Product Service

Technical Report No.: 64.105.21.30906.01

Date: 2021-12-09

Client:	Autel New Energy Co.,Ltd. Room 101, Building B2, Zhiyuan, No.1001 Xueyuan Avenue, Changyuan Community, Taoyuan Road, Nanshan District, Shenzhen, 518055, China
Factory:	Autel Intelligent Technology Corp.,Ltd. Guangming Branch 6F, West Wing and 7F&6F, East Wing, Building 2, and 6F of Electronical Building, Yanxiang Industrial Zone, Gaoxin Rd, Dongzhou Community of Guangming New District, Shenzhen, 518000, China
Test object:	Product: AC electric vehicle charging station (MaxiCharger AC Wallbox) Maxi EU AC W - XX - YY - ZZ I II III IV V I: Basic model designation: Maxi EU AC: Maxi EU AC series II: "W" donates for power, "W" can be: W7: 7.4kW W11: 11kW W22: 22kW Model: III: "XX" donates for vehicle connection method, "XX" can be: C5: vehicle connector with 5m cable S: socket-outlet (Not for 11kW models) IV: "YY" donates for wireless function, "YY" can be: 4G: 4G function embedded Blank: Standard type V: "ZZ" donates for colour, "ZZ" can be: DG: dark grey WH: white RG: rose gold SV: silver
Test specification:	Q/AU 1001-2021 (Company standard)
Purpose of examination:	• Testing and evaluation according to the test specification
Test result:	The test results show that the presented product is in compliance with the above listed test specifications.

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1. Description of the test object

1.1 Picture(s)

See Appendix 2 Photo document

1.2 Function

Manufacturer's specification for intended use:
According to the user manual.

Manufacturer's specification for predictive use:
According to the user manual.

1.3 Consideration of the foreseeable use

☐ Not applicable
☒ Covered through the applied standard
☐ Covered by the following comment*
☐ Covered by attached risk analysis
*: N/A

1.4 Technical Data

Model:	Maxi EU AC W - XX - YY - ZZ I II III IV V I: Basic model designation: Maxi EU AC: Maxi EU AC series II: "W" donates for power, "W" can be: W7: 7.4kW W11: 11kW W22: 22kW III: "XX" donates for vehicle connection method, "XX" can be: C5: vehicle connector with 5m cable S: socket-outlet (Not for 11kW models) IV: "YY" donates for wireless function, "YY" can be: 4G: 4G function embedded Blank: Standard type V: "ZZ" donates for colour, "ZZ" can be: DG: dark grey WH: white RG: rose gold

	SV: silver
Rated input Voltage (V):	For Maxi EU AC W22-XX-YY-ZZ models: 3P+N+PE, 400Vac±15%, 50Hz; For Maxi EU AC W11-C5-YY-ZZ models: 3P+N+PE, 400Vac±15%, 50Hz; For Maxi EU AC W7-XX-YY-ZZ models: 1P+N+PE, 230Vac±15%, 50Hz.
Rated input current (A):	For Maxi EU AC W22-XX-YY-ZZ models: 32A; For Maxi EU AC W11-C5-YY-ZZ models: 16A; For Maxi EU AC W7-XX-YY-ZZ models: 32A.
Output voltage (V):	Same as input voltage.
Output current (A):	Same as input current.
Output power (kW):	For Maxi EU AC W22-XX-YY-ZZ models: 22kW; For Maxi EU AC W11-C5-YY-ZZ models: 11kW; For Maxi EU AC W7-XX-YY-ZZ models: 7.4kW.
Protection class:	Class I
Degree of protection:	For vehicle connector models: IP65; (vehicle connector IP54) For socket-outlets models: IP54.
Working temperature (°C):	-40 ~ 55

2. Order

2.1 Date of Purchase Order, Customer's Reference

2021-11-08

2.2 Test Sample(s)

- Reception date(s): 2021-10-28
- Location(s) of reception: Guangzhou
- Condition of test sample(s): Normal

2.3 Date(s) of Testing 2021-11-09 ~ 2021-11-19

2.4 Location(s) of Testing SHENZHEN CHENGXIN TECHNOLOGY SERVICE CO., LTD.
No. 13 North of Aiqun Road, Shiyan Street, Baoan District, Shenzhen, Guangdong, China.

