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CHPTL



TEST REPORT

No : CTQC/ZJ-20. 073

Test object name: Dry-type high voltage bushing

Test object type: CBRG-252/4000(FIPD)

Entrusted by: Dalian Hivolt Power System Co.,Ltd.

Manufacturer: Dalian Hivolt Power System Co.,Ltd.

Kind of testing: Type tests

CHINA NATIONAL TRANSFORMER QUALITY SUPERVISION AND TESTING CENTER
SHENYANG TRANSFORMER RESEARCH INSTITUTE CO., LTD.



CX-F-01	Test Report	No: CTQC/ZJ-20.073 Total 29 Page 1
CONTENTS		
		Page
1. Testing report cover		
2. Contents.....		1
3. Signing and issuing.....		2
4. Test results.....		3~4
5. Test object parameters.....		5
6. Sample condition description.....		5
7. Standards.....		5
8. Test items and conclusions.....		6~29
9. Annex 1: Bushing drawings		

China National Transformer Quality Supervision And Testing Center

Shenyang Transformer Research Institute Co., Ltd. Transformer Laboratory

Test Report

No: CTQC/ZJ-20.073

Total 29 Page 2

Test object name	Dry-type high voltage bushing	Test object type	CBRG-252/4000(FIPD)
		Brand	/
Entrusted by	Dalian Hivolt Power System Co.,Ltd.	Kind of testing	Type tests
Manufacturer	Dalian Hivolt Power System Co.,Ltd.	Sampling date	/
		Test date	May 27, 2020~May 30, 2020
Address	No.2804, 75 Huili Street, Ganjingzi District, Dalian, China	Serial No	47346
Standards	IEC60137: 2017 GB/T4109—2008 Technical contract	Test items	Routine tests Type tests
Results	The test results of routine tests, type tests of CBRG-252/4000(FIPD) are in accordance with standards and technical contract. The sample passed the above tests. Signing and issuing date: 2020.06.08 Period of validity 5 years		
Note			

Approved by: L. Shicheneg

Checked by: Du Jiansong

Compiled by: Shi Yuxia

Statement : 1. Testing report is invalid without test special seal.

2. Testing report is invalid without compiler, checker and approver's signature.

3. Please inform CTQC in time after received the testing report if you have some disagreement to the testing report..

4. Testing or witnessing only apply to sample.

5. Copying testing certificate or testing report is forbidden without written permission from CTQC(except for copying all the testing report).

Test Report				No: CTQC/ZJ-20.073
				Total 29 Page 3
Test results				
No	Test items	Specified values	Measured values	Conclusions
		Standards (Technical contract)		
1	Visual inspection and dimensions check (Routine test, type test)	According to standard	See 4.1	Passed
2	Dry power-frequency voltage withstand test (Routine test, type test)	Applied voltage(kV): 505 Duration(s): 60	729.7(Corrected value) 60	Passed
3	Tests of tap insulation (Routine test)	Dry power-frequency voltage withstand test Applied voltage(kV): ≥ 2 Duration(s): 60	2 60	Passed
		Measurement of dielectric dissipation factor ($\tan\delta$) and capacitance Applied voltage(kV): ≥ 1 $\tan\delta$: ≤ 0.05 Capacitance(pF): ≤ 10000	2 0.00893 256.4	
4	Measurement of magnitude of partial discharge (Routine test)	Measured voltage(kV): U_m Partial discharge level(pC): ≤ 10	252 6	Passed
		Applied voltage(kV): $1.5U_m/\sqrt{3}$ Partial discharge level(pC): ≤ 10	218.2 4	
		Applied voltage(kV): $1.05U_m/\sqrt{3}$ Partial discharge level(pC): ≤ 5	152.8 4	
5	Measurement of dielectric dissipation factor ($\tan\delta$) and capacitance at ambient temperature (Routine test)	Applied voltage(kV): 2~20 $\tan\delta$: ≤ 0.005 Measured capacitance of the sample	10 0.00308 573.4	Passed
		Applied voltage(kV): $1.05U_m/\sqrt{3}$ $\tan\delta$: ≤ 0.005 Measured capacitance of the sample	152.8 0.00317 574.3	
		Applied voltage(kV): U_m $\tan\delta$: ≤ 0.005 Measured capacitance of the sample	252 0.00319 574.4	
6	Tightness test at the flange (Routine test)	Applied medium Applied pressure(MPa): 0.15 ± 0.01 Duration(min): 15 No oil leakage and damage	Compressed air 0.15 15 No oil leakage and damage	Passed

Test Report				No: CTQC/ZJ-20.073 Total 29 Page 4
No	Test items	Specified values	Measured values	Conclusions
		Standards (Technical contract)		
7	Long-duration power-frequency withstand voltage test(ACLD) (Type test)	$U_1=U_m(\text{kV})$ Duration(s): 60	252 60	Passed
		$U_2=1.5U_m/\sqrt{3}(\text{kV})$ Duration(min): 60 Partial discharge level $\leq 10\text{pC}$	218.2 60 4	
		$1.1U_m/\sqrt{3}(\text{kV})$ Duration(min): 5 Partial discharge level $\leq 5\text{pC}$	160.1 5 3	
8	Dry lightning impulse voltage withstand test (Type test)	Full wave voltage Positive polarity(kV): 1517.3(Corrected value) $\pm 3\%$ Negative polarity(kV): 1669.0(Corrected value) $\pm 3\%$ 15 positive and 15 negative polarity Chopped wave voltage(kV): 1835.9(Corrected value) $\pm 3\%$ 5 negative polarity	1504.17~1548.13 1670.35~1715.10 Each 15 times 1843.55~1859.61 5 times	Passed
9	Dry switching impulse voltage withstand test (Type test)	Withstand voltage(kV) 1232.3(Corrected value) $\pm 3\%$ 15 negative polarity impulses	1202.59~1218.28 15 times	Passed
10	Wet switching impulse voltage withstand test (Type test)	Withstand voltage (kV) Positive polarity(kV): 1118.5(Corrected value) $\pm 3\%$ Negative polarity(kV): 1120.3(Corrected value) $\pm 3\%$ 15 positive and 15 negative polarity	1113.65~1128.58 1110.26~1128.22 Each 15 times	Passed
11	Temperature-rise test (Type test)	Temperature limit ($^{\circ}\text{C}$): 130 Temperature-rise limit (K): 75	53.8~93.6 27.4~67.2	Passed
12	Radio interference voltage test (Type test)	Applied voltage(kV): $1.1U_m/\sqrt{3}$ Duration(min): 5 Radio interference level(μV): ≤ 500	160.1 5 251	Passed
13	Verification of thermal short-time current withstand (Type test)	Thermal short-time current (kA): $25I_r$ Duration(s): 2 Final temperature of the conductor($^{\circ}\text{C}$): ≤ 180	100 2 135.2	Passed
14	Cantilever load withstand test (Type test)	Applied load(N): 5000 Duration(s): 60 Successfully repeat check items	5078 60 Passed	Passed

Test Report

No: CTQC/ZJ-20.073

Total 29 Page 5

1. Test object parameters

Highest voltage for equipment (kV): 252

Rated phase-to-earth voltage (kV): $252/\sqrt{3}$

Rated current (A): 4000

Rated frequency (Hz): 50

Altitude(m): ≤ 4000

Thermal class of insulation: B

Test tap(measured tap, $\tan\delta$): With

Insulation type of bushing: RIS

2. Sample condition description

Sample exterior construction and major dimensions(length, diameter) are in compliance with outline drawings.

Measured values: length 5244mm, outer diameter of the flange $\Phi 650$ mm.

Outline dimensions

Rating plate

0CX.305.081.01

CBRG-252/4000(FIPD)

3. Standards

IEC60137: 2017, GB/T4109-2008 Insulated bushings for alternating voltage above 1000V

Technical contract

Test Report

No: CTQC/ZJ-20.073

Total 29 Page 6

4. Test items and conclusions

4.1 Visual inspection and dimensional check (Routine test, type test) Test date: May 27, 2020

It has smooth surface, no cracks. Dimensional check is accordance with the drawing requirement.

Drawing values (mm): 5235 $\pm$ 30 3600 $\pm$ 10 1050 $\pm$ 5 Ø650 160

Measured values (mm): 5244 3605 1052 Ø650 160

Arcing distance(mm): 3390 Creepage distance(mm): 12370

Result: Passed.

4.2 Dry power-frequency voltage withstand test (Routine test, type test)

Test date: May 27, 2020

Humidity: 48.5%; Ambient temperature: 28.8°C; Atmospheric pressure: 100.4kPa

Applied position	Applied voltage(kV)			Frequency (Hz)	Duration (s)	Result
	Standard value	Corrected value	Applied value			
Tap-earth	505	729.7	729.7	50	60	Passed

Note: Correction factor of altitude: 1.445; correction factor of atmosphere: 1.0.

4.3 Tests of tap insulation (Routine test)

Test date: May 27, 2020

Dry power-frequency voltage withstand test

Humidity: 48.5%; Ambient temperature: 28.8°C

Applied position	Applied voltage(kV)	Frequency (Hz)	Duration(s)	Result
Tap-earth	2	50	60	Passed

Measurement of dielectric dissipation factor (tan δ) and capacitance

Humidity: 48.5%; Ambient temperature: 28.8°C

Applied voltage (kV)	Dielectric dissipation factor(tan δ)	Capacitance (pF)	Result
2	0.00893	256.4	Passed

4.4 Measurement of magnitude of partial discharge (Routine test)

Test date: May 27, 2020

Prestress voltage (kV)	Duration (s)	Measured voltage (kV)	Partial discharge level(pC)	Result
505	60	252	6	Passed
		218.2	4	
		152.8	4	

Note: Background level is <4pC before and after test.

Test Report			No: CTQC/ZJ-20.073 Total 29 Page 7	
4.5 Measurement of dielectric dissipation factor ($\tan \delta$) and capacitance at ambient temperature (Routine test) Test date: May 27, 2020 Humidity: 48.5%; Ambient temperature: 28.8°C				
Applied voltage (kV)	Dielectric dissipation factor($\tan \delta$)	Capacitance (pF)	Result	
10	0.00308	573.4	Passed	
152.8	0.00317	574.3		
252	0.00319	574.4		
Note: $\tan \delta(252\text{kV}) - \tan \delta(152.8\text{kV}) = 0.00002 < 0.001$ (Standard value), passed.				
4.6 Tightness test at the flange (Routine test) Test date: May 27, 2020				
Applied medium	Applied pressure (MPa)	Duration (min)	Residual pressure (MPa)	Result
Compressed air	0.15	15	0.15	No oil leakage and damage, passed

Test Report

No: CTQC/ZJ-20.073

Total 29 Page 8

4.7 Long-duration power- frequency withstand voltage test (ACLD) (Type test)

Test date: May 27, 2020

Ambient temperature: 28.8℃

Applied voltage		Duration	Partial discharge levels (pC)
Multiple	Phase-earth(kV)		
$1.1U_m/\sqrt{3}$	160.1	5	4
$U_2=1.5U_m/\sqrt{3}$	218.2	5	5
$U_1=U_m$	252	1	/
$U_2=1.5U_m/\sqrt{3}$	218.2	5	4
		10	4
		15	4
		20	4
		25	4
		30	4
		35	4
		40	4
		45	4
		50	4
		55	4
		60	4
$1.1U_m/\sqrt{3}$	160.1	5	3

Note: $U_m=252kV$

Background level is <3pC before and after test.

Result: Passed.

