



MPE REPORT

FCC ID:2AFOS-WT8266-S2

Date of issue: June 22, 2020

Report number: MTi20052201-1E2

Sample description: WiFi Module

Model(s): WT8266-S2

Applicant: Wireless-Tag Technology Co., Ltd

Address: Room 115-118, Building A, ChengshishanhaiCenter, No.11, Zhongxing Road, Bantian Sub-district, Longgang District, Shenzhen, PRC

Date of test: June 08, 2020 to June 22, 2020

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>



TEST RESULT CERTIFICATION	
Applicant's name:	Wireless-Tag Technology Co., Ltd
Address:	Room 115-118, Building A, ChengshishanhaiCenter, No.11, Zhongxing Road, Bantian Sub-district, Longgang District, Shenzhen, PRC
Manufacture's name:	Wireless-Tag Technology Co., Ltd
Address:	Room 115-118, Building A, ChengshishanhaiCenter, No.11, Zhongxing Road, Bantian Sub-district, Longgang District, Shenzhen, PRC
Product name:	WiFi Module
Trademark:	Wireless-tag
Model and/or type reference:	WT8266-S2
Serial model:	N/A
RF exposure procedures:	KDB 447498 D01 v06

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.

Tested by:

Danny Xu

June 22, 2020

Reviewed by:

Leo Su

June 22, 2020

Approved by:

Tom Xue

June 22, 2020

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

WIFI:

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

Power density limited: 1mW/ cm²

Antenna Type: WiFi Antenna: FPC Antenna;

WIFI antenna gain: 3Bi

R=20cm

$mW=10^{(dBm/10)}$

antenna gain Numeric= $10^{(dBi/10)}=10^{(3/10)}=2$

Channel Freq. (MHz)	modulation	conducted power (dBm)	Tune-up power (dBm)	Max		Antenna Gain Numeric	Evaluation result at 20cm Power density(mW/cm2)	Power density Limits (mW/cm2)
				(dBm)	(mW)			
		Ant A	Ant A	Ant A	Ant A	Ant A		
2412	802.11b	15.06	15±1	16	39.810717	2	0.01584	1
2437		15.74	15±1	16	39.810717	2	0.01584	1
2462		15.22	15±1	16	39.810717	2	0.01584	1
2412	802.11g	15.47	15±1	16	39.810717	2	0.01584	1
2437		15.42	15±1	16	39.810717	2	0.01584	1
2462		14.88	15±1	16	39.810717	2	0.01584	1
2412	802.11n H20	15.03	15±1	16	39.810717	2	0.01584	1
2437		15.23	15±1	16	39.810717	2	0.01584	1
2462		14.73	15±1	16	39.810717	2	0.01584	1

Conclusion:

For the max result: $0.01584 \leq 1.0$ for 1g SAR, No SAR is required.

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