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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
1 Geometry Measuring Instrument							
1	*Dial Indicator	Length	V. R. of Dial Gauges JJG 34	(0～30)mm/0.001mm	U=(1.6～3.7) μm		
				(0～50)mm/0.005mm	U=(3.0～6.0) μm		
				(0～50)mm/0.01mm	U=(3.6～10) μm		
2	*Dial Test Indicator	Length	V. R. of Dial Test Indicator JJG 35	（0~0.4）mm/0.001mm	U=1.2 μm		
				（0～1）mm/0.01mm	U=2.6 μm		
3	*Bore Dial Indicator with a Protective Orientation Attachment	Length	C.S. of Bore Dial Indicator JJF 1102	Φ(10～160)mm/0.001 mm	U=1.5 μm		
				Φ(6～160)mm/0.01mm，Working stroke ≤1mm	U=2.4 μm		

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				Φ(6～160)mm/0.01 mm，Working stroke ≤ 1.6mm	U=4.2 μm		
4	*Current Caliper	Length	V. R. of Current Caliper JJG 30	(0～1000)mm/0.01mm	U=(0.01～0.02)mm		
5	*Height Caliper	Length	V. R. of Height Caliper JJG 31	(0～1000)mm/0.01mm	U=(0.01～0.02)mm		
6	*Micrometer	Length	V. R. of Micrometer JJG 21	(0～500)mm/0.001mm	U=（1.0～2.0） μm		
				Calibration measuring rod：(25～475)mm	U=（0.6～1.4） μm		
7	Gauge blocks	Length	V. R. of Gauge Blocks JJG 146	(0.5～100)mm	U=0.20 μm+2×10^{-6}L(k=2.7)		
				(>100～300)mm	U=0.50 μm+5×10^{-6}L(k=2.7)		
8	*Micrometers of Measuring Inside Dimension	Length	C.S. of Micrometers of Measuring Inside Dimension JJF 1411	(5～100)mm	U=1.5 μm		
9	Smooth Limit Gauge	Length	V. R. of Smooth Limit Gauge JJG 343	Plug Gauge：Φ(0.3～100)mm	U=（0.3～0.6） μm		
				Ring Gauge：Φ(6～100)mm	U=(0.7～1.0) μm		
10	Optical Flat	Flatness	V. R. of Optical Flat JJG 28	Φ(30～100)mm	U=0.01 μm		
		Parallelism		(0～2) μm	U=0.2 μm		
11	Standard Ring gauge	Length	V.R. for standard Ring gauge JJG 894	Φ(6～100)mm	U=0.7 μm+3×10^{-6}L		
12	*Wooden Rule	Length	V.R.for Wooden Rule JJG 2	(0～1000) mm	U=0.2mm		
13	*Depth Micrometer	Length	V.R. for Depth Micrometer JJG 24	(0～300)mm	U=（1.4～3.5） μm		

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				Calibration measuring rod：(25～275)mm	U=（0.7～2.1） μm		
14	*General Bevel Protractors	Angle	C.S. for General Bevel Protractors JJF 1959	（0～360）° /5′	U=3′		
				（0～360）° /2′	U=1′		
15	Fineness of Grind Gauge	Length	V.R. for Fineness of Grind Gauge JJG 905	H:(0～150) μm	U=(0.2～0.5) μm		
16	Small parts cylinder	Length	C.S. of Small parts cylinder ZDCD-007L	(0～100) mm	U=0.005mm		
17	Probe C,D	Length	C.S. of Probe C,D ZDCD-008L	Φ(10～50) mm	U=0.02mm		
18	Straight Edge	Linear	V.R. for Straight Edge JJG 63	L：75mm～200mm	U=0.3 μm		
19	Test template A and B	Length	C.S. of Test template A and B ZDCD-009L	(0～100)mm	U=0.02mm		
20	*Ultrasonic Thickness Gauge	Length	C.S. of Ultrasonic Thickness Gauge JJF 1126	(0.5～200) mm	U=0.04mm		
21	Squares	Verticality	V.R. for Squares JJG 7	H:50 mm～500 mm	U=(0.002～0.02)mm		
		Length		H:(50～500) mm	U=0.1 mm		
22	*Straight Edges	Linear	C.S. for Straight Edges JJF 1097	300 mm～2000 mm	U=(0.6～1.0) μm		
23	Screw Thread Gauge	Length	V.R. for Screw Thread Gauge JJG 60	P:(0.40～6.00) mm,(α：55°，60°)	U=2 μm		
24	Frame Levels and Shaft levels	Angle	C.S. of Frame Levels and Shaft levels JJF 1084	division$d$:0.02 mm/m～0.1 mm/m	U=d×5.8%		
25	*Concentricity Tester	Length	C.S. of Concentricity Tester JJF 1109	（0～100） μm	U=2 μm		
26	Box Plate	Vertical	V.R of Box Plates JJG 194	Side length$L$:100 mm～400 mm	U=3 μm		

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27	Steel Tape	Length	V.R. for Steel Tape JJG 4	（0～200）m	U=0.03 mm＋1.2×10^{-5}L		
28	Optical Theodolites	Angle	V.R. for Optical Theodolites JJG 414	Level:0° ～360°	U=0.16″		
				Vertical: -32° ～+32°	U=1.4″		
29	Levels	Angle	V.R. for Levels JJG 425	Blister type:-25″ ～+25″	U=1.3″		
				Anping type:-25″ ～+25″	U=1.1″		
30	*Coordinate Measuring Machine	Length	C.S. of Coordinate Measuring Machine JJF 1064	Contact type:(0～1000)mm	U_E=0.5 μm+3×10^{-6}L		
				Φ(10～50)mm	U_P=0.3 μm		
31	*Projectors	Length	C.S. of Projectors JJF 1093	Shadow screen diameter:(100～600)mm	U=1.8 μm		
32	Inductive Micrometers	Length	C.S.for Inductive Micrometers JJF 1331	(-1000～+1000) μm	U=（0.3～3.0） μm		
33	*Tool makes Microscope	Length	V.R. for Tool makes Microscope JJG 56	(0～200)mm	U=(0.4～1.2) μm		
34	*Steel Rule	Length	V.R. for Steel Rule JJG 1	(0～1)m	U=0.05mm		
				(1～2)m	U=0.10mm		
35	Digital high meters	Length	C.S. for Digital high meters ZDCD-016L	(0～100)mm	U=2 μm		
36	Testers for Dial Gauges	Length	V.R of Testers for Dial Gauges JJG 201	(0～50)mm	U=(0.2～0.6) μm		
37	*Welding Measuring Rulers	Length	V.R. for Welding Measuring Rulers JJG 704	(0～60)mm	U=0.01mm		
		Angle		(0～180)°	U=6′		
38	*Plates	Flatness	V.R. for Plates JJG 117	630 mm×630 mm	U=3.2 μm		

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				1000 mm×1000 mm	U=5.2 μm		
				1600 mm×1600 mm	U=7.8 μm		
				2500 mm×1600 mm	U=10 μm		
39	Cylindrical Thread Gauges	Length	C.S.for Cylindrical Thread Gauges JJF 1345	Thread plug gauge: M(1～100)mm	U=3 μm		
				Thread ring gauge: M(3～100)mm	U=4 μm		
40	Feeler Gauge	Length	V.R. for Feeler Gauge JJG 62	(0.01～3)mm	U=1 μm		
41	*Snap Gauge Reading in 0.01mm	Length	V.R. for Snap Gauge Reading in 0.01mm JJG 109	(0～50) mm	U=3.4 μm		
42	Sharp point tester	Length	C.S. for sharp point tester ZDCD-010L	(1.02×1.15)mm	U=0.005mm		
43	Accessibility probe	Length	C.S for Accessibility probe ZDCD-006L	(2.8～470)mm	U=0.02mm		
44	*Magnetic and Eddy Current Measuring Instrument for Coating thickness	Length	V.R. for magic and Eddy Current Measuring Instr μment for Coating thickness JJG 818	Thickness sheet：(7～50) μm	U=0.3 μm		
				Thickness sheet：(50～3000) μm	U_{rel}=0.4%		
				(10～1250) μm	U_{rel}=0.6%+0.3 μm		
45	Radius Gauge	Length	V.R. or Radius Gauge JJG 58	R（1～6）mm	U=6 μm		
				R(6～25)mm	U=9 μm		
46	lever rule	Angle	C.R of lever rule JJF 1085	L：(100～1500)mm，（d:0.5 mm/m)	U=d×8%		
		Length		（0～1500）mm	U=1.0 mm		

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47	*Reading microscope	Length	V.R of reading microscope and measuring microscope JJG 571	(0～8)mm	U=1.5 μm		
48	*optimeter	Length	V.R of optimeter JJG 45	(-100～+100) μm	U=0.07 μm		
49	*length measuring instrument	Length	C.S of length measuring instrument JJF 1189	Outside：(0～500)mm	U=(0.3～0.7) μm		
				Internal dimensions: （6～50）mm	U=1.5 μm		
50	*height measuring instrument with digital display	Length	C.S of height measuring instrument with digital display JJF 1254	(0～600) mm	U=(0.7～0.9) μm		
51	*surface roughness measurement by the profile metod	Roughness	C.S of surface roughness measurement by the profile metod JJF 1105	Ra:(0.085～4.36) μm	U_{rel}=6.0%		
52	*Combined Type Angle Rules	Angle	C.S of combine type angle rule JJF 1132	（0～180）°/1°	U=4′		
53	roughness comparison specimens	Roughness	C.R of roughness comparison specimens JJF 1099	Ra:(0.012～100) μm	U_{rel}=(8.0%～6.2%)		
54	*cable length meter	Length	V.R of cable lengt meter JJG 987	(0.1～2000)m	U=0.01 mm+5×$10^{-5}L$		
55	test sieves	Length	C.S of test sieves JJF 1175	ω：(0.020～5) mm	U=1 μm		
				ω：(＞5～125) mm	U=0.02mm		
56	*Biological Microscopes	Magnification	C.S of biological microscope JJF 1402	4X～100X	U_{rel}=1%		
57	fiber tapes	Length	V.R of fiber tapes and measuring ropes JJG 5	（0～5）m	U=0.8mm		
				(5～10)m	U=1.6mm		
				(10～15)m	U=2.4mm		

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				(15～20)m	U=3.2mm		
				(20～30)m	U=4.8mm		
				(30～50)m	U=8.0mm		
58	cylindrical mesuring pin	Length	C.S of cylindrical mesuring pin JJF 1207	Φ(0.1～25) mm	U=0.14 μm+1.4×$10^{-6}L$		
59	angle gauge block	angle	V.R of angle gauge block JJG 70	0° ～90°	U=1.8 "		
60	*imaging probe measuring machines	Length	C.S for imaging probe measuring machines JJF 1318	(0～600)mm	U=(0.7～1.9) μm		
61	bite tester	Length	C.S for bite tester ZDCD-020L	(0～100)mm	U=0.05mm		
62	*moulds	Length	C.S for moulds JJF 1307	(40～600)mm	U=（0.03～0.10）mm		
63	step gauges	Length	C.S for step gauges JJF 1258	(0～600)mm	U=2.0 μm		
64	curve tester	Angle	C.S for curve tester ZDCD-021L	(0～200)mm	U=0.05mm		
65	*fall plate	Length	C.S for fall plate ZDCD-022L	(0～1000)mm	U=0.10mm		
66	UL finger	Length	C.S for UL finger ZDCD-023L	(0～200)mm	U=0.05mm		
67	safety pole	Length	C.S for safety pole ZDCD-024L	(0～100)mm	U=0.01mm		
68	*sampler	Length	C.S for sampler ZDCD-025L	(0～200)mm	U=0.02mm		
69	level rod	Length	V.R of level rod JJG 8	(0～5)m	U=0.3mm		
70	Pi tapes	length	C.S for Pi tapes JJF1423	(9～5000)mm	U=（0.01～0.05）mm		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
71	square gauge	Verticality	V.R of square gauge JJG1046	H:100 mm～500 mm	U=（1.5～2.4） μm		
72	dial snap gauge	Length	C.S for dial snap gauge JJF1253	(5～100)mm/0.005 mm	U=0.0052 mm		
73	*common normal micrometer	Length	V.R of common normal micrometer JJG82	(0～100)mm	U=1.6 μm		
				Calibration bar（25～75）mm	U=1.0 μm		
74	*depth dial gauge	Length	V.R of depth dial gauge JJG830	(0～300)mm	U=(2.0～8.0) μm		
				Calibration bar：（25～300）mm	U=（1.6～4.8） μm		
75	micrometer with dial comparator	Length	V.R of micrometer with dial comparator JJG26	(0～100)mm	U=1.0 μm		
				Calibration lever:（25～75）mm	U=1.0 μm		
76	*length mearsuring machine	Length	C.S for length mearsuring machine JJF1066	Micrometer scale：(-100～+100) μm	U=0.07 μm		
				Millimeter scale：(0～100)mm	U=0.2 μm+2×10^{-6}L		
				Decimeter scale：（0～2000)mm	U=0.4 μm+3×10^{-6L}L		
				Internal dimensions:（6～ 50）mm	U=1.5 μm		
77	electronic tachometer total station	Angle	V.R of electronic tachometer total station JJG100	level：0° ～360°	U=0.38″		
				Vertical right angle:-32°～+32°	U=1.4″		
78	*Track gauge	Length	V. R. of Track gages for standard gauges railway JJG219	(1410～1470mm	U=0.08mm		

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79	*metallographic microscope	magnification	V.R.for metallographic microscope JJG(JW)012	4 X～1000 X	U_{rel}=1%		
80	*Clinometers	Angel	C.S.for Clinometers JJF 1915	0°～360°	U=0.02°～0.2°		
81	*Wet Film Thickness Gauges	Length	C.S.for Wet Film Thickness Gauges JJF 1484	comb gauge：(0～3000) μm	U=（2.4～15） μm		
				wheel gauge(0～1000) μm	U=（0.6～6） μm		
82	*Borehole Clinometers	Angel	C.S.for Borehole Clinometers JJF 1550	-30°～+30°	U=0.008%FS		
83	*Thickness Gauges	Length	C.S.for Thickness Gauges JJF 1255	(0～30)mm	U=（2～4） μm		
84	Grating Micrometers	Length	C.S.for Grating Micrometers JJF 1682	(0.01～100)mm	U=(0.05～2.2) μm		
85	*Surface Profile Gauges	Length	C.S.for Surface Profile Gauges JJF 1476	(0.1～6.5)mm	U=(0.9～1.6) μm		
86	Microcator	Length	V.R.of Microcator JJG 118	(0～±100)分度	U=(0.054～0.54) μm		
87	Comparators of Machine Type	Length	V.R.of Comparators of Machine Type JJG 39	(0～±100)分度	U=(0.054～0.54) μm		
88	Coordinate Measuring Spheres	Diameter	C.S.for Coordinate Measuring Spheres JJF 1422	Φ(10～100)mm	U=0.35 μm		
		roundness		（0～1）mm	U=0.04 μm		
89	Blocks used in Ultrasonic Testing	Length	C.S.for Blocks used in Ultrasonic Testing JJF 1487	(0.1～300)mm	U=(0.004～0.012)mm		
90	Laser Interferometers	Length	V.R.of Laser Interferometers JJG739	(0～1)m	U=0.20 μm+0.20×$10^{-6}L$		
				(>1～50)m	U=0.30 μm+0.30×$10^{-6}L$		
		Angle		0° ～360°	U=0.30″		
91	High-precision Line Scale	Length	V.R.of High-precision Line Scale JJG73	(0～1)m	U=0.14 μm+1×$10^{-6}L$		

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

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92	Master Gear	Length	V.R.of Master Gear JJG1008	Distance of Gear：Pitch Diameter:(20～280)mm，[m_n（1～10）mm]	U=（2.5～3.7 ） μm		
		Length		Gear Form：Pitch Diameter:(20～280)mm，[m_n（1～10）mm]	U=（2.6～3.6） μm		
		Length		Gear Helix：Pitch Diameter:(20～280)mm，[m_n（1～10）mm]	U=（2.7～4.1） μm		
93	Laser Tracker 3-Dimensional Measuring System	Length	C.S.for Laser Tracker 3-Dimensional Measuring System JJF1242	(0～50)m	U=0.5 μm+1×$10^{-6}L$		
94	MEMS Gyroscopes	Angle Velocity	C.S.for MEMS Gyroscopes JJF1535	Scale Factor：(0.01～15)mV/(°/s)	U_{rel}=1.0%		
95	Angular Motion Transducers	Angle Velocity	C.S.for Angular Motion Transducers(Primary Angular Shock) JJF1453	(1～400)°/s	U_{rel}=1.5%		
96	Strapdown Intertial Flight Attitudes	Angle Velocity	C.S.for Strapdown Intertial Flight Attitudes JJF1536	(1～400)°/s	U_{rel}=1.0%		
97	Gyroscopes with Dynamic Features	Phase	C.S.for Gyroscopes with Dynamic Features JJF1537	(0.1～180)°	U=1.7°		
		Sensitivity		(0.01～15)mV/(°/s)	U_{rel}=3.0%		
98	Micro Inertial Measurement Units(MIMU)		C.S.for Micro Inertial Measurement Units(MIMU) JJF2003	Scale Factor：(0.5～1.5)	U_{rel}=1.0%		

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2 Thermology Measuring Instrument							
1	*Digital Temperature Indicators and Controllers	Temperature	V.R.of Digital Temperature Indicators and Controllers JJG 617	Part with thermocouple：(-200～0)℃	U=(0.32～0.14)℃		
				Part with thermocouple：(>0～800)℃	U=(0.14～0.2)℃		
				Part with thermocouple：(800～1800)℃	U=(0.2～1.1)℃		
				Part with Resistance Thermo- meters：(-200～0)℃	U=(0.08～0.10)℃		
				Part with Resistance Thermo- meters：(>0～800)℃	U=(0.10～0.16)℃		
2	*Recorders for Industrial-Process Measurements	Temperature	V.R.of the Recorders for Industrial-Process Measurement JJG 74	(-200～0)℃	U=(0.5～0.3)℃		
				(0～1800)℃	U=(0.3～1.0)℃		
3	Industry platinum Resistance Thermo-meters/Industry cuprumResistance Thermo- meters	Temperature	V.R.of Industry Platinum Copper Resistance Thermometer JJG 229	platinum Resistance Thermo- meters：(-60～+300)℃	U=(0.02～0.03)℃		
		Temperature		cuprumResistance Thermo- meters ：(-60～+300)℃	U=(0.02～0.03)℃		
4	Base Metal Thermocouples	Temperature	C.S.for Base Metal Thermocouples JJF 1637	(-50～+300)℃	U=(0.18～0.15)℃		
				(300～1100)℃	U=(0.15～0.8）℃		
5	Liquid-in-Glass Thermome-ters	Temperature	V.R.of Liquid-in-Glass Thermometers for working JJG 130	(-60～+300)℃	U=0.04℃		