Test Report

No: CTQC/ZJ-20.073

Total 29 Page 9

4.8 Dry lightning impulse voltage withstand test (Type test)

Test date: May 27, 2020

Humidity: 48.5%; Ambient temperature: 28.8°C; Atmospheric pressure: 100.4kPa.

Rated withstand voltage 1050 kV; Corrected value 1517.3 kV

Full wave voltage: Positive polarity 1517.3 kV

Negative polarity $1.1 \times 1517.3 \text{ kV} = 1669 \text{ kV}$

15 positive and 15 negative polarity

Chopped wave voltage: Negative polarity $1.21 \times 1517.3 = 1835.9 \text{ kV}$

5 negative polarity

Note: Correction factor of altitude: 1.445; correction factor of atmosphere: 1.0.

Test sequence:

One positive polarity reference voltage full wave impulse;

Fifteen positive polarity rated withstand voltage full wave impulses;

One negative polarity reference voltage full wave impulse;

One negative polarity 1.1 times rated withstand voltage full wave impulse;

One negative polarity reference voltage chopped wave impulse;

Five negative polarity 1.21 times rated withstand voltage chopped wave impulses;

Fourteen negative polarity 1.1 times rated withstand voltage full wave impulses.

Test oscillogram records:

T1: Front time;

T2: Time to half value;

Tc: Time to chopping;

K: Factor of over crossing;

UpMax/UpMin: Peak voltage.

Note: The internal and external dielectric tests are carried out on the same sample.

Result: Passed.

Test Report

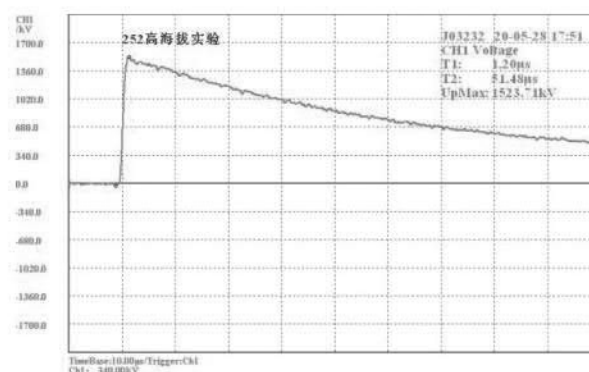
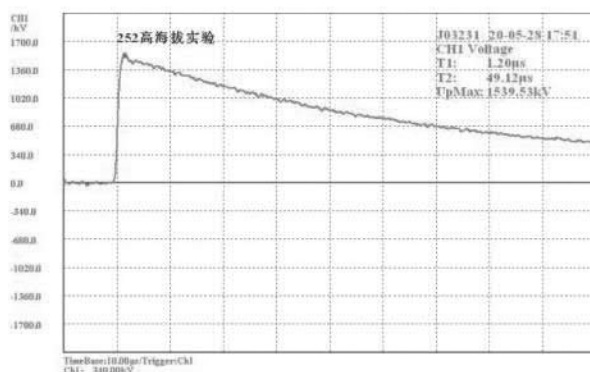
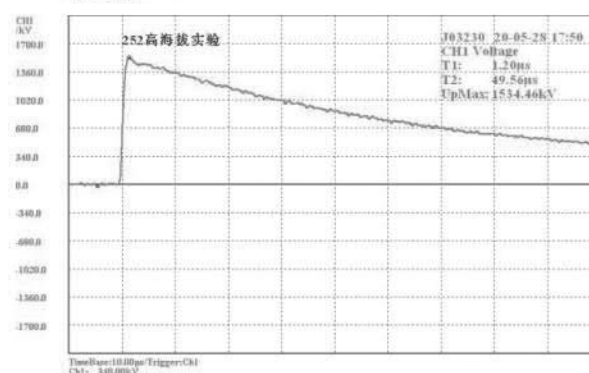
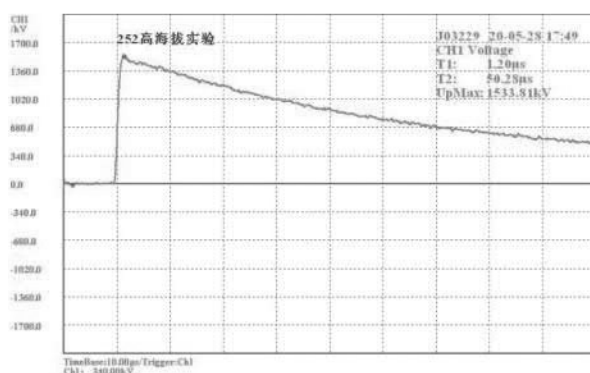
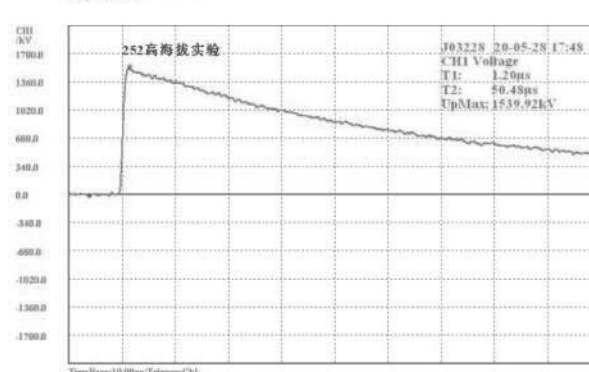
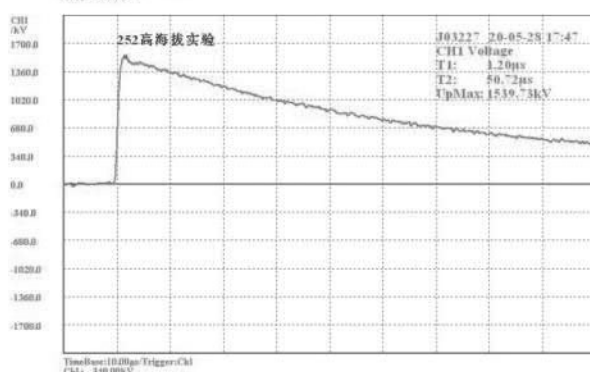
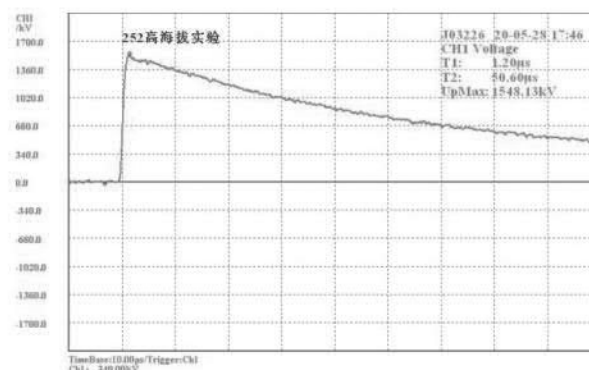
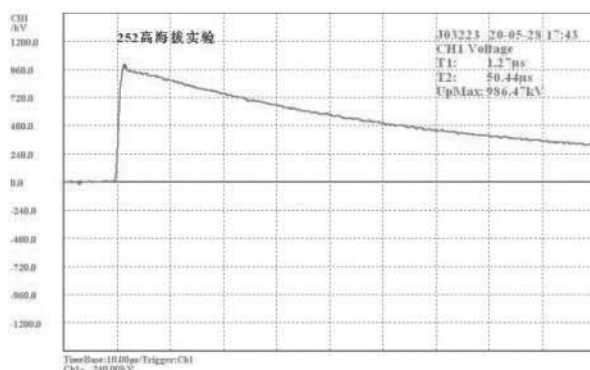
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Total 29 Page 10

Tested terminal: To earth

Test polarity: Positive

CH1: Voltage records



Test Report

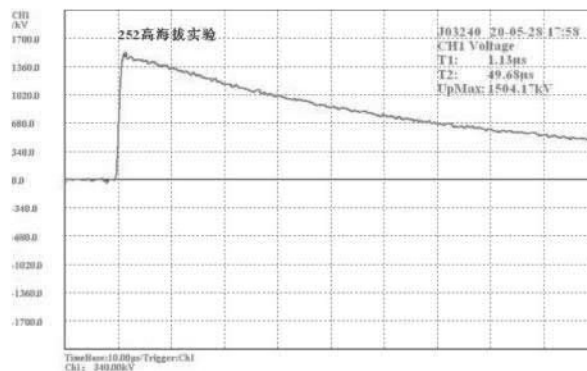
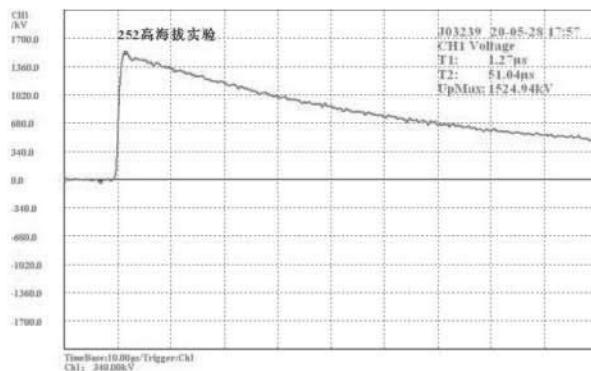
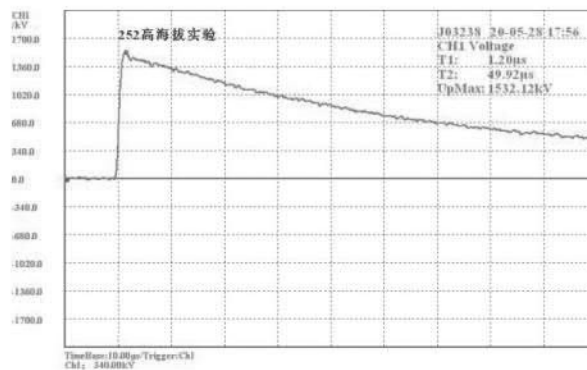
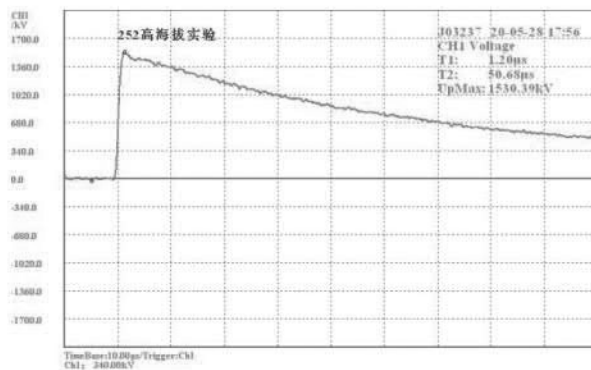
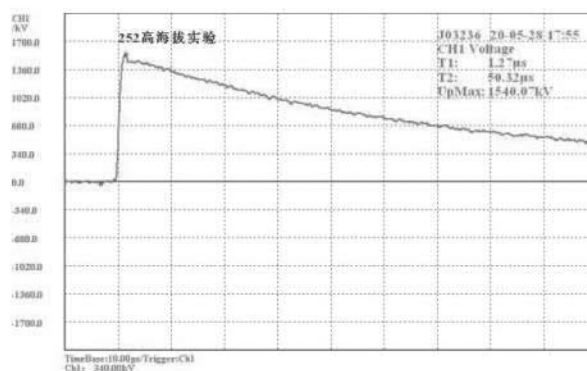
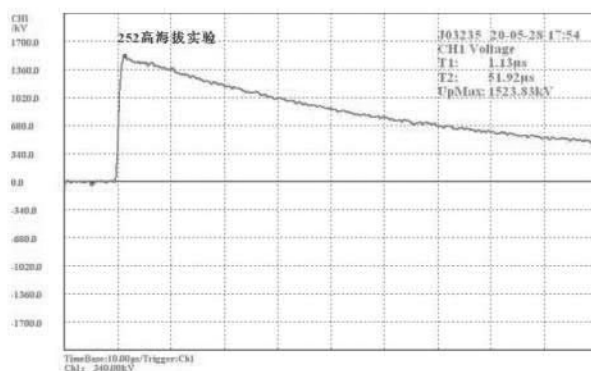
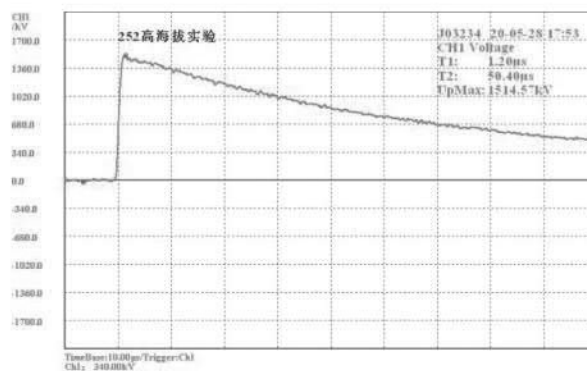
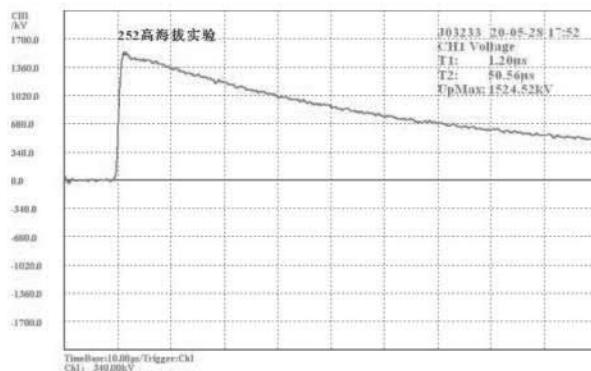
No: CTQC/ZJ-20.073

