



財團法人全國認證基金會
Taiwan Accreditation Foundation

Certificate of Accreditation

(Certificate No : L1721-230407)

This is to certify that

I Pao Electronics Co., Ltd.

Calibration Center(Electric/Time and Frequency Laboratory)

No. 2, Ln. 159, Jinxi Rd., Yangmei Dist., Taoyuan City 326, Taiwan

is accredited in respect of laboratory

Accreditation Criteria : ISO/IEC 17025:2017 ; CNS 17025:2018

Accreditation Number : 1721

Originally Accredited : November 16, 2006

Effective Period : November 16, 2021 to November 15, 2024

Accredited Scope : Calibration Field, see described in the Appendix



Scan to verify

Ching-Chang Lien

Ching-Chang Lien
President, Taiwan Accreditation Foundation
April 07, 2023

Accreditation Number : 1721
 Laboratory Head : CHEN, Cain-Yi

calibration items	working standard brand /model	calibration method document name /no.	measurand level or range				measurement conditions /independent variable explanation	smallest uncertainty	
			minimum value	units	maximum value	units		value	units
KF1001 DCV source DC Voltage meter	FLUKE 5700A DATRON 1281 FLUKE 8508A	(Document No.: ECP-024)	100	mV	1	V	DC Voltage meter	71	μV/V
			>1	V	10	V	DC Voltage meter	56	μV/V
			>10	V	100	V	DC Voltage meter	48	μV/V
			>100	V	1000	V	DC Voltage meter	44	μV/V
			100	mV	100	mV	DC Voltage meter	23	μV/V
			1	V	1	V	DC Voltage meter	13	μV/V
			10	V	10	V	DC Voltage meter	12	μV/V
			100	V	100	V	DC Voltage meter	17	μV/V
			1000	V	1000	V	DC Voltage meter	18	μV/V
			100	mV	1	V	DCV source	20	μV/V
			>1	V	10	V	DCV source	13	μV/V
			>10	V	100	V	DCV source	17	μV/V
			>100	V	1000	V	DCV source	31	μV/V
			100	mV	100	mV	DCV source	13	μV/V
1	V	1	V	DCV source	7.7	μV/V			
10	V	10	V	DCV source	7.4	μV/V			
100	V	100	V	DCV source	12	μV/V			
1000	V	1000	V	DCV source	14	μV/V			

Approval Signatory: LIN, I-Hsien; CHEN, Yu-Cheng; CHEN, Cain-Yi; WEI, Wen-Chieh



calibration items	working standard brand /model	calibration method document name /no.	measurand level or range				measurement conditions /independent variable explanation	smallest uncertainty	
			minimum value	units	maximum value	units		value	units
KF1002 DC ampere meter DCA source	FLUKE 5700A/5725A DATRON 1281 FLUKE 8508A	DC Current Calibration Procedure (Document No.: ECP-025)	100	μA	1	mA	DC ampere meter	0.32	mA/A
			>1	mA	10	mA	DC ampere meter	0.27	mA/A
			>10	mA	100	mA	DC ampere meter	0.5	mA/A
			>100	mA	1	A	DC ampere meter	0.51	mA/A
			100	μA	100	μA	DC ampere meter	0.14	mA/A
			1	mA	1	mA	DC ampere meter	0.14	mA/A
			10	mA	10	mA	DC ampere meter	0.14	mA/A
			100	mA	100	mA	DC ampere meter	0.27	mA/A
			1	A	1	A	DC ampere meter	0.27	mA/A
			100	μA	1	mA	DCA source	0.19	mA/A
			>1	mA	10	mA	DCA source	0.22	mA/A
			>10	mA	100	mA	DCA source	0.25	mA/A
			>100	mA	1	A	DCA source	0.62	mA/A
			>1	A	10	A	DCA source	0.64	mA/A
			100	μA	100	μA	DCA source	0.13	mA/A
			1	mA	1	mA	DCA source	0.13	mA/A
10	mA	10	mA	DCA source	0.13	mA/A			
100	mA	100	mA	DCA source	0.14	mA/A			
1	A	1	A	DCA source	0.26	mA/A			
2	A	2	A	DCA source	0.49	mA/A			
5	A	5	A	DCA source	0.49	mA/A			
7	A	7	A	DCA source	0.49	mA/A			
10	A	10	A	DCA source	0.49	mA/A			
2	A	2	A	DC ampere meter	0.52	mA/A			
5	A	5	A	DC ampere meter	0.72	mA/A			



