

CERTIFICATE OF ACCREDITATION

HCT Co., Ltd.

Accreditation No. : KC00-011

Corporation Registration No. : 134411-0015635

Address of Laboratory : 1. 74, Seoicheon-ro 578beon-gil, Majang-myeon,
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Gyunggi-do, Republic of Korea

Date of Initial Accreditation : Dec. 9, 2000.

Validity of Accreditation : Jan. 8, 2022. ~ Jan. 7, 2026.

Scope of Accreditation : Attached Annex

Date of issue : Dec. 8, 2021

This Calibration laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025 : 2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to Joint ISO-ILAC-IAF Communiqué).



Sanghoon Lee

Head

Korea Laboratory Accreditation Scheme

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CALIBRATION

Valid To : Jan. 07, 2026.

Accreditation No. : KC00-011 (1/149)

In recognition of the successful completion of the KOLAS evaluation process,
accreditation is granted to this laboratory to perform the following calibrations

Field Code	Item of Calibration	on-site	Field Code	Item of Calibration	on-site	Field Code	Item of Calibration	on-site
102.	Linear dimension		10405	Optical parallels	N	202.	Force	
10201	Balls	N	10406	Parallel blocks	N	20202	Force measuring devices	N
10203	Electrical/mechanical comparators	Y	10407	Precision surface plates	Y	20203	Tension/compression testing machines	Y
10206	Dial/cylinder gauge testers	N	10409	Roundness measurement instruments	Y	20204	Push-pull gauges	N
10207	Doctor blades	N	10412	Straight edges	N			
10209	End bars	N	10413	Straight rules	N	203.	Torque	
10210	Extensometers, linear displacement transducers	Y	10415	Test bars	N	20302	Torque measuring devices	N
			104156	Spherometers	N	20303	Torque wrenches/drivers	N
10211	Filler gauges	N				204.	Pressure	
10212	Film applicators	N	105.	Complex geometry		20402	Manometers	Y
10213	Gap gauges	N	10503	Contact coordinate measuring machines	Y	20406	Absolute pressure gauges	N
10214	Gauge blocks, by comparison	N	10504	Non-contact coordinate measuring machines	Y	20408	Compound pressure gauges	Y
10216	Height gauges/measuring machines	Y	10505	Gauge block accessories	N	20409	Differential pressure gauges	Y
10219	Linear scales	N	10511	Measuring microscopes, profile projectors	Y	20411	Gauge pressure gauges	Y
10220	Standard measuring machines	Y	10512	Micro measuring microscopes	Y	20412	Pressure transducers/transmitters	Y
10223	Electronic micrometers	N	10517	Stylus type roughness testers	Y	20413	Dial type vacuum gauges	Y
10224	Height micrometers, Riser blocks	N	10525	Thread plug gauges	N	20414	Water Depth meters	Y
10225	Laser scan micrometers	Y	10529	V-blocks, box blocks	N	206.	Volume	
10227	Standard tape rules, peripheral gauges	N				20601	Volumetric glasswares	N
10228	Cylindrical plug/pin gauges, thread measuring wire gauges	N	106.	Various dimensional		20602	Pycnometers	N
10229	Radius gauges	N	10601	Inside/outside/gear tooth calipers, caliper gauges	Y	20605	Concrete air content meters	N
10230	Cylindrical ring gauges	N	10603	Cylinder/bore gauges	Y	20606	Piston type volume meters	N
10231	Step blocks	N	10604	Depth gauges, depth micrometers	Y	208.	Viscosity	
10232	Step gauges	N	10605	Dial/digital gauges	Y	20802	Dynamic viscometers; rotational, etc.	N
10233	Taper thickness gauges	N	10609	Micro indicators, Test indicators	Y	209.	Fluid flow	
10234	Ultrasonic thickness gauges	Y	10610	Micrometer heads	N	20901	Anemometers; hot-wire	N
10235	Ultrasonic/coating thickness specimens	N	10611	3-point micrometers	Y	20902	Anemometers; pitot tube, etc.	N
10236	Coating thickness testers	Y	10612	Inside micrometers	Y	20908	Gas flowmeters; differential pressure	Y
10237	Torque arms	N	10613	Outside micrometers	Y	20909	Liquid flowmeters; differential pressure	N
10238	Width measuring specimens	N	10615	Particle counters	Y	20910	Liquid flowmeters; electromagnetic	N
			10617	Standard sieves	N	20911	Gas flowmeters; thermal mass, etc.	Y
103.	Angle		10620	Welding gauges	N	20912	Liquid flowmeters; Coriolis, etc.	N
10304	Bevel protractors	N	10622	Particle dilution Systems	Y	20914	Gas flowmeters; positive displacement	Y
10311	Plate/square/electric levels	N				20915	Liquid flowmeters; positive displacement	N
10317	Sine bars, plates, tables, centers	N	201.	Mass		20916	Gas flowmeters; turbine	Y
10318	Squareness testers, right angle testers	N	20105	Counter beam balances	Y	20917	Liquid flowmeters; turbine	N
			20106	Dial platform scale balances	Y			
10319	Cylindrical squares	N	20108	Direct reading balances	Y			
10320	Precision squares	N	20109	Electric balances	Y			
			20112	Platform scale balances	Y			
104.	Form		20113	Spring scale balances	Y			
10401	Form testers	Y	20116	Weights	Y			
10404	Optical flats	N						

Field Code	Item of Calibration	on-site	Field Code	Item of Calibration	on-site	Field Code	Item of Calibration	on-site
20918	Gas flowmeters; ultrasonic	Y	40303	AC voltage/current calibrators		40610	Coaxial directional couplers /splitters	Y
20919	Liquid flowmeters; ultrasonic	N				40611	Waveguide directional couplers	N
20920	Gas flowmeters; variable area	Y	40304	Wattmeter calibrators	Y	40613	Electrostatic discharge generators	Y
20921	Liquid flowmeters; variable	N	40305	AC current shunts	Y			
20922	Gas flowmeters; vortex	Y	40310	Power factor meters	Y	40614	EMC receivers	Y
20923	Liquid flowmeters; vortex	N	40311	AC power meters	Y	40615	RF filters	Y
20925	Anemometers; vane, etc.	N	40312	AC power supplies	Y	40616	RF impedance meters	Y
301. Time & frequency			40313	Puncture/safety testers	Y	40617	RF impulse generators	Y
			40314	Power recorders	Y	40618	Line impedance stabilization networks; LISN, CDN, ISN, etc.	Y
			40318	AC voltmeters	Y			
30102	Frequency standards	N	404. Other DC & LF measurement					
30103	General frequency sources	Y	40401	LF amplifiers	Y	40619	Coaxial standard mismatches	Y
30104	Frequency meters/counters	Y	40402	DC/LF attenuators	Y	40621	Mobile communication test sets	Y
30105	Time interval sources	Y	40403	Multimeter calibrators	Y	40622	Modulation meters	Y
30106	Time interval meters/stop watches/timers	Y	40404	Oscilloscope calibrators	Y	40623	Network analyzers	Y
302. Velocity & revolution			40406	Video signal generators	Y	40624	Noise figure meters	Y
			40407	Audio distortion analyzers /meters	Y	40625	Noise generators	Y
30201	Standard RPM generators	Y	40408	LF filters	Y	40626	Noise impulse simulators	Y
30202	Contact type tachometers	Y	40409	LF/audio signal analyzers	Y	40635	RF power meters	Y
30203	Photo tachometers /stroboscopes	Y	40410	Line frequency meters	Y	40636	Diode power sensors	Y
30205	Wow-flutter generators	Y	40411	Function generators	Y	40637	Thermocouple power sensors	Y
30206	Wow-flutter meters	Y	40412	Genescopes	Y	40638	Pulse generators	Y
401. DC voltage & current			40413	AC/DC high voltage voltmeters	Y	40639	Radar test sets	Y
			40416	Leakage current testers	Y	40640	RF signal generators	Y
40101	DC ammeters	Y	40417	Electronic AC/DC loads	Y	40641	RF spectrum analyzers	Y
40102	Transconductance amplifiers	Y	40419	Analogue/digital multimeters	Y	40642	RF speed guns	Y
40103	DC voltage/current calibrators	Y	40420	Noise meters	Y	40643	Surge generators	Y
40104	Electrical temperature calibrators	Y	40421	Oscilloscopes	Y	40645	RF terminations	Y
40105	DC current shunts	Y	40422	LF phase meters	Y	40646	Coaxial thermistor mounts	Y
40106	Galvanometers/null detectors	Y	40423	Random wave generators	Y	40648	Transmission trouble testers	Y
40108	DC power supplies	Y	40424	Voltage/current recorders	Y	40650	RF voltmeters	Y
40110	DC voltage dividers	N	40425	Relay test sets	Y	40651	Vector voltmeters	Y
40111	DC voltage standards	Y	40426	LF signal generators	Y	40652	Field strength meters	Y
40112	DC voltmeters	Y	40427	LF spectrum analyzers	Y	40653	AM/FM test sources	Y
40113	Static/Ionic voltmeters	Y	40429	Sweep generators	Y	40654	Dip simulators	Y
402. Resistance, capacitance inductance			40432	Transistor curve tracers	Y	407. Field strength & antenna		
			40433	Waveform analyzers	Y	40701	Microwave leakage monitors	N
			40434	AC/DC high voltage generators	Y	40702	Probes	N
40201	Capacitance bridges /indicators	Y	40435	AC/DC high voltage probes	Y	40703	Dipole antennas	N
40202	Decade capacitors	Y	40436	Logic analyzers	Y	40704	Loop antennas	N
40204	Standard capacitors	Y	40437	Telephone testers	Y	40705	Monopole antennas	N
40205	Earth testers	Y	40438	Video signal analyzers	Y	40707	Horn antennas	N
405. Low frequency electric & magnetic field								
40208	Inductors	Y	40503	Flux meters	N	501. Contact thermometry		
40210	Insulation testers	Y	40504	Flux sources	N	50101	Temperature generators; ovens, furnaces, isothermal liquid baths, ice-point baths, dry-block calibrators	Y
40211	Q-meters	Y	40508	Magnetometers	N	50102		
40213	Resistance bridges & similar instruments	Y	40510	Reference/standard magnets	N	406. Radio frequency measurement		
40214	Resistance meters	Y	40601	RF amplifiers	Y	50103	Glass thermometers; liquid-in-glass, Beckmann	N
40215	Resistors	Y	40602	Coaxial attenuators	Y	50104	Resistance thermometers; SPRT, IPRT, thermistors,	Y
40216	Electrical conductivity meters	N	40603	Waveguide attenuators	N			
40217	Impedance bridges/LCR meters	Y	40605	Burst pulse generators	Y			
403. AC voltage, current & power			40606	Attenuator calibrators	Y			
			40607	RF power meter calibrators	Y			
40301	AC ammeters	Y	40608	EMC transducers; current probes, absorbing clamps , etc.	Y			
40302	Clamp ammeters/voltmeters	Y						

Field	Item of Calibration	on-site	Field	Item of Calibration	on-site	Field	Item of Calibration	on-site
	etc.		60302	Vibration transducers	N	70418	Optical time domain reflectometers; OTDR	N
50105	Thermal expansion thermometers; bimetal, gas or liquid type	Y	60303	Vibration measuring instruments	N	70430	ASE light sources	N
50106	Thermocouples: noble metal, base metal, pure metal, special type, etc.	Y	701. Photometry			70433	Optical power stabilized lasers and LDs	N
			70101	Luminance meters	Y	901. Chemical analysis		
			70102	Luminance meters	Y	90102	Environmental air quality monitoring instruments	N
50107	Temperature transducers	Y	70103	Total luminous flux meters	Y			
			70104	Luminous intensity meters	Y	90103	Gas analyzers	N
502. Non contact thermometry			702. Property of detectors & sources			90104	Exhaust gas test instruments	N
50204	Standard radiation thermometers	N	70202	Color temperature meters	Y			
			70203	Color temperature standard lamps	Y			
50205	Thermal image apparatus	N						
50206	Blackbody furnaces	N	70204	Colorimeters; source color	Y			
503. Humidity			70209	Total luminous flux standard lamps	N			
50301	Dew-point hygrometers; chilled mirror, alumina thin film, etc.	N	70213	Display color analyzers; luminance, chromaticity, white balance, etc.	N			
50302	Relative humidity hygrometers; polymer thin film, hair, etc.	Y	70214	Luminous intensity standard lamps	N			
			70215	Spectral irradiance standard lamps	N			
50304	Temperature humidity recorders; hygrothermograph, etc.	N	70216	Total spectral radiant flux standard lamps	N			
50305	Transducers; dew-point/relative humidity	Y	70217	Luminance standard sources	N			
			70218	Spectral radiance standard sources	N			
50306	Humidity generators; two-pressure, two-temperature, flow mixing humidity generator, constant temperature and humidity chamber, etc.	Y	70219	UV irradiance meters	N			
			70220	Spectral irradiance meters	N			
			70221	Total spectral radiant flux meters	Y			
			70222	Spectral radiance meters	N			
			70223	Spectral radiant intensity meters	N			
601. Sound in air			704. Fiber optics					
60102	Sound calibrators	N	70402	Broadband light sources	N			
60104	Microphones	N	70410	Optical attenuators	N			
60106	Sound level meters	Y	70413	Optical loss testers	N			
603. Vibration			70415	Optical multimeters	N			
60301	Vibration calibrators	Y	70417	Optical spectrum analyzers	N			

Note

1. This laboratory provides calibration services in permanent standard laboratory and at on-site.
2. Laboratory conducts on-site calibration should meet requirements of KOLAS-SR-007.
3. On-site calibration is allowed to items with marking 'Y', not allowed to items with marking 'N'.
4. Measurement uncertainty normally is quoted as an expanded uncertainty at a coverage probability of 95 %, which usually requires the use of a coverage factor of $k=2$. It expresses the lowest uncertainty of measurement that can be provided by accredited calibration laboratories in normal conditions.
5. Due to the calibration environment such as reference standards or customers' facilities, it is note that uncertainty of measurement on a calibration certificate may be expressed larger than measurement uncertainty on scope of accreditation in general.

102. Linear dimension

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Balls	10201	(0 ~ 100) mm	$\sqrt{0.27^2+(0.010 \times I_0)^2}$ μm (unit of I_0 : mm)	Gauge blocks, Standard measuring machines /HCT-CS-223-10201
Electrical/mechanical comparators	10203	(0 ~ 5) mm	0.12 μm	Gauge blocks /HCT-CS-334-10203
Dual/cylinder gauge testers	10206	(0 ~ 25) mm (25 ~ 100) mm	0.21 μm 0.25 μm	Gauge blocks, Electronic micrometers /HCT-CS-001-10206
Doctor blades	10207	(0 ~ 10) mm	2.3 μm	Height micrometers Precision surface plates Electronic micrometers /HCT-CS-335-10207
End bars	10209	(0 ~ 500) mm (500 ~ 1 000) mm	$\sqrt{0.13^2+(0.002 \times I_0)^2}$ μm $\sqrt{0.16^2+(0.002 \times I_0)^2}$ μm (unit of I_0 : mm)	Gauge blocks, Electronic micrometers /HCT-CS-183-10209
Extensometers, linear displacement transducers	10210	(0 ~ 50) mm (50 ~ 100) mm (100 ~ 1 000) mm	$\sqrt{0.14^2+(0.002 \times I_0)^2}$ μm $\sqrt{0.78^2+(0.002 \times I_0)^2}$ μm $\sqrt{7.8^2+(0.002 \times I_0)^2}$ μm (unit of I_0 : mm)	Gauge blocks /HCT-CS-184-10210
Filter gauges	10211	(0.01 ~ 5) mm	0.33 μm	Standard measuring machines /HCT-CS-002-10211
Film applicators	10212	(0 ~ 10) mm	2.3 μm	Height micrometers Precision surface plates Electronic micrometers /HCT-CS-336-10212
Gap gauges	10213	(1 ~ 300) mm	$\sqrt{3.1^2+(0.005 \times I_0)^2}$ μm (unit of I_0 : mm)	Height micrometers, Electronic micrometers /HCT-CS-003-10213
Gap gauges/measuring machines	10214	(0.5 ~ 100) mm	$\sqrt{71^2+(1.3 \times I_0)^2}$ nm (unit of I_0 : mm)	Gauge block comparators, Gauge blocks /HCT-CS-254-10214
Height gauges/measuring machines	10216	(0 ~ 1 000) mm	$\sqrt{1.2^2+(0.003 \times I_0)^2}$ μm (unit of I_0 : mm)	Gauge blocks /HCT-CS-005-10216
Linear scales	10219	(0 ~ 2 000) mm	$\sqrt{1.5^2+(0.0014 \times I_0)^2}$ μm (unit of I_0 : mm)	Lasor interferometers /HCT-CS-325-10219
Standard measuring machines	10220	(0 ~ 500) mm	$\sqrt{0.25^2+(0.0021 \times I_0)^2}$ μm (unit of I_0 : mm)	Gauge blocks, Long gauge blocks /HCT-CS-224-10220
Electronic micrometers	10223	(0 ~ 0.02) mm (0.02 ~ 0.2) mm (0.2 ~ 2) mm	0.08 μm 0.16 μm 0.76 μm	Gauge blocks /HCT-CS-006-10223
Height micrometers, Riser blocks Height micrometers Blocks Head Riser blocks	10224	(0 ~ 610) mm (0 ~ 30) mm (0 ~ 600) mm	$\sqrt{1.2^2+(0.003 \times I_0)^2}$ μm (unit of I_0 : mm) $\sqrt{1.3^2+(0.003 \times I_0)^2}$ μm (unit of I_0 : mm) $\sqrt{1.2^2+(0.003 \times I_0)^2}$ μm (unit of I_0 : mm)	Gauge blocks, Electronic micrometers /HCT-CS-007-10224
Laser scan micrometers	10225	(0.1 ~ 55) mm	0.56 μm	Pin gauges /HCT-CS-282-10225

102. Linear dimension

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Standard tape rules, peripheral gauges	10227	(0 ~ 13) m (13 ~ 26) m (26 ~ 39) m (39 ~ 50) m	$\sqrt{0.26^2+(0.002 \times I_0)^2}$ mm $\sqrt{0.46^2+(0.002 \times I_0)^2}$ mm $\sqrt{0.67^2+(0.002 \times I_0)^2}$ mm $\sqrt{0.88^2+(0.002 \times I_0)^2}$ mm (unit of I_0 : mm)	Lasor interferometers, Tape measure calibration system /HCT-CS-241-10227
Cylindrical plug/pin gauges, thread measuring wire gauges	10228	(0.1 ~ 100) mm	$\sqrt{0.29^2+(0.003 \times I_0)^2}$ μm (unit of I_0 : mm)	Standard measuring machines /HCT-CS-008-10228
Radius gauges	10229	(0 ~ 50) mm	3.0 μm	Profile projectors /HCT-CS-225-10229
Cylindrical ring gauges	10230	(1 ~ 100) mm	$\sqrt{0.59^2+(0.003 \times I_0)^2}$ μm (unit of I_0 : mm)	Standard measuring machines Standard ring gauges /HCT-CS-226-10230
Step blocks	10231	(0 ~ 200) μm	0.33 μm	Electronic micrometers, Precision surface plates /HCT-CS-337-10231
Step gauges	10232	(0 ~ 1 000) mm	$\sqrt{1.4^2+(0.005 \times I_0)^2}$ μm (unit of I_0 : mm)	Gauge blocks Electronic micrometers /HCT-CS-009-10232
Taper thickness gauges	10233	(0.1 ~ 60) mm	0.03 mm	Profile projectors /HCT-CS-242-10233
Ultrasonic thickness gauges	10234	(0 ~ 100) mm	3.6 μm	Ultrasonic thickness specimens /HCT-CS-243-10234
Ultrasonic/coating thickness specimens coating Ultrasonic	10235	(0 ~ 8) mm (0 ~ 100) mm	1.4 μm $\sqrt{1.4^2+(0.002 \times I_0)^2}$ μm (unit of I_0 : mm)	Gauge blocks Standard measuring machines Electronic micrometers /HCT-CS-227-10235
Coating thickness testers	10236	(0 ~ 0.25) mm (0.25 ~ 1.05) mm (1.05 ~ 3.7) mm (3.7 ~ 7.9) mm	1.5 μm 2.0 μm 6.9 μm 6.9 μm	Coating thickness specimens /HCT-CS-228-10236
Torque arms Touque Arm Wire	10237	(0 ~ 500) mm (0 ~ 5) mm	$\sqrt{3.1^2+(0.009 \times I_0)^2}$ μm (unit of I_0 : mm) 0.7 μm	Contact coordinate measuring machines, Standard measuring machine /HCT-CS-287-10237
Width measuring specimens	10238	(0 ~ 1 000) mm	$\sqrt{1.7^2+(0.007 \times I_0)^2}$ μm (unit of 10 : mm)	Contact coordinate measuring machines /HCT-CS-338-10238

103. Angle

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Bevel protractors Angle accuracy Angle of accessories	10304	0° ~ 90° 90° ~ 360° 0° ~ 360°	1.3´ 2.0´ 2.3´	Angle gauge blocks, Precision surface plates, Profile projectors /HCT-CS-251-10304
Plate/square/electric levels Angle Squareness Flatness	10311	±200´´ ±1 000´´ ±2 000´´ (0 ~ 300) mm 300 mm × 60 mm	0.3´´ 0.5´´ 0.9´´ 2.3 µm 1.0 µm	Fine angle generators, Electronic micrometers, Squareness testers, Precision surface plates /HCT-CS-252-10311
Sine bars, plates, tables, centers Center distance of both rollers Flatness Parallelism between rollers Parallelism between the measuring plane and the roller	10317	(50 ~ 200) mm (50 ~ 200) mm (50 ~ 200) mm (50 ~ 200) mm	0.82 µm 0.24 µm 1.0 µm 0.27 µm	Standard measuring machines, Angle gauge blocks, Gauge blocks, Optical flats, Electronic micrometers, Precision surface plates /HCT-CS-326-10317
Squareness testers, right angle testers Squareness	10318	(0 ~ 400) mm	1.6 µm	Cylindrical squares, Precision surface plates, Electronic micrometers /HCT-CS-327-10318
Cylindrical squares Squareness Straightness	10319	(0 ~ 400) mm (0 ~ 400) mm	$\sqrt{2.0^2+(0.001 2 \times I_0)^2}$ µm (unit of I_0 : mm) 2.0 µm	Squareness testers, right angle testers Cylindrical squares Electronic micrometers Standard measuring machines /HCT-CS-328-10319
Precision squares Squareness Parallelism Straightness	10320	(0 ~ 450) mm (0 ~ 450) mm (0 ~ 450) mm	$\sqrt{2.0^2+0.003^2 \times I_0^2}$ µm (I_0 : height, unit : mm) 1.2 µm 2.9 µm	Cylindrical squares, Squareness testers, right angle testers, Precision surface plates /HCT-CS-278-10320

104. Form

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Form testers Z-axis X-axis Angle	10401	(0 ~ 60) mm (0 ~ 200) mm (0 ~ 180) °	0.16 μm $\sqrt{0.57^2+(0.002 \times L_0)^2}$ μm 1.3 ′	Form standard specimens, Angle gauge blocks, Standard scales. Gauge blocks, /HCT-CS-284-10401
Optical flats	10404	∅ (10 ~ 130) mm	0.06 μm	Optical flats, Monochromatic light sources /HCT-CS-229-10404
Optical parallels Flatness Parallelism	10405	∅ (10 ~ 30) mm ∅ (10 ~ 30) mm	0.061 μm 0.080 μm	Optical flats, Monochromatic light sources, Gauge block comparators /HCT-CS-230-10405
Parallel blocks Parallelism Flatness Difference of both blocks	10406	(0 ~ 1 000) mm (0 ~ 1 000) mm (0 ~ 1 000) mm	1.2 μm 1.2 μm 1.8 μm	Electronic micrometers, Precision surface plates, Test bars /HCT-CS-285-10406
Precision surface plates Area	10407	(0 ~ 2 500) cm ² (2 500 ~ 5 000) cm ² (5 000 ~ 10 000) cm ² (10 000 ~ 15 000) cm ² (15 000 ~ 30 000) cm ² (30 000 ~ 60 000) cm ²	1.8 μm 2.2 μm 2.6 μm 2.8 μm 3.9 μm 4.7 μm	Electric levels /HCT-CS-010-10407
Roundness measurement instruments Accuracy of detector Rotation accuracy of circumference direction Rotation accuracy of shaft direction Straightness	10409	(0 ~ 1 000) μm (0 ~ 360) ° (0 ~ 360) ° (0 ~ 300) mm	0.23 μm 16 nm 16 nm 1.3 μm	Roundness magnification specimens, Cylindrical squares Standard hemispheres, Optical flats, /HCT-CS-279-10409
Straight edges Straightness Parallelism	10412	(0 ~ 2 000) mm (0 ~ 2 000) mm	6.0 μm 5.9 μm	Electronic micrometers, Precision surface plates /HCT-CS-329-10412
Straight rules	10413	(0 ~ 3 000) mm	$\sqrt{0.3^2+(0.002 \times L_0)^2}$ mm (unit of L_0 : m)	Laser interferometer, Tape measure calibration system /HCT-CS-244-10413
Test bars Roundness Cylindricity Essentric	10415	(0 ~ 100) mm (0 ~ 100) mm (0 ~ 100) mm	0.062 μm 0.26 μm 0.51 μm	Roundness measurement instruments, Precision surface plates Electronic micrometers /HCT-CS-330-10415
Spherometers	10416	(0 ~ 10) mm	0.14 μm	Gauge blocks, Optical flats /HCT-CS-340-10416

105. Complex geometry

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Contact coordinate measuring machines Accuracy Straightness Squareness	10503	(0 ~ 600) mm (0 ~ 600) mm (0 ~ 600) mm	$\sqrt{0.53^2+(0.002 \times I_0)^2}$ μm (unit of I_0 : mm) 2.1 μm 0.8 "	Step gauges, Precision squares, Straight edges /HCT-CS-011-10503
Non-contact coordinate measuring machines Accuracy	10504	(0 ~ 1 000) mm	$\sqrt{0.43^2+(0.003 \times I_0)^2}$ μm (unit of I_0 : mm)	Standard scales /HCT-CS-012-10504
Gauge block accessories Flatness(close-contact plane) Parallelism (Parallel jaw) Round type jaw A type Parallel jaw Base block Center point	10505	(0 ~ 50) mm (0 ~ 150) mm (0 ~ 50) mm (0 ~ 50) mm (0 ~ 50) mm (0 ~ 20) mm	0.03 μm 1.2 μm $\sqrt{0.26^2+(0.004 \times I_0)^2}$ μm $\sqrt{0.35^2+(0.004 \times I_0)^2}$ μm $\sqrt{0.65^2+(0.004 \times I_0)^2}$ μm (unit of I_0 : mm) 0.28 μm	Angle gauge blocks, Precision surface plates, Profile projectors /HCT-CS-308-10505
Measuring microscopes, profile projectors Length accuracy Right angle accuracy Magnification accuracy Squareness accuracy	10511	(0 ~ 300) mm (0 ~ 360) ° ×2 ~ ×100 (0 ~ 300) mm	$\sqrt{0.45^2+(0.003 \times I_0)^2}$ μm (unit of I_0 : mm) 1.7 ' 3.2×10^{-4} 3.6 μm	Standard scales, Precision squares /HCT-CS-013-10511
Micro measuring microscopes	10512	(0 ~ 50) mm	2.7 μm	Standard scales /HCT-CS-014-10512
Stylus type roughness testers Rsm Pt Ra Rz	10517	(0 ~ 120) μm (0 ~ 10) μm (0 ~ 1) μm (1 ~ 3) μm (0 ~ 3) μm (3 ~ 12) μm	1.4 μm 0.070 μm 0.015 μm 0.045 μm 0.052 μm 0.15 μm	Roughness standard/ comparison specimens /HCT-CS-295-10517
Thread plug gauges External diameter Effective diameter Pitch Half angle	10525	(1 ~ 100) mm (1 ~ 100) mm (0.2 ~ 6) mm (0 ~ 45) °	0.48 μm 1.6 μm 1.2 μm 1.8 '	Standard measuring machines, Thread measuring wire gauges, Projectors /HCT-CS-016-10525
V-blocks, box blocks Flatness Parallelism Gradient Difference of both part Squareness	10529	(0 ~ 150) mm (0 ~ 150) mm (0 ~ 150) mm (0 ~ 150) mm (0 ~ 150) mm	1.0 μm 1.2 μm 0.6 μm 1.1 μm $\sqrt{2.0^2+0.003^2 \times I_0^2}$ μm (I_0 :height, unit : mm)	Pin gauges, Electronic micrometers, Precision surface plates, Test bars /HCT-CS-283-10529

106. Various dimensional

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Inside/outside/gear tooth calipers, caliper gauges	10601	(0 ~ 150) mm (150 ~ 1 500) mm	$\sqrt{3.8^2+(0.007 \times I_0)^2}$ μm $\sqrt{7.6^2+(0.007 \times I_0)^2}$ μm (unit of I_0 : mm)	Gauge blocks /HCT-CS-017-10601
Cylinder/bore gauges Cylinder gauges Bore gauges	10603	(0 ~ 2) mm (0 ~ 2) mm	0.78 μm 0.76 μm	Dial gauge testers, Gauge blocks /HCT-CS-019-10603
Depth gauges, depth micrometers	10604	(0 ~ 300) mm (300 ~ 1 000) mm	$\sqrt{0.9^2+(0.004 \times I_0)^2}$ μm $\sqrt{7.2^2+(0.004 \times I_0)^2}$ μm (unit of I_0 : mm)	Gauge blocks /HCT-CS-020-10604
Dial/digital gauges	10605	(0 ~ 50) mm (50 ~ 150) mm	$\sqrt{0.16+(0.002 \times I_0)^2}$ μm $\sqrt{0.93+(0.002 \times I_0)^2}$ μm (unit of I_0 : mm)	Gauge blocks /HCT-CS-021-10605
Micro indicators, Test indicators	10609	(0 ~ 2) mm	0.33 μm	Dial gauge testers / HCT-CS-022-10609
Micrometer heads	10610	(0 ~ 50) mm	0.61 μm	Gauge blocks, Electronic micrometers / HCT-CS-023-10610
3-point micrometers	10611	(1 ~ 200) mm	1.9 μm	Standard ring gauges /HCT-CS-231-10611
Inside micrometers	10612	(5 ~ 300) mm (300 ~ 1 500) mm	$\sqrt{1.6^2+(0.005 \times I_0)^2}$ μm $\sqrt{2.3^2+(0.005 \times I_0)^2}$ μm	Gauge blocks / HCT-CS-026-10612
Outside micrometers	10613	(0 ~ 25) mm (25 ~ 100) mm (100 ~ 1 500) mm	$\sqrt{0.36^2+(0.004 \times I_0)^2}$ μm $\sqrt{1.4^2+(0.004 \times I_0)^2}$ μm $\sqrt{2.5^2+(0.004 \times I_0)^2}$ μm (unit of I_0 : mm)	Gauge blocks / HCT-CS-027-10613
Particle Counters Airbone particle counter Laser reference voltage Flow rate Threshold voltage Counting efficiency CPC OPC Liquid particle counter Laser reference voltage Flow rate Threshold voltage	10615	(0 ~ 10) V (0 ~ 100) L/min (0 ~ 10) V (0 ~ 1.0) μm (0.1 ~ 1.0) μm (0 ~ 10) V (0 ~ 25) mL/min (25 ~ 300) mL/min (0 ~ 10) V	5.4×10^{-4} 2.3×10^{-2} 5.4×10^{-4} 3.0 % 4.7 % 5.4×10^{-4} 8.1×10^{-2} 5.0×10^{-2} 5.4×10^{-4}	Certified reference material (CRM), Particle counters, Flowmeters / HCT-CS-028-10615 / HCT-CS-029-10615

