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Registration No. CNAS L0128

Accreditation Criteria: ISO/IEC 17025:2017 and relevant requirements of CNAS

Effective Date: 2024-09-20 Expiry Date: 2030-10-11

SCHEDULE 5 ACCREDITED CALIBRATION AND MEASUREMENT CAPABILITY SCOPE

Note: The instruments with * represents onsite calibration can be performed.

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
一、Thermometry							
1	*Digital Temperature Indicators and Controllers	Temperature	V.R.of Digital Temperature Indicators and Controllers JJG617	thermal resistor(-200～600)℃	U=0.20℃		
				Type T Thermocouple (-200～0)℃	U=0.7℃		
				Type T Thermocouple（0～400)℃	U=0.6℃		
				Type K Thermocouple（-200～-100)℃	U=0.7℃		
				Type K Thermocouple（-100～1372)℃	U=0.6℃		
				Type J Thermocouple (-210～-100)℃	U=0.6℃		
				Type J Thermocouple (-100～1200)℃	U=0.5℃		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				Type B Thermocouple（600～800)℃	U=1.4℃		
				Type B Thermocouple（800～1820)℃	U=1.2℃		
				Type R Thermocouple(-20～0)℃	U=1.6℃		
				Type R Thermocouple(0～100)℃	U=1.5℃		
				Type R Thermocouple（100～1767)℃	U=1.3℃		
				Type S Thermocouple（-20～0)℃	U=1.6℃		
				Type S Thermocouple(0～200)℃	U=1.5℃		
				Type S Thermocouple（200～1400)℃	U=1.3℃		
				Type S Thermocouple（1400～1767)℃	U=1.4℃		
				Type E Thermocouple（-200～600)℃	U=0.6℃		
				Type E Thermocouple（600～1000)℃	U=0.5℃		
				Type N Thermocouple（-200～-100)℃	U=0.9℃		
				Type N Thermocouple（-100～900)℃	U=0.8℃		
				Type N Thermocouple（900～1300)℃	U=0.6℃		
2	*Vacuum drying oven	temperature	Calibration Specification for Vacuum Ovens JJF(min)1093	(0～300)℃	U=0.4℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Pressure		（-90～200）kPa	U=0.8kPa		
3	*High temperature test chambers	Temperature	Calibration Specification for the Low/high temperature test chambers SQI/JL-JF-46	（300～500）℃	U=1.2℃		
4	*Environmental test equipment	Temperature	Calibration specification for Environmental testing Equipment for Temperature and Humidity Parameters. JJF1101	（-80~300）℃	U=0.22℃		
		Humidity		(10～98) %RH	U=1.2%RH		
5	*Aging life test chamber/Low pressure test chamber	Differential Pressure	Calibration Specification for the Equipment of the Environmental Testing for Differential Pressure and Wind Speed and illuminance SQI/JL-JF-47	（1～190）Pa	U=0.5Pa		
		Wind Speed		（0.2～20)m/s	U=0.10m/s		
6	*Recorders for Industrial Process Measurement	Temperature	Recorders for Industrial Process Measurement JJG74	thermal resistor:(-200～600)℃	U=0.2℃		
				Type T Thermocouple (-200～0)℃	U=0.7℃		
				Type T Thermocouple(0～400)℃	U=0.6℃		
				Type K Thermocouple (-200～-100)℃	U=0.7℃		
				Type K Thermocouple（-100～1372）℃	U=0.6℃		
				Type J Thermocouple (-210～-100)℃	U=0.6℃		
				Type J Thermocouple(-100～1200)℃	U=0.5℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				Type B Thermocouple (600～800)℃	U=1.4℃		
				Type B Thermocouple （800～1820）℃	U=1.2℃		
				Type R Thermocouple (-20～0)℃	U=1.6℃		
				Type R Thermocouple (0～100)℃	U=1.5℃		
				Type R Thermocouple （100～1767）℃	U=1.3℃		
				Type S Thermocouple （-20～0）℃	U=1.6℃		
				Type S Thermocouple (0～200)℃	U=1.5℃		
				Type S Thermocouple （200～1400）℃	U=1.3℃		
				Type S Thermocouple （1400～1767）℃	U=1.4℃		
				Type E Thermocouple （-200～600）℃	U=0.6℃		
				Type E Thermocouple （600～1000）℃	U=0.5℃		
				Type N Thermocouple （-200～-100）℃	U=0.9℃		
				Type N Thermocouple （-100～900）℃	U=0.8℃		
				Type N Thermocouple （900～1300）℃	U=0.6℃		
				input :(0.001～15）V,(0.001～22)mA	U_{rel}=0.030%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
7	*Carbon dioxide incubator	temperature	Carbon dioxide incubator calibration specification SQI/JL-JF-49	（10～50）℃	U=0.3℃		
		Concentration		（1～15）%	U_{rel}=3%		
8	Liquid-in-Glass Thermometers	Temperature	Liquid-in-Glass Thermometers for Working JJG130	（-80～300）℃	U=0.06℃		
9	*Temperature Itinerant Detecting Instrument	Temperature	Calibration Specification for Temperature Itinerant Detecting Instrument JJF 1171	（-60～300）℃	U=0.12℃		
10	Mechanical Thermo-hygrometers	Temperature	Mechanical Thermo-hygrometers JJG205	（5～50）℃	U=0.3℃		
		Humidity		（30～95）%RH	U=1.4%RH		
11	Radiation Thermometers	Temperature	V.R. of the Working Radiation Thermometers JJG 856	（-50～50）℃	U=1.0℃		
				（50～500）℃	U=1.0℃		
				（500～1100）℃	U=2℃		
12	*Thermostatic Baths for Temperature Calibration	Temperature	Measurement and Test Norm of Metrological Characteristics of Thermostatic Baths for Temperature Calibration JJF1030	Temperature fluctuation （-80～300）℃	U=0.003℃		
				Horizontal temperature difference （-80～300）℃	U=0.002℃		
				Maximum temperature difference （-80～0）℃	U=0.006℃		
				Maximum temperature difference （0～100）℃	U=0.003℃		
				Maximum temperature difference （100～300）℃	U=0.006℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
13	*Digital Temperature-hygrometers	Humidity	Calibration Specification for Digital Temperature-hygrometers JJF 1076	（10～90）%RH	U=1.0%RH		
		Temperature		（5～50）℃	U=0.10℃		
14	*Platinum Coppere Resistance	Temperature	V.R. of Industrial Platinum Coppere Resistance Thermometer JJG229-2010 JJG 229	Coppere Resistance(-50～0）℃	U=0.027 ℃		
				Coppere Resistance(0 ～150）℃	U=0.032℃		
				Platinum(-80～0）℃	U=0.027 ℃		
				Platinum(0 ～100）℃	U=0.034℃		
				Platinum(100 ～300）℃	U=0.042℃		
15	*Thermometers of Clinic Autoclave	Temperature	Calibration Specification for Thermometers of Clinic Autoclave JJF1308	(20～150)℃	U=0.28 ℃		
16	Base Metal Thermocouple	Temperature	Calibration Specification for Base Metal Thermocouples JJF 1637	（-40～300）℃	U=0.5℃		
				（300～400）℃	U=1.1℃		
				（400～1100）℃	U=1.2℃		
17	Thermal Imagers	Temperature	C.S. for Thermal Imagers JJF1187	（-15～200）℃	U=1.1 ℃		
				（200～450）℃	U=1.2℃		
18	Bimetallic Thermometer	Temperature	Calibration Specification for bimetallic thermometers JJF 1908	(-80～500)℃	U=0.4℃	(- 80 ~ 500) ℃ bimetallic thermometer	

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
19	Filled System thermometer	Temperature	Calibration Specification for Filled system thermometers JJF 1909	(-80～600)℃	U=0.4℃	A round scale steam Filled system with a measuring range of (-30-200) ℃, a round scale gas Filled system with a measuring range of (-80-600) ℃, and a liquid Filled system thermometer with a measuring range of (-40-250) ℃	
20	*Enthalpy Potential Testing Apparatus	Power	Calibration Specification for Enthalpy Potential Testing Apparatus JJF (Jixie)1005	0.01W～80kW	U_{rel}=0.05%		
		Temperature		Environmental：（-40～100）℃	U=0.22℃		
				Pt100:（-50～100）℃	U=0.034℃		
				Pt100:（100～150）℃	U=0.05℃		
				Thermocople：（-50～300）℃	U=0.4℃		
		Humidity		（20～95）%RH	U=1.2%RH		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Pressure		(-0.1～60)MPa	U=0.2%FS		
		Tachometer		(20～33000) r/min	U_{rel}=0.02%		
		voltage		0.01V～1000V	U_{rel}=0.05%		
		current		0.001A～80A	U_{rel}=0.05%		
		frequency		40Hz～30kHz	U_{rel}=0.01%		
		Power factor		0～1	U=0.0006		
		electric energy		0.01V～1000V；0.001A～80A	U_{rel}=0.05%		
		flow		0.2m^3/h～40m^3/h	U_{rel}=0.2%		
		wind speed		0.2m/s～20m/s	U_{rel}=6%		
		Nozzle size		(5～250)mm	U=0.03mm		
21	*Temperature Transmitter	Temperature	Calibration Specification of the Temperature Transmitter JJF1183	(-200～800)℃Resistance Thermometer input (without sensor)	U=(0.3～0.6)℃		
				(-200℃～1800)℃ Thermocouple input (without sensor)	U=(0.5～1.6)℃		
				(-80℃～660)℃ Resistance Thermometer input (with sensor)	U=0.3℃		
				(-40～1100)℃ Thermocouple input (with sensor)	U=1.0℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
22	*Box type resistance furnace	Temperature	Calibration specification for box type resistance furnace JJF 1376	（300～1100）℃	U=2.2℃		
23	*Baby Incubator	Temperature	Calibration Specification for Baby Incubator JJF 1260	（20～50）℃	U=0.12℃		
		Humidity		（10～90）%RH	U=2.0%RH		
		Oxygen concentration		30%～40%	U=2.0%		
24	*Disintegration Analyzers	Temperature	Calibration Specification for Disintegration Analyzers JJF 1449	（0～100）℃	U=0.34℃		
		Length		(0～300)mm	U=0.12mm		
		time		1s～30min	U_{rel}=0.09%		
		Disintegration time		(1～520)s	U_{rel}=10.6%		
25	Flow Intergration Meters	Flow	Verification Regulation of Flow Intergration Meters JJG1003	(1～100)% range	U_{rel}=0.04%		
26	Surface Thermometer	Temperature	Calibration Specification for the Surface Thermometers JJF1409	（20～300）℃	U=1.0℃		
				(300～400)℃	U=1.2℃		
27	Gas Float Meter	Flow-rate	Verification Regulation of float meter JJG257	(0.2～30)m^3/h	U_{rel}=0.4%		
28	*heat distortion and vicat softening temperature apparatus	temperature	Calibration specification for heat distortion and vicat softening temperature apparatus JJF (zhe) 1051	室温～300℃	U=0.20℃		
		heating rate		(50～120)℃/h	U=0.10℃/h		
		Length		（1.005～10.000）mm	U=2.0 μ m		
		mass		（0.001～500）g	U=0.006g		
				（500～2000）g	U=0.012g		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				（2000～5000）g	U=0.017g		
29	*Extrusion Plastometer	temperature	Verification Regulation of Extrusion Plastometer JJG 878	(100～400)℃	U=0.2℃		
		Time		(1～600)s	U=0.3s		
		Mass		0.01mg～35kg	U=(1.5~2.2)g		
		melt flow rate		(1.70～1.96)g/10min	U=0.17g/10min		
30	Liquid level measuring device	current	Verification Regulation of theLiquid level measuring device JJG 971	(4～20)mA	U=0.11%FS		
		Level		Horizontal simulation method：(0～2000)mm	U=0.32mm		
				Horizontal simulation method：(2000～10000)mm	U_{rel}=0.016%		
				Vertical measurement method：(0～2000)mm	U=2mm		
		Pressure		(0～100)kPa	U=0.09kPa		
		voltage		(0.1～50)V	U=0.11%FS		
31	*Natural ventilation thermal aging test oven	Temperature	Verification procedure for test equipment of rubber plastic wire and cable - Part6：Natural ventilation thermal aging test oven JB/T 4278.6	（-40～600）℃	U=0.5℃		
		ventilation rate		（8～20)/h	U_{rel}=2%		
32	Precision dew point hygrometer	Dew point temperature	Verification regulation of precision dew point meter JJG499	(-70～20)℃DP	U=0.20 ℃DP		
33	Temperature Block Calibrator	Temperature	Calibration Guideline of the Temperature Block	(-80～150）℃	U=0.12℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
			Calibrators JJF1257	(150～420）℃	U=0.44℃		
				（420～660）℃	U=0.60℃		
				（660～700）℃	U=0.66℃		
				(700～1100）℃	U=1.3℃		
34	*Digital Thermometer	Temperature	The Working Digital Thermometer JJF(lu)90 JJF(lu)90	（-80～300）℃	U=0.06℃		
				（300～600）℃	U=0.10℃		
				（600～1100）℃	U=1.0℃		
35	*Fabric shrinkage rate testing machine	Temperature	Calibration Specification for Fabric Shrinkage Testers JJF (Fabric) 052	（25～98）℃	U=0.6℃		
		Rotating speed		(50～1200) r/min	U_{rel}=0.28%		
		time		（0～30）min	U=0.3s		
		Level		（100～300）mm	U=0.7mm		
36	*salt fog test chamber	Temperature	Calibration specification for salt fog test chamber JJF (Zhe) 1125	（5～70）℃	U=0.4℃		
		Salt spray deposition rate		(1.0～2.0)mL/（80cm^2•h）	U=0.3mL/(80cm^2•h)		
37	*Drug Dissolution Meter	Temperature	Calibration Specification for Drug Dissolution Meter SQI/JL-JF-62	（0～50）℃	U=0.20℃		
		speed		(20～500) r/min	U_{rel}=0.6%		
		Coaxiality		(0～5) mm	U=0.09mm		
		Shaft oscillation		(0～5) mm	U=0.11mm		
		Cup swing		(0～5) mm	U=0.08mm		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Depth		(0～30) mm	U=0.21mm		
		Verticality of Dissolution Cup		(-2～92)°	U=0.12°		
		Verticality of Rotary Shaft		(-2～92)°	U=0.12°		
		Sampling Pump Speed		（0～10）mL/min	U=0.1mL/min		
38	Thermal Mass Gas Flowmeters	Flow	Thermal Mass Gas Flowmeters JJG1132	（5～50000）mL/min	U_{rel}=0.44%		
39	Temperature Switchs	Temperature	Calibration Specification for Temperature Parameters of Temperature Switchs JJF 1632	(-30～300)℃	Action Temperature:U=0.3℃； On-off Temperature Difference:U=0.20℃		
40	*Washing fastness testing machine	Temperature	Calibration Specification for Washing Fastness Testing Machine JJF (Textile) 026	（0～150）℃（deviation）	U=0.7℃		
				（0～150）℃（Indication error）	U=0.7℃		
				（0～150）℃（Volatility）	U=0.6℃		
		Rotate speed		40r/min	U=0.20r/min		
		Time		30min、45min	U=2.0s		
		capacity		550mL	U=4mL		
		length		125mm（Cup depth）	U=1.0mm		
				45mm（The distance from the shaft core to the bottom of the test cup）	U=1.0mm		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
41	*Temperature and humidity standard chambers	Temperature	Calibration specification for Temperature and humidity standard chambers JJF 1564	Temperature Uiformity：（5～50）℃，Temperature Fluctuation：（5～50）℃，Temperature rate of change：（0～5）℃/min	Temperature Uiformity:U=0.05℃;Temperature Fluctuation:U=0.02℃;Temperature rate of change:U=0.03℃/min		
		Humidity		Humidity Uiformity：（10～90）%RH，Humidity Fluctuation:（10～90）%RH，Humidity rate of change:（0～10）%RH/min	Humidity Uiformity:U=0.5%RH;Humidity Fluctuation:U=0.2%RH;Humidity rate of change:U=0.3%RH/min.		
42	*Infrared Thermometers for Measurement of Human Temperature	Temperature	Calibration specification of Infrared Thermometers for Measurement of Human Temperature JJF 1107	（22～40）℃	U=0.10℃		
43	*Illumination test chamber	Illuminance	Calibration Specification for the Equipment of the Environmental Testing for Differential Pressure and Wind Speed and illuminance SQI/JL-JF-47	（1～3000)lx	U=49lx		
44	Copper/Copper-Nickel Thermocouple	Temperature	V.R. of Working Copper / Copper-Nickel Thermocouple JJG368	（-80～300）℃	U=0.3℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
45	Infrared devices for instant screening of human skin temperature	Temperature	Calibration Specification of Infrared Thermometers for Measurement of Human Temperature JJF 1107	（22～40）℃	U=0.10 ℃		
46	Sheathed Thermocouple	Temperature	Calibration Specification for Sheathed Thermocouples JJF 1262	（-40～300）℃	U=0. 3℃		
				（300～400）℃	U=1.1℃		
				（400～1100）℃	U=1.2 ℃		
47	Temperature Data Acquisition Instruments	temperature	Calibration Specification of Temperature Data Acquisition Instruments JJF 1366	（-80～500）℃	U=0.05℃		
48	Temperature Calibration Devices for Polymerase Chain Reaction Analyzers	Temperature	Calibration Specification of Temperature Calibration Devices for Polymerase Chain Reaction Analyzers JJF 1821	（0～120）℃	U=0.04 ℃		
49	*Dissolution Testers	Temperature	Calibration Specification for Dissolution Testers JJF(zhe)1096	(0～50)℃	U=0.10℃		
		Revolution Speed		(50～200)rpm	U_{rel}=0.6%		
		Length		coaxiality:(0～5)mm	U=0.06mm		
				swing scope:(0～5)mm	U=0.08mm		
50	Thermistor thermometers	Temperature	Calibration Specification of Thermistor Thermometers JJF 1379	（-50～200）℃	resolution0.001℃： U=0.030 ℃ ，resolution0.01℃： U=0.06℃，resolution0.1℃： U=0.10℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
51	Resistance-capacitance dew point hygrometer	Dew point temperature	Calibration specification for dew point hygrometer with resistance-capacitance method JJF 1272	(-70～20)℃DP	U=0.4℃DP		
52	*Temperature Indicators	Temperature	Calibration Specification for Temperature Indicators JJF1664	Digit thermal resistor(-200～600)℃	U=(0.10～0.3)℃		
				Digit Thermocouple (-200～1800)℃	U=（0.5～1.6）℃		
		Temperature		Analog thermal resistor(-200～600)℃	U=(0.3～0.5)℃		
				Analog Thermocouple (-200～1800)℃	U=（0.6～1.6）℃		
53	*Divided Flow Humidity Generator	Temperature	Calibration Specification for Divided Flow Humidity Generator JJF(military)42	（5～50）℃	U=0.20℃		
		Dew point temperature		（-70～20）℃DP	U=0.34℃DP		
		Relative humidity		（10～90）%RH	U=1.6%RH		
54	*Liquid constant temperature testing equipment	Temperature	Measurement Specification for Temperature Performance of Liquid Constant Temperature Testing Equipment JJF 2019	（-80～300）℃	U=（0.05～0.3）℃		
55	*Short Base Metal Thermocouples	Temperature	Calibration Specification for Short Base Metal Thermocouples JJF 1991	（-40～300）℃	U=0.5℃		
				（300～400）℃	U=1.1 ℃		
				（400～1000）℃	U=1.2 ℃		
56	*Stream Sterilizer	Temperature	Calibration Specification for Temperature and Pressure parameters of Stream	（20～150）℃	U=0.15℃		
		Pressure		（0～400）kPa	U=1.7 kPa		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Time	Sterilizer JJF (Shanghai) 60	（10～3600）s	U=0.4 s		
57	Distributed fiber optic thermometer	Temperature	Calibration specification for distributed fiber optic thermometers JJF 1630	（-20～100）℃	U=0.20℃		
58	Passive Medical Cold Boxes	Temperature	Calibration Specification for Temperature Parameter of Passive Medical Cold Boxes JJF 1676	（-20～20）℃	U=0.20℃		
59	Calibration Specification for Surface Temperature Sources	Temperature	Calibration Specification for Surface Temperature Sources JJF（Lu）137	Stability：（30～400）℃	U=0.12℃		
				Uniformity：（30～400）℃	U=0.3℃		
				Indication error：（30～400）℃	U=0.26℃		
60	Thermometers of WBGT-index Meters	Temperature	Calibration Specification for Thermometers of WBGT-index Meters JJF 1407	（5～120）℃	U=0.3℃		
61	*Large Steam Sterilizers	temperature	Calibration Specification for Temperature，Pressure and Time Parameters of Large Steam Sterilizers JJF 2088	（100～150） ℃	U=0.14℃		
		time		（1～3600）s	U=1s		
		pressure		（70～400）kPa.abs	U=1.2kPa		
62	*Forced air heat aging test oven	Temperature	Verification procedure for test equipment of rubber plastic wire and cable -Part 13:Forced air heat aging test oven JB/T 4278.13	（-80～300）℃	U=0.5℃		
		Air change rate		（0～200）time/h	U=1 次/h		
		Time		1ms～3600s	U=0.6s		
二、Mechanics							
1	*Moisture Meters	Quality	Verification Regulation of	(0～1)kg	U=(0.2～10)mg		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Moisture	Thermogravimetric Moisture Meters JJG 658	(0～100)%	U=0.09%		
2	*Electronic Balanc	Quality	Verification Regulation of Electronic Balance JJG 1036,Calibration Specification of Electronic Balances JJF1847	（1～100）mg	U=(0.004～0.005) mg		
				100mg～1g	U=(0.005～0.008) mg		
				（1～100）g	U=（0.008～0.06）mg		
				100g～1kg	U=（0.06～2）mg		
				（1～100）kg	U=2mg～0.5g		
				（100～200）kg	U=（0.5～5）g		
3	*Flow Meters	Flow	Specification for on-line flow Calibration by master meter method SQI/JL-JF-54	（0.2～40）m^3/h，DN（8-50）mm	U_{rel}=0.20%	Accredited only for Water Medium	
4	Tachometer	rotate speed	Verification Regulation of Tachometer JJG 105	(20～60000) r/min	U_{rel}=0.02%		
5	*Weights	Quality	Verification Regulation of Weights JJG 99	F_1 Class：1mg～500mg	U=(0.004～0.010)mg	Field calibration is not carried out for grade F2 and above	
				F_1 Class：1g～500g	U=(0.02～0.4)mg		
				F_2 Class:1mg～500mg	U=(0.02～0.03)mg		
				F_1 Class：1kg～5kg	U=(0.6 ～4)mg		
				F_2 Class:1g～500g	U=（0.03 ～0.6）mg		
				F_2 Class:1kg～5kg	U=(2 ～8)mg		
				M_1 Class:1mg～500mg	U=(0.02～0.08)mg		
				M_1 Class:1g～500g	U=(0.3～3)mg		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				M_1 Class:1kg～25kg	U=5mg～0.2g		
6	*Electromagnetic flowmeter	Flow	Calibration Specification for Electromagnetic Flowmeters JJF（Su）228	(8～40)m^3/h,DN50	U_{rel}=3.6%		
				(30～400)m^3/h,DN(100～150)	U_{rel}=2.8%		
				(80～400)m^3/h,DN200	U_{rel}=2.5%		
				(240～1200)m^3/h,DN(250～300)	U_{rel}=2.4%		
7	*Mass flowmeter	flow	Online calibration specification for Mass flowmeters by Mass method SQI/JL-JF-43	（0.01～40）m^3/h，DN(4-50)	U_{rel}=0.4%	Accredited only for Water Medium	
8	*Mechanical Balance	Quality	Verification Regulation of Mechanical Balance JJG 98	(0～20)g e=0.01mg	U=0.03mg		
				(0～200)g e=0.1mg	U=0.08mg		
				(1～5)kg e=1mg～5mg	U=(0.8～1.6)mg		
				(20～200)kg e=（10～100）mg	U=(0.15～2.4)g		
9	Force Transducers	force	Verification Regulation of Force Transducers JJG 391	0.1N～1MN	U_{rel}=0.06%		
10	*Falling Weight Impact Testing Machines	speed	Calibration Specification for Falling Weight Impact Testing Machines JJF 1445	(0.1～30)m/s	U_{rel}=0.8%		
		height		（0.01～5）m	U=2mm		
		Quality		（0.01～35）kg	U=1g		
		Radius		（0.5～500）mm	U=0.06mm		
		energy loss		（0.01～100）%	U_{rel}=1.5%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
11	Standard Glass Hydrometers	Density	Verification Regulation of Standard Glass Hydrometers JJG 86	(650～1500) kg/m^3	U=0.20 kg/m^3		
12	Vibration Displacement Transducer	displacement	Verification Regulation of Vibration Displacement Transducer JJG 644	0.002mm～1000mm (20Hz～2000Hz)	U_{rel}=1.4%		
		Sensitivity		0.002mm～1000mm (0.2Hz～10kHz)	U_{rel}=1.4%		
13	Working Glass Hydrometers	Density	Verification Regulation of Working Glass Hydrometers JJG 42	(650～2000) kg/m^3	U=0.4 kg/m^3		
		Soil Degree		（-5～50）S°	U=0.20 S°		
		alcohol concentration		(0～100) %	U=0.4%		
14	*Falling Body Type Shock Testing Machine	acceleration	Verification Regulation of Shock and Bump Testing Machines JJG 1174	（100～5000） m/s^2	U_{rel}=4%		
		Pulse width		（0.05～240）ms	U_{rel}=0.8%		
15	Working Glass Container	Capacity	Verification Regulation of Working Glass Container JJG196	(0.1～100)mL	U=(0.002～0.019)mL		
				(100～500)mL	U=(0.019～0.08)mL		
				（500～2000）mL	U=(0.08～0.26)mL		
16	*Portable Vibration Calibrator	acceleration	Verification Regulation of Portable Vibration Calibrator JJG 1062	（0.5～500） m/s^2	U_{rel}=3%		
		displacement		(1～25)mm	U_{rel}=3%		
		Frequency		(10～2000)Hz	U=0.6Hz		
17	Locomotive Pipett	Capacity	Verification Regulation of Locomotive Pipette JJG646	（0.1～50） μL	U=(0.02～0.2) μL		
				(50～500) μL	U=(0.2～0.5) μL		
				（500～10000） μL	U=(0.5～2.2) μL		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
