

TEST REPORT

Report No.: BCTC2507604933R

Applicant: Zhiwei Robotics Corp.

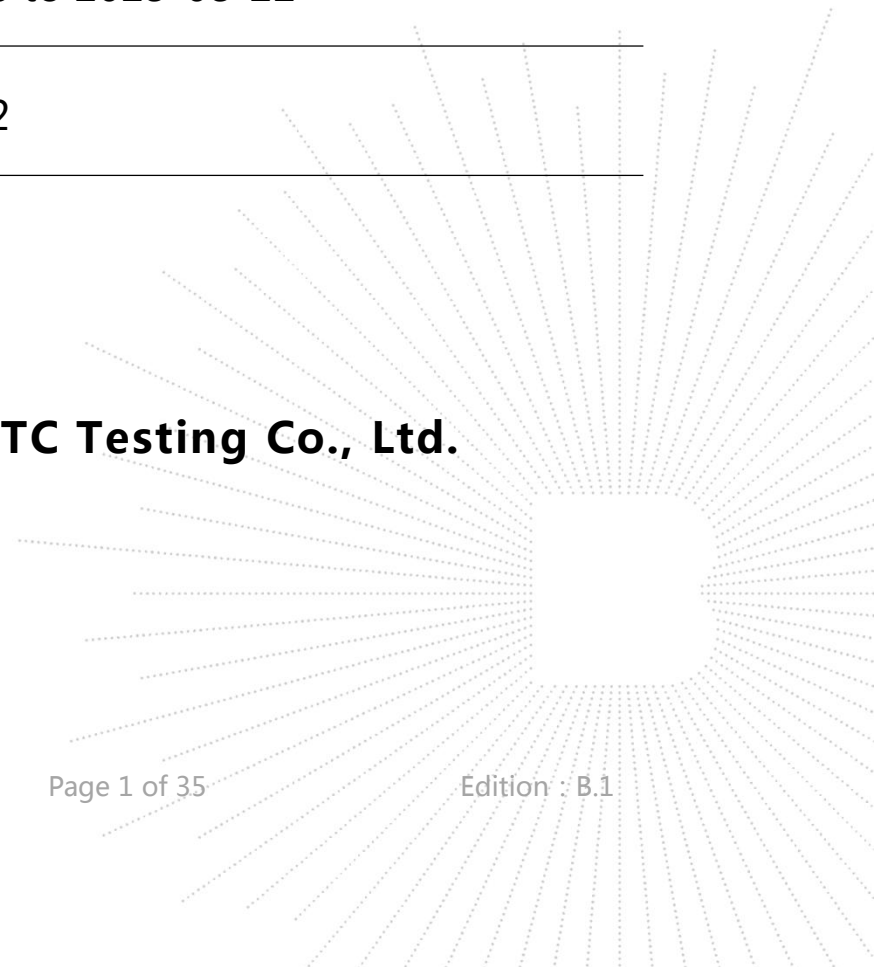
Product Name: Maqueen V5

Test Model: MBT0046

Tested Date: 2025-07-16 to 2025-08-22

Issued Date: 2025-09-22

Shenzhen BCTC Testing Co., Ltd.



Product Name	Maqueen V5
Test Model	MBT0046
Model/Type Reference	MBT0046-CN, MBT0046-EN, MBT0046-EU, MBT0046-US, MBT0046-ES, MBT0046-TW
Applicant	Zhiwei Robotics Corp.
Address	Unit 01, 26/F, A1 Shanghai T & I Tower, No. 1699 Zhongke Road, Pudong District, Shanghai, P.R.China
Manufacturer	Zhiwei Robotics Corp.
Address	Unit 01, 26/F, A1 Shanghai T & I Tower, No. 1699 Zhongke Road, Pudong District, Shanghai, P.R.China
Test Age Group	Over 8 years old
Labeled Age Grading	Not provided
Requested Age Grading	Not provided
Trademark	 DFROBOT <small>DRIVE THE FUTURE</small>
Sample Received Date	2025-07-16
Test Type	Entrustment Test
Test Standard and Requirements	European Standard on Safety of Toys - EN 71-1:2014+A1:2018 Mechanical and Physical Properties - EN 71-2:2020 Flammability of Toys - EN 71-3:2019+A2:2024 Migration of certain elements
Test Result	The samples were tested according to the entrusted requirements and test standard, and the test items of the test samples were qualified.
Prepared by:	<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;">  Willa </div> <div style="text-align: center;">  Saher Chen </div> </div>



Tested Sample/Part Description:

- 1 Black plastic
- 2 Silver metal
- 3 Black wire jacket
- 4 Red wire jacket
- 5 White plastic
- 6 White plastic
- 7 Black rubber
- 8 White plastic
- 9 Black plastic
- 10 Silver metal
- 11 Black plastic
- 12 Black PCB
- 13 Black plastic
- 14 Blue PCB
- 15 Black plastic
- 16 Black PCB
- 17 Gray plastic
- 18 Gray plastic
- 19 Milky white LED
- 20 Black LED
- 21 White plastic
- 22 Metal with black plating


Test Result(s):
◆ Mechanical and physical properties

As specified in European Standard on Safety of Toys EN 71 part 1:2014+A1:2018.

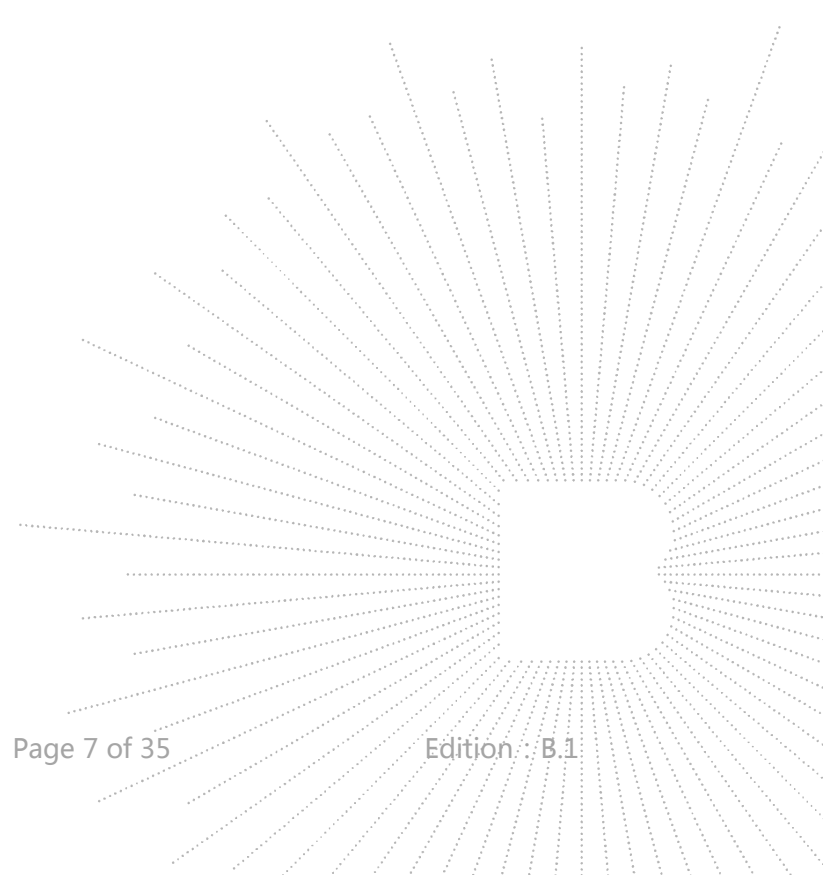
Clause	Description	Assessment
4	General requirements	
4.1	Material cleanliness	Pass
4.2	Assembly	N/A
4.3	Flexible plastics sheeting	N/A
4.4	Toy bags	N/A
4.5	Glass	N/A
4.6	Expanding materials	N/A

Clause	Description	Assessment
4.7	Edges	Pass
4.8	Points and metallic wires	Pass
4.9	Protruding parts	N/A
4.10	Parts moving against each other	
4.10.1	Folding and sliding mechanisms	N/A
4.10.2	Driving mechanisms	N/A
4.10.3	Hinges (Not applicable to products with a hinged part that has a mass less than 250g.)	N/A
4.10.4	Springs	N/A
4.11	Mouth-actuated toys and other toys intended to be put in the mouth	N/A
4.12	Balloons	N/A
4.13	Cords of toy kites and other flying toys	N/A
4.14	Enclosures	
4.14.1	Toys which a child can enter	N/A
4.14.2	Masks and helmets	N/A
4.15	Toys intended to bear the mass of a child	
4.15.1	Toys propelled by the child or by other means	N/A
4.15.1.1	General	N/A
4.15.1.2	Warnings and instructions for use	N/A
4.15.1.3	Strength	N/A
4.15.1.4	Stability	N/A
4.15.1.5	Braking	N/A
4.15.1.6	Transmission and wheel arrangement	N/A
4.15.1.7	Adjustable seat pillar and handlebar stem minimum insertion marks	N/A
4.15.1.8	Electrically-driven ride-on toys	N/A
4.15.2	Toy bicycles	N/A
4.15.2.1	General	N/A
4.15.2.2	Warning and instructions for use	N/A
4.15.2.3	Braking requirements	N/A
4.15.3	Rocking horses and similar toys	N/A
4.15.4	Toys not propelled by a child	N/A
4.15.5	Toys scooters	N/A

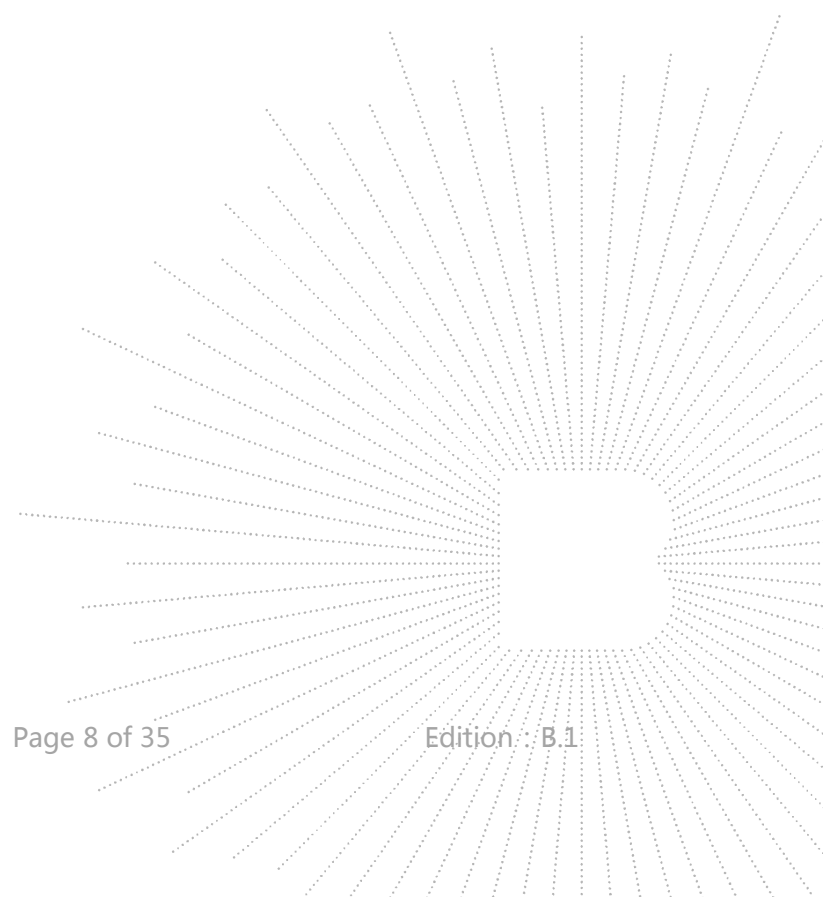
Clause	Description	Assessment
4.15.5.1	General	N/A
4.15.5.2	Warnings and instructions for use	N/A
4.15.5.3	Strength	N/A
4.15.5.4	Adjustable and folding steering tubes	N/A
4.15.5.5	Braking	N/A
4.15.5.6	Wheel size	N/A
4.15.5.7	Protruding parts	N/A
4.16	Heavy immobile toys	N/A
4.17	Projectile toys	N/A
4.17.1	General	N/A
4.17.2	All projectiles	N/A
4.17.3	Projectile toys with stored energy	N/A
4.17.4	Certain projectile toys without stored energy	N/A
4.18	Aquatic toys and inflatable toys	N/A
4.19	Percussion caps specifically designed for use in toys and toys using percussion caps	N/A
4.20	Acoustics	N/A
4.20.1	Exposure categories for time-averaged sound pressure levels	N/A
4.20.2	Emission sound pressure level limits	N/A
4.21	Toys containing a non-electrical heat source	N/A
4.22	Small balls	N/A
4.23	Magnets	N/A
4.23.1	General	N/A
4.23.2	Toys other than magnetic/electrical experimental sets intended for children over 8 years	N/A
4.23.3	Magnetic/electrical experimental sets intended for children over 8 years	N/A
4.24	Yo-yo balls	N/A
4.25	Toys attached to food	N/A
4.26	Toy Disguise Costumes	N/A
4.27	Flying toys	N/A
4.27.1	General	N/A
4.27.2	Rotors and propellers on flying toys	N/A