2.5 Points of Non-Compliance or Exceptions of the Test Procedure

- None

3. Test Results

- Decision rule according to IEC Guide 115:2021, clause 4.4.3, 4.5.1 was applied.

- Decision rule for an upper specification limit (A lower limit or specification with an upper and a lower limit is treated similarly.):
    - Compliance with the requirement: If a specification limit is not breached by a measurement result plus the expanded uncertainty with a 95% coverage probability, then compliance with the specification will be stated (e.g. Pass).
    - Non-compliance with the requirement: If a specification limit is exceeded by the measurement result minus the expanded uncertainty with a 95% coverage probability, then non-compliance with the specification will be stated (e.g. Fail).
    - Inconclusive result: If a measurement result plus/minus the expanded uncertainty with a 95 % coverage probability overlaps the limit it will be stated that it is not possible to state compliance or non-compliance.

3.1 Positive Test Results

Test specification(s)	Report no. / Rev. No.	Date	Remark
Electrical safety: Q/AU 1001-2021		2021-12-09	Appendix 1
Electrical safety: EN IEC 61851-1:2019	64.105.21.30159.02	2021-11-09	

3.2 Points of Non-Compliance according to the test specification

- None

4. Remarks

4.1 General

The user manual has been examined according to the minimum requirements described in the product standard. The manufacturer is responsible for the accuracy of further particulars as well as of the composition and layout.

5. Documentation

File	File name	Date
Report_Q/AU 1001-2021	Appendix 1	2021-12-09
Report_EN IEC 61851-1:2019	64.105.21.30159.02	2021-11-09
Photo documentation:	Appendix 2	
User manual:	N/A	
Installation manual:	N/A	

6. Summary

The test specification is met.

TÜV SÜD

Tested by: Lingze Meng

Project Handler

Approved by: Glenn Liu

Designed Reviewer

Appendix 1

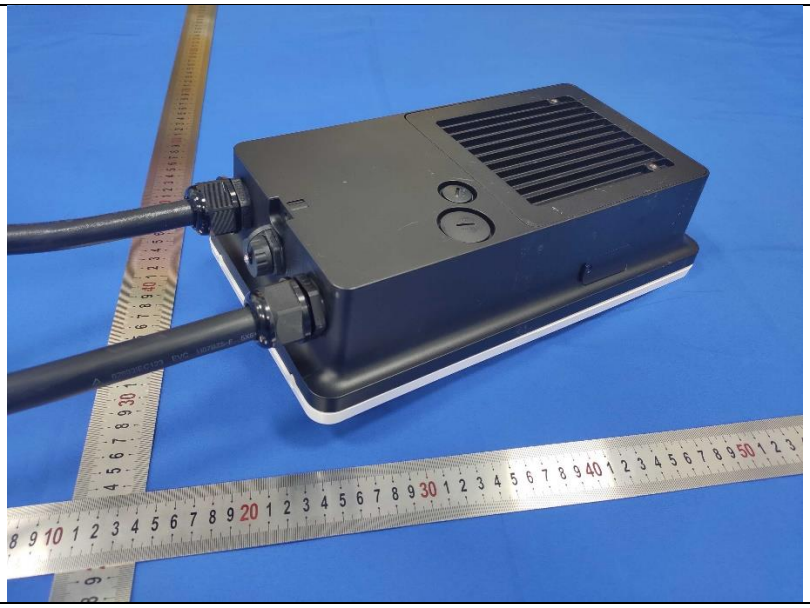
Q_AU1001_2021			
Clause	Requirement + Test	Result - Remark	Verdict
4	**Requirements**		**P**
4.1	**Safety**		P
	Charger should comply with the requirements in IEC/EN 61851-1.	See report No. 64.105.21.30159.02	P
4.2	**Operation at Low Temperature**		P
	Charger should operate normally at low temperature (-40°C). Test should be performed by following the requirements in chapter 5.1. No problem should occur during operating of charger under rated load.		P
4.3	**Operation at High Temperature**		P
	Charger should operate normally at high temperature (55°C). Test should be performed by following the requirements in chapter 5.2. No problem should occur during operating of charger under rated load.		P
4.4	**Mechanical Strength**		P
	Mechanical strength of charger should be sufficient to sustain the stress generated during installation and usage. Place the equipment in the environment with low temperature of -40 ± 2°C for 8 ± 0.5h, then take it to environment with ambient temperature and perform the ball drop test described in chapter 5.3 immediately. No obvious deformation and damage, and no danger shall be caused to the charger during the test.		P
5	**Test Methods**		**P**
5.1.1	**Operation Test at Low Temperature**		P
	Place the charger in a laboratory after installation and wiring according to standard procedures. Set the laboratory temperature to -40°C and wait for actual temperature to become		P

