Density (S) (mW/cm²)

End of Test Report