

RF EXPOSURE REPORT



FCC Applicant: TIEN HSIN INDUSTRIES CO., LTD.
NO.6, WU-GONG 8TH RD., WUFENG DIST., TAICHUNG
CITY 413, TAIWAN (R.O.C.)

FCC Manufacturer: TIEN HSIN INDUSTRIES CO., LTD.
NO.6, WU-GONG 8TH RD., WUFENG DIST., TAICHUNG
CITY 413, TAIWAN (R.O.C.)

Product Name: K-Force WE 12S

Brand Name: FSA

Model No.: FD-ED-8412

Model Difference: N/A

Report Number: TESA2212000554E5

FCC ID 2ALMLKW12FD8412

Issue Date: Jan. 19, 2023

Date of EUT Received: Dec. 02, 2022

Approved By

John Yeh

We hereby certify that:

The above equipment was evaluate by SGS Taiwan Ltd. The evaluation in this report is in compliance with FCC Rule Part §2.1091.

The results of this report relate only to the sample identified in this report.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
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Revision History

Report Number	Revision	Description	Issue Date	Revised By	Remark
TESA2212000554E5	00	Original	Jan. 19, 2023	Candice Li	

Note:

- 1、The remark "" indicates modification of the report upon requests from certification body.

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1 DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

1.1 Product Description

Product Name:	K-Force WE 12S
Brand Name:	FSA
Model No.:	FD-ED-8412
Model Difference:	N/A
Hardware Version:	S132.7.2.0
Firmware Version:	S132.7.2.0
Power Supply:	7.4Vdc from li-battery

1.2 Evaluation site

Laboratory		Site Address	FCC Designation number	ISED Company Number	CAB Identifier
SGS Taiwan Ltd. Central RF Lab. (TAF code 3702)	<input type="checkbox"/>	No. 134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, 24803, Taiwan.	TW0027	4620A	TW3702
	<input checked="" type="checkbox"/>	No. 2, Keji 1st Rd., Guishan Township, Taoyuan County, 333 Taiwan.	TW0028	4620E	
	<input type="checkbox"/>	1F, No. 8, Alley 15, Lane 120, Sec. 1, Nei Hu Road, Nei Hu District, Taipei City, 222 Taiwan.	TW0029	23862	

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1.3 Antenna Information:

The antenna information is provided by the applicant.

1.3.1 BLE

Antenna Type	Supplier	Antenna Part No.	Freq. (MHz)	Peak Antenna Gain (dBi)
Multilayer Chip	ACX	AT8010 -E2R9HAA_	2400~2500	2.50

Note: Antenna information is provided by the applicant.

1.4 Rated Power

1.4.1 BLE

Mode	Freq. Range (MHz)	Channels	Modulation Technology	Max Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)
BLE	2402-2480	40	GFSK	-3.5	2.50	-1.00

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2 FCC MAXIMUM PERMISSIBLE EXPOSURE (MPE)

2.1 FCC Standard Applicable

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

This is a Mobile device, the MPE is required.

According to §1.1310 and §2.1091 RF exposure is calculated.

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 (minute)
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
300-1500	/	/	f/1500	30
1500-100000	/	/	1.0	30

f = frequency in MHz

* = Plane-wave equipment power density

Prediction of MPE limit at a given distance

$$S = PG / 4\pi R^2$$

Where: S = Power density

P = Power input to antenna

G = Power gain of the antenna in the direction of interest relative to an isotropic radiator

R = Distance to the center of radiation of the antenna

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2.2 Power Density Calculation (Worst Case)

Operation Mode	Evaluation Frequency (MHz)	Operation Distance (cm)	Max. Output Power Include Tolerance (dBm)	Antenna Gain (dBi)	Max. EIRP (mW)	Power Density (PD) (mW/cm ²)	Limit (mW/cm ²)	Pass / Fail	Power Density / Limit
BLE	2402.00	20	-3.5	2.50	0.79	0.0002	1.000	Pass	0.000

~ End of Report ~

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