TCT 通测检测 TESTING CENTRE TECHNOLOGY

TEST REPORT

FCC ID.....:	2A5LO-ZLTT30PLUS	
Test Report No.....:	TCT241008E041	
Date of issue.....:	Oct. 18, 2024	
Testing laboratory .....:	SHENZHEN TONGCE TESTING LAB	
Testing location/ address:	2101 & 2201, Zhenchang Factory Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China	
Applicant's name.....:	Tozed Kangwei Tech Co., Ltd	
Address.....:	Room 1301, NO. 37 Jinlong, Nansha Street, Xiangjiang Financial Business Center, Nansha District, Guangzhou, China	
Manufacturer's name ...:	Tozed Kangwei Tech Co., Ltd	
Address.....:	Room 1301, NO. 37 Jinlong, Nansha Street, Xiangjiang Financial Business Center, Nansha District, Guangzhou, China	
Standard(s) .....:	FCC CFR Title 47 Part 1.1307	
Product Name.....:	4G Wireless Router	
Trade Mark .....:	TOZED KANGWEI	
Model/Type reference.....:	ZLT T30 PLUS	
Rating(s).....:	Refer to EUT description of page 3	
Date of receipt of test item .....:	Oct. 08, 2024	
Date (s) of performance of test.....:	Oct. 08, 2024 ~ Oct. 18, 2024	
Tested by (+signature)...:	Rleo LIU	
Check by (+signature)....:	Beryl ZHAO	
Approved by (+signature):	Tomsin	

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1. General Product Information

1.1. EUT description

Product Name.....:	4G Wireless Router
Model/Type reference.....:	ZLT T30 PLUS
Sample Number.....:	TCT241008E023-0101
Operation Frequency.....:	For WIFI: 2412MHz~2462MHz (802.11b/802.11g/802.11n(HT20)) 2422MHz~2452MHz (802.11n(HT40)) For WCDMA: WCDMA Band V: TX: 826.4MHz ~ 846.6MHz, RX: 871.4MHz ~ 891.6MHz WCDMA Band II: TX: 1852.4MHz ~ 1907.6MHz, RX: 1932.4MHz ~ 1987.6MHz LTE Band 4: TX: 1710 MHz ~ 1755 MHz, RX: 2110 MHz ~ 2155 MHz LTE Band 5: TX: 824 MHz ~ 849 MHz, RX: 869 MHz ~ 894 MHz LTE Band 7: TX: 2500 MHz ~ 2570 MHz, RX: 2620 MHz ~ 2690 MHz LTE Band 13: TX: 777 MHz ~ 787 MHz, RX: 746 MHz ~ 756 MHz LTE Band 66: TX: 1710 MHz ~ 1780 MHz, RX: 2110 MHz ~ 2180 MHz
Modulation Type.....:	For WIFI: DSSS(802.11b), OFDM (802.11g/802.11n) For WCDMA: QPSK for HSDPA and HSUPA For LTE: QPSK, 16-QAM
Antenna Type.....:	External Antenna
Antenna Gain.....:	WIFI: 5.61dBi WCDMA Band V: 2.5dBi WCDMA Band II: 3.02dBi LTE Band 4: 3.86dBi LTE Band 5: 2.5dBi LTE Band 7: 3.48dBi LTE Band 13: 3.31dBi LTE Band 66: 3.86dBi
Rating(s).....:	Adapter Information: MODEL: JYSY023A-0502000U INPUT: AC 100-240V, 50/60Hz, 0.5A OUTPUT: DC 5.0V, 2.0A, 10.0W Rechargeable Li-ion Battery DC 3.7V

Note: The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.

1.2. Model(s) list

None.

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2. General Information

2.1. Test environment and mode

Item	Normal condition
Temperature	+25ºC
Voltage	DC 3.7V
Humidity	56%
Atmospheric Pressure:	1008 mbar
Test Mode:	
Engineering mode:	Keep the EUT in continuous transmitting by select channel

2.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
/	/	/	/	/

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.