18	*Laboratory Oscillation-type Liquid Density Meters	Density	Laboratory Oscillation-type Liquid Density Meters JJG 1058	(0.65～1.50)g/cm^3	U=0.0002 g/cm^3	/	
				(1.50～2.00)g/cm^3	U=0.0003 g/cm^3		
19	*Equipment of Power Measuring	torque	Verification Regulation of Equipment of Power Measuring JJG 653	(0.01～108.2）Nm	U_{rel}=0.28%		
				（108.2～3000）Nm	U_{rel}=0.27%		
				（3000～10000）Nm	U_{rel}=0.30%		
		Rotate Speed		（20～20000）r/min	U_{rel}=0.17%		
20	*MassComparators	Mass	Calibration Specification for Mass Comparators JJF1326	repeatability：(0～1000)g	U=(2×10^{-3}～2)mg	/	
		Mass		Eccentric load error：(0～1000)g	U=(3×10^{-3}～3)mg		
		Mass		Partial indication error：(0～1000)g	U=(5×10^{-3}～4)mg		
21	Shore D Durometer	Hardness	Verification Regulation of Shore D Durometer JJG1039	0～100HD	U=0.14HD		
		Force		（0.1～50）N	U_{rel}=0.2%		
		Length		(0～10)mm	U=6 μ m		
		Angle		(0～90)°	U=0.03°		
22	Electromagnetic Velocity Transducer	speed	Verification Regulation of Electromagnetic Velocity Transducer JJG 134	(0.01～20)m/s (20Hz～2000Hz)	U_{rel}=1.1%		
		Sensitivity		1cm/s～10cm/s (20Hz～2000Hz)	U_{rel}=1.1%		
23	*Metallic Rockwell Hardness Testers	Hardness	Standard Test Methods for Rockwell Hardness and Rockwell Superficial	(80～88)HRA	U=0.6HRA		
				(85～95)HRB	U=0.8HRBw		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
			Hardness of Metallic Materials ASTM E18,Verification Regulation of Metallic Rockwell Hardness Testers(Scales A,B,C,D,E,F,G,H,K,N,T) JJG 112	(60～70)HRC	U=0.6HRC		
				(35～55)HRC	U=0.6HRC		
				(20～30)HRC	U=0.7HRC		
				(89～91)HR15N	U=0.7HR15N		
				(74～80)HR30N	U=0.7HR30N		
				(42～54)HR30N	U=0.9HR30N		
				(32～61)HR45N	U=0.9HR45N		
				(88～93)HR15T	U=1.2HR15TW		
				(70～82)HR30T	U=1.2HR30TW		
				(55～72)HR45T	U=1.7HR45TW		
		Force		（10kgf～150kgf）(100～1500) N	U_{rel}=0.3%		
		Depth		（0～1）mm	U=0.6 μ m		
		Angle		0～180°	U=0.03°		
		Size		（0～1）mm	U=6 μ m		
		Time		（1～60）s	U_{rel}=1.0%		
24	Standard Dynamometers	force	Verification Regulation of Standard Dynamometers JJG 144	0.1N～10N	U_{rel}=0.06%		
				10N～10kN	U_{rel}=0.03%		
				10kN～1MN	U_{rel}=0.06%		
25	*Calibration	torque	Verification Regulation of	（0.02～10）Nm	U_{rel}=0.8%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Instrument for Torque Wrenches		Calibration Instrument for Torque Wrenches JJG 797	（10～3000）Nm	U_{rel}=0.9%		
26	*Torsion Testing Machines	torque	Verification Regulation of Torsion Testing Machines JJG 269	（0.02～3000）Nm	U_{rel}=0.5%		
				（3000～10000）Nm	U_{rel}=0.7%		
		angle		0.1°～1080°	U_{rel}=0.5%		
27	*Analogue Indicating Weighing Instruments	Weight	Verification Regulation of Analogue Indicating Weighing Instruments JJG 13	（0.2～8）kg	U=（3.3～3.7）g		
28	*Non-self-indicating Weighing Instruments	Weight	Verification Regulation of Non-self-indicating Weighing Instruments JJG 14	(0.04～3)kg	U=(0.5 ～0.6)g		
				(0.1～5)kg	U=(0.5 ～0.6)g		
				(0.1～10)kg	U=(0.5 ～0.8)g		
				(1～100)kg	U=(6～11)g		
				(4～300)kg	U=(21～38)g		
				(4～500)kg	U=(21～59)g		
				(10～1000)kg	U=(0.05～0.12)kg		
				(20～2000)kg	U=(0.05～0.24)kg		
				(20～3000)kg	U=(0.05～0.42)kg		
				(40～5000)kg	U=(0.1～0.6)kg		
				(5～10000)kg	U=(0.2～1.4)kg		
				(200～30000) kg	U=(0.4～4.5)kg		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(400～60000) kg	U=U=(2.9～12)kg		
29	*Digital Indicating Weighing Instruments	Weight	Verification Regulation of Digital Indicating Weighing Instruments JJG 539	(2～300)g	U=(10～30) mg		
				(2～500)g	U=(10～40) mg		
				(2～1000)g	U=(10～60) mg		
				(0.02～3)kg	U=(0.3～0.4)g		
				(0.04～6)kg	U=(0.3～0.9)g		
				(0.1～15)kg	U=(1.2～1.5)g		
				(0.2～30)kg	U=(3～4)g		
				(0.4～60)kg	U=(6～7)g		
				(1～150)kg	U=(6～10)g		
				(2～300)kg	U=(20～40)g		
				(2～500)kg	U=(20～50)g		
				(4～1000)kg	U=(0.07 ～0.13)kg		
				(10～2000)kg	U=(0.1～0.4)kg		
				(20～3000)kg	U=(0.1～0.5)kg		
				(20～5000)kg	U=(0.1～0.6)kg		
				(200～10000) kg	U=(2～3)kg		
				(200～20000) kg	U=(2～4) kg		
				(200～30000) kg	U=(2～5) kg		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(400～60000) kg	U=(3～11)kg		
				(400～80000) kg	U=(3～12)kg		
				(400～100000) kg	U=(3～14)kg		
30	*Automatic Gravimetric Filling Instruments	Weight	Verification Regulation of Automatic Gravimetric Filling Instruments JJG 564	X（0.1）Class，（0.01～200）kg	U_{rel}=(0.25～0.02)%		
				X（0.2）Class，（0.01～200）kg	U_{rel}=(0.25～0.02)%		
				X（0.5）Class，（0.01～200）kg	U_{rel}=(0.26～0.03)%		
				X（1）Class，（0.01～200）kg	U_{rel}=(0.27～0.06)%		
				X（2）Class，（0.01～200）kg	U_{rel}=(0.30～0.12)%		
31	*Quantitative Filling Machine for Liquid Material	Weight	Verification Regulation of Quantitative Filling Machine for Liquid Material JJG 687	（50～32000）g	U_{rel}=(1.2～0.01)%	use the weighing method to verify the volume of the filling machine	
				（32～150）kg	U_{rel}=(0.20～0.08)%		
		Volume		（50～32000）mL	U_{rel}=（1.2～0.04）%		
				（32～150）L	U_{rel}=（0.28～0.10）%		
32	*Precise Pressure Gauges	pressure	Verification Ragulation of Elastic Element Precise Pressure Gauges and Vacuum Gauges JJG49	（-0.1～0.01）MPa	U=(0.08～0.13)%FS		
				（0.01～250）MPa	U=（0.08～0.13）%FS		
33	*Elastic Element Pressure Gauges，Pressure-Vacuum Gauges and	pressure	Verification Ragulation of Elastic Element Pressure Gauges,Pressure-Wacuum Gauges and Vacuum Gauges for General Use JJG52	（-0.1～0.01）MPa	U=0.34%FS		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Vacuum Gauges for General Use			（0.01～250）MPa	U=0.34%FS		
34	*Digital Pressure Gauges	pressure	Verification Ragulation of Digital Pressure Gauges JJG875	（-0.1～0.01）MPa	U=(0.01～0.07)%FS		
				（0.01～250）MPa	U=(0.01～0.07)%FS		
35	*Pressure Regulators with Bourdon Tube Pressure Gauge	pressure	Calibration Specification for Pressure Regulators with Bourdon Tube Pressure Gauge JJF1328	0.005MPa～25MPa	U_{rel}=1%		
36	*Pressure Controllers	pressure	Verification Ragulation of Pressure Controllers JJG544	（-0.1～0.01）MPa	U=0.12%FS		
				（0.01～60）MPa	U=0.12%FS		
37	*Pressure Transmitter	pressure	Verification Ragulation of the Pressure Transmitter JJG882	（-0.1～0.01）MPa	U=0.02%FS		
				（0.01～250）MPa	U=0.02%FS		
38	Industrial Thermal Conductivity Vacuum Gauges	Vacuum	Calibration Specification of Industrial Thermal Conductivity Vacuum Gauges JJF1050	（2.0×10^{-1}～1.0×10^{5}）Pa	U_{rel}=4%		
39	Channel Reference Leaks	Flow	calibration specification of channel reference leaks SQI/JL-JF-40	（0.1～60）mL/min	U_{rel}=3%		
40	Working Dynamometers	force	Verification Regulation of Working Dynamometers JJG455	1.96mN～2000kN	U_{rel}=0.2%		
41	*Dedicated work force measuring machine	force	Calibration specification for dedicated working dynamometer JJF 1134	0.1N～2000kN	U_{rel}=0.4%		
42	*electronic universal testing machine	force	Verification Regulation of Electronic Universal Testing Machine JJG475	9.8 μ N～500kN	U_{rel}=0.18%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				500kN～2000kN	U_{rel}=0.50%		
				2000kN～10000kN	U_{rel}=0.50%		
		concentricity		（0.1～40）mm	U=0.021mm		
		Displacement		(0～1000)mm	U=(8～14) μm		
		speed		(0.001～100)mm/s	U_{rel}=0.2%		
43	*Tension , Compression and Universal Testing Machine	force	Verification Regulation of Tension , Compression and Universal Testing Machines JJG139	9.8 μN～500kN	U_{rel}=0.18%		
				500kN～2000kN	U_{rel}=0.50%		
				2000kN～10000kN	U_{rel}=0.50%		
		Displacement		0.1mm～0.3mm	U=0.72 μm		
				0.3mm～800mm	U_{rel}=0.2%		
		Concentricity		（0.1～40）mm	U=0.021mm		
44	*Material Testing Machine	force	Standard Practices for Force Calibration and Verification of Testing Machines ASTM E4	0.1N～2000kN	U_{rel}=0.4%		
45	*Material Testing Machine	displacement	Standard Practices for Verification of Displacement Measuring Systems and Devices Used in Material Testing Machines ASTM E2309/E2309M	(0.001～750)mm	U=0.06mm		
				(750～1000)mm	U=0.78mm		
				(1000～2000)mm	U=0.80mm		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
46	*Testing Machine(Alignment)	Alignment	Standard Practice for Verification of Testing Frame and Specimen Alignment Under Tensile and Compressive Axial Force Application ASTM E1012	(0.001～2450)μm/m	U_{rel}=1.4%		
47	*material testing machine	speed	Standard Practices for Verification of Speed for Material Testing Machines ASTM E2658	(0.001～100)mm/s	U_{rel}=0.2%		
48	*Electric-hydraulic Servo Universal Test Machine	force	Verification regulation of electro hydraulic servo universal testing machine JJG 1063	9.8μN～500kN	U_{rel}=0.18%		
				500kN～2000kN	U_{rel}=0.50%		
				2000kN～3000kN	U_{rel}=0.50%		
		concentricity		（0.1～40）mm	U=0.021mm		
		Displacement		0.1mm～0.3mm	U=0.72μm		
				0.3mm～800mm	U_{rel}=0.2%		
49	*Static uniaxial testing machine	force	Metallic materials-Verification of static uniaxial testing machines-Part1 Tensioncompression testing machines-Verification and calibration of the force-measuring system ISO 7500-1	1.96mN～2000kN	U_{rel}=0.4%		
		concentricity		（0.1～40）mm	U=0.021mm		
50	*high temperature creep and endurance strength	force	Verification regulation of high temperature creep and endurance strength testing	0.1N～2000kN	U_{rel}=0.4%		
		Temperature		(-80～200)℃	U=0.3℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	testing machine		machine JJG 276	(200～300)℃	U=0.6℃		
				(300～500)℃	U=1.2℃		
				(500～1100)℃	U=2.1℃		
		concentricity		（0.1～40）mm	U=0.021mm		
		Extensometer		（0.01～50）mm	U_{rel}=0.2%		
		Time		（1～3600）s	U=0.13s		
51	*Fatigue Testing Machines	force	Axial Force Fatigue Testing Machines JJG 556,Standard Practice for Verification of Constant Amplitude Dynamic Forces in an Axial Fatigue Testing System ASTM E467	（0.5N～100kN）	U_{rel}=0.4%		
		concentricity		（0.1～40）mm	U=0.021mm		
52	Torque Wrenches	torque	Verification Regulation of Torque Wrenches JJG707	0.06Nm～6Nm	U_{rel}=2%		
				2Nm～3000Nm	U_{rel}=0.9%		
53	*Metal Brielle Hardness Tester	Hardness	Verification Regulation of Metal Brielle Hardness Tester JJG150	(50～125)HBW	U_{rel}=1.9%		
				(125～225)HBW	U_{rel}=1.4%		
				(225～650)HBW	U_{rel}=1.2%		
54	*Metal Rockwell Hardness Tests	Hardness	Verification Regulation of Metal Rockwell Hardness Tests(A、B、C、D、E、F、G、H、R、N、T Scale) JJG112	(20～95)HRA，HRB，HRC	U=(0.6～0.8)HR		
				（32～91）HRN（34～93）HRT	U=(0.7～0.9)HRNU=(1.2～1.7)HRTw		
		Force		(9.8～1571)N	U_{rel}=0.3%		
		Length		（0～4） μm	U=0.6 μm		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Angle		（0～150）°	U=0.03°		
55	Leeb Hardness Tester	Hardness	Verification Regulation of Leeb Hardness Tester JJG747	（330～890）HLD	U=8HLD		
56	*Metal Vickers Hardness Tester	Hardness	Verification Regulation of Metal Vickers Hardness Tester JJG151	HV5～HV100，(50～225)HV	U_{rel}=2.7%		
				HV5～HV100，(225～1000)HV	U_{rel}=2.0%		
				HV0.2～HV5，(50～225)HV	U_{rel}=5.3%		
				HV0.2～HV5，(225～1000)HV	U_{rel}=4.0%		
				HV0.05～HV0.2，(50～225)HV	U_{rel}=5.1%		
				HV0.05 ～HV0.2，(225～1000)HV	U_{rel}=6.0%		
57	Shore A Durometers	Hardness	Verification Regulation of Shore A Durometers JJG304	(0～100) HA	U=0.2HA		
		Force		（0.1～50）N	U_{rel}=0.2%		
		Length		(0～10)mm	U=5 μ m		
		Angle		(10～40)°	U=0.04°		
58	*Hydraulic Vibration Testing System	Frequency	Verification Regulation of Hydraulic Vibration Testing System JJG 638	（0.1～2000）Hz	U_{rel}=0.012%		
		Displacement		（0.1～50）mm （0.1～10k）Hz	U_{rel}=3%		
		acceleration		（0.05～1000）m/s² （0.1～10k）Hz	U_{rel}=3%		
		Velocity		（0.01～20）m/s （0.1～10k）Hz	U_{rel}=1.1%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
59	*Metallic Webster Hardness Testing Machines	Hardness	Verification Regulation for Metallic Webster Hardness Testing Machines JJG 944	（5～18）HW	U=0.3HW		
		Length		（0.02～1）mm	U=4 μ m		
		Angle		（0～180）°	U=0.03°		
		Size		（0.02～50）mm	U=6 μ m		
60	*Mechanical Vibration Generator for Testing	Frequency	Verification Regulation of Mechanical Vibration Generator for Testing JJG189	(10~200)Hz	U=0.6Hz		
		Displacement		(1～50)mm (0.1～200)Hz	U_{rel}=3%		
		acceleration		（0.5～1000）m/s^2(0.1～200)Hz	U_{rel}=3%		
61	*Microhardness Testing Machine in International Rubber Hardness Degree	Length	Verification Regulation for Microhardness Testing Machine in International Rubber Hardness Degree JJG 898	（0～10）mm	U=6 μ m		
		Hardness		(30～85)IRHD	U=1.3IRHD		
		Force		0.2mN～10N	U_{rel}=0.2%		
62	*Plastic Ball Indentation Hardness Testing Machine	Force	Verification Regulation for Plastic Ball Indentation Hardness Testing Machine JJG 369	（4.9～961）N	U_{rel}=0.3%		
		Size		（0～15）mm	U=6 μ m		
		Depth		（0～1）mm	U=0.6 μ m		
		Time		（1～120）s	U_{rel}=1.0%		
63	Piezoelectric Accelerometer	acceleration	Verification Regulation of Piezoelectric Accelerometer JJG233	（0.02～100)m/s^2（0.2～1k）Hz	U_{rel}=1.1%		
				（2～100)m/s^2（1k～2k）Hz	U_{rel}=2.0%		
				（100～20000)m/s^2（2k～10k）Hz	U_{rel}=3.0%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				（20000～100000)m/s^2 （5k～10k）Hz	U_{rel}=5.0%		
64	*Plastic Rock Well Hardness Testing Machine	Hardness	Verification Regulation for Plastic Rock Well Hardness Testing Machine JJG 884	(70～94)HRE	U=1.1HRE		
				(100～120)HRL	U=0.6HRL		
				(85～110)HRM	U=0.8HRM		
				(114～125)HRR	U=0.7HRR		
		Force		（50～2000）N	U_{rel}=0.3%		
		Depth		（0～1）mm	U=0.6 μ m		
		Size		（0～800）mm	U=6 μ m		
		Time		（1～3600）s	U_{rel}=1.0%		
65	*Verification Regulation of Vibration Meters	acceleration	Verification Regulation of Measuring Vibration Instruments JJG676	(2～100000)m/s^2（0.2～10k）Hz	U_{rel}=3.0%～5.0%		
		velocity		(0～20)m/s （0.2～10k）Hz	U_{rel}=1.1%～3.0%		
		displacement		(0.002～1000)mm （0.2～10k）Hz	U_{rel}=1.4%～3.0%		
66	*Pencil Hardness Testers	Mass	Calibration Specification for Pencil Hardness Testers JJF(石化）007	（0.1～1000）g	U=0.02g		
				（1000～2000）g	U=0.13g		
		Angle		（0～90）°	U=0.02°		
67	*Electrodynamic vibration testing systems	Frequency	Verification Regulation of Electrodynamic Vibration Testing System JJG 948	（0.1～2000）Hz	U_{rel}=0.012%		
		Displacement		（1～50）mm （0.1～10k）Hz	U_{rel}=3%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		acceleration		（0.05～1000）m/s^2 （0.1～10k）Hz	U_{rel}=3%		
68	Metallic Rockwell Hardness Reference Blocks	Hardness	Verification Regulation of Metallic Rockwell Hardness Reference Blocks (Scales A,B,C,D,E,F,G,H,K,N,T) JJG 113	（20～88）HRA	U=0.56 HRA		
				（85～100）HRB	U=0.56HRB		
				（20～30）HRC	U=0.56HRC		
				（35～55）HRC	U=0.56HRC		
				（60～70）HRC	U=0.56HRC		
				（70～91）HR15N	U=0.84HR15N		
				（42～80）HR30N	U=0.84HR30N		
				（73～93）HR15T	U=0.84HR15T		
				（82～82）HR30T	U=0.84HR30T		
				（55～72）HR45T	U=0.84 HR45T		
				（32～61）HR45N	U=0.84HR45N		
69	*Bump Testing Machines	acceleration	Verification Regulation of Shock and Bump Testing Machines JJG 1174	（100～5000） m/s^2	U_{rel}=4%		
		Pulse width		（0.05～240）ms	U_{rel}=0.8%		
70	Aneroid Barometer	Pressure	Verification Regulation of Aneroid Barometer and Aneroid Barograph JJG 272	（500～1060）hPa	U=0.4hPa		
71	Digital Barometers	Pressure	Verification Regulation of Digital Barometers JJG1084	（100～1200）hPa	U=0.12hPa		
72	Multi-Component	Force	Calibration Specification for Multi-component Force Transducer JJF1560	0.1N～1MN	U_{rel}=0.05%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
73	*Laser Vibrometers	Frequency	Calibration Specification for Laser Vibrometers JJF 1219	(0.1～200k)Hz	U_{rel}=3.4×10^{-5}		
		Voltage		10mV～10V (0.1～200k)Hz	U_{rel}=0.4%		
		acceleration		(0.1～100000) m/s^2(0.1～200k)Hz	U_{rel}=0.5%		
74	*Temperature/Humidity/Vibration Combined Environmental Testing System	acceleration	Calibration Specification for Temperature/Humidity/Vibration Combined Environmental Testing System JJF1270	（0.5～1000）m/s^2,(20Hz～2000Hz)	U_{rel}=3%		
		Temperature		（-75～200）℃	U=0.3℃		
		Humidity		（10～90）%RH	U=1.2%RH		
		Heating rate		（0.5～60）℃/min	U=（0.12～0.38）℃/min		
		The wind speed		（0.5～20）m/s	U=（0.08～0.60）m/s		
		Dew point temperature		(-20～20)℃DP	U=0.2℃DP		
75	*Impact Testing Machine	Energy	Verification Regulation of Pendulum Impact Testing Machines JJG145	(0.25～750)J	U_{rel}=0.8%		
		Distance		(0～0.5)mm	U=6μm		
		Center Distance		(50～1000)mm	U_{rel}=0.15%		
		Force		（1～10000）N	U_{rel}=0.4%		
		Size		（0～150）mm	U=0.04mm		
		Angle		（0.1～180）°	U_{rel}=0.1%		
76	*Electric and Pneumatic Torque Wrenches	Torque	Calibration Specification for Electric and Pneumatic Torque Wrenches JJF1610	（0.1～3000）Nm	U_{rel}=1.5%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
77	Dynamic Force Sensors	Static force value	Verification Regulation of Dynamic Force Sensors JJG632	10N～1000kN	U_{rel}=0.4%		
		Dynamic force value		10N～1000kN（0.1Hz～200kHz）	U_{rel}=0.6%～2.0%		
		Frequency		0.1Hz～200kHz	U_{rel}=0.01%		
78	Elevator Overspeed Governor Tester	speed	Calibration Specification for Elevator Overspeed Governor Testers JJF 1374	(0.1000～20.000)m/s	U_{rel}=0.03%～0.32%		
79	Vickers Hardness Refernce Blocks	Hardness	Verification Regulation for Vickers Hardness Refernce Blocks JJG148	（700～800）HV1	U_{rel}=1.4%		
				(700～800)HV0.5	U_{rel}=1.6%		
				(700～800)HV0.2	U_{rel}=2.3%～2.5%		
				(400～600)HV0.1	U_{rel}=2.5%		
				(175～225)HV0.05	U_{rel}=3.2%		
80	*standard vibrators	acceleration	standard vibrators JJG298	（0.1～1000）m/s^2 (0.1～10k)Hz	U_{rel}=3%		
		Frequency		(0.2～10k)Hz	U=2×10^{-4}Hz		
				(0.2～10k)Hz	U_{rel}=0.01 %		
81	*Buoy Type Oxygen Inhalers	Pressure	Verification Regulation of Buoy Type Oxygen Inhalers JJG 913	(0～25)MPa	U=0.17MPa		
		Flow		(1～10)L/min	U_{rel}=1.2%		
82	Engine Speed Meter	Rotational Speed	Calibration Specification for Motor Vehicle Engine Speed Measuring Instruments JJF1375	500r/min	U_{rel}=0.3%		
				(500～4500)r/min	U_{rel}=0.2%		
				(4500～6000)r/min	U_{rel}=0.1%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
83	*Syringe Pumps and Infusion Pumps	Flow	Calibration Specification for Syringe Pumps and Infusion Pumps JJF 1259	(5～20)mL/h	U_{rel}=2.5%		
				(20～200)mL/h	U_{rel}=1.2%		
				(200～1000)mL/h	U_{rel}=2.5%		
		Pressure		（0～200）kPa	U=2.4 kPa		
84	Positive Control of Drug Container－Closure Integrity Test（CCIT）	Leak Rate	Calibration Specification for Positive Control of Drug Container－Closure Integrity Test（CCIT） SQI/JL-JF-64	$(1.4\times10^{-5}$～$1.4\times10^{-3})$Pa·m³/s	U_{rel}=6.2%		
85	*Medical Suction Equiment	pressure	Calibration Specification of Medical Suction Equiment JJF 1810	（-0.095～0）MPa	U=0.001MPa		
86	Vacuum Helium Leaks	leak rate	Calibration Specification for Vacuum Helium Leaks JJF 1833	$（1.0\times10^{-10}$～1.0×10^{-4}）Pa·m³/s	U_{rel}=12%		
87	Gasoline Vapor Recovery Detectors	Flow-rate	Calibration Specification for Gasoline Vapor Recovery Detectors JJF 1948	（3.3～50）L/min	U_{rel}=0.8%		
		Time		（10～1800）s	U=1s		
		Pressure		(-5～5)kPa	U=3.4Pa		
88	*Electromagnetic Horizontal Vibration Generator for Testing	Frequency	Verification Regulation for Electromagnetic Horizontal Vibration Generator for Testing JJG 1000	（0.1～2000）Hz	U_{rel}=0.012%		
		Acceleration		（0.05～1000）m/s²	U_{rel}=3%		
		Displacement		（0.1～50）mm	U_{rel}=3%		
89	*Measuring instrumentations for strain gauge transducer	voltage ratio	Calibration specification for measuring instrumentations for strain gauge transducer JJF 1469	（-100～-0.1）mV/V	U_{rel}=0.0056%		
				（0.1～100）mV/V	U_{rel}=0.0056%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
90	*Medical Centrifuges	Speed	Calibration Specification for Medical Centrifuges JJF 2004	（20～30000）r/min	U_{rel}=0.1%		
		Time		（180～3600）s	U_{rel}=0.3%		
		Temperature		（-10～100）℃	U=0.3℃		
		Noise		（40～100）dB	U=3dB		
91	*Interfacial tensiometer	tension	CalibrationSpecificationforInterfaceTensiometer JJF1464	（10～1000）mN/m	U_{rel}=0.2%		
		Length		（0.09～1）mm	U_{rel}=0.01%		
				（1～100）mm	U_{rel}=0.2%		
92	*Spring hammers	Energy	Calibration specification for spring hammers JJF 1475	（0.2～0.5）J	U=0.004J		
				（0.5～1.5）J	U=0.01J		
				（1.5～2.0）J	U=0.02J		
三、Acoustics							
1	*Ultrasonic Flaw Detectors	Attenuation	V.R. for Ultrasonic Flaw Detectors JJG 746	0.5dB～20dB, (2.5MHz～10MHz)	U=0.2dB		
				20dB～50dB, (2.5MHz～10MHz)	U=0.3dB		
				50dB～81dB, (2.5MHz～10MHz)	U=0.5dB		
		Linearity of Horizon Display		2%～100% ,(2.5MHz～10MHz)	U=1.5%		
		Linearity of Vertical Display		5%～100%, (2.5MHz～10MHz)	U=1.6%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
2	Sound Level Meters	Sound Pressure Level	V.R.of Sound Level Meters JJG 188	Acoustic Signal: (30dB～114dB),10Hz～200Hz	U=0.5dB		
				Acoustic Signal: (30dB～124dB)，250Hz～1.25kHz	U=0.4dB		
				Acoustic Signal: (30dB～114dB),1.6kHz～10kHz	U=0.6dB		
				Acoustic Signal: (30dB～114dB),12.5kHz～20kHz	U=1.0dB		
				Steady State Electrical Signal:(1dB～140dB)，31.5Hz～8kHz	U=0.4dB		
				Burst Signal:(10～140)dB,(0.25ms～200ms)	U=0.2dB		
		Time-aver Sound Level		Steady State Electrical signal :(10~140)dB，4kHz	U=0.2dB		
				Burst Signal:(10～140)dB,4kHz,(0.25ms～200ms)	U=0.2dB		
		Attenuation Rate		F:(30～50)dB/s,4kHz	U=0.4dB/s		
				S:(3～6)dB/s,4kHz	U=0.2dB/s		
3	*Anechoic Rooms and Hemi-Anechoic Rooms	Sound Pressure Level	Calibration Specification for Acoustic Performance of Anechoic Rooms and Hemi-anechoic Rooms JJF 1147	Anechoic Rooms: (10～120)dB,20Hz～10kHz	U=0.8dB		
				Anechoic Rooms: (10～120)dB,10kHz～20kHz	U=1.2dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				Hemi-anechoic Rooms: (10～120)dB,20Hz～10kHz	U=1.0dB		
				Hemi-anechoic Rooms: (10～120)dB,10kHz～20kHz	U=1.5dB		