Total 29 Page 11

Tested terminal: To earth

Test polarity: Positive

CH1: Voltage records



Test Report

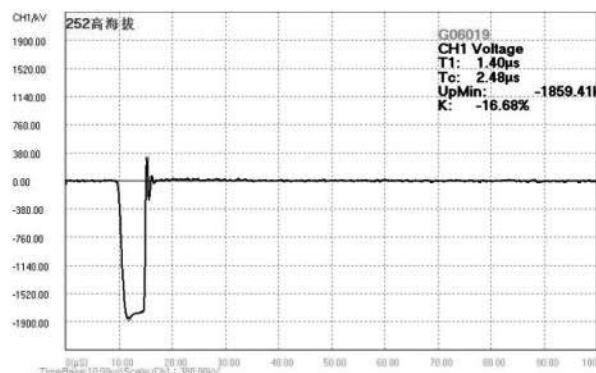
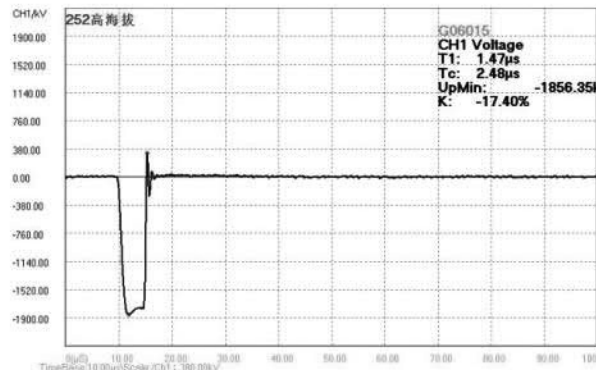
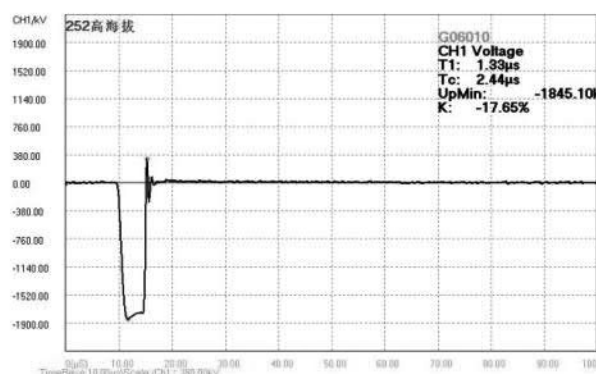
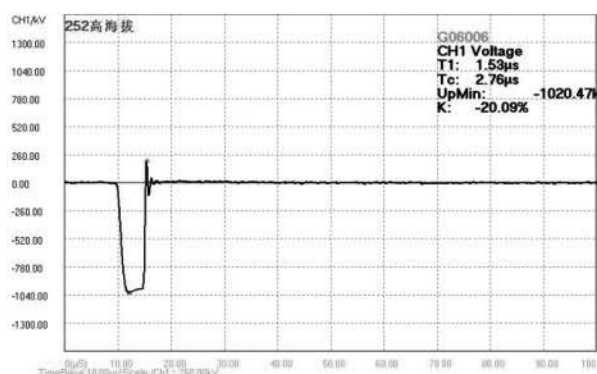
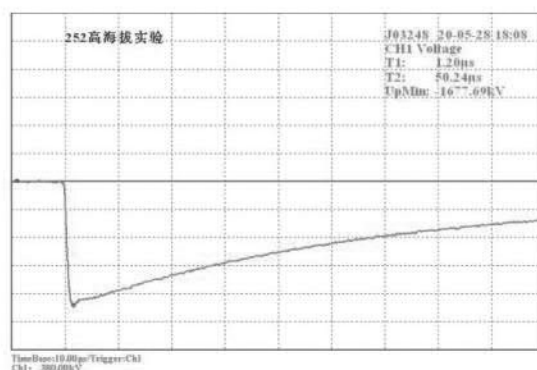
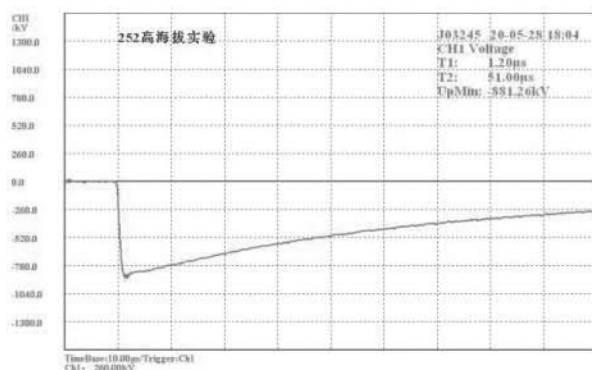
No: CTQC/ZJ-20.073

Total 29 Page 12

Tested terminal: To earth

Test polarity: Negative

CH1: Voltage records



Test Report

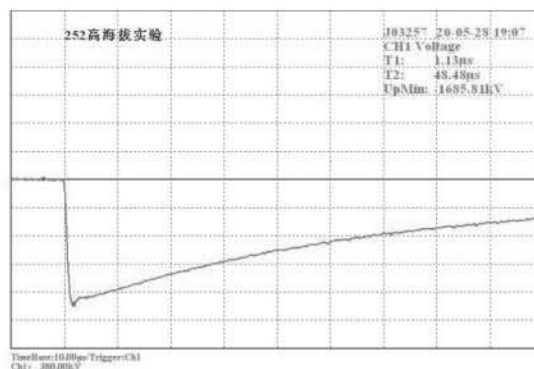
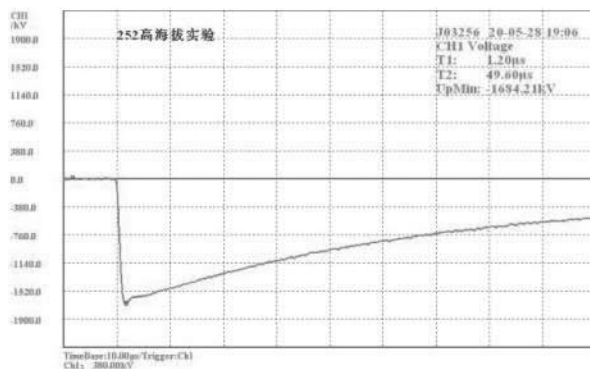
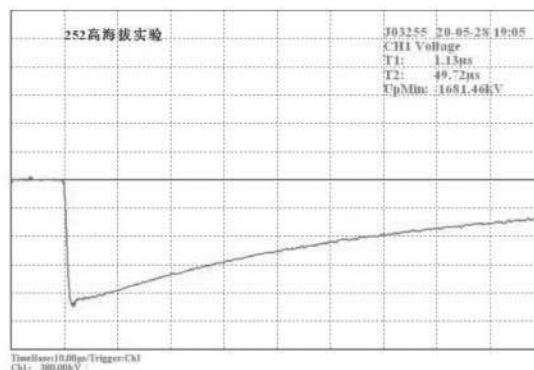
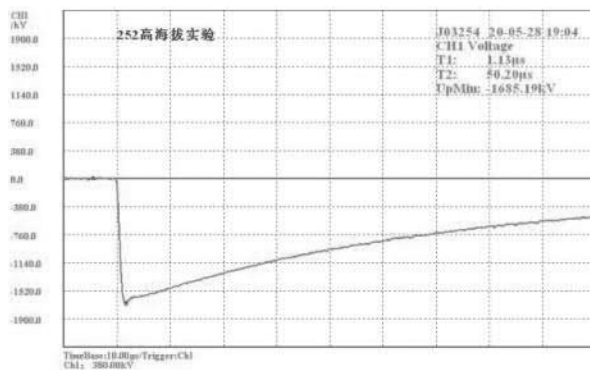
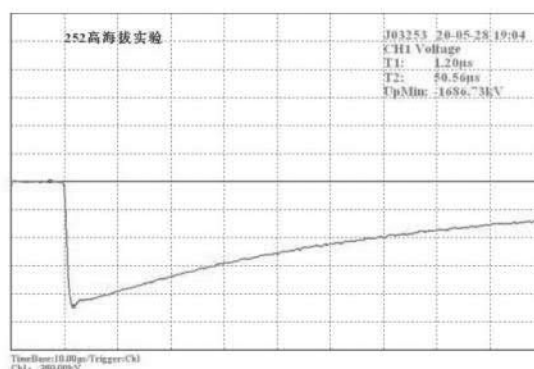
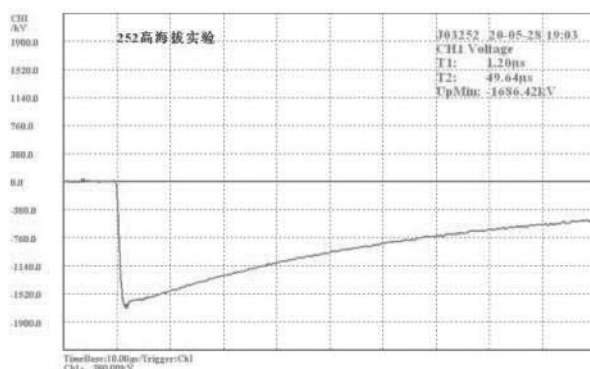
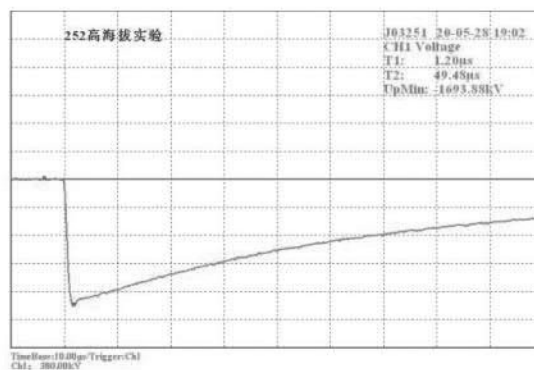
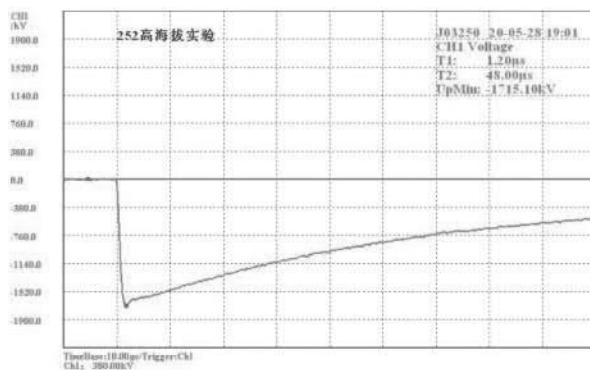
No: CTQC/ZJ-20.073

