

Kickass Products USA LLC

MPE ASSESSMENT REPORT

Report Type:

FCC MPE assessment report

Model:

KA-HY-254104

REPORT NUMBER:

220900775HZH-002

ISSUE DATE:

January 17, 2023

DOCUMENT CONTROL NUMBER:

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Applicant: Kickass Products USA LLC
9070 IRVINE CTR DR, STE. 135, IRVINE, USA 92618

Manufacturer: Kickass Products USA LLC
9070 IRVINE CTR DR, STE. 135, IRVINE, USA 92618

Factory: Ningbo Yutong Electric Appliance Co., Ltd.
Hudi Village, Linshan Town, Yuyao City, Zhejiang, P. R. China

Product name: Bluetooth module

Type/Model: KA-HY-254104

FCC ID: 2A84X-Fridge

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:

KDB447498 D01 General RF Exposure Guidance v06
FCC Part2.1091, FCC Part2.1093 FCC Part1.1307(b)

PREPARED BY:**REVIEWED BY:**

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Project Engineer

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Reviewer

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TEST REPORT**Revision History**

Report No.	Version	Description	Issued Date
220900775HZH-001	Rev. 01	Initial issue of report	January 17, 2023

TEST REPORT

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	Bluetooth module
Type/Model:	KA-HY-254104
Description of EUT:	The EUT covered in the report is Bluetooth BLE V4.0 UART module and has one model.
Rating:	DC 2.0~3.6V
EUT type:	☒ Tabletop ☐ Floor standing
Brand name:	/
Software Version:	TICC2541_test.HEX
Hardware Version:	HY-254104 V8A
Sample Identification No.:	0221124-09-001
Sample received date:	November 24, 2022
Date of test:	November 29, 2022 to December 8, 2022

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1.2 Technical Specification

Frequency Band:	2400MHz to 2483.5MHz
Support Standards:	Bluetooth Low Energy
Type of Modulation:	GFSK
Channel Number:	40 (0 ~ 39)
Data Rate:	1Mbps
Channel Separation:	2MHz
Antenna Information:	2.6dBi Gain, External Antenna

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1.3 Description of Test Facility

Name:	Intertek Testing Services Shanghai
Address:	Building 86, No. 1198 Qinzhou Road (North), Shanghai 200233, P.R. China
Telephone:	86 21 61278200
Telefax:	86 21 54262353

The test facility is recognized, certified, or accredited by these organizations:	CNAS Accreditation Lab Registration No. CNAS L0139
	FCC Accredited Lab Designation Number: CN0175
	IC Registration Lab CAB identifier.: CN0014
	VCCI Registration Lab Registration No.: R-4243, G-845, C-4723, T-2252
	A2LA Accreditation Lab Certificate Number: 3309.02

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2 MPE Assessment

Test result: **PASS**

2.1 MPE Assessment Limit

Mobile device exposure for standalone operations:

Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field (uT)	Equivalent plane wave power density S_{eq} (W/m ²)
0-1 Hz	-	$3,2 \times 10^4$	4×10^4	-
1-8 Hz	10 000	$3,2 \times 10^4/f^2$	$4 \times 10^4/f^2$	-
8-25 Hz	10 000	$4\,000/f$	$5\,000/f$	-
0,025-0,8 kHz	$250/f$	$4/f$	$5/f$	-
0,8-3 kHz	$250/f$	5	6,25	-
3-150 kHz	87	5	6,25	-
0,15-1 MHz	87	$0,73/f$	$0,92/f$	-
1-10 MHz	$87/f^{1/2}$	$0,73/f$	$0,92/f$	-
10-400 MHz	28	0,073	0,092	2
400-2 000 MHz	$1,375 f^{1/2}$	$0,0037 f^{1/2}$	$0,0046 f^{1/2}$	$f/200$
2-300 GHz	61	0,16	0,20	10

Mobile device exposure for simultaneous transmission operations: **the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is ≤ 1.0**

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2.2 Assessment Results

Power density (S) is calculated according to the formula:

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

Where S = power density in mW/cm²

P = Radiated transmit power in mW

G = numeric gain of transmit antenna

R = distance (cm)

As we can see from the test report 220900775HZH-001:

The calculations in the table below use the highest gain of antenna for client EUT. These calculations represent worst case in terms of the exposure levels.

Mode	Frequency band	EIRP	R	S	Limits
	(MHz)	dBm	(cm)	(mW/cm ²)	(mW/cm ²)
BLE	2402 -2480	2.86	20	0.00056	1

Note: 1 mW/cm² from 1.310 Table 1

The sum of the MPE ratios for all simultaneously transmitting is 0.00056 < 1.0

For the device can support simultaneous transmission, according to 447498 D01 General RF Exposure Guidance v06

Appendix I

Definition below must be outlined in the User Manual:

To satisfy FCC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation.
To ensure compliance, operations at closer than this distance is not recommended.

***** END *****