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Accreditation No.	JCSS0071
Date of Initial Accreditation	1997-03-19
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Name and Address of Accredited Organization	Kansai Testing Center, Japan Quality Assurance Organization 3-8-19, Mizuhai, Higashi-osaka-shi, Osaka 578-0921, Japan JCN 9010005016585
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Accreditation Standards	ISO/IEC 17025:2005 (Calibration)
Accreditation Scope	As attached

*JCN : Japan Corporate Number

General Field of Calibration : LengthDate of Initial Accreditation of the Field : 1997-03-19Permanent Laboratory/On-site Calibration : Permanent Laboratory

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	CMC (Level of Confidence Approximately 95 %) (L(mm) : Nominal length)
Length Measuring Instrument	Gauge Blocks (Comparison method)	From 0.5 mm up to 100 mm	0.07 μ m
		More than 100 mm up to 500 mm	$(0.02+L/2000)$ μ m
	End Gauges with flat ends (Comparison method)	Up to 500 mm	$(0.6+L/1000)$ μ m
		More than 500 mm up to 670 mm	$(0.6+L/750)$ μ m
	Micrometers	Up to 500 mm	$(2+L/100)$ μ m
	Calipers	Up to 600 mm	0.03 mm
	Depth Gauges	Up to 300 mm	0.02 mm
	Height Gauges	Up to 600 mm	3.5 μ m
	Dial Gauges	Up to 10 mm	1.6 μ m
	Dial Test Indicators	Up to 1.6 mm	1.6 μ m
	Calibration Tester for Dial Gauges	Up to 25 mm	0.5 μ m
		More than 25 mm up to 100 mm	0.7 μ m
	Calibration apparatus for extensometers	Up to 25 mm	0.4 μ m
More than 25 mm up to 50 mm		0.5 μ m	
More than 50 mm up to 75 mm		0.7 μ m	
More than 75 mm up to 100 mm		0.9 μ m	

#All Calibration Procedures are in-house procedures developed by this laboratory.

Permanent Laboratory/On-site Calibration : On-site Calibration

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	CMC (Level of Confidence Approximately 95 %)
Length Measuring Instrument	Extensometers	Up to 100 mm	The larger one of the two 0.43 % or 2.2 μ m
		More than 100 mm up to 600 mm	The larger one of the two 0.08 % or 0.43 mm

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General Field of Calibration : Mass

Date of Initial Accreditation of the Field : 2000-02-23

Permanent Laboratory/On-site Calibration : Permanent Laboratory

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	CMC (Level of Confidence Approximately 95 %)
Weight	Weight	20 kg	12 mg
		10 kg	7.0 mg
		5 kg	3.4 mg
		2 kg	1.6 mg
		1 kg	0.54 mg
		500 g	0.40 mg
		200 g	0.12 mg
		100 g	0.060 mg
		50 g	0.040 mg
		20 g	0.028 mg
		10 g	0.025 mg
		5 g	0.019 mg
		2 g	0.015 mg
		1 g	0.013 mg
		500 mg	0.0097 mg
		200 mg	0.0071 mg
		100 mg	0.0065 mg
		50 mg	0.0047 mg
		20 mg	0.0040 mg
		10 mg	0.0029 mg
		5 mg	0.0029 mg
		2 mg	0.0032 mg
		1 mg	0.0032 mg
	Deadweight	From 10 kg up to 20 kg	30 mg
		From 5 kg less than 10 kg	20 mg
		From 2 kg less than 5 kg	9.0 mg
		From 1 kg less than 2 kg	4.0 mg
		From 500 g less than 1 kg	0.98 mg
		From 200 g less than 500 g	0.64 mg
		From 100 g less than 200 g	0.30 mg
		From 50 g less than 100 g	0.20 mg
		From 20 g less than 50 g	0.20 mg
		From 10 g less than 20 g	0.15 mg
From 5 g less than 10 g	0.13 mg		
From 2 g less than 5 g	0.11 mg		
From 1 g less than 2 g	0.064 mg		
From 100 mg less than 1 g	0.050 mg		
From 10 mg less than 100 mg	0.023 mg		
From 1 mg less than 10 mg	0.010 mg		

