

Schedule

Issue date: 19 March 2025
Valid Until: -



NO: SAMM 1020

Page: 1 of 9

LABORATORY LOCATION/ CENTRAL OFFICE:	Elsoft Systems Sdn. Bhd. Plot 85B, Lintang Bayan Lepas 9, Bayan Lepas Industrial Park Phase 4, 11900 Pulau Pinang , 11900, PULAU PINANG MALAYSIA
	
ACCREDITED SINCE :	19 MARCH 2025
FIELD(S) OF CALIBRATION:	ELECTRICAL

This laboratory has demonstrated its technical competence to operate in accordance with MS ISO/IEC 17025:2017 (ISO/IEC 17025:2017).

This laboratory's fulfillment of the requirements of ISO/IEC 17025 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025 are written in language relevant to laboratory operations and operate generally in accordance with the principles of ISO 9001 (see Joint ISO-ILAC-IAF Communiqué dated April 2017).

*** The uncertainty covered by the CMC is expressed as the expanded uncertainty corresponding to a coverage probability of approximately 95 % and have a coverage factor of k=2 unless stated otherwise.**

CENTRAL LOCATION	Elsoft Systems Sdn. Bhd. Plot 85B, Lintang Bayan Lepas 9, Bayan Lepas Industrial Park Phase 4, 11900 Pulau Pinang , 11900, Pulau Pinang
FIELD(S) OF CALIBRATION :	ELECTRICAL,

SCOPE OF CALIBRATION : ELECTRICAL

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
Dc Current	to	0.5mAVA + 1.1nA	2010 and Keysight
	to	0.5mAVA + 8.9nA	34470A Multimeter
	to 1mA	+	
	1mA to 10mA	+	
	10mA to 100mA	+	
	100mA to 1A	+ 0.22mA	
	1A to 3A	1.2mA/A +	
	10 mA to 100 mA 100 mA to 1A	0.33 0.66 mA/A	
	1A to 3A	0.87 mA/A	

Schedule

Issue date: 19 March 2025
Valid Until: -



NO: SAMM 1020

Page: 2 of 9

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	0 UA to 220 pA	40 + 6 nA	Measurement
	3.3A to 10.999A 11A to 29.999A 30A to 109.999A 110A to 205A	0.34mA/A + 6OMA 0.75mA/A + 55mA + 41mA 2.5mA/A +	Measurement using Fluke 5522A and Fluke
	205A to 549.995A 550A to 1025A	4.0mA/A + 0.44A 4.4mA/A + 0.20A	5500A/Coil 50 Turn Coil
	3.3A to 10.999A	None	
	45Hz to 1kHz	None	
	11A to 29.999A	None	
	45Hz to 1kHz	None	
	32.9999mA to 329.999mA to 1.0999A	78uA/A+2.0UA 0.16mA/A+31UA	
	1.1A to 2.99999A	None	
	2.99999A to 10.9999A	None	
	11A to 20.5A	None	
	0 mA to 10 mA 10 mA to 100 mA 100 mA to 1A 1Ato3A	0.45 + 5.8 nA 0.45 mA/A + 0.07 pA 0.2 mA/A + 0.66 0.2 + 8.52 0.4 + 0.08 mA	Direct measurement with 6 % digit multimeter
	0 mA to 10 mA 10 mA to 100 mA 100 mA to 1A 1Ato3A	0.5 mAVA + 0.23 mA	
	0 mA to 10 mA 10 mA to 100 mA 100 mA to 1A 1Ato3A	None	Direct
	0 mA to 10 mA 10 mA to 100 mA 100 mA to 1A 1Ato3A	None	measurement with
	0.1Ato 100A	0.07 mA/A + 4.2 mA	DC current shunt
	0.1Ato 100A	None	and 6 % digit
	0.1Ato 100A	None	multimeter
	0 UA to 220 pA	0.94 nA/A + 7.8 nA	
	220 UA to 2.2 mA	8.6 nA/A + 24 nA	
	2.2 mA to 22 mA	87 + 0.21	
	22 mA to 220 mA	1.5 + 3.4	
	220 mA to 2.2A	18 + 48 LA	
	10 pA	0.2	
	10 to 100 pA	37 +	
	100 pA to 1mA	30 + 6 nA	
	1 mA to 10 mA	30 + 52 nA	
	10 mA to 100 mA	47 + 0.6	
	100 mATo1A	0.1 + 5 pA	
	0 to 3.3 mA	0.1 pA	