Clause	Description	Assessment
4.27.3	Rotors and propellers on remote controlled flying toys	N/A
5	Toys intended for children under 36 months Remark: According to Directive 2009/48/EC, a toy intended for use by children under 36 months must be designed and manufactured in such a way that it can be cleaned, except if it contains a mechanism that may be damaged if soaked washed. The toy shall fulfill the safety requirements also after having been cleaned. The manufacturer should provide instructions on how the toy has to be cleaned.	N/A
5.1	General requirements	
5.1a	Small part requirement on toys & removable Components (Test method 8.2)	N/A
5.1b	Torque test (Test method 8.3)	N/A
	Tension test (Test method 8.4)	N/A
	Drop test (Test method 8.5)	N/A
	Impact test (Test method 8.7)	N/A
	Compression test (Test method 8.8)	N/A
	Sharp edge (Test method 8.11)	N/A
	Sharp point (Test method 8.12)	N/A
	Springs (Test method 4.10.4)	N/A
	Magnetic flux index (Test method 4.23.2 b) and c))	N/A
5.1c	Metal points and wires with a cross section of 2 mm or less	N/A
5.1d	Tip over test for Large and bulky toys (Test method 8.6)	N/A
5.1e	Glued wooden toys and toys with glued on plastic decals	N/A
5.1f	The casing of toys intended for children too young to sit up unaided	N/A
5.1g	Foam toys and toys containing accessible foam components	N/A
5.2	Soft-filled toys and soft-filled parts of a toy	N/A
5.3	Plastic sheeting	N/A
5.4	Cords, chains and electrical cables in toys	N/A
5.4.1	General	N/A
5.4.2	Cords and chains in toys intended for children under 18 months	N/A
5.4.3	Cords and chains in toys intended for children of 18 months or over but under 36 months	N/A
5.4.4	Fixed loops, tangled loops and nooses	N/A

Clause	Description	Assessment
5.4.5	Cords and chains on pull along toys	N/A
5.4.6	Electrical cables	N/A
5.4.7	Cross-sectional dimension of certain cords	N/A
5.4.8	Self-retracting cords	N/A
5.4.9	Toys attached to or intended to be strung across a cradle, cot or perambulator	N/A
5.5	Liquid-filled toys	N/A
5.6	Speed limitation of electrically-driven ride-on toys	N/A
5.7	Glass and porcelain	N/A
5.8	Shape and size of certain toys	N/A
5.9	Toys comprising monofilament fibres	N/A
5.10	Small balls	N/A
5.11	Play figures	N/A
5.12	Hemispheric-shaped toys	N/A
5.13	Suction cups	N/A
5.14	Straps intended to be worn fully or partially around the neck	N/A
5.15	Sledges with cords for pulling	N/A



Clause	Description	Assessment
6	<p>Packaging</p> <p>Remark:</p> <p>The packaging of toys shall conform to the following requirements:</p> <p>a) Bags made of flexible plastics with an opening perimeter greater than 380 mm used for external or internal packaging, shall have an average sheet thickness of 0,038 mm or more when tested according to 8.25.1 (plastic sheeting, thickness).</p> <p>b) Bags made of flexible plastics with an opening perimeter greater than 380 mm shall not have a drawstring or cord as a means of closing.</p> <p>c) The requirements in 5.10 (small balls) apply to packaging and packaging components that are small balls regardless of the intended age group of the toy.</p> <p>d) Regardless of the intended age group of the toy, any separable part of its packaging, which is a small ball or that has a cylindrical shape with a rounded end shall not pass entirely through template E when tested according to 8.32.1 (small balls and suction cups). This requirement does not apply to parts with a major dimension of 64 mm or more, or parts that are attached to another part of the packaging with an attachment that does not break when tested according to 8.3 (torque test) and 8.4.2.1 (tension test, general).</p> <p>e) The requirements in 5.12 (hemispheric shaped toys) apply to hemispheric- shaped containers that are part of the packaging for toys intended for children under three.</p>	Pass



Clause	Description	Assessment
7	<p>Warnings, markings and instructions for use</p> <p>Remark:</p> <p>—Toys made available on the market shall bear the CE marking. The CE marking shall be affixed visibly, legibly and indelibly to the toy, to an affixed label or to the packaging. In the case of small toys and toys consisting of small parts, the CE marking may alternatively be affixed to a label or an accompanying leaflet. Where specific legislation does not impose specific dimensions, the CE marking shall be at least 5 mm high.</p> <p>—The manufacturer’s name, registered trade name or registered trade mark and the address at which the manufacturer can be contacted shall be indicated on the toy or, where that is not possible, on its packaging or in a document accompanying the toy. This requirement applies also to the name and address etc. of any importer.</p> <p>—Manufacturers shall ensure that their toys bear a type, batch, serial or model number or other element allowing their identification, or where the size or nature of the toy does not allow it, that the required information is provided on the packaging or in a document accompanying the toy.</p> <p>—Manufacturers and importers shall ensure that the toy is accompanied by instructions and safety information in a language or languages easily understood by consumers, as determined by the Member State concerned.</p> <p>—A Member State may, within its territory, stipulate that warnings and safety instructions shall be written in a language or languages easily understood by consumers, as determined by that Member State.</p>	Pass
7.1	<p>General</p> <p>Remark: Warnings on toys shall not be misleading or incorrect. Toys intended for children under 36 months shall comply with the requirements in Clause 5 of this standard. A warning on a toy or its packaging does not release the manufacturer or his authorized representative from the obligation to meet these requirements. The warnings shall be preceded by the words ‘Warning’ or ‘Warnings’, as appropriate.</p>	Pass
7.2	<p>Toys not intended for children under 36 months</p> <p>Remark: Toys which are not intended for, but might be dangerous for children under 36 months shall bear a warning, for example: “Not suitable for children under 36 months” or “Not suitable for children under three years” together with a brief indication of the specific hazard calling for this restriction. The age warning shall be clearly legible at the point of sale of the product and appear either on the toy itself or on its retail packaging. The indication of the specific hazard may appear on a leaflet or in the instructions for use.</p>	Pass

Clause	Description	Assessment
7.3	<p>Latex balloon</p> <p>Remark: The packaging of latex balloons shall bear the following warning: “Warning! Children under eight years can choke or suffocate on uninflated or broken balloons. Adult supervision required. Keep uninflated balloons from children. Discard broken balloons at once.” The packaging of natural latex balloons shall indicate “Made of natural rubber latex”.</p>	N/A
7.4	<p>Aquatic toys</p> <p>Remark: Aquatic toys and their packaging shall bear the following warning: “Warning! Only to be used in water in which the child is within its depth and under supervision.” The warning on the toy shall be indelible and in a colour which contrasts with the body of the toy. The minimum height of letters shall be 3 mm and the marking on inflatable toys shall be no more than 100 mm from one of the air inflation inlets.</p> <p>No advertising copy or graphics shall or imply that the child will be safe with such a toy if left unsupervised.</p>	N/A
7.5	<p>Functional toys</p> <p>Remark: Functional toys or their packaging shall bear the warning: “Warning! To be used under the direct supervision of an adult.” In addition, these toys shall be accompanied by directions giving working instructions as well as the precautions to be taken by the user, with the warning that failure to take these precautions would expose the user to the hazards — to be specified — normally associated with the appliance or product of which the toy is a scale model or an imitation. It shall also be indicated that the toy is to be kept out of the reach of very young children.</p>	N/A
7.6	<p>Hazardous sharp functional edges and points</p> <p>Remark: For toys that incorporate hazardous sharp functional edges (see 8.11, sharpness of edges) or hazardous sharp functional points (see 8.12, sharpness of points), attention shall be drawn to the potential hazards of such points and edges on the packaging and in the instructions for use accompanying the toy, if appropriate.</p>	N/A
7.7	<p>Projectile toys</p> <p>Remark: Toys with projectiles shall be accompanied by instructions for use, which draw attention to the hazards of using missiles other than those supplied or recommended by the manufacturer. Toys capable of discharging a projectile with a kinetic energy greater than 0.08 J shall be accompanied by the following warning: “Warning! Do not aim at eyes or face.”</p>	N/A
7.8	<p>Imitation protective masks and helmets</p> <p>Remark: Toys that are imitations of protective masks and helmets and their packaging, if any, shall bear the following warning: “Warning! This is a toy. Does not provide protection.”</p>	N/A

Clause	Description	Assessment
7.9	Toy kites Remark: Toy kites and other flying toys with cords exceeding 2 m materially linking the toy to the child shall bear the following warning: "Warning! Do not use near overhead power lines or during thunderstorms."	N/A
7.10	Roller skates, inline skates, skateboards and certain other ride-on toys Remark: Roller skates, inline skates and skateboards for children offered for sale as toys shall bear the warning: "Warning! Protective equipment should be worn. Not for children with a body weight of more than 20 kg." ride-on toys without a braking device shall carry the following warning: "Warning. This toy has no brake."	N/A
7.11	Toys otherwise intended to be strung across a cradle, cot, or perambulator Remark: Toys intended to be strung across a cradle, cot, or perambulator by means of strings, cords, elastics or straps shall bear the following warning: "Warning! To prevent possible injury by entanglement, remove this toy when the child begins to push up on hands and knees."	N/A
7.12	Liquid-filled teethers Remark: Liquid filled teethers shall be accompanied by the following instruction: "Cool only in a domestic refrigerator, do not place in the freezer compartment."	N/A
7.13	Percussion caps specifically designed for use in toys Remark: Toys which produce high impulse sound levels or their packaging shall bear the following warning: "Warning! Do not uses close to the ear! Misuse may cause damage to hearing." For toys using percussion caps add: "Do not fire indoors!"	N/A
7.14	Acoustics Remark: The packaging of percussion caps shall carry the following warning: "Warning! Do not fire indoors or near eyes and ears. Do not carry caps loose in a pocket."	N/A
7.15	Toys bicycles Remark: Toy bicycles shall carry a warning: "Warning. Protective equipment should be worn. Not to be used in traffic.". Moreover, parents or carers should ensure that children are properly instructed in the use of toy bicycles, particularly in the safe use of the braking systems.	N/A
7.16	Toys intended to bear the mass of a child Remark: Toys those due to their construction, strength, design or other factors are not suitable for children over 36 months shall carry a warning, for example: "Warning! Not to be used by children over 36 months" together with a brief indication of the specific reason calling for this restriction (e.g. insufficient strength). The age warning shall be clearly legible at the point of sale of the product.	N/A

