

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

Certification Accreditation

(Certificate No: L0245-220901)

This is to certify that

Chroma Ate Inc.

Electrical and Time and Frequency Calibration Laboratory

No. 88, Wenmao Rd., Guishan Dist., Taoyuan City, Taiwan

is accredited in respect of laboratory

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

Accreditation Number : 0245

Originally Accredited: November 01, 1995

Effective Period: November 01, 2022 to October 31, 2025

Accredited Scope : Calibration Field, see described in the Appendix



Ching-Chang Lien

Ching-Chang Lien President, Taiwan Accreditation Foundation September 01, 2022

Accreditation Number: 0245

Laboratory Head: CHIANG, Ming-Yao

Electricity

	smallest ncertainty	units	N/Λμ	V/Vµ	N/Λμ	N/Λμ	N/Λμ	V/Vµ	V/Vµ	V/Vµ	V/Vµ	V/Vµ	l μV/V		μV/V	V/Vµ	l μV/V	V/Vµ	µV/V	N/Λμ
	smallest uncertainty	value	82	20	11	10	13	14	82	11	15	13	20	Ш	83	23	15	14	17	19
	measurement conditions /independent variable	explanation	(on-site calibration included)		(on-site calibration included)															
	o	units	MV	Vm	Λ	Λ	Λ	Λ	MV	Λ	Λ	Λ	Λ		mV	MV	Λ	Λ	Λ	Λ
	measurand level or range	maximum value	10	100		10	100	1000	100	1	10	100	1000		10	100	1	10	100	1000
	asurand	units	mV	MV	Λ	Λ	Λ	Λ	mV	mV	Λ	Λ	V		mV	mV	V	Λ	V	Λ
	me	minimum value	10	100	1	10	100	1000	10	>100	>1	>10	>100	., Wen-Yu	10	100	1	10	100	1000
	calibration method	document name /no.	DC Voltage	Calibration	Procedure	(Document No.:	E-04-22-001)							Approval Signatory: CHIANG, Ming-Yao; LEE, W	DC Voltage	Calibration	Procedure	(Document No.:	E-04-22-001)	
	working	brand /model	Multimeter	Agilent/3458A Calibration										natory: CHIANG	Calibrator	Fluke/5700A				
LICUICITY	calibration items		KF1001	DC Voltage	Source (on-	site	calibration	included)						Approval Sign	KF1001	DC Voltage	Meter	(on-site	calibration	included)