Schedule

Issue date: 19 March 2025
Valid Until: -



NO: SAMM 1020

Page: 3 of 9

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	0 to 33 mA 0 to 330 mA 0to22A 0to11A	2.1 0.1mA 1.2mA 7.8mA	Generation using calibrator model Fluke 5500A
	100 pA	None	
	+10 to +100 pA	16 nA	
	-100 pA 10 pA	16 nA	
	+100 to +1 mA	69 nA	
	-1 mA to -100 pA	69 nA	
	10 mA	None	
	+1 +10 mA	0.7	
	-10 mA to -1 mA	0.7 UA	
	100 mA	None	
	+10 mA to +100 mA	None	
	-100 mA to -10 mA	None	
	1A	None	
	+100 mAto+1A	0.1 mA	
	-1 Ato -100 mA	0.1 mA	
	110 to 330 MQ	(of reading)	
	0 to 3.3 mA mA 0 to 330 mA 0to22A	0.5 pA 0.1mA 1.4mA	Generation using calibrator model Fluke 5500A
	0 to 3.3 mA mA 0 to 330 mA 0to22A	11mA	
	+10 to +100 pA -100 pA 10 pA	16 nA 16 nA	
	1mA	None	
	+100 A to +1 mA	74nA	
	mA to -100 pA	74nA	
	10 mA	None	
	+1 mA to +10 mA	0.7 pA	
	-10 mA to -1 mA	0.7 pA	
	100 mA	None	
	+10mA to +100 mA	8 yA	
	-100 mA to -10 mA	8 yA	
	1A	None	
	+100 mMAtto+1A	0.2mA	
	-1 Ato -100 mA	0.2mA	
	0 to 330 pA	170 + 23 nA	Fluke 5522A with reference to EURAMET cg-15, Version 3 (02/2015)
	330 UA to 3.3 mA	113 + 57 pA	Fluke 5522A with reference to EURAMET cg-15, Version 3 (02/2015)

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Schedule

Issue date: 19 March 2025
Valid Until: -



NO: SAMM 1020

Page: 4 of 9

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	3.3 mA to 33 mA	113 + 0.29 PA	Fluke 5522A with reference to EURAMET cg-15, Version 3 (02/2015)
	33 mA to 330 mA	113 PA/A + 2.8 LA	Fluke 5522A with reference to EURAMET cg-15, Version 3 (02/2015)
	330 mA	227 + 45 pA	Fluke 5522A with reference to EURAMET cg-15, Version 3 (02/2015)
	1.1Ato3A	429 + 48 LA	Fluke 5522A with reference to EURAMET cg-15, Version 3 (02/2015)
	3Ato10A	567 + 562 PA	Fluke 5522A with reference to EURAMET cg-15, Version 3 (02/2015)
	3Ato10A	None	Fluke 5522A with
	330 A + (0 pA to 330 A)	+ 0.02	Calibrator Fluke 5520A
	3.3 mA mA to 3.3 mA)	0.12 + 0.05	Calibrator Fluke 5520A
	33 mA + (0 mA to 33 mA)	0.12 mA/A PA	Calibrator Fluke 5520A
	330 mA + (0 mA to 330 mA)	0.12	Calibrator Fluke 5520A
	1.1A +(0Ato	0.23 mA/A + 47 PA	Calibrator Fluke 5520A
	3A +(1.1Ato3A)	0.46 mAVA + 0.11 mA	Calibrator Fluke 5520A
	11A	0.58 mA/A + 0.58 mA	Calibrator Fluke 5520A
	20.5A +(11A to 20.5 A)	1.2 mA/A + 0.87 mA	Calibrator Fluke 5520A
	200 (0.1 A to 199.99	13 + 0.6 nA	Multimeter Fluke 8508A
	2mA (0.2 mA to 199.99 mA)	13 + 0.006 pA	Multimeter Fluke 8508A
	20 mA (2 mA to 19.999 mA)	16 + 0.06	Multimeter Fluke 8508A
	200 mA (20 mA to 199.99 mA)	55 + 0.98	Multimeter Fluke 8508A

Scan this QR Code or visit <https://accreditation.ism.gov.my/public/listing/cab/samm-ct/3003579> for the current scope of accreditation

