TEST REPORT

Report No.:	BCTC2509452111-8R
Applicant:	Zhiwei Robotics Corp.
Product Name:	Boson Start Kit for microbit
Test Model:	TOY0086
Tested Date:	2025-09-18 to 2025-10-08
Issued Date:	2025-10-28

Shenzhen BCTC Testing Co., Ltd.

Product Name	Boson Start Kit for microbit
Test Model	TOY0086
Applicant	Zhiwei Robotics Corp.
Address	Unit 01, 26/F, Al ShanghaiT&ITower, No. 1699Zhongke Road, Pudong District, Shanghai, P.R.China
Manufacturer	Zhiwei Robotics Corp.
Address	Unit 01, 26/F, Al ShanghaiT&ITower, No. 1699Zhongke Road, Pudong District, Shanghai, P.R.China
Trademark	/
Sample Received Date	2025-09-18
Test Type	Entrustment Test
Test Method	Please refer to the following page(s).
Test Requested	As specified by client, to test the 45 Perfluoroalkyl and polyfluoroalkyl substances (PFAS) content in the submitted sample.
Test Conclusion	The test results show that the submitted sample comply with the Australian Industrial Chemicals Environmental Management (Registration) Act 2022 (IChEMS Register).

Prepared by: Willa

Willa

Approved by: Saher Chen

Saher Chen

Test Method:

Tested Item(s)	Test Method	Measured Equipment(s)
Perfluoroalkyl and polyfluoroalkyl substances (PFAS)	EN 17681-1:2025	LC-MS/MS

Tested Sample/Part Description:

1 Blue plastic
2 Red plastic
3 Black plastic
4 Beige plastic
5 Milky white plastic
6 Black plastic
7 Blue plastic
8 Red LED
9 Red plastic
10 Green plastic
11 Green plastic
12 Blue plastic
13 Brown wire jacket
14 Red wire jacket
15 Orange wire jacket
16 Black PCB
17 SMD audion
18 Capacitor
19 Resistor
20 Black plastic
21 Gray plastic
22 Transparent plastic sleeve
23 White LED bead
24 Capacitor
25 White wire jacket
26 White plastic
27 Black plastic
28 Transparent white wire jacket
29 White plastic
30 Gray plastic
31 White rubber

Test Result(s):

Substance Name	CAS No.	Result(s) Unit (ppb)		
		1+2+3	4+5+6	7+8+9+10
All tested PFAS in list	--	N.D.	N.D.	N.D.

Substance Name	CAS No.	Result(s) Unit (ppb)		
		11+12+13+14	15+16+17	18+19+20
All tested PFAS in list	--	N.D.	N.D.	N.D.

Substance Name	CAS No.	Result(s) Unit (ppb)	
		21+22+23	24+25+26
All tested PFAS in list	--	N.D.	N.D.

Substance Name	CAS No.	Result(s) Unit (ppb)	
		27+28+29	30+31
All tested PFAS in list	--	N.D.	N.D.

Maximum Allowable Limit	PFOS and its salts: 25ppb (sum) PFOS-related substances: 1000ppb (sum) PFOA and its salts: 25ppb (sum) PFOA-related substances: 1000ppb (sum) Perfluorohexane-1-sulphonic acid (PFHxS) and its salts: 25ppb (Sum) PFHxS-related substances: 1000ppb (Sum) C9-C14 Perfluorocarboxylic acids (PFCAs) and their salts: 25ppb (Sum) C9-C14 PFCA-related substances: 260ppb (Sum) PFHxA and its salts: 25ppb (sum) PFHxA-related substances: 1000ppb (sum) Other Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS): Show Data only

Note:

-N.D. = Not Detected

-ppb = part per billion

-Method detection limit:

PFOS and its salts: 25ppb (sum)

PFOS-related substances: 1000ppb (sum)

PFOA and its salts: 25ppb (sum)

PFOA-related substances: 1000ppb (sum)

Perfluorohexane-1-sulphonic acid (PFHxS) and its salts: 25ppb (Sum)

PFHxS-related substances: 1000ppb (Sum)

C9-C14 Perfluorocarboxylic acids (PFCAs) and their salts: 25ppb (Sum)

Substances in the reporting list of PFAS:

