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中国认可
国际互认
检测
TESTING
CNAS L0116

方圆电气检测
FANG YUAN ELECTRIC TEST

报 告 查 询
No.25133Y30777Y

TEST REPORT

REPORT NO. 25133Y30777Y

NAME OF SAMPLE Intelligent Circuit Breaker

MODEL GWS9-W

CUSTOMER ZHEJIANG GEYA ELECTRICAL CO., LTD.

MANUFACTURER ZHEJIANG GEYA ELECTRICAL CO., LTD.

TEST CATEGORY Entrusted Test

ZHEJIANG FANGYUAN TEST GROUP CO., LTD.

ZHEJIANG FANGYUAN ELECTRICAL EQUIPMENT TESTING CO.,LTD.

NATIONAL CENTER OF QUALITY INSPECTION FOR ELECTRICAL SAFETY (ZHEJIANG)

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7. All the pages of the report are integral parts of the report. Our laboratory will not be responsible for any undesirable consequences caused by using separate page(s) of the report.

浙江方圆电气设备检测有限公司

地址：嘉兴市广穹路 400 号

邮编：314001　　**网址：**www.fydqjc.cn

联系方式：

低压元件部：

0573-82077822、82077990（强制性认证检测、自愿性认证检测）

0573-82077811、82077511（委托检测、国际认证检测）

E-mail: fangyuantest_dy@163.com

低压成套部：

0573-82099578（强制性认证检测、自愿性认证检测）

0573-82077898（委托检测、国际认证检测）

E-mail: fangyuantest_ct@163.com

高压电器部：0573-82077919、82077099　　E-mail: fangyuantest_hv@163.com

新能源电器部：0573-82077355　　E-mail: fangyuantest_xny@163.com

智能电器部：0573-82077855　　E-mail: fangyuantest_zn@163.com

电磁兼容部：0573-82077600　　E-mail: fangyuantest_emc@163.com

防爆电器部：0573-82077233　　E-mail: fangyuantest_ex@163.com

避雷器与绝缘子部：0573-82079633　　E-mail: fangyuantest_blq@163.com

环境检测部：0573-82077277　　E-mail: fangyuantest_hjjc@163.com

计量中心：0573-82077033　　E-mail: fangyuantest_mc@163.com

NATIONAL CENTER OF QUALITY INSPECTION FOR ELECTRICAL SAFETY (ZHEJIANG)

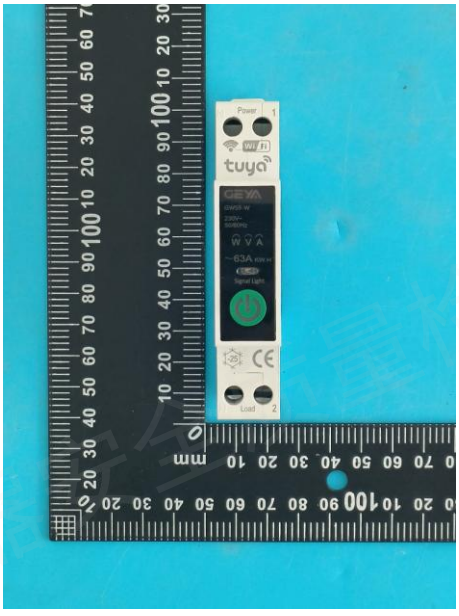
TEST REPORT

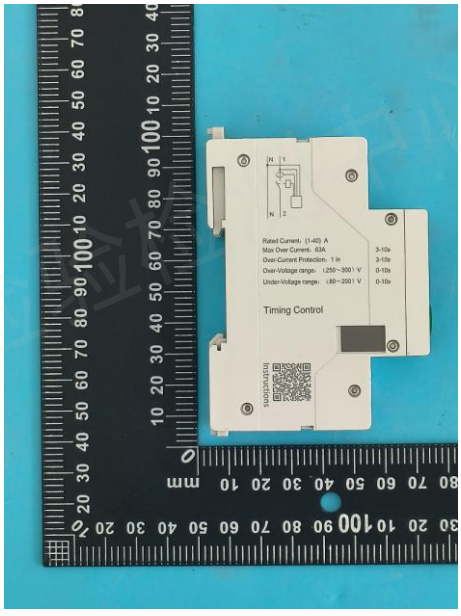
Product	Intelligent Circuit Breaker	Test Category	Entrusted test
Model	GWS9-W	Trademark	/
Rated current	5(40)A	Rated voltage	AC240V
Technical parameter	UC1	Serial No.	/
Client	ZHEJIANG GEYA ELECTRICAL CO., LTD.	Address	WENZHOU BRIDGE INDUSTRIAL ZONE, BEIBAIXIANG TOWN 325603 YUEQING,ZHEJIANG - CHINA
Manufacturer	ZHEJIANG GEYA ELECTRICAL CO., LTD.	Address	WENZHOU BRIDGE INDUSTRIAL ZONE, BEIBAIXIANG TOWN 325603 YUEQING,ZHEJIANG - CHINA
Date of Manufacture	/	Sample(s) Deliverer	ZHEJIANG GEYA ELECTRICAL CO., LTD.
Receiving Number of Sample(s)	5 pcs	Receiving Date of Sample(s)	2025-04-29
Test Requirements	IEC 62055-31: 2022 Electricity metering – Payment systems –Part 31: Particular requirements – Static payment meters for active energy(classes 0,5, 1 and 2), IEC 60947-1:2014 Low-voltage switchgear and controlgear-Part 1: General rules		
Decision Criteria	IEC 62055-31: 2022 Electricity metering – Payment systems –Part 31: Particular requirements – Static payment meters for active energy(classes 0,5, 1 and 2), IEC 60947-1:2014 Low-voltage switchgear and controlgear-Part 1: General rules		
Description and Condition of Sample(s)	Be fit for test		
Test Date	2025-05-12 to 2025-08-21	Test location	No. 400 Guangqiong Road, Jiaxing City, Zhejiang, China
Test Summary	The entrusted samples have been tested according to IEC 62055-31: 2022 Electricity metering – Payment systems –Part 31: Particular requirements – Static payment meters for active energy(classes 0,5, 1 and 2), IEC 60947-1:2014 Low-voltage switchgear and controlgear-Part 1: General rules. See page 11 for detailed. The inspection results of the inspected items all meet the requirements of the standard (Decision Criteria). Test Seal Date of Approval: 2025-08-22		
Remarks	The client claims that, Rated voltage: AC240V, Rated current: 5(40)A, Utilization category: UC1.		

Approved by Verified by Test by Compose

TEST REPORT

Photo and Nameplate of the Inspected Sample(s)





TEST REPORT

EMC test installation photos

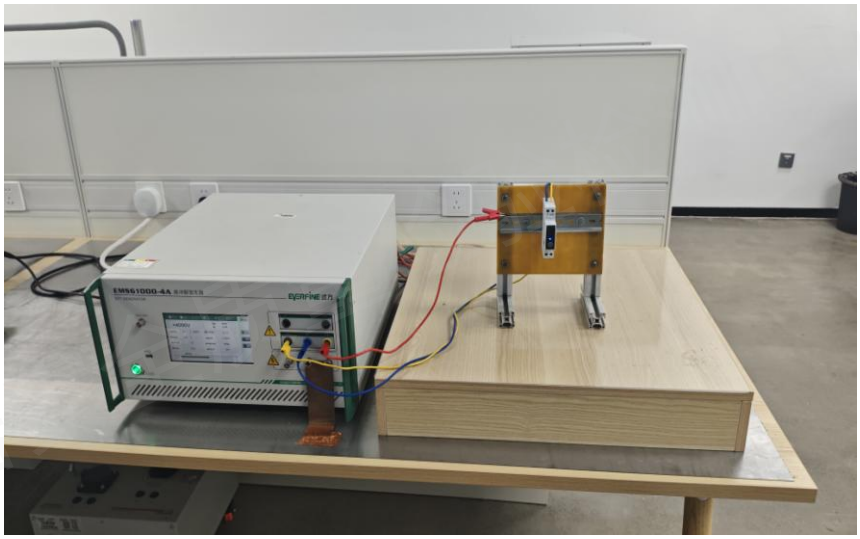
Electrostatic discharges

Radiated radio-frequency electromagnetic fields

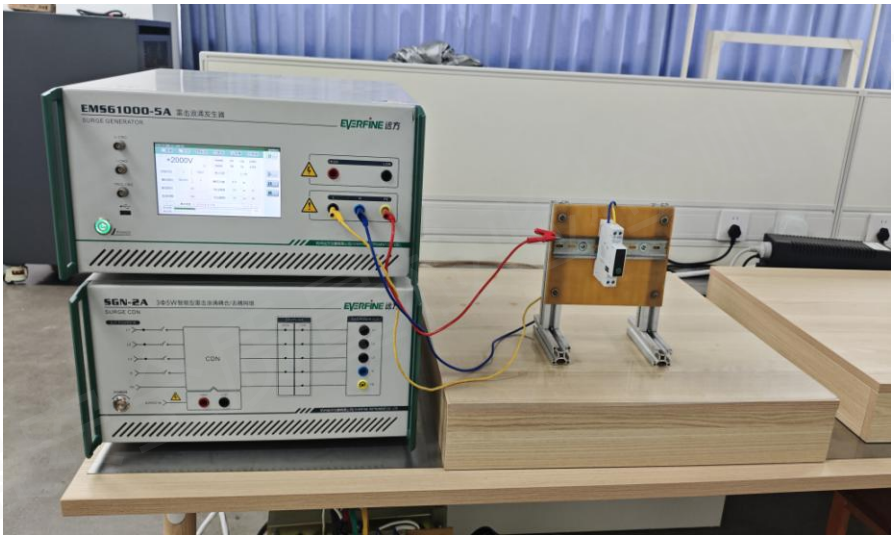
TEST REPORT

EMC test installation photos

Electrical fast transients/bursts (EFT/B)



Surges



TEST REPORT

EMC test installation photos

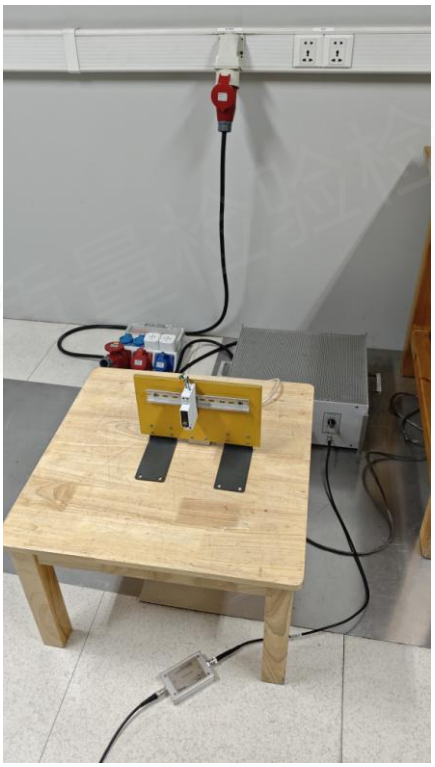
Conducted disturbances induced by radio-frequency fields

Voltage dips and interruptions

TEST REPORT

EMC test installation photos

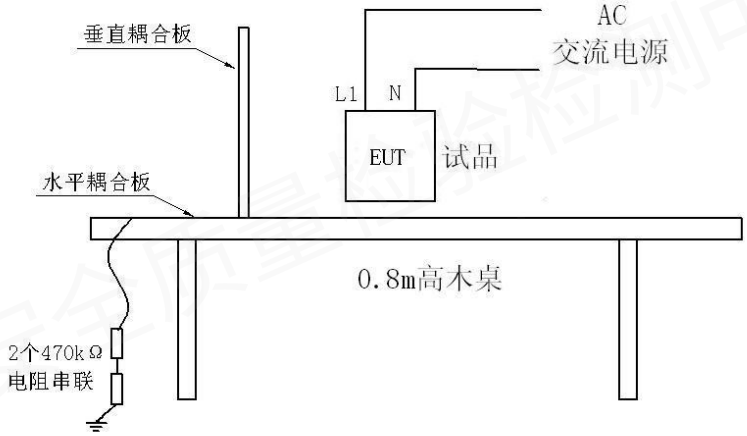
Emission



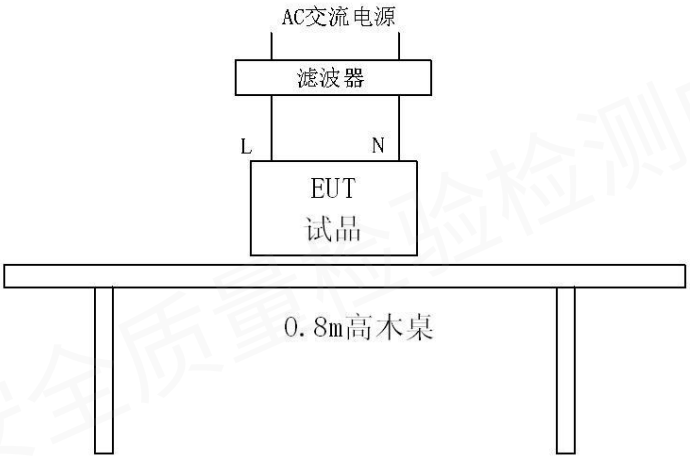
TEST REPORT

EMC Connection diagram of the device under test

Electrostatic discharges



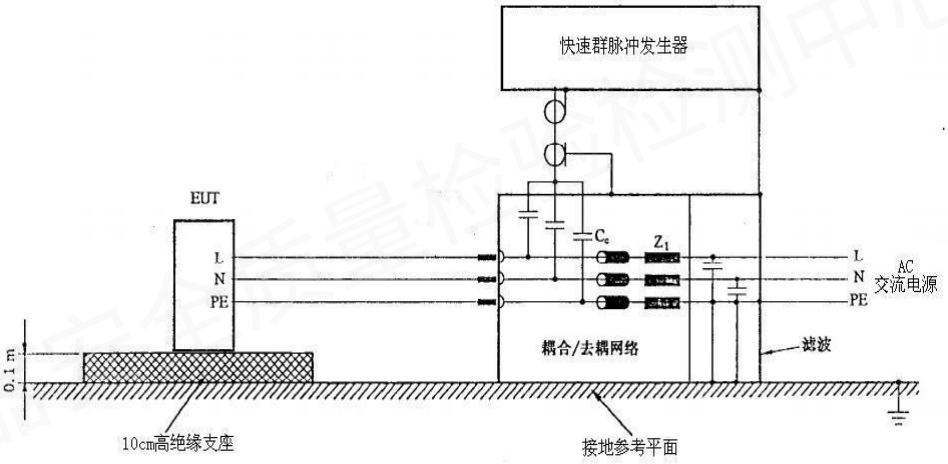
Radiated radio-frequency electromagnetic fields



