Test Report
EN IEC 61439-1
Low-voltage switchgear and controlgear assemblies - Part 1: General rules

Report Reference No..... :	AiTSZ-260608027S
Date of issue..... :	2026-06-29
Total number of pages..... :	13
Testing Laboratory name..... :	Guangdong Asia Hongke Test Technology Limited
Address..... :	Room B1101/B1201, Building 11, Junfeng Industrial Park, Chongqing Road, Heping, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China
Testing location..... :	Same as above
Tested by (+ signature)..... :	Green Zhang
Approved by (+ signature)..... :	Nick Xiang
Applicant's name..... :	CESol d.o.o.
Address..... :	Krpanova ulica 7, SI-6000 Koper – Capodistria Slovenia
Manufacturer's name..... :	Guorui Intelligent Manufacturing (Shenzhen) Electric Co., Ltd.
Address..... :	No. 3, Dayang 2nd Road, Yulv Community, Yutang Subdistrict, Guangming District, Shenzhen City, Guangdong Province, P.R.China
Factory's name ……..... ..... :	Guorui Intelligent Manufacturing (Shenzhen) Electric Co., Ltd.
Address ..... :	No. 3, Dayang 2nd Road, Yulv Community, Yutang Subdistrict, Guangming District, Shenzhen City, Guangdong Province, P.R.China
Test specification:	
Standard..... :	EEN IEC 61439-1:2021 + EN IEC 61439-2:2021
Test procedure..... :	Type test
Procedure deviation..... :	N/A
Non-standard test method.....	N/A

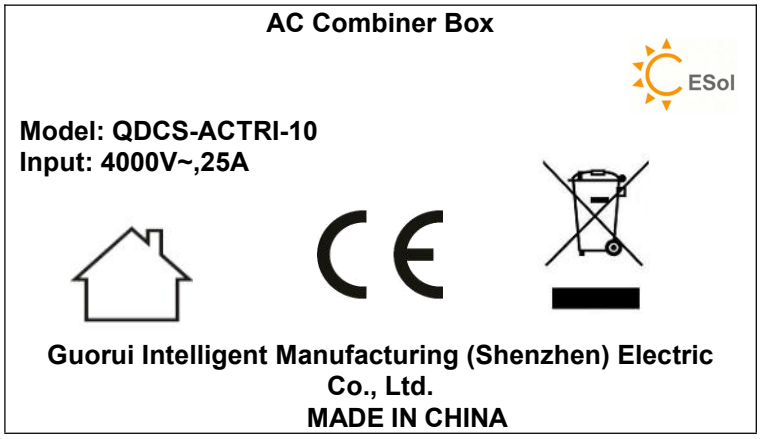
Note: The test data was only valid for the test sample(s). This test report is prepared for the customer shown above and for the specific product described herein. It must not be duplicated or used in part without prior written consent from Guangdong Asia Hongke Test Technology Limited. Unless otherwise specified, the measurement uncertainty is not considered in this report.

Test Object:

Description..... :	AC Combiner Box
Trademark..... :	ESol
Manufacturer..... :	Guorui Intelligent Manufacturing (Shenzhen) Electric Co., Ltd.
Model and/or type reference..... :	QDCS-ACTRI-10
Serial number..... :	QDCS-ACTRI-8,QDCS-ACTRI-6,QDCS-ACMONO-L,QDCS-ACMONO-S,QDCS-MONOOVATS-63
Rating(s)..... :	Input:4000V~,25A

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.



Remark:

1. The marking plate of all models are identical except for model number.
2. The above marks are the minimum requirements required by the safety standard. For the final production, the additional marks which do not give rise to misunderstanding may be added.
3. Height of CE mark at least 5mm, height of WEEE mark at least 7mm, height of other marks at least 5mm.
4. According to the EU directives which have been aligned with EU NLF (new legislative framework), both of manufacturer and importer's name and address shall be affixed on the product or, where that is not possible, on its packaging or in a document accompanying the product before the product is placed on the EU market.

Possible test case verdicts:	
- test case does not apply to the test object.... :	N/A
- test object does meet the requirement..... :	P (Pass)
- test object does not meet the requirement.... :	F (Fail)
Testing:	
Date of receipt of test item..... :	2026-06-08
Date (s) of performance of tests.....:	2026-06-08 to 2026-06-16

General remarks:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Summary of testing:

All tests were performed at the worst case and all test results complied with the standard on cover page.

