

Date

Reference

2023-03-27

2022/2336

Scope of accreditation

Calibration laboratory according to SS-EN ISO/IEC 17025:2018

nok9AB

Malmö

Accreditation number

10255

A013479-001

Electricity and Magnetism

<i>Technology area</i>	<i>Method</i>	<i>Parameter</i>	<i>Material</i>	<i>Measure</i>	<i>Best measuring ability (CMC) +/-</i>	<i>Technique</i>	<i>Field</i>	<i>Note</i>
Current	Inhouse method; PROC-TC-012 ed 10	AC	Precision Power Analyzer	1 000 - 10 000 mA	13,3 mA		No	205 kHz - 350 kHz
		AC	Precision Power Analyzer	1 000 - 10 000 mA	19,1 mA		No	350 kHz - 370 kHz
		AC	Precision Power Analyzer	1 000 - 10 000 mA	19,9 mA		No	370 kHz - 500 kHz
		AC	Precision Power Analyzer	1 000 - 10 000 mA	5,1 mA		No	50 Hz - 85kHz
		AC	Precision Power Analyzer	1 000 - 10 000 mA	8,5 mA		No	85 Hz - 205kHz
		AC	Precision Power Analyzer	10 - 100 mA	0,35 mA		No	50 Hz - 85kHz
		AC	Precision Power Analyzer	10 - 100 mA	14,35 mA		No	350 kHz - 370 kHz
		AC	Precision Power Analyzer	10 - 100 mA	15,15 mA		No	370 kHz - 500 kHz
		AC	Precision Power Analyzer	10 - 100 mA	3,75 mA		No	85 Hz - 205kHz
		AC	Precision Power Analyzer	10 - 100 mA	8,55 mA		No	205 kHz - 350 kHz
		AC	Precision Power Analyzer	100 - 1 000 mA	0,8 mA		No	50 Hz - 85kHz
		AC	Precision Power Analyzer	100 - 1 000 mA	14,78 mA		No	350 kHz - 370 kHz
		AC	Precision Power Analyzer	100 - 1 000 mA	15,58 mA		No	370 kHz - 500 kHz
		AC	Precision Power Analyzer	100 - 1 000 mA	8,98 mA		No	205 kHz - 350 kHz
		AC	Precision Power Analyzer	100 -1 000 mA	4,2 mA		No	85 Hz - 205kHz
		DC	Multimeter	1 000 - 10 000 mA	15,3 mA		No	
		DC	Multimeter	1 000-1 500 mA	0,53 mA		No	
		DC	Multimeter	10 - 10 mA	0,25 µA		No	

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Current	Inhouse method; PROC-TC-012 ed 10	DC	Multimeter	10 - 100 mA	4,0 µA		No	
		DC	Multimeter	100 - 1 000 mA	124 µA		No	
	Inhouse method; PROC-TC-013 ed 10	AC	Precision Power Analyzer	1 000 - 10 000 mA	13,3 mA		No	205 kHz - 350 kHz
		AC	Precision Power Analyzer	1 000 - 10 000 mA	19,1 mA		No	350 kHz - 370 kHz
		AC	Precision Power Analyzer	1 000 - 10 000 mA	19,9 mA		No	370 kHz - 500 kHz
		AC	Precision Power Analyzer	1 000 - 10 000 mA	5,1 mA		No	50 Hz - 85kHz
		AC	Precision Power Analyzer	1 000 - 10 000 mA	8,5 mA		No	85 Hz - 205kHz
		AC	Precision Power Analyzer	10 - 100 mA	0,35 mA		No	50 Hz - 85kHz
		AC	Precision Power Analyzer	10 - 100 mA	14,35 mA		No	350 kHz - 370 kHz
		AC	Precision Power Analyzer	10 - 100 mA	15,15 mA		No	370 kHz - 500 kHz
		AC	Precision Power Analyzer	10 - 100 mA	3,75 mA		No	85 Hz - 205kHz
		AC	Precision Power Analyzer	10 - 100 mA	8,55 mA		No	205 kHz - 350 kHz
		AC	Precision Power Analyzer	100 - 1 000 mA	0,8 mA		No	50 Hz - 85kHz
		AC	Precision Power Analyzer	100 - 1 000 mA	14,78 mA		No	350 kHz - 370 kHz
		AC	Precision Power Analyzer	100 - 1 000 mA	15,58 mA		No	370 kHz - 500 kHz
		AC	Precision Power Analyzer	100 - 1 000 mA	8,98 mA		No	205 kHz - 350 kHz
		AC	Precision Power Analyzer	100 -1 000 mA	4,2 mA		No	85 Hz - 205kHz
		DC	Multimeter	1 000-1 500 mA	0,53 mA		No	
		DC	Multimeter	1 500 - 10 000 mA	15,3 mA		No	
		DC	Multimeter	10 - 1 000 mA	0,15 mA		No	
Effect	Inhouse method; PROC-TC-012 ed 10	AC	Power meter	1 000 – 5 000 mW	2,7 mW		No	50 Hz - 500 kHz
		AC	Power meter	5 – 1 000 mW	1,1 mW		No	50 Hz - 500 kHz