Measurand level or range Findependent No. Calibration State Lib Locadure Locadure		working	calibration		-			measurement conditions	smallest	lest
brand document name minimum value minimum value muits value maximum value units value maximum value units value muits value muit value <th< td=""><td>calibration items</td><td>standard</td><td>method</td><td>me</td><td>asurand</td><td>level or rang</td><td>GD.</td><td>/independent variable</td><td>uncer</td><td>ainty</td></th<>	calibration items	standard	method	me	asurand	level or rang	GD.	/independent variable	uncer	ainty
001 Calibrator DC Voltage 10 mV 100 mV (on-site calibration included) 0.11 Voltage ratio Fluke/5700A Calibration >100 mV (on-site calibration included) 27 site ordeduce >1 V 100 V (on-site calibration included) 27 rocal bration E-04-22-001 >100 V (on-site calibration included) 24 rocal bration E-04-22-001 V 1000 V (on-site calibration included) 24 rocal bration DC Current Multimeter DC Current procedure 1 pA (on-site calibration included) 59 current Agilent/3458A Calibration 100 pA (on-site calibration included) 48 Procedure 1 mA 10 mA (on-site calibration included) 71 rec (on-site calibration included) E-04-22-003 100 mA (on-site calibration included) 71 rec (on-site calibration included) >1 A	$\left\ \cdot \right\ $	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
Procedure Procedure State State Procedure State Stat	KF1001	Calibrator	DC Voltage	10	Nm	100	mV	(on-site calibration included)	0.11	mV/V
er (Document No.: Procedure >1	DC Voltage	Fluke/5700A	Calibration	>100	Nm	1	>	(on-site calibration included)	27	η/Λμ
Cocument No. E-04-22-001 Signatory: CHIANG, Ming-Yao; LEE, Wen-Yu Lib	Meter		Procedure (Dogument No.)		>	10	Λ	(on-site calibration included)	20	ηV/V
uded) V lono V lono V lon-site calibration included) 24 roval Signatory: CHIANG, Ming-Yao; LEE, Wen-Yu μA lono μA lono-site calibration included) 59 overval Signatory: CHIANG, Ming-Yao; LEE, Wen-Yu μA lono μA lono μA lono-site calibration included) 50 current Agilent/3458A Calibration rec (on-site calibration included) 100 mA lono-site calibration included) 148 100 mA lono-site calibration included) 48 ce (on-site) Con-site calibration included) 148 100 mA lono-site calibration included) 148 or (on-site) E-04-22-003 100 mA lono-site calibration included) 115<	calibration		E-04-22-001)	>10	>	100	>	(on-site calibration included)	21	ηV/V
roval Signatory: CHIANG, Ming-Yao; LEE, Wen-Yu nool Multimeter DC Current 10 μA 10 μA (on-site calibration included) 59 Current Agilent/3458A Calibration 100 μA 100 μA (on-site calibration included) 48 Current Agilent/3458A Calibration 10 mA 10 mA (on-site calibration included) 48 Procedure 10 mA 10 mA (on-site calibration included) 48 Drocument No.: 1 A 1 A (on-site calibration included) 48 Drocument No.: 1 A 1 A (on-site calibration included) 50 Leot-22-003) 1 A 1 A (on-site calibration included) 68 Local max 100 mA 100 mA (on-site calibration included) 84 Local max 100 mA (on-site calibration included) 60 17 Local max 100 mA	included)			>100	Λ	1000	>	(on-site calibration included)	24	μV/V
OUZ Multimeter DC Current 10 μA 10 μA (on-site calibration included) 59 Current action Agilent/3458A Calibration 100 μA 100 μA (on-site calibration included) 48 Procedure 1 mA 10 mA (on-site calibration included) 48 Oration 1 mA 1 A (on-site calibration included) 48 Oration 1 A 1 A (on-site calibration included) 71 uded) 2 0.01 mA 1 A (on-site calibration included) 71 No -site calibration included) 3 1 A 1 A (on-site calibration included) 84 No -site calibration included) 3 N (on-site calibration included) 84 No -site calibration included) 3 N (on-site calibration included) 84 No -site calibration included) N N (on-site calibration included) 0.07	Approval Sig	natory: CHIANG	G, Ming-Yao; LEE	., Wen-Yu						N
O02 Multimeter DC Current 10 μA 10 μA (on-site calibration included) 59 Current (on-site calibration action) Agilent/3458A Calibration 100 μA 100 μA (on-site calibration included) 48 ree (on-station) (Document No.: (Docum					/				Ŋ	Ź
Current Agilent/3458A Calibration 100 μA 100 μA 100 μA 50 rce (on-site collibration Procedure 1 mA 1 mA (on-site calibration included) 48 bration E-04-22-003) 100 mA 1 A (on-site calibration included) 60 uded) 1 A 1 A (on-site calibration included) 71 uded) >1 A 1 A (on-site calibration included) 71 state calibration included) >1 mA 100 mA (on-site calibration included) 68 state calibration included) >10 mA 100 mA (on-site calibration included) 84 state calibration included) >10 A (on-site calibration included) 0.27	KF1002	Multimeter	DC Current	10	μA	10	μA	(on-site calibration included)	59	µA/A
rce (on- Procedure 1 mA 1 mA 10-site calibration included) 48 bration E-04-22-003) 100 mA 100 mA (on-site calibration included) 48 uded) 1 A 1 A (on-site calibration included) 0.15 uded) 0.01 mA 1 A (on-site calibration included) 71 > 1 mA 10 mA (on-site calibration included) 68 > 10 mA 100 mA (on-site calibration included) 84 > 10 mA 100 mA (on-site calibration included) 87 roval Signatory: CHIANG, Ming-Yao; LEE, Wen-Yu A (on-site calibration included) 0.27	DC Current	Agilent/3458A	Calibration	100	μA	100	μA	(on-site calibration included)	50	µA/A
Document No.: 10 mA 10 mA (on-site calibration included) 48 uded) 1 A 1 A (on-site calibration included) 60 uded) 1 A 1 A (on-site calibration included) 0.15 volument No.: 1 MA 1 mA (on-site calibration included) 71 volument No.: 1 mA 100 mA (on-site calibration included) 68 volument No. 1 A (on-site calibration included) 84 volument No. 1 A (on-site calibration included) 0.27	Source (on-		Procedure	1 /	mA	1	mA	(on-site calibration included)	48	µA/A
E-04-22-003 100 mA 100 mA (on-site calibration included) 60 15 1	site		(Document No.:	10	mA	10	mA	(on-site calibration included)	48	µA/A
1	calibration		E-04-22-003)	100	mA	100	mA	(on-site calibration included)	60	µA/A
mA1mA(on-site calibration included)71mA10mA(on-site calibration included)68mA100mA(on-site calibration included)84mA1A(on-site calibration included)0.27	included)			1	A	1	A	(on-site calibration included)	0.15	mA/A
mA10mA(on-site calibration included)68mA100mA(on-site calibration included)84mA1A(on-site calibration included)0.27				0.01	mA	1	mA	(on-site calibration included)	71	µA/A
mA100mA(on-site calibration included)84mA1A(on-site calibration included)0.27				>1	mA	10	mA	(on-site calibration included)	89	µA/A
mA 1 A (on-site calibration included) 0.27				>10	mA	100	mA	(on-site calibration included)	84	µA/A
Approval Signatory: CHIANG, Ming-Yao; LEE, Wen-Yu				>100	mA		A	(on-site calibration included)	0.27	mA/A
	Approval Sig	natory: CHIAN(G, Ming-Yao; LEE	., Wen-Yu					h	I



