Issue date: 23 March 2017
Valid until: 25 February 2018

MS ISO/IEC 17025

NO: SAMM 182
(Issue 3, 23 March 2017 replacement
of SAMM 182 dated 15 June 2016)

LABORATORY LOCATION:
(PERMANENT LABORATORY)

SETIANAS SDN BHD
NO.17, JALAN HARMONIUM 35/3
TAMAN DESA TEBRAU
81100 JOHOR BAHRU, JOHOR
MALAYSIA

This laboratory accredited under *Skim Akreditasi Makmal Malaysia* (SAMM) meets the requirements of MS ISO/IEC 17025:2005 'General requirements for competence of testing and calibration laboratories'. This Malaysian Standards is identical with ISO/IEC 17025:2005 published by the International Organization for Standardization (ISO).

*** The expanded uncertainties are based on an estimated confidence probability of approximately 95% and have a coverage factor of *k*=2 unless stated otherwise.**

FIELD OF CALIBRATION: FORCE & TORQUE

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Tension Gauge	0.6 gf to 20 gf 20 gf to 100 gf 50 gf to 1000 gf	0.05 gf 1.2 gf 5 gf	Calibrated using poise weights as standards according to ASTM E74:2006
Push-Pull Gauge	0 kgf to 0.5 kgf 0.5 kgf to 2 kgf 2 kgf to 20 kgf 20 kgf to 100 kgf	0.00006 kgf 0.006 kgf 0.008 kgf 0.012 kgf	Calibrated using poise weights as standards according to ASTM E74:2006
Torque Tools (Wrenches and Drivers)	0 kgf.cm to 10 kgf.cm 10 kgf.cm to 100 kgf.cm 100 kgf.cm to 900 kgf.cm 900 kgf.cm to 2900 kgf.cm 2900 kgf.cm to 7000 kgf.cm	0.002 kgf.cm 0.17 kgf.cm 1.0 kgf.cm 10 kgf.cm 22 kgf.cm	Calibrated using Torque Meter as standards according to ISO 6789: 2003
Torque Analyser (Meter)	0 kgf.cm to 2 kgf.cm 2 kgf.cm to 50 kgf.cm 50 kgf.cm to 300 kgf.cm 300 kgf.cm to 3000 kgf.cm 3000 kgf.cm to 6000 kgf.cm	0.0002 kgf.cm 0.004 kgf.cm 0.03 kgf.cm 0.7 kgf.cm 1.6 kgf.cm	Calibrated using poise weights as standards according to BS 7882: 2008

Signatories:

1. **Bryan Yek Kim Yoong**
2. **Seah Leong Ho**

Issue date: 23 March 2017
Valid until: 25 February 2018

MS ISO/IEC 17025

NO: SAMM 182
(Issue 3, 23 March 2017 replacement
of SAMM 182 dated 15 June 2016)

FIELD OF CALIBRATION: PRESSURE

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Vacuum	-0.9 bar to 0 bar	0.004 bar	Calibrated using Pressure Calibrator as standards according to AS 1349 : 1986
Pneumatic	0 bar to 2 bar 2 bar to 20 bar	0.001 bar 0.01 bar	Calibrated using Pressure Calibrator as standards according to AS 1349 : 1986
Hydraulic	0 psi to 800 psi 800 psi to 16000 psi	0.13% of reading 0.055% of reading	Calibrated using Dead weights as standards according to AS 1349 : 1986

Signatories:

1. **Bryan Yek Kim Yoong**
2. **Seah Leong Ho**

Issue date: 23 March 2017
Valid until: 25 February 2018

MS ISO/IEC 17025

NO: SAMM 182
(Issue 3, 23 March 2017 replacement
of SAMM 182 dated 15 June 2016)

