

Technical Report No.: 64.105.21.30940.01

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

Product: AC electric vehicle charging station
(MaxiCharger AC Wallbox)
Maxi C-SE AC W - XX - YY - ZZ
I II III IV V

Test object: I: Basic model designation:
Maxi C-SE AC: Maxi C-SE 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:
Model: 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:
B: black
WH: white
DG: dark grey
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.

Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question. It does not imply a general statement regarding the quality of products from regular production. For further details please see testing and certification regulation, chapter A-3.4.

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:	<p><u>Maxi C-SE AC W - XX - YY - ZZ</u></p> <p>I II III IV V</p> <p>I: Basic model designation: Maxi C-SE AC: Maxi C-SE AC series</p> <p>II: "W" donates for power, "W" can be: W7: 7.4kW W11: 11kW W22: 22kW</p> <p>III: "XX" donates for vehicle connection method, "XX" can be: C5: vehicle connector with 5m cable S: socket-outlet (Not for 11kW models)</p> <p>IV: "YY" donates for wireless function, "YY" can be: 4G: 4G function embedded Blank: Standard type</p> <p>V: "ZZ" donates for colour, "ZZ" can be: B: black WH: white DG: dark grey</p>
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	SV: silver
Rated input Voltage (V):	For Maxi C-SE AC W22-XX-YY-ZZ models: 3P+N+PE, 400Vac±15%, 50Hz; For Maxi C-SE AC W11-C5-YY-ZZ models: 3P+N+PE, 400Vac±15%, 50Hz; For Maxi C-SE AC W7-XX-YY-ZZ models: 1P+N+PE, 230Vac±10%, 50Hz.
Rated input current (A):	For Maxi C-SE AC W22-XX-YY-ZZ models: 32A; For Maxi C-SE AC W11-C5-YY-ZZ models: 16A; For Maxi C-SE 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 C-SE AC W22-XX-YY-ZZ models: 22kW; For Maxi C-SE AC W11-C5-YY-ZZ models: 11kW; For Maxi C-SE 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.

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): New

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

Report No.: 64.105.21.30940.01
Rev.: 00
Date: 2021-12-09

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- 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	64.105.21.30849.01	2021-10-29	

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

Report No.: 64.105.21.30940.01
Rev.: 00
Date: 2021-12-09

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File	File name	Date
Report_Q/AU 1001-2021	Appendix 1	2021-12-09
Report_EN IEC 61851-1:2019	64.105.21.30849.01	2021-10-29
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

A handwritten signature in black ink that reads 'Lingze Meng'.

Project Handler

Approved by:

Glenn Liu

A handwritten signature in black ink that reads 'Glenn Liu'.


Designed Reviewer

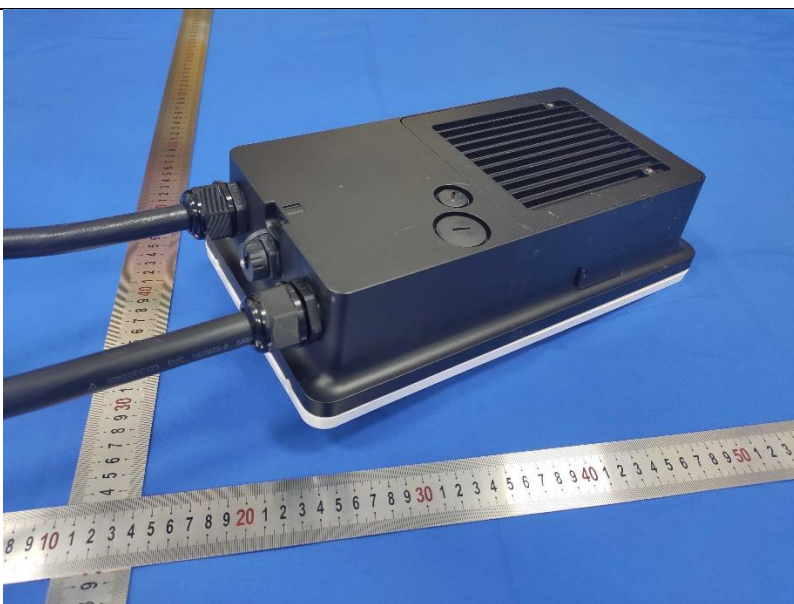
Appendix 1


4	Requirements		P
4.1	Safety		P
	Charger should comply with the requirements in IEC/EN 61851-1.	See report No. 64.105.21.30849.01	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 $-40 \pm 2^{\circ}\text{C}$ for $8 \pm 0.5\text{h}$, 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 stable. After 8h, start the charger and keep it operating at rated load for 1h.		P


