TEST REPORT

Application No.:	BTEK240517003AS
Applicant:	SY Electronic Technical Co., Ltd.
Address of Applicant:	5th floor, 4th Bldg, Antongda Industrial Park, 1 Liuxian 3rd Rd, Baoan Dist., Shenzhen, China
Manufacturer:	SY Electronic Technical Co., Ltd.
Address of Manufacturer:	5th floor, 4th Bldg, Antongda Industrial Park, 1 Liuxian 3rd Rd, Baoan Dist., Shenzhen, China
Factory:	SY Electronic Technical Co., Ltd.
Address of Factory:	5th floor, 4th Bldg, Antongda Industrial Park, 1 Liuxian 3rd Rd, Baoan Dist., Shenzhen, China
Equipment Under Test (EUT):	
EUT Name:	Trail camera
Model No.:	TANK200, TANK201, TANK202***, TANK210, TANK220***, TANK200-A, TANK200-B***, TANK200CG, TANK200CS***; Each character "*" in the model number may be letters A to Z, numbers 0 to 9, or blank
Trade Mark:	N/A
Standard(s) :	IEC 60529: 1989 + A1: 1999 + A2: 2013 EN 60529: 1991 + A1:2000 + A2: 2013
Date of Receipt:	2024-07-10
Date of Test:	2024-07-22 to 2024-07-24
Date of Issue:	2024-07-25
Test Result:	**Pass***

* In the configuration tested, the EUT complied with the standards specified above.

TEST REPORT
IEC 60529
Degrees of protection provided by enclosures(IP code)

Report reference No ..... :	BTEK240517003AS
Date of issue ..... :	2024-07-25
Total number of pages ..... :	16
Applicant's name ..... :	See the cover
Address ..... :	See the cover
Test specification :	
Standard ..... :	IEC 60529: 1989 + A1: 1999 + A2: 2013 EN 60529: 1991 + A1:2000 + A2: 2013
Test procedure ..... :	IP Code Report
Non-standard test method ..... :	N/A.
Test item description ..... :	See the cover
Model/type reference ..... :	See the cover
Model difference ..... :	All models have the same electrical structure and appearance, except for the different model names, the rest are the same
Trade Mark ..... :	See the cover
Manufacturer ..... :	See the cover
Address ..... :	See the cover
IP degree ..... :	IP66

Testing procedure and testing location:

☒	Testing Laboratory:	Shenzhen BANTEK Testing Co., Ltd.
Testing location/ address ..... :		A5&A6, Building B1&B2, No.45 Gangtou Road, Bogang Community, Shajing Street, Bao'an District, Shenzhen, Guangdong, China 518104
Prepared by (name, function, signature) :	Cotton feng Project Handler	Cotton Feng
Checked by (name, function, signature) :	Vic Li Reviewer	
Approved by (name, function, signature):	Double Lee Technical Director	

Possible test case verdicts:

- test case does not apply to the test object ..... : N/A(Not applicable)
- test object does meet the requirement ..... : P(Pass)
- test object does not meet the requirement ..... : F(Fail)

Testing:

Date if receipt of test item..... :. 2024-07-10

Date (s) of performance of tests..... :. 2024-07-22 to 2024-07-24

General remarks:

Throughout this report a point is used as the decimal separator.

The test results presented in this report relate only to the object tested.

This report shall not be reproduced except in full without the written approval of the testing laboratory.

Decision rules for the conclusion of this test report: decision by actual test data without considering measurement uncertainty.

Summary of testing:

1. Appendix 1, Photo documentation

Comments:

1. The first characteristic numeral 6 indicated protect against access to hazardous parts with a wire: the test wire of Ø1.0mm shall not penetrate and adequate clearance shall be kept. Dust-tight requirement: no ingress of dust.
2. The second characteristic numeral 6 indicated protected against water spray, it means continuous spray subject to agreement
   a) The test is made by spraying the enclosure from all practicable directions with a stream of water from a standard test nozzle.
   b) The conditions:
      -internal diameter of the nozzle: 12.5 mm;
      -delivery rate: 100l/min ± 5 %;
      -water pressure: to be adjusted to achieve the specified delivery rate;
      -core of the substantial stream: circle of approximately 120 mm diameter at 2.5 m distance from nozzle;
      -test duration per square meter of enclosure surface area likely to be sprayed: 1min;
      -test duration: Minimum 3mins;
      -distance from nozzle to enclosure surface: between 2.5 m and 3 m.
3. All models have the same electrical structure and appearance, except for the different model names, the rest are the same. All tests were tested on model No: TANK200.

Test result:

The product complies with IP66 requirements.

