

1 1.2/50  $\mu$ s combination wave generator1.1 1.2/50  $\mu$ s combination wave

## 1.1.1 Front time

1.2/50 $\mu$ s Open-circuit voltage				8/20 $\mu$ s Short-circuit current			
Indicated voltage [kV]	Measured [ $\mu$ s]	Limits [ $\mu$ s]	Results	Indicated voltage [kV]	Measured [ $\mu$ s]	Limits [ $\mu$ s]	Results
+0.5				+0.5			
-0.5				-0.5			
+1.0		1.2( $\pm 30$ %)		+1.0		8( $\pm 20$ %)	
-1.0				-1.0			
+2.0		(0.84-1.56)		+2.0		(6.4-9.6)	
-2.0				-2.0			
+4.0				+4.0			
-4.0				-4.0			

## 1.1.2 Time to half value

1.2/50 $\mu$ s Open-circuit voltage				8/20 $\mu$ s Short-circuit current			
Indicated voltage [kV]	Measured [ $\mu$ s]	Limits [ $\mu$ s]	Results	Indicated voltage [kV]	Measured [ $\mu$ s]	Limits [ $\mu$ s]	Results
+0.5				+0.5			
-0.5				-0.5			
+1.0		50( $\pm 20$ %)		+1.0		20( $\pm 20$ %)	
-1.0				-1.0			
+2.0		(40-60)		+2.0		(16-24)	
-2.0				-2.0			
+4.0				+4.0			
-4.0				-4.0			

## 1.1.3 Undershoot

1.2/50 $\mu$ s Open-circuit voltage				8/20 $\mu$ s Short-circuit current			
Indicated voltage [kV]	Measured [%]	Limits [%]	Results	Indicated voltage [kV]	Measured [%]	Limits [%]	Results
+0.5				+0.5			
-0.5				-0.5			
+1.0		30(Max)		+1.0		30(Max)	
-1.0				-1.0			
+2.0				+2.0			
-2.0				-2.0			
+4.0				+4.0			
-4.0				-4.0			

## 1.1.4 Open-circuit peak voltage, Short-circuit peak current

1.2/50 $\mu$ s Open-circuit voltage				8/20 $\mu$ s Short-circuit current			
Indicated voltage [kV]	Measured [kV]	Limits [kV]	Results	Indicated voltage [kV]	Measured [kA]	Limits [kA]	Results
+0.5		+0.45 — +0.55		+0.5		+0.225 — +0.275	
-0.5		-0.45 — -0.55		-0.5		-0.225 — -0.275	
+1.0		+0.90 — +1.10		+1.0		+0.45 — +0.55	
-1.0		-0.90 — -1.10		-1.0		-0.45 — -0.55	
+2.0		+1.80 — +2.20		+2.0		+0.90 — +1.10	
-2.0		-1.80 — -2.20		-2.0		-0.90 — -1.10	
+4.0		+3.60 — +4.40		+4.0		+1.80 — +2.20	
-4.0		-3.60 — -4.40		-4.0		-1.80 — -2.20	

## 2 EUT port of the CDN

2.1 1.2/50  $\mu$ s combination wave (N-L1)

## 2.1.1 Front time

1.2/50 $\mu$ s Open-circuit voltage (N-L1)				8/20 $\mu$ s Short-circuit current (N-L1)			
Indicated voltage [kV]	Measured [ $\mu$ s]	Limits [ $\mu$ s]	Results	Indicated voltage [kV]	Measured [ $\mu$ s]	Limits [ $\mu$ s]	Results
+0.5		1.2( $\pm 30$ %) (0.84-1.56)		+0.5		8( $\pm 20$ %) (6.4-9.6)	
-0.5				-0.5			
+1.0				+1.0			
-1.0				-1.0			
+2.0				+2.0			
-2.0				-2.0			
+4.0				+4.0			
-4.0				-4.0			

## 2.1.2 Time to half value

1.2/50 $\mu$ s Open-circuit voltage (N-L1)				8/20 $\mu$ s Short-circuit current (N-L1)			
Indicated voltage [kV]	Measured [ $\mu$ s]	Limits [ $\mu$ s]	Results	Indicated voltage [kV]	Measured [ $\mu$ s]	Limits [ $\mu$ s]	Results
+0.5		50 $\mu$ s+10 $\mu$ s /-15 $\mu$ s (35-60)		+0.5		20( $\pm 20$ %) (16-24)	
-0.5				-0.5			
+1.0				+1.0			
-1.0				-1.0			
+2.0				+2.0			
-2.0				-2.0			
+4.0				+4.0			
-4.0				-4.0			

## 2.1.3 Undershoot

1.2/50 $\mu$ s Open-circuit voltage (N-L1)				8/20 $\mu$ s Short-circuit current (N-L1)			
Indicated voltage [kV]	Measured [%]	Limits [%]	Results	Indicated voltage [kV]	Measured [%]	Limits [%]	Results
+0.5		N/A		+0.5		N/A	
-0.5				-0.5			
+1.0				+1.0			
-1.0				-1.0			
+2.0				+2.0			
-2.0				-2.0			
+4.0				+4.0			
-4.0				-4.0			