calibration items	working	calibration method	ше	easurand	measurand level or range	1)	measurement conditions /independent variable	smallest uncertainty	llest
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KF1002	Calibrator	DC Current	10	μA	10	μĄ	(on-site calibration included)	0.17	mA/A
DC Current	Fluke/5700A	Calibration	100	μA	100	μĄ	(on-site calibration included)	0.17	mA/A
Meter (on-		Procedure	1	mA	1	mA	(on-site calibration included)	28	µA/A
site		(Document No.:	10	mA	10	mA	(on-site calibration included)	28	µA/A
calibration		E-04-22-003)	100	mA	100	mA	(on-site calibration included)	0.11	mA/A
included)			1	A	1	A	(on-site calibration included)	0.20	mA/A
			0.01	mA	1	mA	(on-site calibration included)	69.0	mA/A
			>1	mA	10	mA	(on-site calibration included)	87	µA/A
			>10	mA	100	mA	(on-site calibration included)	0.11	mA/A
			>100	mA	1	A	(on-site calibration included)	0.27	mA/A
Approval Sig	natory: CHIAN	Approval Signatory: CHIANG, Ming-Yao; LEE, Wen-Yu	3, Wen-Yu					//	
									/
KF1003 DC High Voltage	High Voltage Voltmeter Zentech/900B	DC High Voltage Calibration	1	kV	4	kV		11	mV/V
Source		Procedure (Document No.: E-04-22-073)	>4	kV	20	kV		13	mV/V
Approval Sig	natory: CHIAN	Approval Signatory: CHIANG, Ming-Yao; LEE, Wen-Yu	3, Wen-Yu					$\eta \eta$	7//



KF1003 High Voltage Ano. value KF1003 High Voltage DC High value DC High Source Spellman Voltage 1 Voltage SL-150 Calibration >4 Meter Calibration Procedure >4 Mocument No.: E-04-22-073 E-04-22-073 Approval Signatory: CHIANG, Ming-Yao; LEE, Wen-Yu Current Current Current Shunt Current Shunt Councedure Souce (on-Prodigit/7550A Procedure >100 Side Current Shunt E-04-22-130 Approval Signatory: CHIANG, Ming-Yao; LEE, Wen-Yu KF1004 Multimeter KF1004 Multimeter DC High 1 Approval Signatory: CHIANG, Ming-Yao; LEE, Wen-Yu KF1004 Agilent/3458A Current Current Shunt Calibration >20 Meter (on-Prodigit/7550A Prodigit/7550A Procedure				/ındependent variable	uncertainty	ainty
High Voltage DC High Source Spellman Voltage Calibration Procedure (Document No.: E-04-22-073) I Signatory: CHIANG, Ming-Yao; LEE, We Current Shunt Calibration Current Shunt Calibration Guildline E-04-22-130) Multimeter DC High E-04-22-130) On Guildline E-04-22-130) Multimeter DC High E-04-22-130) Agilent/3458A Current DC High Current Shunt Calibration Current Shunt Calibration E-04-22-130) Multimeter DC High Current Calibration Calibration Prodicit/7550A Procedure		maximum value	units	explanation	value	units
I Signatory: CHIANG, Ming-Yao; LEE, We (Document No.: E-04-22-073) I Signatory: CHIANG, Ming-Yao; LEE, We Current Shunt (Document No.: Current Shunt (Document No.: E-04-22-130) I Signatory: CHIANG, Ming-Yao; LEE, We Multimeter (Document No.: Current Shunt (Document No.: Current Shunt (Document No.: Current Shunt (Document No.: Current Shunt (Calibration Prodigit/7550A) I Signatory: CHIANG, Ming-Yao; LEE, We Current Shunt (Calibration Prodigit/7550A) Prodigit/7550A Procedure		4	kV		12	MV/V
roval Signatory: CHIANG, Ming-Yao; LEE, We 004 Multimeter DC High High Agilent/3458A Current Current Shunt Calibration Current Shunt (Document No.: Current Shunt (Document No.: Guildline E-04-22-130) Ided) /9230A roval Signatory: CHIANG, Ming-Yao; LEE, We 004 Multimeter DC High High Agilent/3458A Current ent Current Shunt Calibration Er (on- Prodigit/7550A Procedure	т Э	20	kV		14	mV/V
High Agilent/3458A Current ent Current Shunt Calibration ce (on- Prodigit/7550A Procedure Current Shunt (Document No.: Current Shunt (Document No.: Current Shunt (Document No.: Current Shunt (Document No.: Current Shunt (Contract) (Ming-Yao; LEE, Welligh Agilent/3458A Current Shunt Calibration Calibration Prodigit/7550A Procedure	n/					
rent Current Shunt Calibration ree (on- Prodigit/7550A Procedure Current Shunt (Document No.: ration Guildline E-04-22-130) Ided) /9230A roval Signatory: CHIANG, Ming-Yao; LEE, We 1004 Multimeter DC High High Agilent/3458A Current ent Current Shunt Calibration Prodigit/7550A Procedure	A	20	A	(on-site calibration included)	1.5	mA/A
ration Guildline E-04-22-130) Ided) /9230A roval Signatory: CHIANG, Ming-Yao; LEE, We 004 Multimeter DC High High Agilent/3458A Current ent Current Shunt Calibration Er (on- Prodigit/7550A Procedure	0. V	100	A	(on-site calibration included)	0.87	mA/A
	OC A	1000	A	(on-site calibration included)	8.7	mA/A
Multimeter DC High Agilent/3458A Current Current Shunt Calibration Prodigit/7550A Procedure	l, n,	-				
Current Shunt Calibration Prodigit/7550A Procedure	A	20	A	(on-site calibration included)	3.0	mA/A
Tip 22 (arginal II) II	O. O.	100	A	(on-site calibration included)	2.5	mA/A
calibration Guildline/9230A E-04-22-130) >100 included)	OC A	1000	A	(on-site calibration included)	8.7	mA/A
Approval Signatory: CHIANG, Ming-Yao; LEE, Wen-Yu	n/					M



