BUREAU VERITAS CONSUMER PRODUCTS SERVICES DIVISION

# PURE TOY LIMITED

**Technical Report:** **(9320)185-0971 REVISED[2ND]** Aug 10, 2020
Date Received: Jul 03, 2020 
Date Modified Aug 06, 2020
**Revised Date:** **Nov 18, 2020**

SCOOBY XU

PURE TOY LIMITED
CHENGHUA TOYS INDUSTRIAL ZONE,
CHENGHAI, SHANTOU, GUANGDONG,
515800, CHINA

# PASS

| | | | |
|---|---|---|---|
| Sample Description: | 2.4G RC DRONE | | |
| Vendor: | N/A | Sample Size: | 4 SET |
| Manufacturer: | N/A | Style No(s): | SEE ATTACHMENT |
| Buyer: | N/A | SKN/SKU No.: | N/A |
| Labeled Age Grade: | 14+ | PO#.: | N/A |
| Appropriate Age Grade: | NOT REQUEST | Ref #: | N/A |
| Client Specified Age Grade: | 8+ | Country of Origin: | CHINA |
| | | Country of Destination: | EU |
| Tested Age Grade: | OVER 8 YEARS OF AGE | Assortment No.: | N/A |
| UPC Code: | N/A | Item#: | N/A |

**EXECUTIVE SUMMARY:**

The sample(s) MEET the following requirement:

- The mechanical and physical properties requirements of the tested subclauses of the European Standard, “Safety of toys”, EN71: Part 1: 2014+A1:2018, clauses 1-7.
- The flammability requirements of the European Standard "Safety of Toys”, EN 71: Part 2: 2011+A1:2014.
- The migration of certain elements requirements of the European Standard, “Safety of Toys”, EN 71 Part 3: 2019.
- The total cadmium content requirement of Regulation (EC) No. 1907/2006 Annex XVII, Entry 23, Point 1(a).
- Polycyclic Aromatic Hydrocarbons (PAHs) Content - European Parliament and Council Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex XVII with its Latest Amendments, Entry 50, Point 6.
- European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS).
- The DNOP, DINP and DIDP content requirement(s) of the European Parliament and Council Regulation (EC) No. 1907/2006 of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex XVII Restrictions on the Manufacture, placing on the Market and Use of Certain Dangerous Substances, Mixtures and Articles, Entry 52.

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C/N ZJL/PX

The sample(s) MEET the following requirement:

- The BBP, DBP DEHP and DIBP content requirements of the European Regulation (EC) No. 1907/2006 of the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex XVII concerning the Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles, Item no. 51 (amended up to EU No. 2018/2005).

- The classification in accordance with standard IEC 60825-1.

- The requirements of the tested clauses of the European Standard EN 62115: 2005 + A2: 2011 + A11: 2012 + A12: 2015, “Electric toys - Safety”

  Compliance with this standard is also on condition that the toy complies with EN71 Standard

Note: The submitted sample incorporating lasers or light emitting diodes (LED), compliance with the standard covered by this report is on condition that the lasers or light emitting diodes in toys are classified as Class 1 in accordance with IEC 60825-1 Standard under the condition specified in Annex E of EN 62115 / IEC 62115.

Note: For battery charger, compliance with the standard covered by this report is on condition that the transformer complies with the IEC 60335-2-29 Standard.

Note: Components shall comply with the safety requirements specified in the relevant IEC standards as far as they reasonably apply as specified in clause 16.1

Note: At the request of the client, the sample(s) were evaluated for use by children over 8 years of age.

Note: Per client’s request, package photo(s) were not attached.

Note: There is only one EU company name and address present on the sample. It has to be noted that, according to TSD 2009/48/EC, If the manufacturer (declaring himself as manufacturer by establishing and signing the EC declaration of conformity) is outside the community and the products are placed on the EU market by an importer, the toy will bear two company name and addresses: the one of the manufacturer and the one of the importer.

Note: The manufacturer / importer information was present on the packaging only. It has to be noted that, according to TSD 2009/48/EC, the manufacturers/ importer shall indicate their name, registered trade name or registered trade mark and the address at which they can be contacted on the toy, or, where that is not possible, on its packaging or in a document accompanying the toy.

Note: The product identification is present on the packaging only. It has to be noted that, according to TSD 2009/48/EC, 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.

Note: The test of EN62115, IEC 60825-1 and EN71 Part 1 were subcontracted to BVCPS Shenzhen, and Shenzhen’s report number is: (8520)188-0349.

**Note: Per client’s request, the samples in the last 3 photos are only for exhibition, they were not conducted the actual test in this report.**

**TECHNICAL QUESTIONS** (86)20-22902088
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**GENERAL INFORMATION** (86)20-22902088
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**SIGNATURES** Bureau Veritas Consumer Products Services (Guangzhou) Co., Ltd

Parker

Parker Xu
Assistant Manager

ATTACHMENT:

Style no.(s):

S1,S2,S3,S4,S5,S6,S7,S8,S9,S10,S11,S12,S13,S14,S15,S16,S17,S18,S19,S20,S21,S22,S23,S24,S25,S26,S27,S28,S29,S30,S31,S32,S33,S34,S35,S36,S37,S38,S39,S40,S41,S42,S43,
S44,S45,S46,S47,S48,S49,S50,S51,S52,S53,S54,S55,S56,S57,S58,S59,S60,S61,S62,S63,
S64,S65,S66,S67,S68,S69,S1-GPS,S1-W,S1-M,S2-W,S4-W,S9-W,S16A,S16B,S20-GPS,
S21A,S21B,801,802,803,804,805,806,807,808,809,810,811,812,813,814,815,816,817,818,
819,820,821,822,823,824,825,826,827,828,829,830,831,832,833,834,835,836,837,838,839,
840,841,842,843,844,845,846,847,848,849,850,851,852,853,854,855,856,857,858,859,301T,303T,702T,703,707,709,737,601,602,603,604,605,606,607,608,609,610,611, 612, **208001, 001**

**RESULTS:**

**APPROPRIATE AGE GRADE DETERMINATION**

| |
|---|
| The Appropriate Age Grade is determined with reference to the EN71: Part 1 : 2014 +A1:2018, CEN ISO/TR 8124-8:2016 Safety of toys - Part 8: Age Determination Guidelines prepared by Technical Committee CEN/TC 52 and Age Grade Determination Guidelines of the Consumer Product Safety Commission (CPSC). |
| Note : The most stringent age grade from the Labeled Age Grade and the Appropriate Age Grade will be used for testing.<br>Note : If the client does not specify an age grade for testing or request Bureau Veritas Consumer Products Services, Inc. to determine an appropriate age grade, the labeled age grade will be used for testing. |

EXPLANATION OF THE ABBREVIATIONS FOR PART 1, 2 & 6

| Symbol | Explanation |
|---|---|
| NM | The sample(s) DOES NOT MEET the requirement of this Subclause |
| M | The sample(s) MEET the requirement of this Subclause |
| N/A | Not Applicable |
| NR | Not Requested |
| NE | Not Evaluated |
| NT | Not Tested |
| NP | None Present |
| P | Present |
| R | Refer to Comment Section of this report |

| Symbol | Language Present | Symbol | Language Present | Symbol | Language Present |
|---|---|---|---|---|---|
| B | Belgian language | G | German language | PR | Portuguese language |
| D | Danish language | GR | Greek language | S | Spanish language |
| E | English language | H | Dutch language | SD | Swedish language |
| F | Finnish language | I | Italian language | SZ | Swiss language |
| FR | French language | N | Norwegian language | | |

**RESULTS:**

**MECHANICAL & PHYSICAL PROPERTIES**
**(EN 71: PART 1 – 2014+A1 – 2018)**

| Subclause | Requirement | Result |
|---|---|---|
| 4.1 | Material cleanliness | M |
| 4.2 | Assembly | NA |
| 4.3 | Flexible plastic sheeting | NA |
| 4.4 | Toy Bags | NA |
| 4.5 | Glass | NA |
| 4.6 | Expanding materials | NA |
| 4.7 & 7.6 | Edges | M |
| 4.8 & 7.6 | Points and metallic wires | M |
| 4.8e | Splinters | M |
| 4.9 | Protruding parts | NA |
| 4.10.1 | Folding and sliding mechanisms | NA |
| 4.10.2 | Driving mechanisms | M |
| 4.10.3 | Hinges | NA |
| 4.10.4 | Springs | NA |
| 4.11 | Mouth actuated toys and other toys intended to be put in the mouth | NA |
| 4.12 & 7.3 | Balloons | NA |
| 4.13 & 7.9 | Cord of toy kites and other flying toys | NA |
| 4.14.1 | Toys which a child can enter | NA |
| 4.14.2 & 7.8 | Masks and helmets | NA |
| 4.15.1 | Toys propelled by child | |
| 4.15.1.2 & 7.10.1 & 7.10.2 & 7.10.3 & 7.10.4 & 7.16 | Toys propelled by child – Instructions for use | NA |
| 4.15.1.3 | Toys propelled by child – Strength | NA |
| 4.15.1.4 | Toys propelled by child – Stability | NA |
| 4.15.1.5 | Toys propelled by child – Braking | NA |
| 4.15.1.6 | Toys propelled by child - Transmission | NA |
| 4.15.1.7 | Toys propelled by child – insertion mark | NA |
| 4.15.1.8 | Electrically-driven ride-on toys | NA |
| 4.15.2 | Toy bicycles | |
| 4.15.2.2 & 7.15 | Toy bicycles – Warnings and instructions for use | NA |
| 4.15.2.3 | Toy bicycles – Braking | NA |
| 4.15.3 & 7.16 & 7.19 | Rocking horses and similar toys | NA |
| 4.15.4 & 7.16 | Toys not propelled by child | NA |
| 4.15.5 & 7.18 | Toy scooters | NA |
| 4.16 | Heavy immobile toys | NA |
| 4.17.2 | All projectiles | NA |
| 4.17.3 & 7.7 | Projectile toys with stored energy | NA |
| 4.17.4 & 7.26 | Certain projectiles toys without stored energy | NA |
| 4.18 & 7.4 | Aquatic toys and inflatable toys | NA |

**RESULTS:**

**MECHANICAL & PHYSICAL PROPERTIES**
**(EN 71: PART 1 – 2014+A1 – 2018)**

| Subclause | Requirement | Result |
|---|---|---|
| 4.19 & 7.13 & 7.14 | Percussion caps | NA |
| 4.20.2.1-4.20.2.8, 4.20.2.10, 4.20.2.12 | Acoustics | M |
| 4.20.2.9, 4.20.2.11 & 7.14 | Acoustics – percussion toys & cap-firing toys | NA |
| 4.21 | Toys containing a non-electrical heat source | NA |
| 4.22 & 7.2 | Small balls | NA |
| 4.23 | Magnet | |
| 4.23.2 a, b & c | Toy other than magnetic / electrical experimental sets intended for children over 8 years | NA |
| 4.23.3 & 7.20 | Magnetic / electrical experimental sets intended for children over 8 years | NA |
| 4.24 | Yo-yo ball | NA |
| 4.25 | Toys attached to food | NA |
| 4.26 | Toy Disguise Costumes | NA |
| 4.27.1 | Flying toys – General | M |
| 4.27.2 & 7.25.1 | Rotors and propellers on flying toys | NA |
| 4.27.3 & 7.25.2 | Rotors and propellers on remote controlled flying toys | M |
| | **FOR TOYS INTENDED FOR CHILDREN UNDER 36 MONTHS** | |
| 5.1 | General | NA |
| 5.1a | Small parts – as received | NA |
| 5.1b | Small parts, sharp points, sharp edges – after tests | NA |
| 5.1c | Cross section <2mm metal points & wires | NA |
| 5.1e | Toys contain glue | NA |
| 5.1f | Casing of toys | NA |
| 5.2 | Fillings, coverings and seams | NA |
| 5.3 | Adhesion of plastic sheeting | NA |
| 5.4.2 | Cords and chains in toys intended for children under 18 months | NA |
| 5.4.3 & 7.22 | Cords and chains in toys intended for children of 18 months or over but under 36 months | NA |
| 5.4.4 | Fixed loops, tangled loops and nooses | NA |
| 5.4.5 | Cords and chains on pull along toys | NA |
| 5.4.6 & 7.21 | Electrical cables | NA |
| 5.4.7 | Cross-sectional dimension of certain cords | NA |
| 5.4.8 | Self-retracting cords | NA |
| 5.4.9 & 7.11 & 7.23 | Toys attached to or intended to be strung across a cradle, cot or perambulator | NA |
| 5.5 & 7.12 | Liquid filled toys | NA |
| 5.6 | Electrically driven toys | NA |
| 5.7 | Glass and porcelain | NA |
| 5.8 | Shape and size | NA |

**RESULTS:**

**MECHANICAL & PHYSICAL PROPERTIES**
**(EN 71: PART 1 – 2014+A1 – 2018)**

| Subclause | Requirement | Result |
|---|---|---|
| 5.9 & 7.17 | Monofilament fibres | NA |
| 5.10 | Small balls | NA |
| 5.11 | Play figures | NA |
| 5.12 | Hemispheric shaped toys | NA |
| 5.13 | Suction cups | NA |
| 5.14 | Straps intended to be worn fully or partially around the neck | NA |
| 5.15 & 7.24 | Sledges with cords for pulling | NA |
| 6 | Packaging | NA |
| | **WARNINGS, INSTRUCTIONS FOR USE** | |
| 7.1 | General | M |
| 7.2 | Toys not intended for children under 36 months | NA |
| 7.5 | Functional toys | NA |

**2009/48/EC GENERAL LABELING REQUIREMENT**

| Requirement | Result |
|---|---|
| CE Mark | M |
| Manufacturer/ Importer name and address | M |
| Product Identification | M |

*M = Meet NM = Not Meet N/A = Not Applicable R = Refer to Comment Section*

**REQUIREMENTS & TEST METHODS CROSS REFERENCE TABLE FOR PART 1**

| Sub-clause | Test Method | Sub-clause | Test Method | Sub-clause | Test Method | Sub-clause | Test Method |
|---|---|---|---|---|---|---|---|
| 4.3 | 8.25.1 | 4.15.1.5 | 8.26.1 | 4.22 | 8.3, 8.4.2.1, 8.5, 8.6, 8.7, 8.8, 8.32 | 5.4.5 | 8.40 |
| 4.5 | 8.5, 8.7, 8.11, 8.12 | 4.15.1.8 | 8.29 | 4.23 | 8.2, 8.3, 8.4.2.1, 8.4.2.2, 8.5, 8.6, 8.7, 8.8, 8.34, 8.35 | 5.4.6 | 8.40 |
| 4.6 | 8.2, 8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.14 | 4.15.2.4 | 8.26.2 | 4.24 | 8.37 | 5.4.7 | 8.20 |
| 4.7 | 8.11 | 4.15.3 | 8.21, 8.23.1 | 4.25 | 8.2, 8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.32.1 | 5.7.8 | 8.39 |
| 4.8 | 8.12, 8.13 | 4.15.4 | 8.21, 8.23.1 | 4.26 | 8.38 | 5.5 | 8.15 |
| 4.9 | 8.4.2.3, 8.11, 8.12 | 4.15.5 | 8.11, 8.12, 8.21, 8.22, 8.26.3, 8.27 | 4.27.1 | 8.43 | 5.6 | 8.29 |
| 4.10.1 | 8.18.2, 8.18.3 | 4.16 | 8.23.2 | 4.27.2 | 8.4.2.6 | 5.8 | 8.16 |
| 4.10.2 | 8.5, 8.6, 8.7, 8.11, 8.12 | 4.17.1 | 8.3, 8.4.2.1, 8.7, 8.8, 8.42 | 4.27.3 | 8.4.2.6 | 5.10 | 8.3, 8.4.2.1, 8.5, 8.6, 8.7, 8.8, 8.9, 8.32 |
| 4.11 | 8.2, 8.3, 8.4.2.1, 8.9, 8.17 | 4.17.2 | 8.3, 8.4.2.4,8.7, 8.8, 8.32.1, 8.43, 8.44 | 5.1 | 8.2, 8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.9, 8.11, 8.12 | 5.11 | 8.33 |
| 4.13 | 8.19 | 4.17.3 | 8.3, 8.4.2.3, 8.4.2.5, 8.11, 8.12, 8.24, 8.42 | 5.3 | 8.4.2.1, 8.25 | 5.12 | 8.3, 8.4.2.1, 8.5, 8.6, 8.7, 8.8, 8.9, |
| 4.14.1 | 8.31.1, 8.31.2 | 4.17.4 | 8.3, 8.4.2.3, 8.4.2.5, 8.11, 8.12, 8.24, 8.42 | 5.4.1 | 8.40 | 5.13 | 8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.32 |
| 4.14.2 | 8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.11, 8.12 | 4.18 | 8.2, 8.3, 8.4.2.1 | 5.4.2 | 8.38, 8.40, 8.41 | 5.14 | 8.38 |
| 4.15.1.3 | 8.11, 8.12, 8.21, 8.22 | 4.20 | 8.28 | 5.4.3 | 8.38, 8.40, 8.41 | 6 | 8.3, 8.4.2.1, 8.25.1, 8.32.1 |
| 4.15.1.4 | 8.23.1 | 4.21 | 8.30 | 5.4.4 | 8.36, 8.38 | | |