4	Sound Calibrator	Sound Pressure Level	V.R.of Sound Calibrator JJG 176	(94～124)dB,31.5Hz～16kHz	U=0.15dB		
		Frequency		31.5Hz～16kHz	U_{rel}=0.2%		
		Total distortion + noise		0.1% ～5.0% ,31.5Hz～16kHz	U=0.1%		
5	*Microphone Preamplifiers	Sound Pressure Level	Calibration specification for Microphone Preamplifiers JJF 1137	Frequency Response :120dB,10Hz～50kHz	U=0.3dB		
				Transmission Loss:120dB,10Hz～50kHz	U=0.1dB		
6	Noise Level Statistical Analyzers	Sound Pressure Level	Verification Regulation of Noise Level Statistical Analyzers JJG 778	Acoustic Signal: (30dB～114dB),10Hz～200Hz	U=0.5dB		
				Acoustic Signal: (30dB～124dB)，250Hz～1.25kHz	U=0.4dB		
				Acoustic Signal: (30dB～114dB),1.6kHz～10kHz	U=0.6dB		
				Acoustic Signal: (30dB～114dB),12.5kHz～20kHz	U=1.0dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				Steady State Electrical Signal:(1dB～140dB)，31.5Hz～8kHz	U=0.2dB		
				Burst Signal:(10～140)dB,4kHz,(0.25ms～200ms)	U=0.2dB		
		Attenuation Rate		F:(30～50)dB/s,4kHz	U=0.4dB/s		
				S:(3～6)dB/s,4kHz	U=0.2dB/s		
		Time-average Sound Level		Repetitive Burst Sound Signal：10~140)dB,(0.25~200)ms	U=0.2dB		
				Steady State Electrical signal:(10~140)dB，4kHz	U=0.2dB		
		Percentile Level		(5～140)dB,4kHz	U=0.3dB		
7	Working Standard Microphone	Sound Pressure Level	Verification regulation of Working Standard Microphones(Electrostatic Actuator Method) JJG 175	124dB，250Hz	U=0.17dB		
				(80～130)dB,20Hz～4kHz	U=0.20dB		
				(80～130)dB,5kHz～8kHz	U=0.30dB		
				(80～130)dB,10kHz～20kHz	U=0.50dB		
				124dB,25kHz～40kHz	U=0.70dB		
8	*Acoustic Performance of Reverberation Rooms	Reverberation Time	Calibration Specification for Acoustic Performance of Reverberation Rooms JJF 1143	1s～20s	U_{rel}=9%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Sound pressure Level		(10～130)dB,100Hz～8kHz	U=0.60dB		
9	*Ultrasonic Source for Medical Ultrasonic Diagnostic Equipment	Ultrasonic Power	Verification regulation ofUltrasonic Source for Medical Ultrasonic Diagnostic Equipment JJG 639	(10~100)mW	U_{rel}=11%		
10	*Audio - frequency Signal Generator	Voltage	V.R.of Audio-frequency Signal Generator JJG 607	1mV～10mV（10Hz～20kHz）	U_{rel}=0.3%		
				10mV～100V（10Hz～20kHz）	U_{rel}=1.3%		
		Frequency		10Hz～20kHz	U_{rel}=0.2%		
		Resistance		0.1 Ω ～10k Ω	U_{rel}=0.3%		
		THD		0.01%～0.05%.,(10Hz～20kHz）	U=0.006%		
				0.05%～0.1%,（10Hz～20kHz）	U=0.012%		
				0.1%～0.2%,（10Hz～20kHz）	U=0.024%		
		Attenuation		1dB～10dB，1kHz	U=0.03dB		
				10dB～80dB，1kHz	U=0.06dB		
11	*Audio-frequency power amplifier	Sound pressure level	Calibration specification for audio-frequency power amplifiers JJF 1200	Frequency response：(60～120)dB，(20Hz～20kHz)	U=0.3dB		
				Gain control：(1～100)dB，(20Hz～20kHz)	U=0.1dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				Maximum gain：(1～100)dB，(20Hz～20kHz)	U=0.1dB		
				Gain difference：(1～100)dB，(20Hz～20kHz)	U=0.1dB		
12	*Transducers of Ultrasonic Flaw Detector	Pulse duration	Calibration Specification for Transducers of Ultrasonic Flaw Detector JJF 1294	（25～6500）ns	U_{rel}=4.5%		
		Frequency		（0.5～15）MHz	U_{rel}=4%		
		Sound Pressure Level		（1～130）dB	U=0.4dB		
		Index point		（0.5～80）mm	U_{rel}=1.5%		
		Beam angle		35°～85°	U_{rel}=3%		
13	*Multi-channels sound analyzer	Frequency weighting and frequency response	calibration specification for multi-channels sound analyzers JJF 1288	Frequency weighting and frequency response:(1～140）dB，(10Hz～20kHz)	U=0.2dB		
				Level linearity:(1～140)dB，(10Hz～20kHz)	U=0.3dB		
				Burst response:(1～140）dB，(10～500)ms	U=0.2dB		
		Time-average Sound Level		Steady State Electrical signal and Repetitive Burst Sound Signal：(10～140）dB，4kHz，(10～500)ms	U=0.2dB		
		Time-weighting F and S		F:（20～50）dB/s,4kHz	U=0.1dB/s		
				S:(3～6)dB/s，4kHz	U=0.1dB/s		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Reverberation time		（0.75～22.5）s	U_{rel}=1.2%		
		The frequency of the output signal		(10Hz～20kHz)	U_{rel}=0.2%		
		Amplitude of the output signal		10mV～10V，(10Hz～20kHz)	U_{rel}=0.3%		
		White noise and pink noise output signal frequency band sound level		(20～140)dB，(20Hz～20kHz)	U=1.3dB		
四、Electromagnetism							
1	*Digital AC Electrical Parameters Meter	AC Votage	C.S. for Digital AC Electrical Parameters Meter JJF 1491	(1～1000)V (45～65)Hz	U_{rel}=0.05%		
		AC Current		(0.2～40)A (45～65)Hz	U_{rel}=0.05%		
		AC Power		(0.2～40000)W (45～65)Hz	U_{rel}=0.05%		
		Frequency		(45～65)Hz	U=0.003Hz		
		Phase（power factor）		0～360°（PF:0～1）	U=0.0010		
2	*Online Testers of Winding Temperature Rise	Resistance	Calibration Specification for Online Testers of Winding Temperature Rise JJF 1540	0.1Ω～10kΩ	U_{rel}=0.02%		
3	*DC Digital Voltmeter	DC Voltage	C.S. of Digital multimeter JJF 1587	20mV～200mV	U_{rel}=0.0012%	6.5 bits and above do not carry out	
				0.2V～2V	U_{rel}=0.0006%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				2V～20V	U_{rel}=0.0004%	field calibration	
				20V～200V	U_{rel}=0.0006%		
				200V～1000V	U_{rel}=0.0007%		
4	*Impluse Votage Testers for Winding Interturn Insulation	Peak Votage	C.S. for Impluse Votage Testers for Winding Interturn Insulation JJF 1691	(100～15000)V	U_{rel}=3%		
		Wave front time		10ns～100ms	U_{rel}=3%		
5	*DC Digital Amperemeter	DC Current	C.S. of Digital multimeter JJF 1587	20μA～200μA	U_{rel}=0.012%	6.5 bits and above do not carry out field calibration	
				0.2mA～2mA	U_{rel}=0.006%		
				2mA～20mA	U_{rel}=0.004%		
				20mA～200mA	U_{rel}=0.006%		
				0.2A～2A	U_{rel}=0.01%		
				2A～10A	U_{rel}=0.05%		
				10A～20A	U_{rel}=0.12%		
6	*Grow-wire Apparatus	Tempreture	C.S. for Grow-wire Apparatus JJF (ZE) 1050	(0～1000) ℃	U=1.0℃		
		Force value		(0.1～5)N	U=0.01N		
		Time		(5～3600)s	U=0.26s		
		length		(0.1～150)mm	U=(0.006～0.03)mm		
7	*DC Digital Ohmmeter	Resistance	C.S. of Digital multimeter JJF 1587	1Ω～10Ω	U_{rel}=0.0024%		
				10Ω～100Ω	U_{rel}=0.0012%		
				0.1kΩ～1kΩ	U_{rel}=0.001%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				1k Ω ～10k Ω	U_{rel}=0.001%		
				10k Ω ～100k Ω	U_{rel}=0.0012%		
				0.1M Ω ～1 M Ω	U_{rel}=0.0022%		
				1M Ω ～10M Ω	U_{rel}=0.0042%		
				10M Ω ～100M Ω	U_{rel}=0.03%		
8	*Reference Ballasts	Impedance	Calibration Specification for Reference Ballasts JJF 1502	1 Ω ～10k Ω	U_{rel}=0.1%		
		PF		（0～1）	U=0.0012		
9	*AC Digital Voltmeter	AC Votage	C.S. of Digital multimeter JJF 1587	20mV～200mV (40Hz～100kHz)	U_{rel}=0.02%	6.5 bits and above do not carry out field calibration	
				0.2V～2V(40Hz～100kHz)	U_{rel}=0.006%		
				2V～20V(40Hz～100kHz)	U_{rel}=0.006%		
				20V～200V(40Hz～100kHz)	U_{rel}=0.006%		
				200V～1000V(40Hz～30kHz)	U_{rel}=0.01%		
10	*Electrical Fast Transient/Burst Simulators	Voltage	Calibration Specification for Electrical Fast Transient/Burst Simulators JJF 1672	(0.1～4)kV	U_{rel}=3.4%		
		Rise Time		(0.5～20)ns	U_{rel}=4.4%		
		Pulse Duration		(20～1000)ns	U_{rel}=2.6%		
		Repetition Frequency		1kHz～2MHz	U_{rel}=2.6%		
		Pulse Group Duration		0.1 μs～300ms	U_{rel}=2.6%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Period		(240～360)ms	U_{rel}=2.6%		
11	*AC Digital Amperemeter	AC Current	C.S. of Digital multimeter JJF 1587	10mA～200mA(40Hz～10kHz)	U_{rel}=0.02%	6.5 bits and above do not carry out field calibration	
				0.2A～2A(40Hz～10kHz)	U_{rel}=0.03%		
				2A～10A(40Hz～10kHz)	U_{rel}=0.05%		
				10A～20A(45Hz～5kHz)	U_{rel}=0.2%		
12	Tesla meter	Magnetic field intensity	Calibration Specification of (1mT～2.5T) Magnetometers JJF 1832	（1～2000）mT	U_{rel}=0.08%		
13	*DC low resistance meters	Resistance	Verification Regulation of DC Low Resistance Meters JJG 837	10μΩ～1mΩ	U_{rel}=0.3%		
				1mΩ～10mΩ	U_{rel}=0.06%		
				10mΩ～1MΩ	U_{rel}=0.03%		
				1MΩ～10MΩ	U_{rel}=0.06%		
14	*Proof Tracking Index Tester	AC voltage	Calibration Specification for Proof Tracking Index Tester JJF(ZE) 1087	(10～600)V,(45～65)Hz	U_{rel}=0.28%		
		AC current		(0.1～10)A,(45～65)Hz	U_{rel}=0.3%		
		Force value		(0.1～5)N	U=0.01N		
		Time		(5～3600)s	U=0.26s		
		length		(0.1～150)mm	U=0.0052mm		
		angle		(1～320)°	U=0.2°		
15	*Multifunction Standard Sources	DC Votage	Calibration Specification for Multifunction Standard Sources JJF 1638	10mV～200mV	U_{rel}=0.0015%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				0.2V～10V	U_{rel}=0.0002%		
				10V～1000V	U_{rel}=0.0005%		
		DC Current		100 μA～20 A	U_{rel}=0.003%		
		DC Resistance		1 Ω～2 Ω	U_{rel}=0.0020%		
				2 Ω～20 Ω	U_{rel}=0.0012%		
				20 Ω～200 Ω	U_{rel}=0.0010%		
				0.2k Ω～2M Ω	U_{rel}=0.0012%		
				2M Ω～20M Ω	U_{rel}=0.0030%		
				20M Ω～100M Ω	U_{rel}=0.008%		
		AC Votage		10mV～20mV(50Hz～50kHz)	U_{rel}=0.035%		
				10mV～20mV(50kHz～100kHz)	U_{rel}=0.098%		
				20mV～0.5V(50Hz～20kHz)	U_{rel}=0.0060%		
				20mV～0.5V(20kHz～100kHz)	U_{rel}=0.020%		
				0.5V～60V(50Hz～1kHz)	U_{rel}=0.0028%		
				0.5V～60V(1kHz～20kHz)	U_{rel}=0.0025%		
				0.5V～60V(20kHz～100kHz)	U_{rel}=0.0090%		
				60V～1000V(50Hz～20kHz)	U_{rel}=0.0035%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				60V～1000V(20kHz～100kHz)	U_{rel}=0.0080%		
		AC Current		100μA ～1mA(50Hz～5kHz)	U_{rel}=0.06%		
				1mA～20A(50Hz～10kHz)	U_{rel}=0.0075%		
16	*AC Voltage Source	Frequency	Calibration Specification for Stable Character of AC Voltage Stable Source JJF(military) 85	40Hz～1kHz	U_{rel}=0.05%		
		Distortion		0.01%～30%	U=0.1%		
		Voltage		15V～1000V	U_{rel}=0.1%		
		Current		10mA～30A	U_{rel}=0.1%		
				30A～400A	U_{rel}=0.8%		
		Power		20W～3000W	U_{rel}=0.2%		
				3kW～240kW	U_{rel}=1.5%		
		Efficiency		(0.01%～120%),(20W～3000W)	U_{rel}=0.2%		
				(0.01%～120%),(3kW～240kW)	U_{rel}=1.5%		
		Input Power adjustment rate		(0.01%～100%),(15V～1000V)	U_{rel}=0.1%		
		Load adjustment rate		(0.01%～100%),(15V～1000V)	U_{rel}=0.1%		
		Output Voltage Stability		(0.01%～100%),(15V～1000V)	U_{rel}=0.1%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
17	*DC Electronic Loads	DC Voltage	Calibration Specification for DC Electronic Loads JJF 1462	0.1V～1000V	U_{rel}=0.01%		
		DC Current		1mA～20A	U_{rel}=0.02%		
				20A～500A	U_{rel}=0.12%		
		DC Resistance		0.1Ω～100kΩ	U_{rel}=0.03%		
		DC Power		1mW～30kW	U_{rel}=0.2%		
18	*Spark tester	Voltage	Verification procedure for test equipment of rubber plastic wire and cable Part10:Spark tester JB/T 4278.10	(1～20)kV(50Hz)	U_{rel}=1.2%		
19	*Wrist Strap/ Footwear Tester	Resistance	V.R. for High Insulation Resistance Meter JJG 690	0.1MΩ～10MΩ	U_{rel}=0.24%		
		Resistance		10MΩ～100MΩ	U_{rel}=1.2%		
20	*High Insulation Resistance Meter	Voltage	V.R. for High Insulation Resistance Meter JJG 690	(10～100)V	U_{rel}=0.04%		
				(100～1000)V	U_{rel}=0.60%		
		Resistance		1MΩ～10MΩ	U_{rel}=0.26%		
				10MΩ～100MΩ	U_{rel}=0.60%		
				100MΩ～1GΩ	U_{rel}=1.2%		
				1GΩ～10GΩ	U_{rel}=2.4%		
				10GΩ～100GΩ	U_{rel}=5.8%		
				100GΩ～1TΩ	U_{rel}=5.9%		
	*DC Standard		Calibration Specification for	10mV～200.0000mV	U=0.0008mV	6.5 bits and above do not	

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	(Generator)		Sources JJF 1638	200.0000mV～329.9999mV	U=0.0017mV	carry out field calibration	
				0.329999V～1.000000V	U=0.000004V		
				1.000000V～3.299999V	U=0.000015V		
				3.299999V～20.00000V	U=0.00007V		
				20.00000V～32.99999V	U=0.00020V		
				32.99999V～200.0000V	U=0.0010V		
				200.0000V～329.9999V	U=0.0030V		
				329.9999V～500.000V	U=0.004V		
				500.000V～1000.000V	U=0.006V		
22	*AC Standard Voltage Source (Generator)	AC Voltage	Calibration Specification for Multifunction Standard Sources JJF 1638	20mV～200mV (10Hz～40Hz)	U=0.015%Ux+0.004mV	6.5 bits and above do not carry out field calibration	
				0.2V～2V (10Hz～40Hz)	U=0.013%Ux+0.00002V		
				2V～20V (10Hz～40Hz)	U=0.013%Ux+0.0002V		
				20V～200V (10Hz～40Hz)	U=0.013%Ux+0.002V		
				200V～1000V（10Hz～40Hz）	U=0.013%Ux+0.02V		
				20mV～200mV (40Hz～100Hz)	U=0.012%Ux+0.004mV		
				0.2V～2V (40Hz～100Hz)	U=0.01%Ux+0.00002V		
				2V～20V (40Hz～100Hz)	U=0.01%Ux+ 0.0002V		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				20V～200V (40Hz～100Hz)	U=0.01%Ux+ 0.002V		
				200V～1000V (40Hz～100Hz)	U=0.01%Ux+ 0.02V		
				20mV～200mV (100Hz～2kHz)	U=0.012%Ux+ 0.002mV		
				0.2V～2V (100Hz～2kHz)	U=0.01%Ux+ 0.00002V		
				2V～20V (100Hz～2kHz)	U=0.01%Ux+ 0.0002V		
				20V～200V (100Hz～2kHz)	U=0.01%Ux+ 0.002V		
				200V～1000V (100Hz～2kHz)	U=0.01%Ux+0.02V		
				20mV～200mV (2kHz～10kHz)	U=0.014%Ux+0.004mV		
				0.2V～2V (2kHz～10kHz)	U=0.01%Ux+ 0.00002V		
				2V～20V (2kHz～10kHz)	U=0.01%Ux+ 0.0002V		
				20V～200V (2kHz～10kHz)	U=0.01%Ux+ 0.002V		
				200V～1000V (2kHz～10kHz)	U=0.01%Ux+ 0.02V		
				20mV～200mV (10kHz～30kHz)	U=0.014%Ux+0.004mV		
				0.2V～2V (10kHz～30kHz)	U=0.01%Ux+ 0.00002V		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				2V～20V (10kHz～30kHz)	U=0.01%Ux+ 0.0002V		
				20V～200V (10kHz～30kHz)	U=0.01%Ux+ 0.002V		
				200V～1000V (10kHz～30kHz)	U=0.01%Ux+ 0.02V		
				20mV～200mV (30kHz～100kHz)	U=0.075%Ux+ 0.02mV		
				0.2V～2V (30kHz～100kHz)	U=0.055%Ux+0.0002V		
				2V～20V (30kHz～100kHz)	U=0.055%Ux+0.002V		
				20V～200V (30kHz～100kHz)	U=0.055%Ux+0.02V		
				200V～1000V (30kHz～100kHz)	U=0.055%Ux+0.2V		
				0.2V～200V (100kHz～300kHz)	U=0.5%Ux		
				0.2V～200V (300kHz～1MHz)	U=2%Ux		
23	*DC Standard Current Source (Generator)	DC Current	Calibration Specification for Multifunction Standard Sources JJF 1638	20 μA～2.00000mA	U=0.00003mA	6.5 bits and above do not carry out field calibration	
				2.00000mA～3.29999mA	U=0.00008mA		
				3.29999mA～20.0000mA	U=0.0003mA		
				20.0000mA～32.9999mA	U=0.0022mA		
				32.9999mA～200.000mA	U=0.009mA		
				200.000mA～329.999mA	U=0.084mA		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				0.329999A～0.99999A	U=0.00009A		
				0.99999A～1.49999A	U=0.00022A		
				1.49999A～2.00000A	U=0.00043A		
				2.00000A～2.19999A	U=0.00143A		
				2.19999A～7.0000A	U=0.0036A		
				7.0000A～10.9999A	U=0.0053A		
				10.9999A～20.0000A	U=0.0092A		
24	*AC Standard Current Source (Generator)	AC Current	Calibration Specification for Multifunction Standard Sources JJF 1638	100 μA～200 μA (10Hz～2kHz)	U=0.026%Ix+ 0.02 μA	6.5 bits and above do not carry out field calibration	
				0.2mA～2mA (10Hz～2kHz)	U=0.026%Ix+ 0.2 μA		
				2mA～20mA (10Hz～2kHz)	U=0.026%Ix+ 0.002mA		
				20mA～200mA (10Hz～2kHz)	U=0.026%Ix+ 0.02mA		
				0.2A～2A (10Hz～2kHz)	U=0.062%Ix+ 0.0002A		
				2A～20A (10Hz～2kHz)	U=0.082%Ix+ 0.002A		
				100 μA～200 μA (2kHz～10kHz)	U=0.026%Ix+ 0.02 μA		
				0.2mA～2mA (2kHz～10kHz)	U=0.026%Ix+ 0.2 μA		
				2mA～20mA (2kHz～10kHz)	U=0.026%Ix+ 0.002mA		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				20mA～200mA (2kHz～10kHz)	U=0.026%Ix+ 0.02mA		
				0.2A～2A (2kHz～10kHz)	U=0.075%Ix+ 0.0002A		
				2A～20A (2kHz～10kHz)	U=0.3%Ix+0.002A		
				100μA～200μA (10kHz～30kHz)	U=0.062%Ix+0.01μA		
				0.2mA～2mA (10kHz～30kHz)	U=0.062%Ix+0.01μA		
				2mA～20mA (10kHz～30kHz)	U=0.062%Ix+0.01μA		
				20mA～200mA (10kHz～30kHz)	U=0.062%Ix+0.01μA		
25	Electrical Meters for Measuring Alternating-current Electrical Energy	Alternating-current Electrical Energy	Verification Regulation of Electrical Meters for Measuring Alternating-current Electrical Energy JJG 596	3×(57.7～380)V 3×(0.1～100)A (50Hz、60Hz)	U_{rel}=0.14%		
26	Electromechanial Meters for Measuring Alternating-current Electrical Energy	Alternating-current Electrical Energy	Verification Regulation of Electromechanial Meters for Measuring Alternating-current Electrical Energy JJG 307	3×(57.7～380)V 3×(0.1～100)A (50Hz、60Hz)	U_{rel}=0.2%		
27	*Earth Resistance Meters	Resistance	Earth Resistance Meters JJG 366	0.01Ω～11111.110Ω	U_{rel}=0.4%		
28	*Electrical Meters for Measuring Alternating-current Electrical Energy	Alternating-current Electrical Energy	Verification Regulation of Direct Meters at Place Of Installation JJG (HU)49	3×(57.7～380)V 3×(0.1～100)A (50Hz)	U_{rel}=0.14%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
29	*Electromechanial Meters for Measuring Alternating-current Electrical Energy	Alternating-current Electrical Energy	Verification Regulation of Direct Meters at Place Of Installation JJG (HU)49	3×(57.7～380)V 3×(0.1～100)A (50Hz)	U_{rel}=0.21%		
30	*Electronic Insulating Resistance Meters	Voltage	Verification Regulation of Electronic Insulating Resistance Meters JJG 1005	50V～10kV	U_{rel}=0.6%		
		Resistance		100Ω～10MΩ	U_{rel}=0.3%		
				10MΩ～100MΩ	U_{rel}=0.6%		
				100MΩ～1GΩ	U_{rel}=1.2%		
				1000MΩ～10GΩ	U_{rel}=2.4%		
				10GΩ～100GΩ	U_{rel}=6%		
31	*Clamp Ammeters	AC Current	Calibration Specification for Clamp Ammeters JJF 1075	0.1A～100A(45Hz～400Hz)	U_{rel}=0.05%		
				100A～1000A(45Hz～400Hz)	U_{rel}=0.6%		
				1000A～2000A(45Hz～400Hz)	U_{rel}=0.8%		
		DC Current		0.1A～100A	U_{rel}=0.05%		
				100A～1000A	U_{rel}=0.6%		
				1000A～2000A	U_{rel}=0.8%		
32	*Voltage meter	DC Voltage	V.R.of Ammeter, Voltmeter, Power meter and Ohmmeter JJG 124	10mV～1000V	U_{rel}=0.042%		
		AC Voltage		10mV～1000V (45Hz～65Hz)	U_{rel}=0.042%		
33	*Current meter	DC current	V.R.of Ammeter, Voltmeter, Power meter and Ohmmeter	（0.001～30）A	U_{rel}=0.044%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		AC current	JJG 124	（0.001～30）A (45Hz～65Hz)	U_{rel}=0.044%		
34	*Power meter	DC power	V.R.of Ammeter, Voltmeter, Power meter and Ohmmeter JJG 124	(0.3～15000)W	U_{rel}=0.065%		
		AC power		(0.3～15000)W (45Hz～65Hz)	U_{rel}=0.065%		
35	*Leakage current tester	DC Voltage	V.R. of Leakage Current Meter JJG 843	(10～300)V	U_{rel}=0.11%		
		AC Voltage		(10～300)V(45Hz～400Hz)	U_{rel}=0.11%		
		DC Leakage current		10 μA～200mA	U_{rel}=0.1%		
		AC Leakage current		10 μA～200mA(20Hz～45Hz）	U_{rel}=1.5%		
				10 μA～200mA(45Hz～400Hz）	U_{rel}=0.1%		
				20 μA～200mA(400Hz～100kHz）	U_{rel}=1.5%		
				20 μA～20mA，（100kHz～1MHz）	U_{rel}=1.5%		
		Dc resistance		（100～3000） Ω	U_{rel}=0.1%		
		Ac impedance		100Ω～20kΩ （20Hz～10kHz）	U_{rel}=0.2%		
				100Ω～20kΩ （10kHz～1MHz）	U_{rel}=0.4%		
36	*EARTH CONTINUITY TESTER	Current of Earth Continuity	V.R. of Earth Continuity Meter JJG 984	(1～60)A	U_{rel}=0.12%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Earth Continuity Resistance		(10～1000)m Ω	U_{rel}=0.24%		
		Time		10s～60min	U_{rel}=1.2%		
37	*Insulation resistance meter	resistance	V.R. of Megohm -meter JJG 622	100Ω～1MΩ	U_{rel}=2.0%		
				（1～100）MΩ	U_{rel}=2.4%		
				（100～1000）MΩ	U_{rel}=3%		
				（1～10）GΩ	U_{rel}=4%		
		DC Voltage		（100～2500）V	U_{rel}=1.2%		
38	*Withstanding Voltage Tester	DC Voltage	V.R.of Withstanding Voltage Testers JJG 795	VDC（0.5～15）kV	U_{rel}=0.34%		
		AC Voltage		VAC（0.5～15）kV（50Hz）	U_{rel}=0.58%		
		DC Current		IDC（0.5～199）mA	U_{rel}=0.58%		
		AC Current		IAC（0.5～199）mA（50Hz）	U_{rel}=1.2%		
		Time		1s～60min	U_{rel}=1.2%		
39	Current Transformer	The Ratio difference of current	V.R.of Current Transformer for measurement JJG 313	2000A/5A, Rated current 5%	U_{rel}=0.052%		
				2000A/5A, Rated current 20%	U_{rel}=0.026%		
				2000A/5A, Rated current 100%,120%	U_{rel}=0.017%		
		the phase difference of current		0～999.9’, Rated current 5%	U=1.9'		
				0～999.9’, Rated current 20%	U=1.0'		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				0～999.9′ , Rated current 100%,120%	U=0.7′		
40	Voltage Transformer	the Ratio difference of voltage	V.R.of Voltage Transformer for measurement JJG 314	10kV/100V, Rated voltage 20%	U_{rel}=0.033%		
				10kV/100V, Rated voltage 50%	U_{rel}=0.025%		
				10kV/100V, Rated voltage 80%,100%,120%	U_{rel}=0.017%		
		the phase difference of voltage		0～999.9′ , Rated voltage 20%	U=1.4′		
				0～999.9′ , Rated voltage 50%	U=1.0′		
				0～999.9′ , Rated voltage 80%,100%,120%	U=0.7′		
41	*Surface Resistance Tester	Resistance	Calibration specification for surface resistance tester JJF 1285	（0.001～10)MΩ	U_{rel}=0.46%		
				（10～100)MΩ	U_{rel}=0.7%		
				（100～1×10^3)MΩ	U_{rel}=1.2%		
				（1×10^3～1×10^4)MΩ	U_{rel}=2.3%		
				（1×10^4～1×10^5)MΩ	U_{rel}=5.8%		
				1×10^{6}MΩ	U_{rel}=2.3%		
		DC Voltage		(10～100)V	U_{rel}=0.1%		
				250V	U_{rel}=0.12%		
42	D.C. Resistance Box/D.C. Standard Resistors	Resistance	Verification Regulation of D.C.Resistance Box JJG 982,Verification Regulation	0.001 Ω ～2 Ω			
				2 Ω ～20 Ω	U=0.0008%Rx+0.000014 Ω		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
			of D.C.Standard Resistors JJG 166	20 Ω ～200 Ω	U=0.0008%Rx+0.00005 Ω		
				0.2k Ω ～2k Ω	U=0.0008%Rx+0.0000005k Ω		
				2k Ω ～20k Ω	U=0.0008%Rx+0.000005k Ω		
				20k Ω ～200k Ω	U=0.0008%Rx+0.00005k Ω		
				0.2M Ω ～2M Ω	U=0.0008%Rx+0.000001M Ω		
				2M Ω ～20M Ω	U=0.0011%Rx+0.0001M Ω		
				20M Ω ～200M Ω	U=0.004%Rx+0.01M Ω		
				0.2G Ω ～1G Ω	U=0.06%Rx+0.001G Ω		
				1G Ω ～2G Ω	U=1.0%Rx+0.01G Ω		
				2G Ω ～20G Ω	U=3%Rx+0.1G Ω		
				20G Ω ～100G Ω	U=6%Rx+0.1G Ω		
43	D.C.Potentiometers	DC voltage	Verification Regulation of D.C.Potentiometers JJG 123	10mV～13.11110V	U_{rel}=0.007%		
44	D.C.Bridges	resistance	Verification Regulation of D.C.Bridges JJG 125	1m Ω ～100m Ω	U_{rel}=0.59%		
				100m Ω ～1 Ω	U_{rel}=0.15%		
				1 Ω ～10 Ω	U_{rel}=0.059%		
				10 Ω ～100k Ω	U_{rel}=0.0016%		
45	*Magnetic Particle Flaw Detectors	Magnetization Current	C.S. for Magnetic Particle Flaw Detectors JJF 1273	（500～6000）A	U_{rel}=2.8%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
46	*AC Digital Power Meter	Power	V.R. of AC Digital Power Meter JJG 780	70V～300V，0.1A～2A，0.75～1.00，（45Hz～65Hz）	U_{rel}=0.025%	Level 0.1 and above do not carry out field calibration.	
