Prüfbericht-Nr.: *Test report no.*:	**CN26VIW5 001**	**Auftrags-Nr.:** *Order no.*:	326198820	
Kunden-Referenz-Nr.: *Client reference no.*:	2028101	**Auftragsdatum:** *Order date:*	2026.07.23	
Auftraggeber: *Client*:	**GoodWe Technologies Co., Ltd.** No.90 Zijin Rd., New District, Suzhou, 215011, P.R. China			
Prüfgegenstand: *Test item*:	AC Charger			
Bezeichnung / Typ-Nr.: *Identification / Type no.*:	GW7K-HCA-UK-G30,GW11K-HCA-UK-G30,GW22K-HCA-UK-G30			
Auftrags-Inhalt: *Order content*:	Test report			
Prüfgrundlage: *Test specification*:	BS 7671:2018+A1:2020+A2:2022 clause 722.411.4.1			

Wareneingangsdatum: *Date of sample receipt*:	2026.09.16
Prüfmuster-Nr.: *Test sample no:*	A004394036-001
Prüfzeitraum: *Testing period*:	2026.09.16 - 2026.09.17
Ort der Prüfung: *Place of testing*:	No.177, Lane 777 West Guangzhong Road, Jing'an District, Shanghai, China.
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland (Shanghai) Co., Ltd.
Prüfergebnis*: *Test result**:	Pass



geprüft von:
test by: Sai Yu/Zhi Zhou

Datum:
Date: 2026-10-15 Sai Yu Zhi Zhou

Stellung / Position: Traniee/Project Engineer

genehmigt von:
authorized by: David Chen

Ausstellungsdatum:
Issue date: 2026-10-15 David Chen

Stellung / Position: Authorizer

Sonstiges / *Other*: This charging pile is the UKCA version which based on the report CN267GMU 001.

Zustand des Prüfgegenstandes bei Anlieferung: *Condition of the test item at delivery*: Prüfmuster vollständig und unbeschädigt *Test item complete and undamaged*

* Legende:	P(ass) = entspricht o.g. Prüfgrundlage(n)	F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
** Legend:*	*P(ass) = passed a.m. test specification(s)*	*F(ail) = failed a.m. test specification(s)*	*N/A = not applicable*	*N/T = not tested*

Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.
This test report only relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.

Anmerkungen
Remarks

1	Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben. Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden. *The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.*
2	Wie vertraglich vereinbart, wurde dieses Dokument nur digital unterzeichnet. Der TÜV Rheinland hat nicht überprüft, welche rechtlichen oder sonstigen diesbezüglichen Anforderungen für dieses Dokument gelten. Diese Überprüfung liegt in der Verantwortung des Benutzers dieses Dokuments. Auf Verlangen des Kunden kann der TÜV Rheinland die Gültigkeit der digitalen Signatur durch ein gesondertes Dokument bestätigen. Diese Anfrage ist an unseren Vertrieb zu richten. Eine Umweltgebühr für einen solchen zusätzlichen Service wird erhoben. Informationen zur Verifizierung der Authentizität unserer Dokumente erhalten Sie auf folgender Webseite: go.tuv.com/digital-signature *As contractually agreed, this document has been signed digitally only. TUV Rheinland has not verified and unable to verify which legal or other pertaining requirements are applicable for this document. Such verification is within the responsibility of the user of this document. Upon request by its client, TUV Rheinland can confirm the validity of the digital signature by a separate document. Such request shall be addressed to our Sales department. An environmental fee for such additional service will be charged. For information on verifying the authenticity of our documents, please visit the following website: go.tuv.com/digital-signature*
3	Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt. *Test clauses with remark of * are subcontracted to qualified subcontractors and descripted under the respective test clause in the report.* *Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.*
4	Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnisen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2021, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezueglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019. *The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the “Zero Guard Band Rule” and “Simple Acceptance” in accordance with ILAC G8:2019 and IEC Guide 115:2021, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.*

Test Report issued under the responsibility of:

TÜVRheinland®

TEST REPORT
BS 7671: 2018
Requirement for Electrical Installations
Clause 722.411.4.1

