



# Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

## TEST REPORT

EN50663:2017

EN62479:2010

Report Reference No. .... : CTA24081301704

Compiled by

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Date of issue ..... : Aug. 27, 2024

Testing Laboratory Name..... : Shenzhen CTA Testing Technology Co., Ltd.

Address ..... : Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community,  
Fuhai Street, Bao'an District, Shenzhen, China

Applicant's name ..... : STEAM Academy PRO PBC

Address ..... : 16192 Coastal Highway, Lewes, DE 19958

Test specification..... :

Standard..... : EN50663:2017

EN62479:2010

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Test item description..... : Revolution Robotics Challenge Kit

Trade Mark..... : Revolution Robotics 88129312

Manufacturer..... : Shenzhen Sunbloom Technology Company Limited

Model/Type reference..... : SA-RR-CK 2.0

List Model..... : N/A

Operation Frequency ..... : From 2402MHz to 2480MHz

Ratings ..... : DC 3.7V From battery 1

DC 7.2V From battery 2

DC 5.0V From external circuit

Result..... : PASS

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**TEST REPORT**

Equipment under Test : Revolution Robotics Challenge Kit

Model /Type : SA-RR-CK 2.0

Listed Models : N/A

**Applicant : STEAM Academy PRO PBC**

Address : 16192 Coastal Highway, Lewes, DE 19958

**Manufacturer Shenzhen Sunbloom Technology Company Limited**

Address : Room 801A, 8F, A7 Building, Tianrui Industrial Park, No. 35  
Fuyuan Rd, Baoan district, Shenzhen City, Guangdong, China  
518103

**Test Result:**

**PASS**

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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	Contents	Page
1.	<b><u>GENERAL INFORMATION .....</u></b>	<b><u>4</u></b>
1.1.	General Remarks	4
1.2.	Environmental conditions	4
1.3.	Product Description	4
2.	<b><u>METHOD OF MEASUREMENT .....</u></b>	<b><u>5</u></b>
3.	<b><u>EXTERNAL AND INTERNAL PHOTOS OF THE EUT .....</u></b>	<b><u>6</u></b>

# 1. GENG GENERAL INFORMATION

## 1.1. General Remarks

Date of receipt of test sample	:	Aug. 20, 2024
Testing commenced on	:	Aug. 20, 2024
Testing concluded on	:	Aug. 27, 2024

## 1.2. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Normal Temperature:	25°C -35°C
Relative Humidity:	35%-55 %
Air Pressure:	101 KPa

## 1.3. Product Description

Product Name:	Revolution Robotics Challenge Kit
Model/Type reference:	SA-RR-CK 2.0
Power supply:	DC 3.7V From battery 1 DC 7.2V From battery 2 DC 5.0V From external circuit
Adapter information (Auxiliary test supplied by test Lab) :	Model: EP-TA20CBC Input: AC 100-240V 50/60Hz Output: DC 5V 2A
Hardware Version:	V1.0
Software Version:	V1.0
2.4G WIFI	
WLAN	Supported 802.11b/802.11g/802.11n HT20
WLAN CE Operation frequency	IEEE 802.11b:2412-2472MHz IEEE 802.11g:2412-2472MHz IEEE 802.11n HT20:2412-2472MHz
WLAN CE Modulation Type	IEEE 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK,BPSK)
Channel number:	13
Channel separation:	5MHz
Antenna Type:	Internal antenna
Antenna:	0.55 dBi
BLE	
Bluetooth:	Supported BLE
Operation frequency:	2402MHz-2480MHz
Modulation Type:	GFSK
Channel separation:	2MHz
Channel number:	40
Antenna Type:	Internal antenna
Antenna:	0.55 dBi

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## 2. METHOD OF MEASUREMENT

### Applicable Standard

EN50663: Generic standard for assessment of low power electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (10MHz-300GHz)

EN62479: Assessment of the compliance of low-power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz)

### Limit

20mW (According to the table A.1)

**Table A.1 – Example values of SAR-based  $P_{\max}$  for some cases described by ICNIRP, IEEE Std C95.1-1999 and IEEE Std C95.1-2005**

Guideline / Standard	SAR limit, $SAR_{\max}$ W/kg	Averaging mass, $m$ g	$P_{\max}$ mW	Exposure tier <sup>a</sup>	Region of body <sup>a</sup>
ICNIRP [1]	2	10	20	General public	Head and trunk
	4	10	40	General public	Limbs
	10	10	100	Occupational	Head and trunk
	20	10	200	Occupational	Limbs
IEEE Std C95.1-1999 [2]	1,6	1	1,6	Uncontrolled environment	Head, trunk, arms, legs
	4	10	40	Uncontrolled environment	Hands, wrists, feet and ankles
	8	1	8	Controlled environment	Head, trunk, arms, legs
	20	10	200	Controlled environment	Hands, wrists, feet and ankles
IEEE Std C95.1-2005 [3]	2	10	20	Action level	Body except extremities and pinnae
	4	10	40	Action level	Extremities and pinnae
	10	10	100	Controlled environment	Body except extremities and pinnae
	20	10	200	Controlled environment	Extremities and pinnae

<sup>a</sup> Consult the appropriate standard for more information and definitions of terms.

### Manufacturing tolerance

#### 2.4GWiFi

802.11b			
Channel	Channel 01	Channel 7	Channel 13
Target (dBm)	7.0	7.0	7.0
Tolerance ±(dB)	1.0	1.0	1.0
802.11g			
Channel	Channel 01	Channel 7	Channel 13
Target (dBm)	7.00	7.00	7.00
Tolerance ±(dB)	1.0	1.0	1.0
802.11n(HT20)			
Channel	Channel 01	Channel 7	Channel 13
Target (dBm)	8.0	8.0	8.0
Tolerance ±(dB)	1.0	1.0	1.0

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BLE (EIRP)			
GFSK 1Mbps			
Channel	Channel 00	Channel 19	Channel 39
Target (dBm)	1.0	1.0	1.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0

**Test result**

Modulation Type	Maximum EIRP including tune up (dBm)	Output power (mW)	Limit (mW)	Results
2.4G WIFI	9.0	7.9433	20	Pass
BLE	2.0	1.5849	20	Pass

**3. External and Internal Photos of the EUT**

Reference to the test report No. CTA24081301703

.....End of Report.....