General product information and other remarks:

1. The product is AC Combiner Box designed as audio/video, information and communication technology equipment, for indoor use only.

2. All the circuits of EUT are considered as ES1 circuits.

3. Instructions and equipment marking related to safety is applied in the language that is acceptable in the country in which the equipment is to be sold.

4.All model′s the function, software and electric circuit are the same. Only with a product color and model named different. Test Sample Model:QDCS-ACTRI-10.

EN IEC 61439-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.	Scope		P
2	Normative references		P
3	Terms and definitions.		P
4	Application of assemblies within the IEC 61439 series		P
4.1	General		P
4.2	Assembly design and verification		P
4.3	Service conditions and interface characteristics.		P
4.4	Application design		P
5	Electrical		P
5.1	General		P
5.2	Earthing system		P
5.3	Nominal voltage		P
5.4	Transient overvoltages		N/A
5.5	Unusual voltage transients, temporary overvoltages		N/A
5.6	Rated frequency fn (Hz)		P
5.7	Additional on-site testing requirements: wiring, operational performance and function		N/A
6	Short-circuit withstand capability		P
6.1	General		P
6.2	Prospective short-circuit current at supply terminals Icp (kA).		N/A
6.3	Prospective short-circuit current in the neutral		P
6.4	Prospective short-circuit current in the protective circuit		N/A
6.5	Short-circuit protective device (SCPD)		N/A
6.6	Coordination of short-circuit protective devices including external short-circuit		P
6.7	Data associated with loads likely to contribute to the short-circuit current		P
6.8	Multiple supplies		N/A
7	Protection of persons against electric shock		P
7.1	General		P
7.2	Basic protection (protection against direct contact)		P
7.2.1	General		P
7.2.2	Basic insulation provided by insulating material		P
7.2.3	Basic insulation by barriers or enclosures		P
7.3	Fault protection (protection against indirect contact)		P

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Clause	Requirement + Test	Result - Remark	Verdict
7.3.1	General		P
7.3.2	Requirements for the protective conductor to facilitate automatic disconnection of the supply		P
7.3.3	Electrical separation		P
7.3.4	Class II protection (double or reinforced insulation)		P
8	Installation environment		P
8.1	General		P
8.2	Location type		P
8.3	Protection against access to hazardous parts, ingress of solid foreign bodiesand ingress of water (IP code)		P
8.4	External mechanical impact (IK code)		P
8.5	Resistance to radiation		N/A
8.5.1	General		N/A
8.5.2	Solar irradiance		N/A
8.5.3	Ultraviolet (UV) radiation		N/A
8.6	Resistance to corrosion		P
8.7	Ambient air temperature		P
8.8	Maximum relative humidity		P
8.9	Pollution degree		P
8.10	Altitude		P
8.11	Electromagnetic compatibility (EMC)		N/A
8.12	Special service conditions		N/A
8.12.1	General		N/A
8.12.2	Climatic conditions		N/A
8.12.3	Protection against ingress of solid foreign bodies and ingress of water(IP code)		N/A
8.12.4	Shock, vibration, seismic occurrence and external mechanical impact(IK code)		N/A
8.12.5	Fire and explosion hazards		N/A
8.12.6	Exceptional overvoltage		N/A
8.12.7	Polluted atmospheres		N/A
8.12.8	EMC environment		N/A
9	Installation method		P
9.1	General		P
9.2	Assembly type		P
9.3	Portability		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
9.4	Maximum overall dimensions and weight		P
9.5	External conductor type(s)		N/A
9.6	Direction(s) of external conductors		N/A
9.7	External conductor material		N/A
9.8	External line conductor, cross sections, and termination		N/A
9.9	External PE, N, PEN, PEM, PEL conductors' cross sections, andterminations		N/A
9.10	Special terminal identification requirements		P
10	Storage and handling		P
10.1	General		P
10.2	Maximum dimensions and weight of transport units		P
10.3	Methods of transport (e.g. forklift, crane)		N/A
10.4	Environmental conditions different from the service conditions		N/A
10.5	Packing details		P
11	Operating arrangements		N/A
11.1	General		N/A
11.2	Access to manually operated devices		N/A
12	Maintenance and upgrade capabilities		P
12.1	General		P
12.2	Requirements related to accessibility for inspection and similar operations		P
12.3	Requirements related to accessibility for maintenance in service by authorized persons		P
12.4	Requirements related to extension under voltage		P
12.5	Protection against direct contact with hazardous live internal parts during maintenance or upgrade		P
12.6	Method of functional unit connection		P
12.7	Operating and maintenance gangways within an assembly		N/A
12.8	Internal separation (only relevant for assemblies in accordance with IEC 61439-2)		N/A
12.8.1	Fundamentals of separation		N/A
12.8.2	Considerations when determining a form of separation		N/A
12.8.3	Selecting the most appropriate form of separation		N/A
13	Current carrying capability		P
13.1	General		P