2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

3. For conducted measurements (Output Power, 20dB Occupied Bandwidth, Carrier Frequencies Separation, Hopping Channel Number, Dwell Time, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

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3. Facilities and Accreditations

3.1. Facilities

The test facility is recognized, certified, or accredited by the following organizations:

- FCC - Registration No.: 645098

  SHENZHEN TONGCE TESTING LAB

  Designation Number: CN1205

  The testing lab has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC - Registration No.: 10668A

  SHENZHEN TONGCE TESTING LAB

  CAB identifier: CN0031

  The testing lab has been registered by Innovation, Science and Economic Development Canada for radio equipment testing.

3.2. Location

SHENZHEN TONGCE TESTING LAB

Address: 2101 & 2201, Zhenchang Factory Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China

TEL: +86-755-27673339

4. Test Results and Measurement Data

According to §1.1307(b), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

Remark: 1)

SISO mode:

For WIFI: The maximum output power for antenna is 17.44dBm (55.46mW) at 2437MHz, 5.61dBi antenna gain(with 3.64 numeric antenna gain.)

For WCDMA Band V: The maximum output power for antenna is 24.82dBm (303.39mW) at 826.4MHz, 2.5dBi antenna gain(with 1.78 numeric antenna gain.)

For WCDMA Band II: The maximum output power for antenna is 23.77dBm (238.23mW) at 1907.6MHz, 3.02dBi antenna gain(with 2.00 numeric antenna gain.)

For LTE Band 4: The maximum output power for antenna is 24.77dBm (299.92mW) at 1732.5MHz, 3.86dBi antenna gain(with 2.43 numeric antenna gain.)

For LTE Band 5: The maximum output power for antenna is 23.23dBm (210.38mW) at 829MHz, 2.5dBi antenna gain(with 1.78 numeric antenna gain.)

For LTE Band 7: The maximum output power for antenna is 24.77dBm (299.92mW) at 2535MHz, 3.48dBi antenna gain(with 2.23 numeric antenna gain.)

For LTE Band 13: The maximum output power for antenna is 24.43dBm (277.33mW) at 782MHz, 3.31dBi antenna gain(with 2.14 numeric antenna gain.)

For LTE Band 66: The maximum output power for antenna is 25.04dBm (319.15mW) at 1715MHz, 3.86dBi antenna gain(with 2.43 numeric antenna gain.)

MIMO mode:

For 2.4G WIFI: The maximum output power is in 802.11n(HT20) mode at 2437MHz, for total power is 18.39dBm (69.02mW), 5.61dBi antenna gain(with 3.64 numeric antenna gain)

2) For mobile or fixed location transmitters, no SAR consideration applied. The minimum separation generally be used is at least 20cm, even if the calculation indicate that the MPE distance would be lesser.

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Calculation:

Given $E = \frac{\sqrt{30*P*G}}{d}$ & $S = \frac{E^2}{3770}$

Where *E = Field strength in Volts / meter*
P = Power in Watts
G = Numeric antenna gain
d = Distance in meters
S = Power density in milliwatts / square centimeter

Substituting the MPE safe distance using d=20cm into above equation.
Yields: *S=0.000199*P*G*

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*($900/f^2$)	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	f/300	6
1500-100,000	/	/	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*($180/f^2$)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

F=frequency in MHz
*=Plane-wave equivalent power density
RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).

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SISO mode:

Mode	Power(mW)	numeric antenna gain	Power density (mW/cm^2)	Limit (mW/cm^2)	Result
WIFI	55.46	3.64	0.040173	1	PASS
WCDMA Band V	303.39	1.78	0.107467	0.550933	
WCDMA Band II	238.23	2.00	0.094816	1	
LTE Band 4	299.92	2.43	0.145032	1	
LTE Band 5	210.38	1.78	0.074521	0.552667	
LTE Band 7	299.92	2.23	0.133095	1	
LTE Band 13	277.33	2.14	0.118104	0.521333	
LTE Band 66	319.15	2.43	0.154331	1	

MIMO mode:

Maximum Emissions Level					
Mode	**Power(mW)**	**numeric antenna gain**	**Power density (mW/cm^2)**	**Limit (mW/cm^2)**	**Result**
WIFI	69.02	3.64	0.049995	1.0	PASS

The device contain transmitters (WIFI & WCDMA, WIFI & LTE) can transmit multiple transmission modes at the same time.

Maximum Emissions Level			
Mode	**Total MPE**	**Limit**	**Result**
WIFI & WCDMA	0.245059	1.0	Pass
WIFI & LTE	0.204326		

********END OF REPORT********

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