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6	Mobile Detecting Meter of Temperature	Temperature	C.S.for Temperature and Humidity Itinerant Detecting Instruments JJF 1171	(-60～+300)℃	U=0.12℃		
7	Radiation Thermo meters	Temperature	V.R.of Radiation Thermometers JJG 856	(-20～+300)℃	U=(0.6～1.0)℃		
				(>300～1000)℃	U=(1.0～3.2)℃		
8	Bimetallic Thermo meters	Temperature	C.S.for Bimetallic Thermometers JJF 1908	(-60～+300)℃	U=0.2℃		
9	Filled System Thermometers	Temperature	C.S.for Filled System Thermometers JJF 1909	(-60～+300)℃	U=0.3℃		
10	*Thermostatic Baths for Temperature Calibration	Temperature	Measurement and Test Norm of Metrological Characteristics of Thermostatic Baths for Temperature Calibration JJF 1030	(-60～+300)℃	U=0.014℃		
11	mechanical Thermo/hygro meter	Temperature	V.R.of mechanical Thermo/hygro meter JJG 205	(-50～+100)℃	U=0.6℃		
		Relative humidity		(20～95)%	U=2.2%		
12	*Environmental Testing Equipment for Temperature and Humidity Parameters	Temperature	C.S.for Environmental Testing Equipment for Temperature and Humidity Parameters JJF 1101	(-80～300)℃	U=0.3℃		
		Relative humidity		(20～98)%	U=2.0%		
13	Humidity Sensors	Relative humidity	C.S.for Digital Temperature-hygrometers JJF 1076	(10～95)%	U=2.2%		
14	*Temperature and Humidity Standard Chambers	Temperature	C.S.for Temperature and Humidity Standard Chambers JJF 1564	（5～50）℃	uniformity:U=0.05℃		
				（5～50）℃	fluctuation:U=0.02℃		
				（0～1）℃/min	variation rate::U=0.03℃/min		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Relative humidity		（10～90）%	Humidity uniformity::U=0.5%		
				（10～90）%	fluctuation:U=:0.1%		
				（0～2）%/min	variation rate:U=0.2%/min		
15	*Box-type Resistance Furnace	Temperature	C.S.for Box-type Resistance Furnace JJF 1376	(300～1100)℃	U= 2.0℃		
16	*Calibration Specification for the Surface Thermometers	Temperature	C.S.for the Surface Thermometers JJF 1409	(30～400)℃	U=0.4℃		
17	Digital Thermo-hygro meters	Temperature	C.S.for Digital Temperature-hygrometers JJF 1076	(-50～+100)℃	U=0.6℃		
		Relative Humidity		(20～95)%	U=2.2%		
18	*Temperature Transmitter	Temperature	Calibration Specification of theTemperature Transmitter JJF 1183	(-60～+300)℃	U=0.16℃		
19	Sheathed Thermocouples	Temperature	Calibration Specification for Sheathed Thermocouples JJF 1262	(-40～+1100)℃	U=(0.15～0.80）℃		
20	*Temperature Indicators	Temperature	Calibration Specification for Temperature Indicators JJF 1664	（-200～+1800）℃	U=（0.4～1.0）℃（With thermocouple）		
				（-200～+1800）℃	U=0.4℃（With Resistance Thermo-meters）		
21	*Dissolution Tester	Temperature	Verification Regulation of Dissolution Tester JJG（粤）048	(0～50)℃	U=0.14℃		
		Rotate Speed		(0～300)r/min	U_{rel}=0.8%		
		Displacement		(0～3) mm	U=0.12 mm		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
22	Infrared Ear Thermometers	Temperature	Verification Regulation of Infrared Ear Thermometers JJG1164	(35～42)℃	U=0.12℃		
23	Temperature Data Acquisition Instruments	Temperature	Calibration Specification of Temperature Data Acquisition Instruments JJF1366	(-80～+300)℃	U=（0.03～0.04）℃		
24	Infrared Thermometers for Measurement of Human Temperature	Temperature	Calibration Specification of Infrared Thermomenters for Measurement of Human Temperature JJF1107	(22.0～42.0)℃	U=0.2℃		
25	Clinical Electronic Thermometers	Temperature	Verification Regulation of Clinical Electronic Thermometers JJG1162	（35.0～41.0）℃	U=0.03℃		
26	*Textile Dryer of the Rotary Tunble	Temperature	Calibration Specification for Textile Dryer of the Rotary Tunble JJF(纺织)072	（0～100）℃	U=0.3℃		
		time		（0.01s～1h）	U=0.2s		
27	Temperature Parameter of Passive Medical Cold Boxes	Temperature	C.S.for Temperature Parameter of Passive Medical Cold Boxes JJF 1676	(-20～+20)℃	U=0.3℃		
3 Mechanics Measuring Instrument							
1	*Working Dynamometers	Force value	V.R.of Working Dynamometers JJG 455	0.1cN～2MN	U_{rel}=0.12%		
				>2MN～5MN	U_{rel}=0.33%		
2	Shore A Durometers	Test force	V.R.of Shore A Durometers JJG 304	(50～10000) mN	U=20 mN		
		Length		(0～150) mm	U=0.018 mm		
		Angle		(0～40) °	U=2.2 ′		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
3	*Weights	Mass	V.R.of Weights JJG 99	1 mg～500 mg	U=0.005 mg～0.02 mg		
				> 500 mg～100 g	U=0.02 mg～0.10 mg		
				100 g～1 kg	U=0.10 mg～0.8 mg		
				>1 kg～10 kg	U=0.8 mg～9 mg		
				>10 kg～20 kg	U=9 mg～0.03 g		
				>20 kg～40 kg	U=0.03 g～0.18 g		
				>40 kg～150 kg	U=0.18 g～2.2 g		
4	*Electronic Balance	Mass	C.S.for Electronic Balances JJF 1847	(0～220)g	U=(0.02～0.08) mg		
				>220g～320g	U=0.7mg		
				>320g～1000g	U=(3～7) mg		
				>1000g～10000g	U=13mg～0.06g		
				>10000g～40000g	U=0.10g～0.25g		
				>40000g～100kg	U=2.2g～2.8g		
				>100kg～200kg	U=13g～15g		
				>200kg～800kg	U=0.03kg～0.11kg		
5	*Universal Tension and Compression Testing Machine	Force value	V.R.of Universal Tension and Compression Testing Machine JJG 139	0.1cN～2MN	U_{rel}=0.12%		
				>2MN～5MN	U_{rel}=0.33%		
		Displacement		(0.05～1000) mm	U_{rel}=0.15%		
		Extensometer displacement		(0.05～25) mm	U_{rel}=0.28%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
6	*Metallic Rockwell Hardness Testers	Hardness	V.R.of Metallic Rockwell Hardness Testers(Scales A,B,C,D,E,F,G,H,K,N,T) JJG 112	（75～88）HRA	U=0.4 HRA		
				（80～100）HRB	U=0.5 HRB		
				（40～70）HRC	U=0.4 HRC		
				（20～40）HRC	U=0.5 HRC		
				（0～100）HRN	U=0.4 HRN		
				（10～100）HRTW	U=1.2HRTW		
7	Tachometer	Rotate speed	V.R.of Tachometer JJG 105	(100～999) r/min	U_{rel}=0.08%		
				(1000～9999) r/min	U_{rel}=0.06%		
				(10000～20000) r/min	U_{rel}=0.014%		
8	Torque Wrenches	Torque force	V.R.of Torque Wrenches JJG 707	（0.008～2000）Nm	U_{rel}=1.3%		
9	*Mechanical Balance	Mass	V.R.for Mechanical Balance JJG 98	Max:（0～200）g d=0.1 mg	U=(0.08～0.14) mg		
				Max:（0～20）kg d>0.1mg	U=(0.08～6.5)mg		
10	*Table balances	Mass	V.R.for Table Balances JJG 156	(0～5) kg	U=(0.02～1.3) g		
11	*Universal Tension and Compression Testing Machine for Non-metallic	Force	V.R.of Universal Tension and Compression Testing Machine JJG 139	0.1cN～2MN	U_{rel}=0.12%		
				>2MN～5MN	U_{rel}=0.33%		
		Extensometer displacement		(0.05～25) mm	U_{rel}=0.28%		
12	*Electronic Universal Testing Machine	Force	V.R.of Electronic Universal Testing Machine JJG 475	0.1cN～2MN	U_{rel}=0.12%		
				>2MN～5MN	U_{rel}=0.33%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Displacement		(0.05～1000) mm	U_{rel}=0.15%		
		Extensometer Displacement		(0.05～25) mm	U_{rel}=0.28%		
13	*Building Material Testing Machine of Constant Loading Speed	Force	V.R.for Building Material Testing Machine of Constant Loading Speed JJG 1025	20N～2MN	U_{rel}=0.12%		
				>2MN～5MN	U_{rel}=0.33%		
		Afterburner speed		（100～2000）N/s	U_{rel}=2.5%		
14	*Flexure Testing Machine	Force	V.R.of Flexure Testing Machine JJG 476	0.1 cN～100 kN	U_{rel}=0.12%		
		Test force speed		（40～60）N/s	U=1.2N/s		
15	*Working Force Measureing Machines for Special Purposes	Force	C.S.for Working Force Measureing Machines for Special Purposes JJF 1134	0.1cN～2MN	U_{rel}=0.12%		
				>2MN～5MN	U_{rel}=0.33%		
16	*Metallic Brinell Hardness Testers	Hardness	V.R.of Metallic Brinell Hardness Testers JJG 150	标尺 10/3000：(50～225) HBW	U_{rel}=1.2 %		
				标尺 10/3000：(225～500) HBW	U_{rel}=0.7 %		
				标尺 5/750：(50～225) HBW	U_{rel}=1.2 %		
				标尺 5/750：(225～500) HBW	U_{rel}=0.7 %		
				标尺 2.5/187.5：(50～225) HBW	U_{rel}=1.2 %		
				标尺 2.5/187.5：(225～500) HBW	U_{rel}=0.7 %		
				标尺 10/1000：(0～125) HBW	U_{rel}=1.2 %		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				标尺 5/250：(50～125) HBW	U_{rel}=1.2 %		
				标尺 2.5/62.5：(50～125) HBW	U_{rel}=1.2 %		
17	*Metallic Vickers Hardness Testers	Hardness	V.R.of Metallic Vickers Hardness Testers JJG 151	(400～600)HV_{10}	U_{rel}=1.0 %		
				(175～225)HV_5、(700～800)HV_5	U_{rel}=1.0%		
				(700～800)HV_1	U_{rel}=1.3%		
				(700～800)HV0.5	U_{rel}=1.7 %		
				(400～800)HV0.2	U_{rel}=2.3%		
				(400～600)HV0.1	U_{rel}=2.5 %		
				(175～225)HV0.05	U_{rel}=2.9%		
				(700～800)HV0.3	U_{rel}=2.0%		
				(700～800)HV_3	U_{rel}=1.1%		
				(400～600)HV_{30}	U_{rel}=0.5%		
18	Shore D Durometer	Testing force	V.R.of Shore D Durometer JJG 1039	(5～50)N	U=45 mN		
		Length		(0～150) mm	U=0.04 mm		
		Angle		0° ～35°	U=6′		
19	*Elastic Element Precise Pressure Gauge and Vacuum Gauge	Pressure	V.R.of Elastic Element Precise Pressure Gauge and Vacuum Gauge JJG 49	(-0.1～+100) MPa	U=0.08%FS		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
20	*Elastic Element Pressure Gauge, Pressure Vacuum Gauge and Vacuum Gauge for General Use/Electro Connecting Pressure Gauge/Capsule Pressure Gauge	Pressure	V.R.of Elastic Element Pressure Gauge, Pressure Vacuum Gauge and Vacuum Gauge for General Use JJG 52	Elastic Element Pressure Gauge, Pressure Vacuum Gauge and Vacuum Gauge for General：(-0.1～+100) MPa	U=0.3%FS		
		Pressure		Electro Connecting Pressure Gauge：(-0.1～+100) MPa	U=0.3%FS		
		Pressure		Capsule Pressure Gauge：(-0.1～+0.6)MPa	U=0.3%FS		
21	*Tyre Pressure Gauge	Pressure	V.R.for For Tyre Pressure Gauge JJG 927	(0～2.5)MPa	U=0.4%FS		
22	*Taking Blood Electronic Scales	Mass	V.R. of Taking Blood Electronic Scales JJG 815	(20～500) g	U=(0.1 ～0.2) g		
				(500～1000) g	U=(0.2 ～0.3) g		
23	Equotip Hardness Tester	Equotip Hardness Value	V.R.of Leeb Hardness Tester JJG 747	(750～830) HLD	U=10 HLD		
				(590～670) HLD	U=8 HLD		
				(490～570) HLD	U=7 HLD		
				(550～630) HLG	U=8 HLG		
				(460～540) HLG	U=6 HLG		
24	*Thermogravimetric Moisture Meters	Mass	V.R.of Thermogravimetric Moisture Meters JJG 658	(0.02～6100) g	U=0.1 mg～0.09 g		
		Moisture		NaCl：(0.01～99.994)%	U=0.05%		
25	*Hydraulic Tension Jack	Force	V.R.of Hydraulic Jacks JJG 621	0.1 kN～15 MN	U_{rel}=0.33%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
26	Calibration Instrument for Torque Wrenches	Torque force	V.R. of Calibration Instrument for Torque Wrenches JJG 797	(0.1～500) N • m	U_{rel}=0.3%		
27	Shore AO Durometers	Testing Force	C.S. for Shore AO Durometers JJF 1312	(550～8050) mN	U=22 mN		
		Length		(0～150) mm	U=0.01 mm		
28	*Digital Pressure Gauges	Pressure	V.R. of Digital Pressue Gauges JJG 875	(-0.1～100) MPa	U=0.025%FS		
29	*Pressure Transmitter	Current	V.R. of the Pressure Transmitter JJG 882	（1～20）mA	U_{rel}=0.05%		
		Voltage		（1～5）V	U_{rel}=0.05%		
		Pressue		（-0.1～+100）MPa	U=0.05%		
30	*Metallic Webster Hardness Testing Machines	Hardness	V.R. of Metallic Webster Hardness Testing Machines JJG 944	（5～18）HWA	U=0.6 HWA		
				（5～18）HWB	U=0.7 HWB		
		Diameter		(0～2) mm	U=0.01 mm		
		Angle		(0～60) º	U=0.02 º		
31	*Spring Hammers	Impact Energy	C.S.for Spring Hammers JJF 1475	（0.20～2.00）J	U=0.004 J		
32	*Medical Centrifuge	Rotate Speed	C.S.for Medical Centrifuge JJF（浙）1117	（500～20000) r/min	U_{rel}=(0.4%～0.1%)		
33	*Elevator Overspeed Governor Testers	Speed	C.S.for Elevator Overspeed Governor Testers JJF 1374	(0.5～20) m/s	U_{rel}=0.3%		
34	*Aeroid Barometer/Aneroid Barograph	Pressure	V.R. of Aneroid Barometer & Aneroid Barograph JJG 272	(520～1070) hPa	U=0.8 hPa		
35	*Pston Gauge	Pressure	V.R. of Pston Gauge JJG59	(0.005～100) MPa	U_{rel}=0.014%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
36	*Piston Pressure Vacuum Gauges	Pressure	V.R. of Piston Pressure Vacuum Gauges JJG236	(-0.1～-0.005) MPa	U_{rel}=0.014%		
37	*Pendulum Impact Testing Machines	Distance	V.R. of Pendulum Impact Testing Machines JJG 145	(0.02～1) m	U_{rel}=0.15%		
		Moment		(0.01～750) N・m	U_{rel}=0.08%		
		Potential Energy		（1～350）J	U_{rel}=0.22%		
38	*Cantivever-Beam (Izod-Type) Impct Testing Machine	Distance	V.R. of Cantivever-Beam (Izod-Type) Impct Testing Machine JJG 608	(0.02～1) m	U_{rel}=0.21%		
		Moment		(0.001～100) N・m	U_{rel}=0.10%		
		Potential Energy		（1～350）J	U_{rel}=0.22%		
39	*Taximeters	Rotate Speed	V.R. of Taximeters JJG 517	(50～1500) r/min	U_{rel}=0.22%		
		Working Time		1min～24h	U_{rel}=0.24%		
40	*Wire Bending Testing Machine	Mass	V.R.of Wire Bending Testing Machine JJG(粤) 022	(50～6200) g	U_{rel}=0.10%～0.15%		
		Angle		0° ～360°	U=0.10°		
		Speed		(0～150) times per minute	U=0.11 times per minute		
41	*Film Impact Testers	Mass	C.S. of Film Impact Testers JJF(石化) 002	(0～2000) g	U=0.3 g		
				(0～600) mm	U=(0.16～0.22) mm		
42	*Tilting Tube Micromanometers	Presure value	V.R. of Tilting Tube Micromanometers JJG 172	Curved tuble type:(-2000～2000) Pa	U=(0.5～4)Pa		
				Inclind tube type:(-2000～2000) Pa	U=3.4 Pa		
43	*Portable Brinell Hardness Testers	Force value	C.S. of Portable Brinell Hardness Testers JJF 1595	(3～30) kN	U_{rel}=0.3%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Hardness	C.S.for Portable Rockwell Harness Testers JJF 1594	（100～400）HBS10/300	U_{rel}=1.2%		
				（175～225）HBS5/750	U_{rel}=1.2%		
				(75～650) HBW	U_{rel}=1.2%		
44	*Portable Rockwell Harness Testers	Force value		(0.3～3) kN	U_{rel}=0.3%		
		Hardness		(22～88) HRA	U=0.9 HRA		
				(20～100) HRBW	U=1.0 HRBW		
				(20～70) HRC	U=1.0 HRC		
				(70～94) HR15N	U=0.9 HR15N		
				(42～86) HR30N	U=0.9 HR30N		
				(20～77) HR45N	U=0.9 HR45N		
				(67～93) HR15TW	U=0.9 HR15TW		
				(29～82) HR30TW	U=0.9 HR30TW		
				(10～72) HR45TW	U=0.9 HR45TW		
45	*Extensometer	Scal distnce	V.R.of Extensometer JJG 762	（1～1000）mm	U_{rel}=0.13%		
		Deformation		（0～1/3）mm	U=0.42 μm		
				（1/3～25）mm	U_{rel}=0.17%		
46	Standard Equipment for Revolution Speed	Revolution Speed	Verification Regulation of Standard Equipment for Revolution Speed JJG 326	（10～60000）r/min	U_{rel}=(3.3～14)×10^{-6}		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
47	*Liquid Manometer for working	Pressure	Verification Regulation of Liquid Manometers for working JJG540	(0～25)kPa	U=0.3%FS		
48	*Plastic Rock Well Hardness Testing Machine	Hardness	Verification Regulation of Plastic Rock Well Hardness Testing Machine JJG884	(60～100)HRE	U=0.6HRE		
		Hardness		(100～120)HRL	U=0.6HRL		
		Hardness		(80～100)HRM	U=0.5HRM		
		Hardness		(100～130)HRR	U=0.5HRR		
49	*Pressure Regulators with Bourdon Tube Pressure Gauge	Pressure	Calibration Specification for Pressure Regulators with Bourdon Tube Pressure Gauge JJF1328	（0～25）MPa	U=0.8%FS		
50	*Electro-hydraulic Servo Universal Testing Machines	Force value	Veffication Regulation of Electro-hydraulic Servo Universal Testing Machines JJG1063	0.1cN～2MN	U_{rel}=0.15%		
				2MN～3MN	U_{rel}=0.33%		
51	*Mass Comparators	Mass	C.S.for Mass Comparators JJF 1326	Repeatability:1mg～41kg	U=0.06 μ g～5.8mg		
				Partial load:1mg～41kg	U=1.0 μ g～30mg		
				Local value error:1mg～41kg	U=1.6 μ g～30mg		
52	*Falling Weight Impact Testing Machines	Mass	C.S.for Falling Eeight Impact Testing Machines JJF 1445	5g～34kg	U=0.7g		
		Height		(0.2～5)m	U=(0.25～0.7)mm		
		Speed		(1.8～10) m/s	U=(0.011～0.6) m/s		
		Energy loss		(1.0～50)%	U=(0.4～2.2)%		
53	*Oedometers	Force value	C.S.for Oedometers JJF 1311	5N～20kN	U_{rel}=0.4%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
54	*Non-self-indicating weighing instrument	Mass	V.R.of Non-self-indicating Weighing Instrument JJG 14	Max:(10～100)kg (e=5g～50g)	U=(0.21～6.0)g ,(0～500)e		
				Max:(10～100)kg (e=5g～50g)	U=(0.38～14)g ,(>500～2000)e		
				Max:(10～100)kg (e=5g～50g)	U=(2.1～14)g ,(>2000～3000)e		
				Max:100kg～1t (e=50g～500g)	U=(2.1～62)g ,(0～500)e		
				Max:100kg～1t (e=50g～500g)	U=(3.8～76)g ,(>500～2000)e		
				Max:100kg～1t (e=50g～500g)	U=(5.0～76)g ,(>2000～3000)e		
				Max:(1～10)t (e=0.5kg～5kg)	U=(0.21～0.38)kg ,(0～500)e		
				Max:(1～10)t (e=0.5kg～5kg)	U=(0.21～0.80)kg ,(>500～2000)e		
				Max:(1～10)t (e=0.5kg～5kg)	U=(0.38～1.8)kg ,(>2000～3000)e		
				Max:(10～60)t (e=5kg～20kg)	U=(1.8～3.8)kg ,(0～500)e		
				Max:(10～60)t (e=5kg～20kg)	U=(1.8～5.0)kg ,(>500～2000)e		
				Max:(10～60)t (e=5kg～20kg)	U=(3.8～7.2)kg ,(>2000～3000)e		
55	*Digital indicatingweighing instruments	Mass	V.R.of Digital indicating weighing instruments JJG 539	(2～3000)g (e=0.1g～0.5g)	U=(0.02～0.21)g ,(e=0.1g～0.5g)		
				Max:(3～100)kg (e=1g～50g)	U=(0.21～6.0)g ,(0～500)e		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				Max:(3～100)kg (e=1g～50g)	U=(0.38～14)g , (>500～2000)e		
				Max:(3～100)kg (e=1g～50g)	U=(2.1～14)g ,(>2000～3000)e		
				Max:100kg～1t (e=50g～500g)	U=(2.1～62)g ,(0～500)e		
				Max:100kg～1t (e=50g～500g)	U=(3.8～76)g ,(>500～2000)e		
				Max:100kg～1t (e=50g～500g)	U=(5.0～76)g ,(>2000～3000)e		
				Max:(1～10)t (e=0.5kg～5kg)	U=(0.21～0.38)kg ,(0～500)e		
				Max:(1～10)t (e=0.5kg～5kg)	U=(0.21～0.80)kg ,(>500～2000)e		
				Max:(1～10)t (e=0.5kg～5kg)	U=(0.38～1.8)kg ,(>2000～30000)e		
				Max:(10～100)t (e=5kg～50kg)	U=(0.8～1.8)kg ,(0～500)e		
				Max:(10～100)t (e=5kg～50kg)	U=(0.8～3.8)kg ,(>500～2000)e		
				Max:(10～100)t (e=5kg～50kg)	U=(1.8～13)kg ,(>2000～3000)e		
				Max:(100～150)t (e=50kg)	U=(3.8～5.0)kg ,(0～500)e		
				Max:(100～150)t (e=50kg)	U=(5.0～13)kg ,(>500～2000)e		
				Max:(100～150)t (e=50kg)	U=(13～22)kg ,(>2000～3000)e		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
56	*Analogue indicating weighing instrument	Mass	V.R.of Analogue indicating Weighing Instrument JJG 13	Max:(0～10)kg (e=10g～50g)	U=(2.1～6.0)g ,(0～50)e		
				Max:(0～10)kg (e=10g～50g)	U=(2.1～6.0)g ,(>50～200)e		
				Max:(0～10)kg (e=10g～50g)	U=(2.1～6.0)g ,(>200～1000)e		
				Max:(10～500)kg (e=100g～500g)	U=(14～58)g ,(0～50)e		
				Max:(10～500)kg (e=100g～500g)	U=(14～62)g ,(>50～200e)		
				Max:(10～500)kg (e=100g～500g)	U=(14～76)g ,(>200～1000)e		
57	*Steelyard Scale	Mass	V.R.of Steelyard Scale JJG 17	Max:(0～800)g(e=0.1～2g)	U=(0.01～0.05)g ,(0～50)e		
				Max:(0～800)g(e=0.1～2g)	U=(0.05～0.21)g ,(>50～200)e		
				Max:(0～800)g(e=0.1～2g)	U=(0.21～0.40)g ,(>200～1000)e		
58	*Automatic gravimetric filling instruments	Mass	V.R.of Autumatic Gravimetric Filling Instrument JJG 564	10g～5t	U_{rel}=0.1%		
59	*Automatic instruments for weighing road vehicles in motion	Mass	V.R.of Automatic Instruments for Weighing Road Vehicles in Motion JJG 907	Static(0～50)t	U=(1.8～6.1)kg		
				Dynamic(0～30)t	U=19kg ,（e=10kg）		
				Dynamic(0～30)t	U=37kg ,（e=20kg）		
				Dynamic(0～30)t	U=91kg ,（e=50kg）		
	*Portable weighing	Mass	C.S.of Portable Weighing Instruments for Axles of	Static(0～50)t	U=(1.8～6.1)kg		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	instruments for axles of vehicle in motion		Vehicle in Motion JJF 1212	Dynamic(0～30)t	U=19kg，（e=10kg）		
				Dynamic(0～30)t	U=37kg，（e=20kg）		
				Dynamic(0～30)t	U=91kg，（e=50kg）		
61	*Continuous totalizing automatic weighing instruments(Belt weigher)	Mass	V.R.of Continuous totalizing automatic weighing instruments(Belt weigher) JJG 195	(100～8000) t/h	U_{rel}=0.08%～0.32%		
62	*Concrete Batching Scales	mass	V.R.of Concrete Batching Scales JJG 1171	(0.01～15)t	U_{rel}=0.26%		
63	*Discontinuous Totalizing Aotomatic Weighing Instruments(Totalizing Hopper Weighers)	mass	V.R.of Discontinuous Totalizing Aotomatic Weighing Instruments(Totalizing Hopper Weighers) JJG 648	(0.01～150)t	U_{rel}=0.11%		
64	Edge test apparatus	Force value	C.S. for edge test apparatus ZDCD-011L	(0.1～10)N	U=0.3N		
65	*Buoy Type Oxygen Inhalers	Pressure	Verification Regulation of Buoy Type Oxygen Inhalers JJG913	(0～16)MPa	U=0.6MPa		
		Flow rate		(0～10)L/min	U=0.4L/min		
66	Working Glass Hydrometers	Density value	V.R. of Working Glass Hydrometers JJG 42	Working Densitometer：(650～1400)kg/m^3	U=0.4kg/m^3		
		Density value		Petroleum Densitometer：(650～1100)kg/m^3	U=0.3kg/m^3		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Baume Degrees		Baume Hydrometer:(0～40)Bh	U=0.2Bh		
		Alcohol content		Alcohol Meter:q:(0～100)%	U=0.2%		
67	*Traffic Loop-based peed Meters	speed	V.R. of Traffic Loop-based Speed Meters JJG 1122	(20～180) km/h	U_{rel}=1.8% (spot)		
				(20～180) km/h	U_{rel}=1.0 % (smulation)		
68	*Fixed Radar Vehicle Speed Measurement Devices	speed	V.R. of Fixed Radar Vehicle Speed Measurement Devices JJG 527	(20～180)km/h	U_{rel}=1.8% (spot)		
				(20～180) km/h	U_{rel}=1.0% (smulation)		
		Frequency		(8～40) GHz	U_{rel}=0.013%		
69	*Mobile Radar Vehicle Speed Measurement Devices	spot speed	V.R. of Mobile Radar Vehicle Speed Measurement Devices JJG 528	(20～180)km/h	U_{rel}=1.8% (spot)		
				(20～180) km/h	U_{rel}=1.0% (smulation)		
		Frequency		(8～40) GHz	U_{rel}=0.013%		
70	Rotary torque sensor	Torque	Rotary torque sensor FFK1901	（3-300）N・m	U_{rel}=1.2%		
71	Standard Dynamo- meter	Force	V.R.of Standard Dynamometers JJG144	(5～500) kN	U_{rel}=0.015%		
				(0.5～10) MN	U_{rel}=0.08%		
				(10～30) MN	U_{rel}=0.10%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
72	Working Dynamo- meters	Force	V.R.of Working Dynamometers JJG455,V.R.of Standard Dynamometers ISO376 Item1-9,Appendix A-C,Calibration of force - proving instruments used for the verification GB/T13634 GB/T13634 Item 1-9, Appendix A,B	3 MN～30 MN	U_{rel}=0.3%		
73	Force-proving instruments used for the verification of uniaxial testing machines	Force	Calibration of force - proving instruments used for the verification GB/T13634 GB/T13634,V.R.of Standard Dynamometers ISO376	(5～500) kN	U_{rel}=0.015%		
				(0.5～10) MN	U_{rel}=0.08%		
				(10～30) MN	U_{rel}=0.10%		
74	Standard Torque-meters	Torque	V.R.of Standard Torque-meters JJG557	(2～5000)Nm	U_{rel}=(0.04～0.14)%		
4 Flow & Capacity Measuring Instrument							
1	*Quantitative filling machine for liquid material	Capacity	V.R.of Quantitative filling machine for liquid material JJG 687	Capacity quota filling machine：（0.01～50）L	U_{rel}=0.33%		
		Mass		Mass quota filling machine：(0.01～50)kg	U_{rel}=0.10%		
2	*vertical metal tank	capacity	V.R of vertical metal tank capacity JJG 168	（20～100)m^3	U_{rel}=0.3%		
				（100～700)m^3	U_{rel}=0.2%		
				（700～200000）m^3	U_{rel}=0.1%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
3	*horizontal metallic tank	capacity	V.R of the volume of horizontal metallic tank JJG 266	（10～100)m^3	U_{rel}=0.4%		
4	Working Glass Container	Capacity of container	V.R.of Working Glass Container JJG 196	(0～1) mL	U=0.003mL		
				(1～25) mL	U=0.008mL		
				(25～100) mL	U=0.03mL		
				(100～1000) mL	U=0.11mL		
				(1000～2000) mL	U=0.24mL		
5	Locomotive Pipette	volume	V.R.of Locomotive Pipette JJG 646	(0.1～5) μL	U=0.01 μL		
				(>5～30) μL	U=0.04 μL		
				(>30～50) μL	U=0.07 μL		
				(>50～100) μL	U=0.18 μL		
				(>100～1000) μL	U=1.3 μL		
				(>1000～5000) μL	U=1.8 μL		
				(>5000～10000) μL	U=2.8 μL		
6	Special Glassware	volume	V.R.of Special Glassware JJG 10	Micropipette：20 μL	U=0.2 μL		
				Volumetric pipette：(0.25～10) mL	U=0.002 mL		
				Dissolved oxygenin sea water burette：(0.05～25) mL	U=0.01 mL		
7	*Cold Potable Water Meters	Flow	V.R.of Cold Potable Water Meters JJG 162	(0.004～3500) m^3/h,(DN8～DN800)	U_{rel}=0.3%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
8	Diaphragm Gas Meters	Flow	V.R.of Diaphragm Gas Meters JJG577	(0.01～120) m^3/h,(G1.6～G65)	U_{rel}=0.38%		
				(120～192) m^3/h,(G65～G100)	U_{rel}=0.5%		
9	*Fuel Dispensers	Volume	V.R.of Fuel Dispensers (for Trial Implementation) JJG 443	（1～500）L/min	U_{rel}=0.07%		
10	*Compressed Natural Gas Dispensers	Flow	V.R. of Compressed Natural Gas Dispensers JJG996	（1～25）kg/min	U_{rel}=0.4%		
11	*Weirs and Flumes for Flow Measurement	Flow	V.R. of Weirs and Flumes for Flow Measurement JJG711	（0.001～93）m^3/s	U_{rel}=1.5%		
12	*Standard Metal Tank	Volume	V.R.of Standard Metal Tank JJG259	（10～50）L	U_{rel}=0.06%		
13	Gas Displacement Meters	Flow	V.R. of Gas Displacement Meters JJG633	(0.01～120) m^3/h，（DN1～DN80)	U_{rel}=0.25%		
				(120～7000)m^3/h,(DN15～DN400)	U_{rel}=0.3%		
14	Float Meter	Flow	V.R. of Float Meter JJG257	(0.01～120) m^3/h，（DN1～DN80,gas)	U=0.3%FS		
				(120～7000)m^3/h,(DN15～DN400,gas)	U=0.4%FS		
				(1～100) mL/min，（DN1～DN10,water)	U=0.3%FS		
				(0.004～20)m^3/h,(DN6～DN40,water）	U=0.2%FS		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(1～120)m³/h，（DN15～D100,water）	U=0.3%FS		
15	Goriolis Mass Flow Meters	Flow	V.R.of Goriolis Mass Flow Meters JJG1038	(0.01～120) m³/h，（DN15～DN80，gas）	U_{rel}=0.25%		
				(120～7000)m³/h,(DN15～DN400,gas）	U_{rel}=0.3%		
				(0.004～1600) t/h，（DN2～DN300，water）	U_{rel}=0.05%		
				(1600～3500) t/h，（DN300～DN800，water）	U_{rel}=0.15%		
				(0.5～98)m³/h,(0.42～80)t/h,(DN15～DN80,oil）	U_{rel}=0.06%		
16	*Ultrasonic Flowmeters	Flow	V.R.of Ultrasonic Flowmeters JJG1030	(0.004～1600)m³/h,(DN4～DN300,water）	U_{rel}=0.06%		
				(1600～3500)m³/h,(DN300～DN2400,water）	U_{rel}=0.15%		
				(0.01～120)m³/h,(DN15～DN80,gas）	U_{rel}=0.25%		
				(120～7000)m³/h,(DN15～DN400,gas）	U_{rel}=0.3%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
17	Turbine Flowmeter	flow	V.R.of Turbine Flowmeter JJG1037	(0.01～120)m³/h,(DN15～DN80,gas）	U_{rel}=0.25%		
				(120～7000)m³/h,(DN15～DN400,gas）	U_{rel}=0.3%		
				(0.004～1600)m³/h,(DN4～DN300,water）	U_{rel}=0.06%		
				(1600～3500)m³/h,(DN300～DN800,water）	U_{rel}=0.15%		
				(0.5～98)m³/h,(0.42～80)t/h,(DN15～DN80,oil）	U_{rel}=0.06%		
18	*Liquefied Natural Gas Dispensers	Flow	V.R. of Liquefied Natural Gas Dispensers JJG 1114	（1～80）kg/min	U_{rel}=0.48%		
19	*Electromagnetic Flowmeters（on line ）	Flow	C.S.for Electromagnetic Flowmeters JJF(Su) 228	（0.1～50000）m³/h,(DN10～DN3000）	U_{rel}=1.3%		
20	*Liquid Positive Displacement Flowmeter	Flow	V.R.of Liquid Positive Displacement flow meter JJG667	(0.004～1600)m³/h,(DN4～DN300,water）	U_{rel}=0.06%		
				(1600～3500)m³/h,(DN300～DN800,water）	U_{rel}=0.15%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(0.5～98)m³/h,(0.42～80)t/h,(DN15～DN80,oil）	U_{rel}=0.06%		
21	*Tank Cars Capacity	Volume	V.R. of Tank cars capacity JJG133	(0.1～100)m³	U_{rel}=0.08%		
22	*Electromagnetic Flowmeters	Flow	V.R. of Electromagnetic Flowmeters JJG1033	(0.004～1600)m³/h,(DN4～DN300）	U_{rel}=0.06%		
				(1600～3500)m³/h,(DN300～DN800）	U_{rel}=0.15%		
23	Vortex-shedding Flowmeter	Flow	V.R.of Vortes-shedding Flowmeter JJG1029	(0.004～1600)m³/h,(DN15～DN300,water）	U_{rel}=0.12%		
				(1600～3500)m³/h,(DN300～DN800,water）	U_{rel}=0.15%		
				(0.01～120)m³/h,(DN6～DN80,gas）	U_{rel}=0.25%		
				(120～7000)m³/h,(DN15～DN400,gas）	U_{rel}=0.3%		
24	Differential Pressure Type Flowmeter	Flow	V.R.of Differential Pressure Type Flowmeter JJG640	(0.004～1600)m³/h,(DN15～DN300,water）	U_{rel}=0.12%		
				(1600～3500)m³/h,(DN300～DN800,water）	U_{rel}=0.15%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(0.01～7000)m³/h,(DN15～DN400,gas）	U_{rel}=0.3%		
25	Heat Meters	Flow	V.R.of Heat Meters JJG225	(0.004～32)m³/h,(DN15～DN80)	U_{rel}=0.3%		
26	Thermal mass gas Flowmeter	flow	V.R.of Thermal mass gas Flowmeter JJG1132	(0.01～120)m³/h,(DN1～DN80)	U_{rel}=0.25%		
				(120～7000)m³/h,(DN15～DN400)	U_{rel}=0.3%		
27	Target Flowmeter	flow	V.R.of Target Flowmeter JJG461	(0.004～3500)m³/h,(DN15～DN800,water)	U_{rel}=0.15%		
28	Vortex precession Flowmeters	flow	V.R.of Vortex Precession Flowmeters JJG1121	(0.01～7000)m³/h,(DN15～DN400,gas）	U_{rel}=0.3%		
				(0.004～3500)m³/h,(DN15～DN800,water)	U_{rel}=0.25%		
29	*Pipe Prover	volume	V.R.of Pipe Prover JJG209	(1～10000)L	U_{rel}=0.028%		
30	*Standard Facilities for Liquid Flowmeter	Flow	V.R.of Standard Facilities for Liquid Flow rate JJG164	(0.01～3000)m³/h	U_{rel}=0.05%		
31	*Flow Standard Facilities by Master Meter Method(Liquid)	Flow	V.R.of Flow Standard Facilities by Master Meter Method JJG643	(0.2～10000)m³/h	U_{rel}=0.15%		
32	Wet Gas Meters	Flow	C.S.for Wet Gas Meters JJF1357	(0.01～120)m³/h,(DN10～DN80)	U_{rel}=0.22%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
33	Critical Flow Venturi Nozzle	Flow	V.R.of Critical Flow Venturi Nozzle JJG 620	(0.016～6)m^3/h	U_{rel}=0.08%		
34	Gas Laminar Flow Transducers	Flow	V.R.of Gas Laminar Flow Transducer JJG 736	(0.01～7000)m^3/h,(DN1～DN400)	U_{rel}=0.3%		
35	*Flow Integration Meters	Flow	V.R.of Flow Intergration Meters JJG1003	(0.1～9999.99)m^3/h	U_{rel}=0.02%		
				(0.1～9999.99)t/h	U_{rel}=0.04%		
		Frequency		10Hz～15MHz	$U_{rel}=3\times10^{-6}$		
		DCV		(0.1～10)V	$U_{rel}=1\times10^{-4}$		
		DCA		(0.1～20) mA	$U_{rel}=1\times10^{-4}$		
		OHM		(0.01～50) kΩ	$U_{rel}=1\times10^{-4}$		
36	Ultrasonic Gas Meters	Flow	V.R.of Ultrasonic Gas Meters JJG1190	(0.01～120) m^3/h,(G1.6～G65)	U_{rel}=0.23%		
				(120～192) m^3/h,(G65～G100)	U_{rel}=0.39%		
37	*Aqueous Urea Solution Dispensers	Flow	V.R.of Aqueous Urea Solution Dispensers JJG1191	(1～50) L/min	U_{rel}=0.08%		
38	Gasoline Vapor Recovery Detectors	Flow	C.S.for Gasoline Vapor Recovery Detectors JJF1948	(0.01～30)m^3/h	U_{rel}=0.8%		
		Pressure		(-5.0～5.0)kPa	U=0.06%FS		
		Time		(0.01～3600)s	U=0.06s		
39	*Fuel Dispensers For Ships	Flow	V.R.of Fuel Dispensers For Ships JJG(Yue)068	(30～500)L/min	U_{rel}=0.06%		
5 Acoustics & Vibrance Measuring Instrument							