Schedule

Issue date: 19 March 2025
Valid Until: -



NO: SAMM 1020

Page: 5 of 9

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	2A (0.2 A to 1.9999 A)	0.21 mA/A + 18	Multimeter Fluke 8508A
	20A (2 A to 19.999 pA)	0.46 mAVA + 0.46 mA	Multimeter Fluke 8508A
	330 pA + (0 pA to 330 pA)	0.17 mMA/A + 0.02 pA	Calibrator Fluke 5520A
	3.3 mA mA to 3.3 mA)	0.12 + 0.05 pA	Calibrator Fluke 5520A
	33 mA + (0 mA to 33 mA)	0.12 0.3 pA	Calibrator Fluke 5520A
	330 mA + (0 mA to 330 mA)	0.12	Calibrator Fluke 5520A
	1.1A +(0Ato	0.23 mA/A + 47 pA	Calibrator Fluke 5520A
	3A	0.46 + 0.11 mA	Calibrator Fluke 5520A
	11A	0.58 mA/A + 0.58 mA	Calibrator Fluke 5520A
	20.5A +(11A to 20.5A)	+ 0.87 mA	Calibrator Fluke 5520A
	200 pA (0.1 pA to 199.99 yA)	13 nA	Multimeter Fluke 8508A
	2mA (0.2 mA to 199.99 mA)	13 + 0.006	Multimeter Fluke 8508A
	(2 mA to 19.999 mA)	16 + 0.06 pA	Multimeter Fluke 8508A
	200 mA (20 mA to 199.99 mA)	55 + 0.98	Multimeter Fluke 8508A
	2A (0.2 A to 1.9999 A)	0.21 18 pA	Multimeter Fluke 8508A
	20A (2 A to 19.999 pA)	0.46 mA/A + 0.46 mA	Multimeter Fluke 8508A
	0 to 100 pA 0.1 mAto1mA	0.058%of 0.035%of rdg+0.0004mA	Direct measurement using fluke 8846A
	50 to 500 pA	0.06%of rdg+0.21	Direct Measurement using Fluke
	0 to 100 pV 0 to 0 to 10 mV 0 to 100 mV 0to1V 0 to 10 V 0 to 100 V 0 to 1000 V	None	Direct Measurement Method using Digital Multimeter Datron 1281 > Inoperative
	0 to 100 pA 0to1mA 0 to 10 mA 0 to 100 mA Oto1A	0.013 pA 0.00013 mA 0.0016 mA 0.028 mA 0.000028 A	\ Generation using calibrator model: > Inoperative Fluke 5700A

Scan this QR Code or visit <https://accreditation.ism.gov.my/public/listing/cab/samm-ct/3003579> for the current scope of accreditation

Schedule

Issue date: 19 March 2025
Valid Until: -



NO: SAMM 1020

Page: 6 of 9

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	0 mA to 3.3 mA 3.3 mA to 33 mA 33 mA to 0.330 A 0.330 A 2.2Ato11A	0.17 0.13 0.15 mA/A 0.37 mMA/A 0.71 mMA/A	Calibrated according to procedure LCP01701, Rev 01 using Direct Method
	0 mA to 3.3 mA 3.3 mA to 33 mA 33 mA to 0.330 A 0.330 A 2.2Ato11A	None	Calibrated according to
	11 A to 550 A (current coil)	None	procedure LCP01705, Rev 01 using Direct
	11 A to 550 A (current coil)	None	Method
	0.029 mA to 330 mA	See Matrix B	
	0.33 Ato 2.2A	None	
	10 Hz to 45 Hz	2.5mA/A	
	45 Hz to 1 kHz 1 kHz to 5 kHz	None	Calibrated according to procedure LCP01701,
	100 mA to1A 1Ato3A	1.3mA/A	LCP01715, Rev 01 using Direct Method
	100 mA to1A 1Ato3A	None	Calibrated according to
	100A	None	procedure LCP01706,
	100A	None	Rev 02 using V/I Method
	0 mA to 24 mA	0.95 mA/A	LCP01701, Rev 01
	0 mA to 24 mA	None	using Direct Method
	0 mA to 24 mA	12mQ/Q	
	10 Q to 100 Q	\$.8mQ/Q	
	100 mAt01A 1Ato3A	1.3mA/A 1.6mA/A	using Direct Method
	100 mAt01A 1Ato3A	None	Calibrated according to
	100A	2.5mA/A	procedure LCP01706, Rev 04 using Direct
	100A	None	Method
	100A	None	Calibrated according to
	100A	None	procedure LCP01703, Rev 01 using Direct
	50 to3A	See Matrix F	2010 and Keysight
Dc Voltage	100mV to 1V	+ 6.2UV	34470A Multimeter
	1V to 10V	+	
	10V to 100V	+ 1.2mV	
	100V to 300V	+ 24mV	
	0 mV to 220 mV	7.5 + 0.4	Measurement
	Omv to 329.9999mV	16uV/V+0.78uV	