No.	Group Name	Substance Name	CAS No.
1	PFOS and its salts	Perfluorooctanesulfonic acid (PFOS)	1763-23-1
2		Didecyldimethyl ammonium perfluorooctane sulfonate (PFOS-N($C_{10}H_{21}$)$_2$(CH_3)$_2$)	251099-16-8
3	PFOS-related substances	N-Ethylperfluoro-1-octanesulfonamide (N-Et-FOSA)	4151-50-2
4		2-(N-Ethylperfluoro-1-octanesulfonamido)-ethanol (N-Et-FOSE)	1691-99-2
5		Perfluoro-1-octanesulfonyl fluoride (POSF)	307-35-7
6		N-Methylperfluoro-1-octanesulfonamide (N-Me-FOSA)	31506-32-8
7		2-(N-Methylperfluoro-1-octanesulfonamido)-ethanol (N-Me-FOSE)	24448-09-7
8		Perfluorooctane sulfonamide (PFOSA)	754-91-6
9		8:2 Fluorotelomer phosphate monoester (8:2 monoPAP)	57678-03-2
10	PFOA and its salts	Perfluorooctanoyl fluoride (PFOA-F)	335-66-0
11	PFOA-related substances	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	39108-34-4
12		2H,2H-Perfluorodecanoic acid (H_2PFDA)	27854-31-5
13	PFHxS and its salts	Perfluorohexane Sulfonic acid (PFHxS)	355-46-4
14	C9-C14 PFCAs and their salts	Perfluorononanoic Acid (PFNA, C9-PFCA)	375-95-1
15		Perfluoroundecanoic Acid (PFUnA, C11-PFCA)	2058-94-8
16		Perfluorotridecanoic Acid (PFTrDA, C13-PFCA)	72629-94-8
17		Perfluoro-3-7-dimethyloctanecarboxylate (PF-3,7-DMOA)	172155-07-6
18		Perfluorodecanoic Acid (PFDA, C10-PFCA)	335-76-2
19		Perfluorododecanoic Acid (PFDoA, C12-PFCA)	307-55-1
20		Perfluorotetradecanoic Acid (PFTeDA, C14-PFCA)	376-06-7
21	C9-C14 PFCAs related substances	2-aminotoluene-5-sulfonic acid	34598-33-9
22		1H,1H,2H,2H-Perfluoro-1-dodecanol	865-86-1
23		1H,1H,2H,2H-Perfluorododecanesulphonicacid	120226-60-0
24		2-Perfluorooctylethanol (8:2 FTOH)	678-39-7
25	PFHxA and its salts	Perfluorohexanoic Acid (PFHxA, C6-PFCA)	307-24-4

No.	Group Name	Substance Name	CAS No.
26	PFHxA-related substances	1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	27619-97-2
27		1H,1H,2H,2H-Perfluorooctanol (6:2 FTOH)	647-42-7
28	Other Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)	1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-methyloctane-1- sulfonamide	375-22-4
29		Perfluoropentanoic acid	2706-90-3
30		Perfluoroheptanoic acid	375-85-9
31		Perfluoro(2-methyl-3-oxahexanoic) acid	13252-13-6
32		Nonafluoro-1-butanesulfonic Acid	375-73-5
33		Perfluoroheptanesulfonic Acid	375-92-8
34		Henicosafluorodecanesulphonic acid	335-77-3
35		1H,1H,2H,2H-Perfluoro-1-hexanol	2043-47-2
36		7H-Dodecafluoroheptanoic acid	1546-95-8
37		1H,1H,2H,2H-Perfluorohexanesulphonic acid	757124-72-4
38		Sodium 4,8-dioxa-3H-perfluorononanoate (ADONA-Na)	2250081-67-3
39		8:2 Fluorotelomer phosphate diester (8:2 diPAP)	678-41-1
40		2H-Perfluoro-2-decenoic acid (8:2 FTUCA)	70887-84-2
41		Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonate (9Cl-PF3ONS-K)	73606-19-6
42		11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	763051-92-9
43		1H,1H-Perfluorooctylamine (PFA)	307-29-9
44		Perfluorooctylphosphoric acid (PFOPA)	40143-78-0
45		Bis(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl) hydrogen phosphate (6:2 diPAP)	57677-95-9

