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Accreditation No.	JCSS0056
Date of Initial Accreditation	1995-06-21
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Name and Address of Accredited Organization	MEASUREMENT & CALIBRATION CENTER BUSINESS DIV. Toyota Technical Development Corporation 1, Toyota-cho, Toyota-shi, Aichi 471-8571, Japan JCN 7180301018923
Inquiry Point	MEASUREMENT & CALIBRATION CENTER BUSINESS DIV. Tel: +81-565-23-6637 FAX: +81-565-23-5779
Accreditation Standards	ISO/IEC 17025:2005 (Calibration)
Accreditation Scope	As attached

*JCN : Japan Corporate Number

General Field of Calibration : Length

Date of Initial Accreditation of the Field : 2007-05-24

Permanent 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 μm
		More than 100 mm up to 500 mm	$(0.15+0.00077 \cdot L) \mu\text{m}$
	Calipers	Up to 200 mm	0.02 mm
	Height gauges	Up to 600 mm	0.03 mm
	Depth gauges	Up to 150 mm	0.02 mm
	Micrometers	Up to 100 mm	2 μm
	Calibration testers for dial gauges	Up to 25 mm	1.0 μm
	Dial gauges	Up to 5 mm	1.1 μm
		More than 5 mm up to 50 mm	2.0 μm
		More than 50 mm up to 100 mm	3.1 μm
	Dial test indicators	Up to 1 mm	1.0 μm
	Ring gauges	From 6 mm less than 15 mm	0.5 μm
		From 15 mm up to 315 mm	0.8 μm
	Plug gauges	From 2 mm up to 100 mm	0.9 μm
	Rules (Starting Point of Edge)	Up to 1000 mm	0.05 mm
	Steel Tape Measures	Up to 1 m	0.07 mm
More than 1 m up to 100 mm		Add 0.07 mm to the value above for every 1 m	

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

General Field of Calibration : Mass

Date of Initial Accreditation of the Field : 2008-11-06

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	1 mg	0.0050 mg
		2 mg	0.0050 mg
		5 mg	0.0050 mg
		10 mg	0.0054 mg
		20 mg	0.0060 mg
		50 mg	0.012 mg
		100 mg	0.013 mg
		200 mg	0.014 mg
		500 mg	0.015 mg
		1 g	0.017 mg
		2 g	0.019 mg
		5 g	0.048 mg
		10 g	0.050 mg
		20 g	0.072 mg
		50 g	0.076 mg
		100 g	0.11 mg
		200 g	0.16 mg
		500 g	0.36 mg
		1 kg	0.90 mg
		2 kg	1.5 mg
	5 kg	7.0 mg	
	10 kg	11 mg	
	20 kg	17 mg	
	Weight (Deadweight)	From 100 g up to 200 g	1.2 mg
		More than 200 g up to 500 g	1.4 mg
		More than 500 g up to 1 kg	2.8 mg
		More than 1 kg up to 2 kg	3.4 mg
More than 2 kg up to 5 kg		60 mg	
More than 5 kg up to 10 kg		60 mg	
	More than 10 kg up to 20 kg	64 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	1 mg	0.0031 mg	0.0031 mg
		2 mg	0.0031 mg	0.0031 mg
		5 mg	0.0031 mg	0.0031 mg
		10 mg	0.0040 mg	0.0040 mg
		20 mg	0.0044 mg	0.0044 mg
		50 mg	0.0058 mg	0.0058 mg
		100 mg	0.0072 mg	0.0072 mg
		200 mg	0.0086 mg	0.0086 mg
		500 mg	0.012 mg	0.012 mg
		From 1 g up to 2 g	0.026 mg	0.027 mg
		More than 2 g up to 5 g	0.076 mg	0.076 mg
		More than 5 g up to 10 g	0.079 mg	0.079 mg
		More than 10 g up to 20 g	0.088 mg	0.089 mg
		More than 20 g up to 50 g	0.12 mg	0.13 mg
		More than 50 g up to 100 g	0.16 mg	0.18 mg
		More than 100 g up to 200 g	0.29 mg	0.32 mg
		More than 200 g up to 500 g	0.70 mg	0.79 mg
		More than 500 g up to 1 kg	1.5 mg	3.6 mg
		More than 1 kg up to 2 kg	2.8 mg	7.2 mg
		More than 2 kg up to 5 kg	13 mg	36 mg
More than 5 kg up to 10 kg	25 mg	71 mg		
More than 10 kg up to 20 kg	49 mg	0.15 g		
More than 20 kg up to 30 kg	0.15 g	0.25 g		