**FLAMMABILITY (EN 71 PART 2: 2011 + A1: 2014)**

| Subclause | Requirement | Result |
|---|---|---|
| 4.1 | Cellulose nitrate | NP |
| 4.1 | Surface flash on a piled surface | NA |
| *4.1 | Flammable gases | NA |
| *4.1 | Extremely flammable liquids, highly flammable liquids, flammable liquids and flammable gels | NA |
| 4.2 | Toys to be worn on the head | NA |
| 4.3 | Toy disguise costumes and toys intended to be worn by child in play | NA |
| 4.3 | warning on product and packaging<br>(10 - 30 mm/s) | NA |
| 4.4 | Toys intended to be entered by a child | NA |
| 4.4 | warning on product and packaging<br>(10 – 30 mm/s) | NA |
| 4.5 | Soft-filled toys | NA |

REQUIREMENTS & TEST METHODS CROSS REFERENCE TABLE FOR PART 2

| Sub-clause | Test Method | Sub-clause | Test Method | Sub-clause | Test Method | Sub-clause | Test Method |
|---|---|---|---|---|---|---|---|
| 4.2.2 | 5.2 | 4.2.4 | 5.3 | 4.3 | 5.4 | 4.5 | 5.5 |
| 4.2.3 | 5.3 | 4.2.5 | 5.4 | 4.4 | 5.4 | - | - |

Remark:

ISE= Ignited but Self-Extinguished;

"0" in rate of spread of flame = the sample fails to ignite and if the first thread is not severed

L = Lengthwise

W =Widthwise

**RESULTS:**

**Heavy Metals and Flame Retardants Content - European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) with its Amendments**

**Test Method** : See Appendix.

| Test Item(s) | Item / Component Description(s) | Location(s) | Style(s) |
|---|---|---|---|
| A23 | Silvery metal (small screw of remote control of sample A/ B) | / | / |
| A24 | Silvery metal (wide screw of remote control of sample A/ B) | / | / |
| A59 | Black metal (spring of button of remote control of sample A/ B) | / | / |
| A74 | Silvery metal (case of rocker of remote control of sample A/ B) | / | / |
| A75 | Silvery metal (axle of rocker of remote control of sample A/ B) | / | / |
| A84 | Silvery metal (screw of drone of sample A/ B) | / | / |
| A85 | Silvery metal (screw of drone of sample A/ B) | / | / |
| A86 | Silvery metal (screw of drone of sample A/ B) | / | / |
| A87 | Silvery metal (axle of drone of sample A/ B) | / | / |
| A88 | Silvery metal (axle of drone of sample A/ B) | / | / |
| A90 | Silvery metal (plug of battery of drone of sample A/ B) | / | / |
| A133 | Silvery magnet (motor of drone of sample A/ B) | / | / |
| A135 | Silvery metal (axle of motor of drone of sample A/ B) | / | / |

| | | |
|---|---|---|
| **See Analytes (Parameter) and their corresponding Maximum Allowable Limit (Req.) in Result Table** | **Type I** | **Metallic material** |
| | **Type II** | **Glass or ceramic material** |
| | **Type III** | **Other non-metallic material except Type II** |

| - | Req. | Result | | | | |
|---|---|---|---|---|---|---|
| **Test Item(s)** | - | A23 | A24 | A59 | A74 | A75 |
| **Type** | I | I | I | I | I | I |
| **Parameter** | - | - | - | - | - | - |
| Chromium VI (Cr VI) | Negative | Negative | Negative | Negative | Negative | Negative |
| **Conclusion** | - | PASS | PASS | PASS | PASS | PASS |

| - | Req. | Result | | | | |
|---|---|---|---|---|---|---|
| **Test Item(s)** | - | A84 | A85 | A86 | A87 | A88 |
| **Type** | I | I | I | I | I | I |
| **Parameter** | - | - | - | - | - | - |
| Chromium VI (Cr VI) | Negative | Negative | Negative | Negative | Negative | Negative |
| **Conclusion** | - | PASS | PASS | PASS | PASS | PASS |

| - | Req. | Result | | |
|---|---|---|---|---|
| **Test Item(s)** | - | A90 | A133 | A135 |
| **Type** | I | I | I | I |
| **Parameter** | - | - | - | - |
| Chromium VI (Cr VI) | Negative | Negative | Negative | Negative |
| **Conclusion** | - | PASS | PASS | PASS |

| Test Item(s) | Item / Component Description(s) | Location(s) | Style(s) |
|---|---|---|---|
| A22 | Silvery solder (solder of USB of sample A/ B) | / | / |
| A108 | White soft plastic (wire covering of small PCB of drone of sample A/ B) | / | / |

| - | Unit | Req. | Result | |
|---|---|---|---|---|
| **Test Item(s)** | - | - | A22 | A108 |
| **Type** | - | II | II | II |
| **Parameter** | - | - | - | - |
| Lead (Pb) | mg/kg | 1000 | 51.9 | ND |
| Cadmium (Cd) | mg/kg | 100 | ND | ND |
| Mercury (Hg) | mg/kg | 1000 | ND | ND |
| **Conclusion** | - | - | PASS | PASS |

| Test Item(s) | Item / Component Description(s) | Location(s) | Style(s) |
|---|---|---|---|
| A5 | Transparent plastic (LED of drone of sample A/ B) | / | / |
| A9 | Transparent red plastic (LED of remote control of sample A/ B) | / | / |
| A56 | White plastic (button of remote control of sample A/ B) | | |
| A70 | Green/ black PCB (buzzer of remote control of sample A/ B) | | |
| A110 | Green/ beige PCB (small PCB of drone of sample A/ B) | | |
| A111 | Beige plastic (plug of small PCB of drone of sample A/ B) | | |
| A119 | Green PCB (PCB of drone of sample A/ B) | | |
| A130 | Black plastic (lid of motor of drone of sample A/ B) | | |

| - | Unit | Req. | Result | | | |
|---|---|---|---|---|---|---|
| **Test Item(s)** | - | - | A5 | A9 | A56 | A70 |
| **Type** | - | III | III | III | III | III |
| **Parameter** | - | - | - | - | - | - |
| PBBs | mg/kg | 1000 | ND | ND | ND | ND |
| MonoBB | mg/kg | - | ND | ND | ND | ND |

| | | | | | | |
|---|---|---|---|---|---|---|
| DiBB | mg/kg | - | ND | ND | ND | ND |
| TriBB | mg/kg | - | ND | ND | ND | ND |
| TetraBB | mg/kg | - | ND | ND | ND | ND |
| PentaBB | mg/kg | - | ND | ND | ND | ND |
| HexaBB | mg/kg | - | ND | ND | ND | ND |
| HeptaBB | mg/kg | - | ND | ND | ND | ND |
| OctaBB | mg/kg | - | ND | ND | ND | ND |
| NonaBB | mg/kg | - | ND | ND | ND | ND |
| DecaBB | mg/kg | - | ND | ND | ND | ND |
| PBDEs | mg/kg | 1000 | ND | ND | ND | ND |
| MonoBDE | mg/kg | - | ND | ND | ND | ND |
| DiBDE | mg/kg | - | ND | ND | ND | ND |
| TriBDE | mg/kg | - | ND | ND | ND | ND |
| TetraBDE | mg/kg | - | ND | ND | ND | ND |
| PentaBDE | mg/kg | - | ND | ND | ND | ND |
| HexaBDE | mg/kg | - | ND | ND | ND | ND |
| HeptaBDE | mg/kg | - | ND | ND | ND | ND |
| OctaBDE | mg/kg | - | ND | ND | ND | ND |
| NonaBDE | mg/kg | - | ND | ND | ND | ND |
| DecaBDE | mg/kg | - | ND | ND | ND | ND |
| **Conclusion** | - | - | PASS | PASS | PASS | PASS |

| - | **Unit** | **Req.** | **Result** | | | |
|---|---|---|---|---|---|---|
| **Test Item(s)** | - | - | A110 | A111 | A119 | A130 |
| **Type** | - | III | III | III | III | III |
| **Parameter** | - | - | - | - | - | - |
| PBBs | mg/kg | 1000 | ND | ND | ND | ND |
| MonoBB | mg/kg | - | ND | ND | ND | ND |
| DiBB | mg/kg | - | ND | ND | ND | ND |
| TriBB | mg/kg | - | ND | ND | ND | ND |
| TetraBB | mg/kg | - | ND | ND | ND | ND |
| PentaBB | mg/kg | - | ND | ND | ND | ND |
| HexaBB | mg/kg | - | ND | ND | ND | ND |
| HeptaBB | mg/kg | - | ND | ND | ND | ND |
| OctaBB | mg/kg | - | ND | ND | ND | ND |
| NonaBB | mg/kg | - | ND | ND | ND | ND |
| DecaBB | mg/kg | - | ND | ND | ND | ND |
| PBDEs | mg/kg | 1000 | ND | ND | ND | ND |
| MonoBDE | mg/kg | - | ND | ND | ND | ND |
| DiBDE | mg/kg | - | ND | ND | ND | ND |
| TriBDE | mg/kg | - | ND | ND | ND | ND |
| TetraBDE | mg/kg | - | ND | ND | ND | ND |
| PentaBDE | mg/kg | - | ND | ND | ND | ND |
| HexaBDE | mg/kg | - | ND | ND | ND | ND |
| HeptaBDE | mg/kg | - | ND | ND | ND | ND |
| OctaBDE | mg/kg | - | ND | ND | ND | ND |
| NonaBDE | mg/kg | - | ND | ND | ND | ND |
| DecaBDE | mg/kg | - | ND | ND | ND | ND |
| **Conclusion** | - | - | PASS | PASS | PASS | PASS |

Note / Key :

ND = Not detected ">" = Greater than Req. = Requirement
NR = Not requested mg/kg = milligram(s) per kilogram = ppm = part(s) per million
% = percent 10 000 mg/kg = 1 %
Detection Limit (mg/kg) :
For Type I - Each (Pb, Cd & Hg) : 2.0
For Type II - Each (Pb, Cd, Hg & Cr VI) : 2.0
For Type III - Metal, Polymers & Electronics - Each (Pb, Cd, Hg & Cr VI) : 2.0; Each (PBBs & PBDEs) : 50;
Others - Each (Pb, Cd & Hg) : 2.0; Cr VI : 3.0; Each (PBBs & PBDEs) : 50

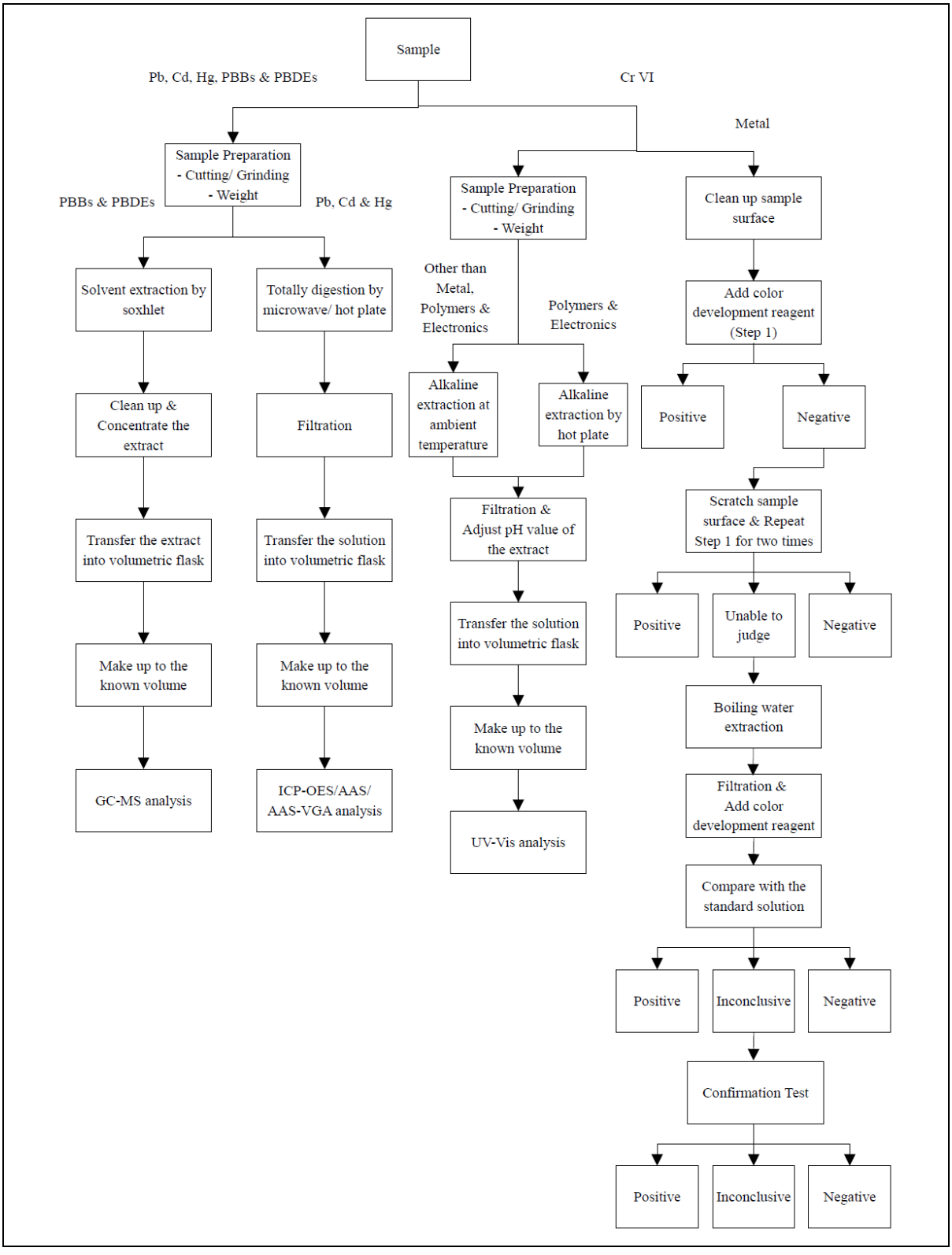
# APPENDIX

**List of Analytes and their Corresponding Test Methods**
**[ European Parliament and Council Directive 2011/65/EU ] :**

| No. | Name of Analyte(s) | Test Method(s) |
|---|---|---|
| 1 | Lead (Pb) | With reference to International Standard IEC 62321-5: 2013. |
| 2 | Cadmium (Cd) | |
| 3 | Mercury (Hg) | With reference to International Standard IEC 62321-4: 2013. |
| 4 | Chromium VI (Cr VI) | Metal :<br>With reference to International Standard IEC 62321-7-1: 2015.<br>Polymers & Electronics :<br>With reference to European Standard EN 62321: 2009, Annex C.<br>Leather :<br>International Standard ISO 17075-1: 2017<br>Other than Metal, Polymers, Electronics & Leather :<br>With reference to International Standard ISO 17075-1: 2017 |
| 5 | Polybromobiphenyls (PBBs)<br>- Bromobiphenyl (MonoBB)<br>- Dibromobiphenyl (DiBB)<br>- Tribromobiphenyl (TriBB)<br>- Tetrabromobiphenyl (TetraBB)<br>- Pentabromobiphenyl (PentaBB)<br>- Hexabromobiphenyl (HexaBB)<br>- Heptabromobiphenyl (HeptaBB)<br>- Octabromobiphenyl (OctaBB)<br>- Nonabromobiphenyl (NonaBB)<br>- Decabromobiphenyl (DecaBB) | With reference to International Standard IEC 62321-6: 2015. |
| 6 | Polybromodiphenyl ethers (PBDEs)<br>- Bromodiphenyl ether (MonoBDE)<br>- Dibromodiphenyl ether (DiBDE)<br>- Tribromodiphenyl ether (TriBDE)<br>- Tetrabromodiphenyl ether (TetraBDE)<br>- Pentabromodiphenyl ether (PentaBDE)<br>- Hexabromodiphenyl ether (HexaBDE)<br>- Heptabromodiphenyl ether (HeptaBDE)<br>- Octabromodiphenyl ether (OctaBDE)<br>- Nonabromodiphenyl ether (NonaBDE)<br>- Decabromodiphenyl ether (DecaBDE) | |