Photograph of Sample

Fig.1

Fig.2

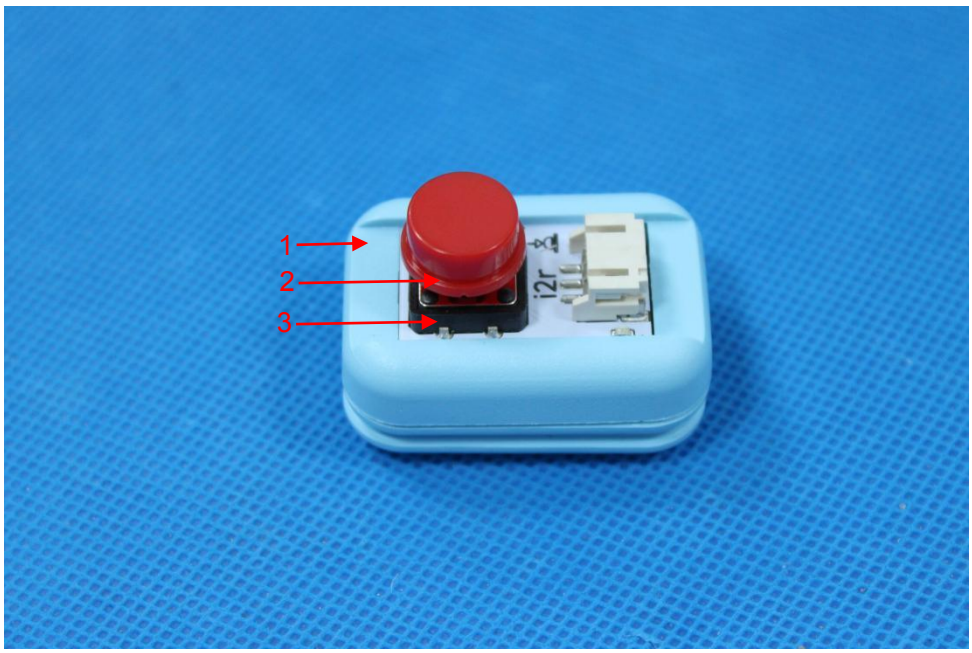


Fig.3

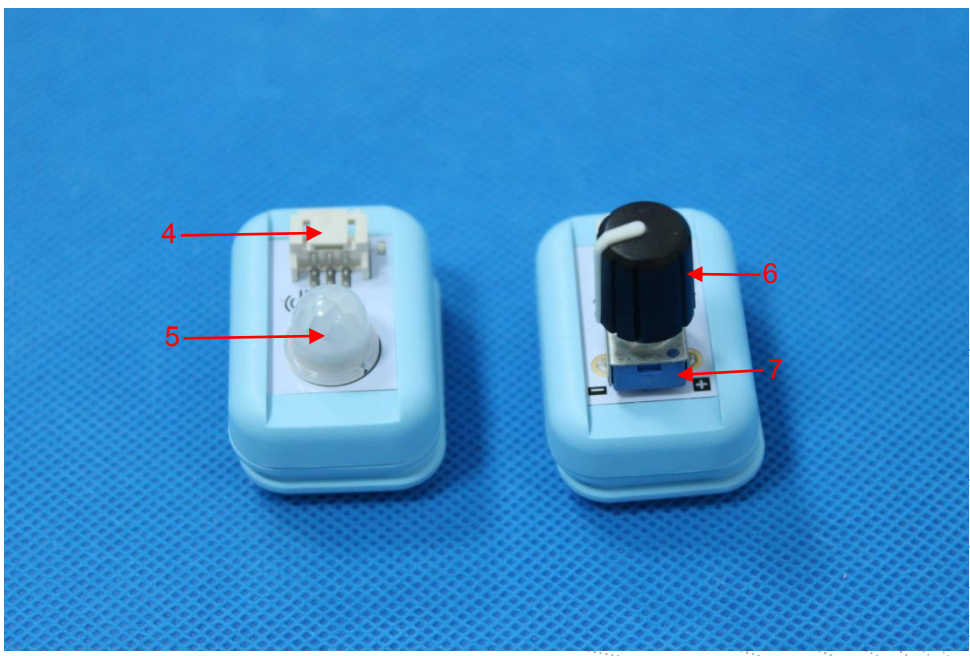