Report Number. ..... :	CN26VIW5 001
Date of issue ..... :	See cover page
Tested by (name + signature)……:	See cover page
Approved by (name + signature)..:	See cover page
Total number of pages ..... :	12
Name of Testing Laboratory preparing the Report ..... :	TUV Rheinland (Shanghai) Co., Ltd.
Applicant's name ..... :	See cover page
Address ..... :	See cover page
Test specification:	
Standard ..... :	BS 7671:2018+A1:2020+A2:2022 clause 722.411.4.1
Test procedure ..... :	Test report
Non-standard test method ..... :	N/A
Test item description……:	AC Charger
Trade Mark ……:	GOODWE
Manufacturer……:	Same as applicant
Model/Type reference……:	See cover page
Ratings: ……:	See model difference list

General disclaimer:

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 Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

List of Attachments (including a total number of pages in each attachment):
N/A

Summary of testing:

Tests performed (name of test, test clause and date test performed):

Clause	Name of test	Date test performed
722.411.4	TN System Method (iv)	2026.09.16 - 2026.09.17

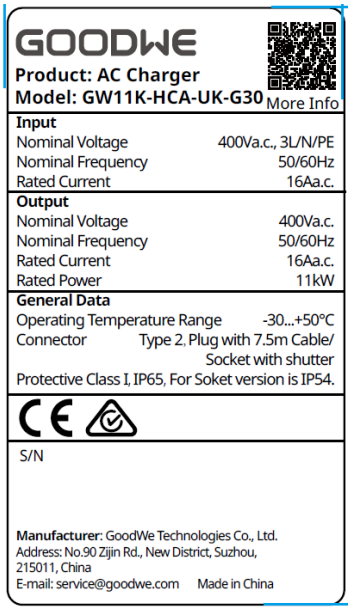
Note: Due to the similarity in hardware and software design, models GW22K-HCA-UK-G30 and GW7K-HCA-UK-G30were selected and tested as representatives of other models.

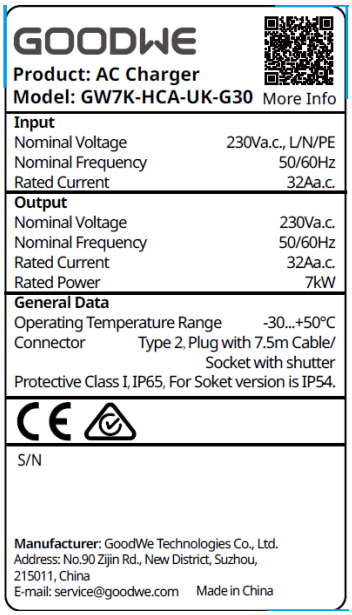
Testing location: (CBTL, SPTL, CTF, Subcontractor)

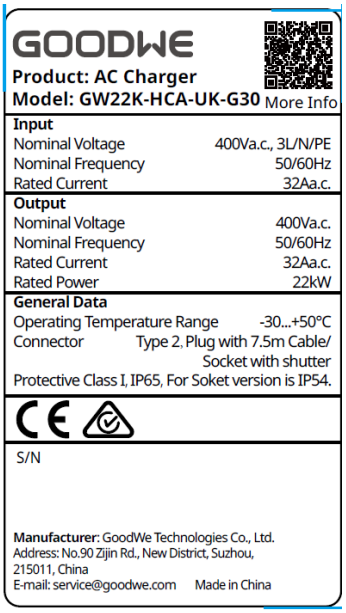
TÜV Rheinland (Shanghai) Co. Ltd.
No.177, Lane 777 West Guangzhong Road, Jing'an District, Shanghai, China.

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.







Test item particulars.....:	
Equipment mobility .....:	☐ movable ☐ hand-held ☐ transportable ☒ stationary ☐ for building-in ☐ direct plug-in
Connection to the mains.....:	☐ pluggable equipment ☐ type A ☐ type B ☒ permanent connection ☐ detachable power supply cord ☐ non-detachable power supply cord ☐ not directly connected to the mains
EV charging modes .....:	☐ Mode 1 charging ☐ Mode 2 charging ☒ Mode 3 charging ☐ Mode 4 charging
Type of EV connection .....:	☐ Case A ☒ Case B ☒ Case C
Access location .....:	☒ operator accessible ☐ service access area ☐ restricted access location
Over voltage category (OVC) .....:	☐ OVC I ☐ OVC II ☒ OVC III ☐ OVC IV ☐ other:
Mains supply tolerance (%) or absolute mains supply values .....:	±10%
Tested for IT power systems .....:	☐ Yes ☒ No
IT testing, phase-phase voltage (V) .....:	N/A
Class of equipment .....:	☒ Class I ☐ Class II ☐ Class III ☐ Not classified
Considered current rating (A) .....:	See model difference list
Pollution degree (PD) .....:	☐ PD 1 ☒ PD 2(internal) ☒ PD 3(external)
IP protection class .....:	IP55
Altitude during operation (m) .....:	≤2000
Altitude of test laboratory (m) .....:	≤500
Mass of equipment (kg) .....:	See model difference list
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 .....:	See cover page
Date (s) of performance of tests .....:	See cover page
General remarks:	