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Clause	Requirement + Test	Result - Remark	Verdict
13.2	Rated current of the assembly InA (A) (maximum current allowable)		P
13.3	Loading of outgoing circuits within an assembly		P
13.4	Ratio of cross section of the neutral conductor to line conductors		N/A
13.4.1	General		N/A
13.4.2	Line conductors up to and including 16 mm^2		N/A
13.4.3	Line conductors above 16 mm^2		N/A
14	Assembly design and routine verification processes		N/A
14.1	Design verification		N/A
14.1.1	Object		N/A
14.1.2	Methods		N/A
14.1.3	Records		N/A
14.2	Routine verification		N/A
14.2.1	General		N/A
14.2.2	Records		N/A

EN IEC 61439-1			
Clause	Requirement + Test	Result - Remark	Verdict

Test Item	Standard Requirement	Measured Value(mm)	Result(PASS/FAIL)	Remark
Main circuit clearance(Uimp=12kV)	≥14.0mm	15	Pass	No altitude correction
Auxiliary circuit clearance(Uimp=6kV)	≥8.0mm	9	Pass	Control circuit
Main circuit creepage distance(CTI≥600,PD2)	≥16.0mm	17	Pass	Pollution grade 2
Auxiliary circuit creepage distance	≥10.0mm	11	Pass	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Point	Max Allowable Temperature Rise(K)	Measured Temperature Rise(K)	Result
Main copper busbar	70K	38.9	P
Circuit breaker incoming terminal	70K	40.3	P
Circuit breaker outgoing terminal	70K	35.4	P
PE protective busbar	70K	41.5	P
SPD terminal	75K	37.8	P
Internal insulation support	80K	24.3	P

Test Position	Test Voltage	Duration	Flashover/Breakdown	Result
Main circuit vs Enclosure/PE	2500V AC	60s	No	P
Phase to phase main circuit	2500V AC	60s	No	P
Auxiliary circuit vs PE	1000V AC	60s	No	P

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Clause	Requirement + Test	Result - Remark	Verdict

4.1.2	**TABLE: Critical components information**				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1)]
Leakage protection circuit breaker	CESol d.o.o	CSL5-63-3NC25300A	AC400V、3P+N、C25A、300mA、6kA	EN IEC 61439-1	Tested with appliance
Surge	CESol d.o.o	CSPD40K440L3+NPE	Uc:DC440V、40kA、3P+N	EN IEC 61439-1	Tested with appliance
Enclosure	CESol d.o.o	CSDB10-18T	2.0mm	EN IEC 61439-1	Tested with appliance
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039. License available upon request.					