FIELD OF CALIBRATION: PRESSURE

SITE CALIBRATION: CATEGORY I

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Vacuum	-0.9 bar to 0 bar	0.004 bar	Calibrated using Pressure Calibrator as standards according to AS 1349:1986
Pneumatic	0 bar to 2 bar 2 bar to 20 bar	0.002 bar 0.02 bar	
Hydraulic	0 psi to 10000 psi 10000 psi to 20000 psi	0.3% of reading 0.2% of reading	

Signatories:

1. **Bryan Yek Kim Yoong**
2. **Seah Leong Ho**

Issue date: 23 March 2017
Valid until: 25 February 2018

MS ISO/IEC 17025

NO: SAMM 182
(Issue 3, 23 March 2017 replacement
of SAMM 182 dated 15 June 2016)

FIELD OF CALIBRATION: FORCE

SITE CALIBRATION: CATEGORY I

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Tension Tester	0 kgf to 1000 kgf	2.3kgf	Calibrated using Load Cell as standards according to ISO 7500-1:2004
	1000 kgf to 10000 kgf	24 kgf	
Compression Tester	0 kgf to 1000 kgf	2.3 kgf	
	1000 kgf to 10000 kgf	24 kgf	
	10000 kgf to 40000 kgf	70 kgf	
	40000 kgf to 200000 kgf	310 kgf	

Signatories:

1. **Bryan Yek Kim Yoong**
2. **Seah Leong Ho**

FIELD OF CALIBRATION: DIMENSIONAL

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Dial Gauge / Indicator	0 mm to 5mm 5 mm to 20mm	0.7µm 3.0µm	Calibrated using Dial Gauge Tester as standards according to ISO463:2006
Digital / Digimatic Indicator	0 mm to 25mm 25 mm to 50mm	0.6µm 0.8µm	Calibrated using Gauge Blocks as standards according to JIS B 7536 : 1982
External Micrometer	25mm travel for frame sizes: 25 mm 50 mm 75 mm 100 mm 125 mm 150 mm 175 mm and 200 mm 225 mm 250mm, 275 mm and 300 mm	 1.1µm 1.2µm 1.3µm 1.5µm 1.7µm 1.9µm 2.4µm 2.4µm 4.0µm	Calibrated using Gauge Blocks as standards according to ISO 3611 2010
Caliper	0 mm to 150mm 150 mm to 200mm 200 mm to 300mm 300 mm to 450mm 450 mm to 600mm	9µm 9µm 11µm 12µm 13µm	Calibrated using Gauge Blocks as standards according to ISO 13385: 2011
Dial Test Indicator	0 mm to 0.14mm 0.14 mm to 1mm 1 mm to 2mm	0.8µm 1.0µm 3.0µm	Calibrated using Dial Gauge Tester as standards according to ISO 9493:2010

FIELD OF CALIBRATION: DIMENSIONAL

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Height Gauge	0 mm to 300 mm 300 mm to 450 mm 450 mm to 600 mm	4.4 µm 5.6 µm 6.9 µm	Calibrated using Gauge Blocks as standards according to ISO 13225: 2012
Dial/ Digital Thickness Gauge	0 mm to 10 mm 10 mm to 20 mm	1.0 µm 3.0 µm	Calibrated using Gauge Blocks as standards according to ISO 463:2006
Feeler Gauge	0 mm to 3 mm	1.2 µm	Calibrated using Linear Gauge as standards according to JIS B 7524: 2008
Height Setting Micrometer	0 mm to 300 mm 300 mm to 600 mm	2.5 µm 4.6 µm	Calibrated using Gauge Blocks as standards according to ISO 7863: 1984
Caliper Checker	0 mm to 300 mm 300 mm to 600 mm	2.5 µm 4.6 µm	Calibrated using Gauge Blocks as standards according to ISO 7863: 1984
Pin Gauge	0 mm to 25 mm	0.8 µm	Calibrated using UMM as standards according to JIS B 7420: 1997

