

MPE TEST REPORT

Report No.: SHE22090051-02DE

Date: 2022-09-23

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Applicant : Keeson Technology Corporation Limited
Address of Applicant : No. 195, Yuanfeng East Road, Wangjiangjing, Xiuzhou District, Jiaxing City, 314000, China

Product Name : Control box
Model No. : MC232SC
Sample Source : Sent by client
Sample No. : E22090051-01#04
E22090051-01#05

FCC ID : 2AK23MC232SC

Standard : FCC Part 2.1091

Date of Receipt : 2022-09-20 (E22090051-01#04)
2022-09-22 (E22090051-01#05)
Date of Test : 2022-09-20 ~ 2022-09-23
Date of Issue : 2022-09-23

Remark:

This report details the results of the testing carried out on one sample, the results contained in this report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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1 General Information

1.1 Testing Laboratory

ISED CAB identifier #	CN0081
Company Name	ICAS Testing Technology Service (Shanghai) Co., Ltd.
Address	No.1298, Pingan Road, Minhang District, Shanghai, China
Telephone	0086 21-51682999
Fax	0086 21-54711112
Homepage	www.icasiso.com

1.2 Environmental conditions

Temperature (°C)	18-25
Humidity (%RH)	40-65
Barometric Pressure (mbar)	960-1060
Ambient noise & Reflection (W/kg)	< 0.012

1.3 Details of Application

Applicant Company Name	Keeson Technology Corporation Limited
Address	No. 195, Yuanfeng East Road,Wangjiangjing, Xiuzhou District,Jiaxing City,314000,China
Contact Person	Sam xu
Telephone	18279170755
Email	xuwb@keeson.com
Manufacturer Company Name	DewertOkin Technology Group Co., Ltd.
Address	No.465, Xinnanyang Road, Wangjiangjing Development Zone, Xiuzhou District, Jiaxing City, Zhejiang Province, China.
Factory Company Name	DewertOkin Technology Group Co., Ltd.
Address	No.465, Xinnanyang Road, Wangjiangjing Development Zone, Xiuzhou District, Jiaxing City, Zhejiang Province, China.

1.4 Details of EUT

Product Name	Control box
Brand Name	N/A
Test Model No.	MC232SC
FCC ID	2AK23MC232SC
Mode of Operation	Bluetooth BLE and Other
Frequency Range	BLE (2402MHz ~ 2480MHz) Other(2403MHz ~ 2480MHz)
Modulation Type	GFSK

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Antenna Type	PCB Antenna
Antenna Gain	1.225dBi
Hardware version	R5.129.00.162-G
Software version	V1.1

2 Maximum Permissible Exposure (MPE)

2.1 Limits

According to FCC Part 1.1307, systems operating under the provisions of this section shall be operated in a manner the ensures that the public is not exposed to radio frequency energy level in excess of the commission's guidelines.

TABLE 1—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

2.2 Assessment methods

Calculation Formula from FCC OET 65:

$$S = \frac{P * G}{4 * \pi * R^2}$$

Where:

S = Power Density (mW/cm²)

P = Input Power of the Antenna (mW)

G = Antenna Gain Relative to an Isotropic Antenna

R = Distance from the Antenna to the Point of Investigation (cm)

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2.3 Test Result

Mode	2403MHz ~ 2480MHz
	GFSK
Field strength (dBuV/m)	91.98
Peak Power (dBm)	-3.22
Power Density at R = 20 cm (mW/cm ²)	0.000095
Note: This report listed the worst case value, please refer to RF test Report No. SHE22090051-01AE Test Result Radiated Emission 4.1.2.	

Operation Mode	Frequency Range (MHz)	Max Conducted Power (dBm)	Antenna Gain (dBi)	Max EIRP (mW)	Power Density at R = 20 cm (mW/cm ²)	Limit (mW/cm ²)
BLE	2402 ~ 2480	-1.82	1.225	0.87	0.000173	1.0

Note(s):

1. The device can not transmit with Other and BT simultaneously, so MPE is not evaluated in this configuration.
2. For 300 – 1,500MHz: Power Density limit is f/1500 mW/cm²
3. For 1,500 – 100,000MHz: Power Density limit is 1.0 mW/cm²

2.4 Conclusion

The Power Density at the position which is 20 cm far from the EUT is smaller than the General Population/Uncontrolled Exposure limit.

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3 Appendixes

3.1 Sample Photograph



Front of the sample



Rear of the sample

End of the report