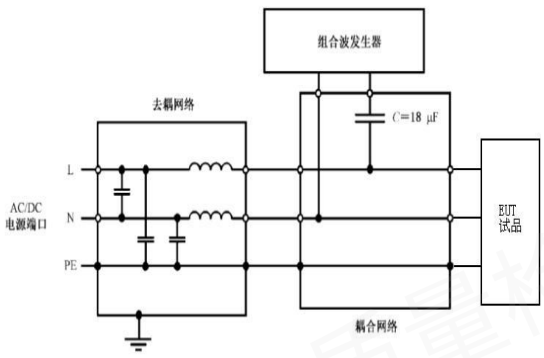
TEST REPORT

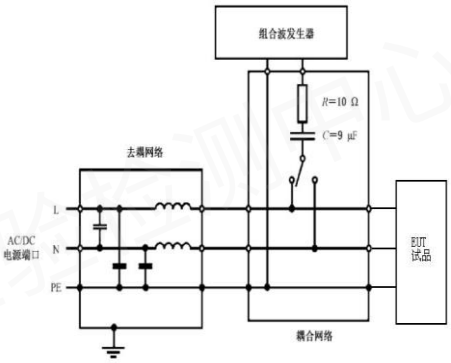
EMC Connection diagram of the device under test

Electrical fast transients/bursts (EFT/B)



Surges

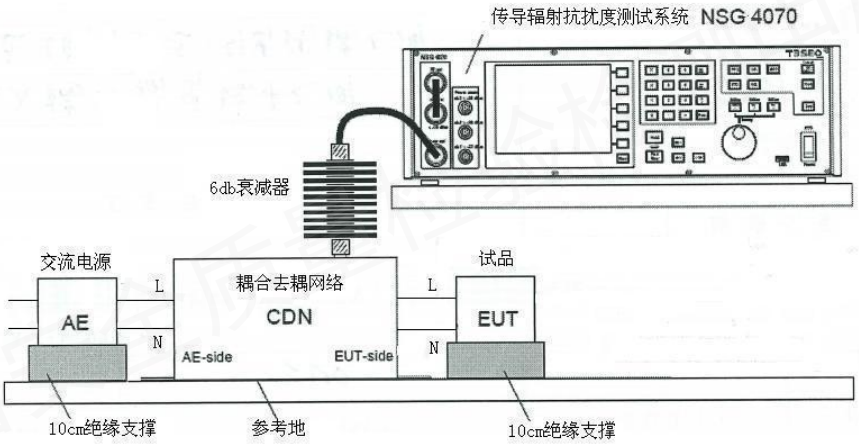




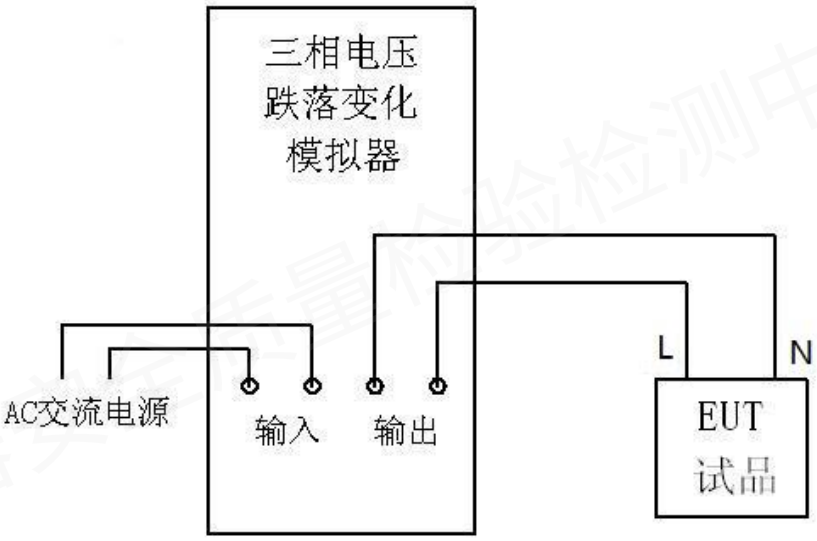
TEST REPORT

EMC Connection diagram of the device under test

Conducted disturbances induced by radio-frequency fields



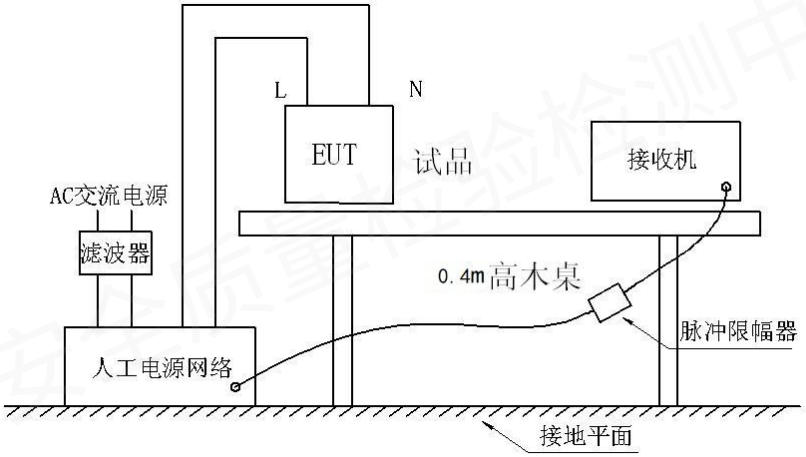
Voltage dips and interruptions

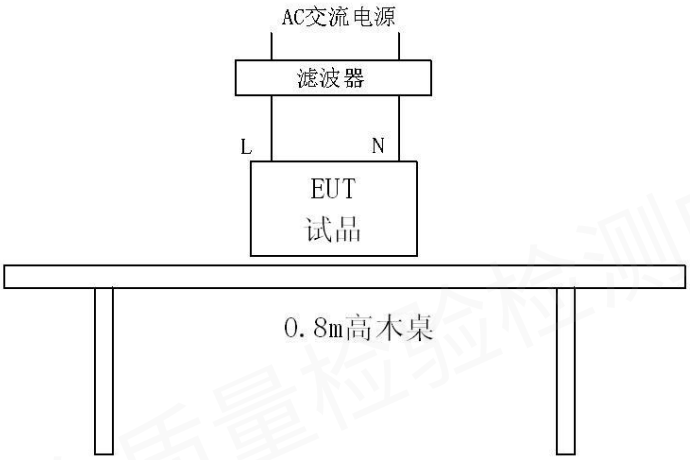


TEST REPORT

EMC Connection diagram of the device under test

Emission





Other Explanation of the Test Report

/

TEST REPORT

Series Number	Test Case	Clause of standard	Serial No. of samples	Verdict
1	Pre-conditioning	IEC 62055-31: 2022 Annex C	1#	P
2	Electrical endurance	IEC 62055-31: 2022 Annex C	1#	P
3	Minimum switched current	IEC 62055-31: 2022 Annex C	1#	P
4	Power consumption in current circuits	IEC 62055-31: 2022 7.7	1#	P
5	Dielectric strength	IEC 62055-31: 2022 Annex C	1#	P
6	Pre-conditioning	IEC 62055-31: 2022 Annex C	2#	P
7	Short-circuit current carrying capacity Test1	IEC 62055-31: 2022 Annex C	2#	P
8	Minimum switched current	IEC 62055-31: 2022 Annex C	2#	P
9	Power consumption in current circuits	IEC 62055-31: 2022 7.7	2#	P
10	Dielectric strength	IEC 62055-31: 2022 Annex C	2#	P
11	Pre-conditioning	IEC 62055-31: 2022 Annex C	3#	P
12	Short-circuit current carrying capacity Test2	IEC 62055-31: 2022 Annex C	3#	P
13	Minimum switched current	IEC 62055-31: 2022 Annex C	3#	P
14	Power consumption in current circuits	IEC 62055-31: 2022 7.7	3#	P
15	Dielectric strength	IEC 62055-31: 2022 Annex C	3#	P
16	Pre-conditioning	IEC 62055-31: 2022 Annex C	4#	P
17	Line to load voltage surge withstand	IEC 62055-31: 2022 Annex C	4#	P
18	Fault current making capacity	IEC 62055-31: 2022 Annex C	4#	P
19	Minimum switched current	IEC 62055-31: 2022 Annex C	4#	P
20	Power consumption in current circuits	IEC 62055-31: 2022 7.7	4#	P
21	Dielectric strength	IEC 62055-31: 2022 Annex C	4#	P
22	Tests for EMC	IEC 60947-1:2014 8.4	5#	P
	(Blank below)			

Note 1.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)
- test data provided without decision of compliance: Test data

Note 2.Serial No. of samples in this page and in the text 1#,2#,3#… is: 25133Y30777-1#,25133Y30777-2#,25133Y30777-3#…

TEST REPORT

Clause	Testing cases and requirements	Test results or observations 1#	Verdict
IEC 62055-31: 2022	Pre-conditioning		P
Annex C	Test voltage(r.m.s.)(V): 240^{+5}_{-5}%	246	
	Test current(r.m.s.)(A): 40^{+5}_{0} %	40.5	
	cosφ: $1.0^{0}_{-0.05}$	1.00	
	Conductor(mm^2 ×m): 10 ×1	10 ×1	
	Number of operating cycles:3	3	
	Make time(s):5	5	
	Break time(s):5	5	
	Control voltage(V): /	/	
	The sample shall operate normally.	operate normally	
IEC 62055-31: 2022	Electrical endurance		P
Annex C	Make and break:		
	a sequence		
	Test voltage(r.m.s.)(V): 240^{+5}_{-5}%	246	
	Test current(r.m.s.)(A): 40^{+5}_{0} %	40.5	
	cosφ: $1.0^{0}_{-0.05}$	1.00	
	Number of operating cycles: 5000	5000	
	Make time(s): 10	10	
	Break time(s): 20	20	
	b sequence		
	Test voltage(r.m.s.)(V): 240^{+5}_{-5}%	246	
	Test current(r.m.s.)(A): 40^{+5}_{0} %	40.2	
	cosφ: 0.5 ± 0.05	0.50	
	Number of operating cycles: 5000	5000	
	Make time(s): 10	10	
	Break time(s): 20	20	
	Conductor(mm^2 × m): 10 × 1	10 × 1	
	Control voltage(V): /	/	
	Acceptance criteria		
	There is no welding or failure to close;	No signs	
	Excite the coil and it works normally.	Complied	
	Serial No. of oscillograms	S250777901~S250777912	

TEST REPORT

Clause	Testing cases and requirements	Test results or observations 1#	Verdict
IEC 62055-31: 2022 Annex C	Minimum switched current		P
	Test voltage(r.m.s.)(V): 240^{+5}_{-5}%	246	
	Test current(r.m.s.)(A): 0.02^{+5}_{0} %	0.02	
	cosφ: $1.0^{0}_{-0.05}$	1.00	
	Number of operating cycles: 10	10	
	Make time(s): 10	10	
	Break time(s): 20	20	
	Conductor(mm^2 × m): 10 × 1	10 × 1	
	Control voltage(V): /	/	
	Test current shall successfully conduct each time the contacts are in the closed position;	Complied	
	Test current shall successfully break each time the contacts are in the open position.	Complied	
IEC 62055-31: 2022 7.7	Power consumption in current circuits		P
	Test voltage(V): 240^{+5}_{-5}%	240	
	Test current(A): 40^{+5}_{0} %	40.0	
	Conductor(mm^2 ×m): 10 × 1	10 × 1	
	Measurement ofpower consumption:		
	Test position: main circuit Incoming terminal –outgoing terminal	L~L	
	Voltage-drop (mV):	89.3	
	Power consumption(VA): ⩽ 0.08%U_eI_n:7.68	3.57	