EUT Photos



Photo 1 External view

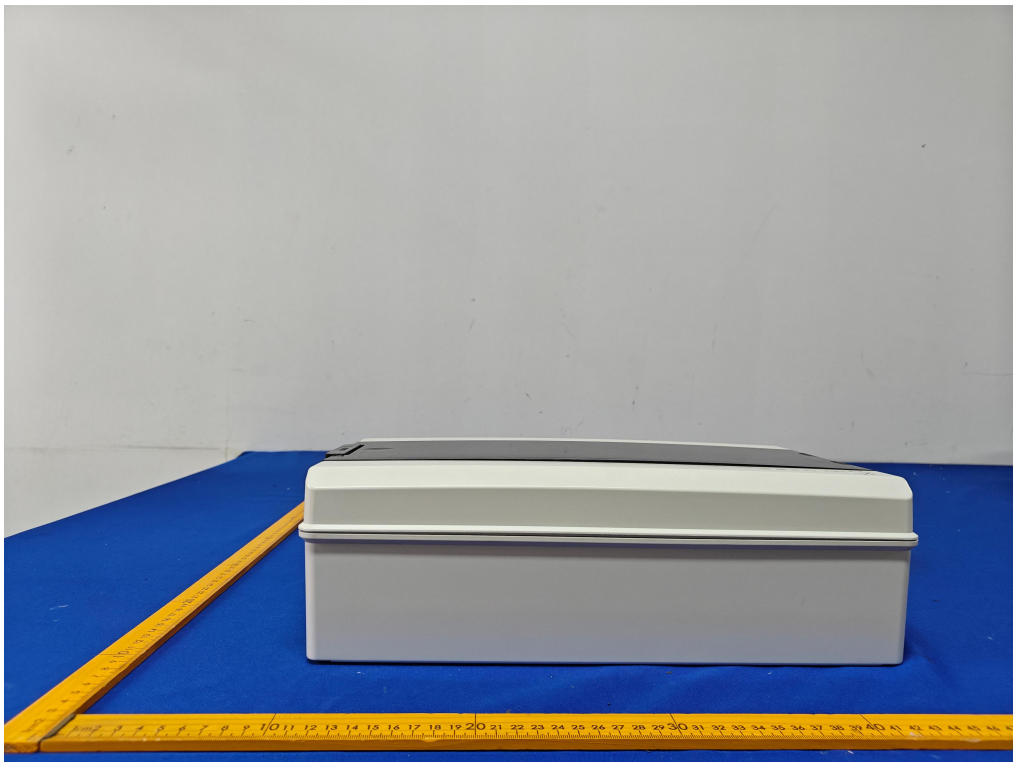

Photo 2 External view

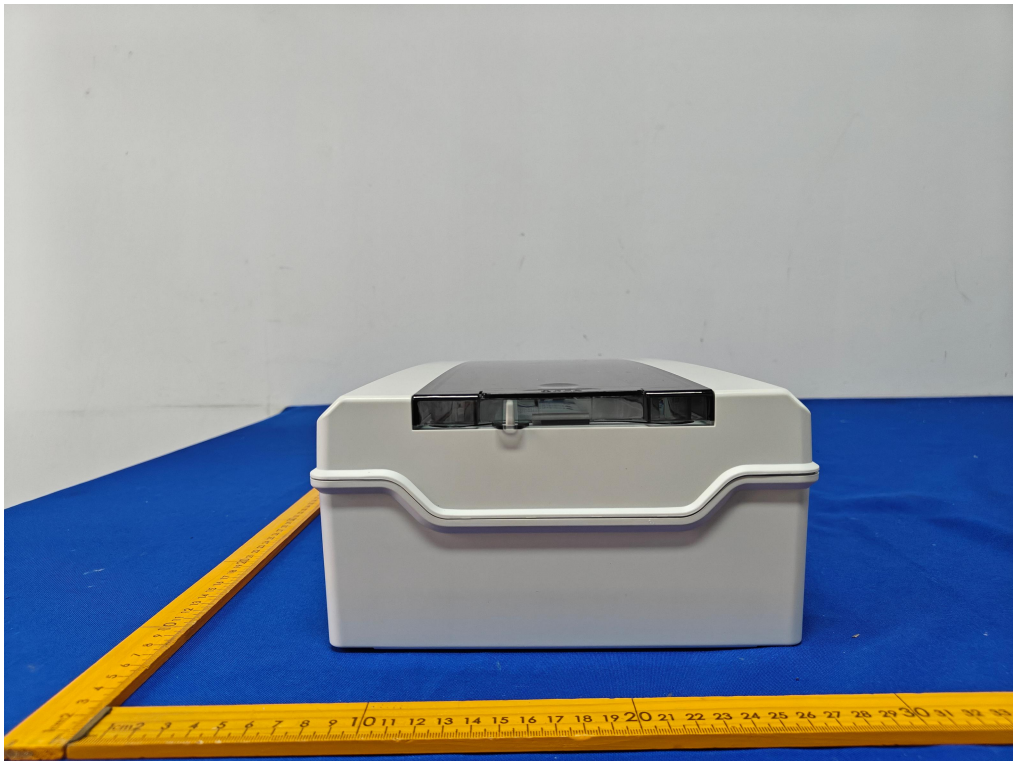

