

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.

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TESTING CERT #5123.03

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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 = $10\log[(10^{G1/20}+10^{G2/20}+....+10^{GN/20})^2/N_{ANT}]dBi$,
that is Directional gain= $10\log[(10^{G1/20}+10^{G2/20}+....+10^{GN/20})^2/N_{ANT}]dBi=11.02$;
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= $G_{ANT}+Array\ Gain$,
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= $G_{ANT\ MAX.}+Array\ Gain$.
Array Gain=0dB($N_{ANT}\leq 4$), 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 ²)	Limit of Power Density (S) (mW/cm ²)	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 ²)	Limit of Power Density (S) (mW/cm ²)	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 ²)	Limit of Power Density (S) (mW/cm ²)	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 ²)	Power Density (S) (mW/cm ²)	Total	Limit of Power Density (S) (mW/cm ²)	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