Clause	Description	Assessment
7.17	<p>Toys comprising monofilament fibres</p> <p>Remark: Toys comprising monofilament fibres of straightened length greater than 50 mm and attached to a fabric base or their <i>packaging</i> shall be labelled as follows: “Warning! Not suitable for children under 10 months due to long hair”.</p>	N/A
7.18	<p>Toy scooters</p> <p>Remark: Toy scooters intended for children with a body mass of 20 kg or and their packaging shall carry the following warning: “Warning. Protective equipment should be worn. Not to be used in traffic. 20 kg max.”</p> <p>Toy scooters intended for children with a body mass of 50 kg or less and their packaging shall carry the following warning: “Warning. Protective equipment should be worn. Not to be used in traffic. 50 kg max.”</p> <p>The instructions for use shall contain a reminder that the toy shall be used with caution, since it requires great skill, so as to avoid falls or collisions causing injury to the user and third parties. They shall also, as appropriate, include information such as:</p> <ul style="list-style-type: none"> — the warning indicated above; — how to safely fold or unfold foldable scooters; <ul style="list-style-type: none"> —the necessity to ensure that all locking devices are engaged; —the dangers of using toy scooters on public highways; — a recommendation to use protective equipment such as a helmet, gloves, knee-pads and elbow-pads. 	N/A
7.19	<p>Rocking horses and similar toys</p> <p>Remark: Rocking horses and similar toys, where the intended sitting surface is 600 mm or more above the ground, shall carry the following warning: “Warning! Risk of falling. Do not leave children under 36 months sitting or playing unattended.” The warning shall be clearly legible at the point of sale of the product.</p>	N/A
7.20	<p>Magnetic/electrical experimental sets</p> <p>Remark: The packaging and the instructions for use of magnetic/electrical experimental sets shall carry the following warning:</p> <p>“WARNING! Not suitable for children under 8 years. This product Contains (a) small magnets(s). Swallowed magnets can stick together across intestines causing serious injuries. Seek immediate medical attention if magnet(s) are swallowed”.</p> <p>This warning is not required for magnetic/electrical experimental sets in which all magnets have a magnetic flux index less than 50 kG²mm² (0,5 T2mm²) when tested according to 8.35 (magnetic flux index), or do not fit entirely in the cylinder when tested according to 8.2 (small parts cylinder).</p>	N/A

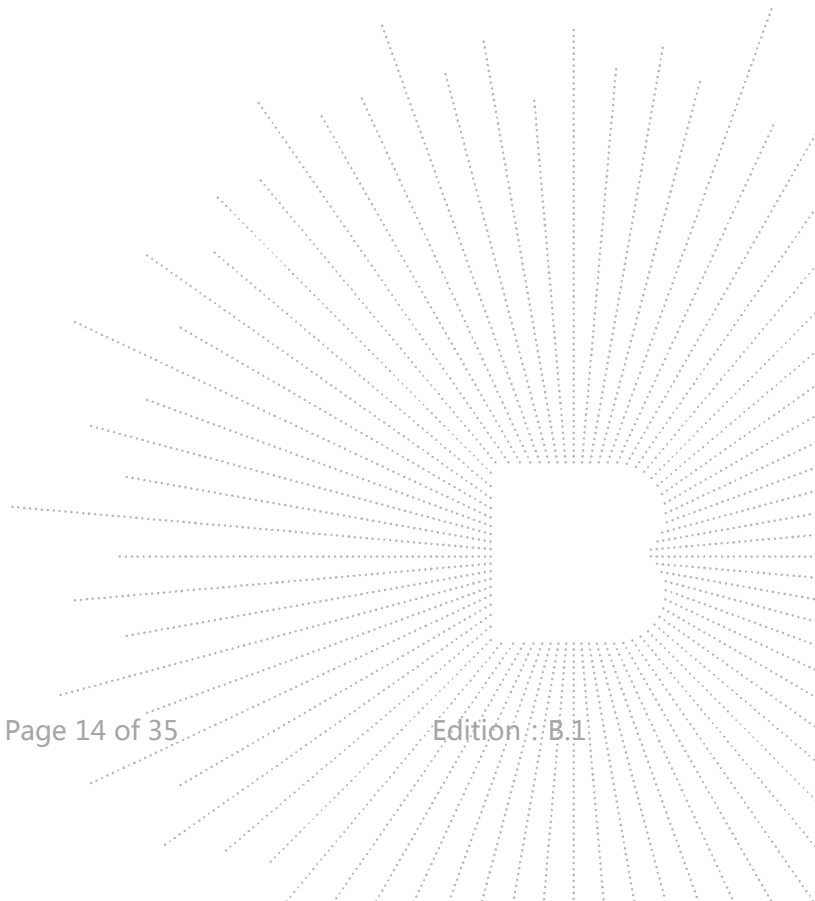
CO.LTD

Clause	Description	Assessment
7.21	<p>Toys with electrical cables exceeding 300 mm in length</p> <p>Remark: Toys intended for children under 36 months, with electrical cables longer than 300 mm and their packaging shall carry the following warning: "Warning. Long cable. Strangulation hazard."</p>	N/A
7.22	<p>Toys with cords or chains intended for children of 18 months and over but under 36 months</p> <p>Remark: Toys intended for children of 18 months or over but under than 36 months excluding pull-along toys" shall, when required by 5.4 carry the following warning on the toy or its packaging: "Warning. Not suitable for children under 18 months. Long cord/Long chain. Strangulation hazard." The age warning shall be clearly legible at the point of sale of the product.</p>	N/A
7.23	<p>Toys intended to be attached to a cradle, cot or perambulator</p> <p>Remark: Toys intended to be attached to a cradle, cot or perambulator, and their packaging, where any attached cords or chains do not comply with the requirements of 5.4.2 to 5.4.8, shall bear the following warning: "Warning. Attach this toy out of the reach of the child. To prevent possible injury by entanglement, remove this toy when the child starts trying to get up on its hands and knees in a crawling position." The toy shall be accompanied by instructions which indicate how the toy is to be affixed out of reach of children.</p>	N/A
7.24	<p>Sledges with cords for pulling</p> <p>Remark: Sledges intended for outdoor use on snow under adult supervision, that are equipped with a cord for pulling should carry the following warning on the toy or on its packaging: "Warning. Strangulation hazard. Long cord. Adult supervision required."</p>	N/A
7.25	Flying toys	N/A
7.25.1	<p>Flying toys</p> <p>Remark: Flying toys with rotors or propellers that might reasonably be able to be aimed at the face, or their packaging, shall carry the following warning: "Warning. Always operate the toy away from eyes or face."</p>	N/A

Clause	Description	Assessment
7.25.2	Remote controlled flying toys Remark: The instructions for use for remote control flying toys shall carry the following information: — a reminder that the toy shall be used with caution since skill is required in order to control the flight and avoid collisions with the user, objects or third parties; — precautions to be observed such as “Do not touch the rotating rotor, avoid loose clothing or hair that could be caught in the rotor, do not fly near the face”; — advice to adult supervisors to teach children how to safely fly and control the toy; — conditions to be observed when using the toy (e.g. flying room/area needed, indoors or outdoors, no obstacles and persons within flying range to keep the toy in line of sight, maximum operating distance); — advice to keep the instructions for use.	N/A
7.26	Improvised projectiles Remark: The potential dangers of using projectiles other than those supplied or recommended by the manufacturer shall be drawn to the attention of the user. The following warning shall be on the toy or its packaging: “Warning. Do not discharge an object other than the projectile provided with this toy.”	N/A

Note:

-N/A = Not applicable.



◆ Flammability of toys

As specified in European Standard on Safety of Toys EN 71 part 2:2020.

Clause	Description	Assessment
4.1	General requirements	Pass
4.2	Toys to be worn on the head	
4.2.1	General	N/A
4.2.2	Beards, moustaches, wigs, etc., made from pile or flowing elements which protrude 50 mm or more from the surface of the toy.	N/A
4.2.3	Beards, moustaches, wigs, etc., made from pile or flowing elements which protrude less than 50 mm from the surface of the toy.	N/A
4.2.4	Full or partial moulded head masks	N/A
4.2.5	Toys to be worn on the head (except those covered by 4.2.2 and 4.2.3), hoods, headdresses including upward protruding items and masks not covered by 4.2.4 which partially or fully cover the head (e.g. fabric and paperboard masks, eye masks, face masks), but excluding those items covered by 4.3.	N/A
4.3	Toy disguise costumes and toys intended to be worn by a child in play	N/A
4.4	Toys intended to be entered by a child	N/A
4.5	Soft-filled toys	N/A
	A: Soft stuffed toys with a maximum size of less than 520mm	N/A
	B: Soft stuffed toys with a maximum size greater than or equal to 520mm	N/A

Note:

4.1 The following materials shall not be present in toys:

- Celluloid (cellulose nitrate), except when used in varnish, paint or glue, or in balls of the type used for table tennis or similar games;
- Highly flammable solids;
- Materials with a piled surface which produce surface flash when a flame is applied to the tested material under the conditions described in 5.5. Piled surfaces showing no momentary area of flame over the area of the piled surface remote from the test flame are considered to meet this requirement.

Specific materials to which the test flame is applied in order to check compliance of the toy with requirements in 4.2 to 4.5 are considered to comply with the above requirements if the toy meets its appropriate requirements in 4.2 to 4.5.

In addition, toys shall not contain flammable gases, extremely flammable liquids, highly flammable liquids, flammable liquids and flammable gels except as provided for below:

- Flammable liquids and flammable gels supplied in sealed containers having a maximum volume of 15 ml per container;
- Highly flammable liquids and flammable liquids being entirely retained within a porous material in capillary channels of writing instruments;
- Flammable liquids with a viscosity greater than $260 \times 10^{-6} \text{m}^2/\text{s}$ corresponding to a flow time of more than 38 s when determined in accordance with EN ISO 2431:2019 using cup No. 6;
- Highly flammable liquids contained in chemical toys, and in olfactory board games, cosmetic kits and gustative games, as defined in 2009/48/EC.

4.2.1 The requirements of 4.2 apply to:

- Beards, moustaches, wigs, made from pile or flowing elements,
- Masks,
- Hats Hoods, headdresses etc.,

but not to paper or paperboard hats unless they have embellishments or attachments that form flowing elements.

When a product incorporates several features, for example a hat with an attached mask and hair, each part shall be tested separately to the applicable clause relevant to that particular part of the toy.

Attachments which are used for the purpose of securing a mask, hat etc., on the head (e.g. strings, elastic, plastic strap) shall not be tested.

4.2.2 When tested according to 5.2, the duration of flaming shall not be more than 2 s after the removal of the test flame.

In addition, if ignition occurs, the maximum burnt length of pile, or flowing elements shall not be:

- a) more than 50 % of the greatest initial length, when the initial length was 150 mm or more;
- b) more than 75 % of the greatest initial length, when the initial length was less than 150 mm.

When determining whether materials are required to be tested under 4.2.2, the distance by which the material protrudes shall be measured without applying tension to the protruding part, e.g. curly hair is not straightened. Plaits or braided hair shall be fully released and combed, where possible, before testing.

4.2.3 Beards, moustaches, wigs, etc., made from pile or flowing elements which protrude 5 mm or less from the surface of the toy are regarded as headdresses and are covered by 4.2.5.

