

TEST REPORT

Applicant Name : M5Stack Technology Co.,Ltd
Address : 5F, Tangwei Stock Commercial Building, Youli Road, Bao'an
District, Shenzhen, China
Report Number : RA230410-18058E-MPE
FCC ID: 2AN3WM5CM4STACK

Test Standard (s)

FCC PART 1.1307 and FCC Part 2.1091

Sample Description

Product Type: M5CM4Stack
Model No.: CM4Stack
Trade Mark: 
Date Received: 2023-04-10
Report Date: 2023-05-22

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards above.

Prepared and Checked By:

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EMC Engineer

Approved By:

Candy Li
EMC Engineer

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	RA230410-18058E-MPE	Original Report	2023-05-22

FCC §1.1307 & §2.1091- RF EXPOSURE

Applicable Standard

According to KDB 447498 D04 Interim General RF Exposure Guidance v01, clause 2.1.4 –MPE-Based Exemption:

An alternative to the SAR-based exemption is provided in § 1.1307(b)(3)(i)(C), for a much wider frequency range, from 300 kHz to 100 GHz, applicable for separation distances greater or equal to $\lambda/2\pi$, where λ is the free-space operating wavelength in meters. The MPE-based test exemption condition is in terms of ERP, defined as the product of the maximum antenna gain and the delivered maximum time-averaged power. For this case, a RF source is an RF exempt device if its ERP (watts) is no more than a frequency-dependent value, as detailed tabular form in Appendix B. These limits have been derived based on the basic specifications on Maximum Permissible Exposure (MPE) considered for the FCC rules in § 1.1310(e)(1).

Table to § 1.1307(b)(3)(i)(C) - Single RF Sources Subject to Routine Environmental Evaluation

RF Source frequency (MHz)	Threshold ERP (watts)
0.3-1.34	$1,920 R^2$.
1.34-30	$3,450 R^2/f^2$.
30-300	$3.83 R^2$.
300-1,500	$0.0128 R^2 f$.
1,500-100,000	$19.2 R^2$.

f = frequency in MHz;

R = minimum separation distance from the body of a nearby person (appropriate units, e.g., m);

Test Result:

For worst case:

Mode	Frequency Range (MHz)	Output Power*		Antenna Gain*		ERP		Evaluation Distance (cm)	ERP Limit (mW)
		(dBm)	(mW)	(dBi)	(dBd)	(dBm)	(mW)		
BT	2402-2480	7.0	5.01	3.5	1.35	8.35	6.84	20	768
BLE	2402-2480	5.0	3.16	3.5	1.35	6.35	4.32	20	768
2.4G WIFI	2412-2462	15.5	35.48	3.5	1.35	16.85	48.42	20	768
5G WIFI	5150-5250	17.0	50.12	2.5	0.35	17.35	54.33	20	768
5G WIFI	5250-5350	17.5	56.23	2.5	0.35	17.85	60.95	20	768
5G WIFI	5470-5725	18.5	70.79	2.5	0.35	18.85	76.74	20	768
5G WIFI	5725-5850	18.0	63.10	2.5	0.35	18.35	68.39	20	768

Note 1: Please refer to the FCC ID: 2ABCB-RPIRM0 for the output power and antenna gain, which was provided by the applicant.

Note 2: 0dBd=2.15dBi.

Note 3: BT/BLE/2.4G WIFI/5G WIFI can not transmit simultaneously

To maintain compliance with the FCC's RF exposure guidelines, place the equipment at least 20cm from nearby persons.

Result: Compliant.

*******END OF REPORT*******