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Effect	Inhouse method; PROC-TC-012 ed 10	AC	Power meter	5 000 – 8 000 mW	3,6 mW		No	50 Hz - 500 kHz
		DC	Power meter	10 - 1 000 mW	2,0 mW		No	CATS I BTS
		DC	Power meter	100 - 15 000 mW	5,2 mW		No	CATS I BTS
		DC	Power meter	100 - 5 000 mW	0,31 mW		No	
		DC	Power meter	5 000 - 20 000 mW	5,4 mW		No	
	Inhouse method; PROC-TC-013 ed 10	AC	Power meter	16 000 - 32 000 mW	2,5 mW		No	50 Hz - 500 Hz
		AC	Power meter	32 000 - 48 000 mW	3,4 mW		No	50 Hz - 500 Hz
		AC	Power meter	48 000 - 72 000 mW	4,7 mW		No	50 Hz - 500 Hz
		AC	Power meter	5 - 8 000 mW	1,0 mW		No	50 Hz - 500 Hz
		AC	Power meter	72 000 - 96 000 mW	6,0 mW		No	50 Hz - 500 Hz
		AC	Power meter	8 000 - 16 000 mW	1,6 mW		No	50 Hz - 500 Hz
		AC	Power meter	96 000 - 200 000 mW	11,6 mW		No	50 Hz - 500 Hz
		DC	Power meter	1 - 150 W	0,052 W		No	CATS I BTS
		DC	Power meter	1,5 - 100 W	0,154 W		No	CATS I BTS
		DC	Power meter	10 - 1 000 mW	2,0 mW		No	CATS I BTS
		DC	Power meter	100 - 10 000 mW	20,1 mW		No	CATS I BTS
		DC	Power meter	100 - 15 000 mW	5,2 mW		No	CATS I BTS
		DC	Power meter	100 - 5 000 mW	0,31 mW		No	
		DC	Power meter	15 - 1 000 W	1,54 W		No	CATS I BTS
		DC	Power meter	5 000 - 20 000 mW	5,4 mW		No	
Inductance	Inhouse method; PROC-TC-012 ed 10		LCR meter	10 - 100 uH	81 nH		No	
			LCR meter	100 - 250 uH	340 nH		No	

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Inductance	Inhouse method; PROC-TC-013 ed 10		LCR meter	10 - 100 uH	81 nH		No	
			LCR meter	100 - 250 uH	340 nH		No	
Q-factor	Inhouse method; PROC-TC-013 ed 10		LCR meter	10 - 200	1,27		No	
Resistance	Inhouse method; PROC-TC-012 ed 10	ESR	LCR meter	Z < 6.8 Ω	10 mOhm		No	
		ESR	LCR meter	Z 34,2 Ω - 68,5 Ω	57 mOhm		No	
		ESR	LCR meter	Z 6.3 – 34.2 Ω	29 mOhm		No	
		ESR	LCR meter	Z 62.8 Ω - 171,2 Ω	140 mOhm		No	
	Inhouse method; PROC-TC-013 ed 10	ESR	LCR meter	Z < 6.8 Ω	10 mOhm		No	
		ESR	LCR meter	Z 34,2 Ω - 68,5 Ω	57 mOhm		No	
		ESR	LCR meter	Z 6.3 – 34.2 Ω	29 mOhm		No	
		ESR	LCR meter	Z 62.8 Ω - 171,2 Ω	140 mOhm		No	
Voltage	Inhouse method; PROC-TC-012 ed 10	AC	Precision Power Analyzer	0,1 - 1 V	13,7 mV		No	205 kHz - 350 kHz
		AC	Precision Power Analyzer	0,1 - 1 V	19,5 mV		No	350 kHz - 370 kHz
		AC	Precision Power Analyzer	0,1 - 1 V	20,28 mV		No	370 kHz - 500 kHz
		AC	Precision Power Analyzer	0,1 - 1 V	5,5 mV		No	50 Hz - 85 kHz
		AC	Precision Power Analyzer	0,1 - 1 V	8,9 mV		No	85 kHz - 205 kHz
		AC	Precision Power Analyzer	1 - 10 V	18,0 mV		No	205 kHz - 350 kHz
		AC	Precision Power Analyzer	1 - 10 V	23,8 mV		No	350 kHz - 370 kHz
		AC	Precision Power Analyzer	1 - 10 V	24,6 mV		No	370 kHz - 500 kHz
		AC	Precision Power Analyzer	1 - 10 V	9,8 mV		No	50 Hz - 85 kHz
		AC	Precision Power Analyzer	1 - 10 V	13,2 mV		No	85 kHz - 205 kHz
		AC	Precision Power Analyzer	10 - 25 V	18,9 mV		No	50 Hz - 85 kHz