General product information and other remarks:

1. The Case C and Case B models of the AC Charger are identical. All units used in this test were the Case C version.

2. The Scope of this report verify the compliance of the AC Charger with the paragraph 722.411.4.1(iv) of BS 7671:2018.

3. In the UK region, the PME system with an incoming earthing point is widely used by residential and business electricity consumers. MCBs and RCDs do not provide protection against open circuit PME faults, so touch voltage hazardous could occur without triggering a disconnection of the mains electricity supply to the building. A specific PCB disconnect the vehicle from protective earth and main PCB Board disconnect the vehicle from the line and neutral conductor to satisfied with BS 7671: 2018 Clause 722.411.4.1.

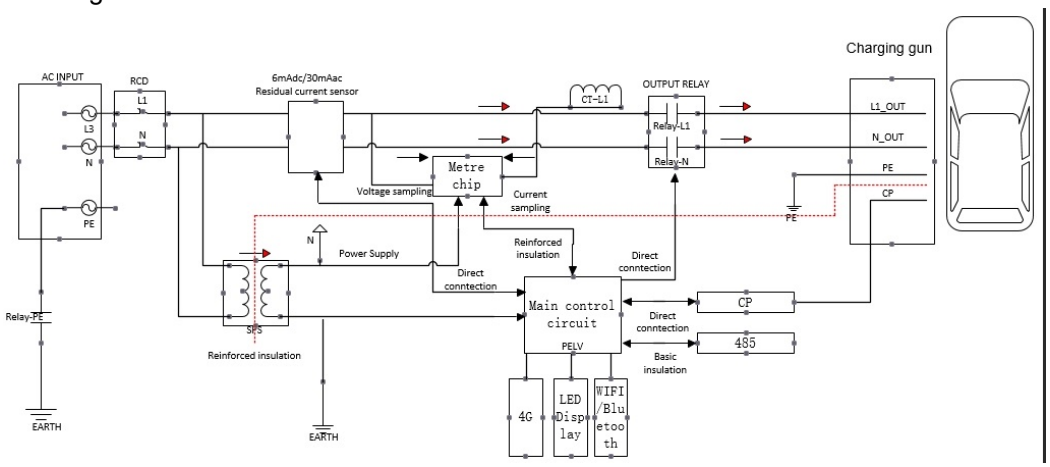
4. The product use, the same protection against open circuit PME faults strategy by the software and specific PCB.

5. Protection against electric shock is provided by the following disconnection device (Relay A/ Relay B is Main Relay for disconnect L and N, Relay C is supplementary Relay disconnect PE):

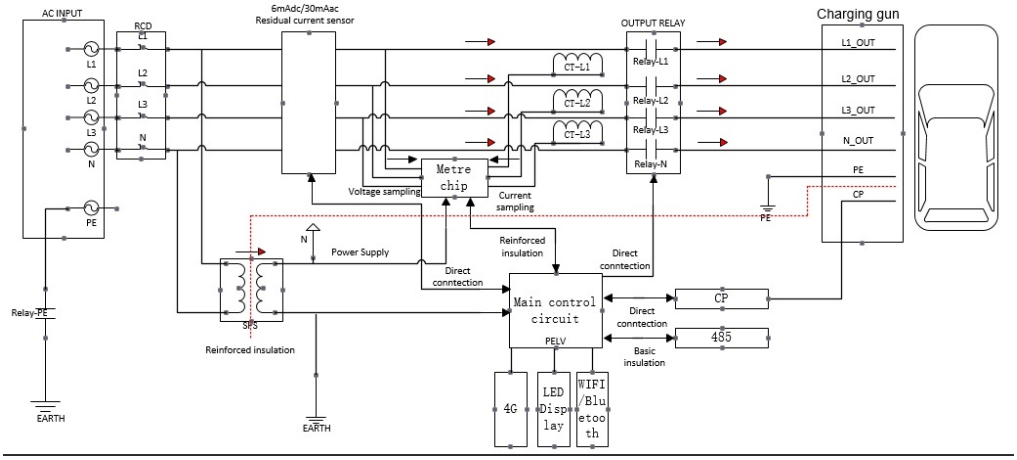
Component	Manufacturer	Type	Tech data	Standard/certificate	Mark(s) of conformity1)
Relay A/B	Zettler Relay (Xiamen) Co., Ltd.	AZEV678 series	Relay 12VDC 480VAC/40A 3poles 85°C	EN 61810-1:2015+A1 IEC 61810-1:2015+A1	TUV SUD B 088793 0020
-Alternative	Sanyou Relay Co.,Ltd.	SPV40-S-212DMF	Relay 12VDC 480VAC/40A 3poles 85°C	EN 61810-1:2015+A1	TUV RH R 50710460
Relay C (PE)	Xiamen Hongfa Electroacoustic Co., Ltd	HF115F	AC250V 8A 85°C	EN 618101:2015+A1 IEC 618101:2015+A1	TUV RH R 50576276