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Permanent Laboratory/On-site Calibration : Permanent Laboratory, On-site Calibration

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	CMC (Level of Confidence Approximately 95 %)	
			Permanent Laboratory	On-site Calibration
			Scale	Non-automatic Electronic Weighing Instruments
		More than 150 kg up to 300 kg	16 µg/g	16 µg/g
		More than 12 kg up to 150 kg	8.0 µg/g	8.0 µg/g
		More than 5 kg up to 12 kg	8.0 µg/g	8.0 µg/g
		More than 2 kg up to 5 kg	1.5 µg/g	1.5 µg/g
		More than 1 kg up to 2 kg	2.3 µg/g	2.3 µg/g
		More than 90 g up to 1 kg	2.6 µg/g	2.6 µg/g
		More than 50 g up to 90 g	3.9 µg/g	3.9 µg/g
		More than 40 g up to 50 g	2.3 µg/g	2.3 µg/g
		More than 30 g up to 40 g	5.1 µg/g	5.1 µg/g
		More than 20 g up to 30 g	6.6 µg/g	6.6 µg/g
		More than 10 g up to 20 g	5.1 µg/g	5.1 µg/g
		More than 5 g up to 10 g	10 µg/g	10 µg/g
		More than 3 g up to 5 g	19 µg/g	19 µg/g
		More than 2 g up to 3 g	16 µg/g	16 µg/g
		More than 1 g up to 2 g	12 µg/g	12 µg/g
		More than 900 mg up to 1 g	19 µg/g	19 µg/g
		More than 700 mg up to 900 mg	50 µg/g	50 µg/g
		More than 500 mg up to 700 mg	44 µg/g	44 µg/g
		More than 400 mg up to 500 mg	33 µg/g	33 µg/g
		More than 300 mg up to 400 mg	60 µg/g	60 µg/g
		More than 200 mg up to 300 mg	86 µg/g	86 µg/g
		More than 100 mg up to 200 mg	54 µg/g	54 µg/g
		More than 90 mg up to 100 mg	0.13 mg/g	0.13 mg/g
		More than 80 mg up to 90 mg	0.25 mg/g	0.25 mg/g
		More than 70 mg up to 80 mg	0.27 mg/g	0.27 mg/g
		More than 60 mg up to 70 mg	0.22 mg/g	0.22 mg/g
		More than 50 mg up to 60 mg	0.24 mg/g	0.24 mg/g
		More than 40 mg up to 50 mg	0.17 mg/g	0.17 mg/g
		More than 30 mg up to 40 mg	0.36 mg/g	0.36 mg/g
		More than 20 mg up to 30 mg	0.43 mg/g	0.43 mg/g
		More than 10 mg up to 20 mg	0.36 mg/g	0.36 mg/g
		More than 9 mg up to 10 mg	0.59 mg/g	0.59 mg/g
		More than 8 mg up to 9 mg	1.6 mg/g	1.6 mg/g
		More than 7 mg up to 8 mg	1.8 mg/g	1.8 mg/g
		More than 6 mg up to 7 mg	1.4 mg/g	1.4 mg/g
		More than 5 mg up to 6 mg	1.6 mg/g	1.6 mg/g

