

EMC TEST REPORT

Product: MaxiCharger DC Fast
Model No.: EF120A3001
Applicant: Autel New Energy Co., Ltd.
Manufacturer: Autel New Energy Co., Ltd.
Issued by: Shenzhen Chengxin Technology Service Co., Ltd.
Lab Location: Dafu Factory, No.13, Aiqun Road North, Shangwu, Shiyan Street, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755-21128889 **Fax:** +86-755-21138889

This test report consists of 9 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by CTS. The test results in the report only apply to the tested sample. The test report shall be invalid without all the signatures of testing engineers, reviewer and approver. Any objections must be raised to CTS within 15 days since the date when the report is received. It will not be taken into consideration beyond this limit..

Test Report

Applicant.....: Autel New Energy Co., Ltd.

Applicant Address.....: Room 101,Building 1,Rainbow Technology Building,
No.36,Gaoxin Sixth Road(N), Nanshan District,Shenzhen,
Guangdong,China

Manufacturer.....: Autel New Energy Co., Ltd.

Manufacturer Address.....: Room 101,Building 1,Rainbow Technology Building,
No.36,Gaoxin Sixth Road(N), Nanshan District,Shenzhen,
Guangdong,China

Factory.....: Autel New Energy Co., Ltd. Guangming Branch

Factory Address.....: Room 602, 6th Floor, Electron Factory Building 4, Yanxiang
Science & Technology Industrial Park, Gaoxin Road,
Dongzhou Community, Guangming Street, Guangming
District, Shenzhen,Guangdong, China


Brand Name.....: Autel


Product.....: MaxiCharger DC Fast


Model No.....: EF120A3001

Test Standards.....: EN IEC 61000-3-11:2019

Test Result.....: ☒Positive ☐Negative

Tested by.....:  2022.09.23
Signature Date

Reviewed by.....:  2022.09.23
Signature Date

Approved by.....:  2022.09.23
Signature Date

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

Table of Contents

Table of Contents	3
1 General Information	4
1.1 Description of EUT	4
2 Test Facilities and Configuration	4
2.1 Environmental Conditions	4
2.2 Associated Equipment	4
2.3 Operating mode	4
2.4 Test Standards and Results	4
2.5 List of Equipment Used	4
3 Emission Test	5
3.1 EUT Setup and Operating Conditions	5
3.2 Voltage Fluctuation and Flick Measurement	5
3.2.1 Test Specification	5
3.2.2 Test Procedure	5
3.2.3 Test Setup	6
3.2.4 Test Result	6
Appendix I: Photographs of the EUT	7
Appendix II: Photographs of EMC Test Configuration	8

1 General Information

1.1 Description of EUT

Product: MaxiCharger DC Fast
Model No.: EF120A3001
Brand Name: Autel
Rating: Input: 400Vac 186A/130KVA 3p+N+PE 50HZ
 Output: CCS1/CCS2 150-1000VDC 200A/120KW

NOTE: The submitted samples are MaxiCharger DC Fast used in industrial environments. For more detailed features description about the EUT, please refer to User's Manual.

2 Test Facilities and Configuration

2.1 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

- Temperature: 15-35°C
- Humidity: 30-60 %
- Atmospheric pressure: 86-106 kPa

2.2 Associated Equipment

Kind of equipment	Manufacturer	Model No.	Serial No.	Cal. Due Date
Loading Cabinet	SIKES	SKS-RDC-160KW-750/1000V	TE18080102	/
Loading Cabinet	SIKES	SKS-RDC-200KW/1000VDC	TE21050001	/
Multimeter	Fluke	Fluke 17B	TS18080067	2022.10.26
Clamp ammeter	Fluke	Fluke 317	TS22030004	2023.04.18

2.3 Operating mode

The EUT continuously operated during the test modes as below table:

No.	Operating modes	Remarks
1	Charging mode, Input current 75A	/

2.4 Test Standards and Results

The EUT has been tested according to the following specifications:

Standard	Test Type	Result
EN IEC 61000-3-11:2019	Voltage Fluctuation and Flick Measurement	PASS

2.5 List of Equipment Used

Description	Manufacturer	Model No.	Serial No.	Cal. Due Date
Harmonic Flicker analyzer	TESEQ	CCN1000-3	TE18080052	2023.07.10
Power Supply	Chroma	61860	TE18080043	2023.07.10

NOTE: Equipment above has been calibrated and is in the period of validation.