Total 29 Page 13

Tested terminal: To earth

Test polarity: Negative

CH1: Voltage records



Test Report

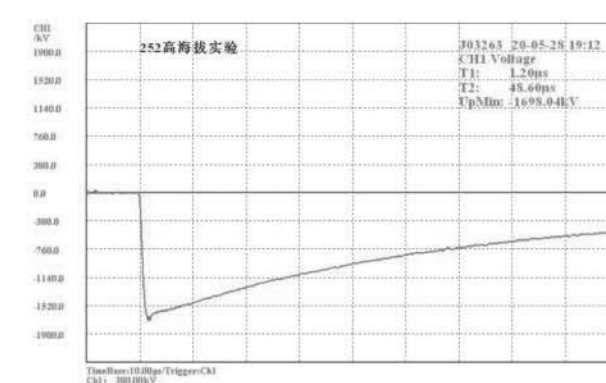
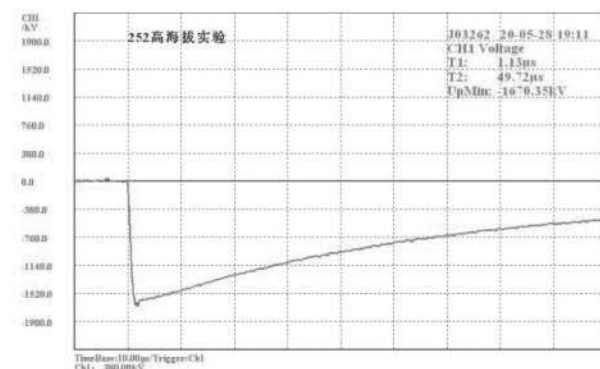
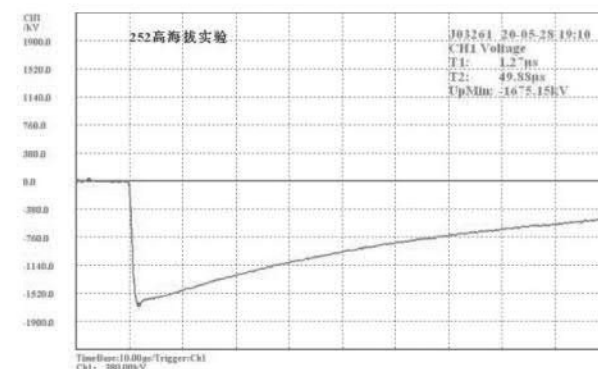
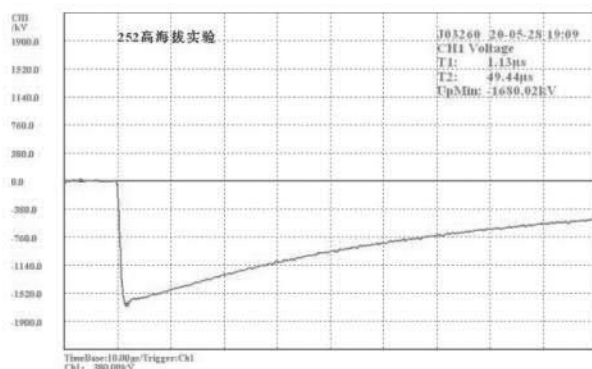
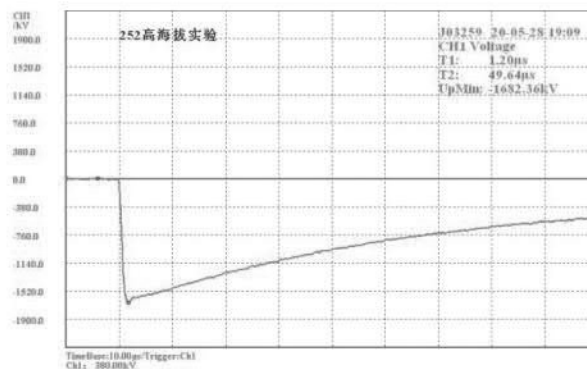
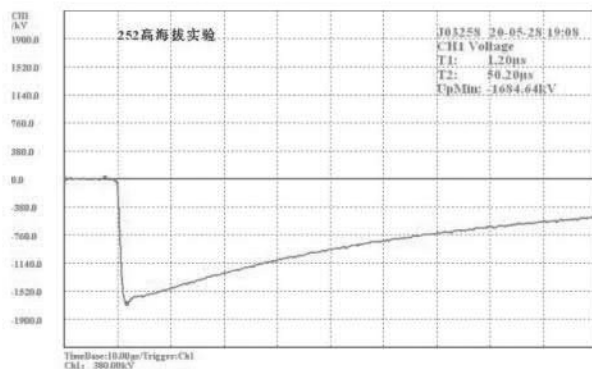
No: CTQC/ZJ-20.073

Total 29 Page 14

Tested terminal: To earth

Test polarity: Negative

CH1: Voltage records



Test Report

No: CTQC/ZJ-20.073

Total 29 Page 15

4.9 Dry switching impulse voltage withstand test (Type test)

Test date: May 27, 2020

Humidity: 48.5%; Ambient temperature: 28.8°C; Atmospheric pressure: 100.4kPa.

Rated withstand voltage 850 kV; Corrected value 1120.3 kV

Applied voltage: $1.1 \times 1120.3 = 1232.3$ kV

15 negative polarity voltage switching impulse

Note: Correction factor of altitude: 1.318; correction factor of atmosphere: 1.0.

Test sequence:

One negative polarity reference voltage switching impulse;

Fifteen negative polarity 1.1 times rated withstand voltage switching impulses.

Test oscillogram records:

Tp: Front time; T2: A total duration from the virtual origin to the first zero passage; UpMin: Peak voltage.

Note: The internal and external dielectric tests are carried out on the same sample.

Result: Passed.

Test Report

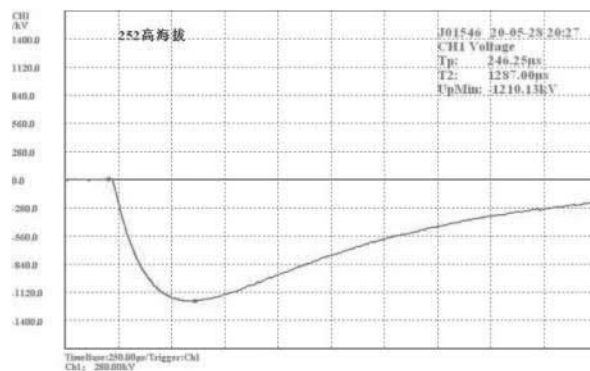
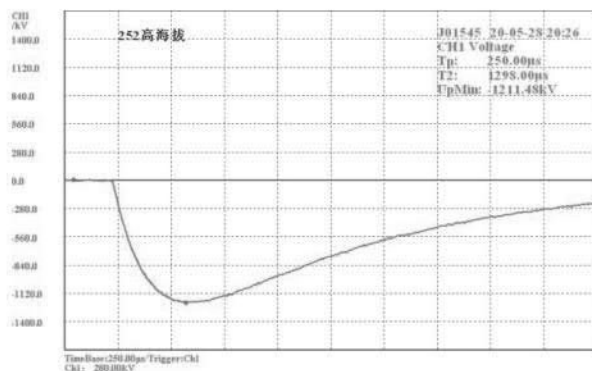
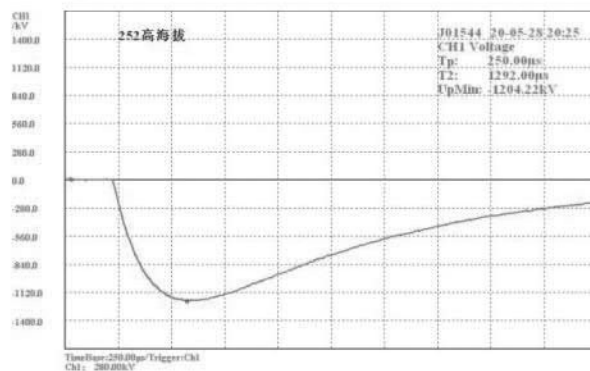
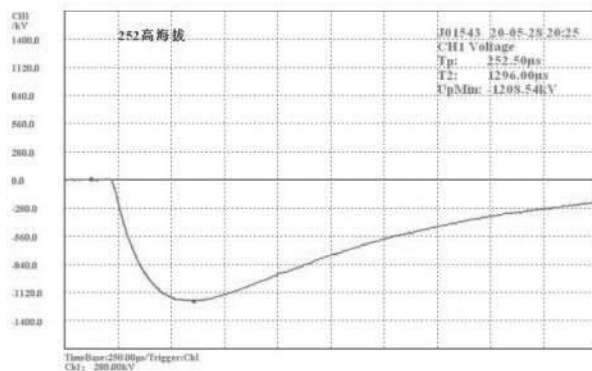
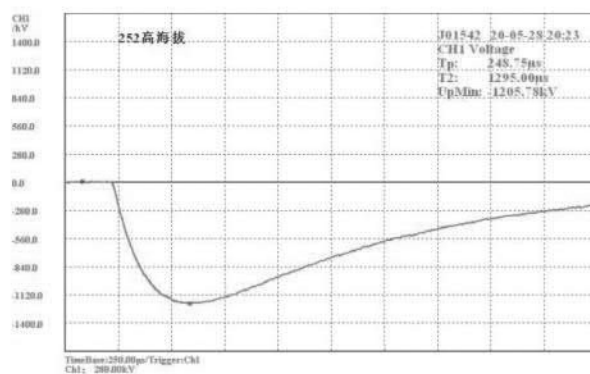
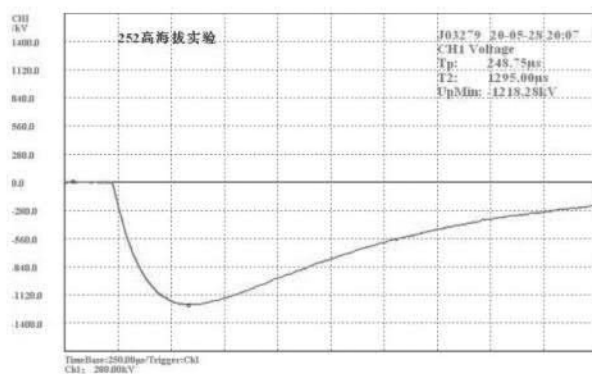
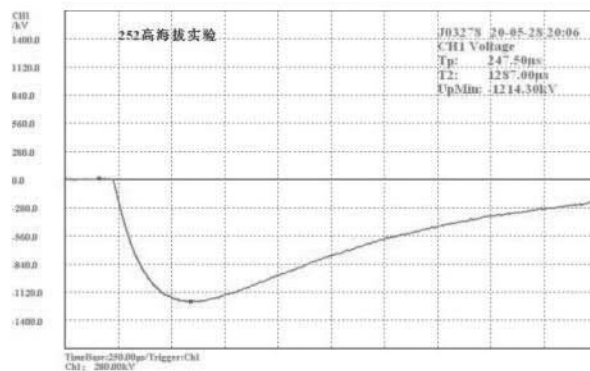
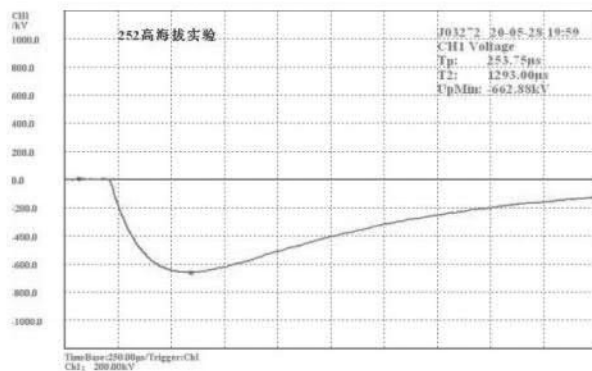
No: CTQC/ZJ-20.073