		More than 4 mg up to 5 mg	0.96 mg/g	0.96 mg/g
		More than 3 mg up to 4 mg	2.4 mg/g	2.4 mg/g
		More than 2 mg up to 3 mg	3.2 mg/g	3.2 mg/g
		More than 1 mg up to 2 mg	2.4 mg/g	2.4 mg/g
		1 mg	4.8 mg/g	4.8 mg/g
	Non-automatic Mechanical Weighing Instruments	More than 250 kg up to 350 kg	0.20 mg/g	0.20 mg/g
		More than 160 kg up to 250 kg	0.15 mg/g	0.15 mg/g
		More than 50 kg up to 160 kg	0.21 mg/g	0.21 mg/g
		More than 40 kg up to 50 kg	0.11 mg/g	0.11 mg/g
		More than 30 kg up to 40 kg	0.13 mg/g	0.13 mg/g
		More than 20 kg up to 30 kg	0.17 mg/g	0.17 mg/g
		More than 12 kg up to 20 kg	0.13 mg/g	0.13 mg/g
		More than 10 kg up to 12 kg	0.21 mg/g	0.21 mg/g
		More than 5 kg up to 10 kg	0.13 mg/g	0.13 mg/g
		More than 2 kg up to 5 kg	0.10 mg/g	0.10 mg/g
		More than 1 kg up to 2 kg	0.25 mg/g	0.25 mg/g
		More than 400 g up to 1 kg	5.0 µg/g	5.0 µg/g
		More than 300 g up to 400 g	6.0 µg/g	6.0 µg/g
		More than 200 g up to 300 g	8.0 µg/g	8.0 µg/g
		More than 90 g up to 200 g	3.0 µg/g	3.0 µg/g
		More than 40 g up to 90 g	5.0 µg/g	5.0 µg/g
		More than 30 g up to 40 g	7.0 µg/g	7.0 µg/g
		More than 20 g up to 30 g	10 µg/g	10 µg/g
		More than 10 g up to 20 g	5.0 µg/g	5.0 µg/g
		More than 5 g up to 10 g	10 µg/g	10 µg/g
	More than 3 g up to 5 g	19 µg/g	19 µg/g	
	More than 2 g up to 3 g	16 µg/g	16 µg/g	
	More than 1 g up to 2 g	12 µg/g	12 µg/g	
	1 g	20 µg/g	20 µg/g	

#All Calibration Procedures are in-house procedures developed by this laboratory.

General Field of Calibration : Electricity (High Frequency) & Electromagnetic Fields

Date of Initial Accreditation of the Field : 2007-02-21

Permanent Laboratory/On-site Calibration : Permanent Laboratory

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		CMC (Level of Confidence Approximately 95 %)	
Radio Frequency Measuring Equipments	RF Power Measuring Equipment (50 Ω)	From 10 MHz up to 50 MHz	1 mW	2.1 %	
			From 10 nW less than 100 mW	2.2 %	
			From 1 nW less than 10 nW	2.3 %	
			From 100 pW less than 1 nW	2.4 %	
		More than 50 MHz up to 12 GHz	1 mW	2.4 %	
			From 10 nW less than 100 mW	2.5 %	
			From 1 nW less than 10 nW	2.6 %	
			From 100 pW less than 1 nW	2.7 %	
		From 10 MHz up to 250 MHz	From 100 mW up to 200 W	2.6 %	
		More than 250 MHz up to 500 MHz	From 100 mW up to 100 W	2.6 %	
		More than 500 MHz up to 1 GHz	From 100 mW up to 100 W	2.6 %	
		RF Power Source (50 Ω)	From 10 MHz up to 50 MHz	1 mW	2.1 %
				From 10 nW less than 100 mW	2.2 %
				From 1 nW less than 10 nW	2.3 %
	From 100 pW less than 1 nW			2.4 %	
	More than 50 MHz up to 12 GHz		1 mW	2.2 %	
			From 10 nW less than 100 mW	2.3 %	
			From 1 nW less than 10 nW	2.4 %	
			From 100 pW less than 1 nW	2.5 %	
	RF Voltage Measuring Equipment (50 Ω)	From 10 MHz up to 500 MHz	0.5 V	1.2 %	
			From 0.2 V up to 0.7 V	1.3 %	
			From 0.1 V less than 0.2 V	1.3 %	
		More than 500 MHz up to 1000 MHz	0.5 V	2.3 %	
			From 0.2 V up to 0.7 V	2.3 %	
			From 0.1 V less than 0.2 V	2.3 %	
	RF Voltage Measuring Equipment (75 Ω)	From 10 MHz up to 500 MHz	0.5 V	1.2 %	
			From 0.2 V up to 0.7 V	1.3 %	
			From 0.1 V less than 0.2 V	1.4 %	
More than 500 MHz up to 1000 MHz		0.5 V	2.3 %		
		From 0.2 V up to 0.7 V	2.3 %		
		From 0.1 V less than 0.2 V	2.4 %		
RF Voltage Measuring Equipment (High)	From 10 MHz up to 500 MHz	0.5 V	1.2 %		
		From 0.2 V up to 0.7 V	1.3 %		
		From 0.1 V less than 0.2 V	1.4 %		
	More than 500 MHz up to 1000 MHz	0.5 V	2.3 %		
		From 0.2 V up to 0.7 V	2.4 %		
		From 0.1 V less than 0.2 V	2.4 %		