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
1	*Audio-frequency Signal Generator	Frequency	V.R. of Audio-frequency Signal Generator JJG 607	10Hz～100Hz	U_{rel}=0.11%		
				100Hz～200kHz	U_{rel}=0.02%		
		AC Voltage		(1～100)mV	U_{rel}=0.5%		
				100mV～100V	U_{rel}=0.20%		
		Impedance		2 Ω～10k Ω	U_{rel}=0.5%		
		Distortion		(0.002～100)%	U_{rel}=15%		
		Sound pressure level		(10～130)dB，(10Hz～20kHz)	U=0.2dB		
2	*Mechanical Vibration Genetator for Testing	Acceleration	V.R. of Mechanical Vibration Genetator for Testing JJG 189	(1～100) m/s^2	U_{rel}=1.7%		
		Displacement		(0.01～10) mm	U_{rel}=2.5%		
		Frequency		(5～2000)Hz	U_{rel}=0.5%		
		Distortion		(0.01～30)%	U_{rel}=10%		
3	*Electrodynamic Vibration Testing Systems	Acceleration	V.R. of Electrodynamic Vibration Testing Systems JJG 948	(1～100) m/s^2	U_{rel}=1.7%		
		Frequency		(5～2000)Hz	U_{rel}=0.5%		
		Distortion		(0.01～30)%	U_{rel}=10%		
4	*Electrodynamic Horizontal Vibraton Generator for Testing	Acceleration	V.R. of Electrodynamic Horizontal Vibration Generator for Testing JJG 1000	(1～100) m/s^2	U_{rel}=1.7%		
		Displacement		(0.01～10) mm	U_{rel}=2.5%		
		Frequency		(5～2000)Hz	U_{rel}=0.5%		
		Distortion		(0.01～30)%	U_{rel}=10%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
5	Piezoelectric Accelerometer	Acceleration	V.R. of Piezoelectric Accelerometer JJG 233	(1～100)m/s^2，(20～2000)Hz	U_{rel}=1.2%		
6	Vibration Meters	Acceleration	V.R. of Vibration Meters JJG 676	(1～100)m/s^2，(20～2000)Hz	U_{rel}=1.2%		
		Speed		(0.1～100)mm/s	U_{rel}=3.0%		
		Displacement		(0.1～100)mm	U_{rel}=3.0%		
7	*Shock and Bump Testing Machines	Acceleration	V.R. of Shock and Bump Testing Machines JJG 1174	(70～10000)m/s^2	U_{rel}=5%		
		Pulse Width		(0.5～30)ms	U_{rel}=3.0%		
8	*Filters	Relative attenuation	V.R. of Octave-Band and Fractional-Octave-Band Filters JJG 449	(0.1～100)dB	U=0.1dB		
		Frequency		20Hz～100kHz	U_{rel}=0.01%		
9	*SINAD Meters	SINAD	C.S. for SINAD Meters JJF 1165	(0～20) dB	U=0.3dB		
		Frequency		100Hz～10kHz	U_{rel}=0.01%		
		Level		10mV～20V	U_{rel}=0.2%		
		Distortion		(0.01～30)%	U_{rel}=15%		
10	Sound Level Meters	Sound pressure level	V.R. of Sound Level Meters JJG 188	pressure field：(20～130)dB，(10～20)Hz	U=0.5dB		
				pressure field：(20～130)dB，(20～400)Hz	U=0.4dB		
				free field：(20～130)dB，(500～6300)Hz	U=0.4dB		
				free field ：(20～130)dB，(6.3～10)kHz	U=0.7dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				free field：(20～130)dB，(10～20)kHz	U=1.0dB		
				Electrical signal：(20～130)dB，20Hz～20kHz	U=0.1dB		
		Time weight		F:（0～90） dB/s	U=1.5dB/s		
				S:（0～90） dB/s	U=0.2dB/s		
		Burst sound response		（-70～20）dB	U=0.30dB		
11	*Electret Microphone Instruments	Frequency	C.S. for Electret Microphone Instruments JJF 1145	10Hz～10kHz	U_{rel}=0.1%		
		Distorting		(0.1～30)%	U=15%		
		Voltage		(0.1～10)V	U_{rel}=0.1%		
		Current		1μA～100mA	U_{rel}=0.5%		
		Resistance		1Ω～100kΩ	U_{rel}=0.2%		
		Sound pressure level		(10～150)dB	U=0.3dB		
		Attenuation		(-10～-60)dB	U=0.1dB		
12	*Sound Calibrators	Sound Pressure Level	V.R. of Sound Calibrators JJG 176	(74～120)dB，(31.5～160)Hz	U=0.2dB		
				(74～120)dB，(160～1250)Hz	U=0.1dB		
				(74～120)dB，(1250～4000)Hz	U=0.25dB		
				(74～120)dB，(4～8)kHz	U=0.35dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(74～120)dB，(8～16)kHz	U=0.5dB		
		Frequency		31.5 Hz～16 kHz	U_{rel}=0.1%		
		Distortion		(0.01～20)%	U_{rel}=2.0%		
13	*Electro-acoustic Products(Loudspeakers) Power Life-span Measurement Equipments	Sound pressure level	C.S. for Electro-acoustic Products(Loudspeakers) Power Life-span Measurement Equipments JJF 1203	(-60～30)dB, (10Hz～20kHz)	U=0.3dB		
		Time		(1～120)s	U_{rel}=0.3%		
		Distortion		(0.01～30)%, (20Hz～20kHz)	U_{rel}=10%		
		Power		(0.1～200)W	U_{rel}=4%		
		Peak Factor		1～5	U_{rel}=4%		
14	Personal Sound Exposure Meters	Sound exposure	V.R.of Personal Sound Exposure Meters JJG 980	(0.01～99.99)Pa²h	U=0.90Pa²h		
		ound pressure level		Pressure field：(20～130)dB，(63～400)Hz	U=0.4dB		
				Free field：(20～130)dB，500Hz～4kHz	U=0.4dB		
				Free field：(20～130)dB，4kHz～8kHz	U=0.7dB		
15	Noise Dosimeters	Noise dose	V.R.of Noise Dosimeters JJG 655	0.1%～10000%	U=7%		
		ound pressure level		Pressure field：(20～130)dB，(20～400)Hz	U=0.4dB		
				Free field：(20～130)dB，500Hz～4kHz	U=0.4dB		
				Free field：(20～130)dB，4kHz～8kHz	U=0.7dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
16	*Tone Burst Generators	Time	V.R.of Tone Burst Generators JJG 199	0.1ms～10ms	U_{rel}=0.31%		
				10ms～200ms	U_{rel}=0.24%		
				0.2s～10s	U_{rel}=0.2%		
		Period		0.1ms～10s	U_{rel}=0.3%		
		Distortion		0.1%～30%	U_{rel}=2.5%		
		Frequency		(20～20000)Hz	U_{rel}=0.01%		
		Voltage		100mV～100V	U_{rel}=0.14%		
17	*Audiometry room	ound pressure level	C.S. for Acoustic Performance of Audiometry Rooms JJF 1191	(-20～150)dB	U=0.8dB	Except for diffusion field	
18	Portable Vibration Calibration	Acceleration	V.R.of Portable Vibration Calibration JJG 1062	（1～100) m/s^2	U_{rel}=1.2%		
		Frequency		20 Hz～2 kHz	U_{rel}=0.01%		
		Distortion		(0.01～30)%	U=0.6%		
19	*Standard Vibrators	Acceleration	V.R. of Standard Standard Vibrators JJG 298	(1～100)m/s^2	U_{rel}=2.0%		
		Frequency		20Hz～2 kHz	U_{rel}=0.01%		
		Distortion		(0.01～100)%	U_{rel}=2.0%		
20	Head andTorso Simulator Used in Acoustical Measurement	Ear sensitivity level	C.S. for Head andTorso Simulator Used in Acoustical Measurement JJF 1520	(-40～40)dB, (1 kHz)	U=0.8dB		
		Frequency response of ear free field		(-40～40)dB, (100 Hz～10 kHz)	U=(0.5～0.8)dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Ear directional frequency response		(-40～40)dB, (100 Hz～10 kHz)	U=(0.6～1.0)dB		
		Amplitude-frequency characteristics at the nozzle reference point		(-40～40)dB, (100 Hz～10 kHz)	U=(0.50～0.70)dB		
		Distortion at mouth reference point		(0.01～30)%, (100 Hz～10 kHz)	U_{rel}=1.5 %		
		Amplitude-frequency characteristics of the nozzle free field		(-40～40)dB, (100 Hz～10 kHz)	U=(0.4～0.8)dB		
21	*Audio-frequency Power Amplifiers	Frequency Response	C.S. for Audio-frequency Power Amplifiers JJF 1200	(-20dB～20dB), (20Hz～100kHz)	U=0.08dB		
		Distortion		0.01%～100%	U=0.16%		
		Gain		(-60dB～100dB), (20Hz～100kHz)	U=0.05dB		
22	*Electro-acoustical Measurement Instrument	sound pressure level	C.S. for Electro-acoustical Measurement Instruments JJF 1339	(10～150)dB	U=0.30 dB		
		frequency		20 Hz～20 kHz	U_{rel}=0.1%		
		voltage		AC：(0.01～100)V	U_{rel}=0.1%		
				DC：(0.01～100)V	U_{rel}=0.01%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		total distortion		(0.01～30)%	U=0.5%		
23	*Temperature/Humidity/Vibration Combined Environmental Testing System	Temperature	C.S.for Temperature/Humidity/Vibration JJF 1270	(-75～+200)℃	U=0.3℃		
		Temperature variation rate		(0.5～60)℃/min	U=0.4℃/min		
		Noise		(30～130)dB	U=0.7dB		
		Wind speed		(0.2～20)m/s	U_{rel}=4%		
		Acceleration		(1～100)m/s^2	U_{rel}=2%		
		Humidity		(10～98)%RH	U=1.5%RH		
24	*Microphone Preamplifiers	frequency response	C.S.for Microphone Preamplifiers JJF 1137	(-20～ +20) dB,（10 Hz～50 kHz）	U=0.24 dB		
		transmission loss		(-100～0) dB,（10 Hz～50 kHz）	U=0.22 dB		
		noise		0.1 μV～10V	U_{rel}=7%		
25	*Measuring Amplifiers	sensitivity	C.S.for Measuring Amplifiers JJF 1157	94dB，1kHz	U=0.05 dB		
		Frequency weight		(-80～25) dB，(10 Hz ~20 kHz)	U=0.2 dB		
		Attenuation decrement		(-30～50) dB	U=0.05 dB		
		Time weight		F：(0.01~ 40)dB/s	U=2 dB/s		
				S：(0.01~ 10)dB/s	U=0.4dB/s		
		Linearity of electrical output		(-50～+10) dB	U=0.1dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Harmonic distortion		(0.01 ~100)%	U_{rel}=6.6%		
		Frequency		1Hz～200 kHz	U_{rel}=0.1%		
		Voltage		10mV～210 V	U_{rel}=0.5%		
26	*Anechoic Rooms and Hemi-anechoic Rooms	background noise	C.S.for Acoustic Performance of Anechoic Rooms and Hemi-anechoic Rooms JJF1147	(-2.5～130)dBA	U=0.5dBA		
		SPL		-10dB～150dB	U=0.5 dB		
		Frequency		20 Hz～20 kHz	U_{rel}=0.1%		
27	*Audiometers	frequency	V.R. of Calibration Specification for Audiological Equipment Pure-tone Audiometers JJG 388	125Hz～8 kHz	U_{rel}=1.0%		
		THD (total harmonic distortion)		(0.01～100)%	U_{rel}=2.0%		
		Air conduction hearing level zero		(-10～120)dB	U=1.2 dB		
		Bone conduction hearing level zero		(-10～70)dB	U=1.5 dB		
		ound pressure level		(-10～110)dB	U=1.2 dB		
28	Elevator Vibration and Noise Analyzer	Acceleration	C.S.for Elevator Vibration and Noise Analyzer JJF（闽）1058	(2～80)m/s^2，(1～80) Hz	U_{rel}=1.5%		
		SPL		(20 ~135) dB，10Hz～20kHz	U=0.3dB		
29	*Active Couplers	Total distortion	C.S.for Active Couplers JJF 1734	(0.01~30)%	U_{rel}=15%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Phase		(0～360)°，10Hz～20kHz	U=0.3°		
		Sound pressure level		(30～140)dB，10Hz～20kHz	U=0.22dB		
30	*Constant Bnadwidth Filters	Relative damping	C.S.for Constant Bandwith Filters JJF1490	(-140~~+140)dB	U=0.1dB		
		Bandwidth		10Hz～100kHz	U_{rel}=0.1%		
		Frequency		10Hz～25kHz	U_{rel}=0.1%		
		Linear of order		(-140～+140)dB	U=0.1dB		
		Form factor		1～50	U_{rel}=0.9%		
31	Human Vibration Meters	Acceleration	V.R. of Human Vibration Meters JJG 1178	(1～100)m/s^2，(1～1000)Hz	U_{rel}=1.0%		
32	Environment Vibration Instrument	Acceleration level	V.R. of Environment Vibration Instruments JJG 921	(60～150)dB，(1～80)Hz	U=0.2dB		
33	Noise Level Statistical Analyzers	ound pressure level	V.R. of Noise Level Statistical Analyzers JJG 778	Pressure field：(20～130)dB，(10～250)Hz	U=0.5dB		
				pressure field：(20～130)dB，(250～400)Hz	U=0.4dB		
				free field：(20～130)dB，(400～1250)Hz	U=0.4dB		
				free field ：(20～130)dB，(1.25～10)kHz	U=0.7dB		
				free field：(20～130)dB，(10～20)kHz	U=1.0dB		
				Electrical signal：(20～130)dB，20Hz～20kHz	U=0.1dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Linear of order		(-20～20)dB	U=0.3dB		
		Time weightings		F：(0～90)dB	U=3.5dB/s		
				S：(0～90)dB	U=0.4dB/s		
		Burst response		(-70～20)dB	U=0.3dB		
34	Ultrasonic Flaw Detectors	decrement	V.R. for Ultrasonic Flaw Detectors JJG 746	(0～110)dB	U=0.02dB		
		horizontal linearity		1%～100%	U=0.36%		
		Vertical linearity error of ultrasonic attenuation		1%～100%	U=2.0%		
6 Electromagnetic Measuring Instrument							
1	*Withstanding Voltage Tester	DC Voltage	V.R. of Withstanding Voltage Testers JJG 795	(0.1～15) kV	U_{rel}=(1.7～0.12)%		
		AC Voltage		(0.1～15) kV，（45～55）Hz	U_{rel}=(1.7～0.20)%		
		DC Current		0.1mA～10A	U_{rel}=(6～0.2)%		
		AC Current		0.1mA～10A，（45～55）Hz	U_{rel}=(6～0.3)%		
		Time		(1～999)s	U_{rel}=(2.7～0.24)%		
		Distortion		(0.01～100)%(20Hz～100kHz)	U_{rel}=15%		
		ripple factor		(0.1～10)%	U=0.2%		
		capacity		(1～500)W	U_{rel}=1.3%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
2	*Megohm - meter	Resistance	V.R. of Insulation Resistance Meter （Megohmmeter) JJG 622	100Ω～10MΩ	U_{rel}=(0.4～0.3)%		
				10MΩ～200GΩ	U_{rel}=(0.6～11)%		
		Voltage		10V～10kV	U_{rel}=(2.8～1.1)%		
3	*Earth Resistance Meter	Resistance	V.R. of Earth Resistance Meter JJG 366	1mΩ～10kΩ	U_{rel}=(0.9～0.14)%		
4	*Amperemeter Voltmeter Wattmeter and Ohmmeter	DC Voltage	V.R.of Amperemeter Voltmeter Wattmeter and Ohmmeter JJG 124	(100～330)mV	U_{rel}= (0.07～0.05)%		
				330mV～1000V	U_{rel}= (0.04～0.07)%		
		AC Voltage		100mV～3.3V，（45～55）Hz	U_{rel}=(0.16～0.08)%		
				(3.3～330)V，（45～55）Hz	U_{rel}=(0.13～0.1)%		
				(330～1000)V，（45～55）Hz	U_{rel}=(0.16～0.14)%		
		DC Current		100μA～2.2A	U_{rel}= (0.4～0.07)%		
				(2.2～10)A	U_{rel}= (0.15～0.10)%		
				(10～30)A	U_{rel}= (0.17～0.10)%		
		AC Current		30μA～10A，（45～55）Hz	U_{rel}=(0.8～0.09)%		
				(10～30)A，（45～55）Hz	U_{rel}=(0.16～0.10)%		
		DC Power		(0.75～1000)V/(0.01～30) A	U_{rel}=0.15%		
		AC Power		(0.75～750)V/(0.01～30) A，（45～55）Hz	U_{rel}=0.15%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		DC Resistor		10 Ω～3.3M Ω	U_{rel}=0.15%		
				(3.3～10)M Ω	U_{rel}= (0.4～0.27)%		
5	*Calibrator	DC Voltage	C.S. for Multifunction Standard Sources JJF 1638	(10～20) mV	U_{rel}=(0.004～0.003)%		
				(20～200)mV	U_{rel}= (0.0020～0.0010)%		
				(0.2～20)V	U_{rel}= (0.0010～0.0006)%		
				(20～200)V	U_{rel}= (0.0016～0.0010)%		
				(200～1000)V	U_{rel}= (0.0016～0.0010)%		
		AC Voltage		(10～20)mV (10Hz～40Hz)	U_{rel}=(0.14～0.08)%		
				(10～20)mV (40Hz～10kHz)	U_{rel}=(0.08～0.04)%		
				(10～20)mV (10kHz～100kHz)	U_{rel}=(0.4～0.15)%		
				(20～100)mV(10Hz～1kHz)	U_{rel}= (0.04～0.013)%		
				(20～100)mV(1～20)kHz	U_{rel}= (0.06～0.03)%		
				(20～100)mV(20～50)kHz	U_{rel}=(0.08～0.05)%		
				(20～100)mV(50～100)kHz	U_{rel}=(0.14～0.09)%		
				(20～100)mV(100～300)kHz	U_{rel}=(0.6～0.5)%		
				(20～100)mV(300kHz～1MHz)	U_{rel}=(1.8～1.4)%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				100mV～1V(10Hz～1kHz)	U_{rel}= (0.06～0.013)%		
				100mV～1V(1kHz～20)kHz	U_{rel}= (0.06～0.03)%		
				100mV～1V(20～50)kHz	U_{rel}=(0.07～0.04)%		
				100mV～1V(50～100)kHz	U_{rel}=(0.15～0.09)%		
				100mV～1V(100～300)kHz	U_{rel}=(0.7～0.5)%		
				100mV～1V(300kHz～1MHz)	U_{rel}=(2～1.4)%		
				(1～10)V(10Hz～1kHz)	U_{rel}= (0.06～0.013)%		
				(1～10)V(1～20)kHz	U_{rel}= (0.06～0.03)%		
				(1～10)V(20～50)kHz	U_{rel}=(0.07～0.04)%		
				(1～10)V(50～100)kHz	U_{rel}=(0.15～0.09)%		
				(1～10)V(100～300)kHz	U_{rel}=(0.7～0.5)%		
				(1～10)V(300kHz～1MHz)	U_{rel}=(2～1.4)%		
				(10～100)V(10Hz～1kHz)	U_{rel}= (0.09～0.04)%		
				(10～100)V(1kHz～20kHz)	U_{rel}=(0.07～0.04)%		
				(10～100)V(20kHz～50kHz)	U_{rel}=(0.09～0.05)%		
				(10～100)V(50kHz～100kHz)	U_{rel}=(0.3～0.18)%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(100～1000)V(10Hz～1kHz)	U_{rel}= (0.12～0.07)%		
				(100～1000)V(1～20)kHz	U_{rel}=(0.13～0.09)%		
				(100～1000)V(20～50)kHz	U_{rel}=(0.26～0.16)%		
				(100～1000)V(50～100)kHz)	U_{rel}=(0.8～0.7)%		
		DC Current		20 μA～20mA	U_{rel}=(0.0030～0.0020)%		
				20mA～20A	U_{rel}=(0.004～0.025)%		
				(20～1000)A	U_{rel}=(0.03～0.015)%		
		AC Current		(20～200) μA(20Hz～5kHz)	U_{rel}=(0.5～0.05)%		
				200 μA～2mA(20Hz～5kHz)	U_{rel}=(0.6～0.05)%		
				(2～20)mA(20Hz～10kHz)	U_{rel}=(0.6～0.05)%		
				20 μA～20mA(10～100)kHz	U_{rel}=(0.5～0.12)%		
				20mA～20A(20Hz～10kHz)	U_{rel}=(0.020～0.012)%		
				20mA～20A(10～100)kHz	U_{rel}=(0.05～0.03)%		
				(20～1000)A(45～65)Hz	U_{rel}=(0.4～0.07)%		
		Resistance		(0.2～20) Ω	U_{rel}=(0.004～0.0020)%		
				20 Ω～2MΩ	U_{rel}=(0.0020～0.003)%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(2～20)MΩ	U_{rel}=(0.003～0.008)%		
				(20～200)MΩ	U_{rel}=(0.008～0.02)%		
		Frequency		10Hz～1MHz	U_{rel}=0.0020%		
		Distortion		(0.005～30)%	U_{rel}=10%		
6	*AC Power Source	AC Voltage	C.S. for three phase variable-frequency power supply JJF(Electronic) 0026	(1～1000)V(10Hz～66Hz)	U_{rel}=(0.42～0.05)%	Power≤ 4kW	
				(1～1000)V(66Hz～1kHz)	U_{rel}=(0.05～0.10)%		
		AC Current		(0.05～30)A(10Hz～66Hz)	U_{rel}=(0.42～0.05)%		
				(0.05～30)A(66Hz～1kHz)	U_{rel}=(0.05～0.10)%		
		AC Power		(1～1000)V(0.05～30)A(10Hz～66Hz)	U_{rel}=(0.8～0.08)%		
				(1～1000)V(0.05～30)A(66Hz～1kHz)	U_{rel}=(0.08～0.15)%		
		Frequency		10Hz～1kHz	U_{rel}=0.0020%		
		Distortion		(0.01～30)%	U_{rel}=10%		
7	*DC Resistors Box	Resistance	V.R. of D.C.Resistance Box JJG 982	1mΩ～100kΩ	U_{rel}= (0.14～0.002)%		
				100kΩ～100MΩ	U_{rel}=(0.002～0.010)%		
8	*Ground Continuity Tester	Resistance	V.R. of Earth -Continuity Tester JJG 984	AC(1～1000) mΩ，（45～55）Hz	U_{rel}=(11～0.20)%		
				DC(1～1000) mΩ	U_{rel}=(11～0.20)%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Current		AC(1～60) A，（45～55）Hz	U_{rel}=(0.3～0.20)%		
				DC(1～60) A	U_{rel}=(0.12～0.07)%		
		Voltage		(1～20)V	U_{rel}=1.5%		
9	*High Insulation Resistance Meter	Resistance	V.R. of High Insulation Resistance Meters JJG 690	100Ω～10MΩ	U_{rel}=0.12%		
				10MΩ～100GΩ	U_{rel}=(0.6～2.3)%		
				100GΩ～2TΩ	U_{rel}=2.3%		
				(2～12)TΩ	U_{rel}=6%		
		Voltage		(10～1000)V	U_{rel}=(0.11～0.02)%		
10	*Leakage Current Meter	Test Voltage	V.R. of Leakage Current Tester JJG 843	(1～750)V (45～65)Hz	U_{rel}=0.3%		
		AC Current		10μA～1A ,(45～65)Hz	U_{rel}=(1.0～0.10)%		
		Transmission characteristic		10μA～10mA，（20Hz～1MHz）	U_{rel}=(1.2～2.4)%		
		Input Impedance		100Ω～3kΩ (20Hz～1MHz)	U_{rel}=1.5%		
		DC Current		10μA～1A	U_{rel}=(1.0～0.10)%		
		Input DC Resistance		100Ω～3kΩ	U_{rel}=0.5%		
11	*High Voltage Meter	AC Voltage	V.R. of Digital High Voltmeter DL/T 973	(0.1～100) kV ,(45～65)Hz	U_{rel}=(1.5～0.2)%		
		DC Voltage		(0.1～100) kV	U_{rel}=(0.2～0.12)%		
12	*Clamp ammeters	Current	C.S. of Clamp Ammeters JJF 1075	DCA:(0.1～200)A	U_{rel}=(0.20～0.16)%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				DCA:(200～1000)A	U_{rel}=(0.5～0.26)%		
				ACA:(0.1～200)A ,(45～65)Hz	U_{rel}=(0.20～0.16)%		
				ACA:(200～1000)A ,(45～65)Hz	U_{rel}=(0.5～0.26)%		
13	*AC Digital Power Meter	AC Voltage	V.R. of AC Digital Powermeter JJG 780	(0.01～750)V ,(45～65)Hz	U_{rel}=(0.8～0.06)%		
		AC Current		(0.01～30)A ,(45～65)Hz	U_{rel}=(0.8～0.06)%		
		AC Digital Power		(0.01～750)V(0.01～30)A ,(45～65)Hz	U_{rel}=(0.8～0.06)%		
		Power Factor		-1～0～+1	U=0.0006		
		Frequency		(45～65)Hz	U_{rel}=0.06%		
14	*Electronic insulating resistance meter	Resistance	V.R. of Electronic Insulating Resistance Meters JJG 1005	100 Ω ～10M Ω	U_{rel}=0.12%		
				10M Ω ～100G Ω	U_{rel}=(0.6～2.3)%		
				100G Ω ～1T Ω	U_{rel}=2.3%		
		Voltage		(10～1000)V	U_{rel}=(0.11～0.02)%		
				(1～10)kV	U_{rel}=(2.8～1.1)%		
15	*D.C. Bridges	Resistance	V.R. of D.C. Bridges JJG 125	(0.01～0.1) Ω	U_{rel}=0.012%		
				(0.1～1) Ω	U_{rel}=0.012%		
				(1 Ω ～100k Ω)	U_{rel}=0.012%		
				(100k Ω ～1M Ω)	U_{rel}=0.12%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
16	*Clamp earth resistance meters	Resistance	V.R. of Clamp Earth Resistance Meters JJG 1054	1mΩ～10kΩ	U_{rel}=(0.6～0.12)%		
17	*Surface Resistance Tester	Resistance	C.S. for Surface Resistance Tester JJF 1285	(10^3～10^7)Ω	U_{rel}=1.2%		
				(10^7～10^9)Ω	U_{rel}=(1.2～2.8)%		
				(10^9～10^{11})Ω	U_{rel}=(2.8～6)%		
		Voltage		(5～1000)V	U_{rel}=(0.10～0.15)%		
		Length		(0.1～200)mm	U=0.024mm		
		Weight		(0.1～2.5)kg	U=3g		
				(2.5～10)kg	U=6g		
				(10～15)kg	U=9g		
18	Transformers Turn Ratio Test Sets	Turn Ratio	V.R. of Transformers Turn Ratio Test Sets JJG 970	1～10000	U_{rel}=0.026%		
19	*Loop Resistance Tester and DC Resistance Meters	Resistance	V.R. of Loop Resistance Tester and DC Resistance Meters JJG 1052	（200μΩ～1.9mΩ）	U_{rel}=0.28%		
				(2mΩ～11Ω)	U_{rel}=(0.12～0.06)%		
				(11Ω～100kΩ)	U_{rel}=(0.06～0.12)%		
		Current		(0.01～100)A	U_{rel}=0.09%		
20	*Industry Frequency Phase Meter	phase angle	V.R. of Industry Frequency Single-Phase Phase Meter JJG 440	(0～360)°	U=0.08°		
21	*Electrolytic capacitor leakage current tester	D.C. Pole Voltage	V.R. of Electrolytic Capacitor Leakage Current Tester JJG(Electronic) 306003	(0.1～1000)V	U_{rel}=0.16%～0.8%		
		Current		0.2μA～100 mA	U_{rel}=1.0%～0.16%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Time		(0.5～99)s	U_{rel}=1.0%		
22	*A.C Electron Load	Voltage	C.S.for AC Electronic Load JJF(Electronic) 0002	(1～750)V ,(45～65)Hz	U_{rel}=(0.42～0.12)%		
		Current		(0.05～20)A ,(45～65)Hz	U_{rel}=(0.18～0.12)%		
		power		(1～750)V/(0.05～20)A ,(45~65)Hz	U_{rel}=(0.17～0.12)%		
		PF		-1～0～+1	U=0.0012		
23	*DC High Voltage Dividers	Voltage Divider Ratio	V.R. of DC High Voltage Dividers JJG 1007	(0.1～100)kV	U_{rel}=(0.15～0.12)%		
24	*High Voltage Divider at Power Frequency	Voltage Divider Ratio	V.R. of High Voltage Divider at Power Frequency JJG 496	(0.1～100)kV(50Hz)	U_{rel}=(0.25～0.17)%		
25	*High Voltage (Electrostatic)Volt-meter (Probe)	AC Voltage	V.R. of High Voltage Electrostratic Voltmeter JJG 494	(0.1～100)kV ,(45～65)Hz	U_{rel}=(0.26～0.14)%		
		DC Voltage		(0.1～100)kV	U_{rel}=(0.20～0.12)%		
26	*Relaying Protection Tester	AC Voltage	V.R.of Relaying Protection JJG 1112	(1～750)V(45～65)Hz	U_{rel}=0.012%		
		AC Current		(0.1～120)A(45～65)Hz	U_{rel}=(0.03～0.012)%		
		AC Power		(1～750)V (0.1～120)A(45～65)Hz	U_{rel}=(0.03～0.012)%		
		DC Voltage		(1～750)V	U_{rel}=0.012%		
		DC Current		(1～100)A	U_{rel}=0.03%		
		Time		(0.001～100)s	U=0.6ms		
		Response Time		10 μ s～10ms	U_{rel}=2.0%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Phase		(0～360)°（45～65)Hz	U=0.01°		
27	*Double clamp phase position voltmeter	AC Current	C.S. for Digital AC Electrical Parameters Meter JJF 1491	20mA～20A(45～65)Hz	U_{rel}=(0.3～0.10)%		
		AC Voltage		(2～1000)V(45～65)Hz	U_{rel}=(0.3～0.11)%		
		Phase		(0～360)°（45～65)Hz	U=0.1°		
28	*Zinc Oxide Arrester Tester	Testing Voltage	General Technical Conditions of Resistive Current Tester for Zinc Oxide Surge Arrester DL/T 987 6.6.3	(1～300)V（45～65)Hz	U_{rel}=0.3%		
		AC Current		(0.1～100)mA（45～65)Hz	U_{rel}=(0.5～0.3)%		
		AC Power		(1～300)V(0.33～100)mA（45～65)Hz	U_{rel}=(0.4～0.21)%		
		phase		(0～±180)°	U=0.06°		
29	*Heavy Current Tester	AC Curren	High Current Tester Calibration Method FFD0902	(1～5000)A,(45～65) Hz	U_{rel}=(0.4～0.2)%		
30	*Electrical Energy Meters	Electrical Energy	V.R. of Electrical Meters for Measuring Alternating-current Electrical Energy JJG 596	(10～380)V(0.1～100)A (45～65)Hz	U_{rel}=0.06%		
31	*Electromechanical Energy Meters	Electrical Energy	V.R. of Electromechanical Meters for Measuring Alternating-current Electrical Energy JJG 307	(10～380)V(0.1～100)A (45～65)Hz	U_{rel}=0.24%		
32	*High-voltage Withstanding Voltage Tester	Voltage	V.R. of High-voltage Withstanding Voltage Tester JJG(Military) 18	(1～100)kV,(DC ,45Hz～65Hz)	U_{rel}=1.1%		
		Current		(0.1～100)mA,(DC,45Hz～65Hz)	U_{rel}=1.3%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Time		(1～999)s	U_{rel}=0.12%		
33	*Wrist Strap and Footwear Tester	Resistance	C.S. of Wrist Strap and Footwear Tester JJF(Electronic) 31502	(0.1～200)MΩ	U_{rel}=(1.0～3)%		
34	*D.C. low Resistance Meters	Resistance	V.R. of D.C. low Resistance Meters JJG 837	10^{-6}Ω～10^{-5}Ω	U_{rel}=1.3%		
				10^{-5}Ω～10^{-4}Ω	U_{rel}=0.6%		
				10^{-4}Ω～10^{-3}Ω	U_{rel}=0.13%		
				10^{-3}Ω～10^{-2}Ω	U_{rel}=0.06%		
				10^{-2}Ω～10^{6}Ω	U_{rel}=0.013%		
35	*AC Power Source	Voltage	V.R. for Standard AC Power Source JJG(Military) 6	1mV～750V,45Hz～65Hz	U_{rel}=(0.06～0.012)%		
		Current		1mA～120A,45Hz～65Hz	U_{rel}=(0.06～0.012)%		
		Power		1mV～750V1mA～120A,45Hz～65Hz	U_{rel}=(0.06～0.012)%		
		Phase		0°～360°	U=0.005°		
		Frequency		(45～65)Hz	U_{rel}=0.001%		
36	Contactless Electrostatic voltage Measuring Instrument	Voltage	C.S. for Contactless Electrostatic Voltage Measuring Instruments JJF 1517	(0.1～20)kV	U_{rel}=0.20%		
37	*D.C. Potentiometers	Voltgae	V.R. of D.C Potentiometers JJG 123	1.0mV～100V	U_{rel}=(0.004～0.01)%		
38	*DC Magnetoelectric Galvanometers	Current	V.R. of DC Magnetoelectric Galvanometers JJG 495	(1×10^{-9}～1×10^{-1})A/mm	U_{rel}=1.0%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
39	*Control Box	Voltage	C.S.for operate box（Control Box） ZBDX-1905	1V～1kV	U_{rel}=0.15%		
		Current		0.1mA～30A	U_{rel}=0.15%		
		Time		1ms～9999s	U=3ms		
40	*Digital AC Electrical Parameters Meter	Voltage	C.S. for Digital AC Electrical Parameters Meter JJF 1491	(0.01～1000)V,45Hz～1kHz	U_{rel}=(0.8～0.010)%		
		Current		(0.001～80)A，（45Hz～1kHz)	U_{rel}=0.012%		
				(0.001～120)A，（45Hz～65Hz）	U_{rel}=(0.8～0.012)%		
		Power		(0.01～1000)V/(0.001～80)A，（45Hz～1kHz）	U_{rel}=(0.8～0.012)%		
				(0.01～525)V/(80～120)A，（45Hz～65Hz）	U_{rel}=0.012%		
		Power Factor		-1～0～+1	U=0.0006		
		Frequency		(45～1000)Hz	U_{rel}=0.010%		
41	*Digital DC Power Meter	DC Power	V.R. of DC digital power meter JJG(YUE) 055	1mA～2kA/1mV～1kV	U_{rel}=0.016%		
42	DC Standard Resistors	D.C. Resistance	V.R. of DC Standard Resistors JJG 166	1mΩ～1Ω	U_{rel}=(0.11～0.011)%		
				1Ω～2GΩ	U_{rel}=(0.0011～0.4)%		
43	*Charged Plate Monitor	Static Voltage	C.S. for Charge Plate Monitor JJF(Electronic) 31003	±(10～1020)V	U_{rel}=0.4%		
		Static Decay Time		(0.1～99.9)s	U=0.02s		
44	Instrument Current Transformers	Current Ratio	V.R. of Instrument Current Transformers JJG 313	(5～5000)A/(5A,1A)	U_{rel}=(0.09～0.06)%		
		phase error		-10'～+10'	U=1.1'～0.42'		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
45	Instrument Voltage Transformers	Voltage Ratio	V.R. of Instrument Voltage Transformers JJG 314	10000/100 ;(10000 √ 3)/(100 √ 3)	U_{rel}= (0.09～0.06)%		
		phase error		-10'～+10'	U=2.5'～1.6'		
46	*Calibration Specification of Calibrators for Electrical Meters	DC Voltage	C.S. of Calibrators for Electrical Meters JJF 1284	10mV～1000V	U_{rel}=(0.02～0.003)%		
		DC Current		10 μ A～100mA	U_{rel}=(0.02～0.01)%		
				100mA～20A	U_{rel}=(0.05～0.01)%		
		AC Voltage		10mV～1000V (50～1000)Hz	U_{rel}=(0.04～0.01)%		
		AC Current		10 μ A～100mA(50～1000)Hz	U_{rel}=(0.20～0.04)%		
				100mA～20A (50～1000)Hz	U_{rel}=(0.10～0.04)%		
		Resistance		1 Ω～100 M Ω	U_{rel}=(0.01～0.03)%		
		Frequency		(10～1000)Hz	U_{rel}=(0.03～0.01)%		
		Ripple content		(0.01～10)%	U=0.2%		
		Distortion		(0.03～30)% (50～1000)Hz	U_{rel}= 10%		
		Source Regulate Ratio		10mV～1000V 100mA～20A	U_{rel}= 0.021%		
		Load Regulated Ratio		10mV～1000V 100mA～20A	U_{rel}= 0.021%		
47	*Touch Current Testers	Input DC Resistor	V.R. of Touch Current Tester JJG(YUE) 027	1 Ω～100k Ω	U_{rel}= (0.03～0.01)%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Current		10μA～1A，（45Hz～65Hz）	U_{rel}=(1.0～0.10)%		
				10μA～10mA，（20Hz～1MHz）	U_{rel}=(1.2～2.4)%		
		Input Impedance		1Ω～100kΩ 20Hz～1MHz	U_{rel}= (0.06～0.10)%		
		Alarm Current		1μA～1A	U_{rel}=(1.0～0.10)%		
48	*Calibration Specification for Process Calibrators	DC Voltage Output	C.S. for Process Calibrators JJF 1472	10mV～100V	U_{rel}= (0.01～0.003)%		
		DC Current Output		1mA～100mA	U_{rel}= (0.01～0.003)%		
		DC Resistance Output		1Ω～10kΩ	U_{rel}= (0.05～0.01)%		
		FrequencyOutput		1Hz～50kHz	U_{rel}=0.001%		
		RTD Analog output		(-200～850)℃	U= 0.06℃		
		Thermocouple Analog output		(-250～1800)℃	U= 0.06℃		
		DC Voltage Measure		10mV～300V	U_{rel}= (0.01～0.003)%		
		DC Current Measure		1mA～100mA	U_{rel}= (0.01～0.003)%		
		AC Voltage Measure		10mV～300V	U_{rel}= (0.3～0.14)%		
		AC Current Measure		0.1mA～200mA	U_{rel}= (0.3～0.11)%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		DC Resistance Measure		1 Ω～100k Ω	U_{rel}= (0.05～0.01)%		
		FrequencyMeasure		1Hz～500kHz	U_{rel}=0.001%		
		RTD Measure		(-200～850)℃	U= 0.06℃		
		Thermocouple Measure		(-250～1800)℃	U= 0.06℃		
49	*Digital Multimeter	DC voltage	C.S. for Multimeters JJF 1587	(10～200)mV	U_{rel}=(0.2～0.0011)%		
				(0.2～2)V	U_{rel}=(0.0011～0.0006)%		
				(2～10)V	U_{rel}=(0.0006～0.0005)%		
				(10～20)V	U_{rel}=0.0005%		
				(20～200)V	U_{rel}=(0.0009～0.0007)%		
				(200～1020)V	U_{rel}=(0.0011～0.0009)%		
		AC voltage		(10～20)mV,(10～40)Hz	U_{rel}=(0.23～0.03)%		
				(10～20)mV(40Hz～20kHz)	U_{rel}=(0.21～0.28)%		
				(10～20)mV,(20～100)kHz	U_{rel}=(0.23～0.05)%		
				(10～20)mV,(100～500)kHz	U_{rel}=(0.7～0.16)%		
				(10～20)mV,(500kHz～1MHz)	U_{rel}=(1.4～0.4)%		
				(20～200)mV(10～40)Hz	U_{rel}=(0.09～0.013)%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(20～200)mV(40Hz～20kHz)	U_{rel}= (0.04～0.011)%		
				(20～200)mV(20～100)kHz	U_{rel}= (0.06～0.025)%		
