

## RF EXPOSURE REPORT

### FOR

|                             |   |                                                                                 |
|-----------------------------|---|---------------------------------------------------------------------------------|
| <b>Applicant</b>            | : | Furion Ltd.                                                                     |
| <b>Address</b>              | : | 4/F, Flat C & D, The Grid, 133 Wai Yip Street,<br>Kwun Tong, Kowloon, Hong Kong |
| <b>Equipment under Test</b> | : | MPPT solar controller                                                           |
| <b>Model No.</b>            | : | FSCC40PW2, FSCC60PW2                                                            |
| <b>Trade Mark</b>           | : | N/A                                                                             |
| <b>FCC ID</b>               | : | 2ABH3-FSCC4PW2                                                                  |
| <b>Manufacturer</b>         | : | Qingdao Skywise Technology Co., Ltd.                                            |
| <b>Address</b>              | : | No. 192, Zhuzhou Road, Qingdao, China                                           |

**Issued By: Dongguan Dongdian Testing Service Co., Ltd.**

**Add.:** No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park,  
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# REPORT

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## Test Report Declare

|                             |   |                                                                                 |
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**Standard Used:** KDB447498 D01 General RF Exposure Guidance v06

**We Declare:**

The equipment described above is assessed by Dongguan Dongdian Testing Service Co., Ltd. and in the configuration assessed the equipment complied with the standards specified above. The assessed results are contained in this report and Dongguan Dongdian Testing Service Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these assess.

**After evaluation, our opinion is that the equipment In Accordance with above standard.**

|                         |                     |                      |                             |
|-------------------------|---------------------|----------------------|-----------------------------|
| <b>Report No:</b>       | DDT-RE23032812-2E03 |                      |                             |
| <b>Date of Receipt:</b> | May 04, 2023        | <b>Date of Test:</b> | May 04, 2023 ~ May 31, 2023 |

**Prepared By:**

*Johnny Wang*

**Johnny Wang/Engineer**

**Approved By:**



**Damon Hu/EMC Manager**

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Dongguan Dongdian Testing Service Co., Ltd.

## Revision History

| Rev. | Revisions     | Issue Date    | Revised By |
|------|---------------|---------------|------------|
| ---  | Initial issue | Jun. 01, 2023 |            |
|      |               |               |            |

## 1. General Information

### 1.1. Description of equipment

|                          |                                                                                                                                                                                                                            |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EUT Name                 | : MPPT solar controller                                                                                                                                                                                                    |
| Model Number             | : FSCC40PW2, FSCC60PW2                                                                                                                                                                                                     |
| Difference of models     | : Above models are identical in schematic and structure, only the name and size are different for all the models, therefore the test performed on the model FSCC60PW2.                                                     |
| EUT Function Description | : Please reference user manual of this device                                                                                                                                                                              |
| Power Supply             | : Battery System Voltage: DC 12V / 24V (Auto)<br>Max. Input PV Open Circuit Voltage: DC 100V (-40 °C)<br>Max. Output Charging Current: DC 40A<br>Max. Input PV Power: 520W / 1040W<br>Input PV Voltage Range: DC 22V ~ 95V |
| Radio Specification      | : Bluetooth V4.2                                                                                                                                                                                                           |
| Operation Frequency      | : 2402 MHz - 2480 MHz                                                                                                                                                                                                      |
| Modulation               | : GFSK                                                                                                                                                                                                                     |
| Data Rate                | : 1 Mbps                                                                                                                                                                                                                   |
| Antenna Gain             | : Ceramic antenna, maximum PK gain: 2 dBi                                                                                                                                                                                  |
| Sample Number            | : S23032812-11 for conductive<br>S23032812-12 for radiation                                                                                                                                                                |

### 1.2. Assess laboratory

Dongguan Dongdian Testing Service Co., Ltd.

Add.: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808.

Tel.: +86-0769-38826678, <http://www.dgddt.com>, Email: [ddt@dgddt.com](mailto:ddt@dgddt.com).

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

VCCI facility registration number: C-20087, T-20088, R-20123, R-20155, G-20118

## 2. RF Exposure Evaluation

### 2.1. Requirement

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

Limits for General Population/Uncontrolled Exposure

(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 <sup>2</sup> ) | Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> 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

### 2.2. Calculation method

$$E(\text{V/m}) = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } S(\text{mW/cm}^2) = \frac{E^2}{377}$$

**E** = Electric field (V/m)

**P** = Peak RF output power (mW)

**G** = EUT Antenna numeric gain (numeric)=

**d** = Separation distance between radiator and human body (m)

The formula can be changed to

We can change the formula to:

$$S = \frac{30 \times P \times G}{377 \times d^2} \quad \text{or, } d = \sqrt{\frac{30 \times P \times G}{377 \times S}}$$

From the peak EUT RF output power, the minimum mobile separation distance, d= 0.2 m, as well as the gain of the used antenna, the RF power density can be obtained.

### 2.3. Estimation result

| Mode | PK<br>Output<br>power<br>(dBm) | Output<br>power<br>(mW) | tune<br>up<br>power<br>(dBm) | Antenna<br>Gain<br>(dBi) | Antenna<br>Gain<br>(linear) | MPE<br>Values<br>(mW/cm <sup>2</sup> ) | MPE<br>Limit<br>(mW/cm <sup>2</sup> ) |
|------|--------------------------------|-------------------------|------------------------------|--------------------------|-----------------------------|----------------------------------------|---------------------------------------|
| BLE  | 1.35                           | 1.36                    | 2                            | 2                        | 1.58                        | 0.00050                                | 1                                     |

Note: The estimation distance is 20 cm

Conclusion: The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

**END OF REPORT**