calibration items	working standard brand /model	calibration method document name /no.	measurand level or range			measurement conditions /independent variable explanation	smallest uncertainty		
			minimum value	units	maximum value		units	value	units
KF1002 DC ampere meter DCA source	FLUKE 5700A/5725A DATRON 1281 FLUKE 8508A	DC Current Calibration Procedure (Document No.: ECP-025)	7 10 1	A A A	7 10 10	A A A	DC ampere meter DC ampere meter DC ampere meter	0.69 0.68 0.74	mA/A mA/A mA/A
Approval Signatory: LIN, I-Hsien; CHEN, Yu-Cheng; CHEN, Cain-Yi; WEI, Wen-Chieh									
KF1003 DC HIGH VOLTAGE METER DC HIGH VOLTAGE METER	KIKUSUI/149-10A	DC High Voltage System Calibration Procedure (Document No.: ECP-099)	1	kV	10	kV		8	mV/V
Approval Signatory: CHEN, Cain-Yi; WEI, Wen-Chieh									
KF1011 ACV source AC Voltage meter	FLUKE 5700A DATRON 1281 FLUKE 8508 A	AC Voltage Calibration Procedure (Document No.: ECP-026)	100 >1 >10 >100 100 >1 >10 >100 100	mV V V V mV V V V mV	1 10 100 1000 1 10 100 1000 100	V V V V V V V V mV	ACV source @ 60 Hz ACV source @ 60 Hz ACV source @ 60 Hz ACV source @ 60 Hz ACV source @ 1 kHz ACV source @ 1 kHz ACV source @ 1 kHz ACV source @ 1 kHz ACV source @ 60 Hz	0.33 0.37 0.5 0.42 0.22 0.32 0.52 0.39 0.19	mV/V mV/V mV/V mV/V mV/V mV/V mV/V mV/V mV/V



calibration items	working standard brand /model	calibration method document name /no.	measurand level or range				measurement conditions /independent variable explanation	smallest uncertainty	
			minimum value	units	maximum value	units		value	units
KF1011	FLUKE 5700A	AC Voltage Calibration Procedure (Document No.: ECP-026)	1	V	1	V	ACV source @ 60 Hz	0.12	mV/V
ACV source	DATRON 1281		10	V	10	V	ACV source @ 60 Hz	0.12	mV/V
AC Voltage meter	FLUKE 8508 A		100	V	100	V	ACV source @ 60 Hz	0.13	mV/V
			1000	V	1000	V	ACV source @ 60 Hz	0.14	mV/V
			100	mV	100	mV	ACV source @ 1000 Hz	0.17	mV/V
			1	V	1	V	ACV source @ 1000 Hz	0.1	mV/V
			10	V	10	V	ACV source @ 1000 Hz	0.1	mV/V
			100	V	100	V	ACV source @ 1000 Hz	0.11	mV/V
			1000	V	1000	V	ACV source @ 1000 Hz	0.14	mV/V
			100	mV	1	V	AC Voltage meter @ 60 Hz	0.64	mV/V
			>1	V	10	V	AC Voltage meter @ 60 Hz	0.42	mV/V
			>10	V	100	V	AC Voltage meter @ 60 Hz	0.42	mV/V
			>100	V	1000	V	AC Voltage meter @ 60 Hz	0.45	mV/V
			100	mV	1	V	AC Voltage meter @ 1000 Hz	0.4	mV/V
			>1	V	10	V	AC Voltage meter @ 1000 Hz	0.37	mV/V
			>10	V	100	V	AC Voltage meter @ 1000 Hz	0.37	mV/V
		>100	V	1000	V	AC Voltage meter @ 1000 Hz	0.58	mV/V	
		100	mV	100	mV	AC Voltage meter @ 60 Hz	0.29	mV/V	
		1	V	1	V	AC Voltage meter @ 60 Hz	0.17	mV/V	
		10	V	10	V	AC Voltage meter @ 60 Hz	0.17	mV/V	
		100	V	100	V	AC Voltage meter @ 60 Hz	0.18	mV/V	
		1000	V	1000	V	AC Voltage meter @ 60 Hz	0.18	mV/V	
		100	mV	100	mV	AC Voltage meter @ 1000 Hz	0.28	mV/V	
		1	V	1	V	AC Voltage meter @ 1000 Hz	0.14	mV/V	
		10	V	10	V	AC Voltage meter @ 1000 Hz	0.14	mV/V	