When tested in accordance with 5.3, the duration of flaming shall not be more than 2 s after the removal of

the test flame, and the maximum distance between the upper edge of the burnt area and the point of application of the test flame shall not be more than 70 mm.

4.2.4 When tested in accordance with 5.3, the duration of flaming shall not be more than 2 s after the removal of the test flame. The maximum distance between the upper edge of the burnt area and the point of application of the test flame shall not be more than 70 mm.

This requirement does not apply to moulded eye masks that neither cover the chin nor a cheek as they are covered by 4.2.5.

4.2.5 When tested in accordance with 5.4, the rate of spread of flame of the test specimen shall not exceed 10 mm/s or the test specimen shall self-extinguish.

4.3 This requirement does not apply to separate toys to be worn on the head, which are supplied with a toy disguise costume.

When tested in accordance with 5.5 parts of toy disguise costume and toys intended to be worn by children in play which contain loose stuffing which would fall out if tested in accordance with 5.4.1.2 shall not exceed 30 mm/s rate of spread of flame or the test specimen shall self-extinguish.

This requirement does not apply to soft-filled parts which, when positioned in accordance with 5.5.3, present a maximum unhindered vertical soft-filled height of 150 mm or less.

When tested in accordance with 5.4, all other toy disguise costumes and toys intended to be worn by a child in play (and parts thereof), shall not exceed 30 mm/s rate of spread of flame or the test specimen shall self-extinguish.

In all cases if the rate of spread of flame is between 10 mm/s and 30 mm/s, the appropriate component(s) of the toy and the packaging shall be permanently marked with the following warning: "Warning! Keep away from fire".

4.4 These include for example toy tents, puppet theatres, wigwams, tepees and play tunnels.

When tested in accordance with 5.4, the rate of spread of flame of the test specimen shall not exceed 30 mm/s or the test specimen shall self-extinguish.

If the test specimen has a rate of spread of flame greater than 20 mm/s when tested in accordance with 5.4, there shall be no flaming debris or molten drips.

If the material has non-identical surfaces, both sides shall be tested.

If the rate of spread of flame is between 10 mm/s and 30 mm/s, the appropriate component(s) of the toy and the packaging shall be permanently marked with the following warning: "Warning! Keep away from fire".

4.5 These requirements do not apply to:

- soft-filled toys or soft-filled parts of a toy that cannot be cuddled or hugged by child during play;
- toys which, when positioned in accordance with 5.5.3, present a maximum unhindered vertical soft-filled height of 150 mm or less.

When tested in accordance with 5.5, the rate of spread of flame on the surface shall not be more than 30 mm/s or the toy shall self-extinguishing.

◆ **Migration of certain elements**

As specified in European standard on safety of toys EN 71-3:2019+A2:2024 - Migration of certain elements and Commission Directive (EU) 2019/1922, acid extraction method was used and toxic elements content were determined by ICP-OES, ICP-MS, UV-VIS and GC-MS.

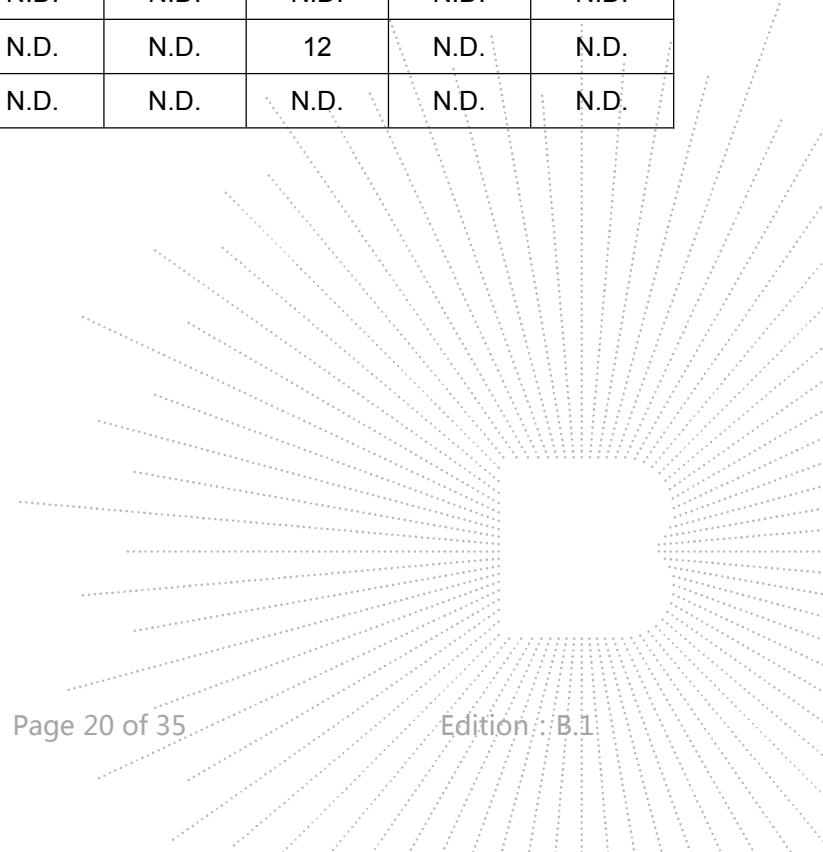
Soluble Element	Unit	Category I: dry, brittle, powder-like or pliable toy material		Category II: liquid or sticky toy material		Category III: scraped-off toy material	
		Limit	MDL	Limit	MDL	Limit	MDL
Aluminum (Al)	mg/kg	2250	50	560	50	28130	50
Antimony (Sb)	mg/kg	45	5	11.3	1	560	10
Arsenic (As)	mg/kg	3.8	0.2	0.9	0.1	47	5
Barium (Ba)	mg/kg	1500	50	375	10	18750	50
Boron (B)	mg/kg	1200	50	300	10	15000	50
Cadmium (Cd)	mg/kg	1.3	0.1	0.3	0.05	17	1
Cobalt (Co)	mg/kg	10.5	1	2.6	0.2	130	10
Copper (Cu)	mg/kg	622.5	10	156	10	7700	50
Lead (Pb)	mg/kg	2.0	1.0	0.5	0.2	23	10
Manganese (Mn)	mg/kg	1200	50	300	10	15000	50
Mercury (Hg)	mg/kg	7.5	0.5	1.9	0.2	94	10
Nickel (Ni)	mg/kg	75	5	18.8	2	930	10
Selenium (Se)	mg/kg	37.5	2	9.4	1	460	10
Strontium (Sr)	mg/kg	4500	50	1125	50	56000	50
Tin (Sn)	mg/kg	15000	50	3750	50	180000	50
Organic tin	mg/kg	0.9	0.2	0.2	0.2	12	0.2
Zinc (Zn)	mg/kg	3750	50	938	50	46000	50
Chromium (Cr)	mg/kg	--	0.02	--	0.005	--	0.02
Chromium (III) (Cr ³⁺)	mg/kg	37.5	2	9.4	1	460	10
Chromium (VI) (Cr ⁶⁺)	mg/kg	0.02	0.02	0.005	0.005	0.053	0.02

For Category III: scraped-off toy material

Soluble Element	Unit	Results					
		1	2	3	4	5	6
Aluminum (Al)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Antimony (Sb)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Arsenic (As)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Barium (Ba)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Boron (B)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cobalt (Co)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Copper (Cu)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Manganese (Mn)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Nickel (Ni)	mg/kg	N.D.	18	N.D.	N.D.	N.D.	N.D.
Selenium (Se)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Strontium (Sr)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tin (Sn)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Organic tin	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Zinc (Zn)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium (Cr)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium (III) (Cr ³⁺)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium (VI) (Cr ⁶⁺)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

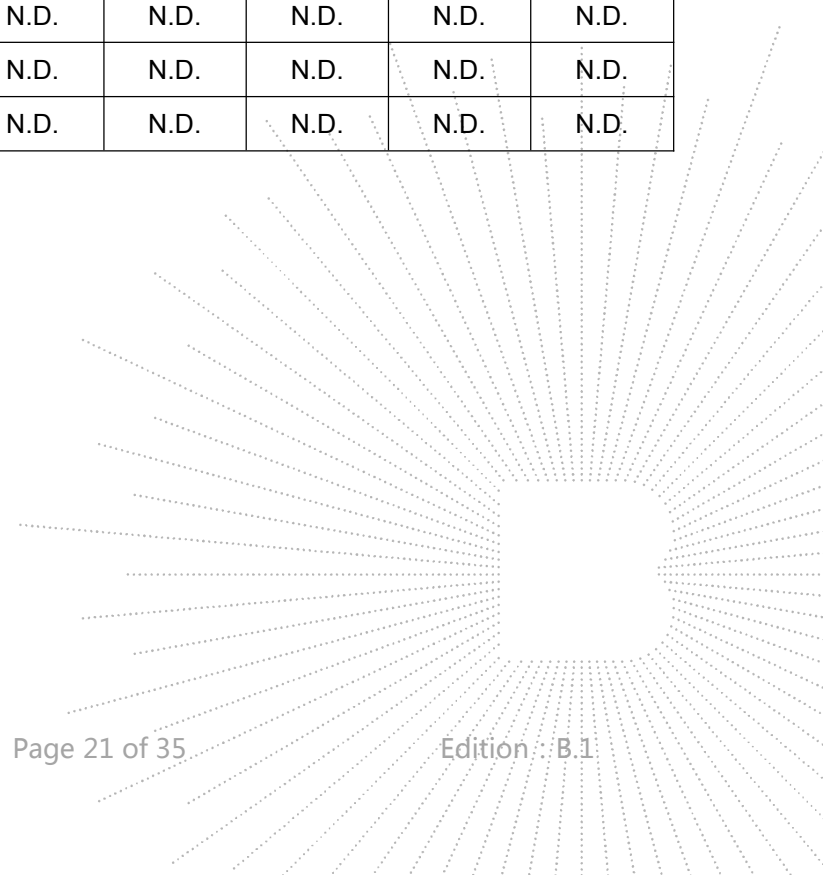
CHENZHEN

Soluble Element	Unit	Results					
		7	8	9	10	11	12
Aluminum (Al)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Antimony (Sb)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Arsenic (As)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Barium (Ba)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Boron (B)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cobalt (Co)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Copper (Cu)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Manganese (Mn)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Nickel (Ni)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Selenium (Se)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Strontium (Sr)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tin (Sn)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Organic tin	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Zinc (Zn)	mg/kg	N.D.	N.D.	N.D.	7061	N.D.	N.D.
Chromium (Cr)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium (III) (Cr ³⁺)	mg/kg	N.D.	N.D.	N.D.	12	N.D.	N.D.
Chromium (VI) (Cr ⁶⁺)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.