	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

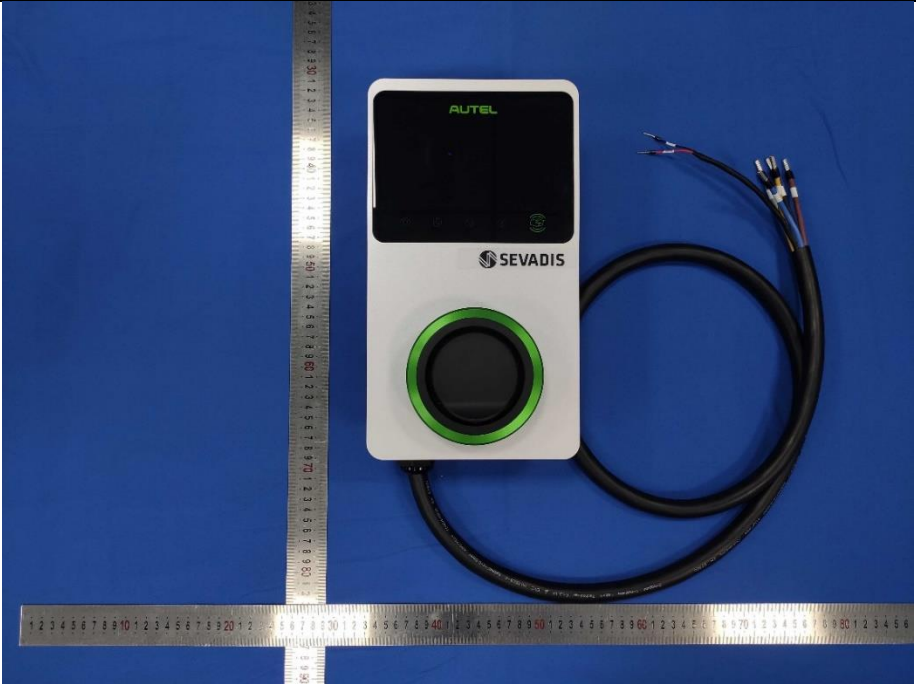
Appendix 2


Details of:	General view of Maxi C-SE AC W22-C5-4G-WH
View: <input checked="" type="checkbox"/> General <input checked="" type="checkbox"/> Front <input type="checkbox"/> Rear <input type="checkbox"/> Right <input type="checkbox"/> Left <input type="checkbox"/> Top <input type="checkbox"/> Bottom	

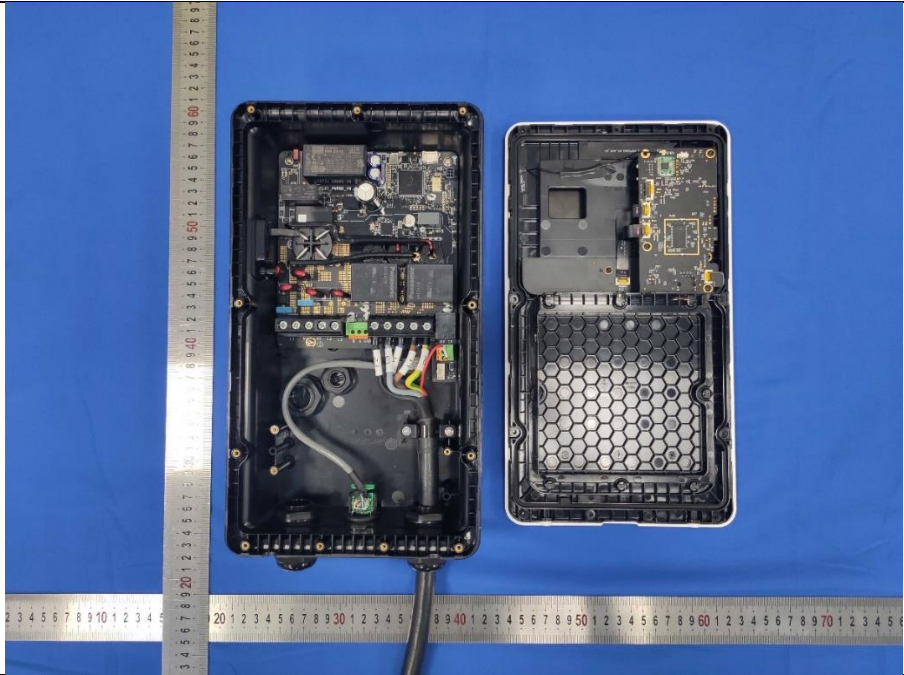
Details of:	General view of Maxi EU AC W22-C5-4G-WH
View: <input checked="" type="checkbox"/> General <input checked="" type="checkbox"/> Front <input type="checkbox"/> Rear <input type="checkbox"/> Right <input type="checkbox"/> Left <input type="checkbox"/> Top <input type="checkbox"/> Bottom	