106. Various dimensional

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Standard sieves Sieve opening Wire rod diameter	10617	(0.01 ~ 8) mm (0.01 ~ 125) mm	1.7 μm 2.6 μm	Profile projectors /HCT-CS-232-10617
Welding gauges Height/depth measuring scale Thick measuring scale Rule measuring scale Angle measuring scale Taper measuring scale	10620	(0 ~ 100) mm (0 ~ 16) mm (0 ~ 50) mm (0 ~ 90) ° (0 ~ 7) mm	0.009 mm 0.009 mm 0.096 mm 0.13 ° 0.096 mm	Profile projectors /HCT-CS-246-10620
Particle dilution Systems PCRF	10622	(30 ~ 100) nm	8.2×10^{-2}	Electrical particle sizer CPC/HCT-CS-256-10622

201. Mass and related quantities

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Counter beam balances	20105	(0 ~ 311) g (311 ~ 2 610) g (2.61 ~ 20) kg	10 mg 82 mg 0.82 g	Standard weights /HCT-CS-233-20105
Dial platform scale balances	20106	(0 ~ 30) kg (30 ~ 60) kg (60 ~ 100) kg	0.06 kg 0.12 kg 0.29 kg	Standard weights /HCT-CS-309-20106
Dial reading balances	20108	(0 ~ 160) g	0.19 mg	Weights /HCT-CS-031-20108
Electric balances	20109	(0 ~ 2) g (2 ~ 5) g (5 ~ 20) g (20 ~ 50) g (50 ~ 100) g (100 ~ 200) g (200 ~ 500) g 500 g ~ 1 kg (1 ~ 2) kg (2 ~ 5) kg (5 ~ 10) kg (10 ~ 30) kg (30 ~ 50) kg (50 ~ 100) kg (100 ~ 300) kg (300 ~ 600) kg	0.032 mg 0.054 mg 0.062 mg 0.11 mg 0.13 mg 0.19 mg 0.50 mg 0.93 mg 1.8 mg 4.6 mg 9.6 mg 27 mg 0.36 g 1.8 g 58 g 0.12 kg	Standard Weights /HCT-CS-032-20109
Platform scale balances	20112	(0 ~ 20) kg (20 ~ 200) kg	1.2 g 58 g	Standard weights /HCT-CS-234-20112
Spring scale balances	20113	(0 ~ 1) kg (1 ~ 2) kg (2 ~ 5) kg (5 ~ 10) kg (10 ~ 30) kg (30 ~ 50) kg	2.9 g 5.8 g 12 g 29 g 58 g 0.12 kg	Standard weights /HCT-CS-235-20113
Weights F1 class	20116	1 mg 2 mg 5 mg 10 mg 20 mg 50 mg 100 mg 200 mg 500 mg 1 g 2 g 5 g 10 g 20 g 50 g 100 g 200 g	4.6 μg 4.6 μg 4.6 μg 5.1 μg 5.1 μg 5.8 μg 6.6 μg 7.4 μg 9.1 μg 11 μg 14 μg 17 μg 21 μg 27 μg 36 μg 55 μg 0.11 mg	Standard weights, Mass comparators /HCT-CS-033-20116

201. Mass and related quantities

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
F1 class		500 g 1 kg 2 kg 5 kg 10 kg 20 kg	0.29 mg 0.55 mg 1.1 mg 2.9 mg 5.5 mg 11 mg	

203. Torque

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95%)	Standard/Method of Measurement etc.
Torque measuring devices	20302	(0.005 ~ 100) N · m	7.1×10^{-3}	Weights, Torque arm /HCT-CS-036-20302
Torque wrenches/drivers clockwise	20303	(0.06 ~ 0.6) N · m	1.0×10^{-2}	Torque calibration machines /HCT-CS-037-20303
		(0.6 ~ 1) N · m	1.1×10^{-2}	
		(1 ~ 2.5) N · m	8.7×10^{-3}	
		(2.5 ~ 5) N · m	4.2×10^{-3}	
		(5 ~ 10) N · m	5.2×10^{-3}	
		(10 ~ 25) N · m	4.9×10^{-3}	
		(25 ~ 50) N · m	2.8×10^{-3}	
		(50 ~ 100) N · m	7.9×10^{-3}	
		(100 ~ 250) N · m	3.3×10^{-3}	
		(250 ~ 500) N · m	2.4×10^{-3}	
		(500 ~ 1 000) N · m	5.9×10^{-3}	
		(1 000 ~ 2 000) N · m	9.8×10^{-3}	
Counterclockwise		(0.06 ~ 0.6) N · m	1.0×10^{-2}	
		(0.6 ~ 1) N · m	7.3×10^{-3}	
	(1 ~ 2.5) N · m	9.4×10^{-3}		
	(2.5 ~ 5) N · m	4.7×10^{-3}		
	(5 ~ 10) N · m	6.0×10^{-3}		
	(10 ~ 25) N · m	5.6×10^{-3}		
	(25 ~ 50) N · m	4.0×10^{-3}		
	(50 ~ 100) N · m	8.0×10^{-3}		
	(100 ~ 250) N · m	3.5×10^{-3}		
	(250 ~ 500) N · m	2.4×10^{-3}		
	(500 ~ 1 000) N · m	4.4×10^{-3}		
	(1 000 ~ 2 000) N · m	1.0×10^{-2}		

204. Pressure

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Manometers	20402	(0 ~ 22) kPa	7.3×10^{-3}	Pressure calibrators / HCT-CS-344-20402
Absolute pressure gauges	20406	60 kPa abs. ~ 7 MPa abs.	5.0×10^{-4}	Pressure calibrators / HCT-CS-255-20406
Compound pressure gauges	20408	-95 kPa ~ 7 MPa	2.4×10^{-3}	Pressure calibrators / HCT-CS-215-20408
Differential pressure gauges Pneumatic	20409	(0 ~ 7) MPa	5.1×10^{-4}	Pressure calibrators / HCT-CS-188-20409
Gauge pressure gauges	20411	(0 ~ 500) kPa (0.5 ~ 10) MPa (10 ~ 100) MPa (100 ~ 200) MPa	1.2×10^{-4} 2.0×10^{-4} 8.1×10^{-5} 7.1×10^{-5}	Pneumatic pressure balances(PDPG-P), Hydraulic pressure balances(PG7302) / HCT-CS-039-20411
Pressure transducers/transmitters	20412	(-95 ~ 0) kPa (0 ~ 500) kPa (0.5 ~ 10) MPa (10 ~ 100) MPa (100 ~ 200) MPa 60 kPa abs. ~ 7 MPa abs.	2.8×10^{-3} 3.1×10^{-3} 3.4×10^{-3} 3.3×10^{-3} 2.8×10^{-3} 3.5×10^{-3}	Pressure calibrators (PACE 6000) Pneumatic pressure balances(PDPG-P), Hydraulic pressure balances(PG7302) / HCT-CS-169-20412
Dial type vacuum gauges	20413	(-95 ~ 0) kPa	2.0×10^{-2}	Pressure calibrators / HCT-CS-216-20413
Water Depth meters	20414	(0 ~ 2) MPa	1.2×10^{-2}	Pressure calibrators /HCT-CS-245-20414

206. Volume

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Volumetric glasswares	20601	(0.1 ~ 2) ml (2 ~ 10) ml (10 ~ 25) ml (25 ~ 100) ml (100 ~ 250) ml (250 ~ 500) ml (500 ~ 1 000) ml (1 000 ~ 2 000) ml (2 000 ~ 5 000) ml	2.4 μ l 4.9 μ l 13 μ l 26 μ l 47 μ l 70 μ l 0.14 ml 0.22 ml 0.43 ml	Electric balances, Weights, Pure water /HCT-CS313-20601
Pycnometers	20602	(0 ~ 50) ml (50 ~ 100) ml (100 ~ 500) ml	3.2 μ l 7.0 μ l 30 μ l	Electric balances, Weights, Pure water /HCT-CS313-20601
Concrete air content meters	20605	(0 ~ 10) %	0.01 %	Electric balances, Weights, Pure water /HCT-CS-314-20605
Piston type volume meters	20606	(0.1 ~ 5) μ l (5 ~ 10) μ l (10 ~ 20) μ l (20 ~ 50) μ l (50 ~ 100) μ l (0.1 ~ 0.2) ml (0.2 ~ 0.5) ml (0.5 ~ 1) ml (1 ~ 2) ml (2 ~ 5) ml (5 ~ 10) ml (10 ~ 20) ml	18 nl 26 nl 36 nl 73 nl 0.12 μ l 0.23 μ l 0.53 μ l 1.2 μ l 2.3 μ l 5.3 μ l 12 μ l 23 μ l	Electric balances, Weights, Pure water /HCT-CS-315-20606

208. Viscosity

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Dynamic viscometers Rotational viscometers	20802	(2.5 ~ 200 000) mPa · s	1.7×10^{-2}	Viscosity standard /HCT-CS-288-20802

209. Fluid flow

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Anemometers; hot-wire	20901	(0.1 ~ 2) m/s (2 ~ 55) m/s	5.8×10^{-2} 4.4×10^{-3}	Lasor Doppler / HCT-CS-272-20901
Anemometers; pitot tube, etc.	20902	(0.1 ~ 2) m/s (2 ~ 55) m/s	5.8×10^{-2} 4.4×10^{-3}	Lasor Doppler / HCT-CS-273-20902
Gas flowmeters; differential pressure	20908	(0.001 8 ~ 260) m ³ /h	2.5×10^{-3}	Sonic nozzle / HCT-CS-312-20908
Liquid flowmeters; differential pressure	20909	(0.005 ~ 50) m ³ /h	2.4×10^{-3}	Reference flowmeter / HCT-CS-313-20909
Liquid flowmeter; electromagnetic	20910	(0.005 ~ 50) m ³ /h	2.4×10^{-3}	Reference flowmeter / HCT-CS-313-20909
Gas flowmeters; thermal mass, etc.	20911	(0.001 8 ~ 260) m ³ /h	2.5×10^{-3}	Sonic nozzle / HCT-CS-312-20908
Liquid flowmeters; Coriolis, etc.	20912	(0.005 ~ 50) m ³ /h	2.4×10^{-3}	Reference flowmeter / HCT-CS-313-20909
Gas flowmeters; positive displacement	20914	(0.001 8 ~ 260) m ³ /h	2.5×10^{-3}	Sonic nozzle / HCT-CS-312-20908
Liquid flowmeters; positive displacement	20915	(0.005 ~ 50) m ³ /h	2.4×10^{-3}	Reference flowmeter / HCT-CS-313-20909
Gas flowmeters; turbine	20916	(0.001 8 ~ 260) m ³ /h	2.5×10^{-3}	Sonic nozzle / HCT-CS-312-20908
Liquid flowmeters; turbine	20917	(0.005 ~ 50) m ³ /h	2.4×10^{-3}	Reference flowmeter / HCT-CS-313-20909
Gas flowmeters; ultrasonic	20918	(0.001 8 ~ 260) m ³ /h	2.5×10^{-3}	Sonic nozzle / HCT-CS-312-20908
Liquid flowmeters; ultrasonic	20919	(0.005 ~ 50) m ³ /h	2.4×10^{-3}	Reference flowmeter / HCT-CS-313-20909
Gas flowmeters; variable area	20920	(0.001 8 ~ 260) m ³ /h	2.5×10^{-3}	Sonic nozzle / HCT-CS-312-20908
Liquid flowmeters; variable area	20921	(0.005 ~ 50) m ³ /h	2.4×10^{-3}	Reference flowmeter / HCT-CS-313-20909
Gas flowmeters; vortex	20922	(0.001 8 ~ 260) m ³ /h	2.5×10^{-3}	Sonic nozzle / HCT-CS-312-20908
Liquid flowmeters; vortex	20923	(0.005 ~ 50) m ³ /h	2.4×10^{-3}	Reference flowmeter / HCT-CS-313-20909
Anemometers; vane, etc.	20925	(0.1 ~ 2) m/s (2 ~ 55) m/s	5.8×10^{-2} 4.4×10^{-3}	Lasor Doppler / HCT-CS-274-20925

301. Time/frequency

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.		
Frequency standards Timebase Frequency	30102	100 kHz ~ 10 MHz	2.4×10^{-12}	Atomic clock /HCT-CS-040-30102		
General frequency sources Output frequency	30103	100 kHz ~ 100 MHz	2.7×10^{-12}	Atomic clock /HCT-CS-041-30103		
Frequency meters/counters Input Frequency	30104	0.1 Hz 0.1 Hz ~ 3 GHz (3 ~ 40) GHz	6.2×10^{-11} 6.2×10^{-12} 0.58 Hz	Standard frequency, General frequency sources HCT-CS-042-30104		
Timebase Frequency		100 kHz ~ 10 MHz	2.7×10^{-12}			
Time interval sources Time interval	30105	(1 ~ 10) ns (10 ~ 100) ns 100 ns ~ 1 μs (1 ~ 10) μs (10 ~ 100) μs 100 μs ~ 1 ms (1 ~ 10) ms (10 ~ 100) ms 100 ms ~ 1 s	6.2×10^{-7} 6.2×10^{-7} 6.2×10^{-7} 6.2×10^{-7} 6.2×10^{-7} 6.2×10^{-7} 6.2×10^{-7} 6.2×10^{-7} 6.2×10^{-7}	Frequency counters /HCT-CS-043-30105		
Frequency		(1 ~ 10) Hz (10 ~ 100) Hz 100 Hz ~ 1 kHz (1 ~ 10) kHz (10 ~ 100) kHz 100 kHz ~ 1 MHz (1 ~ 10) MHz (10 ~ 100) MHz 100 MHz ~ 1 GHz	6.2×10^{-7} 6.2×10^{-7} 6.2×10^{-7} 6.2×10^{-7} 6.2×10^{-7} 6.2×10^{-7} 6.2×10^{-7} 6.2×10^{-7} 6.2×10^{-7}			
Time interval meters/Stop watches /Timers		30106	day month		2.8×10^{-7} 1.3×10^{-8}	Atomic clock /HCT-CS-044-30106
Relative time difference			(1 ~ 60) s (60 ~ 6 000) s (6 000 ~ 86 400) s		6.2×10^{-6} 6.2×10^{-5} 6.2×10^{-5}	
Timer						

302. Velocity & revolution

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Standard RPM generators Revolution velocity measurement Centrifuge	30201	(1 ~ 1 000) min ⁻¹ (1 000 ~ 100 000) min ⁻¹ 100 min ⁻¹ (100 ~ 900) min ⁻¹ (900 ~ 1 000) min ⁻¹ (1 000 ~ 3 000) min ⁻¹ (3 000 ~ 6 000) min ⁻¹ (6 000 ~ 10 000) min ⁻¹ (10 000 ~ 20 000) min ⁻¹ (20 000 ~ 30 000) min ⁻¹ (30 000 ~ 40 000) min ⁻¹ (40 000 ~ 50 000) min ⁻¹ (50 000 ~ 60 000) min ⁻¹ (60 000 ~ 70 000) min ⁻¹ (80 000 ~ 90 000) min ⁻¹ (90 000 ~ 99 000) min ⁻¹	6.2×10 ⁻² min ⁻¹ 6.2×10 ⁻¹ min ⁻¹ 0.12 min ⁻¹ 1.1 min ⁻¹ 1.2 min ⁻¹ 1.4 min ⁻¹ 1.9 min ⁻¹ 2.6 min ⁻¹ 4.8 min ⁻¹ 7.1 min ⁻¹ 10 min ⁻¹ 12 min ⁻¹ 14 min ⁻¹ 17 min ⁻¹ 21 min ⁻¹ 23 min ⁻¹	Atomic clock /HCT-CS-045-30201
Contact type tachometers Revolution velocity measurement	30202	(1 ~ 4 000) min ⁻¹	6.2×10 ⁻² min ⁻¹	Atomic clock /HCT-CS-046-30202
Photo tachometers/stroboscopes Photo-tachometer Stroboscopic tachometer	30203	1 min ⁻¹ (1 ~ 300) min ⁻¹ (300 ~ 6 000) min ⁻¹ (6 000 ~ 100 000) min ⁻¹ 1 min ⁻¹ (60 ~ 300) min ⁻¹ (300 ~ 6 000) min ⁻¹ (6 000 ~ 100 000) min ⁻¹	0.006 2 min ⁻¹ 6.2×10 ⁻³ min ⁻¹ 6.2×10 ⁻² min ⁻¹ 6.2×10 ⁻¹ min ⁻¹ 0.006 2 min ⁻¹ 6.2×10 ⁻³ min ⁻¹ 6.2×10 ⁻² min ⁻¹ 6.2×10 ⁻¹ min ⁻¹	Atomic clock /HCT-CS-047-30203
Wow-flutter generators Wow-flutter Deflection Frequency Level	30205	(0.01 ~ 3) % 0.1 Hz ~ 99.99 kHz 100 Hz ~ 100 kHz 100 mV 100 Hz ~ 100 kHz (100 mV ~ 1 V) 100 Hz ~ 100 kHz (1 V ~ 10 V)	6.2×10 ⁻³ 6.2×10 ⁻⁴ 1.3×10 ⁻³ 1.1×10 ⁻³ 1.1×10 ⁻³	Atomic clock /HCT-CS-049-30205
Wow-flutter meters Wow-flutter Deflection Input frequency	30206	0.01 % 0.03 % 0.1 % 0.3 % 1 % 3 % 10 Hz 99.99 kHz	2.4×10 ⁻⁴ 4.6×10 ⁻⁴ 1.6×10 ⁻³ 4.6×10 ⁻³ 1.5×10 ⁻² 4.5×10 ⁻² 0.58 Hz 5.8 Hz	Wow-flutter generators /HCT-CS-050-30206

302. Velocity & revolution

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Output frequency	30206	3.00 kHz 3.15 kHz	0.58 Hz 0.58 Hz	
CCIR PULSE		10 ms ~ 100 ms	1.5×10^{-2}	

401. DC voltage & current

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
DC ammeters DC Current	40101	Positive 10 pA (10 ~ 40) pA (40 ~ 100) pA 100 pA ~ 1 nA (1 ~ 4) nA (4 ~ 10) nA (10 ~ 40) nA 40 nA~ 1 μA (1 ~ 4) μA (4 ~ 8) μA (8 ~ 10) μA (10 ~ 40) μA (40 ~ 80) μA (80 ~ 100) μA (100 ~ 400) μA (400 ~ 800) μA (0.8 ~ 1) mA (1 ~ 4) mA (4 ~ 8) mA (8 ~ 10) mA (10 ~ 40) mA (40 ~ 80) mA (80 ~ 100) mA (100 ~ 400) mA (400 ~ 800) mA (0.8 ~ 1) A (1 ~ 4) A (4 ~ 8) A (8 ~ 10) A (10 ~ 40) A (40 ~ 80) A (80 ~ 100) A Negative -10 pA (-10 ~ -40) pA (-40 ~ -100) pA -100 pA ~ -1 nA (-1 ~ -4) nA (-4 ~ -10) nA (-10 ~ -40) nA -40 nA ~ -1 μA (-1 ~ -4) μA (-4 ~ -8) μA (-8 ~ -10) μA (-10 ~ -40) μA (-40 ~ -80) μA (-80 ~ -100) μA (-100 ~ -400) μA (-400 ~ -800) μA (-0.8 ~ -1) mA (-1 ~ -4) mA (-4 ~ -8) mA (-8 ~ -10) mA (-10 ~ -40) mA (-40 ~ -80) mA	7.1 fA 4.0×10^{-4} 3.6×10^{-4} 1.2×10^{-4} 3.1×10^{-5} 2.7×10^{-5} 3.3×10^{-5} 2.8×10^{-5} 1.8×10^{-3} 9.3×10^{-4} 7.4×10^{-4} 2.3×10^{-4} 1.4×10^{-4} 1.2×10^{-4} 7.3×10^{-5} 5.5×10^{-5} 5.1×10^{-5} 6.5×10^{-5} 5.0×10^{-5} 4.8×10^{-5} 7.8×10^{-5} 6.4×10^{-5} 8.6×10^{-5} 3.8×10^{-5} 1.9×10^{-5} 1.3×10^{-4} 2.1×10^{-4} 1.4×10^{-4} 1.2×10^{-4} 8.9×10^{-4} 4.5×10^{-4} 3.7×10^{-4} 7.1 fA 4.0×10^{-4} 3.6×10^{-4} 1.2×10^{-4} 3.1×10^{-5} 2.7×10^{-5} 3.3×10^{-5} 2.7×10^{-5} 1.8×10^{-3} 9.3×10^{-4} 7.4×10^{-4} 2.3×10^{-4} 1.4×10^{-4} 1.2×10^{-4} 7.3×10^{-5} 5.5×10^{-5} 5.1×10^{-5} 6.5×10^{-5} 5.0×10^{-5} 4.8×10^{-5} 7.8×10^{-5} 6.4×10^{-5}	Current calibrators Multimeter calibrators / HCT-CS-051-40101

401. DC voltage & current

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
DC Current	40101	(-80 ~ -100) mA (-100 ~ -400) mA (-400 ~ -800) mA (-0.8 ~ -1) A (-1 ~ -4) A (-4 ~ -8) A (-8 ~ -10) A (-10 ~ 40) A (-40 ~ 80) A (-80 ~ -100) A	8.6×10^{-5} 3.8×10^{-5} 1.9×10^{-5} 1.3×10^{-4} 2.1×10^{-4} 1.4×10^{-4} 1.2×10^{-4} 8.9×10^{-4} 4.5×10^{-4} 3.7×10^{-4}	
Transconductance amplifiers DC Current	40102	0 μ A Positive (0 ~ 1) mA (1 ~ 10) mA 10 mA ~ 1 A (1 ~ 10) A (10 ~ 100) A Negetive (0 ~ -1) mA (-1 ~ -10) mA -10 mA ~ -1 A (-1 ~ -10) A (-10 ~ -100) A	1.2 nA 2.8×10^{-5} 2.5×10^{-5} 2.8×10^{-5} 3.5×10^{-5} 4.5×10^{-5} 2.8×10^{-5} 2.5×10^{-5} 2.8×10^{-5} 3.5×10^{-5} 4.5×10^{-5}	Digital multimeters, Current shunts, Multimeter calibrators HCT-CS-052-40102
AC Current		50 Hz 100 μ A (100 ~ 400) μ A 400 μ A ~ 1 mA (1 ~ 4) mA (4 ~ 10) mA (10 ~ 40) mA (40 ~ 100) mA (100 ~ 400) mA 400 mA ~ 1 A (1 ~ 4) A (4 ~ 10) A (10 ~ 40) A (40 ~ 100) A (50 ~ 100) Hz 100 μ A (100 ~ 400) μ A 400 μ A ~ 1 mA (1 ~ 4) mA (4 ~ 10) mA (10 ~ 40) mA (40 ~ 100) mA (100 ~ 400) mA 400 mA ~ 1 A (1 ~ 4) A (4 ~ 10) A (10 ~ 40) A (40 ~ 100) A	20 nA 1.9×10^{-4} 1.5×10^{-4} 1.8×10^{-4} 1.4×10^{-4} 1.8×10^{-4} 1.4×10^{-4} 1.8×10^{-4} 1.4×10^{-4} 1.4×10^{-4} 1.9×10^{-4} 1.4×10^{-4} 2.0×10^{-4} 1.6×10^{-4} 20 nA 1.8×10^{-4} 1.5×10^{-4} 1.7×10^{-4} 1.4×10^{-4} 1.7×10^{-4} 1.4×10^{-4} 1.8×10^{-4} 1.3×10^{-4} 1.8×10^{-4} 1.4×10^{-4} 2.0×10^{-4} 1.6×10^{-4}	

401. DC voltage & current

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Current	40102	(100 Hz ~ 1 kHz)		
		100 μ A	17 nA	
		(100 ~ 400) μ A	1.6×10^{-4}	
		(400 ~ 800) μ A	1.3×10^{-4}	
		800 μ A ~ 1 mA	1.0×10^{-4}	
		(1 ~ 4) mA	1.5×10^{-4}	
		(4 ~ 10) mA	1.1×10^{-4}	
		(10 ~ 40) mA	1.5×10^{-4}	
		(40 ~ 100) mA	1.1×10^{-4}	
		(100 ~ 400) mA	1.5×10^{-4}	
		400 mA ~ 1 A	1.1×10^{-4}	
		(1 ~ 4) A	1.6×10^{-4}	
		(4 ~ 10) A	1.2×10^{-4}	
		(10 ~ 40) A	1.8×10^{-4}	
		(40 ~ 100) A	1.5×10^{-4}	
		(1 ~ 10) kHz		
		100 μ A	21 nA	
		(100 ~ 400) μ A	1.9×10^{-4}	
		400 μ A ~ 4 mA	1.7×10^{-4}	
		(4 ~ 10) mA	1.4×10^{-4}	
		(10 ~ 40) mA	1.8×10^{-4}	
		(40 ~ 100) mA	1.4×10^{-4}	
		(100 ~ 400) mA	1.8×10^{-4}	
		400 mA ~ 1 A	1.3×10^{-4}	
		(1 ~ 4) A	2.0×10^{-4}	
		(4 ~ 10) A	1.7×10^{-4}	
		(10 ~ 40) A	2.8×10^{-4}	
		(40 ~ 100) A	2.6×10^{-4}	
		(10 ~ 100) kHz		
		100 μ A	0.11 μ A	
		(100 ~ 400) μ A	1.4×10^{-3}	
		(400 ~ 800) μ A	9.7×10^{-4}	
		(0.8 ~ 1) mA	9.0×10^{-4}	
		(1 ~ 4) mA	1.4×10^{-3}	
		(4 ~ 8) mA	9.6×10^{-4}	
		(8 ~ 10) mA	8.8×10^{-4}	
		(10 ~ 40) mA	1.4×10^{-3}	
		(40 ~ 80) mA	9.6×10^{-4}	
		(80 ~ 100) mA	8.8×10^{-4}	
		(100 ~ 400) mA	1.4×10^{-3}	
		(400 ~ 800) mA	9.6×10^{-4}	
		(0.8 ~ 1) A	8.8×10^{-4}	
		(1 ~ 4) A	1.4×10^{-3}	
		(4 ~ 8) A	9.7×10^{-4}	
		(8 ~ 10) A	8.9×10^{-4}	
(10 ~ 40) A	1.4×10^{-3}			
(40 ~ 80) A	1.0×10^{-3}			
(80 ~ 100) A	9.2×10^{-4}			

401. DC voltage & current

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
DC voltage/current calibrators DC Current Source	40103	0.1 mA (0.1 ~ 1) mA (1 ~ 10) mA (10 ~ 100) mA (0.1 ~ 1) A (1 ~ 10) A (10 ~ 100) A -0.1 mA (-0.1 ~ -1) mA (-1 ~ -10) mA (-10 ~ -100) mA (-0.1 ~ -1) A (-1 ~ -10) A (-10 ~ -100) A 100 mV (0.1 ~ 10) V (10 ~ 100) V (100 ~ 1 000) V -100 mV (-0.1 ~ -10) V (-10 ~ -100) V (-100 ~ -1 000) V	1.1 nA 1.1×10^{-5} 9.1×10^{-6} 1.3×10^{-5} 1.0×10^{-5} 1.2×10^{-4} 5.3×10^{-4} 1.1 nA 1.1×10^{-5} 9.1×10^{-6} 1.3×10^{-5} 1.0×10^{-5} 1.2×10^{-4} 5.3×10^{-4} 0.79 μ V 7.2×10^{-6} 8.0×10^{-6} 8.2×10^{-6} 0.79 μ V 7.2×10^{-6} 8.0×10^{-6} 8.2×10^{-6}	Digital multimeters Current shunts /HCT-CS-053-40103
Electrical temperature calibrators DC Current DC Voltage Resistance DC Current (Meter) DC Voltage (Meter)	40104	1 mA (1 ~ 10) mA (10 ~ 20) mA (20 ~ 30) mA (-10 ~ 0) mV 0 mV (0 ~ 10) mV (10 ~ 100) mV (0.1 ~ 1) V (1 ~ 30) V 10 Ω (10 ~ 100) Ω 100 Ω ~ 1 k Ω (1 ~ 100) k Ω 1 mA (1 ~ 10) mA (10 ~ 30) mA (20 ~ 30) mA (-10 ~ 0) mV 0 mV (0 ~ 1) mV (1 ~ 10) mV (10 ~ 100) mV (0.1 ~ 1) V (1 ~ 10) V (10 ~ 100) V	63 nA 1.7×10^{-5} 1.4×10^{-5} 7.0×10^{-5} 2.8×10^{-5} 0.13 μ V 2.8×10^{-5} 4.9×10^{-6} 7.3×10^{-6} 6.6×10^{-6} 0.12 m Ω 1.1×10^{-5} 2.3×10^{-5} 1.1×10^{-5} 80 nA 4.8×10^{-5} 4.4×10^{-5} 8.3×10^{-5} 6.0×10^{-5} 0.50 μ V 5.2×10^{-4} 6.0×10^{-5} 1.4×10^{-5} 6.2×10^{-5} 2.4×10^{-5} 8.8×10^{-6}	Digital multimeters /HCT-CS-205-40104