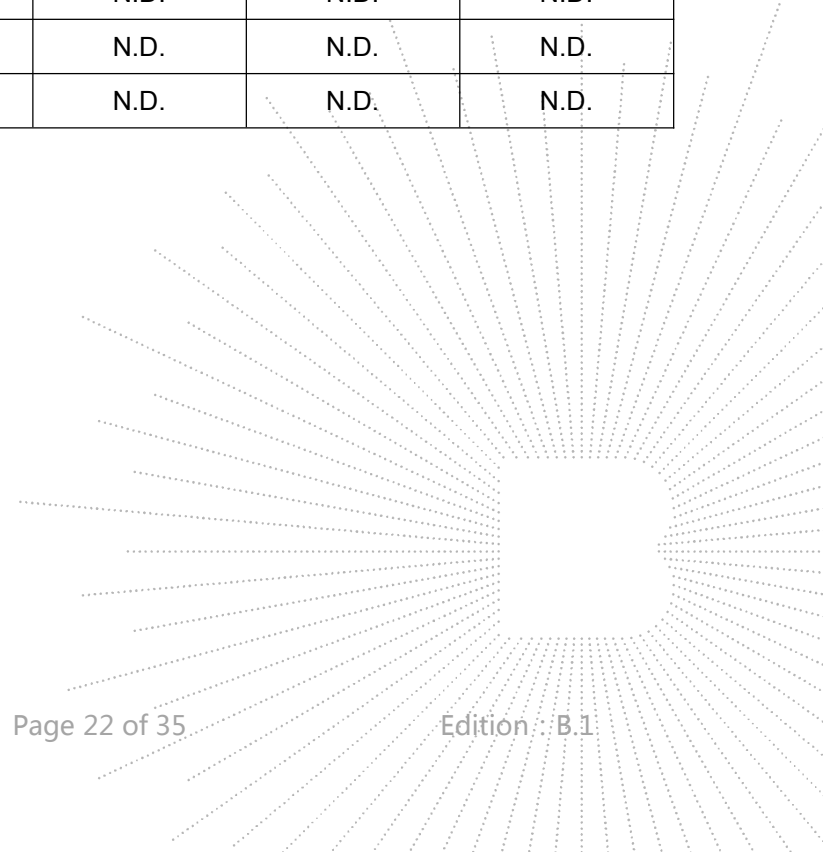
Soluble Element	Unit	Results					
		13	14	15	16	17	18
Aluminum (Al)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Antimony (Sb)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Arsenic (As)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Barium (Ba)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Boron (B)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cobalt (Co)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Copper (Cu)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Manganese (Mn)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Nickel (Ni)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Selenium (Se)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Strontium (Sr)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tin (Sn)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Organic tin	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Zinc (Zn)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium (Cr)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium (III) (Cr ³⁺)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium (VI) (Cr ⁶⁺)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

BCTC
 3C
 PPR
 Report



Soluble Element	Unit	Results			
		19	20	21	22
Aluminum (Al)	mg/kg	N.D.	N.D.	N.D.	N.D.
Antimony (Sb)	mg/kg	N.D.	N.D.	N.D.	N.D.
Arsenic (As)	mg/kg	N.D.	N.D.	N.D.	N.D.
Barium (Ba)	mg/kg	N.D.	N.D.	N.D.	N.D.
Boron (B)	mg/kg	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	mg/kg	N.D.	N.D.	N.D.	N.D.
Cobalt (Co)	mg/kg	N.D.	N.D.	N.D.	N.D.
Copper (Cu)	mg/kg	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	mg/kg	N.D.	N.D.	N.D.	N.D.
Manganese (Mn)	mg/kg	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	mg/kg	N.D.	N.D.	N.D.	N.D.
Nickel (Ni)	mg/kg	N.D.	N.D.	N.D.	23
Selenium (Se)	mg/kg	N.D.	N.D.	N.D.	N.D.
Strontium (Sr)	mg/kg	N.D.	N.D.	N.D.	N.D.
Tin (Sn)	mg/kg	N.D.	N.D.	N.D.	N.D.
Organic tin	mg/kg	N.D.	N.D.	N.D.	N.D.
Zinc (Zn)	mg/kg	N.D.	N.D.	N.D.	N.D.
Chromium (Cr)	mg/kg	N.D.	N.D.	N.D.	N.D.
Chromium (III) (Cr ³⁺)	mg/kg	N.D.	N.D.	N.D.	N.D.
Chromium (VI) (Cr ⁶⁺)	mg/kg	N.D.	N.D.	N.D.	N.D.

TEC
TC
OVER
t Ser



Note:

-N.D. = Not Detected (<MDL = Method Detection Limit)

-mg/kg = ppm = parts per million

-Results shown are of the adjusted analytical results

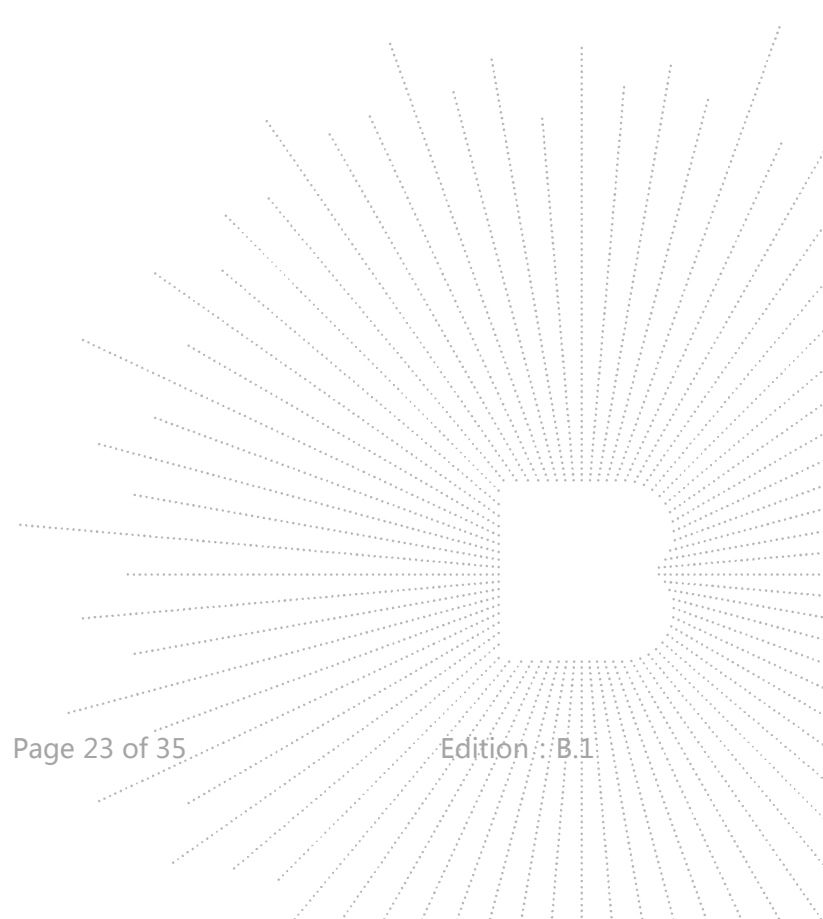
-The migration of organic tin is expressed as Tributyltin (TBT). Where the tin content exceeded the limit of organic tin, eleven organic tins listed in table were determined by GC-MS and the client should be noted there are other organic tins may be present in toy materials.

Organic tins tested under EN 71-3:2019+A2:2024:

Methyl tin (MeT), Butyl tin (BuT), Dibutyl tin (DBT), Tributyl tin (TBT), Tetrabutyl tin (TeBT), n-Octyl tin (MOT), Di-n-octyl tin (DOT), Di-n-propyl tin (DProT), Diphenyl tin (DPhT), Triphenyl tin (TPhT), Dimethyl tin (DMT)

-If the migration of total Chromium is below the maximum limit for Chromium (VI), it can be inferred that the material complies with the requirements for both Chromium (III) and Chromium (VI).

-In particular Chromium (III) is calculated by subtracting the Chromium (VI) concentration from the total chromium concentration.

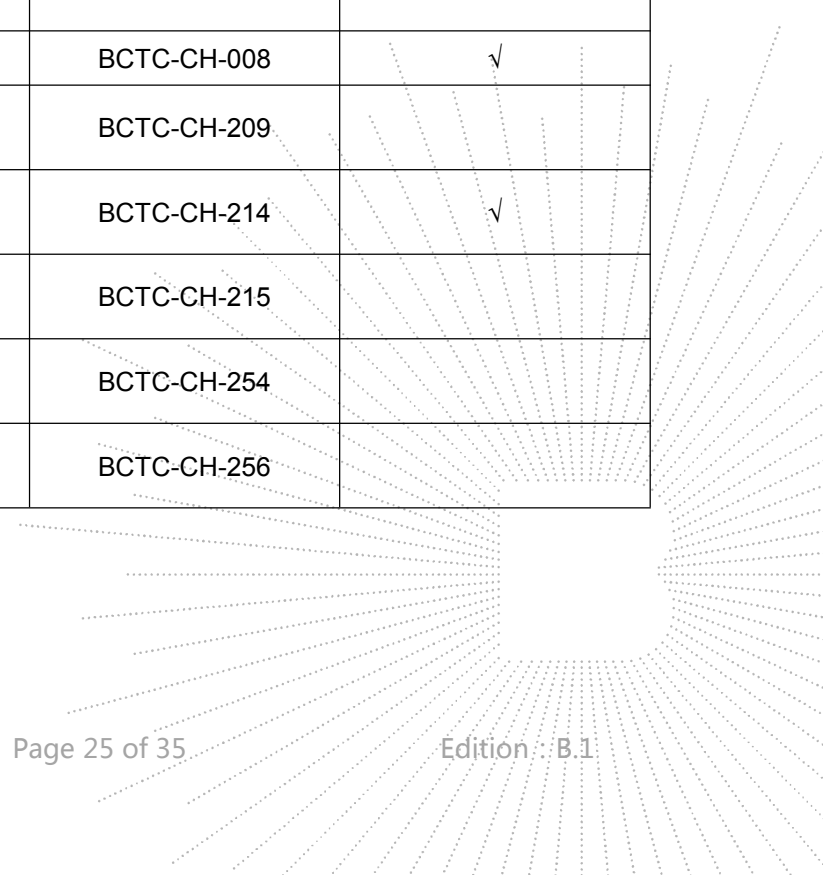


Test Equipment List:

No.	Equipment Name	Equipment No.	Used (√)
1	Sharp tip tester	BCTC-CH-044	√
2	Sharp edge tester	BCTC-CH-045	√
3	Standard pacifier safety tester	BCTC-CH-046	
4	Bite force tester	BCTC-CH-047	
5	ASTM standard drop floor	BCTC-CH-048	
6	Ringling tester (round)	BCTC-CH-049	
7	Ringling tester (oval)	BCTC-CH-050	
8	ASTM bending test splint	BCTC-CH-051	
9	Small object test cylinder	BCTC-CH-054	
10	Ball test gauge	BCTC-CH-059	
11	EN drop test floor	BCTC-CH-060	
12	Intelligent ejection kinetic energy tester	BCTC-CH-061	
13	ASTM standard pressure head	BCTC-CH-062	
14	EN standard pressure head	BCTC-CH-063	
15	Plug gauge	BCTC-CH-064	
16	EN impact test bench	BCTC-CH-065	
17	EN bending test splint	BCTC-CH-071	
18	Loop and rope testing	BCTC-CH-077	
19	Rope loop test stand	BCTC-CH-078	
20	45° combustibility tester	BCTC-CH-079	
21	Nail bed combustion instrument	BCTC-CH-080	
22	Toy flammability tester	BCTC-CH-081	√
23	Handheld Hall Gauss meter	BCTC-CH-082	
24	Leakage steel needle	BCTC-CH-083	
25	Module EN71	BCTC-CH-084	
26	Hand held torque meter	BCTC-CH-085	
27	Film thickness gauge	BCTC-CH-086	
28	Pointer push-pull gauge	BCTC-CH-087	
29	Lower jaw sinking module	BCTC-CH-088	
30	Electronic protractor	BCTC-CH-089	