System block diagram:

For Single Phase:



For Three Phase:



Model difference list:

Models	Maximum Power(kW)	Voltage (Va.c.)	Current(A)	Wireless function	Mass(kg) Case C/B
GW7K-HCA-UK-G30	7	AC 230/1-Phase	32	WIFI+Bluetooth+RFID+4G	6.2/5.2
GW11K-HCA-UK-G30	11	AC 400/3-Phases	16	WIFI+Bluetooth+RFID+4G	6.3/5.3
GW22K-HCA-UK-G30	22	AC 400/3-Phases	32	WIFI+Bluetooth+RFID+4G	6.9/5.9

BS 7671:2018			
Clause	Requirement + Test	Result - Remark	Verdict

722.411.4	**TN System**		P
722.411.4.1	A PME earthing facility shall not be used as the means of earthing for the protective conductor contact of a charging point located outdoors or that might reasonably be expected to be used to charge a vehicle located outdoors unless one of the following methods is used:	Method (iv) used	P
	(i) Deleted by BS 7671:2018+A2:2022		N/A
	(ii) The main earthing terminal of the installation is connected to an installation earth electrode by a protective conductor complying with Regulation 544.1.1. The resistance of the earth electrode to Earth shall be such that the maximum voltage between the main earthing terminal of the installation and Earth in the event of an open-circuit fault in the PEN conductor of the low voltage network supplying the installation does not exceed 70 V rms.		N/A
	(iii) Protection against electric shock is provided by a device which electrically disconnects the vehicle from the live conductors of the supply and from protective earth in accordance with Regulation 543.3.3.101(ii) within 5 s in the event of the voltage between the circuit protective conductor and Earth exceeding 70 V rms due to an open-circuit fault in the PEN conductor of the low voltage network. The device need not operate if the voltage exceeds 70 V rms for less than 4 s. The device shall provide isolation and be selected in accordance with Table 537.4. Closing or resetting of the device shall be possible only if the voltage between the circuit protective conductor and Earth does not exceed 70 V rms. Equivalent means of functionality could be included within the charging equipment.		N/A
	(iv) Protection against electric shock is provided by a device which electrically disconnects the vehicle from the live conductors of the supply and from protective earth in accordance with Regulation 543.3.3.101(ii) within 5 s in the event of the utilisation voltage at the charging point, between the line and neutral conductors, being greater than 253 V rms or less than 207 V rms. The device shall provide isolation and be selected in accordance with Table 537.4. Equivalent means of functionality could be included within the charging equipment. Closing or resetting of the device shall be possible only if the voltage between line and neutral conductors is in the range 207 to 253 V rms.	Refer to table 1 and Annex 1	P

BS 7671:2018			
Clause	Requirement + Test	Result - Remark	Verdict
	(v)Protection against electric shock is provided by the use of an alternative device to those in (iii) or (iv) which does not result in a lesser degree of safety than using(iii) or (iv).Equivalent means of functionality could be included within the charging equipment.The device(or means of functionality) shall operate by electrically disconnecting the vehicle from the live conductor of the supply and from protective earth in accordance with Regulation 543.3.3.101(ii).It shall provide isolation and be selected in accordance with Table 537.4.		N/A
	Where buried in the ground,a protective conductor connected to an earth electrode for the purposes of (ii) or (iii) shall have a cross-sectional area not less than that stated in Table 54.1.		N/A
	Protective conductors and exposed-conductive-parts downstream of a protective device provided for the purposes of (iii),(iv) and (v) shall have no connection to: (a)any protective conductors or exposed-conductive-parts of any circuit not protected by the same protective device;or (b)any extraneous-conductive-part.		N/A