Fig.4

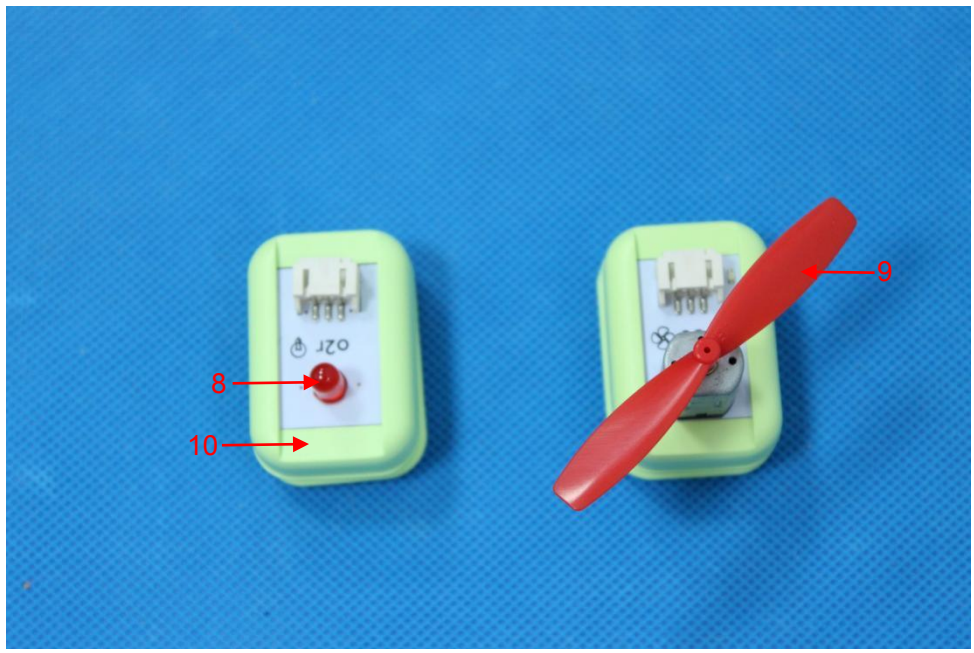
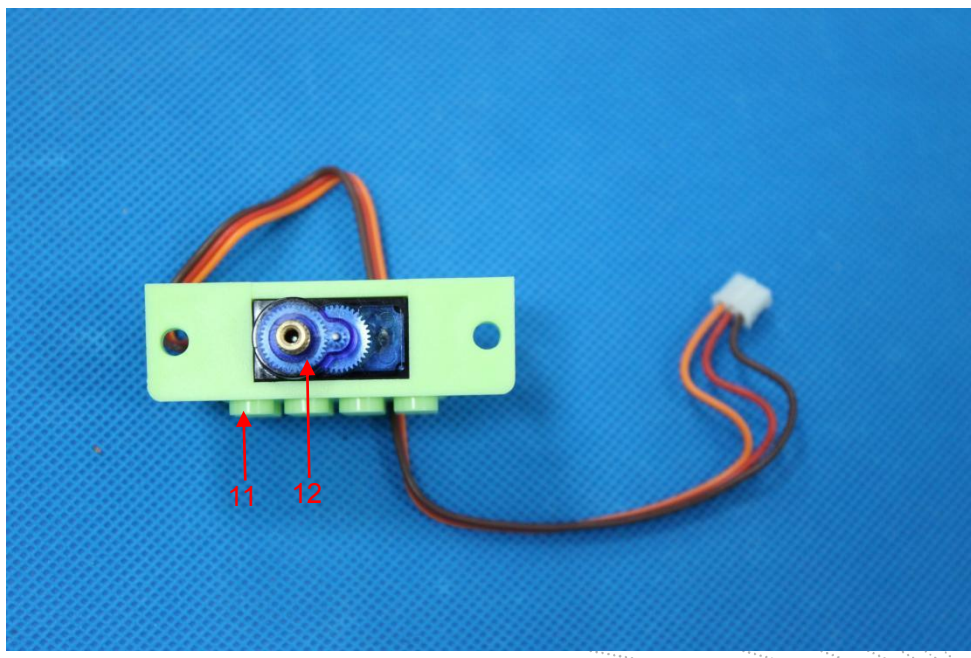