TEST REPORT

Clause	Testing cases and requirements	Test results or observations 1#	Verdict
IEC 62055-31: 2022 Annex C	Dielectric strength		P
	1). Impulse withstand voltage test		
	Ambient temperature:℃	24.2℃	
	Impulse voltage:		
	In the open position(kV):2.00^{+3}_{-3}%	2.01	
	In the closed position(kV):2.00^{+3}_{-3}%	2.01	
	Impulse voltage wave:1.2/50μs		
	Interval(s):≥3	10	
	Test times: 10times for the positive and negative polarity each.	10/10	
	Applied position:		
	In the open position:		
	Between the supply incoming terminal and the outgoing terminal;	No unintentional disruptive discharges	
	In the closed position:		
	Between the supply incoming terminals connected together and the metal foil in contact with the outer surface of the enclosure;	No unintentional disruptive discharges	
	2). Power frequency withstand voltage test		
	Ambient temperature:℃	24.2℃	
	Test voltage:		
	In the open position(kV): 1.00^{+3}_{-3}%	1.00	
	In the closed position(kV): 1.00^{+3}_{-3}%	1.00	
	Time of applying voltage(min):1	1	
	Applied position:		
	In the open position:		
	Between the supply incoming terminal and the outgoing terminal;	No flashover or puncture	
	In the closed position:		
	Between the supply incoming terminals connected together and the metal foil in contact with the outer surface of the enclosure;	No flashover or puncture	
	The leakage current shall be recorded:		
	Applied position:		
	In the open position:		
	Between the supply incoming terminal and the outgoing terminal;	3.90μA	
	In the closed position:		
	Between the supply incoming terminals connected together and the metal foil in contact with the outer surface of the enclosure;	＜1μA	

TEST REPORT

Clause	Testing cases and requirements	Test results or observations 2#	Verdict
IEC 62055-31: 2022	Pre-conditioning		P
Annex C	Test voltage(r.m.s.)(V): 240^{+5}_{-5}%	246	
	Test current(r.m.s.)(A): 40^{+5}_{0} %	40.5	
	cosφ: $1.0^{0}_{-0.05}$	1.00	
	Conductor(mm^2×m): 10×1	10×1	
	Number of operating cycles:3	3	
	Make time(s):5	5	
	Break time(s):5	5	
	Control voltage(V): /	/	
	The sample shall operate normally.	operate normally	
IEC 62055-31: 2022	Short-circuit current carrying capacity Test1		P
Annex C	Test voltage(r.m.s.)(V): 1.15 × 240^{+5}_{-5}%	278	
	Test current(r.m.s.)(kA): 3^{+5}_{0} %	3.08	
	cosφ: 0.85~0.90	0.88	
	Control voltage(V): /	/	
	Conductor(mm^2×m): 10×1	10×1	
	Electrical angle: 0°	See the oscillogram for details	
	Duration(ms): one half cycle	11.4(max)	
	Test sequence: O_1-t_1-O_2-t_2-O_3		
	Interval(min): ⩾1	1	
	I_p max (kA)	4.27	
	I^2t max (kA^2s)	93.6	
	Acceptance criteria:		
	Welding and burning of contacts are allowed;	No signs	
	There shall be no signs of burning or smoking of the enclosure and the conductors;	No signs	
	The surroundings of the payment meter shall not be endangered.	No	
	Serial No. of the oscillogram of the prospective current:	Y250777001	
	Serial No. of the oscillograms:	S250777001~S250777003	

TEST REPORT

Clause	Testing cases and requirements	Test results or observations 2#	Verdict
IEC 62055-31: 2022 Annex C	Minimum switched current		P
	Test voltage(r.m.s.)(V): 240^{+5}_{-5}%	246	
	Test current(r.m.s.)(A): 0.02^{+5}_{0} %	0.02	
	cosφ: $1.0^{0}_{-0.05}$	1.00	
	Number of operating cycles: 10	10	
	Make time(s): 10	10	
	Break time(s): 20	20	
	Conductor(mm^2 × m): 10 × 1	10 × 1	
	Control voltage(V): /	/	
	Test current shall successfully conduct each time the contacts are in the closed position;	Complied	
	Test current shall successfully break each time the contacts are in the open position.	Complied	
IEC 62055-31: 2022 7.7	Power consumption in current circuits		P
	Test voltage(V): 240^{+5}_{-5}%	240	
	Test current(A): 40^{+5}_{0} %	40.0	
	Conductor(mm^2 ×m): 10 × 1	10 × 1	
	Measurement ofpower consumption:		
	Test position: main circuit Incoming terminal –outgoing terminal	L~L	
	Voltage-drop (mV):	75.9	
	Power consumption(VA): ⩽ 0.08%U_eI_n:7.68	3.04	

TEST REPORT

Clause	Testing cases and requirements	Test results or observations 2#	Verdict
IEC 62055-31: 2022 Annex C	Dielectric strength		P
	1). Impulse withstand voltage test		
	Ambient temperature:℃	24.2℃	
	Impulse voltage:		
	In the open position(kV):2.00^{+3}_{-3}%	2.00	
	In the closed position(kV):2.00^{+3}_{-3}%	2.00	
	Impulse voltage wave:1.2/50μs		
	Interval(s):≥3	10	
	Test times: 10times for the positive and negative polarity each.	10/10	
	Applied position:		
	In the open position:		
	Between the supply incoming terminal and the outgoing terminal;	No unintentional disruptive discharges	
	In the closed position:		
	Between the supply incoming terminals connected together and the metal foil in contact with the outer surface of the enclosure;	No unintentional disruptive discharges	
	2). Power frequency withstand voltage test		
	Ambient temperature:℃	24.2℃	
	Test voltage:		
	In the open position(kV): 1.00^{+3}_{-3}%	1.00	
	In the closed position(kV): 1.00^{+3}_{-3}%	1.00	
	Time of applying voltage(min):1	1	
	Applied position:		
	In the open position:		
	Between the supply incoming terminal and the outgoing terminal;	No flashover or puncture	
	In the closed position:		
	Between the supply incoming terminals connected together and the metal foil in contact with the outer surface of the enclosure;	No flashover or puncture	
	The leakage current shall be recorded:		
	Applied position:		
	In the open position:		
	Between the supply incoming terminal and the outgoing terminal;	3.97μA	
	In the closed position:		
	Between the supply incoming terminals connected together and the metal foil in contact with the outer surface of the enclosure;	＜1μA	

TEST REPORT

Clause	Testing cases and requirements	Test results or observations 3#	Verdict
IEC 62055-31: 2022	Pre-conditioning		P
Annex C	Test voltage(r.m.s.)(V): 240^{+5}_{-5}%	246	
	Test current(r.m.s.)(A): 40^{+5}_{0} %	40.5	
	cosφ: $1.0^{0}_{-0.05}$	1.00	
	Conductor(mm^2×m): 10×1	10×1	
	Number of operating cycles:3	3	
	Make time(s):5	5	
	Break time(s):5	5	
	Control voltage(V): /	/	
	The sample shall operate normally.	operate normally	
IEC 62055-31: 2022	Short-circuit current carrying capacity Test 2		P
Annex C	Test voltage(r.m.s.)(V): 1.15 × 240^{+5}_{-5}%	278	
	Test current(r.m.s.)(kV): 1.5^{+5}_{0} %	1.52	
	cosφ: 0.93~0.98	0.97	
	Control voltage(V): /	/	
	Conductor(mm^2×m): 10×1	10×1	
	Make time(ms):one half cycle	10.7	
	Test sequence:O		
	I_p max (kA)	2.11	
	I^2t max (kA^2s)	22.5	
	Acceptance criteria:		
	There shall be no signs of sticking or welding of contacts;	No signs	
	There shall be no signs of burning or smoking of the enclosure and the conductors;	No signs	
	The surroundings of the payment meter shall not be endangered.	No	
	Cooling the sample for more than 5 min after the test, the sample shall operate normally when applying the control voltage.	Complied	
	Serial No. of the oscillogram of the prospective current:	Y250777002	
	Serial No. of the oscillograms:	S250777101	

TEST REPORT

Clause	Testing cases and requirements	Test results or observations 3#	Verdict
IEC 62055-31: 2022 Annex C	Minimum switched current		P
	Test voltage(r.m.s.)(V): 240^{+5}_{-5}%	246	
	Test current(r.m.s.)(A): 0.02^{+5}_{0} %	0.02	
	cosφ: $1.0^{0}_{-0.05}$	1.00	
	Number of operating cycles: 10	10	
	Make time(s): 10	10	
	Break time(s): 20	20	
	Conductor(mm^2 × m): 10 × 1	10 × 1	
	Control voltage(V): /	/	
	Test current shall successfully conduct each time the contacts are in the closed position;	Complied	
	Test current shall successfully break each time the contacts are in the open position.	Complied	
IEC 62055-31: 2022 7.7	Power consumption in current circuits		P
	Test voltage(V): 240^{+5}_{-5}%	240	
	Test current(A): 40^{+5}_{0} %	40.0	
	Conductor(mm^2 ×m): 10 × 1	10 × 1	
	Measurement ofpower consumption:		
	Test position: main circuit Incoming terminal –outgoing terminal	L~L	
	Voltage-drop (mV):	77.6	
	Power consumption(VA): ⩽ 0.08%U_eI_n:7.68	3.10	

TEST REPORT

Clause	Testing cases and requirements	Test results or observations 3#	Verdict
IEC 62055-31: 2022 Annex C	Dielectric strength		P
	1). Impulse withstand voltage test		
	Ambient temperature:℃	24.2℃	
	Impulse voltage:		
	In the open position(kV):2.00$^{+3}_{-3}$%	2.00	
	In the closed position(kV):2.00$^{+3}_{-3}$%	2.00	
	Impulse voltage wave:1.2/50μs		
	Interval(s):≥3	10	
	Test times: 10times for the positive and negative polarity each.	10/10	
	Applied position:		
	In the open position:		
	Between the supply incoming terminal and the outgoing terminal;	No unintentional disruptive discharges	
	In the closed position:		
	Between the supply incoming terminals connected together and the metal foil in contact with the outer surface of the enclosure;	No unintentional disruptive discharges	
	2). Power frequency withstand voltage test		
	Ambient temperature:℃	24.2℃	
	Test voltage:		
	In the open position(kV): 1.00$^{+3}_{-3}$%	1.00	
	In the closed position(kV): 1.00$^{+3}_{-3}$%	1.00	
	Time of applying voltage(min):1	1	
	Applied position:		
	In the open position:		
	Between the supply incoming terminal and the outgoing terminal;	No flashover or puncture	
	In the closed position:		
	Between the supply incoming terminals connected together and the metal foil in contact with the outer surface of the enclosure;	No flashover or puncture	
	The leakage current shall be recorded:		
	Applied position:		
	In the open position:		
	Between the supply incoming terminal and the outgoing terminal;	3.61μA	
	In the closed position:		
	Between the supply incoming terminals connected together and the metal foil in contact with the outer surface of the enclosure;	＜1μA	

TEST REPORT

Clause	Testing cases and requirements	Test results or observations 4#	Verdict
IEC 62055-31: 2022 Annex C	Pre-conditioning		P
	Test voltage(r.m.s.)(V): 240^{+5}_{-5}%	246	
	Test current(r.m.s.)(A): 40^{+5}_{0} %	40.5	
	cosφ: $1.0^{0}_{-0.05}$	1.00	
	Conductor(mm^2×m): 10×1	10×1	
	Number of operating cycles:3	3	
	Make time(s):5	5	
	Break time(s):5	5	
	Control voltage(V): /	/	
	The sample shall operate normally.	operate normally	
IEC 62055-31: 2022 Annex C	Line to load voltage surge withstand		P
	Ambient temperature:℃	24.2℃	
	Impulse voltage wave: 1.2/50μs		
	Test voltage: measured data(kV)		
	Interval:same polarity 60s, opposite polarity 60s	60s	
	Test times:		
	Positive and negative poles: 5 times each	5/5	
	Applied position:	L_1	
	Apply 1^{+3}_{-3}%kV,2^{+3}_{-3}%kV,3^{+3}_{-3}%kV,4^{+3}_{-3}%kV to 12^{+3}_{-3}%kV between product contacts,and record the breakdown voltage between product contacts during the test	6.11kV Breakdown	
	It is permitted for flashover and disruptive discharge to occur during the test, there shall be no permanent damage to any part of the payment meter.	Pass	

TEST REPORT

Clause	Testing cases and requirements	Test results or observations 4#	Verdict
IEC 62055-31: 2022 Annex C	Fault current making capacity		P
	Test voltage(r.m.s.)(V): $1.15 \times 240^{+5}_{-5}$%	278	
	Test current(r.m.s.) (kA): 1.5^{+5}_{0} %	1.52	
	cosφ: 0.93~0.98	0.97	
	Control voltage(V): /	/	
	Conductor(mm^2×m): 10×1	10×1	
	Test sequence: 3 times	3	
	Interval(min): ⩾1	1	
	I_p max (kA)	2.09	
	I^2t max (kA^2s)	22.1	
	Duration: max (ms)	10.7	
	Arcing time: max (ms)	/	
	Acceptance criteria: 1) There shall be no signs ofsticking or welding of contacts; 2) There shall be no signs of burning or smoking of the enclosure and the conductors; 3) The surroundings of the payment meter shall not be endangered; Serial No. of the oscillogram of the prospective current: Serial No. of the oscillograms:	 No signs No signs No Y250777002 S250777201~S250777203	

TEST REPORT

Clause	Testing cases and requirements	Test results or observations 4#	Verdict
IEC 62055-31: 2022 Annex C	Minimum switched current		P
	Test voltage(r.m.s.)(V): 240^{+5}_{-5}%	246	
	Test current(r.m.s.)(A): 0.02^{+5}_{0} %	0.02	
	cosφ: $1.0^{0}_{-0.05}$	1.00	
	Number of operating cycles: 10	10	
	Make time(s): 10	10	
	Break time(s): 20	20	
	Conductor(mm^2 × m): 10 × 1	10 × 1	
	Control voltage(V): /	/	
	Test current shall successfully conduct each time the contacts are in the closed position;	Complied	
	Test current shall successfully break each time the contacts are in the open position.	Complied	
IEC 62055-31: 2022 7.7	Power consumption in current circuits		P
	Test voltage(V): 240^{+5}_{-5}%	240	
	Test current(A): 40^{+5}_{0} %	40.0	
	Conductor(mm^2 ×m): 10 × 1	10 × 1	
	Measurement ofpower consumption:		
	Test position: main circuit Incoming terminal –outgoing terminal	L~L	
	Voltage-drop (mV):	72.5	
	Power consumption(VA): ⩽ 0.08%U_eI_n:7.68	2.90	