3 Emission Test

3.1 EUT Setup and Operating Conditions

The model EF120A3001 was powered by 400Vac, 50Hz power supply and continuously operated. During the tests, the load was adjusted within the manufacturer's specified range, and the worst state was recorded in the report.

3.2 Voltage Fluctuation and Flick Measurement

3.2.1 Test Specification

Test Frequency:	50Hz	Test Voltage:	400Vac
Waveform:	Sine	Test Time:	10 minutes(P_{st}); 2 hours (P_{lt})

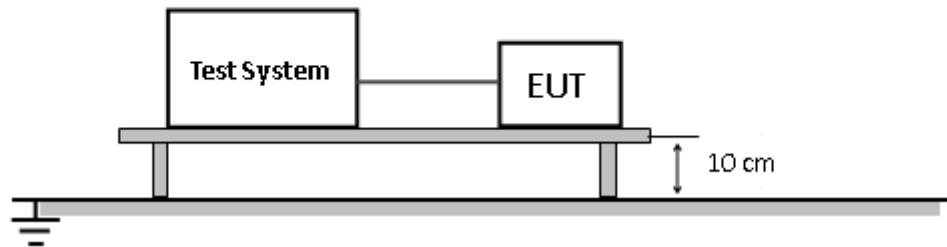
Limits of Voltage Fluctuation and Flick

Test Item	Limit	Note
P_{st}	1.0	P_{st} means Short-term flicker indicator
P_{lt}	0.65	P_{lt} means long-term flicker indicator
T_{dt}	0.5	T_{dt} means maximum time that d_t exceeds 3%
$d_{max}(\%)$	4%	d_{max} means maximum relative voltage change.
$d_c(\%)$	3.3%	d_c means relative steady-state voltage change.

3.2.2 Test Procedure

- The EUT was placed on the top of a wooden table 0.1 meters above the ground and operated to produce the most unfavorable sequence of voltage changes under normal conditions
- During the flick measurement, the measure time shall include that part of whole operation changes. The observation period for short-term flicker indicator is 10 minutes and the observation period for long-term flicker indicator is 2 hours.

3.2.3 Test Setup



For the actual test configuration, please refer to Appendix II: Photographs of the Test Configuration.

3.2.4 Test Result

Environment Condition:

Temperature: 24°C; Relative Humidity: 54%; Pressure: Normal atmospheric pressure

Test Date: 2022.09.22

Test Engineer: Zhou Peisheng

Test Site: Comprehensive Test Area

Test Parameter	Measurement Value			Limit	Remarks
	L1	L2	L3		
P_{st}	0.149	0.201	0.141	1.0	PASS
P_{lt}	0.131	0.178	0.108	0.65	PASS
$T_{dt(s)}$	0.0	0.0	0.0	0.5	PASS
$d_{max}(\%)$	0.16	0.16	-0.12	4	PASS
$d_c(\%)$	0.00	0.00	0.00	3.3	PASS

Appendix I: Photographs of the EUT



Appendix II: Photographs of EMC Test Configuration

1. Voltage Fluctuation and Flick Measurement



STATEMENT

1. The test report is invalid without stamp of laboratory.
2. The test report is invalid without signature of person(s) testing and authorizing.
3. The test report is invalid if erased and corrected.
4. Test results of the report are valid to the test samples if sampling by client.
5. “The test report shall not be reproduced except in full, without written approval of the laboratory.
6. If there is any objection to report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

SHENZHEN CHENGXIN TECHNOLOGY SERVICE CO., LTD.

Address: Dafu Factory, No.13, Aiqun Road North, Shangwu, Shiyan Street, Bao'an District, Shenzhen, Guangdong, China

Post Code: 518108

Tel: +86-755-21128889

http: www.ctsco.cn

Fax: +86-755-21138889

E-Mail: manager@ctsco.cn