				(20～200)mV(100～500)kHz	U_{rel}= (0.20～0.11)%		
				(20～200)mV(500kHz～1MHz)	U_{rel}= (0.6～0.4)%		
				200mV～2V(10～40)Hz	U_{rel}=(0.05～0.010)%		
				200mV～2V (40Hz～20kHz)	U_{rel}= (0.009～0.006)%		
				200mV～2V(20～100)kHz	U_{rel}= (0.013～0.009)%		
				200mV～2V(100～500)kHz	U_{rel}= (0.09～0.05)%		
				200mV～2V(500kHz～1MHz)	U_{rel}= (0.4～0.25)%		
				(2～20)V(10～40)Hz	U_{rel}=(0.05～0.011)%		
				(2～20)V(40Hz～20kHz)	U_{rel}= (0.008～0.005)%		
				(2～20)V(20～100)kHz	U_{rel}= (0.013～0.009)%		
				(2～20)V(100～500)kHz	U_{rel}= (0.06～0.04)%		
				(2～10)V(500kHz～1MHz)	U_{rel}=(0.4～0.18)%		
				(20～200)V(10～40)Hz	U_{rel}=(0.008～0.021)%		
				(20～200)V(40Hz～20kHz)	U_{rel}= (0.009～0.006)%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(20～200)V(20～100)kHz	U_{rel}= (0.014～0.009)%		
				(20～200)V(100～500)kHz	U_{rel}= (0.18～0.10)%		
				(200～1020)V(15～50)Hz	U_{rel}=0.04%		
				(200～1020)V(50Hz～1kHz)	U_{rel}= (0.010～0.008)%		
		DC current		(10～20) μ A	U_{rel}=(1.0～0.04)%		
				(20～200) μ A	U_{rel}=(0.04～0.008)%		
				(0.2～2)mA	U_{rel}=(0.008～0.004)%		
				(2～20)mA	U_{rel}=(0.006～0.004)%		
				(20～200)mA	U_{rel}=(0.009～0.006)%		
				(0.2～2)A	U_{rel}= (0.015～0.009)%		
				(2～11)A	U_{rel}=(0.003～0.08)%		
				(11～20)A	U_{rel}=(0.003～0.01)%		
				(20～100)A	U_{rel}=(0.015～0.012)%		
		AC current		(20～200) μ A(10～40)Hz	U_{rel}=(0.11～0.02)%		
				(20～200) μ A(40Hz～1kHz)	U_{rel}=(0.06～0.017)%		
				(20～200) μ A(1kHz～5kHz)	U_{rel}=(0.10～0.04)%		
				(20～200) μ A(5～10)kHz	U_{rel}=(0.5～0.15)%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(0.2～220)mA(10～40)Hz	U_{rel}=(0.05～0.015)%		
				(0.2～220)mA(40Hz～1kHz)	U_{rel}=(0.04～0.015)%		
				(0.2～220)mA(1～5)kHz	U_{rel}=(0.08～0.027)%		
				(0.2～220)mA(5～10)kHz	U_{rel}=(0.5～0.10)%		
				(0.2～2)A(10～40)Hz	U_{rel}=(0.05～0.03)%		
				(0.2～2)A(40Hz～1kHz)	U_{rel}=(0.05～0.01)%		
				(0.2～2)A(5kHz～10kHz)	U_{rel}=(0.9～0.8)%		
				(2～11)A(45～65)Hz	U_{rel}=(0.17～0.09)%		
				(2～11)A(65～1500)Hz	U_{rel}=(0.21～0.13)%		
				(11～20)A(45～65)Hz	U_{rel}=(0.01～0.05)%		
				(20～80)A(45～65)Hz	U_{rel}=(0.015～0.012)%		
		Resistance		0.1mΩ～1mΩ	U_{rel}=0.13%		
				1mΩ～20Ω	U_{rel}=0.0024%		
				20Ω～200kΩ	U_{rel}=0.0011%		
				200kΩ～2MΩ	U_{rel}=0.0022%		
				(2～20)MΩ	U_{rel}=0.005%		
				(20～100)MΩ	U_{rel}=0.012%		
50	*DC Stabilized Power Supplies	DC Voltage	C.S. for DC Stabilized Power Supplies JJF 1597	(0.1～1000)V	U_{rel}=(0.09～0.012)%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		DC Current		(0.001～100)A	U_{rel}=(0.19～0.026)%		
				(100～240)A	U_{rel}=(0.026～0.08)%		
		Stable Volage output cycle		200 μ V～50V	U_{rel}=3%		
		Stable Current output cycle		200 μ A～50A	U_{rel}=3%		
		Load Transient Recovery Time		10 μ s～1s	U_{rel}=0.1%		
51	*online testers of winding temperature rise	Resistor	C.S. for online testers of winding temperature rise JJF 1540	0.1 Ω ～10k Ω	U_{rel}=0.013%		
52	*high voltage and value D.C. resistors	Resistor	V.R. of high voltage and value D.C. resistors JJG 1072	100 Ω ～1T Ω	U_{rel}=0.06%～2.3%		
53	*VDR DC parameter testers	DC Current	C.S. for VDR DC parameter testers JJF(Zhe) 1088	10 μ A～100 mA	U_{rel}=1.0%～0.16%		
		DC Voltage		(0.1～5000)V	U_{rel}=0.16%～0.8%		
		ripple factor		(0.1～10)%	U=0.2%		
54	DC shunts	Resistor	V.R. of DC shunts JJG 1069	1 μ Ω～100 Ω ,(5A～2kA)	U_{rel}=(0.02～0.012)%		
55	*micro current meter	current	C.S for Digital Electrometers JJF 1726	1pA～100mA	U_{rel}=(1.2～0.02)%		
		Voltage		(0.1～1000)V	U_{rel}=0.01%		
		Resistor		100 Ω ～12T Ω	U_{rel}=(0.12～6)%		
		charge		0.1nC～2 μ C	U_{rel}=0.15%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
56	*withstanding voltage testers spot tester	Current	C.S. for withstanding voltage testers spot tester ZBDX-1901	0.1mA～100mA,(0.1kV～20kV)	U_{rel}=1.4%		
57	*verification equipment for AC electiical enegy meters	electric energy	V.R.of verification equipment for AC electiical enegy meters JJG 597	(30～525)V/(0.02～120)A	U_{rel}=0.024%		
58	Reference Meters for Electrical Energy	electric energy	V.R. of Reference Meters for Electrical Energy JJG 1085	(30～525)V/(0.02～120)A	U_{rel}=0.016%		
59	*AC shunt	resistance	C.S. for AC shunts JJF(Electronic) 0020	1mΩ～10Ω，(5～100)A，(45~65)Hz	U_{rel}=(1.1～0.06)%		
60	*Welding Power Source of DC Electric Welding Machines	Welding current	C.S. for Welding Power Sources of DC Electric Welding Machines JJF 1985	(1～2000)A	U_{rel}=1.6%		
		No-load voltage		(20～141)V	U_{rel}=3%		
		Load voltage		(10～44)V	U_{rel}=3%		
61	*DC High Current Meters	DC Current	V.R. for DC High Current Meters JJG(Military) 195	(100～2400)A	U_{rel}=(0.012～0.014)%		
62	*Off-board Charger for Electric Vehicles	Electrical Energy	V.R. of Off-board Chargers for Electric Vehicles(for Trial Implementation) JJG 1149	DCV: (30～1000)VDCA: (5～250)A	U_{rel}=0.1%		
		Time		(0～9999)s	U=1s		
63	*AC Charging Spot for Electric Vehicles	Electrical Energy	V.R. of AC Charge Spots for Electric Vehicles(for Trial Implementation) JJG 1148	ACV:(30～380)VACA:(1～70)A	U_{rel}=0.1%		
		Time		(0～9999)s	U=1s		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
64	Tesla meter/ Gaussian meter/ magnetometer	Magnetic induction intensity/Magnetic flux density	C.S.for (1 mT～2.5 T) Magnetometers JJF 1832	1mT～2T	U_{rel}=(3～0.5)%		
65	*power quality analyzer	voltage	Verification code for power quality analyzer DL/T 1028	(1～1008)V， (16～850)Hz	U_{rel}=(0.009～0.03)%		
		frequency		16Hz～850Hz	U_{rel}=0.006%		
		harmonic voltage		(0.3～302)V， 100Hz～3kHz	U_{rel}=(0.06～0.12)%		
		harmonic current		(0.01～6)A， 100Hz～3kHz	U_{rel}=0.07%～0.10%		
		harmonic power		(0.001～1800)W，100Hz～3kHz	U_{rel}=(0.12～0.15)%		
		flicker		Pst=1,Pst=3	U_{rel}=0.3%		
66	*Magnetic Flux Meters	Magnetic Flux	C.S.for Magnetic Flux Meters JJF 1905	0.1mWb～10Wb	U_{rel}=0.07%		
67	*Power amplifier/preamplifier	Rated output power	C.S.for RF & Microwave Power Amplifiers JJF 1678	20dBm～57dBm,(10kHz～1GHz)	U=1.5dB		
				20dBm～54dBm,(1GHz～18GHz)	U=1.3dB		
				20dBm～37dBm,(18GHz～40GHz)	U=1.5dB		
		gain		(0～80)dB,(10kHz～40GHz)	U=0.8dB～1.3dB		
		Gain flatness		(0.1～12)dB,(10kHz～40GHz)	U=0.8dB～1.3dB		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		1dB compression point output power		20dBm～57dBm,(10kHz～1GHz)	U=1.5dB		
				20dBm～54dBm,(1GHz～18GHz)	U=1.3dB		
				20dBm～37dBm,(18GHz～40GHz)	U=1.5dB		
		Maximum output power		20dBm～57dBm,(10kHz～1GHz)	U=1.5dB		
				20dBm～54dBm,(1GHz～18GHz)	U=1.3dB		
				20dBm～37dBm,(18GHz～40GHz)	U=1.5dB		
		gain adjustment range		(0～63)dB,(10kHz～1GHz)	U=1.0dB		
				(0～55)dB,(1GHz～18GHz)	U=1.3dB		
				(0～30)dB,(18GHz～40GHz)	U=1.3dB		
		Harmonic distortion and clutter suppression		(0～140)dBc	U=1.5dB		
		Third order intermodulation		(0～63)dB	U=2dB		
		noise coefficient		(3～15)dB,(10MHz~40GHz)	U=0.8dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Input voltage standing wave ratio		(1～20),(9kHz～40GHz)	U=0.05		
68	*Magnetic Particle Flaw Detector	Electric current	C.S.for Magnetic Particle Flaw Detector JJF 1273	(100～2100)A	U_{rel}=1.5%		
69	*Magnetic Yoke Detector	Force	C.S.for Magnetic Yoke Detector JJF 1458	(20～300)N	U_{rel}=6.0%		
		Electric current		(1～1000)A	U_{rel}=6.0%		
7 Radio & Time-frequency Measuring Instrument							
1	*Wow Flutter Meter	Wow and Flutter	C.S. for Wow Flutter Meter JJF 1683	(0.001～3)%，(2.5～3.5)kHz	U_{rel}=0.8%		
		Frequency		(2.5～3.5)kHz	U_{rel}=0.005%		
		Voltage		(0.1～10)V，(2.5～3.5)kHz	U_{rel}=(5.1～0.9)%		
2	*Analogue Oscilloscope	Coefficient of vertical deflection	V.R. of Analogue Oscilloscope JJG 262	1mV/div～5V/div	U_{rel}=(0.7～0.5)%		
		Scanning time coefficient		2ns/div～5s/div	U_{rel}=(0.25～0.5)%		
		Bandwidth		50kHz～500MHz	U_{rel}=(1.9～5.9)%		
		Raise time		300ps~100 μ s	U_{rel}=4.6%		
		Calibrate Voltage		(0.01～10)V	U_{rel}=(1.5～0.5)%		
		Calibrate Frequency		(0.01～100)kHz	U_{rel}=0.003%		
		Resistance		50Ω～1MΩ	U_{rel}=(0.16～0.22)%		
3	*Low Frequency	Frequency	V.R. of Low-Frequency	10Hz～200kHz	U_{rel}=(0.9～0.3)%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Signal Generator	Voltage	Signal Generator JJG 602	1mV～300V(10Hz～1kHz)	U_{rel}=(6～0.20)%		
				1mV～1V(1kHz～200kHz)	U_{rel}=(6～0.20)%		
				1V～300V(1kHz～200kHz)	U_{rel}=(0.20～11)%		
		Output rating		1W～20W	U_{rel}=(0.4～0.3) %		
		Attenuation		(0～80)dB，(20Hz～200kHz)	U=(0.6～0.20)dB		
		Distortion		(0.002～10)%，(20Hz～100kHz)	U_{rel}=15%		
4	*Signal Generator	Frequency	C.S. for Signal Generators JJF 1931	5kHz～50GHz	U_{rel}=3×10^{-9}		
		Power		(-127～+30)dBm，（5kHz～50GHz)	U=(0.6～0.21)dB		
		Harmonic		(-100~0)dBc，(5kHz～50GHz)	U=(1.2～2.9)dB		
		AM		(5～99)%，（CW: 150kHz～50GHz， fm ：20Hz～200kHz）	U_{rel}=(10～1.3)%		
		FM		(1～400)kHz, (CW:150kHz～50GHz，fm ：20Hz～200kHz)	U_{rel}=(10～1.3)%		
		Int modulation frequency		20Hz～100kHz	U_{rel}=1×10^{-5}		
		Distortion		(0.01～10)%，(20Hz～100kHz)	U_{rel}=15%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Voltage		1mV～10V，(3Hz～1kHz)	U_{rel}=(6～0.20)%		
				100mV～1V，(20Hz～100kHz)	U_{rel}=(0.20～1.0)%		
				1V～10V，(20Hz～100kHz)	U_{rel}=(0.20～11)%		
		Nonharmonics		(-100~0)dBc，(5kHz～50GHz)	U=(1.2～2.9)dB		
		Pulse modulation on-off ratio		(0~120)dB,(5kHz～50GHz)	U=0.8dB		
		Pulse modulation rise / fall time		50ps~1 μ s	U_{rel}=5.0%		
		SSB phase noise		(-30~-140)dBc/Hz,offset:10Hz~100MHz	U=0.9dB		
		Carrier residual amplitude modulation		(0~10)%,(CW:150kHz～50GHz)	U=0.1%		
		Carrier residual frequency modulation		(0~10)kHz,(CW:150kHz～50GHz)	U=1Hz		
		Phase deviation		(1~400)rad,(CW:150kHz～40GHz，fm ： 20Hz～200kHz)	U_{rel}=(10～1.3)%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Adjoint frequency modulation under amplitude modulation		(0~10)kHz,(CW:150kHz～50GHz)	U=1Hz		
		Adjoint amplitude modulation with frequency modulation		(0~10)%,(CW:150kHz～50GHz)	U=0.1%		
5	*LF Voltmeter	AC Voltage	C.S. for Low-frequency Volt-meters JJF 1925	1mV～330V，(1kHz)	U_{rel}=(2.5～0.5)%		
				1V，(10Hz～1kHz)	U_{rel}=0.5%		
				1V，(1kHz～500kHz)	U_{rel}=(0.5～1.0)%		
6	*Distortion Meter	Distortion measurement	C.S.for Distortion Meters JJF 1852	(0.01～0.03)%， (5Hz～20kHz)	U_{rel}=(6～2.6)%		
				(0.03～30)% ，(5Hz～100kHz)	U_{rel}=(2.2～1.2)%		
		Residual distortion		（0.001%～0.03%），(5Hz～200kHz)	U_{rel}=(2.6～6.0)%		
		Voltage measurement		1mV～330V，(1kHz)	U_{rel}=(0.5～2.5)%		
				1V，(10Hz～1kHz)	U_{rel}=0.5%		
				1V，(1kHz～500kHz)	U_{rel}=(0.5～1.0)%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Voltage measurement Frequency response		± (0.01%~20%), (1kHz～500kHz)	U_{rel}=(0.5～2.5)%		
7	*Spectrum Analyzer	Frequency	C.S. for Spectrum Analyzer JJF 1396	3Hz～50GHz	$U_{rel}=1\times10^{-5}$ ～3×10^{-9}		
		Sweep width		10Hz～50GHz	U_{rel}=0.01%		
		RBW		1Hz～10MHz	U_{rel}=0.01%		
		Vertical display scale		(-90～0)dB，（3Hz～50GHz）	U=0.3dB		
		Reference level		(-90～+10)dBm	U=(1.0～0.27)dB		
		Input attenuator conversion effect		(-10~10）dB ，(0～100)dB	U=0.30dB		
		Sweep Time		1ms～1000s	$U_{rel}=1.6\times10^{-7}$		
		Resolution bandwidth conversion effects		(-20dB~20dB),(3Hz～40GHz)	U=0.2dB		
		DANL		(-160dBm~-20dBm),（9kHz～50GHz）	U=1.0dB		
		Input frequency response		(-20dB~20dB),(3Hz～50GHz)	U=(0.2~1.0)dB		
		Absolute level		(-50dBm~0dBm),(10MHz～50GHz)	U=0.20dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Noise Sideband		(-150~-20) dBc/Hz，(10MHz・50GHz）	U=1.5dB		
		Reference frequency		10MHz	$U_{rel}=1\times10^{-9}$		
		Calibration signal level		(-30dBm~0dBm)，（10MHz~500MHz））	U=0.30dB		
		Residual Response		(-130～-70)dBm，(100kHz～50GHz)	U=3dB		
		harmonic distortion		(-120～-20)dBc，(9kHz～25GHz)	U=(0.6~2.5)dB		
		Third-order intermodulation distortion		(0～25)dBm，(10MHz～50GHz)	U=(0.6~2.5)dB		
		VSWR		.001～5.0，(10MHz～50GHz)	U_{rel}=(2.5～6)%		
		image response		(-130～-60)dBc，(10MHz～50GHz)	U=3dB		
		gain compression		(0～1)dB，（10MHz～50GHz）	U=0.10dB		
		power bandwidth		(-1～1)dB，(1Hz～10MHz)	U=0.10dB		
		residual FM		0.2Hz～500Hz，（3Hz～50GHz）	U=2Hz		
		frequency count		3Hz～50GHz	$U_{rel}=1\times10^{-5}$ ～3×10^{-9}		
8	*Function Generator	Frequency	V.R. of Function Generators JJG 840	0.1Hz～250MHz	$U_{rel}=1\times10^{-4}$ ～3×10^{-9}		
		ACV		5mV～55V，（1kHz）	U_{rel}=(0.5～0.20)%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		THD		(0.001～5)%，（20Hz～20kHz）	U_{rel}=15%		
		Harmonic		（-100～-10）dBc，(100Hz～1GHz)	U_{rel}=(0.4～3.7)dB		
		Flatness of sine wave amplitude		±（0.01~2）dB，(1kHz~250MHz，-60～20)dBm	U=(0.15～0.6)dB		
		Raise time		200ps~100μs，（1Hz～250MHz）	U_{rel}=1.8%		
		Pulse duration ratio		(1～99)%，(1Hz～250MHz)	U=0.2%		
		DCV		（-20～-0.01）V，（0.01～20）V	U_{rel}=0.20%		
9	*Frequency Sweeper	Scope vertical input Sensitivity	V.R. of MSW-7124 AM/FM Sweeper JJG(Dianzi) 07003	1mV～1V	U_{rel}=(4～2.0)%		
		CF range		(0.2 ～100)MHz	U_{rel}=0.0013%		
		Sweep width		（0.2～36）MHz	U_{rel}=0.0013%		
		Frequency accuracy of the marker		100kHz ～110MHz	U_{rel}=0.0013%		
		Sweep output level		(-87～-7)dBm	U=0.5dB		
10	*Digital Oscilloscope	DC gain	V.R. for Digital Oscilloscope GJB 7691	(0.8～1.2)1mV/div～50V/div	U_{rel}=(0.7～0.3)%		
		Bandwidth		50kHz～50GHz	U_{rel}=(1.9～5.9)%		
		Raise time		20ps~100μs	U_{rel}=4.6%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Calibrate Voltage		(0.01～5)V	U_{rel}=(1.5～0.5)%		
		Calibrate Frequency		0.5kHz～5MHz	U_{rel}=0.003%		
		Resistance		50Ω,1MΩ	U_{rel}=(0.16～0.22)%		
		Channel isolation		200:1～20:1	U_{rel}=1%		
		Input capacitance		10pF～25pF	U_{rel}=2%		
		Probe decay ratio		1:1～1:1000	U_{rel}=0.3%		
		Delay time difference between channels		30ps～5ns	U_{rel}=0.3%		
		Time base		10MHz	U_{rel}=1×10^{-7}		
		Background noise		0.1mV~1V	U_{rel}=2%		
		Overshoot		0.5%~30%	U_{rel}=2%		
		Trigger sensitivity		0.1mV~1V	U_{rel}=3.0%		
		DC Bias		±(1mV~200V)	U_{rel}=(0.7～0.3)%		
11	*Semiconductor Device Curve Tracers	Base voltage deflection coefficient	C.S. for Semiconductor Device Curve Tracers JJF 1236	0.05V/div～2V/div	U_{rel}=1.5%		
		collector voltage deflection coefficient		0.05V/div～50V/div	U_{rel}=1.5%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		diode voltage deflection coefficient		100V/div～500V/div	U_{rel}=1.5%		
		circumscribed deflection coefficient		0.05V/div～50V/div	U_{rel}=1.5%		
		step voltage		0.05V/div～2V/div	U_{rel}=1.5%		
		collector current deflection factor		2μA/div～10A/div	U_{rel}=1.5%		
		current deflection factor		2μA/div～10A/div	U_{rel}=1.5%		
		Step current		2μA/div～10A/div	U_{rel}=1.5%		
		Resistance		0.1Ω～10MΩ	U_{rel}=1.5%		
12	*Modulation Meter	AM	C.S. for Modulation Meters JJF 1111	(5～99)% (载波：150kHz～1.3GHz)(调制频率:20Hz～20kHz)	U_{rel}=(10～1.3)%		
		FM offset		(1～400)kHz (载波：150kHz～1.3GHz)(调制频率:20Hz～20kHz)	U_{rel}=(10～1.3)%		
		PM offset		(1～400)rad (载波：150kHz～1.3GHz)(调制频率:20Hz～20kHz)	U_{rel}=(10～1.3)%		
13	*HF Q-Meter	Frequency	C.S. of HF Q-Meter JJF 1073	50 kHz～50 MHz	$U_{rel}=0.8\times10^{-5}$～4×10^{-5}		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Q Value		10～500	U=3.2～7.4		
		Capacity		(8～500)pF	U=(0.09～1.0) pF		
14	*Telephone Analyze	Dual tone multiple Frequency	V.R. of Dual Tone and Multi-frequency Telephone Audio meters JJG(Youdian) 032	(600～1700)Hz	U=0.20Hz		
		Dual tone multi frequency level		(-30～0)dBm，(600～1700)Hz	U=0.2dB		
		Pulse Width		（1~150）ms	U=0.1ms		
		Pulse Ratio		（0.1~15）	U_{rel}=0.09%		
15	*DC and LF Characterization Tester for Transistor	DCV	C.S. for Semiconductor Devices DC and Low Frequency Parameters Test Equipments JJF 1895	(0.1～1000)V	U_{rel}=0.4%		
		DCA		10 μA～1A	U_{rel}=0.7%		
		hfe		(20～999)	U_{rel}=(0.6～1.1)%		
16	*Microwave Counter	Frequency	V.R. of Microwave Frequency Counters JJG 841	100kHz～40GHz	$U_{rel}=6\times10^{-10}$		
		Power-on characteristic		(1～10)MHz	$U_{rel}=6\times10^{-10}$		
		Daily frequency fluctuation		(1～10)MHz	$U_{rel}=6\times10^{-10}$		
		Daily aging rate		(1～10)MHz	$U_{rel}=6\times10^{-10}$		
		1s frequency stability		(1～10)MHz	$U_{rel}=6\times10^{-10}$		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Frequency reproducibility		(1～10)MHz	U_{rel}=6×10^{-10}		
		Frequency accuracy		(1～10)MHz	U_{rel}=6×10^{-10}		
		Input Sensitivity		（-40～-10）dBm，100kHz～40GHz	U=0.6dB		
17	*Universal counter	Frequency	V.R. of Universal Counters JJG 349	1Hz～18GHz	U_{rel}=6×10^{-10}		
		Period		1ns～100s	U_{rel}=6×10^{-10}		
		Time interval measurement		100ns~4000s	U_{rel}=0.01%		
		Power-on characteristic		(1～10)MHz	U_{rel}=6×10^{-10}		
		Daily frequency fluctuation		(1～10)MHz	U_{rel}=6×10^{-10}		
		Daily aging rate		(1～10)MHz	U_{rel}=6×10^{-10}		
		1s frequency stability		(1～10)MHz	U_{rel}=6×10^{-10}		
		Frequency reproducibility		(1～10)MHz	U_{rel}=6×10^{-10}		
		Frequency accuracy		(1～10)MHz	U_{rel}=6×10^{-10}		
		Input Sensitivity		（-40～-10）dBm，（1GHz～18GHz）	U=0.6dB		
				5mV～1V，（10Hz～1GHz）	U_{rel}=5%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
18	*Frequency Meters	Frequency	V.R. of Frequency Meters JJG 603	10 Hz～20 kHz	U_{rel}=0.003%		
19	*Crystal Oscillator	Frequency accuracy	C.S. for Crystal Oscillators inside the Electrical Measurement Instruments JJF 1984	(1～100)MHz	$U_{rel}=6\times10^{-10}$		
		Power-on characteristic		(1～100)MHz	$U_{rel}=6\times10^{-10}$		
		Daily aging rate		(1～100)MHz	$U_{rel}=6\times10^{-10}$		
		1s frequency stability		(1～100)MHz	$U_{rel}=6\times10^{-10}$		
		Frequency reproducibility		(1～100)MHz	$U_{rel}=6\times10^{-10}$		
20	*Vector network analyze	Internal Source Frequency	C.S. for Vector Network Analyzers JJF 1495	9kHz～50 GHz	$U_{rel}=1\times10^{-8}$		
		Internal Signal Source Power		(-110～20)dBm，（9kHz～50 GHz）	U=(0.27～0.72)dB		
		Dynamic Accuracy of Modulus Value		(0~90)dB，(1MHz～40 GHz)	U=(0.06～1.0)dB		
		Modulus of Reflection		（0～1），(0.05～18)GHz	U=(0.012～0.018)		
		Phase Angle of reflection coefficient		(-180°～180°)，(0.05～18)GHz	U=(0.14～2.8)°		
		Scattering Parameter Modulus Sii		（0～1），(0.05～50)GHz	U=(0.01～0.03)		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Scattering Parameter Modulus Sij		（0~70）dB，(0.05～50)GHz	U=0.20dB		
		Measurement Accuracy Phase Angle of Scattering Parameters		(-180°～180°)，(0.05～50)GHz	U=(0.14~2.8)°		
		Trace Noise Magnitude		（0～0.1）dB，（9kHz～50 GHz）	U=0.0013dB		
		Trace Noise Phase		（0～1）°，（9kHz～50 GHz）	U=0.012°		
		Noise Floor		(-140～-60) dBm，（9kHz～50 GHz）	U=2.3 dB		
		Crosstalk		(-150～-70) dB，（9kHz～50 GHz）	U=1.1 dB		
		Modulus of Calibration element reflection factor		（0～1），(0.01～50)GHz	U=(0.01～0.03)		
		phase of calibration element reflection factor		(-180°～180°)，(0.01～50)GHz	U=(0.4～1.2)°		
21	*Artificial Mains Networks	Impedance	C.S. for Artificial Mains Networks JJF 1705	(1～60) Ω,(9kHz～110MHz)	U_{rel}=7%		
		Phase		（-20°～90°）,(9kHz～110MHz)	U=2.6°		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Voltage division factor		(-20～0)dB,(9kHz～110MHz)	U=0.34dB		
22	*Oscilloscope Calibrator	DC Calibration voltage	Oscilloscope Calibrator JJG 278	±(1mV～200V)	U_{rel}=0.005%～0.05%		
		Square wave calibration voltage		1mV～200V(10Hz～10kHz)	U_{rel}=0.02%～0.2%		
		Time marker		0.5ns～5s	$U_{rel}=5.2\times10^{-8}$		
		Rise time		50ps～100ns	U_{rel}=5%		
		Flatness of Fixed amplitude sine signal		（-10~10）dB（9kHz～12.4GHz）	U=0.20dB		
		Sine wave frequency		9kHz~12.4GHz	$U_{rel}=5.2\times10^{-8}$		
		Waveform generator amplitude		2mV～50V (1MΩ)	U_{rel}=1%		
				2mV～ 2.5V (50Ω)	U_{rel}=1%		
		Waveform generator frequency		10Hz～10kHz	$U_{rel}=1\times10^{-7}$		
		Waveform generator DC bias		2mV～50V (1MΩ)	U_{rel}=1%		
		Pulse generator cycle		3Hz～50GHz	$U_{rel}=1\times10^{-7}$		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Pulse generator pulse width		4ns～500ns	U_{rel}=1%		
		resistance measurement		10 Ω ～150 Ω	U_{rel}=0.05%		
				50 kΩ～12 MΩ	U_{rel}=0.03%		
		Capacitance measurement		5pF～50pF	U_{rel}=1.5		
		current output		88 μA～111mA	U_{rel}=0.1%		
23	*RF Impedance/Material Analyzers	frequency	Calibration specification for RF Impedance/Material Analyzers JJF 1127	1MHz～3GHz	U_{rel}=1×10^{-7}		
		signal level		（-60～20）dBm,(1MHz～3GHz）	U=(0.13～0.2) dB		
		impedance		0.001mΩ～50kΩ，（0.01 μS~10S）	U_{rel}=0.4%～2%		
		phase		（-180～180）° C,（1MHz～3GHz）	U=(2～15)mrad		
24	*Vector Signal Generator	Internal crystal oscillator frequency	C.S. for Vector Signal Generators JJF 1174	10MHz	U_{rel}=6.7×10^{-9}		
		Frequency		100 kHz～44GHz	U_{rel}=6.7×10^{-9}		
		Level		(0 ～ 20) dBm,(100 kHz ～2 GHz)	U=0.17dB		
				(0～20) dBm,(2GHz ～ 18 GHz)	U=0.27dB		
				(0 ～ 20) dBm,(18 GHz～ 26.5 GHz)	U=0.37dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(0 ～ 20) dBm,(26.5 GHz ～33 GHz)	U=0.44dB		
				(0 ～ 20) dBm,(33 GHz～44 GHz)	U=0.53dB		
				(-50 ～ 0) dBm,(100 kHz ～2 GHz)	U=0.20dB		
				(-50～0) dBm,(2GHz ～ 18 GHz)	U=（0.28~0.31）dB		
				(-50 ～ 0) dBm(18 GHz ～ 26.5 GHz)	U=（0.45~0.48）dB		
				(-50 ～ 0) dBm(26.5 GHz～33 GHz)	U=（0.45~0.48）dB		
				(-50 ～ 0) dBm(33 GHz ～40 GHz)	U=（0.54~0.57）dB		
				(-50 ～ 0)dBm(40 GHz～44 GHz)	U=（0.58~0.61）dB		
				(-90 ～ -50) dBm(100 kHz ～2 GHz)	U=（0.12~0.14）dB		
				(-90 ～ -50)dBm(2 GHz ～ 18 GHz)	U=（0.16~0.18）dB		
				(-90 ～ -50) dBm(18 GHz ～ 26.5 GHz)	U=（0.19~0.21）dB		
				(-90 ～ -50) dBm(26.5 GHz ～ 33 GHz)	U=（0.23~0.25）dB		
				(-90 ～ -50) dBm(33 GHz ～ 44GHz)	U=（0.27~0.29）dB		
				(-120 ～ -90) dBm(100 kHz ～2 GHz)	U=（0.17~0.18）dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(-120 ～ -90)dBm(2 GHz ～ 18 GHz)	U=（0.20~0.21）dB		
				(-120 ～ -90)dBm(18 GHz ～ 26.5 GHz)	U=（0.23~0.24）dB		
				(-120 ～ -90)dBm(26.5 GHz ～ 33 GHz)	U=（0.26~0.27）dB		
				(-120 ～ -90)dBm(33 GHz ～ 44 GHz)	U=（0.30~0.31）dB		
		Amplitude Modulation (AM)		(5%～99%)(CW：100kHz～44GHz)(f：10Hz～100kHz)	U_{rel}=1.2%		
		Frequency Modulation deviation		10 Hz～400 kHz (CW:0.1 MHz～10 MHz;f:20 Hz～40k Hz)	U_{rel}=1.2%		
		Phase Modulation deviation		(1～500)rad (CW:0.1MHz～44 GHz;f:50Hz～100kHz)	U_{rel}=1.2%		
		Signal Spectral Purity		(-100~-10)dBc(CW:0.1 MHz～44GHz)	U=1.0dB		
				20 MHz <CW≤3.6 GHz	U=0.41dB		
				3.5 GHz <CW≤ 8.4 GHz	U=1.8 dB		
				8.4 GHz <CW≤ 22 GHz	U=2.3dB		
				22 GHz <CW≤ 34.5 GHz	U=2.9 dB		
				34.4 GHz <CW≤50 GHz	U=3.7 dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Single Side Band Phase Noise		(-140~-10）dBc/Hz(频率偏移:10Hz～2MHz)(CW:0.1 MHz～44GHz)	U=1.0 dB		
		Error Vector Magnitude(EVM)		0%～25%,(100 kHz～43.5 GH)	U=0.5%~1.2%		
		Frequency Error		-1.3 MHz～+1.3MHz(100 kHz≤CW≤43.5 GH)	U=16 Hz		
				-1.3MHz ～ +1.3MHz(Bluetooth)	U=12Hz		
				-1.3MHz ～ +1.3MHz(WLAN)	U=2 Hz		
				-1.3MHz ～ +1.3MHz(LTE)	U=2 Hz		
				-1.2 kHz ～ +1.2 kHz(CDMA)	U=2 Hz		
				-5 kHz ～ +5 kHz(WCDMA)	U=6 Hz		
				-14 kHz ～ +14 kHz(TD-SCDMA)	U=4Hz		
		Bluetooth Modulation Frequency Offset Measurement		100 kHz～300 kHz(2.4GHz~2.5 GH)	U_{rel}=1.2%		
		Phase Error Measurement		0°～15°（100kHz~43.5GH）	U=0.89°		
		Symbol Clock Error(WLAN)		(-1.0×10^{-4}~1.0×10^{-4})	U=3.6×10^{-6}		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		I/Q origin offset suppression（LTE）		(-80～-10) dB（0.6GHz～3.8GHz）	U=0.96 dB		
		Waveform Quality Factor（CDMA、WCDMA、TD-SCDMA）		0.5~1.0（0.8GHz~2.7GHz）	U=0.0012		
		Channel Power		(-70 ～ 0) dBm(100 kHz ～ 18 GHz)	U=0.37 dB		
				(-70 ～ 0) dBm(18 GHz ～ 26.5 GHz)	U=1.7 dB		
				(-70 ～ 0) dBm(26.5 GHz ～ 43.5 GHz)	U=2.5 dB		
		Peak Code Domain Error		(-50 ～ -25) dB（0.7GHz~ 2.7GHz）	U=1.0dB		
				(-60 ～ -50) dB（0.7GHz~ 2.7GHz）	U=2.9dB		
		Occupied Bandwidth		70kHz～20MHz（0.1GHz~ 44GHz）	U_{rel}=0.2%		
		ACPR		(-80～-20)dB(0.8GHz~2.7GHz)	U=0.87 dB		
		Residual Amplitude Modulation of the Carrier		(0.01~0.5)%(250 kHz～44 GHz)	U_{rel}=2%		
		Residual Frequency		(0.1Hz~50)Hz 100kHz~6.6GHz	U=1.8 Hz		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Modulation of the Carrier		(0.1Hz~50)Hz (6.6GHz~13.2 GHz)	U=3.5 Hz		
				(0.1Hz~50)Hz (13.2GHz~31.15 GHz)	U=6.9 Hz		
				(0.1Hz~50)Hz (31.15GHz~44 GHz)	U=14Hz		
		"Pulse modulation on-off ratio "		(0~90)dB,(5kHz~50GHz)	U=0.8dB		
		Pulse modulation rise and fall time		10ns~1 μs，（250kHz～6GHz）	U_{rel}=5.0%		
		Internal modulation generator frequency		5Hz~200kHz	U_{rel}=1×10^{-6}		
		Internal modulation generator amplitude		10mV～10V(3Hz～1kHz)	U_{rel}=(6～0.20)%		
				100mV～1V，(20Hz～200kHz)	U_{rel}=(0.20～1.0)%		
				1V～10V(20Hz～200kHz)	U_{rel}=(0.20～11)%		
25	*Bluetooth Tester	Internal crystal oscillator frequency	C.S. for RF Bluetooth Test Set JJF 1278	10MHz	U_{rel}=6.7×10^{-9}		
		Frequency		2.4G Hz～2.5GHz	U_{rel}=6.7×10^{-9}		
		Level		(0 ～ 10) dBm(2.4GHz ～ 2.5 GHz)	U=0.24 dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(-50 ～ 0) dBm(2.4GHz ～ 2.5 GHz)	U=0.30dB		
				(-90 ～ -50) dBm(2.4GHz～2.5 GHz)	U=（0.12~0.14）dB		
		Signal Spectral Purity		(-100~-10)dBc(1.2GHz ～ 8GHz)	U=1.0dB		
		Single Side Band Phase Noise		(-140~-10）dBc/Hz(频率偏移:10 Hz～2MHz) (2.4G Hz ～ 2.5GHz)	U=1.0 dB		
		Difference Error Vector Magnitude(DEVM)		0～25%(2.4GHz ～ 2.5 GHz)	U=1.2%		
		GFSK Modulation Frequency Offset		100 kHz ～ 300 kHz(2.4GHz ～ 2.5 GHz)	U_{rel}=0.92%		
		Frequency Error		(-1.3 MHz ～ +1.3 MHz)(2.4GHz ～ 2.5 GHz)	U=12 Hz		
		Power Measurement		(-70～ 10) dBm(2.4Hz ～ 2.5 GHz)	U=0.30 dB		
		GFSK Modulation Frequency Offset Measurement		(100 kHz ～ 300 kHz)(2.4Hz ～ 2.5 GHz)	U_{rel}=0.92%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Differential Error Vector Amplitude Measurement		0～25%(2.4GHz ～ 2.5 GHz)	U=1.2%		
		Frequency Error Measurement		(-1.3 MHz ～ +1.3MHz)(2.4Hz ～ 2.5 GHz)	U=12 Hz		
		Frequency Measurement		2.4GHz ～ 2.5 GHz	U_{rel}=1.0×10^{-7}		
		VSWR of RF Port		(1~3)，(2.4GHz ～2.5 GHz)	U=0.02		
26	*WLAN Test Set	Internal crystal oscillator frequency	C.S. for RF WLAN Test Set JJF 1277	10MHz	U_{rel}=6.7×10^{-9}		
		Frequency		2.4GHz～6GHz	U_{rel}=6.7×10^{-9}		
		Level		(0 ～ 10) dBm(2.4GHz ～6 GHz)	U=0.24 dB		
				(-50 ～ 0) dBm(2.4GHz ～6 GHz)	U=0.28 dB		
				(-90 ～ -50) dBm(2.4GHz ～6 GHz)	U=0.30 dB		
		Signal Spectral Purity		(-100~-10)dBc(2.4GHz ～6 GHz)	U=1.0 dB		
		Single Side Band Phase Noise		(-140~-30)dBc/Hz(2.4GHz ～ 6GHz)	U=1.0 dB		
		Frequency Error		(-1.3MHz ～ +1.3MHz) (2.4GHz ～6GHz)	U=10 Hz		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Error Vector Magnitude(EVM)		0～25% (2.4GHz ～ 6GHz)	U=1.0%		
		Pilot EVM (dB)		0~20%(2.4GHz ～6GHz)	U=1.0%		
		Symbol Clock Error		-1.0×10^{-4}~1.0×10^{-4}), (2.4GHz ～6GHz)	U=3.6×10^{-6}		
		Power Measurement		(0 ~ 10) dBm(2.4GHz ～ 6 GHz)	U=0.27 dB		
				(-50 ~ 0) dBm(2.4GHz ～ 6GHz)	U=0.28dB		
				(-90 ~ -50) dBm(2.4GHz ～ 6GHz)	U=0.30 dB		
		Error Vector Magnitude(EVM)		0～25% (2.4GHz ～ 6GHz)	U=1.0%		
		Symbol Clock Error		(-1.0×10^{-4}~1.0×10^{-4}), (2.4GHz ～6GHz)	U=3.6×10^{-6}		
		VSWR of RF Port		（1~3）（2.4GHz～6GHz)	U=0.02		
27	*Vector Signal Analyzers	Internal crystal oscillator frequency	C.S. for Vector Signal Analyzers JJF 1128	10MHz	U_{rel}=6.7×10^{-9}		
		Frequency Measurement		100 kHz ~ 6 GHz	U_{rel}=5.0×10^{-9}		
		Power measurement		(-110 ~ 20) dBm(100kHz ～6 GHz)	U=0.30 dB		
		Error Vector Magnitude(EVM)		0%～ 25%(100kHz~6GHz）	U=0.5%~2%		