IEC = International Electrotechnical Commission

| **Test Flowchart of Heavy Metals and Flame Retardants Content [ European Parliament and Council Directive 2011/65/EU ] :** |
| --- |
| |


Sample
Pb, Cd, Hg, PBBs & PBDEs
Cr VI
Metal
Sample Preparation - Cutting/ Grinding - Weight
PBBs & PBDEs
Pb, Cd & Hg
Sample Preparation - Cutting/ Grinding - Weight
Clean up sample surface
Solvent extraction by soxhlet
Totally digestion by microwave/ hot plate
Other than Metal, Polymers & Electronics
Polymers & Electronics
Add color development reagent (Step 1)
Alkaline extraction at ambient temperature
Alkaline extraction by hot plate
Positive
Negative
Clean up & Concentrate the extract
Filtration
Filtration & Adjust pH value of the extract
Scratch sample surface & Repeat Step 1 for two times
Transfer the extract into volumetric flask
Transfer the solution into volumetric flask
Transfer the solution into volumetric flask
Positive
Unable to judge
Negative
Make up to the known volume
Make up to the known volume
Make up to the known volume
Boiling water extraction
GC-MS analysis
ICP-OES/AAS/ AAS-VGA analysis
UV-Vis analysis
Filtration & Add color development reagent
Compare with the standard solution
Positive
Inconclusive
Negative
Confirmation Test
Positive
Inconclusive
Negative

**Phthalates Content - European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) with its Amendments**

**Test Method** : With reference to International Standard IEC 62321-8: 2017.

| Test Item(s) | Item / Component Description(s) | Location(s) | Style(s) |
|---|---|---|---|
| A1+B1 | Silvery/ black coating on plastic (pattern of body, fan of drone of sample A)+Silvery/ white coating on plastic (pattern of body, fan of drone of sample B) | / | / |
| A2+A3+A4+A5+A6+A7+A8+A9+A10+A12 | Dull white plastic (body of drone, remote control of sample A, rocker, button of remote control of sample B)+White plastic (fan of drone of sample A)+Snow white plastic (undercarriage, shalf, cover of battery case of drone of sample A)+Transparent plastic (LED of drone of sample A/ B)+Black plastic (switch of drone of sample A/ B)+Transparent plastic film (cover of battery of drone of sample A/ B)+Light white plastic (gear of drone of sample A/ B)+Transparent red plastic (LED of remote control of sample A/ B)+Transparent plastic (handle of screwdriver of sample A/ B)+Black plastic (USB of sample A/ B) | / | / |
| A14+A15+A17+A18+A19+A34+A36+A37+A42+A43 | Black plastic (plug of USB of sample A/ B)+White plastic (plug of USB of sample A/ B)+Green/ brown PCB (PCB of USB of sample A/ B)+Transparent plastic (SMD LED of USB of sample A/ B)+Black plastic (triode of USB of sample A/ B)+Green/ brown PCB (PCB of remote control of sample A/ B)(internal)+Black plastic with silvery metal (diode of PCB of remote control of sample A/ B)+Black plastic with silvery metal (triode of PCB of remote control of sample A/ B)+Black plastic with silvery metal (IC of PCB of remote control of sample A/ B)+Transparent plastic (cover of LED of remote control of sample A/ B) | / | / |

| | | | |
|---|---|---|---|
| A29+A31+A32 | Black soft plastic (wire covering of remote control of sample A/ B)+Red soft plastic (wire covering of remote control of sample A/ B)+Transparent soft plastic (wire covering of remote control, drone of sample A/ B) | / | / |
| A45+A60+A61 | Transparent glue (fastener of crystal of remote control of sample A/ B)+Grey printed black soft plastic (sleeve of capacitor of remote control, drone of sample A/ B)+Black soft plastic (base of capacitor of remote control, drone of sample A/ B) | / | / |
| A52+A55+A56+A57+A67+A70+A77+A78+A79+A80 | Black plastic (button of remote control of sample A/ B)+Blue plastic (button of remote control of sample A/ B)+White plastic (button of remote control of sample A/ B)+Black plastic (button of remote control of sample A/ B)+Black plastic (buzzer of remote control of sample A/ B)+Green/ black PCB (buzzer of remote control of sample A/ B)+Dark blue plastic (rocker of remote control of sample A/ B)+Light green plastic (rocker of remote control of sample A/ B)+Green plastic (rocker of remote control of sample A/ B)+Light white plastic (rocker of remote control of sample A/ B) | / | / |
| A82+A89+A110+A111+A115+A119+A120+A121 | Brown/ white PCB (PCB of rocker of remote control of sample A/ B)+White plastic (plug of battery, PCB of drone of sample A/ B)+Green/ beige PCB (small PCB of drone of sample A/ B)+Beige plastic (plug of small PCB of drone of sample A/ B)+Brown plastic (base of switch of drone of sample A/ B)+Green PCB (PCB of drone of sample A/ B)+Black plastic with silvery metal (triode of PCB of drone of sample A/ B)+Black plastic with silvery metal (triode of PCB of drone of sample A/ B) | / | / |
| A91 | Black soft plastic with white printing (thick wire covering of battery, PCB of drone of sample A/ B) | / | / |
| A92 | Light red soft plastic with white printing (thick wire covering of battery of drone of sample A/ B) | / | / |

| | | | |
|---|---|---|---|
| A94 | Red soft plastic (thin wire covering of motor of drone of sample A/ B) | / | / |
| A95+A96+A97 | Blue soft plastic (thin wire covering of motor of drone of sample A/ B)+Black soft plastic (thin wire covering of motor of drone of sample A/ B)+White soft plastic (thin wire covering of motor of drone of sample A/ B) | / | / |
| A99+A100+A102 | Black soft plastic (wire covering of LED of drone of sample A/ B)+Red soft plastic (wire covering of LED of drone of sample A/ B)+Yellow soft plastic (wire covering of LED of drone of sample A/ B) | / | / |
| A103 | Red soft plastic (thick wire covering of PCB of drone of sample A/ B) | / | / |
| A105 | Red soft plastic (wire covering of small PCB of drone of sample A/ B) | / | / |
| A106 | Yellow soft plastic (wire covering of small PCB of drone of sample A/ B) | / | / |
| A107 | Black soft plastic (wire covering of small PCB of drone of sample A/ B) | / | / |
| A108 | White soft plastic (wire covering of small PCB of drone of sample A/ B) | / | / |
| A124+A125+A129 +A130+A137+B2 | Black plastic with silvery metal (IC of PCB of drone of sample A/ B)+Transparent plastic (SMD LED of drone of sample A/ B)+White plastic (lid of motor of drone of sample A/ B)+Black plastic (lid of motor of drone of sample A/ B)+Dull white plastic (motor of drone of sample A/ B)+Black plastic (body, fan, undercarriage, shalf of drone, body of remote control of sample B, rocker, button of remote control of sample A) | / | / |

| | |
|---|---|
| **Maximum Allowable Limit :** | **Each of the listed phthalates : 0.1 %[a]** |

| **Test Item(s)** | **Result** | | | **Conclusion** |
|---|---|---|---|---|
| | **Detected Analyte(s)** | **Conc.** | **Unit** | |
| A1+B1 | ND | ND | % | PASS |
| A2+A3+A4+A5+A6+A7+A8+A9+A10+A12 | ND | ND | % | PASS |
| A14+A15+A17+A18+A19+A34+A36+A37+A42+A43 | ND | ND | % | PASS |
| A29+A31+A32 | ND | ND | % | PASS |
| A45+A60+A61 | ND | ND | % | PASS |

| | | | | |
|---|---|---|---|---|
| A52+A55+A56+A57+A67+A70+A77+A78+A79+A80 | ND | ND | % | PASS |
| A82+A89+A110+A111+A115+A119+A120+A121 | ND | ND | % | PASS |
| A91 | ND | ND | % | PASS |
| A92 | ND | ND | % | PASS |
| A94 | ND | ND | % | PASS |
| A95+A96+A97 | DEHP | 0.008 | % | PASS |
| A99+A100+A102 | ND | ND | % | PASS |
| A103 | DEHP<br>DBP | 0.006<br>0.065 | % | PASS |
| A105 | ND | ND | % | PASS |
| A106 | ND | ND | % | PASS |
| A107 | ND | ND | % | PASS |
| A108 | ND | ND | % | PASS |
| A124+A125+A129+A130+A137+B2 | ND | ND | % | PASS |

Note / Key :

ND = Not detected "＞" = Greater than Conc. = Concentration
% = percent 1 % = 10 000 mg/kg
mg/kg = milligram(s) per kilogram = ppm = part(s) per million
Detection Limit ( % ) - Each of the listed phthalates : 0.005

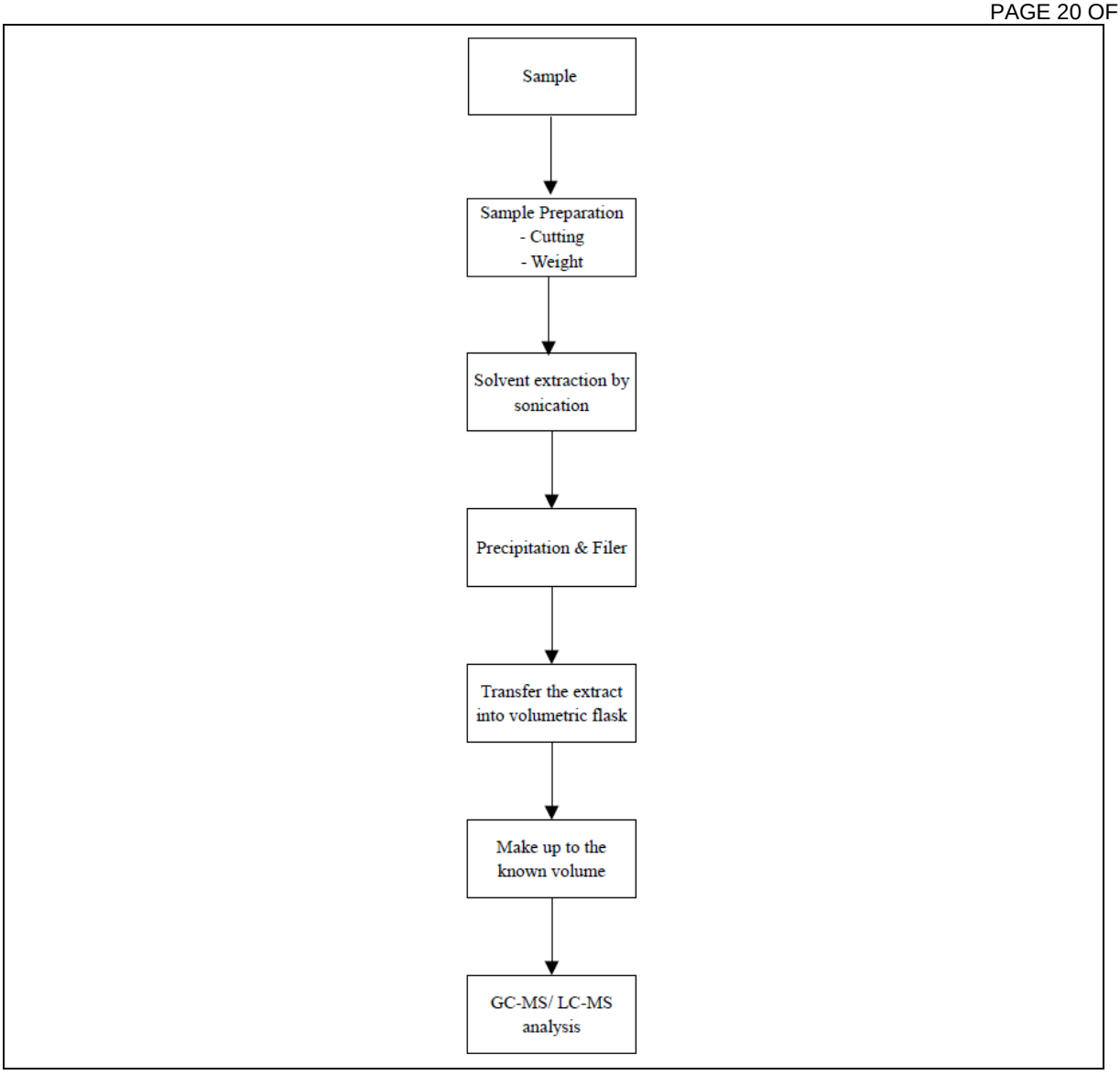
## APPENDIX

**List of Phthalates [ European Parliament and Council Directive 2011/65/EU ] :**

| No. | Name of Analyte(s) | CAS-No. | No. | Name of Analyte(s) | CAS-No. |
|---|---|---|---|---|---|
| 1 | Butyl benzyl phthalate (BBP) | 85-68-7 | 3 | Di-2-ethylhexyl phthalate (Bis (2-ethylhexyl) phthalate) (DEHP) | 117-81-7 |
| 2 | Di-n-butyl phthalate (Dibutyl phthalate) (DBP) | 84-74-2 | 4 | Di-iso-butyl phthalate (Diisobutyl phthalate) (DIBP) | 84-69-5 |

CAS-No. = Chemical Abstracts Service registry number

**Test Flowchart of Phthalates Content [ European Parliament and Council Directive 2011/65/EU ] :**


Sample
Sample Preparation
- Cutting
- Weight
Solvent extraction by sonication
Precipitation & Filer
Transfer the extract into volumetric flask
Make up to the known volume
GC-MS/ LC-MS analysis

**Migration of Certain Elements - European Parliament and Council Directive 2009/48/EC, Annex II, Part III, Point 13 with its Latest Amendment**