mm	111	111	11///	HH		777	/300	144	HH	177.7	$M_{\rm H}$	777	BB
lest ainty	units	MV/V	mV/V	mV/V	mV/V	mV/V	mV/V	MV/V	mV/V	mV/V	mV/V	mV/V	mV/V
smallest uncertainty	value	1.1	0.82	1.2	3.7	3.6	0.85	0.83	0.83	1.2	21	4.6	2.2
measurement conditions /independent variable	explanation	(on-side calibration included)	(on-side calibration included)	(on-side calibration included)	(on-side calibration included) (@ 60 Hz)	(on-side calibration included)	(on-side calibration included)	(on-side calibration included)	(on-side calibration included) (@ 60 Hz)	(on-side calibration included) (@ 60 Hz)	(on-side calibration included)	(on-side calibration included) (@ 60 Hz)	(on-side calibration included) (@ 60 Hz)
e	units	Λ	\	>	mV	mV	^	Λ	>	>	>	>	^
measurand level or range	maximum value	10	100	700	10	100		10	100	700	700	0.1	1
surand 1	units	>	>	>	Nm	MV	>	>	>	>	>	>	>
mea	minimum value	10	100	700	10	100	1	10	100	700	10	0.01	>0.1
calibration method	document name /no.	AC Voltage	Procedure (Document No.:	E-04-22-002)									
working standard	brand /model	Multimeter											
calibration items		KF1011	Source (on-	calibration included)									



<i>}}}}+}</i>	M	HH	<i>HH.</i>	<u> </u>	HH	<u>MM</u>	1111	ML	1744	1977	7711	HI	IIII	2	
lest ainty	units	mV/V	mV/V	mV/V	11	mV/V	mV/V	mV/V	mV/V	mV/V	mV/V	Λ/Λ ^w	mV/V	mV/V	
smallest uncertainty	value	2.5	2.1	1.8		1.1	0.82	1.2	3.7	3.6	98.0	0.84	0.84	1.2	P7, total 16 pages
measurement conditions /independent variable	explanation	(on-side calibration included) (a) 60 Hz)	(on-side calibration included)	(on-side calibration included) (@ 60 Hz)		(on-side calibration included)	(on-side calibration included)	(on-side calibration included) (@ 50 Hz)	(on-side calibration included) (@ 60 Hz)	(on-side calibration included) (a) 60 Hz)	(on-side calibration included) (@ 60 Hz)	The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix			
e	units	Λ	Λ	Λ		Λ	Λ	Λ	mV	mV	Λ	Λ	Λ	Λ	e invalid wh
measurand level or range	maximum value	10	100	700		10	100	700	10	100	1	10	100	700	which shall be
asurand l	units	>	>	Λ		>	Λ	>	mV	mV	Λ	Λ	>	Λ	ertificate,
med	minimum value		>10	>100	Wen-Yu	10	100	700	10	100	1	10	100	700	ıl part of this C
calibration method	document name /no.	AC Voltage Calibration	Procedure (Document No.:	E-04-22-002)		AC Voltage Calibration	Procedure (Document No.:	E-04-22-002)							endix forms an integra
working standard	brand /model	Multimeter Agilent/3458A)		Approval Signatory: CHIANG, Ming-Yao; LEE,	Calibrator Fluke/5700A									The App
calibration items		KF1011 AC Voltage	Source (on- side	calibration included)	Approval Sign	KF1011 AC Voltage	Meter (on- side	calibration included)							