## 2.1.4 Open-circuit peak voltage, Short-circuit peak current

1.2/50 $\mu$ s Open-circuit voltage (N-L1)				8/20 $\mu$ s Short-circuit current (N-L1)			
Indicated voltage [kV]	Measured [kV]	Limits [kV]	Results	Indicated voltage [kV]	Measured [kA]	Limits [kA]	Results
+0.5		N/A		+0.5		N/A	
-0.5		N/A		-0.5		N/A	
+1.0		N/A		+1.0		N/A	
-1.0		N/A		-1.0		N/A	
+2.0		N/A		+2.0		N/A	
-2.0		N/A		-2.0		N/A	
+4.0		N/A		+4.0		N/A	
-4.0		N/A		-4.0		N/A	

## 1.3 Phase shifting

## 1.3.1 N-L1

Phase angle [deg]	Indicated voltage [kV]	Measured		Limits		Results
		Time [ms]	Phase angle [deg]	Time [ms]	Phase angle [deg]	
0	+1.0			-0.555 - 0.555	0(±10)	
	-1.0					
90	+1.0			4.445 - 5.555	90(±10)	
	-1.0					
180	+1.0			9.445 - 10.555	180(±10)	
	-1.0					
270	+1.0			14.445 - 15.555	270(±10)	
	-1.0					
電源電圧設定: AC 231.84 V / 50 Hz						

## 1.4 Effective output impedance

## 1.4.1 1.2/50 μs combination wave

Indicated voltage	Open-circuit peak voltage	Short-circuit peak current	Effective output impedance	Limits	Results
[kV]	[kV]	[kA]	[Ω]	[Ω]	
+0.5				2(±10 %) (1.8-2.2)	
-0.5					
+1.0					
-1.0					
+2.0					
-2.0					
+4.0					
-4.0					
Effective output impedance = Open-circuit peak voltage / Short-circuit peak current					

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2.5 1.2/50  $\mu$ s combination wave (L1-L2)

## 2.5.1 Front time

1.2/50 $\mu$ s Open-circuit voltage (L1-L2)				8/20 $\mu$ s Short-circuit current (L1-L2)			
Indicated voltage [kV]	Measured [ $\mu$ s]	Limits [ $\mu$ s]	Results	Indicated voltage [kV]	Measured [ $\mu$ s]	Limits [ $\mu$ s]	Results
+0.5		1.2( $\pm 30$ %) (0.84-1.56)		+0.5		8( $\pm 20$ %) (6.4-9.6)	
-0.5				-0.5			
+1.0				+1.0			
-1.0				-1.0			
+2.0				+2.0			
-2.0				-2.0			
+4.0				+4.0			
-4.0				-4.0			

## 2.5.2 Time to half value

1.2/50 $\mu$ s Open-circuit voltage (L1-L2)				8/20 $\mu$ s Short-circuit current (L1-L2)			
Indicated voltage [kV]	Measured [ $\mu$ s]	Limits [ $\mu$ s]	Results	Indicated voltage [kV]	Measured [ $\mu$ s]	Limits [ $\mu$ s]	Results
+0.5		50 $\mu$ s +10 $\mu$ s -15 $\mu$ s (35-60)		+0.5		20( $\pm 20$ %) (16-24)	
-0.5				-0.5			
+1.0				+1.0			
-1.0				-1.0			
+2.0				+2.0			
-2.0				-2.0			
+4.0				+4.0			
-4.0				-4.0			

## 2.5.3 Undershoot

1.2/50 $\mu$ s Open-circuit voltage (L1-L2)				8/20 $\mu$ s Short-circuit current (L1-L2)			
Indicated voltage [kV]	Measured [%]	Limits [%]	Results	Indicated voltage [kV]	Measured [%]	Limits [%]	Results
+0.5		N/A	N/A	+0.5		N/A	N/A
-0.5			N/A	-0.5			N/A
+1.0			N/A	+1.0			N/A
-1.0			N/A	-1.0			N/A
+2.0			N/A	+2.0			N/A
-2.0			N/A	-2.0			N/A
+4.0			N/A	+4.0			N/A
-4.0			N/A	-4.0			N/A

## 2.5.4 Open-circuit peak voltage, Short-circuit peak current

1.2/50 $\mu$ s Open-circuit voltage (L1-L2)				8/20 $\mu$ s Short-circuit current (L1-L2)			
Indicated voltage [kV]	Measured [kV]	Limits [kV]	Results	Indicated voltage [kV]	Measured [kA]	Limits [kA]	Results
+0.5		N/A		+0.5		N/A	
-0.5		N/A		-0.5		N/A	
+1.0		N/A		+1.0		N/A	
-1.0		N/A		-1.0		N/A	
+2.0		N/A		+2.0		N/A	
-2.0		N/A		-2.0		N/A	
+4.0		N/A		+4.0		N/A	
-4.0		N/A		-4.0		N/A	