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
5	Degrees of protection against access to hazardous parts and against solid foreign objects indicated by the first characteristic numeral	IP6X	P
5.1	Protection against access to hazardous parts		P
5.2	Protection Against Solid Foreign Objects		P
6	Degrees of protection against ingress of water indicated by the second characteristic numeral	IPX6	P
7	Degrees of protection against access to hazardous parts indicated by the additional letter		N/A
8	Supplementary letters		N/A
9	Examples of designations with the IP Code		P
9.1	IP Code not using optional letters:	IP66	P
9.2	IP Code using optional letters:		N/A
10	Marking		—
	The requirements for marking shall be specified in the relevant product standard.		P
	Where appropriate, such a standard should also specify the method of marking which is to be used when:		P
	one part of an enclosure has a different degree of protection to that of another part of the same enclosure		N/A
	the mounting position has an influence on the degree of protection		N/A
	the maximum immersion depth and time are indicated		N/A
11	General requirements for tests		P

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
11.1	Atmospheric conditions for water or dust tests		P
11.2	Test samples		P
11.3	Application of test requirements and interpretation of test results		P
11.4	Combination of test conditions for the first characteristic numeral	IP6X	P
	Designation with a first characteristic numeral implies that all test conditions are met for this numeral		P
11.5	Empty enclosures		N/A
12	Test for protection against access to hazardous parts indicated by the first characteristic numeral		P
12.1	Access probes		P
12.2	Test conditions	IP6X	P
12.3	Acceptance conditions		P
12.3.1	For low-voltage equipment. (Rated voltage not exceeding 1000V a.c. and 1500V d.c.)		P
	The access probe shall not touch hazardous live parts.		P
	If adequate clearance is verified by a signal circuit between the probe and hazardous parts, the lamp shall not light.		N/A
12.3.2	For high-voltage equipment (Rated voltage exceeding 1000V a.c. and 1500V d.c.)		N/A

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
	When the access probe is placed in the most unfavourable position(s), the equipment shall be capable of withstanding the dielectric tests as specified in the relevant product standard applicable to the equipment.		N/A
	Verification may be made either by dielectric test or by inspection of the specified clearance dimension in air which would ensure that the tests would be satisfactory under the most unfavourable electric field configuration (see IEC 71-2).		N/A
	In the case where an enclosure includes sections at different voltage levels the appropriate acceptance conditions for adequate clearance shall be applied for each section.		N/A
12.3.3	For equipment with hazardous mechanical parts		N/A
	The access probe shall not touch hazardous mechanical parts.		N/A
	If adequate clearance is verified by a signal circuit between the probe and hazardous parts, the lamp shall not light.		N/A
13	Test for protection against solid foreign objects indicated by the first characteristic numeral		P
13.1	Test means	IP6X	P
	Test means and the main test conditions are given in table 7		P
13.2	Test conditions for first characteristic numerals 1, 2, 3, 4		N/A
13.3	Acceptance conditions for first characteristic numerals 1, 2, 3, 4		N/A
13.4	Dust test for first characteristic numerals 5 and 6		P

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
	Category 1: Enclosures where the normal working cycle of the equipment causes reductions in air pressure within the enclosure below that of the surrounding air,		P
	Category 2: Enclosures where no pressure difference relative to the surrounding air is present.		N/A
13.5	Special conditions for first characteristic numeral 5		N/A
13.5.1	Test conditions for first characteristic numeral 5		N/A
13.5.2	Acceptance conditions for first characteristic numeral 5		N/A
13.6	Special conditions for first characteristic numeral 6		P
13.6.1	Test conditions for first characteristic numeral 6		P
13.6.2	Acceptance conditions for first characteristic numeral 6		P
14	Test for protection against water indicated by the second characteristic numeral		P
14.1	The test means and the main test conditions are given in table 8		P
14.2	Test conditions	IPX6	P
	Test means and main test conditions are given in table 8		P
	During the tests for IPX1 to IPX6 the water temperature should not differ by more than 5K from the temperature of the specimen under test		P
	For IPX7 and IPX9 details of the water temperature are given in 14.2.7 and 14.2.9 respectively.		N/A