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General Field of Calibration : Temperature

Date of Initial Accreditation of the Field : 2009-10-30

Permanent Laboratory/On-site Calibration : Permanent Laboratory

Calibration Procedures# and Type of Instruments/Materials to be calibrated			Range	CMC (Level of Confidence Approximately 95 %)
Contact Type Thermometer	Resistance thermometer (Comparison calibration)	Platinum Resistance thermometer with 4-wires (100 Ω)	From -40 °C up to 150 °C	0.048 K
			More than 150 °C up to 300 °C	0.11 K
	Temperature sensors with display unit (Comparison calibration)	Platinum Resistance Thermometer	From -40 °C up to 150 °C	0.038 °C
		Thermocouple Thermistor	More than 150 °C up to 300 °C	0.095 °C

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General Field of Calibration : Acceleration

Date of Initial Accreditation of the Field : 2016-12-08

Permanent Laboratory/On-site Calibration : Permanent Laboratory

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	CMC (Level of Confidence Approximately 95 %)
Vibration Acceleration Measuring Equipment ,etc.	Reference Accelerometer (Charge Sensitivity)	20 Hz	1.1 %
		25 Hz	1.1 %
		31.5 Hz	1.1 %
		40 Hz	1.1 %
		50 Hz	1.1 %
		63 Hz	1.1 %
		80 Hz	1.1 %
		100 Hz	0.9 %
		125 Hz	0.9 %
		160 Hz	0.9 %
		200 Hz	1.1 %
		250 Hz	1.3 %
		315 Hz	1.3 %
		400 Hz	1.5 %
		500 Hz	1.1 %
		630 Hz	1.1 %
		800 Hz	1.1 %
		1000 Hz	1.2 %
		1250 Hz	1.2 %
		1600 Hz	1.2 %
2000 Hz	1.5 %		
2500 Hz	2.0 %		
3150 Hz	3.0 %		
4000 Hz	3.0 %		
5000 Hz	3.0 %		

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General Field of Calibration : Electricity (Direct Current & Low Frequency)

Date of Initial Accreditation of the Field : 1995-06-21

Permanent Laboratory/On-site Calibration : Permanent Laboratory

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	CMC (Level of Confidence Approximately 95 %)
Direct Current & Low Frequency Measuring Equipment, etc.	DC Resistor	From 10 mΩ less than 100 mΩ	0.69 %
		100 mΩ	14 ppm
		More than 100 mΩ less than 1 Ω	0.69 %
		1 Ω	20 ppm
		More than 1 Ω less than 10 Ω	0.012 %
		10 Ω	10 ppm
		More than 10 Ω less than 100 Ω	79 ppm
		100 Ω	7.8 ppm
		More than 100 Ω less than 1 kΩ	18 ppm
		1 kΩ	4.5 ppm
		More than 1 kΩ less than 10 kΩ	19 ppm
		10 kΩ	4.4 ppm
		More than 10 kΩ less than 100 kΩ	18 ppm
		100 kΩ	4.6 ppm
		More than 100 kΩ less than 1 MΩ	45 ppm
		1 MΩ	14 ppm
		More than 1 MΩ less than 10 MΩ	0.020 %
		10 MΩ	65 ppm
	DC Resistance Measuring Equipment	100 mΩ	17 ppm
		1 Ω	3.5 ppm
		10 Ω	3.8 ppm
		100 Ω	3.6 ppm
		1 kΩ	3.7 ppm
		10 kΩ	3.6 ppm
		100 kΩ	3.8 ppm
		1 MΩ	3.9 ppm
	10 MΩ	8.4 ppm	
	DC Voltage Source	From 10 mV less than 50 mV	48 ppm
		From 50mV up to 100 mV	15 ppm
		More than 100 mV less than 1 V	9.1 ppm
		1 V	2.4 ppm
		1.018 V	2.4 ppm
		More than 1 V less than 10 V	5.4 ppm
10 V		2.4 ppm	
More than 10 V up to 100 V		11 ppm	
More than 100 V up to 1 kV	22 ppm		