				1V～1000V，0.001A～20A，0.50～1.00，（45Hz～65Hz）	U_{rel}=0.05%		
				1V～1000V，0.001A～20A，0.25～0.50，（45Hz～65Hz）	U_{rel}=0.07%		
47	High Voltage Electrostratic voltmete	Voltage	V.R.of High Voltage Electro-stratic voltmeter JJG 494	600V～30kV，（DC、45Hz～400Hz)	U_{rel}=0.3%		
48	*Harmonic Analysis System	Voltage Measure	Calibration Specification for Harmonious and Flicker Analysis System JJF 1205	1V～1000V(Fundamental Frequency:45Hz～65Hz)	U_{rel}=0.03%		
				1V～1000V(Fundamental Frequency:45Hz～65Hz)	U_{rel}=0.07%		
		Current Measure		0.001A～20A(Fundamental Frequency:45Hz～65Hz)	U_{rel}=0.05%		
				0.001A～20A(Fundamental Frequency:45Hz～65Hz)	U_{rel}=0.09%		
		Voltage		（0.1～1000）V	U_{rel}=0.1%		
		THD		（0.1～50）%（45Hz～800Hz）	U_{rel}=0.1%		
		peak factor		1.30～1.50	U_{rel}=3.3%		
		peak phase		(80～100)°	U_{rel}=3.0%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		resistance		(0.1～1) Ω	U_{rel}=0.15%		
		inductance		(0.05～0.5) Ω	U_{rel}=0.2%		
49	*Lightning Surge(Oscilla- tory waves)Test Signal Generator	Voltage	Electromagnetic compatibility -Testing and measurement techniques - Surge immunity test (6.2.3 calibration of generator, 6.4 calibration of CDN, A.2.3 calibration of generator, A.4 calibration of CDN) GB/T 17626.5,Electromagnetic compatibility-Testing and measurement techniques- Part 12:Ring wave immunity test GB/T 17626.12	1V～20kV	U_{rel}=3.3%		
		Current		1A～20kA	U_{rel}=3.3%		
		Time		10ns～10ms	U_{rel}=3%		
50	*Human body impedance simulation network	Input impedance	Methods of measurement of touch current and protective conductor current(Appendix K Network Performance and Calibration) GB/T12113	100 Ω～20k Ω （10Hz～10kHz）	U_{rel}=0.2%		
				100 Ω～20k Ω （10kHz～1MHz）	U_{rel}=0.4%		
		Input-output voltage		1mV～10V（10Hz～100kHz）	U_{rel}=0.2%		
				1mV～10V（100kHz～1MHz）	U_{rel}=1.1%		
51	*Electrical fast transient/burst	Voltage	Electromagnetic compatibility-Testing and measurement techniques-	1V～10kV	U_{rel}=4.4%		
		Rise Time		3ns～20ns	U_{rel}=6.2%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Time	Electrical fast transient/burst immunity test (6.2.3 Calibration of Electrical fast transient/burst generator, 6.3.2 Calibration of CDN, 6.4.2 Calibration of capacitive coupling clamp) GB/T 17626.4	20ns～1s	U_{rel}=1.4%		
52	Electrostatic discharge simulators	Current	C.S. for Electrostatic Discharge Simulators JJF 1397	1A～60A	U_{rel}=6%		
		Rise Time		0.5ns～1ms	U_{rel}=13%		
		Voltage		1V～30kV	U_{rel}=3.3%		
53	*Standard Capacitor	Capacitance	Verification Regulation of Standard Capacitors JJG 183	10pF～1 μF(1kHz)	U_{rel}=0.05%		
54	*Alternating Current Bridge (LCR Tester)	Resistance	V.R. of Alternating Current Bridge JJG 441	1mΩ(1kHz、100kHz)	U_{rel}=12%		
				10mΩ(1kHz、100kHz)	U_{rel}=3.0%		
				100mΩ(1kHz、100kHz)	U_{rel}=0.6%		
				1Ω、10Ω、100Ω、1kΩ、10kΩ、100kΩ (1kHz、100kHz)	U_{rel}=0.12%		
		Capacitance		1pF、10pF、100pF(1kHz)	U_{rel}=0.12%		
		Capacitance		0.001 μF、0.01 μF、0.1 μF、1 μF(1kHz)	U_{rel}=0.06%		
		Capacitance		0.1 μF～1 μF(100Hz)	U_{rel}=0.6%		
				1 μF～1mF(100Hz)	U_{rel}=2.3%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Inductance		0.0001H 、1H(1kHz)	U_{rel}=0.23%		
		Inductance		0.001H、0.01H、0.1H(1kHz)	U_{rel}=0.12%		
55	*Reference ballast	Impedac	Ballasts for tubular fluorescent lamps-Performace requirements Appendix C Reference ballast calibration GB/T 14044	1Ω～10kΩ	U_{rel}=0.1%		
		PF		0～1	U=0.0012		
56	*Power Frequency magnetic field Generator	Magnetic Field	Electromagnetic compatibility Testing and measurement techniques-Power Frequency magnetic field immunity test(part 6.) GB/T 17626.8	1μT～0.1mT	U_{rel}=4%		
		Current		(1～1000)A (16.7Hz～60Hz)	U_{rel}=1.5%		
		Coil factor		(0.4～3)/m	U_{rel}=4%		
57	*Pulse magnetic field Generator (include Damped oscillatory magnetic field)	Magnetic Field	Electromagnetic compatibility Testing and measurement techniques-Pulse magnetic field immunity test(part 6.) GB/T 17626.9,Electromagnetic compatibility Testing and measurement techniques-Damped oscillatory magnetic field immunity test(part 6.) GB/T 17626.10	1μT～0.1mT	U_{rel}=3.0%		
		Pulse Current		1A～20kA	U_{rel}=3.3%		
		Time		1ns～1s	U_{rel}=3%		
		Current		(1～1000)A	U_{rel}=1.5%		
		Coil factor		(0.4～3)/m	U_{rel}=4%		
58	*Resistance Strain Gauge Indicators	Resistance Strain	Verification Regulation of Resistance Strain Gauge Indicators JJG 623	(1～500) με	U=1 με		
				(500～1000) με	U=2 με		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(1000～2000) μ ε	U=3 μ ε		
				(2000～100000) μ ε	U_{rel}=0.15%		
59	*DC Stabilized Power Supplies	DC Voltage	Calibration Specification DC Stabilized Power Supplies JJF 1597	（0.01～1000）V	U_{rel}=0.03%		
		DC Current		（0.01～20）A	U_{rel}=0.08%		
				（20～500）A	U_{rel}=0.12%		
		load effect for DC Voltage power supplies		10mV～10V	U_{rel}=0.01%		
		load effect for DC Current power supplies		10 μ A～10A	U_{rel}=0.08%		
		source voltage effect for DC Voltage power supplies		10mV～10V	U_{rel}=0.01%		
		source voltage effect for DC Current power supplies		10 μ A～10A	U_{rel}=0.08%		
		PARD for DC Voltage power supplies		10mV～50V (20Hz～20MHz)	U_{rel}=0.03%		
		PARD for DC Current power supplies		200 μ A～10A (20Hz～20MHz)	U_{rel}=0.08%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				（10～50）A (20Hz～20MHz)	U_{rel}=0.12%		
60	*Clamp Earth Resistance Meter	Resistance	V.R.of Clamp Earth Resistance Meters JJG 1054	0.001 Ω ～0.01 Ω	U_{rel}=2%		
				0.01 Ω ～10k Ω	U_{rel}=0.3%		
61	*Process Calibrator	DC Votage(measure)	Calibration Specification for Process Calibrators JJF 1472	10mV～300V	U_{rel}=0.002%		
		DC Votage(measure)		100 μA～100mA	U_{rel}=0.02%		
		AC Votage(measure)		10mV～300V（10Hz～10kHz）	U_{rel}=0.03%		
		AC Votage(measure)		(0.1～200)mA（10Hz～10kHz）	U_{rel}=0.08%		
		Resistance(measure)		10 Ω～100 k Ω	U_{rel}=0.02%		
		Frequency(measure)		1Hz～500kHz	U_{rel}=0.008%		
		Temperature(thermocouple measure)		(-250～-100)℃	U=0.5℃		
				(-100～120)℃	U=0.2℃		
				(120～1000)℃	U=0.3℃		
				(1000～1700)℃	U=0.6℃		
		Temperature(thermal resistance measure)		(-200～400)℃	U=0.2℃		
				(400～850)℃	U=0.3℃		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		DC Votage(output)		0.1mV～100V	U_{rel}=0.002%		
		DC Current(output)		100μA～100mA	U_{rel}=0.008%		
		Resistance(output)		1Ω～100kΩ	U_{rel}=0.008%		
		Frequency(output)		1Hz～50kHz	U_{rel}=0.008%		
		Temperature(thermocouple output)		(-250～-100)℃	U=0.5℃		
				(-100～120)℃	U=0.2℃		
				(120～1000)℃	U=0.3℃		
				(1000～1800)℃	U=0.6℃		
		Temperature(thermal resistance output)		(-200～400)℃	U=0.1℃		
				(400～800)℃	U=0.2℃		
62	*Standard Inductor	Inductor	Verification Regulation of Standard Inductors JJG 726	100μH、1mH、10mH、100mH、1H（1kHz）	U_{rel}=0.05%		
63	*Dips Generator	Voltage	Calibration Specification for Dips Generator JJF（浙)1061	0.1V～1000V （DC、45Hz～400Hz）	U_{rel}=0.4%		
		Time		0.4ns～200s	U_{rel}=3%		
64	*Power quality test analyzer	Power	Verification code for power quality analyzer DL/T 1028	0.1mW～50kW （DC、40Hz～1kHz）	U_{rel}=0.05%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				50kW～25MW （DC、40Hz～1kHz）	U_{rel}=0.7%		
		Voltage		0.1V～1000V （DC、40Hz～1kHz）	U_{rel}=0.03%		
		Current		0.1mA～50A （DC、40Hz～1kHz）	U_{rel}=0.03%		
				50A～2500A （DC、40Hz～1kHz）	U_{rel}=0.6%		
		Frequency		40Hz～1kHz	U_{rel}=0.008%		
		Harmonious voltage content		(2～60 times): (0.01～20)% （DC、45Hz～65Hz）	U=0.03%		
		Harmonious current content		(2～60 times): (0.01～20)% （DC、45Hz～65Hz）	U=0.04%		
		Flicker		0.10～5.00 （DC、45Hz～65Hz）	U_{rel}=2%		
65	*Safety performance comprehensive tester	DC Voltage(Withstanding)	Electronic Insulating Resistance Meters JJG 1005,V.R.of Withstanding Voltage Testers JJG 795,V.R. of Leakage Current Meter JJG 843,V.R. of Earth Continuity Meter JJG 984	（0.5～20）kV	U_{rel}=0.4%		
		AC Voltage(Withstanding)		(0.5～20）kV （50Hz）	U_{rel}=0.6%		
		DC Current（Withstanding）		（0.1～199）mA	U_{rel}=0.6%		
		AC Current(Withstanding)		（0.1～199）mA （50Hz）	U_{rel}=1.2%		
		resistance(Insulation)		100Ω～10MΩ	U_{rel}=0.3%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				（10～100）M Ω	U_{rel}=0.6%		
				（100～1000）M Ω	U_{rel}=1.2%		
				（1～10）G Ω	U_{rel}=2.4%		
				（10～100）G Ω	U_{rel}=6%		
		Voltage (IR)		50V～20kV	U_{rel}=0.6%		
		DC Voltage (Leakage)		（10～300）V	U_{rel}=0.6%		
		AC Voltage (Leakage)		（10～300）V（50Hz～400Hz)	U_{rel}=0.6%		
		DC current(Leakage)		（0.1～199）mA	U_{rel}=0.5%		
		AC current(Leakage)		（0.1～199）mA(50Hz～400Hz）	U_{rel}=0.6%		
		Current （ Earth Continuity）		（1～60）A	U_{rel}=0.12%		
		Resistance （Earth Continuity）		(10～1000)m Ω	U_{rel}=0.24%		
		Time		10s～60min	U_{rel}=1.2%		
66	*Digital Multimeter	DC Voltage	C.S. of Digital multimeter JJF 1587	20 μ V～20mV	U_{rel}=0.03%		
				20mV～200mV	U_{rel}=0.003%		
				0.2V～2V	U_{rel}=0.0006%		
				2V～20V	U_{rel}=0.0004%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				20V～200V	U_{rel}=0.0006%		
				200V～1000V	U_{rel}=0.0007%		
		DC Current		10 μ A～200 μ A	U_{rel}=0.012%		
				0.2mA～2mA	U_{rel}=0.006%		
				2mA～20mA	U_{rel}=0.004%		
				20mA～200mA	U_{rel}=0.006%		
				0.2A～2A	U_{rel}=0.01%		
				2A～10A	U_{rel}=0.05%		
				>10A～100A	U_{rel}=0.08%		
		DC Resistance		1 Ω～10 Ω	U_{rel}=0.0024%		
				10 Ω～100 Ω	U_{rel}=0.0012%		
				0.1k Ω～1k Ω	U_{rel}=0.001%		
				1k Ω～10k Ω	U_{rel}=0.001%		
				10k Ω～100k Ω	U_{rel}=0.0012%		
				0.1M Ω～1 M Ω	U_{rel}=0.0022%		
				1M Ω～10M Ω	U_{rel}=0.005%		
				10M Ω～100 M Ω	U_{rel}=0.03%		
		AC Votage		20mV～200mV (40Hz～20kHz)	U_{rel}=0.02%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				20mV～200mV (20kHz～50kHz)	U_{rel}=0.03%		
				20mV～200mV (50kHz～100kHz)	U_{rel}=0.07%		
				0.2V～200V(40Hz～20kHz)	U_{rel}=0.006%		
				0.2V～200V(20kHz～50kHz)	U_{rel}=0.01%		
				0.2V～200V(50kHz～100kHz)	U_{rel}=0.02%		
				200V～1000V(40Hz～1kHz)	U_{rel}=0.01%		
				200V～1000V(1kHz～20kHz)	U_{rel}=0.02%		
				200V～1000V(20kHz～30kHz)	U_{rel}=0.1%		
		AC Current		40 μA～200mA(40Hz～1kHz)	U_{rel}=0.02%		
				40 μA～200mA(1kHz～5kHz)	U_{rel}=0.05%		
				40 μA～200mA(5kHz～10kHz)	U_{rel}=0.2%		
				0.2A～2A(40Hz～1kHz)	U_{rel}=0.03%		
				0.2A～2A(1kHz～5kHz)	U_{rel}=0.06%		
				0.2A～2A(5kHz～10kHz)	U_{rel}=0.8%		
				2A～10A(40Hz～1kHz)	U_{rel}=0.05%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				2A～10A(1kHz～5kHz)	U_{rel}=0.1%		
				2A～10A(5kHz～10kHz)	U_{rel}=0.4%		
				10A～100A(40Hz～1kHz)	U_{rel}=0.1%		
				10A～100A(1kHz～10kHz)	U_{rel}=0.6%		
67	*Industry Frequency Single-Phase Meter	Power Factor	V.R. for Industry Frequency Single-Phase Meter JJG 440	0～1	U=0.002		
		Phase		0～360°	U= 0.12°		
68	A.C. Resistance Boxes	resistance	Calibration Specification for A.C. Resistance Boxes JJF 1636	0.01 Ω ～0.1 Ω	U_{rel}=3.5%		
				0.1 Ω ～1 Ω	U_{rel}=0.38%		
				1 Ω ～100 Ω	U_{rel}=0.06%		
				100 Ω ～100000 Ω	U_{rel}=0.028%		
				100000 Ω ～10000000 Ω	U_{rel}=0.036%		
		time constant		1ns～100 μ s	U_{rel}=0.8%		
		residual resistance		1m Ω ～1 Ω	U_{rel}=0.01%		
		residual inductance		10 μ H～100 μ H	U_{rel}=0.2%		
69	*Durability test equipment for household appliances and lamps	DC Voltage	C.S for Durability test equipment for household appliances and lamps SQI/JL-JF-60	0.1V～1000V	U_{rel}=0.01%		
		AC Voltage		0.1V～1000V(40Hz～1kHz)	U_{rel}=0.02%		
		DC Current		10mA～30A	U_{rel}=0.06%		
				30A～2000A	U_{rel}=2%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		AC Current		10mA～30A(40Hz～1kHz)	U_{rel}=0.06%		
				30A～2000A(40Hz～1kHz)	U_{rel}=2%		
		impulse voltage		0.1kV～20kV	U_{rel}=3%		
		impulse current		10A～2000A	U_{rel}=2%		
		Power		1W～600kW	U_{rel}=0.1%		
		PF		0～1	U=0.002		
		rotate speed		(10～10000)r/min	U_{rel}=0.12%		
		time		1ms～24h	U=0.006s		
		temperature		(0～1000)℃	U=0.3℃		
		force		(0.1～500)N	U_{rel}=0.2%		
		size		(0.1～10000)mm	U=0.03mm		
70	*Energy consumption test equipment for refrigeration and washing appliances	voltage	Calibration Specification for Energy consumption test equipment for refrigeration and washing appliances SQI/JL-JF-61	0.01V～1000V	U_{rel}=0.05%		
		current		0.001A～80A	U_{rel}=0.05%		
		power		0.01W～80kW	U_{rel}=0.05%		
		frequency		40Hz～30kHz	U_{rel}=0.01%		
		PF		0～1	U=0.0006		
		THD		（0.1～20）%（50Hz～800Hz）	U=0.5%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		electric energy		0.01V～1000V; 0.001A～80A	U_{rel}=0.05%		
		PT100		(-189.3442～660.323)℃	U=0.2℃		
		thermocouple		(-189.3442～660.323)℃	U=0.4℃		
		pressure		(-0.1～60)MPa	U=0.2%FS		
		flow		0.001m³/h～40m³/h	U_{rel}=0.2%		
		temperature		(-25～100)℃	U=0.2℃		
		humidity		20%RH～100%RH	U=1%RH		
		wind speed		5m/s～25m/s	U_{rel}=1%		
		time		0.01s～24h	U_{rel}=0.1%		
		metering		1time～10000time	U=1 次		
		rotate speed		(20～33000）r/min	U_{rel}=0.02%		
71	*High-voltage withstand voltage tester	DC voltage	High-voltage withstand voltage tester JJG(军工) 18	(0.5～100)kV	U_{rel}=0.6%		
		AC voltage		(0.5～100)kV(45～400)Hz	U_{rel}=1.2%		
		DC current		(0.01～0.02)mA	U_{rel}=1.2%		
				(0.02～1000)mA	U_{rel}=0.6%		
		AC current		(0.01～0.02)mA(45～400)Hz	U_{rel}=1.2%		
				(0.02～1000)mA(45～400)Hz	U_{rel}=0.6%		
		time		(0.1～3600)s	U_{rel}=1.2%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
72	*Power Frequency A.C. Electrical Quantities Measuring Transducers	AC voltage	V.R.of Power Frequency A.C. Electrical Quantities Measuring Transducers JJG 126	0.1V～1000V(45Hz～65Hz)	U_{rel}=0.03%		
		AC current		0.2A～50A(45Hz～65Hz)	U_{rel}=0.03%		
				50A～2500A(45Hz～65Hz)	U_{rel}=0.6%		
		AC power		0.1W～50kW(0.1V～1000V, 0.2A～50A, 45Hz～65Hz)	U_{rel}=0.06%		
				5W～2.5MW(0.1V～1000V, 50A～2500A, 45Hz～65Hz)	U_{rel}=0.7%		
		Power Factor		0～1	U=0.001		
73	*Charge & Discharge of Battery Tester	DC Voltage	Calibration Specification for Charge&Discharge of Battery Tester JJF(军工）108	10mV～1000V	U_{rel}=0.01%		
		DC Current		10μA～20A	U_{rel}=0.02%		
				20A～500A	U_{rel}=0.15%		
				500A～2000A	U_{rel}=0.5%		
		Resistance		0.1Ω～100Ω	U_{rel}=0.4%		
				100Ω～1kΩ	U_{rel}=0.04%		
		Power		10mW～200W(1V～10V, 10mA～20A）	U_{rel}=0.04%		
				200W～10kW(1V～1000V, 20A～2000A）	U_{rel}=0.5%		
		Capability		0.1Ah～10Ah	U_{rel}=0.06%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				10Ah～1kAh	U_{rel}=0.6%		
		Rise time		1μs～10ms	U_{rel}=4%		
		temperature		-20℃～100℃	U=0.2℃		
74	Coil Number Testing Instructing	Coil Number	Calibration Specification for Coil Number Testing Instrument JJF(浙）1065	(10～500)Coil Number	U=1Coil Number		
				(1000～2000)Coil Number	U=3Coil Number		
				(3000～5000)Coil Number	U=4Coil Number		
				(6000～7000)Coil Number	U=5Coil Number		
				(7000～8000)Coil Number	U=6Coil Number		
				10000 Coil Number	U=7Coil Number		
75	*AC Charging Spot for Electric Vehicles	Electic energy	V.R.of AC Charging Spot for Electric Vehicles(for Trial Implementation) JJG 1148	3×220V，3×(0.1A～60)A，0.5C～1.0～0.5L	U_{rel}=0.2%		
