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)

Prepared by : chella zheng
Chella Zheng

Approved by : welly zhou
Welly Zhou

No.3, Jinshagang 1st Road, Dalang, Dongguan, Guangdong People's Republic of China.
Tel: +86-769-8318-3000 Web: www.newbtl.com Service mail: btl_qa@newbtl.com

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:

$$S = \frac{PG}{4\pi r^2} = \frac{EIRP}{4\pi r^2}$$

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	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}+Array Gain.
For power measurements, Array Gain=0dB (N_{ANT}≤4), so the Directional gain=5.19.
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=5.19+10log(2/1)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}+Array Gain.
For power measurements, Array Gain=0dB (N_{ANT}≤4), so the Directional gain=5.53.
For power spectral density measurements, N_{ANT}=4, N_{SS} = 1.
So the Directional gain=G_{ANT}+Array Gain=G_{ANT}+10log(N_{ANT}/ N_{SS})dBi=5.53+10log(4/1)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/cm^2)/Limit of Power Density (S) (mW/cm^2)

End of Test Report