Total 29 Page 16

Tested terminal: To earth

Test polarity: Negative

CH1: Voltage records



Test Report

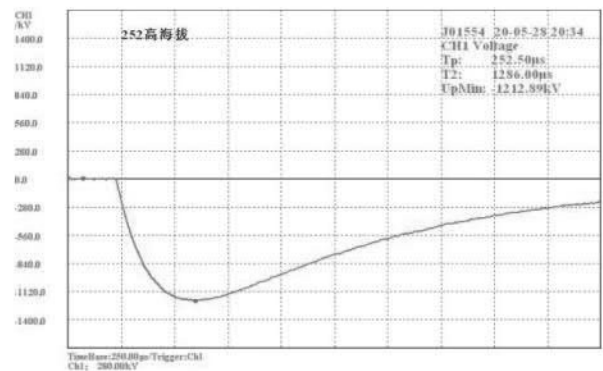
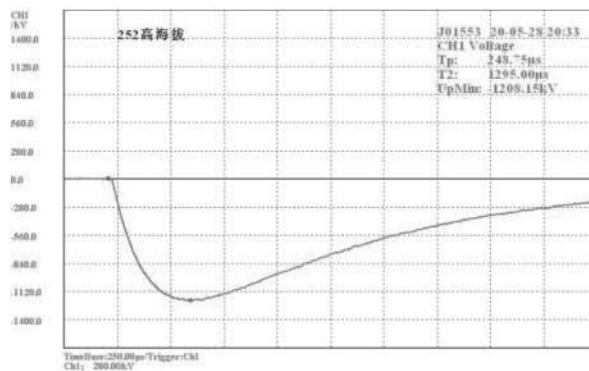
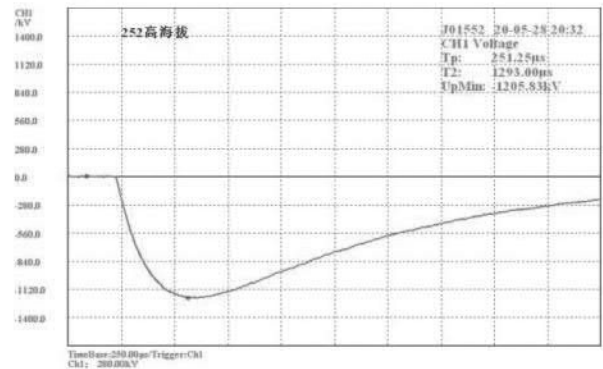
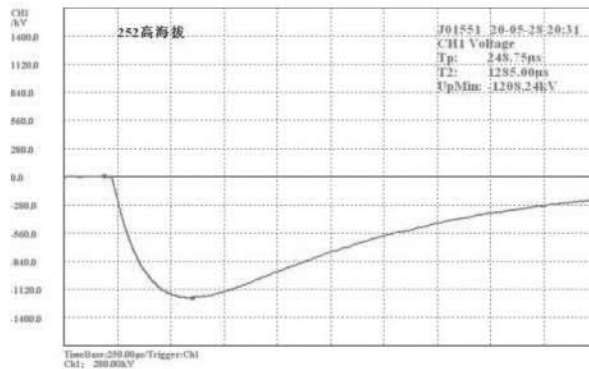
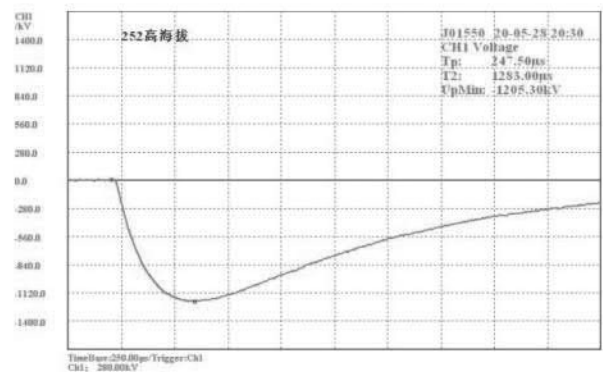
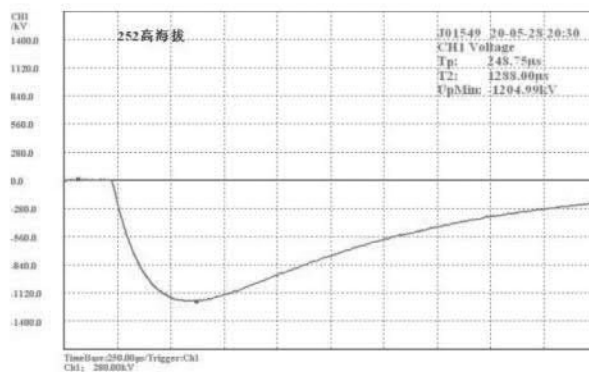
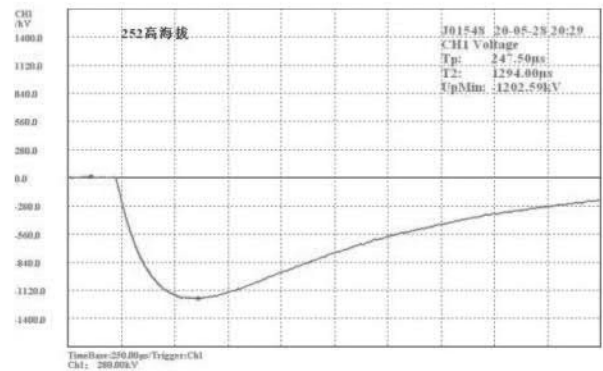
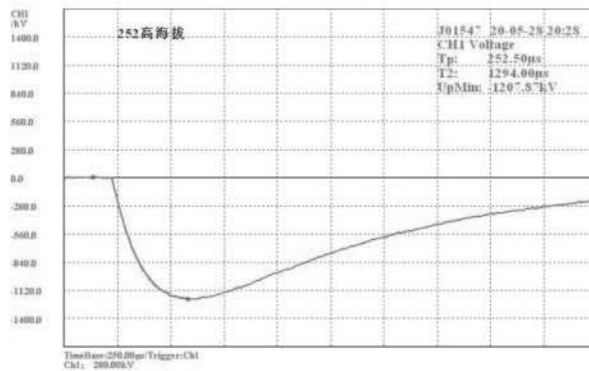
No: CTQC/ZJ-20.073

Total 29 Page 17

Tested terminal: To earth

Test polarity: Negative

CH1: Voltage records



Test Report

No: CTQC/ZJ-20.073

Total 29 Page 18

4.10 Wet switching impulse voltage withstand test (Type test)

Test date: May 27, 2020

Humidity: 48.5%; Ambient temperature: 28.8°C; Atmospheric pressure: 100.4kPa.

The conductivity of collected water corrected to 20°C is 100.8 μ S/cm.

Vertical component: 1.5mm/min; Horizontal component: 1.4mm/min.

Rated withstand voltage 850kV; Corrected value 1118.5kV

Applied voltage: Positive polarity 1118.5kV

Negative polarity 1120.3kV

15 positive and 15 negative polarity voltage switching impulses

Note: Correction factor of altitude: 1.381; Correction factor of atmosphere: 0.9984.

Test sequence:

One positive polarity reference voltage switching wave impulse;

Fifteen positive polarity rated withstand voltage switching impulses;

One negative polarity reference voltage switching impulse;

Fifteen negative polarity rated withstand voltage switching impulses.

Test oscillogram records:

Tp: Front time;

T2: A total duration from the virtual origin to the first zero passage;

UpMax/UpMin: Peak voltage.

Note: The internal and external dielectric tests are carried out on the same sample.

Result: Passed.

