



Certificate No.L0270-100622

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

## Certificate of Accreditation

This is to certify that

**Taiwan Quality Management & Certification Inc.**  
**Calibration Laboratory**

SF, No.5, Science Park Rd., Hsinchu City 300, Taiwan (R.O.C.)

**is accredited in respect of laboratory**

**Accreditation Criteria** : ISO/IEC 17025:2005  
**Accreditation Number** : 0270  
**Originally Accredited** : April 15, 1995  
**Effective Period** : August 28, 2010 to August 27, 2013  
**Accredited Scope** : Calibration Field, see described in the Appendix

Jay-San Chen  
President, Taiwan Accreditation Foundation  
Date : June 22, 2010



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Accreditation Number : 0270

Laboratory Head : LUNG, Te-Kun

## Length

Calibration items	Calibration Method /Working Standard	Ranges	Best measurement Capability
KA1001 gauge block	W212 /Mitutoyo 516-937	(0.5 to 1.001) mm 1.002 mm (1.003 to 1.5) mm (2.0 to 10) mm (10.5 to 20) mm (20.5 to 25) mm (50 to 75) mm (100) mm	0.06 μm 0.05 μm 0.06 μm 0.06 μm 0.08 μm 0.09 μm 0.22 μm 0.25 μm
KA2003 dial/vernier caliper	W219 /Mitutoyo 516-958 FRANK 10733/11945	(dial)outside/inside (0 to 300) mm (resolution:0.02 mm) (vernier)inside ( 0 to 300) mm (resolution:0.02 mm) (vernier)outside (300 to 600) mm (resolution:0.02 mm)	0.03 mm  0.03 mm  0.03 mm
digimatic caliper	W254 /Mitutoyo 516-958 FRANK(125 to 600) mm, (200 to 300) mm	inside/outside ( 0 to 300) mm (resolution:0.01 mm) (300 to 600) mm (resolution:0.01 mm)	0.02 mm  0.03 mm
KA2005 vernier outside micrometer	W220 /Mitutoyo 516-958 FRANK 11945 FRANK 10733	(0 to 150) mm (resolution:0.001 mm)	0.002 mm
digimatic micrometer	W255 /Mitutoyo 516-958 FRANK(30 to 90) mm, (125 to 150) mm	(0 to 150) mm (resolution:0.001 mm)	0.002 mm



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Mass/Force

Calibration items	Calibration Method /Working Standard	Ranges	Best measurement Capability
KC1001 weight (steel, copper)	W213,W214,W215 /TQC-P169 TQC-P035	1 mg	0.03 mg
		2 mg	0.03 mg
		5 mg	0.03 mg
		10 mg	0.03 mg
		20 mg	0.03 mg
		50 mg	0.03 mg
		100 mg	0.03 mg
		200 mg	0.03 mg
		500 mg	0.03 mg
		1 g	0.03 mg
		2 g	0.03 mg
		5 g	0.04 mg
		10 g	0.07 mg
		20 g	0.09 mg
		50 g	0.13 mg
		100 g	0.17 mg
		200 g	0.35 mg
		500 g	5 mg
		1 kg	6 mg
		2 kg	11 mg
5 kg	60 mg		
10 kg	70 mg		
weight(steel, copper, cast-iron)		20 kg	90 mg
		30 kg	0.11 g
KC1002 electronic balance (on-site calibration included)	W216,W217,W218 /TQC-P169 TQC-P035	1 mg to 1 g	0.08 mg
		> 1 g to 200 g	0.36 mg
		100 g to 2000 g	11 mg
		1000 g to 30000 g	0.30 g

Temperature/Humidity

Calibration items	Calibration Method /Working Standard	Ranges	Best measurement Capability
KE1002 platinum resistance thermometer	W211 /A.S.L T100-450-1D	- 50 °C to < 0 °C	0.46 °C
		0 °C to 50 °C	0.26 °C
		> 50 °C to 300 °C	0.47 °C