**Test Method** : European Standard EN 71 Part 3: 2019, Section 8.

| Test Item(s) | Item / Component Description(s) | Location(s) | Style(s) |
|---|---|---|---|
| A1 | Silvery/ black coating on plastic (pattern of body, fan of drone of sample A) | / | / |
| A2 | Dull white plastic (body of drone, remote control of sample A, rocker, button of remote control of sample B) | / | / |
| A3 | White plastic (fan of drone of sample A) | / | / |
| A4 | Snow white plastic (undercarriage, shalf, cover of battery case of drone of sample A) | / | / |
| A5 | Transparent plastic (LED of drone of sample A/ B) | / | / |
| A6 | Black plastic (switch of drone of sample A/ B) | / | / |
| A7 | Transparent plastic film (cover of battery of drone of sample A/ B) | / | / |
| A8 | Light white plastic (gear of drone of sample A/ B) | / | / |
| A9 | Transparent red plastic (LED of remote control of sample A/ B) | / | / |
| B1 | Silvery/ white coating on plastic (pattern of body, fan of drone of sample B) | / | / |
| B2 | Black plastic (body, fan, undercarriage, shalf of drone, body of remote control of sample B, rocker, button of remote control of sample A) | / | / |

| | | |
|---|---|---|
| **See Soluble Element (Parameter) and its corresponding Maximum Allowable Limit (Req.) in Result Table** | **Type I** | **Dry, brittle, powder-like or pliable toy material** |
| | **Type II** | **Liquid or sticky toy material** |
| | **Type III** | **Scraped-off toy material** |

| - | Unit | Req. | Result | | | | |
|---|---|---|---|---|---|---|---|
| **Test Item(s)** | - | - | A1 | A2 | A3 | A4 | A5 |
| **Type** | - | III | III | III | III | III | III |
| **Parameter** | - | - | - | - | - | - | - |
| Mass of Trace Amount | g | - | - | - | - | - | - |
| Aluminium (Al) | mg/kg | 70000 | ND | ND | ND | ND | ND |
| Antimony (Sb) | mg/kg | 560 | ND | ND | ND | ND | ND |
| Arsenic (As) | mg/kg | 47 | ND | ND | ND | ND | ND |
| Barium (Ba) | mg/kg | 18750 | ND | ND | ND | ND | ND |
| Boron (B) | mg/kg | 15000 | ND | ND | ND | ND | ND |
| Cadmium (Cd) | mg/kg | 17 | ND | ND | ND | ND | ND |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Chromium III (Cr III) | mg/kg | 460 | ND | ND | ND | ND | ND |
| Chromium VI (Cr VI) | mg/kg | 0.053 | ND | ND | ND | ND | ND |
| Cobalt (Co) | mg/kg | 130 | ND | ND | ND | ND | ND |
| Copper (Cu) | mg/kg | 7700 | ND | ND | ND | ND | ND |
| Lead (Pb) | mg/kg | 23 | ND | ND | ND | ND | ND |
| Manganese (Mn) | mg/kg | 15000 | ND | ND | ND | ND | ND |
| Mercury (Hg) | mg/kg | 94 | ND | ND | ND | ND | ND |
| Nickel (Ni) | mg/kg | 930 | ND | ND | ND | ND | ND |
| Selenium (Se) | mg/kg | 460 | ND | ND | ND | ND | ND |
| Strontium (Sr) | mg/kg | 56000 | ND | ND | ND | ND | ND |
| Tin (Sn) | mg/kg | 180000 | ND | ND | ND | ND | ND |
| Organic tin | mg/kg | 12 | ND | ND | ND | ND | ND |
| Zinc (Zn) | mg/kg | 46000 | ND | ND | ND | ND | ND |
| **Conclusion** | - | - | PASS | PASS | PASS | PASS | PASS |

| - | **Unit** | **Req.** | **Result** | | | | |
|---|---|---|---|---|---|---|---|
| **Test Item(s)** | - | - | A6 | A7 | A8 | A9 | B1 |
| **Type** | - | III | III | III | III | III | III |
| **Parameter** | - | - | - | - | - | - | - |
| Mass of Trace Amount | g | - | - | - | - | - | - |
| Aluminium (Al) | mg/kg | 70000 | ND | ND | ND | ND | ND |
| Antimony (Sb) | mg/kg | 560 | ND | ND | ND | ND | ND |
| Arsenic (As) | mg/kg | 47 | ND | ND | ND | ND | ND |
| Barium (Ba) | mg/kg | 18750 | ND | ND | ND | ND | ND |
| Boron (B) | mg/kg | 15000 | ND | ND | ND | ND | ND |
| Cadmium (Cd) | mg/kg | 17 | ND | ND | ND | ND | ND |
| Chromium III (Cr III) | mg/kg | 460 | ND | ND | ND | ND | ND |
| Chromium VI (Cr VI) | mg/kg | 0.053 | ND | ND | ND | ND | ND |
| Cobalt (Co) | mg/kg | 130 | ND | ND | ND | ND | ND |
| Copper (Cu) | mg/kg | 7700 | ND | ND | ND | ND | ND |
| Lead (Pb) | mg/kg | 23 | ND | ND | ND | ND | ND |
| Manganese (Mn) | mg/kg | 15000 | ND | ND | ND | ND | ND |
| Mercury (Hg) | mg/kg | 94 | ND | ND | ND | ND | ND |
| Nickel (Ni) | mg/kg | 930 | ND | ND | ND | ND | ND |
| Selenium (Se) | mg/kg | 460 | ND | ND | ND | ND | ND |
| Strontium (Sr) | mg/kg | 56000 | ND | ND | ND | ND | ND |
| Tin (Sn) | mg/kg | 180000 | ND | ND | ND | ND | ND |
| Organic tin | mg/kg | 12 | ND | ND | ND | ND | ND |
| Zinc (Zn) | mg/kg | 46000 | ND | ND | ND | ND | ND |
| **Conclusion** | - | - | PASS | PASS | PASS | PASS | PASS |

| - | **Unit** | **Req.** | **Result** |
|---|---|---|---|
| **Test Item(s)** | - | - | B2 |
| **Type** | - | III | III |
| **Parameter** | - | - | - |
| Mass of Trace Amount | g | - | - |
| Aluminium (Al) | mg/kg | 70000 | ND |
| Antimony (Sb) | mg/kg | 560 | ND |
| Arsenic (As) | mg/kg | 47 | ND |
| Barium (Ba) | mg/kg | 18750 | ND |
| Boron (B) | mg/kg | 15000 | ND |

| | | | |
|---|---|---|---|
| Cadmium (Cd) | mg/kg | 17 | ND |
| Chromium III (Cr III) | mg/kg | 460 | ND |
| Chromium VI (Cr VI) | mg/kg | 0.053 | ND |
| Cobalt (Co) | mg/kg | 130 | ND |
| Copper (Cu) | mg/kg | 7700 | ND |
| Lead (Pb) | mg/kg | 23 | ND |
| Manganese (Mn) | mg/kg | 15000 | ND |
| Mercury (Hg) | mg/kg | 94 | ND |
| Nickel (Ni) | mg/kg | 930 | ND |
| Selenium (Se) | mg/kg | 460 | ND |
| Strontium (Sr) | mg/kg | 56000 | ND |
| Tin (Sn) | mg/kg | 180000 | ND |
| Organic tin | mg/kg | 12 | ND |
| Zinc (Zn) | mg/kg | 46000 | ND |
| **Conclusion** | - | - | PASS |

Note / Key :

ND = Not detected "**>**" = Greater than Req. = Requirement
NR = Not requested g = gram(s) INCON. = Inconclusive
mg/kg = milligram(s) per kilogram = ppm = part(s) per million
[ ] = Detection Limit by test method with reference to EN 71 Part 3: 2019, Annex F
{ } = Detection Limit by test method with reference to EN 71 Part 3: 2019, Annex G
Detection Limit ( mg/kg ) :
For Type I - Al : 562.5 ; Sb : 4.5 ; As : 0.38 ; Ba : 150 ; B : 120 ; Cd : 0.13 ; Cr III : 3.75 ; Cr VI : 0.005 [0.002] ; Co : 1.05 ; Cu : 62.25 ; Pb : 0.2 ; Mn : 120 ; Hg : 0.75 ; Ni : 7.5 ; Se : 3.75 ; Sr : 450 ; Sn : 1 500 ; Organic tin : 0.09 {0.02} ; Zn : 375
For Type II - Al : 140.6 ; Sb : 1.13 ; As : 0.09 ; Ba : 37.5 ; B : 30 ; Cd : 0.03 ; Cr III : 0.94 ; Cr VI : 0.005 [0.002] ; Co : 0.26 ; Cu : 15.6 ; Pb : 0.05 ; Mn : 30 ; Hg : 0.19 ; Ni : 1.88 ; Se : 0.94 ; Sr : 112.5 ; Sn : 375 ; Organic tin : 0.02 {0.02} ; Zn : 93.8
For Type III - Al : 7 000 ; Sb : 56 ; As : 4.7 ; Ba : 1 875 ; B : 1 500 ; Cd : 1.7 ; Cr III : 46 ; Cr VI : 0.005 [0.002] ; Co : 13 ; Cu : 770 ; Pb : 2.3 ; Mn : 1 500 ; Hg : 9.4 ; Ni : 93 ; Se : 46 ; Sr : 5 600 ; Sn : 18 000 ; Organic tin : 1.2 {2} ; Zn : 4 600

Remark :

- Results of Cr III and Cr VI were reported as sum of soluble chromium content unless further verified.
- Result(s) of organic tin was (were) calculated by assuming the soluble tin content was wholly contributed from tributyltin (TBT) cation unless further specified.
- The European Commission amended the maximum allowable limit(s) of migratable aluminium of European Parliament and Council Directive 2009/48/EC in particular regarding to Annex II, Part III, Point 13. See details in Comment.
- The pH measured shall be reported after migration if it was outside the range of 1.1 to 1.3.
- The received sample(s) contained accessible component(s) of less than 10 milligrams by weight on one single sample, therefore such component(s) was (were) not subject to migration of certain elements of European Standard, "Safety of Toys, EN 71 Part 3: 2019", as specified in Section 7.1 - Selection of test portions.
- # denotes as result(s) was (were) verified by:
  For organic tin content - test method with reference to European Standard EN 71 Part 3: 2019, Annex G and reported as tributyltin (TBT) cation.
  For Cr VI content - test method with reference to European Standard EN 71 Part 3: 2019, Annex F.
- The conclusion(s) of Test Item(s) may be affected after European Commission Directive (EU) 2019/1922 of 18 November 2019 amending, for the purposes of adaptation to technical and scientific developments, point 13 of part III of Annex II to Directive 2009/48/EC of the European Parliament and of the Council on the safety of toys, as regards aluminium become effective.
- Test Item(s) was (were) de-waxed by isooctane before testing.

Comment :

| **Latest amendment of European Parliament and Council Directive 2009/48/EC, Annex II, Part III, Point 13 :** | | | |
|---|---|---|---|
| **-** | **Type I** | **Type II** | **Type III** |
| **Element(s)** | Aluminium (Al) | Aluminium (Al) | Aluminium (Al) |
| **Current** | 5 625 mg/kg | 1 406 mg/kg | 70 000 mg/kg |
| **Amended[a]** | 2 250 mg/kg | 560 mg/kg | 28 130 mg/kg |
| [a] denotes as these maximum allowable limits apply from May 20, 2021 according to European Commission Directive (EU) 2019/1922 of 18 November 2019 amending, for the purposes of adaptation to technical and scientific developments, point 13 of part III of Annex II to Directive 2009/48/EC of the European Parliament and of the Council on the Safety of Toys, as regards aluminium. | | | |

**Total Cadmium Content - European Parliament and Council Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) with its Latest Amendment, Annex XVII, Entry 23**

**Test Method** : U. S. CPSC-CH-E1003-09.1 (February 25, 2011), U. S. CPSC Test Method CPSC-CH-E1001-08.3 (November 15, 2012) or U. S. CPSC Test Method CPSC-CH-E1002-08.3 (November 15, 2012).

| Test Item(s) | Item / Component Description(s) | Location(s) | Style(s) |
|---|---|---|---|
| A1+B1 | Silvery/ black coating on plastic (pattern of body, fan of drone of sample A)+Silvery/ white coating on plastic (pattern of body, fan of drone of sample B) | / | / |
| A2+A3+A4 | Dull white plastic (body of drone, remote control of sample A, rocker, button of remote control of sample B)+White plastic (fan of drone of sample A)+Snow white plastic (undercarriage, shalf, cover of battery case of drone of sample A) | / | / |
| A5+A6+A7 | Transparent plastic (LED of drone of sample A/ B)+Black plastic (switch of drone of sample A/ B)+Transparent plastic film (cover of battery of drone of sample A/ B) | / | / |
| A8+A9+B2 | Light white plastic (gear of drone of sample A/ B)+Transparent red plastic (LED of remote control of sample A/ B)+Black plastic (body, fan, undercarriage, shalf of drone, body of remote control of sample B, rocker, button of remote control of sample A) | / | / |
| A10+A12+A14 | Transparent plastic (handle of screwdriver of sample A/ B)+Black plastic (USB of sample A/ B)+Black plastic (plug of USB of sample A/ B) | / | / |
| A15+A18+A19 | White plastic (plug of USB of sample A/ B)+Transparent plastic (SMD LED of USB of sample A/ B)+Black plastic (triode of USB of sample A/ B) | / | / |
| A17+A34+A70 | Green/ brown PCB (PCB of USB of sample A/ B)+Green/ brown PCB (PCB of remote control of sample A/ B)(internal)+Green/ black PCB (buzzer of remote control of sample A/ B) | / | / |
| A29+A31+A32 | Black soft plastic (wire covering of remote control of sample A/ B)+Red soft plastic (wire covering of remote control of sample A/ B)+Transparent soft plastic (wire covering of remote control, drone of sample A/ B) | / | / |
| A36+A37+A42 | Black plastic with silvery metal (diode of PCB of remote control of sample A/ B)+Black plastic with silvery metal (triode of PCB of remote control of sample A/ B)+Black plastic with silvery metal (IC of PCB of remote control of sample A/ B) | / | / |
| A43+A45+A52 | Transparent plastic (cover of LED of remote control of sample A/ B)+Transparent glue (fastener of crystal of remote control of sample A/ B)+Black plastic (button of remote control of sample A/ B) | / | / |

| | | | |
|---|---|---|---|
| A55+A56+A57 | Blue plastic (button of remote control of sample A/ B)+White plastic (button of remote control of sample A/ B)+Black plastic (button of remote control of sample A/ B) | / | / |
| A60+A61+A67 | Grey printed black soft plastic (sleeve of capacitor of remote control, drone of sample A/ B)+Black soft plastic (base of capacitor of remote control, drone of sample A/ B)+Black plastic (buzzer of remote control of sample A/ B) | / | / |
| A77+A78+A79 | Dark blue plastic (rocker of remote control of sample A/ B)+Light green plastic (rocker of remote control of sample A/ B)+Green plastic (rocker of remote control of sample A/ B) | / | / |
| A80+A89 | Light white plastic (rocker of remote control of sample A/ B)+White plastic (plug of battery, PCB of drone of sample A/ B) | / | / |
| A82+A110+A119 | Brown/ white PCB (PCB of rocker of remote control of sample A/ B)+Green/ beige PCB (small PCB of drone of sample A/ B)+Green PCB (PCB of drone of sample A/ B) | / | / |
| A91+A92+A111 | Black soft plastic with white printing (thick wire covering of battery, PCB of drone of sample A/ B)+Light red soft plastic with white printing (thick wire covering of battery of drone of sample A/ B)+Beige plastic (plug of small PCB of drone of sample A/ B) | / | / |
| A94+A95+A96 | Red soft plastic (thin wire covering of motor of drone of sample A/ B)+Blue soft plastic (thin wire covering of motor of drone of sample A/ B)+Black soft plastic (thin wire covering of motor of drone of sample A/ B) | / | / |
| A97+A99+A100 | White soft plastic (thin wire covering of motor of drone of sample A/ B)+Black soft plastic (wire covering of LED of drone of sample A/ B)+Red soft plastic (wire covering of LED of drone of sample A/ B) | / | / |
| A102+A103+A105 | Yellow soft plastic (wire covering of LED of drone of sample A/ B)+Red soft plastic (thick wire covering of PCB of drone of sample A/ B)+Red soft plastic (wire covering of small PCB of drone of sample A/ B) | / | / |
| A105 | Red soft plastic (wire covering of small PCB of drone of sample A/ B) | / | / |
| A106+A107+A108 | Yellow soft plastic (wire covering of small PCB of drone of sample A/ B)+Black soft plastic (wire covering of small PCB of drone of sample A/ B)+White soft plastic (wire covering of small PCB of drone of sample A/ B) | / | / |
| A106 | Yellow soft plastic (wire covering of small PCB of drone of sample A/ B) | / | / |
| A107 | Black soft plastic (wire covering of small PCB of drone of sample A/ B) | / | / |
| A108 | White soft plastic (wire covering of small PCB of drone of sample A/ B) | / | / |

| | | | |
|---|---|---|---|
| A115+A120+A121 | Brown plastic (base of switch of drone of sample A/ B)+Black plastic with silvery metal (triode of PCB of drone of sample A/ B)+Black plastic with silvery metal (triode of PCB of drone of sample A/ B) | / | / |
| A124+A125+A129 | Black plastic with silvery metal (IC of PCB of drone of sample A/ B)+Transparent plastic (SMD LED of drone of sample A/ B)+White plastic (lid of motor of drone of sample A/ B) | / | / |
| A130+A137 | Black plastic (lid of motor of drone of sample A/ B)+Dull white plastic (motor of drone of sample A/ B) | / | / |

| | | |
|---|---|---|
| **Maximum Allowable Limit :** | **Type I** | **Plastic Material: 100 mg/kg** |
| | **Type II** | **Paints:**<br>**100 mg/kg ( When total Zn below 100 000 mg/kg ) or**<br>**1000 mg/kg ( When total Zn equals to or greater than 100 000 mg/kg )** |

| **Test Item(s)** | **Result** | | **Unit** | **Conclusion** |
|---|---|---|---|---|
| | **Type** | **Total Cadmium (Cd)** | | |
| A1+B1 | I | ND | mg/kg | PASS |
| A2+A3+A4 | I | ND | mg/kg | PASS |
| A5+A6+A7 | I | ND | mg/kg | PASS |
| A8+A9+B2 | I | ND | mg/kg | PASS |
| A10+A12+A14 | I | ND | mg/kg | PASS |
| A15+A18+A19 | I | ND | mg/kg | PASS |
| A17+A34+A70 | I | ND | mg/kg | PASS |
| A29+A31+A32 | I | ND | mg/kg | PASS |
| A36+A37+A42 | I | ND | mg/kg | PASS |
| A43+A45+A52 | I | ND | mg/kg | PASS |
| A55+A56+A57 | I | ND | mg/kg | PASS |
| A60+A61+A67 | I | ND | mg/kg | PASS |
| A77+A78+A79 | I | ND | mg/kg | PASS |
| A80+A89 | I | ND | mg/kg | PASS |
| A82+A110+A119 | I | ND | mg/kg | PASS |
| A91+A92+A111 | I | ND | mg/kg | PASS |
| A94+A95+A96 | I | ND | mg/kg | PASS |
| A97+A99+A100 | I | ND | mg/kg | PASS |
| A102+A103+A105 | I | ND | mg/kg | PASS |
| A105 | I | ND | mg/kg | PASS |
| A106+A107+A108 | I | ND | mg/kg | PASS |
| A106 | I | ND | mg/kg | PASS |
| A107 | I | ND | mg/kg | PASS |
| A108 | I | ND | mg/kg | PASS |
| A115+A120+A121 | I | ND | mg/kg | PASS |
| A124+A125+A129 | I | ND | mg/kg | PASS |
| A130+A137 | I | ND | mg/kg | PASS |