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Voltage	Inhouse method; PROC-TC-012 ed 10	AC	Precision Power Analyzer	10 - 25 V	22,3 mV		No	85 kHz - 205 kHz	
		AC	Precision Power Analyzer	10 - 25 V	27,1 mV		No	205 kHz - 350 kHz	
		AC	Precision Power Analyzer	10 - 25 V	32,9 mV		No	350 kHz - 370 kHz	
		AC	Precision Power Analyzer	10 - 25 V	33,7 mV		No	370 kHz - 500 kHz	
		AC	Precision Power Analyzer	25 - 50 V	48 mV		No	50 Hz - 85 kHz	
		AC	Precision Power Analyzer	25 - 50 V	51,4 mV		No	85 kHz - 205 kHz	
		AC	Precision Power Analyzer	25 - 50 V	56,2 mV		No	205 kHz - 350 kHz	
		AC	Precision Power Analyzer	25 - 50 V	62,0 mV		No	350 kHz - 370 kHz	
		AC	Precision Power Analyzer	25 - 50 V	62,8 mV		No	370 kHz - 500 kHz	
		AC	Precision Power Analyzer	50 - 100 V	53 mV		No	50 Hz - 85 kHz	
		AC	Precision Power Analyzer	50 - 100 V	56,4 mV		No	85kHz - 205 kHz	
		AC	Precision Power Analyzer	50 - 100 V	61,2 mV		No	205 kHz - 350 kHz	
		AC	Precision Power Analyzer	50 - 100 V	67,0 mV		No	350 kHz - 370 kHz	
		AC	Precision Power Analyzer	50 - 100 V	67,8 mV		No	370 kHz - 500 kHz	
		AC	Precision Power Analyzer	50 - 100 VG	56,4 mV		No	85 kHz - 205 kHz	
		DC	Multimeter	1 - 10 V	21,3 μV		No		
		DC	Multimeter	10 - 100 V	1,0 mV		No	CATS i BST	
	DC	Multimeter	10 - 100 V	475 μV		No			
		Inhouse method; PROC-TC-012 ed 9	AC	Multimeter	0,1 - 1 V	6 mV		No	50 Hz - 500 kHz
			AC	Multimeter	1 - 10 V	12 mV		No	50 Hz - 500 kHz
	AC		Multimeter	10 - 100 V	73 mV		No	50 Hz - 500 kHz	
	DC		Multimeter	0,1 - 1 V	3,75 μV		No		