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

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Frequency Error		（-100 kHz ～100 kHz） （100kHz~6GHz）	U=2 Hz ～ 12Hz		
		Error Vector Amplitude Measurement		0%～25%(100 kHz~ 6GHz)	U=0.5%~2%		
		Phase Error Measurement		0° ～15° （100kHz~6GHz）	U=0.9°		
		I/Q Origin offset Suppression Measurement		(-80～-10) dB （100kHz~6GHz）	U=0.96 dB		
28	*TDMA-GSM Radio Communication Testers	Internal crystal oscillator frequency	C.S. for TDMA-GSM Radio Communication Testers JJF 1131	10MHz	U_{rel}=6.7×10^{-9}		
		Frequency		800M Hz～2GHz	U_{rel}=6.7×10^{-9}		
		Level		(-50 ～ 0) dBm(800MHz～2 GHz)	U=0.24dB		
				(-90 ～ -50) dBm(800MHz～2 GHz)	U=0.27dB		
				(-120 ～ -90) dBm(800MHz～2 GHz)	U=0.30dB		
		Signal Spectral Purity		（-100~-10）dBc （400MHz~6GHz）	U=1.0dB		
		Single Side Band Phase Noise		（-140~-30） dBc/Hz(800MHz~2GHz)	U=1.0 dB		
		Phase Error		(0～10)° （800MHz~2GHz）	U=0.3 °		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Peak Phase Error		(-15～15)°（800MHz~2GHz）	U=1.0°		
		Frequency Error		（-30 kHz ～30 kHz）（800MHz~2GHz）	U=2 Hz		
		Power Measurement		(-50 ～ 10) dBm(800MHz ～ 2 GHz)	U=0.30 dB		
		Phase Error Measurement		(0～10)°（800MHz~2GHz）	U=0.3°		
		Peak Phase Error Measurement		(-15～15)°（800MHz～2GHz）	U=1.0°		
		Frequency Error Measurement		（-30 kHz ～ 30 kHz）（800MHz～ 2GHz）	U=2 Hz		
		Frequency Accuracy of Audio Signal Generator		20Hz～5kHz	U_{rel}=0.49%		
		Audio analyzer frequency measurement		20Hz～40kHz	U_{rel}=6.0×10^{-5}		
		Audio Signal Generator Output Voltage		（0.1～5 ）V（20 Hz～5kHz）	U_{rel}=0.5%		
		Audio Analyzer Voltage Measurement		（20mV～30V）（20 Hz～40 kHz	U_{rel}=0.5%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Audio Analyzer Distortion Measurement		0.001%～100%(20 Hz～20 kHz)	U_{rel}=0.1%~5%		
		VSWR of RF Port		（1~3） 800MHz～ 2 GHz)	U=0.02		
29	*TD-SCDMA Digital Radio Communication Testers	Internal crystal oscillator frequency	C.S. for TD-SCDMA Digital Radio Communication Testers JJF 1204	10MHz	U_{rel}=6.7×10^{-9}		
		Frequency		30MHz～2.7GHz	U_{rel}=6.7×10^{-9}		
		Level		(-50 ～ 0) dBm(30MHz ～2.7 GHz)	U=0.24dB		
				(-90 ～ -50) dBm(30MHz ～2.7 GHz)	U=0.27dB		
				(-120 ～ -90) dBm(30MHz ～2.7 GHz)	U=0.30dB		
		Signal Spectral Purity		(-100~-10)dBc(15MHz~9GHz)	U=1.0dB		
		Single Side Band Phase Noise		(-140~-30)dBc/Hz(30MHz~2.7GHz)	U=1.0 dB		
		Error Vector Magnitude(EVM)		0%～20%(30MHz~2.7GHz)	U=0.9%		
		Frequency Error		(-14 kHz ～ +14 kHz)(30MHz~2.7GHz)	U=4Hz		
		Waveform Quality Factor		(0.5～1.0)(30MHz~2.7GHz)	U=0.0012		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Signal Generator code Domain Power		(-50 ～ 0) dB(30MHz~2.7GHz)	U=0.8dB		
				(-60 ～ -50) dB(30MHz~2.7GHz)	U=2.9dB		
		Power Measuremen		(-50 ～ 10) dBm(30MHz~2.7GHz)	U=0.27 dB		
				(-65 ～ -50) dBm(30MHz~2.7GHz)	U=0.30dB		
		Error Vector Magnitude(EVM) Measurement		0%～20% (30MHz~2.7GHz)	U=0.8%		
		Frequency Error Measurement		-14 kHz ～ +14 kHz (30MHz~2.7GHz)	U=3.5Hz		
		Phase Error Measurement		(0.01～15)° (30MHz~2.7GHz)	U=0.81°		
		Waveform Quality Factor		0～1.0 (30MHz~2.7GHz)	U=0.0012		
		Frequency Accuracy of Audio Signal Generator		20Hz～20kHz	U_{rel}=0.49%		
		Audio analyzer frequency measurement		20Hz～20kHz	$U_{rel}=6.0\times10^{-5}$		
		Distortion of Audio Signal Generator		(0.001%～100%)(20Hz～20kHz)	U_{rel}=0.5%~5%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Audio Signal Generator Output Voltage		(20 mV～5 V)(20 Hz～20 kHz)	U_{rel}=0.5%		
		Audio Analyzer Voltage Measurement		(20mV～5V)(20 Hz～20 kHz	U_{rel}=0.5%		
		Audio Analyzer Distortion Measurement		0.001%～100%(20 Hz～20 kHz)	U_{rel}=0.1%~5%		
		VSWR of RF Port		(1～3)(30MHz～2.7GHz)	U=0.02		
30	*WCDMA Digital Radio Communication Testers	Internal crystal oscillator frequency	C.S. for WCDMA Digital Radio Communication Testers JJF 1276	10MHz	$U_{rel}=6.7\times10^{-9}$		
		Frequency		30MHz～2.7GHz	$U_{rel}=6.7\times10^{-9}$		
		Level		(-50 ～ 0) dBm (30MHz～2.7GHz)	U=0.24dB		
				(-90 ～ -50) dBm(30MHz～2.7GHz)	U=0.27dB		
				(-120 ～ -90) dBm((30MHz～2.7GHz)	U=0.30dB		
		Signal Spectral Purity		(-100~-10)dBc((30MHz～2.7GHz)	U=1.0dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Single Side Band Phase Noise		(-140~-30)dBc/Hz(30MHz～2.7GHz)	U=1.0 dB		
		Phase Error		(0～15)°（30MHz～2.7GHz)	U=0.8°		
		Waveform Quality Factor		(0～1.0)(30MHz～2.7GHz)	U=0.0012		
		Error Vector Magnitude(EVM)		(0%～25%)(30MHz～2.7GHz)	U=0.9%		
		Frequency Error		(-5 kHz ～ +5 kHz)(30MHz～2.7GHz)	U=6 Hz		
		Code Domain Power		(-50 ～ 0) dB (30MHz～2.7GHz)	U=0.8dB		
				(-60 ～ -50) dB (30MHz～2.7GHz)	U=2.9dB		
		Power Measuremen		(-50 ～ 10) dBm(30MHz～2.7GHz)	U=0.30dB		
		Phase Error Measuremen		(0～15)°（30MHz～2.7GHz)	U=0.8°		
		Error Vector Magnitude(EVM) Measuremen		(0%～25%)(30MHz～2.7GHz)	U=0.9%		
		Frequency Error Measuremen		(-5 kHz ～ +5 kHz)(30MHz～2.7GHz)	U=6 Hz		
		Waveform Quality Factor		(0.5～1.0)(30MHz~2.7GHz)	U=0.0012		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Frequency Accuracy of Audio Signal Generator		10Hz～20kHz	U_{rel}=0.49%		
		Audio analyzer frequency measurement		10Hz～20kHz	U_{rel}=6.0×10^{-5}		
		Distortion of Audio Signal Generator		(0.001%～10%)(10Hz～20kHz)	U_{rel}=0.5%～5%		
		Audio Signal Generator Output Voltage		(10 mV～5 V)(10 Hz～20 kHz)	U_{rel}=0.5%		
		Audio Analyzer Voltage Measurement		(20mV～5V)（10 Hz～20 kHz）	U_{rel}=0.5%		
		Audio Analyzer Distortion Measurement		（0.001%～100%)(10 Hz～20 kHz)	U_{rel}=0.5%～5%		
		VSWR of RF Port		（1~3）（30 MHz～ 2.7 GHz)	U=0.02		
31	*LTE Digital Radio Communication Testers	Internal crystal oscillator frequency	C.S. for LTE Digital Radio Communication Testers JJF 1443	10MHz	U_{rel}=6.7×10^{-9}		
		Frequency		600MHz～3.8GHz	U_{rel}=6.7×10^{-9}		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Level		(-50 ～ 0) dBm(600MHz～3.8GHz)	U=0.24dB		
				(-90 ～ -50) dBm(600MHz～3.8GHz)	U=0.27dB		
				(-120 ～ -90) dBm(600MHz～3.8GHz)	U=0.30dB		
		Signal Spectral Purity		（-100～ -10）dBc （300MHz～ 12GHz	U=1.0dB		
		Single Side Band Phase Noise		（-140~-30）dBc/Hz(600MHz～3.8GHz)	U=1.0 dB		
		Error Vector Magnitude(EVM)		0%～20%(600MHz～3.8GHz)	U=0.5%		
		Frequency Error		(-30 kHz ～ +30 kHz)(600MHz～3.8GHz)	U=2Hz		
		I/Q origin offset suppression		(-50 ～-15) dB	U=2.1 dB		
				(-60 ～ -50) dB	U=2.5dB		
		Power Measuremen		(-50 ～ 10) dBm(600MHz～3.8GHz)	U=0.30 dB		
		Error Vector Magnitude(EVM)		0%～20%(600MHz～3.8GHz)	U=0.5%		
		Frequency Error		(-30 kHz ～ +30 kHz)(600MHz～3.8GHz)	U=2 Hz		
		I/Q origin offset suppression		(-50 ～-15) dB	U=2.1 dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(-60 ～ -50) dB	U=2.5dB		
		VSWR of RF Port		（1 ～3）(600 MHz～3.8GHz)	U=0.02		
32	*CDMA Digital Mobile Communication Comprehensive Tester	Internal crystal oscillator frequency	C.S. of CDMA Digital Radio Communication Testers JJF 1177	10MHz	U_{rel}=6.7×10^{-9}		
		Frequency		100MHz～2GHz	U_{rel}=6.7×10^{-9}		
		Level		(-50 ～ 0) dBm(100 MHz ～2GHz)	U=0.24dB		
				(-90 ～ -50) dBm(100 MHz ～2GHz)	U=0.27dB		
				(-120 ～ -90) dBm(100 MHz ～2GHz)	U=0.30dB		
		Signal Spectral Purity		（-100～-10）dBc（100kHz～6GHz	U=1.0dB		
		Single Side Band Phase Noise		（-140~-30）dBc/Hz(100MHz～2GHz)	U=1.0 dB		
		Phase Error		(0～15)°（100MHz～2GHz)	U=0.8°		
		Error Vector Magnitude(EVM)		(0%～20%)(100MHz～2GHz)	U=0.9%		
		Frequency Error		(-1.2 kHz ～ +1.2 kHz)(100MHz～2GHz)	U=2 Hz		
		Waveform Quality Factor		(0.5～1.0)(30MHz~2.7GHz)	U=0.0012		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Power Measuremen		(-50 ～ 10) dBm(100 MHz ～ 2 GHz)	U=0.30dB		
		Phase Error		(0.1～15)° (100MHz～2GHz)	U=0.8°		
		Error Vector Magnitude(EVM)		(0%～20%)(30MHz～2.7GHz)	U=0.9%		
		Frequency Error		(-1.2 kHz ～ +1.2 kHz)(100MHz～2GHz)	U=2Hz		
		Waveform Quality Factor		(0.5～1.0)(30MHz~2.7GHz)	U=0.0012		
		VSWR of RF Port		(1～3) (100 MHz～2GHz)	U=0.02		
33	*RF Communication Tester	Internal crystal oscillator frequency	C.S. for RF Communication Test Set JJF 1065	10MHz	U_{rel}=6.7×10^{-9}		
		Frequency		250kHz～1GHz	U_{rel}=6.7×10^{-9}		
		Level		(0 ～ 13) dBm(100 kHz～1 GHz)	U=0.24 dB		
				(-50 ～ 0) dBm(100 kHz～1 GHz)	U=0.25dB		
				(-90 ～ -50) dBm(100 kHz ～1 GHz)	U=0.27dB		
				(-120 ～ -90) dBm(100 kHz～1 GHz)	U=0.30dB		
		Signal Spectral Purity		(-100~-10)dBc(100 kHz～1GHz)	U=1.0dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Single Side Band Phase Noise		(-140~-30)dBc/Hz(100kHz～1GHz)	U=1.0 dB		
		Amplitude Modulation (AM)		0%～99% (CW:100kHz～1GHz;f:10Hz～50kHz)	U_{rel}=1.2%		
		Frequency Modulation Deviation		（1kHz~100 kHz） CW：(0.1 MHz～1GHz，f:20 Hz～50k Hz)	U_{rel}=1.2%		
		Phase Modulation Deviation		(0.2～10)rad， (CW：0.1MHz~1 GHz;f:20Hz～50kHz)	U_{rel}=1.2%		
		Power Measuremen		(-50 ～ 10) dBm(100 kHz ～1 GHz)	U=0.30 dB		
		Amplitude Modulation Measurement		(0～95%) (CW：100kHz~1GHz，f：20Hz~50kHz)	U_{rel}=1.2%		
		Frequency Modulation Deviation Measurement		（20Hz~100kHz） (CW：100 kHz～1GHz，f：20Hz~50kHz)	U_{rel}=1.2%		
		Phase Modulation Deviation Measurement		（0.1~10）rad (CW：100 kHz～1GHz，f：20Hz~50kHz)	U_{rel}=1.2%		
		Frequency Accuracy of Audio Signal Generator		20Hz～50kHz	U_{rel}=0.49%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Audio analyzer frequency measurement		20Hz～100kHz	U_{rel}=6.0×10^{-5}		
		Distortion of Audio Signal Generator		(0.001%～30%)(20Hz～20kHz)	U_{rel}=0.5%～5%		
		Audio Signal Generator Output Voltage		(10 mV～5 V)(20 Hz～50 kHz)	U_{rel}=0.5%		
		Audio Analyzer Voltage Measurement		(20mV～30V)(20 Hz～50 kHz)	U_{rel}=0.5%		
		Audio Analyzer Distortion Measurement		0.001%～100%(20 Hz～50 kHz)	U_{rel}=0.5%～5%		
		VSWR of RF Port		(1～3) (10 MHz～ 1 GHz)	U=0.02		
34	*Electro-Magnetic Interference Measuring Receiver	Frequency	Calibration Specification for EMI Testing Receivers JJF 1144	9kHz～40GHz	U_{rel}=1×10^{-4}～1×10^{-9}		
		Voltage		(0～125)dB μ V(9kHz～40GHz)	U=(0.4～0.63)dB		
		6dB bandwidth		100Hz～150kHz(9kHz～40GHz)	U_{rel}=0.9%～1.4%		
		Noise indicating		(-30～50)dB μ V(9kHz～40GHz)	U=0.20dB		
		Pulse response		(30～70)dB μ V(9kHz～1GHz)	U=0.6dB～1.2dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Attenuator		(0～80)dB(9kHz～40GHz)	U=0.21dB～1dB		
		Linear indication		(0～100)dB(9kHz～40GHz)	U=0.17dB～0.65dB		
		Voltage standing wave ratio		(1～3)(10MHz~40GHz)	U=0.02		
35	*Attenuator	Attenuation	C.S. for Attenuators from Radio Frequency to Microwave Frequency JJF 2092	(0 ～50) dB (100kHz ～50 GHz)	U=(0.036～0.082)dB		
				(50 ～ 90) dB (100kHz ～50 GHz)	U=(0.26～0.28)dB		
				(90 ～ 110) dB (100kHz ～50 GHz)	U=(0.48～0.49)dB		
		Voltage standing wave ratio		（1 ～3）(100 kHz～50GHz)	U=0.04～0.14		
36	*Lower power mount(Rf power sensor、Microwave power sensor、power sensor)	Calibration factor	C.S. for RF & Microwave Power Sensors JJF 1887	-20dBm～10dBm（DC～50GHz:）	U_{rel}=1.0%～3.7%		
		Voltage standing wave ratio		（1 ～3）(10 MHz～50GHz)	U=0.04～0.14		
37	*Pulse Power meter	Calibration factor	Verification Regulation of Pulse Power Meters JJG 1024	-20dBm～10dBm（DC～50GHz:）	U=1.0%～3.7%		
		Voltage standing wave ratio		（1 ～3）(10 MHz～50GHz)	U=0.04～0.14		
38	*Measuring Receiver	Output Reference Frequency	C.S. for Measuring Receivers JJF 1173	10MHz	U_{rel}=2×10^{-9}		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Frequency Measurement		100kHz～50GHz	$U_{rel}=1\times10^{-8}$		
		Tuning Level		(-120～0)dB(100kHz～50GHz)	U=(0.008～0.4)dB		
		Frequency Modulation Deviation		0.1Hz～500kHz(carrier frequency :100kHz～17.1GHz, MF:10Hz～400kHz)	U_{rel}=1.0%		
				0.1Hz～500kHz(carrier frequency :17.1GHz～34.5GHz, MF:10Hz～200kHz)	U_{rel}=1.2%		
				0.1Hz～500kHz(carrier frequency :34.5GHz～50GHz, MF:10Hz～200kHz)	U_{rel}=1.4%		
		Phase Modulation		(0.2～500)rad(carrier frequency :100kHz～50GHz, MF:200Hz～100kHz)	U_{rel}=1.0%		
		Amplitude Demodulation Distortion		0.001%～100%(frequency:20Hz～20kHz)	U_{rel}=15%		
				0.001%～100%(frequency:20kHz～100kHz)	U_{rel}=26%		
		Residential Frequency Modulation		0.1Hz(rms)～10Hz(rms)	U=0.9Hz(rms)		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Amplitude Modulation Rejection		0.1Hz～100Hz	U=0.9Hz		
		Amplitude Modulation Depth		5%～99%(Carrier Frequency:100kHz～50GHz, Modulation Frequency:10Hz～100kHz)	U_{rel}=1.0%		
		Frequency Demodulation Distortion		0.001%～100%(Frequency:20Hz～20kHz)	U_{rel}=15%		
				0.001%～100%(Frequency:20kHz～100kHz)	U_{rel}=26%		
		Residual Amplitude Modulation		0.001%(rms)～1%(rms)	U=0.0024%(rms)		
		Frequency Modulation Rejection		0.001%～2%	U=0.0024%		
39	*Waveform Recorders	Direct Voltage	C.S. for Waveform Recorders JJF 1876	±(5mV～1000V)	U_{rel}=0.04%～0.12%		
		Alternating Voltage		5mV～1000V	U_{rel}=0.07%～0.17%		
		Time Base		0.5ns～10s	U_{rel}=3×10^{-7}		
		Frequency Bandwidth		50kHz～100MHz	U_{rel}=2%		
		Input Resistance		40Ω～300MΩ	U_{rel}=0.24%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Direct Current Gain		0.8～1.2（Voltage：±(5mV～1000V)）	U_{rel}=0.1%		
40	*Distortion Meter Calibrator	Frequency	V.R.of Distortion Meter Calibrators JJG 802	5Hz~200 kHz	$U_{rel}=1.8\times10^{-5}$		
		Voltage		90 μV~10V(5Hz~400kHz)	U_{rel}=0.02%～1.2%		
		distortion		0.001%～1.0% (10 Hz~20 kHz)	U_{rel}=6%		
				0.001%～2.0% (20 kHz~400 kHz)	U_{rel}=7%		
41	*Range Calibrator	Direct Voltage	V.R.for HP 11683A power range calibrator JJG(Dianzi)10005	100 μV~200mV	U_{rel}=0.02%		
		Resistance		10Ω~5000Ω	U_{rel}=0.02%		
42	*Power Meters	Zero Point	C.S.of Power Meters JJF 1757	1nW～10 μW	U=6nW	accredited only for Amplified	
		Zero Drift		1nW～10 μW	U=10nW～20nW		
		Power Range		3uW~100mW	U_{rel}=(0.30%～0.65%)		
		Calibration Factor		85%~100%	U_{rel}=1.0%		
		Output Power of Calibration Source		0.9mW~1.1mW，（10MHz～1GHz）	U_{rel}=1.3%		
43	*Vibrating Wire Frequency Readouts	Frequency	C.S. for Vibrating Wire Frequency Readouts JJF 1401	（300~6000）Hz	U=0.11 Hz		
44	*Audio Analyzer/Audio meter	AC voltage measurement	C.S. for Audio Analyzer JJF 1395	1mV～300V, (10Hz～200kHz)	U_{rel}=0.1%～0.4%		
		Distortion measurement		(0.0001～30)%, (10Hz～100kHz)	U_{rel}=1.2%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Frequency measurement		10Hz～200kHz	U_{rel}=0.0007%		
		Voltage measurement inherent noise		≤300 μV，（20kHz BW）	U_{rel}=5.6%		
		Distortion measure residual distortion		(0.001～0.05)%,(20Hz～100kHz)	U_{rel}=2%		
		Output frequency		10Hz～200kHz	U_{rel}=1×10^{-6}		
		Output voltage		1mV～20V, (10Hz～200kHz)	U_{rel}=0.1%～0.4%		
		Output sine wave waveform distortion		"0.001%～10%（5Hz～200kHz） "	U_{rel}=15%		
45	*Dynamic Signal Analyzer	Amplitude	V.R. of Dynamical Signal Analyzer JJG 834	(1～10)mV，（10Hz～200kHz）	U_{rel}=4%		
				(10～33)mV，（10Hz～200kHz）	U_{rel}=0.24%		
				33mV～10V，（10Hz～200kHz）	U_{rel}=0.12%		
		Dynamic range		30dB~130dB，(10Hz~200kHz)	U=0.6dB		
		Channel consistency		phase difference：-5°～5°，(10Hz~200kHz)	U=0.08°		
				amplitude ratio：-1dB~1dB，(10Hz~200kHz)	U=0.02dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		frequency		0.1Hz～200kHz	U_{rel}=0.003%		
46	*Network cable analyzers	DC Loop Resistance	C.S.for Network cable analyzers JJF 1494	(0.1~100) Ω	U_{rel}=(0.22～3)%		
		Propagation delay		(1~500)ns	U_{rel}=1.0%		
		Insertion loss		(0~40)dB ，（1MHz～250MHz）	U=0.4dB		
		Near-end crosstalk		(20~70)dB ，（1MHz～250MHz）	U=0.4dB		
		Equivalent far-end crosstalk		(10~60)dB ，（1MHz～250MHz）	U=0.6dB		
		length		(0.1~150)m	U_{rel}=(0.5～1)%		
		Return loss		(8~26)dB ，（1MHz～250MHz）	U=0.8dB		
47	*RF Voltmeters	Voltage measurement	V.R. of RF Voltmeters JJG 308	10mV~100mV，（10kHz~100kHz）	U_{rel}=(0.08～1.0)%		
				100mV~100V，（10kHz~100kHz）	U_{rel}=0.08%		
		Voltage measurement frequency response		±（0～30）%，（100mV~2V，10kHz~200MHz）	U=(0.7～3)%		
				±（0～30）%。（100mV~2V，200MHz~2.5G Hz）	U=3%		
48	*Directional Coupler and SWR Bridges	Return Loss	C.S.for Directional Coupler and SWR Bridges JJF 1680	（15~60）dB，（300kHz~50GHz）	U=0.2dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Insertion loss		(0.01~10)dB，（300kHz~50GHz）	U=0.12dB		
		reflection coefficient measurement		0.001~1.0，（300kHz~50GHz）	U=0.01		
		Coupling factor		(10~50)dB，（300kHz~50GHz）	U=0.2dB		
		Directivity		(20~60)dB，（300kHz~50GHz）	U=0.3dB		
49	*RF/ microwave switch	VSWR	C.S.for RF/ microwave switch JJF(电子) 30503	1.0~4.0（10MHz~50GHz）	U=0.05		
		Insertion loss		（0.01~10）dB（10MHz~50GHz）	U=0.12dB		
		Isolation degree		（30~120）dB（10MHz~50GHz）	U=(0.5～2)dB		
50	*Cable and Antenna Analyzers	frequency	C.S.for Cable and Antenna Analyzers JJF 1740	2MHz～18GHz	U_{rel}=1×10^{-7}		
		output power		（-50~20）dBm ，（2 MHz～18 GHz）	U=0.25dB		
		VSWR		1.0~4.0，（2 MHz～18 GHz）	U_{rel}=2%		
		Attenuation		（0~30）dB ，（2 MHz～18 GHz）	U=0.3dB		
		RF power		（-50~20）dBm ，（2 MHz～18 GHz）	U=0.25dB		
		Distance-to-fault		（1~15）m ，（2 MHz～18 GHz）	U_{rel}=2%		
51	*Digital Storage Oscilloscope	bandwidth	C.S.for Digital Storage Oscilloscope JJF 1057	30kHz~50GHz	U_{rel}=2%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		rise time		20ps~100μs	U_{rel}=3%		
		overshoot		0.1%~30%	U_{rel}=2%		
		Time measurement		2ns/div~5s/div	U_{rel}=1%		
		Amplitude measurement		5mV/div~10V/div	U_{rel}=(0.7～0.3)%		
		DC gain accuracy		±(1mV~200V)	U_{rel}=(0.7～0.3)%		
		Square wave calibration signal frequency		0.5kHz~1MHz	U_{rel}=0.003%		
		Dynamic Significant Digits		（4～14）bits	U=0.1bits		
		acquisition rate		100MS/s~500GS/s	$U_{rel}=1\times10^{-6}$		
		Scan time factor		1×10^{-5}～1×10^{-8}	$U_{rel}=1\times10^{-6}$		
		Impedance		50Ω、1MΩ	U_{rel}=0.3%		
		Calibrate signal amplitude		(0.01～5)V	U_{rel}=(1.5～0.5)%		
52	*5G Radio Communication Testers	Reference crystal oscillator output frequency accuracy	C.S.for 5G Radio Communication Testers JJF（通信）052	10 MHz	$U_{rel}=6.7\times10^{-9}$		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Frequency accuracy of output signal of RF signal generator		450 MHz~50 GHz	U_{rel}=6.7×10^{-9}		
		Rf signal generator output level		（-120~ 0）dBm（CW:450 MHz~50 GHz）	U=0.30 dB		
		Frequency spectrum purity of RF signal generator		（-120~ -10）dBc（CW:450 MHz~50 GHz）	U=1.0 dB		
		Rf signal generator single sideband phase noise		（-140~ -10）dBc/Hz（CW:450 MHz~50 GHz）	U=1.0 dB		
		Digital modulation quality of 5G signal generator (EVM)		(0~8)%（CW:450 MHz~50 GHz）	U=0.6%		
		5G signal generators occupy bandwidth		（5~400）MHz（CW:450 MHz~50 GHz）	U_{rel}=1.0%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Adjacent channel power ratio of 5G signal generator		(0~-90)dBc，CW:450 MHz~50 GHz）	U=0.9 dB		
		Rf analyzer RF power analysis		（-50~30）（CW:450 MHz~44 GHz）	U=0.30 dB		
				（-50~10）dBm （CW:6Hz~44 GHz）	U=0.50 dB		
		Quality Parameter Analysis of Digital Modulation of 5G NR Signal (EVM)		(0~17.5)%，（CW:450 MHz~44 GHz）	U=0.6%		
		5G NR signal analyzer occupies bandwidth		（5~400）MHz，（CW:450 MHz~44 GHz）	U_{rel}=1.0%		
		Adjacent channel power ratio of 5G NR signal analyzer		(0~-90)dBc，CW:450 MHz~50 GHz）	U=0.9 dB		
		VSWR of RF port		(1.001~1.5)（CW:450 MHz~50 GHz）	U=0.02		
		shielding effectiveness		5 dB~120 dB，(CW:14 kHz~18GHz)	U=3.0 dB	The frequency range from 14kHz to	