401. DC voltage & current

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Resistance (Meter)	40104	10 Ω (10 ~ 100) Ω (0.1 ~ 10) kΩ (10 ~ 100) kΩ	0.28 mΩ 1.6×10^{-5} 1.2×10^{-5} 1.4×10^{-5}	
DC current shunts	40105	25 μΩ (25 ~ 50) μΩ (50 ~ 100) μΩ (0.1 ~ 8) mΩ (8 ~ 10) mΩ (10 ~ 16) mΩ (16 ~ 80) mΩ (0.08 ~ 0.1) Ω (0.1 ~ 0.16) Ω (0.16 ~ 0.4) Ω (0.4 ~ 0.8) Ω (0.8 ~ 1) Ω (1 ~ 1.6) Ω (1.6 ~ 4) Ω (4 ~ 8) Ω (8 ~ 10) Ω (10 ~ 16) Ω (16 ~ 40) Ω (40 ~ 80) Ω (80 ~ 100) Ω (100 ~ 800) Ω (800 ~ 1 000) Ω	6.1 nΩ 1.8×10^{-4} 1.7×10^{-4} 1.6×10^{-4} 4.0×10^{-4} 1.5×10^{-4} 1.7×10^{-4} 1.2×10^{-4} 2.1×10^{-4} 1.1×10^{-4} 1.1×10^{-4} 6.2×10^{-5} 1.3×10^{-4} 1.8×10^{-4} 6.2×10^{-5} 5.0×10^{-5} 7.6×10^{-5} 9.6×10^{-5} 4.9×10^{-5} 5.3×10^{-5} 5.2×10^{-5} 1.2×10^{-4}	Digital multimeters, Multimeter calibrators, Current calibrators /HCT-CS-054-40105
Galvanometers/null detectors DC Voltage	40106	3 μV (3 ~ 10) μV (10 ~ 30) μV (30 ~ 100) μV (100 ~ 300) μV (0.3 ~ 1) mV (1 ~ 3) mV (3 ~ 10) mV (10 ~ 30) mV (30 ~ 100) mV (100 ~ 300) mV (0.3 ~ 1) V (1 ~ 3) V (3 ~ 10) V (10 ~ 30) V (30 ~ 100) V (100 ~ 300) V (300 ~ 1 000) V	58 nV 5.8×10^{-3} 9.6×10^{-3} 5.8×10^{-3} 9.6×10^{-3} 5.8×10^{-3} 9.6×10^{-3} 5.8×10^{-3} 9.6×10^{-3} 5.8×10^{-3} 9.6×10^{-3} 5.8×10^{-3} 9.6×10^{-3} 5.8×10^{-3} 9.6×10^{-3} 5.8×10^{-3} 9.6×10^{-3} 5.8×10^{-3}	Multimeter calibrators, Current shunts /HCT-CS-247-40106

401. DC voltage & current

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
DC power supplies	40108	0 V	0.63 μV	Digital multimeters, Current shunts HCT-CS-057-40108
		Positive (0 ~ 40) mV (40 ~ 80) mV (80 ~ 100) mV (100 ~ 400) mV (400 ~ 800) mV (0.8 ~ 1) V (1 ~ 4) V (4 ~ 8) V (8 ~ 10) V (10 ~ 40) V (40 ~ 80) V (80 ~ 100) V (100 ~ 400) V (400 ~ 800) V (800 ~ 1 000) V Negative (0 ~ -40) mV (-40 ~ -80) mV (-80 ~ -100) mV (-100 ~ -400) mV (-400 ~ -800) mV (-0.8 ~ -1) V (-1 ~ -4) V (-4 ~ -8) V (-8 ~ -10) V (-10 ~ -40) V (-40 ~ -80) V (-80 ~ -100) V (-100 ~ -400) V (-400 ~ -800) V (-800 ~ -1 000) V	1.8×10 ⁻⁵ 1.0×10 ⁻⁵ 8.0×10 ⁻⁶ 1.7×10 ⁻⁵ 8.8×10 ⁻⁶ 7.3×10 ⁻⁶ 1.6×10 ⁻⁵ 8.6×10 ⁻⁶ 7.2×10 ⁻⁶ 1.7×10 ⁻⁵ 9.4×10 ⁻⁶ 8.1×10 ⁻⁶ 1.8×10 ⁻⁵ 1.0×10 ⁻⁵ 9.0×10 ⁻⁶ 1.8×10 ⁻⁵ 1.0×10 ⁻⁵ 8.0×10 ⁻⁶ 1.7×10 ⁻⁵ 8.8×10 ⁻⁶ 7.3×10 ⁻⁶ 1.6×10 ⁻⁵ 8.6×10 ⁻⁶ 7.2×10 ⁻⁶ 1.7×10 ⁻⁵ 9.4×10 ⁻⁶ 8.1×10 ⁻⁶ 1.8×10 ⁻⁵ 1.0×10 ⁻⁵ 9.0×10 ⁻⁶	
DC Current		0 A	0.65 nA	
		Positive (0 ~ 40) μA (40 ~ 80) μA (80 ~ 100) μA (100 ~ 400) μA (0.4 ~ 1) mA (1 ~ 4) mA (4 ~ 10) mA (10 ~ 40) mA (4 ~ 10) mA (10 ~ 40) mA (40 ~ 100) mA (100 ~ 400) mA (400 ~ 800) mA (0.8 ~ 1) A (1 ~ 4) A (4 ~ 10) A (10 ~ 40) A (40 ~ 100) A (100 ~ 300) A (300 ~ 1 000) A	3.2×10 ⁻⁵ 2.6×10 ⁻⁵ 2.5×10 ⁻⁵ 3.0×10 ⁻⁵ 2.5×10 ⁻⁵ 3.0×10 ⁻⁵ 2.5×10 ⁻⁵ 3.3×10 ⁻⁵ 2.5×10 ⁻⁵ 3.3×10 ⁻⁵ 2.6×10 ⁻⁵ 3.2×10 ⁻⁵ 2.8×10 ⁻⁵ 2.7×10 ⁻⁵ 3.7×10 ⁻⁵ 3.3×10 ⁻⁵ 4.8×10 ⁻⁵ 4.5×10 ⁻⁵ 2.0×10 ⁻⁴ 2.2×10 ⁻⁴	

401. DC voltage & current

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
DC Current	40108	Negetive (0 ~ -40) μ A (-40 ~ -80) μ A (-80 ~ -100) μ A (-100 ~ -400) μ A (-0.4 ~ -1) mA (-1 ~ -4) mA (-4 ~ -10) mA (-10 ~ -40) mA (-40 ~ -100) mA (-100 ~ -400) mA (-400 ~ -800) mA (-0.8 ~ -1) A (-1 ~ -4) A (-4 ~ -10) A (-10 ~ -40) A (-40 ~ -100) A (-100 ~ -300) A (-300 ~ -1 000) A	3.2×10^{-5} 2.6×10^{-5} 2.5×10^{-5} 3.0×10^{-5} 2.5×10^{-5} 3.0×10^{-5} 2.5×10^{-5} 3.3×10^{-5} 2.6×10^{-5} 3.2×10^{-5} 2.8×10^{-5} 2.7×10^{-5} 3.7×10^{-5} 3.3×10^{-5} 4.8×10^{-5} 4.5×10^{-5} 2.0×10^{-4} 2.2×10^{-4}	
Ripple		1 mV (1 ~ 5) mV (5 ~ 10) mV (10 ~ 20) mV	98 μ V 2.2×10^{-2} 1.9×10^{-2} 4.3×10^{-2}	
Multimeter regulation		1 mV (1 ~ 5) mV (5 ~ 500) mV	0.7 μ V 1.4×10^{-4} 1.2×10^{-4}	
DC voltage dividers	40110	Ratio 1 000 : 1 1 kV (1 ~ 5) kV (5 ~ 100) kV 10 000 : 1 1 kV (1 ~ 5) kV (5 ~ 100) kV	4.2×10^{-4} 3.9×10^{-4} 3.8×10^{-4} 4.2×10^{-4} 3.9×10^{-4} 3.8×10^{-4}	High voltage deviders /HCT-CS-348-40110
DC voltage standards	40111	DC Voltage 1.018 V 10 V	4.8×10^{-7} 3.2×10^{-7}	Standard cells, Digital multimeters /HCT-CS-275-40111
DC voltmeters	40112	DC Voltage 0 V Positive (0 ~ 4) mV (4 ~ 8) mV (8 ~ 10) mV (10 ~ 40) mV (40 ~ 80) mV (80 ~ 100) mV (100 ~ 400) mV (400 ~ 800) mV (0.8 ~ 1) V	0.78 μ V 2.0×10^{-4} 1.0×10^{-4} 8.5×10^{-5} 2.6×10^{-5} 1.7×10^{-5} 1.5×10^{-5} 1.7×10^{-5} 1.0×10^{-5} 9.0×10^{-6}	Current calibrators, Multimeter calibrators /HCT-CS-197-40112

401. DC voltage & current

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
DC Voltage	40112	(1 ~ 4) V (4 ~ 8) V (8 ~ 10) V (10 ~ 40) V (40 ~ 80) V (80 ~ 100) V (100 ~ 400) V (400 ~ 1 000) V Negative (0 ~ -4) mV (-4 ~ -8) mV (-8 ~ -10) mV (-10 ~ -40) mV (-40 ~ -80) mV (-80 ~ -100) mV (-100 ~ -400) mV (-400 ~ -800) mV (-0.8 ~ -1) V (-1 ~ -4) V (-4 ~ -8) V (-8 ~ -10) V (-10 ~ -40) V (-40 ~ -80) V (-80 ~ -100) V (-100 ~ -400) V (-400 ~ -1 000) V	1.6×10^{-5} 8.9×10^{-6} 7.6×10^{-6} 1.7×10^{-5} 1.0×10^{-5} 8.8×10^{-6} 2.0×10^{-5} 1.1×10^{-5} 2.0×10^{-4} 1.0×10^{-4} 8.5×10^{-5} 2.6×10^{-5} 1.7×10^{-5} 1.5×10^{-5} 1.7×10^{-5} 1.0×10^{-5} 9.0×10^{-6} 1.6×10^{-5} 8.9×10^{-6} 7.6×10^{-6} 1.7×10^{-5} 1.0×10^{-5} 8.8×10^{-6} 2.0×10^{-5} 1.1×10^{-5}	
Static/Ionic voltmeters Static Voltage (Positive) Static Voltage (Nagative)	40113	Positive 10 V (10 ~ 100) V (100 ~ 500) V (0.5 ~ 1) kV (1 ~ 10) kV (10 ~ 15) kV (15 ~ 20) kV (20 ~ 25) kV (25 ~ 48) kV Negative -10 V (-10 ~ -100) V (-100 ~ -500) V (-0.5 ~ -1) kV (-1 ~ -10) kV (-10 ~ -15) kV (-15 ~ -20) kV (-20 ~ -25) kV (-25 ~ -48) kV	62 mV 6.2×10^{-4} 1.2×10^{-4} 6.2×10^{-4} 1.4×10^{-3} 1.6×10^{-3} 1.2×10^{-3} 1.4×10^{-3} 1.3×10^{-3} 62 mV 6.2×10^{-4} 1.2×10^{-4} 6.2×10^{-4} 1.3×10^{-3} 1.5×10^{-3} 1.2×10^{-3} 1.4×10^{-3} 1.3×10^{-3}	Multimeter calibrators, High voltage generators / HCT-CS-058-40113

402. Resistance, capacitance and inductance

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Capacitance bridges/indicators	40201	10 Hz	5.8 mHz	Counters, Standard capacitors, Digital Multimeters /HCT-CS-059-40201
Frequency		(10 ~ 100) Hz	5.8×10^{-5}	
		(0.1 ~ 1) kHz	5.8×10^{-6}	
		(1 ~ 10) kHz	5.8×10^{-7}	
		(10 ~ 100)kHz	5.9×10^{-8}	
		(0.1 ~ 1) MHz	8.2×10^{-9}	
		(1 ~ 10) MHz	5.9×10^{-8}	
		(10 ~ 30) MHz	2.0×10^{-8}	
AC Voltage		100 mV		
		20 Hz	21 μ V	
		(0.02 ~ 1) kHz	1.9×10^{-4}	
		(1 ~ 10) kHz	2.3×10^{-4}	
		(10 ~ 100) kHz	1.1×10^{-3}	
		100 kHz ~ 1 MHz	2.5×10^{-1}	
		(0.1 ~ 1) V		
		20 Hz	6.4×10^{-4}	
		(0.02 ~ 10) kHz	6.0×10^{-4}	
		(10 ~ 100) kHz	1.0×10^{-3}	
		(0.1 ~ 1) MHz	3.5×10^{-2}	
		(1 ~ 10) V		
		20 Hz	6.4×10^{-4}	
		(0.02 ~ 10) kHz	5.9×10^{-4}	
		(10 ~ 100) kHz	1.0×10^{-3}	
		(0.1 ~ 1) MHz	3.5×10^{-2}	
		(10 ~ 20) V		
		20 Hz	9.9×10^{-4}	
		(0.02 ~ 1) kHz	3.4×10^{-4}	
		(1 ~ 10) kHz	4.4×10^{-4}	
		(10 ~ 100) kHz	1.8×10^{-3}	
Capacitance		1 pF		
		60 Hz	0.76 fF	
		(60 ~ 400) Hz	0.75 fF	
		(0.4 ~ 1) kHz	0.76 fF	
		(0.001 ~ 1) MHz	0.76 fF	
		(1 ~ 2) MHz	0.78 fF	
		(2 ~ 3) MHz	0.86 fF	
		(3 ~ 4) MHz	0.98 fF	
		(4 ~ 5) MHz	1.2 fF	
		(5 ~ 10) MHz	2.7 fF	
		(10 ~ 13) MHz	3.8 fF	
	(1 ~ 10) pF			
	60 Hz ~ 5 MHz	3.6 fF		
	(5 ~ 10) MHz	3.8 fF		
	(10 ~ 13) MHz	3.9 fF		
	(10 ~ 100) pF			
	(60 ~ 400) Hz	35 fF		
	400 Hz ~ 4 MHz	36 fF		
	(4 ~ 5) MHz	38 fF		
	(5 ~ 10) MHz	48 fF		
	(10 ~ 13) MHz	61 fF		

402. Resistance, capacitance and inductance

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Capacitance	40201	(100 ~ 1 000) pF (60 ~ 400) Hz 400 Hz ~ 1 MHz 1kHz ~ 1 MHz (1 ~ 2) MHz (2 ~ 3) MHz (3 ~ 4) MHz (4 ~ 5) MHz (5 ~ 10) MHz (10 ~ 13) MHz (1 ~ 10) nF 60 Hz 120 Hz ~ 100 kHz (10 ~ 100) nF 60 Hz 120 Hz ~ 100 kHz (0.1 ~ 1) μF 60 Hz 120 Hz ~ 10 kHz (10 ~ 100) kHz (1 ~ 10) μF 100 Hz (0.1 ~ 1) kHz (10 ~ 100) μF 100 Hz (0.1 ~ 1) kHz (0.1 ~ 1) mF 100 Hz (0.1 ~ 1) kHz	0.35 pF 0.36 pF 0.36 pF 0.38 pF 0.45 pF 0.57 pF 0.72 pF 2.0 pF 2.9 pF 1.4 pF 0.82 pF 36 pF 8.2 pF 0.66 nF 0.11 nF 0.13 nF 4.7 nF 3.2 nF 77 nF 71 nF 1.2 μF 2.3 μF	
Decade capacitors	40202	1 kHz 1 pF (1 ~ 1 000) pF (1 ~ 10) nF (10 ~ 100) nF (100 ~ 1 000) nF (1 ~ 10) μF 120 Hz 10 μF (10 ~ 100) μF (0.1 ~ 1) mF	0.062 fF 6.0×10^{-5} 1.1×10^{-4} 2.6×10^{-4} 5.1×10^{-4} 1.7×10^{-3} 14 nF 2.0×10^{-3} 2.2×10^{-3}	Capacitance bridges LCR meters / HCT-CS-060-40202

402. Resistance, capacitance and inductance

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Standard capacitors	40204	1 kHz 1 pF 10 pF 100 pF 1 nF 10 nF 100 nF 1 μF 10 μF 120 Hz 100 μF 1 mF	12 aF 0.12 fF 1.2 fF 12 fF 0.21 pF 5.1 pF 0.12 nF 12 nF 0.12 μF 1.3 μF	Capacitance bridges LCR meters / HCT-CS-061-40204
Earth testers Earth resistance Voltage Current	40205	0.1 Ω (0.1 ~ 1) Ω (1 ~ 10) Ω (10 ~ 100) Ω (0.1 ~ 1) kΩ (1 ~ 2) kΩ 50 Hz ~ 1 kHz 1 V (1 ~ 100) V (100 ~ 600) V 50 Hz 1 A (1 ~ 10) A (10 ~ 60) A 50 Hz ~ 1 kHz 1 A (1 ~ 10) A (10 ~ 60) A	0.58 mΩ 5.9×10^{-4} 8.3×10^{-5} 6.6×10^{-5} 6.4×10^{-5} 3.0×10^{-4} 5.8 mV 5.9×10^{-4} 1.4×10^{-4} 2.5 mA 2.4×10^{-3} 2.3×10^{-3} 2.5 mA 2.4×10^{-3} 1.7×10^{-3}	Decade resistor, Standard resistances /HCT-CS-062-40205
Inductors	40208	1 kHz 0.1 mH (0.1 ~ 1) mH 1 mH ~ 1 H	0.12 μH 1.2×10^{-3} 6.3×10^{-4}	LCR meters / HCT-CS-063-40208
Insulation testers Insulation Resistance Insulation voltage Voltage	40210	1 kΩ 1 kΩ ~ 1 MΩ (1 ~ 10) MΩ (10 ~ 100) MΩ 100 MΩ ~ 1 GΩ (1 ~ 10) GΩ (10 ~ 100) GΩ 100 GΩ ~ 1 TΩ 25 V (25 ~ 800) V 800 V ~ 9 kV 1 kHz 10 V (10 ~ 600) V	0.62 Ω 6.2×10^{-4} 3.3×10^{-4} 6.0×10^{-4} 1.1×10^{-3} 2.2×10^{-3} 3.9×10^{-3} 7.0×10^{-3} 5.9 mV 7.4×10^{-5} 6.2×10^{-3} 5.9 mV 1.4×10^{-4}	High resistance meters, Multimeter calibrators /HCT-CS-064-40210

402. Resistance, capacitance and inductance

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Resistance	40210	1 Ω (1 ~ 100) Ω 100 Ω ~ 100 kΩ	5.8 mΩ 5.9×10^{-4} 5.8×10^{-4}	
Q-meters AC Voltage Frequency	40211	1 kHz 10 mV 100 mV 1 V 10 V 1 kHz (1 ~ 10) kHz (10 ~ 100) kHz 100 kHz ~ 1 MHz (1 ~ 10) MHz (10 ~ 100) MHz	58 μV 0.58 mV 0.59 mV 5.9 mV 5.8 mHz 5.8×10^{-7} 5.9×10^{-8} 1.1×10^{-8} 5.9×10^{-8} 1.1×10^{-8}	Frequency counters, Digital multimeters /HCT-CS-065-40211
Resistance bridges & Similar instrument MEASURING ARM RATIO ARM	40213	0.01 Ω (0.01 ~ 0.1) Ω (0.1 ~ 1) Ω (1 ~ 10) Ω (10 ~ 100) Ω (0.1 ~ 1) kΩ (1 ~ 10) kΩ (10 ~ 100) kΩ (0.1 ~ 1) MΩ (1 ~ 10) MΩ (10 ~ 100) MΩ × 0.001 × 0.01 × 0.1 × 1 × 10 × 100 × 1 000	9.6 μΩ 11 μΩ 19 μΩ 0.11 mΩ 0.92 mΩ 9.1 mΩ 90 mΩ 1.0 Ω 11 Ω 0.24 kΩ 16 kΩ 5.9×10^{-8} 5.9×10^{-7} 5.9×10^{-6} 5.9×10^{-5} 5.9×10^{-4} 5.9×10^{-3} 6.0×10^{-2}	Standard resistance, Digital multimeters /HCT-CS-066-40213
Resistance meters DC Resistance	40214	25 μΩ 50 μΩ 100 μΩ 1 mΩ 10 mΩ 100 mΩ 1 Ω (1 ~ 10) Ω (10 ~ 100) Ω (0.1 ~ 10) kΩ (10 ~ 100) kΩ (0.1 ~ 1) MΩ (1 ~ 10) MΩ (10 ~ 100) MΩ (0.1 ~ 1) GΩ (1 ~ 10) GΩ (10 ~ 100) GΩ (0.1 ~ 1) TΩ (1 ~ 10) TΩ	0.2 μΩ 0.4 μΩ 0.7 μΩ 0.25 μΩ 1.2 μΩ 0.68 μΩ 3.3 μΩ 6.7×10^{-5} 4.0×10^{-5} 3.1×10^{-5} 1.1×10^{-3} 4.7×10^{-5} 8.7×10^{-5} 3.7×10^{-4} 7.3×10^{-4} 1.8×10^{-3} 3.1×10^{-3} 7.0×10^{-3} 1.9×10^{-1}	Standard resistances, High resistance meters, Digital multimeters, Counters HCT-CS-067-40214

402. Resistance, capacitance and inductance

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Frequency	40214	10 Hz (10 ~100) Hz 100 Hz ~ 1 kHz (1 ~ 10) kHz (10 ~ 100) kHz 100 kHz ~ 1 MHz	5.8 mHz 5.8×10^{-5} 5.8×10^{-7} 5.9×10^{-8} 8.2×10^{-9}	
AC Voltage		1 kHz 10 mV (10 ~ 100) mV (0.1 ~ 1) V (1 ~ 10) V (10 ~ 100) V (100 ~ 1 000) V	$7.2 \mu V$ 1.8×10^{-4} 1.1×10^{-4} 1.1×10^{-4} 1.2×10^{-4} 1.4×10^{-4}	
AC Resistance		1 kHz 1 m Ω 10 m Ω 100 m Ω 1 Ω 10 Ω 100 Ω 1 k Ω 10 k Ω 100 k Ω	1.4 $\mu \Omega$ 12 $\mu \Omega$ 0.12 m Ω 9.1 m Ω 3.6 m Ω 35 m Ω 0.36 Ω 3.6 Ω 36 Ω	
DC Voltage		100 mV (0.1 ~ 1) V (1 ~ 10) V (10 ~ 100) V (100 ~ 1 000) V	0.79 μV 7.3×10^{-6} 7.2×10^{-6} 8.1×10^{-6} 8.8×10^{-6}	
Resistors Standard Resistance(DC)	40215	1 m Ω 10 m Ω 100 m Ω 1 Ω 10 Ω 25 Ω 100 Ω 1 k Ω 10 k Ω 100 k Ω 1 M Ω 10 M Ω 100 M Ω 1 G Ω 10 G Ω	18 n Ω 0.18 $\mu \Omega$ 1.7 $\mu \Omega$ 4.9 $\mu \Omega$ 0.18 m Ω 0.13 m Ω 0.59 m Ω 5.3 m Ω 27 m Ω 0.78 Ω 12 Ω 0.22 k Ω 2.7 k Ω 41 k Ω 3.5 M Ω	Digital multimeters, LCR meters / HCT-CS-068-40215
Standard Resistance(AC)		50 Hz 1 m Ω 10 m Ω 100 m Ω	1.5 $\mu \Omega$ 15 $\mu \Omega$ 0.83 m Ω	

402. Resistance, capacitance and inductance

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Standard Resistance(AC)	40215	400 Hz 1 Ω 10 Ω 100 Ω 1 kΩ 10 kΩ 100 kΩ 1 kHz 1 mΩ 10 mΩ 100 mΩ 1 Ω 10 Ω 100 Ω 1 kΩ 10 kΩ 100 kΩ 100 kHz 1 kΩ 10 kΩ 100 kΩ 1 MHz 10 Ω 100 Ω 1 kΩ 10 kΩ 100 kΩ	1.2 mΩ 3.8 mΩ 36 mΩ 0.36 Ω 3.6 Ω 37 Ω 1.5 μΩ 15 μΩ 0.83 mΩ 1.2 mΩ 3.8 mΩ 36 mΩ 0.36 Ω 3.6 Ω 37 Ω 12 Ω 0.12 kΩ 1.2 kΩ 0.12 Ω 1.2 Ω 12 Ω 0.12 kΩ 1.2 kΩ	
Decade Resistance(DC)		1 mΩ (1 ~ 10) mΩ (10 ~ 100) mΩ 100 mΩ ~ 1 Ω (1 ~ 10) Ω (10 ~ 100) Ω 100 Ω ~ 1 kΩ (1 ~ 10) kΩ (10 ~ 100) kΩ 100 kΩ ~ 1 MΩ (1 ~ 10) MΩ (10 ~ 100) MΩ 100 MΩ ~ 1 GΩ (1 ~ 10) GΩ (10 ~ 100) GΩ 100 GΩ ~ 1 TΩ	7.5 μΩ 7.6×10^{-4} 9.7×10^{-5} 8.9×10^{-5} 4.8×10^{-5} 9.4×10^{-6} 9.9×10^{-6} 9.5×10^{-6} 9.2×10^{-6} 1.0×10^{-5} 1.2×10^{-5} 3.1×10^{-5} 1.6×10^{-4} 7.0×10^{-4} 3.1×10^{-3} 4.7×10^{-3}	
Decade Resistance(AC)		1 kHz 100 mΩ 100 mΩ ~ 10 Ω 10 Ω ~ 100 kΩ	0.32 mΩ 1.2×10^{-3} 6.5×10^{-4}	
Electrical conductivity meters	40216	14.36 MS/m 22.90 MS/m 34.26 MS/m 58.38 MS/m	0.081 MS/m 0.16 MS/m 0.21 MS/m 0.32 MS/m	Standard specimens /HCT-CS-227-40216

402. Resistance, capacitance and inductance

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Impedance bridges/LCR meters	40217	10 Hz	5.8 mHz	Counters, Standard Resistance, Capacitance, Inductance, Digital multimeters /HCT-CS-093-40217
Frequency		(10 ~ 100) Hz	5.8×10^{-5}	
		100 Hz ~ 1 kHz	5.8×10^{-6}	
		(1 ~ 10) kHz	5.8×10^{-7}	
		(10 ~ 100) kHz	5.9×10^{-8}	
		(0.1 ~ 1) MHz	8.7×10^{-9}	
		(1 ~ 10) MHz	5.8×10^{-9}	
		(1 ~ 30) MHz	1.9×10^{-8}	
AC Voltage		100 mV		
		20 Hz	20 μ V	
		(0.02 ~ 1) kHz	1.8×10^{-4}	
		(1 ~ 10) kHz	2.2×10^{-4}	
		(10 ~ 100) kHz	1.1×10^{-3}	
		100 kHz ~ 1 MHz	2.5×10^{-1}	
		(0.1 ~ 1) V		
		20 Hz	6.4×10^{-4}	
		(0.02 ~ 10) kHz	5.9×10^{-4}	
		(10 ~ 100) kHz	1.0×10^{-3}	
		(0.1 ~ 1) MHz	3.5×10^{-2}	
		(1 ~ 10) V		
		20 Hz	6.4×10^{-4}	
		(0.02 ~ 10) kHz	5.9×10^{-4}	
		(10 ~ 100) kHz	1.0×10^{-3}	
		(0.1 ~ 1) MHz	3.5×10^{-2}	
		(10 ~ 20) V		
		20 Hz	8.8×10^{-4}	
		(0.02 ~ 1) kHz	3.4×10^{-4}	
		(1 ~ 10) kHz	3.7×10^{-4}	
	(10 ~ 100) kHz	1.8×10^{-3}		
DC Voltage	100 mV	0.8 μ V		
	100 mV ~ 10 V	1.6×10^{-3}		
	(10 ~ 40) V	5.8×10^{-5}		
DC Current	1 A	0.63 mA		
	(1 ~ 10) A	5.0×10^{-4}		
	(10 ~ 20) A	1.0×10^{-3}		
	(20 ~ 40) A	1.0×10^{-3}		
Resistance	1 m Ω			
	50 Hz	1.4 μ Ω		
	1 kHz	1.4 μ Ω		
	10 m Ω			
	50 Hz	12 μ Ω		
	1 kHz	12 μ Ω		
	100 m Ω			
	50 Hz	0.12 m Ω		
	1 kHz	0.12 m Ω		

402. Resistance, capacitance and inductance

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Resistance	40217	1 Ω		
		400 Hz	1.2 mΩ	
		1 kHz	1.2 mΩ	
		(1 ~ 10) Ω		
		400 Hz	6 mΩ	
		1 kHz	6 mΩ	
		1 kHz ~ 5 MHz	0.12 Ω	
		(5 ~ 10) MHz	0.13 Ω	
		(10 ~ 13) MHz	0.14 Ω	
		(10 ~ 100) Ω		
		400 Hz	35 mΩ	
		1 kHz	35 mΩ	
		1 kHz ~ 13 MHz	1.2 Ω	
		100 Ω ~ 1 kΩ		
		400 Hz	0.36 Ω	
		1 kHz	0.36 Ω	
		1 kHz ~ 13 MHz	12 Ω	
		(1 ~ 10) kΩ		
		400 Hz	3.6 Ω	
		1 kHz	3.6 Ω	
1 kHz ~ 1 MHz	0.12 kΩ			
(10 ~ 100) kΩ				
400 Hz	36 Ω			
1 kHz	36 Ω			
1 kHz ~ 1 MHz	1.2 kΩ			
Capacitance	40217	1 pF		
		60 Hz	0.76 fF	
		(60 ~ 400) Hz	0.75 fF	
		(0.4 ~ 1) kHz	0.76 fF	
		(0.001 ~ 1) MHz	0.76 fF	
		(1 ~ 2) MHz	0.78 fF	
		(2 ~ 3) MHz	0.86 fF	
		(3 ~ 4) MHz	0.98 fF	
		(4 ~ 5) MHz	1.2 fF	
		(5 ~ 10) MHz	2.6 fF	
		(10 ~ 13) MHz	3.8 fF	
		(1 ~ 10) pF		
		60 Hz	3.6 fF	
		(60 ~ 400) Hz	3.6 fF	
		(0.4 ~ 1) kHz	3.6 fF	
		(0.001 ~ 1) MHz	3.6 fF	
		(1 ~ 2) MHz	3.6 fF	
		(2 ~ 3) MHz	3.6 fF	
		(3 ~ 4) MHz	3.6 fF	
		(4 ~ 5) MHz	3.6 fF	
(5 ~ 10) MHz	3.8 fF			
(10 ~ 13) MHz	3.9 fF			

402. Resistance, capacitance and inductance

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Capacitance	40217	(10 ~ 100) pF		
		60 Hz	35 fF	
		(60 ~ 400) Hz	35 fF	
		(0.4 ~ 1) kHz	36 fF	
		(0.001 ~ 1) MHz	36 fF	
		(1 ~ 2) MHz	36 fF	
		(2 ~ 3) MHz	36 fF	
		(3 ~ 4) MHz	36 fF	
		(4 ~ 5) MHz	38 fF	
		(5 ~ 10) MHz	49 fF	
		(10 ~ 13) MHz	61 fF	
		(100 ~ 1 000) pF		
		60 Hz	0.35 pF	
		(60 ~ 400) Hz	0.35 pF	
		(0.4 ~ 1) kHz	0.36 pF	
		(0.001 ~ 1) MHz	0.36 pF	
		(1 ~ 2) MHz	0.38 pF	
		(2 ~ 3) MHz	0.45 pF	
		(3 ~ 4) MHz	0.57 pF	
		(4 ~ 5) MHz	0.72 pF	
		(5 ~ 10) MHz	2.0 pF	
		(10 ~ 13) MHz	3.0 pF	
		(1 ~ 10) nF		
		60 Hz	1.4 pF	
		(60 ~ 120) Hz	0.82 pF	
		(120 ~ 400) Hz	0.77 pF	
		(0.4 ~ 1) kHz	0.82 pF	
		(1 ~ 10) kHz	0.82 pF	
		(10 ~ 100) kHz	0.82 pF	
		(10 ~ 100) nF		
		60 Hz	36 pF	
		(60 ~ 120) Hz	8.2 pF	
		(120 ~ 400) Hz	9.3 pF	
		(0.4 ~ 1) kHz	8.2 pF	
		(1 ~ 10) kHz	8.2 pF	
		(10 ~ 100) kHz	8.2 pF	
		(0.1 ~ 1) μ F		
		60 Hz	0.66 nF	
		(60 ~ 120) Hz	0.11 nF	
		(120 ~ 400) Hz	0.18 nF	
		(0.4 ~ 1) kHz	0.11 nF	
		(1 ~ 10) kHz	0.11 nF	
		(10 ~ 100) kHz	0.13 nF	
		(1 ~ 10) μ F		
		100 Hz	4.7 nF	
(0.1 ~ 1) kHz	3.2 nF			
(10 ~ 100) μ F				
100 Hz	77 nF			
(0.1 ~ 1) kHz	71 nF			