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix

7-7-7-7-7-7		fff	777	HD	777	IIIII	114	MM	7777	HH	111	HH	Ш
lest ainty	units	mV/V	mV/V	mV/V	mV/V	mV/V	mV/V		mA/A	mA/A	mA/A	mA/A	mA/A
smallest uncertainty	value	21	4.6	2.2	2.5	2.1	1.8	W	1.3	0.95	0.95	0.95	1.2
measurement conditions /independent variable	explanation	(on-side calibration included) (@ 50 Hz)	(on-side calibration included) (@ 60 Hz)	(on-side calibration included) (@ 60 Hz)	(on-side calibration included) (@ 60 Hz)	(on-side calibration included) (\alpha 60 Hz)	(on-side calibration included)		(on-side calibration included) ((a) 60 Hz)	(on-side calibration included) (@ 60 Hz)	(on-side calibration included) (a) 60 Hz)	(on-side calibration included) (a) 60 Hz)	(on-side calibration included) (@ 60 Hz)
e	units	Λ	Λ	Λ	Λ	Λ	Λ		hu	mA	mA	mA	А
measurand level or range	maximum value	700	0.1	-	10	100	700		100	-	10	100	1
surand 1	units	>	Λ	Λ	Λ	Λ	Λ		h	mA	mA	mA	A
mee	minimum value	10	0.01	>0.1	<u>\</u>	>10	>100	Wen-Yu	100	_	10	100	1
calibration method	document name /no.	AC Voltage Calibration	Procedure (Document No.:	E-04-22-002)				Approval Signatory: CHIANG, Ming-Yao; LEE, Wen	AC Current Calibration	Procedure (Document No.:	E-04-22-004)		
working standard	brand /model	Calibrator Fluke/5700A						natory: CHIANG,	Multimeter Agilent/3458A				
calibration items		KF1011 AC Voltage	Meter (on- side	calibration included)				Approval Sign	KF1012 AC Current	Source (on- side	calibration included)		



(1/////	its	/A	/A	/A	M	A /	/\A	/A	/A	/A	/A	/A	/A	
smallest uncertainty	units	mA/A	mA/A	mA/A		mA/A	mA/A	mA/A	mA/A	mA/A	mA/A	mA/A	mA/A	W
sma	value	1.5	3.4	3.2		1.3	0.97	0.97	0.95	1.5	2.2	3.4	3.2	1
measurement conditions /independent variable	explanation	(on-side calibration included) (\alpha 60 Hz)	(on-side calibration included) (@ 60 Hz)	(on-side calibration included) (\alpha 60 Hz)		(on-side calibration included)	(on-side calibration included) (a) 60 Hz)	(on-side calibration included) (\alpha 60 Hz)	(on-side calibration included) (@ 60 Hz)	(on-side calibration included) (\alpha 60 Hz)	(on-side calibration included) (@ 60 Hz)	(on-side calibration included) (\alpha 60 Hz)	(on-side calibration included) (\alpha 60 Hz)	
e	units	mA	mA	A		nA	mA	mA	mA	A	mA	mA	A	
measurand level or range	maximum value	10	100	1		100	1	10	100	1	10	100	1	
asurand 1	units	mA	mA	mA		hu	mA	mA	mA	А	mA	mA	mA	
me	minimum value	0.1	>10	>100	Wen-Yu	100	1	10	100	1	0.1	>10	>100	, Wen-Yu
calibration method	document name /no.	AC Current Calibration	Procedure (Document No.:	E-04-22-004)	•	AC Current Calibration	Procedure (Document No.:	E-04-22-004)						Ming-Yao; LEE,
working standard	brand /model	Multimeter Agilent/3458A)		Approval Signatory: CHIANG, Ming-Yao; LEE	Calibrator Fluke/5700A								Approval Signatory: CHIANG, Ming-Yao; LEE
calibration items		KF1012 AC Current	L V all	calibration included)	Approval Sign	KF1012 AC Current	Meter (on- side	calibration included)						Approval Sign