76	*Off-board Charger for Electric Vehicles	Electic energy	V.R.of Off-board Charger for Electric Vehicles(forTrial Implementation) JJG 1149	150V～1000V, 2.5A～250A	U_{rel}=0.2%		
77	DC shunt	resistance	Verification Regulation ofDC shunts JJG 1069	(0.0001～10)Ω (Testing Current≤5000A)	U_{rel}=0.06%	DC standard source method	
				(0.00001～0.0001)Ω (Testing Current≤5000A)	U_{rel}=0.1%		
				(0.000001～0.00001)Ω (Testing Current≤5000A)	U_{rel}=0.12%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
78	*Damped oscillatory wave generator	short circuit current	Electromagnetic compatibility—Testing and measurement techniques—Damped oscillatory wave immunity test GB/T 17626.18	(1～80)A	U_{rel}=3.5%		
		open circuit voltage		(0.2～4)kV	U_{rel}=3.7%		
		Time		10ns～10s	U_{rel}=3.1%		
		Frequency		1Hz～50MHz	U_{rel}=3.1%		
79	*Loop Resistance Tester and DC Resistance Meters	Resistance	Verification Regulation of Loop Resistance Tester and DC Resistance Meters JJG 1052	10μΩ～1mΩ	U_{rel}=0.12%		
				1mΩ～600mΩ	U_{rel}=0.06%		
		Current		1A～600A	U_{rel}=0.13%		
80	*Battery Internal Resistance Testers	Resistance	Calibration Specification for Battery Internal Resistance Testers JJF 1620	1mΩ～10mΩ	U_{rel}=0.2%		
				10mΩ～3kΩ	U_{rel}=0.06%		
		Voltage		±(0.1～800)V	U_{rel}=0.003%		
81	*Moment Disconnection Tester	Resistance	Calibration Specification for Moment Disconnection Tester JJF (军工) 198	1Ω～5kΩ	U_{rel}=1.3%		
		DC Voltage		3V～30V	U_{rel}=0.7%		
		DC Electric current		10mA～1A	U_{rel}=0.7%		
		Time		0.01μs～100μs	U_{rel}=0.6%		
82	*Roadvehicles-Electrical Transient Conduction Disturbance Simulators	DC Voltage	Calibration Specification of Road vehicles-Electrical Transient Conduction Disturbance Simulators JJF(电子) 00019	(10～60)V	U_{rel}=0.6%		
		Pulse voltage		P1,P2,P4,P5:(0.1～700)V	U_{rel}=3.2%		
				P3:(0.1～250)V	U_{rel}=4.6%		
		Time		(0.5～20)ns	U_{rel}=4.4%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				20ns～2s	U_{rel}=3.2%		
83	*Standard AC Power Source	AC Power	Verification Regulation forStandard AC Power Source JJG (军工)6	5W～30kW，(10Hz～10kHz)	U_{rel}=0.06%		
		AC Voltage		10mV～200V，(10Hz～40Hz)	U_{rel}=0.02%		
				10mV～200V，(40Hz～10kHz)	U_{rel}=0.013%		
				200V～1000V，(10Hz～10kHz)	U_{rel}=0.015%		
		AC current		1mA～100A，(10Hz～40Hz)	U_{rel}=0.02%		
				1mA～100A，(40Hz～10kHz)	U_{rel}=0.015%		
		Phase		(-120～180)°	U=0.02°		
		Frequency		10Hz～10kHz	U_{rel}=0.06%		
84	*Test Devices for Action Characteristics of Low Voltage Circuit Breakers	current	Calibration Specification for Test Devices for Action Characteristics of Low Voltage Circuit Breakers JJF 1799	1A～2kA	U_{rel}=0.14%		
				2kA～10kA	U_{rel}=0.4%		
				10kA～40kA	U_{rel}=3.2%		
				40kA～90kA	U_{rel}=6.2%		
		time		1ms～1s	U_{rel}=2%		
				1s～1h	U_{rel}=0.3%		
85	*Impulse Current Tester	current	Calibration Specification for Impulse Current Tester JJF (浙)1110	1kA～40kA	U_{rel}=3.2%		
				40kA～90kA	U_{rel}=6.2%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		time		10ns～100ms	U_{rel}=3.8%		
86	*Cable Testers	AC Voltage	Calibration Specification for Cable Testers JJF 1457	10V～1kV（50Hz、60Hz）	U_{rel}=0.3%		
				1kV～1.5kV(50Hz、60Hz)	U_{rel}=0.7%		
		Distortion		0.1%～20%	U=0.3%		
		AC Current		(0.1～2)mA	U_{rel}=0.4%		
		Voltage(IR)		10V～1kV	U_{rel}=0.2%		
				1kV～1.5kV	U_{rel}=0.6%		
		resistance(Insulation)		10kΩ～10MΩ	U_{rel}=0.5%		
				10MΩ～100MΩ	U_{rel}=0.7%		
				100MΩ～200MΩ	U_{rel}=1.3%		
		Resistance		0.1Ω～1MΩ	U_{rel}=0.4%		
		Capacitance		1pF～1μF	U_{rel}=0.3%		
87	*Surge Simulators	Voltage	Calibration Specification for Surge Simulators JJF 1741	(0.5～4)kV	U_{rel}=3.5%		
		Current		(0.25～2)kA	U_{rel}=4.4%		
		Time		50ns～100s	U_{rel}=3.2%		
88	*Power Frequency Magnetic Field Simulators	Current	Calibration Specification for Power Frequency Magnetic Field Simulators JJF 1737	10mA～1600A(16Hz～60Hz)	U_{rel}=2%		
		Magnetic Field Intensity		(1～1000)A/m (16Hz～50Hz)	U_{rel}=12%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(1～1000)A/m (50Hz～60Hz)	U_{rel}=6%		
89	*Testers for Relaying Protection	DC Voltage	Verification Regulation of Testers for Relaying Protection JJG 1112	10mV～1000V	U_{rel}=0.004%		
		AC Voltage		10mV～1000V(50Hz～20kHz)	U_{rel}=0.010%		
		DC Current		10μA～100A	U_{rel}=0.008%		
		AC Current		100μA～100A(50Hz～5kHz)	U_{rel}=0.016%		
		Harmonic Distortion		(0.1～20)%	U=0.1%		
		Phase		0°～360°	U=0.02°		
		Time		1ms～9999.9s	U_{rel}=0.02%		
		Rate		10Hz～1000Hz	U_{rel}=0.0003%		
90	*AC Electronic Load	Voltage	Calibration Specification for AC Electronic Load JJF(电子)0002	0.1V～750V(40Hz～1000Hz)	U_{rel}=0.03%		
		Current		0.1A～90A(40Hz～1000Hz)	U_{rel}=0.08%		
		Frequency		40Hz～1000Hz	U_{rel}=0.06%		
		Resistance		2.5Ω～1000Ω	U_{rel}=0.2%		
		Power		1W～13kW(40Hz～1000Hz)	U_{rel}=0.2%		
		Power Factor		0.01～1.00	U=0.02		
91	*Magnetic Yoke Detector	Magnetizing Current	Calibration Specification for Magnetic Yoke Detectors JJF1458	(0.1～20)A	U_{rel}=5%		
		Lifting Force		10N～300N	U_{rel}=4%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
92	*High Current Generator	AC Current	Calibration Specification of High Current Generator JJF(Mechanic) 1037	1A～2kA	U_{rel}=0.15%		
93	Contactless ElectrostaticVoltage Measuring Instruments	ElectrostaticVoltage	Calibration Specification for Contactless Electrostatic Voltage Measuring Instruments JJF 1517	100V～20kV	U_{rel}=0.6%		
94	*Medical Leakage Current Testers	Leakage Current	Verification Regulation of Medical Leakage Current Testers JJG 1188	DC：（0.01～20） mA	U_{rel}=0.2%		
				AC：（0.01～20）mA（50Hz /60Hz）	U_{rel}=0.5%		
		DC resistance		（0.5～2）kΩ	U_{rel}=0.4%		
		Input impedance		（0.5～2）kΩ	U_{rel}=0.5%		
		Transmission Impedance Frequency Response		（-70～0）dB（10Hz～1MHz）	U=0.2dB		
		Voltage		AC：（0.01～600）V（50Hz /60Hz）	U_{rel}=0.5%		
95	*Eddy Current Conductivity Meters	Conductivity	Calibration Specification for Eddy Current Conductivity Meters JJF 1692	0.58 MS/m～58MS/m	U=（0.09～0.32）MS/m		
五、Radio							
1	*EMI TEST RECEIVER	reference frequency	Calibration Specification for EMI Testing Receivers JJF 1144	10MHz	$U_{rel}=6\times10^{-10}$		
		IF output frequency		0.1MHz～1GHz	$U_{rel}=6\times10^{-10}$		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		1st IF image frequency interference		(0～130)dB(0.1MHz～1GHz)	U=5dB		
		2nd IF image frequency interference		(0～130)dB(0.1MHz～1GHz)	U=5dB		
		IF rejection		(0～130)dB(0.1MHz～1GHz)	U=5dB		
		bandwidth of 6dB filter		200Hz,9kHz,120kHz,1MHz	U_{rel}=1.5%		
		noise indication		(-40～30)dBμV(0.1MHz～500MHz)	U=3dB		
		attenuator		(0～110)dB(0.1MHz～1GHz)	U=0.5dB		
		level measurement		(30～120)dBμV(0.1MHz～1GHz)	U=0.30dB		
		pulse characteristic		9kHz～30MHz(-10～40)dB	U=0.8dB		
				30MHz～1GHz(-10～40)dB	U=1.0dB		
		input VSWR		1～10(0.1MHz～1GHz)	U_{rel}=7%		
2	*Low-frequency volt-meters	Voltage	C.S. for Low-frequency volt-meters JJF 1925	1mV ～10mV(10Hz～1MHz)	U_{rel}=1.4%		
				10mV ～100V(10Hz～1MHz)	U_{rel}=0.4%		
3	*Oscilloscope voltage probe	Voltage decay ratio	C.S. for Oscilloscope Voltage Probes JJF 1437	1:1～1:10000（1V～30000V）	U_{rel}=0.7%		
		Frequency response		0.1V～50V（50kHz～100MHz）	U=1.0dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Resistance		50Ω ～100MΩ	U_{rel}=0.6%		
		Rise time		1ns～10ms	U_{rel}=10%		
4	*TDMA-GSM Radio Communication Testers	SG frequency	Calibration Specification for TDMA-GSM Radio Communication Testers JJF 1131	10MHz ～2.7GHz	U_{rel}=1.2×10^{-8}		
		SG Level		(-97～13)dBm(10MHz～2.7GHz)	U=0.26dB		
				(-107～-97)dBm(10MHz～2.7GHz)	U=0.38dB		
				(-117～-107)dBm(10MHz～2.7GHz)	U=0.51dB		
				(-120～-117)dBm(10MHz～2.7GHz)	U=0.65dB		
		SG phase (peak)		0.3° ～60°	U=1.7°		
		SG phase (rms)		0.3° ～60°	U=0.5°		
		SG modulate frequency		1Hz～250kHz	U=5Hz		
		SG modulate level		0dB～10dB(1Hz～250kHz)	U=0.2dB		
		Analyzer frequency		10MHz ～2.7GHz	U_{rel}=1.6×10^{-8}		
		Analyzer level		(-20～10)dBm (10MHz～2.7GHz)	U=0.28dB		
				(-70～-20)dBm (10MHz～2.7GHz)	U=0.30dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Analyzer phase (peak)		0.3° ～60°	U=1.7°		
		Analyzer phase (rms		0.3° ～60°	U=0.5°		
		Analyzer modulate frequency		1Hz～250kHz	U=5Hz		
5	*CDMA Digital Radio Communication Testers	SG frequency	Calibration Specification of CDMA Digital Radio Communication Testers JJF 1177	10MHz ～2.7GHz	U_{rel}=1.2×10^{-8}		
		SG Level		(-97～13)dBm(10MHz～2.7GHz)	U=0.26dB		
				(-107～-97)dBm(10MHz～2.7GHz)	U=0.38dB		
				(-117～-107)dBm(10MHz～2.7GHz)	U=0.51dB		
				(-120～-117)dBm(10MHz～2.7GHz)	U=0.65dB		
		SG wave quality		0.9～1.0	U=0.001		
		SG EVM		1.5%～50%	U=2.0%		
		SG modulate frequency		1Hz～250kHz	U=5Hz		
		SG phase (rms)		0.3° ～60°	U=0.5°		
		Analyzer frequency		10MHz ～2.7GHz	U_{rel}=1.6×10^{-8}		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Analyzer level		(-20～10)dBm(10MHz～2.7GHz)	U=0.28dB		
				(-70～-20)dBm(10MHz～2.7GHz)	U=0.30dB		
		Analyzer wave quality		0.9～1.0	U=0.001		
		Analyzer EVM		1.5%～50%	U=2.0%		
		Analyzer phase (rms)		0.3° ～60°	U=0.5°		
		Analyzer modulate frequency		1Hz～250kHz	U=5Hz		
6	*Vector Signal Generator	Frequency	Calibration Specification for Vector Signal Generator JJF 1174	250kHz～20GHz	$U_{rel}=1\times10^{-8}$		
		Output High Level		(-20～30)dBm （10MHz～6GHz）	U=0.4dB		
		Output Low Level		(0～110)dB （2GHz～6GHz）	U=0.3dB		
		GSM/CDMA Modulated Frequency Error		1Hz～250kHz	U=5Hz		
		CDMA EVM		1.5%～50%	U=2.0%		
		CDMA Wave Quality Rho		0.9～1.0	U=0.001		
		GSM/CDMA Phase Error(RMS)		0.3° ～60°	U=0.5°		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
7	*WLANTest Set	Frequency	C.S. for WLAN Test Set JJF 1277	10MHz～8GHz	U_{rel}=1.2×10^{-8}		
		Level		(-100～20)dBm (10MHz～3.6GHz)	U=0.28dB		
				(-100～20)dBm (3.6GHz～8GHz)	U=0.31dB		
		Spectral Duration		(-90～0)dBc (10MHz～8GHz)	U=1.2dB		
		Single-side Phase Noise		(-90～0)dBc (frequency deviation:10Hz～2MHz)	U=3dB		
		EVM		0～8%(BW:5MHz～80MHz)	U=0.4%		
				0～8%(BW:80MHz～160MHz)	U=1.2%		
		Frequency Error		-100kHz～100kHz	U=3.3Hz		
		Level Measure		(-90～10)dBm (200kHz～6GHz)	U=0.57dB		
		EVM Measure		0～8%(BW:5MHz～160MHz)	U=0.7%		
		Frequency Error Measure		-100kHz～100kHz	U=9.2Hz		
8	*Bluetooth Test Set	Frequency	C.S. for Bluetooth Test Set JJF 1278	10MHz～3GHz	U_{rel}=1.2×10^{-8}		
		Level		(-100～20)dBm (10MHz～3GHz)	U=0.28dB		
		Spectral Purity		(-90～0)dBc (10MHz～3GHz)	U=1.2dB		
		Single-side Phase Noise		(-90～0)dBc (frequency deviation:10Hz～2MHz)	U=3dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		GFSK Frequency Error		-250kHz～250kHz (10MHz～3GHz)	U_{rel}=1.2%		
		EVM		0.3%～12%	U=1.0%		
		Frequency Error		-100kHz ～100kHz	U=12Hz		
		Level Measure		(-90～10)dBm (200kHz～3GHz)	U=0.56dB		
		GFSK Frequency Error Measure		-250kHz～250kHz (10MHz～3GHz)	U_{rel}=1.2%		
		EVM Measure		0.3%～12% (10MHz～3GHz)	U=1.2%		
		Frequency Error Measure		-100kHz ～100kHz	U=12Hz		
9	*LTE Radio Communication Testers	Frequency	C.S. for LTE Radio Communication Testers JJF 1443	10MHz～3.8GHz	$U_{rel}=1.2\times10^{-8}$		
		Level		(-100～20)dBm (10MHz～3.6GHz)	U=0.28dB		
				(-100～20)dBm (3.6GHz～3.8GHz)	U=0.31dB		
		Spectral Duration		(-90～0)dBc (10MHz～3.8GHz)	U=1.2dB		
		Single-side Phase Noise		(-90～0)dBc (frequency deviation:10Hz～2MHz)	U=3dB		
		EVM(RMS)		0.3%～17.5% （600MHz～3.8GHz ）	U=0.80%		
		IQ Offset		（-5～-80）dB （600MHz～3.8GHz）	U=1.5dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Frequency Error		(-80～80)kHz （600MHz～3.8GHz ）	U=8.0Hz		
		Level Measure		(-90～10)dBm(600MHz～3.8GHz)	U=0.57dB		
		EVM Measure		0.3%～17.5%（600MHz～3.8GHz ）	U=0.80%		
		Frequency Error Measure		(-80～80)kHz （600MHz～3.8GHz)	U=8.0Hz		
10	*Coaxial resistive attenuator	Attenuation	V.R. of coaxial resistive attenuator JJG 387	(0～90)dB (9kHz～100kHz)	U=0.04dB		
				(0～10)dB (100kHz～20GHz)	U=0.02dB		
				(10～40)dB (100kHz～20GHz)	U=0.04dB		
				(40～60)dB (100kHz～20GHz)	U=0.05dB		
				(60～70)dB (100kHz～20GHz)	U=0.18dB		
				(70～80)dB (100kHz～20GHz)	U=0.20dB		
				(80～90)dB (100kHz～20GHz)	U=0.28dB		
				(90～100)dB (100kHz～20GHz)	U=0.30dB		
		Standing-wave ratio		(1～2) (9kHz～20GHz)	U_{rel}=1%		
11	*Spectrum analyzer	Frequency	Calibration specification of spectrum analyzer JJF 1396	100kHz～10MHz	$U_{rel}=1\times10^{-6}$		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				10MHz～20GHz	$U_{rel}=2\times10^{-7}$		
		Power level		(0～ -20)dBm(10MHz～6GHz)	U=0.18dB		
				(0～ -20)dBm(6GHz ～12GHz)	U=0.35dB		
				(0～ -20)dBm(12GHz～20GHz)	U=0.5dB		
		Level		(0～60)dB (250kHz～1GHz)	U=0.25dB		
				(60～100)dB(250kHz～1GHz)	U=0.45dB		
		Frequency Span		10Hz～20GHz	U_{rel}=1.5%		
		Resolution Bandwidth		1Hz～10MHz	U_{rel}=1.5%		
		Noise sideband		100Hz～1MHz	U=3dB		
		Residual FM		0.2Hz～2Hz	U=0.2Hz		
				2Hz～50Hz	U=2Hz		
		Display average noise level		-160dBm～-50dBm（9kHz～20GHz）	U=3dB		
		Harmonic Distortion		-100dBc～0dBc(10MHz～20GHz)	U=3dB		
12	*Network analyzer	Frequency	Calibration specification of vector network analyzer JJF 1495	300 kHz～20GHz	$U_{rel}=1\times10^{-6}$		
		Output Amplitude of signal source		(20 ～ -70) dBm(300 kHz～20GHz)	U=0.18dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Transmission and Reflection		Attenuation:(20 ～ 50) dB(50MHz～18GHz)	U=0.5dB		
				Reflection：（0～1）(50MHz～18GHz)	U=0.06		
				Transmission：（-180°～180°）(50MHz～18GHz)	U=3°		
13	*Signal Generator	Frequency	Calibration specification for signal generators JJF 1931	0.1MHz～26.5GHz	$U_{rel}=6\times10^{-9}$		
		Power		(0～+20)dBm (0.1MHz～2GHz)	U=0.14dB		
				(0～+20)dBm (2GHz～4.2GHz)	U=0.28dB		
				(0～+20)dBm (4.2GHz～18GHz)	U=0.30dB		
				(0～+20)dBm (18GHz～26.5GHz)	U=0.40dB		
				(-120～0)dBm (0.1MHz～2GHz)	U=0.20dB		
				(-120～0)dBm (2GHz～18GHz)	U=0.34dB		
				(-120～0)dBm (18GHz～26.5GHz)	U=0.43dB		
		AM depth		(5～99)% carrier frequency：0.1MHz～10MHz modulation frequency：400Hz、1kHz	U_{rel}=0.86%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(20～99)% carrier frequency：10MHz～3GHz modulation frequency：400Hz、1kHz	U_{rel}=0.58%		
				(5～20)% carrier frequency：10MHz～3GHz modulation frequency：400Hz、1kHz	U_{rel}=2.9%		
				(20～99)% carrier frequency：3GHz～26.5GHz modulation frequency：400Hz、1kHz	U_{rel}=1.7%		
				(5～20)% carrier frequency：3GHz～26.5GHz modulation frequency：400Hz、1kHz	U_{rel}=5.2%		
		FM deviation		(0.1～400)kHz carrier frequency：0.1MHz～26.5GHz modulation frequency：400Hz、1kHz	U_{rel}=1.2%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Harmonic、Non-Harmonic、Inter-Harmonic Distortion		(-90～-20)dBc(0.1MHz～13GHz)	U=1.6dB		
14	*Low Frequency Signal Generator	Frequency	V.R. of Low Frequency Signal Generator JJG 602	1Hz～1MHz	$U_{rel}=1\times10^{-5}$		
		Distortion		(0.001 ～30)%(5Hz ～100kHz)	U=1dB		
		Voltage		1mV ～10mV(10Hz～100kHz)	U_{rel}=2%		
				10mV～300V(10Hz～100kHz)	U_{rel}=0.16%		
				1mV ～30V(100kHz～1MHz)	U_{rel}=0.9%		
				30V～300V(100kHz～1MHz)	U_{rel}=3%		
		Attenuation		0～100dB(10Hz～1MHz)	U=0.2dB		