402. Resistance, capacitance and inductance

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Capacitance	40217	(0.1 ~ 1) mF		
		100 Hz	1.2 μ F	
		(0.1 ~ 1) kHz	2.3 μ F	
Inductance		1 kHz		
		100 μ H	21 nH	
		(0.1 ~ 1) mH	0.15 μ H	
		(1 ~ 10) mH	1.4 μ H	
		(10 ~ 100) mH	15 μ H	
		(0.1 ~ 1) H	0.15 mH	

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC ammeters AC Current	40301	10 μA 50 Hz ~ 1 kHz	12 nA	Multimeter calibrators / HCT-CS-070-40301
		(10 μA ~ 100 μA) 40 Hz 40 Hz ~ 1 kHz (1 ~ 10) kHz	3.2×10^{-4} 2.3×10^{-4} 2.1×10^{-3}	
		(100 μA ~ 10 mA) 40 Hz 40 Hz ~ 1 kHz (1 ~ 10) kHz	2.4×10^{-4} 1.8×10^{-4} 2.1×10^{-3}	
		(10 ~ 100) mA 40 Hz 40 Hz ~ 1 kHz (1 ~ 10) kHz	2.4×10^{-4} 1.8×10^{-4} 2.0×10^{-3}	
		(100 mA ~ 1 A) 40 Hz 40 Hz ~ 1 kHz (1 ~ 10) kHz	3.5×10^{-4} 3.4×10^{-4} 8.4×10^{-3}	
		(1 ~ 10) A (50 ~ 60) Hz 60 Hz ~ 1 kHz	1.3×10^{-3} 2.0×10^{-3}	
		(10 ~ 20) A (50 ~ 60) Hz 60 Hz ~ 1 kHz	7.1×10^{-4} 1.5×10^{-3}	
		(20 ~ 50) A (50 ~ 60) Hz	6.2×10^{-4}	
		(50 ~ 100) A (50 ~ 60) Hz	4.1×10^{-4}	
 AC Voltage		1 V 40 Hz 40 Hz ~ 10 kHz	$0.38 \mu\text{V}$ 3.6×10^{-4}	
		(1 ~ 10) V 40 Hz 40 Hz ~ 10 kHz	1.4×10^{-4} 6.8×10^{-5}	
		(10 ~ 30) V 40 Hz 40 Hz ~ 1 kHz	2.1×10^{-4} 1.2×10^{-4}	
		(30 ~ 75) V 40 Hz 40 Hz ~ 1 kHz	1.5×10^{-4} 9.1×10^{-5}	
		(75 ~ 150) V 40 Hz 40 Hz ~ 1 kHz	1.3×10^{-4} 7.3×10^{-5}	

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Voltage	40301	(150 ~ 300) V 50 Hz 50 Hz ~ 1 kHz	4.3×10^{-4} 1.5×10^{-4}	
		(300 ~ 750) V 50 Hz 50 Hz ~ 1 kHz	3.9×10^{-4} 1.0×10^{-4}	
Clamp ammeters/voltmeters	40302			Multimeter calibrators, Coil / HCT-CS-071-40302
DC Voltage		100 mV 100 mV ~ 100 V (100 ~ 1 000) V	6.3 μ V 6.1×10^{-5} 6.2×10^{-5}	
AC Voltage		100 mV 40 Hz 40 Hz ~ 20 kHz (20 ~ 50) kHz (50 ~ 100) kHz	13 μ V 1.0×10^{-4} 1.7×10^{-4} 3.8×10^{-4}	
		(100 mV ~ 1 V) 40 Hz 40 Hz ~ 20 kHz (20 ~ 100) kHz	1.4×10^{-4} 8.5×10^{-5} 1.5×10^{-4}	
		(1 ~ 10) V 40 Hz ~ 10 kHz (10 ~ 20) kHz (20 ~ 50) kHz (50 ~ 100) kHz	1.4×10^{-4} 8.5×10^{-5} 1.2×10^{-4} 1.4×10^{-4}	
		(10 ~ 100) V 40 Hz ~ 10 kHz (10 ~ 20) kHz (20 ~ 50) kHz (50 ~ 100) kHz	1.5×10^{-4} 9.4×10^{-5} 1.3×10^{-4} 2.2×10^{-4}	
		(100 ~ 1 000) V 50 Hz 50 Hz ~ 1 kHz	3.8×10^{-4} 1.2×10^{-4}	
DC Current		10 μ A 10 μ A ~ 1 A (1 A ~ 10 A) (10 A ~ 50 A) (50 A ~ 100 A) (100 A ~ 500 A) (500 A ~ 1 000 A) (1 000 A ~ 2 500 A)	24 nA 2.4×10^{-3} 2.5×10^{-3} 2.8×10^{-3} 2.5×10^{-3} 2.4×10^{-3} 2.5×10^{-3} 2.4×10^{-3}	
AC Current		10 μ A 50 Hz ~ 10 kHz	24 nA	
		(10 ~ 100) μ A 50 Hz ~ 1 kHz (1 ~ 10) kHz	2.4×10^{-3} 3.1×10^{-3}	

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Current	40302	100 μ A ~ 10 mA 40 Hz ~ 1 kHz (1 ~ 10) kHz (10 ~ 100) mA 40 Hz ~ 1 kHz (1 ~ 10) kHz 100 mA ~ 1 A 40 Hz ~ 1 kHz (1 ~ 10) kHz (1 ~ 10) A (40 ~ 60) Hz 60 Hz ~ 1 kHz (10 ~ 100) A (50 ~ 60) Hz (100 ~ 200) A (50 ~ 60) Hz (200 ~ 1 500) A (50 ~ 60) Hz (1 500 ~ 3 000) A (50 ~ 60) Hz	2.5×10^{-3} 3.2×10^{-3} 2.5×10^{-3} 2.9×10^{-3} 2.5×10^{-3} 8.7×10^{-3} 2.7×10^{-3} 3.2×10^{-3} 3.8×10^{-3} 2.8×10^{-3} 2.7×10^{-3} 2.4×10^{-3}	
Resistance		1 Ω (1 ~ 10) Ω (10 ~ 100) Ω 100 Ω ~ 1 k Ω (1 ~ 10) k Ω (10 ~ 100) k Ω 100 k Ω ~ 1 M Ω (1 ~ 10) M Ω (10 ~ 100) M Ω	0.88 m Ω 1.2×10^{-4} 6.3×10^{-5} 8.3×10^{-5} 1.1×10^{-4} 6.9×10^{-5} 1.9×10^{-4} 3.2×10^{-4} 1.3×10^{-3}	
Current Coil (AC Ratio)		(50 ~ 60) Hz 2 10 25 50	0.15 % 0.06 % 0.06 % 0.08 %	
Current Coil (DC Ratio)		2 10 25 50	0.04 % 0.04 % 0.08 % 0.08 %	
AC voltage/current calibrators AC Voltage	40303	0.1 V 50 Hz 50 Hz ~ 1 kHz (1 ~ 10) kHz (10 ~ 30) kHz (30 ~ 100) kHz	18 μ V 1.6×10^{-4} 1.8×10^{-4} 4.6×10^{-4} 1.1×10^{-3}	Multimeters / HCT-CS-072-40303

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Voltage	40303	(0.1 ~ 0.4) V		
		50 Hz	0.077 mV	
		50 Hz ~ 1 kHz	1.8×10^{-4}	
		(1 ~ 10) kHz	1.9×10^{-4}	
		(10 ~ 30) kHz	4.0×10^{-4}	
		(30 ~ 100) kHz	1.2×10^{-3}	
		(0.4 ~ 0.8) V		
		50 Hz	0.11 mV	
		50 Hz ~ 1 kHz	1.3×10^{-4}	
		(1 ~ 10) kHz	1.4×10^{-4}	
		(10 ~ 30) kHz	3.1×10^{-4}	
		(30 ~ 100) kHz	8.8×10^{-4}	
		(0.8 ~ 1) V		
		50 Hz	0.13 mV	
		50 Hz ~ 1 kHz	1.1×10^{-4}	
		(1 ~ 10) kHz	1.3×10^{-4}	
		(10 ~ 30) kHz	2.9×10^{-4}	
		(30 ~ 100) kHz	8.2×10^{-4}	
		(1 ~ 4) V		
		50 Hz	0.77 mV	
		(50 ~ 300) Hz	1.8×10^{-4}	
		300 Hz ~ 10 kHz	2.0×10^{-4}	
		(10 ~ 30) kHz	4.0×10^{-4}	
		(30 ~ 100) kHz	1.2×10^{-3}	
		(4 ~ 8) V		
		50 Hz	1.1 mV	
		50 Hz ~ 1 kHz	1.3×10^{-4}	
		(1 ~ 10) kHz	1.4×10^{-4}	
		(10 ~ 30) kHz	3.1×10^{-4}	
		(30 ~ 100) kHz	8.8×10^{-4}	
		(8 ~ 10) V		
		50 Hz	1.3 mV	
		50 Hz ~ 1 kHz	1.2×10^{-4}	
		(1 ~ 10) kHz	1.3×10^{-4}	
		(10 ~ 30) kHz	2.9×10^{-4}	
		(30 ~ 100) kHz	8.2×10^{-4}	
		(10 ~ 40) V		
		50 Hz	8.1 mV	
		50 Hz ~ 1 kHz	1.9×10^{-4}	
		(1 ~ 10) kHz	2.0×10^{-4}	
		(10 ~ 30) kHz	4.3×10^{-4}	
		(30 ~ 100) kHz	1.2×10^{-3}	
		(40 ~ 80) V		
		50 Hz	12 mV	
		50 Hz ~ 1 kHz	1.3×10^{-4}	
		(1 ~ 10) kHz	1.5×10^{-4}	
		(10 ~ 30) kHz	3.1×10^{-4}	
		(30 ~ 100) kHz	8.8×10^{-4}	

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.		
AC Voltage	40303	(80 ~ 100) V				
		50 Hz	13 mV			
		50 Hz ~ 1 kHz	1.1×10^{-4}			
		(1 ~ 10) kHz	1.3×10^{-4}			
		(10 ~ 30) kHz	3.0×10^{-4}			
		(30 ~ 100) kHz	8.2×10^{-4}			
		(100 ~ 400) V				
		50 Hz	0.082 V			
		(50 ~ 300) Hz	2.1×10^{-4}			
		300 Hz ~ 1 kHz	2.1×10^{-4}			
		(1 ~ 10) kHz	2.2×10^{-4}			
		(400 ~ 800) V				
		50 Hz	0.15 V			
		(50 ~ 300) Hz	1.9×10^{-4}			
		300 Hz ~ 1 kHz	1.5×10^{-4}			
		(1 ~ 10) kHz	1.9×10^{-4}			
		(800 ~ 1 000) V				
		50 Hz	0.16 V			
		(50 ~ 300) Hz	1.6×10^{-4}			
		300 Hz ~ 1 kHz	1.4×10^{-4}			
		(1 ~ 10) kHz	1.6×10^{-4}			
		AC Current	40303	100 μ A		
				50 Hz	71 nA	
				50 Hz ~ 1 kHz	7.0×10^{-4}	
(1 ~ 10) kHz	7.1×10^{-4}					
(0.1 ~ 0.4) mA						
50 Hz	0.10 μ A					
50 Hz ~ 1 kHz	2.3×10^{-4}					
(1 ~ 10) kHz	2.5×10^{-4}					
(0.4 ~ 0.8) mA						
50 Hz	0.14 μ A					
50 Hz ~ 1 kHz	1.5×10^{-4}					
(1 ~ 10) kHz	1.8×10^{-4}					
(0.8 ~ 1) mA						
50 Hz	0.16 μ A					
50 Hz ~ 1 kHz	1.4×10^{-4}					
(1 ~ 10) kHz	1.7×10^{-4}					
(1 ~ 4) mA						
50 Hz	0.90 μ A					
50 Hz ~ 1 kHz	2.1×10^{-4}					
(1 ~ 10) kHz	2.3×10^{-4}					
(4 ~ 8) mA						
50 Hz	1.3 μ A					
50 Hz ~ 1 kHz	1.4×10^{-4}					
(1 ~ 10) kHz	1.6×10^{-4}					

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Current	40303	(8 ~ 10) mA		
		50 Hz	1.4 μA	
		50 Hz ~ 1 kHz	1.2×10^{-4}	
		(1 ~ 10) kHz	1.4×10^{-4}	
		(10 ~ 40) mA		
		50 Hz	8.9 μA	
		50 Hz ~ 1 kHz	2.1×10^{-4}	
		(1 ~ 10) kHz	2.2×10^{-4}	
		(40 ~ 80) mA		
		50 Hz	12 μA	
		50 Hz ~ 1 kHz	1.3×10^{-4}	
		(1 ~ 10) kHz	1.5×10^{-4}	
		(80 ~ 100) mA		
		50 Hz	14 μA	
		50 Hz ~ 1 kHz	1.2×10^{-4}	
		(1 ~ 10) kHz	1.4×10^{-4}	
		(0.1 ~ 0.4) A		
		50 Hz	90 μA	
		50 Hz ~ 1 kHz	2.1×10^{-4}	
		(1 ~ 10) kHz	2.3×10^{-4}	
		(0.4 ~ 0.8) A		
		50 Hz	0.12 mA	
		50 Hz ~ 1 kHz	1.4×10^{-4}	
		(1 ~ 10) kHz	1.5×10^{-4}	
		(0.8 ~ 1) A		
		50 Hz	0.14 mA	
		50 Hz ~ 1 kHz	1.2×10^{-4}	
		(1 ~ 10) kHz	1.4×10^{-4}	
(1 ~ 4) A				
50 Hz	0.91 mA			
50 Hz ~ 1 kHz	2.1×10^{-4}			
(1 ~ 10) kHz	2.3×10^{-4}			
(4 ~ 8) A				
50 Hz	1.3 mA			
50 Hz ~ 1 kHz	1.4×10^{-4}			
(1 ~ 10) kHz	1.8×10^{-4}			
(8 ~ 10) A				
50 Hz	1.5 mA			
50 Hz ~ 1 kHz	1.3×10^{-4}			
(1 ~ 10) kHz	1.6×10^{-4}			
(10 ~ 30) A				
50 Hz	5.7 mA			
50 Hz ~ 1 kHz	1.7×10^{-4}			
(30 ~ 50) A				
50 Hz	7.8 mA			
50 Hz ~ 1 kHz	1.4×10^{-4}			

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Current	40303	(50 ~ 80) A 50 Hz 50 Hz ~ 1 kHz	14 mA 1.6×10^{-4}	
Clamp meter		(80 ~ 100) A 50 Hz 50 Hz ~ 1 kHz (50 ~ 60) Hz 1 A (1 ~ 3) A (3 ~ 8) A (8 ~ 10) A (10 ~ 20) A (20 ~ 30) A (30 ~ 50) A (50 ~ 80) A (80 ~ 100) A (100 ~ 200) A (200 ~ 300) A (300 ~ 500) A (500 ~ 800) A (800 ~ 1 000) A	16 mA 1.5×10^{-4} 0.21 A 0.25 A 0.33 A 0.37 A 0.53 A 0.71 A 1.6 A 2.0 A 2.4 A 4.1 A 5.8 A 16 A 21 A 24 A	
Wattmeter calibrators	40304	(50 ~ 60) Hz 0.12 W (0.12 ~ 0.48) W (0.48 ~ 0.6) W (0.6 ~ 2.4) W (2.4 ~ 24) W (24 ~ 240) W (240 ~ 600) W (600 ~ 1 200) W (1 200 ~ 2 400) W (2 400 ~ 4 800) W	0.35 mW 1.6×10^{-3} 7.5×10^{-4} 7.3×10^{-4} 1.1×10^{-3} 9.2×10^{-4} 7.7×10^{-4} 7.6×10^{-4} 8.0×10^{-4} 7.8×10^{-4}	Power calibrators / HCT-CS-275-40304
Power factor		(50 ~ 60) Hz -1 ~ 1	0.000 68	
Harmonic		(50 ~ 60) Hz		
TVD-V		(0.5 ~ 20) %	0.046 %	
TVD-I		(0.5 ~ 20) %	0.046 %	
Frequency		20 Hz (20 ~ 60) Hz (60 ~ 100) Hz (100 ~ 400) Hz 400 Hz ~ 1 kHz	3.5×10^{-4} 1.2×10^{-4} 1.4×10^{-4} 1.2×10^{-4} 1.4×10^{-4}	

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC current shunts AC Resistance	40305	40 Hz 0.001 Ω (0.001 ~ 0.01) Ω (0.01 ~ 0.1) Ω (0.1 ~ 1) Ω (1 ~ 10) Ω (10 ~ 100) Ω (100 ~ 1 000) Ω (40 ~ 100) Hz 0.001 Ω (0.001 ~ 0.01) Ω (0.01 ~ 0.1) Ω (0.1 ~ 1) Ω (1 ~ 10) Ω (10 ~ 100) Ω (100 ~ 1 000) Ω 100 Hz ~ 1 kHz 0.001 Ω (0.001 ~ 0.01) Ω (0.01 ~ 0.1) Ω (0.1 ~ 1) Ω (1 ~ 10) Ω (10 ~ 100) Ω (100 ~ 1 000) Ω	0.44 μΩ 13 μΩ 40 μΩ 0.27 mΩ 3.0 mΩ 30 mΩ 0.36 Ω 0.63 μΩ 20 μΩ 38 μΩ 0.22 mΩ 2.4 mΩ 24 mΩ 0.28 Ω 2.0 μΩ 20 μΩ 37 μΩ 0.20 mΩ 2.3 mΩ 23 mΩ 0.27 Ω	Current Sources / HCT-CS-073-40305
Power factor meters	40310	(50 ~ 60) Hz -1 ~ 1	0.000 24	Power calibrators / HCT-CS-074-40310
AC power meters AC Power	40311	(50 ~ 60) Hz 0.06 W (0.06 ~ 0.12) W (0.12 ~ 0.48) W (0.48 ~ 0.6) W (0.6 ~ 1.2) W (1.2 ~ 2.4) W (2.4 ~ 6) W (6 ~ 12) W (12 ~ 24) W (24 ~ 48) W (48 ~ 60) W (60 ~ 120) W (120 ~ 240) W (240 ~ 480) W (480 ~ 600) W (600 ~ 1 200) W (1.2 ~ 2.4) kW (2.4 ~ 4.8) kW (4.8 ~ 9.6) kW (9.6 ~ 19.2) kW	0.12 mW 0.12 mW 0.13 mW 0.15 mW 0.17 mW 0.31 mW 1.1 mW 1.7 mW 3.1 mW 6.0 mW 7.4 mW 17 mW 31 mW 60 mW 75 mW 0.17 W 0.55 W 1.1 W 2.2 W 4.5 W	Power calibrators, Multimeter calibrators / HCT-CS-075-40311

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
DC Power	40311	0.10 W	0.16 mW	
		(0.1 ~ 1.2) W	0.19 mW	
		(1.2 ~ 2.4) W	0.36 mW	
		(2.4 ~ 3) W	0.55 mW	
		(3 ~ 4.8) W	0.71 mW	
		(4.8 ~ 6) W	1.7 mW	
		(6 ~ 12) W	2.9 mW	
		(12 ~ 24) W	4.4 mW	
		(24 ~ 48) W	9.8 mW	
		(48 ~ 60) W	35 mW	
		(60 ~ 120) W	40 mW	
		(120 ~ 240) W	79 mW	
		(240 ~ 480) W	0.14 mW	
		(480 ~ 500) W	0.24 mW	
		500 W ~ 1 kW	0.42 W	
		(1 ~ 1.2) kW	0.84 W	
		(1.2 ~ 3) kW	2.9 W	
(3 ~ 6) kW	5.8 W			
(6 ~ 12) kW	6.4 W			
(12 ~ 50) kW	24 W			
Power factor		(50 ~ 60) Hz -1 ~ 1	0.000 16	
AC Voltage		(50 ~ 60) Hz 1 V	85 μV	
		(1 ~ 2) V	0.13 mV	
		(2 ~ 5) V	0.37 mV	
		(5 ~ 10) V	0.85 mV	
		(10 ~ 20) V	1.3 mV	
		(20 ~ 50) V	4.5 mV	
		(50 ~ 60) V	5.0 mV	
		(60 ~ 100) V	9.4 mV	
		(100 ~ 150) V	12 mV	
		(150 ~ 200) V	15 mV	
		(200 ~ 300) V	46 mV	
		(300 ~ 500) V	64 mV	
		(500 ~ 600) V	73 mV	
		(600 ~ 750) V	95 mV	
		(750 ~ 1 000) V	0.14 V	
AC Current		(50 ~ 60) Hz 1 mA	0.19 μA	
		(1 ~ 10) mA	1.9 μA	
		(10 ~ 20) mA	3.0 μA	
		(20 ~ 50) mA	11 μA	
		(50 ~ 100) mA	18 μA	
		(100 ~ 200) mA	29 μA	
		(200 ~ 500) mA	0.21 mA	
		(0.5 ~ 1) A	0.35 mA	
		(1 ~ 2) A	0.62 mA	
		(2 ~ 5) A	2.9 mA	
		(5 ~ 10) A	5.6 mA	
		(10 ~ 20) A	15 mA	
		(20 ~ 30) A	29 mA	
		(30 ~ 50) A	31 mA	

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
DC Voltage	40311	1 V	62 μ V	
		(1 ~ 2) V	63 μ V	
		(2 ~ 5) V	67 μ V	
		(5 ~ 20) V	0.64 mV	
		(20 ~ 50) V	0.70 mV	
		(50 ~ 60) V	0.73 mV	
		(60 ~ 200) V	6.5 mV	
		(200 ~ 300) V	6.8 mV	
		(300 ~ 500) V	7.5 mV	
		(500 ~ 600) V	8.0 mV	
		(600 ~ 750) V	8.7 mV	
(750 ~ 1 000) V	62 mV			
DC Current	40311	1 mA	80 nA	
		(1 ~ 10) mA	0.78 μ A	
		(10 ~ 20) mA	1.1 μ A	
		(20 ~ 50) mA	3.6 μ A	
		(50 ~ 100) mA	8.6 μ A	
		(100 ~ 200) mA	13 μ A	
		(200 ~ 500) mA	62 μ A	
		500 mA ~ 1 A	0.13 mA	
		(1 ~ 2) A	0.21 mA	
		(2 ~ 5) A	2.2 mA	
		(5 ~ 10) A	2.6 mA	
		(10 ~ 20) A	4.3 mA	
		(20 ~ 30) A	8.7 mA	
(30 ~ 50) A	11 mA			
Harmonic Voltage	40311	(50 ~ 60) Hz	0.036 %	
		(0.5 % ~ 20 %)		
Harmonic Current	40311	(50 ~ 60) Hz	0.034 %	
		(0.5 % ~ 20 %)		
Frequency	40311	20 Hz	2.8 mHz	
		(20 Hz ~ 1 kHz)	1.3×10^{-4}	
Flicker P_{st}	40311	(1 ~ 4 000) cpm	0.39 %	
		1		
Sinusoidal $P_{inst.max}$	40311	(0.5 ~ 33.333) Hz	0.38 %	
		1		
Square P_{st} Range	40311	(0.5 ~ 28) Hz	0.40 %	
		1		
		(28 ~ 30.5) Hz	1.1 %	
		1		
(30.5 ~ 33.333) Hz	0.40 %			
1				
P_{st} Range	40311	1 620 cpm	0.39 %	
		0.25		
		(0.25 ~ 5)		

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC power supplies AC Voltage	40312	100 mV 20 Hz (20 ~ 50) Hz 50 Hz ~ 1 kHz (1 ~ 10) kHz (10 ~ 100) kHz	21 μV 1.9×10^{-4} 1.7×10^{-4} 1.9×10^{-4} 1.1×10^{-3}	Multimeters / HCT-CS-076-40312
		(0.1 ~ 0.4) V 20 Hz 20 Hz ~ 10 kHz (10 ~ 100) kHz	0.11 mV 2.5×10^{-4} 1.2×10^{-3}	
		(0.4 ~ 0.8) V 20 Hz (20 ~ 50) Hz 50 Hz ~ 1 kHz (1 ~ 10) kHz (10 ~ 100) kHz	0.14 mV 1.7×10^{-4} 1.4×10^{-4} 1.7×10^{-4} 8.8×10^{-4}	
		(0.8 ~ 1) V 20 Hz (20 ~ 50) Hz 50 Hz ~ 1 kHz (1 ~ 10) kHz (10 ~ 100) kHz	0.16 mV 1.4×10^{-4} 1.2×10^{-4} 1.4×10^{-4} 8.2×10^{-4}	
		(1 ~ 4) V 20 Hz 20 Hz ~ 10 kHz (10 ~ 100) kHz	1.1 mV 2.5×10^{-4} 1.2×10^{-3}	
		(4 ~ 8) V 20 Hz (20 ~ 50) Hz 50 Hz ~ 1 kHz (1 ~ 10) kHz (10 ~ 100) kHz	1.4 mV 1.7×10^{-4} 1.5×10^{-4} 1.7×10^{-4} 8.8×10^{-4}	
		(8 ~ 10) V 20 Hz (20 ~ 50) Hz 50 Hz ~ 1 kHz (1 ~ 10) kHz (10 ~ 100) kHz	1.6 mV 1.4×10^{-4} 1.3×10^{-4} 1.4×10^{-4} 8.2×10^{-4}	
		(10 ~ 50) V 20 Hz (20 ~ 50) Hz 50 Hz ~ 1 kHz (1 ~ 10) kHz (10 ~ 100) kHz	15 mV 2.2×10^{-4} 2.0×10^{-4} 2.2×10^{-4} 1.1×10^{-3}	

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Voltage	40312	(50 ~ 80) V 20 Hz	17 mV	
		(20 ~ 50) Hz 50 Hz ~ 1 kHz (1 ~ 10) kHz (10 ~ 100) kHz	1.7×10^{-4} 1.5×10^{-4} 1.7×10^{-4} 8.9×10^{-4}	
AC Voltage	40312	(80 ~ 100) V 20 Hz	19 mV	
		(20 ~ 50) Hz 50 Hz ~ 1 kHz (1 ~ 10) kHz (10 ~ 100) kHz	1.5×10^{-4} 1.3×10^{-4} 1.5×10^{-4} 8.2×10^{-4}	
AC Voltage	40312	(100 ~ 150) V 50 Hz	0.12 V	
		(50 ~ 100) Hz 100 Hz ~ 1 kHz (1 ~ 10) kHz	8.0×10^{-4} 5.4×10^{-4} 8.0×10^{-4}	
AC Voltage	40312	(150 ~ 200) V 50 Hz	0.14 V	
		(50 ~ 100) Hz 100 Hz ~ 1 kHz (1 ~ 10) kHz	7.0×10^{-4} 5.0×10^{-4} 7.0×10^{-4}	
AC Voltage	40312	(200 ~ 300) V 50 Hz	0.14 V	
		(50 ~ 100) Hz 100 Hz ~ 1 kHz (1 ~ 10) kHz	4.7×10^{-4} 3.7×10^{-4} 4.7×10^{-4}	
AC Voltage	40312	(300 ~ 500) V 50 Hz	0.63 V	
		50 Hz ~ 10 kHz	1.3×10^{-3}	
AC Voltage	40312	(500 ~ 800) V 50 Hz	0.63 V	
		50 Hz ~ 10 kHz	7.9×10^{-4}	
AC Voltage	40312	(800 ~ 1 000) V 50 Hz	0.63 V	
		50 Hz ~ 10 kHz	6.4×10^{-4}	
DC Voltage	40312	(1 ~ 1.5) kV 60 Hz	0.012 kV	
		100 mV (0.1 ~ 1) V (1 ~ 10) V (10 ~ 100) V (100 ~ 400) V (400 ~ 1 000) V	6.2 μ V 59 μ V 0.58 mV 2.2 mV 0.062 V 0.62 V	

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Current	40312	100 μ A 50 Hz ~ 10 kHz	71 nA	
		(0.1 ~ 0.4) mA 50 Hz ~ 10 kHz	0.12 μ A	
		(0.4 ~ 0.8) mA 50 Hz ~ 10 kHz	0.15 μ A	
		(0.8 ~ 1) mA 50 Hz ~ 10 kHz	0.18 μ A	
		(1 ~ 4) mA 50 Hz ~ 10 kHz	1.1 μ A	
		(4 ~ 8) mA 50 Hz ~ 10 kHz	1.4 μ A	
		(8 ~ 10) mA 50 Hz ~ 10 kHz	1.6 μ A	
		(10 ~ 40) mA 50 Hz ~ 10 kHz	11 μ A	
		(40 ~ 80) mA 50 Hz ~ 10 kHz	14 μ A	
		(80 ~ 100) mA 50 Hz ~ 10 kHz	15 μ A	
		(0.1 ~ 0.4) A 50 Hz ~ 10 kHz	0.11 mA	
		(0.4 ~ 0.8) A 50 Hz ~ 10 kHz	0.14 mA	
		(0.8 ~ 1) A 50 Hz ~ 10 kHz	0.16 mA	
		(1 ~ 4) A 50 Hz ~ 10 kHz	1.1 mA	
		(4 ~ 8) A 50 Hz ~ 10 kHz	1.5 mA	
		(8 ~ 10) A 50 Hz ~ 10 kHz	1.7 mA	
		(10 ~ 20) A 50 Hz ~ 10 kHz	7.5 mA	
(20 ~ 30) A 50 Hz ~ 10 kHz	8.1 mA			
(30 ~ 45) A 50 Hz ~ 10 kHz	9.3 mA			