	Attenuator (50 Ω)	From 10 MHz up to 1 GHz	From 0 dB up to 50 dB	0.03 dB
		More than 1 GHz up to 12 GHz	From 0 dB up to 50 dB	0.04 dB
	Attenuation Measuring Equipment	From 10 MHz up to 12 GHz	From 0 dB up to 50 dB	0.03 dB
Laser Power Measuring Equipments	Optical Fiber Power Meter	1.31 μm band	From 10 μW less than 50 μW	1.3 %
			From 50 μW less than 100 μW	0.55 %
			From 100 μW up to 500 μW	0.40 %
		1.55 μm band	From 10 μW less than 50 μW	1.3 %
			From 50 μW less than 100 μW	0.55 %
			From 100 μW up to 500 μW	0.40 %

General Field of Calibration : Force

Date of Initial Accreditation of the Field : 2003-12-26

Permanent Laboratory/On-site Calibration : On-Site Calibration

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		CMC (Level of Confidence Approximately 95 %)
Uniaxial Testing Machines	According to JIS B 7721 (ISO 7500-1)	Compression	From 0.1 N up to 3000 kN	0.20 %
		Tension	From 0.1 N up to 300 kN	0.20 %

General Field of Calibration : Pressure

Date of Initial Accreditation of the Field : 2005-04-20

Permanent Laboratory/On-site Calibration : Permanent Laboratory

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		CMC (Level of Confidence Approximately 95 %)	
Pressure Gauge	Pressure Balance	Liquid	Gauge pressure	From 1 MPa up to 5.5 MPa	The larger one of the two 0.040 % or 1.2 kPa
				More than 5.5 MPa up to 10 MPa	
More than 10 MPa up to 100 MPa				0.020 %	
	Liquid Manometer	Mercury type	Gauge pressure	From 20 kPa up to 200 kPa	0.12 kPa
Pressure Gauges	Liquid	Liquid	Gauge pressure	From 1 MPa up to 2 MPa	1.0 kPa
				More than 2 MPa up to 3 MPa	1.2 kPa
				More than 3 MPa up to 4 MPa	1.5 kPa
				More than 4 MPa up to 5 MPa	1.8 kPa
				More than 5 MPa up to 5.5 MPa	2.0 kPa
				More than 5.5 MPa up to 100 MPa	The larger one of the two 0.017 % or 3.4 kPa
				From -100 kPa less than -20 kPa	25 Pa
				From -20 kPa less than -15 kPa	4.5 Pa
				From -15 kPa less than -10 kPa	3.5 Pa
				From -10 kPa less than -7.5 kPa	2.5 Pa
				From -7.5 kPa less than -5 kPa	1.9 Pa
				From -5 kPa less than -2.5 kPa	1.5 Pa
				From -2.5 kPa less than -1 kPa	1.2 Pa
				From -1 kPa up to -0.005 kPa	1.0 Pa
				From 0.005 kPa up to 1 kPa	1.0 Pa
	More than 1 kPa up to 2.5 kPa	1.2 Pa			
	More than 2.5 kPa up to 5 kPa	1.5 Pa			
	More than 5 kPa up to 7.5 kPa	1.9 Pa			
	More than 7.5 kPa up to 10 kPa	2.5 Pa			
	More than 10 kPa up to 15 kPa	3.5 Pa			
	More than 15 kPa up to 20 kPa	4.5 Pa			
	More than 20 kPa up to 150 kPa	0.013 kPa			
	More than 150 kPa up to 200 kPa	0.016 kPa			
	More than 200 kPa up to 500 kPa	0.0075 %			
	More than 500 kPa up to 1000 kPa	0.082 kPa			
	More than 1000 kPa up to 1500 kPa	0.13 kPa			
	More than 1500 kPa up to 2000 kPa	0.17 kPa			
More than 2000 kPa up to 2500 kPa	0.24 kPa				
More than 2500 kPa up to 3000 kPa	0.27 kPa				
More than 3000 kPa up to 3500 kPa	0.30 kPa				
	Gas	Gas	Gauge pressure		