calibration items	working standard	calibration method	mes	surand 1	measurand level or range	d)	measurement conditions /independent variable	smallest	llest ainty
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KF1013	High Voltage	AC High	1	kV	10	kV	(@ 60 Hz)	20	mV/V
AC High Voltage	v oltmeter Kikusui	voltage Calibration	N						W
Source	/149-10A	Procedure							W
		(Document No.: E-04-22-077)						W	
Approval Sig	Approval Signatory: CHIANG, Ming-Yao; LEE		Wen-Yu	\vee				H	Ž,
									V
KF1013	HIPOT TESTER AC High	AC High		kV	10	kV	(@ 60 Hz)	39	MV/V
AC High	Chroma/9055	Voltage							//
Voltage		Calibration						1	//
Meter		Procedure	\					H	/
		(Document No.: E-04-22-077)							
Approval Sig	Approval Signatory: CHIANG, Ming-Yao; LEE		Wen-Yu						
								1	/
KF1014 AC High	Multimeter Aoilent/3458A	AC High Current	2	A	20	∀	(on-side calibration included)	7.1	mA/A
Current	Current Shunt	Calibration	>20	A	40	A	(on-side calibration included)	1.7	mA/A
Source (on-	Prodigit/7550A	Procedure				A	(@ 60 Hz)		
side		(Document No.:						H	
included		E-04-22-131)						4	
Approval Sign	natory: CHIANG	Approval Signatory: CHIANG Ming-Vao: I FF Wen-Vi	Wen-Vii						
gra manddy	Ildiviy. Viiiz ii v.	, ואוווק- ו מט, בבבר,	W C11- 1 G						



													9	
llest tainty	units	mA/A	mA/A		mW/W	mW/W	mW/W	mW/W	mW/W	mW/W	mW/W	mW/W		■ 00~4
smallest uncertainty	value	9.0	2.3	1	1.8	1.8	2.4	2.4	3.6	3.6	5.6	5.6	М	
measurement conditions /independent variable	explanation	(@ 60 Hz) (on-side calibration included)	(@ 60 Hz) (on-side calibration included)		120 V, 1 A, PF=1 (Single phase 60 Hz)	240 V, 1 A, PF=1 (Single phase 60 Hz)	120 V, 10 A, PF=1 (Single phase 60 Hz)	240 V, 10 A, PF=1 (Single phase 60 Hz)	120 V, 1 A, PF= 0.5 Lag (Single phase 60 Hz)	240 V, 1 A, PF= 0.5 Lag (Single phase 60 Hz)	120 V, 10 A, PF= 0.5 Lag (Single phase 60 Hz)	240 V, 10 A, PF= 0.5 Lag (Single phase 60 Hz)		
4)	units	A	A		W	A	W	\bowtie	M	M	M	W		
measurand level or range	maximum value	20	40		120	240	1200	2400	09	120	009	1200		
surand l	units	A	A		W	A	M	W	8	M	M	*		
mea	minimum value	2	>20	Wen-Yu	120	240	1200	2400	09	120	009	1200	Wen-Yu	
calibration method	document name /no.	AC High Current Calibration	Procedure (Document No.: E-04-22-131)	Approval Signatory: CHIANG, Ming-Yao; LEE, Wen-Yu	AC Electrical Power	Calibration Procedure	(Document No.: E-04-22-012)						Approval Signatory: CHIANG, Ming-Yao; LEE, Wen-Yu	
working standard	brand /model		Prodigit/7550A	atory: CHIANG,	Digital Power Meter	Chroma/66202							atory: CHIANG,	
calibration	items	KF1014 AC High Current Meter	(on-side calibration included)	Approval Sign	KF2001 AC Electrical								Approval Sign	



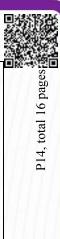
calibration	working standard	calibration method	me	asuran	measurand level or range	ıge	measurement conditions /independent variable	sm	smallest uncertainty
items	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KF2001 AC Eectrical	Calibrator Fluke/5500A	AC Electrical Power	120	M	120	M	120 V, 1 A, PF=1 (Single phase 60 Hz)	2.6	mW/W
Power Meter		Calibration Procedure	240	M	240	M	240 V, 1 A, PF=1 (Single phase 60 Hz)	2.6	mW/W
		(Document No.: E-04-22-012)	1200	M	1200	W	120 V, 10 A, PF=1 (Single phase 60 Hz)	3.1	mW/W
			2400	M	2400	M	240 V, 10 A, PF=1 (Single phase 60 Hz)	3.1	mW/W
			09	W	09	M	120 V, 1 A, PF= 0.5 Lag (Single phase 60 Hz)	7.9	mW/W
			120	W	120	M	240 V, 1 A, PF= 0.5 Lag (Single phase 60 Hz)	7.9	7.9 m/Wm
			009	W	009	M	120 V, 10 A, PF= 0.5 Lag (Single phase 60 Hz)	9.0	mW/W
			1200	A	1200	M	240 V, 10 A, PF= 0.5 Lag (Single phase 60 Hz)	9.0	9.0 mW/W
Approval Sign	natory: CHIANG	Approval Signatory: CHIANG, Ming-Yao; LEE,	Wen-Yu					70	
KF3001 Ground Bond Meter	KF3001 Grounding Ground Bond Tester Standard Meter Zentech/9002	Ground Bond Tester Calibration	10	Ωm	10	mΩ	(25 A, 60 Hz)	13	mΩ/Ω
		Procedure (Document No.: E-04-22-049)	100	mΩ	100	mΩ	(25 A, 60 Hz)	11	Ω/Ωm
Approval Sigr	natory: CHIANG,	Approval Signatory: CHIANG, Ming-Yao; LEE, Wen-Yu	Wen-Yu					4	
									-