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
DC Current	40312	100 μ A	10 nA	
		(0.1 ~ 1) mA	64 nA	
		(1 ~ 10) mA	0.64 μ A	
		(10 ~ 100) mA	6.4 μ A	
		(0.1 ~ 1) A	64 μ A	
		(1 ~ 10) A	0.68 mA	
		(10 ~ 40) A	25 mA	
		(40 ~ 80) A	48 mA	
		(80 ~ 100) A	53 mA	
Frequency		20 Hz	9 μ Hz	
		(20 ~ 100) Hz	7.8×10^{-7}	
		100 Hz ~ 1 kHz	8.4×10^{-7}	
		(1 ~ 10) kHz	9.8×10^{-7}	
		(10 ~ 40) kHz	1.7×10^{-6}	
	(40 ~ 80) kHz	8.9×10^{-7}		
	(80 ~ 100) kHz	7.5×10^{-7}		
Puncture/safety testers	40313			High voltage voltmeters Digital multimeter / HCT-CS-077-40313
AC Voltage		(50 ~ 60) Hz		
		0.1 kV	6.4 V	
		(0.1 ~ 1) kV	6.6 V	
		(1 ~ 4) kV	14 V	
		(4 ~ 10) kV	25 V	
		(10 ~ 20) kV	47 V	
		(20 ~ 30) kV	62 V	
		(30 ~ 75) kV	2.2×10^{-3}	
DC Voltage		0.1 kV	0.64 V	
		(0.1 ~ 1) kV	0.64 V	
		(1 ~ 2) kV	1.4 V	
		(2 ~ 8) kV	6.5×10^{-4}	
		(8 ~ 40) kV	8.5×10^{-4}	
		(40 ~ 100) kV	8.0×10^{-4}	
AC Cutoff Current		(50 ~ 60) Hz		
		0.5 mA	0.42 μ A	
		(0.5 ~ 1) mA	0.86 μ A	
		(1 ~ 5) mA	4.2 μ A	
		(5 ~ 10) mA	8.6 μ A	
		(10 ~ 50) mA	40 μ A	
		(50 ~ 100) mA	83 μ A	
DC Cutoff Current		0.5 mA	82 nA	
		(0.5 ~ 1) mA	0.64 μ A	
		(1 ~ 5) mA	0.82 μ A	
		(5 ~ 10) mA	6.4 μ A	
		(10 ~ 50) mA	8.2 μ A	
		(50 ~ 100) mA	64 μ A	
Insulation Voltage	50 V	0.94 mV		
	(50 ~ 100) V	1.1 mV		
	(100 ~ 800) V	10 mV		
	(0.8 ~ 2) kV	1.4 V		
	(2 ~ 8) kV	6.5×10^{-4}		
	(8 ~ 10) kV	8.3×10^{-4}		

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Insulation Resistance	40313	(1 ~ 7) kΩ	0.65 Ω	
		(7 ~ 10) kΩ	0.99 Ω	
		(10 ~ 100) kΩ	6.6 Ω	
		(100 ~ 200) kΩ	95 Ω	
		(200 ~ 500) kΩ	0.19 kΩ	
		(500 ~ 700) kΩ	0.26 kΩ	
		(700 ~ 1 000) kΩ	0.36 kΩ	
		(1 ~ 100) MΩ	1.3×10^{-3}	
		(100 ~ 1 000) MΩ	2.6×10^{-3}	
		(1 ~ 10) GΩ	6.5×10^{-3}	
		(10 ~ 100) GΩ	1.2×10^{-2}	
Ground Bond AC Current		(50 ~ 60) Hz		
		2 A	5.9 mA	
	(2 ~ 10) A	6.0 mA		
	(10 ~ 20) A	7.5 mA		
	(20 ~ 30) A	8.2 mA		
	(30 ~ 40) A	9.0 mA		
	(40 ~ 50) A	9.9 mA		
	(50 ~ 60) A	14 mA		
Ground Bond Resistance	(50 ~ 60) Hz			
	100 mΩ	1.3 mΩ		
	(100 ~ 500) mΩ	1.2×10^{-2}		
Operating time	1 s	5.9 ms		
	(1 ~ 60) s	1.0×10^{-3}		
Power recorders	40314	(50 ~ 60) Hz		Power calibrators Multimeter calibrators / HCT-CS-078-40314
AC Power		1.5 W	2.5 mW	
		(1.5 ~ 3) W	2.5 mW	
		(3 ~ 12) W	2.9 mW	
		(12 ~ 15) W	3.6 mW	
		(15 ~ 30) W	4.6 mW	
		(30 ~ 60) W	9.1 mW	
		(60 ~ 120) W	27 mW	
		(120 ~ 300) W	46 mW	
		(300 ~ 600) W	91 mW	
		(600 ~ 1 200) W	0.17 W	
		(1.2 ~ 1.5) kW	0.24 W	
		(1.5 ~ 3) kW	0.46 W	
		(3 ~ 6) kW	0.91 W	
		(6 ~ 12) kW	1.7 W	
		(12 ~ 15) kW	2.4 W	
		(15 ~ 30) kW	4.6 W	
		(30 ~ 60) kW	9.1 W	
		(60 ~ 120) kW	20 W	
		(120 ~ 240) kW	31 W	
DC Power		0.5 W	3.7 mW	
		(0.5 ~ 2.5) W	4.4 mW	
		(2.5 ~ 7.5) W	5.3 mW	
	(7.5 ~ 15) W	5.9 mW		
	(15 ~ 24) W	6.6 mW		
	(24 ~ 30) W	7.2 mW		

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.	
DC Power	40314	(30 ~ 50) W	9.5 mW		
		(50 ~ 60) W	12 mW		
		(60 ~ 75) W	15 mW		
		(75 ~ 125) W	42 mW		
		(125 ~ 300) W	71 mW		
		(300 ~ 600) W	0.12 W		
		(600 ~ 750) W	0.25 W		
		(0.75 ~ 1.25) kW	0.87 W		
		(1.25 ~ 3) kW	1.6 W		
		(3 ~ 12.5) kW	6.0 W		
		(12.5 ~ 15) kW	11 W		
		(15 ~ 30) kW	36 W		
		(30 ~ 60) kW	72 W		
		(60 ~ 120) kW	0.15 kW		
		(120 ~ 250) kW	0.29 kW		
		(250 ~ 500) kW	0.60 kW		
		(12.5 ~ 15) kW	2.3 W		
		(15 ~ 25) kW	2.9 W		
		(25 ~ 30) kW	4.6 W		
		(30 ~ 60) kW	7.8 W		
(60 ~ 125) kW	17 W				
(125 ~ 250) kW	32 W				
(250 ~ 500) kW	60 W				
Power Factor	40314	(50 ~ 60) Hz	0.000 16		
		-1 ~ 1			
AC Voltage	40314	(50 ~ 60) Hz			
		1 V			85 μV
		(1 ~ 2) V			0.13 mV
		(2 ~ 5) V			0.37 mV
		(5 ~ 10) V			0.85 mV
		(10 ~ 20) V			1.3 mV
		(20 ~ 50) V			4.5 mV
		(50 ~ 60) V			5.0 mV
		(60 ~ 100) V			9.4 mV
		(100 ~ 150) V			12 mV
		(150 ~ 200) V			15 mV
		(200 ~ 300) V			46 mV
		(300 ~ 500) V			64 mV
		(500 ~ 600) V			73 mV
		(600 ~ 750) V			95 mV
		(750 ~ 1 000) V			0.14 V
AC Current	40314	(50 ~ 60) Hz			
		100 mA			0.24 mA
		100 mA ~ 1 A			2.5 mA
		(1 ~ 10) A			27 mA
		(10 ~ 100) A			0.38 A
		(100 ~ 200) A			0.56 A
		(200 ~ 300) A			0.77 A
		(300 ~ 400) A			0.99 A
		(400 ~ 500) A			1.3 A
		(500 ~ 750) A			2.0 A
		(750 ~ 900) A			2.3 A
		(900 ~ 1 000) A			2.6 A
(1 000 ~ 1 500) A	3.7 A				

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Current	40314	(1 500 ~ 2 000) A (2 000 ~ 2 500) A (2 500 ~ 3 000) A	4.8 A 5.9 A 7.1 A	
AC voltmeters	40318			Multimeter calibrators, Digitor Multimeters AC voltage standard /HCT-CS-079-40318
DC Voltage		2 mV (2 ~ 10) mV (10 ~ 100) mV (0.1 ~ 1) V (1 ~ 10) V (10 ~ 100) V (100 ~ 1 000) V -2 mV (-2 ~ -10) mV (-10 ~ -100) mV (-0.1 ~ -1) V (-1 ~ -10) V (-10 ~ -100) V (-100 ~ -1 000) V	53 μV 5.9×10^{-5} 1.4×10^{-5} 6.7×10^{-6} 4.6×10^{-6} 6.3×10^{-6} 8.1×10^{-6} 53 μV 5.9×10^{-5} 1.4×10^{-5} 6.7×10^{-6} 4.6×10^{-6} 6.3×10^{-6} 8.1×10^{-6}	
AC Voltage		2 mV 40 Hz 40 Hz ~ 50 kHz (50 ~ 100) kHz (100 ~ 500) kHz 500 kHz ~ 1 MHz (2 ~ 10) mV 40 Hz 40 Hz ~ 20 kHz (20 ~ 50) kHz (50 ~ 100) kHz (100 ~ 500) kHz 500 kHz ~ 1 MHz (10 ~ 100) mV 40 Hz 40 Hz ~ 20 kHz (20 ~ 50) kHz (50 ~ 100) kHz 100 kHz ~ 1 MHz 100 mV ~ 1 V 10 Hz (10~ 20) Hz (20 ~ 40) Hz 40 Hz ~ 1 kHz (1 ~ 10) kHz (10 ~ 20) kHz (20 ~ 50) kHz (50 ~ 100) kHz (100 ~ 500) kHz 500 kHz ~ 1 MHz	3.9 μV 2.0×10^{-3} 2.3×10^{-3} 5.5×10^{-3} 6.0×10^{-3} 3.5 μV 3.5×10^{-4} 3.7×10^{-4} 6.1×10^{-4} 1.5×10^{-3} 1.8×10^{-3} 6.0 μV 6.0×10^{-5} 1.2×10^{-4} 1.8×10^{-4} 7.0×10^{-4} 0.23 mV 7.2×10^{-5} 3.8×10^{-5} 2.0×10^{-5} 2.6×10^{-5} 2.0×10^{-5} 4.8×10^{-5} 6.0×10^{-5} 5.0×10^{-4} 5.3×10^{-4}	

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Voltage	40318	(1 ~ 10) V		
		10 Hz	2.3 mV	
		(10~ 20) Hz	7.2×10^{-5}	
		(20 ~ 40) Hz	3.7×10^{-5}	
		40 Hz ~ 20 kHz	2.5×10^{-5}	
		(20 ~ 50) kHz	4.7×10^{-5}	
		(50 ~ 100) kHz	5.9×10^{-5}	
		(100 ~ 500) kHz	5.0×10^{-4}	
		500 kHz ~ 1 MHz	5.6×10^{-4}	
		(10 ~ 100) V		
		40 Hz	3.7 mV	
		40 Hz ~ 20 kHz	3.7×10^{-5}	
		(20 ~ 50) kHz	7.6×10^{-5}	
		(50 ~ 100) kHz	8.3×10^{-5}	
Frequency	40318	(100 ~ 1 000) V		
		40 Hz	35 mV	
		40 Hz ~ 20 kHz	3.5×10^{-5}	
Frequency response	40318	10 Hz	5.8 mHz	
		10 Hz ~ 10 MHz	5.8×10^{-5}	
		(10 ~ 50) MHz	1.2×10^{-4}	
Output Voltage	40318	0 dB (0.774 6 V)		
		20 Hz ~ 100 kHz	0.002 dB	
		(100 ~ 200) kHz	0.005 dB	
Output Voltage	40318	1 V		
		100 Hz	1.1 mV	
		100 Hz ~ 20 kHz	1.0×10^{-3}	
		(20 ~ 50) kHz	2.0×10^{-3}	

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
LF amplifiers	40401	10 Hz		Multimeter calibrators Digital multimeters /HCT-CS-181-40401
Gain		100 mV	33 μ V	
		(0.1 ~ 1) V	3.3×10^{-4}	
		(1 ~ 10) V	3.6×10^{-4}	
		(10 ~ 100) V	1.9×10^{-4}	
		(10 ~ 100) Hz		
		100 mV	25 μ V	
		(0.1 ~ 1) V	2.5×10^{-4}	
		(1 ~ 10) V	3.1×10^{-4}	
		(10 ~ 100) V	1.3×10^{-4}	
		(0.1 ~ 1) kHz		
		100 mV	25 μ V	
		(0.1 ~ 1) V	2.5×10^{-4}	
		(1 ~ 10) V	1.7×10^{-4}	
		(10 ~ 100) V	1.3×10^{-4}	
		(1 ~ 10) kHz		
		100 mV	26 μ V	
		(0.1 ~ 1) V	2.6×10^{-4}	
		(1 ~ 10) V	3.2×10^{-4}	
		(10 ~ 100) V	1.4×10^{-4}	
	(10 ~ 100) kHz			
	100 mV	0.12 mV		
	(0.1 ~ 1) V	1.2×10^{-3}		
	(1 ~ 10) V	1.8×10^{-3}		
	(10 ~ 100) V	8.2×10^{-4}		
	10 Hz ~ 1 kHz			
	(0 ~ 60) dB	0.006 dB		
	(1 ~ 20) kHz			
	(0 ~ 60) dB	0.007 dB		
	(20 ~ 100) kHz			
	(0 ~ 40) dB	0.010 dB		
Charge type amplifier		10 Hz		
Gain		10 mV	60 μ V	
		(10 ~ 100) mV	6.0×10^{-3}	
		(0.1 ~ 1) V	6.8×10^{-4}	
		(1 ~ 9) V	4.5×10^{-4}	
		(10 ~ 100) Hz		
		10 mV	60 μ V	
		(10 ~ 100) mV	6.0×10^{-3}	
		(0.1 ~ 1) V	6.1×10^{-4}	
		(1 ~ 9) V	4.5×10^{-4}	
		(0.1 ~ 1) kHz		
		10 mV	60 μ V	
	(10 ~ 100) mV	6.0×10^{-3}		
	(0.1 ~ 1) V	6.1×10^{-4}		
	(1 ~ 9) V	4.5×10^{-4}		

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Gain	40401	(1 ~ 10) kHz 10 Mv (10 ~ 100) mV (0.1 ~ 1) V (1 ~ 9) V (10 ~ 20) kHz 10 mV (10 ~ 100) mV (0.1 ~ 1) V (1 ~ 9) V	60 μV 6.0×10^{-3} 6.1×10^{-4} 4.5×10^{-4} 60 μV 6.1×10^{-3} 7.6×10^{-4} 1.1×10^{-3}	
DC/LF attenuators Attenuator	40402	20 Hz ~ 20 kHz (0 ~ 50) dB (50 ~ 60) dB (20 ~ 50) kHz (0 ~ 50) dB (50 ~ 60) dB (50 ~ 100) kHz (0 ~ 50) dB (50 ~ 60) dB	0.017 dB 0.044 dB 0.044 dB 0.056 dB 0.044 dB 0.056 dB	Function Generator, Digital Multimeters /HCT-CS-081-40402
Multimeter calibrators DC Voltage AC Voltage	40403	0 mV (0 ~ 100) mV (-0 ~ -100) mV (0.1 ~ 1) V (-0.1 ~ -1) V (1 ~ 10) V (-1 ~ -10) V (10 ~ 100) V (-10 ~ -100) V (100 ~ 1 000) V (-100 ~ -1 000) V (10 Hz) 100 μV (0.1 ~ 100) mV (0.1 ~ 1) V (1 ~ 10) V (10 ~ 100) V (10 ~ 40) Hz 100 μV (0.1 ~ 100) mV (0.1 ~ 1) V (1 ~ 10) V (10 ~ 100) V (100 ~ 1 000) V	0.13 μV 2.3×10^{-6} 2.3×10^{-6} 2.3×10^{-6} 2.3×10^{-6} 2.3×10^{-6} 2.3×10^{-6} 2.3×10^{-6} 2.3×10^{-6} 2.3×10^{-6} 0.27 μV 4.0×10^{-5} 3.3×10^{-5} 4.7×10^{-5} 5.2×10^{-5} 0.13 μV 3.3×10^{-5} 2.7×10^{-5} 1.7×10^{-5} 3.2×10^{-5} 1.5×10^{-5}	Standard cell, Standard resistance, Standard divider, Digital multimeters, AC calibrator /HCT-CS-082-40403

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.	
AC Voltage	40403	(40 ~ 100) Hz			
		100 μV	0.13 μV		
		(0.1 ~ 100) mV	2.0×10^{-5}		
		(0.1 ~ 1) V	2.6×10^{-5}		
		(1 ~ 10) V	2.0×10^{-5}		
		(10 ~ 100) V	3.5×10^{-5}		
		(100 ~ 1 000) V	2.0×10^{-5}		
		(100 ~ 500) Hz			
		100 μV	0.13 μV		
		(0.1 ~ 100) mV	3.1×10^{-5}		
		(0.1 ~ 1) V	1.7×10^{-5}		
		(1 ~ 10) V	2.8×10^{-5}		
		(10 ~ 100) V	2.3×10^{-5}		
		(100 ~ 1 000) V	2.2×10^{-5}		
		500 Hz ~ 1 kHz			
		100 μV	0.13 μV		
		(0.1 ~ 100) mV	3.1×10^{-5}		
		(0.1 ~ 1) V	2.1×10^{-5}		
		(1 ~ 10) V	2.0×10^{-5}		
		(10 ~ 100) V	2.6×10^{-5}		
		(100 ~ 1 000) V	2.7×10^{-5}		
		(1 ~ 10) kHz			
		100 μV	0.13 μV		
		(0.1 ~ 100) mV	2.7×10^{-5}		
		(0.1 ~ 1) V	1.7×10^{-5}		
		(1 ~ 10) V	1.5×10^{-5}		
		(10 ~ 100) V	2.8×10^{-5}		
		(100 ~ 1 000) V	3.1×10^{-5}		
		(10 ~ 20) kHz			
		100 μV	0.13 μV		
		(0.1 ~ 100) mV	2.9×10^{-5}		
		(0.1 ~ 1) V	2.6×10^{-5}		
		(1 ~ 10) V	1.5×10^{-5}		
		(10 ~ 100) V	4.9×10^{-5}		
		(100 ~ 1 000) V	2.7×10^{-5}		
		(20 ~ 30) kHz			
		100 μV	0.21 μV		
		(0.1 ~ 100) mV	3.0×10^{-5}		
		(0.1 ~ 1) V	2.1×10^{-5}		
		(1 ~ 10) V	2.5×10^{-5}		
		(10 ~ 100) V	4.8×10^{-5}		
		(100 ~ 1 000) V	4.4×10^{-5}		
		(30 ~ 50) kHz			
		100 μV	3.5 μV		
		(0.1 ~ 100) mV	4.3×10^{-5}		
		(0.1 ~ 1) V	2.7×10^{-5}		
		(1 ~ 10) V	3.0×10^{-5}		
		(10 ~ 100) V	4.1×10^{-5}		
(100 ~ 600) V	1.1×10^{-4}				

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.	
AC Voltage	40403	(50 ~ 100) kHz			
		100 μ V	0.28 μ V		
		(0.1 ~ 100) mV	6.7×10^{-5}		
		(0.1 ~ 1) V	3.6×10^{-5}		
		(1 ~ 10) V	5.8×10^{-5}		
		(10 ~ 100) V	6.5×10^{-5}		
		(100 ~ 600) V	1.2×10^{-4}		
		(100 ~ 200) kHz			
		100 μ V	0.50 μ V		
		(0.1 ~ 100) mV	1.1×10^{-4}		
		(0.1 ~ 1) V	5.9×10^{-5}		
		(1 ~ 10) V	5.9×10^{-5}		
		(10 ~ 60) V	1.4×10^{-4}		
		(200 ~ 300) kHz			
		100 μ V	0.50 μ V		
		(0.1 ~ 100) mV	1.3×10^{-4}		
		(0.1 ~ 1) V	5.9×10^{-5}		
		(1 ~ 10) V	6.3×10^{-5}		
		(10 ~ 60) V	1.8×10^{-4}		
		(300 ~ 500) kHz			
		100 μ V	0.74 μ V		
		(0.1 ~ 100) mV	1.5×10^{-4}		
		(0.1 ~ 1) V	1.3×10^{-4}		
		(1 ~ 20) V	5.0×10^{-5}		
		100 μ V	0.88 μ V		
		(0.1 ~ 100) mV	4.8×10^{-4}		
		(0.1 ~ 1) V	2.7×10^{-4}		
		(1 ~ 20) V	2.5×10^{-4}		
		(1 ~ 2) MHz			
		100 μ V	0.20 μ V		
		(0.1 ~ 100) mV	4.4×10^{-4}		
		(0.1 ~ 1) V	5.5×10^{-4}		
		(1 ~ 3) V	2.4×10^{-4}		
		(2 ~ 5) MHz			
		100 μ V	0.31 μ V		
		(0.1 ~ 100) mV	9.1×10^{-4}		
(0.1 ~ 1) V	9.0×10^{-4}				
(1 ~ 3) V	7.3×10^{-4}				
(5 ~ 10) MHz					
100 μ V	0.31 μ V				
(0.1 ~ 100) mV	1.1×10^{-3}				
(0.1 ~ 1) V	8.4×10^{-4}				
(1 ~ 3) V	9.1×10^{-4}				
(10 ~ 20) MHz					
100 μ V	0.47 μ V				
(0.1 ~ 100) mV	1.1×10^{-3}				
(0.1 ~ 1) V	7.8×10^{-4}				
(1 ~ 3) V	8.3×10^{-4}				

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Voltage	40403	(20 ~ 30) MHz 100 μ V (0.1 ~ 100) mV (0.1 ~ 1) V (1 ~ 3) V	1.4 μ V 2.2×10^{-3} 1.3×10^{-3} 1.3×10^{-3}	
DC Current		0 μ A (0 ~ 100) μ A (-0 ~ -100) μ A (0.1 ~ 1) mA (-0.1 ~ -1) mA (1 ~ 10) mA (-1 ~ -10) mA (10 ~ 100) mA (-10 ~ -100) mA (0.1 ~ 1) A (-0.1 ~ -1) A (1 ~ 10) A (-1 ~ -10) A (10 ~ 20) A (-10 ~ -20) A	0.81 nA 1.0×10^{-5} 1.0×10^{-5} 1.1×10^{-5} 1.1×10^{-5} 1.2×10^{-5} 1.2×10^{-5} 8.7×10^{-6} 8.7×10^{-6} 8.8×10^{-6} 8.8×10^{-6} 1.6×10^{-5} 1.6×10^{-5} 5.4×10^{-5} 5.4×10^{-5}	
AC Current		(10 Hz) 1 μ A (1 ~ 100) μ A (0.1 ~ 1) mA (1 ~ 10) mA (10 ~ 100) mA (0.1 ~ 1) A (1 ~ 3) A (10 ~ 40) Hz 1 μ A (1 ~ 100) μ A (0.1 ~ 1) mA (1 ~ 10) mA (10 ~ 100) mA (0.1 ~ 1) A (1 ~ 3) A (40 ~ 45) Hz 1 μ A (1 ~ 100) μ A (0.1 ~ 1) mA (1 ~ 10) mA (10 ~ 100) mA (0.1 ~ 1) A (1 ~ 10) A (10 ~ 20) A (45 ~ 100) Hz 1 μ A (1 ~ 100) μ A (0.1 ~ 1) mA (1 ~ 10) mA (10 ~ 100) mA (0.1 ~ 1) A	0.81 nA 3.2×10^{-4} 2.9×10^{-4} 2.9×10^{-4} 2.9×10^{-4} 2.9×10^{-4} 2.9×10^{-4} 9.9×10^{-4} 32 nA 3.2×10^{-4} 2.9×10^{-4} 2.9×10^{-4} 2.9×10^{-4} 2.9×10^{-4} 9.9×10^{-4} 6.6 nA 7.3×10^{-5} 3.7×10^{-5} 4.3×10^{-5} 4.4×10^{-5} 4.5×10^{-5} 2.9×10^{-4} 2.9×10^{-4} 6.6 nA 7.3×10^{-5} 3.7×10^{-5} 4.3×10^{-5} 4.4×10^{-5} 4.7×10^{-5}	

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Current	40403	(1 ~ 10) A	4.9×10^{-5}	
		(10 ~ 20) A	4.7×10^{-5}	
		(100 ~ 200) Hz		
		1 μ A	6.6 nA	
		(1 ~ 100) μ A	7.2×10^{-5}	
		(0.1 ~ 1) mA	3.8×10^{-5}	
		(1 ~ 10) mA	4.3×10^{-5}	
		(10 ~ 100) mA	4.5×10^{-5}	
		(0.1 ~ 1) A	4.7×10^{-5}	
		(1 ~ 10) A	4.8×10^{-5}	
		(10 ~ 20) A	4.7×10^{-5}	
		(200 ~ 500) Hz		
		1 μ A	6.6 nA	
		(1 ~ 100) μ A	7.2×10^{-5}	
		(0.1 ~ 1) mA	3.7×10^{-5}	
		(1 ~ 10) mA	4.3×10^{-5}	
		(10 ~ 100) mA	4.4×10^{-5}	
		(0.1 ~ 1) A	4.5×10^{-5}	
		(1 ~ 10) A	6.3×10^{-5}	
		(10 ~ 20) A	4.8×10^{-5}	
		500 Hz ~ 1 kHz		
		1 μ A	6.6 nA	
		(1 ~ 100) μ A	7.2×10^{-5}	
		(0.1 ~ 1) mA	3.7×10^{-5}	
		(1 ~ 10) mA	4.3×10^{-5}	
		(10 ~ 100) mA	4.5×10^{-5}	
		(0.1 ~ 1) A	4.3×10^{-5}	
		(1 ~ 10) A	4.9×10^{-5}	
		(10 ~ 20) A	4.8×10^{-5}	
		(1 ~ 2) kHz		
		1 μ A	6.7 nA	
		(1 ~ 100) μ A	7.3×10^{-5}	
		(0.1 ~ 1) mA	3.7×10^{-5}	
		(1 ~ 10) mA	4.3×10^{-5}	
		(10 ~ 100) mA	4.3×10^{-5}	
		(0.1 ~ 1) A	4.4×10^{-5}	
		(1 ~ 10) A	4.9×10^{-5}	
		(10 ~ 20) A	4.8×10^{-5}	
		(2 ~ 5) kHz		
		1 μ A	6.7 nA	
		(1 ~ 100) μ A	7.3×10^{-5}	
		(0.1 ~ 1) mA	3.5×10^{-5}	
(1 ~ 10) mA	4.2×10^{-5}			
(10 ~ 100) mA	4.6×10^{-5}			
(0.1 ~ 1) A	4.5×10^{-5}			
(1 ~ 10) A	4.9×10^{-5}			
(10 ~ 20) A	4.9×10^{-5}			

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Current	40403	(5 ~ 10) kHz 1 μA (1 ~ 100) μA (0.1 ~ 1) mA (1 ~ 10) mA (10 ~ 100) mA (0.1 ~ 1) A (1 ~ 3) A	6.7 nA 7.3×10^{-5} 3.7×10^{-5} 4.3×10^{-5} 4.5×10^{-5} 5.0×10^{-5} 2.6×10^{-4}	
		(10 ~ 30) kHz 1 μA (1 ~ 100) μA (0.1 ~ 1) mA (1 ~ 10) mA (10 ~ 100) mA	12 nA 1.2×10^{-4} 6.8×10^{-5} 7.2×10^{-5} 7.2×10^{-5}	
Resistance		0 Ω (0 ~ 1) Ω (1 ~ 10) Ω (10 ~ 100) Ω (0.1 ~ 1) kΩ (1 ~ 10) kΩ (10 ~ 100) kΩ (0.1 ~ 1) MΩ (1 ~ 10) MΩ (10 ~ 100) MΩ (100 ~ 1 000) MΩ (1 ~ 10) GΩ (10 ~ 100) GΩ	4.6 μΩ 9.9×10^{-6} 2.5×10^{-5} 7.7×10^{-6} 7.3×10^{-6} 4.9×10^{-6} 7.3×10^{-6} 9.6×10^{-6} 1.2×10^{-5} 2.5×10^{-5} 3.2×10^{-5} 5.8×10^{-4} 1.2×10^{-3}	
Frequency		1 Hz (1 ~ 10) Hz (10 ~ 100) Hz (0.1 ~ 1) kHz (1 ~ 10) kHz (10 ~ 100) kHz (0.1 ~ 1) MHz (1 ~ 10) MHz (10 ~ 30) MHz	0.58 μHz 5.8×10^{-7} 5.8×10^{-7} 5.8×10^{-7} 5.8×10^{-7} 5.8×10^{-7} 5.8×10^{-7} 5.8×10^{-7} 1.9×10^{-7}	
Multi function calibrator DC Voltage (Meter)		1 mV -1 mV (1 ~ 100) mV (-1 ~ -100) mV (0.1 ~ 1) V (-0.1 ~ -1) V (1 ~ 10) V (-1 ~ -10) V (10 ~ 100) V (-10 ~ -100) V (100 ~ 1 000) V (-100 ~ -1 000) V	0.59 μV 0.59 μV 1.6×10^{-5} 1.6×10^{-5} 8.0×10^{-6} 8.0×10^{-6} 5.5×10^{-6} 5.5×10^{-6} 8.5×10^{-6} 8.5×10^{-6} 1.0×10^{-5} 1.0×10^{-5}	Meter calibrators, Digital multimeters, Frequency counters, LCR meters /HCT-CS-276-40403

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Multi Function Calibrator DC Voltage (Meter)	40403	1 μ A	2.4 nA	
		-1 μ A	2.4 nA	
		(1 ~ 100) μ A	1.4×10^{-4}	
		(-1 ~ -100) μ A	1.4×10^{-4}	
		(0.1 ~ 1) mA	5.6×10^{-5}	
		(-0.1 ~ -1) mA	5.6×10^{-5}	
		(1 ~ 10) mA	5.2×10^{-5}	
		(-1 ~ -10) mA	5.2×10^{-5}	
		(10 ~ 100) mA	5.7×10^{-5}	
		(-10 ~ -100) mA	5.7×10^{-5}	
		(0.1 ~ 1) A	1.2×10^{-4}	
		(-0.1 ~ -1) A	1.2×10^{-4}	
		(1 ~ 10) A	1.0×10^{-4}	
		(-1 ~ -10) A	9.9×10^{-5}	
		(10 ~ 20) A	1.0×10^{-4}	
(-10 ~ -20) A	9.9×10^{-5}			
Resistance (Meter)	40403	1 Ω	11 μ Ω	
		(1 ~ 100) Ω	6.9×10^{-6}	
		(0.1 ~ 1) k Ω	6.9×10^{-6}	
		(1 ~ 10) k Ω	4.6×10^{-6}	
		(10 ~ 100) k Ω	7.0×10^{-6}	
		(0.1 ~ 1) M Ω	9.3×10^{-6}	
		(1 ~ 10) M Ω	1.2×10^{-5}	
		(10 ~ 100) M Ω	2.5×10^{-5}	
		(0.1 ~ 1) G Ω	6.2×10^{-4}	
		AC Voltage (Meter)	40403	(10 ~ 40) Hz
1 mV	4.8 μ V			
(1 ~ 100) mV	1.8×10^{-4}			
(0.1 ~ 1) V	1.2×10^{-4}			
(1 ~ 10) V	1.3×10^{-4}			
(10 ~ 100) V	1.3×10^{-4}			
(100 ~ 1 000) V	3.7×10^{-4}			
(40 ~ 500) Hz				
1 mV	4.7 μ V			
(1 ~ 100) mV	1.5×10^{-4}			
(0.1 ~ 1) V	5.9×10^{-5}			
(1 ~ 10) V	5.8×10^{-5}			
(10 ~ 100) V	7.1×10^{-5}			
(100 ~ 1 000) V	8.7×10^{-5}			
500 Hz ~ 1 kHz				
1 mV	4.7 μ V			
(1 ~ 100) mV	1.5×10^{-4}			
(0.1 ~ 1) V	5.9×10^{-5}			
(1 ~ 10) V	5.8×10^{-5}			
(10 ~ 100) V	7.1×10^{-5}			
(100 ~ 1 000) V	8.7×10^{-5}			
(1 ~ 10) kHz				
1 mV	4.7 μ V			
(1 ~ 100) mV	1.5×10^{-4}			
(0.1 ~ 1) V	6.1×10^{-5}			
(1 ~ 10) V	5.8×10^{-5}			
(10 ~ 100) V	7.1×10^{-5}			
(100 ~ 1 000) V	2.0×10^{-4}			