BS 7671:2018			
Clause	Requirement + Test	Result - Remark	Verdict

Table 1:

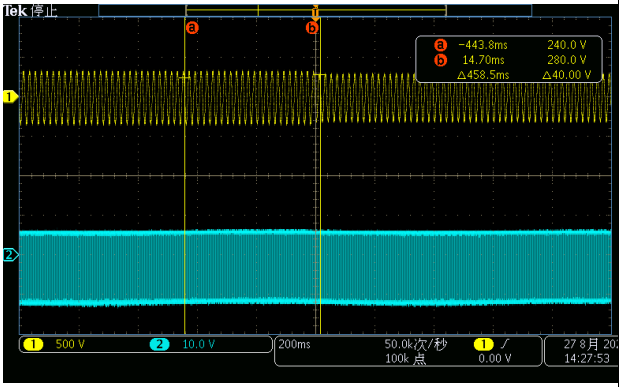
Test was performed on two samples, below table of the results measured:

Sample under test	Low limitation (V)	Graphs	Disconnect Time (ms)	Verdict
GW7K-HCA-UK-G30	Less than 207(L-N)	1.1	458.5	PASS
GW22K-HCA-UK-G30	Less than 207(L1-N)	1.2	49.1	PASS
GW22K-HCA-UK-G30	Less than 207(L2-N)	1.3	47.9	PASS
GW22K-HCA-UK-G30	Less than 207(L3-N)	1.4	52.5	PASS

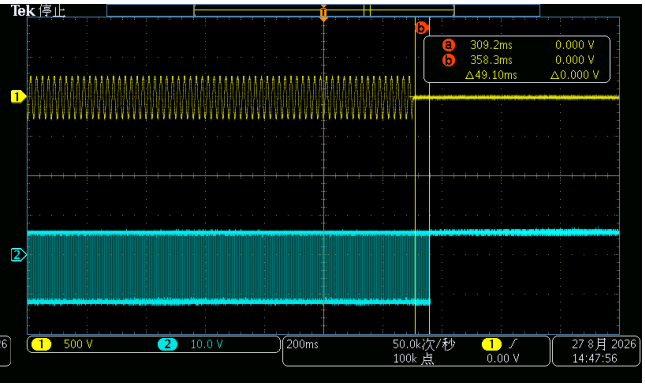
Sample under test	High limitation (V)	Graphs	Disconnect Time (ms)	Verdict
GW7K-HCA-UK-G30	greater than 253(L-N)	2.1	457.0	PASS
GW22K-HCA-UK-G30	greater than 253(L1-N)	2.2	50.5	PASS
GW22K-HCA-UK-G30	greater than 253(L2-N)	2.3	54.9	PASS
GW22K-HCA-UK-G30	greater than 253(L3-N)	2.4	58.5	PASS