FIELD OF CALIBRATION: DIMENSIONAL

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Plain Plug Gauge	0 mm to 25 mm 25 mm to 50 mm 50 mm to 100 mm	0.8 µm 0.9 µm 1.3 µm	Calibrated using Universal Length Measuring Machine as standards according to JIS B 7420: 1997
Ring Gauge	4 mm to 30 mm 30 mm to 100 mm	0.8 µm 1.7 µm	Calibrated using Universal Length Measuring Machine as standards according to JIS B 7420: 1997
Ruler	0 mm to 1000 mm	0.18 mm	Calibrated using Standard Ruler as standards according to JIS B 7516: 1987
Thread Plug Gauge (Major and pitch diameter only)	1 mm to 30 mm 30 mm to 68 mm	1.3 µm 1.5 µm	Calibrated using Universal Length Measuring Machine as standards according to JIS B 0261: 2004
Thread Ring Gauge (Minor and pitch diameter only)	4 mm to 30 mm 30 mm to 68 mm	1.4 µm 1.8 µm	Calibrated using Universal Length Measuring Machine as standards according to JIS B 0261: 2004

Signatories:

1. **Bryan Yek Kim Yoong**
2. **Seah Leong Ho**
3. **Vidhyayathi A/P Lahmana**

Issue date: 23 March 2017
Valid until: 25 February 2018

MS ISO/IEC 17025

NO: SAMM 182
(Issue 3, 23 March 2017 replacement
of SAMM 182 dated 15 June 2016)

FIELD OF CALIBRATION: DIMENSIONAL

SITE CALIBRATION: CATEGORY I

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Profile Projector (Linear Axis)	0 mm to 200 mm	0.0025 mm	Calibrated using Glass Scale as standards according to JIS B 7184 : 1999
Surface Plate	2000 mm x 2000 mm	1.3 µm	Calibrated using Level Meter as standards according to JIS B 7513 : 1992

Signatories:

1. **Bryan Yek Kim Yoong**
2. **Seah Leong Ho**

Issue date: 23 March 2017
Valid until: 25 February 2018

MS ISO/IEC 17025

NO: SAMM 182
(Issue 3, 23 March 2017 replacement
of SAMM 182 dated 15 June 2016)

FIELD OF CALIBRATION: MASS

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Standard Weight	1 mg , 2 m , 5 mg , 10 mg , 20 mg	0.04 mg	Calibrated using Standard Weights and Comparator as standards according to OIML R111-2 : 2004
	50 mg , 100 mg , 200 mg , 500 mg	0.04 mg	
	1 g , 2 g , 5 g	0.04 mg	
	10 g , 20 g , 50 g	0.06 mg	
	100g , 200 g	0.1 mg	
	300 g , 500 g	1.4 mg	
	1 kg	14 mg	
	2 kg , 5 kg	20 mg	
	10 kg , 20 kg	170 mg	

Signatories:

1. **Bryan Yek Kim Yoong**
2. **Seah Leong Ho**

Issue date: 23 March 2017
Valid until: 25 February 2018

MS ISO/IEC 17025

NO: SAMM 182
(Issue 3, 23 March 2017 replacement
of SAMM 182 dated 15 June 2016)

FIELD OF CALIBRATION: MASS

SITE CALIBRATION: CATEGORY I

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Analytical Balance	1 mg to 5 g 100 to 200 g	0.012 mg 0.09 mg	Calibrated using Standard weights as standards according to ASTM E898 : 2005
Weighing Balance	200 g to 600 g 600 g to 1000 g 1000 g to 2000 g 2000 g to 4000 g 4000 g to 6000 g 6000 g to 20000 g 20 kg to 60 kg 60 kg to 100 kg 100 kg to 500 kg 500 kg to 1000 kg 1000 kg to 2000 kg	0.003 g 0.01 g 0.012 g 0.015 g 0.019 g 0.1 g 0.0031 kg 0.0050 kg 0.1 kg 0.2 kg 0.35 kg	Calibrated using Standard weights as standards according to ASTM E898 : 2005

Signatories:

1. **Bryan Yek Kim Yoong**
2. **Seah Leong Ho**

FIELD OF CALIBRATION: TEMPERATURE

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Temperature Indicator (Electrical Simulation) (K-Type)	-100 ºC to 1300 ºC	0.2 ºC	Calibrated using temperature Calibrator as standards according to JIS C 1601 : 1983 and JIS C 1603 : 1983
(E-Type)	-100 ºC to 950 ºC	0.2 ºC	
(J-Type)	-100 ºC to 1000 ºC	0.2 ºC	
(T-Type)	-100 ºC to 400 ºC	0.2 ºC	
(N-Type)	-100 ºC to 1300 ºC	0.3 ºC	
(R-Type)	0 ºC to 1600 ºC	0.5 ºC	
(S-Type)	0 ºC to 1600 ºC	0.5 ºC	
(PRT)	-100 ºC to 800 ºC	0.12 ºC	
Temperature Sensor a: PRT	-40 ºC to 200 ºC	0.1 ºC	Calibrated using SPRT as standards according to JIS C 1604 : 1997
	200 ºC to 400 ºC	1 ºC	
	400 ºC to 600 ºC	2 ºC	
b: Thermocouple	-40 ºC to 200 ºC	0.1 ºC	Calibrated using PRT and Thermocouple as standards according to JIS C 1602 : 1995
	200 ºC to 400 ºC	1 ºC	
	400 ºC to 600 ºC	2 ºC	
	600 ºC to 1100 ºC	3 ºC	
	1100 ºC to 1200 ºC	4 ºC	

FIELD OF CALIBRATION: TEMPERATURE

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Mechanical Thermometer	-20 ºC to 200 ºC 200 ºC to 400 ºC 400 ºC to 650 ºC	0.7 ºC 2 ºC 3 ºC	Calibrated using PRT as standards according to JIS C 1602 : 1995
Liquid-in-glass Thermometer (total & Partial immersion)	-20 ºC to 50 ºC 50 ºC to 200 ºC	0.07 ºC 0.1 ºC	Calibrated using PRT as standards according to ASTM E77 : 2007
Thermohygrograph / Thermohygrometer	30 %RH to 90 %RH 20 ºC to 80 ºC	4 %RH 0.4 ºC	Calibrated using Precision Thermohygrometer and PRT as Standards according to BS 1339-3 : 2004

Signatories:

1. **Bryan Yek Kim Yoong**
2. **Seah Leong Ho**

Issue date: 23 March 2017
Valid until: 25 February 2018

MS ISO/IEC 17025

NO: SAMM 182
(Issue 3, 23 March 2017 replacement
of SAMM 182 dated 15 June 2016)

FIELD OF CALIBRATION: TEMPERATURE

SITE CALIBRATION: CATEGORY I

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Temperature Controlled Enclosures	-20 ºC to 200 ºC 200 ºC to 400 ºC 400 ºC to 1100 ºC	0.7 ºC 1.2 ºC 3.5 ºC	Calibrated using PRT or Thermocouple as standards according to AS 2853 : 1986
Temperature Indicator (Electrical Simulation) (K-Type)	-100 ºC to 1300 ºC	0.2 ºC	Calibrated using Temperature Calibrator as standards according to JIS C 1601 : 1983 and JIS C 1603 : 1983
(E-Type)	-100 ºC to 950 ºC	0.2 ºC	
(J-Type)	-100 ºC to 1000 ºC	0.2 ºC	
(T-Type)	-100 ºC to 400 ºC	0.2 ºC	
(N-Type)	-100 ºC to 1300 ºC	0.3 ºC	
(R-Type)	0 ºC to 1600 ºC	0.5 ºC	
(S-Type)	0 ºC to 1600 ºC	0.5 ºC	
(PRT)	-100 ºC to 800 ºC	0.12 ºC	

Signatories:

1. **Bryan Yek Kim Yoong**
2. **Seah Leong Ho**