FCC RF EXPOSURE REPORT

FCC ID: 2APRGRE12

This report concerns: Original Grant

Project No.	:	2403G074
Equipment	:	AC1200 Dual Band Wi-Fi Range Extender
Brand Name	:	Cudy
Test Model	:	RE1200
Series Model	:	N/A
Applicant	:	Shenzhen Cudy Technology Co., Ltd.
Address	:	Room A606, Gaoxinqi Industrial Park, Liuxianyi Road, Baoan District, Shenzhen, China
Manufacturer	:	Shenzhen Cudy Technology Co., Ltd.
Address	:	Room A606, Gaoxinqi Industrial Park, Liuxianyi Road, Baoan District, Shenzhen, China
Factory	:	Shenzhen Cudy Technology Co., Ltd.
Address	:	Room A606, Gaoxinqi Industrial Park, Liuxianyi Road, Baoan District, Shenzhen, China
Date of Receipt	:	Mar. 14, 2024
Date of Test	:	Mar. 18, 2024 ~ May 16, 2024
Issued Date	:	May 27, 2024
Report Version	:	R00
Test Sample	:	Engineering Sample No.: SSL2024031416 for 2.4G WIFI, SSL2024031417 for 5G WIFI.
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.

Prepared by : Antony Liang

Approved by : Chay Cai

Room 108, Building 2, No.1, Yile Road, Songshan Lake Zone, Dongguan City, 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-4-2403G074	R00	Original Report.	May 27, 2024	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	RFlink	U00T01S126N00635	Dipole	IPEX	3.49
2	RFlink	U00T01S126N00635	Dipole	IPEX	3.49

Note:
1) This EUT supports MIMO, any transmit signals are correlated with each other, so Directional gain=G_{ANT}+10log(N)dBi, that is Directional gain=3.49+10log(2)dBi=6.50.
2) Beamforming Gain is 3 dBi, so Directional gain=3+3.49=6.49.
3) The antenna gain and beamforming gain are provided by the manufacturer.

For 5GHz:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)
1	RFlink	U00T01S126N00635	Dipole	IPEX	6.24
2	RFlink	U00T01S126N00635	Dipole	IPEX	6.24

Note:
1) This EUT supports MIMO, any transmit signals are correlated with each other, so Directional gain=G_{ANT}+10log(N)dBi, that is Directional gain=6.24+10log(2)dBi=9.25.
2) Beamforming Gain is 3 dBi, that Directional gain=3+6.24=9.24.
3) The antenna gain and beamforming gain are provided by the manufacturer.

3. TABLE FOR ANTENNA CONFIGURATION

For 2.4GHz_Non Beamforming:

Operating Mode / TX Mode	2TX
IEEE 802.11b	V (Ant. 1+Ant. 2)
IEEE 802.11g	V (Ant. 1+Ant. 2)
IEEE 802.11n(HT20)	V (Ant. 1+Ant. 2)
IEEE 802.11n(HT40)	V (Ant. 1+Ant. 2)

For 2.4GHz_Beamforming:

Operating Mode / TX Mode	2TX
IEEE 802.11n(HT20)	V (Ant. 1+Ant. 2)
IEEE 802.11n(HT40)	V (Ant. 1+Ant. 2)

For 5GHz_Non Beamforming:

Operating Mode / TX Mode	2TX
IEEE 802.11a	V (Ant. 1+Ant. 2)
IEEE 802.11n(HT20)	V (Ant. 1+Ant. 2)
IEEE 802.11n(HT40)	V (Ant. 1+Ant. 2)
IEEE 802.11ac(VHT20)	V (Ant. 1+Ant. 2)
IEEE 802.11ac(VHT40)	V (Ant. 1+Ant. 2)
IEEE 802.11ac(VHT80)	V (Ant. 1+Ant. 2)

For 5GHz_ Beamforming:

Operating Mode / TX Mode	2TX
IEEE 802.11n(HT20)	V (Ant. 1+Ant. 2)
IEEE 802.11n(HT40)	V (Ant. 1+Ant. 2)
IEEE 802.11ac(VHT20)	V (Ant. 1+Ant. 2)
IEEE 802.11ac(VHT40)	V (Ant. 1+Ant. 2)
IEEE 802.11ac(VHT80)	V (Ant. 1+Ant. 2)

4. CALCULATED RESULT

For 2.4GHz_ Non Beamforming:

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
6.50	4.4668	21.62	145.2112	0.12911	1	Complies

For 2.4GHz_ Beamforming:

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
6.49	4.4566	21.05	127.3503	0.11297	1	Complies

For 5GHz_ Non Beamforming:

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
9.25	8.4140	24.83	304.0885	0.50927	1	Complies

For 5GHz_ Beamforming:

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
9.24	8.3946	24.58	287.0781	0.47968	1	Complies

For the max simultaneous transmission MPE:

Ratio		Total	Limit of Ratio	Test Result
2.4GHz	5GHz			
0.12911	0.50927	0.63838	1	Complies

Note: The calculated distance is 20 cm.

End of Test Report