Fig.5



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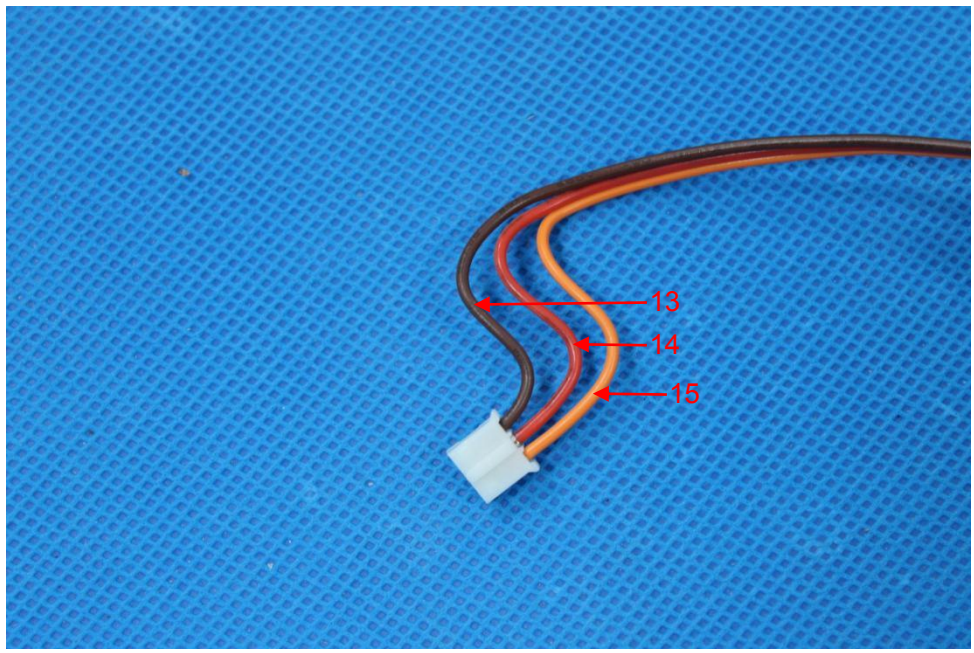
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14
15

Fig.7

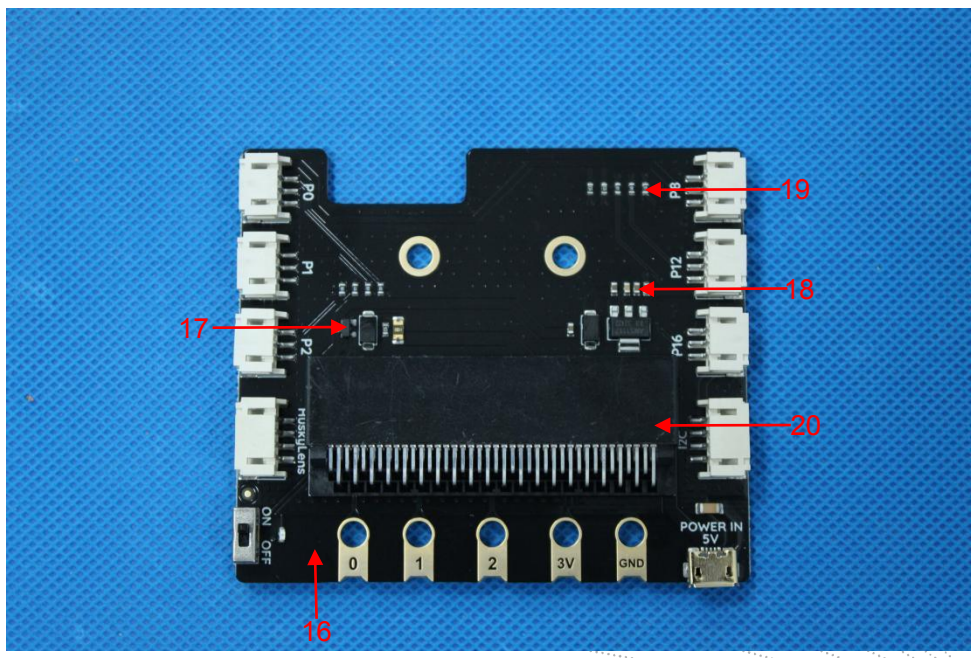
19
18
17
20
16
P0
P1
P2
P8
P12
P16
ON
OFF
0
1
2
3V
GND
POWER IN
5V