15	*Television Video Generator	Luminance Amplitude	C.S. for Television Video Generator JJF 1235	60mV～1V	U_{rel}=0.6%		
		Chrominance Amplitude		60mV～1V	U_{rel}=1.2%		
		Chrominance Phase		(0～360)°	U=0.6°		
		Pulse Width		1ns～30 μs	U_{rel}=0.4%		
16	*Function generator	Frequency	V.R.of Function Generators JJG840	0.1Hz～240MHz	$U_{rel}=1.0\times10^{-8}$		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Voltage (amplitude of output waveform)		Peak-Peak value：3mV～30V、 1kHz (50Ω Load measurement)	U_{rel}=0.24%		
				Peak-Peak Value：3mV～30V 、1kHz (Open circuit measurement)	U_{rel}=0.084%		
		DC voltage		(1mV～5V)	U_{rel}=0.1%		
		Voltage (sine wave amplitude flatness)		1V (10Hz～100kHz)	U=0.02 dB		
				1V (100kHz～200kHz)	U=0.05dB		
				1V (200kHz～240MHz)	U=0.18dB		
		Distortion		(0.01～30)% (5Hz～20kHz)	U_{rel}=13%		
				(0.01～30)% (20kHz～50kHz)	U_{rel}=26%		
				(0.01～30)% (50kHz～150kHz)	U_{rel}=41%		
		Harmonic distortion		(-90～-20)dBc (150kHz～240MHz)	U=2.1dB		
		Rise time		135ps～100 μ s	U=0.2ns		
		square wave pulse duty cycle		(0.1～99.9)%	U_{rel}=0.7%		
17	*Low Power Mount	VSWR	Verification regulation for lower power mount GJB/J 3598	(1～10) (50MHz～2GHz)	U_{rel}=3.5%		
				(1～10) (2GHz～8GHz)	U_{rel}=5.9%		
				(1～10) (8GHz～18GHz)	U_{rel}=7.2%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		CAL Factor		(10%～200%) (10MHz～2GHz)	U=2.1%		
				(10%～200%) (2GHz～6GHz)	U=2.4%		
				(10%～200%) (6GHz～12.4GHz)	U=3.1%		
				(10%～200%) (12.4GHz～15GHz)	U=3.4%		
				(10%～200%) (15GHz～18GHz)	U=4.1%		
18	*FM Stereo Signal Generator	Frequency	XT-24 V.R. of Stereo Signal Generator JJG(DZ)12011	10Hz～100kHz	$U_{rel}=1\times10^{-8}$		
		Stereo Separation		（30～60）dB (50Hz～15kHz)	U_{rel}=0.4%		
		Distortion		(-10～-100)dB(5Hz ～150kHz)	U=1.2dB		
19	*Audio Analyzer	Output Frequency	C.S. for Audio Analyzer JJF 1395	5Hz～150kHz	$U_{rel}=1\times10^{-7}$		
		Output Voltage		10mV～10V (1kHz)	U_{rel}=1.3%		
		Source Distortion		(-10～-90)dB (10Hz～100kHz)	U=0.6dB		
		Voltage Measurement		10mV～100V (1kHz)	U_{rel}=0.66%		
		Distortion Measurement		(10～100)% (10Hz,100Hz,1kHz,10kHz)	U_{rel}=1.3%		
				(3～10)%(10Hz,100Hz,1kHz,10kHz)	U_{rel}=0.88%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(1～3)%，（10Hz，100Hz，1kHz，10kHz）	U_{rel}=1.3%		
				(0.3～1)%，（10Hz，100Hz，1kHz，10kHz）	U_{rel}=0.88%		
				(0.10～0.30)%，（10Hz，100Hz，1kHz，10kHz）	U_{rel}=1.4%		
				(0.03～0.10)%，（10Hz，100Hz，1kHz，10kHz）	U_{rel}=1.0%		
				(0.01～0.03)%，（10Hz，100Hz，1kHz，10kHz）	U_{rel}=1.6%		
				(0.003～0.01)%(10Hz,100Hz,1kHz,10kHz)	U_{rel}=1.3%		
				(10～100)%，（20kHz，100kHz）	U_{rel}=1.6%		
				(3～10)%，（20kHz，100kHz）	U_{rel}=1.3%		
				(1～3)%，（20kHz，100kHz）	U_{rel}=1.6%		
				(0.30～1)%，（20kHz，100kHz)	U_{rel}=1.3%		
				(0.10～0.30)%，（20kHz，100kHz）	U_{rel}=1.6%		
				(0.03～0.10)%，（20kHz，100kHz）	U_{rel}=2.4%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(0.01～0.03)%，（20kHz，100kHz)	U_{rel}=3.6%		
				(0.10～100)%，（150kHz，200kHz）	U_{rel}=3.6%		
				(0.03～0.10)%，（150kHz，200kHz）	U_{rel}=5.8%		
				(0.01～0.03)%，（150kHz，200kHz)	U_{rel}=9.3%		
20	*Video Signal measure meter	Luminance Level	C.S.for Television Video Signal Analyzer JJF 1455	140mV ～2V	U_{rel}=0.6%		
		Chrominance Level		(1～714) mV	U_{rel}=0.6%		
		Phase		Vector phase：(0～360)°	U=0.6°		
		Time		1 μs～20 μs	U=10ns		
		Distortion		Difference Gain Distortion：(1～30)%	U=0.4%		
				Difference Phase Distortion：(0～30)°	U=0.4°		
21	*Analogue Oscilloscope	Time	V.R. of Analogue Oscilloscope JJG 262	(500ps～55s)/div	U_{rel}=0.3%		
		Rise Time		150ps～50ns	U=25ps		
		Voltage		(1mV ～5V)/div (1kHz)	U_{rel}=0.4%		
		Bandwidth		50kHz～6.0GHz	U_{rel}=5%		
22	Oscilloscope Calibrator	voltage	V.R.of Oscilloscope Calibrators JJG 278	10mV～200V	U_{rel}=0.1%		
		Sine-wave flatness		10mV～1V（50kHz～100kHz）	U_{rel}=1.0%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(0～+20)dBm（100kHz～3.2GHz）	U=0.30dB		
		Rise time		300ps～1ns	U_{rel}=4.0%		
		Time		2ns～0.5s	U_{rel}=0.0012%		
23	*Distortion Meter	Distortion	Calibration Specification for Distortion Meters JJF 1852	(10～100)%，（10Hz，100Hz，1kHz，10kHz）	U_{rel}=1.3%		
				(3～10)%，（10Hz，100Hz，1kHz，10kHz）	U_{rel}=0.88%		
				(1～3)%，（10Hz，100Hz，1kHz，10kHz）	U_{rel}=1.3%		
				(0.3～1)%，（10Hz，100Hz，1kHz，10kHz）	U_{rel}=0.88%		
				(0.10～0.30)%，（10Hz，100Hz，1kHz，10kHz）	U_{rel}=1.4%		
				(0.03～0.10)%，（10Hz，100Hz，1kHz，10kHz）	U_{rel}=1.0%		
				(0.01～0.03)%，（10Hz，100Hz，1kHz，10kHz）	U_{rel}=1.6%		
				(0.003～0.01)%，（10Hz，100Hz，1kHz，10kHz）	U_{rel}=1.3%		
				(10～100)%，（20kHz，100kHz）	U_{rel}=1.6%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(3～10)%，（20kHz，100kHz）	U_{rel}=1.3%		
				(1～3)%，（20kHz，100kHz）	U_{rel}=1.6%		
				(0.30～1)%，（20kHz，100kHz）	U_{rel}=1.3%		
				(0.10～0.30)%，（20kHz，100kHz）	U_{rel}=1.6%		
				(0.03～0.10)%，（20kHz，100kHz）	U_{rel}=2.4%		
				(0.01～0.03)%，（20kHz，100kHz）	U_{rel}=3.6%		
				(10～100)%，（150kHz，200kHz）	U_{rel}=3.6%		
				(3～10)%，（150kHz，200kHz）	U_{rel}=3.5%		
				(1～3)%，（150kHz，200kHz）	U_{rel}=3.6%		
				(0.30～1)%，（150kHz，200kHz）	U_{rel}=3.5%		
				(0.10～0.30)%，（150kHz，200kHz）	U_{rel}=3.6%		
				(0.03～0.10)%，（150kHz，200kHz）	U_{rel}=5.8%		
				(0.01 ～0.03)%，（150kHz，200kHz）	U_{rel}=9.3%		
		Voltage		1mV～300V， (1kHz)	U_{rel}=0.66%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				1V，(10Hz～20kHz)	U_{rel}=0.66%		
				1V，(20kHz～200kHz)	U_{rel}=1.4%		
24	Radio-frequency coupling decoupling device	Common Mode Impedance	Electromagnetic compatibility Testing and measurement techniques-Immunity to conducted disturbances,induced by radio-frequency fields (part 6.) GB/T 17626.6	25Ω～300Ω（150kHz～230MHz）	U_{rel}=4%		
		Attenuation(Coupling)		0dB～60dB（150kHz～230MHz）	U=0.5dB		
25	Curve Tracer	Votage(X-axis)	Calibration Specification for Semiconductor Device Curve Tracers JJF 1236	(0.1～1000)V	U_{rel}=0.8%		
		Current(Y-axis)		5μA～20A	U_{rel}=0.8%		
		Voltage (output)		（0.1～20）V	U_{rel}=0.2%		
		resistance		100Ω～10MΩ	U_{rel}=0.2%		
26	*Network Cable Analyzers	DC Loop Resistance	Calibration Specification for Network Cable Analyzers JJF 1494	(0～50)Ω	U=0.08Ω		
		Delay Time		(50～500)ns	U=3.0ns		
		Insertion Loss		(0～40)dB	U=0.16dB		
		Near-end Crosstalk		(20～70)dB	U=0.39dB		
		Equivalent Far-end Crosstalk		(10～60)dB	U=0.46dB		
		Return Loss		(8～26)dB	U=0.06dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
27	*Digital Oscilloscope	Voltage	Digital Oscilloscope JJF 1057,Verification regulation for digital oscilloscope GJB 7691	(1mV～10V)/div （1kHz）	U_{rel}=0.4%		
		time		(500ps～55s)/div	U_{rel}=0.3%		
		Time base		(500ps～55s)/div	U_{rel}=2.6×10^{-6}		
		Bandwidth		50kHz ～6.0GHz	U_{rel}=6.0%		
		Rise Time		65ps～0.1ms	U_{rel}=4.0%		
28	Microwave Radiation and Leakage Energy Measuring Instruments	Power density	Microwave Radiation and Leakage Energy Measuring Instruments JJG 776	0.1mW/cm^2～3mW/cm^2 (2.45GHz)	U=1.3dB		
29	*Artificial Mains Network	Modulus of Impedance	Calibration Specification for Artificial Mains Networks JJF 1705	(0.1～100)Ω， (9kHz～108MHz)	U_{rel}=6%		
		Phase Angle of Impedance		(0.1～360)° ，(9kHz～108MHz)	U_{rel}=6%		
		Voltage division factor		(0.01～20)dB ，(9kHz～108MHz)	U=0.3dB		
30	*Microwave Power Amplifier	Rated output power	V.R. of RF and Microwave Power Amplifiers JJF 1678	P:(1W～1000W) (9kHz～3GHzHz)	U=0.32dB		
				P:(1W～500W) (3GHz～10GHz)	U=0.41dB		
				P:(1W～150W) (10GHz～18GHz)	U=0.41dB		
		Gain		(0～80)dB (9kHz～240MHz)	U=0.32dB		
				(0～80)dB (240MHz～18GHz)	U=0.41dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Gain flatness		±(0.5～12)dB (240MHz～18GHz)	U=0.32dB		
				±(0.5～12)dB (240MHz～18GHz)	U=0.41dB		
		1dB compression point output power		P:(1W～1000W) (9kHz～3GHz)	U=0.32dB		
				P:(1W～500W) (3GHz～10GHz)	U=0.41dB		
				P:(1W～150W) (10GHz～18GHz)	U=0.41dB		
		Maximum output power		P:(1W～1000W) (9kHz～3GHz)	U=0.32dB		
				P:(1W～500W) (3GHz～10GHz)	U=0.41dB		
				P:(1W～150W) (10GHz～18GHz)	U=0.41dB		
		Harmonic distortion and clutter suppression		(10～78)dBc (9kHz～26.5GHz)	U=1.6dB		
		VSWR of Input voltage		VSWR:(1.05～3) (30kHz～2GHz)	U_{rel}=3.5%		
				VSWR:(1.05～3) (2GHz～9GHz)	U_{rel}=4.7%		
				VSWR:(1.05～3) (9GHz～18GHz)	U_{rel}=5.9%		
31	*Directional Coupler	Port return loss	Calibration specification for directional coupler and standing wave ratio bridge	(15～60)dB (300kHz～18GHz)	U=0.2dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Insertion Loss	JJF 1680	(0.01～3)dB (300kHz～18GHz)	U=0.12dB		
		Coupling Coefficient		(10～40)dB (300kHz～18GHz)	U=0.2dB		
		Directional		(20～50)dB (300kHz～18GHz)	U=0.3dB		
32	RF Communication Test Set	reference frequency	Calibration Specification for RF Communication Test Set JJF 1065	10MHz	$U_{rel}=1\times10^{-9}$		
		input frequency		10kHz～10MHz	$U_{rel}=2\times10^{-6}$		
				10MHz～1000MHz	$U_{rel}=2\times10^{-9}$		
		span		10kHz～1000MHz	U_{rel}=1.5%		
		RBW		100Hz～1MHz	U_{rel}=1.5%		
		reference level		(-70～+20)dBm	U=0.3dB		
		input level		(0～100)dB	U=0.3dB		
		input frequency response		(-70～20)dBm（100kHz～1000MHz）	U=0.2dB		
		input attenuation		(0～70)dB	U=0.2dB		
		DANL		(-160～-114)dBm	U=3dB		
		residuals		(-160～-90)dBm	U=3dB		
		OBW		(5～200)kHz	U_{rel}=1.5%		
		ACP		(-70～0)dBc	U=3dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		output frequency		250kHz～1000MHz	$U_{rel}=6\times10^{-9}$		
		output level		(-137～+19)dBm	U=0.6dB		
		harmonic distortion		(-80～-30)dBc	U=1.6dB		
		non-harmonic distortion		(-90～-60)dBc	U=1.6dB		
		SSB noise		(-140～-70)dBc/Hz(45～900)MHz	U=3dB		
		AM depth		(0.1～99)%(CF：450MHz;fm：1kHz)	U_{rel}=3%		
		FM deviation		1Hz～400kHz(f：45MHz，450MHz，900MHz)	U_{rel}=1.2%		
		RF power		1μW～60W(10～900)MHz	U_{rel}=4%		
		AM Measure		(0.1～95)%(carrier frequency：5MHz～1000MHz，modulation frequency：1kHz）	U_{rel}=3%		
		FM Measure		20Hz～75kHz(carrier frequency：5MHz～1000MHz，modulation frequency：1kHz）	U_{rel}=1.2%		
		output voltage		0.1mV～4V(DC～25kHz)	U_{rel}=0.1%		
		Output frequency response		20Hz～25kHz	U=0.01dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		output distortion		0.0001%～0.13%	U=1.5dB		
		AF input frequency		20Hz～400kHz	$U_{rel}=1\times10^{-6}$		
		input voltage		20mV～30V(20Hz～25kHz)	U_{rel}=0.05%		
		frequency response		20Hz～25kHz	U=0.02dB		
		bandwidth		20Hz～50kHz	U_{rel}=6%		
		voltage		1mV/div～10V/div	U_{rel}=0.4%		
		time		10 μs/div～100ms/div	U_{rel}=0.3%		
33	*Charge Amplifiers	Charge	Verification Regulation of Charge Amplifiers JJG 338	(10～10^5)pC	U_{rel}=0.05%		
		Voltage		10mV～10V，(10Hz～100kHz)	U_{rel}=0.08%		
34	*Dynamical Signal Analyzer	Frequency	Verification Regulation of Dynamical Signal Analyzer JJG 834	0.1Hz～200kHz	$U_{rel}=3.4\times10^{-5}$		
		Voltage		1mV～10V，(10Hz～200kHz)	U_{rel}=0.4%		
35	Absorbing Clamp	Absorption attenuation	Calibration Specification for Absorbing Clamp in the Range of 30MHz to 1.0GHz JJF 1155	(14～22)dB，（30MHz～1GHz）	U=1.8dB		
36	*Antenna feeder tester	Frequency	Calibration specification for antenna feeder tester JJF 1740	2MHz～18GHz	$U_{rel}=6\times10^{-9}$		
		Power		-30dBm～20dBm，(2MHz～18GHz)	U=0.30dB		
		VSWR		1～10，(2MHz～18GHz)	U_{rel}=5.1%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Attenuation		0dB～30dB，(2MHz～18GHz)	U=0.20dB		
		Fault location distance		15m，(2MHz～18GHz)	U_{rel}=1.1%		
		RF power		-50dBm～10dBm，(2MHz～18GHz)	U=0.18dB		
37	*Waveform Recorder	DC voltage	Calibration Specification for Waveform Recorders JJF1876	±(10mV～300mV)	U_{rel}=0.4%		
				±(0.3V～3V)	U_{rel}=0.05%		
				±(3V～30V)	U_{rel}=0.01%		
				±(30V～1000V)	U_{rel}=0.06%		
		AC voltage		10mV～33mV，(10Hz～10kHz)	U_{rel}=4%		
				33mV～330mV，(10Hz～10kHz)	U_{rel}=0.4%		
				0.33V～3.3V，(10Hz～10kHz)	U_{rel}=0.05%		
				3.3V～33V，(10Hz～10kHz)	U_{rel}=0.02%		
				33V～330V，(10Hz～10kHz)	U_{rel}=0.03%		
				330V～1000V，(10Hz～10kHz)	U_{rel}=0.04%		
		Time base		1 μs/div～10h/div	U_{rel}=3×10^{-7}		
		Frequency Bandwidth		10Hz～2MHz	U_{rel}=1%		
		Resistance		50Ω～1MΩ	U_{rel}=0.01%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		DC gain		0.5～1.5	U_{rel}=0.4%		
		Record Time		(1～1000)s	U_{rel}=3×10^{-7}		
38	*High Voltage Dielectric Loss Tester	capacitance	V.R.of High Voltage Dielectric Loss Tester JJG 1126	100pF、1000pF、10nF	U_{rel}=0.14%		
				100nF	U_{rel}=0.16%		
				500nF	U_{rel}=0.11%		
		loss factor		0%～0.2%(100pF、1000pF)	U=0.003%		
				0.5%(100pF、1000pF)	U=0.004%		
				1%(100pF、1000pF)	U=0.005%		
				2%(100pF、1000pF)	U=0.007%		
				5%(100pF、1000pF)	U=0.013%		
				10%(100pF、1000pF)	U=0.023%		
				0.1%～0.2%(10nF、100nF、500nF)	U=0.004%		
				0.5%(10nF、100nF、500nF)	U=0.006%		
				1%(10nF、100nF、500nF)	U=0.008%		
				2%(10nF、100nF、500nF)	U=0.013%		
				5%(10nF、100nF、500nF)	U=0.028%		
				10%(10nF、100nF、500nF)	U=0.053%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
39	*RF and Microwave Power Meters	Output power of reference source	Calibration Specification for RF and Microwave Power Meters JJF 1885	1mW（50MHz）	U_{rel}=1.0%	5.4.1 Alternating comparison method is NOT suitable for this item	
		Calibration factor		0.5～2 （Frequency range：0.1MHz～2GHz）	U_{rel}=1.4%		
				0.5～2（Frequency range：2GHz～6GHz）	U_{rel}=1.8%		
				0.5～2 （Frequency range：6GHz～12.4GHz）	U_{rel}=2.0%		
				0.5～2 （Frequency range：12.4GHz～15GHz）	U_{rel}=2.4%		
				0.5～2 （Frequency range：15GHz～18GHz）	U_{rel}=2.5%		
		Power Linearity		Power range：-20dBm～10dBm（50MHz or 1GHz）	U=0.04dB		
		VSWR		1～2 （Frequency range：0.1MHz～2GHz）	U_{rel}=3.5%		
				1～2 （Frequency range：2GHz～8GHz）	U_{rel}=5.9%		
				1～2 （Frequency range：8GHz～18GHz）	U_{rel}=7.2%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
40	coupling decoupling device	Attenuation(Coupling)	Road vehicles -- Component test methods for electrical disturbances from narrowband radiated electromagnetic energy -- Part 4: Harness excitation methods (part 9.3.1.2) ISO 11452-4	0dB～60dB（9kHz～400MHz）	U=0.5dB		
六、Time and Frequency							
1	Microwave frequency meter	Frequency	Verification regulations for microwave frequency counters JJG 841	100kHz～20GHz	$U_{rel}=2\times10^{-6}$～5×10^{-11}		
2	Electronic stopwatch	Time interval	verification regulation of stopwatches JJG 237	(1～3600)s	U=0.01s		
		Day Error		(-20.00～20.00)s	U=0.06s		
3	Mechanical stopwatch	Time interval	verification regulation of stopwatches JJG 237	(1～1800)s	U=0.1s		
4	*Electronic time relay	Time	Calibration Specification for Electronic time relay JJF 1282	0.001s～24h	U=（$3.5\times10^{-5}R$+0.003s）		
5	*Pulse Counters	frequency	Calibration Specification for Pulse Counters JJF 1686	10MHz	$U_{rel}=6.8\times10^{-9}$		
		Pulse Count		0～1000000	U=1		
6	Universal counter	frequency	V.R.of Universal Counters JJG 349	0.1Hz～18GHz	$U_{rel}=2\times10^{-6}$~5×10^{-11}		
		cycle		1ns～100s	$U_{rel}=2\times10^{-6}$~5×10^{-11}		
		Time interval		1ms～10s	$U=3\times10^{-8}$s		
七、Optic							

The scope of the accreditation in Chinese remains the definitive version.

