

# FCC RF EXPOSURE REPORT

## FCC ID: 2AX3BCTG6

**Project No.** : 2105C130  
**Equipment** : AC2100 DUAL BAND GIGABIT WIFI ROUTER  
**Brand Name** : Connectize  
**Test Model** : G6  
**Series Model** : G6X (X can be A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z and blank.)  
**Applicant** : SHENZHEN TENO NETWORK TECHNOLOGIES CO.,LTD  
**Address** : NO.415, 4F, ZHONGZHI NEXONE BUILDING, SANLIAN COMMUNITY, LONGHUA STREET, LONGHUA DISTRICT, SHENZHEN, CHINA  
**Manufacturer** : SHENZHEN TENO NETWORK TECHNOLOGIES CO.,LTD  
**Address** : NO.415, 4F, ZHONGZHI NEXONE BUILDING, SANLIAN COMMUNITY, LONGHUA STREET, LONGHUA DISTRICT, SHENZHEN, CHINA  
**Date of Receipt** : May 20, 2021  
**Date of Test** : May 20, 2021~ Jun. 18, 2021  
**Issued Date** : Jun. 29, 2021  
**Report Version** : R00  
**Test Sample** : Engineering Sample No.: DG2021052034  
**Standard(s)** : FCC Part 2.1091  
FCC Title 47 Part 2.1091  
KDB 447498 D01 General RF exposure guidance v06

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

Maker Qi

Prepared by : Maker Qi

Issac Song.

Approved by : Issac Song



TESTING CERT #5123.03

Add: No. 29, Jintang Road, Tangzhen Industry Park, Pudong New Area, Shanghai 201210, China

TEL: +86-021-61765666

Web: [www.newbtl.com](http://www.newbtl.com)

**REPORT ISSUED HISTORY**

Report Version	Description	Issued Date
R00	Original Issue.	Jun. 29, 2021

## 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

Table for Filed Antenna

For 2.4G

Ant.	Brand	Model Name	Antenna Type	Connector	Gain(dBi)
1	N/A	N/A	Dipole	N/A	5
2	N/A	N/A	Dipole	N/A	5

Note:

- This EUT supports CDD, all antennas have the same gain, any transmit signals are correlated with each other, so for power spectral density measurements, the Directional gain= $G_{ANT} + \text{Array Gain}$ , that is Directional gain= $5 + 10\log(2/1) = 8.01$ ; Power spectral density limit is  $8 - 8.01 + 6 = 5.99$ . For power measurements, Directional gain =  $G_{ANT \text{ MAX.}} + \text{Array Gain}$ , Array Gain=0dB( $N_{ANT} \leq 4$ ), so the Directional gain=5.
- The antenna gain is provided by the manufacturer.

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

For 5G

Ant.	Brand	Model Name	Antenna Type	Connector	Gain(dBi)
1	N/A	N/A	Dipole	N/A	5
2	N/A	N/A	Dipole	N/A	5
3	N/A	N/A	Dipole	N/A	5
4	N/A	N/A	Dipole	N/A	5

Note:

1. This EUT supports Beamforming and CDD, all antennas have the same gain, any transmit signals are correlated with each other, so

1) Beamforming:

Directional gain =  $10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] \text{dBi}$ ,

that is Directional gain =  $10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] \text{dBi} = 11.02$ ;

Then, the UNII-1, UNII-3 output power limit is  $30 - 11.02 + 6 = 24.98$ .

The UNII-1 power spectral density limit is  $17 - 11.02 + 6 = 11.98$ ,

the UNII-3 power spectral density limit is  $30 - 11.02 + 6 = 24.98$ .

2) CDD:

For power spectral density measurements, the Directional gain =  $G_{ANT} + \text{Array Gain}$ ,

that is Directional gain =  $5 + 10\log(4/1) = 6.01$ ;

Then, the UNII-1 power spectral density limited is  $17 - 11.02 + 6 = 11.98$ ,

the UNII-3 power spectral density limit is  $30 - 11.02 + 6 = 24.98$ .

For power measurements, Directional gain =  $G_{ANT \text{ MAX.}} + \text{Array Gain}$ .

Array Gain =  $0\text{dB} (N_{ANT} \leq 4)$ , so the Directional gain = 5.

2. The antenna gain and beamforming gain are provided by the manufacturer.

Operating Mode	TX Mode				
	Ant. 1	Ant. 2	Ant. 3	Ant. 4	Ant. 1+2+3+4
IEEE 802.11a	✓	✓	✓	✓	×
IEEE 802.11n(HT20)	✓	✓	✓	✓	✓
IEEE 802.11n(HT40)	✓	✓	✓	✓	✓
IEEE 802.11ac(VHT20)	✓	✓	✓	✓	✓
IEEE 802.11ac(VHT40)	✓	✓	✓	✓	✓
IEEE 802.11ac(VHT80)	✓	✓	✓	✓	✓

## 2. TEST RESULTS

For 2.4GHz:

CDD:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. tune up Power (dBm)	Max. tune up Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5.00	3.1623	22.00	158.4893	0.099708	1	Complies

For 5GHz :

Beamforming

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. tune up Power (dBm)	Max. tune up Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
11.02	12.6474	24.00	251.1886	0.632019	1	Complies

CDD:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. tune up Power (dBm)	Max. tune up Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5.00	3.1623	25.00	316.2278	0.198945	1	Complies

**For the max simultaneous transmission MPE:**

2.4G+5G

Power Density (S) (mW/cm <sup>2</sup> )	Power Density (S) (mW/cm <sup>2</sup> )	Total	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
2.4GHz	5GHz			
0.099708	0.632019	0.731727	1	Complies

Note: The calculated distance is 20 cm.  
Output power including tune up tolerance.

**End of Test Report**