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Voltage (Meter)	40403	(10 ~ 20) kHz		
		1 mV	4.7 μV	
		(1 ~ 100) mV	1.5×10^{-4}	
		(0.1 ~ 1) V	7.7×10^{-5}	
		(1 ~ 10) V	5.8×10^{-5}	
		(10 ~ 100) V	7.1×10^{-5}	
		(100 ~ 1 000) V	2.0×10^{-4}	
		(20 ~ 50) kHz		
		1 mV	4.9 μV	
		(1 ~ 100) mV	2.2×10^{-4}	
		(0.1 ~ 1) V	9.4×10^{-5}	
		(1 ~ 10) V	9.4×10^{-5}	
		(10 ~ 100) V	1.1×10^{-4}	
		(50 ~ 100) kHz		
		1 mV	6.4 μV	
		(1 ~ 100) mV	5.5×10^{-4}	
		(0.1 ~ 1) V	1.4×10^{-4}	
		(1 ~ 10) V	1.3×10^{-4}	
(10 ~ 100) V	2.1×10^{-4}			
AC Current (Meter)	40403	(10 ~ 40) Hz		
		1 μA	12 nA	
		(1 ~ 100) μA	3.1×10^{-4}	
		(0.1 ~ 1) mA	2.3×10^{-4}	
		(1 ~ 10) mA	2.3×10^{-4}	
		(10 ~ 100) mA	2.3×10^{-4}	
		(0.1 ~ 1) A	3.4×10^{-4}	
		(1 ~ 10) A	1.5×10^{-4}	
		(10 ~ 20) A	1.5×10^{-4}	
		(40 ~ 500) Hz		
		1 μA	9.4 nA	
		(1 ~ 100) μA	2.2×10^{-4}	
		(0.1 ~ 1) mA	1.7×10^{-4}	
		(1 ~ 10) mA	1.7×10^{-4}	
		(10 ~ 100) mA	1.6×10^{-4}	
		(0.1 ~ 1) A	3.4×10^{-4}	
		(1 ~ 10) A	5.5×10^{-4}	
		(10 ~ 20) A	4.7×10^{-4}	
		500 Hz ~ 1 kHz		
		1 μA	9.4 nA	
		(1 ~ 100) μA	2.2×10^{-4}	
		(0.1 ~ 1) mA	1.7×10^{-4}	
		(1 ~ 10) mA	1.7×10^{-4}	
		(10 ~ 100) mA	1.6×10^{-4}	
		(0.1 ~ 1) A	3.4×10^{-4}	
		(1 ~ 10) A	5.5×10^{-4}	
		(10 ~ 20) A	4.7×10^{-4}	

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.		
AC Current (Meter)	40403	(1 ~ 5) kHz				
		1 μ A	14 nA			
		(1 ~ 100) μ A	4.9×10^{-4}			
		(0.1 ~ 1) mA	3.8×10^{-4}			
		(1 ~ 10) mA	3.4×10^{-4}			
		(10 ~ 100) mA	3.2×10^{-4}			
		(0.1 ~ 1) A	6.6×10^{-4}			
		(5 ~ 10) kHz				
		1 μ A	76 nA			
		(1 ~ 100) μ A	2.1×10^{-3}			
		(0.1 ~ 1) mA	2.1×10^{-3}			
		(1 ~ 10) mA	1.9×10^{-3}			
		(10 ~ 100) mA	1.5×10^{-3}			
		(0.1 ~ 1) A	8.3×10^{-3}			
DC Voltage (Source)		1 mV	0.12 μ V			
		-1 mV	0.12 μ V			
		(1 ~ 100) mV	4.9×10^{-6}			
		(-1 ~ -100) mV	4.9×10^{-6}			
		(0.1 ~ 1) V	3.9×10^{-6}			
		(-0.1 ~ -1) V	3.9×10^{-6}			
		(1 ~ 10) V	3.7×10^{-6}			
		(-1 ~ -10) V	3.7×10^{-6}			
		(10 ~ 100) V	5.2×10^{-6}			
		(-10 ~ -100) V	5.2×10^{-6}			
		(100 ~ 1 000) V	5.5×10^{-6}			
		(-100 ~ -1 000) V	5.5×10^{-6}			
		DC Current (Source)		1 μ A	0.48 nA	
				-1 μ A	0.48 nA	
(1 ~ 100) μ A	6.1×10^{-5}					
(-1 ~ -100) μ A	6.1×10^{-5}					
(0.1 ~ 1) mA	1.1×10^{-5}					
(-0.1 ~ -1) mA	1.1×10^{-5}					
(1 ~ 10) mA	1.1×10^{-5}					
(-1 ~ -10) mA	1.1×10^{-5}					
(10 ~ 100) mA	2.3×10^{-5}					
(-10 ~ -100) mA	2.3×10^{-5}					
(0.1 ~ 1) A	3.8×10^{-5}					
(-0.1 ~ -1) A	3.8×10^{-5}					
(1 ~ 10) A	1.6×10^{-4}					
(-1 ~ -10) A	1.6×10^{-4}					
Resistance (Source)		1 Ω	18 μ Ω			
		(1 ~ 100) Ω	9.1×10^{-6}			
		(0.1 ~ 1) k Ω	9.0×10^{-6}			
		(1 ~ 10) k Ω	9.0×10^{-6}			
		(10 ~ 100) k Ω	9.1×10^{-6}			
		(0.1 ~ 1) M Ω	1.0×10^{-5}			
		(1 ~ 10) M Ω	1.1×10^{-5}			
		(10 ~ 100) M Ω	3.2×10^{-5}			

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Current (Source)	40403	(10 ~ 40) Hz		
		1 μA	0.42 nA	
		(1 ~ 100) μA	4.2×10^{-4}	
		(0.1 ~ 1) mA	4.1×10^{-4}	
		(1 ~ 10) mA	4.1×10^{-4}	
		(10 ~ 100) mA	4.1×10^{-4}	
		(0.1 ~ 1) A	8.1×10^{-4}	
		(1 ~ 10) A	1.0×10^{-3}	
		(40 ~ 500) Hz		
		1 μA	0.42 nA	
		(1 ~ 100) μA	4.2×10^{-4}	
		(0.1 ~ 1) mA	4.1×10^{-4}	
		(1 ~ 10) mA	4.1×10^{-4}	
		(10 ~ 100) mA	4.1×10^{-4}	
		(0.1 ~ 1) A	8.1×10^{-4}	
		(1 ~ 10) A	1.0×10^{-3}	
		500 Hz ~ 1 kHz		
		1 μA	0.42 nA	
		(1 ~ 100) μA	4.2×10^{-4}	
		(0.1 ~ 1) mA	4.1×10^{-4}	
		(1 ~ 10) mA	4.1×10^{-4}	
		(10 ~ 100) mA	4.1×10^{-4}	
		(0.1 ~ 1) A	8.1×10^{-4}	
		(1 ~ 10) A	1.0×10^{-3}	
		(1 ~ 5) kHz		
		1 μA	0.46 nA	
		(1 ~ 100) μA	4.6×10^{-4}	
		(0.1 ~ 1) mA	4.1×10^{-4}	
		(1 ~ 10) mA	4.2×10^{-4}	
		(10 ~ 100) mA	4.1×10^{-4}	
(0.1 ~ 1) A	9.4×10^{-4}			
(1 ~ 10) A	3.1×10^{-3}			
(5 ~ 10) kHz				
1 μA	0.45 nA			
(1 ~ 100) μA	4.6×10^{-4}			
(0.1 ~ 1) mA	4.1×10^{-4}			
(1 ~ 10) mA	4.2×10^{-4}			
(10 ~ 100) mA	4.1×10^{-4}			
(0.1 ~ 1) A	1.0×10^{-3}			
(1 ~ 10) A	3.0×10^{-3}			
DC Voltage (Electrical temperature)		0 mV	0.49 μV	
		(-10 ~ 0) mV	4.9×10^{-5}	
		(0 ~ 1) mV	4.9×10^{-4}	
		(1 ~ 10) mV	4.9×10^{-5}	
		(10 ~ 100) mV	4.9×10^{-6}	
		(0.1 ~ 1) V	5.8×10^{-5}	

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Time mark	40403	1 ns	2.7 ps	
		(1~ 10) ns	2.7×10^{-4}	
		(10 ~ 100) ns	2.7×10^{-5}	
		(0.1 ~ 1) μs	2.8×10^{-6}	
		(1 ~ 10) μs	6.4×10^{-7}	
		(10 ~ 100) μs	5.8×10^{-7}	
		(0.1 ~ 1) ms	5.8×10^{-7}	
		(1 ~ 10) ms	5.8×10^{-7}	
		(10 ~ 100) ms	5.8×10^{-7}	
		(0.1 ~ 1) s	5.8×10^{-7}	
Frequency	40403	1 Hz	0.58 μHz	
		(1 ~ 10) Hz	5.8×10^{-7}	
		(10 ~ 100) Hz	5.8×10^{-7}	
		(0.1 ~ 1) kHz	5.8×10^{-7}	
		(1 ~ 10) kHz	5.8×10^{-7}	
		(10 ~ 100) kHz	5.8×10^{-7}	
		(0.1 ~ 1) MHz	5.8×10^{-7}	
		(1~ 10) MHz	5.8×10^{-7}	
		(10 ~ 100) MHz	5.8×10^{-7}	
		(0.1 ~ 1) GHz	5.8×10^{-7}	
Capacitance	40403	DC		
		1 mF	0.60 μF	
		(1 ~ 10) mF	1.1×10^{-4}	
		(10 ~ 110) mF	4.8×10^{-5}	
		50 Hz		
		100 μF	32 nF	
		100 Hz		
		1 μF	0.39 nF	
		(1 ~ 10) μF	2.5×10^{-4}	
		(10 ~ 100) μF	3.2×10^{-4}	
		120 Hz		
		100 μF	32 nF	
		1 kHz		
		1 pF	0.39 fF	
		(1~ 10) pF	3.8×10^{-4}	
		(10 ~ 100) pF	2.6×10^{-4}	
		(0.1 ~ 1) nF	2.6×10^{-4}	
		(1 ~ 10) nF	2.5×10^{-4}	
		(10 ~ 100) nF	2.5×10^{-4}	
		(1 ~ 10) μF	2.5×10^{-4}	
		(0.1 ~ 1) μF	2.5×10^{-4}	
		(1 ~ 10) kHz		
		1 pF	0.39 fF	
		(1~ 10) pF	3.8×10^{-4}	
		(10 ~ 100) pF	3.8×10^{-4}	
		(0.1 ~ 1) nF	3.8×10^{-4}	
(1 ~ 10) nF	3.8×10^{-4}			
(10 ~ 100) nF	3.8×10^{-4}			
(0.1 ~ 1) μF	3.8×10^{-4}			

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Capacitance	40403	(10 ~ 100) kHz 1 pF (1~ 10) pF (10 ~ 100) pF (0.1 ~ 1) nF (1 ~ 10) nF (100 ~ 500) kHz 1 pF (1~ 10) pF (10 ~ 100) pF (0.1 ~ 1) nF (0.5 ~ 1) MHz 1 pF (1~ 10) pF (10 ~ 100) pF (0.1 ~ 1) nF	0.39 fF 3.8×10^{-4} 3.8×10^{-4} 3.8×10^{-4} 3.8×10^{-4} 0.39 fF 3.8×10^{-4} 3.8×10^{-4} 3.8×10^{-4} 0.63 fF 6.3×10^{-4} 6.3×10^{-4} 6.3×10^{-4}	
Inductance(Source)		1 kHz 100 μH (0.1 ~ 1) mH (1 ~ 10) mH (10 ~ 100) mH (0.1 ~ 1) H (1 ~ 10) H (1 ~ 10) kHz 100 μH (0.1 ~ 1) mH (1 ~ 10) mH	28 nH 2.7×10^{-4} 2.7×10^{-4} 2.7×10^{-4} 2.7×10^{-4} 2.7×10^{-4} 2.8×10^{-4} 28 nH 2.7×10^{-4} 2.7×10^{-4}	
Oscilloscope calibrators DC Voltage	40404	Positive & Negative 0 mV (0 ~ 2.5) mV (2.5 ~ 5) mV (5 ~ 10) mV (10 ~ 25) mV (25 ~ 50) mV (50 ~ 100) mV (100 ~ 250) mV (250 ~ 500) mV (0.5 ~ 1) V (1 ~ 2.5) V (2.5 ~ 5) V (5 ~ 10) V (10 ~ 25) V (25 ~ 50) V (50 ~ 100) V (100 ~ 150) V (150 ~ 200) V	0.060 μV 1.1×10^{-4} 5.6×10^{-5} 6.4×10^{-5} 2.6×10^{-5} 1.3×10^{-5} 5.8×10^{-5} 2.4×10^{-5} 1.3×10^{-5} 5.8×10^{-5} 2.4×10^{-5} 1.2×10^{-5} 5.8×10^{-5} 2.4×10^{-5} 1.3×10^{-5} 5.8×10^{-5} 4.0×10^{-5} 3.1×10^{-5}	Digital multimeters, Counters, Power meters, Oscilloscopes, Spectrum analyzers AC Calibrators / HCT-CS-083-40404

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Square/Edge Wave Voltage	40404	1 kHz		
		5 mV	3.2 μV	
		(5 ~ 10) mV	7.0×10^{-4}	
		(10 ~ 25) mV	3.4×10^{-4}	
		(25 ~ 50) mV	2.2×10^{-4}	
		(50 ~ 100) mV	1.7×10^{-4}	
		(100 ~ 250) mV	1.4×10^{-4}	
		(250 ~ 500) mV	7.4×10^{-5}	
		(0.5 ~ 1) V	1.3×10^{-2}	
		(1 ~ 2.5) V	1.2×10^{-4}	
		(2.5 ~ 5) V	1.7×10^{-4}	
		(5 ~ 10) V	1.6×10^{-4}	
		(10 ~ 25) V	1.3×10^{-4}	
		(25 ~ 50) V	1.0×10^{-4}	
		(50 ~ 100) V	1.4×10^{-4}	
		(100 ~ 130) V	1.1×10^{-4}	
		(130 ~ 200) V	8.0×10^{-5}	
		100 kHz		
		10 mV	28 μV	
		(10 ~ 25) mV	2.7×10^{-3}	
		(25 ~ 50) mV	1.7×10^{-3}	
		(50 ~ 100) mV	1.3×10^{-3}	
		(100 ~ 250) mV	1.1×10^{-3}	
		(250 ~ 500) mV	1.5×10^{-3}	
(0.5 ~ 1) V	1.2×10^{-3}			
(1 ~ 2.5) V	8.2×10^{-4}			
Square/Edge Wave Frequency		10 Hz	5.8 μHz	
		10 Hz ~ 1 kHz	5.8×10^{-8}	
		(1 ~ 10) kHz	2.8×10^{-8}	
		10 kHz ~ 10 MHz	5.8×10^{-8}	
Edge TD Pulse Drive		(10 ~ 100) Hz		
		11 V	5.4 mV	
		(11 ~ 100) V	5.5×10^{-5}	
		(0.1 ~ 1) kHz		
Edge TD Pulse Drive		11 V	5.4 mV	
		(11 ~ 100) V	5.5×10^{-5}	
Edge Duty Cycle		50 %	0.058 %	
Edge Rise Time		300 ps	0.64 ps	
		(300 ~ 500) ps	1.5×10^{-3}	
Leveled Sine Wave (Harmonic)		50 kHz ~ 6 GHz		
		-10 dBc	0.64 dB	
		(-10 ~ -80) dBc	0.64 dB	
RF output levels (V : pp)		50 kHz ~ 600 MHz		
		60 mV	1.0 mV	
		(60 ~ 300) mV	1.6×10^{-2}	
		(300 ~ 600) mV	1.5×10^{-2}	
		600 mV ~ 5.5 V	1.6×10^{-2}	

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
RF output levels (V : pp)	40404	600 MHz ~ 1 GHz 60 mV (60 ~ 300) mV (300 ~ 600) mV 600 mV ~ 3.5 V (1 ~ 2) GHz 60 mV (60 ~ 300) mV (300 ~ 600) mV 600 mV ~ 3 V (2 ~ 6) GHz 60 mV (60 ~ 300) mV (300 ~ 600) mV 600 mV ~ 1.2 V	1.0 mV 1.6×10^{-2} 1.5×10^{-2} 1.6×10^{-2} 1.0 mV 1.6×10^{-2} 1.5×10^{-2} 1.6×10^{-2} 1.0 mV 1.6×10^{-2} 1.5×10^{-2} 1.6×10^{-2}	
Leveled Sine Wave (Frequency)		500 MHz (0.5 ~ 6) GHz	1.4 Hz 3.2×10^{-8}	
Leveled Sine Wave (Amplitude)		10 Hz 5 mV (5 ~ 100) mV (0.1 ~ 1) V (1 ~ 5.5) V (0.01 ~ 50) kHz 5 mV (5 ~ 100) mV (0.1 ~ 1) V (1 ~ 5.5) V	4.3 μ V 5.9×10^{-5} 6.6×10^{-4} 1.2×10^{-4} 5.1 μ V 1.1×10^{-4} 6.6×10^{-4} 1.4×10^{-4}	
Wave Generator (Square)		10 Hz 10 mV (10 ~ 900) mV (0.9 ~ 2.5) V (2.5 ~ 3.75) V (3.75 ~ 55) V (0.01 ~ 1) kHz 10 mV (10 ~ 900) mV (0.9 ~ 2.5) V (2.5 ~ 3.75) V (3.75 ~ 55) V	3.3 μ V 6.7×10^{-5} 3.2×10^{-4} 2.1×10^{-4} 4.4×10^{-5} 3.0 μ V 2.6×10^{-5} 2.6×10^{-4} 1.9×10^{-4} 2.1×10^{-5}	
Wave Generator (Sine)		(1 ~ 10) kHz 2.5 V (2.5 ~ 3.75) V (3.75 ~ 55) V 10 Hz 10 mV (0.01 ~ 55) V	0.73 mV 1.3×10^{-5} 4.3×10^{-5} 3.1 μ V 3.0×10^{-5}	

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Wave Generator (Sine)	40404	(0.01 ~ 1) kHz 10 mV (0.01 ~ 55) V	3.0 μV 2.1×10 ⁻⁵	
Wave Generator (Triangle)		10 Hz 10 mV (0.01 ~ 55) V	3.0 μV 2.6×10 ⁻⁵	
		(0.01 ~ 1) kHz 10 mV (0.01 ~ 55) V	3.0 μV 1.8×10 ⁻⁵	
Pulse Generator (Priod)		10 ns (0.01 ~ 20) μs (20 ~ 100) μs	0.58 ps 2.9×10 ⁻⁵ 5.8×10 ⁻⁶	
Pulse Generator (Width)		4 ns (4 ~ 100) ns	1.2 ps 1.0×10 ⁻³	
Time mark		1 ns (1 ~ 2) ns (2 ~ 5) ns (5 ~ 10) ns (10 ~ 20) ns (20 ~ 50) ns (50 ~ 100) ns (100 ~ 200) ns (200 ~ 500) ns (0.5 ~ 1) μs (1 ~ 2) μs (2 ~ 5) μs (5 ~ 10) μs (10 ~ 20) μs (20 ~ 50) μs (50 ~ 100) μs (100 ~ 200) μs (200 ~ 500) μs (0.5 ~ 1) ms (1 ~ 2) ms (2 ~ 5) ms (5 ~ 10) ms (10 ~ 20) ms (20 ~ 50) ms (50 ~ 100) ms (100 ~ 200) ms (200 ~ 500) ms (0.5 ~ 1) s (1 ~ 2) s (2 ~ 5) s (5 ~ 10) s (10 ~ 20) s	2.7 ps 1.4×10 ⁻³ 5.4×10 ⁻⁴ 2.7×10 ⁻⁴ 1.4×10 ⁻⁴ 5.4×10 ⁻⁵ 2.7×10 ⁻⁵ 1.4×10 ⁻⁵ 5.4×10 ⁻⁶ 2.8×10 ⁻⁶ 1.4×10 ⁻⁶ 5.5×10 ⁻⁷ 6.4×10 ⁻⁷ 3.2×10 ⁻⁷ 1.3×10 ⁻⁷ 5.8×10 ⁻⁷ 2.9×10 ⁻⁷ 1.2×10 ⁻⁷ 5.8×10 ⁻⁷ 2.9×10 ⁻⁷ 1.2×10 ⁻⁷ 5.8×10 ⁻⁷ 2.9×10 ⁻⁷ 1.2×10 ⁻⁷ 5.8×10 ⁻⁷ 2.9×10 ⁻⁷ 1.2×10 ⁻⁷ 5.8×10 ⁻⁷ 2.9×10 ⁻⁷	

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Frequency	40404	50 mHz (50 ~ 100) mHz (100 ~ 200) mHz (200 ~ 500) mHz (0.5 ~ 1) Hz (1 ~ 2) Hz (2 ~ 5) Hz (5 ~ 10) Hz (10 ~ 20) Hz (20 ~ 50) Hz (50 ~ 100) Hz (100 ~ 200) Hz (200 ~ 500) Hz (0.5 ~ 1) kHz (1 ~ 2) kHz (2 ~ 5) kHz (5 ~ 10) kHz (10 ~ 20) kHz (20 ~ 50) kHz (50 ~ 100) kHz (100 ~ 200) kHz (200 ~ 500) kHz (0.5 ~ 1) MHz (1 ~ 2) MHz (2 ~ 5) MHz (5 ~ 10) MHz (10 ~ 20) MHz (20 ~ 50) MHz (50 ~ 100) MHz (100 ~ 200) MHz (200 ~ 500) MHz (0.5 ~ 1.1) GHz	5.8 nHz 5.8×10^{-7} 2.9×10^{-7} 1.2×10^{-7} 5.8×10^{-7} 2.9×10^{-7} 1.2×10^{-7} 5.8×10^{-7} 2.9×10^{-7} 1.2×10^{-7} 5.8×10^{-7} 2.9×10^{-7} 1.2×10^{-7} 5.8×10^{-7} 2.9×10^{-7} 1.2×10^{-7} 5.8×10^{-7} 2.9×10^{-7} 1.2×10^{-7} 5.8×10^{-7} 2.9×10^{-7} 1.2×10^{-7} 5.8×10^{-7} 2.9×10^{-7} 1.2×10^{-7} 5.8×10^{-7} 2.9×10^{-7} 1.2×10^{-7} 5.2×10^{-7}	
MeasZ (Resistance)		40 Ω 40 Ω ~ 1.5 MΩ	12 mΩ 2.8×10^{-4}	
MeasZ (Capacitance)		50 pF (50 ~ 100) pF	0.10 pF 1.8×10^{-3}	
Video signal generators	40406			Frequency counters, Video signal analyzers, Oscilloscopes /HCT-CS-084-40406
DOT Frequency		10 kHz ~ 1 000 MHz	5.8×10^{-7}	
SYNC Frequency		50 Hz ~ 1 MHz	5.8×10^{-7}	
SYNC WIDTH(Time)		1 μs (1 ~ 100) μs	1.2 ns 1.2×10^{-3}	
Analog Video Level		100 mV (100 ~ 1 000) mV	1.2 mV 1.2×10^{-2}	
Analog Sync Level		1 V (1 ~ 5) V	20 mV 1.4×10^{-2}	
Audio Level		100 mV (100 ~ 1 000) mV	1.2 mV 1.2×10^{-2}	
S-Video Level		100 mV (100 ~ 1 000) mV	1.2 mV 1.2×10^{-2}	

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Component Level	40406	100 mV (100 ~ 1 000) mV	1.2 mV 1.2×10^{-2}	
Scart Video Level		100 mV (100 ~ 1 000) mV	1.2 mV 1.2×10^{-2}	
Scart Audio Level		100 mV (100 ~ 1 000) mV	1.2 mV 1.2×10^{-2}	
NTSC,PAL,SECAM H-Timing Test (Time)		100 ns (100 ~ 300) ns	0.60 ns 3.9×10^{-2}	
(Level)		300 ns ~ 9 μ s 50 mV (50 ~ 900) mV	1.4×10^{-3} 0.62 mV 6.2×10^{-3}	
NTSC,PAL,SECAM COLOR BAR (LUMINANCE Level)		50 mV (50 ~ 900) mV	0.32 mV 3.2×10^{-3}	
NTSC,PAL,SECAM COLOR BAR (CHROMINANCE Level)		50 mV (50 ~ 900) mV	0.32 mV 3.2×10^{-3}	
NTSC,PAL,SECAM COLOR BAR (CHROMINANCE Phase)		0 ° ~ 360 °	0.55 °	
RF Frequency		10 kHz ~ 1 000 MHz	5.8×10^{-7}	
Sound Frequency		10 Hz ~ 1 MHz	5.8×10^{-7}	
SUB CARRIER Frequency				
NTSC	3.579 545 MHz	0.58 Hz		
PAL	4.433 619 MHz	0.58 Hz		
Audio distortion analyzers/meters	40407			Multimeter calibrators, Distortion meter calibrators /HCT-CS-085-40407
Distortion meter		1 Hz ~ 1 MHz	6.2×10^{-5}	
Input frequency				
AC input levels		2 mV		
		10 Hz	5.3 μ V	
		10 Hz ~ 20 kHz	2.5×10^{-3}	
		(20 ~ 50) kHz	2.6×10^{-3}	
		(50 ~ 100) kHz	3.6×10^{-3}	
		(2 ~ 10) mV		
		10 Hz	9.8 μ V	
	10 Hz ~ 20 kHz	1.1×10^{-3}		
	(20 ~ 50) kHz	1.2×10^{-3}		
	(50 ~ 100) kHz	1.8×10^{-3}		
	(10 ~ 100) mV			
	10 Hz	74 μ V		
	10 Hz ~ 20 kHz	6.3×10^{-4}		
	(20 ~ 50) kHz	6.5×10^{-4}		
	(50 ~ 100) kHz	9.4×10^{-4}		
	(0.1 ~ 1) V			
	10 Hz	0.69 mV		
	10 Hz ~ 20 kHz	6.1×10^{-4}		
	(20 ~ 50) kHz	6.2×10^{-4}		
	(50 ~ 100) kHz	6.3×10^{-4}		

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.		
AC input levels	40407	(1 ~ 10) V				
		10 Hz	6.9 mV			
		10 Hz ~ 20 kHz	6.1×10^{-4}			
		(20 ~ 50) kHz	6.2×10^{-4}			
		(50 ~ 100) kHz	6.2×10^{-4}			
		(10 ~ 100) V				
		10 Hz	70 mV			
		10 Hz ~ 20 kHz	6.2×10^{-4}			
		(20 ~ 50) kHz	6.2×10^{-4}			
		(50 ~ 100) kHz	6.5×10^{-4}			
		(100 ~ 300) V				
		50 Hz	0.14 V			
		50 Hz ~ 1 kHz	2.3×10^{-4}			
		DC input levels		1 mV	6.2 μ V	
				1 mV ~ 100 V	6.1×10^{-4}	
(100 ~ 300) V	2.1×10^{-4}					
Input distortion		(20 Hz ~ 20 kHz)				
		(-10 ~ -60) dB	0.31 dB			
		(-60 ~ -70) dB	0.38 dB			
		(-70 ~ -80) dB	0.55 dB			
		20 Hz ~ 20 kHz				
		0.01% (0.01 ~ 30) %	0.000 55 % 3.1×10^{-2}			
Distortion meter calibrators Output level		100 mV				
		20 Hz	65 μ V			
		20 Hz ~ 1 kHz	6.3×10^{-4}			
		(1 ~ 20) kHz	7.4×10^{-4}			
		(20 ~ 100) kHz	1.1×10^{-3}			
		(0.1 ~ 1) V				
		20 Hz	0.63 mV			
		20 Hz ~ 1 kHz	6.2×10^{-4}			
		(1 ~ 20) kHz	6.7×10^{-4}			
		(20 ~ 100) kHz	9.3×10^{-4}			
		Output level		(1 ~ 10) V		
				20 Hz	6.3 mV	
				20 Hz ~ 1 kHz	6.2×10^{-4}	
				(1 ~ 20) kHz	6.7×10^{-4}	
				(20 ~ 100) kHz	9.3×10^{-4}	
Output distortion		20 Hz ~ 100 kHz				
		(-10 ~ -20) dB	0.88 dB			
		20 Hz ~ 100 kHz				
		(-20 ~ -50) dB	1.1 dB			
		20 Hz ~ 100 kHz (-50 ~ -80) dB	1.4 dB			

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
LF filters Frequency Level	40408	30 Hz ~ 30 MHz (0 ~ 90) dB 20 Hz ~ 100 kHz	5.8×10^{-4} 0.010 dB	Audio analyzers, Function generators /HCT-CS-087-40408
LF/audio signal analyzers Output Frequency Output level	40409	1 Hz ~1 MHz 2 mV 20 Hz 20 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz (2 ~100) mV 20 Hz 20 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz (0.1 ~ 1) V 20 Hz 20 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz (1 ~ 10) V 20 Hz 20 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz (10 ~ 100) V 20 Hz 20 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz (10 ~ -10) dBm 20 Hz 20 Hz ~ 20 kHz (20 ~ 50) kHz (50 ~ 100) kHz (-10 ~ -30) dBm 20 Hz 20 Hz ~ 20 kHz (20 ~ 50) kHz (50 ~ 100) kHz (-30 ~ -40) dBm 20 Hz 20 Hz ~ 20 kHz (20 ~ 50) kHz (50 ~ 100) kHz	6.2×10^{-5} 7.9 μ V 3.5×10^{-3} 6.0×10^{-3} 1.3×10^{-2} 20 μ V 1.8×10^{-4} 4.5×10^{-4} 1.1×10^{-3} 0.16 mV 1.2×10^{-4} 2.9×10^{-4} 8.2×10^{-4} 1.6 mV 1.2×10^{-4} 2.9×10^{-4} 8.2×10^{-4} 16 mV 1.7×10^{-4} 3.5×10^{-4} 8.1×10^{-4} 0.006 0 dB 0.006 3 dB 0.008 4 dB 0.008 5 dB 0.006 0 dB 0.008 0 dB 0.010 dB 0.010 dB 0.006 0 dB 0.006 8 dB 0.010 dB 0.024 dB	Multimeter calibrators, Digital multimeters /HCT-CS-088-40409