calibration items	working standard brand /model	calibration method document name /no.	measurand level or range			measurement conditions /independent variable explanation	smallest uncertainty	
			minimum value	units	maximum value		units	value
KF1011 ACV source AC Voltage meter	FLUKE 5700A DATRON 1281 FLUKE 8508 A	AC Voltage Calibration Procedure (Document No.: ECP-026)	100	V	100	AC Voltage meter @ 1000 Hz	0.16	mV/V
			1000	V	1000	AC Voltage meter @ 1000 Hz	0.18	mV/V
Approval Signatory: LIN, I-Hsien; CHEN, Yu-Cheng; CHEN, Cain-Yi; WEL, Wen-Chieh								
KF1012 ACA source AC ampere meter	FLUKE 5700A/5725A DATRON 1281 FLUKE 8508A	AC Current Calibration Procedure (Document No.: ECP-027)	1	mA	10	ACA source @ 60 Hz	0.96	mA/A
			>10	mA	100	ACA source @ 60 Hz	0.62	mA/A
			>100	mA	1	ACA source @ 60 Hz	0.69	mA/A
			1	A	10	ACA source @ 60 Hz	3.3	mA/A
			>1	mA	10	ACA source @ 1000 Hz	1.4	mA/A
			>10	mA	100	ACA source @ 1000 Hz	0.68	mA/A
			100	mA	1	ACA source @ 1000 Hz	0.65	mA/A
			1	mA	1	ACA source @ 60 Hz	0.18	mA/A
			10	mA	10	ACA source @ 60 Hz	0.20	mA/A
			100	mA	100	ACA source @ 60 Hz	0.23	mA/A
			1	A	1	ACA source @ 60 Hz	0.20	mA/A
			2	A	2	ACA source @ 60 Hz	0.29	mA/A
			5	A	5	ACA source @ 60 Hz	0.16	mA/A
			7	A	7	ACA source @ 60 Hz	0.15	mA/A
10	A	10	ACA source @ 60 Hz	0.15	mA/A			
1	mA	1	ACA source @ 1000 Hz	0.19	mA/A			
10	mA	10	ACA source @ 1000 Hz	0.20	mA/A			
100	mA	100	ACA source @ 1000 Hz	0.19	mA/A			



