



RF EXPOSURE REPORT

Applicant	:	Ultranik Intelligent Technology Co.Ltd
Address of Applicant	:	No.1 plant ,Tangbeiyuan village group, Dushi Village, Pingtan Town, Huiyang District, Huizhou , Guangdong ,China
Manufacturer	:	Ultranik Intelligent Technology Co.Ltd
Address of Manufacturer	:	No.1 plant ,Tangbeiyuan village group, Dushi Village, Pingtan Town, Huiyang District, Huizhou , Guangdong ,China
Equipment under Test	:	motion sensor
Model No.	:	UM01/FU, UM01
FCC ID	:	2BHEYUM01
Test Standard(s)	:	KDB447498 D01 General RF Exposure Guidance v06
Report No.	:	DDT-RE24052715-1E02
Issue Date	:	2024/07/09
Issue By	:	Guangdong Dongdian Testing Service Co., Ltd. Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808

REPORT

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Test Report Declare

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Equipment under Test	:	motion sensor
Model No.	:	UM01/FU, UM01
Manufacturer	:	Ultranik Intelligent Technology Co.Ltd
Address of Manufacturer	:	No.1 plant ,Tangbeiyuan village group, Dushi Village, Pingtan Town, Huiyang District, Huizhou , Guangdong ,China

Test Standard Used:

KDB447498 D01 General RF Exposure Guidance v06

We Declare:

The equipment described above is tested by Guangdong Dongdian Testing Service Co., Ltd. and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Guangdong Dongdian Testing Service Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

Report No.:	DDT-RE24052715-1E02		
Date of Receipt:	2024/06/19	Date of Test:	2024/06/19~2024/07/09

Prepared By:**Tiger Mo/Engineer****Approved By:****Damon Hu/EMC Manager**

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Guangdong Dongdian Testing Service Co., Ltd.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	2024/07/09	

1. General Test Information

1.1. Description of EUT

EUT Name	: motion sensor
Model Number	: UM01/FU, UM01
Difference of model number	: Above models are identical in schematic, appearance and structure, only the Model Number and Power Supply different for all the models, the UM01/FU Power Supply 120-277V, the UM01 Power Supply 120V therefore the test performed on the model UM01/FU.
EUT Function Description	: Please reference user manual of this device
Power Supply	: 120-277V, 50/60Hz
Operation frequency	: 5725MHz-5875MHz
Modulation	: Doppler
Antenna Gain	: Internal Antenna, maximum PK gain: 0 dBi

Note: The above EUT information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications or User's Manual. The above Antenna information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

“” means to be chosen or applicable; “” means don't to be chosen or not applicable; This note applies to entire report.

1.2. Accessories of EUT

Accessories	Manufacturer	Model number	Description
/	/	/	/

1.3. Test laboratory

Guangdong Dongdian Testing Service Co., Ltd.

Add.: Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808.

Tel.: +86-0769-38826678, <http://www.dgddt.com>, Email: ddt@dgddt.com.

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

VCCI facility registration number: C-20087, T-20088, R-20123, R-20155, G-20118

2. RF Exposure evaluation for FCC

2.1. Assessment procedure

Requirement:

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100000			1.0	30

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

Calculation method

$$E(V/m) = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } S(mW/cm^2) = \frac{E^2}{377}$$

E = Electric field (V/m)

P = Peak RF output power (mW)

G = EUT Antenna numeric gain (numeric)=

d = Separation distance between radiator and human body (m)

The formula can be changed to

We can change the formula to:

$$S = \frac{30 \times P \times G}{377 \times d^2} \quad \text{or, } d = \sqrt{\frac{30 \times P \times G}{377 \times S}}$$

From the peak EUT RF output power, the minimum mobile separation distance, $d=0.2$ m, as well as the gain of the used antenna, the RF power density can be obtained.

2.2. Assess result

Mode	Output power (dBm)	Output power (mW)	tune up power (dBm)	Antenna Gain (dBi)	Antenna Gain (linear)	MPE Values (mW/cm ²)	MPE Limit (mW/cm ²)
5.8G radar	-34.03	0.0004	-33	0	1	0.0000001	1

Note: The estimation distance is 20 cm

PK Output Power=61.17dB_{UV}/m@3m-95.2=-34.03dBm

Please refer to the test report "DDT-RE24052715-1E01"

Note: The estimation distance is 20 cm

Conclusion: MPE evaluation required since transmitter power is below FCC threshold

Then SAR evaluation is not required.

3. Photos of the EUT

Please refer to DDT-Q24052715-1E appendix I

-----End Report-----