Note / Key :

ND = Not detected ">" = Greater than
mg/kg = milligram(s) per kilogram = ppm = part(s) per million 10 000 mg/kg = 1 %
% = percent U. S. EPA = United States Environmental Protection Agency
No. = Number(s)

Detection Limit (mg/kg) : 10

Remark :

- Plastic material(s) produced from recovered polyvinyl chloride (PVC) is (are) not allowed to comply with this requirement and has (have) to comply with another total cadmium requirement with maximum allowable limit of 1 000 mg/kg.
- Total zinc content testing should be conducted when the Test Item(s) was (were) found with total cadmium content over 100 mg/kg.

**Polycyclic Aromatic Hydrocarbons (PAHs) Content - European Parliament and Council Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex XVII with its Latest Amendments, Entry 50, Point 6**

**Test Method** : With reference to test method mentioned in German AfPS GS 2019:01 PAK.

| Test Item(s) | Item / Component Description(s) | Location(s) | Style(s) |
|---|---|---|---|
| A1+B1 | Silvery/ black coating on plastic (pattern of body, fan of drone of sample A)+Silvery/ white coating on plastic (pattern of body, fan of drone of sample B) | / | / |
| A2+A3+A4 | Dull white plastic (body of drone, remote control of sample A, rocker, button of remote control of sample B)+White plastic (fan of drone of sample A)+Snow white plastic (undercarriage, shalf, cover of battery case of drone of sample A) | / | / |
| A5+A6+A7 | Transparent plastic (LED of drone of sample A/ B)+Black plastic (switch of drone of sample A/ B)+Transparent plastic film (cover of battery of drone of sample A/ B) | / | / |
| A8+A9+B2 | Light white plastic (gear of drone of sample A/ B)+Transparent red plastic (LED of remote control of sample A/ B)+Black plastic (body, fan, undercarriage, shalf of drone, body of remote control of sample B, rocker, button of remote control of sample A) | / | / |
| A10+A12+A14 | Transparent plastic (handle of screwdriver of sample A/ B)+Black plastic (USB of sample A/ B)+Black plastic (plug of USB of sample A/ B) | / | / |

| **Maximum Allowable Limit :** | **0.5 mg/kg ( Each of all listed PAHs )[a]** |
|---|---|

| Test Item(s) | Result | | | Conclusion |
|---|---|---|---|---|
| | Detected Analyte(s) | Conc. | Unit | |
| A1+B1 | ND | ND | mg/kg | PASS |
| A2+A3+A4 | ND | ND | mg/kg | PASS |
| A5+A6+A7 | ND | ND | mg/kg | PASS |
| A8+A9+B2 | ND | ND | mg/kg | PASS |
| A10+A12+A14 | ND | ND | mg/kg | PASS |

Note / Key :

ND = Not detected ">" = Greater than Conc. = Concentration
mg/kg = milligram(s) per kilogram = ppm = part(s) per million % = percent
1 % = 10 000 mg/kg
Detection Limit (mg/kg): 0.1

Remark :

- The list of polycyclic aromatic hyrdocarbons is summarized in table of Appendix.
- Rubber or plastic component(s) of Toys (Including activity toys and childcare articles) that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity under normal or reasonably foreseeable conditions of use is (are) applicable to be tested.
- [a] denotes as this maximum allowable limit applies to product(s) placed on the market for the first time on or after December 27, 2015 only.

## APPENDIX

**List of Polycyclic Aromatic Hydrocarbons**
**[ European Parliament and Council Regulation EC No. 1907/2006, Annex XVII, Entry 50, Point 6 ] :**

| No. | Name of Analyte(s) | CAS-No. | No. | Name of Analyte(s) | CAS-No. |
|---|---|---|---|---|---|
| 1 | Benzo[a]pyrene (BaP) | 50-32-8 | 5 | Benzo[b]fluoranthene (BbFA) | 205-99-2 |
| 2 | Benzo[e]pyrene (BeP) | 192-97-2 | 6 | Benzo[j]fluoranthene (BjFA) | 205-82-3 |
| 3 | Benzo[a]anthracene (BaA) | 56-55-3 | 7 | Benzo[k]fluoranthene (BkFA) | 207-08-9 |
| 4 | Chrysene (CHR) | 218-01-9 | 8 | Dibenzo[a,h]anthracene (DBAhA) | 53-70-3 |

CAS-No. = Chemical Abstracts Service registry number

**Phthalates Content in Certain Articles - European Parliament and Council Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) with its Latest Amendment, Entry 51**

**Test Method** : International Standard ISO 8124-6: 2018, Method A.

| Test Item(s) | Item / Component Description(s) | Location(s) | Style(s) |
|---|---|---|---|
| A1+B1 | Silvery/ black coating on plastic (pattern of body, fan of drone of sample A)+Silvery/ white coating on plastic (pattern of body, fan of drone of sample B) | / | / |
| A2+A3+A4 | Dull white plastic (body of drone, remote control of sample A, rocker, button of remote control of sample B)+White plastic (fan of drone of sample A)+Snow white plastic (undercarriage, shalf, cover of battery case of drone of sample A) | / | / |
| A5+A6+A7 | Transparent plastic (LED of drone of sample A/ B)+Black plastic (switch of drone of sample A/ B)+Transparent plastic film (cover of battery of drone of sample A/ B) | / | / |
| A8+A9+B2 | Light white plastic (gear of drone of sample A/ B)+Transparent red plastic (LED of remote control of sample A/ B)+Black plastic (body, fan, undercarriage, shalf of drone, body of remote control of sample B, rocker, button of remote control of sample A) | / | / |
| A10+A12+A14 | Transparent plastic (handle of screwdriver of sample A/ B)+Black plastic (USB of sample A/ B)+Black plastic (plug of USB of sample A/ B) | / | / |
| A15+A18+A19 | White plastic (plug of USB of sample A/ B)+Transparent plastic (SMD LED of USB of sample A/ B)+Black plastic (triode of USB of sample A/ B) | / | / |
| A17+A34+A70 | Green/ brown PCB (PCB of USB of sample A/ B)+Green/ brown PCB (PCB of remote control of sample A/ B)(internal)+Green/ black PCB (buzzer of remote control of sample A/ B) | / | / |
| A29+A31+A32 | Black soft plastic (wire covering of remote control of sample A/ B)+Red soft plastic (wire covering of remote control of sample A/ B)+Transparent soft plastic (wire covering of remote control, drone of sample A/ B) | / | / |

| | | | |
|---|---|---|---|
| A36+A37+A42 | Black plastic with silvery metal (diode of PCB of remote control of sample A/ B)+Black plastic with silvery metal (triode of PCB of remote control of sample A/ B)+Black plastic with silvery metal (IC of PCB of remote control of sample A/ B) | / | / |
| A43+A52+A55 | Transparent plastic (cover of LED of remote control of sample A/ B)+Black plastic (button of remote control of sample A/ B)+Blue plastic (button of remote control of sample A/ B) | / | / |
| A45+A60+A61 | Transparent glue (fastener of crystal of remote control of sample A/ B)+Grey printed black soft plastic (sleeve of capacitor of remote control, drone of sample A/ B)+Black soft plastic (base of capacitor of remote control, drone of sample A/ B) | / | / |
| A56+A57+A67 | White plastic (button of remote control of sample A/ B)+Black plastic (button of remote control of sample A/ B)+Black plastic (buzzer of remote control of sample A/ B) | / | / |
| A77+A78+A79 | Dark blue plastic (rocker of remote control of sample A/ B)+Light green plastic (rocker of remote control of sample A/ B)+Green plastic (rocker of remote control of sample A/ B) | / | / |
| A80+A89+A111 | Light white plastic (rocker of remote control of sample A/ B)+White plastic (plug of battery, PCB of drone of sample A/ B)+Beige plastic (plug of small PCB of drone of sample A/ B) | / | / |
| A82+A110+A119 | Brown/ white PCB (PCB of rocker of remote control of sample A/ B)+Green/ beige PCB (small PCB of drone of sample A/ B)+Green PCB (PCB of drone of sample A/ B) | / | / |
| A91+A92+A94 | Black soft plastic with white printing (thick wire covering of battery, PCB of drone of sample A/ B)+Light red soft plastic with white printing (thick wire covering of battery of drone of sample A/ B)+Red soft plastic (thin wire covering of motor of drone of sample A/ B) | / | / |

| | | | |
|---|---|---|---|
| A95+A96+A97 | Blue soft plastic (thin wire covering of motor of drone of sample A/ B)+Black soft plastic (thin wire covering of motor of drone of sample A/ B)+White soft plastic (thin wire covering of motor of drone of sample A/ B) | / | / |
| A99+A100+A102 | Black soft plastic (wire covering of LED of drone of sample A/ B)+Red soft plastic (wire covering of LED of drone of sample A/ B)+Yellow soft plastic (wire covering of LED of drone of sample A/ B) | / | / |
| A103 | Red soft plastic (thick wire covering of PCB of drone of sample A/ B)+ | / | / |
| A105 | Red soft plastic (wire covering of small PCB of drone of sample A/ B) | / | / |
| A106 | Yellow soft plastic (wire covering of small PCB of drone of sample A/ B) | / | / |
| A107 | Black soft plastic (wire covering of small PCB of drone of sample A/ B) | / | / |
| A108 | White soft plastic (wire covering of small PCB of drone of sample A/ B) | / | / |
| A115+A120+A121 | Brown plastic (base of switch of drone of sample A/ B)+Black plastic with silvery metal (triode of PCB of drone of sample A/ B)+Black plastic with silvery metal (triode of PCB of drone of sample A/ B) | / | / |
| A124+A125+A129 | Black plastic with silvery metal (IC of PCB of drone of sample A/ B)+Transparent plastic (SMD LED of drone of sample A/ B)+White plastic (lid of motor of drone of sample A/ B) | / | / |
| A130+A137 | Black plastic (lid of motor of drone of sample A/ B)+Dull white plastic (motor of drone of sample A/ B) | / | / |

| | |
|---|---|
| **Maximum Allowable Limit :** | **Less than 0.1 % ( Each or Sum of all listed phthalates )** |

| **Test Item(s)** | **Result** | | | **Conclusion** |
|---|---|---|---|---|
| | **Detected Analyte(s)** | **Conc.** | **Unit** | |
| A1+B1 | ND | ND | % | PASS |
| A2+A3+A4 | ND | ND | % | PASS |
| A5+A6+A7 | ND | ND | % | PASS |
| A8+A9+B2 | ND | ND | % | PASS |
| A10+A12+A14 | ND | ND | % | PASS |
| A15+A18+A19 | ND | ND | % | PASS |
| A17+A34+A70 | ND | ND | % | PASS |
| A29+A31+A32 | ND | ND | % | PASS |

| | | | | |
|---|---|---|---|---|
| A36+A37+A42 | ND | ND | % | PASS |
| A43+A52+A55 | ND | ND | % | PASS |
| A45+A60+A61 | ND | ND | % | PASS |
| A56+A57+A67 | ND | ND | % | PASS |
| A77+A78+A79 | ND | ND | % | PASS |
| A80+A89+A111 | ND | ND | % | PASS |
| A82+A110+A119 | ND | ND | % | PASS |
| A91+A92+A94 | DEHP<br>DBP | 0.00537<br>0.0193 | % | PASS |
| A95+A96+A97 | DEHP | 0.00678 | % | PASS |
| A99+A100+A102 | ND | ND | % | PASS |
| A103 | DEHP<br>DBP | 0.00915<br>0.0627 | % | PASS |
| A105 | ND | ND | % | PASS |
| A106 | ND | ND | % | PASS |
| A107 | ND | ND | % | PASS |
| A108 | ND | ND | % | PASS |
| A115+A120+A121 | ND | ND | % | PASS |
| A124+A125+A129 | ND | ND | % | PASS |
| A130+A137 | ND | ND | % | PASS |

Note / Key :

ND = Not detected ">" = Greater than Conc. = Concentration
mg/kg = milligram(s) per kilogram = ppm = part(s) per million % = percent
1 % = 10 000 mg/kg
Detection Limit ( % ) - Each of the listed phthalates : 0.005

Remark :

- The following articles that are exempted for testing:
  (i) Articles exclusively for industrial or agricultural use, or for use exclusively in the open air, provided that no plasticized material comes into contact with human mucous membranes or into prolonged contact with human skin;
  (ii) Measuring devices for laboratory use, or parts thereof;
  (iii) Materials and articles intended to come into contact with food within the scope of Regulation (EC) No. 1935/2004 or Commission Regulation (EU) No. 10/2011;
  (iv) Medical devices within the scope of Directives 90/385/EEC, 93/42/EEC or 98/79/EC, or parts thereof;
  (v) Electrical and electronic equipment within the scope of Directive 2011/65/EU; and
  (vi) Immediate packaging of medicinal products within the scope of Regulation (EC) No 726/2004, Directive 2001/82/EC or Directive 2001/83/EC.
- The list of phthalates is summarized in table of Appendix.
- Test Item(s) was (were) claimed to be placed on the market before July 7, 2020 by client. Therefore, this (these) Test Item(s) containing the found phthalate(s) level should be considered as data.