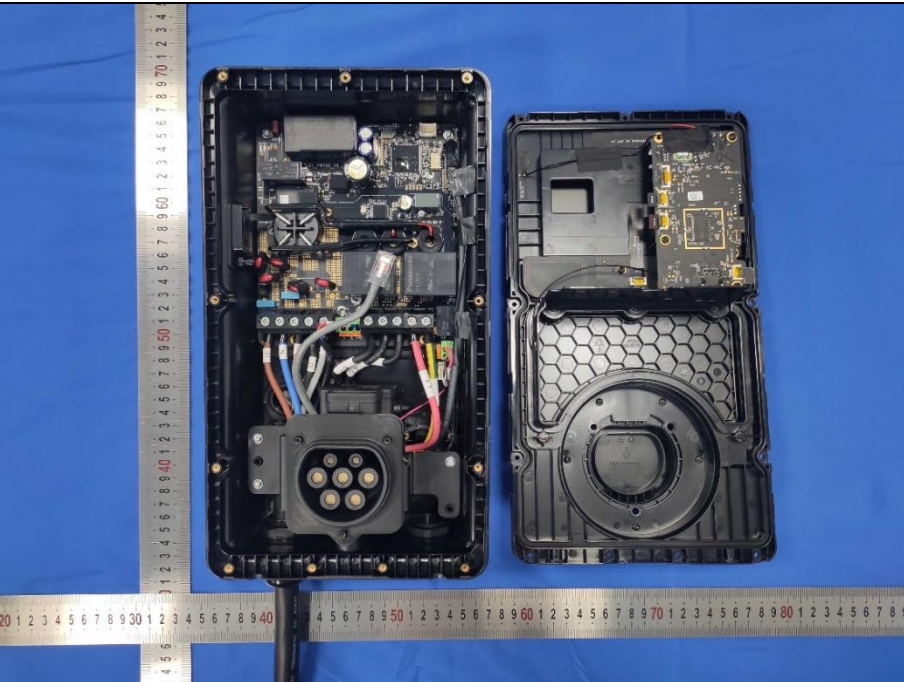
Details of:	General view of Maxi EU AC W22-C5-4G-WH
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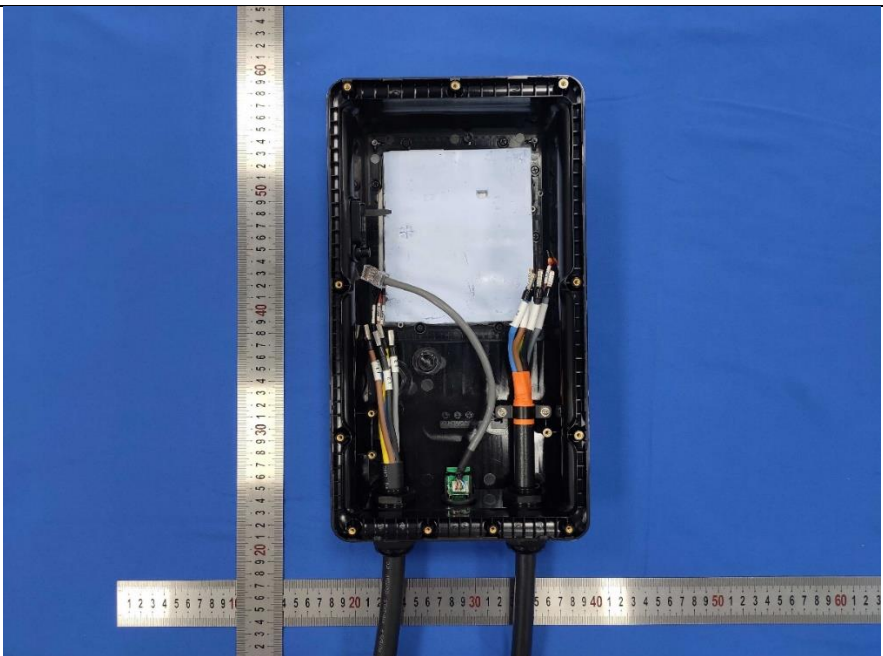
Details of:	General view of Maxi C-SE AC W22-C5-4G-WH without front panel
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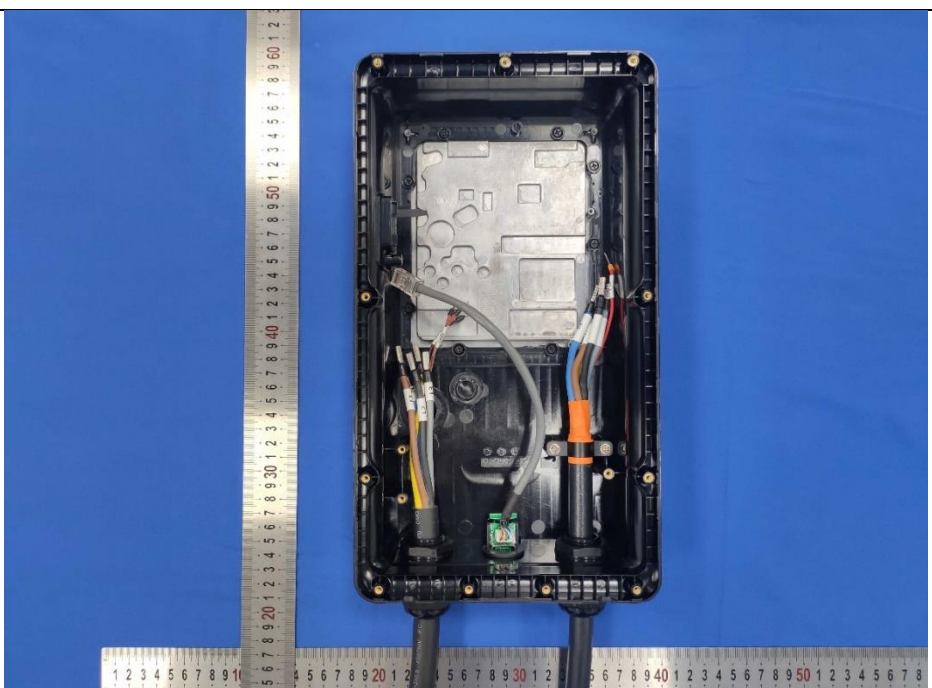
Details of:	General view of Maxi C-SE AC W22-S-4G-WH
View: <input checked="" type="checkbox"/> General <input checked="" type="checkbox"/> Front <input type="checkbox"/> Rear <input type="checkbox"/> Right <input type="checkbox"/> Left <input type="checkbox"/> Top <input type="checkbox"/> Bottom	