	stable. After 8h, start the charger and keep it operating at rated load for 1h. The above process is a cycle. Open the door of the laboratory, restore to ambient temperature and wait for 1h. Then repeat the test for another 2 cycles.		
5.2	**Operation Test at High Temperature**		P
	Place the charger in a laboratory after installation and wiring according to standard procedures. Set the laboratory temperature to 55°C and relative humidity to 50%, and wait for actual temperature and humidity to become stable. Then start the charger and keep it operating at rated load for 8h.		P
5.3	**Ball Drop Test**		P
	Place the sample on the rigid supporting surface, and apply impact to it by a steel ball with a diameter of 50 mm and mass of 500 ± 20g. Apply an impact energy of 5J by adjusting the dropping height (H) of the steel ball.		P

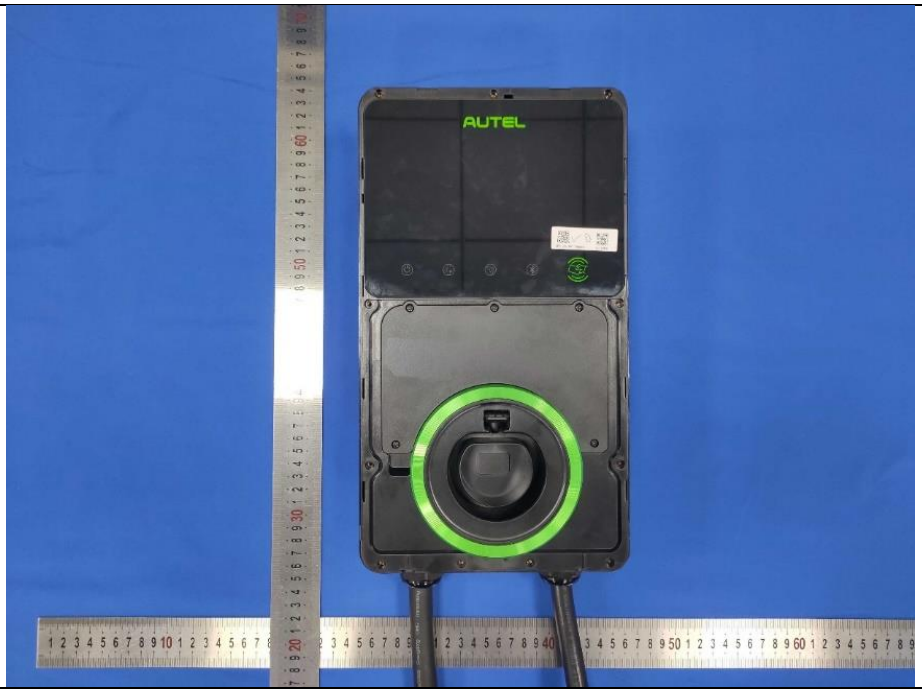
Appendix 2

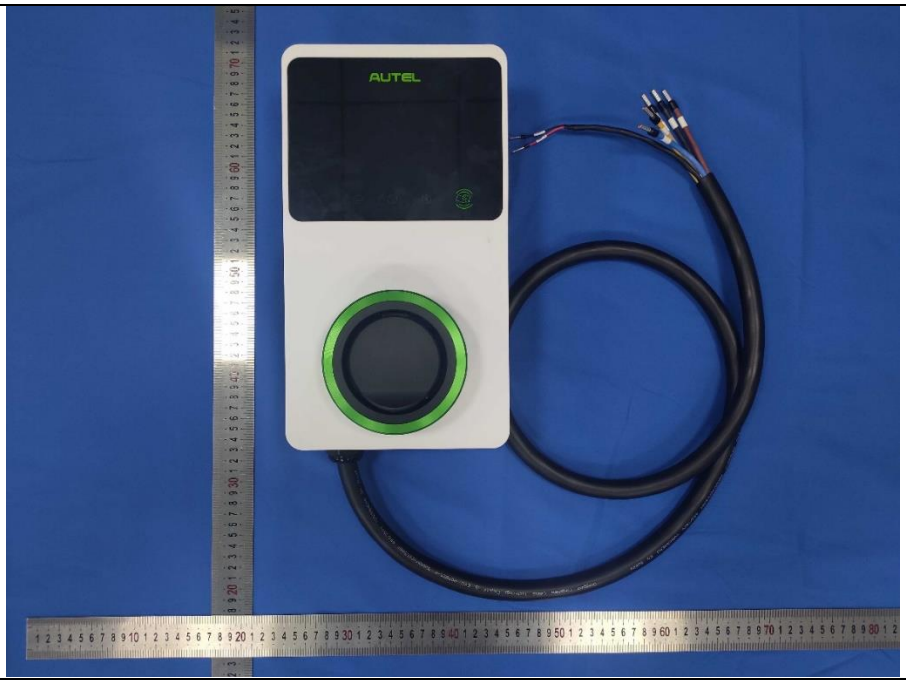
Photo Documentation

Details of:	General view of Maxi EU AC W22-C5-4G-WH
View: ☒ General ☒ Front ☐ Rear ☐ Right ☐ Left ☐ Top ☐ Bottom	

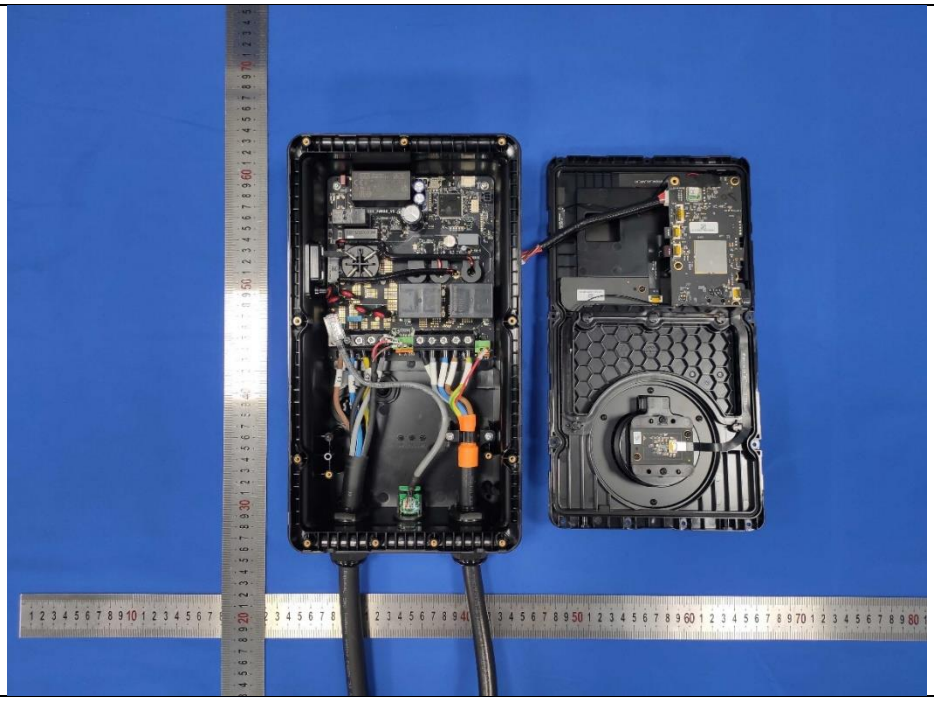
Details of:	General view of Maxi EU AC W22-C5-4G-WH
View: ☒ General ☒ Front ☐ Rear ☐ Right ☐ Left ☐ Top ☐ Bottom	