Annex 1: Graphs

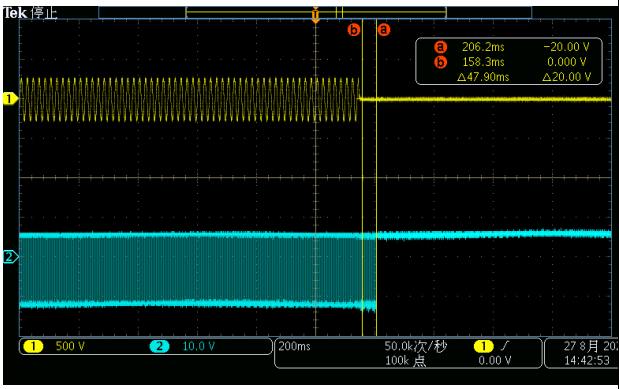
1.1



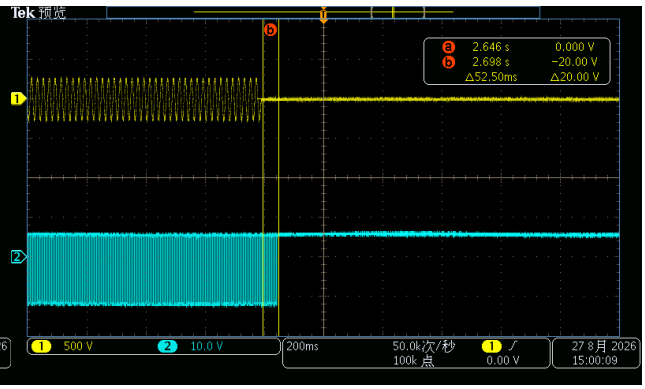
1.2



1.3



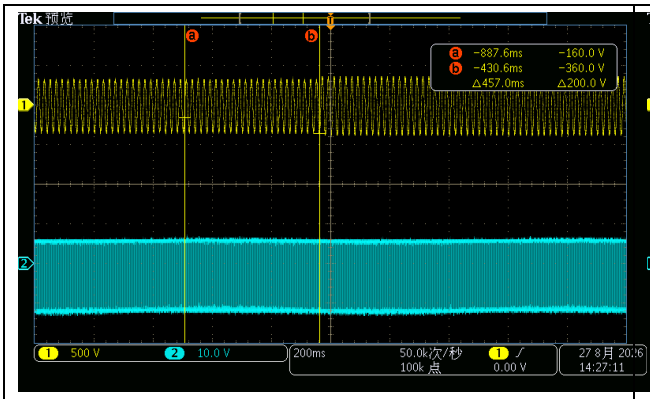
1.4

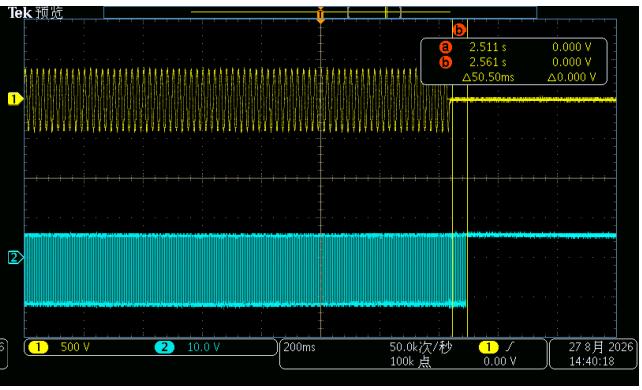


2.1

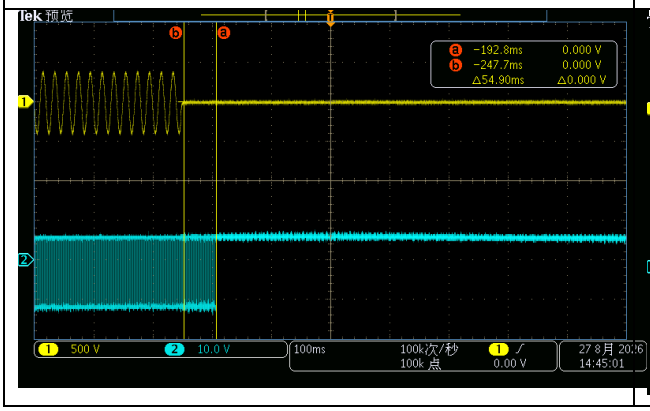
2.2

BS 7671:2018			
Clause	Requirement + Test	Result - Remark	Verdict

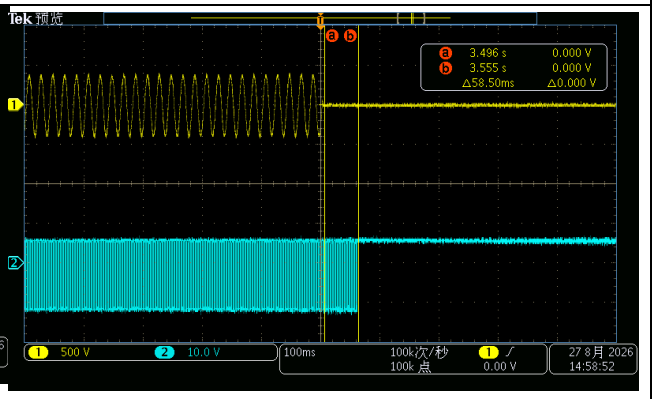




2.3



2.4



--End of report--