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
	Test for second characteristic numeral 8, the test conditions are subject to agreement between manufacturer and user, but they shall be more severe than those prescribed in 14.2.7 and they shall take account of the condition than the enclosure will be continuously immersed in actual use		N/A
14.2.1	Test for second characteristic numeral 1 with the drip box		N/A
14.2.2	Test for second characteristic numeral 2 with the drip box		N/A
14.2.3	Test for second characteristic numeral 3 with oscillating tube or spray nozzle		N/A
14.2.4	Test for second characteristic numeral 4 with oscillating tube or spray nozzle		N/A
14.2.5	Test for second characteristic numeral 5 with the 6.3mm nozzle		N/A
14.2.6	Test for second characteristic numeral 6 with the 12.5mm nozzle		P
14.2.7	Test for second characteristic numeral 7: temporary immersion between 0.15m and 1m		N/A
	The test is made by completely immersing the enclosure in water in its service position as specified by the manufacturer so that the following conditions are satisfied		N/A
	a) the lowest point of enclosures with a height less than 850mm is located 1000mm below the surface of the water		N/A
	b) the highest point of enclosures with a height equal to or greater than 850mm is located 150mm below the surface of the water		N/A
	c) the duration of the test is 30min		N/A

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
	d)the water temperature does not differ from that of the equipment by more 5K		N/A
14.2.8	Test for second characteristic numeral 8: continuous immersion subject to agreement		N/A
14.2.9	Test for second characteristic numeral 9 with a spray nozzle		N/A
	The test is made by spraying the enclosure with a stream of water from a standard test nozzle as shown in Figures 7, 8 and 9.		N/A
	The set-up for measuring the impact force of the water jet is given in Figure 10.		N/A
	The distribution force shall be verified at upper and lower limits of distance tolerance range (see Figure 11).		N/A
	a) For small enclosures (largest dimension less than 250 mm), the enclosure shall be mounted on the test device shown in Figure 12.		N/A
	– turntable speed: 5 r/min ± 1 r/min		N/A
	– spray positions: 0°, 30°, 60°, 90°		N/A
	The test duration is 30 s per position.		N/A
	b) For large enclosures (largest dimension greater than or equal to 250 mm), the enclosure shall be mounted as per intended use. The entire exposed surface area of the enclosure shall be subjected to the spray at some point during the test procedure.		N/A
	- spray positions: the enclosure shall be sprayed from all practical directions covering the entire surface area and the spray shall be, as far as possible, perpendicular to the sprayed surface.		N/A
	- distance between nozzle and sample under test shall be 175 ± 25 mm.		N/A

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
	The test duration is 1 min/m2 of the calculated surface area of the enclosure (excluding any mounting surface), with a minimum duration of 3 min.		N/A
14.3	After testing in accordance with the appropriate requirements of 14.2.1 to 14.2.8 the enclosure shall be inspected for ingress of water	No ingress of water	P
	It is the responsibility of the relevant technical committee to specify the amount of water which may be allowed to enter the enclosure and the details of a dielectric strength test		N/A
	In general, if any water has entered, it shall not:	No ingress of water	N/A
	–be sufficient to interfere with the correct operation of the equipment or impair safety		N/A
	–deposit on insulation parts where it could lead to tracking along the creepage distances		N/A
	–reach live parts or windings not designed to operated when wet		N/A
	–accumulate near the cable end or enter the cable if any		N/A
	If the enclosure is provided with drain-holes, it should be proved by inspection that any water which enters does not accumulate and that it drains away without doing any harm to the equipment	No similar design	N/A
	For enclosure without drain-holes, the relevant product standard shall specify the acceptance conditions if water can accumulate to reach live parts	No similar design	N/A
15	Test for protection against access to hazardous parts indicated by the additional letter		N/A
15.1	Access probes	No additional letter	N/A

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
	The access probe are given in table 6		N/A
15.2	Test conditions		N/A
	The access probe is pushed against any openings of the enclosure with the force specified in table 6		N/A
	If it partly or fully penetrates, it is placed in every possible position, but in no case shall the stop face fully penetrate through the opening.		N/A
	Internal barriers are considered part of the enclosure as defined in 3.1.		N/A
	For tests on low-voltage equipment, a low-voltage supply (of not less than 40 V and not more than 50 V) in series with a suitable lamp should be connected between the probe and the hazardous parts inside the enclosure.		N/A
	Hazardous live parts covered only with varnish or paint, or protected by oxidation or by a similar process, are covered by a metal foil electrically connected to those parts which are normally live in operation.		N/A
	The signal-circuit method should also be applied to the hazardous moving parts of high-voltage equipment.		N/A
	Internal moving parts may be operated slowly, where this is possible.		N/A
15.3	Acceptance conditions		N/A
	The protection is satisfactory if adequate clearance is kept between the access probe and hazardous parts.		N/A
	Test for the additional letter B		N/A

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
	Starting from the straight position, both joints of the test finger shall be successively bent through an angle of up to 90° with respect to the axis of the adjoining section of the finger and shall be placed in every possible position.		N/A
	Test for the additional letter C and D		N/A
	See Annex A for further clarification.		N/A
	Conditions for verification of adequate clearance are identical with those given in 12.3.1, 12.3.2 and 12.3.3.		N/A