calibration	working standard	calibration method	measu	rand le	measurand level or range	0	measurement conditions /independent variable	sm	smallest uncertainty
items	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KF3001	Multimeter	DC High	0.01	C	0.01	G	(1 A to 20 A) on-site calibration included	0.29	Ω/Ωm
Shunt (onside	Aguen/3436A Current Shunt Prodigit/7550A	Calibration Procedure	0.001	G	0.001	G	(>20 A to 100 A) on-site calibration included	0.29	Ω/Ωm
calibration included)	Current Shunt (Document N Guildline/9230A E-04-22-130)	(Document No.: E-04-22-130)	0.05	Ωm	0.05	mΩ	(>100 A to 1000 A) on-site calibration included	0.55	Ω/Ωm
Approval Sig	Approval Signatory: CHIANG, Ming-Yao; LEE, Wen-Yu	Ming-Yao; LEE,	Wen-Yu						H
KF3001	Multimeter	Resistance	10	C	10	C	(on-site calibration included)	31	Ω/Ω m
Resistor (on-	Resistor (on- Agilent/3458A	Calibration	100	ΰ	100	ΰ	(on-site calibration included)	28	Ω/Ω n
site		Procedure	1	kΩ		kΩ	(on-site calibration included)	17	Ω/Ω n
calibration		(Document No.:	10	$k\Omega$	10	kΩ	(on-site calibration included)	16	Ω/Ω n
included)		E-04-22-005)	100	kΩ	100	kΩ	(on-site calibration included)	17	Ω/Ω n
			1/	MO	1	ИΩ	(on-site calibration included)	29	Ω/Ω n
			10	ИΩ	10	$M\Omega$	(on-site calibration included)	96	Ω/Ω n
			100	ŪΜ	100	σм	(on-site calibration included)	0.64	Ω/Ωm
Approval Sig	Approval Signatory: CHIANG, Ming-Yao; LEE, Wen-Yu	Ming-Yao; LEE,	Wen-Yu					//	//
								//	//
KF3001	Calibrator	Resistance	10	ΰ	10	ΰ	(on-site calibration included)	49	Ω/Ω n
Ohmmeter	Fluke/5700A	Calibration	100	Ω	100	C	(on-site calibration included)	40	Ω/Ω n
(on-site		Procedure	1	$k\Omega$	1	kΩ	(on-site calibration included)	29	Ω/Ω
calibration		(Document No.:	10	kΩ	10	kΩ	(on-site calibration included)	29	Ω/Ω n
included)		E-04-22-005)	100	kΩ	100	kΩ	(on-site calibration included)	31	Ω/Ω n



items	standard	method	measn	rand le	measurand level or range	e	measurement conditions /independent variable	ence sm	smallest uncertainty
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
	Calibrator	Resistance	-	МΩ	1	МΩ	(on-site calibration included)	45	Ω/Ω
7.7	F1UKE/3/00/A	Procedure	10	МΩ	10	МΩ	(on-site calibration included)	0.12	Ω/Ωm
calibration included)		(Document No.: E-04-22-005)	100	ОМ	100	МО	(on-site calibration included)	69.0	Ω/Ωm
pproval Sign	Approval Signatory: CHIANG, Ming-Yao; LEE	Ming-Yao; LEE, V	, Wen-Yu						
KE3002	I CR Meter	Inductance	100	Н"	100	П	(2H41 @)	1 8	H/Hw
	HP/4284A	Calibration	1	mH	1	Hm		1.2	H/Hm
		Procedure	10	Hm	10	Hm	(@ 1 kHz)	1.2	mH/H
		(Document No.:	100	Hm	100	Hm	(@ 1 kHz)	1.2	mH/Hm
		E-04-22-072)		Н		Н	(@, 1 kHz)	1.3	mH/H
			10	Н	10	Н	(@ 1 kHz)	2.4	mH/H
pproval Sign	natory: CHIANG,	Approval Signatory: CHIANG, Ming-Yao; LEE, Wen-Yu	Ven-Yu					///	W
KF3002	Standard	Inductance	100	ΗΠ	100	HII	(@ 1 kHz)	1.9	H/Hm
ce	Inductance	Calibration	,		,	,		,	
	Quadtech/1482B	Procedure	-/	Hm		Hm	(@ 1 kHz)	1.3	H/Hm
	(100 µH)	(Document No.:	10	шH	10	mH	(@ 1 kHz)	1.3	mH/H
	/1482E (1 mH) /1482H (10 mH)	E-04-22-072)	100	ШШ	100	Hm	(@ 1 kHz)	1.3	H/Hm
	/1482L (100 mH)		1	H	1	Н	(@ 1 kHz)	1.4	mH/H
	/1482P (1 H) /1482T (10 H)		10	H	10	Н	(@ 1 kHz)	2.4	H/Hm
pproval Sign	natory: CHIANG,	Approval Signatory: CHIANG, Ming-Yao; LEE, Wen-Yu	Ven-Yu			-		1	1