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
1	Illuminance meter	Illuminance	Verification Regulation of Illuminance Meter JJG 245	(4～3000)lx	U_{rel}=1.6%		
		Cosine characteristics (directional response)		(0～10)%	U=1.0%		
2	Ultraviolet Irradiance Meters	Radiosity	Verification Regulation of Ultraviolet Irradiance Meters JJG 879	(55～2000) μ W/cm^2	U_{rel}=16%		
				(2～80)mW/cm^2	U_{rel}=18%		
3	Luminance Meter	Luminance	Verification Regulation of Luminance Meter JJG 211	(0.5～1000)cd/m^2	U_{rel}=3.0%		
		chrominance		x、y：全色域	U(x)=0.0092, U(y)=0.0072		
4	*Standard Light Sources Boxes	Illuminance	Calibration Specification for Standard Light Sources Boxes JJF(FZ) 055	(50～3000)lx	U=47lx		
		Correlated Colour Temperature		(2700～7500)K	U=1.2×10^{2}K		
5	Lamp of Luminous Intensity	Luminance	Verification Regulation of Luminance Meter JJG 246	(5～150)cd	U_{rel}=3.0%		
				(150～750)cd	U_{rel}=2.6%		
				(750～1500)cd	U_{rel}=2.9%		
6	*Spectral radiation system/Spectrometer	Wavelength	Verification Regulation of Analyzer of Spectrum Radiation JJG（Zhe）85	(200～1500)nm	U=0.45nm		
		Color temperature distribution		(500～9000)K	U=22K		
		Chromaticity coordinate		Full color gamut	U=0.0025		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
7	Lamp for Total Luminious Flux	Total Luminious Flux	Verification Regulation of Standard Incandescent Lamp for Total Luminious Flux JJG 247	10lm～23500lm	U_{rel}=2.2%		
8	*Artificial Accelerated Weathering Apparatus of Xenon Arc Lamp	irradiance	Calibration Specification for Irradiance of Artificial Accelerated Weathering Apparatus of Xenon Arc Lamp JJF 1525	0.1 mW•m^{-2}～1kW•m^{-2}, (300nm～800nm)	U_{rel}=11%	spectroradiometer method	
9	*Abbe Refractometer	index of refraction	Verification Regulation of Abbe Refractometer JJG625	(1.3300～1.8000)nD	U=9.2×10^{-5}nD		
10	*Colorimeters and Color Differentce Meters	Colourimetric	Verification Regulation of Colorimeters and Color Difference Meters JJG595	Y:1.0～100.0			
				x,y:full color gamut	U=0.0053(0/d);U=0.0070(d/0)		
11	*Specular Gloss Meters	Gloss	Verification Regulation of Specular Gloss Meters and Gloss Plates JJG696	（0～120.0）gloss unit	U=1.5GU		
12	*Hazemeter	Haze	Calibration Specification for Hazemeter JJF1303	0.1～30	U=0.31		
		Transmittance		(1～100)%	U=0.8%		
13	*Color Light-box with Standard Light Sources	Luminan ce	Calibration Specification for Color Light-box with Standard Light Sources JJF（Min）1062	(50～30000)cd/m^2	U_{rel}=8%		
		Colour coordinates		Full color gamut	U=0.0035		
14	*solar simulators	spectral match	Calibration Specification for Solar Simulators JJF 1615	(400～1100)nm	U_{rel}=8%		
		irradiance non-uniformity		0.1%～50%	U_{rel}=3%		
		irradiance instability		0.1%～50%	U_{rel}=2.1%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
15	*Whiteness Meters	Whiteness	Verification Regulation of Whiteness Meters JJG 512	1.0～100.0	(0/d): U_{R457}=1.0,(d/0):U_{R457} =1.0,(45/0):U_{R457}=1.3		
16	*Lasers for Medicine	laser power	Verification Regulation of Lasers for Medicine JJG 581	1mW～130W	U_{rel}=6.0%		
		Laser energy		20mJ～10J	U_{rel}=6.0%		
17	*Reflection Densitometers	Optical density	Calibration Specification for Reflection Densitometers JJF 1492	0.00～1.00	U=0.03		
				1.01～2.00	U=0.04		
18	*Calibration Specification for UV	Peak wavelength	Calibration Specification of UV Analyzer JJF 1936	（250～380）nm	U=0.7nm	Only test reflection	
		UV irradiance		（40～1000）μW/cm^2	U_{rel}=11%		
八、Chemistry							
1	*Ultraviolet,Visible, Near-Infrared Spectrophotometers	Wavelength	V.R. of Ultraviolet, Visible, Near-Infrared Spectrophotometers JJG 178	Grating-type instrument Band A:（190～340）nm	U=0.4nm		
				Grating-type instrument Band B:（340～900）nm	U=0.4nm		
				Prism-type instrument Band B:（340～900）nm	U=0.8nm		
				Grating-type instrument Band C:（900～2600）nm	U=0.6nm		
		Transmittance		A 段：（0～100）%	U=0.3%		
				B 段：（0～100）%	U=0.3%		
2	*Chlorine Alarm Detectors	Concentration	Calibration Specification for Chlorine Alarm Detectors JJF1433	（0.1～100）μmol/mol	U_{rel}=2.4%		
		time		（1～3600）s	U=2s		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
3	*Laboratory pH Meters	pH	Verification Regulation of Laboratory pH Meters JJG119	Electricity pH：（0～14）	U=0.001		
				Instrument pH：（3～10）	U=0.004		
		Voltage		（-1900～1900）mV	U=0.04%FS		
4	*Particulate Analyzer	Particle concentration	Calibration Specification for Particulate Analyzer JJF 1290	（10～10000）particles/mL	U_{rel}=7%		
5	*Electrolytic Conductivity Meters	Electrolytic Conductivity	Verification Regulation of Electrolytic Conductivity Meters JJG376	Electricity:（1～2×10^4） μS/cm	U_{rel}=0.08%		
				Electricity:（5×10^{-2}～1） μS/cm	U_{rel}=0.13%		
				Instrument:（100 ～1.3×10^4） μS/cm	U_{rel}=0.33%		
6	*Sulfur Dioxide Gas Detectors	Concentration	Verification Regulation of Sulfur Dioxide Gas Detectors JJG551	（1～300） μmol/mol	U_{rel}=2.2%		
		time		（1～3600）s	U=2s		
7	*Gas Chromatograph	Detection limit	V.R.of Gas Chromatograph JJG700	FID:≤5×10^{-10} g/s	U_{rel}=4%		
				FPD:≤5×10^{-10}g/s (S), , ≤1×10^{-10}g/s (P)	U_{rel}=3%(S), U_{rel}=4%(P)		
				NPD：≤5×10^{-12}g/s(N) ≤1×10^{-11}g/s(P)	U_{rel}=4%		
				ECD：≤5×10^{-12}g/mL	U_{rel}=4%		
		sensitivity		TCD：≥800mV•mL/mg	U_{rel}=4%		
8	*Dynamic Light Scattering Particle Size Analyzers	Particle size	Verification Regulation of Dynamic Light Scattering Particle Size Analyzers JJG	（0.1～100）nm	U_{rel}=5%		
				（200～300）nm	U_{rel}=4%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
			1104	（400～500）nm	U_{rel}=4%		
				（600～800）nm	U_{rel}=4%		
9	*Liquid Chromatographs	minimum detectable concentration	V.R.of Liquid Chromatographs JJG705	UV-VIS: ≤5×10^{-8}g/mL	U_{rel}=6%		
				FLD: ≤5×10^{-9}g/mL	U_{rel}=6%		
				RID: ≤5×10^{-6}g/mL	U_{rel}=7%		
				ELSD: ≤5×10^{-6}g/mL	U_{rel}=7%		
		Temperature		（0～100） ℃	U=0.3 ℃		
		Flow rate		（0.1～10） mL/min	U_{rel}=0.3%		
10	Rotational Viscometers	Dynamic Viscosity	Verification Regulation of Rotational Viscometers JJG 1002	（50～400）mPa•s	U_{rel}=1.2%		
				（400～6000）mPa•s	U_{rel}=1.3%		
				（6000～20000）mPa•s	U_{rel}=1.5%		
				（20000～40000）mPa•s	U_{rel}=1.7%		
				（40000～90000）mPa•s	U_{rel}=1.8%		
				（90000～125000）mPa•s	U_{rel}=1.9%		
11	*Mercury Analyzers	Detecion limit	Verification Regulation of Mercury Analyzers JJG 548	absorption type:≤1.0ng	U=0.2ng		
				fluorescent type:≤0.1ng	U=0.02ng		
12	*Polarimeter	optical activity	Verification Regulation of Polarimeter and Saccharimeter JJG536	-35° ～+35°	U=0.005°		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
13	Wood Moisture Content Measuring Meters	Moisture Content	Verification Regulation of Wood Moisture Content Measuring Meters JJG 986	6%～28%	U=0.3%		
14	*Measurement Instruments	Temperature	V. R. of Melting-point Measurement Instruments JJG701	（50～300） ℃（heating rate: 0.2℃/min）	U=0.16℃		
				Capillary method：（50～300） ℃（heating rate:1.0℃/min）	U=0.26℃		
				Hot table method：（50～300） ℃（heating rate:1.0℃/min）	U=0.12℃		
15	*Gas Chromatography-Mass Spectrometers	Signal-to-noise ratio	Calibration Specifiction for Gas Chromatography-Mass Spectrometers JJF1164	Ion trap, single quadrupole, triple quadrupole：≥10:1	U_{rel}=6%		
				Time of flight, electrostatic field of orbital hydrazine: ≥50:1	U_{rel}=6%		
16	*Atomic Absorption Spectrophotometers	Detection limit	Verification Regulation for Atomic Absorption Spectrophotometers JJG 694	Cu：（0～5）μg/mL	U=0.005 μg/mL		
				Cd：（0～50）pg	U=0.2pg		
17	*Turbidimeters	turbidity	Verification Regulation of Turbidimeters JJG880	（0.001～400）NTU	U_{rel}=4%		
18	*Air Samplers	flow	Verification Regulation of Air Sampler JJG956	（50～6000）mL/min	U_{rel}=1.2%		
		time		（300～3600）s	U_{rel}=0.01%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
19	*Alarmer Detectors of Combustible Gas	Gas Concentration	Alarmer Detectors of Combustible Gas JJG693	CH_4（0.01～95）%LEL	U_{rel}=2.7%		
				C_3H_8（0.01～95）%LEL	U_{rel}=2.4%		
				i-C_4H_{10}（0.01～95）%LEL	U_{rel}=2.1%		
				H_2（0.01～95）%LEL	U_{rel}=2.7%		
				C_2H_2（0.01～95）%LEL	U_{rel}=2.7%		
20	Airborne Particle Counter	Particle Size Particle Concentration	Calibration Specification for Airborne Particle Counter JJF1190	0～100）%	U=6%		
		Concentration		（1000～100000）particle/28.3L	U_{rel}=14%		
21	*Instrument for KF Coulometry Titration	water content	Verification Regulation of Instrument for KF Coulometry Titration JJG1044	（10～5000） μg	U_{rel}=3.1%		
22	*Inductively coupled plasma-atomic emission spectrometry	Detection limit	Verification Regulation of Emission Spectrometer JJG768	（0～50）mg/L	U=0.00006mg/L(Ba), U=0.00026mg/L(Cr), U=0.00028mg/L(Cu), U=0.00004mg/L(Mn), U=0.00015mg/L(Ni), U=0.00013mg/L(Zn)		
23	*Liquid chromatography-mass spectrometers	Signal-to-noise ratio	Calibration Specification for Liquid Chromatography - Mass Spectrometers JJF1317	16/2000 Single four-stage rod, Ion Trap:≥10:1	U_{rel}=7%		
				Triple quadrupole(ESI-)：≥10:1	U_{rel}=7%		
				Triple quadrupole (ESI+、APCI+)：≥30:1	U_{rel}=7%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
24	*Ion Chromatogragh	Minimum detectable concentration	Verification Regulation of Ion Chromatogragh JJG823	Electrical Conductivity Detector:≤0.02 μg/mL	U_{rel}=4%		
				UV-VIS Detector: ≤0.02 μg/mL	U_{rel}=4%		
				Electrochemical Detector: ≤0.02 μg/mL	U_{rel}=4%		
		Temperature		（0～50） ℃	U=0.3 ℃		
		Flow rate		（0.1～10） mL/min	U_{rel}=0.3%		
25	*Hand Saccharinmeter	concentration	Verification Regulation of Hand Saccharime(Content-meter) and Hand Refractometer JJG820	（0～65）%	U=0.3%		
		refractivity		1.3000～1.7000	U=0.0004		
26	*Fourier Transform Infrared Spectrometers	wavenumber	Calibration Specification for Fourier Transform Infrared Spectrometers JJF1319	resolution0.01：（4000～400）cm^{-1}	U=0.6cm^{-1}		
				resolution0.5：（4000～400）cm^{-1}	U=0.6cm^{-1}		
				resolution1.0：（4000～400）cm^{-1}	U=0.8cm^{-1}		
				resolution2.0：（4000～400）cm^{-1}	U=1.2cm^{-1}		
27	*Atomic Fluorescence Spectrophotometer	Detection limit	V.R. of Atomic Fluorescence Spectrophotometers JJG 939	As：≤0.4ng	U=0.006ng		
				Sb：≤0.4ng	U=0.004ng		
28	*Automatic Potentiometric Titrators	electric potential	V.R. of Automatic Potentiometric Titrator JJG814	（-1900～1900）mV	U=0.6mV		
		volume		（2～100）mL	U=0.02mL		
		molar concentration		0.1mol/L	U_{rel}=1.2%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
29	*Direct Reading Spectrometer	Detection limit	Verification Regulation of Emission Spectrometer JJG768	C：≤0.02%	U=0.0009%		
				Si：≤0.02%	U=0.0012%		
				Mn：≤0.02%	U=0.0009%		
				Cr：≤0.01%	U=0.0009%		
				Ni：≤0.02%	U=0.0011%		
				V：≤0.01%	U=0.0004%		
30	Flow Cups Viscosimeter	Viscosity	Verification Regulation for Flow Cups Viscosimeter JJG 743	（10～600）mm^2/s	U_{rel}=1.5%		
31	*ELISA Analytical Instruments	absorbance	Verification Regulation of ELISA Analytical Instruments JJG861	0.2～1.5	U=0.020		
		Wavelength		(400～700)nm	U=0.8nm		
32	*Dust Sampler	flow	Veritification Regulation of Dust Sample JJG520	（0～80）L/min	U=1.3%FS		
		time		（1～1800）s	U=0.1s		
33	*Laboratory Ion Meters	pX	Verification Regulation of Laboratory Ion Meters JJG757	Electricity：0～14	U=0.005		
				Instrument：2～4	U=0.02		
		potential		（-1900～1900）mV	U=0.4mV		
34	*Differential Scanning Calorimeters	temperature	Veritification Regulation of Differential Scanning Calorimeters JJG936	（150～450）℃	U=0.29℃(In), U=0.13℃(Sn), U=0.47℃(Pb), U=0.61℃(Zn)		
		melting heat		（20～110）J/g	U_{rel}=1.2%(In), U_{rel}=0.4%(Sn), U_{rel}=1.4%(Pb), U_{rel}=1.3%(Zn)		
35	*Inductively coupled plasma massspectrometry	Detection limit	Veritification Regulationof Inductively coupled plasma massspectrometry JJF1159	Be（0～10）μg/mL	U=0.48ng/L		
				In（0～10）μg/mL	U=0.08ng/L		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				Bi（0～10）μg/mL	U=0.06ng/L		
36	*Analyser of Oxygen-Nitrogen-Hydrogen	content	Veritification Regulation of Elemental Analyser JJF1321	O:（0.0005～0.02）%	U_{rel}=7.9%		
				N:（0.001～0.01）%	U_{rel}=8.3%		
				H:（1.0～9.0）×10^{-6}	U_{rel}=12 %		
37	Dissolved Oxygen Meter	The Concentration of Dissolved Oxygen	Verification Regulation of Dissolved Oxygen Meter JJG291	（5～16）mg/L	U=0.17mg/L		
		temperature		（0～50）℃	U=0.16℃		
38	*Sulfur Hydrogen Gas Detectors	Concentration	Verification Regulation 0f Sulfur Hydrogen Gas Detectors JJG695	（0.1～100）μmol/mol	U_{rel}=3.5%		
39	Pyknometer	Volume	Paints and varnishes-Determination of density-Pyknometer method (appendix A: calibration for pyknometer GB/T 6750	（0～100）mL	U=0.12mL		
40	*Flue Gas Analyzers	Concentration	Verification Regulation 0f Flue Gas Analyzers JJG968	SO_2:（0.1～300）μmol/mol	U_{rel}=2.1%		
		Concentration		NO:（0.1～300）μmol/mol	U_{rel}=1.8%		
		Concentration		CO：（0.1～1000）μmol/mol	U_{rel}=1.6%		
		Concentration		O_2：（0.1～25）%	U_{rel}=1.9%		
		Concentration		NO_2：（0.1～100）μmol/mol	U_{rel}=2%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
41	*Carbon Monoxide Detectors	Gas Concentration	Verification Regulation 0f Carbon Monoxide Detectors JJG915	（0.1～1000）μmol/mol	U_{rel}=1.9%		
42	*Elemental Analyser	content	Veritification Regulation of Elemental Analyser JJF1321	N:（0.1～46.6）%	U_{rel}=2.4%;	N Analyser,CHN Analyser,H Analyser	
		content		C:（40～85）%	U_{rel}=2.4%		
				N:（0.8～8.1）%	U_{rel}=6.2%		
				H:（2～5）%	U_{rel}=3.1 %		
43	*Ammonia Gas Detectors	Concentration	Verification Regulation of Ammonia Gas Detectors JJG1105	（1～300）μmol/mol	U_{rel}=3.1%		
		Time		（1～3600）s	U=3s		
44	*Electrochemical Oxygen Meter	Concentration	Verification Regulation of Electrochemical Oxygen Meter JJG365	（25～100）%	U_{rel}=3.1%		
		Concentration		（0.1～25）%	U_{rel}=3.3%		
		Time		（1～3600）s	U=2s		
45	*Carbon Monoxide and Carbon Dioxide Infrared Gas Analyzer	Concentration	Verification Regulation of Carbon Monoxide and Carbon Dioxide Infrared Gas Analyzer JJG 635	CO:（1～1000）μmol/mol	U_{rel}=1.7%		
		Concentration		CO_2：（0.1～100）%	U_{rel}=2.6%		
		Time		（1～3600）s	U=2s		
46	Samplers for Stack Dust	flow rate	Verification Regulation 0f Samplers for Stack Dust JJG680	（6～100）L/min	U_{rel}=1.4%		
		temperature		Flowmeter Temperature：（10～35）℃	U=0.2℃		
		temperature		Flue Gas Temperature：（10～300）℃	U=0.3℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		pressure		Dynamic Pressure:（0.1～1）kPa	U=1.2Pa		
				Dynamic Pressure:（1～2.5）kPa	U=12Pa		
				Flow meter pressure, static pressure:（-100～100）kPa	U=0.06kPa		
		time		（1～3600）s	U=0.3s		
47	*Total Suspended Particulates	Flow Rate	Verification Regulation 0f Total Suspended Particulates JJG943	（80～150）L/min	U_{rel}=1.2%		
		Flow Rate		（150～1200）L/min	U_{rel}=1.3%		
		Pressure		（87～105）kPa	U=2.5hPa		
		Temperature		（0～50）℃	U=0.2℃		
		Time		（1～3600）s	U=0.3s		
48	*Laser particle size analyzer	particle size	Calibration Specifition for Laser Particle Size JJF1211	（1～5） μm	U_{rel}=8%		
				（5～20） μm	U_{rel}=5%		
				（20～120） μm	U_{rel}=3%		
				50.1 μm（玻璃微珠）	U_{rel}=6%		
49	*Carbon-Sulfur Analyzers	content	Verification Regulation of Carbon-Sulfur Analyzers JJG 395	C:（0.005～0.01）%	U_{rel}=5.3%	Infrared carbon-sulfur analyzer,Automatic high speed carbon-sulfur	
				C:（0.01～0.1）%	U_{rel}=3.6%		
				C:（0.1～1）%	U_{rel}=1.1%		
				C:（1～4）%	U_{rel}=0.9%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				S:（0.003～0.01）%	U_{rel}=6.0%	analyzer	
				S:（0.01～0.1）%	U_{rel}=4.7%		
				S:（0.1～0.2）%	U_{rel}=3.7%		
		content		C:（0.030～0.1）%	U_{rel}=5.0%		
				C:（0.1～0.5）%	U_{rel}=2.7%		
				C:（0.5～1）%	U_{rel}=2.7%		
				C:（1～4）%	U_{rel}=1.6%		
				S:（0.003～0.01）%	U_{rel}=6.7%		
				S:（0.01～0.05）%	U_{rel}=5.5%		
				S:（0.05～0.1）%	U_{rel}=4.2%		
				S:（0.1～0.2）%	U_{rel}=4.0%		
50	*Flash Point Tester	Flash point	Calibration Specification for Open/Closed Cup Flash Point Testers JJF 1384	Closed cupflash point:（70～110）℃	U=5.4℃		
				Closed cupflash point:（110～170）℃	U=7.7℃		
				Open cupflash point:（110~250）℃	U=8.3℃		
51	*Osmometers	molar concentration	Verification Regulation of Osmometers JJG1089	（90～400）mOsmol/kg	U=2.4mOsmol/kg		
				（400～710）mOsmol/kg	U_{rel}=0.7%		
52	*Thermogravimetric Analyzers	Curie temperature	Verification Regulation for Thermogravimetric Analyzers JJG 1135	（250～500）℃	U=1.3℃		
				（50～250）℃	U=1.1℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				（500～800）℃	U=2.0℃		
		Melting point		（50～200）℃	U=0.6℃		
				（200～300）℃	U=0.5℃		
				（300～400）℃	U=0.7℃		
				（400～500）℃	U=0.8℃		
		mass		（1～50）mg	U=0.020mg		
53	*Analyzers for oil content in water	Concentration	Analyzers for Oil Content in water JJG 950	（0.1～10）mg/L	U=0.17mg/L		
				（10～1000）mg/L	U_{rel}=3.1%		
54	*On-line pH Meters	pH	Calibration Specification for On-line pH Meters JJF1547	Electricity pH:(0～14)	U=0.01		
				Instrument pH:(3～10)	U=0.03		
		Voltage		（-1900～1900）mV	U=0.04%FS		
55	*Karl Fischer Volumetric Titrators for Water Content	Water Content	Karl Fischer Volumetric Titrators for Water Content JJG1154	（0.01～1）%	U_{rel}=7.6%		
56	*Residual Chlorine Meters	Concentration	Calibration Specification for Residual Chlorine Meters JJF 1609	Total residual chlorine （0.1～500）mg/L	U_{rel}=3.2%		
		Concentration		Free residual chlorine: （0.1～50）mg/L	U_{rel}=3.3 %		
57	*Polymerase Chain Reaction Analyzers	Particle concentration	Calibration Specification for Polymerase Chain Reaction Analyzers JJF 1527	（10～100）℃	U=0.2℃		
		Concentration		（0.1～10^8）copies/μL	U_{rel}=8.0%		
58	*Fluorescence spectrophotometer	Detection limit	Verification Regulation of Fluorescence	A Type：≤5×10^{-10}g/mL	U=5.2×10^{-12}g/mL		

The scope of the accreditation in Chinese remains the definitive version.

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
			spectrophotometer JJG 537	BType：≤1×10^{-8}g/mL	U=6.0×10^{-10}g/mL		
		Wavelength		（200～700）nm	U=0.4nm		
59	*Chemical OxygenDemand（COD）Meters	Temperature	Chemical OxygenDemand（COD） Meters JJG 975	（100～200）℃	U=0.6℃		
		time		（1～3600）s	U=0.5s		
		concentration（Type A)		（0.1～50）mg/L	U_{rel}=2.6%		
				（50～300）mg/L	U_{rel}=2.0%		
				（300～1000）mg/L	U_{rel}=1.8%		
		concentration（Type B)		（0.1～100）mg/L	U=2.6%		
60	*Class II Biosafety Cabinets	Wind speed	Calibration specification for Class II Biosafety Cabinets JJF 1815	（0.2～1.5）m/s	U=0.04m/s		
		Nosie		（40～100）dB	U=3dB		
		illumination		（50～200）lx	U_{rel}=14%		
				(200～2000)lx	U_{rel}=12%		
		cleanliness		（0.3～5）μm	U_{rel}=29%		
		Leakage rate		（0.0001～1）%	U_{rel}=30%		
61	*Volatile Organic Compounds Photo Ionization Detectors	Concentration	Calibration Specification for Volatile Organic Compounds Photo Ionization Detectors JJF 1172	（0.1～2000）μmol/mol	U_{rel}=3.1%		
62	*Total organic carbon analyzer	Concentration of Inorganic carbon	Verification Regulation of Total Organic Carbon Analyzer JJG 821	（0.01～1000）mg/L	U_{rel}=1.6%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Concentration of Organic carbon		（0.01～1000）mg/L	U_{rel}=U_{rel}=1.8%		
63	*Time-of-Flight Mass Spectrometers	mass-to-charge ratio	Calibration Specification for Time-of-Flight Mass Spectrometers JJF 1528	ESI-TOF-MS：（172～4070）u	$U_{rel}=3\times10^{-5}$		
				MALDI-TOF-MS：（1000～67000）u	$U_{rel}=8\times10^{-3}$		
		Signal to noise ratio		ESI-TOF-MS：1～10^6	U_{rel}=15%		
				MALDI-TOF-MS：1～10^6	U_{rel}=18%		
64	*On-line Conductivity Meters	Conductivity	Calibration Specification for Oniline Conductivity Meters JJF(Xin) 19	Electricity:（1～2×10^4）μS/cm	U=0.24%FS		
		Conductivity		Instrument:（0.9 ～1.3×10^4）μS/cm	U=0.8%FS		
		Temperature		（0～50）℃	U=0.3℃		
65	*On-line Automatic Determinators of Chemical Oxygen Demand(COD)	concentration	Verification Regulation of On-line Automatic Determinators of Chemical Oxygen Demand(COD) JJG 1012	（16～1000）mg/L	U_{rel}=4%		
66	*Micro-spectrophotometers	concentration	Calibration Specification for Micro-spectrophotometers JJF 1836	（10～2000）ng/μL	U_{rel}=10%		
67	*Alarmer Detector of Sulfur Hexafluoride	concentration	Calibration Specification for the Alarmer Detector of Sulfur Hexafluoride JJF 1263	（0.1～1000）μmol/mol	U_{rel}=2.4%		
		time		5s～3600s	U=1s		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
68	*Bacterial Endotoxin Analyzers	temperature	Calibration Specification for acterial Endotoxin Analyzers JJF1529	（20.0～50.0）℃	U=0.2℃		
69	*Colony Counters	Bacterial Colony	Calibration Specification for Colony Counters JJF 1751	（20～300）CFU	U_{rel}=3%		
70	*Blood Cell Analyzers	concentration	Verification Regulation of Blood Cell Analyzers JJG 714	WBC：（2×10^{8}～2.5×10^{10}）个/L	U_{rel}=4%		
				RBC：（1×10^{11}～6×10^{13}）个/L	U_{rel}=3%		
				HGB：（20～300）g/L	U_{rel}=3%		
				PLT：（5×10^{9}～5×10^{12}）个/L	U_{rel}=8%		
71	*Hydrogen Chloride Gas Detectors and Alarms	Concentration	Calibration Specification for Hydrogen Chloride Gas Detectors and Alarms JJF 1888	（0.1～100）μmol/mol	U_{rel}=3.0%		
		Time		（1～3600）s	U=1s		
72	*(Automatic) Nucleic acid extractors	Temperature	Calibration Specification for (Automatic) Nucleic Acid Extractors JJF 1874	（20～100）℃	U=1.5℃		
		Vibration frequency		（0.5～100）Hz	U=0.6Hz		
		Volume		（50～200）μL	U=1.3 μL		
		Recovery rate		（10～100）%	U=2.4%		
73	Flue Gas Samplers	flow rate	Verification Regulation of Flue Gas Samplers JJG 1169	（50～2000）mL/min	U_{rel}=1.2%		
		time		（10～3600）s	U=0.3 s		
		temperature		（0～50） ℃	U=0.2 ℃		
		pressure		（-40～40）kPa	U=0.06 kPa		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		atmospheric pressure		（80～106）kPa	U=0.16 kPa		
74	*Plate Electrophoresis Apparatus	Voltage	Calibration Specification for Plate Electrophoresis Apparatus JJF 1654	（0.2～20）V	U=0.3 V		
				（20～1000）V	U=0.4 V		
		Electricity		（2～20）mA	U=0.3 mA		
				20mA～2A	U=0.6 mA		
				（2～10）A	U=0.7mA		
75	*Elemental Analyzers of C、H、N、S	Content	Calibration Specification foe Elemental Analyzers JJF 1321	C：（0.1～42） %	U_{rel}=4%		
				H：（0.1～5） %	U_{rel}=1.5%		
				N：（0.1～9） %	U_{rel}=3%		
				S：（0.1～19）%	U_{rel}=4%		
76	*Ultraviolet Fluorescence Sulfur Analyzers	Indication error	Calibration Specification for Ultraviolet Fluorescence Sulfur Analyzers JJF 1685	（0～10.0）mg/L	U=0.2mg/L		
				（10.0～100）mg/L	U_{rel}=4%		
				（100～200）mg/L	U_{rel}=3%		
77	*Flame Photometer	Detection limit	Verification Regulation of Flame Photometer JJG 630	K：≤0.004mmol/L	U=0.0005mmol/L		
				Na：≤0.008mmol/L	U=0.0023mmol/L		
78	*Ammonia-Nitrogen Automatic Analyzers	Concentration	Verification Regulation of Ammonia-Nitrogen Automatic Analyzers JJF 631	（0～2）mg/L	U=0.05 mg/L		
				（2～100）mg/L	U_{rel}=2.8 %		
79	*Energy Dispersive X-ray Fluorescence	Concentration	Calibration Specification for Energy Dispersive X-ray Fluorescence Spectrometers	polymer:（5～1200）mg/kg	U_{rel}=6%		

The scope of the accreditation in Chinese remains the definitive version.