Fig.8

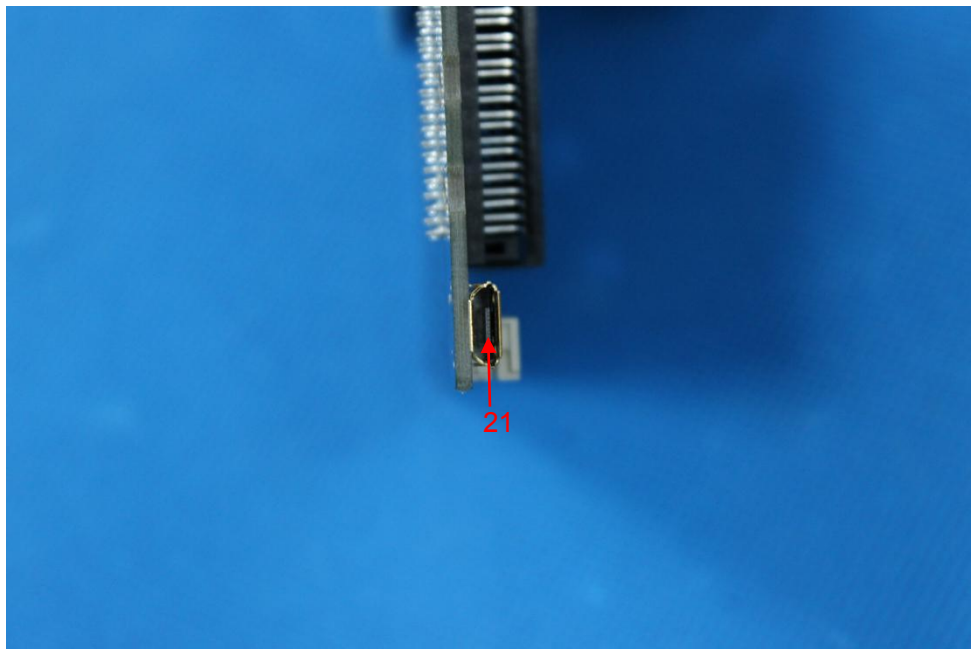

Fig.9

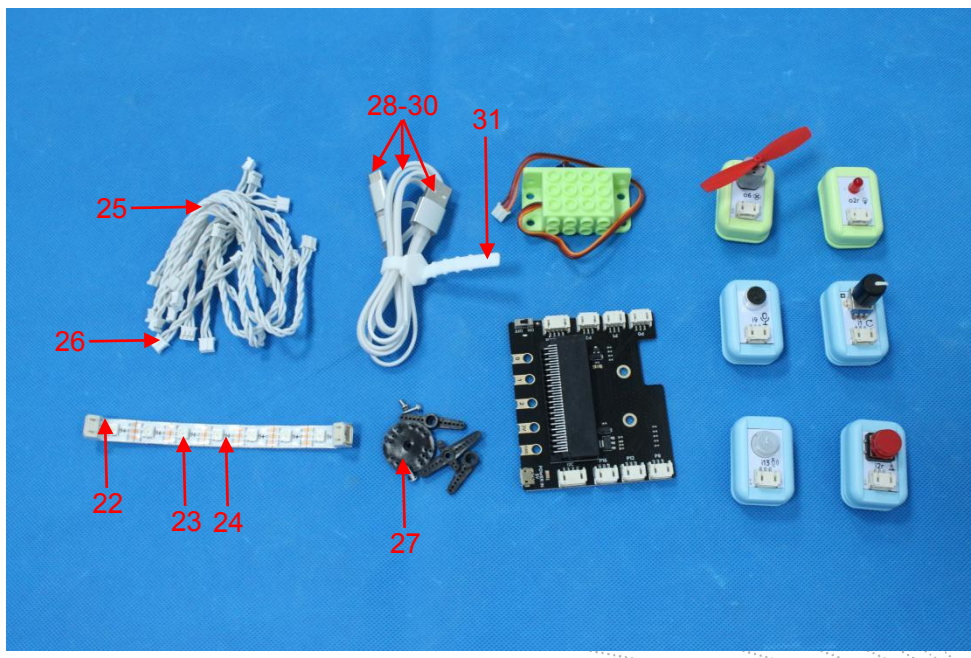

Fig.10

STATEMENT

1. The equipment lists are traceable to the national reference standards.

2. The test report can not be partially copied unless prior written approval is issued from our lab.

3. The test report is invalid without the "special seal for inspection and testing".

4. The test report is invalid without the signature of the approver.

5. The test process and test result is only related to the Unit Under Test.

6. Sample information is provided by the client and the laboratory is not responsible for its authenticity.

7. The quality system of our laboratory is in accordance with ISO/IEC17025.

8. If there is any objection to this test report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

Address:
1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

TEL : 400-788-9558

P. C. : 518103

FAX : 0755-33229357

Website : http://www.chnbctc.com

Consultation E-mail : bctc@bctc-lab.com.cn

Complaint/Advice E-mail : advice@bctc-lab.com.cn

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