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<i>Technology area</i>	<i>Method</i>	<i>Parameter</i>	<i>Material</i>	<i>Measure</i>	<i>Best measuring ability (CMC) +/-</i>	<i>Technique</i>	<i>Field</i>	<i>Note</i>
Voltage	Inhouse method; PROC-TC-012 ed 9	DC	Multimeter	1 - 10 V	0,1 mV		No	CATS i BST
		DC	Multimeter	1 - 10 V	21,3 µV		No	
		DC	Multimeter	10 - 100 V	1,0 mV		No	CATS i BST
		DC	Multimeter	10 - 100 V	475 µV		No	
	Inhouse method; PROC-TC-013 ed 10	AC	Precision Power Analyzer	0,1 - 1 V	13,7 mV		No	205 kHz - 350 kHz
		AC	Precision Power Analyzer	0,1 - 1 V	19,5 mV		No	350 kHz - 370 kHz
		AC	Precision Power Analyzer	0,1 - 1 V	20,28 mV		No	370 kHz - 500 kHz
		AC	Precision Power Analyzer	0,1 - 1 V	5,5 mV		No	50 Hz - 85 kHz
		AC	Precision Power Analyzer	0,1 - 1 V	8,9 mV		No	85 kHz - 205 kHz
		AC	Precision Power Analyzer	1 - 10 V	13,2 mV		No	85 kHz - 205 kHz
		AC	Precision Power Analyzer	1 - 10 V	18,0 mV		No	205 kHz - 350 kHz
		AC	Precision Power Analyzer	1 - 10 V	23,8 mV		No	350 kHz - 370 kHz
		AC	Precision Power Analyzer	1 - 10 V	24,6 mV		No	370 kHz - 500 kHz
		AC	Precision Power Analyzer	1 - 10 V	9,8 mV		No	50 Hz - 85 kHz
		AC	Precision Power Analyzer	10 - 25 V	18,9 mV		No	50 Hz - 85 kHz
		AC	Precision Power Analyzer	10 - 25 V	22,3 mV		No	85 kHz - 205 kHz
		AC	Precision Power Analyzer	10 - 25 V	27,1 mV		No	205 kHz - 350 kHz
		AC	Precision Power Analyzer	10 - 25 V	32,9 mV		No	350 kHz - 370 kHz
		AC	Precision Power Analyzer	10 - 25 V	33,7 mV		No	370 kHz - 500 kHz
		AC	Precision Power Analyzer	25 - 50 V	48 mV		No	50 Hz - 85 kHz
AC	Precision Power Analyzer	25 - 50 V	51,4 mV		No	85 kHz - 205 kHz		
AC	Precision Power Analyzer	25 - 50 V	56,2 mV		No	205 kHz - 350 kHz		

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<i>Technology area</i>	<i>Method</i>	<i>Parameter</i>	<i>Material</i>	<i>Measure</i>	<i>Best measuring ability (CMC) +/-</i>	<i>Technique</i>	<i>Field</i>	<i>Note</i>
Voltage	Inhouse method; PROC-TC-013 ed 10	AC	Precision Power Analyzer	25 - 50 V	62,0 mV		No	350 kHz - 370 kHz
		AC	Precision Power Analyzer	25 - 50 V	62,8 mV		No	370 kHz - 500 kHz
		AC	Precision Power Analyzer	50 - 100 V	53 mV		No	50 Hz - 85 kHz
		AC	Precision Power Analyzer	50 - 100 V	56,4 mV		No	85 kHz - 205 kHz
		AC	Precision Power Analyzer	50 - 100 V	61,2 mV		No	205 kHz - 350 kHz
		AC	Precision Power Analyzer	50 - 100 V	67,0 mV		No	350 kHz - 370 kHz
		AC	Precision Power Analyzer	50 - 100 V	67,8 mV		No	370 kHz - 500 kHz
		DC	Multimeter	0,1 - 1 v	3,75 mV		No	
		DC	Multimeter	1 - 10 V	0,1 mV		No	CATS II BST
		DC	Multimeter	1 - 10 V	21,3 mV		No	
		DC	Multimeter	10 - 100 V	1,0 mV		No	CATS II BST
		DC	Multimeter	10 - 100 V	475 mV		No	

Temperature

<i>Technology area</i>	<i>Method</i>	<i>Parameter</i>	<i>Material</i>	<i>Measure</i>	<i>Best measuring ability (CMC) +/-</i>	<i>Technique</i>	<i>Field</i>	<i>Note</i>
Temperature	Inhouse method; PROC-TC-012 ed 10		Temperature gauge	20-80 °C	0,55 °C		No	
	Inhouse method; PROC-TC-013 ed 10		Temperature gauge	20-80 °C	0,55 °C		No	

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Time and Frequency

<i>Technology area</i>	<i>Method</i>	<i>Parameter</i>	<i>Material</i>	<i>Measure</i>	<i>Best measuring ability (CMC) +/-</i>	<i>Technique</i>	<i>Field</i>	<i>Note</i>
Frequency	Inhouse method; PROC-TC-012 ed 10		LCR meter	50 - 2 000 kHz	1,0 kHz		No	
			LCR meter	95 - 105 kHz	0,1 kHz		No	
	Inhouse method; PROC-TC-013 ed 10		LCR meter	50 - 2 000 kHz	1,0 kHz		No	
			LCR meter	95 - 105 kHz	0,1 kHz		No	

Calibration and measurement capability, CMC, is the smallest uncertainty the calibration laboratory can provide, expressed as the expanded uncertainty having a coverage probability of approximately 95%.

Changes in the scope of accreditation are in bold.