Test Report

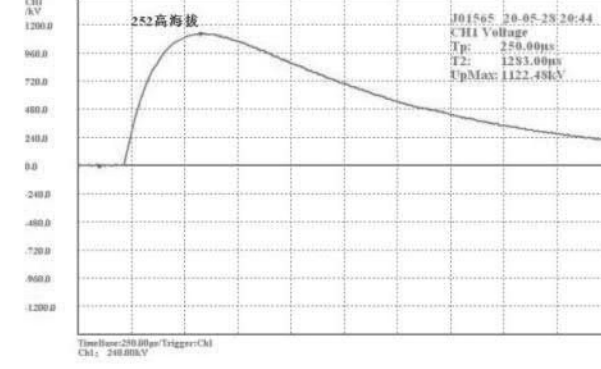
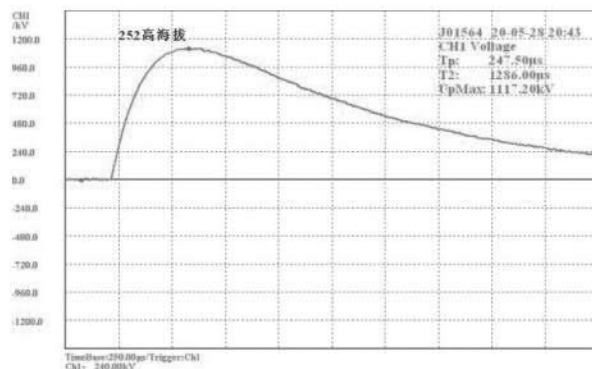
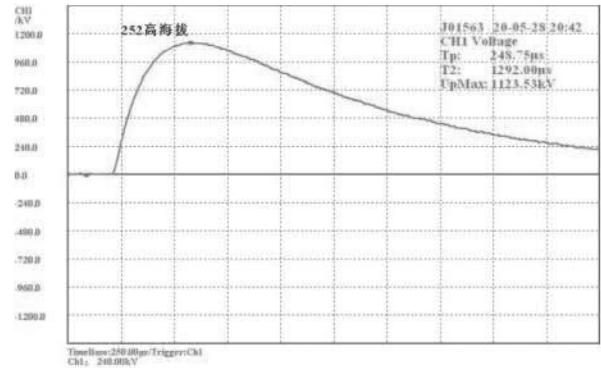
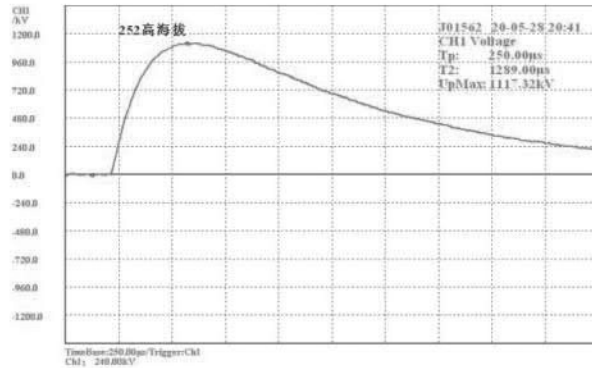
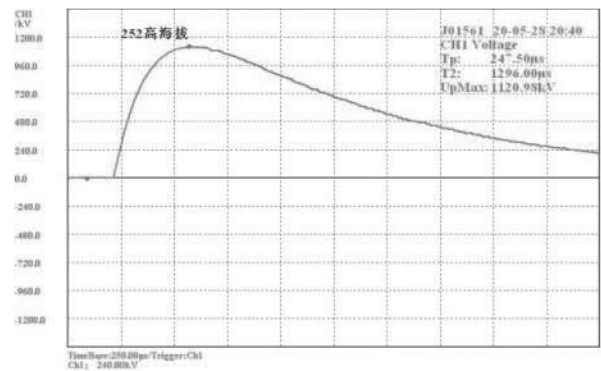
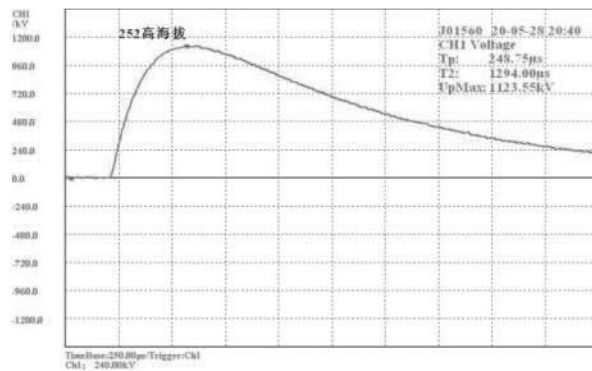
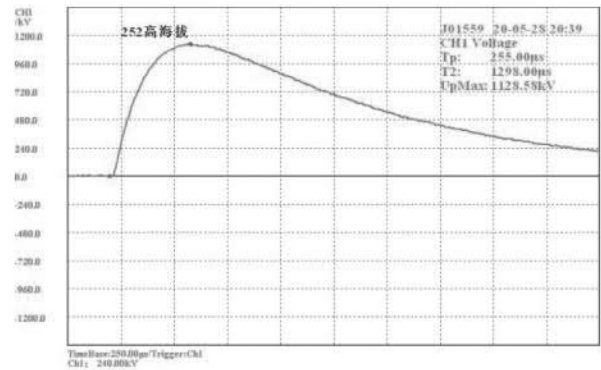
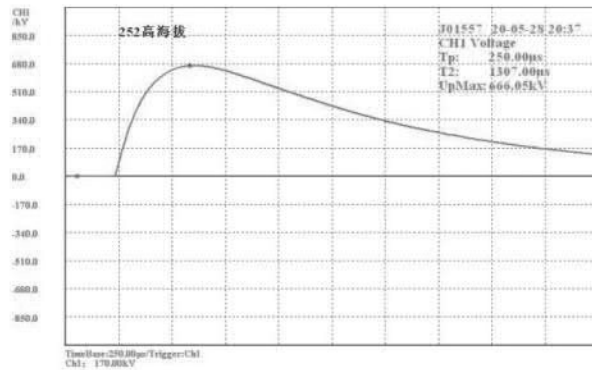
No: CTQC/ZJ-20.073

Total 29 Page 19

Tested terminal: To earth

Test polarity: Positive

CH1: Voltage records



Test Report

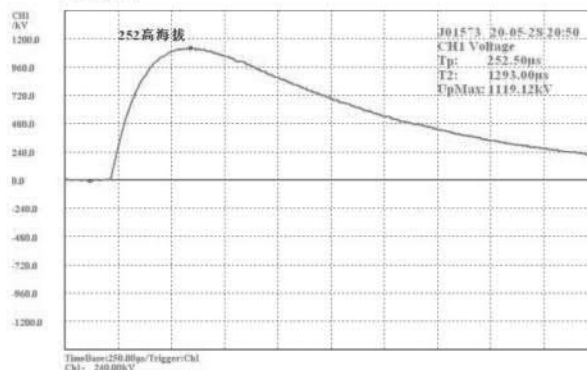
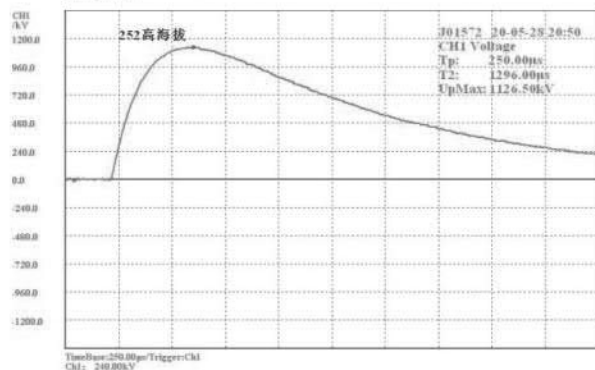
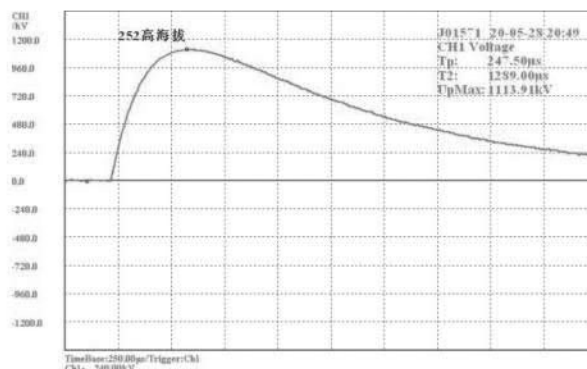
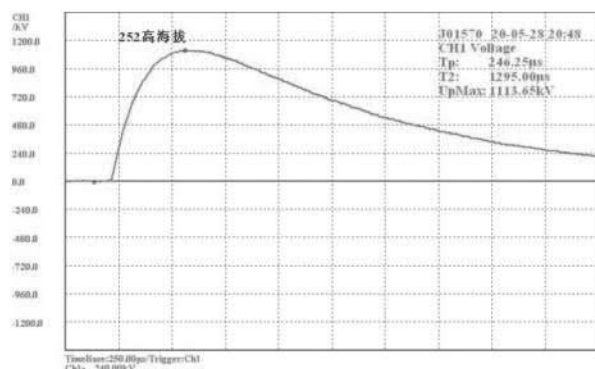
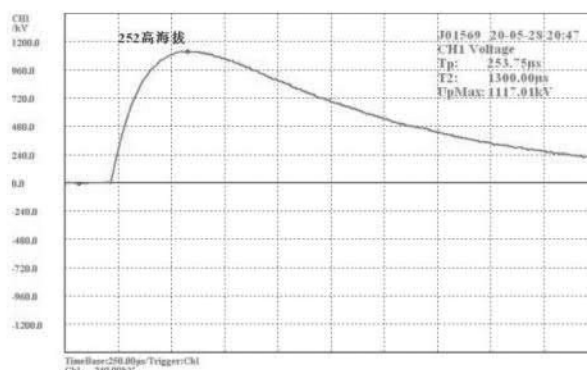
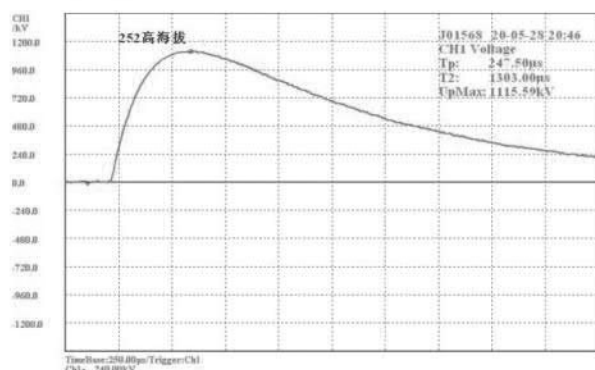
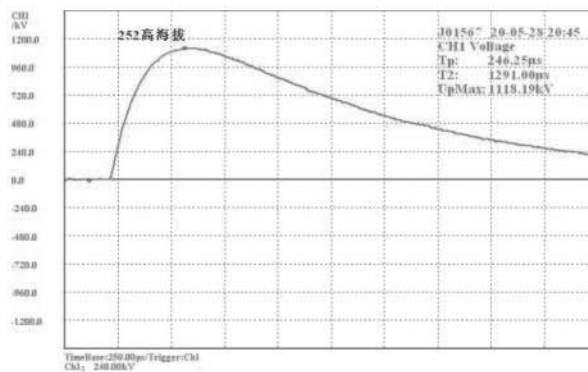
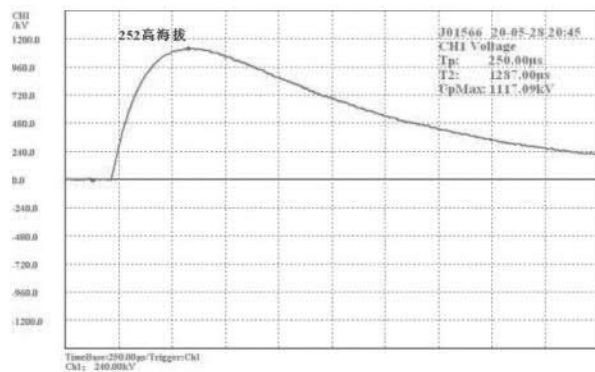
No: CTQC/ZJ-20.073