TEST REPORT

Clause	Testing cases and requirements	Test results or observations 4#	Verdict
IEC 62055-31: 2022 Annex C	Dielectric strength		P
	1). Impulse withstand voltage test		
	Ambient temperature:℃	24.2℃	
	Impulse voltage:		
	In the open position(kV):2.00$^{+3}_{-3}$%	2.00	
	In the closed position(kV):2.00$^{+3}_{-3}$%	2.00	
	Impulse voltage wave:1.2/50μs		
	Interval(s):≥3	10	
	Test times: 10times for the positive and negative polarity each.	10/10	
	Applied position:		
	In the open position:		
	Between the supply incoming terminal and the outgoing terminal;	No unintentional disruptive discharges	
	In the closed position:		
	Between the supply incoming terminals connected together and the metal foil in contact with the outer surface of the enclosure;	No unintentional disruptive discharges	
	2). Power frequency withstand voltage test		
	Ambient temperature:℃	24.2℃	
	Test voltage:		
	In the open position(kV): 1.00$^{+3}_{-3}$%	1.00	
	In the closed position(kV): 1.00$^{+3}_{-3}$%	1.00	
	Time of applying voltage(min):1	1	
	Applied position:		
	In the open position:		
	Between the supply incoming terminal and the outgoing terminal;	No flashover or puncture	
	In the closed position:		
	Between the supply incoming terminals connected together and the metal foil in contact with the outer surface of the enclosure;	No flashover or puncture	
	The leakage current shall be recorded:		
	Applied position:		
	In the open position:		
	Between the supply incoming terminal and the outgoing terminal;	3.73μA	
	In the closed position:		
	Between the supply incoming terminals connected together and the metal foil in contact with the outer surface of the enclosure;	＜1μA	

TEST REPORT

Clause	Testing cases and requirements	Test results or observations 5#	Verdict
IEC 60947-1:2014 8.4	Tests for EMC		P
	Electrostatic discharges		
8.4.1.2.2	Air discharges on non conductive accessible parts: ± 8kV	8kV(Shell, shell seam)	
	Contact discharges on conductive accessible parts: ± 6kV	6kV(nut bolt)	
	Indirect discharges on the enclosure: ± 6kV	6kV(HCP、VCP)	
	The test shall be repeated 10 times at each measuring point, with a minimum time interval of 1s between pulses.	Complied	
	It shall comply with performance criterion B	Complied	
		Note: After the test, the test sample can be normally closed and opened through the software terminal control.	
8.4.1.2.3	Radiated radio-frequency electromagnetic fields		
	Polarization direction: horizontal, vertical	Horizontal, vertical	
	It shall comply with performance criterion A	Complied	
	1. Frequency range(MHz):80~1000	80~1000	
	RF interference field strength(V/m): 10	10	
	2. Frequency range(MHz):1400~2700	1400~2700	
	RF interference field strength(V/m): 3	3	
	Actual dwell time (s):	1.0	
		Uncertainty:U=2.32dB,k=2	
		Note: After the test, the test sample can be normally closed and opened through the software terminal control.	
8.4.1.2.4	Electrical fast transients/bursts (EFT/B) (5/50ns)		
	Test level (kV): 4	4	
	Repetition frequency(kHz): 5	5	
	Test time(min):1	1	
	Test position:Power line	Power line	
	It shall comply with performance criterion A	Complied	

TEST REPORT

Clause	Testing cases and requirements	Test results or observations 5#	Verdict
8.4.1.2.5	Surges (1.2/50μs~8/20μs)		
	Test level: 2kV	2kV(difference mode)	
	Test position:	L_1-N(difference mode)	
	Pulses with both positive and negative polarity shall be applied, the phase angles being 0 °, 90 °, and 270 ° A series of 5 pulses is applied for each polarity and each phase angel the interval between two pulses being approximately 1min.	5 times for each polarity and each phase angel 1 times per minute	
	It shall comply with performance criterion B	Complied	
		Note: After the test, the test sample can be normally closed and opened through the software terminal control.	
	Test level: 4kV	4kV(common mode)	
	Test position:	L_1-PE(common mode) N-PE(common mode)	
	Pulses with both positive and negative polarity shall be applied, the phase angles being 0 °, 90 °, and 270 ° A series of 5 pulses is applied for each polarity and each phase angel the interval between two pulses being approximately 1min.	5 times for each polarity and each phase angel 1 times per minute	
	It shall comply with performance criterion B	Complied	
		Note: After the test, the test sample can be normally closed and opened through the software terminal control.	
8.4.1.2.6	Conducted disturbances induced by radio-frequency fields		
	Test level(V):10	10	
	Frequency range(MHz):0.15~80	0.15~80	
	Test position:	Power line	
	It shall comply with performance criterion A	Complied	
	Actual dwell time (s):	1.0	
		Note: After the test, the test sample can be normally closed and opened through the software terminal control.	

TEST REPORT

Clause	Testing cases and requirements	Test results or observations 5#	Verdict
8.4.1.2.8	Voltage dips and interruptions: Voltage dips test: Test level:(0%,0%,40%,70%,80%) $\times U_T$V Duration:0.5T,1T,10T,25T,250T The phase angles tested are 0° and 180° respectively It shall comply with performance criterion B interruptions test: Test level: 0%, $\times U_T$V Duration:250T It shall comply with performance criterion B	 Complied Complied Note: After the test, the test sample can be normally closed and opened through the software terminal control.	

TEST REPORT

<table>
<tr><th rowspan="2">Clause</th><th rowspan="2">Testing cases and requirements</th><th>Test results or observations</th><th rowspan="2">Verdict</th></tr>
<tr><th>5#</th></tr>
<tr><td>8.4.2</td><td>Emission
The test results shall meet the requirements of Environment B (Group 1).
<table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Quasi peak limits:</th></tr><tr><th>Quasi peak: dB(μV)</th><th>average value: dB(μV)</th></tr><tr><td>0.15~0.5</td><td>66 Decreasing linearly with logarithm of frequency to 56</td><td>56 Decreasing linearly with logarithm of frequency to 46</td></tr><tr><td>0.5~5</td><td>56</td><td>46</td></tr><tr><td>5~30</td><td>60</td><td>50</td></tr></table>See attached drawings for details:

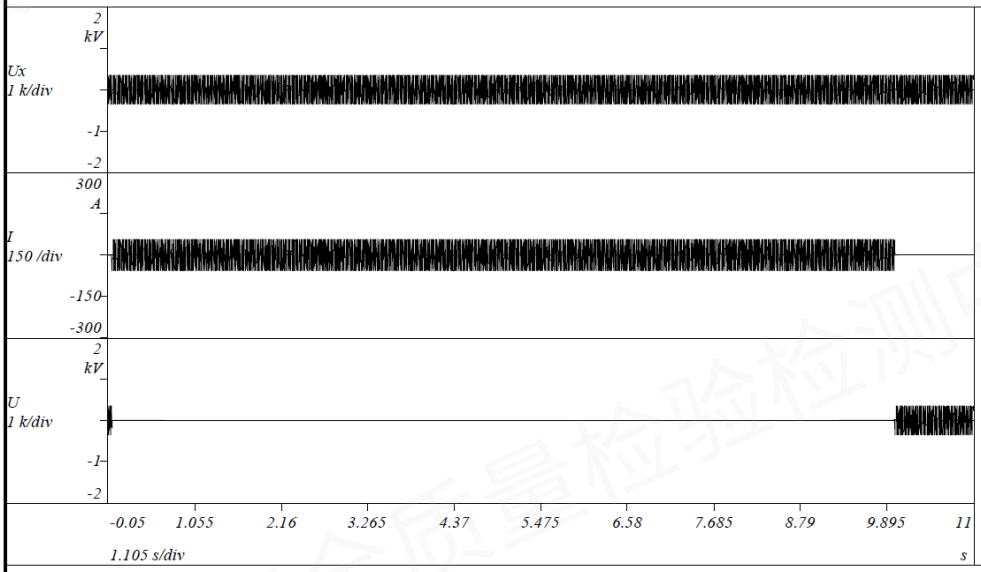
The test results shall meet the requirements of Environment B (Group 1).
<table><tr><th>Frequency range (MHz)</th><th>Quasi peak limits: dB(μV/m)</th></tr><tr><td>30 ~ 230</td><td>40 Quasi peak *</td></tr><tr><td>230 ~ 1000</td><td>47 Quasi peak *</td></tr></table>*Measure 3m away from the sample
See attached drawings for details:</td><td>Complied

CE25133Y3077701~ CE25133Y3077702
Qp Uncertainty:U=3.0dB，k=2
AV Uncertainty:U=3.0dB，k=2

Complied

RE25133Y3077701
Uncertainty:U=3.8dB,k=2</td><td></td></tr>
</table>

Oscillogram of the test 25133Y30777

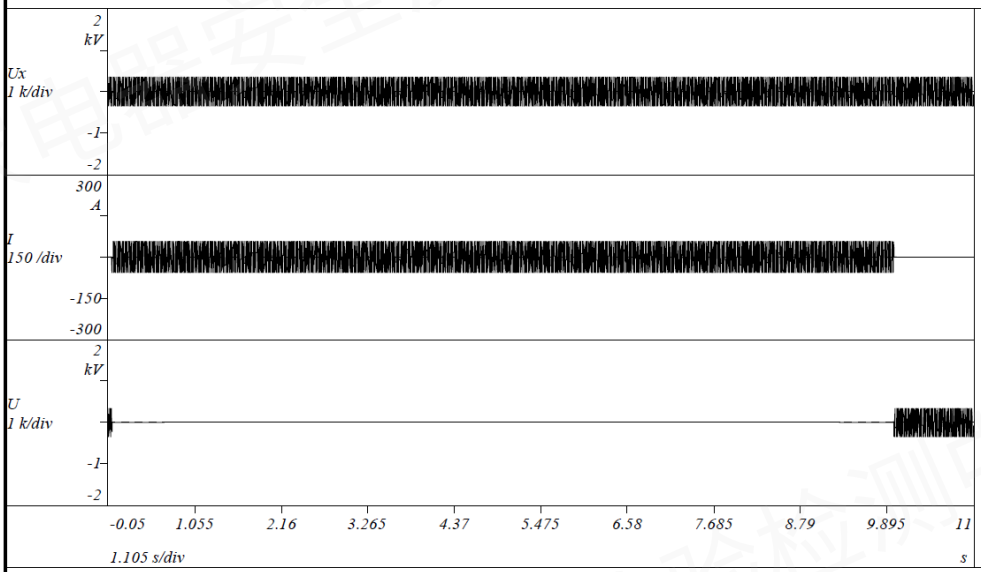


240 V
40 A
Ux = 246 V
U = 246 V
I = 40.5 A
cosφ= 1.00
1#
No.1

I_p= 57.5 A

on time: 10.0 s
arcing time: 9.95 ms

S250777901

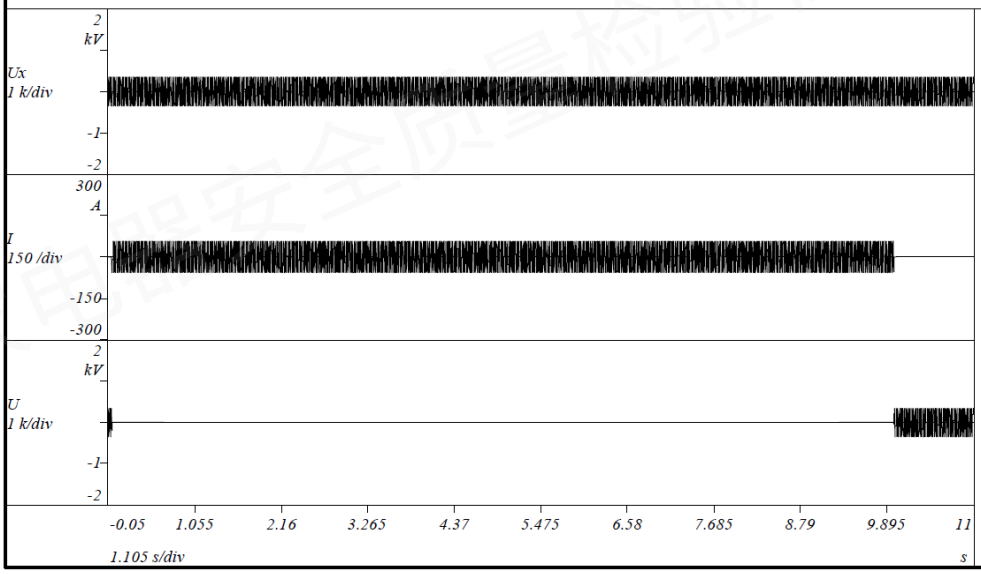


240 V
40 A
Ux = 246 V
U = 246 V
I = 40.5 A
cosφ= 1.00
1#
No.2500

I_p= 57.5 A

on time: 10.0 s
arcing time: 8.08 ms

S250777902



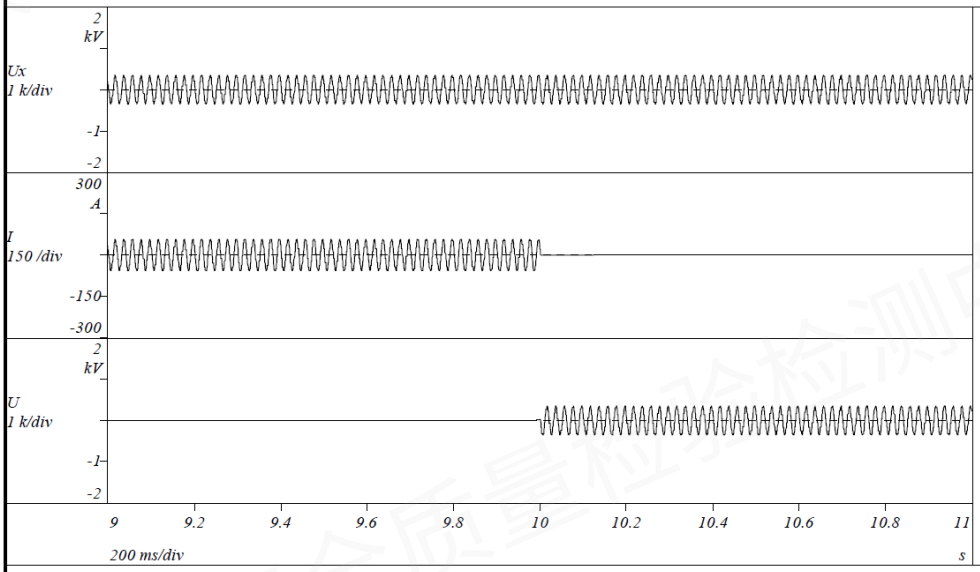
240 V
40 A
Ux = 246 V
U = 246 V
I = 40.5 A
cosφ= 1.00
1#
No.5000

