

RF Exposure Evaluation Report

FCC ID : RUK-MK104
Equipment : BLE Keyless System-Control Box
Brand Name : M.gear
Model Name : MK104
Applicant : Wha Yu Industrial Co., Ltd
No.326, Sec. 2, Kung Tao 5 Road., Hsinchu City
30070, Taiwan (R.O.C.)
Manufacturer : Wha Yu Industrial Co., Ltd
No.326, Sec. 2, Kung Tao 5 Road., Hsinchu City
30070, Taiwan (R.O.C.)
Standard : 47 CFR FCC Part 2 Subpart J, section 2.1093

The product was received on Aug. 05, 2022, and testing was started from Aug. 22, 2022 and completed on Aug. 22, 2022. We, SPORTON INTERNATIONAL INC. Hsinhua Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in KDB 447498 D04 Interim General RF Exposure Guidance v01 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Hsinhua Laboratory, the test report shall not be reproduced except in full.



Approved by: Jackson Tsai

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)



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1. General Description

1.1. EUT General Information

RF General Information			
Evaluation Mode	Frequency Range (MHz)	Operating Frequency (MHz)	Modulation Type
Bluetooth	2400-2483.5	2402-2480	LE: DSSS (GFSK)

1.2. Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	M.gear	NE3-21085	PCB antenna	N/A	2.9

Note 1: The EUT has one antenna.

For BT function:

For IEEE 802.15.1 Bluetooth mode (1TX/1RX)

Ant. 1 could transmit/receive.

1.3. Testing Location Information

Test Lab. : Sporton International Inc. Hsinhua Laboratory			
<input checked="" type="checkbox"/>	Hsinhua (TAF: 3785)	ADD: No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)	
		TEL: 886-3-327-3456	FAX: 886-3-327-0973
Test site Designation No. TW3785 with FCC.			
<input type="checkbox"/>	Wen 33rd.St. (TAF: 3785)	ADD: No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)	
		TEL: 886-3-318-0787	FAX: 886-3-318-0287
Test site Designation No. TW0008 with FCC.			

2. RF Exposure Evaluation

2.1. Applicable Standard

In accordance with FCC 47 CFR part 2 (2.1093) this device has been defined as a portable device which is defined as a transmitting device designed to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user.

Portable devices must be evaluated using the specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2003.

2.2. SAR evaluation

- Per KDB 447498 D04 Interim General RF Exposure Guidance v01,
Option (B): 1.1307(b)(3)(i)(B): Device operates between 300 MHz and 6 GHz and the maximum time-averaged power or effective radiated power (ERP), whichever is greater, $\leq P_{th}$.

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

d = the separation distance (cm);

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	Option	TL ERP (mW)
2.4G;BT-LE	2.90	3.23	6.13	0.00	2.50	15.00	B	1772.579

- Per KDB 447498 D04 Interim General RF Exposure Guidance v01 exclusion thresholds is $2.50 < 1772.579$, RF exposure evaluation is not required.

————THE END————