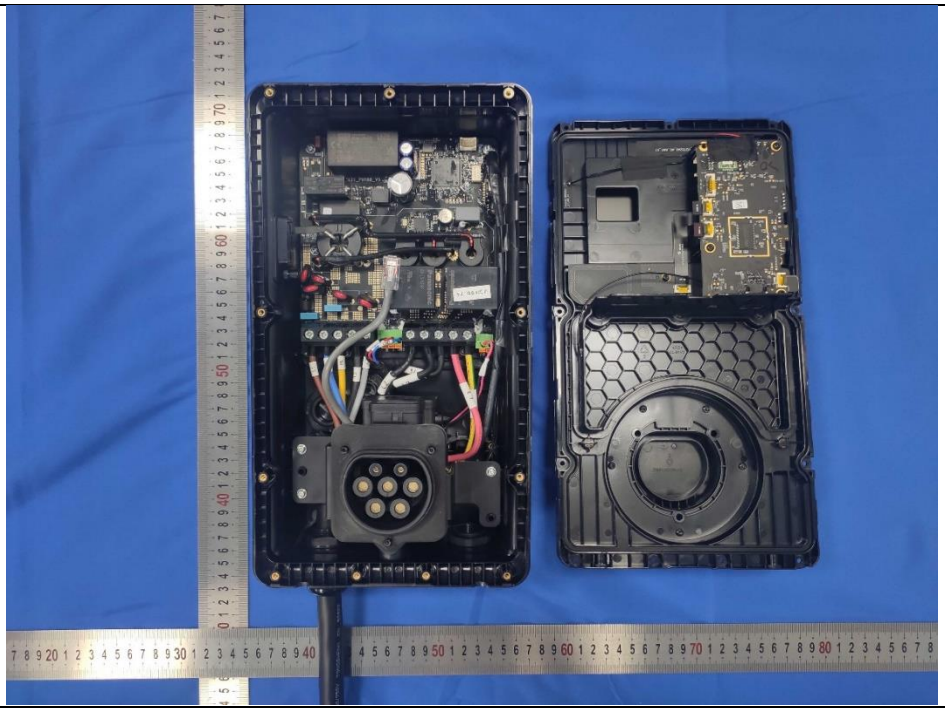
Details of:	General view of Maxi EU AC W22-C5-4G-WH
View: ☒ General ☒ Front ☐ Rear ☐ Right ☐ Left ☐ Top ☐ Bottom	

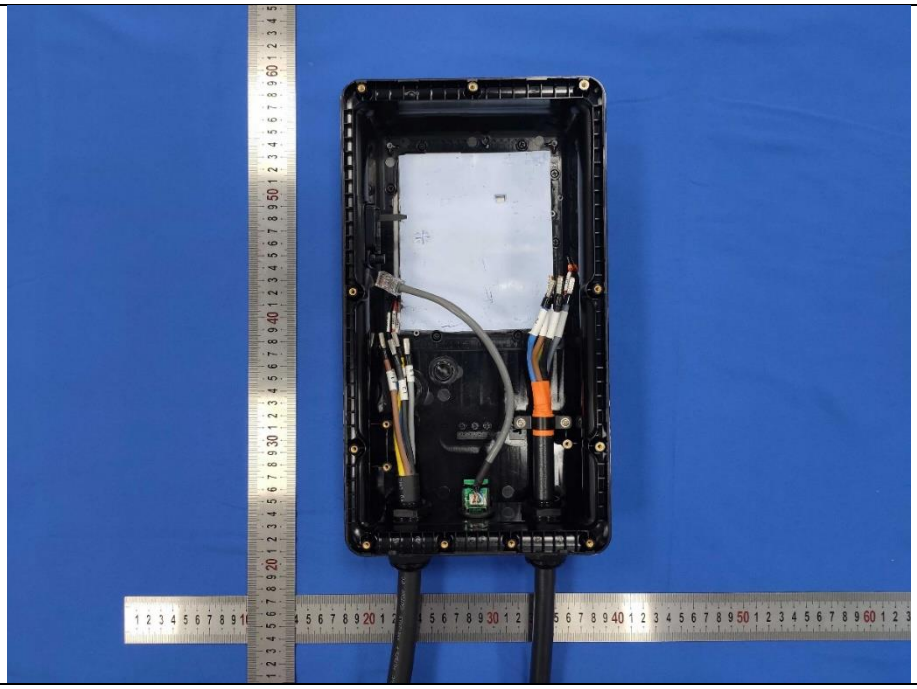
Details of:	General view of Maxi EU AC W22-C5-4G-WH without front panel
View: ☒ General ☐ Front ☐ Rear ☐ Right ☐ Left ☐ Top ☐ Bottom	

