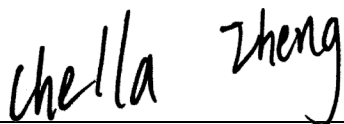


FCC RF EXPOSURE REPORT

FCC ID: 2AV2N-SR120CC

Project No. : 2108C201A
Equipment : Smart Router
Brand Name : FiberHome
Test Model : SR120-CC
Series Model : N/A
Applicant : Fiberhome Telecommunication Technologies Co., Ltd.
Address : No.88 Youkeyuan Road, Hongshan District, Wuhan, Hubei , China
Manufacturer : Fiberhome Telecommunication Technologies Co., Ltd.
Address : No.88 Youkeyuan Road, Hongshan District, Wuhan, Hubei , China
Factory : Fiberhome Telecommunication Technologies Co., Ltd.
Address : No.88 Youkeyuan Road, Hongshan District, Wuhan, Hubei , China
Date of Receipt : Aug. 26, 2021
Nov. 19, 2021
Date of Test : Aug. 30, 2021 ~ Nov. 04, 2021
Issued Date : Dec. 08, 2021
Report Version : R00
Test Sample : Engineering Sample No.: DG20210826105
Standard(s) : FCC Guidelines for Human Exposure IEEE C95.1 & FCC Part 2.1091
FCC Title 47 Part 2.1091, OET Bulletin 65 Supplement C

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.



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Approved by : Ethan Ma



TESTING CERT #5123.02

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REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Compared with original report (BTL-FCCP-4-2108C201), added new adapter (Model: RD1201000-C55-35MGD) which does not affect the test results. The rest are kept the same.	Dec. 08, 2021

1. TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No. 3 Jinshagang 1st Rd. Shixia, Dalang Town, Dongguan City, Guangdong, People's Republic of China.

BTL's Test Firm Registration Number for FCC: 357015

BTL's Designation Number for FCC: CN1240

2. 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

For 2.4GHz:

Antenna Specification:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)
1		XDA0630DBA001	PCB	N/A	3.81
2		XDA0630DBA000	PCB	N/A	3.84

Note:

- 1) This EUT supports CDD, and all antenna gains are not equal, then Directional gain=10log[(10^{G1/20}+10^{G2/20}+...10^{GN/20})²/N]dBi, that is Directional gain=10log[(10^{3.81/20}+10^{3.84/20})²/2]dBi=6.84. So, the output power limit is 30-(6.84-6)=29.16, the power spectral density limit is 8-(6.84-6)=7.16.
- 2) Beamforming Gain: 3dB. Then Directional gain=3+3.84=6.84. So, the output power limit is 30-(6.84-6)=29.16.
- 3) The antenna gain and beamforming gain are provided by the manufacturer.

Table for Antenna Configuration:

For Non Beamforming:

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

For 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:

Antenna Specification:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)
1		XDB0803DBA001	PCB	N/A	3.58
2		XDB0803DBA000	PCB	N/A	3.34

Note:

- 1) This EUT supports CDD, and all antenna gains are not equal, then Directional gain= $10\log[(10^{G1/20}+10^{G2/20}+...10^{GN/20})^2/N]$ dBi, that is Directional gain= $10\log[(10^{3.58/20}+10^{3.34/20})^2/2]$ dBi =6.47. So, the UNII-1, UNII-3 output power limit is 30-(6.47-6)=29.53, the UNII-2A, UNII-2C output power limit is 23.98-(6.47-6)=23.51. The UNII-1 power spectral density limit is 17-(6.47-6)=16.53, the UNII-2A, UNII-2C power spectral density limit is 11-(6.47-6)=10.53, the UNII-3 power spectral density limit is 30-(6.47-6)=29.53.
- 2) Beamforming Gain: 3 dB. Then Directional gain=3+3.58=6.58. So, the UNII-1, UNII-3 output power limit is 30-(6.58-6)=29.42, the UNII-2A, UNII-2C output power limit is 23.98-(6.58-6)=23.40.
- 3) The antenna gain and beamforming gain are provided by the manufacturer.

Table for Antenna Configuration:

For Non Beamforming:

Operating Mode	TX Mode	1TX	2TX
IEEE 802.11a		V (Ant. 1)	-
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 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)

3. TEST RESULTS

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
6.84	4.8306	23.26	211.8361	0.20368	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
6.84	4.8306	23	199.5262	0.19184	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
6.47	4.4361	20.70	117.4898	0.10374	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
6.58	4.5499	20.53	112.9796	0.10232	1	Complies

For the max simultaneous transmission MPE:

Power Density (S) (mW/cm ²)	Power Density (S) (mW/cm ²)	Total	Limit of Power Density (S) (mW/cm ²)	Test Result
2.4GHz	5GHz			
0.20368	0.10374	0.30742	1	Complies

Note: The calculated distance is 20 cm.

End of Test Report