No.	Equipment Name	Equipment No.	Used (√)
31	Stopwatch	BCTC-CH-094	
32	Needle disc special outside gauge	BCTC-CH-096	
33	Drop test device	BCTC-CH-098	
34	ASTM drop ball impact test bench (impact steel ball)	BCTC-CH-100	
35	Nickel test disc	BCTC-CH-104	
36	ASTM probe	BCTC-CH-154	
37	Metronome	BCTC-CH-155	
38	EN ejector gauge	BCTC-CH-156	
39	Pen cap tester	BCTC-CH-160	
40	Pen cap test gauge	BCTC-CH-161	
41	DHG series heating and drying oven	BCTC-CH-165	
42	Vernier caliper	BCTC-CH-178	
43	Inductively coupled plasma-optical emission spectrometer (ICP-OES)	BCTC-CH-002	√
44	Gas chromatography-mass spectrometry (GC-MS)	BCTC-CH-003	√
45	Gas chromatography-mass spectrometry (GC-MS)	BCTC-CH-122	
46	Gas chromatography-mass spectrometry (GC-MS)	BCTC-CH-175	
47	Ultraviolet spectrophotometer	BCTC-CH-008	√
48	Gas chromatography-mass spectrometry (GC-MS)	BCTC-CH-209	
49	Constant temperature water bath oscillator	BCTC-CH-214	√
50	Gas chromatography-mass spectrometry (GC-MS)	BCTC-CH-215	
51	Gas chromatography-mass spectrometry (GC-MS)	BCTC-CH-254	
52	Gas chromatography-mass spectrometry (GC-MS)	BCTC-CH-256	



Photograph of Sample



Fig.1



Fig.2



Fig.3



Fig.4

BCTC
3C
PPR
Report



**Fig.5****Fig.6**



Fig.7

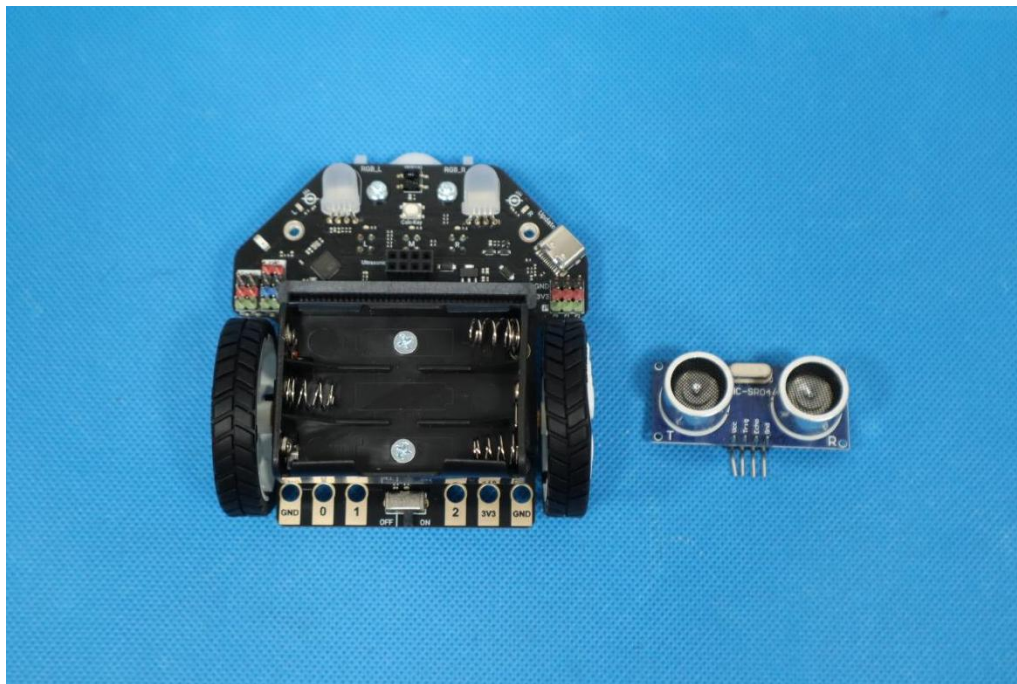
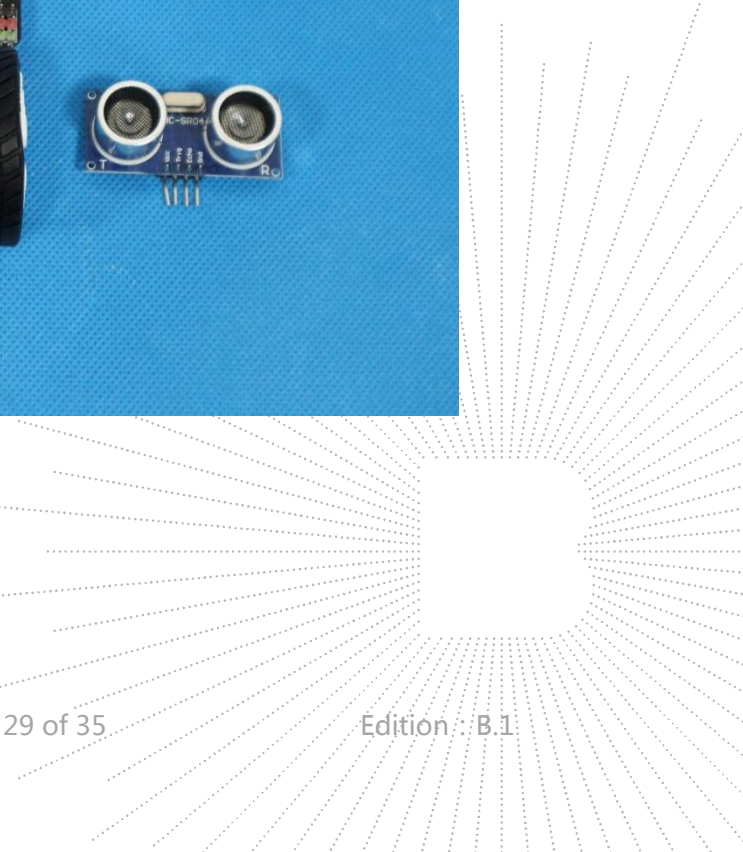