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		VSWR of RF Input/Output port		(1~5)，（CW:14 kHz~18 GHz）	U=0.05	200kHz is accredited only for at 50cm × 30cm × 10cm Box size above, 400MHz to 1GHz is 25cm × 25cm × 5cm。	
54	*Calibration Device for Electric Cardiac Monitor	Amplitude (voltage)	V.R. of Calibration Device for Electric Cardiac Monitor JJG 1016	0.2 mV～2m V	U_{rel}=0.3%		
		period		100 ms～20s	U_{rel}=0.1%		
		frequency		0.1 Hz～100 Hz	U_{rel}=0.1%		
		distortion		0.01%～30% (20Hz～100Hz)	U_{rel}=5.0%		
		polarization voltage		-10V～10V	U=0.01mV		
		Standard heart rate		27 次/min~300 次/min	U_{rel}=0.1%		
		Standard heart rate signal spike width		(50~150)ms	U_{rel}=0.1%		
		Standard heart rate signal amplitude		±（0.2 mV～5mV）	U_{rel}=0.3%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Input loop current sampling resistance		(5～50)kΩ	U_{rel}=0.5%		
55	*Medium power meter	direct-current power	C.S.for Medium Power Meters JJF 1386	0.1W~9W	U_{rel}=1.2%	Except for transfer Standard Method	
		calibration factor/RF power		10%~200%，(1MHz~18GHz)	U_{rel}=4.0%		
		voltage standing wave ratio		(1~2)，(1MHz~18GHz)	U=0.05		
56	*Broadband Coaxial Noise Generators	excess noise ratio	C.S.for Broadband Coaxial Noise Generators JJF 1442	(1~30)dB，(10MHz~40GHz)	U=0.26dB		
		voltage standing wave ratio		(1~1.5)，(10MHz~40GHz)	U=0.05		
57	*Plus generator of EMI Calibration	pulse repetition rate	C.S.of Pulse Generator for EMI Calibration JJF(电子) 30814	0.1Hz~1000Hz	U_{rel}=0.3%		
		pulse area		0.01 μ Vs~20 μ Vs	U_{rel}=2.0%		
		impulse amplitude		(0~80)dB，(9kHz~1GHz)	U=0.3dB		
		Flatness of the pulse spectrum		±(0~5)dB，（9kHz～1GHz）	U=0.35dB		
		pulse width		0.1ns~10 μ s，（9kHz～1GHz）	U_{rel}=2.0%		
58	*GNSS Signal Simulators	integrator carrier frequency deviation	C.S.for GNSS Signal Simulators JJF 1471	1000MHz～3000MHz	U_{rel}=3×10^{-9}		

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

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		power range		(-150~-20)dBm,1000MHz~3000MHz	U=0.20dB～1dB		
		velocity dynamic range		(0~36000)m/s	U=1m/s		
		acceleration dynamic range		(0~2000)m/s^2	U=0.3m/s^2		
		plus acceleration dynamic range		(0~2000)m/s^3	U=0.6m/s^3		
		internal channel delay		(0~15)ns，（1000MHz～3000MHz）	U=0.14ns		
		harmonic suppression		(-60~-20)dB，（1GHz~10GHz）	U=1.2dB		
		non-harmonic suppression		(-80~-30)dB，（10kHz~10GHz）	U=1.2dB		
		phase noise		(-60~-130)dBc/Hz，（1000MHz～3000MHz）	U=1.6dB		
		time-base accuracy		10MHz	U_{rel}=3×10^{-9}		
		frequency stability		10MHz	U_{rel}=6×10^{-11}		
		amplitude of error vector		0.5%~20%，（1000MHz～3000MHz）	U=0.7%		
59	*Power Meter	calibration	C.S.for RF and Microwave	30%~130%(9kHz~6GHz)	U_{rel}=1.8%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		factor	Power Meters JJF 1885	30%~130%(6GHz~18GHz)	U_{rel}=2.2%		
				30%~130%(>18GHz~26GHz)	U_{rel}=3.4%		
				30%~130%(>26GHz~40GHz)	U_{rel}=4.2%		
				30%~130%(>40GHz~50GHz)	U_{rel}=5.0%		
		reference source power		1mW，（50MHz）	U_{rel}=0.8%		
		Linearity		(-2~2)dB，（-20dBm～10dBm）（50MHz）	U=0.10dB		
		voltage standing wave ratio		1.0~2，（9kHz~50GHz)	U=0.05		
60	*Coupling Decoupling Networks	Common Impedance	C.S.for Coupling Decoupling Networks JJF(电子)0034	(30~400) Ω (0.15~300)MHz	U_{rel}=5%		
		Coupling Factor		(-20dB~0dB)，(0.15~300)MHz	U=1.2dB		
61	*Verification Instrument for Electrocardiograph and Electroencephalograph	Amplitude	V.R. of Verification Instrument for Electrocardiograph and Electroencephalograph JJG 749	0.1mV~10V	U_{rel}=0.1%		
		sine wave Frequency		(0.1~1000)Hz	U_{rel}=0.1%		
		square Period		1ms~50s	U_{rel}=0.1%		
		Polarization volatage		±(0.1~1) V	U_{rel}=0.1%		
		sine wave Distortion		0.01%~10%，（20Hz～200Hz）	U_{rel}=5%		
		Attenuation ratio		1/100~1/2000	U_{rel}=0.1%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
62	*LCR Meter	Inductance	V.R. for wide range digital RLC meter GJB 8817	10μH～100mH，(1kHz)	U_{rel}=(2.3～0.06)%		
				1H（1kHz），10H（100Hz）	U_{rel}=0.12%		
		Capacitance		1pF～1nF (1kHz～13MHz)	U_{rel}=(0.04～1.5)%		
				1nF～1μF，（1kHz）	U_{rel}=0.06%		
				1μF～1mF，（ 100Hz）	U_{rel}=（0.06~0.09）%		
		Resistance		10mΩ～100kΩ，(100Hz～10MHz)	U_{rel}=(0.05～1.5)%		
				1Ω～100kΩ，(1kHz)	U_{rel}=0.024%		
				100kΩ～1.1MΩ，(1kHz)	U_{rel}=0.12%		
		Frequency		10Hz～13MHz	U_{rel}=0.002%		
		Voltage		1mV～20V，(10Hz～1kHz)	U_{rel}=(6～0.20)%		
				1mV～1V，(300kHz～1kHz)	U_{rel}=(6～0.20)%		
				1V～20V，(1kHz～300kHz)	U_{rel}=(0.20～6)%		
				10mV～2V，(300kHz～10MHz)	U_{rel}=(2.8～1.5)%		
		Depreciation		0.0001～1，(1kHz)	U_{rel}=0.24%		
				0.0001～0.01，(1kHz～10MHz)	U=0.0003		
63	*Standard Capacitors	Capacitance	V.R. of Standard Capacitor JJG 183	1pF～100μF，(20Hz～1MHz)	U_{rel}=(2.1～0.06)%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				100μF～100mF(20Hz～1kHz)	U_{rel}=(0.06～0.29)%		
		Depreciation		0.0001～1(20Hz～1MHz)	U=0.0006～0.004		
64	*Standard Inductors	Inductance	V.R. of Standard Inductors JJG 726	10μH～1H(1kHz)	U_{rel}=(0.12～0.06)%		
				1H～10H(100Hz、120Hz)	U_{rel}=0.12%		
		DC Resistor		1mΩ～100kΩ	U_{rel}=(1.2～0.12)%		
65	AC Resistors Box	AC Resistance	C.S. for A.C. Resistance Boxes JJF 1636	10mΩ～1MΩ	U_{rel}=(0.06～14)%		
		time constant		0.022ns～1ms	U_{rel}=（6～0.28）%		
		residual resistance		1mΩ～1Ω	U_{rel}=(0.4～0.03)%		
		Residual inductance		0.1μH～100μH(1kHz)	U=(0.05～0.08) μH		
66	*Verificatiow Requlation of Calibrator for Transister Speci-ficity Oscilloscope	DCV	C.S. for Calibrators of Semiconductor Curve Tracers JJF 1894	(0.01～1000)V	U_{rel}=(0.11～0.04)%		
		resistance		0.1Ω～10MΩ	U_{rel}=(0.06～0.10)%		
		DCI		10nA～10A	U_{rel}=(0.5～0.15)%		
67	*Stopwatch	Time interval（Electronic Stopwatch）	V.R. of Stopwatches JJG 237	(1～99999)s	U=(5～6)ms		
		Time interval（Mechanical Stopwatch）		(1～99999)s	U=(0.05～0.08)s		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Time interval（electrical stopwatches）		0.1ms～9999.9s	$U_{rel}=2\times10^{-3}$ ～2×10^{-7}		
		Time error in a day（electronic stopwatch）		(-99～99)s	U=0.023s		
68	*Instantaneous daily clock time difference testers	Instantaneous diurnal difference	V.R. of instantaneous daily clock time difference testers JJG 488	(-99～+99)s	U=0.008s		
		Instantaneous monthly difference		(-1000～+1000)s	U=0.24s		
		Internal crystal oscillator frequency		1MHz～10MHz	$U_{rel}=5\times10^{-9}$		
69	*Time interval meter	Warm up	V.R. of time interval meters JJG 238	1MHz～10MHz	$U_{rel}=6\times10^{-8}$		
		Daily frequency fluctuations		1MHz～10MHz	$U_{rel}=6\times10^{-8}$		
		1s frequency stability		1MHz～10MHz	$U_{rel}=6\times10^{-8}$		
		Frequency Reproducibility		1MHz～10MHz	$U_{rel}=6\times10^{-8}$		
		Relative frequency deviation		1MHz～10MHz	$U_{rel}=6\times10^{-8}$		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		time interval measurement		10 μs～10000 s	U=(0.006～0.3)ms		
70	*Electronic time relay	Time	C.S. for Electronic Time Relay JJF 1282	1ms～9999s	U=0.1ms		
71	*C.S. for Time Relay Testers	Time measurement	C.S. for Time Relay Testers JJF 1400	1ms～9999s	U=0.03 ms		
		Warm up		(1～10)MHz	$U_{rel}=1\times10^{-8}$		
		Frequency accuracy		(1～100)MHz	$U_{rel}=1\times10^{-8}$		
		DC voltage output		（10～400）V	U_{rel}=0.5%		
		AC voltage output		（10～400）V	U_{rel}=0.5%		
72	*Residual Current Operated Protective Device Operated Characteristic Tester	Cut Timer	C.S. for Residual Current Operated Protective Device Operated Protective Device Operated Characteristic Tester JJF 1283	10ms～5s	U=1ms		
		Residual Current		(3～1500)mA	U_{rel}=1.1%		
73	*Calibration Specification for Pulse Counters	Pulse Counters	C.S. for Pulse Counters JJF1686	1～1×10^{6}	$U_{rel}=1.6\times10^{-6}$		
		Built-in time base frequency		(1～10)MHz	$U_{rel}=5\times10^{-9}$		
8 Optics Measuring Instrument							
1	*Specular Gloss Meter	Specular Gloss	V.R. of Specular Gloss Meters JJG 696	(0～100)GU	U=1.3GU		
2	*Colorimeters and Color Difference Meters	Chroma	V.R. of Colorimeters and Color Difference Meters JJG 595	Y:（0.1～100）	U=2.1(Y)		
				x,y:(0～1)	U=0.007(x) U=0.007(y)		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
3	Illuminance Meter	Illuminance	V.R. of Illuminance Meter JJG 245	(1～3000) lx	U_{rel}=1.3%		
4	*Whiteness Meter	Whiteness	V.R. of Whiteness Meter JJG 512	0～100	U=2.0		
5	*Standard Light Sources Boxes	Color Temperature	C.S.for Standard Light Sources Boxes JJF(FZ) 055	(2000～2856)K	U=31K		
				(2857～5500)K	U=0.11kK		
				(5501～6500)K	U=0.14kK		
6	*Clarity Test Equipment	Illumination	C.S.for Clarity Test Equipment JJF1287	(50～3000)lx	U_{rel}=11%		
		time		(1～60)s	U=0.2s		
7	*Hazemeter	Haze	C.S. for Hazemeter JJF 1303	0～30	U=0.41		
		Transmittance		0～100%	U=1.1%		
8	*Trial Case Lenses	Spherical Degree	V.R.of Trial Case Lenses JJG 579	(-20～＋20) m^{-1}	U=0.03 m^{-1}		
		Cylinder Degree		(-1.5～+1.5)m^{-1}	U=0.03 m^{-1}		
		Prismatic Power		（2～20）cm/m	U=0.013 cm/m		
9	*Focimeters	Spherical Degree	V.R. of Focimeters JJG 580	(-25～＋25) m^{-1}	U=0.03 m^{-1}		
		Cylinder Degree		(-1.5～+1.5)m^{-1}	U=0.03m^{-1}		
		Prismatic Degree		(2～10)cm/m	U=0.03cm/m		
10	*Eye Refractometers	Vertex Power	V.R.of Eye Refractometers JJG 892	objective：（-20～+20）m^{-1}	U=0.08 m^{-1}		
				subjective：（-15～+15）m^{-1}	U=0.08 m^{-1}		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Pupil Distance		(55～75)mm	U=0.3mm		
		Curvature radius		(6.5～9.4)mm	U=0.004 mm		
		Axis		(0～180)°	U=1.2 °		
11	*Pupil Distance Meter	Pupil Distance	V.R. of Pupil Distance Meters JJG 952	(55～75) mm	U=0.2mm		
12	*Ophthalmometers	Curvature radius	V.R.of Ophthalmometers JJG 1011	(6.5～9.4)mm	U=0.004 mm		
		Axis		(0～180)°	U=1.2 °		
13	*Phoropters（Eye ChartIncluded）	Sphericity	V.R.of Phoropters (Eye Chart Included) JJG 1097	（-20～+20）m^{-1}	U_S=(0.05～0.08)m^{-1}		
		Columnar mirrorness		（-20～+20）m^{-1}	U_S=(0.05～0.08)m^{-1}		
		Optical center		(0～1.0)cm/m	U_p=0.05cm/m		
		Column mirror axial position		(0～180)°	U=1°		
		Visual scale size		(2～80)mm	U_{rel}=3.0%		
14	*Abbe Refractometer	Refractive index	V.R.of Abbe Refractometer JJG 625	n_D：1.300～1.700	U=1×10^{-4}		
15	*Optical Power Meters in Telecommunication/Optical Power Meters	Power	V.R.of Optical Power Meters in Telecommunication JJG 965	-60dBm～+10 dBm	U=(0.20～0.50)dB		
16	*Fiber Optical Power Meters	Power	V.R.of Fiber Optical Power Meters JJG 813	-60dBm～+10 dBm	U=(0.20～0.50)dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
17	*Optical Spectrum Analyzers	Wavelength	V.R.of Optical Spectrum Analyzers in Telecommunication JJG 1035	900nm～1700nm	$U_{rel}=2\times10^{-6}$		
		Power		-60dBm～+10 dBm	U=0.20dB		
		Resolution bandwidth		(0.01～5)nm	U_{rel}=0.7%		
18	*Optical Wavelength Counters	Wavelength	V.R.of Optical Wavelength Counters in Telecommunication JJG 963	900nm～1200nm	$U_{rel}=2\times10^{-6}$		
				1200nm～1700nm	$U_{rel}=0.5\times10^{-6}$		
		power		-60dBm～+10 dBm	U=(0.20~0.50)dB		
19	*Stabilized Laser Sources for Optical Transmit/ Laser Sources	Wavelength	V.R.of Stabilized Laser Sources for Optical Transmit JJG 958	900nm～1700nm	U=0.05nm		
		Output power		-60dBm～+10 dBm	U=0.3dB		
		Output power stability		-60dBm～+10 dBm	U=0.005dB		
20	*Tunable Laser Source for Telecommunications/Tunable Laser Source	Optical wavelength	C.S.of Tunable Laser Source for Telecommunications JJF 1198	1260nm～1640nm	U=0.5pm		
		Optical wavelength repeatability		1260nm～1640nm	U=0.5pm		
		Optical wavelength stability		1260nm～1640nm	U=0.5pm		
		Optical output power		-60dBm～+10 dBm	U=0.3dB		
		Optical output power stability		-1.000dB～1.000dB（-60dBm～+10 dBm）	U=0.005dB		
21	*Optical Attenuator for Telecommunicatio	Attenuation	C.S.of Optical Attenuator for Telecommunications JJF 1199	（0～65）dB	U=0.03 dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	ns/Optical Attenuator	Insertion loss		（0～5）dB	U=0.04dB		
22	*Optical Return Loss Meters	Optical Return Loss	C.S.for Optical Return Loss Meters for Telecommunication JJF 1325	(0～60) dB	U=(0.6～2.0) dB		
23	*optical time-domain reflectometer	Optical wavelength	V.R. of Optical Time Domain Reflectometer JJG 959	(600～1700)nm	U=0.05nm		
		Distance scale coefficient		0.1～2	$U_{rel}=2\times10^{-5}$		
		Distance/Position deviation		(0～40)km	U=0.3m+1.5×10^{-5}L		
		Loss scale factor		(0～10) dB/dB	U=0.04dB/dB		
		Loss characteristics		(0～60) dB/km	U=0.04dB/km		
24	LED	Total Light Flux	C.S. for Single Low Power LED JJF1501	(0.5～200)lm	U_{rel}=4.6%	Do average luminous intensity calibration by standard detector measurement method on CIE B condition	
		Chromaticity coordinates		x，y：(0～1)	U=0.008(x) U=0.008(y)		
		Average Luminous Intensity		（0.1～ 100）cd	U_{rel}=4.5%		
25	Instantaneous Spectral Instrument	Spectral Radiant Intensity	C.S.for Instantaneous Spectral Instruments JJF1329	(250～1700)nm: （0.001～10）W/m²/nm	U_{rel}=8.7%		
26	Pyranometer Sensor	Irradiance	C.S.for Pyranometer Sensors FFJ1409	（350～1300）W/m²	U_{rel}=3.7%		
		Sensitivity		（6～15）μV・W⁻¹・m²	U_{rel}=3.7%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
27	Solar Cell	Open Circuit Voltage	C.S. for Solar Cells: Photoelectric Properties JJF1622	（0.001～5）V	U_{rel}=1.2%		
		Short Circuit Current		（0.001～10）A	U_{rel}=2.7%		
		Maximum Power		（0.01～50）W	U_{rel}=3.0%		
		Optimal Working Current		（0.001～10）A	U_{rel}=2.7%		
		Optimal Working Voltage		（0.001～5）V	U_{rel}=1.2%		
		Conversion Efficiency		(0.01～99.9)%	U_{rel}=3.4%		
28	Solar Cell Photoelectric Detector	Short Circuit Current	C.S.for Reference Solar Cell FFJ1903	(0.1～10000)mA	U_{rel}=2.8%		
		Sensitivity		(20～10000)mV•kW^{-1}•m^2	U_{rel}=2.8%		
29	Spectral Radiance Lamp	Spectral Radiance	V.R. of Spectral Radiance Standard Lamp JJG383,Spectral Radiance Lamp ZYZ226-2021	(250～2500)nm：(0.001～100) μW/cm^2/nm/sr	U_{rel}=4.1%～6.9%		
30	Spectral Irradiance Lamp	Spectral Irradiance	V.R. of Spectral Irradiance Standard Lamp JJG384,Spectral Irradiance Lamp ZYZ225-2021	（250～2500）nm：(0.01～100) μW • cm^2 • nm^{-1}	U_{rel}=2.7%～5.3%		
31	Solar Simulator Irradiance Meter	Irradiance	C.S. for Solar Simulator Irradiance Meter FFJ1604	（350～1300）W/m^2	U_{rel}=2.8%		
9 Chemistry Measuring Instrument							
1	*Gas Chromatog-	Sensitivity	V.R.of Gas Chromatographs	TCD：≥800mV•mL/mg	U_{rel}=4%	Accreditated except for	

