Maximum Permissible Exposure

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 Part 2.1093**

The product was received on Aug. 05, 2022, and testing was started from Aug. 24, 2022 and completed on Aug. 24, 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 47 CFR Part 2.1093 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.)

Table of Contents

History of this test report

Report No.	Version	Description	Issued Date
FA280433NF	01	Initial issue of report	Oct. 04, 2022

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
2	-	Maximum Permissible Exposure	PASS	-

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
None

Reviewed by: Barry Hsiao

Report Producer: Amber Chiu

1 General Description

1.1 Information

1.1.1 EUT General Information

RF General Information			
Evaluation Mode	**Frequency Range**	**Operating Frequency**	**Modulation Type**
SRD	125kHz	125kHz	OOK

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector
1	YaFai Intelligent	LF65M491J-125K-BW	PKE Antenna	N/A

Note 1: The antenna mentioned above will not be sold with the EUT in the market.

1.1.3 Support Equipment

Support Equipment					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	DC Power Supply	GW	GPS-3030DD	-	-
2	antenna	SunBright	LF65M491J-125K-BW	-	-
3	locker-connector	inf-switch	YAMAHA VP9 Keyless System	-	-

1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 2.1093

1.3 Testing Location Information

Test Lab.：Sporton International Inc. Hsinhua Laboratory				
☒ 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.				
Test Condition	**Test Site No.**	**Test Engineer**	**Test Environment**	**Test Date**
RF Conducted	TH01-HY	XieXun	21.6~25.9°C / 51~60%	24/Aug/2022

2 Human Exposure Assessment

2.1 Maximum Permissible Exposure

2.1.1 Limit of Maximum Permissible Exposure

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time |E|²,|H|² or S (minutes)
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
300-1500	-	-	F/300	6
1500-100,000	-	-	5	6

(B) 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/ cm²)	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^2)*	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	F/1500	30
1500-100,000	-	-	1.0	30

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

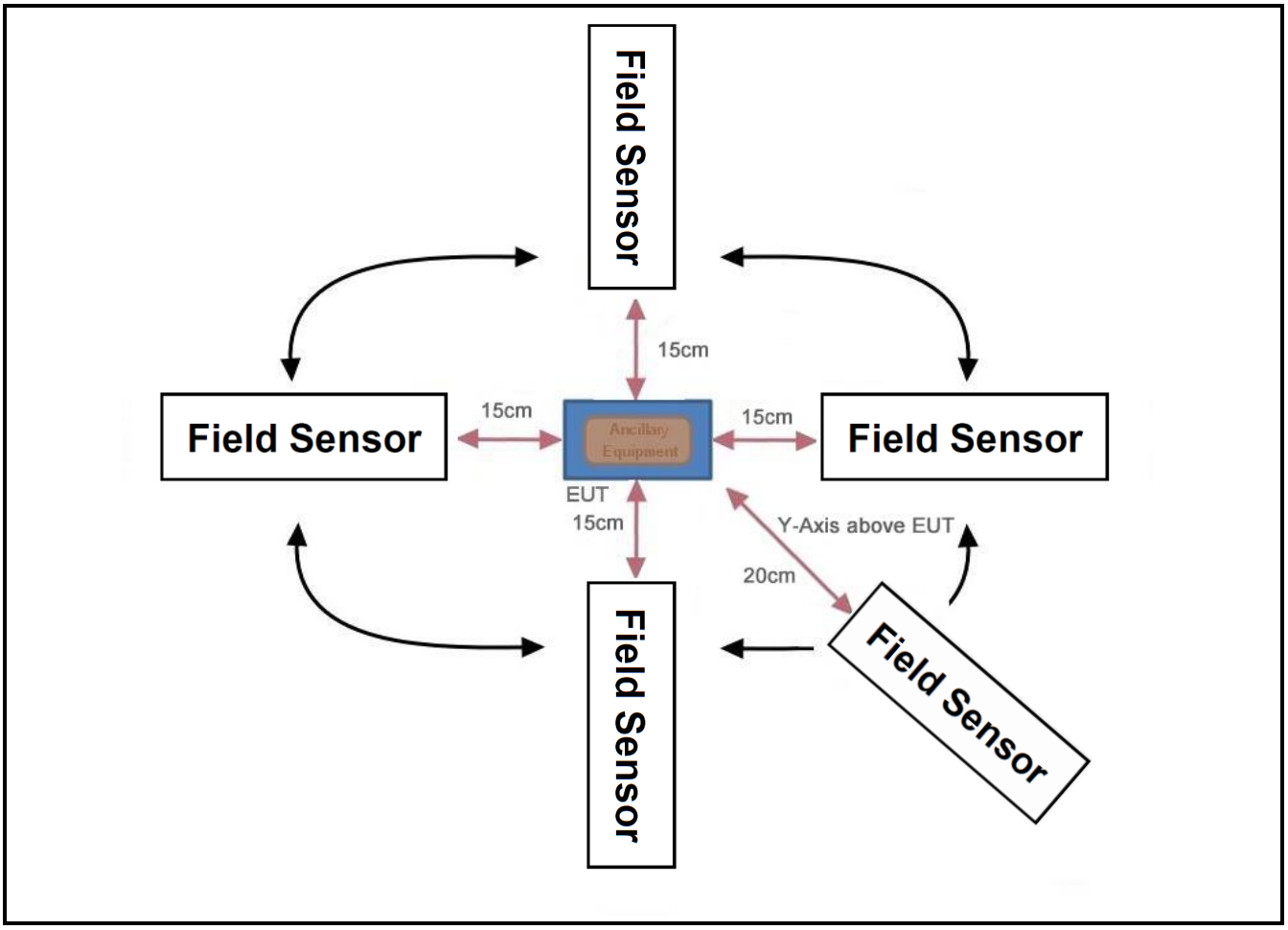
2.1.2 The Worst Condition

Evaluation Mode	Worst Condition
SRD	Operating

2.1.3 Test Method

Test Method
☒ Performed aggregate both leakage E-field and H-field at surrounding the device from all simultaneous transmitting coils.
☒ During testing, the EUT was placed on a non-conductive table top and the ancillary equipment (e.g., mobile phone) was placed on the EUT for charging. Maximum E-field and H-field measurements were tested 15 cm from each side of the EUT. Along the side of the EUT to center of E-field probe and H-field probe were positioned at the location to search maximum field strength.

2.1.4 Test Setup



Note 1: find worst position for each axis.
Note 2: This shall be measured as the distance from the edge of the device to the center of the measurement probe.

2.1.5 Result of Maximum Permissible Exposure

Maximum Permissible Exposure				
Charging Condition	**Separation**	**Probe from EUT Side**	**E-field (V/m)**	**H-field (A/m)**
Operating	15cm	Left	2.8509	0.242
	15cm	Right	2.8884	0.140
	15cm	Top	6.1825	0.434
	15cm	Bottom	6.1367	0.684
	20cm	Y-axis above EUT	7.4936	0.121
Limit			614	1.63
Margin Limit (%)			1.22%	41.93%

3 Test Equipment and Calibration Data

Instrument for Conducted Test

Instrument	Manufacturer/ Brand Name	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Electric and Magnetic field Probe - Analyzer	Narda S.T.S. / PMM	EHP 200AC	180ZX00640	3kHz~30MHz	28/Dec/2021	27/Dec/2022
Probe – test tool	Narda S.T.S. / PMM	EHP200-TS	Rel 1.94 28/08/2020	N/A	N/A	N/A