Fig.8



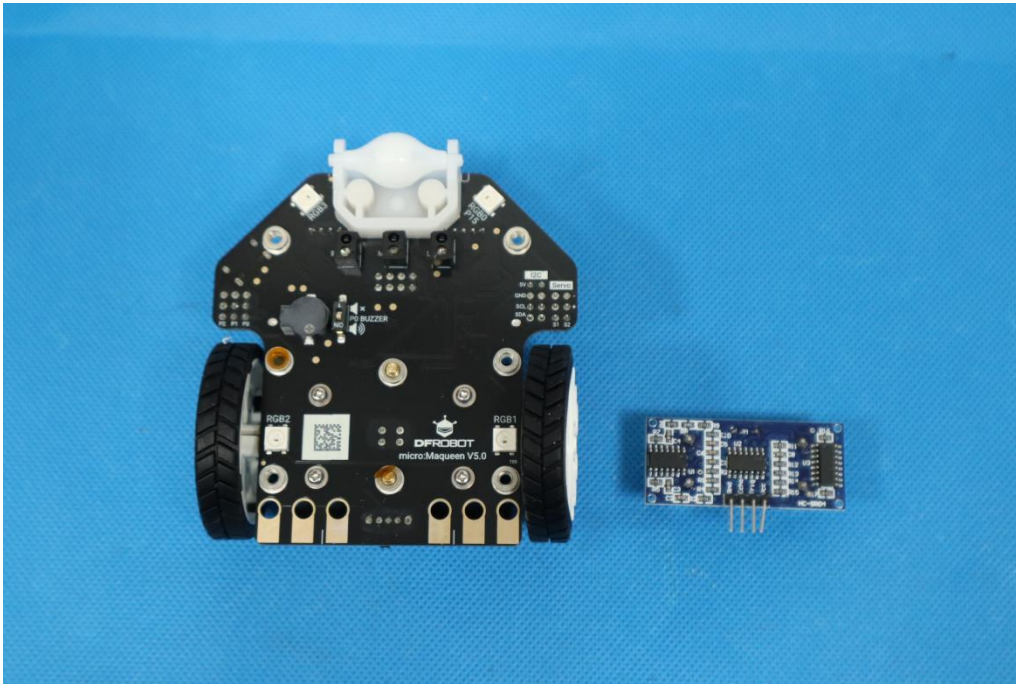


Fig.9

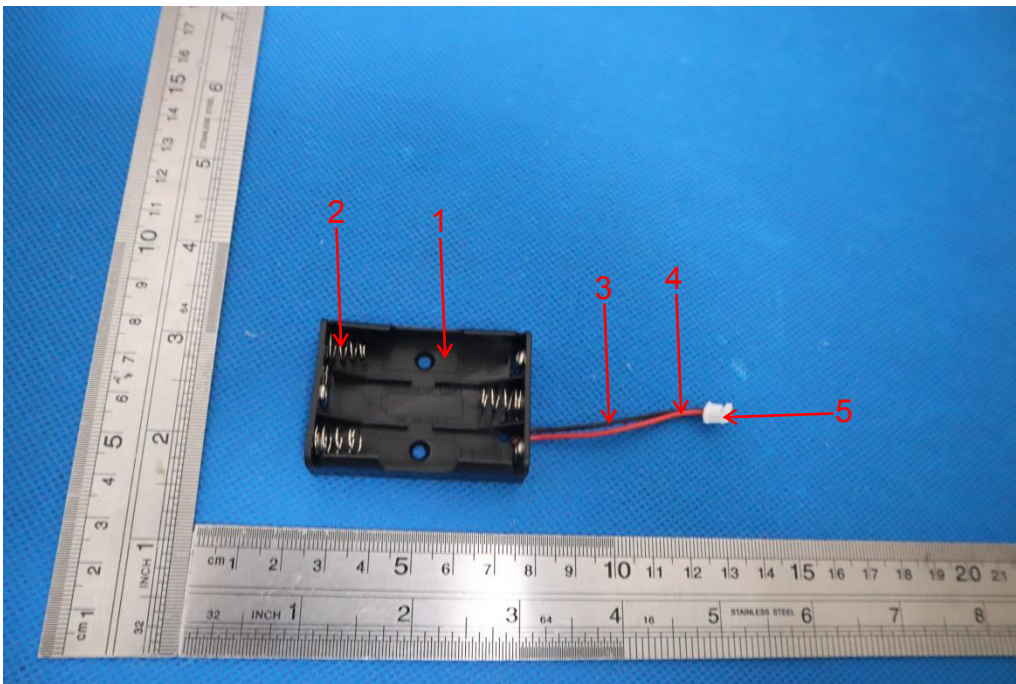


Fig.10

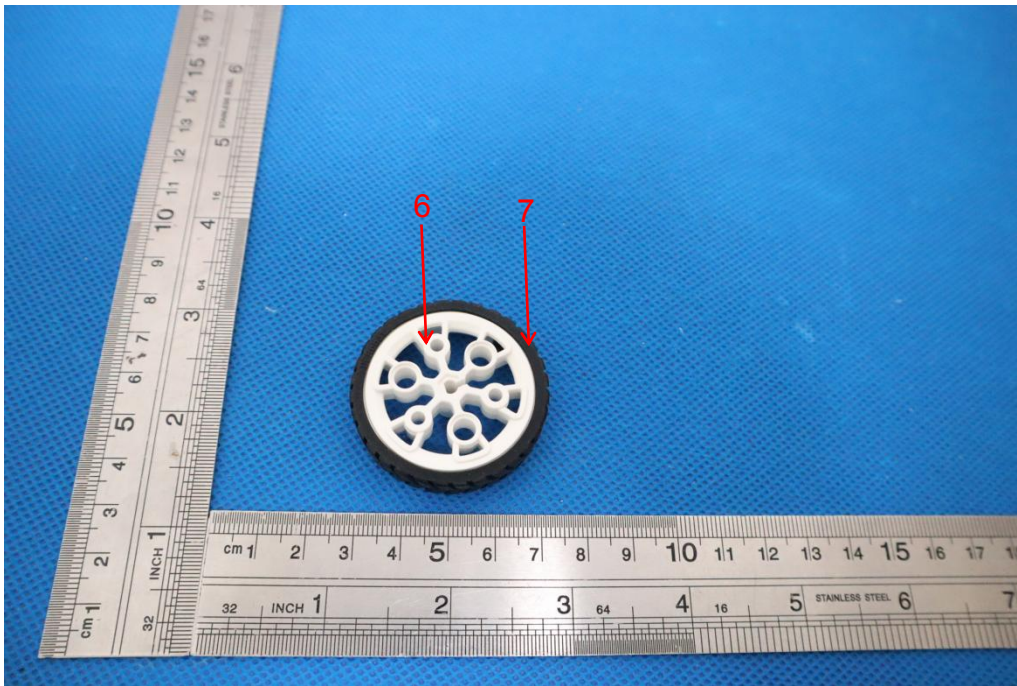


Fig.11

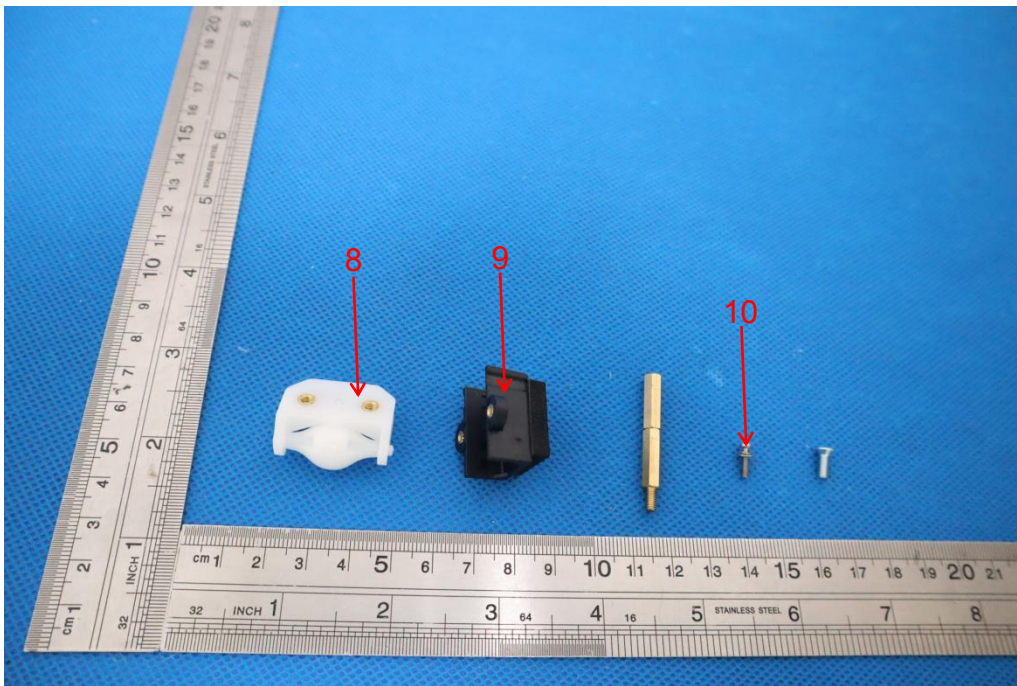
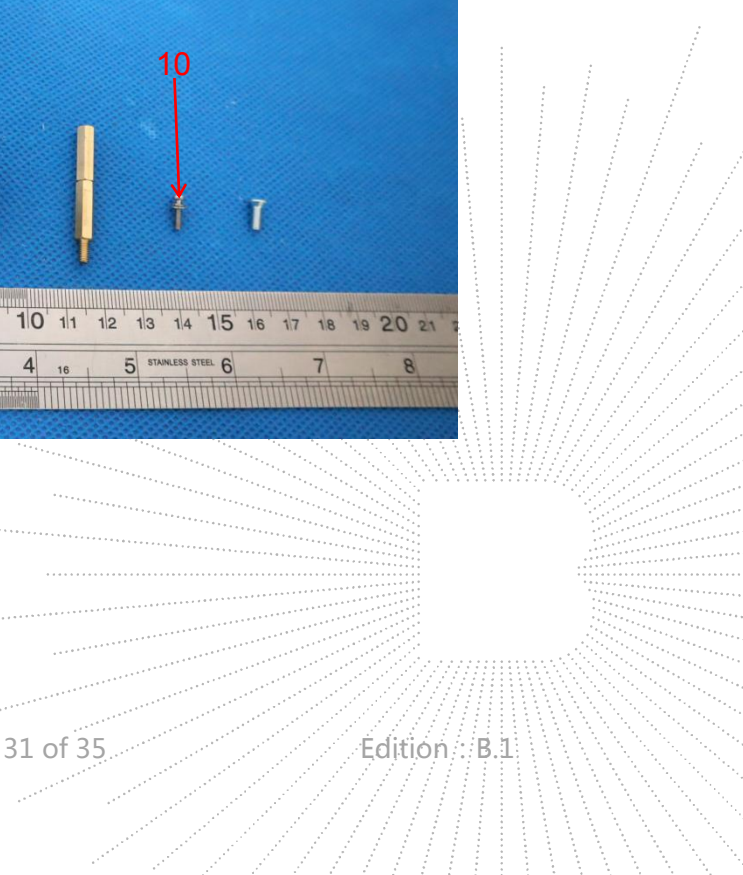