I_p= 57.4 A

on time: 10.0 s
arcing time: 9.51 ms

S250777903

Oscillogram of the test 25133Y30777

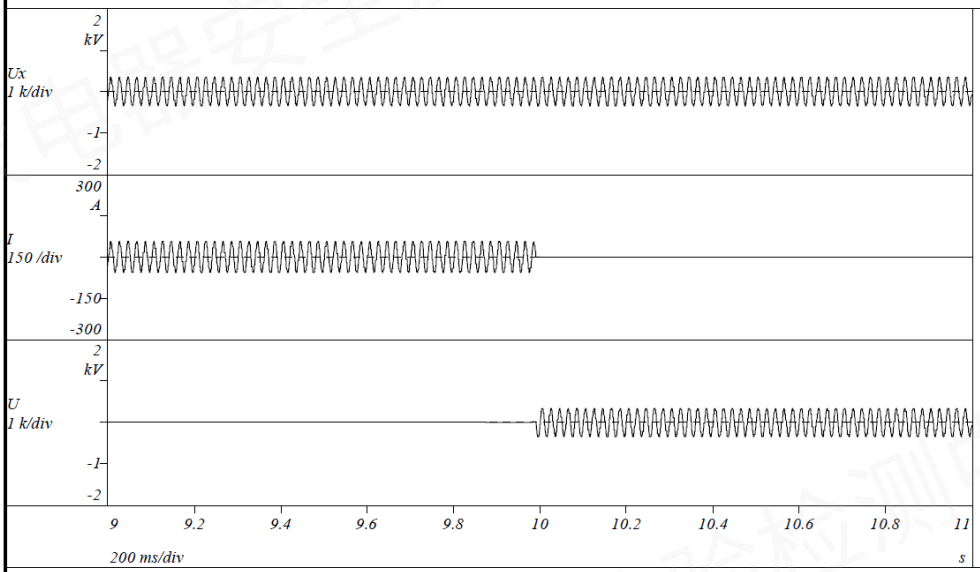


240 V
40 A
Ux = 246 V
U = 246 V
I = 40.5 A
cosφ= 1.00
1#
No.1

I_p= 57.5 A

on time: 10.0 s
arcing time: 9.95 ms

S250777904

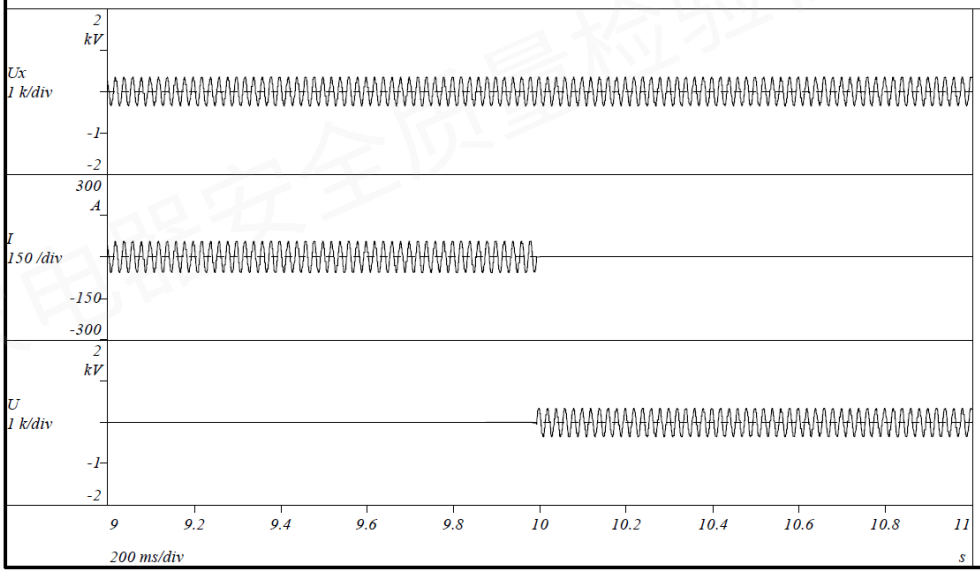


240 V
40 A
Ux = 246 V
U = 246 V
I = 40.5 A
cosφ= 1.00
1#
No.2500

I_p= 57.5 A

on time: 10.0 s
arcing time: 8.08 ms

S250777905



240 V
40 A
Ux = 246 V
U = 246 V
I = 40.5 A
cosφ= 1.00
1#
No.5000

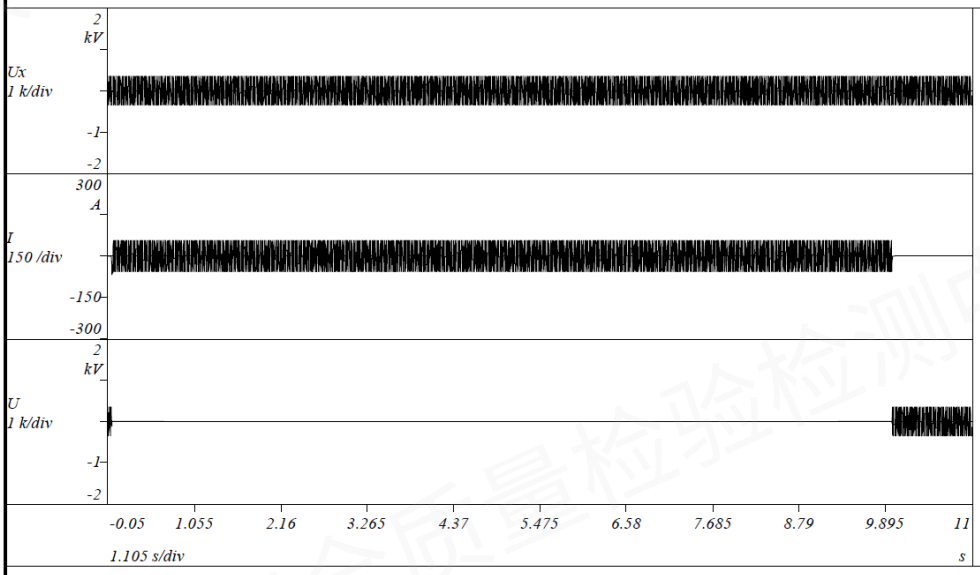
I_p= 57.4 A

on time: 10.0 s
arcing time: 9.51 ms

S250777906

Oscillogram of the test

25133Y30777

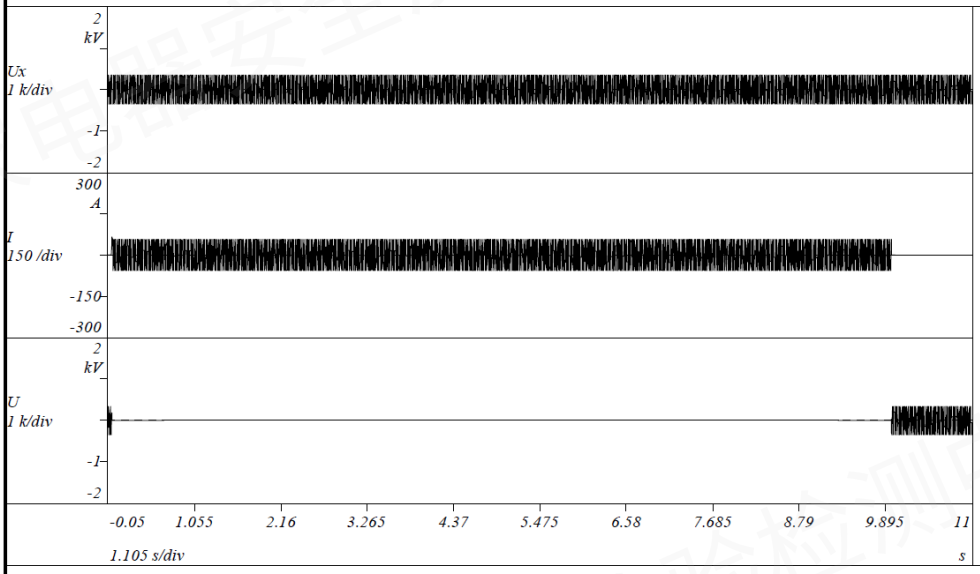


240 V
40 A
Ux = 246 V
U = 246 V
I = 40.2 A
cosφ= 0.50
1#
No.1

I_p= 67.3 A

on time: 10.0 s
arcing time: 2.30 ms

S250777907

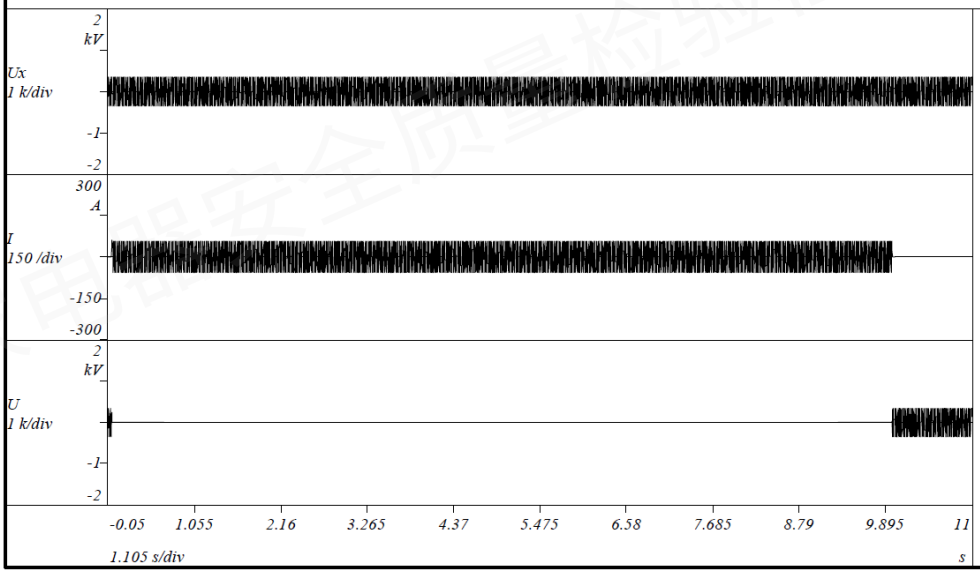


240 V
40 A
Ux = 246 V
U = 246 V
I = 40.2 A
cosφ= 0.50
1#
No.2500

I_p= 65.5 A

on time: 10.0 s
arcing time: 5.29 ms

S250777908



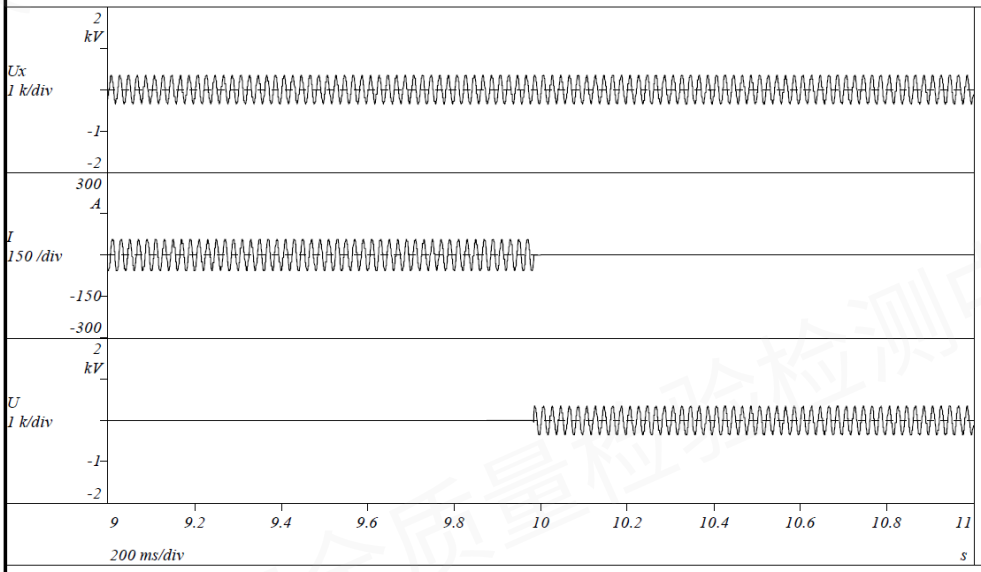
240 V
40 A
Ux = 246 V
U = 246 V
I = 40.2 A
cosφ= 0.50
1#
No.5000