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Calibration items	Calibration Method /Working Standard	Ranges	Best measurement Capability
KE1010 oven (on-site calibration included)	W241 /FLUKE2635A /A-1	- 40 °C to 100 °C on-site	1.4 °C
	UNION PT100 ROTRONIC NT3-D-CL	- 40 °C to 100 °C	1.6 °C
KE2001 Temperature & Humidity meter )	W256 /ROTRONIC NT3-D-CL	20 °C to 40 °C 40 % to 90 %	0.7 °C 2.4 %
	KE2004 Temperature & Humidity recorder	W256 /ROTRONIC NT3-D-CL	20 °C to 40 °C 40 % to 90 %
KE2099 chamber (on-site calibration included)	W241 /FLUKE2635A /A-1	20 °C to 40 °C 40 % to 90 %	1.4 °C 2.5 %
	UNION PT100	on-site	
	ROTRONIC NT3-D-CL	20 °C to 40 °C 40 % to 90 %	1.6 °C 3.1 %

Electricity

Calibration items	Calibration Method /Working Standard	Ranges	Best measurement Capability
KF1001 DCV source DC volt meter	W201 /Fluke 5700A HP 3458A	0.1 V to <1 V	30 μV/V
		1 V to 10 V	20 μV/V
		> 10 V to 100 V	20 μV/V
		> 100 V to 1000 V	20 μV/V
KF1002 DCA source DC amper meter	W203 /Fluke 5700A HP 3458A	100 μA to <1 mA	0.20 mA/A
		1 mA to 10 mA	0.15 mA/A
		> 10 mA to 100 mA	0.15 mA/A
		> 100 mA to 1 A	0.20 mA/A
KF1003 DC HV source DC high volt meter	W209 /Spellman SL60P300 ROSS VMP200-7.6Y-J-UA-FR (Include FLUKE 8840A) Kikusui 149-10A	2 kV	6.6 mV/V
		4 kV	6.6 mV/V
		6 kV	6.6 mV/V
		8 kV	6.6 mV/V
		10 kV	6.6 mV/V
KF1011 ACV source AC volt meter	W202 /Fluke 5700A HP 3458A	1 V to 10 V	0.15 mV/V
		> 10 V to 100 V	0.30 mV/V
		> 100 V to 700 V	0.70 mV/V
		(60 Hz, 1 kHz)	



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Calibration items	Calibration Method /Working Standard	Ranges	Best measurement Capability
KF1012 ACA source AC amper meter	W204 /Fluke 5700A HP 3458A	10 mA to 100 mA	1.0 mA/A
		> 100 mA to 1 A (60 Hz)	1.4 mA/A
KF3001 resistor ohmmeter  (Null below)	W205 /Fluke 5700A HP 3458A	10 mA to 100 mA	0.6 mA/A
		> 100 mA to 1 A (1 kHz)	1.4 mA/A
		10 Ω	50 μΩ/Ω
		100 Ω	30 μΩ/Ω
		1 kΩ	20 μΩ/Ω
		10 kΩ	20 μΩ/Ω
		100 kΩ	30 μΩ/Ω
		1 MΩ	40 μΩ/Ω
10 MΩ	0.10 mΩ/Ω		
100 MΩ	0.80 mΩ/Ω		

Remarks : Best measurement capability represents an expanded uncertainty using a coverage factor approximately 95 % level of confidence.

Approval Signatory	Scope
WU, Shih-Hsiung	KF1001,KF1002,KF1003,KF1011,KF1012,KF3001
LIN, Haw-Due	KF1001,KF1002,KF1003,KF1011,KF1012,KF3001
ZOU, Jin-Zuo	KA1001,KA2003,KA2005,KC1001,KC1002,KE1002,KE1010,KE2001,KE2004,KE2099
LUNG, Te-Kun	KA1001,KA2003,KA2005,KC1001,KC1002,KE1002,KE1010,KE2001,KE2004,KE2099