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Spectrometers	Concentration	JJF 2024	metal：（0.001～100）%	U_{rel}=5%		
		Detection Limit		polymer：≤50mg/kg	U_{rel}=20%		
		Detection Limit		metal：≤100mg/kg	U_{rel}=25 %		
九、Special test							
1	*Electrosurgical Generator	Output Power	C.S.for Electrosurgical Generator JJF 1217	(1～500)W	U_{rel}=6%		
2	*Friability Surveymeter	rotate speed	C.S.for Disintegration Analyzers JJF(Lu)92	(20～200)r/min	U_{rel}=0.7%		
		Time		(0～300)mm	U=0.2mm		
		Length		1s～10min	U=0.2s		
3	*Cardiac defibrillators	delivered energy	C.S.for Cardiac Defibrillators JJF 1149	(2～40)J	U=2J		
				(40～360)J	U_{rel}=5%		
		pulse frequency		(40～200)min^{-1}	U_{rel}=1%		
		pulse width		(20～50)ms	U=0.5ms		
		pulse current amplitude		(1～10)mA	U=0.2mA		
				(10～100)mA	U_{rel}=1.3%		
		direct voltage		（0.5～2.0）mV	U_{rel}=2.8%		
		Scanning speed		25mm/s	U_{rel}=0.3%		
		Amplitude-frequency characteristics		1mV（1Hz～25Hz）	U_{rel}=1.4%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Heart Rate		(30～200)min^{-1}	U=1time/min		
4	*Multifunction Patient Monitoring Instruments	Electrocardio voltage	V.R.of Multifunction Patient Monitoring Instruments JJG 1163	(0.5～2.0)mV	U_{rel}=2.8%	/	
		Scanning speed		(25～50)mm/s	U_{rel}=0.3%		
		Heart Rate		(30～200)min^{-1}	U=1time/min		
		Pressure		(6～40)kPa	U=0.26kPa		
		Pulse rate		(30～200)min^{-1}	U=1time/min		
		Amplitude-frequency characteristics		1mV（1Hz～25Hz）	U_{rel}=1.4%		
5	*Ventilators	Tidal Volume	C.S.for Ventilators JJF1234	（50～1000）mL	U_{rel}=5%	/	
		Frequency		（10～40）min^{-1}	U_{rel}=4%		
		Inspiratory Flow Oxygen Concentration		21%～100%	U=4%		
		Pressure		（0.2～3）kPa	U_{rel}=6%		
6	*Hemodialysis Equipment	Dialysate Conductivity	C.S.for Hemodialysis Equipment JJF 1353	(12.5 ～15.5)mS/cm	U=0.15mS/cm	/	
		Dialysate Temperature		(25 ～40)℃	U=0.2℃		
		Dialysate Pressure		（20～100）kPa	U=0.4kPa		
		Static (arterial) pulse pressure		（20～100）kPa	U=0.4kPa		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Dialysate Flow		（400～800）mL/min	U_{rel}=5%		
		Anticoagulant pump injection flow		（400～800）mL/min	U_{rel}=5%		
		Dialysate 1pH Value		pH:(6～10)	U=0.06pH		
		Mass		2kg 、10kg	U=1.0g		
		Dehydrating capacity		500mL/h、1000mL/h	U_{rel}=2.7%		
7	*Tester for Ductility of Bituminous Materials	Temperature	Verification Regulation of Tester for Ductility of Bituminous Materials JJG（JT） 023	(0～50)℃	U=0.11℃		
		Speed		(10～50) mm/min	U=0.02mm/min		
		Length		(0～200)mm	U=0.03mm		
				(200～3000)mm	U=1.1mm		
		Roughness		(0.1～10) μm	U_{rel}=6.6%		
8	*Electric Compaction Instrument	Weight	Verification Regulation of Compaction Instrument of Soil JJG（JT）058	（0～5000）g	U=0.3g	/	
		Length		（0～1000）mm	U=1.0mm		
		Length		（0～500）mm	U=0.03mm		
		Length		(0.05～14.80)mm	U=0.02mm		
9	*Apparatus for Softening Point of Bitumen	Weight	Verification Regulation of Apparatus for Softening Point of Bitumen JJG（JT ） 057	（0～210）g	U=0.02g		
		Length		（0～200）mm	U=0.03mm	/	
		Temperature		（0～100）℃	U=0.1℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Volume		（0～1000）mL	U=2.0mL		
		Heating Rate		（0～10）℃/min	U=0.4℃/min		
10	*Cement Consistency and Setting Time Detector	Weight	Verification Regulation for cement testing apparatus of the onrmal consistency and setting time JJG (JC) 105	（0～500）g	U=0.3g	/	
		Angle		(0～120)°	U=3'		
		Length		（0～100）mm	U=0.04mm		
11	*Jolting Table for Compacting Mortars Specimen	Length	Calibration Specification for Jolting Table for Compacting Mortars Specimen JJF(JC) 124	（0.5～100）mm	U=0.12mm		
		Weight		（0～35000）g	U=0.3g		
		Time		（0～3600）s	U=0.12s		
12	*Biological, Chemical, Sterile Pharmaceutical Production Equipment	Temperature	Calibration Specification for Biological, Chemical, Sterile Pharmaceutical Production Equipment SQI/JL-JF-42	(-100～600)℃	U=（0.03～0.08）℃	/	
		Pressure		Element pressure gauges; （-0.1～60）MPa	U=0.68%FS		
		Pressure		Digital pressure gauges：（0～60）MPa	U=0.06%FS		
		Revolution Speed		(2.5～30000) r/min	U_{rel}=0.3%		
		Flow		（0.5～38）m^3/h	U=0.34%FS		
13	*Inspecting Instrument of Construction Engineering and Building Materials	Length	Calibration Specification for Inspecting Instrumentof Construction Engineering and Building Materials SQI/JL-JF-41	Height:(0～1000) mm	U=0.2mm	/	
		Length		Amplitude:(0～10) mm	U=0.02mm		
		Length		Displacement:(0.5～291.8) mm	U=2.0mm		
		Length		(0～3.5) m	U= 2mm		
		Length		Diameter:(0～500) mm	U=0.04mm		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Length		Gap Value:(0.05～2)mm	U=0.06mm		
		Vertical Degree		(0～200) mm	U= 0.03mm		
		Revolution Speed		(2.5～30000) r/min	U_{rel}=0.3%		
		Angle		(-120～120) °	U= 0.6′		
		Pressure		Pressure Gauge（-0.1～60）MPa	U=0.68%FS		
		Pressure		Digital Pressure Gauges（0～60）MPa	U=0.06%FS		
		Temperature		(-100～600)℃	U=0.08℃		
		Time		（0～10）h	U=0.06s		
		Weight		(0～35)kg	U=1.5 g		
14	*Board Compression Strength Tester	force	Verification Regulation of Board Compression Strength Tester JJG(QG)49	(0.5～6000)N	U_{rel}=0.4%		
15	*Compression Strength Tester for Corrugated Box	force	Verification Regulation of Compression Strength Tester for Corrugated Box JJG(QG)115	(0.0005～50)kN	U_{rel}=0.4%		
16	*MIT Type Folding Apparatus	force	Verification Regulation of MIT Type Folding Apparatus JJG(QG)59	15N	U=0.1N		
		Rotation Speed		175r/min	U_{rel}=0.5%		
17	*Paper and Cardboard Bursting Strength Meter	Pressure	Calibration Specification for Bursting Strength Tester for Paper and Board JJF(QG) 116	(0.1～6)MPa	U=3.9kPa		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
18	*Board Puncture Strength Tester	force	Verification Regulation of Board Puncture Strength Tester JJG(QG)56	(0.5～500)N	U_{rel}=0.4%		
19	*Pendulum-type Paper Tensile Breaking Strength Testing Machine	Force	Calibration Specification for Tensile Strength Testing Machines for Paper and Board JJF(QG)115	0.5N～50kN	U_{rel}=0.4%		
20	*Horizontal Tensile Breaking Strength Testing Machine	force	Verification Regulation of Horizontal Tensile Breaking Strength Testing Machine JJG(QG)58.2	(0.5～1000)N	U_{rel}=0.4%		
21	*Paper and Cardboard Thickness Tester	Length	Verification Regulation of Paper and Cardboard Thickness Tester JJG(QG)50.1	(0.5～100)mm	U=6.2 μ m		
22	*Corrugated Plate Thickness Tester	Length	Verification Regulation of Corrugated Plate Thickness Tester JJG(QG)50.2	(0.5～100)mm	U=6.2 μ m		
23	*Configuration Fatigue Tester for Part of Bicycle	Static force value	Calibration Specification for Configuration Fatigue Tester for Part of Bicycle JJF(QG)106	（0.1～50000）N	U_{rel}=0.2%		
		Dynamic force value		（50～10000）N	U_{rel}=1.0%		
		Frequency		（10～10000）r/min	U_{rel}=0.2%		
		Frequency		（100～10000）次	U=1 次		
24	*Static Load Tester for Part of Bicycle	Force value	Calibration Specification for Static Load Tester for Part of Bicycle JJF(QG121	（10～50000）N	U_{rel}=0.2%		
		Time		（0.01～3600）s	U=0.13s		
25	*Wearing Tester for Axle Bowl、Pedal and Axle of	Force value	Calibration Specification for Wearing Tester for Axle Bowl、Pedal and Axle of	（50～50000）N	U_{rel}=0.4%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Bicycle	Rotation Speed	Bicycle JJF(QG)123	（10～5000）r/min	U_{rel}=0.6%		
26	*Wheel Tires Fatigue Testing Machine	force	Calibration Specification for Wheel Tires Fatigue Tester SQI/JL-JF-17	1N～50kN	U_{rel}=0.5%		
		speed		(0.1～10)m/s	U_{rel}=3.2%		
		Length		(1～300)mm	U=0.04mm		
27	*Brake Performance Tester	force	Calibration Specification for Brake Performance Tester SQI/JL-JF-22	1N～50kN	U_{rel}=0.69%		
		speed		(0.1～10)m/s	U_{rel}=2.0%		
28	*Impact Tester for Part of Bicycle	Length	Calibration Specification for Impact Tester for Part of Bicycle JJF(QG)122	（0～600）mm	U=0.02mm		
				（600～5000）mm	U=0.7mm		
		Quality		10g～1000kg	U_{rel}=0.2%		
		Hardness		（20～70）HRC	U=0.7HRC		
29	*Vibration Tester of Bicycle	Rotation speed	Calibration Specification for Vibration Tester of Bicycle JJF(QG)107	（10～10000）r/min	U_{rel}=0.2%		
		Acceleration		（0.5～10）m/s^2	U_{rel}=1.0%		
		Force value		（50～50000）N	U_{rel}=0.4%		
		Amplitude		（2～20）mm	U_{rel}=0.5%		
30	*Motor Vehicle Testers for Steering Force and Steering Angle	Torque	Calibration Specification for Motor Vehicle Testers for Steering Force and Steering Angle JJF1196	（1～1000）Nm	U_{rel}=0.72%		
		Force		（0.5～1000）N	U_{rel}=0.60%		
		Angle		（1～1000）°	U=0.1°		
31	*Roller Type Speedmeter Tester	Speed	Roller Type Speedmeter Tester JJG909	（0.1～200）km/h	U_{rel}=0.31%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
32	*Measurer for Adhesion Performance of Retroreflective Sheeting	Length	Verification Regulation of Measurer for Adhesion Performance of Retroreflective Sheeting JJG (JT) 083	(0～500)mm	U=0.07mm		
		Weight		(0～850)g	U=0.2g		
33	*Measurer for Impact Resistance of Retroreflective Sheeting	Length	Verification Regulation of Measurer for Impact Resistance of Retroreflective Sheeting JJG (JT) 084	(0～500)mm	U=0.08mm		
		Weight		(0～1000)g	U=0.2g		
34	*Measurer for Resistance to Impact of Raised Pavement Markers	Length	Verification Regulation of Measurer for Resistance to Impact of Raised Pavement Markers JJG (JT) 080	(0～1500)mm	U=1.0mm		
		Weight		(0～2000)g	U=0.6g		
35	*Fibrics Bursting Tester	Pressure	Calibration Specification for Fabric Bursting Tester JJF（FZ）048	(0～2.5)MPa	U=0.003MPa		
		Time		(0～60)s	U=0.04s		
		Length		Bursting Expansion：(0.5～100)mm	U=0.02mm		
		Length		Aperture：(0～500)mm	U=0.06mm		
36	*Yarn Twist Tester	Force	Calibration Specification for Yarn Twist Tester JJF (FZ) 010	(0.1～20)N	U_{rel}=0.2%		
		Rotation Rate		(10～5000)r/min	U_{rel}=0.3%		
		Length		(0～500)mm	U=0.06mm		
37	*Fibre Strength Tester	Length	Calibration Specification for Fibre Strength Tester JJF (FZ) 016	(0～40)mm	U=0.03mm		
		Force		(0.01～200)cN	U_{rel}=0.6%		
		Mass		(0～100)g	U=0.020g		
		Velocity		(0.05～600)mm/min	U_{rel}=0.2%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
38	*Sock Stretch Tester	Length	Calibration Specification for Sock Stretch Tester JJF (FZ) 017	(0～500)mm	U=0.06mm		
		Velocity		(1～200)mm/s	U_{rel}=0.2%		
		Force		(1～100)N	U_{rel}=0.2%		
39	*Wrap Reelers	Force	Calibration Specification for Wrap Reelers JJF (FZ) 019	(5～200)cN	U_{rel}=0.4%		
		Length		(0～1000)mm	U=0.3mm		
		Rotation Rate		(30～250)r/min	U_{rel}=0.5%		
		Time		(0～60)s	U=0.4s		
40	*Textile Yarn Length Tester	Length	Calibration Specification for Textile Yarn Length Tester JJF (FZ) 021	(0～1000)mm	U=0.06mm		
		Force		(0.01～200)cN	U_{rel}=0.6%		
41	*Roller Fiber Length Analyzer	Length	Calibration Specification for Roller Fiber Length Analyzer JJF (FZ) 024	(0～150)mm	U=0.04mm		
42	*Corlour Fastness to Friction Testers	Rotation Rate	Calibration Specification for Corlour Fastness to Friction Testers JJF (FZ) 027	(10～200）r/min	U_{rel}=0.2%		
		Force		(0.5～100)N	U_{rel}=0.4%		
		Length		(0～150)mm	U=0.04mm		
43	*Perspiration Fastness Instruments	Length	Calibration Specification for Perspiration Fastness Instruments JJF (FZ) 028	(0～150)mm	U=0.04mm		
		Force		(0.1～100)N	U_{rel}=1.3%		
44	*Circular Locus Method Fuzzing and Pilling Testers	Speed	Calibration Secification for Circular Locus Method Fuzzing and Pilling Testers JJF (FZ) 031	（0.1～100）r/min	U_{rel}=0.2%		
		Length		（0.1～5）mm	U=0.03mm		
				（5～150）mm	U=0.04mm		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Force		（0.1～1000）cN	U=0.64cN		
45	*Vertical Fabric Crease Recovery Tester	Length	Calibration Specification for Vertical Fabric Crease Recovery Tester JJF (FZ) 032	(1～150)mm	U=0.06mm		
		Mass		1g～2kg	U=0.15g		
		Time		(1～600)s	U=0.13s		
		Angle		(0～200)°	U=0.02°		
46	*Fabric Drapability Tester	Rotation Rate	Calibration Specification for Fabric Drapability Tester JJF (FZ) 033	(10～500)r/min	U_{rel}=1.4%		
		Length		180mm，120mm	U=0.06mm		
		Drape coefficient		30%～100%	U_{rel}=1.5%		
		Time		(0～300)s	U=0.4s		
47	*Fabric Flat-Rubbing Tester	Rotation Rate	Calibration Specification for Fabric Flat-Rubbing Tester JJF (FZ) 036	(10～500)r/min	U_{rel}=0.3%		
		Length		(0.1～150)mm	U=0.04mm		
		Mass		(0.1～600)g	U=0.020g		
				(600～1000)g	U=0.13g		
				(1000～2000)g	U=0.15g		
				(2000～3000)g	U=0.20g		
48	*Fuzzing and Pilling Tester	Length	Calibration Specification for Fuzzing and Pilling Tester JJF (FZ) 053	(0～300)mm	U=0.05mm		
		Friction Coefficient		0.4～1.0	U_{rel}=0.2%		
		Rotation Rate		(10～100）r/min	U_{rel}=1.4%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Mass		(0.1～100)g	U=0.020g		
		hardness		（20～80）HA	U=1.2HA		
49	*Tester of Filament Crimp Shrinkage	Force	Calibration Specification for Tester of Filament Crimp Shrinkage JJF (FZ) 057	(0.025～50)N	U_{rel}=0.58%		
		Length		(0～1000)mm	U=0.22mm		
		Time		0.1s～1h	U=0.18s		
50	*Electronic Fabric Strength Machines	Time	Calibration Specification for Electronic Fabric Strength Machines JJF (FZ) 062	(0～3600)s	U=0.13s		
		Length		(0～500)mm	U=0.06mm		
		Force		(0.1～5000)N	U_{rel}=1.3%		
		Mass		(0.1～3000)g	U=0.15g		
51	*Down-proof Properties of Fabrics(Rubbing Test)	Length	Calibration Specification for Down-proof Properties of Fabrics(Rubbing Test) JJF (FZ) 064	(0～500)mm	U=0.06mm		
		Rotation Rate		(10～500)r/min	U_{rel}=0.3%		
52	*Fabric Shedding Testers	Length	Calibration Specification for Fabric Shedding Testers JJF (FZ) 084	(0～500)mm	U=0.06mm		
		Rotation Rate		(10～100)cpm	U_{rel}=0.2%		
		Mass		(0.5～1200)g	U=0.15g		
53	*Fabric Induction Electrometer Meter	Time	Calibration Specification for Fabric Induction Electrometer Meter JJF (FZ) 070	(0～60)s	U=0.16s		
		Rotate speed		(50～2000) r/min	U_{rel}=0.12%		
		Length		(0～300)mm	U=0.03mm		
		Voltage		(0.05～12)kV	U_{rel}=0.6%		
54	*Rotary Friction	Time	Calibration Specification for	(0～600)s	U=0.16s		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Electrostatic Tester	Rotate speed	Rotary Friction Electrostatic Tester JJF (FZ) 069	(50～500) r/min	U_{rel}=0.12%		
		Length		(0～300)mm	U=0.03mm		
		Voltage		(0.01～1000)V	U_{rel}=0.2%		
		Mass		(0～1000)g	U=0.024g		
55	*Textiles 45° Combustion Tester	Length	Calibration Specification for Textiles 45° Combustion Tester JJF(FZ)087	(0～150)mm	U=0.04mm		
		Length		(150～1000)mm	U=0.5mm		
		Time		(0～60)min	U=0.16s		
		Weight		(0～500)g	U=0.018g		
		Degree		(0～90)°	U=0.2°		
56	*Vertical Combustion Testers	Length	Calibration Specification for Vertical Combustion Testers JJF(FZ)068	(0～150)mm	U=0.06mm		
		Length		(150～900)mm	U=0.5mm		
		Time		(0～10)min	U=0.17s		
		weight		(0～500)g	U=0.012g		
		Degree		(0～90)°	U=0.2°		
		Speed		(0～60)mm/s	U=0.36mm/s		
57	*Textile Frictional Static Charges Tester	Static Charges	Calibration Specification for Textile Frictional Static Charges Tester JJF（FZ）071	(0.05～1.1) μC	U=0.002 μC		
		Length		(0～1000)mm	U=0.5mm		
58	*Scorch and Sublimation Tester	temperature	Calibration Specification for Scorch and Sublimation Tester JJF（FZ）029	deviation：（0~250）℃	U=1.3℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				volatility：（0～250）℃	U=0.5℃		
		Time		1ms～30s	U=0.40s		
		gravity value		（0.4～16）N	U=0.4N		
59	*Eight-Basket Oven	Temperature	Calibration Specification of Eight-Basket Oven JJF（Textile）011	（0～300）℃	U=0.3℃		
		Basket quality		(1～500)g	U=2.0mg		
60	*Constant Temperature Humidity Chambers	Temperature	Calibration Specification of Constant Temperature Humidity Chamber JJF(Textile)060	（0～300）℃	U=0.22℃		
		Humidity		（10～90）%RH	U=1.2%RH		
		wind speed		（0.4～20）m/s	U=0.10m/s		
61	*Light and Weather Fastness Testers	temperature	Calibration Specification for Light and Weather Fastness Testers JJF（Textile）051	Test chamber：（0～80）℃	U=0.5℃		
				Black plate：（20～150）℃	U=1.1℃		
				Black standard：（20～150）℃	U=0.9℃		
		humidity		(10～90)%RH	U=1.5%RH		
		Speed		（0.1～10）r/min	U_{rel}=0.7%		
		Time		0.1s～1h	U=0.2s		
		Iiradiance		300nm～400nm: （0.1～50.00）W/m^2	U_{rel}=10%		
				420nm: （0.01～2.00）W/m^2	U_{rel}=10%		
	*Textiles Solar	Wavelength	Calibration Specification for Textiles Solar Ultraviolet	（200～500）nm	U=0.8nm		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Radiation Protective Properties Testers	Transmittance	Radiation Protective Properties Testers JJF（FZ）081	8%～35%	U_{rel}=1.6%		
				0.8%～1.1%	U_{rel}=14%		
63	*Medicinal Magnetic Resonance Imaging System (MRI)	Magneticfield strength	V. R. for Medicinal Magnetic Resonance Imaging System JJG（HU）54	10mT～1900mT	U_{rel}=1.5%		
		Length		0.5mm～100mm	U=0.3mm		
64	*Voltage Dips, Short Interruptions and Voltage Variations Test Generators	Voltage	Calibration Specification for Voltage Dips, Short Interruptions and Voltage Variations Test Generators JJF 1673	10mV～360V	U_{rel}=0.2%		
		Rising and falling time		Rise time（1～50）μs，Descent time（1～50）μs	U_{rel}=4.0%		
		Time		1ms～60s	U_{rel}=2.0%		
		Phase angle		（0～360）°	U=2°		
		Peak impulse current		（10～1200）A	U_{rel}=3.2%		
65	*Oscilloscope Current Probes	DC Current	Calibration Specification ofOscilloscope Current Probes JJF（Electronics）0036	±(10mA～100A)	U_{rel}=0.08%		
				±(100A～750A)	U_{rel}=0.8%		
		AC Current		10mA～100A	U_{rel}=0.08%		
				100 A～500 A	U_{rel}=0.8%		
		DC Current attenuation coefficient		1:1～1000:1±（10mA～100A）	U_{rel}=0.08%		
				1:1～1000:1±(100A～750A)	U_{rel}=0.8%		
		AC Current attenuation		1:1～1000:1（10mA～100A）	U_{rel}=0.08%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		coefficient		1:1～1000:1（100 A～500 A ）	U_{rel}=0.8%		
		Bandwidth		DC～200MHz	U=0.21dB		
		Rise/fall time		(1～50)ns	U_{rel}=6.3%		
66	*Flow analyzers swith Spectrophotography	Wavelength	Calibration Specification for Flow analyzers swith Spectrophotography JJF 1568	（360～800）nm	U=1.6nm		
		Detectionlimit		Cyanogen:（0～0.1）mg/L	U=0.0003mg/L		
		Detectionlimit		Volatile Phenol:（0～0.1）mg/L	U=0.0003mg/L		
		Detectionlimit		Hexavalent Chromimum:（0～1）mg/L	U=0.001mg/L		
		Detectionlimit		Sulfide:（0～1）mg/L	U=0.002mg/L		
		Detectionlimit		Total Phosphorus:（0～5）mg/L	U=0.002mg/L		
		Detectionlimit		Total Nitrogen :（0～5）mg/L	U=0.02mg/L		
		Detectionlimit		Ammonia Nitrogen:（0～5）mg/L	U=0.02mg/L		
		Detectionlimit		Anion Active Derergent:（0～5）mg/L	U=0.04mg/L		
67	*Calibration Specification of Top Open Washing Shrinkage Testers	water level	Calibration Specification of Top Open Washing Shrinkage Testers JJF(FZ) 092	(30～80)L	U=0.5L		
		Speed		(20～180)次/min	U=0.5 次/min		
		time		(180～3600)s	U=5.0s		
		rotation rate		(20～1000)r/min	U_{rel}=0.3%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
68	*Down Filling Power Tester	Length	Calibration Secification for Down Filling Power Tester JJF（FZ）074	Heigth（0～1000）mm	U=0.3mm		
				Inner diameter：（0～300）mm	U=0.10mm		
				Plate diameter：（0～300）mm	U=0.10mm		
		Quality		（1～500）g	U=0.020g		
69	*Crimp Elastic Tester	Fixed length distance	Calibration Specification for Crimp Elastic Tester JJF（FZ）040	Length：（0～50）mm	U=0.04mm		
				Descending stroke：（0～30）mm	U=0.02mm		
		Quality		（0～1000）mg	U=1.7mg		
		Time		（0～360）s	U=0.4s		
		Force		（0.1～100）mN	U=0.01mN（0.2index）		
70	*Damped Oscillatory Wave Simulators	Voltage	Calibration Specification for Damped Oscillatory Wave Simulators JJF 2016	（0.25～4）kV	U_{rel}=3.7%		
		Current		（1.25～80）A	U_{rel}=3.5%		
		Time		10ns～10s	U_{rel}=3.1%		
		Frequency		100kHz～30MHz	U_{rel}=3.1%		
71	*Impulse voltage measurement system	Voltage	Calibration Regulation of impulse voltage measurement systems JJF(JX)1029	（1～300）kV	U_{rel}=1.0%		
		Time		100ns～1s	U_{rel}=2.0%		
72	Pitot tubes	Calibration coefficient	Verification Regulation of Pitot Tubes JJG 518	L-type ： 0.99～1.01	U_{rel}=2.7%	Except for L Standard Pitot Tube	
				S-type：0.81～0.86	U_{rel}=2.4%		
73	Thermo-anemoscopes	wind speed	Calibration Specification for Thermo-anemoscopes JJF	（0.2～5）m/s	U=0.10m/s		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
			1939	（5～30）m/s	U=（0.12～0.16）m/s		
74	*Urine Analyzers	urine protein concentration	Calibration Specification of Urine Analyzers JJF 1129	（0.1～3.0）g/L	U_{rel}=10%		
		pH		4.5～8.0	U_{rel}=5%		
		urine glucose concentration		（0.1～56）mmol/L	U_{rel}=6%		
		specific gravity		1.000～1.030	U=0.007		
		red blood cell concentration		（10～200）count/μL	U_{rel}=11%		
		white blood cell concentration		（15～300）个/μL	U_{rel}=12%		
十、Gvometric sense							
1	GNSS receivers	consistency of antenna phase center	Verification Regulation of GNSS Receivers (Geodetic or Navigational Type) JJG1200	Antenna phase center consistency：（0～10）mm	U=1.8mm		
		length		（0～46.5）km	U=（1.5～16）mm		
2	Fineness of Grind Gage	length	Verification Regulation for Fineness of Grind Gage JJG905	(0～150) μm	U=(0.5～1.1) μm		
十一、Engineering parameter							
1	*ExtensoMeter	displacement	Verification Regulation of Extensometers JJG762,Standard Practice for	(0.02～0.3) mm	U=0.72um		
				(0.3～50) mm	U_{rel}=0.17%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
			Verification and Classification of Extensometer Systems ASTM E83	(50～800) mm	U_{rel}=0.20%		
十二、Ionizing radiation							
1	*X-ray Radiation Sources for Medical Computed Radiography System and Digital Radiography System	ESAK	Verification Regulation of X-ray Radiation Sources for Medical Computed Radiography System and Digital Radiography System JJG1078	0.1 μ Gy～999Gy	U_{rel}= 5.5 %		
		Tube voltage		(50～120)kV	U_{rel}=2.4%		
2	*X-ray radiation source of medical diagnostic digital subtraction angiography (DSA) system	air kerma rate	Verification regulation of X-ray radiation source of medical diagnostic digital subtraction angiography (DSA) system JJG 1067	60 μ Gy/min～1Gy/min	U_{rel}=5.9%		
		tube voltage		(50～120)kV	U_{rel}=2.4%		
3	*Medical Diagnostic X-ray Source for Dental Panorama	air kerma rate	Verification Regulation of Medical Diagnostic X-ray Source for Dental Panorama JJG 1101	60 μ Gy/min～1Gy/min	U_{rel}=5.9%		
		tube voltage		(50～120)kV	U_{rel}=2.4%		
		time		50ms～1s	U_{rel}=1.2%		
4	*Medical X-ray Radiation Sources for Mammographic Equipment	average glandular dose	Verification Regulation of Medical X-ray Radiation Sources for Mammographic Equipment JJG 1145	0.1mGy～0.1Gy	U_{rel}=9.3%		
		tube voltage		(22～40)kV	U_{rel}=2.5%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
5	*Medical Diagnostic X-ray Radiation Source for Spiral Computed Tomography(CT)	CT Dose Index	Verification Regulation of Medical Diagnostic X-ray Radiation Source for Spiral Computed Tomography(CT) JJG 961	0.01mGy～300mGy	U_{rel}=4.6%		

The scope of the accreditation in Chinese remains the definitive version.