

# RF Exposure Evaluation Report

**Report No.:** 2405U45453ED

Applicant: M5Stack Technology Co., Ltd

Address: 5F, Tangwei Stock Commercial BuildingYouli Road, Bao'an

District, Shenzhen, Guangdong, China

Product Name: M5AtomS3R

Product Model: AtomS3R

Multiple Models: AtomS3R Lite, AtomS3R Cam, AtomS3R Ext

Trade Mark:

M5STACK

FCC ID: 2AN3WM5ATOMS3R

**Standards:** 47 CFR §1.1310

KDB 447498 D01 General RF Exposure Guidance v06

**Test Date**: 2024-07-11

Test Result: Complied

**Report Date:** 2024-07-12

Reviewed by:

Approved by:

Abel Chen

Abel chen

**Project Engineer** 

Jacob Kong

Jacob Gong

Manager

#### Prepared by:

World Alliance Testing & Certification (Shenzhen) Co., Ltd

No. 1002, East Block, Laobing Building, Xingye Road 3012, Xixiang street, Bao'an District, Shenzhen, Guangdong, People's Republic of China



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# **Revision History**

| Version No. | Issued Date | Description |  |
|-------------|-------------|-------------|--|
| 00          | 2024-07-12  | Original    |  |

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#### 1 General Information

#### 1.1 Client Information

| Applicant:    | M5Stack Technology Co., Ltd  |  |
|---------------|--|--|
| Address:      | 5F, Tangwei Stock Commercial Building Youli Road, Bao'an District,<br>Shenzhen, Guangdong, China |  |
| Manufacturer: | M5Stack Technology Co., Ltd  |  |
| Address:      | 5F, Tangwei Stock Commercial Building Youli Road, Bao'an District, Shenzhen, Guangdong, China    |  |

## 1.2 Product Description of EUT

The EUT is Smart photo frame that contains 2.4G WLAN radios.

| Sample Serial Number      | 2N9F-2 (assigned by WATC)              |
|---------------------------|--|
| Sample Received Date      | 2024-06-20                             |
| Sample Status             | Good Condition                         |
| Frequency Range           | 2.4G WLAN: 2412MHz - 2472MHz           |
|                           | BLE1M/2M: 2402MHz - 2480MHz            |
| Maximum Conducted         | 2.4G WLAN: 21.76dBm                    |
| Output Power              | BLE1M/2M: 8.71dBm                      |
| Modulation Technology     | 2.4G WLAN: DSSS, OFDM                  |
|                           | BLE1M/2M: GFSK                         |
| Antenna Gain <sup>#</sup> | 4.23dBi                                |
| Spatial Streams           | SISO (1TX, 1RX)                        |
| Power Supply              | DC 4.5~5.5V from type C port           |
| Adapter Information       | N/A                                    |
| Modification              | Sample No Modification by the test lab |

### 1.3 Laboratory Location

World Alliance Testing & Certification (Shenzhen) Co., Ltd

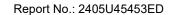
No. 1002, East Block, Laobing Building, Xingye Road 3012, Xixiang street, Bao'an District, Shenzhen, Guangdong, People's Republic of China

Tel: +86-755-29691511, Email: qa@watc.com.cn

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 463912, the FCC Designation No. : CN5040.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0160.

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### 2 RF Exposure Evaluation

#### 2.1 Standard

According to §1.1310, radio frequency devices 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.

According to KDB447498 D01 General RF Exposure Guidance v06:

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq$  50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] • [ $\sqrt{f(GHz)}$ ]  $\leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR, where

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum test separation distance is  $\leq$  50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is  $\leq$  5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

#### 2.2 Result

| Radio | Frequency<br>(MHz) | Maximum Conducted Power including Tune-up Tolerance (dBm) | Min. test<br>separation<br>distance<br>(mm) | Result<br>(1-g SAR) | Exclusion Limit (1-g SAR) | Verdict  |
|-------|--------------------|---|---|---------------------|---------------------------|----------|
| 2.4G  | 2412-2472          | 15.0  | 5   | 9.8                 | 3.0                       | Need SAR |
| WLAN  |                    |   |   |                     |                           | test     |
| BLE   | 2402-2480          | 9.0   | 5   | 2.5                 | 3.0                       | Pass     |

Note: The Maximum Conducted Power including Tune-up Tolerance was declared by manufacturer.

For BLE, no need standalone SAR test.

For 2.4G WLAN, need SAR test, please refer the SAR report: 2404U67808E-SA.

**Result: Complied**