Total 29 Page 20

Tested terminal: To earth

Test polarity: Positive

CH1: Voltage records



Test Report

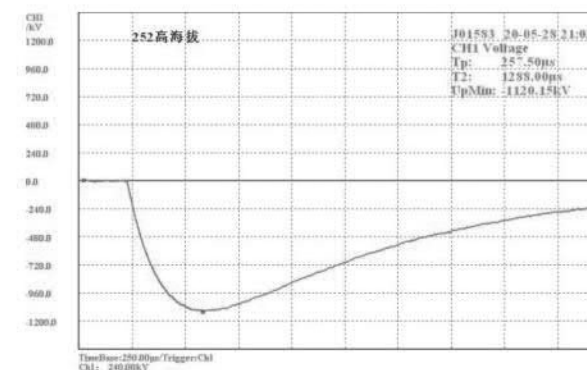
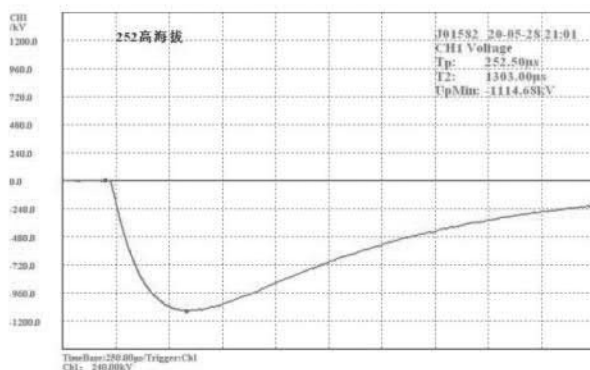
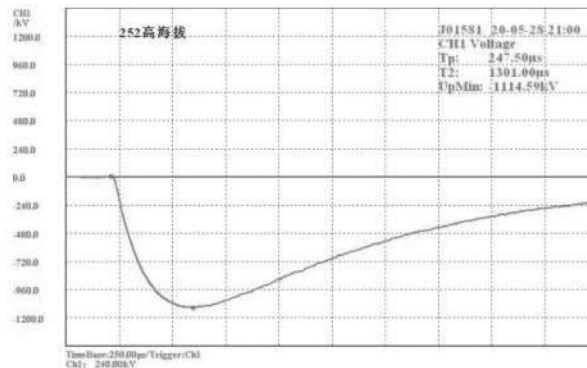
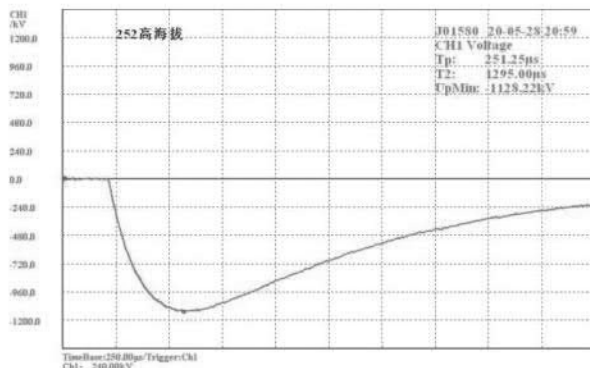
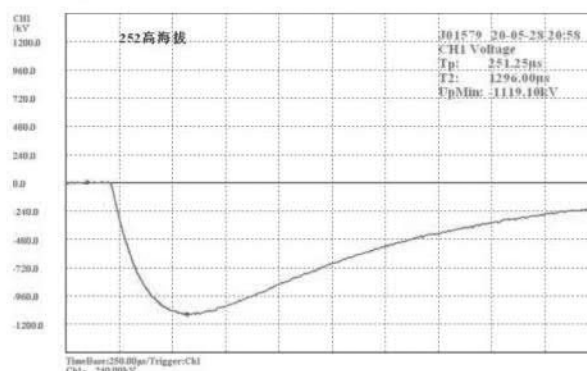
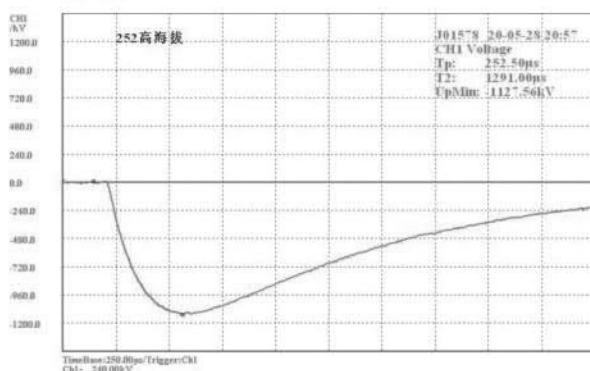
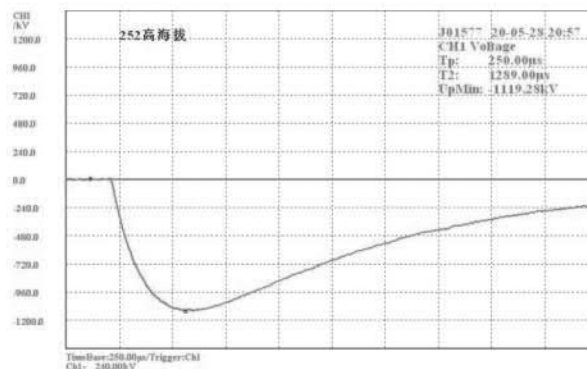
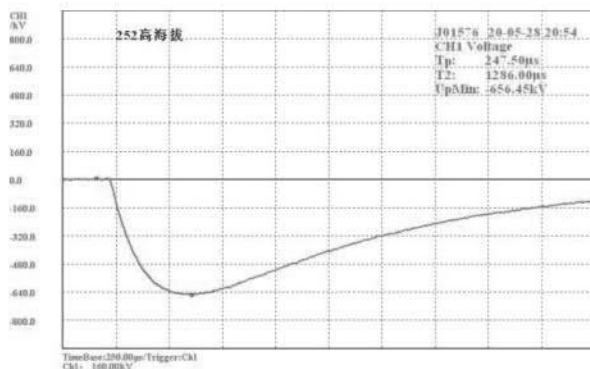
No: CTQC/ZJ-20.073

Total 29 Page 21

Tested terminal: To earth

Test polarity: Negative

CH1: Voltage records



Test Report

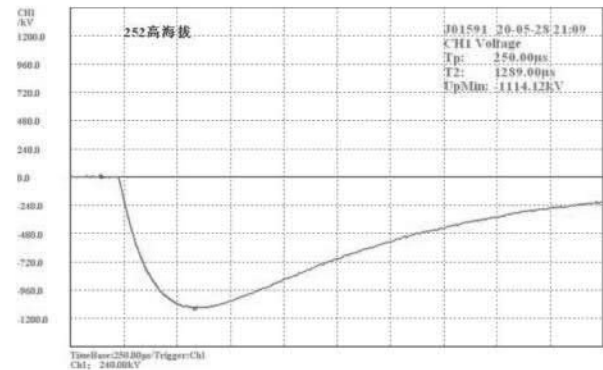
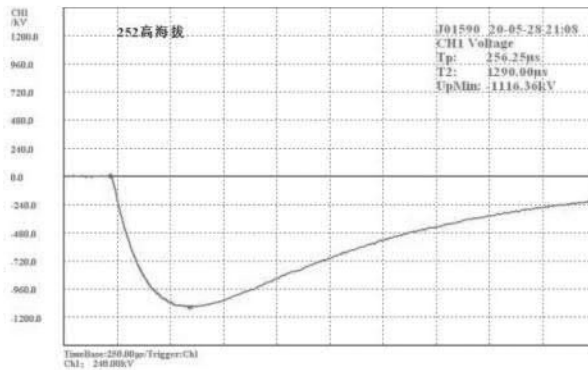
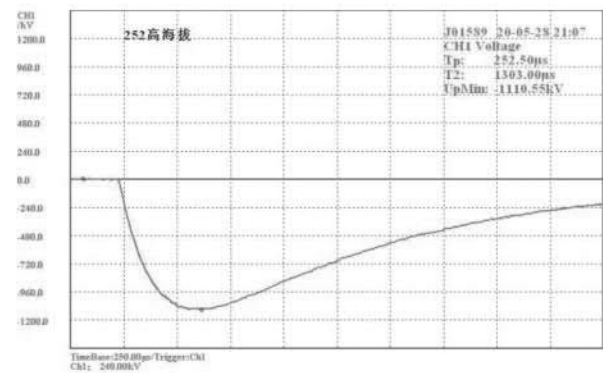
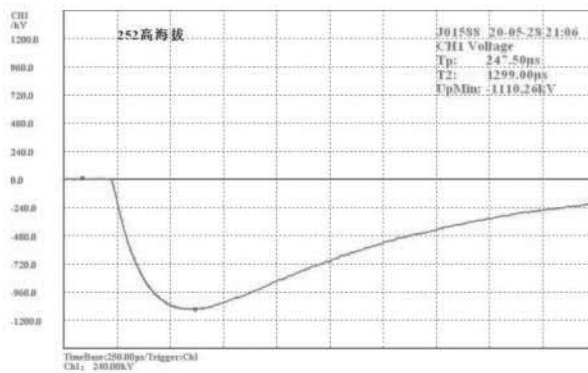
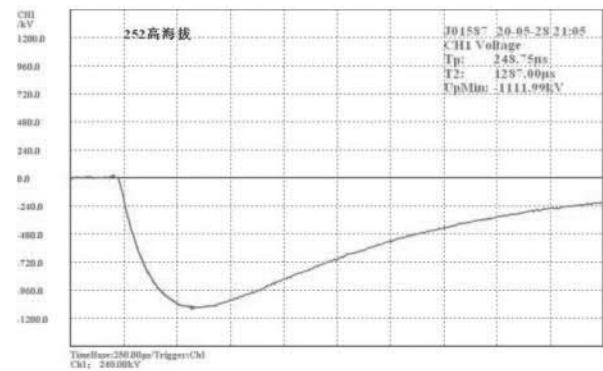
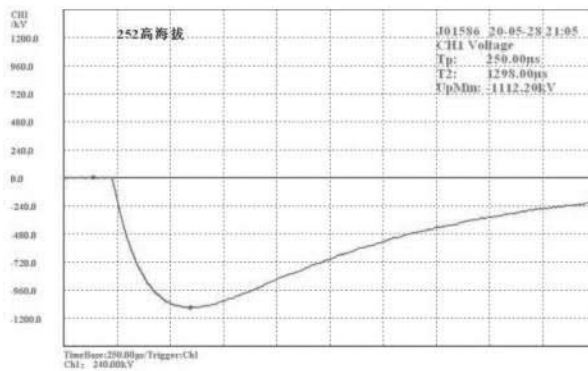
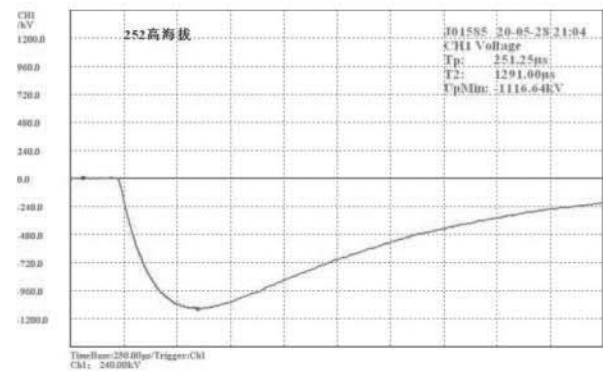
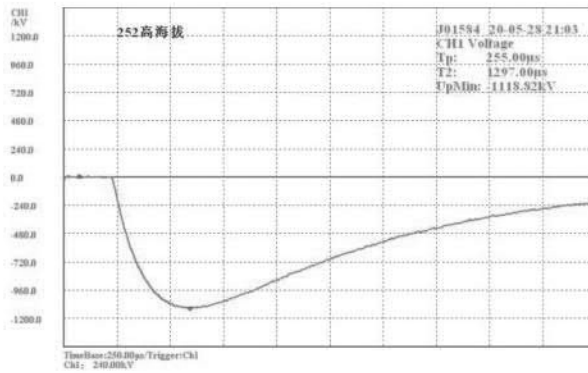
No: CTQC/ZJ-20.073

Total 29 Page 22

Tested terminal: To earth

Test polarity: Negative

CH1: Voltage records



Test Report

№: CTQC/ZJ-20.073

Total 29 Page 23

4.11 Temperature-rise test (Type test)

Test date: May 29, 2020

Specified current is 4000A, injected current is 4000A during test, the test duration is 5h, stability duration is 1h.