items brand document name I model /no. KF3003 LCR Meter Capacitance Capacitance HP/4284A Calibration Procedure (Document No.: E-04-22-071) KF3003 Standard Capacitance Capacitor Calibration Meter HP/16383A Procedure (100 pF) (Document No.: /16384A E-04-22-071) (1000 pF) (Document No.: /16384A E-04-22-071)	minimum units value	ma	unnits pF nF pF pF pF	explanation (@ 1 kHz)	value units 1.2 mF/F 1.2 mF/F 1.2 mF/F 1.2 mF/F 1.2 mF/F
KF3003 LCR Meter Capacitance Capacitance HP/4284A Calibration Procedure (Document No.: E-04-22-071) Approval Signatory: CHIANG, Ming-Yao; LEE, Wets Capacitance Capacitance Capacitor Capacitor Calibration Meter HP/16383A (100 pF) (Document No.: L6384A (1000 pF) E-04-22-071) (16385A E-04-22-071)			70 71 10 10	(@ 1 kHz)	
HIANG, J			70 F1	(@ 1 kHz) (@ 1 kHz) (@ 1 kHz) (@ 1 kHz)	
Procedure (Document No.: E-04-22-071) Approval Signatory: CHIANG, Ming-Yao; LEE, Waster (100 pF) (Document No.: HP/16383A (1000 pF) (1000 pF) (1000 pF) (1000 pF) (16384A (16385A) (16385A) (16385A) Cocument No.: H6384A (16385A) (16385A) (16385A) (16385A)		4	An A	(@ 1 kHz) (@ 1 kHz) (@ 1 kHz)	
Approval Signatory: CHIANG, Ming-Yao; LEE, W KF3003 Standard Capacitance Capacitance Capibration Meter HP/16383A Procedure (100 pF) (Document No.: 16384A E-04-22-071) (1000 pF) (1000 pF)			nF µF PF	(@ 1 kHz) (@ 1 kHz)	
Approval Signatory: CHIANG, Ming-Yao; LEE, W KF3003 Standard Capacitance Capacitance Capacitor Calibration Meter HP/16383A Procedure (100 pF) (Document No.: 16384A E-04-22-071) (1000 pF) (1000 pF) (16385A (16385A			Hu. Fa	(@ 1 kHz)	
Approval Signatory: CHIANG, Ming-Yao; LEE, W KF3003 Standard Capacitance Capacitance Capacitor Calibration Meter HP/16383A Procedure (100 pF) (Document No.: /16384A E-04-22-071) (1000 pF) (10385A)	en-Yu	1	pF	(@ 1 kH#)	
₹		4	pF	(@ 1 kHz)	
Ą	100 pF	100	_	(W 1 M142)	1.6 mF/F
HP/16383A (100 pF) /16384A (1000 pF) /16385A					
	1 nF	1	nF	(@ 1 kHz)	1.3 mF/F
	/				
(1000 pF) /16385A	10 nF	10	nF	(@ 1 kHz)	1.2 mF/F
/16385A					
	100 nF	100	nF	(@ 1 kHz)	1.2 mF/F
(0.01 µF)					
/16386A (0.1 µF)	1 µF	1	μF	(@1 kHz)	1.2 mF/F
$/19387A (1 \mu F)$					7
Approval Signatory: CHIANG, Ming-Yao; LEE, Wen-Yu	en-Yu				



Time And Frequency

9.70 E-08 Hz/Hz 9.70 E-08 Hz/Hz 9.70 E-08 Hz/Hz 9.70 E-08 Hz/Hz	9.70 E 9.70 E 9.70 E		kHz MHz MHz MHz	1 1 5 10 10	kHz MHz MHz MHz	100 100 5 10 Nen-Yu	KJ0200 Rubidium Frequency I Frequency Calibration Counter Standard Procedure SRS/FS725 (Document No.: E-04-22-016) Approval Signatory: CHIANG, Ming-Yao; LEE, Wen-Yu	Rubidium Frequency Standard SRS/FS725
-08 Hz/Hz	9.70 E		kHz	100	kHz	100	Frequency	
c nilits	value	capiananon	Sillin	value	umis	value	/no.	el
Н	711673	noitenelave	imite	maximum	imite	minimum	document name	brand
1	1	variable						П
uncertainty	oun	/independent		neasurand level of range	casuranu re		method	standard
smallest	SI	conditions		opaca ac love	J baoainsoe	Ŷ	calibration	working
	1	measurement						
								ı

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

(Null Below)

