



RF EXPOSURE Test Report

Report No.: MTi210730012-01E4

Date of issue: Aug. 19, 2021

Applicant: WIRELESS-TAG TECHNOLOGY
CO., LIMITED.

Product name: WiFi Module

Model(s): WT32-SC01

FCC ID: 2AFOS-WT32-SC01

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>



Instructions

1. The report shall not be partially reproduced without the written consent of the laboratory;
2. The test results of this report are only responsible for the samples submitted;
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5. Any objection to this report shall be submitted to the laboratory within 15 days from the date of receipt of the report.



TEST RESULT CERTIFICATION

Applicant's name.....	WIRELESS-TAG TECHNOLOGY CO., LIMITED.	
Address.....	Room 115-118, Building A, ChengshishanhaiCenter, No.11, Zhongxing Road, Bantian Sub-district, Longgang District, Shenzhen, 518000 China	
Manufacturer's Name	WIRELESS-TAG TECHNOLOGY CO., LIMITED.	
Address.....	Room 115-118, Building A, ChengshishanhaiCenter, No.11, Zhongxing Road, Bantian Sub-district, Longgang District, Shenzhen, 518000 China	
Product description		
Product name	WiFi Module	
Trademark	Wireless-tag	
Model Name	WT32-SC01	
Serial Model	N/A	
Standards.....	N/A	
Test procedure	KDB 447498 D01 v06	
Date of Test		
Date (s) of performance of tests	:	Aug. 10, 2021 ~ Aug. 19, 2021
Test Result.....	:	Pass
This device described above has been tested by Shenzhen Microtest Co., Ltd. and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.		

Testing Engineer

:

Cindy Qin

(Cindy Qin)

Technical Manager

:

Leon Chen

(Leon Chen)

Authorized Signatory

:

Tom Xue

(Tom Xue)



RF EXPOSURE EVALUATION

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) Radiation as specified in §1.1307(b)

Limits for Maximum Permissible Exposure (MPE)

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 Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*300/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			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
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

MPE Calculation Method

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

P_d = Power density in mW/cm²

P_{out} = output power to antenna in mW

G = Numeric gain of the antenna relative to isotropic antenna

π = 3.1415926

R = distance between observation point and center of the radiator in cm (20cm)

P_d the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.



Measurement Result

BT/BLE:

Operation Frequency: 2402-2480MHz,

Power density limited: 1mW/ cm²

2.4GWiFi:

Operation Frequency: WIFI 802.11b/g/n HT20: 2412-2462MHz,

802.11n HT40: 2422-2452MHz,

Power density limited: 1mW/ cm²

BR+EDR:

Channel Freq. (MHz)	modulation	conducted power (dBm)	Tune-up power (dBm)	Max		Antenna		Evaluation result (mW/cm ²)	Power density Limits (mW/cm ²)
				tune-up power		Gain			
				(dBm)	(mW)	(dBi)	Numeric		
2402	GFSK	3.619	3±1	4	2.512	1	1.26	0.0006	1
2441		3.477	3±1	4	2.512	1	1.26	0.0006	1
2480		3.293	3±1	4	2.512	1	1.26	0.0006	1
2402	π/4-DQPSK	5.712	5±1	6	3.981	1	1.26	0.0010	1
2441		5.673	5±1	6	3.981	1	1.26	0.0010	1
2480		5.478	5±1	6	3.981	1	1.26	0.0010	1
2402	8DPSK	6.171	6±1	7	5.012	1	1.26	0.0013	1
2441		6.040	6±1	7	5.012	1	1.26	0.0013	1
2480		5.767	6±1	7	5.012	1	1.26	0.0013	1



BLE:

Channel Freq. (MHz)	modulation	conducted power (dBm)	Tune-up power (dBm)	Max		Antenna		Evaluation result (mW/cm ²)	Power density Limits (mW/cm ²)
				tune-up power		Gain			
				(dBm)	(dBm)	(dBm)	(mW)	(dBi)	Numeric
2402	GFSK	2.645	2±1	3	1.995	1	1.26	0.0005	1
2440		2.893	2±1	3	1.995	1	1.26	0.0005	1
2480		1.478	2±1	3	1.995	1	1.26	0.0005	1

2.4GWiFi :

Channel Freq. (MHz)	modulation	conducted power (dBm)	Tune-up power (dBm)	Max		Antenna	Evaluation result at 20cm Power density(mW/cm ²)	Power density Limits (mW/cm ²)
				tune-up power				
		(dBm)	(dBm)	(dBm)	(mW)	Numeric		
		Ant A	Ant A	Ant A	Ant A	Ant A		
2412	802.11b	15.29	15±1	16	39.810717	1.26	0.00998	1
2437		15.51	15±1	16	39.810717	1.26	0.00998	1
2462		14.88	15±1	16	39.810717	1.26	0.00998	1
2412	802.11g	14.37	14±1	15	31.622777	1.26	0.00793	1
2437		13.68	14±1	15	31.622777	1.26	0.00793	1
2462		13.70	14±1	15	31.622777	1.26	0.00793	1
2412	802.11n H20	14.28	14±1	15	31.622777	1.26	0.00793	1
2437		13.80	14±1	15	31.622777	1.26	0.00793	1
2462		13.53	14±1	15	31.622777	1.26	0.00793	1
2422	802.11n H40	13.53	13±1	14	25.118864	1.26	0.00630	1
2437		12.88	13±1	14	25.118864	1.26	0.00630	1
2452		12.88	13±1	14	25.118864	1.26	0.00630	1

Conclusion:

Bluetooth and WIFI Simultaneous transmit: 0.0013+0.00998=0.01128

For the max result: 0.01128 ≤ 1.0 for 1g SAR, No SAR is required.

----END OF REPORT----