Appendix 1

Photo documentation

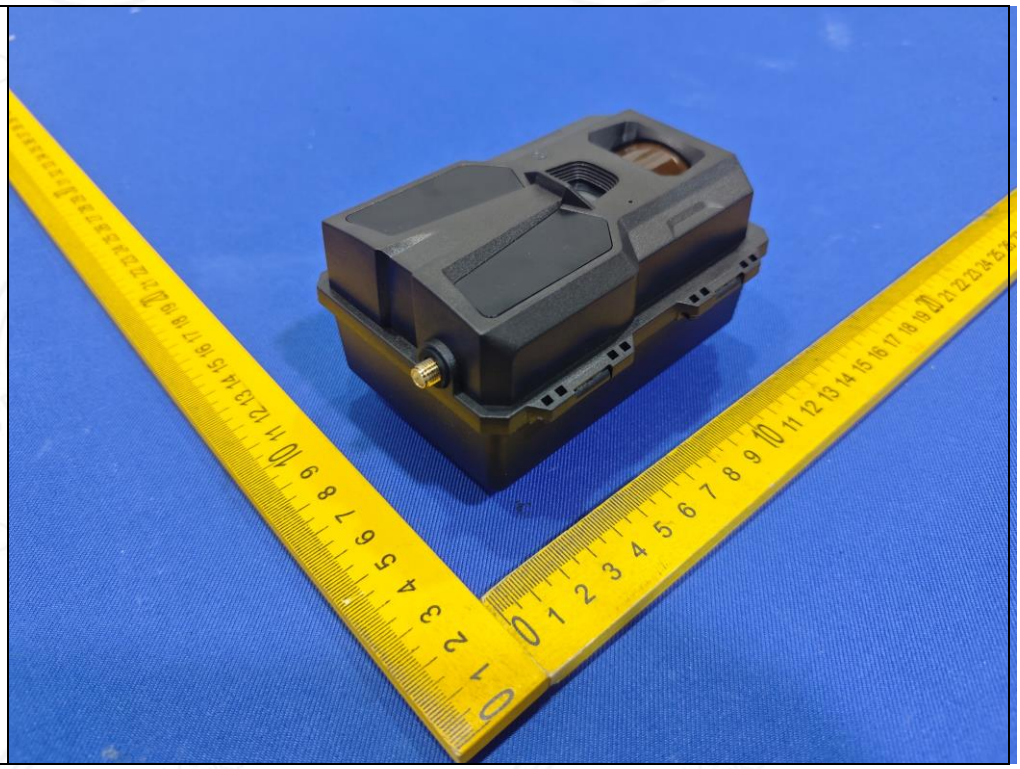
Photo 1 View: sample characteristic [√] front [ ] rear [ ] right side [√] left side [ ] top [√] bottom [ ] internal	

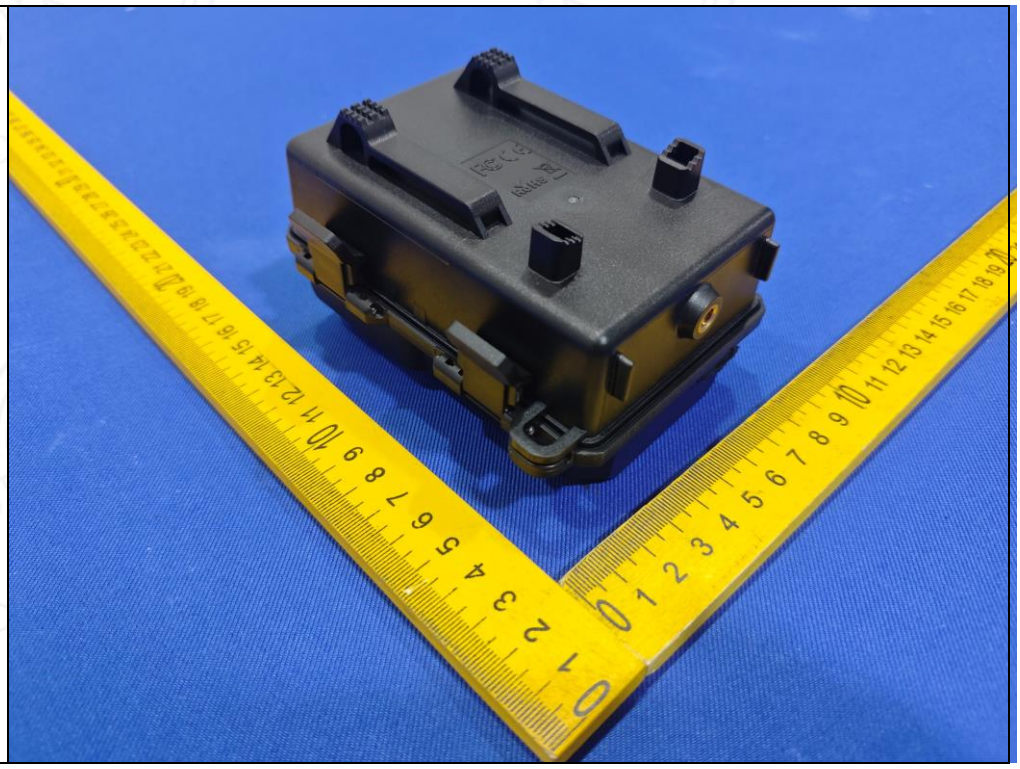
Photo 2 View: sample characteristic [ ] front [√] rear [√] right side [ ] left side [√] top [ ] bottom [ ] internal	