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Output DC Offset	40409	-20 V ~ 0 mV	6.2×10^{-5}	
		0 mV	6.2 μ V	
		0 mV ~ 20 V	6.2×10^{-5}	
Output flatness		(-10 ~ -10) dB		
		20 Hz ~ 20 kHz	0.006 3 dB	
		(20 ~ 100) kHz	0.009 2 dB	
Output amplitude		20 Hz ~ 1 kHz		
		(-10 ~ -60) dB	0.061 dB	
		(1 ~ 20) kHz		
		(-10 ~ -60) dB	0.11 dB	
		(20 ~ 50) kHz		
		(-10 ~ -60) dB	0.11 dB	
Output impedance		50 Ω	6.2 m Ω	
		600 Ω	62 m Ω	
Input frequency		1 Hz ~ 1 MHz	6.2×10^{-5}	
AC input levels		2 mV		
		10 Hz	7.8 μ V	
		10 Hz ~ 20 kHz	3.8×10^{-3}	
		(20 ~ 50) kHz	3.9×10^{-3}	
		(50 ~ 100) kHz	4.6×10^{-3}	
		(2 ~ 100) mV		
		10 Hz	43 μ V	
		10 Hz ~ 20 kHz	1.6×10^{-4}	
		(20 ~ 50) kHz	2.4×10^{-4}	
		(50 ~ 100) kHz	5.7×10^{-4}	
		(0.1 ~ 1) V		
		10 Hz	0.14 mV	
		10 Hz ~ 20 kHz	9.0×10^{-5}	
		(20 ~ 50) kHz	1.5×10^{-4}	
		(50 ~ 100) kHz	1.5×10^{-4}	
		(1 ~ 10) V		
		10 Hz	3.4 mV	
		10 Hz ~ 20 kHz	9.0×10^{-5}	
(20 ~ 50) kHz	1.2×10^{-4}			
(50 ~ 100) kHz	1.4×10^{-4}			
(10 ~ 100) V				
10 Hz	10 mV			
10 Hz ~ 20 kHz	1.0×10^{-4}			
(20 ~ 50) kHz	1.3×10^{-4}			
(50 ~ 100) kHz	2.2×10^{-4}			
(100 ~ 300) V				
10 Hz	0.13 V			
10 Hz ~ 10 kHz	2.2×10^{-4}			

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
DC input levels Filter(weight,low,high pass etc.) Distortion factor	40409	1 mV (1 ~ 100) mV (0.1 ~ 100) V (100 ~ 300) V 400 Hz ~ 80 kHz 20 Hz ~ 20 kHz (-10 ~ -60) dB (-60 ~ -70) dB (-70 ~ -80) dB 20 Hz ~ 20 kHz (0.001 ~ 0.01) % (0.01 ~ 30) %	6.2 μV 6.3×10 ⁻⁵ 6.2×10 ⁻⁵ 6.2×10 ⁻⁵ 1.9×10 ⁻⁴ 0.31 dB 0.38 dB 0.56 dB 5.5×10 ⁻² 3.1×10 ⁻²	
Line frequency meters Frequency	40410	40 Hz ~ 1 kHz	5.8×10 ⁻⁴	Multimeter calibrators /HCT-CS-179-40410
Function generators Frequency Output level	40411	1 Hz ~ 3 GHz 10 mV 20 Hz 20 Hz ~ 20 kHz (20 ~ 100) kHz 100 kHz ~ 1 MHz (10 ~ 100) mV 20 Hz 20 Hz ~ 20 kHz (20 ~ 100) kHz 100 kHz ~ 1 MHz (0.1 ~ 1) V 20 Hz 20 Hz ~ 20 kHz (20 ~ 100) kHz 100 kHz ~ 1 MHz (1 ~ 10) V 20 Hz 20 Hz ~ 20 kHz (20 ~ 100) kHz 100 kHz ~ 1 MHz (10 ~ 100) V 20 Hz 20 Hz ~ 20 kHz (20 ~ 100) kHz (-60 ~ 20) dBm 20 Hz ~ 20 kHz (20 ~ 50) kHz (50 ~ 100) kHz 100 kHz ~ 100 MHz	5.8×10 ⁻⁹ 7.0 μV 1.3×10 ⁻³ 3.2×10 ⁻³ 1.5×10 ⁻² 20 μV 8.1×10 ⁻⁴ 2.0×10 ⁻³ 2.6×10 ⁻² 0.16 mV 2.9×10 ⁻⁴ 8.2×10 ⁻⁴ 2.4×10 ⁻² 1.6 mV 5.5×10 ⁻⁴ 1.8×10 ⁻³ 3.0×10 ⁻² 16 mV 5.5×10 ⁻⁴ 1.8×10 ⁻³ 0.007 dB 0.008 dB 0.013 dB 0.16 dB	Frequency counters, Digital multimeters, Spectrum analyzers, Oscilloscopes /HCT-CS-089-40411

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
DC Offset	40411	(-20 V ~ 0 mV) 0 mV (0 mV ~ 20 V)	5.8×10^{-4} 5.8 μ V 5.8×10^{-4}	
Output flatness		(-10 ~ 10) dB 20 Hz ~ 100 kHz 100 kHz ~ 1 GHz	0.016 dB 0.018 dB	
Distortion factor		(-80 ~ 0) dB 20 Hz ~ 100 MHz	1.4 dB	
Output amplitude		20 Hz ~ 1 kHz (0 ~ -60) dB 1 kHz ~ 20 kHz (0 ~ -60) dB 20 kHz ~ 100 kHz (0 ~ -60) dB	0.007 dB 0.009 dB 0.015 dB	
Rise/Fall Time		1 ns (1 ~ 10) ns (10 ~ 100) ns 100 ns ~ 1 s	5.9 ps 1.3×10^{-3} 1.2×10^{-3} 1.2×10^{-3}	
AM Modulation		5 % ~ 99 %	1.2×10^{-2}	
FM Modulation		9 kHz ~ 400 kHz	1.2×10^{-2}	
Duty Cycle		1 % ~ 99 %	5.8×10^{-3}	
Genescopes Vertical gain	40412	1 kHz 100 mV 100 mV ~ 100 V	1.2 mV 1.2×10^{-2}	Oscilloscope calibrators / HCT-CS-110-40412
AC/DC high voltage voltmeters DC Voltage	40413	Positive 1 V (1 ~ 100) V (0.1 ~ 1) kV (1 ~ 2) kV (2 ~ 5) kV (5 ~ 10) kV (10 ~ 20) kV (20 ~ 50) kV (50 ~ 100) kV Negative -1 V -(1 ~ 100) V -(0.1 ~ 1) kV -(1 ~ 2) kV -(2 ~ 5) kV -(5 ~ 10) kV -(10 ~ 20) kV -(20 ~ 50) kV -(50 ~ 100) kV	1 mV 5.8×10^{-4} 4.0×10^{-5} 1.4×10^{-3} 7.9×10^{-4} 4.8×10^{-4} 4.2×10^{-4} 4.4×10^{-4} 4.1×10^{-4} 1 mV 5.8×10^{-4} 4.0×10^{-5} 1.4×10^{-3} 7.9×10^{-4} 4.8×10^{-4} 4.2×10^{-4} 4.4×10^{-4} 4.1×10^{-4}	High voltage generators / HCT-CS-092-40413

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Voltage	40413	(50 ~ 60) Hz 1 V (1 ~ 200) V (200 ~ 500) V (0.5 ~ 1) kV (1 ~ 20) kV (20 ~ 30) kV (30 ~ 40) kV (40 ~ 60) kV (60 ~ 70) kV	7 mV 6.2×10^{-3} 8.6×10^{-5} 1.1×10^{-4} 2.8×10^{-2} 2.3×10^{-2} 2.1×10^{-2} 2.0×10^{-2} 1.9×10^{-2}	
Leakage current testers AC Current	40416	(10 Hz) 100 μ A (100 ~ 200) μ A (200 ~ 500) μ A (0.5 ~ 1) mA (1 ~ 2) mA (2 ~ 5) mA (5 ~ 10) mA (10 ~ 20) mA (20 ~ 50) mA (50 ~ 100) mA (10 ~ 40) Hz 100 μ A (100 ~ 200) μ A (200 ~ 500) μ A (0.5 ~ 1) mA (1 ~ 2) mA (2 ~ 5) mA (5 ~ 10) mA (10 ~ 20) mA (20 ~ 50) mA (50 ~ 100) mA (0.04 ~ 1) kHz 20 μ A (20 ~ 50) μ A (50 ~ 100) μ A (100 ~ 200) μ A (200 ~ 500) μ A (0.5 ~ 1) mA (1 ~ 2) mA (2 ~ 5) mA (5 ~ 10) mA (10 ~ 20) mA (20 ~ 50) mA (50 ~ 100) mA (1 ~ 10) kHz 20 μ A (20 ~ 50) μ A (50 ~ 100) μ A (100 ~ 200) μ A (200 ~ 500) μ A (0.5 ~ 1) mA	78 nA 5.0×10^{-4} 4.6×10^{-4} 7.1×10^{-4} 4.4×10^{-4} 4.6×10^{-4} 7.1×10^{-4} 4.4×10^{-4} 4.8×10^{-4} 3.7×10^{-4} 69 nA 4.0×10^{-4} 3.2×10^{-4} 6.6×10^{-4} 3.7×10^{-4} 3.2×10^{-4} 6.6×10^{-4} 3.7×10^{-4} 3.2×10^{-4} 2.5×10^{-4} 14 nA 3.6×10^{-4} 6.6×10^{-4} 3.5×10^{-4} 2.8×10^{-4} 6.4×10^{-4} 3.4×10^{-4} 2.8×10^{-4} 6.4×10^{-4} 3.4×10^{-4} 2.6×10^{-4} 1.8×10^{-4} 0.11 μ A 3.0×10^{-3} 2.2×10^{-3} 1.7×10^{-3} 3.0×10^{-3} 2.2×10^{-3}	Meter calibrators /HCT-CS-208-40416

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Current	40416	(1 ~ 2) mA	1.7×10^{-3}	
		(2 ~ 5) mA	2.8×10^{-3}	
		(5 ~ 10) mA	2.1×10^{-3}	
		(10 ~ 20) mA	1.7×10^{-3}	
		(20 ~ 50) mA	1.9×10^{-3}	
		(50 ~ 100) mA	1.6×10^{-3}	
DC Current	40416	1 μ A	7.1 nA	
		(1 ~ 2) μ A	3.6×10^{-3}	
		(2 ~ 5) μ A	1.4×10^{-3}	
		(5 ~ 10) μ A	1.0×10^{-3}	
		(10 ~ 20) μ A	5.5×10^{-4}	
		(20 ~ 50) μ A	2.4×10^{-4}	
		(50 ~ 100) μ A	6.3×10^{-4}	
		(100 ~ 200) μ A	3.2×10^{-4}	
		(200 ~ 500) μ A	1.4×10^{-4}	
		(0.5 ~ 1) mA	6.2×10^{-4}	
		(1 ~ 2) mA	3.1×10^{-4}	
		(2 ~ 5) mA	1.4×10^{-4}	
		(5 ~ 10) mA	6.2×10^{-4}	
		(10 ~ 20) mA	3.1×10^{-4}	
		(20 ~ 50) mA	1.4×10^{-4}	
(50 ~ 100) mA	8.6×10^{-5}			
AC Voltage	40416	(40 Hz)		
		1 mV	4.8 μ V	
		(1 ~ 2) mV	2.5×10^{-3}	
		(2 ~ 5) mV	1.1×10^{-3}	
		(5 ~ 10) mV	5.9×10^{-4}	
		(10 ~ 20) mV	4.6×10^{-4}	
		(20 ~ 50) mV	3.2×10^{-4}	
		(50 ~ 100) mV	2.0×10^{-4}	
		(100 ~ 200) mV	3.4×10^{-4}	
		(200 ~ 500) mV	1.9×10^{-4}	
		(0.5 ~ 1) V	6.3×10^{-4}	
		(1 ~ 2) V	3.3×10^{-4}	
		(2 ~ 5) V	2.0×10^{-4}	
		(5 ~ 10) V	1.4×10^{-4}	
		(10 ~ 20) V	3.3×10^{-4}	
		(20 ~ 50) V	2.2×10^{-4}	
		(50 ~ 100) V	1.5×10^{-4}	
		(0.04 ~ 1) kHz		
		1 mV	4.8 μ V	
		(1 ~ 2) mV	2.5×10^{-3}	
		(2 ~ 5) mV	1.1×10^{-3}	
		(5 ~ 10) mV	5.8×10^{-4}	
		(10 ~ 20) mV	4.5×10^{-4}	
		(20 ~ 50) mV	2.8×10^{-4}	
		(50 ~ 100) mV	1.7×10^{-4}	
		(100 ~ 200) mV	3.3×10^{-4}	
		(200 ~ 500) mV	1.4×10^{-4}	
		(0.5 ~ 1) V	6.2×10^{-4}	
		(1 ~ 2) V	3.2×10^{-4}	
		(2 ~ 5) V	1.4×10^{-4}	
(5 ~ 10) V	8.5×10^{-5}			

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Voltage	40416	(10 ~ 20) V	3.1×10^{-4}	
		(20 ~ 50) V	1.5×10^{-4}	
		(50 ~ 100) V	9.4×10^{-5}	
		(100 ~ 200) V	7.5×10^{-5}	
		(200 ~ 500) V	9.2×10^{-5}	
		(500 ~ 1 000) V	8.7×10^{-5}	
		(1 ~ 10) kHz		
		1 mV	4.8 μ V	
		(1 ~ 2) mV	2.5×10^{-3}	
		(2 ~ 5) mV	1.1×10^{-3}	
		(5 ~ 10) mV	5.8×10^{-4}	
		(10 ~ 20) mV	4.5×10^{-4}	
		(20 ~ 50) mV	2.8×10^{-4}	
		(50 ~ 100) mV	1.7×10^{-4}	
		(100 ~ 200) mV	3.3×10^{-4}	
		(200 ~ 500) mV	1.4×10^{-4}	
		(0.5 ~ 1) V	6.2×10^{-4}	
		(1 ~ 2) V	3.2×10^{-4}	
		(2 ~ 5) V	1.4×10^{-4}	
		(5 ~ 10) V	8.5×10^{-5}	
(10 ~ 20) V	3.1×10^{-4}			
(20 ~ 50) V	1.5×10^{-4}			
(50 ~ 100) V	9.4×10^{-5}			
DC Voltage		1 mV	0.80 μ V	
		(1 ~ 2) mV	4.1×10^{-4}	
		(2 ~ 5) mV	1.7×10^{-4}	
		(5 ~ 10) mV	8.5×10^{-5}	
		(10 ~ 20) mV	3.1×10^{-4}	
		(20 ~ 50) mV	1.2×10^{-4}	
		(50 ~ 100) mV	6.3×10^{-5}	
		(100 ~ 200) mV	3.1×10^{-4}	
		(200 ~ 500) mV	1.2×10^{-4}	
		(0.5 ~ 1) V	6.2×10^{-4}	
		(1 ~ 2) V	3.1×10^{-4}	
		(2 ~ 5) V	1.2×10^{-4}	
		(5 ~ 10) V	6.2×10^{-5}	
		(10 ~ 20) V	3.1×10^{-4}	
		(20 ~ 50) V	1.2×10^{-4}	
		(50 ~ 100) V	6.2×10^{-5}	
		(100 ~ 200) V	3.2×10^{-5}	
		(200 ~ 500) V	1.5×10^{-5}	
		(500 ~ 1 000) V	1.1×10^{-5}	
		Input voltage to output current ratio		(20 Hz ~ 1 MHz) 1 ~ 1 384
Input voltage to output voltage ratio		(20 Hz ~ 1 MHz) 0.5 ~ 689	4.8×10^{-3}	
Resistance		10 Ω	0.12 m Ω	
		(10 ~ 20) Ω	3.5×10^{-5}	
		(20 ~ 50) Ω	1.6×10^{-5}	
		(50 ~ 100) Ω	1.1×10^{-5}	
		(100 ~ 200) Ω	3.2×10^{-5}	
(200 ~ 500) Ω	1.5×10^{-5}			

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Resistance	40416	(0.5 ~ 1) kΩ	1.2×10^{-5}	
		(1 ~ 2) kΩ	3.3×10^{-5}	
		(2 ~ 5) kΩ	1.6×10^{-5}	
		(5 ~ 10) kΩ	1.1×10^{-5}	
		(10 ~ 20) kΩ	3.3×10^{-5}	
		(20 ~ 50) kΩ	1.6×10^{-5}	
		(50 ~ 100) kΩ	1.1×10^{-5}	
		(100 ~ 200) kΩ	3.5×10^{-5}	
		(200 ~ 500) kΩ	1.6×10^{-5}	
		(0.5 ~ 1) MΩ	1.3×10^{-5}	
Capacitance		(1 kHz)		
		100 pF	1.2 fF	
		(100 ~ 200) pF	5.1×10^{-5}	
		(200 ~ 500) pF	2.1×10^{-5}	
	(0.5 ~ 1) nF	1.2×10^{-5}		
	(1 ~ 2) nF	1.1×10^{-4}		
	(2 ~ 5) nF	4.2×10^{-5}		
	(5 ~ 10) nF	2.1×10^{-5}		
	(10 ~ 20) nF	2.6×10^{-4}		
	(20 ~ 50) nF	1.1×10^{-4}		
	(50 ~ 100) nF	5.1×10^{-5}		
	(100 ~ 200) nF	5.1×10^{-4}		
	(200 ~ 500) nF	2.1×10^{-4}		
	(0.5 ~ 1) μF	1.1×10^{-4}		
Electronic AC/DC loads	40417			DC power supplies, Current shunts, Digital multimeters /HCT-CS-094-40417
DC loads				
CV Mode		100 mV	6.4 μV	
		(0.1 ~ 1 000) V	1.2×10^{-4}	
CC Mode		100 mA	6.4 μA	
		(0.1 ~ 1) A	6.4×10^{-5}	
		(1 ~ 10) A	1.2×10^{-4}	
		(10 ~ 100) A	1.2×10^{-4}	
		(100 ~ 300) A	2.3×10^{-4}	
		(300 ~ 400) A	2.1×10^{-4}	
CR Mode		0.1 Ω		
		100 A	7.3 mA	
		(0.1 ~ 1) Ω		
		(100 ~ 10) A	6.8×10^{-5}	
	(1 ~ 100) Ω			
	(10 ~ 0.1) A	6.4×10^{-5}		
AC loads				
CV Mode	60 Hz			
	100 mV	16 μV		
	(0.1 ~ 10) V	1.5×10^{-4}		
	(10 ~ 100) V	1.5×10^{-4}		
	(100 ~ 1 000) V	1.5×10^{-4}		
CC Mode	60 Hz			
	100 mA	92 μA		
	(0.1 ~ 1) A	1.2×10^{-3}		
	(1 ~ 10) A	2.3×10^{-3}		
	(10 ~ 20) A	6.4×10^{-4}		
	(20 ~ 40) A	6.7×10^{-4}		

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Charging/Discharging Tester	40417	100 μ A	5.8 nA	
Charging Current		(0.000 1 ~ 100) A (100 ~ 400) A (400 ~ 500) A (500 ~ 1 000) A	1.2×10^{-4} 2.1×10^{-4} 2.0×10^{-4} 3.1×10^{-4}	
Discharging Current		-100 μ A (-0.000 1 ~ -100) A (-100 ~ -400) A (-400 ~ -500) A (-500 ~ -1 000) A	5.8 nA 1.2×10^{-4} 2.1×10^{-4} 2.0×10^{-4} 3.1×10^{-4}	
Charging Voltage		100 mV (0.1 ~ 1 000) V (1 000 ~ 1 500) V	6.2 μ V 1.2×10^{-4} 1.1×10^{-3}	
Sense Voltage(Meter)		100 mV (0.1 ~ 1 000) V	6.4 μ V 1.2×10^{-4}	
Analogue/digital multimeters	40419			Meter callibraters Current amplifiers, Standard resistance /HCT-CS-095-40419
DC Voltage		0 mV (0 ~ 100) mV (0 ~ -100) mV (0.1 ~ 1) V (-0.1 ~ -1) V (1 ~ 10) V (-1 ~ -10) V (10 ~ 100) V (-10 ~ -100) V (100 ~ 1 000) V (-100 ~ -1 000) V	0.20 μ V 4.1×10^{-6} 4.1×10^{-6} 1.5×10^{-6} 1.5×10^{-6} 8.2×10^{-7} 8.2×10^{-7} 1.6×10^{-6} 1.6×10^{-6} 2.1×10^{-6} 2.1×10^{-6}	
DC Current		100 nA -100 nA 0 μ A (0 ~ 1) μ A (0 ~ -1) μ A (1 ~ 10) μ A (-1 ~ -10) μ A (10 ~ 100) μ A (-10 ~ -100) μ A (0.1 ~ 1) mA (-0.1 ~ -1) mA (1 ~ 10) mA (-1 ~ -10) mA (10 ~ 100) mA (-10 ~ -100) mA (0.1 ~ 1) A (-0.1 ~ -1) A (1 ~ 10) A (-1 ~ -10) A (10 ~ 20) A (-10 ~ -20) A	2.7 pA 2.7 pA 0.39 nA 3.8×10^{-4} 3.8×10^{-4} 3.8×10^{-5} 3.8×10^{-5} 1.9×10^{-5} 1.9×10^{-5} 2.4×10^{-5} 2.4×10^{-5} 2.5×10^{-5} 2.5×10^{-5} 1.9×10^{-5} 1.9×10^{-5} 4.7×10^{-5} 4.7×10^{-5} 8.7×10^{-5} 8.7×10^{-5} 8.7×10^{-5} 8.7×10^{-5}	

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.		
Resistance	40419	0 Ω	2.1 μΩ			
		(0 ~ 100) Ω	2.2×10 ⁻⁶			
		(0.1 ~ 1) kΩ	9.9×10 ⁻⁷			
		(1 ~ 10) kΩ	1.2×10 ⁻⁶			
		(10 ~ 100) kΩ	9.2×10 ⁻⁷			
		(0.1 ~ 1) MΩ	1.5×10 ⁻⁶			
		(1 ~ 10) MΩ	6.2×10 ⁻⁶			
		(10 ~ 100) MΩ	3.1×10 ⁻⁵			
		(0.1 ~ 1) GΩ	1.2×10 ⁻⁵			
		(1 ~ 10) GΩ	5.6×10 ⁻⁴			
		AC Voltage	40419	1 mV		
				10 Hz	0.64 μV	
				(10 ~ 40) Hz	0.62 μV	
				(40 ~ 500) Hz	0.63 μV	
(0.5 ~ 1) kHz	0.63 μV					
(1 ~ 10) kHz	0.63 μV					
(10 ~ 20) kHz	0.61 μV					
(20 ~ 50) kHz	0.91 μV					
(50 ~ 100) kHz	1.5 μV					
(100 ~ 200) kHz	1.3 μV					
(100 ~ 500) kHz	1.8 μV					
(0.5 ~ 1) MHz	6.4 μV					
(1 ~ 100) mV						
10 Hz	8.2×10 ⁻⁵					
(10 ~ 40) Hz	4.7×10 ⁻⁵					
(40 ~ 500) Hz	4.5×10 ⁻⁵					
(0.5 ~ 1) kHz	4.5×10 ⁻⁵					
(1 ~ 10) kHz	4.5×10 ⁻⁵					
(10 ~ 20) kHz	4.5×10 ⁻⁵					
(20 ~ 50) kHz	6.7×10 ⁻⁵					
(50 ~ 100) kHz	1.0×10 ⁻⁴					
(100 ~ 200) kHz	2.0×10 ⁻⁴					
(100 ~ 500) kHz	3.1×10 ⁻⁴					
(0.5 ~ 1) MHz	6.5×10 ⁻⁴					
(0.1 ~ 1) V						
10 Hz	6.9×10 ⁻⁵					
(10 ~ 40) Hz	3.8×10 ⁻⁵					
(40 ~ 500) Hz	2.3×10 ⁻⁵					
(0.5 ~ 1) kHz	2.3×10 ⁻⁵					
(1 ~ 10) kHz	2.8×10 ⁻⁵					
(10 ~ 20) kHz	2.8×10 ⁻⁵					
(20 ~ 50) kHz	3.8×10 ⁻⁵					
(50 ~ 100) kHz	4.8×10 ⁻⁵					
(100 ~ 200) kHz	1.3×10 ⁻⁴					
(100 ~ 500) kHz	3.0×10 ⁻⁴					
(0.5 ~ 1) MHz	1.2×10 ⁻³					
(1 ~ 10) V						
10 Hz	6.8×10 ⁻⁵					
(10 ~ 40) Hz	3.3×10 ⁻⁵					
(40 ~ 500) Hz	2.2×10 ⁻⁵					
(0.5 ~ 1) kHz	2.2×10 ⁻⁵					
(1 ~ 10) kHz	2.2×10 ⁻⁵					
(10 ~ 20) kHz	2.2×10 ⁻⁵					

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Voltage	40419	(20 ~ 50) kHz	3.1×10^{-5}	
		(50 ~ 100) kHz	4.6×10^{-5}	
		(100 ~ 200) kHz	1.7×10^{-4}	
		(100 ~ 500) kHz	4.0×10^{-4}	
		(0.5 ~ 1) MHz	1.5×10^{-4}	
		(10 ~ 100) V		
		10 Hz	8.5×10^{-5}	
		(10 ~ 40) Hz	4.1×10^{-5}	
		(40 ~ 500) Hz	2.6×10^{-5}	
		(0.5 ~ 1) kHz	2.6×10^{-5}	
		(1 ~ 10) kHz	2.6×10^{-5}	
		(10 ~ 20) kHz	2.6×10^{-5}	
		(20 ~ 50) kHz	3.4×10^{-5}	
		(50 ~ 100) kHz	7.8×10^{-5}	
		(100 ~ 1 000) V		
		40 Hz	2.6×10^{-5}	
		(40 ~ 500) Hz	2.0×10^{-5}	
		(0.5 ~ 1) kHz	2.0×10^{-5}	
		(1 ~ 10) kHz	8.9×10^{-5}	
		(10 ~ 20) kHz	1.3×10^{-4}	
		(20 ~ 30) kHz	1.9×10^{-4}	
		10 μ A		
AC Current		10 Hz	10 nA	
		(10 ~ 40) Hz	7.3 nA	
		(40 ~ 500) Hz	1.4 nA	
		(0.5 ~ 1) kHz	3.8 nA	
		(1 ~ 5) kHz	6.7 nA	
		(5 ~ 10) kHz	9.7 nA	
		(10 ~ 100) μ A		
		10 Hz	1.0×10^{-4}	
		(10 ~ 40) Hz	7.3×10^{-5}	
		(40 ~ 500) Hz	7.1×10^{-5}	
		(0.5 ~ 1) kHz	7.1×10^{-5}	
		(1 ~ 5) kHz	1.6×10^{-4}	
		(5 ~ 10) kHz	4.1×10^{-4}	
		(0.1 ~ 1) mA		
		10 Hz	1.1×10^{-4}	
		(10 ~ 40) Hz	6.3×10^{-5}	
		(40 ~ 500) Hz	6.2×10^{-5}	
		(0.5 ~ 1) kHz	6.2×10^{-5}	
		(1 ~ 5) kHz	1.2×10^{-4}	
		(5 ~ 10) kHz	4.0×10^{-4}	
		(1 ~ 10) mA		
		10 Hz	1.2×10^{-4}	
		(10 ~ 40) Hz	6.6×10^{-5}	
		(40 ~ 500) Hz	6.5×10^{-5}	
		(0.5 ~ 1) kHz	6.5×10^{-5}	
		(1 ~ 5) kHz	1.7×10^{-4}	
		(5 ~ 10) kHz	6.1×10^{-4}	

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Current	40419	(10 ~ 100) mA 10 Hz (10 ~ 40) Hz (40 ~ 500) Hz (0.5 ~ 1) kHz (1 ~ 5) kHz (5 ~ 10) kHz (0.1 ~ 1) A 10 Hz (10 ~ 40) Hz (40 ~ 500) Hz (0.5 ~ 1) kHz (1 ~ 5) kHz (5 ~ 10) kHz (1 ~ 10) A 40 Hz (40 ~ 500) Hz (0.5 ~ 1) kHz (1 ~ 5) kHz (5 ~ 10) kHz (10 ~ 20) A 40 Hz (40 ~ 500) Hz (0.5 ~ 1) kHz (1 ~ 5) kHz (5 ~ 10) kHz	1.3×10^{-4} 6.8×10^{-5} 6.6×10^{-5} 6.6×10^{-5} 1.7×10^{-4} 6.1×10^{-4} 1.3×10^{-4} 1.3×10^{-4} 1.1×10^{-4} 1.1×10^{-4} 3.4×10^{-4} 1.3×10^{-3} 7.2×10^{-5} 8.1×10^{-5} 6.5×10^{-5} 1.2×10^{-4} 2.2×10^{-3} 6.7×10^{-5} 7.1×10^{-5} 7.2×10^{-5} 1.8×10^{-4} 2.9×10^{-4}	
Frequency		10 Hz (10 ~ 100) Hz (0.1 ~ 1) kHz (1 ~ 10) kHz (10 ~ 100) kHz (0.1 ~ 1) MHz (1 ~ 10) MHz	0.24 mHz 2.5×10^{-5} 2.3×10^{-5} 1.0×10^{-4} 2.5×10^{-5} 2.3×10^{-5} 2.3×10^{-5}	
Noise meters AC level(rms & Q-peak)	40420	100 mV 10 Hz 10 Hz ~ 50 kHz (50 ~ 100) kHz (100 ~ 300) mV 10 Hz 10 Hz ~ 50 kHz (50 ~ 100) kHz (0.3 ~ 1) V 10 Hz 10 Hz ~ 50 kHz (50 ~ 100) kHz (1 ~ 3) V 10 Hz 10 Hz ~ 50 kHz (50 ~ 100) kHz	0.16 mV 1.6×10^{-3} 1.8×10^{-3} 0.63 mV 2.1×10^{-3} 2.2×10^{-3} 1.6 mV 1.7×10^{-3} 1.8×10^{-3} 6.3 mV 2.1×10^{-3} 2.1×10^{-3}	Multimeter calibrators /HCT-CS-097-40420