Fig.12



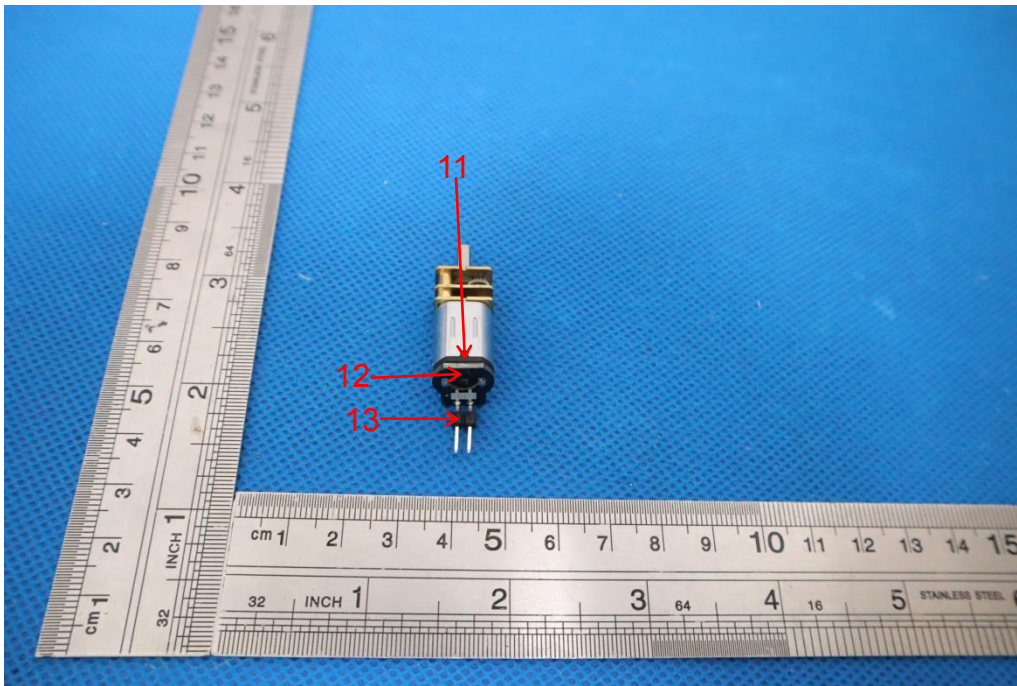


Fig.13

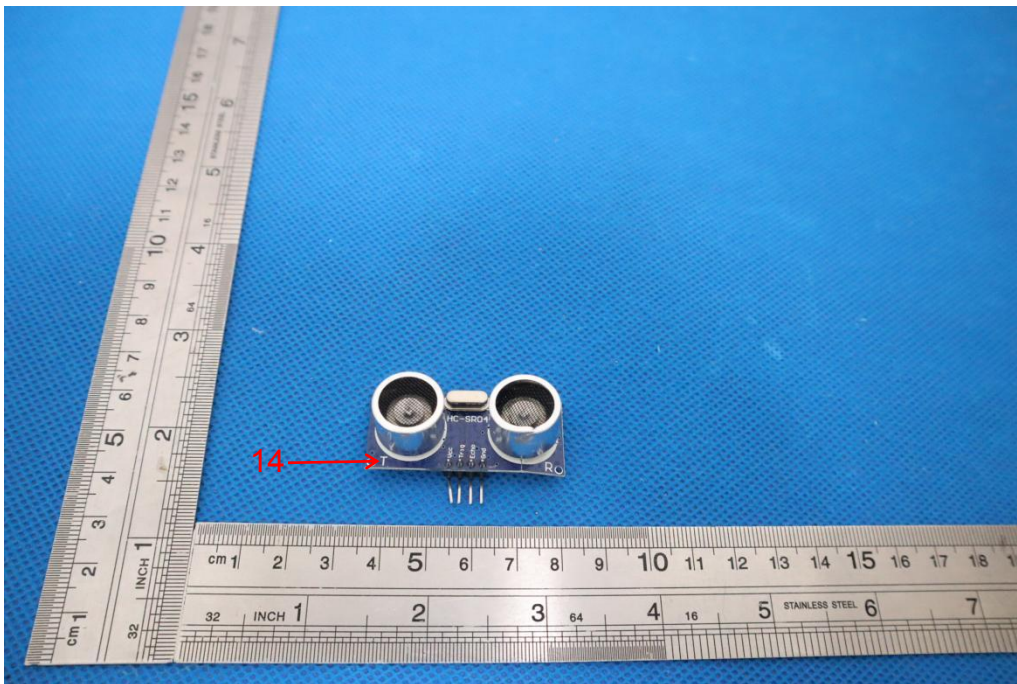


Fig.14



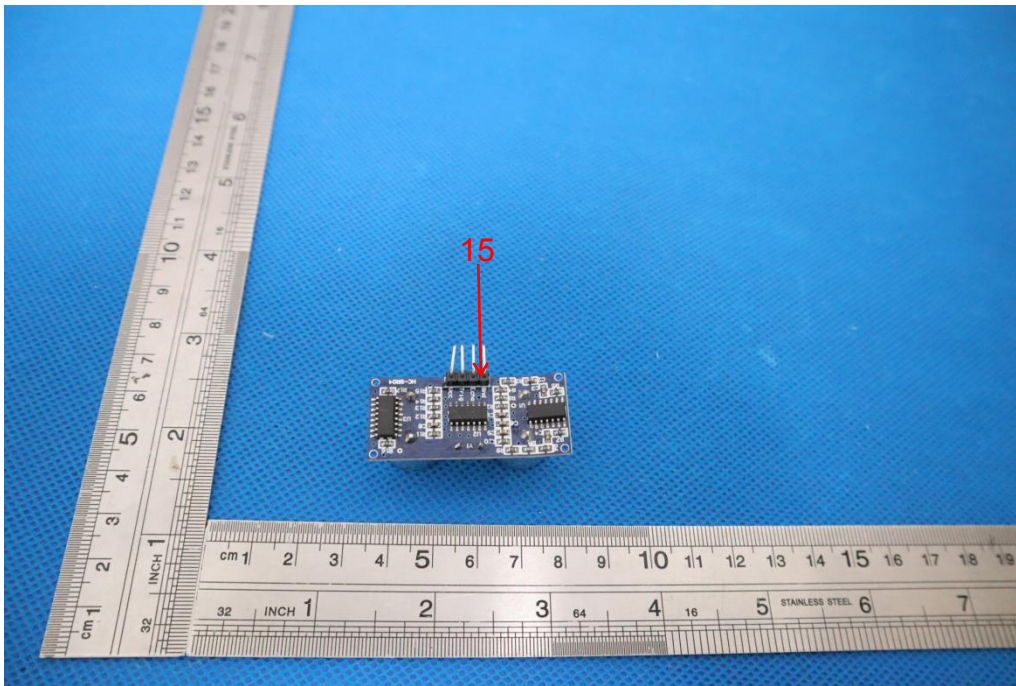


Fig.15

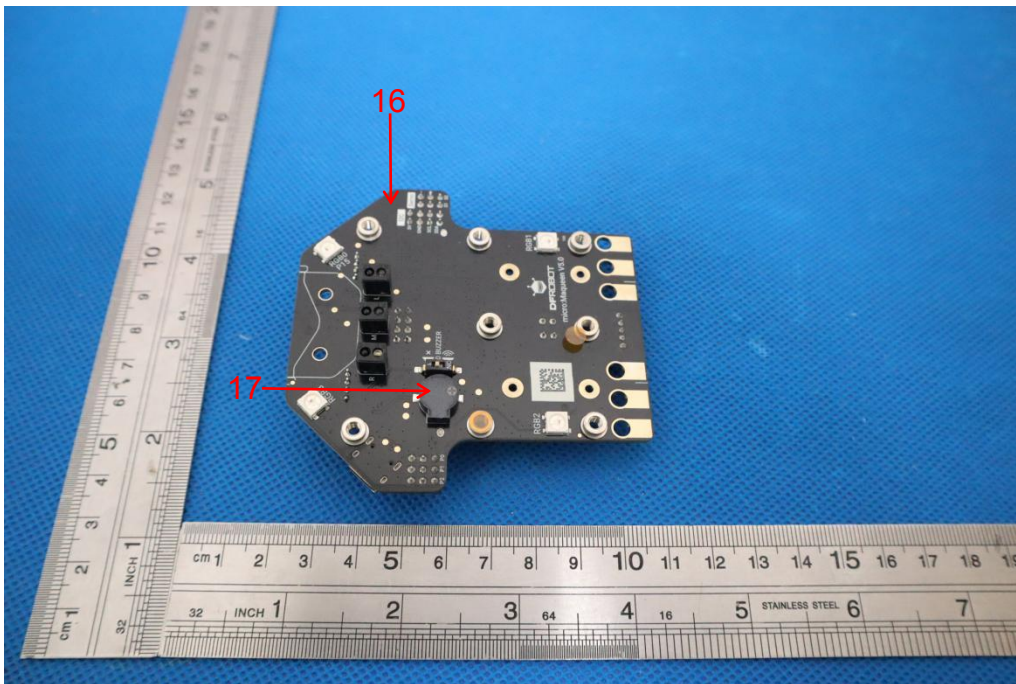
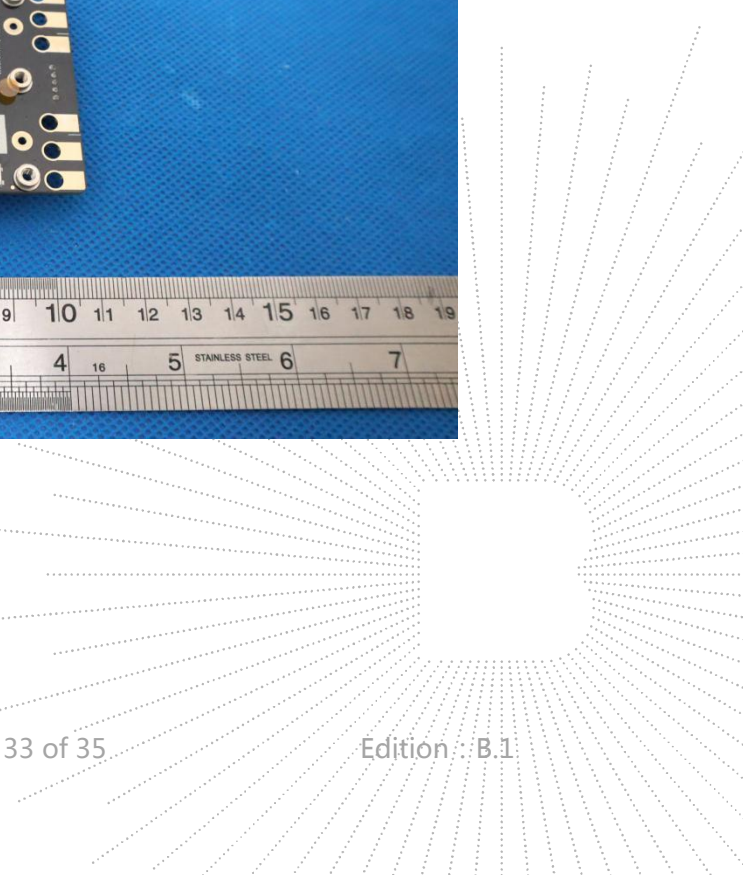


Fig.16



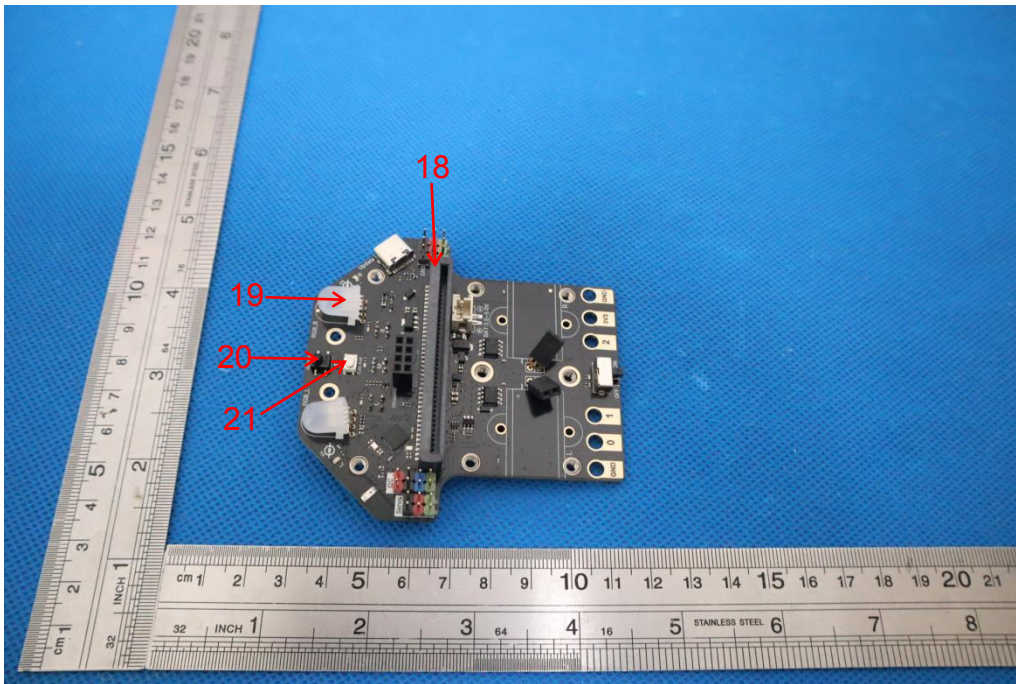


Fig.17

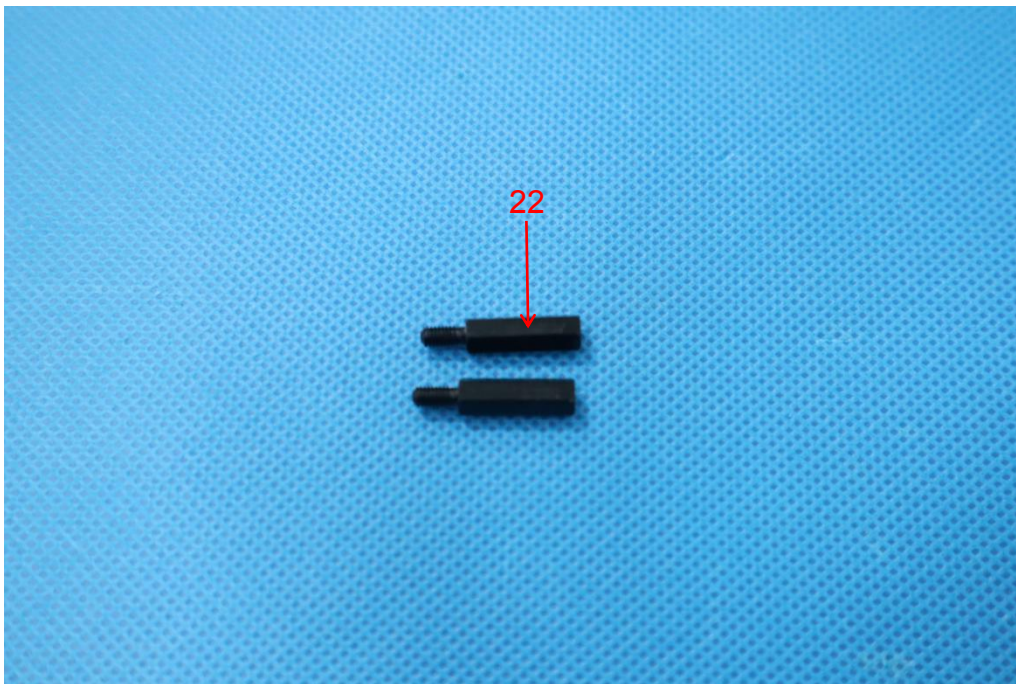
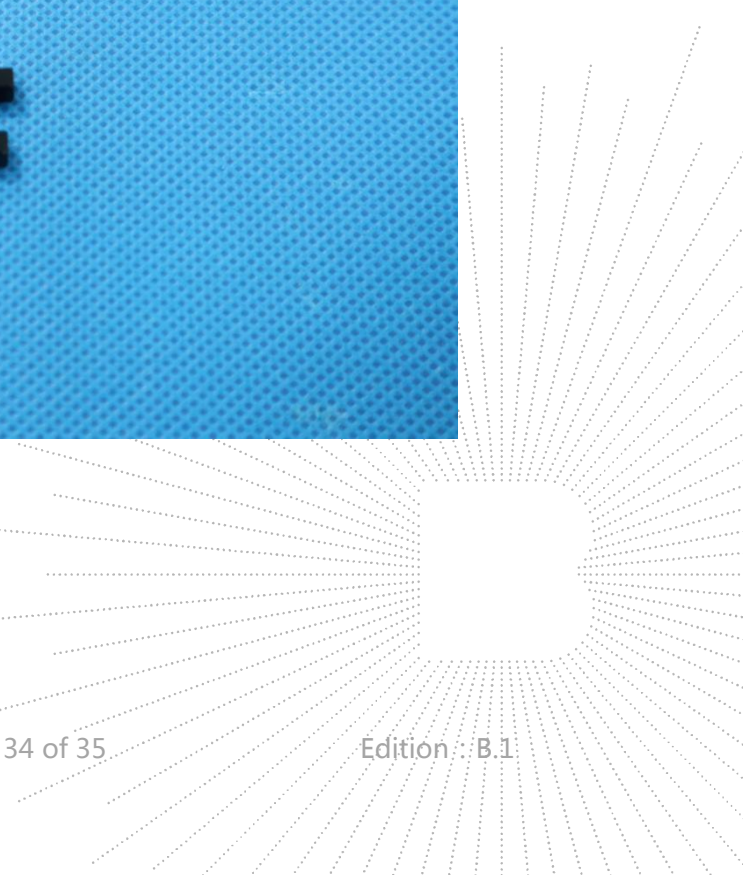


Fig.18



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

※※※※ END ※※※※