Photo documentation

Photo 3 View: dust proof testing (IP6X) [√] front [ ] rear [ ] right side [ ] left side [ ] top [ ] bottom [ ] internal	

Photo 4 View: dust proof testing (IP6X) [√] front [√] rear [ ] right side [ ] left side [ ] top [ ] bottom [ ] internal	

Photo documentation

Photo 5 View: Water proof testing(IPX6) [√] front [ ] rear [ ] right side [ ] left side [ ] top [ ] bottom [ ] internal	

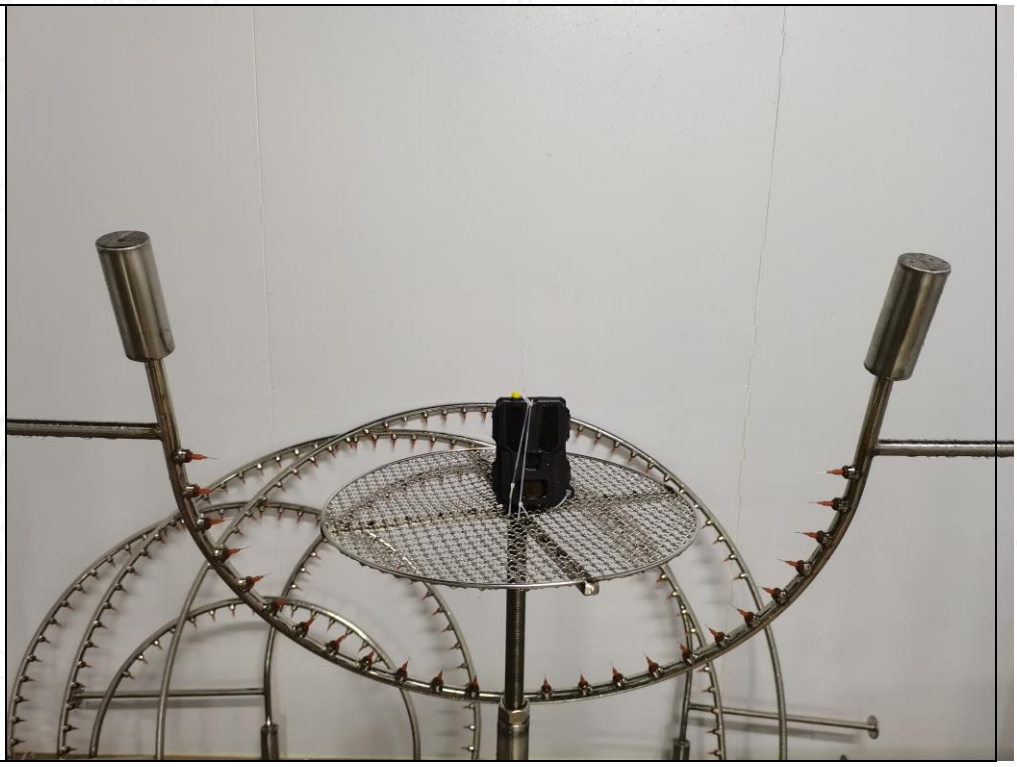
Photo 6 View: Water proof testing(IPX6) [√] front [ ] rear [ ] right side [ ] left side [ ] top [ ] bottom [ ] internal	

Photo documentation

Photo 7 View: after test [ ] front [ ] rear [ ] right side [ ] left side [ ] top [ ] bottom [√] internal	

Photo 8 View: after test [ ] front [ ] rear [ ] right side [ ] left side [ ] top [ ] bottom [√] internal	

---End of report---