Calculated result of temperature rise

№.	Measured position	Bushing temperature (°C)	Bushing temperature-rise (K)	Oil temperature (°C)	Ambient temperature (°C)	Result
1	Terminal in the air	57.3	30.9	87.7	26.4	Passed
2	Junction cover in the air	55.6	29.2			
3	Flange	53.8	27.4			
4	Junction cover in the oil	93.6	67.2			
5	Terminal in the oil	92.8	66.4			

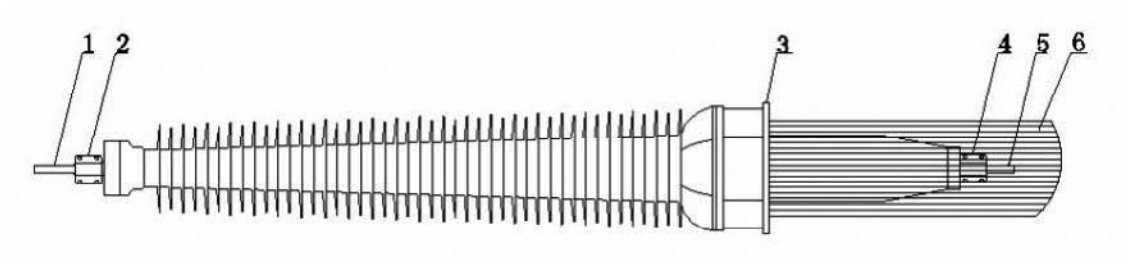
The measurement position drawing is shown in page 24.

Test Report

No: CTQC/ZJ-20.073

Total 29 Page 24

Schematic diagram of measured point of temperature rise



1. Terminal in the air 2. Junction cover in the air 3. Flange 4. Junction cover in the oil
5. Terminal in the oil 6. Transformer oil

Test Report

No: CTQC/ZJ-20.073

Total 29 Page 25

4.12 Radio interference voltage test (Type test)

Test date: May 27, 2020

Humidity: 48.5%; Ambient temperature: 28.8°C; Atmospheric pressure: 100.4kPa

Measured frequency (MHz)	Attenuation factor of measurement circuit (dB)	Attenuation factor of resistance network (dB)	Measured voltage (kV)	Duration (min)	Radio interference reading B_m (dB)	Radio interference level (μV)
1.0	15	22	160.1	5	11	251
			145.5	/	11	251
			130.9		11	251
			116.4		10	224
			101.8		10	224
			87.3		10	224
			72.7		9	200
			58.2		9	200
			43.6		9	200

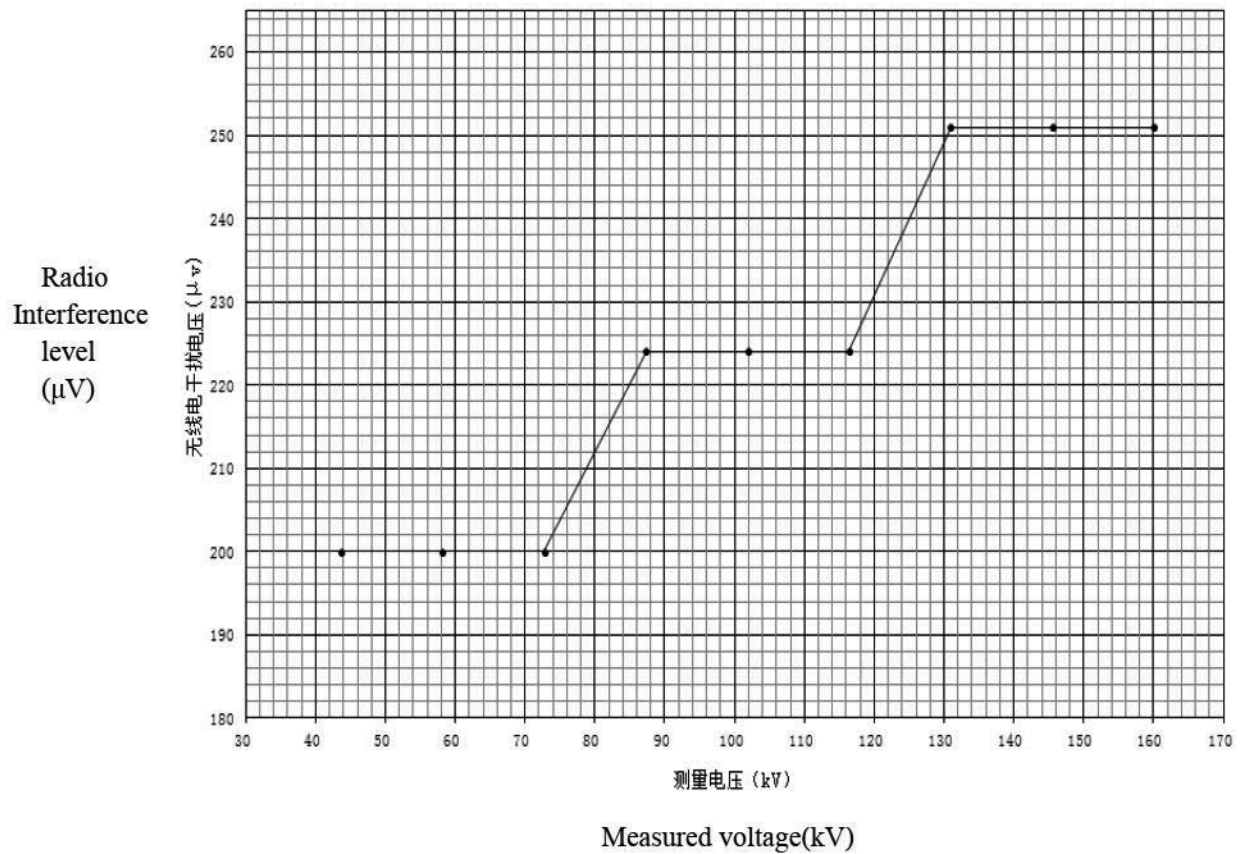
Result: Passed.

Test Report

No: CTQC/ZJ-20.073

Total 29 Page 26

Radio interference curve



Test Report

No: CTQC/ZJ-20.073

Total 29 Page 27

4.13 Verification of thermal short-time current withstand (Verify by the calculation)

(Type test)

Test date: May 30, 2020

The standard value of thermal short-time current of the bushing $I_{th}=100\text{kA}$, duration is 2s. According to calculation the final temperature of the conductor $\theta_f=135.2^\circ\text{C}$. If $\theta_f \leq 180^\circ\text{C}$, it is considered that the bushing could withstand the standard value I_{th} of thermal short-time current.

Sample parameters

Conductor material of the sample	Aluminum
Conductor resistivity ρ ($\mu\Omega\cdot\text{cm}$)	2.83
Total cross section area S_t (cm^2)	50.24
Measured temperature rise of the bushing (K)	67.2
Rated current I_r (A)	4000
Standard value of rated thermal short-time current I_{th} (kA)	100
Rated duration t_{th} (s)	2
θ_0 ($^\circ\text{C}$)	107.2
Current penetration depth d (cm)	1.1.198
Diameter of the conductor D (cm)	8.0
α [(K/s)/(kA/cm ²) ²]	1.8
Equivalent cross section area considering the skin effect S_e (cm ²)	25.59

Verify by the calculation:

$$\theta_f = \theta_0 + \alpha \frac{I_{th}^2}{S_t \times S_e} \times t_{th} = 135.2^\circ\text{C}$$

Result: Passed.

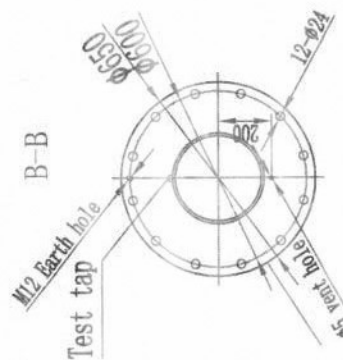
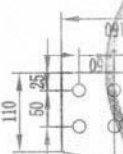
Test Report						No: CTQC/ZJ-20.073 Total 29 Page 28	
4.14 Cantilever load withstand test (Type test)							
4.14.1 Cantilever load withstand test						Test date: May 27, 2020	
Load direction	Applied position	Standard value		Applied value		Result	
		Load(N)	Duration(s)	Load(N)	Duration(s)		
Vertical	Terminal	5000	60	5078	60	No damage, distortion, passed	
4.14.2 Repeated routine tests after cantilever load withstand test							
4.14.2.1 Visual inspection and dimensional check						Test date: May 30, 2020	
It has smooth surface, no cracks. Dimensional check is accordance with the drawing requirement.							
Dimensional check see 4.1							
Result: Passed.							
4.14.2.2 Dry power-frequency voltage withstand test						Test date: May 30, 2020	
Humidity: 58.9%; Ambient temperature: 26.7°C; Atmospheric pressure: 100.2kPa							
Applied position	Applied voltage(kV)			Frequency (Hz)	Duration (s)	Result	
	Standard value	Corrected value of atmosphere	Applied value				
Tap-earth	505	/	505	50	60	Passed	
4.14.2.3 Tests of tap insulation						Test date: May 30, 2020	
Dry power-frequency voltage withstand test						Humidity: 58.9%; Ambient temperature: 26.7°C	
Applied position	Applied voltage(kV)	Frequency (Hz)	Duration(s)	Result			
Tap-earth	2	50	60	Passed			
Measurement of dielectric dissipation factor ($\tan\delta$) and capacitance							
Humidity: 58.9%; Ambient temperature: 26.7°C							
Applied voltage (kV)	Dielectric dissipation factor($\tan\delta$)	Capacitance (pF)	Result				
2	0.00882	256.1	Passed				

Test Report				No: CTQC/ZJ-20.073 Total 29 Page 29	
4.14.2.4 Measurement of magnitude of partial discharge (Routine test) Test date: May 30, 2020 Humidity: 58.9%; Ambient temperature: 26.7°C; Atmospheric pressure: 100.2kPa					
Prestress voltage (kV)	Duration (s)	Measured voltage (kV)	Partial discharge level(pC)	Result	
505	60	252	6	Passed	
		218.2	5		
		152.8	4		
Note: Background level is <4pC before and after test.					
4.14.2.5 Measurement of dielectric dissipation factor ($\tan \delta$) and capacitance at ambient temperature Test date: May 30, 2020 Humidity: 58.9%; Ambient temperature: 26.7°C					
Applied voltage (kV)	Dielectric dissipation factor($\tan \delta$)	Capacitance (pF)	Result		
10	0.00308	573.5	Passed		
152.8	0.00315	574.6			
252	0.00319	574.8			
Note: $\tan \delta(252\text{kV}) - \tan \delta(152.8\text{kV}) = 0.00004 < 0.001$ (Standard value), passed.					
4.14.3 The result of cantilever load withstand test: Passed.					

Rated voltage:	252kV
Rated phase-to-earth voltage:	145kV
Rated frequency:	50/60Hz
Rated current:	4000A
1 minute power frequency withstand voltage (kV):	505kV
Partial discharge level at 476kV:	≤10pC
Tanδ of bushings:	≤0.5%
Lightning impulse withstand voltage (kV):	1050kV
Test top voltage withstand level:	2kVrms
Rated thermal short-time current, 2 sec (I _{th}):	100kA
Rated dynamic current (I _d):	250kA
Minimum total creepage distance:	≥11249mm
Installation angle:	0-90°
Ambient temperature:	-55to+55°C
Antilever test load:	5000N
Installation height above sea level:	4000m
Winding direction:	Bottom connection
Internal insulation type:	RIS
External insulation Colour:	Polymer
Compliance standard:	IEC 60137(2017)



Terminal size



A

Terminal size

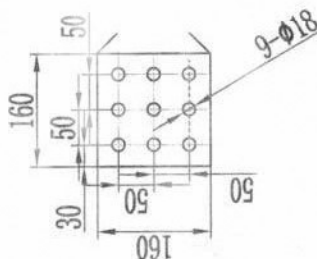


Table.2 Main Dimensions

Bushing Type												孔宪成
CBRG-252/4000												Design
Drawing No.	OCX.305.081.01	REV.0		29/05/2020							Reviewer	
Dalian Hivolt Power System Co.,Ltd.												Approver

Dalian Hivolt Power System Co., Ltd.