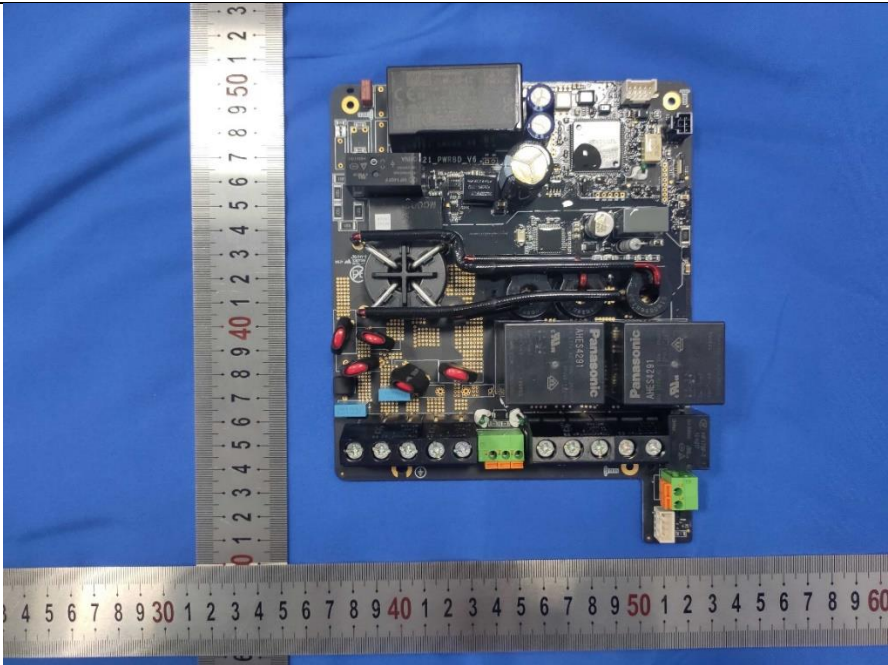
Details of:	General view of Maxi C-SE AC W22-S-4G-WH
View: <input checked="" type="checkbox"/> General <input checked="" type="checkbox"/> Front <input type="checkbox"/> Rear <input type="checkbox"/> Right <input type="checkbox"/> Left <input type="checkbox"/> Top <input type="checkbox"/> Bottom	