calibration items	working standard brand /model	calibration method document name /no.	measurand level or range			measurement conditions /independent variable explanation	smallest uncertainty	
			minimum value	units	maximum value		units	value
KF1012 ACA source AC ampere meter	FLUKE 5700A/5725A DATRON 1281 FLUKE 8508A	AC Current Calibration Procedure (Document No.: ECP-027)	1	A	1	A	0.36	mA/A
			1	mA	10	mA	2.8	mA/A
			>10	mA	100	mA	2.9	mA/A
			>100	mA	1	A	5.5	mA/A
			1	mA	10	mA	2.8	mA/A
			>10	mA	100	mA	2.8	mA/A
			>100	mA	1	A	5.5	mA/A
			1	mA	1	mA	0.65	mA/A
			10	mA	10	mA	0.65	mA/A
			100	mA	100	mA	0.65	mA/A
			1	A	1	A	1.5	mA/A
			1	mA	1	mA	0.65	mA/A
			10	mA	10	mA	0.65	mA/A
			100	mA	100	mA	0.65	mA/A
			1	A	1	A	1.5	mA/A
			2	A	2	A	0.68	mA/A
			5	A	5	A	1.0	mA/A
			7	A	7	A	0.99	mA/A
			10	A	10	A	0.98	mA/A
			1	A	10	A	1.1	mA/A

Approval Signatory: LIN, I-Hsien; CHEN, Yu-Cheng; CHEN, Cain-Yi; WEI, Wen-Chieh



calibration items	working standard brand /model	calibration method document name /no.	measurand level or range			measurement conditions /independent variable	smallest uncertainty	
			minimum value	units	maximum value		units	value
KF1013 AC HIGH VOLTAGE METER AC HIGH VOLTAGE SOURCE	KIKUSUI/149-10A	DC High Voltage System Calibration Procedure (Document No.: ECP-100)	1	kV	10	kV	20	mV/V
Approval Signatory: CHEN, Cain-Yi; WEI, Wen-Chieh								
KF3001 Resistor Ohmmeter	FLUKE 5700A DATRON 1281 FLUKE 8508A	Resistance Calibration Procedure (Document No.: ECP-028)	1	Ω	1	Ω	Ohmmeter	0.14 m Ω/Ω
			10	Ω	10	Ω	Ohmmeter	38 $\mu\Omega/\Omega$
			100	Ω	100	Ω	Ohmmeter	23 $\mu\Omega/\Omega$
			1	k Ω	1	k Ω	Ohmmeter	18 $\mu\Omega/\Omega$
			10	k Ω	10	k Ω	Ohmmeter	17 $\mu\Omega/\Omega$
			100	k Ω	100	k Ω	Ohmmeter	20 $\mu\Omega/\Omega$
			1	M Ω	1	M Ω	Ohmmeter	34 $\mu\Omega/\Omega$
			10	M Ω	10	M Ω	Ohmmeter	86 $\mu\Omega/\Omega$
			1	Ω	1	Ω	Resistor	75 $\mu\Omega/\Omega$
			10	Ω	10	Ω	Resistor	18 $\mu\Omega/\Omega$
			100	Ω	100	Ω	Resistor	11 $\mu\Omega/\Omega$
			1	k Ω	1	k Ω	Resistor	11 $\mu\Omega/\Omega$
			10	k Ω	10	k Ω	Resistor	11 $\mu\Omega/\Omega$
			100	k Ω	100	k Ω	Resistor	11 $\mu\Omega/\Omega$
			1	M Ω	1	M Ω	Resistor	15 $\mu\Omega/\Omega$
			10	M Ω	10	M Ω	Resistor	32 $\mu\Omega/\Omega$
Approval Signatory: LIN, I-Hsien; CHEN, Yu-Cheng; CHEN, Cain-Yi; WEI, Wen-Chieh								



Time And Frequency

calibration items	working standard brand /model	calibration method document name /no.	measurand level or range			measurement conditions /independent variable explanation	smallest uncertainty	
			minimum value	units	maximum value		units	value
KJ0200 Frequency counter & signal generator	Rubidium Frequency Standard/SRS FS725 Universal Counter Agilent 53132A	Frequency procedure (Document No.: FCP-001)	10	MHz	10		4.9 E-8	
Approval Signatory: CHEN, Cain-Yi; WEI, Wen-Chieh								

Note: Smallest uncertainty represents an expanded uncertainty using a coverage factor approximately 95 % level of confidence. (Null Below)