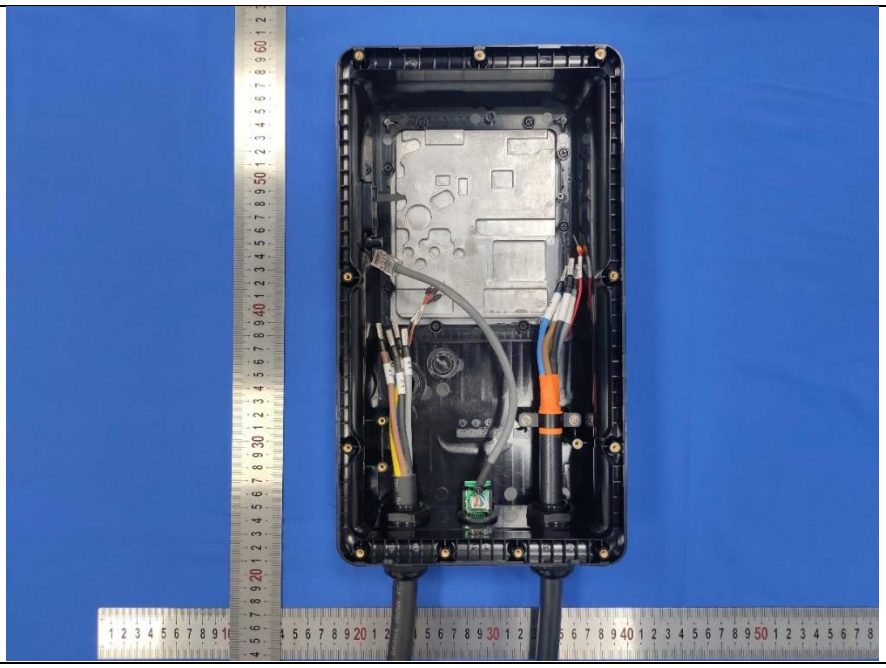
Details of:	General view of Maxi EU AC W22-S-4G-WH
View: ☒ General ☒ Front ☐ Rear ☐ Right ☐ Left ☐ Top ☐ Bottom	

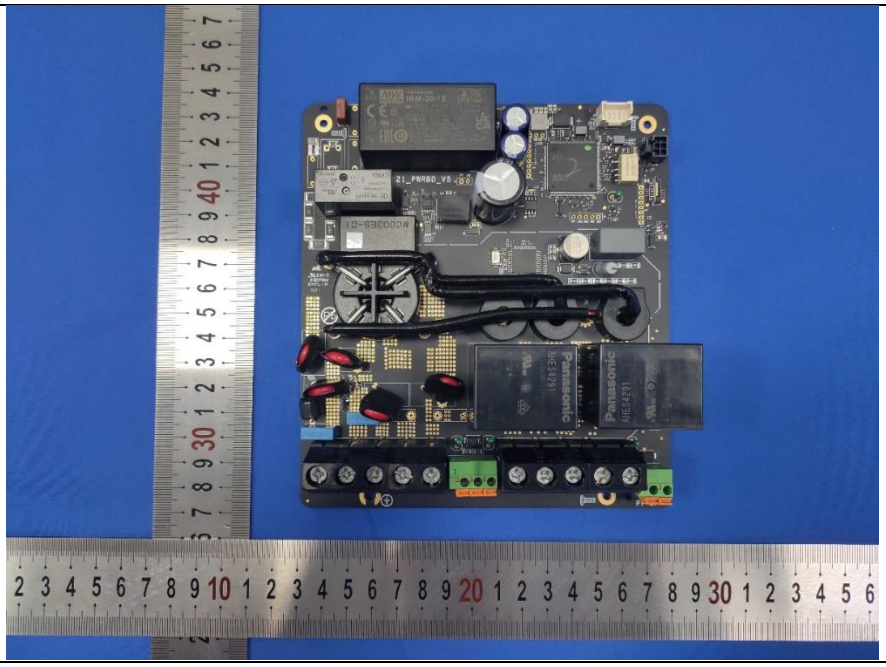
Details of:	General view of Maxi EU AC W22-S-4G-WH without front cover
View: ☒ General ☒ Front ☐ Rear ☐ Right ☐ Left ☐ Top ☐ Bottom	