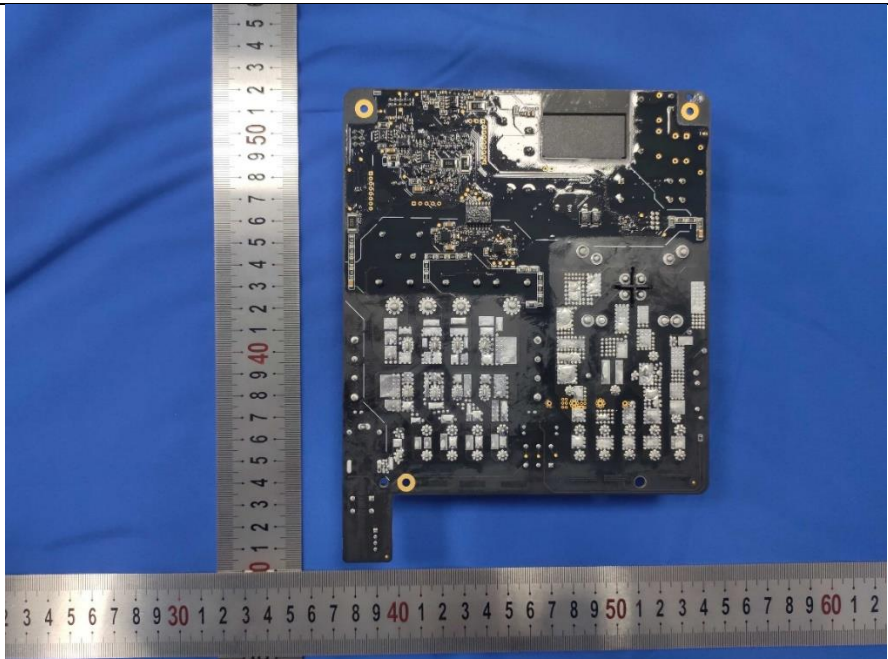
Details of:	Internal view of Maxi C-SE AC W22-C5-4G-WH
<p>View:</p> <p><input type="checkbox"/> General</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right</p> <p><input type="checkbox"/> Left</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p>	

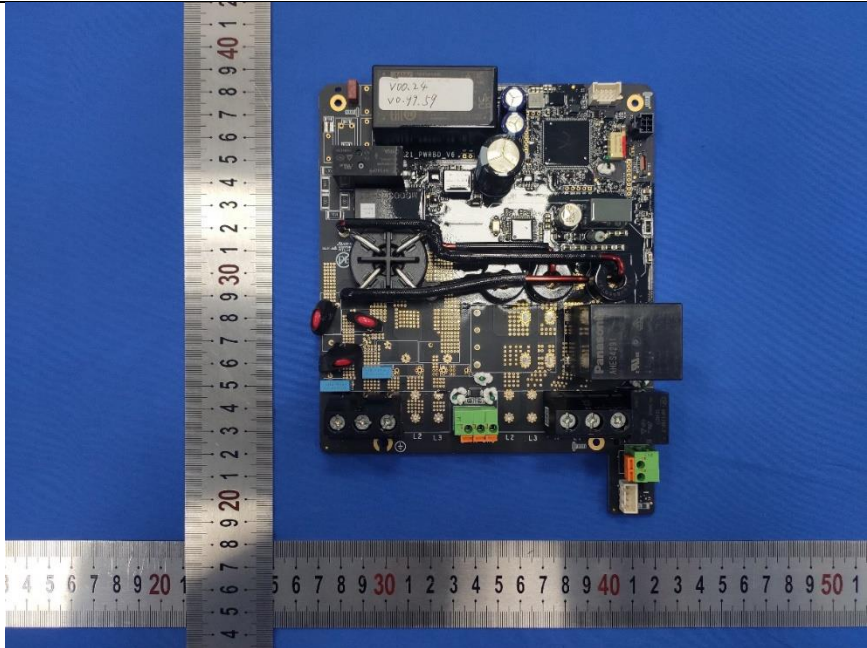
Details of:	Maxi C-SE AC W22-S-4G-WH : Internal view
<p>View:</p> <p><input type="checkbox"/> General</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right</p> <p><input type="checkbox"/> Left</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p>	