I_p= 62.7 A

on time: 10.0 s
arcing time: 2.36 ms

S250777909

Oscillogram of the test 25133Y30777

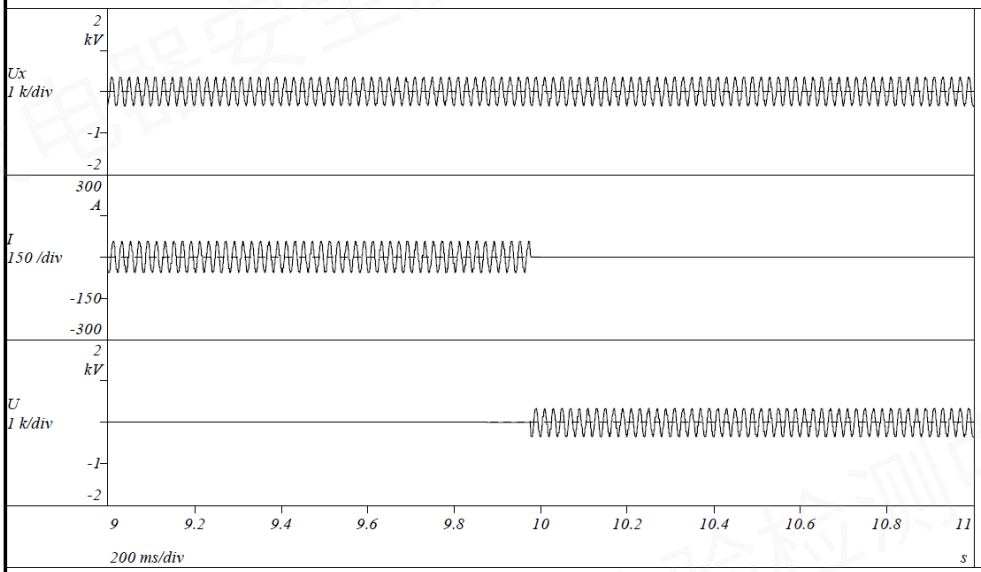


240 V
40 A
Ux = 246 V
U = 246 V
I = 40.2 A
cosφ= 0.50
1#
No.1

I_p= 67.3 A

on time: 10.0 s
arcing time: 2.30 ms

S250777910

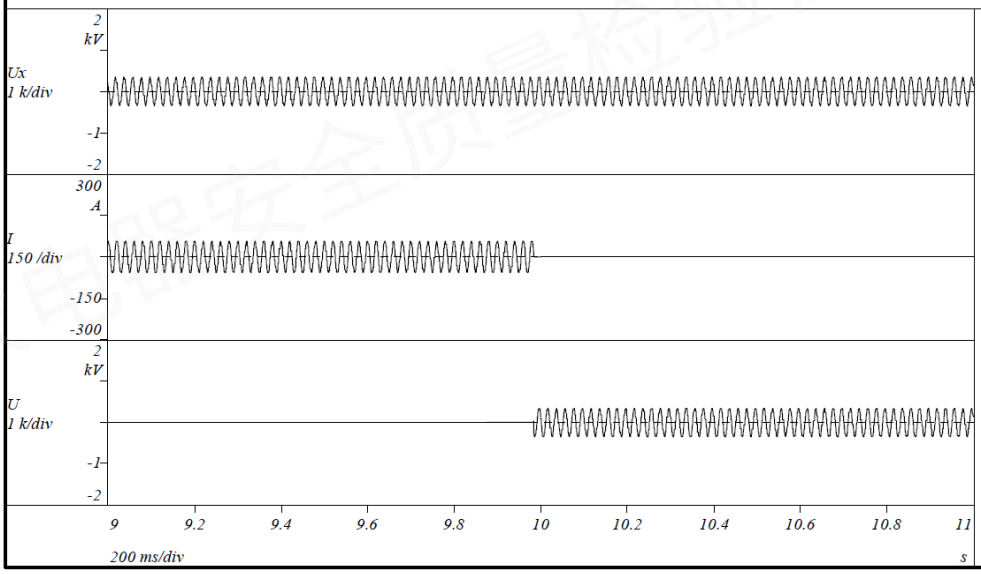


240 V
40 A
Ux = 246 V
U = 246 V
I = 40.2 A
cosφ= 0.50
1#
No.2500

I_p= 65.5 A

on time: 10.0 s
arcing time: 5.29 ms

S250777911

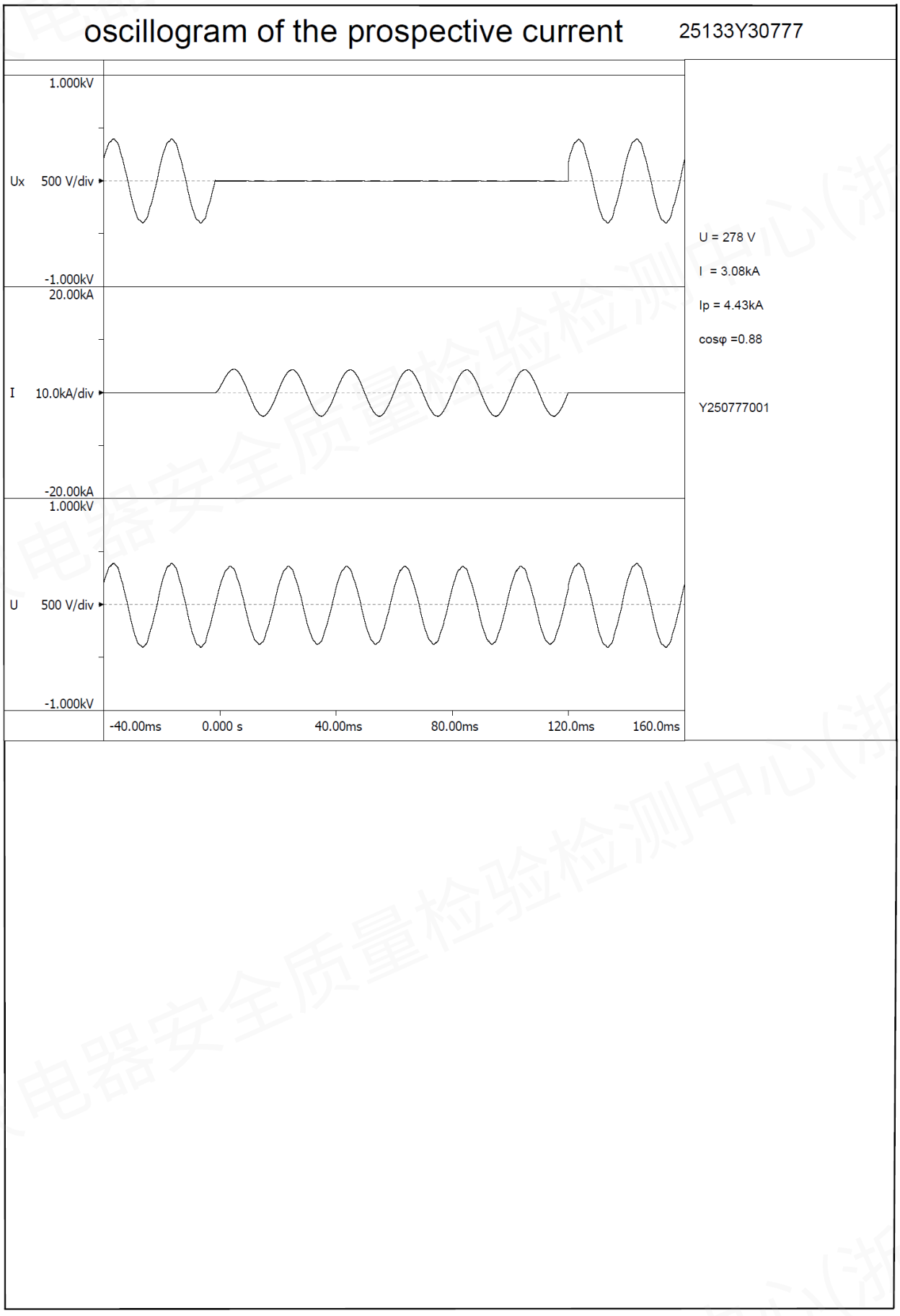


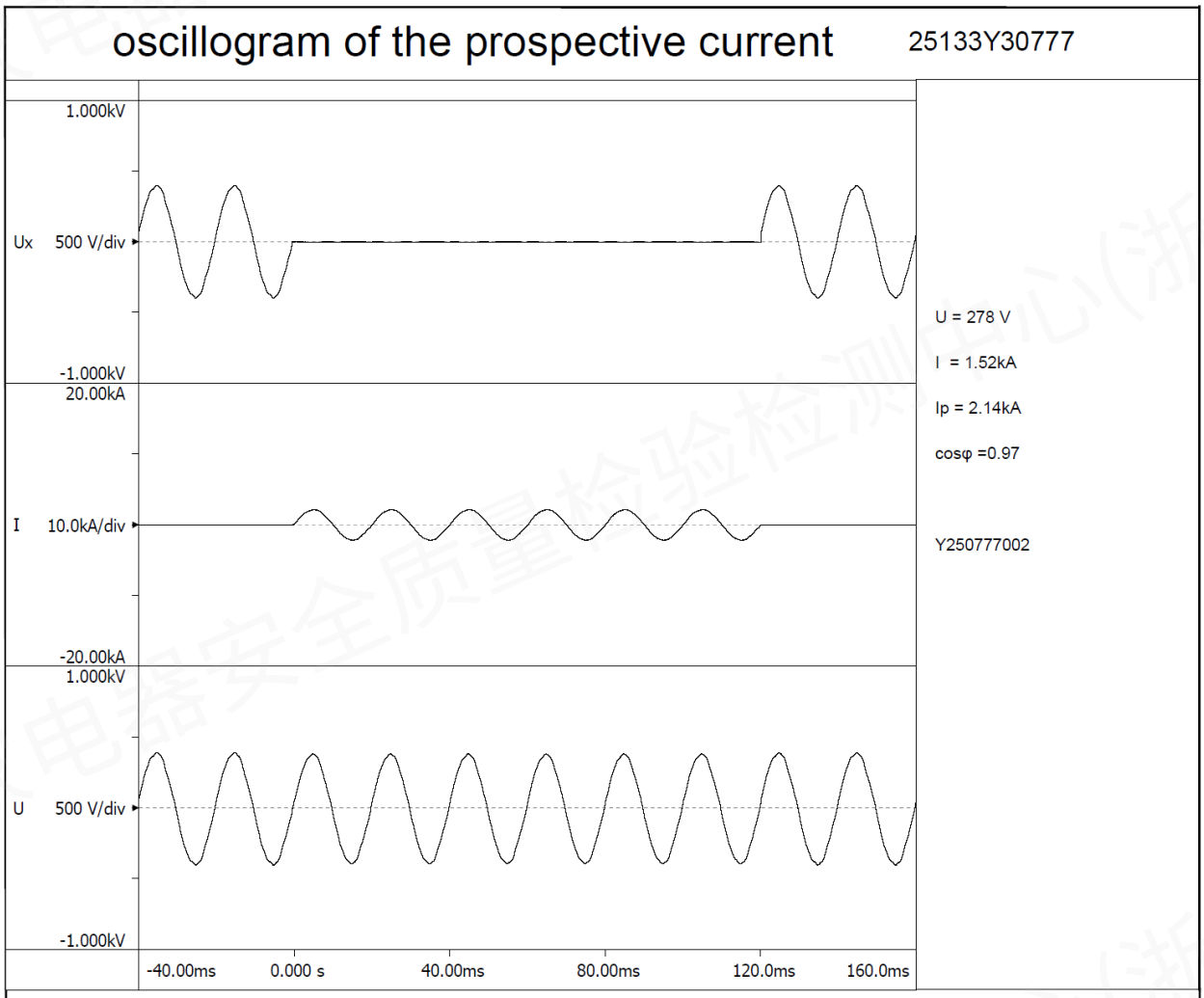
240 V
40 A
Ux = 246 V
U = 246 V
I = 40.2 A
cosφ= 0.50
1#
No.5000

