

TEST REPORT

Reference No...... : WTD21D06058389W002
FCC ID : 2ABH3-FOSFDA
Applicant..... : Furrion Ltd.
Address..... : 4/F, Flat C & D, The Grid, 133 Wai Yip Street, Kwun Tong
Kowloon 999077 Hongkong
Manufacturer : Furrion Ltd.
Address..... : 4/F, Flat C & D, The Grid, 133 Wai Yip Street, Kwun Tong
Kowloon 999077 Hongkong
Product..... : 2.4GHz wireless module
Model(s) : WF8023
Standards..... : FCC Part 2.1091
Date of Receipt sample : 2021-06-28
Date of Test : 2021-06-28 to 2022-01-10
Date of Issue..... : 2022-01-10
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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2. Contents

	Page
1 COVER PAGE.....	1
2. CONTENTS	2
3. REVISION HISTORY	3
4. GENERAL INFORMATION.....	4
4.1. GENERAL DESCRIPTION OF E.U.T.....	4
4.2. DETAILS OF E.U.T.....	4
4.3. CHANNEL LIST	5
4.4. TEST MODE	5
4.5. TEST FACILITY	5
5. TEST SUMMARY	6
6. RF EXPOSURE.....	7
6.1. REQUIREMENTS.....	7
6.2. THE PROCEDURES / LIMIT	7
6.3. MPE CALCULATION METHOD	8
6.4. RESULT: COMPLIANCE	8

3. Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTD21D06058389 W002	2021-06-28	2021-06-28 to 2022-01-10	2022-01-10	Original	-	Valid

4. General Information

4.1. General Description of E.U.T.

Product:	2.4GHz wireless module
Model(s):	WF8023
Model Description:	N/A
Hardware Version	V1.0
Software Version	SFT_WF8023 V1.0

4.2. Details of E.U.T.

Operation Frequency:	2412~2462MHz
Quantity of channel:	11CH
Max. RF output power:	23.01dBm
Type of Modulation:	CCK, OFDM
Antenna installation:	External antenna with RP-SMA connector
Antenna Gain:	3.0dBi
Ratings:	DC 3.3V from Host(DC 12/24V)

4.3. Channel List

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	2412	2	2417	3	2422	4	2427
5	2432	6	2437	7	2442	8	2447
9	2452	10	2457	11	2462	12	-

4.4. Test Mode

Test Items	Mode	Data Rate	Channel	TX/RX
Maximum Peak Output Power	CCK	Normal	1/6/11	TX
	OFDM	Normal	1/6/11	TX
Power Spectral Density	CCK	Normal	1/6/11	TX
	OFDM	Normal	1/6/11	TX
6dB Bandwidth	CCK	Normal	1/6/11	TX
	OFDM	Normal	1/6/11	TX
Band Edge	CCK	Normal	1/6/11	TX
	OFDM	Normal	1/6/11	TX
Transmitter Spurious Emissions	CCK	Normal	1/6/11	TX
	OFDM	Normal	1/6/11	TX

Note: parameters set by test software during channel & power tests, the software provided by the customer was used to set the operating channels as well as the output power level. The RF output power set is the power expected by the manufacturer and is going to be fixed on the firmware of the final product.

4.5. Test Facility

The test facility has a test site registered with the following organizations:

ISED CAB identifier: CN0013. Test Firm Registration No.: 7760A.

Waltek Testing Group Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files.

Registration number 7760A, October 15, 2016.

FCC Designation No.: CN1201. Test Firm Registration No.: 523476.

Waltek Testing Group Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration number 523476, September 10, 2019.

5. Test Summary

Test Items	Test Requirement	Result
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	1.1307	PASS

6. RF Exposure

Test Requirement: FCC Part 1.1307

Evaluation Method: FCC Part 2.1091 & KDB 447498 D01 General RF Exposure Guidance v06

6.1. Requirements

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

6.2. The procedures / limit

(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/ cm ²)	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)*	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/ cm ²)	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)*	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

6.3. MPE Calculation Method

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

S = power density (in appropriate units, e.g. mW/cm²)

P = output power to the antenna (in appropriate units, e.g., mW).

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain.

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

From the peak EUT RF output power, the minimum mobile separation distance, R=20cm, as well as the gain of the used antenna, the RF power density can be obtained

Mode 1: alone transmission

Mode	Antenna Gain (dBi)	Antenna Gain (numeric)	Max.Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (mW/cm ²)	Limit of Power Density (mW/cm ²)
CCK	3.00	1.995	23.01	199.986	0.079383	1

6.4. Result: Compliance

No SAR measurement is required.

=====End of Report=====