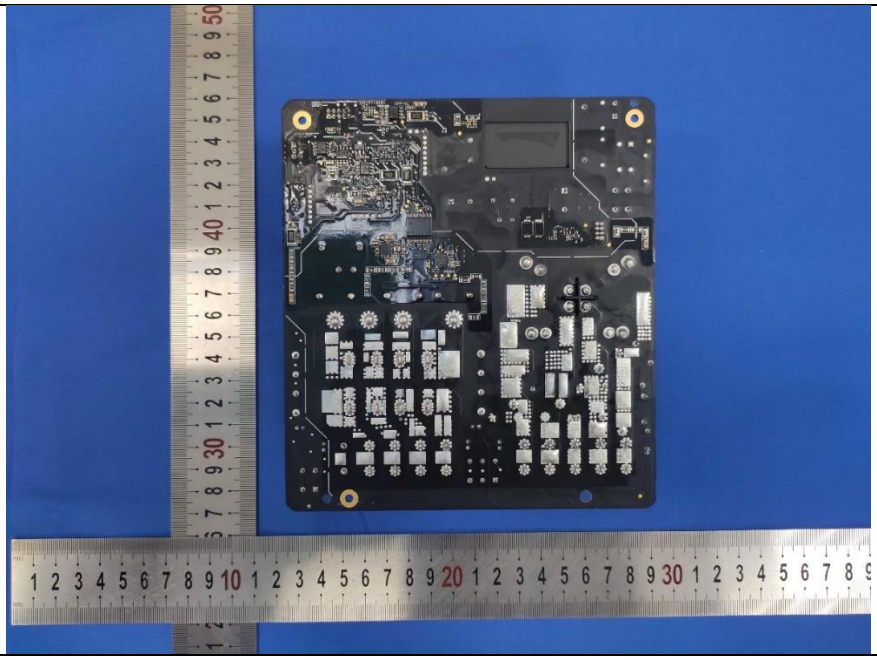
Details of:	Internal view of Maxi EU AC W22-C5-4G-WH
View: ☐ General ☐ Front ☐ Rear ☐ Right ☐ Left ☐ Top ☐ Bottom	

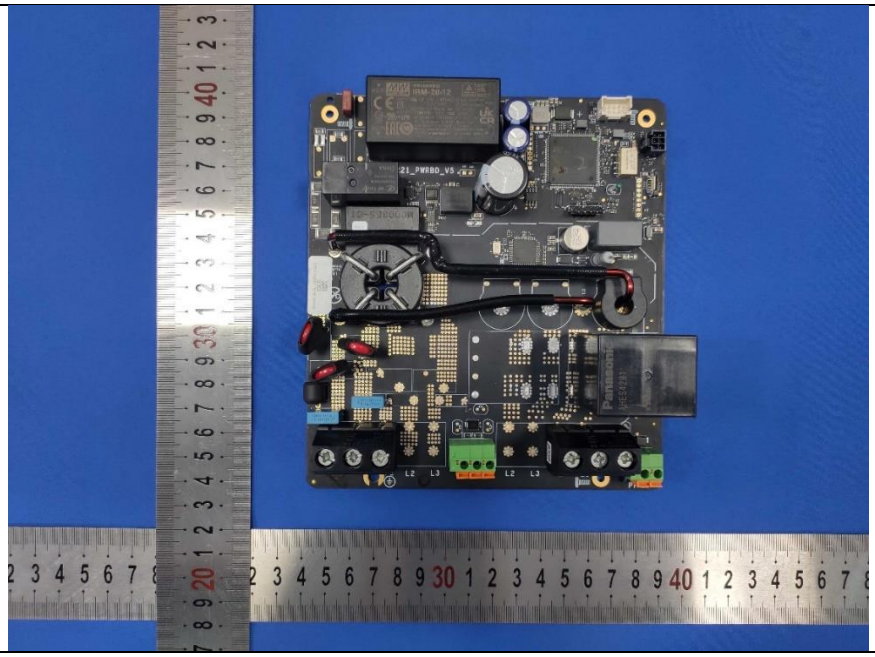
Details of:	Maxi EU AC W22-S-4G-WH: Internal view
View: ☐ General ☐ Front ☐ Rear ☐ Right ☐ Left ☐ Top ☐ Bottom	