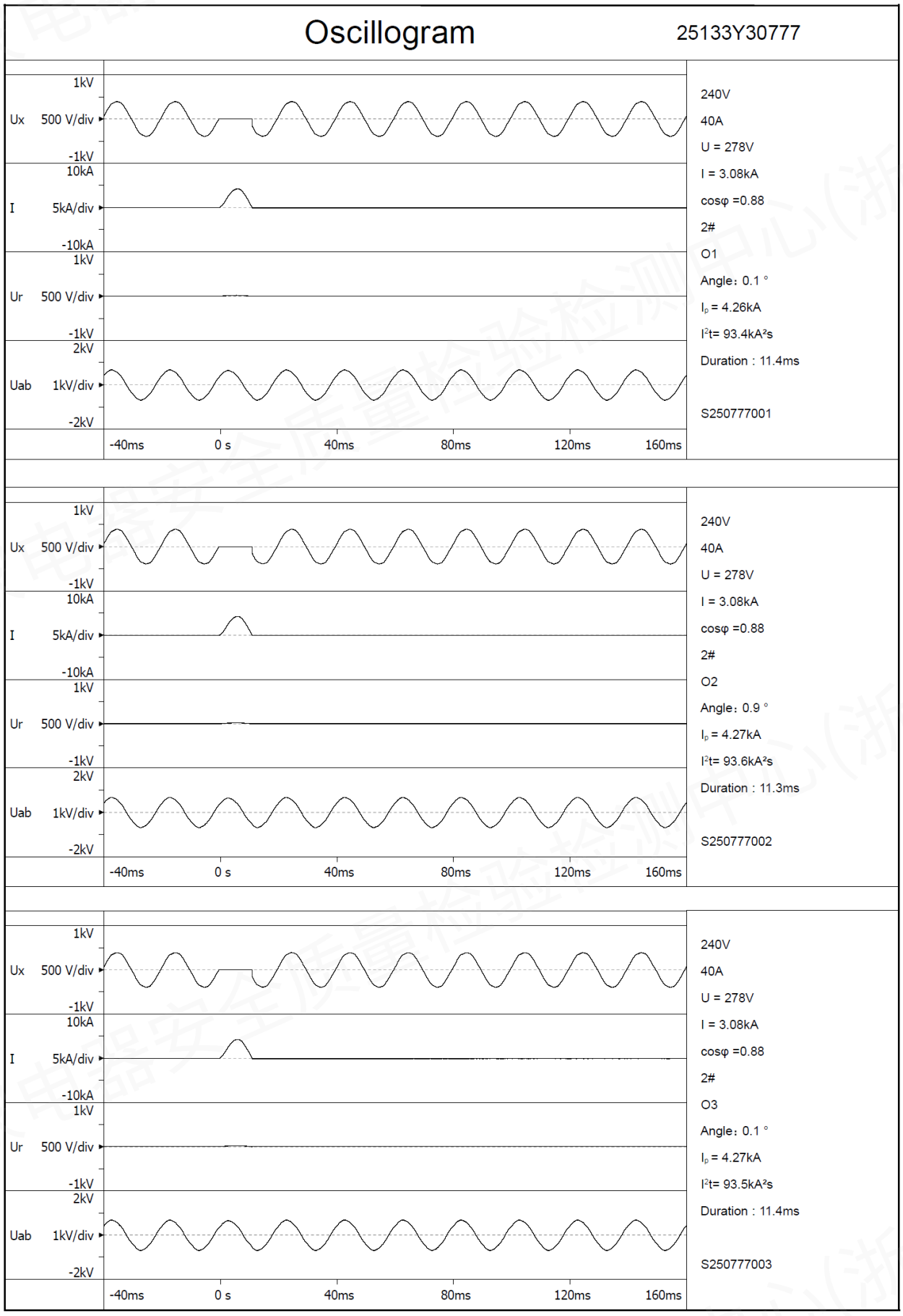
I_p= 62.7 A

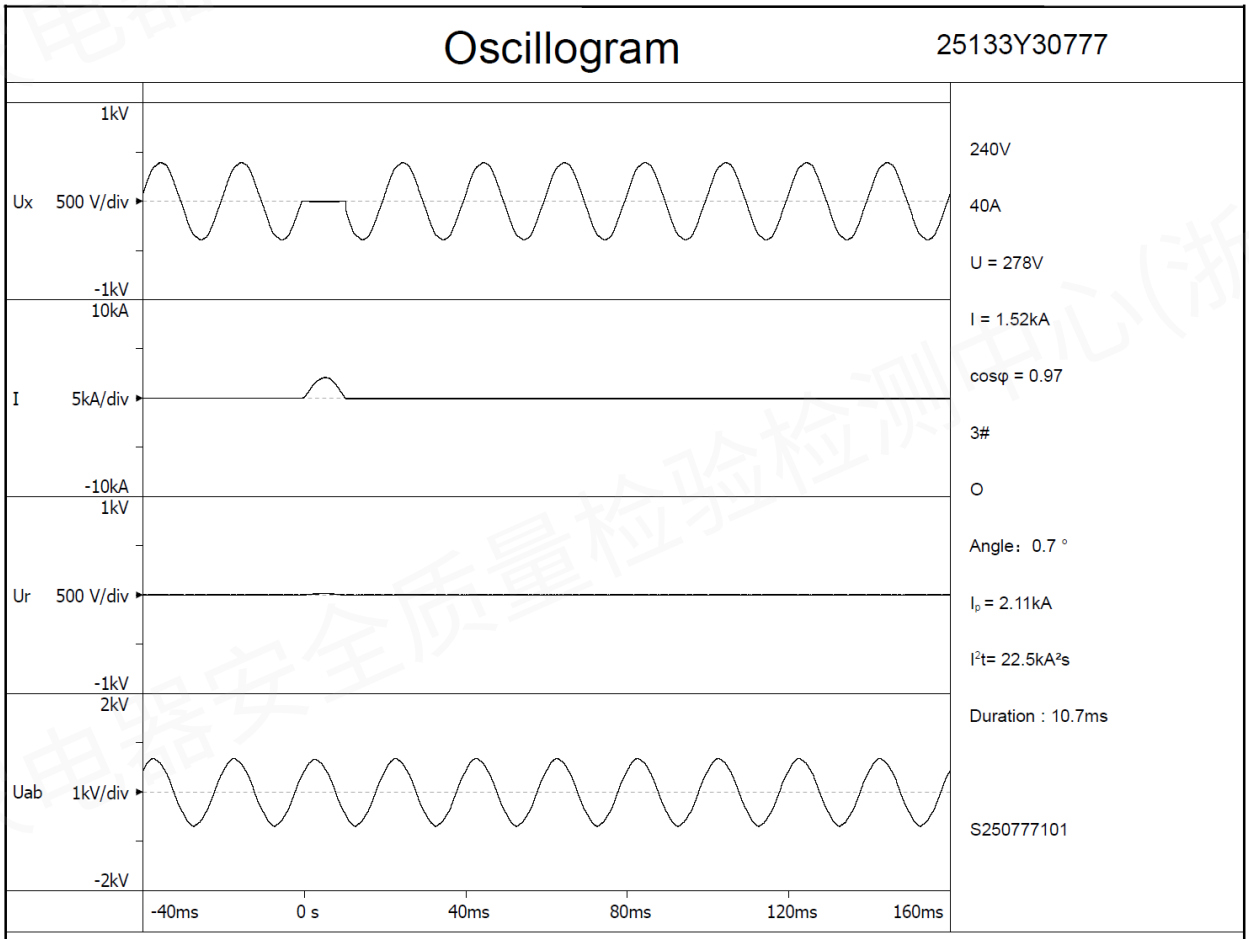
on time: 10.0 s
arcing time: 2.36 ms

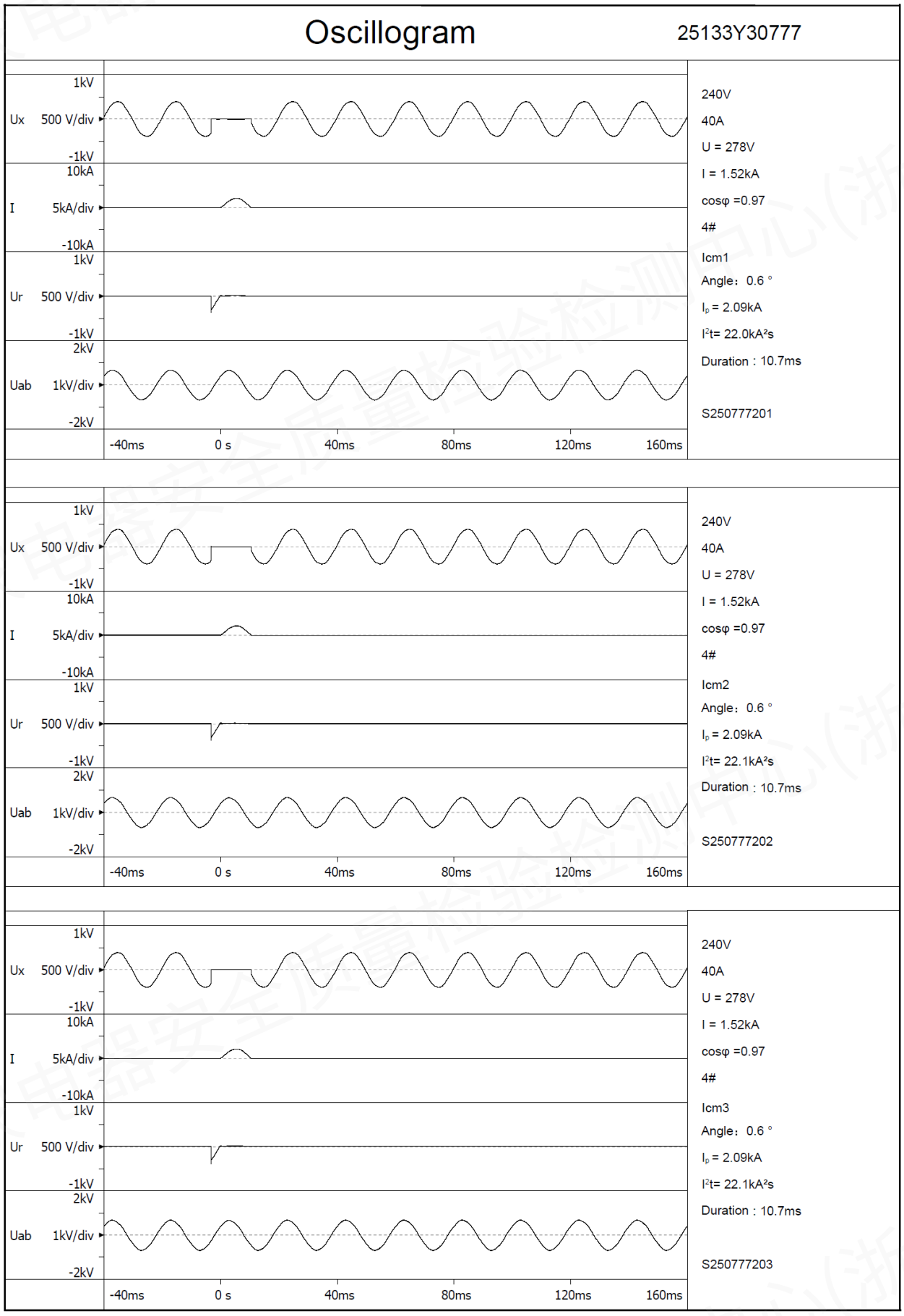
S250777912

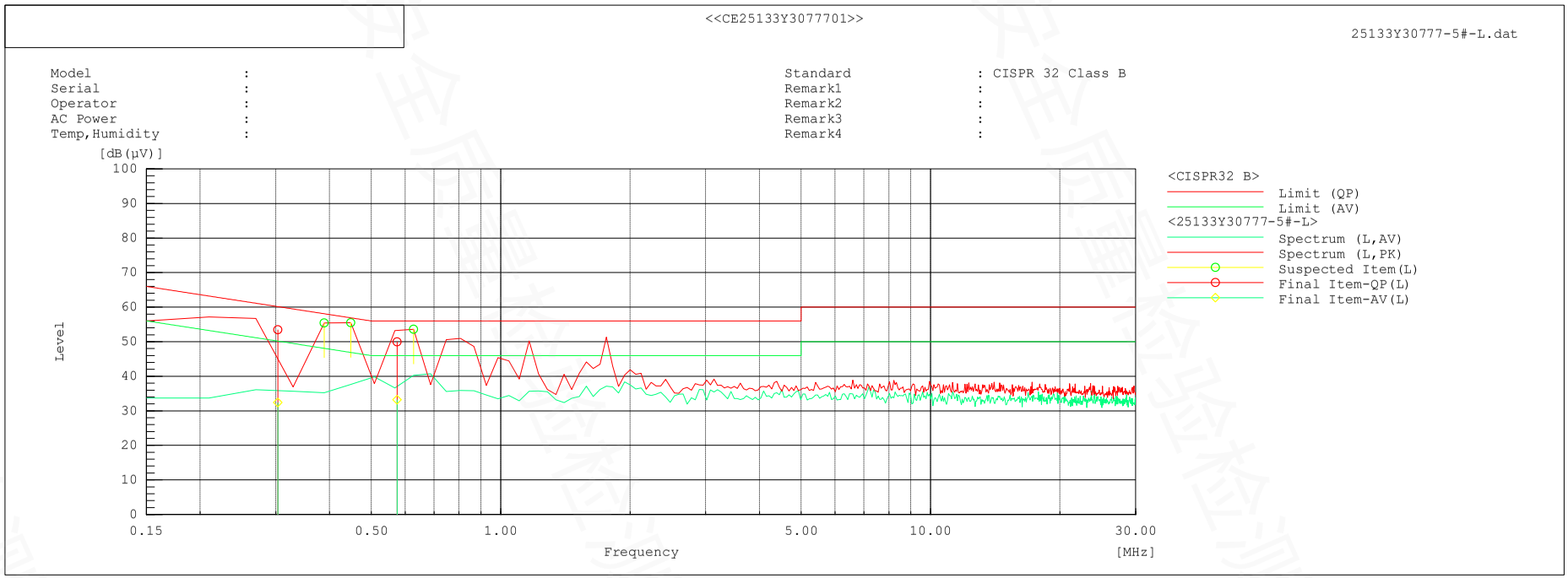

oscillogram of the prospective current
25133Y30777
1.000kV
Ux 500 V/div
-1.000kV
20.00kA
I 10.0kA/div
-20.00kA
1.000kV
U 500 V/div
-1.000kV
-40.00ms
0.000 s
40.00ms
80.00ms
120.0ms
160.0ms
U = 278 V
I = 3.08kA
Ip = 4.43kA
cosφ =0.88
Y250777001


oscillogram of the prospective current
25133Y30777
1.000kV
Ux 500 V/div
-1.000kV
20.00kA
I 10.0kA/div
-20.00kA
1.000kV
U 500 V/div
-1.000kV
-40.00ms
0.000 s
40.00ms
80.00ms
120.0ms
160.0ms
U = 278 V
I = 1.52kA
Ip = 2.14kA
cosφ =0.97
Y250777002