Photo 3 External view

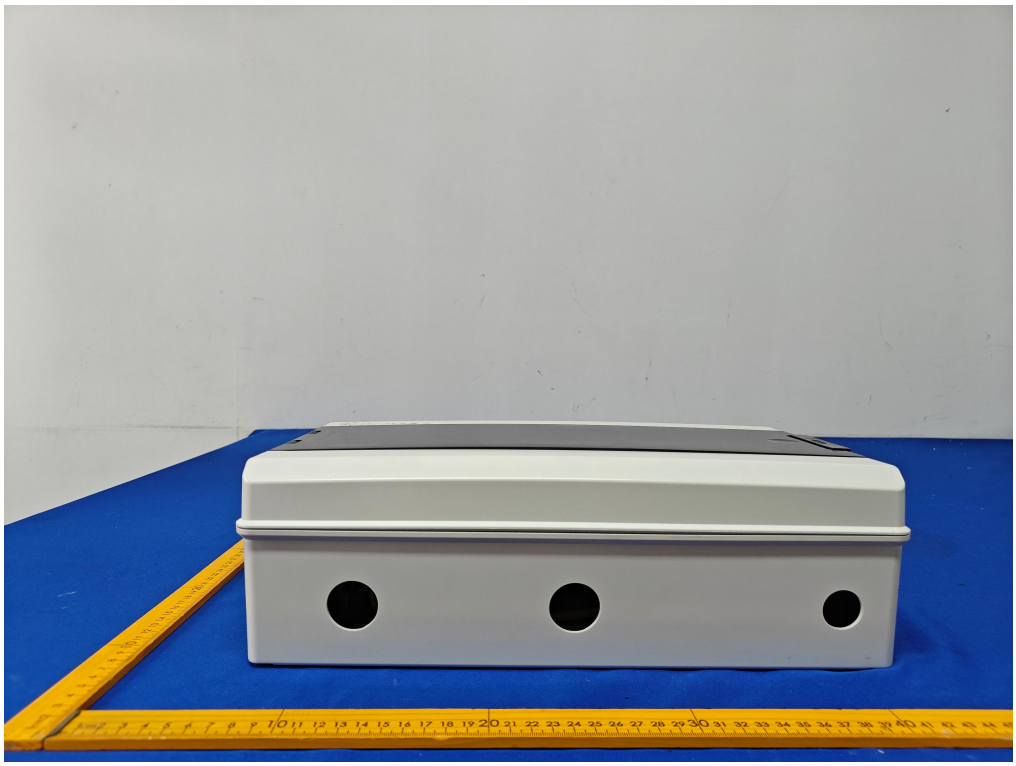

Photo 4 External view

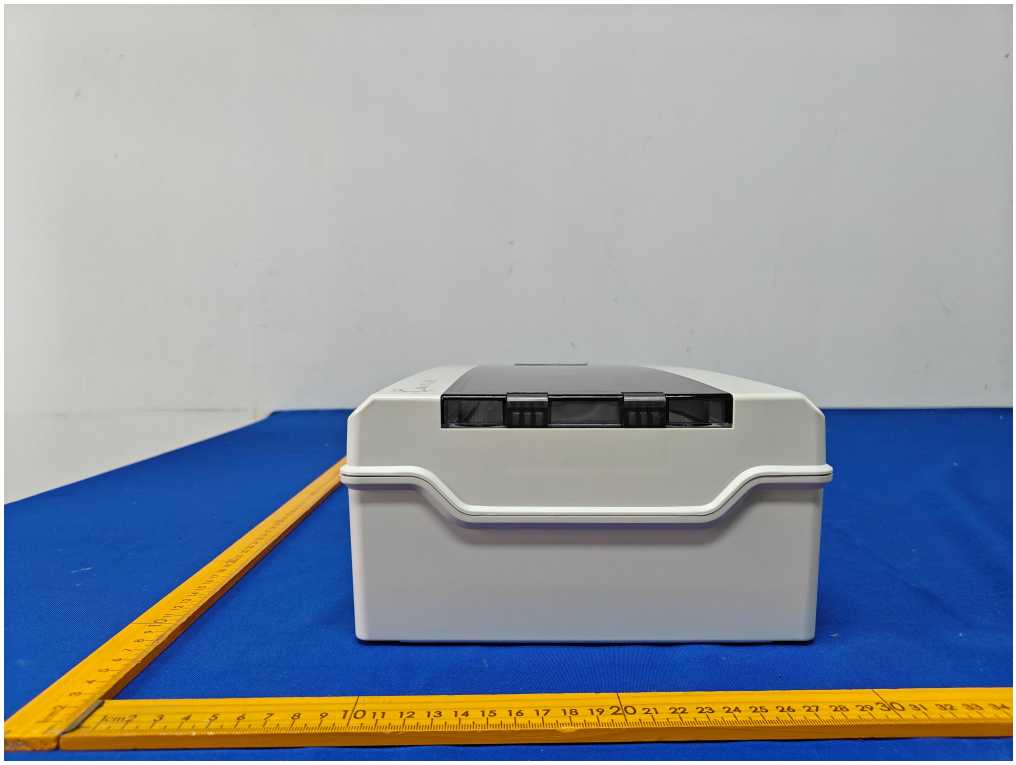