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	CMC (Level of Confidence Approximately 95 %)
Direct Current & Low Frequency Measuring Equipment, etc.	DC Voltage Measuring Equipment	From 10 mV up to 50 mV	65 ppm
		More than 50 mV up to 200 mV	18 ppm
		More than 200 mV up to 2 V	10 ppm
		More than 2 V less than 10 V	6 ppm
		10 V	2.4 ppm
		More than 10 V up to 20 V	5 ppm
		More than 20 V up to 200 V	8 ppm
		More than 200 V up to 1 kV	9 ppm
	Direct Current Source	From 10 μ A up to 100 μ A	62 ppm
		More than 100 μ A up to 1 mA	62 ppm
		More than 1 mA up to 10 mA	64 ppm
		More than 10 mA up to 100 mA	63 ppm
		More than 100 mA up to 1 A	63 ppm
		More than 1 A up to 10 A	85 ppm
		More than 10 A up to 20 A	83 ppm
	Direct Current Measuring Equipment	More than 10 μ A less than 100 μ A	0.061 %
		100 μ A	0.012 %
		More than 100 μ A less than 200 μ A	0.012 %
		200 μ A	93 ppm
		More than 200 μ A less than 1 mA	92 ppm
		1 mA	73 ppm
		More than 1 mA less than 2 mA	75 ppm
		2 mA	75 ppm
		More than 2 mA less than 10 mA	91 ppm
		10 mA	74 ppm
		More than 10 mA less than 20 mA	74 ppm
		20 mA	74 ppm
		More than 20 mA less than 100 mA	0.022 %
		100 mA	87 ppm
		More than 100 mA less than 200 mA	87 ppm
		200 mA	84 ppm
		More than 0.2 A less than 1 A	0.015 %
		1 A	0.011%
	More than 1 A less than 2 A	0.014 %	
	2 A	0.014 %	
	AC Voltage Source	10 Hz	300 mV
10 V			0.018 %
200 V			0.018 %
20 Hz		10 V	94 ppm
		50 Hz	10 mV
30 mV			0.024 %
100 mV			0.011 %
300 mV			59 ppm
1 V			45 ppm
3 V			48 ppm

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		CMC (Level of Confidence Approximately 95 %)
Direct Current & Low Frequency Measuring Equipment, etc.	AC Voltage Source	50 Hz	10 V	47 ppm
			20 V	45 ppm
			30 V	52 ppm
			60 V	45 ppm
			100 V	48 ppm
			200 V	48 ppm
			300 V	63 ppm
			700 V	62 ppm
			1 kV	53 ppm
		60 Hz	10 mV	0.045 %
			30 mV	0.024 %
			100 mV	0.011 %
			300 mV	59 ppm
			1 V	45 ppm
			3 V	48 ppm
			10 V	46 ppm
			30 V	52 ppm
			100 V	47 ppm
			300 V	63 ppm
			1 kV	53 ppm
		1 kHz	10 mV	0.045 %
			30 mV	0.024 %
			33 mV	0.024 %
			100 mV	0.011 %
			300 mV	59 ppm
			330 mV	66 ppm
			1 V	40 ppm
			2 V	38 ppm
			3 V	46 ppm
			3.3 V	47 ppm
			6 V	39 ppm
			10 V	42 ppm
			20 V	41 ppm
			30 V	50 ppm
			33 V	49 ppm
			60 V	44 ppm
			100 V	43 ppm
			200 V	44 ppm
			300 V	60 ppm
			330 V	60 ppm
		700 V	60 ppm	
		1 kV	51 ppm	

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		CMC (Level of Confidence Approximately 95 %)
Direct Current & Low Frequency Measuring Equipment, etc.	AC Voltage Source	10 kHz	300 mV	59 ppm
			1 V	41 ppm
			2 V	40 ppm
			3 V	45 ppm
			6 V	40 ppm
			20 V	41 ppm
			30 V	50 ppm
			60 V	42 ppm
			200 V	44 ppm
			300 V	61 ppm
		1 kV	52 ppm	
		20 kHz	300 mV	59 ppm
			1 V	42 ppm
			3 V	46 ppm
			10 V	42 ppm
			30 V	50 ppm
		50 kHz	300 V	61 ppm
			300 mV	75 ppm
			1 V	58 ppm
			3 V	72 ppm
			10 V	52 ppm
			30 V	75 ppm
		100 kHz	100 V	68 ppm
			300 V	0.019 %
			300 mV	0.015 %
			1 V	92 ppm
		200 kHz	10 V	91 ppm
			200 V	0.011 %
	500 kHz	1 V	0.022 %	
		10 V	0.024 %	
	AC Voltage Measuring Equipment	1 MHz	300 mV	0.081 %
			1 V	0.077 %
		10 Hz	1 V	0.30 %
			300 mV	0.042 %
			10 V	0.033 %
		20 Hz	200 V	0.031 %
			10 V	0.029 %
		50 Hz	10 mV	0.066 %
			30 mV	0.038 %
			100 mV	0.018 %
	300 mV		90 ppm	
	1 V		66 ppm	
	3 V		85 ppm	
	10 V		66 ppm	
20 V	63 ppm			