Oscillogram
25133Y30777
1kV
Ux 500 V/div
-1kV
10kA
I 5kA/div
-10kA
1kV
Ur 500 V/div
-1kV
2kV
Uab 1kV/div
-2kV
-40ms
0 s
40ms
80ms
120ms
160ms
240V
40A
U = 278V
I = 3.08kA
cosφ =0.88
2#
O1
Angle：0.1 °
Ip = 4.26kA
I²t= 93.4kA²s
Duration : 11.4ms
S250777001
240V
40A
U = 278V
I = 3.08kA
cosφ =0.88
2#
O2
Angle：0.9 °
Ip = 4.27kA
I²t= 93.6kA²s
Duration : 11.3ms
S250777002
240V
40A
U = 278V
I = 3.08kA
cosφ =0.88
2#
O3
Angle：0.1 °
Ip = 4.27kA
I²t= 93.5kA²s
Duration : 11.4ms
S250777003


Oscillogram
25133Y30777
1kV
Ux 500 V/div
-1kV
10kA
I 5kA/div
-10kA
1kV
Ur 500 V/div
-1kV
2kV
Uab 1kV/div
-2kV
-40ms
0 s
40ms
80ms
120ms
160ms
240V
40A
U = 278V
I = 1.52kA
cosφ = 0.97
3#
O
Angle: 0.7 °
I_p = 2.11kA
I^2t= 22.5kA²s
Duration : 10.7ms
S250777101

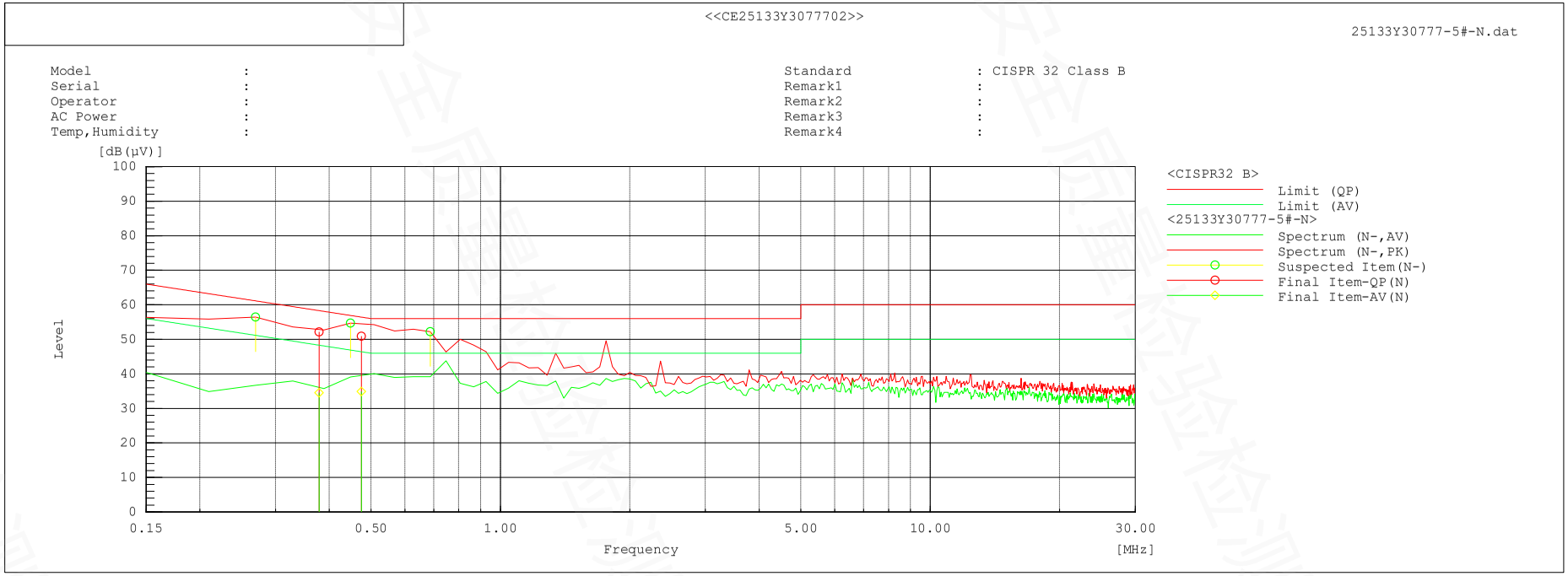

Oscillogram
25133Y30777
1kV
Ux 500 V/div
-1kV
10kA
I 5kA/div
-10kA
1kV
Ur 500 V/div
-1kV
2kV
Uab 1kV/div
-2kV
-40ms
0 s
40ms
80ms
120ms
160ms
240V
40A
U = 278V
I = 1.52kA
cosφ =0.97
4#
Icm1
Angle：0.6 °
Ip = 2.09kA
I²t= 22.0kA²s
Duration : 10.7ms
S250777201
240V
40A
U = 278V
I = 1.52kA
cosφ =0.97
4#
Icm2
Angle：0.6 °
Ip = 2.09kA
I²t= 22.1kA²s
Duration : 10.7ms
S250777202
240V
40A
U = 278V
I = 1.52kA
cosφ =0.97
4#
Icm3
Angle：0.6 °
Ip = 2.09kA
I²t= 22.1kA²s
Duration : 10.7ms
S250777203



Final Result

--- L Phase ---

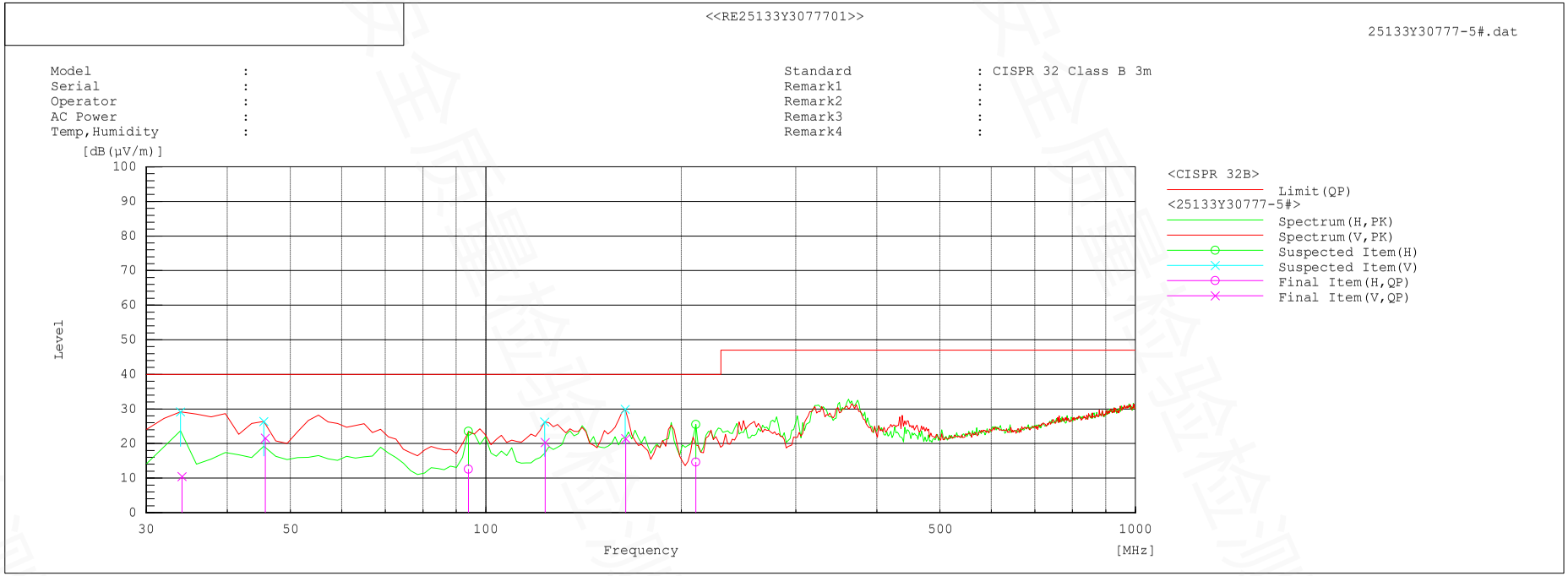
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]	Remark
1	0.30322	43.3	22.2	10.2	53.5	32.4	60.2	50.2	6.7	17.8	
2	0.57457	39.6	22.9	10.3	49.9	33.2	56.0	46.0	6.1	12.8	



Final Result

--- N Phase ---

No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]	Remark
1	0.37899	41.8	24.2	10.3	52.1	34.5	58.3	48.3	6.2	13.8	
2	0.4749	40.6	24.6	10.3	50.9	34.9	56.4	46.4	5.5	11.5	



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(µV)]	c.f [dB(1/m)]	Result QP [dB(µV/m)]	Limit QP [dB(µV/m)]	Margin QP [dB]	Height [cm]	Angle [°]	Remark
1	34.063	V	29.8	-19.4	10.4	40.0	29.6	377.0	27.7	
2	45.731	V	40.4	-18.8	21.6	40.0	18.4	100.0	342.8	
3	94.005	H	35.6	-23.0	12.6	40.0	27.4	373.0	246.6	
4	123.359	V	39.5	-19.2	20.3	40.0	19.7	103.0	101.0	
5	164.049	V	39.6	-18.2	21.4	40.0	18.6	202.0	214.4	
6	210.460	H	38.3	-23.7	14.6	40.0	25.4	157.0	312.8	

MAIN TEST EQUIPMENT LIST

No.	Name	Type	Equipment No.	Valid date	Use (√)
1	Data acquisition system	CRONOS-PL3	8489CA10A	2026-03-10	√
2	Temperature and humidity recorder	ZDR-F20	8339CB08A	2025-08-22	√
3	Torque driver	RTD500CN	9242DB22B	2026-07-04	√
4	Totaling Counter	DHC9J-J	8527DB12B	2026-07-06	√
5	Dual Display Digital Multimeter	GDM-8245	8427CB09A	2025-11-05	√
6	Temprature changeable quickly test box	WGDF405	8305DA07A	2026-05-04	√
7	Clamp electric meter	376	8854CA19A	2026-06-02	√
8	Stop Watch	ST4610-2	8088CB07B	2026-07-10	√
9	Thermo-hygro-barograph	DSR-THP	8962CB20B	2026-07-07	√
10	Torque Driver	50RTD	8938DB20B	2025-11-12	√
11	Data acquisition system	SYNERGY	8451CA10A	2025-12-24	√
12	Power frequency withstand voltage device	TOS5051A	8447CA10A	2025-09-01	√
13	Hygro-Thermometer	ZDR-F20	8337CB08A	2026-06-02	√
14	Impulse voltage tester	GC-20B	8759CA17A	2026-03-09	√
15	AC / DC digital milliammeter	HG2850	8481CB10B	2026-05-22	√
16	Digital multimeter	8845A	8446CA10A	2025-11-11	√
17	Data acquisition system	Saturn System	9600CA23A	2025-10-21	√
18	Digimatic calipers	（0~150）mm	8732CB15B	2025-10-22	√
19	Torque driver	RTD500CN	9243DB22B	2026-07-04	√
20	Data logger for Temperature and Humidity	DSR-TH	9831CB24B	2025-08-29	√
21	Multifunction timer	YS-318	7096CB25B	2026-03-18	√
22	ESD Generator	EMS61000-2A	8849DA19A	2026-02-20	√

MAIN TEST EQUIPMENT LIST

No.	Name	Type	Equipment No.	Valid date	Use (√)
23	Digital temperature and humidity atmospheric pressure gauge	testo622	9698CB23B	2025-08-29	√
24	Signal Source	N5171B	8963DA20A	2025-06-11	√
25	Power Meter	4242	8602CA12A	2025-07-31	√
26	RF SELECTOR	NS4900	8603CA12A	2025-07-31	√
27	Power Amplifier	AS0860-50	8964DA20A	2025-10-24	√
28	Power Amplifier	NTWPA-00810 200	8983DA20A	2025-07-31	√
29	3m Semi-Anechoic Chamber	SAC-3M	8699DA12A	2027-08-17	√
30	Directional Coupler	C6021-10	8613CA12A	2025-07-31	√
31	ELECTRIC FIELD PROBE	EP600	8614CA12A	2025-11-04	√
32	Grouped Pulse Generator	EMS61000-4A	8848DA19A	2026-02-10	√
33	Lightning surge generator	EMS61000-5A	8784CA18A	2025-10-16	√
34	Conducted Radiation Immunity Test System	NSG 4070	8618CA12A	2025-07-31	√
35	Attenuator	ATN 6050	8619CA12A	2025-07-31	√
36	Three-phase voltage drop change simulator	VDS-1120A	9536DA23A	2025-11-06	√
37	AMN	NSLK8126	8610CA12A	2025-07-31	√
38	Pulse limiter	CFL9026	8611CA12A	2025-07-31	√
39	receiver	ESR7	9618-6DA23A	2025-12-08	√
40	Reception Antenna	VULB9160	8616CA12A	2025-08-03	√
41	Amplifier	310N	8612CA12A	2025-07-31	√
42	Coupled decoupling network	CDN M016	8620CA12A	2025-07-31	√

TEST REPORT END