## APPENDIX

**List of Phthalates [ European Regulation EC No. 1907/2006, Annex XVII, Entry 51 ] :**

| No. | Name of Analyte(s) | CAS-No. [ EC No. ] | No. | Name of Analyte(s) | CAS-No. [ EC No. ] |
|---|---|---|---|---|---|
| 1 | Butyl benzyl phthalate (BBP) | 85-68-7 [ 201-622-7 ] | 3 | Di-2-ethylhexyl phthalate (Bis(2-ethylhexyl) phthalate) (DEHP) | 117-81-7 [ 204-211-0 ] |
| 2 | Di-n-butyl phthalate (Dibutyl phthalate) (DBP) | 84-74-2 [ 201-557-4 ] | 4 | Di-iso-butyl phthalate (Diisobutyl phthalate) (DIBP) | 84-69-5 [ 201-553-2 ] |

CAS-No. = Chemical Abstracts Service registry number
EC No. = European Commission number

**Phthalates Content in Toys and Childcare Articles which can be placed in the Mouth by Children - European Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) with Amendments up to EU No. 412/2012, Annex XVII, Entry 52**

**Test Method** : International Standard ISO 8124-6: 2018, Method A.

| Test Item(s) | Item / Component Description(s) | Location(s) | Style(s) |
|---|---|---|---|
| A1+B1 | Silvery/ black coating on plastic (pattern of body, fan of drone of sample A)+Silvery/ white coating on plastic (pattern of body, fan of drone of sample B) | / | / |
| A2+A3+A4 | Dull white plastic (body of drone, remote control of sample A, rocker, button of remote control of sample B)+White plastic (fan of drone of sample A)+Snow white plastic (undercarriage, shalf, cover of battery case of drone of sample A) | / | / |
| A5+A6+A7 | Transparent plastic (LED of drone of sample A/ B)+Black plastic (switch of drone of sample A/ B)+Transparent plastic film (cover of battery of drone of sample A/ B) | / | / |
| A8+A9+B2 | Light white plastic (gear of drone of sample A/ B)+Transparent red plastic (LED of remote control of sample A/ B)+Black plastic (body, fan, undercarriage, shalf of drone, body of remote control of sample B, rocker, button of remote control of sample A) | / | / |

| **Maximum Allowable Limit :** | **0.1 % ( Sum of all listed phthalates )** |
|---|---|

| Test Item(s) | Result | | | Conclusion |
|---|---|---|---|---|
| | Detected Analyte(s) | Conc. | Unit | |
| A1+B1 | ND | ND | % | PASS |
| A2+A3+A4 | ND | ND | % | PASS |
| A5+A6+A7 | ND | ND | % | PASS |
| A8+A9+B2 | ND | ND | % | PASS |

Note / Key :

ND = Not detected ">" = Greater than Conc. = Concentration
% = percent 1 % = 10 000 mg/kg
mg/kg = milligram(s) per kilogram = ppm = part(s) per million
Detection Limit (%) : Each : 0.005

Remark :

- The list of phthalates is summarized in table of Appendix.
- Test Item(s) has (have) to comply together with the phthalates requirement of European Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) with Amendments up to EU No. 412/2012, Annex XVII, Entry 51.

## APPENDIX

| List of Phthalates [ European Regulation EC No. 1907/2006, Annex XVII, Entry 52 ] : | | | | | |
|---|---|---|---|---|---|
| **No.** | **Name of Analytes** | **CAS-No. [ EC No. ]** | **No.** | **Name of Analytes** | **CAS-No. [ EC No. ]** |
| 1 | Di-iso-nonyl phthalate (DINP) | 28553-12-0 & 68515-48-0 [ 249-079-5 & 271-090-9 ] | 3 | Di-iso-decyl phthalate (DIDP) | 26761-40-0 & 68515-49-1 [ 247-977-1 & 271-091-4 ] |
| 2 | Di-n-octyl phthalate (DNOP) | 117-84-0 [ 204-214-7 ] | - | - | - |
| CAS-No. = Chemical Abstracts Service registry number<br>EC No. = European Commission number | | | | | |

SUMMARY OF TEST RESULTS

The sample is classified as Class 1 Laser Product pursuant to IEC 60825-1.

| Test Executed | Requirements | Test Standard | Limit | Result |
|---|---|---|---|---|
| Tests for Classification of Laser Products | Annex E, Sec. 20, EN 62115:2005 | Sec. 8, Sec. 9, IEC 60825-1:1993 + A1:1997 + A2:2001 | Table 1, IEC 60825-1:1993 + A1:1997 + A2:2001 | Can be Classified as Class 1 Laser Product |

Test method and equipment:
The following test equipment are applied for the tests:

| Equip. No | Equipment Name | Brand Name | Model |
|---|---|---|---|
| M006003L | Digital Light Meter | TES | TES-1336A |
| M006004L | Digital Light Meter | Sper Scientific | 840020 |
| M008005L | Digital Caliper (0-12”) | Mitutoyo | CD-12”C |
| M008006L | Digital Caliper (0-12”) | Mitutoyo | CD-12”C |
| M015003L | Stainless Steel Ruler (0-12”) | Endo Keiki | NIL |
| M019001L | Optical Sensor Head | Advantest | Q82214 |
| M019002L | Optical Power Meter + Optical Sensor Interface Unit | Advantest | Q8221 / Q82203 |
| M019003L | Optical Spectrum Analyzer | Advantest | Q8341 |
| M019004L | Optical Sensor Head | Advantest | Q82214 |
| M019005L | Optical Power Meter + Optical Sensor Interface Unit | Advantest | Q8221 / Q82203 |
| T031001L | Laser Test Fixture + Sample Platform | NIL | NIL |
| T032001L | 7mm Sensor Aperture Stop | NIL | NIL |
| T032003L | ∅0.5mm Field Stop Aperture | NIL | NIL |
| T032004L | ∅5mm Field Stop Aperture | NIL | NIL |
| T033001L | Filter (Yellow) | Lee Filter | 101 |
| T033002L | Filter (Green) | Lee Filter | 124 |
| T033003L | Filter (Red) | Lee Filter | 182 |
| T033004L | Filter (Blue) | Lee Filter | 195 |

The measurements are carried out with the measurement set up following Section 9 of IEC 60825-1.

The measurement condition 2 specified in Section 9.3 and Table 10 of IEC 60825-1 is adopted.

Description of the lasers or LEDs under test:

| Source No. | Feature |
|---|---|
| LED 1 | CW; Single-λ; Red LED (Controller) |
| LED 2 | CW; Single-λ; Red LED (Plane, Big) |
| LED 3 | CW; Multi-λ non-additive; Blue-Red LED |
| LED 4 | CW; Single-λ; Red LED (Plane Small) |
| LED 5 | CW; Single-λ; Red LED (Charger) |

Test Results:

I) TESTS DURING OPERATION

Basic Parameters of the lasers or LEDs

Single-wavelength source:

| Parameters | Unit | LED 1 | LED 2 | LED 4 | LED 5 |
|---|---|---|---|---|---|
| Color of the laser/LED | (e.g. Red / Amber / Yellow / Green / Blue, etc.) | Red | Red | Red | Red |
| Wavelength ($\lambda$) measured / Given by manufacturer | (nm) | 629 | 635 | 630 | 630 |
| Time Base estimated | (sec) | 100 | 100 | 100 | 100 |
| Apparent source size ($a$) measured | (mm) | 0.51 | 0.31 | >10 | >10 |
| Angular subtense ($\alpha$) estimated | (mrad) | 5.1 | 3.06 | >100 | >100 |
| Is the laser or LED continuous wave or pulsed? | | CW | CW | CW | CW |
| Break Point ($T_2$) | (second) | 10.88 | 10.37 | 100 | 100 |

Multi-Wavelength Source (Additive):

| Parameters | Unit | LED 3 | |
|---|---|---|---|
| Color of the laser/LED | (e.g. White) | Blue | Red |
| Wavelength ($\lambda$) measured / Given by manufacturer | (nm) | 455 | 630 |
| Time Base estimated | (sec) | 100 | |
| Apparent source size (a) measured | (mm) | 0.31 | |
| Angular subtense ($\alpha$) estimated | (mrad) | 3.06 | |
| Is the laser or LED continuous wave or pulsed? | | CW | |
| Break Point ($T_2$) | (second) | 10.37 | |

For continuous wave (CW) lasers or LEDs:
Note: a laser or LED operating with a continuous output for a period equal to or greater than 0.25 second.

A) TESTS AGAINST RETINAL PHOTOCHEMICAL HAZARD (RPH):

Single-wavelength source:

| Parameters | Unit | LED 1 | LED 2 | LED 4 | LED 5 |
|---|---|---|---|---|---|
| Limiting angle of acceptance ($\gamma_p$) | (mrad) | N/A | N/A | N/A | N/A |
| Measurement aperture (*d*) | (mm) | N/A | N/A | N/A | N/A |
| Measurement distance (r) | (mm) | N/A | N/A | N/A | N/A |
| Exposure time (t) | (sec) | N/A | N/A | N/A | N/A |
| Radiant power (P) | (μW) | N/A | N/A | N/A | N/A |
| Radiant energy (Q) | (μJ) | N/A | N/A | N/A | N/A |
| The corresponding RPH AEL for Class 1 Laser | <μW or μJ> | N/A | N/A | N/A | N/A |
| Does the laser or LED meet the RPH AEL of Class 1 Laser? | | N/A | N/A | N/A | N/A |

Multi-wavelength source (Additive):

| Parameters | Unit | LED 3 | |
|---|---|---|---|
| Wavelength ($\lambda$) | (nm) | 455 | 630 |
| Limiting angle of acceptance ($\gamma_p$) | (mrad) | 11.00 | N/A |
| Measurement aperture (*d*) | (mm) | 7 | N/A |
| Measurement distance (*r*) | (mm) | 27.82 | N/A |
| Exposure time (*t*) | (sec) | 100 | N/A |
| Radiant power (*P*) | (μW) | N/A | N/A |
| Radiant energy (*Q*) | (μJ) | 93.99 | N/A |
| The corresponding RPH AEL for Class 1 Laser | (μJ) | 4909 | N/A |
| Σ[(P/AEL)], or Σ[(Q/AEL)] | None | <1 | |
| Does the laser or LED meet the RPH AEL of Class 1 Laser? | | Meet | |

B) TESTS AGAINST RETINAL THERMAL HAZARD (RTH):

Single-wavelength source:

| Parameters | Unit | LED 1 | LED 2 | LED 4 | LED 5 |
|---|---|---|---|---|---|
| Angle of acceptance ($\gamma$) | (mrad) | ≥5.1 | ≥3.06 | 100 | 100 |
| Measurement aperture (*d*) | (mm) | 7 | 7 | 7 | 7 |
| Measurement distance (*r*) | (mm) | 23.58 | 18.76 | 100 | 100 |
| Exposure time (*t*) | (sec) | 100 | 100 | 100 | 100 |
| Radiant power (*P*) | (μW) | 6.52μW | 96.68μW | N/A | N/A |
| Radiant energy (*Q*) | (μJ) | N/A | N/A | 0.11μJ | 0.27μJ |
| The corresponding RTH AEL for Class 1 Laser | μW or μJ | 1310 | 795.73 | 1475730 | 1475730 |
| Does the laser or LED meet the RPH AEL of Class 1 Laser? | | Meet | Meet | Meet | Meet |

Multi-wavelength source (Additive):

| Parameters | Unit | LED 3 | |
|---|---|---|---|
| Wavelength ($\lambda$) | (nm) | 455 | 630 |
| Angle of acceptance ($\gamma$) | (mrad) | ≥3.06 | |
| Measurement aperture (*d*) | (mm) | 7 | |
| Measurement distance (*r*) | (mm) | 18.76 | |
| Exposure time (*t*) | (sec) | 100 | |
| Radiant power (*P*) | (μW) | 432.28 | 21.25 |
| Radiant energy (*Q*) | (μJ) | N/A | N/A |
| The corresponding RTH AEL for Class 1 Laser | (μW) | 795.73 | 795.73 |
| Σ[(P/AEL)], or Σ[(Q/AEL)] | None | <1 | |
| Does the laser or LED meet the RPH AEL of Class 1 Laser? | | Meet | |

II) TESTS WITH PARTS SUCH AS LENSES, REFLECTORS OR FILTERS THAT COULD AFFECT FOCUSING REMOVED

Basic Parameters of the lasers or LEDs

Single-wavelength source:

| Parameters | Unit | LED 4 | LED 5 |
|---|---|---|---|
| Color of the laser/LED | (e.g. Red / Amber / Yellow / Green / Blue, etc.) | RED | RED |
| Wavelength ($\lambda$) measured / Given by manufacturer | (nm) | 630 | 630 |
| Time Base estimated | (sec) | 100 | 100 |
| Apparent source size ($a$) measured | (mm) | 0.2 | 0.2 |
| Angular subtense ($\alpha$) estimated | (mrad) | 2.04 | 2.04 |
| Is the laser or LED continuous wave or pulsed? | | CW | CW |
| Break Point ($T_2$) | (second) | 10.13 | 10.13 |

For continuous wave (CW) lasers or LEDs:
Note: a laser or LED operating with a continuous output for a period equal to or greater than 0.25 second.

A) TESTS AGAINST RETINAL PHOTOCHEMICAL HAZARD (RPH):

Single-wavelength source:

| Parameters | Unit | LED 4 | LED 5 |
|---|---|---|---|
| Limiting angle of acceptance ($\gamma_p$) | (mrad) | N/A | N/A |
| Measurement aperture (*d*) | (mm) | N/A | N/A |
| Measurement distance (*r*) | (mm) | N/A | N/A |
| Exposure time (*t*) | (sec) | N/A | N/A |
| Radiant power (*P*) | (μW) | N/A | N/A |
| Radiant energy (*Q*) | (μJ) | N/A | N/A |
| The corresponding RPH AEL for Class 1 Laser | <μW or μJ> | N/A | N/A |
| Does the laser or LED meet the RPH AEL of Class 1 Laser? | | N/A | N/A |

B) TESTS AGAINST RETINAL THERMAL HAZARD (RTH):

Single-wavelength source:

| Parameters | Unit | LED 4 | LED 5 |
|---|---|---|---|
| Angle of acceptance ($\gamma$) | (mrad) | ≥2.04 | ≥2.04 |
| Measurement aperture (*d*) | (mm) | 7 | 7 |
| Measurement distance (*r*) | (mm) | 15.81 | 15.81 |
| Exposure time (*t*) | (sec) | 100 | 100 |
| Radiant power (*P*) | (μW) | 10.89 | 5.32 |
| Radiant energy (*Q*) | (μJ) | N/A | N/A |
| The corresponding RTH AEL for Class 1 Laser | (μW) | 533.66 | 533.66 |
| Does the laser or LED meet the RTH AEL of Class 1 Laser? | | Meet | Meet |

N/A = Not Applicable

**RESULTS:**

**European Standard EN 62115: 2005 + A2: 2011 + A11: 2012 + A12: 2015, "Electric toys - Safety"**

| Clause | Parameter | Result |
|---|---|---|
| 5.13 | Electrical connection can be made as reversed polarity due to incorrect insertion. | NOT POSSIBLE |
| 7 | Marking and Instructions | M |
| 8 | Power input | NA |
| 9 | Heating and abnormal operation | M-See Remark |
| 10 | Electric strength at operating temperature | M |
| 11 | Moisture resistance | M |
| 12 | Electric strength at room temperature | M |
| 13 | Mechanical strength | M |
| 14 | Construction | M |
| 15 | Protection of cords and wires | M |
| 16 | Components | M-See Executive Summary |
| 17 | Screws and connections | M |
| 18 | Creepage distance and clearances | M |
| 19 | Resistance to heat and fire | M |
| 20 | Radiation, toxicity and similar hazards | See Executive Summary |
| Annex ZB | Toys with protective electronic circuit | M |
| Annex ZC | Toys generating Electromagnetic Fields (EMF) | NA |

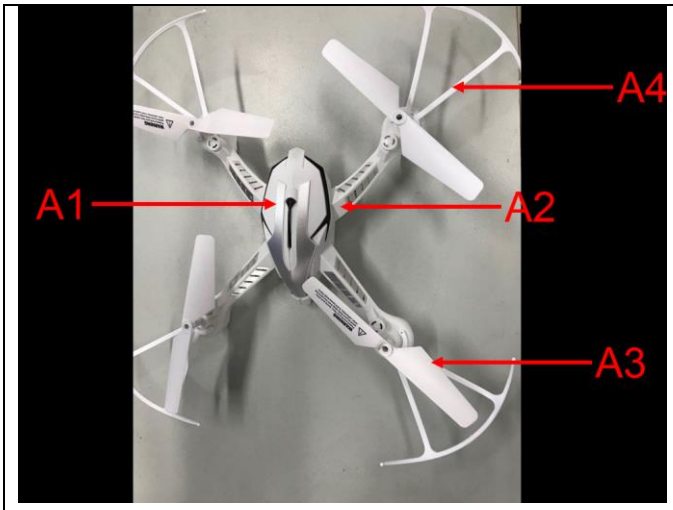
*M = Meet*
*NA = Not applicable*
*NM/R = Not Meet-refer to Comment Section*
*NR = Not requested by the client*