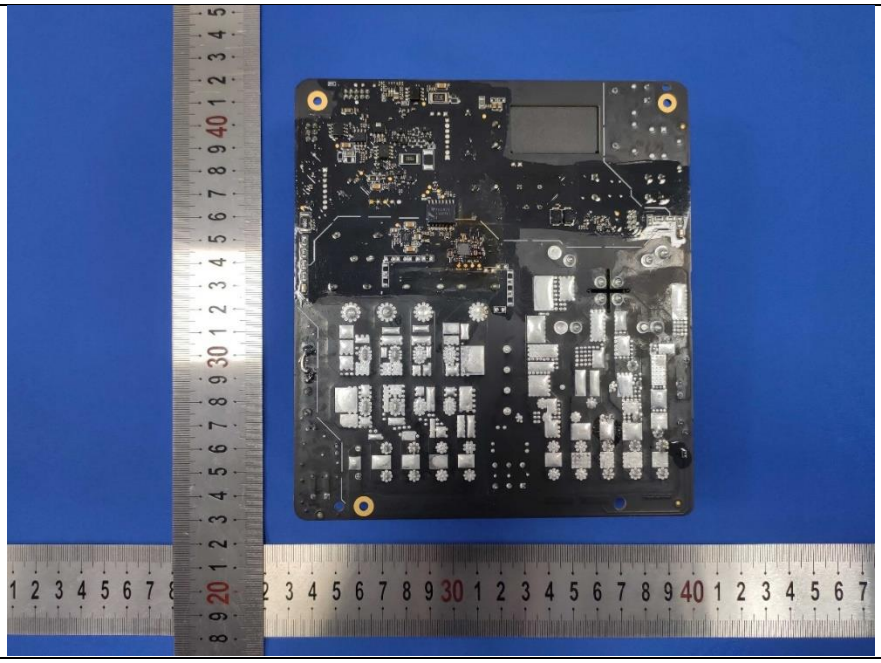
Details of:	Maxi EU AC W22-C5-4G-WH: Internal view
View: ☐ General ☐ Front ☐ Rear ☐ Right ☐ Left ☐ Top ☐ Bottom	

Details of:	Maxi EU AC W22-C5-4G-WH: Internal view
View: ☐ General ☐ Front ☐ Rear ☐ Right ☐ Left ☐ Top ☐ Bottom	

Details of:	Component side of three-phase control board
View: ☐ General ☐ Front ☐ Rear ☐ Right ☐ Left ☐ Top ☐ Bottom	

Details of:	Solder side of three-phase control board
View: ☐ General ☐ Front ☐ Rear ☐ Right ☐ Left ☐ Top ☐ Bottom	

Details of:	Component side of single-phase control board
View: ☐ General ☐ Front ☐ Rear ☐ Right ☐ Left ☐ Top ☐ Bottom	

Details of:	Solder side of single-phase control board
View: ☐ General ☐ Front ☐ Rear ☐ Right ☐ Left ☐ Top ☐ Bottom	

Details of:	Maxi EU AC W22-C5-4G-WH: Vehicle connector
View: ☐ General ☐ Front ☐ Rear ☐ Right ☐ Left ☐ Top ☐ Bottom	

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