



Microtest
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RF EXPOSURE Test Report

Report No.: MTi220920007-04E2

Date of issue: 2022-10-28

Applicant: Earda Technologies Co., Ltd

Product name: ZigBee Soc Module

Model(s): EWN-8258FAT1CC

FCC ID: 2AMM6-8258FAT1CC

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>



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TEST RESULT CERTIFICATION	
Applicant:	Earda Technologies Co., Ltd
Address:	Block A, LianFeng Creative Industry Park, 2 JiSheng Road., HuangGe Town, NanSha District, Guangzhou, China
Manufacturer:	Earda Technologies Co., Ltd
Address:	Block A, LianFeng Creative Industry Park, 2 JiSheng Road., HuangGe Town, NanSha District, Guangzhou, China
Factory:	Earda Technologies Co., Ltd
Address:	Block A, LianFeng Creative Industry Park, 2 JiSheng Road., HuangGe Town, NanSha District, Guangzhou, China
Product description	
Product name	ZigBee Soc Module
Trademark	N/A
Model Name	EWN-8258FAT1CC
Series Model	N/A
Standards.....	N/A
Test procedure	KDB 447498 D01 v06
Date of Test	
Date (s) of performance of tests	2022-09-24 ~ 2022-10-20
Test Result.....	Pass

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	*900/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: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$

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

ZigBee:

Operation Frequency: 2405 MHz ~ 2480 MHz,

Power density limited: 1mW/ cm²

Chann el Freq. (MHz)	modulation	conducte d power	Tune- up power (dBm)	Max		Antenna		Evaluati on result	Power density Limits
		(dBm)		tune-up power		Gain		(mW/cm 2)	(mW/cm 2)
				(dBm)	(mW)	(dBi)	Nume ric		
2405	OQPSK	9.24	10±1	11	12.589	-1.99	0.63	0.0016	1
2440		9.60	10±1	11	12.589	-1.99	0.63	0.0016	1
2480		10.58	10±1	11	12.589	-1.99	0.63	0.0016	1

Conclusion:

For the max result: 0.0016 ≤ 1.0 SAR, No SAR is required.

----END OF REPORT----