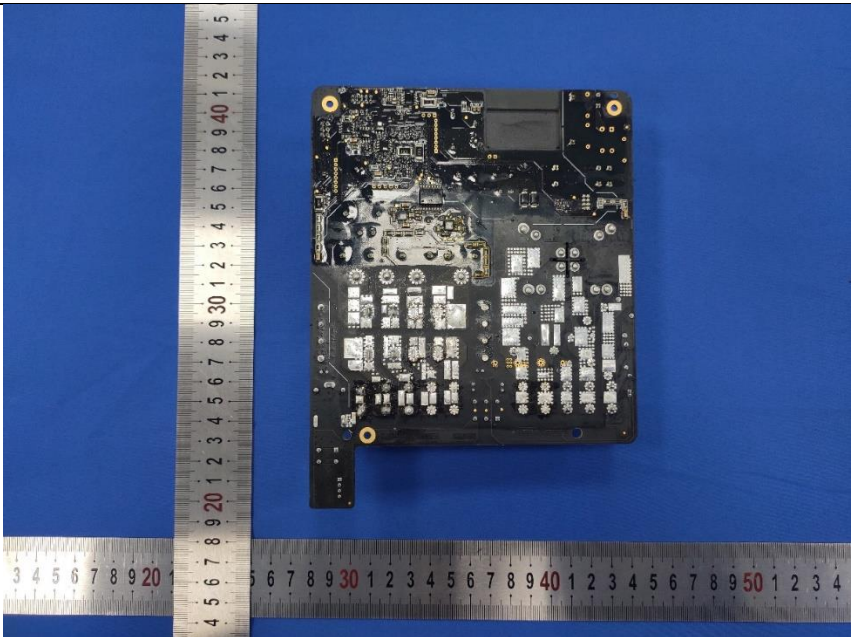
Details of:	Maxi C-SE AC W22-C5-4G-WH: Internal view	
View: <input type="checkbox"/> General <input type="checkbox"/> Front <input type="checkbox"/> Rear <input type="checkbox"/> Right <input type="checkbox"/> Left <input type="checkbox"/> Top <input type="checkbox"/> Bottom		
		

Details of:	Maxi C-SE AC W22-C5-4G-WH: Internal view	
View: <input type="checkbox"/> General <input type="checkbox"/> Front <input type="checkbox"/> Rear <input type="checkbox"/> Right <input type="checkbox"/> Left <input type="checkbox"/> Top <input type="checkbox"/> Bottom		
		

Details of:	Component side of three-phase control board
View:	
<input type="checkbox"/> General	
<input type="checkbox"/> Front	
<input type="checkbox"/> Rear	
<input type="checkbox"/> Right	
<input type="checkbox"/> Left	
<input type="checkbox"/> Top	
<input type="checkbox"/> Bottom	

Details of:	Solder side of three-phase control board
View:	
<input type="checkbox"/> General	
<input type="checkbox"/> Front	
<input type="checkbox"/> Rear	
<input type="checkbox"/> Right	
<input type="checkbox"/> Left	
<input type="checkbox"/> Top	
<input type="checkbox"/> Bottom	

Details of:	Component side of single-phase control board
View: <input type="checkbox"/> General <input type="checkbox"/> Front <input type="checkbox"/> Rear <input type="checkbox"/> Right <input type="checkbox"/> Left <input type="checkbox"/> Top <input type="checkbox"/> Bottom	

Details of:	Solder side of single-phase control board
View: <input type="checkbox"/> General <input type="checkbox"/> Front <input type="checkbox"/> Rear <input type="checkbox"/> Right <input type="checkbox"/> Left <input type="checkbox"/> Top <input type="checkbox"/> Bottom	

Details of:	Maxi C-SE AC W22-C5-4G-WH: Vehicle connector
View:	
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<input type="checkbox"/> Front	
<input type="checkbox"/> Rear	
<input type="checkbox"/> Right	
<input type="checkbox"/> Left	
<input type="checkbox"/> Top	
<input type="checkbox"/> Bottom	

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