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Detection limit		FID：≤0.5ng/s	U_{rel}=6%	gas injection GC	
				NPD：≤5pg/s(N)	U_{rel}=6%		
				NPD：≤10pg/s (P)	U_{rel}=6%		
				FPD：≤0.5ng/s(S)	U_{rel}=5%		
				FPD：≤0.1ng/s (P)	U_{rel}=5%		
				ECD：≤5pg/mL	U_{rel}=6%		
2	*Liquid Chromatog-raph	The minimum detectable concentration	V.R.of Liquid Chromatographs JJG 705	UVD：Naphthalene：≤5×10^{-8}g/mL	U_{rel}=8%		
				PDAD:Naphthalene ：≤5×10^{-8}g/mL	U_{rel}=8%		
				FD:Naphthalene ：≤5×10^{-9}g/mL	U_{rel}=8%		
				RID：Cholesterol：≤5×10^{-6}g/mL	U_{rel}=8%		
				ELSD:Cholesterol:≤5×10^{-6}g/mL	U_{rel}=8%		
3	*Atomic Absorption Spectrophotometers	Detection limit	V.R.for Atomic Absorption Spectrophotometers JJG 694	Flame Atomic(Cu) ：≤0.02 μg/mL	U=0.005 μg/mL		
				Graphite Furnace Atomic(Cd) ：≤4pg	U=0.22pg		
4	*Electrolytic Conductivity Meter	Electrolytic conductivity	V.R.of Electrolytic Conductivity Meters JJG 376	electric：（0.05～1×10^{5}）μS/cm	U=0.2%FS		
				Instrument: 147.8 μS/cm	U=0.4%FS		
				Instrument: 1410 μS/cm	U=0.4%FS		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
5	*Laboratory pH Meters	pH	V.R.of Laboratory pH Meters JJG 119	Electric pH：0～14	U=0.002	Accreditation except for grade 0.001pH meters	
				Instrument pH：4.00～9.18	U=0.015		
		Voltage		(-1999～1999)mV	U=0.01%FS		
6	Rotational Viscometers	Viscosity	V.R.of Rotational Viscometers JJG 1002	(2～1.2×10^5)mPa・s	U_{rel}=2.4%		
7	*Turbidimeters	Turbidity	V.R.of Turbidimeters JJG 880	(1～10)NTU	U_{rel}=10%		
				10～20)NTU	U_{rel}=8%		
				(20～400)NTU	U_{rel}=4%		
8	*Ultraviolet, Visible Spectrophotometer	Wavelength	V.R.of Ultraviolet, Visible , Near-Infrared Spectrophotometer JJG 178	(200～ 900)nm	U=0.4nm		
		Transmittance		(8～32)%	U=0.4%		
9	*Polarimeter and Polarimetric Saccharimeters	Polarization	V.R.of Polarimeter and Polarimetric Saccharimeters JJG 536	-72° ～+72°	U=0.005°		
		Saccharin		-20° Z～+105° Z	U=0.015° Z		
10	*Hand Saccharinmeter (Content-meter)and Hand Refractometer	Refractive index	V.R.of Hand Saccharinmeter (Content-meter)and Hand Refractometer JJG 820	n_D:1.3300～1.6000	U=2×10^{-4}		
		Saccharizagion		scale division：0.1%：(0.1～15)%	U=0.3%		
				scale division：0.2%：(0.2～30)%	U=0.5%		
				scale division：0.5%：(0.5～50)%	U=1.1%		
				scale division：1.0%：(1.0～60)%	U=1.8%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				scale division：2.0%：(2.0～60)%	U=2.8%		
11	*On-line Automatic Determinator of Chemical Oxygen Demand	Concentration	V.R.of On-line Automatic Determinator of Chemical Oxygen Demand JJG 1012	(50～1000)mg/L	U_{rel}=4%		
12	*Ammonia-Nitrogen Automatic Analyzers	Concentration	V.R.of Ammonia-Nitrogen Automatic Analyzers JJG 631	Type A：(1～2)mg/L	U=0.05mg/L		
				Type A：(2～100)mg/L	U_{rel}=4.2%		
				Type B：(1～100)mg/L	U_{rel}=3.6%		
13	*Alarmer Detectors of Combustible Gas	Concentration	V.R.of Alarmer Detectors of Combustible Gas JJG 693	(5～65)%LEL	U=2.2%FS	Accreditation only for Methane and Isobutane Gas Alarmers	
14	*Gas Chromatography-Mass Spectrometers	Signal- to-Noise ratio	C.S.for Gas Chromatography-Mass Spectrometers JJF 1164	EI^+(Ion trap, single quadrupole, triple quadrupole) S/N:≥10:1	U_{rel}=9%		
				EI^+(Time of flight, electrostatic field, orbital trap) S/N:≥50:1	U_{rel}=9%		
				CI^+(Ion trap, single quadrupole, triple quadrupole) S/N:≥10:1	U_{rel}=9%		
				CI^-(Ion trap, single quadrupole) S/N:≥10:1	U_{rel}=8%		
15	*Laboratory Ion Meters	pX	V.R.of Laboratory Ion Meters JJG 757	Electric pX ： 0～14	U=0.01		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				Instrument: pX：F^-(2～4)	U=0.02		
		Voltage		(-1999～1999)mV	U=0.03%FS		
16	*Water Quality On-line Analyzers of Total Phosphorus and Total Nitrogen	Concentration	V.R.of Water Quality On-line Analyzers of Total Phosphorus and Total Nitrogen JJG 1094	Total Phosphorus：(0.1～0.5)mg/L	U=0.02mg/L		
				Total Phosphorus：(0.5～500)mg/L	U_{rel}=4.0%		
		Concentration		Total Nitrogen：(0.1～2)mg/L	U=0.08mg/L		
				Total Nitrogen：(2～500)mg/L	U_{rel}=3.5%		
17	*Energy Dispersive X-Ray Fluorescence Spectrometers	Concentration	Calibration Specification for Energy Dispersive X-Ray Fluorescence Spectrometers JJF 2024	Cd:(8.7～107)mg/kg	U_{rel}=8%		
				Cr:(97.3～1122)mg/kg	U_{rel}=10%		
				Hg:(91.5～1096)mg/kg	U_{rel}=9%		
				Pb:(93.1～1122)mg/kg	U_{rel}=9%		
18	*On-line pH Meters	pH	C.S.for On-line pH Meters JJF 1547	Electric Meter pH：0.～14	U=0.012		
				Instrument pH：4.00～9.18	U=0.02		
		Voltage		(-2000～2000)mV	U=0.7mV		
19	*Automatic Potentiometric Titrators	Voltage	V.R.of Automatic Potentiometric Titrators JJG 814	(-2000～2000)mV	U=0.13mV		
		Capacity		(2～100)mL	U=0.03mL		
		Concenteation		NaOH:0.1mol/L	U_{rel}=0.3%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
20	Dissolved Oxygen Meter	Dissolved oxygen Concentration	V.R. of Dissolved Oxygen Meters JJG 291	(6～12) mg/L	U=0.16mg/L		
		Temperature		(5～50) ℃	U=0.1 ℃		
		Time		(1～60)s	U=0.7s		
21	*Air Samplers	Flow	V.R.of Air Samplers JJG 956	(0.01～6)L/min	U_{rel}=1.8%		
22	*Electrochemical Oxygen Meter	Concentration	Verification Regulation of Electrochemical Oxygen Meter JJG 365	(5～25)%	U_{rel}=3%		
				(25～80)%	U_{rel}=1.2%		
23	*Mercury Analyzers	Detection limit	Verication Regulation of Mercury Analyzers JJG 548	Absorption class:≤1.0ng	U=0.3ng		
				Fluorescence Spectrophotometers:≤ 0.1ng	U=0.04ng		
24	*Atomic Fluorescence Spectrophotometers	Detection limit	Verification Regulation for Atomic Fluorescence Spectrophotometers JJG 939	As:≤0.4ng	U=0.015ng		
				Sb:≤0.4ng	U=0.05ng		
25	*Dust Sampler	Flow	Verification Regulation of Dust Sampler JJG 520	(0.1～1200)L/min	U_{rel}=1.9%		
26	*Water Hardness Meters	Water Hardness	C. S. for Water Hardness Meters JJF 1949	(10～1000) mg/L	U_{rel}=3.8%		
27	*Flame Photometer	Detection limit	Verification Regulation of Flame Photometer JJG 630	K：≤0.004mmol/L	U=0.001mmol/L		
				Na：≤0.008mmol/L	U=0.002mmol/L		
28	*Water Quality On-line Analyzers of Heavy Metals	Concentration	Calibration Specification for Water Quality On-line Analyzers of Heavy Metals	Cr^{6+}:（0.01～100）mg/L	U_{rel}=4%		
				Cu:（0.01～500）mg/L	U_{rel}=4%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
			JJF1565	Ni:（0.02～100）mg/L	U_{rel}=4%		
				Pb:（0.01～1000）mg/L	U_{rel}=4%		
				Cd:（0.001～10）mg/L	U_{rel}=4%		
				Hg:（0.001～100）mg/L	U_{rel}=4%		
				As:（0.01～1000）mg/L	U_{rel}=4%		
				Fe:（0.02～1000）mg/L	U_{rel}=4%		
				Mn:（0.01～1000）mg/L	U_{rel}=4%		
				Zn:（0.02～1000）mg/L	U_{rel}=4%		
				Cr:（0.01～500）mg/L	U_{rel}=4%		
29	*Analyzers for oil content in water	Concentration	V.R.of Analyzers for oil content in water JJG 950	(0.1～10) mg/L	U=0.2mg/L		
				(＞10～1000) mg/L	U_{rel}=2.4%		
30	*Total Organic Carbon Analyzer	Concentration	Verification Regulation of Total Organic Carbon Analyzer JJG821	OC:(0.1～1000)mg/L	U_{rel}=2.6%		
				IC:(0.1～1000)mg/L	U_{rel}=2.6%		
31	*Ion Chromatographs	Minimum detection concentration	Verification Regulation of Ion Chromatograph JJG823	Conductivity detector：≤0.02 μg/mL	U_{rel}=6%		
				UV visible detector：≤ 0.02 μg/mL	U_{rel}=9%		
				Electrochemical detector：≤0.02 μg/mL	U_{rel}=5%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
32	*Ammonia Gas Detectors	Concentration	Verification Regulation of Ammonia Gas Detectors JJG1105	（0.1～300） μ mol/mol	U_{rel}=3.6%	Do not make instruments with maximum allowable error less than ± 10%	
33	*Alarmer Detectors of Benzene	Concentration	Calibration Specification for Alarmer Detectors of Benzene JJF1674	（1～100） μ mol/mol	U_{rel}=3.6%		
34	*Emission Spectrometer	Detection limit	Verification Regulation of Emission Spectrometer JJG768	ICP Spectrometer Zn：≤ 0.003mg/L	U=0.0012mg/L		
				ICP Spectrometer Ni：≤ 0.01mg/L	U=0.004mg/L		
				ICP Spectrometer Mn：≤0.002mg/L	U=0.0008mg/L		
				ICP Spectrometer Cr：≤0.007mg/L	U=0.0028mg/L		
				ICP Spectrometer Cu：≤ 0.007mg/L	U=0.0028mg/L		
				ICP Spectrometer Ba：≤ 0.001mg/L	U=0.0004mg/L		
				Direct reading spectrometer C：≤ 0.005%	U=0.0019%		
				Direct reading spectrometer Si：≤ 0.005%	U=0.0020%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				Direct reading spectrometer Mn：≤ 0.003%	U=0.0012%		
				Direct reading spectrometer Cr：≤ 0.003%	U=0.0013%		
				Direct reading spectrometer Ni：≤ 0.005%	U=0.0020%		
35	*Total Susended Particulates Samler	Flow	Verification Regulation of Total Susended Particulates Samler JJG943	(80～120)L/min	U_{rel}=1.3%		
				(800～1200)L/min	U_{rel}=1.3%		
36	*Polymerase Chain Reaction Analyzers	Temperature	Calibration Specification for Polymerase Chain Reaction Analyzers JJF1527	(30～95)℃	U=0.6℃		
		Concentration		（10～1.0×10^3）copies/μL	U_{rel}=15%		
				（1.0×10^3～1.2×10^7）copies/μL	U_{rel}=10%		
37	*Melting-point Measurement	temperature	V.R.of Melting-point Measurement Instruments JJG 701	(50～300)℃	U=0.3 ℃		
38	*Carbon Monoxide and Carbon Dioxide Infrared Gas Analyzer	concentration	V.R.of Carbon Monoxide and Carbon Dioxide Infrared Gas Analyzer JJG 635	CO_2：(0.01~20)%	U_{rel}=1.5%		
				CO：(1~1000) μmol/mol	U_{rel}=1.5%		
39	*Sulfur Hydrogen Gas Detectors	concentration	V.R.of Sulfur Hydrogen Gas Detectors JJG 695	(0.1~200) μmol/mol	U_{rel}=2.5%		
40	*Kjeldahl method	Content	C.S.for Elemental Analyzers JJF 1321	20%～50%	U_{rel}=1.8%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
41	*Instrument for KF Coulometry Titration	water content	V.R.of Instrument for KF Coulometry Titration JJG 1044	(10～5000) μg	U_{rel}=2.4%		
42	*Karl Fischer Volumetric Titrators for Water Content	water content	V.R.of Karl Fischer Volumetric Titrators for Water Content JJG 1154	(1～20)mg	U_{rel}=1.9%		
43	*Residual Chlorine Meters	concentration	C.S.for Residual Chlorine Meters JJF 1609	Residual Chlorine：(0.01～10) mg/L	U_{rel}=4%		
				Total Chlorine：(0.01～50) mg/L	U_{rel}=4%		
44	*Differential Scanning Calorimeters	temperature	V.R.of Differential Scanning Calorimeters JJG 936	(120～600)℃	U=0.8 ℃		
		heat quantity		(25～100)J/g	U_{rel}=1.8%		
45	*Sulfur Dioxide Gas Detectors	concentration	V.R.of Sulfur Dioxide Gas Detectors JJG 551	(1~2000) μmoL/moL	U_{rel}=2.3%		
46	*Liquid Chromatography-Mass Spectrometers	signal-noise ratio	C.S.for Liquid Chromatography-Mass Spectrometers JJF 1317	Reserpine≥10：1	U_{rel}=10%		
47	*Calibration Specification for Open/Closed Cup Flash Point Testers	temperature	C.S.for Open/Closed Cup Flash Point Testers JJF 1384	Closed Cup Flash Point Testers :(70～200)℃	U=6℃		
				Open Cup Flash Point Testers :(110～250)℃	U=8℃		
48	*Flue Gas Samplers	flow	V.R.of Flue Gas Samplers JJG 1169	(0.01～2.0)L/min	U_{rel}=1.2%		
49	*Volatile Organic Compounds Photo Ionization Detectors	concentration	C.S.for Volatile Organic Compounds Photo Ionization Detectors JJF 1172	(0.1～2000)×10^{-6}mol/mol	U_{rel}=2.4%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
50	*Flue Gas Analyzers	concentration	V.R.of Flue Gas Analyzers JJG 968	NO:(0.1～1000)×10^{-6}mol/mol	U_{rel}=2.4%		
				SO_2:(0.1～2000)×10^{-6}mol/mol	U_{rel}=3.0%		
				CO:(0.1～1000)×10^{-6}mol/mol	U_{rel}=2.4%		
				O_2:(0.1～25)%mol/mol	U_{rel}=2.4%		
51	*Liquid Chromatograph-Atomic Fluorescence Spectrometers	detection limit	V.R.of Liquid Chromatograph-Atomic Fluorescence Spectrometers JJG 1151	As(V)：＜1.0ng	U_{rel}=11%		
				MMA：＜0.7ng	U_{rel}=11%		
				DMA:＜0.7ng	U_{rel}=10%		
52	*Fourier Transform Infrared Spectrometer	wave number	C.S.for Transform Infrared Spectrometers JJF 1319	(4000～400)cm^{-1}	U=0.4cm^{-1}		
53	*Pesticide Residue Detectors	Wavelength	C.S.for Pesticide Residue Detectors JJF 1729	(330～450)nm	U=3.5nm		
		Transmittance		(7～33)%	U=0.3%		
		Suppression ratio		(50～100)%	U=5.2%		
54	*Water Colorimeters	Water quality chromaticity	C.S.for Water Colorimeters JJF 1689	(0.1～500)PCU	U_{rel}=2.0%		
55	*Flow Cup Viscometers	Viscosity	V.R.of Flow Cup Viscometers JJG 743	(2～1000)mm^2/s	U_{rel}=5%		
56	Wood Moisture Content Measuring Meters	Moisture Content	V.R. of Wood Moisture Content Measuring Meters JJG 986	(6～28)%	U=0.6%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
57	*Automatic Closed Luminescence Immunoassay Analyzers	Concentration	C.S.for Automatic Closed Luminescence Immunoassay Analyzers JJF1752	AFP: (0 ～300) IU/mL	U=1.3 IU/mL		
58	*Glycohemoglobin Analyzers	Concentration	C.S.for Glycohemoglobin Analyzers JJF1841	4%～11%	U=3.3 %		
59	Dust Concentration Measuring Instruments	Concentration	V.R.of Dust Concentration Measuring Instruments JJG846	(0.1～1000)mg/m^3	U_{rel}=9.6%		
60	$PM_{2.5}$ Mass Concentration Measurement Instruments	Concentration	C.M.for $PM_{2.5}$ Mass Concentration Measurement Instruments JJF1659	（10～1000）μg/m^3	U_{rel}=9%		
61	*Particle Filtring Efficiency Testers for Mask	Flow	V.R.of Particle Filtring Efficiency Testers for Mask JJG(Yue) 061	（15～100）L/min	U_{rel}=1.3%	Standard photometer method only	
		Resistance		(50～1000)Pa	U_{rel}=1.0%		
		Filtration efficiency		80%～90%	U=0.7%		
				≥90%～99.999%	U=1.3%		
62	*Mask Synthetic Blood Penetration Testers	Pressure	C.M.for Mask Synthetic Blood Penetration Testers FFH2117	10.6kPa、16.0kPa、21.3kPa	U_{rel}=0.4%		
		Length		(1～15)mm	U=40 μm		
		Volume		(1～5)mL	U_{rel}=1.4%		
63	*Time-resolved Fluorescence Immunoassay Analyzers	Concentration	C.M.for Time-resolved Fluorescence Immunoassay Analyzers FFH2128	AFP: (1 ～300) IU/mL	U_{rel}=7.6%		
		Temperature		(20～50)℃	U=0.5℃		
10 Ionizing radiation Measuring Instrument							

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
1	*Medical Diagnostical X-ray Radiation Source for Spiral Computed Tomography(CT)	Dose index	V.R.of Medical Diagnostic X-ray Radiation Source for Spiral Computed Tomography(CT) JJG961	(0.1～999.9)mGy/min	U_{rel}=5%		
2	*Medical Diagnostical X-ray Radiation Source	Air kerma rate	V.R.of Medical Diagnostical X-ray Radiation Source JJG744	(0.1～999.9)mGy/min	U_{rel}=7%(k=2)		
		Tube Voltage		（50～120）kV	U_{rel}=4%		
3	*Medical Diagnostic X-ray Source for Dental Panorama	Air kerma rate	V.R.of Medical Diagnostic X-ray Source for Dental Panorama JJG1101	(0.1～999.9)mGy/min	U_{rel}=6%		
		Tube Voltage		（60～120）kV	U_{rel}=2.2%		
4	*X-ray Flaw Detectors	Kerma Rate	Verification Regulation of X-ray Flaw Detectors JJG40	(0.01～10) Gy/min	U_{rel}=5%		
5	*Medical Diagnostic X-ray Radiation Source for Medical Digital Subtraction Angiography	Air Kerma	V.R.of Medical Diagnostic X-ray Radiation Source for Medical Digital Subtraction Angiography JJG 1067	(0.001~10)mGy/s	*U*rel=7%		
		Tube Voltage		(60~120)kV	*U*rel=4%		
		Simulate the minimum size of blood vessels		(0.25~2)mm	*U*=0.11mm		
		spatial resolution		(6~50)Lp/cm	*U*=1Lp/cm		
		low contrast resolution		(0.5~4.0)mm	*U*=0.11mm		
		Subtraction performance impact		2mm	*U*=0.11mm		