Photo 5 External view

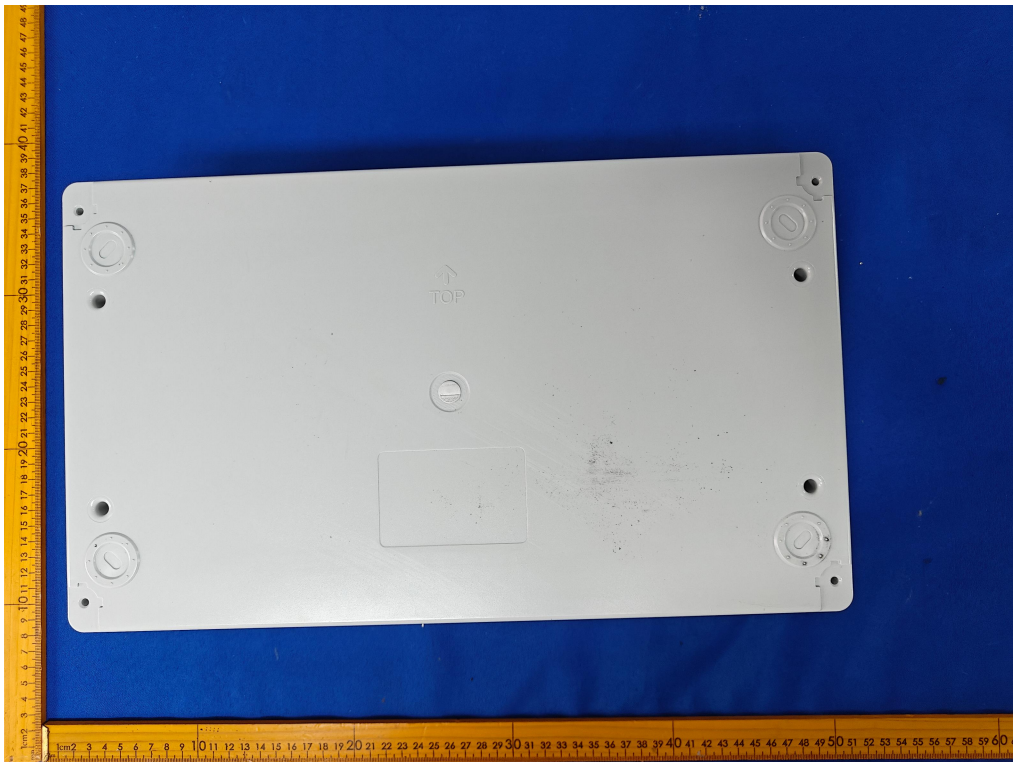

Photo 6 External view

*****End of Report*****