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	CMC (Level of Confidence Approximately 95 %)	
Direct Current & Low Frequency Measuring Equipment, etc.	AC Voltage Measuring Equipment	50 Hz	30 V	87 ppm
			60 V	75 ppm
			100 V	74 ppm
			200 V	72 ppm
			300 V	0.034 %
			700 V	0.031 %
			1 kV	0.030 %
		60 Hz	10 mV	0.066 %
			30 mV	0.038 %
			100 mV	0.018 %
			300 mV	90 ppm
			1 V	66 ppm
			3 V	76 ppm
			10 V	65 ppm
			30 V	86 ppm
			100 V	73 ppm
			300 V	99 ppm
			1 kV	87 ppm
		1 kHz	10 mV	0.066 %
			30 mV	0.038 %
			33 mV	0.036 %
			100 mV	0.018 %
			300 mV	90 ppm
			330 mV	93 ppm
			1 V	63 ppm
			2 V	59 ppm
			3 V	75 ppm
			3.3 V	74 ppm
			6 V	63 ppm
			10 V	63 ppm
			20 V	60 ppm
			30 V	85 ppm
			33 V	83 ppm
			60 V	74 ppm
			100 V	71 ppm
			200 V	70 ppm
300 V	97 ppm			
330 V	97 ppm			
700 V	93 ppm			
1 kV	86 ppm			

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		CMC (Level of Confidence Approximately 95 %)
Direct Current & Low Frequency Measuring Equipment, etc.	AC Voltage Measuring Equipment	10 kHz	300 mV	90 ppm
			1 V	64 ppm
			2 V	60 ppm
			3 V	74 ppm
			6 V	64 ppm
			20 V	60 ppm
			30 V	85 ppm
			60 V	73 ppm
			200 V	70 ppm
		20 kHz	300 mV	90 ppm
			1 V	64 ppm
			3 V	75 ppm
			10 V	63 ppm
			30 V	85 ppm
		50 kHz	300 mV	0.013 %
			1 V	99 ppm
			3 V	0.013 %
			10 V	95 ppm
			30 V	0.014 %
		100 kHz	100 V	0.011 %
			300 mV	0.026 %
			1 V	0.017 %
			10 V	0.015 %
		200 kHz	200 V	0.019 %
			1 V	0.054 %
		500 kHz	10 V	0.042 %
			300 mV	0.20 %
	1 MHz	1 V	0.16 %	
	1 MHz	1 V	0.50 %	
		60 Hz	10 mA	0.011 %
			100 mA	0.011 %
	1 A		0.013 %	
	Alternating Current Measuring Equipment	60 Hz	10 mA	0.018 %
100 mA			0.018 %	
1 A			0.031 %	

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General Field of Calibration : ForceDate of Initial Accreditation of the Field : 2014-03-20Permanent Laboratory/On-site Calibration : Permanent Laboratory

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		CMC (Level of Confidence Approximately 95 %)
Force-proving Instruments	Applying JIS B 7721	Compression	From 39.23 N up to 100 N	0.20 %
			From 0.1 kN up to 100 kN	0.10 %
		Tension	From 39.23 N up to 100 N	0.20 %
			From 0.1 kN up to 100 kN	0.10 %

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General Field of Calibration : PressureDate of Initial Accreditation of the Field : 2009-03-04Permanent 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	Mechanical Type Pressure Gauges	Gas Gauge Pressure	From -90 kPa up to -25 kPa	0.05 kPa
			From 20 kPa up to 700 kPa	2 kPa
	Pressure Gauges (Digital Pressure Gauges)	Gas Absolute Pressure	From 20 kPa up to 130 kPa	0.015 kPa
			Gas Gauge Pressure	From -90 kPa up to -25 kPa
		From 20 kPa up to 100 kPa		0.02 kPa
		More than 100 kPa up to 1050 kPa		0.12 kPa

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General Field of Calibration : Acoustics & UltrasoundDate of Initial Accreditation of the Field : 2016-09-08Permanent 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 Calibrator	94 dB, 1 kHz	0.13 dB
		114 dB, 250 Hz	0.12 dB
		124 dB, 250 Hz	0.13 dB

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