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

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
6	Radon Measuring Instruments	Volume Activity	V.R.of the Radon Measuring Instruments JJG825	（100～10000）Bq/m^3	U_{rel}=6%		
7	*Low Background Alpha/Beta Measuring Instuments	Surface Emission Rate of α Particle	V.R.of the Low Background Alpha/Beta Measuring Instuments JJG853	（1～1×10^6）（min•2π sr)$^{-1}$	U_{rel}=7%		
		Surface Emission Rate of β Particle		（1～1×10^6）（min•2π sr)$^{-1}$	U_{rel}=4%		
8	*Radioactivity Meter	Activity	V.R.of Radioactivity Meter JJG377	（3.7×10^5～3.7×10^{10}）Bq	U_{rel}=3.0%		
9	*Germanium Gamma-ray Spectrometers	Fully-energy peak efficiency	C. S. for Germanium Gamma-ray Spectrometers JJF1850	(0.01～100)%	U_{rel}=7%		
10	*Alpha Beta Surface Contamination Instruments	Surface Emission Rate of α Particle	V.R.of Alpha Beta Surface Contamination Instruments JJG478	（1～1×10^6）（min•2π sr)$^{-1}$	U_{rel}=4%		
		Surface Emission Rate of β Particle		（1～1×10^6）（min•2π sr)$^{-1}$	U_{rel}=7%		
11 Specialized Measuring Instrument for Textile & Leather							
1	*Perspiration Fastness Instruminets	Force value	Calibration Specification for Perspiration Fastness Instruminets JJF(纺织）028	（10～100）N	U_{rel}=0.11%		
		Size		（0～150）mm	U=0.04mm		
2	*Fabric Shrinkage Testers	Temperature	C.S.for Fabric Shrinkage Testers JJF(纺织) 052	（0～100）℃	U=0.6℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Washing speed		（30～100）r/min	U=0.18r/min		
		Dehydration speed		（100～1000）r/min	U=1.3r/min		
		Time		（0～30）min	U=0.3s		
12 Specialized Measuring Instrument for Motor Vehicle							
1	*tire tread depth gauge	Length	C.S for tire tread depth gauge JJF 1477	(0～50)mm	U=0.01mm		
2	*portable braking performance tester for motor vehicles	Acceleration	C.S for portable braking performance tester for motor vehicles JJF 1168	(0～9.81)m/s^2	U=0.05m/s^2		
3	*steering force and steeting angle tester for motor car	Angle	C.S. of Motor vehicle tester for steering force and steering angle JJF 1196	(0～1080)°	U=1°		
		Force value		(10～500)N	U_{rel}=0.8%		
4	*Automobile Side Slip Testers	side slip distance	V.R of Automobile Side Slip Testers JJG 908	(15～+15)m/km	U=0.04 m/km		
5	*roller type speedometer tester	speed	V.R of roller type speedometer tester JJG 909	(0.1～80)km/h	U_{rel}=1%		
6	*turning angle testers	angle	C.S for turning angle testers JJF1141	(-50～+50)°	U=0.32°		
7	*Four-wheel aligners	Angle	C.S. for Four-wheel aligners JJF 1154	Toe-in:(-3～+3) °	U=1.4′		
				Camber：(-10～+10) °	U=4′		
8	*Vehicle Contour Dimensions Testers	length	C.S.for Vehicle Contour Dimensions Testers JJF 1749	(0.001～16)m	U_{rel}=0.3%		
9	*Motor Vehicle Engine Speed Measuring Instrument	speed	C.S. for Motor Vehicle Engine Speed Measuring Instruments JJF 1375	(500～6000)r/min	U_{rel}=0.03%		
		Time		(0～60)s	U=0.30 s		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
10	*opacimeters	smoke intensity	V.R. of opacimeters JJG 976	(15～80)%	U_{rel}=1.0%		
11	*vehicle exhaust emissions measuring instruments	Concentration	V.R. of vehicle exhaust emissions measuring instruments JJG 688	CO:(0.5～5.0)×10^{-2}	U_{rel}=1.4%		
				CO_2(2.0～15.0)×10^{-2}	U_{rel}=1.4%		
				NO(300～3200)×10^{-6}3	U_{rel}=2.2%		
				O_2(0.5～30.0)×10^{-2}	U_{rel}=2.2%		
				HC:(200～3200)×10^{-6}	U_{rel}=1.5%		
12	*headlamp testers for motor vehicle	optical angle	V.R. of headlamp testers for motor vehicle JJG 745	-3° ～+3°	U=3′		
		light intensity		(8～60)kcd	U_{rel}=0.47%		
		Length		(0.1～2000)mm	U_{rel}=0.3%		
13	*Diesel Vehicle Nitrogen Oxides(NOx) Measuring	concentration	C.S.for Diesel Vehicle Nitrogen Oxides(NOx) Measuring JJF 1873	CO_2:(0.1～18)×10^{-2}	U_{rel}=2%		
				NO:(10～4000)×10^{-6}	U_{rel}=2%		
				NO_2:(5～1000)×10^{-6}	U_{rel}=3%		
14	*Transmittance Meter	Transmittance	C.S.for Transmittance Meter of Automobile JJF 1225	50%～90%	U=0.8%		
15	*Manipulating force tester for automotive brake	Force value	C.S. for Manipulating force tester for automotive brake JJF 1169	(0.1～1000)N	U_{rel}=0.8%		
16	*automotive suspension tester	Mass	C.S. for automotive suspension tester JJF 1192	(1～3000)kg	U_{rel}=1%		
17	*Equipment of power measuring	Torque	V.R. of Equipment of Power Measuring JJG 653	(1～5000)Nm	U_{rel}=1%		
		rotate speed		(1～9999)r/min	U_{rel}=0.3%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Length		(0.1～600)mm	U=0.04mm		
18	*wheel dynamic balancers	Mass	C.S. for wheel dynamic balancers JJF 1151	(80～140) g	U=4.3g		
19	*special axle(wheel) load scale for motor	Mass	V.R. of special axle(wheel) load scale for motor JJG 1014	(0.01～15)t	U_{rel}=0.8%		
20	*roller opposite force type brake testers	Force value	V.R. of roller opposite force type brake testers JJG 906	(0.1～30)kN	U_{rel}=1.1%		
		Velocity ratio		(5～40)%	U=2%		
21	*Retroreflection Coefficient Meters for Motor Vehicle's Reflecting Marking	coefficient of retroreflection	C.S.for Retroreflection Coefficient Meters for Motor Vehicle's Reflecting Marking JJF 1747	(0.1～400)cd • lx^{-1} • m^{-2}	U_{rel}=4.0%		
22	*Platform Brake Testers	force	V.R.of Platform Brake Testers JJG 1020	Brake force：(0.1～30)kN	U_{rel}=1.1%		
				axle load：(20～4000)kg	U_{rel}=0.8%		
		Length		(0.1～100)mm	U=0.5mm		
23	*Loading Method Automobile Brake Testers	force	V.R.of Loading Method Automobile Brake Testers JJG 1160	Brake force：(0.1～30)kN	U_{rel}=1.1%		
				axle load：(20～30000)kg	U_{rel}=4.0%		
		Length		(0.1～300)mm	U=0.1mm		
		Velocity ratio		(5～40)%	U=2%		
24	*Chassis Dynamometers for Automobile	force	C.S.for Chassis Dynamometers for Automobile Emissions	torque：(0～16)kN	U_{rel}=0.6%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Emissions Testing	speed	Testing JJF 1221	(0～100)km/h	U_{rel}=0.26%		
		Length		(0.1～600)mm	U=0.04mm		
		Time		(0.01～3600)s	U_{rel}=1%		
25	*Simulation transportation vibration test bed	Frequency	C.M.for Simulated Transport Vibration Test Bed ZBDX 1954	1Hz～5Hz	U_{rel}=3.7%		
				5Hz～2000Hz	U_{rel}=0.5%		
		Total root-mean-square of acceleration		(0.1～100) m/s^2	U_{rel}=1.8%		
		Displacement		(0.01～30) mm	U_{rel}=2.8%		
		Distortion		(0.01～30)%	U_{rel}=10%		
26	*Simulation Test-bed for Road Transportation	Frequency	C.S.for Simulation Test-bed for Road Transportation JJF 1271	(5～400) Hz	U_{rel}=0.16%		
		Acceleration		(0.1～100)m/s^2	U_{rel}=3.4%		
		Acceleration power spectral density		(0.01～10000）(m/s^2)^2/Hz	U_{rel}=3.4%		
13 Specialized Measuring Instrument for Meteorology & Marine Field							
1	Meteorological Bimetallic of Thermograph	Temperature	V.R.of Meteorological Bimetallic of Thermograph JJG 287	(-50～+50)℃	U=0.3℃		
2	Bucket Thermometers	Temperature	V.R.of Bucket Thermometers JJG 289	(-5～+40)℃	U=0.09		
3	Pitot tubes	coefficient of Pitot tubes	V.R.of Pitot Tubes JJG518	L Type(0.95～1.05)、S Type(0.75～0.90)	U_{rel}=0.4%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
4	*Portable Induction Anemometer	Wing speed	V.R.of Portable Induction Anemometer JJG515	(0.2～50) m/s	U=(0.1～1.0) m/s		
5	*Portable 3-cup Anemometer	Wing speed	V.R.of Portable 3-cup Anemometers JJG431	(0.2～50) m/s	U=(0.1～1.0) m/s		
6	*Contact Anemorumbometer	Wing speed	V.R.of Contact Anemorumbometer JJG613	(0.2～50) m/s	U=(0.1～1.0) m/s		
7	*Hot Ball Shaped Anemometer	Wing speed	V.R.of Hot Ball Shaped Anemometer JJG(建设)0001	(0.2～50) m/s	U=(0.2～1.5)%FS		
8	Magnetoelectricity Wind Sensor for Wind Farm	Wind speed	C.S.of Magnetoelectricity Wind Sensor for Wind Farm JJF1431	(0.2～50)m/s	U=(0.1～1)m/s		
		Frequnency		(0.1～1000)Hz	U_{rel}=1.0%		
9	Anemometers Used in Marine Field	Air velocity	V.R.of Anemometers Used in Marine Field JJG1167	(0.2～50)m/s	U=0.1m/s		
		Wind Directino		(0～360)º	U=1.6º		
10	Fanning Mill Anemometer	Wind Velocity	C.S.for Fanning Mill Anemometer JJF1971	(1～30)m/s	U=(0.10~0.40)m/s		
11	*Exhaust Air Rate Instrument	Air volume	Calibration Method of Exhaust Air Rate Instrument FFN1001	(60～6000)m³/h	U_{rel}=(0.5～2.2)%		
14 Specialized Measuring Instrument for Papermaking & Paper and Board							
1	*Grammage Tester for Paper and Board	Mass	V.R. of Grammage Tester for Paper and Board JJG (轻工) 54.2	(1～50) g	U_{rel}=0.02%～0.3%		
2	*MIT Type Folding Endurance Tester	Force	V.R. of MIT Type Folding Endurance Tester JJG (轻工) 59	(4.41～15.19) N	U=0.1 N		
		Angle		(0～320) º	U=1′		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Speed		(10～250) min^{-1}	U=0.6min^{-1}		
3	*Absorption Tester for Paper and Board	Length	V.R. of Absorption Tester for Paper and Board JJG(轻工) 55	(0～200) mm	U=0.03 mm		
		Mass		(10～15) kg	U=6 g		
		Area		(0.1～110) cm^2	U=0.06 cm^2		
4	*Bursting Strength Testers for Paper(Board)	Pressure	Calibration Specification for Bursting Strength Testers for Paper(Board) JJF1811	（0～6）MPa	U=0.07%FS		
5	*Compression Strength Tester for Board	Force value	V.R.of Compression Strength Tester for Board JJG(粤) 018	(0.2～5)kN	U_{rel}=0.15%		
		Test speed		(5～20)mm/min	U=0.5mm/min		
6	*Carton Box Tester of Crush Resistance	Force value	V.R.of Carton Box Tester of Crush Resistance JJG(粤) 043	(1～50)kN	U_{rel}=0.34%		
		Pressing speed		Constant speed type：(5～15)mm/min	U=0.5mm/min		
				Adjustable speed type：(1～65)mm/min	U_{rel}=1%		
		Deformation		(0～500)mm	U=0.06mm		
15 Specialized Measuring Instrument for Medical Device							
1	*Electrocardiograph	Voltage	V.R.of Electrocardiograph JJG543	0.1mV～1V	U_{rel}=1.6%		
2	*Digital Electrocardiograph	Voltage	V.R.of Digital Electrocardiograph JJG1041	0.03V～10V	U_{rel}=1.6%		
		Heart Rate		(10～200)bpm	U=1bpm		
3	*Electro cardiac monitor	Voltage	V.R.of Electro Cardiac Monitor JJG 760	(0.1～1000)mV	U_{rel}=2.2%		
		Heart rate		(10～200)bpm	U=1bpm		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
4	*Multifunction Patient Monitoring Instruments	Voltage	V.R.of Multifunction Patient Monitoring Instruments JJG 1163	(1～1000)mV	U_{rel}=2.2%		
		Static presure		(0～40)kPa	U=0.2kPa		
		Oxygen saturation		35%～100%	U=2%		
5	*Medical Ultrasonic Diagnostic Equipment	Ultrasonic intensity	V.R.of Medical Ultrasonic Diagnostic Equipment JJG639	(0.1～100)mW/cm²	U_{rel}=10%		
6	*ELISA Analytical Instruments	Wavelength	V.R.of ELISA Analytical Instruments JJG861	Ⅰ、Ⅱ: （360～700）nm	U=1.0nm		
				Ⅲ: （360～700）nm	U=1.4nm		
		Absorbance		0.10～1.70	U=0.02		
7	*Sphygmomanometer	Pressure	V.R.of Sphygmomanometer JJG 270	(0～40) kPa	U=0.3kPa		
8	*Non-invasive automated sphygmomanometers	Pressure	V.R.of Non-invasive automated sphygmomanometers JJG 692	(0～40) kPa	U=0.3kPa		
9	*Electroencephalographs	Voltage	V.R.of Electroencephalographs JJG 1043	0.005mV～5V	U_{rel}=2.1%		
		Time		0.05s～10s	U_{rel}=1.0%		
10	*Cardiac defibrillators-monitor	Energy	C.S.for Cardiac Defibrillators JJF 1149	(0.1～99.9)J	U=2.2J		
				(100～360)J	U_{rel}=6%		
		Heart rate		(10～200)bpm	U=1bpm		
11	*Baby Incubator	Temperature	C.S.for Baby Incubator JJF1260	(10～40)℃	U=0.22℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Noise		(30～90)dB	U=1.4dB		
		Humidity		30 RH%～90 RH%	U=2.2%RH		
		Oxygen Concentration		(30～40) %	U=1.8%		
12	*Hemodialysis Equipment	Conductivity	C.S.for Hemodialysis Equipment JJF1353	(12.5～15.5)mS/cm	U=0.14mS/cm		
		Temperature		(35～40)℃	U=0.2℃		
		Pressure		（-40～60）kPa	U=0.3kPa		
		pH		0.01～14	U=0.04		
		Voltage		（0.1～2000）mL/min	U_{rel}=2.0%		
13	*Urine Analyzers	pH	Calibration Specification of Urine Analyzers JJF1129	5.5～7.5	U=0.4		
		PRO		(0～2.0)g/L	U=0.4g/L		
		GLU		(0～43)mmol/L	U=1.1mmol/L		
		SG		1.000～1.030	U=0.004		
14	*Syringe Pumps and Infusion Pump	Flow rate	Calibration Specification for Syringe Pumps and Infusion Pumps JJF1259	(5.00～19.99)mL/h	U_{rel}=2.5%		
				(20～200)mL/h	U_{rel}=1.3%		
				(200.1～1000.0)mL/h	U_{rel}=2.4%		
15	*Electrosurgical Generator	High-frequency leakage current	Calibration Specification for Electrosurgical Generator JJF1217	(0.001～0.5)A	U_{rel}=2.8%		
		output power		(1～500)W	U_{rel}=6%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
16	*Ventilators	tidal volume	Calibration Specification for Ventilators JJF1234	(0.1～2000) mL	U_{rel}=3.6%		
		frequency		(1～80) BPM	U=1BPM		
		pressure		(0～10) kPa	U=0.14kPa		
		oxygen		21%～100%	U=2.4%		
17	*Ultrasound Bone Sonometers	speed of sound	Calibration Specification for Ultrasound Bone Sonometers JJF1649	(1400～1700)m/s, (2500～3000) m/s	U_{rel}=2.1%		
18	Pulmonary Function Measuring Instrument	Capactity	C.S.for the Pulmonary Function Measuring Instrument JJF 1213	(0~10)L	Urel=1.4%		
		Flow		(2~14)L/s	Urel=2.5%		
		Concentration		(0~30)%	Urel=1.7%		
				(0~30)%	Urel=1.8%		
19	*Electrolyte Analyzer	Ionic Concentration	V.R.of Electrolyte Analyzers JJG 1051	K^+： (1.50～7.50) mmol/L	Urel =4%		
				Na^+：(100.0～180.0) mmol/L	Urel =3%		
				Cl^-：(80.0～160.0) mmol/L	Urel =4%		
				Li^+：(0.40～2.00) mmol/L	Urel＝5%		
				iCa^{2+} ：(0.50～2.50) mmol/L	Urel＝6%		
20	*Digital Electroencephalographs	Voltage	V.R.of Digital Electroencephalographs JJG 954	2 μ V～2mV	U_{rel}=4%		
		Period		(0.01～10)s	U_{rel}=2.2%		
21	*Ambulatory	Voltage	V.R.of Ambulatory	(0.05～6)mV	U_{rel}=4%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Electrocardiographs	Frequency	Electrocardiographs JJG 1042	(0.5～60)Hz	U_{rel}=1.2%		
22	*Exercise Treadmills	Voltage	C.S.for Exercise Treadmills JJF 1722	(0.05～10)mV	U_{rel}=4%		
		Heart Rate		(30～300)次/分	U_{rel}=1.6%		
		Velocity		(5～10)km/h	U_{rel}=7%		
16 Specialized Measuring Instrument for Building & Transportation							
1	Rebound Test Hammer	Length	V.R.of the Rebound Test Hammer JJG 817	(0～150) mm	U=0.04 mm		
		Friction force		(0.1～1) N	U=0.07 N		
		Spring rigidity		(65～1045) N/m	U=8 N/m		
2	*Vibrator for Compacting Mortar Specimen	Swing	C.S.for Cement Mortar Vibration Compaction Equipment JJF 1867	(0～1) mm	U=0.014mm		
		Frequency		(10～100) Hz	U=0.6Hz		
		Time		(0～5)min	U=0.4s		
		Mass		(0～15)kg	U=6g		
		Size		(0～200)mm	U=0.04mm		
3	*Coment Mortars Mixer	Displacement	V.R.for Cement Mortars Mixer JJG(建材) 102	(1～200) mm	U=0.08 mm		
		Rotational speed		(10～300) r/min	U=0.7 r/min		
		Time		(10～200) s	U=0.4 s		
4	*Mixer for cement paste	Diameter	C.S.for Mixer for Cement Paste JJF(JianCai) 104	(0.5～160) mm	U=0.05mm		
		Rotational speed		(10～300) r/min	U=0.6r/min		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Time		(1～3600) s	U=0.3 s		
5	*Mixer for Mixing Mortars	Width	C.S.for Mixer for Mixing Mortars JJF(JianCai) 123	(0.5～200) mm	U=0.05mm		
		Rotational speed		(10～300) r/min	U=0.6 r/min		
		Working time		(1～3600) s	U=0.3 s		
6	*Apparatus of fluidity of cement mortar	Length	V.R.for Inspecting specification for apparatus of fluidity of cement mortar JJG(建材) 126	(10～300) mm	U=0.06 mm		
		Mass		200 g～34 kg	U=0.18 g		
		Time		(15～120) s	U=0.4 s		
7	*Jolting Table for Compacting Mortars Specimen	Working Time	C.S.for Jolting Table for Compacting Mortars Specimen JJF(JianCai) 124	(1～3600) s	U=0.3 s		
		Displacement		(10～1000) mm	U=0.07mm		
		Mass		(0～15)kg	U=0.07kg		
8	*Wearing Machine for Cement Mortar	Force	V.R.of Wearing Machine for Cement Mortar JJG(建材) 125	(20～1000) N	U_{rel}=0.37%		
		Displacement		(0.5～200) mm	U=0.06 mm		
		Rotational speed		(10～1000) r/min	U=0.4 r/min		
9	*Expasion meter of Le-chatelier apparatus	Staff Scale	C.S.for the Expansion Tester for Cement Le Chatelier Needles JJF（建材）110	(2～10) mm	U_{rel}=0.6%		
		Mass		(2～1200) g	U=0.06 g		
10	*Compacting Instrument	Mass of Compacting Hammer	V.R.of Marshall Asphalt Compactor JJG（交通）065,V.R.of Standard Compactor JJD 1024,V.R.of	(20～15000) g	U=0.6 g		
		Length		H:(0～500) mm	U=0.1mm		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
			Compacting Instrument of Soil JJG（JIAOTONG）058	Dimmter:(0～150) mm	U=0.03mm		
11	*Air Entrainment Meter of Freshly Mixed Concrete by The Volumetric Method	Presure	V.R.of Air Entrainment Meter of Freshly Mixed Concrete by The Volumetric Method JJG(交通) 094	(0～0.25)MPa	U=0.3kPa		
		Volume		(1～8) L	U=2mL		
		Air contert		0%～10%	U=0.008%～0.08%		
12	*Apparatus to Measure Water Permeability of Concrete	Presure value	C.S. of Apparatus to Measure Water Permeability of Concrete JJF 1812	(0～6) MPa	U=0.01 MPa		
13	*Flow Table for Determine Cement Mortar Fluidity	Length	V.R. of Metallic Webster Hardness Testing Machines JJG(交通) 096	(10～300) mm	U=0.06 mm		
		Mass		(0.2～34)kg	U=18 g		
		Time		(15～120) s	U=0.4 s		
14	Instrument of Testing Mortar-strength by Penetration Resistance Method	Force value	Calibration Specification for Instrument of Testing Mortar-strength by Penetration Resistance Mtghod JJF1372	(100～1000)N	U=3.7N		
		Length		(0～150)mm	U=0.03mm		
15	*Asphalt Mixture's Mixing Machine	Volume	Verification Regulation of Asphalt Mixture's Mixing Machine JJG(交通）064	(5～22)L	U_{rel}=0.1%		
		Revolution Speed		(10～200)r/min	U_{rel}=0.1%		
		Time		(0～4)min	U=0.03min		
		Temperature		(0～300)℃	U=0.3℃		
16	*Los Angeles Testing Machine	Revolution Speed	Verification Regulation of Los Angeles Testing Machine JJG(交通）108	(10～50)r/min	U=0.2r/min		
		Internal diameter		(700～720)mm	U=1mm		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Length		(500～520)mm	U=1mm		
		Diameter		(40～50)mm	U=0.06mm		
		Mass		(2000～6000)g	U=0,6g		
17	*Asphalt Centrifugal Extractor	Revolution Speed	Vefification Regulation of Asphalt Centrifugal Extractor JJG(交通）132	(100～20000)r/min	U_{rel}=0.4%～0.1%		
		Mesh size		(0～1)mm	U=3.7 μ m		
		Filament diameter		(0～1)mm	U=3.6 μ m		
18	*Apparatus Time of Setting of Concrete Mixture by Penetration Resistance	Force value	Veffication Regulation of Apparatus for Time of Setting of Concrete Mixture by Penetration Resistance JJG(交通）095	(100～3000)N	U_{rel}=0.36%		
		Diameter		(0～30)mm	U=0.004mm		
		Size		(0～300)mm	U=0.08mm		
19	*Cement Fineness Negative Pressure Screen Analyzers	Pressure	Calibration Specification for Cement Fineness Negative Pressure Screen Analyzers JJF1827	（-100～0）hPa	U=0.1hPa		
20	*Test Apparatus for Theoretical Maximum Specific Gravity of Asphalt Mixtures	Pressure	V.R.of Test Apparants for Theoretical Maximum Specific Gravity of Asphalt Mixtures JJG(交通) 105	（0～120）kPa	U=0.09kPa		
		Vacuum		（-100～0）kPa	U=0.5kPa		
		Time		（0～24）h	U=3s		
21	*Nonmetal Building Materials Plastic Limit Measuring Instruments	Length	C.S.for Nonmetal Building Materials Plastic Limit Measuring Instruments JJF 1090	(0～145)mm	U=0.04mm		
		Angle		(0～50)°	U=6′		
		Mass		(0～300)g	U=0.04g		
22	construction quality tester sets	Length	C.S of construction quality tester sets JJF 1110	slope feeler：(0～35)mm	U=0.02mm		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				diagonal tester：-50 mm～+50 mm	U=0.1mm		
				grid ：(50～500)mm	U_{rel}=0.1%		
		angle		gradient tester： -10 mm/m～+10 mm/m	U=0.05mm/m		
				vertical tester：-15 mm/2 m～+15 mm/2 m	U=0.05mm/2m		
				angle tester：-10 mm/150 mm～+10 mm/150 mm	U=0.05mm/150mm		
23	*needle and flake gages	Length	C.S for needle and flake gages JJF1593	(0～100)mm	U=0.02mm		
17 Specialized Measuring Instrument for Electrical & Electronic Appliance							
1	*Spark Tester	AC Voltage	C.S. of Wire Spark Tester JJF(LU) 63	(1～30) kV,(45～65)Hz	U_{rel}=(5～1.2)%		
		DC Voltage		(1～30) kV	U_{rel}=(1.5～0.7)%		
		length		(0.1～200)mm	U=0.024mm		
				200mm～5m	U=0.9mm		
		ripple factor		(0.1～10)%	U=0.2%		
2	*Pulse Hi-pot tester	Voltage	C.S. of Pulse High Voltage Tester DJF 009	(0.5～30) kV	U_{rel}=(4～1.2)%		
3	*DC Electronic Load	DC Voltage	C.S. for DC Electronic Loads JJF 1462	(0.1～1000)V	U_{rel}= (0.014～0.011)%		
		DC Current		(0.1～1000)A	U_{rel}=(0.04～0.03)%		
		Power		0.1W～1kW	U_{rel}= (0.06～0.03)%		
		Current Speed		0.1mA/μs～10A/μs	U_{rel}= 1.3%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Current Load Time and Unload time		10 μs～10s	U_{rel}= 0.13%		
		Resistance		0.1Ω～100kΩ	U_{rel}= 0.13%		
4	*Cable Testers	Resistance	C.S. for Cable Testers JJF 1457	1Ω～100kΩ	U_{rel}=(2.4～1.0)%		
		InsulationResistance		100Ω～100MΩ	U_{rel}=(2.4～1.0)%		
				100MΩ～10GΩ	U_{rel}=(1.5～2.4)%		
		AC/DC voltage		(4～2000)V,(DC,45Hz~65Hz)	U_{rel}=1.2%		
		Current		（0.1～100)mA,(DC,45Hz~65Hz)	U_{rel}=1.2%		
		Capacitance		100pF～100μF,1kHz	U_{rel}=0.5%		
		Distortion		(0.01～100)%(20Hz～100kHz)	U_{rel}=15%		
5	*Turns Ratio Meter	Turns	C.S. of Turns Ratio Meter DJF 016	1:1～1:0.001(100Hz～100kHz)	U_{rel}=0.12%		
6	*Coil number testing instructing	Coil Number	C.S. of coil number meters JJF(Electronic) 0041	1 n～11110 n	U_{rel}=0.23%		
7	*Battery Internal Resistance Testers	Voltage	C.S.for Battery Internal Resistance Testers JJF1620	0.1V～1kV	U_{rel}=(0.01～1.5)%		
		Internal Resistance		1mΩ～100kΩ(100Hz～10kHz)	U_{rel}=(0.05～1.5)%		
8	*Charge & Discharge of Battery Tester	Voltage	C.S. for Charge & Discharge of Battery Tester JJF(Military) 108	(1～10)V	U_{rel}= (0.008～0.004)%		
				(10～1000)V	U_{rel}= (0.004～0.006)%		
		Current		(10～100)mA	U_{rel}= (0.09～0.07)%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				100mA～1kA	U_{rel}=(0.03～0.09)%		
		Resistance		100mΩ～10Ω	U_{rel}= (0.6～0.08)%		
				10Ω～1kΩ	U_{rel}= (0.08～0.09)%		
				(1～10)kΩ	U_{rel}=0.05%		
		Power		(10～100)mW	U_{rel}= (0.18～0.07)%		
				100mW～100W	U_{rel}= (0.09～0.04)%		
				100W～10kW	U_{rel}= (0.04～0.07)%		
		Capacity		0.1Ah～10Ah	U_{rel}= (0.09～0.04)%		
				10Ah～1kAh	U_{rel}= (0.03～0.04)%		
		Current Risetime		10μs～10ms	U_{rel}= (0.3～0.2)%		
9	*Reference Ballasts	Voltage Current ratio	C.S. for Reference Ballasts JJF 1502	(10～400)V/(0.1～20)A,50Hz,60Hz	U_{rel}=0.27%		
				(10～400)V/(0.1～20)A,20kHz～50kHz	U_{rel}=0.3%		
		Power Factor		0.1～1	U=0.006		
10	*impulse voltage testers for winding interturn insulation	peak pulse voltage	C.S. for impulse voltage testers for winding interturn insulation JJF 1691	(0.5～30) kV	U_{rel}=(4～1.2)%		
		wave front time		2ns～1s	U_{rel}=0.1%		
11	*Mechanical Characteristic Tester for High Voltage Switch	Close Time	V.R. of High Voltage Switch Operation Characteristic Testers JJG 1120	(1.0～1000.0)ms	U=(0.03～0.1)ms		
		Open time		(1.0～1000.0)ms	U=(0.03～0.1)ms		
		Spring time		(1.0～10.0)ms	U=0.03ms		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
12	*Calibration Specification for Pulse Spark Leak Detector	Pulse Peak voltage	C.S. for Pulsed Spark Leak Detector JJF(xin) 32	(0.5～40) kV	U_{rel}=3%		
13	*Oscilloscope Voltage Probe	DC Voltage attenuation ratio	C.S. for Oscilloscope Voltage Probes JJF 1437	1～1000	U_{rel}=0.2%		
		Frequency response		(0～-3)dB(50kHz～6GHz)	U=0.9dB		
		Raise time		150ps～100 μ s	U_{rel}=6.4%		
		Input resistance		50 Ω ～100M Ω	U_{rel}=0.6%		
14	*Electrical Fast Transient/Burst Generator	voltage	C.S.for Electrical fast Transient/Burst Simulators JJF 1672	(0.1～4)kV	U_{rel}=3%		
		Pulse Rise Time		（3～6）ns	U_{rel}=6%		
		Pulse group duration		0.5ms～20ms	U_{rel}=3%		
		Pulse Repetition Frequency		1kHz～100kHz	U_{rel}=0.3%		
		Pulse group period		250ms～350ms	U_{rel}=0.3%		
		Pulse width		（35～150）ns	U_{rel}=6%		
15	*Current Probes of Oscilloscope，Current Probe	DC current attenuation coefficient	C.S. for Current Probes of Oscilloscope JJF(Electronic)0036	1～100	U_{rel}=0.7%		
		AC current		(0.001A～1000A)（50Hz～1kHz）	U_{rel}=0.7%		
		DC current		(0.001A～1000A)	U_{rel}=0.7%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Bandwidth		1kHz～200MHz	U_{rel}=4%		
		Rise Time		3ns～10ms	U_{rel}=6.4%		
16	Electrostatic Discharge Simulators	Output voltage	C.S. for Electrostatic Discharge Simulators JJF 1397	±(0.1～40)kV	U_{rel}=1.0%		
		Peak current of discharge		(0.1～150)A	U_{rel}=5.6%		
		30ns/60ns Current of discharge		(0.1～100)A	U_{rel}=6%		
		Rise time		(0.1～10)ns	U_{rel}=4.5%		
17	*Absorbing Clamp in the Range of 30MHz to 1.0GHz	Insertion loss	C.S.for Absorbing Clamp in the Range of 30MHz to 1.0GHz JJF 1155	（10～30）dB，（30MHz～1.0GHz）	U=1.7dB		
18	*Power frequency Magnetic Field Generator	Current	C.S.for power frequency magnetic field simulators JJF 1737	（0.1～600）A	U_{rel}=2.5%		
		Magnetic field intensity		（0.1～15）A/m	U_{rel}=6%		
				（15～150）A/m	U_{rel}=6.3%		
				（150～1000）A/m	U_{rel}=12%		
19	*Surge (impact) simulator	Peak-Voltage of Open Circuit	C.S.for surge (impact) simulator JJF 1741	±(0.05～15)kV	U_{rel}=3.4%		
		Open circuit voltage wave front time		（0.1～100）μs	U_{rel}=3.2%		
		Open circuit voltage duration		（1～1000）μs	U_{rel}=3%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Peak-Current of Short Circuit		±(0.001～20)kA	U_{rel}=3%		
		Short circuit current wave front time		（0.01～100） μs	U_{rel}=3.2%		
		Short circuit current duration		（1～1000） μs	U_{rel}=3%		
		phase		（0～360）°	U=3°		
		Open circuit undershoot		（-50～-0.1）%	U_{rel}=3%		
		Short circuit undershoot		（-50～-0.1）%	U_{rel}=3%		
20	*Voltage Dips,Short Interruptions and Voltage Variations Test Generators	output voltage	C.S. for Voltage Dips,Short Interruptions and Voltage Variations Test Generators JJF 1673	(0.1～360)V	U_{rel}=1.0%		
		load regulation		0.01%～50%	U_{rel}=1.0%		
		voltage rise time and fall time		(1～60) μs	U_{rel}=7.7%		
		Voltage overshoot and undershoot		0.01%～20%	U_{rel}=5.0%		
		phase angle		0° ～360°	U=2°		
		time of duration		1ms～60s	U_{rel}=2.0%		
		interval time		1ms～60s	U_{rel}=2.0%		
		Peak impulse current		40A～2kA	U_{rel}=3.0%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
21	*Harmonious and Flicker Analysis System	Current and linearity	C.S. for Harmonious and Flicker Analysis System JJF 1205	0.01A～ 1A	U_{rel}=0.1%		
				1A～ 5A	U_{rel}=0.06%		
				5A～ 60A	U_{rel}=0.1%		
		voltage amplitude		(110～240)V	U_{rel}=(0.02～0.05)%		
		power		(1～12000)W， PF=1.0	U_{rel}=(0.08～0.10)%		
				(1～12000)W， PF=0.5	U_{rel}=(0.08～0.10)%		
		harmonic current		(0.01～6)A， 100Hz～3kHz	U_{rel}=(0.02～0.3)%		
		The transient harmonic current		（1～10）A	U_{rel}=(0.32～0.7)%		
		flicker		Pst=1,Pst=5	U_{rel}=1.6%		
		inter-harmonics		(0.003～6)A，100Hz～2kHz	U_{rel}=1.2%～4.7%		
		Harmonic content of supply voltage		0.01%～10%	U_{rel}=1.0%		
		Voltage stability with frequency		0.1%～20%	U_{rel}=0.7%		
		Voltage with load stability		0.1%～20%	U_{rel}=0.7%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Stability of voltage with load frequency with load		0.1%～20%	U_{rel}=0.2%		
22	*Discontinuous Interference Analyzers	frequency	C.S.for Discontinuous Interference Analyzers JJF 1845	(0.15～30)MHz	U_{rel}=0.30%		
		level		(45～110)dBμV,(0.15～30)MHz	U=0.3dB		
		IF bandwidth		9kHz	U=0.09kHz		
		impulse response		(0～30)dB，(0.15～30)MHz	U=0.7dB		
23	*Electrostatic Discharge Current Target	Insertion loss	C.S. of ESD Current Targets JJF(Electronic)0040	(-70dB～-30dB)，(9kHz～1GHz)	U=0.20dB		
				(-70dB～-30dB)，(1GHz～4GHz)	U=0.30dB		
		Transfer impedance		(0.02～1.0)V/A	U_{rel}=0.12%		
		Input impedance		(0.1～10)Ω	U_{rel}=0.1%		
24	*Ring wave generator	Pulse voltage output	C.S.for Oscillatory wave generator JJF(Zhe) 1059	±（0.05～4)kV	U_{rel}=3.4%		
		First peak voltage rise time		10ns～10μs	U_{rel}=5%		
		oscillation frequency		(1～2000)kHz	U_{rel}=2.0%		
		peak short circuit current		±（1～1000)A	U_{rel}=3.4%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		First peak current rise time		10ns～10 μ s	U_{rel}=2.6%		
		output impedance		（1～500) Ω	U_{rel}=4.8%		
		attenuation		（10～150)%	U_{rel}=3.4%		
		Pulse group duration		0.1s～100s	U_{rel}=2.6%		
25	*Oscillatory wave generator	Open-circuit peak voltage	C.S.for Damped Oscillatory Wave Simulators JJF 2016	±（0.05～4)kV	U_{rel}=3.4%		
		open circuit voltage rise time		10ns～10 μ s	U_{rel}=5%		
		oscillation frequency		1kHz～30MHz	U_{rel}=4%		
		peak short circuit current		±（1～1000)A	U_{rel}=3.4%		
		repetition frequency		（1～5000)/s	U_{rel}=2.0%		
		Open-circuit voltage oscillation frequency		1kHz～30MHz	U_{rel}=2.0%		
		Durationtime		0.1s～100s	U_{rel}=2.6%		
		attenuation		（10～100)%	U_{rel}=3.4%		
26	*Triple-Loop antenna	validation factor	C.S.for Triple-Loop Antenna Systems JJF(Electronic)0035	(20～100)dB Ω ,300kHz～30MHz	U=1.5dB		
27	*Pulse magnetic field generators	Peak output current	C.S.for Pulse magnetic field generators JJF(Electronic)0037	(0.1～5)kA	U_{rel}=3.0%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Front time		(5～10) μs	U_{rel}=3.8%		
		Duration Time		(10～30) μs	U_{rel}=2.6%		
		Induction Coil Factor		(0.5～110) 1/m	U_{rel}=5%		
28	*High Frequency Noise Simulator	Pulse voltage amplitude	C.S.for High Frequency Noise Simulator JJF(Electronic) 30810	(1～4000)V	U_{rel}=3%		
		Pulse voltage width		(50～1000)ns	U_{rel}=3%		
		Pulse voltage rise time		(0.3～1)ns	U_{rel}=6%		
		Pulse Repetition Frequency		(1～100)Hz	U_{rel}=0.3%		
29	*Current Injection Probes	Insertion Loss	C.S.for Current Probes and Injection Probes JJF(communication)030	(0～60)dB,(300kHz～1GHz)	U=0.7dB		
		Transfer Impedance		(-60～30)dBΩ	U=0.7dB		
		Transfer Admittance		(-30～60)dBS	U=0.7dB		
30	*Differential Probes of Oscilloscope	Common-mode rejection ratio	C.S.for Differential Probes of Oscilloscope JJF(Electronic)30306	(18～90)dB	U=1.5dB		
		DC attenuation coefficient		1～1000,(1V～10kV)	U_{rel}=0.2%		
		Band width		1kHz～1GHz	U_{rel}=4%		
		RiSe time		150ps～100 μs	U_{rel}=6.4%		
		Input Impedance		50Ω～100MΩ	U_{rel}=0.6%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
31	*High Voltage Probes of Oscilloscope	Voltage decay ratio	C.S.for High Voltage Probes of Oscilloscope JJF(Electronic)30304	1～1000,(1kV～100kV)	U_{rel}=0.2%		
		Band width		1kHz～1GHz	U_{rel}=4%		
		Input capacitance		1pF～100pF，1kHz	U_{rel}=0.1%		
		Input Impedance		50Ω～100MΩ	U_{rel}=0.6%		

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