




TEST REPORT

FCC ID. :	2A747Z01-03	
Test Report No..... :	TCT220727E015	
Date of issue..... :	Nov. 03, 2023	
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..... :	Shenzhen Five Ants Technology Co., Ltd.	
Address..... :	405 Tonggangda New Energy Parking Lot, Yangchong Industrial Road, Tangxiachong, Yanluo, Baoan, Shenzhen, China	
Manufacturer's name ... :	Shenzhen Five Ants Technology Co., Ltd.	
Address..... :	405 Tonggangda New Energy Parking Lot, Yangchong Industrial Road, Tangxiachong, Yanluo, Baoan, Shenzhen, China	
Standard(s)	FCC CFR Title 47 Part 1.1307	
Product Name..... :	300M Wi-Fi Extender	
Trade Mark	N/A	
Model/Type reference..... :	Z01-01, Z01-02, Z01-03	
Rating(s)..... :	AC 120V/60Hz	
Date of receipt of test item	Jul. 27, 2022	
Date (s) of performance of test..... :	Jul. 27, 2022 ~ Nov. 03, 2023	
Tested by (+signature) ... :	Aaron MO	
Check by (+signature).... :	Beryl ZHAO	
Approved by (+signature):	Tomsin	

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1. General Product Information

1.1. EUT description

Product Name.....:	300M Wi-Fi Extender
Model/Type reference.....:	Z01-01
Sample Number.....:	TCT220727E014-0101
Operation Frequency	2412MHz~2462MHz (802.11b/802.11g/802.11n(HT20)) 2422MHz~2452MHz (802.11n(HT40))
Modulation Type.....:	DSSS(802.11b), OFDM (802.11g/802.11n)
Antenna Type.....:	External Antenna
Antenna Gain.....:	4.31dBi
Rating(s).....:	AC 120V/60Hz

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.

2. General Information

2.1. Test environment and mode

Item	Normal condition
Temperature	+25°C
Voltage	AC 120V/60Hz
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.

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-1

SHENZHEN TONGCE TESTING LAB

CAB identifier: CN0031

The testing lab has been registered by Certification and Engineering Bureau of Industry 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 2.4G WIFI: The maximum output power is in 802.11b mode at 2462MHz, with antenna 1 is 19.32dBm (85.51mW) 4.31dBi antenna gain(with 2.70 numeric antenna gain.)

MIMO mode:

For 2.4G WIFI: The maximum output power is in 802.11n(HT40) mode at 2422MHz, for total power is 15.75dBm (37.58mW), 4.31dBi antenna gain(with 2.70 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.

Calculation:

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

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 $d=20\text{cm}$ into above equation.

Yields: $S=0.000199 \cdot P \cdot G$

SISO mode:

Maximum Emissions Level					
Mode	Power(mW)	numeric antenna gain	Power density (mW/cm ²)	Limit (mW/cm ²)	Result
2.4G WIFI	85.51	2.70	0.045945	1.0	PASS

MIMO mode:

Maximum Emissions Level					
Mode	Power(mW)	numeric antenna gain	Power density (mW/cm ²)	Limit (mW/cm ²)	Result
2.4G WIFI	37.58	2.70	0.020192	1.0	PASS

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