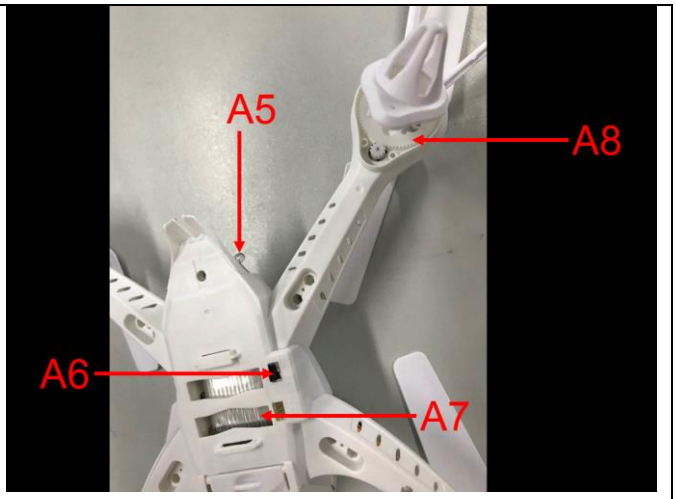
**RESULTS:**

Remark:

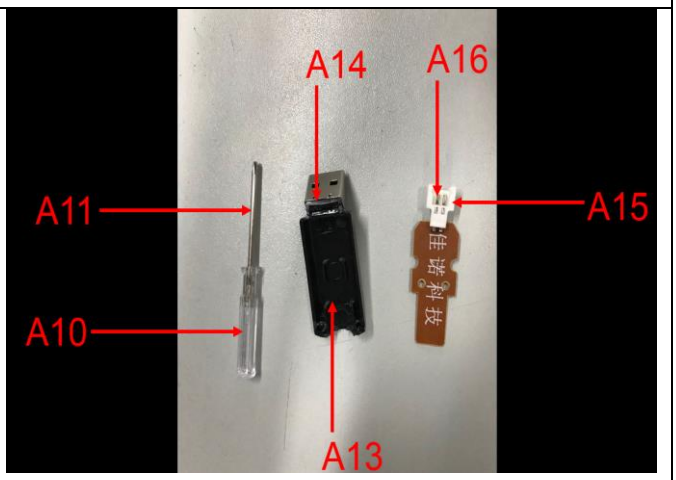
| Clause | Parameter | | |
|---|---|---|---|
| 9.3 | The maximum temperature rises at normal operation were recorded as follows: | | |
| | Ambient Temperature (°C): 23.1 | | |
| | Location | Temperature Rise (K) | Limit (K) |
| | Battery Surface (TX) | 2.6 | 45 |
| | Enclosure (near motor) (RX) | 4.9 | 50 |
| | Battery Surface (RX) | 8.9 | 45 |
| 9.6 | The maximum temperature rises at lock rotor were recorded as follows: | | |
| | Ambient Temperature (°C): 23.1 | | |
| | Location | Temperature Rise (K) | Limit (K) |
| | Battery Surface (RX) | 31.1 | 45 |
| | Enclosure (near motor) (RX) | 14.8 | 50 |

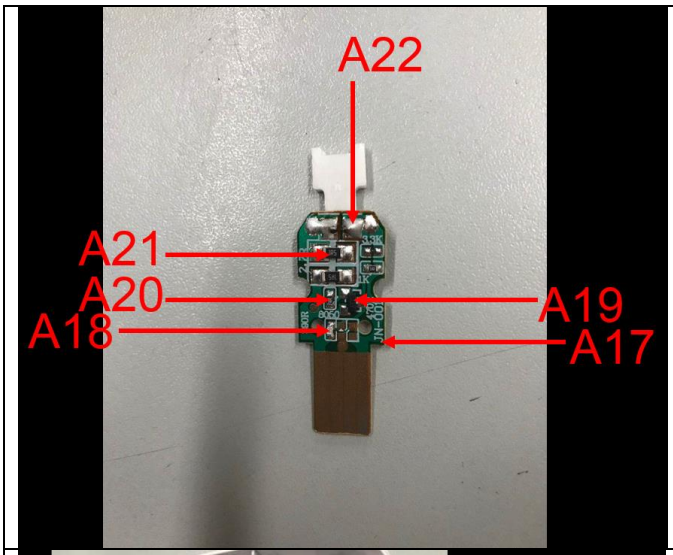
## Photograph of test item(s)