Schedule

Issue date: 19 March 2025
Valid Until: -



NO: SAMM 1020

Page: 7 of 9

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
	329.9999mV to 3.299999V	8.6uV/V+1.6uV	
	3.299999V to 32.99999V	9.3uV/V+16uV	
	32.99999V to 329.9999V	None	
	329.9999V to 1020.00V	14uV/V+1.2mV	
	329.9999V to 1020.00V	None	Measurment using Fluke
	QUA to 329.9999UA	0.12mA/A+16nA	5522A
	to 3.299999mA	None	
	3.299999mA to	78uA/A+0.20UA	
	0 mV to 100 mV 100 mV to1V 1 V to 10V 10 V to 100 V 100 V to 1000 V	0.03 mV/V + 3.5 pV 0.025 mV/V + 8.65 pV 0.025 mV/V + 0.08 mV 0.04 mV/V + 0.95 mV 0.04 mV/V + 10.6 mV	Direct measurement with 6 % digit multimeter
	1 V to 250 V	0.1V	Generating using Calibrator (Fluke: 5522A)
	0 V to 220 mV	4.2	
	220 mV to 2.2 V	6.1 + 1.1	
	2.2Vto11V	5.1 + 2.0	
	11V 22 V to 220 V 220 V to 1100 V	5.0 uV/V + 3.2 7.4 + 28 8.9 + 0.31 mV	Generating Using Fluke 5720A Series 2 Multifunction Calibrator
	100 mV	None	HP3458A
	+ 100 to + 100 mV	1.8	
	-100 mV to - 100	1.8	
	iV	None	
	+100 mV to1V	None	
	-1 V to -100 mV	None	
	10 V	None	
	+1Vto+10V	0.1 mV	
	-10Vto-1V	0.1 mV	
	100 V	None	
	+10V to +100 V	None	
	-100 V to -10 V	1mV	
	1000 V	None	
	+ 100 V to + 1000 V	12 mV	
	- 1000 V to -100 V	12 mV	
	0 to 330 mV 0to3.3V	30 0.2 mV	Generation using calibrator model

Schedule

Issue date: 19 March 2025
Valid Until: -



NO: SAMM 1020

Page: 8 of 9

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	0 to	2.2mV	Fluke 5500A
	33 to 330 V	24 mV	
	330 to 1000 V	110 mV	
	100 mV	None	
	+ 100 to + 100 mV	None	
	-100	None	
	1V	None	
	+100 mV to1V	0.12 mV	
	-1 V to -100 mV	0.12 mV	
	10V	None	
	+1Vto+10V	None	
	-10V to-1V	None	
	100 V	None	
	+10V to +100 V	None	
	-100 V to -10 V	None	
	1000 V	None	
	+ 100 V to + 1000 V	17 mV	
	- 1000 V to -100 V	17 mV	
	0 to 100 mV	0.004%of rdg+0.004mV	Direct measurement using
	0 to 50 mV	0.05%of rdg+0.005mV	Direct Measurement using Fluke
	30 V to 329 V	0.066 mv /V	
	329 V to 1020 V	0.066	Calibrated
	1 mV to 33 V	See Matrix A	Calibrated
	1 mV to 33 V	None	according to
	33 V to 330 V	None	procedure
	45 Hz to 1 kHz	0.6 mV/V	LCP01701, Rev 01
	1 kHz to 10 kHz	0.92 mV/V	using Direct
	1 mV to 100 mV 100 mV to 1V 1Vto10V 10 V to 100 V 100 V to 1000 V	0.098 mV /V 0.054 0.046 0.059 0.064 mV /V	Calibrated according to procedure LCP01703 & LCP01715, Rev 01 using Direct Method
	1 kV to 30 kV	23 mV/V	Calibrated according to
	1 kV to 30 kV	None	procedure LCP01707,
	1 kV to 30 kV	None	Rev 01 using Direct
	1 kV to 30 kV	None	Method
	0V to	0.58	Calibrated according to procedure
	1 mV to 100 mV 100 mV to 1 V 1Vto10V 10 V to 100 V 100 V to 1000 V 1 kV to 40 kV	0.17 mV/V 0.10 mV/V 0.096 mV /V 0.10 mV/V 0.11 mV/V 23 mV/V	Calibrated according to procedure LCP01703 & LCP01715, Rev 01 using Direct Method

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Schedule

Issue date: 19 March 2025

Valid Until: -



NO: SAMM 1020

Page: 9 of 9

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	1 mV to 100 mV 100 mV to 1 V 1Vto10V 10 V to 100 V 100 V to 1000 V 1 kV to 40 kV	0.17 mV/V 0.10 mV/V 0.096 mV /V 0.10 mV/V 0.11 mV/V 23 mV/V	Calibrated according
	1 mV to 100 mV 100 mV to 1 V 1Vto10V 10 V to 100 V 100 V to 1000 V 1 kV to 40 kV	None	to procedure
	1 mV to 100 mV 100 mV to 1 V 1Vto10V 10 V to 100 V 100 V to 1000 V 1 kV to 40 kV	None	LCP01707, Rev 01
	1 mV to 100 mV 100 mV to 1 V 1Vto10V 10 V to 100 V 100 V to 1000 V 1 kV to 40 kV	None	using Direct Method
	10 mV to 750 V	See Matrix E	Calibrated according
	10 mV to 750 V	None	to procedure
	750 V to 1000 V	None	LCP01703, Rev 01
	OmV to 100mV	+	Measure using Keithley
	to 1pA	+ 0.16nA	Measure using Keithley
	None	None	
Generating Instruments	None	None	
	None	None	
	None	None	
	None	None	

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