			Absolute Pressure	From 18 kPa up to 75 kPa	27 Pa		
				More than 75 kPa up to 100 kPa	29 Pa		
				More than 100 kPa up to 150 kPa	36 Pa		
				More than 150 kPa up to 200 kPa	44 Pa		
				More than 200 kPa up to 250 kPa	53 Pa		
				More than 250 kPa up to 300 kPa	61 Pa		
				More than 300 kPa up to 350 kPa	71 Pa		
			Difference Pressure (*)	From -20 kPa less than -15 kPa	4.5 Pa		
				From -15 kPa less than -10 kPa	3.5 Pa		
				From -10 kPa less than -7.5 kPa	2.5 Pa		
				From -7.5 kPa less than -5 kPa	1.9 Pa		
				From -5 kPa less than -2.5 kPa	1.5 Pa		
				From -2.5 kPa less than -1 kPa	1.2 Pa		
				From -1 kPa up to -0.005 kPa	1.0 Pa		
				From 0.005 kPa up to 1 kPa	1.0 Pa		
				More than 1 kPa up to 2.5 kPa	1.2 Pa		
				More than 2.5 kPa up to 5 kPa	1.5 Pa		
				More than 5 kPa up to 7.5 kPa	1.9 Pa		
				More than 7.5 kPa up to 10 kPa	2.5 Pa		
				More than 10 kPa up to 15 kPa	3.5 Pa		
			More than 15 kPa up to 20 kPa	4.5 Pa			
			Mechanical Type Pressure Gauges	Liquid	Gauge pressure	From 1 MPa up to 5.5 MPa	10 kPa
						More than 5.5 MPa up to 100 MPa	0.20 % of maximum pressure
				Gas	Gauge pressure	From -100 kPa less than -20 kPa	0.15 kPa
						From -20 kPa less than -0.3 kPa	0.40 % of minimum pressure
						From -0.3 kPa up to -0.005 kPa	2.7 Pa
From 0.005 kPa up to 0.3 kPa	2.7 Pa						
More than 0.3 kPa up to 20 kPa	0.40 % of maximum pressure						
More than 20 kPa up to 3500 kPa	The larger one of the two 0.15 % or 0.15 kPa						
Difference Pressure (*)	From -20 kPa less than -0.3 kPa	0.40 % of minimum pressure					
	From -0.3 kPa up to -0.005 kPa	2.7 Pa					
	From 0.005 kPa up to 0.3 kPa	2.7 Pa					
	More than 0.3 kPa up to 20 kPa	0.40 % of maximum pressure					

(*)Line Pressure: 100 kPa \pm 5 kPa (Absolute Pressure)

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General Field of Calibration : Acoustics & Ultrasound

Date of Initial Accreditation of the Field : 2005-09-01

Permanent Laboratory/On-site Calibration : Permanent Laboratory

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		CMC (Level of Confidence Approximately 95 %)	
Acoustic Measuring Equipment, etc.	Sound Level Meter (Free-Field Response Level)	From 20 Hz up to 50 Hz		0.5 dB	
		More than 50 Hz up to 1.25 kHz		0.3 dB	
		More than 1.25 kHz up to 5 kHz		0.4 dB	
		More than 5 kHz up to 8 kHz		0.5 dB	
		More than 8 kHz up to 10 kHz		0.6 dB	
		More than 10 kHz up to 12.5 kHz		0.8 dB	
	Sound Calibrator (Sound Pressure Level)	250 Hz		0.14 dB	
		1000 Hz		0.14 dB	
	Audiometers (WS1 Microphone)	Sound Pressure	From 125 Hz up to 4000 Hz		0.6 dB
			More than 4000 Hz up to 8000 Hz		0.6 dB
	Audiometers (WS2 Microphone)		From 125 Hz up to 4000 Hz		0.7 dB
			More than 4000 Hz up to 8000 Hz		0.9 dB

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