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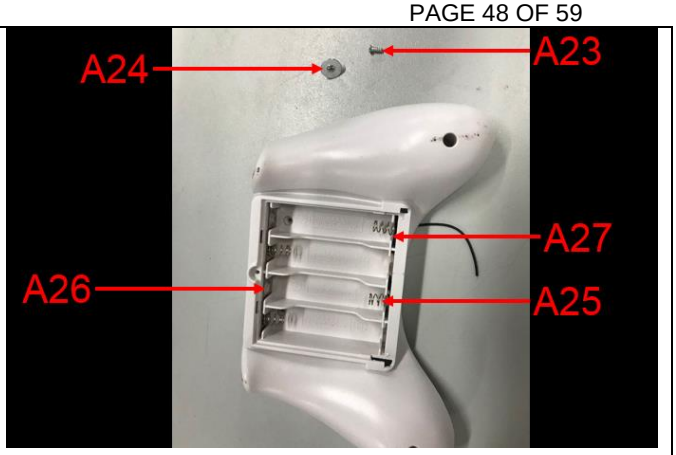
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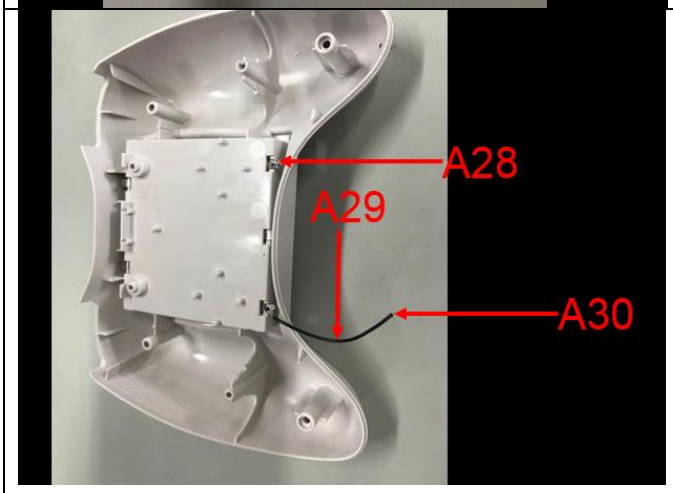
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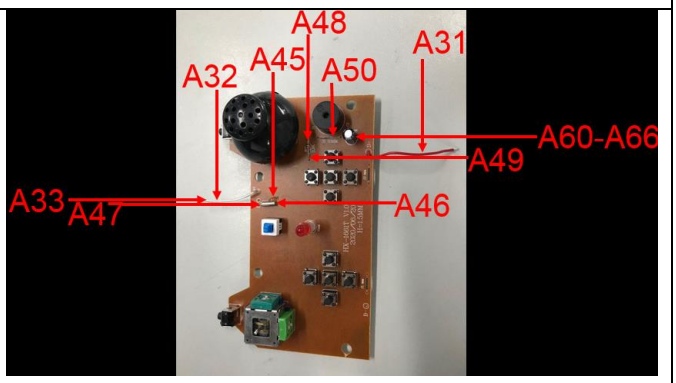
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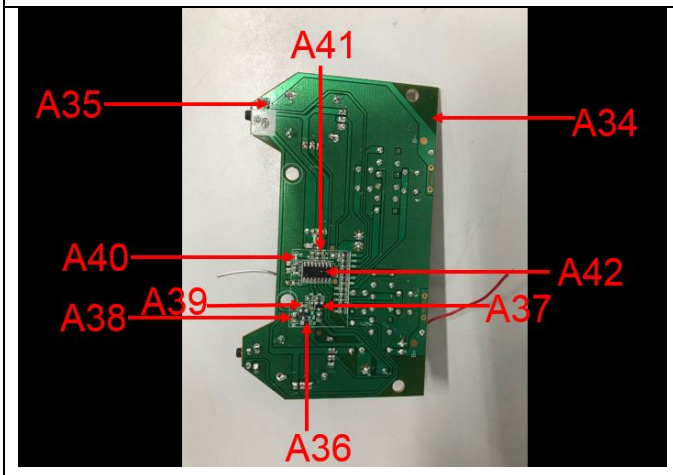
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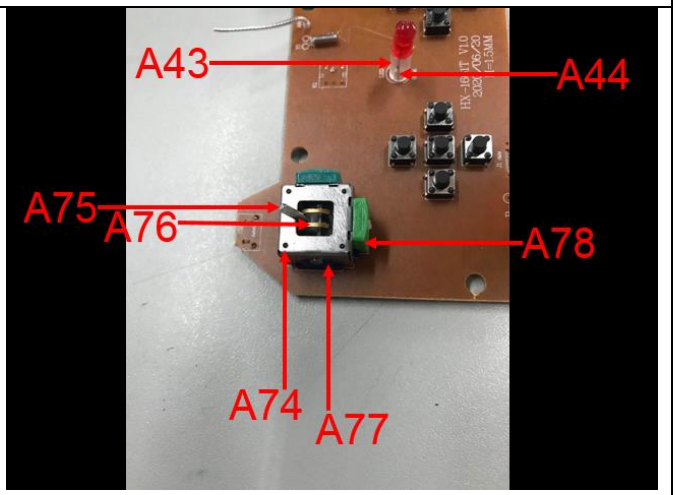
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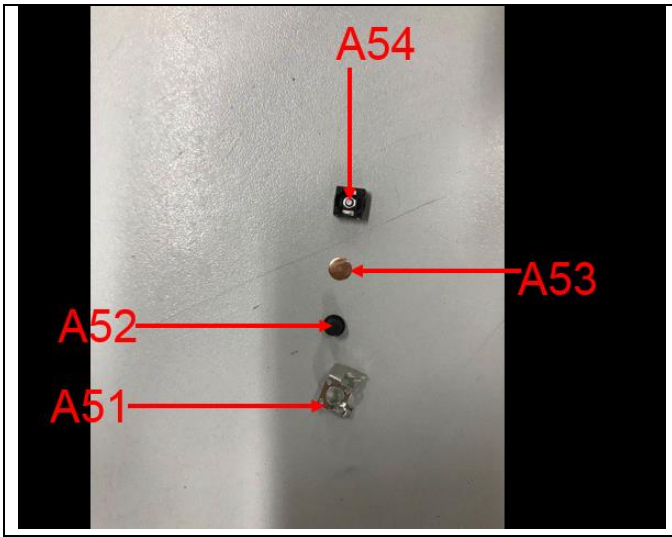
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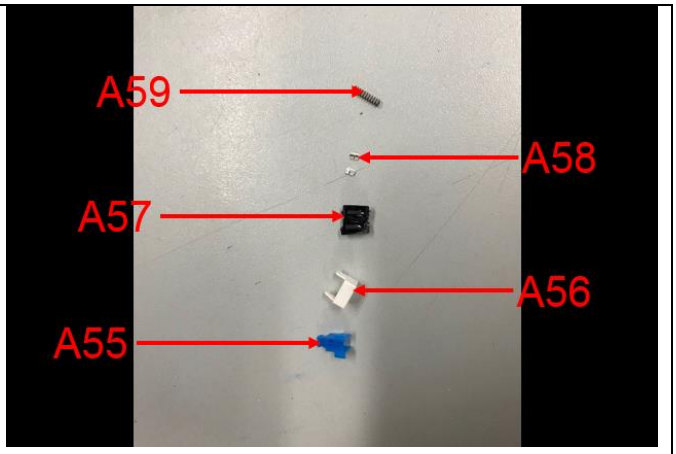
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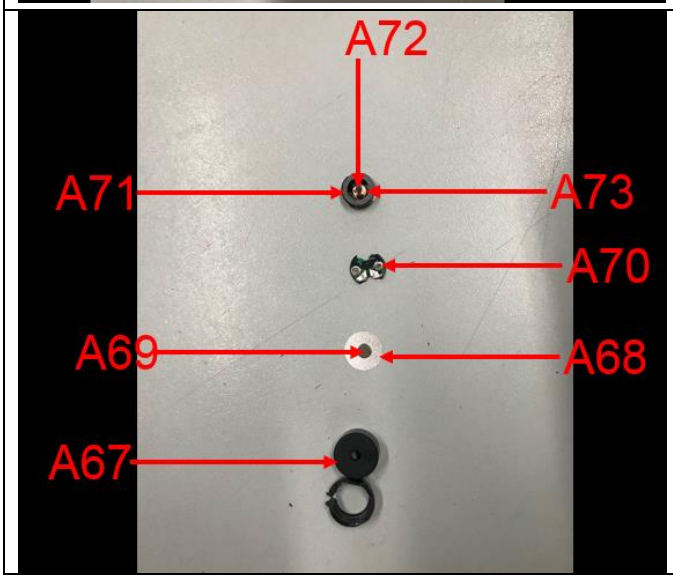
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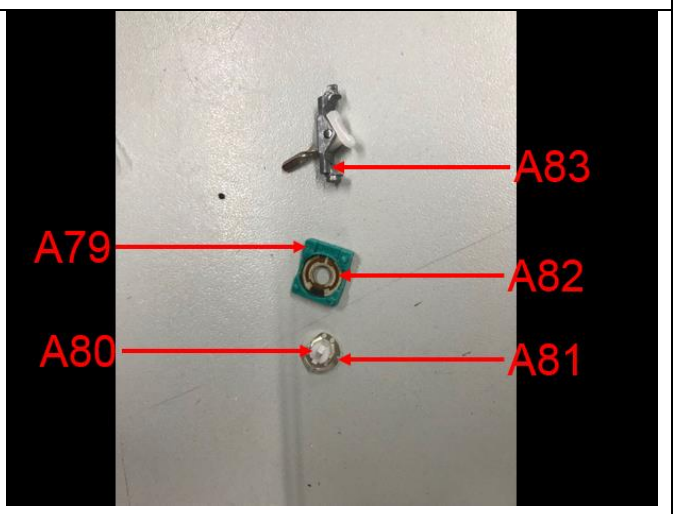
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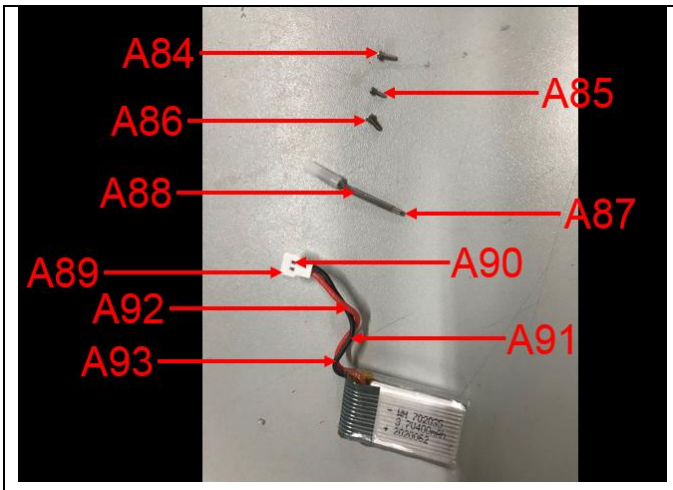
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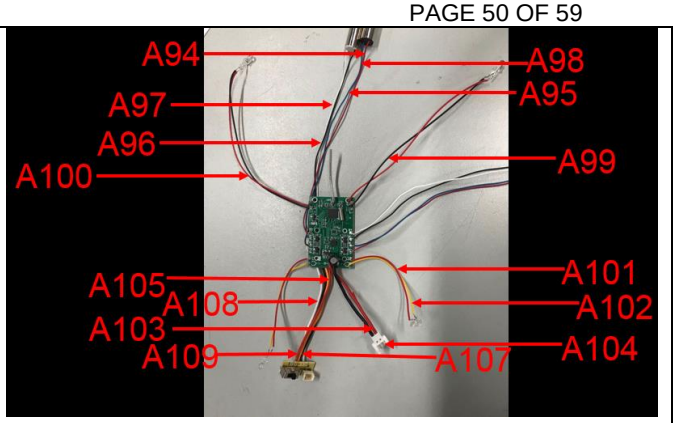
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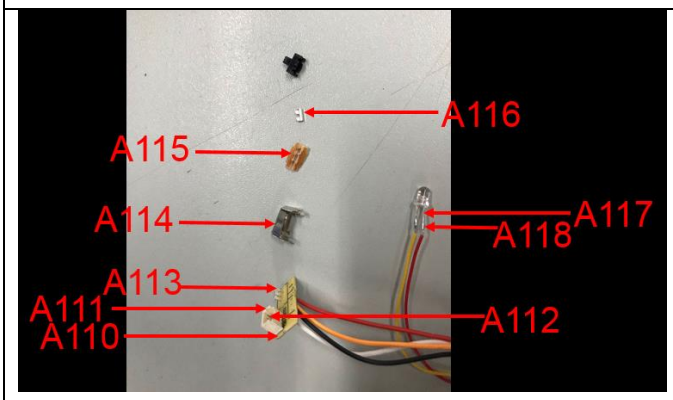
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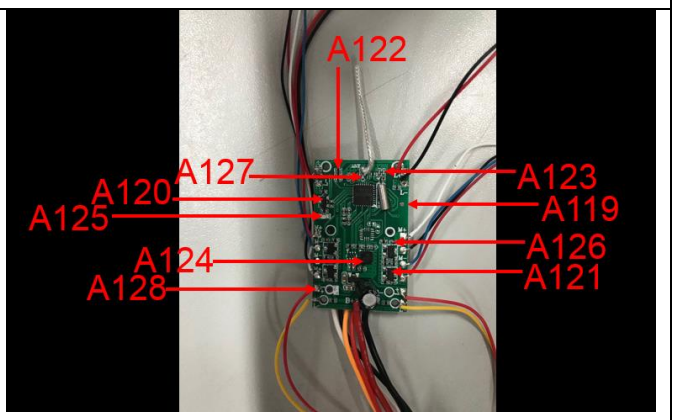
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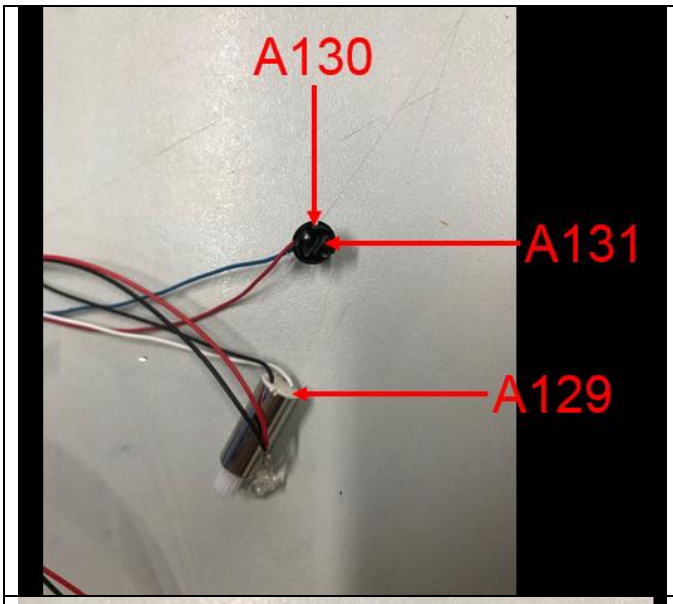
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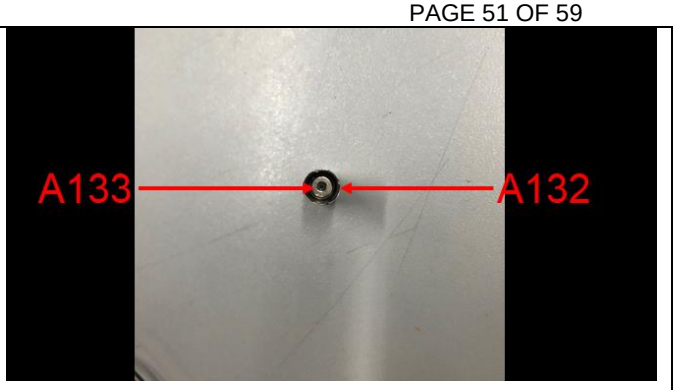
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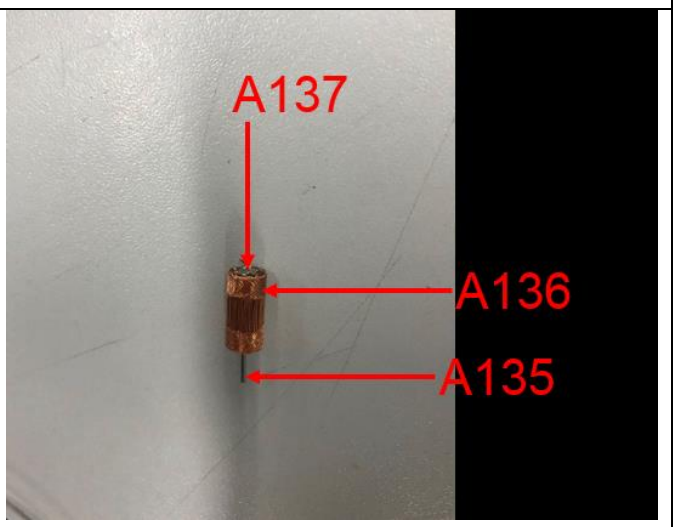
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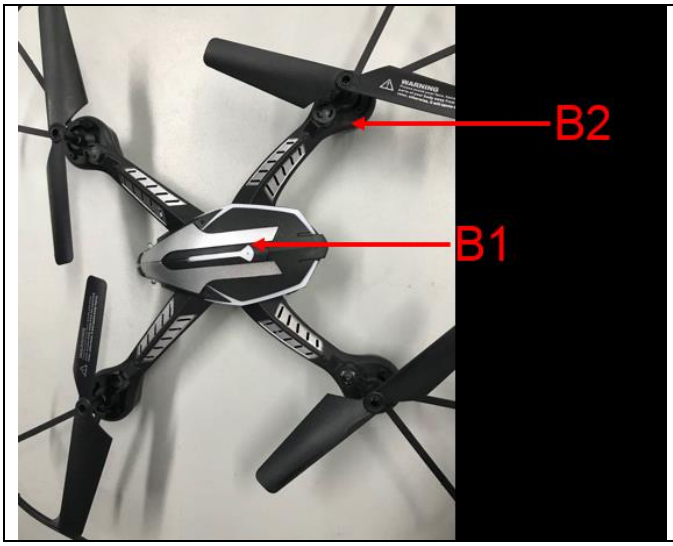
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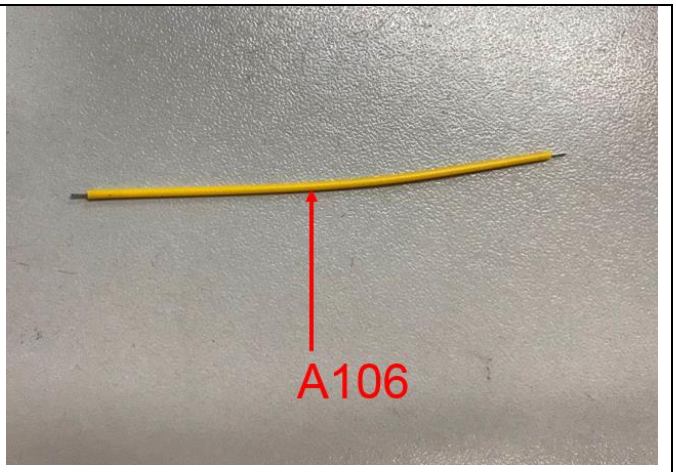
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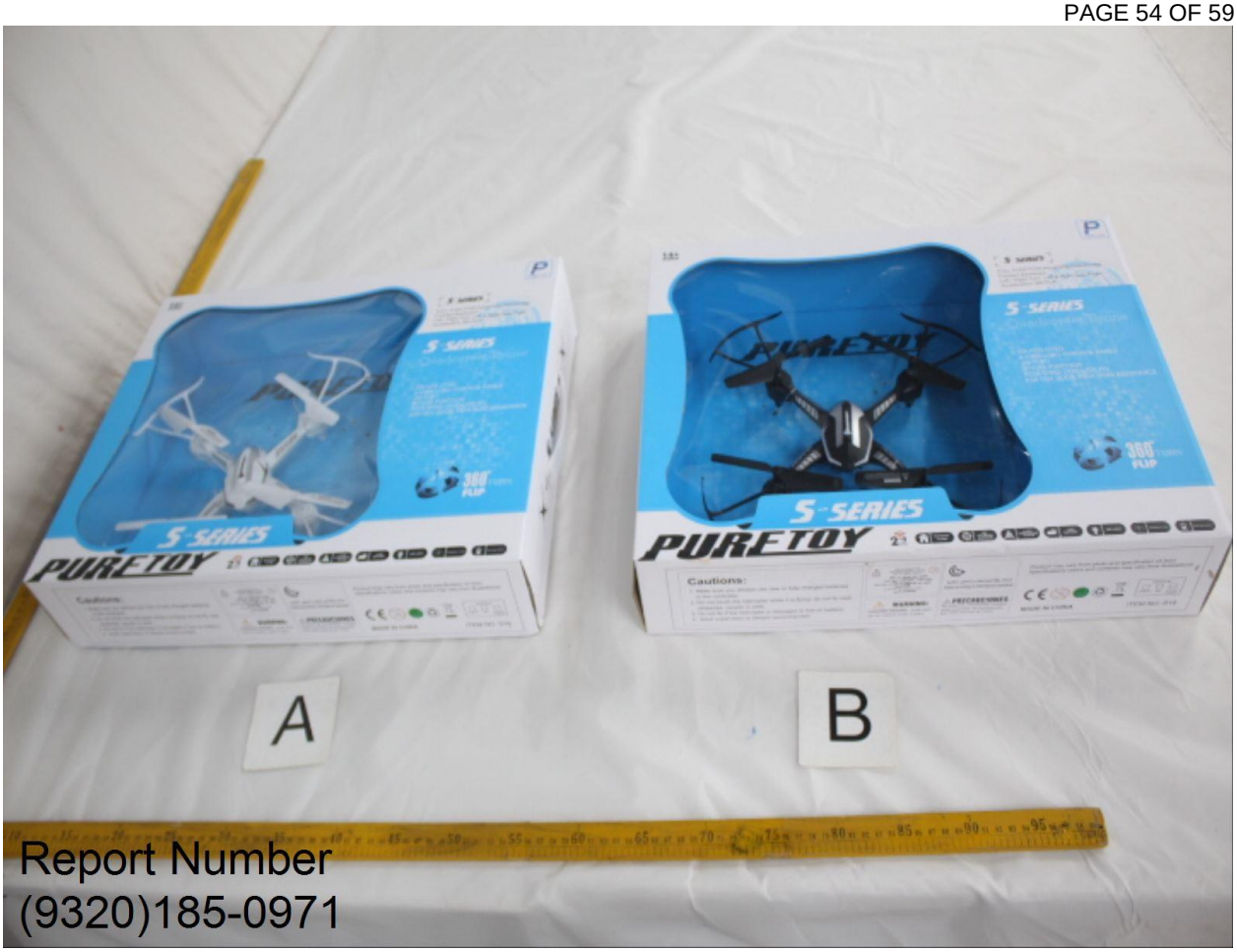
Report Number
(9320)185-0971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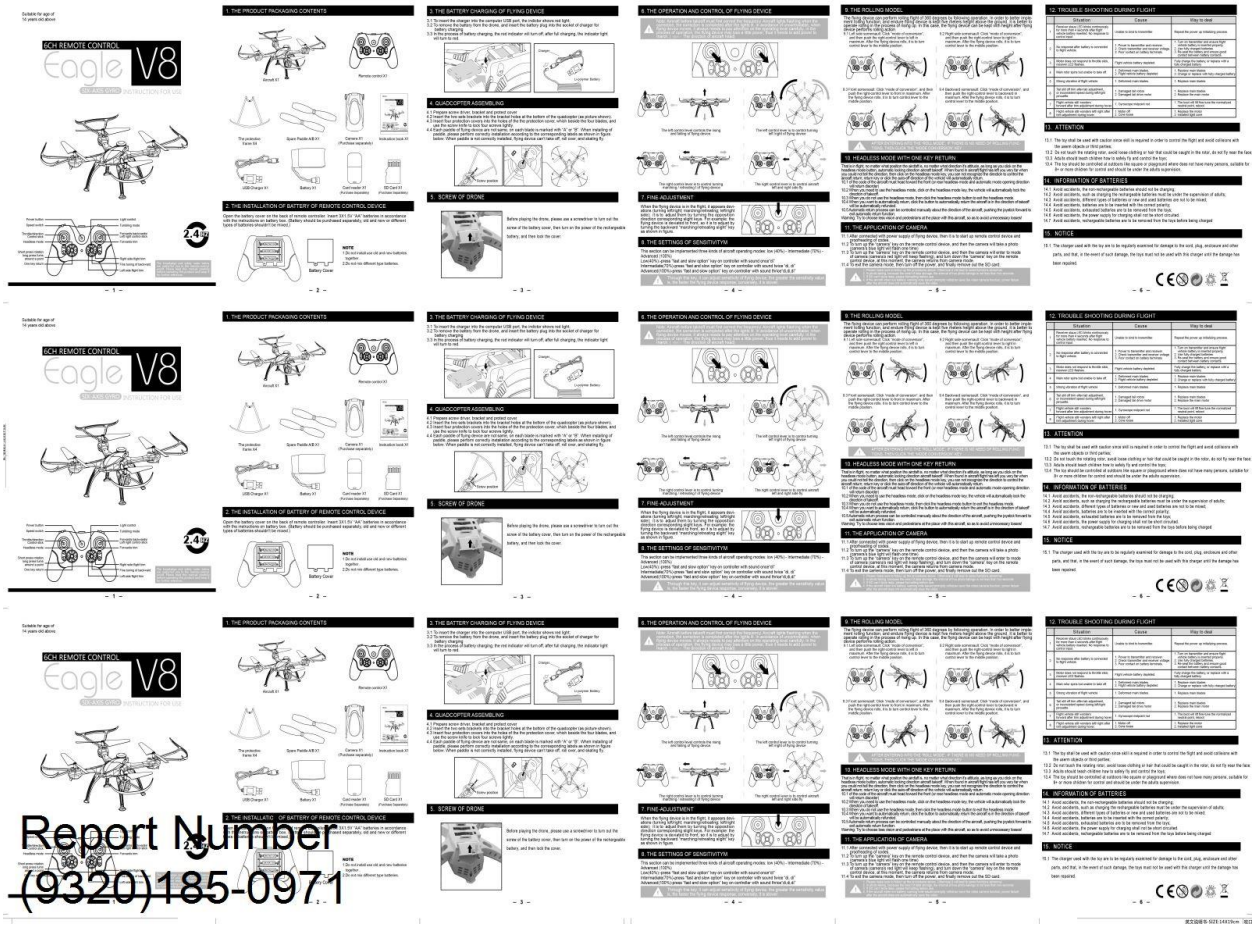

Report Number
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(9320)185-0971


14+
S SERIES
S-SERIES
Quadcopter/Drone
SIX-AXIS GYRO
2.4GHZ LONG CONTROL RANGE
360 FLIP
3D FULL FUNCTION
HIGH SPEED OUTDOOR FLY
FOR OUT DOOR, HIGH WIND RESISTANCE
360° TURN
FLIP
S-SERIES
PURETOY
Report Number
(9320)185-0971

**THE FOLLOWING SAMPLES IN THE PHOTOS ARE ONLY FOR EXHIBITION, THEY WERE NOT CONDUCTED THE ACTUAL TEST IN THIS REPORT.**

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***END OF REPORT***