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC level(rms & Q-peak) Weighting filter Filter(DIN/AUDIO, JIS A CCIR, CCIR/ARM) Frequency Reponse	40420	(3 ~ 10) V 10 Hz 10 Hz ~ 50 kHz (50 ~ 100) kHz (10 ~ 30) V 10 Hz 10 Hz ~ 50 kHz (50 ~ 100) kHz (30 ~ 100) V 10 Hz 10 Hz ~ 50 kHz (50 ~ 100) kHz (100 ~ 300) V 10 Hz 10 Hz ~ 10 kHz 1V (-10 ~10) dB 20 Hz ~ 100 kHz	16 mV 1.5×10^{-3} 1.6×10^{-3} 63 mV 2.1×10^{-3} 2.6×10^{-3} 0.15 V 1.5×10^{-3} 2.0×10^{-3} 0.63 V 2.1×10^{-3} 1.5 mV 0.016 dB	
Oscilloscopes DC Voltage	40421	Positive & Negative 0 V (0 ~ 1) mV (1 ~ 2) mV (2 ~ 3) mV (3 ~ 4) mV (4 ~ 5) mV (5 ~ 6) mV (6 ~ 7) mV (7 ~ 8) mV (8 ~ 9) mV (9 ~ 10) mV (10 ~ 15) mV (15 ~ 25) mV (20 ~ 25) mV (25 ~ 30) mV (30 ~ 35) mV (35 ~ 40) mV (40 ~ 45) mV (45 ~ 50) mV (50 ~ 60) mV (60 ~ 70) mV (70 ~ 80) mV (80 ~ 90) mV (90 ~ 100) mV (100 ~ 150) mV (150 ~ 200) mV (200 ~ 250) mV (250 ~ 300) mV (300 ~ 350) mV	4.6 μ V 3.0×10^{-2} 1.5×10^{-2} 1.0×10^{-2} 7.6×10^{-3} 6.1×10^{-3} 5.1×10^{-3} 4.9×10^{-3} 4.3×10^{-3} 3.8×10^{-3} 3.4×10^{-3} 2.3×10^{-3} 1.8×10^{-3} 1.8×10^{-3} 1.5×10^{-3} 1.3×10^{-3} 1.1×10^{-3} 9.8×10^{-4} 8.8×10^{-4} 7.8×10^{-4} 1.2×10^{-3} 1.0×10^{-3} 9.3×10^{-4} 8.4×10^{-4} 5.6×10^{-4} 4.8×10^{-4} 6.9×10^{-4} 5.8×10^{-4} 5.0×10^{-4}	Oscilloscope calibrators, Multimeter calibrators, RF signal calibrators, Powermeters /HCT-CS-080-40421

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
DC Voltage	40421	(350 ~ 400) mV	4.3×10^{-4}	
		(400 ~ 450) mV	3.9×10^{-4}	
		(450 ~ 500) mV	3.5×10^{-4}	
		(0.5 ~ 0.6) V	3.7×10^{-4}	
		(0.6 ~ 0.7) V	8.3×10^{-4}	
		(0.7 ~ 0.8) V	7.3×10^{-4}	
		(0.8 ~ 0.9) V	6.5×10^{-4}	
		(0.9 ~ 1) V	5.8×10^{-4}	
		(1 ~ 2.5) V	5.9×10^{-4}	
		(2.5 ~ 5) V	2.9×10^{-4}	
		(5 ~ 10) V	6.7×10^{-4}	
		(10 ~ 25) V	5.8×10^{-4}	
		(25 ~ 30) V	4.8×10^{-4}	
		(30 ~ 35) V	4.1×10^{-4}	
		(35 ~ 40) V	3.6×10^{-4}	
		(40 ~ 45) V	3.2×10^{-4}	
		(45 ~ 50) V	2.9×10^{-4}	
		(50 ~ 60) V	3.0×10^{-4}	
		(60 ~ 70) V	4.2×10^{-4}	
		(70 ~ 80) V	3.7×10^{-4}	
		(80 ~ 90) V	3.3×10^{-4}	
		(90 ~ 100) V	3.0×10^{-4}	
		(100 ~ 200) V	2.9×10^{-4}	
Square wave Voltage		1 kHz		
		1 mV	19 μ V	
		(1 ~ 2) mV	9.3×10^{-3}	
		(2 ~ 3) mV	6.2×10^{-3}	
		(3 ~ 4) mV	4.6×10^{-3}	
		(4 ~ 5) mV	3.7×10^{-3}	
		(5 ~ 6) mV	3.1×10^{-3}	
		(6 ~ 7) mV	1.2×10^{-2}	
		(7 ~ 8) mV	1.0×10^{-2}	
		(8 ~ 9) mV	9.0×10^{-3}	
		(9 ~ 10) mV	8.1×10^{-3}	
		(10 ~ 15) mV	5.4×10^{-3}	
		(15 ~ 20) mV	4.1×10^{-3}	
		(20 ~ 25) mV	3.2×10^{-3}	
		(25 ~ 30) mV	2.7×10^{-3}	
		(30 ~ 35) mV	2.3×10^{-3}	
		(35 ~ 40) mV	2.0×10^{-3}	
		(40 ~ 45) mV	1.8×10^{-3}	
		(45 ~ 50) mV	1.6×10^{-3}	
		(50 ~ 100) mV	7.1×10^{-3}	
		(100 ~ 250) mV	2.8×10^{-3}	
		(250 ~ 500) mV	1.4×10^{-3}	
		(0.5 ~ 1) V	7.0×10^{-3}	
		(1 ~ 2.5) V	2.8×10^{-3}	
		(2.5 ~ 5) V	1.4×10^{-3}	
		(5 ~ 10) V	7.0×10^{-3}	
		(10 ~ 25) V	2.8×10^{-3}	
		(25 ~ 50) V	1.4×10^{-3}	
		(50 ~ 60) V	1.2×10^{-3}	
		(60 ~ 70) V	1.7×10^{-3}	
Square wave Voltage	40421	(70 ~ 80) V	1.5×10^{-3}	
		(80 ~ 90) V	1.3×10^{-3}	
		(90 ~ 100) V	1.2×10^{-3}	
		(100 ~ 150) V	1.6×10^{-3}	
		(150 ~ 200) V	1.2×10^{-3}	

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Bandwidth level	40421	50 kHz ~ 1 MHz		
		60 mV (0.06 ~ 3) V	37 μV 2.2×10^{-2}	
		(1 ~ 550) MHz		
		60 mV (0.06 ~ 3) V	2.7 mV 2.7×10^{-2}	
		550 MHz ~ 40 GHz		
		60 mV (60 ~ 600) mV (0.6 ~ 3) V	1.4 mV 1.9×10^{-2} 2.5×10^{-2}	
Time mark		1 ns	8.4 fs	
		(1 ~ 2) ns	4.2×10^{-6}	
		(2 ~ 5) ns	1.7×10^{-6}	
		(5 ~ 10) ns	5.8×10^{-6}	
		(10 ~ 20) ns	2.9×10^{-6}	
		(20 ~ 50) ns	1.2×10^{-6}	
		(50 ~ 100) ns	5.8×10^{-6}	
		(100 ~ 200) ns	2.9×10^{-6}	
		(200 ~ 500) ns	1.2×10^{-6}	
		(0.5 ~ 1) μs	5.8×10^{-6}	
		(1 ~ 2) μs	2.9×10^{-6}	
		(2 ~ 5) μs	1.2×10^{-6}	
		(5 ~ 10) μs	5.8×10^{-6}	
		(10 ~ 20) μs	2.9×10^{-6}	
		(20 ~ 50) μs	1.2×10^{-6}	
		(50 ~ 100) μs	5.8×10^{-6}	
		(100 ~ 200) μs	2.9×10^{-6}	
		(200 ~ 500) μs	1.2×10^{-6}	
		(0.5 ~ 1) ms	5.8×10^{-6}	
		(1 ~ 2) ms	2.9×10^{-6}	
		(2 ~ 5) ms	1.2×10^{-6}	
		(5 ~ 10) ms	5.8×10^{-6}	
		(10 ~ 20) ms	2.9×10^{-6}	
(20 ~ 50) ms	1.2×10^{-6}			
(50 ~ 100) ms	5.8×10^{-6}			
(100 ~ 200) ms	2.9×10^{-6}			
(200 ~ 500) ms	1.2×10^{-6}			
(0.5 ~ 1) s	5.8×10^{-6}			
(1 ~ 2) s	2.9×10^{-6}			
(2 ~ 5) s	1.2×10^{-6}			
(5 ~ 10) s	5.8×10^{-6}			
(10 ~ 20) s	2.9×10^{-6}			

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.		
Frequency	40421	100 mHz	0.84 μ Hz			
		(100 ~ 200) mHz	4.2×10^{-6}			
		(200 ~ 500) mHz	1.7×10^{-6}			
		(0.5 ~ 1) Hz	5.8×10^{-6}			
		(1 ~ 2) Hz	2.9×10^{-6}			
		(2 ~ 5) Hz	1.2×10^{-6}			
		(5 ~ 10) Hz	5.8×10^{-6}			
		(10 ~ 20) Hz	2.9×10^{-6}			
		(20 ~ 50) Hz	1.2×10^{-6}			
		(50 ~ 100) Hz	5.8×10^{-6}			
		(100 ~ 200) Hz	2.9×10^{-6}			
		(200 ~ 500) Hz	1.2×10^{-6}			
		(0.5 ~ 1) kHz	5.8×10^{-6}			
		(1 ~ 2) kHz	2.9×10^{-6}			
		(2 ~ 5) kHz	1.2×10^{-6}			
		(5 ~ 10) kHz	5.8×10^{-6}			
		(10 ~ 20) kHz	2.9×10^{-6}			
		(20 ~ 50) kHz	1.2×10^{-6}			
		(50 ~ 100) kHz	5.8×10^{-6}			
		(100 ~ 200) kHz	2.9×10^{-6}			
		(200 ~ 500) kHz	1.2×10^{-6}			
		(0.5 ~ 1) MHz	5.8×10^{-6}			
		(1 ~ 2) MHz	2.9×10^{-6}			
		(2 ~ 5) MHz	1.2×10^{-6}			
		(5 ~ 10) MHz	5.8×10^{-6}			
		(10 ~ 20) MHz	2.9×10^{-6}			
		(20 ~ 50) MHz	1.2×10^{-6}			
		(50 ~ 100) MHz	5.8×10^{-6}			
		(100 ~ 200) MHz	2.9×10^{-6}			
		(200 ~ 500) MHz	1.2×10^{-6}			
		(0.5 ~ 1) GHz	5.8×10^{-6}			
		AC Voltage		50 Hz ~ 10 kHz		
				10 mV	5.8 μ V	
(10 ~ 15) mV	4.1×10^{-4}					
(15 ~ 20) mV	3.3×10^{-4}					
(20 ~ 25) mV	4.4×10^{-4}					
(25 ~ 30) mV	3.7×10^{-4}					
(30 ~ 35) mV	3.4×10^{-4}					
(35 ~ 40) mV	3.0×10^{-4}					
(40 ~ 45) mV	2.7×10^{-4}					
(45 ~ 50) mV	2.4×10^{-4}					
(50 ~ 60) mV	2.4×10^{-4}					
(60 ~ 70) mV	2.1×10^{-4}					
(70 ~ 80) mV	2.0×10^{-4}					
(80 ~ 90) mV	1.8×10^{-4}					
(90 ~ 100) mV	1.6×10^{-4}					
(100 ~ 150) mV	1.3×10^{-4}					
(150 ~ 200) mV	1.1×10^{-4}					
(200 ~ 250) mV	1.9×10^{-4}					
(250 ~ 300) mV	1.8×10^{-4}					
(300 ~ 350) mV	1.6×10^{-4}					
(350 ~ 400) mV	1.6×10^{-4}					
(400 ~ 450) mV	1.5×10^{-4}					
(450 ~ 500) mV	1.4×10^{-4}					
(500 ~ 600) mV	1.7×10^{-4}					
(600 ~ 700) mV	1.6×10^{-4}					

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Voltage	40421	(700 ~ 800) mV	1.5×10^{-4}	
		(800 ~ 900) mV	1.4×10^{-4}	
		(0.9 ~ 1) V	1.4×10^{-4}	
		(1 ~ 1.5) V	1.2×10^{-4}	
		(1.5 ~ 2) V	1.2×10^{-4}	
		(2 ~ 2.5) V	1.1×10^{-4}	
		(2.5 ~ 3) V	9.7×10^{-5}	
		(3 ~ 3.5) V	8.9×10^{-5}	
		(3.5 ~ 4) V	8.2×10^{-5}	
		(4 ~ 4.5) V	7.7×10^{-5}	
		(4.5 ~ 5) V	7.3×10^{-5}	
		(5 ~ 6) V	1.2×10^{-4}	
		(6 ~ 7) V	1.0×10^{-4}	
		(7 ~ 8) V	9.5×10^{-5}	
		(8 ~ 9) V	9.3×10^{-5}	
		(9 ~ 10) V	8.2×10^{-5}	
		(10 ~ 15) V	6.9×10^{-5}	
		(15 ~ 20) V	6.2×10^{-5}	
		(20 ~ 25) V	1.3×10^{-4}	
		(25 ~ 30) V	1.2×10^{-4}	
(30 ~ 35) V	1.1×10^{-4}			
(35 ~ 40) V	9.9×10^{-5}			
(40 ~ 45) V	9.3×10^{-5}			
(45 ~ 50) V	8.9×10^{-5}			
(50 ~ 60) V	1.3×10^{-4}			
(60 ~ 70) V	1.2×10^{-4}			
(70 ~ 80) V	1.1×10^{-4}			
(80 ~ 90) V	1.0×10^{-4}			
(90 ~ 100) V	9.2×10^{-5}			
Input Resistance		50 Ω	5.8 mΩ	
		75 Ω	5.9 mΩ	
		1 MΩ	0.34 kΩ	
10 MHz Reference out		10 MHz	5.8×10^{-8}	
Output Voltage		DC		
		100 mV	61 μV	
		(0.1 ~ 1) V	6.1×10^{-5}	
		(1 ~ 2) V	3.6×10^{-5}	
		(2 ~ 3) V	2.4×10^{-5}	
		(3 ~ 4) V	1.8×10^{-5}	
		(4 ~ 5) V	1.4×10^{-5}	
		(5 ~ 6) V	1.2×10^{-5}	
		(6 ~ 7) V	1.0×10^{-5}	
		(7 ~ 8) V	8.9×10^{-6}	
		(8 ~ 9) V	7.9×10^{-6}	
		(9 ~ 10) V	7.1×10^{-6}	
		(10 ~ 11) V	4.8×10^{-5}	
		(11 ~ 12) V	4.4×10^{-5}	
		1 kHz		
		100 mV	63 μV	
		(0.1 ~ 1) V	1.1×10^{-4}	
(1 ~ 2) V	4.6×10^{-4}			
(2 ~ 3) V	3.1×10^{-4}			
(3 ~ 4) V	2.3×10^{-4}			

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Output Voltage	40421	(4 ~ 5) V (5 ~ 6) V (6 ~ 7) V (7 ~ 8) V (8 ~ 9) V (9 ~ 10) V (10 ~ 11) V (11 ~ 12) V	1.9×10^{-4} 1.5×10^{-4} 1.3×10^{-4} 1.2×10^{-4} 1.0×10^{-4} 9.3×10^{-5} 8.6×10^{-4} 7.9×10^{-4}	
LF phase meters	40422	40 Hz ~ 1 kHz 0 ° (0 ~ 180) °	0.013 ° 13 °	Power calibrators / HCT-CS-217-40422
Random wave generators Frequency Output level	40423	1 Hz ~ 350 MHz 10 mV 20 Hz 20 Hz ~ 20 kHz (20 ~ 100) kHz 100 kHz ~ 1 MHz (10 ~ 100) mV 20 Hz 20 Hz ~ 20 kHz (20 ~ 100) kHz 100 kHz ~ 1 MHz (0.1 ~ 1) V 20 Hz 20 Hz ~ 20 kHz (20 ~ 100) kHz 100 kHz ~ 1 MHz (1 ~ 10) V 20 Hz 20 Hz ~ 20 kHz (20 ~ 100) kHz 100 kHz ~ 1 MHz (10 ~ 100) V 20 Hz 20 Hz ~ 20 kHz (20 ~ 100) kHz (-60 ~ 20) dBm 100 kHz ~ 100 MHz	5.8×10^{-9} 7.0 μV 1.3×10^{-3} 3.2×10^{-3} 1.5×10^{-2} 20 μV 8.1×10^{-4} 2.0×10^{-3} 2.6×10^{-2} 0.16 mV 2.9×10^{-4} 8.2×10^{-4} 2.4×10^{-2} 1.6 mV 5.5×10^{-4} 1.8×10^{-3} 3.0×10^{-2} 16 mV 5.5×10^{-4} 1.8×10^{-3} 0.16 dB	Frequency counters Digital multimeters, Spectrum analyzers, Oscilloscopes /HCT-CS-098-40423
DC Offset		-20 V ~ 0 mV 0 mV 0 mV ~ 20 V	5.8×10^{-4} 5.8 μV 5.8×10^{-4}	
Output flatness		(-10 ~ 10) dB 20 Hz ~ 100 kHz 100 kHz ~ 350 MHz	0.016 dB 0.018 dB	
Distortion factor		(-80 ~ 0) dB 20 Hz ~ 80 MHz	1.4 dB	

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Output amplitude	40423	20 Hz ~ 1 kHz		
		(0 ~ -60) dB	0.007 dB	
		(1 ~ 20) kHz		
		(0 ~ -60) dB	0.009 dB	
		(20 ~ 100) kHz		
		(0 ~ -60) dB	0.015 dB	
Rise/Fall Time	40423	1 ns	5.9 ps	
		(1 ~ 10) ns	1.3×10^{-3}	
		(10 ~ 100) ns	1.2×10^{-3}	
		100 ns ~ 1 s	1.2×10^{-3}	
AM modulation	40423	(5 ~ 99) %	1.2×10^{-2}	
FM modulation		(9 ~ 400) kHz	1.2×10^{-2}	
Duty Cycle	40423	(1 ~ 99) %	5.8×10^{-3}	
Volt/Current recorders	40424	0 mV	0.5 μ V	Multimeter calibrators /HCT-CS-100-40424
DC Voltage		(0 ~ 1) mV	5.2×10^{-4}	
		(1 ~ 2) mV	2.7×10^{-4}	
		(2 ~ 5) mV	1.7×10^{-4}	
		(5 ~ 10) mV	8.5×10^{-5}	
		(10 ~ 20) mV	4.6×10^{-5}	
		(20 ~ 50) mV	1.3×10^{-4}	
		(50 ~ 100) mV	6.3×10^{-5}	
		(100 ~ 200) mV	3.3×10^{-5}	
		(200 ~ 500) mV	1.3×10^{-4}	
		500 mV ~ 1 V	6.2×10^{-5}	
		(1 ~ 2) V	3.2×10^{-5}	
		(2 ~ 5) V	1.3×10^{-4}	
		(5 ~ 10) V	6.2×10^{-5}	
		(10 ~ 20) V	3.1×10^{-5}	
		(20 ~ 50) V	1.3×10^{-4}	
		(50 ~ 100) V	6.2×10^{-5}	
		(100 ~ 200) V	3.2×10^{-5}	
		(200 ~ 500) V	1.3×10^{-4}	
		(500 ~ 1 000) V	6.2×10^{-5}	
		0 mV	0.5 μ V	
		(0 ~ -1) mV	5.2×10^{-4}	
		(-1 ~ -2) mV	2.7×10^{-4}	
		(-2 ~ -5) mV	1.7×10^{-4}	
		(-5 ~ -10) mV	8.5×10^{-5}	
		(-10 ~ -20) mV	4.6×10^{-5}	
		(-20 ~ -50) mV	1.3×10^{-4}	
		(-50 ~ -100) mV	6.3×10^{-5}	
		(-100 ~ -200) mV	3.3×10^{-5}	
		(-200 ~ -500) mV	1.3×10^{-4}	
		-500 mV ~ -1 V	6.2×10^{-5}	
		(-1 ~ -2) V	3.2×10^{-5}	
		(-2 ~ -5) V	1.3×10^{-4}	
		(-5 ~ -10) V	6.2×10^{-5}	
	(-10 ~ -20) V	3.1×10^{-5}		
(-20 ~ -50) V	1.3×10^{-4}			
(-50 ~ -100) V	6.2×10^{-5}			

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.	
DC Voltage	40424	(-100 ~ -200) V	3.2×10^{-5}		
		(-200 ~ -500) V	1.3×10^{-4}		
		(-500 ~ -1 000) V	6.2×10^{-5}		
DC Current		Positive			
		0 mA	0.07 μ A		
		(0 ~ 1) mA	8.0×10^{-5}		
		(1 ~ 10) mA	7.8×10^{-5}		
		(10 ~ 100) mA	8.7×10^{-5}		
		100 mA ~ 1 A	1.3×10^{-4}		
		Negative			
		0 mA	0.07 μ A		
		(0 ~ -1) mA	8.0×10^{-5}		
		(-1 ~ -10) mA	7.8×10^{-5}		
		(-10 ~ -100) mA	8.7×10^{-5}		
	-100 mA ~ -1 A	1.3×10^{-4}			
Relpay test sets	40425	(20 ~ 55) Hz		Multimeters Current shunts /HCT-CS-218-40425	
AC Voltage		100 mV			21 μ V
		100 mV ~ 10 V			1.6×10^{-4}
		(10 ~ 1 000) V			1.8×10^{-4}
		(55 ~ 300) Hz			
		100 mV			16 μ V
		100 mV ~ 100 V			1.4×10^{-4}
		(100 ~ 1 000) V			1.8×10^{-4}
		300 Hz ~ 1 kHz			
		100 mV			16 μ V
		100 mV ~ 100 V			1.6×10^{-4}
		(100 ~ 1 000) V			1.7×10^{-4}
AC Current		20 Hz ~ 1 kHz			
		10 mA			5.3 μ A
		(10 ~ 100) mA			5.3×10^{-4}
		100 mA ~ 1 A			9.3×10^{-4}
		(1 ~ 10) A			1.3×10^{-3}
		(10 ~ 50) A			2.4×10^{-3}
		(50 ~ 100) A			2.3×10^{-3}
DC Voltage		100 mV			6.0 μ V
		(0.1 ~ 1) V			5.8×10^{-5}
	(1 ~ 5) V	1.2×10^{-4}			
	(5 ~ 1 000) V	5.9×10^{-5}			
DC Current	10 mA	0.76 μ A			
	(10 ~ 100) mA	8.8×10^{-5}			
	100 mA ~ 1 A	2.4×10^{-4}			
	(1 ~ 10) A	5.0×10^{-4}			
	(10 ~ 20) A	8.2×10^{-3}			
	(20 ~ 100) A	7.7×10^{-4}			
Frequency	50 Hz	8.2 mHz			
	(50 ~ 60) Hz	1.6×10^{-4}			
	60 Hz ~ 1 kHz	1.8×10^{-4}			

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Time interval	40425	1 s (1 ~ 60) s	0.01 s 1.0×10^{-3}	
LF signal generators	40426			Frequency counters, Digital multimeters, Spectrum analyzers, Oscilloscopes /HCT-CS-101-40426
Frequency		1 Hz ~ 2 MHz	5.8×10^{-9}	
Output level		10 mV		
		20 Hz	7.0 μ V	
		20 Hz ~ 20 kHz	1.3×10^{-3}	
		(20 ~ 100) kHz	3.2×10^{-3}	
		100 kHz ~ 1 MHz	1.5×10^{-2}	
		(10 ~ 100) mV		
		20 Hz	20 μ V	
		20 Hz ~ 20 kHz	8.1×10^{-4}	
		(20 ~ 100) kHz	2.0×10^{-3}	
		100 kHz ~ 1 MHz	2.6×10^{-2}	
		(0.1 ~ 1) V		
		20 Hz	0.16 mV	
		20 Hz ~ 20 kHz	2.9×10^{-4}	
		(20 ~ 100) kHz	8.2×10^{-4}	
		100 kHz ~ 1 MHz	2.4×10^{-2}	
		(1 ~ 10) V		
		20 Hz	1.6 mV	
		20 Hz ~ 20 kHz	5.5×10^{-4}	
		(20 ~ 100) kHz	1.8×10^{-3}	
		100 kHz ~ 1 MHz	3.0×10^{-2}	
		(10 ~ 100) V		
		20 Hz	16 mV	
		20 Hz ~ 20 kHz	5.5×10^{-4}	
		(20 ~ 100) kHz	1.8×10^{-3}	
		(-60 ~ 20) dBm		
		20 Hz ~ 20 kHz	0.007 dB	
		(20 ~ 50) kHz	0.008 dB	
		(50 ~ 100) kHz	0.013 dB	
		100 kHz ~ 1 MHz	0.16 dB	
DC Offset		-20 V ~ 0 mV	5.8×10^{-4}	
		0 mV	5.8 μ V	
		0 mV ~ 20 V	5.8×10^{-4}	
Output flatness		(-10 ~ 10) dB		
		20 Hz ~ 100 kHz	0.016 dB	
		100 kHz ~ 1 MHz	0.018 dB	
Distortion factor		(-80 ~ 0) dB		
		20 Hz ~ 1 MHz	1.4 dB	
Output amplitude		20 Hz ~ 1 kHz		
		(0 ~ -60) dB	0.007 dB	
		(1 ~ 20) kHz		
		(0 ~ -60) dB	0.009 dB	
		(20 ~ 100) kHz		
		(0 ~ -60) dB	0.015 dB	

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Rise/Fall time	40426	1 ns (1 ~ 10) ns (10 ~ 100) ns 100 ns ~ 1 s	5.9 ps 1.3×10^{-3} 1.2×10^{-3} 1.2×10^{-3}	
AM modulation		(5 ~ 99) %	1.2×10^{-2}	
FM modulation		(9 ~ 400) kHz	1.2×10^{-2}	
Duty Cycle		(1 ~ 99) %	5.8×10^{-3}	
LF spectrum analyzer Input level	40427	27 dBm 10 Hz 10 Hz ~ 20 kHz (20 ~ 100) kHz (27 ~ 10) dBm 10 Hz 10 Hz ~ 20 kHz 20 kHz ~ 100 kHz (100 ~ 200) kHz (10 ~ -10) dBm 10 Hz 10 Hz ~ 20 kHz (20 ~ 100) kHz (100 ~ 200) kHz (-10 ~ -40) dBm 10 Hz 10 Hz ~ 20 kHz (20 ~ 100) kHz (100 ~ 200) kHz (-40 ~ -50) dBm 10 Hz 10 Hz ~ 20 kHz (20 ~ 100) kHz (100 ~ 200) kHz 10 mV 10 Hz 10 Hz ~ 10 kHz (10 ~ 100) kHz (100 ~ 200) kHz (10 ~ 100) mV 10 Hz 10 Hz ~ 10 kHz (10 ~ 100) kHz (100 ~ 200) kHz (0.1 ~ 1) V 10 Hz 10 Hz ~ 10 kHz (10 ~ 100) kHz (100 ~ 200) kHz	0.008 dB 0.007 dB 0.008 dB 0.008 dB 0.007 dB 0.007 dB 0.009 dB 0.008 dB 0.007 dB 0.007 dB 0.009 dB 0.008 dB 0.008 dB 0.013 dB 0.022 dB 0.017 dB 0.016 dB 0.024 dB 0.045 dB 22 μ V 2.2×10^{-3} 2.3×10^{-3} 2.3×10^{-3} 88 μ V 6.3×10^{-4} 8.3×10^{-4} 1.2×10^{-3} 0.69 mV 6.2×10^{-4} 6.3×10^{-4} 7.8×10^{-4}	Function generators /HCT-CS-180-40427

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.	
Input level	40427	(1 ~ 10) V			
		10 Hz	6.9 mV		
		10 Hz ~ 10 kHz	6.2×10^{-4}		
		(10 ~ 100) kHz	6.3×10^{-4}		
		(100 ~ 200) kHz	7.3×10^{-4}		
		(10 ~ 30) V			
		10 Hz	16 mV		
		10 Hz ~ 10 kHz	2.4×10^{-4}		
		(10 ~ 100) kHz	3.9×10^{-4}		
Input frequency		10 Hz ~ 200 kHz	6.2×10^{-5}		
Input impedance		1 MΩ	0.62 kΩ		
Output level(AC)		10 mV			
		20 Hz	8.6 μV		
		20 Hz ~ 1 kHz	7.1×10^{-4}		
		(1 ~ 10) kHz	1.5×10^{-3}		
		(10 ~ 100) kHz	3.2×10^{-3}		
	(10 ~ 100) mV				
	20 Hz	64 μV			
	20 Hz ~ 1 kHz	6.3×10^{-4}			
	(1 ~ 10) kHz	7.6×10^{-3}			
	(10 ~ 100) kHz	1.3×10^{-3}			
	(0.1 ~ 1) V				
	20 Hz	0.63 mV			
	20 Hz ~ 1 kHz	6.2×10^{-4}			
	(1 ~ 10) kHz	6.8×10^{-4}			
	(10 ~ 100) kHz	1.0×10^{-3}			
	(1 ~ 10) V				
	20 Hz	6.3 mV			
	20 Hz ~ 1 kHz	6.2×10^{-4}			
	(1 ~ 10) kHz	6.7×10^{-3}			
	(10 ~ 100) kHz	1.0×10^{-3}			
Output level(AC)	10 mV	6.3 μV			
	10 mV ~ 10 V	6.2×10^{-5}			
Sweep generators	40429	Frequency	1 Hz ~ 21 MHz	5.8×10^{-9}	Frequency counters, Digital multimeters, Spectrum analyzers, Oscilloscopes /HCT-CS-102-40429
Output level		10 mV			
		20 Hz	7.0 μV		
		20 Hz ~ 20 kHz	1.3×10^{-3}		
		(20 ~ 100) kHz	3.2×10^{-3}		
		100 kHz ~ 1 MHz	1.5×10^{-2}		
		(10 ~ 100) mV			
		20 Hz	20 μV		
		20 Hz ~ 20 kHz	8.1×10^{-4}		
		(20 ~ 100) kHz	2.0×10^{-3}		
	100 kHz ~ 1 MHz	2.6×10^{-2}			

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Output level	40429	(0.1 ~ 1) V		
		20 Hz	0.16 mV	
		20 Hz ~ 20 kHz	2.9×10^{-4}	
		(20 ~ 100) kHz	8.2×10^{-4}	
		100 kHz ~ 1 MHz	2.4×10^{-2}	
		(1 ~ 10) V		
		20 Hz	1.6 mV	
		20 Hz ~ 20 kHz	5.5×10^{-4}	
		(20 ~ 100) kHz	1.8×10^{-3}	
		100 kHz ~ 1 MHz	3.0×10^{-2}	
		(10 ~ 100) V		
		20 Hz	16 mV	
20 Hz ~ 20 kHz	5.5×10^{-4}			
(20 ~ 100) kHz	1.8×10^{-3}			
-60 dBm ~ 20 dBm				
100 kHz ~ 21 MHz	0.16 dB			
DC Offset		-20 V ~ 0 mV	5.8×10^{-4}	
		0 mV	5.8 μ V	
		0 mV ~ 20 V	5.8×10^{-4}	
Output flatness		(-10 ~ 10) dB		
		20 Hz ~ 100 kHz	0.016 dB	
		100 kHz ~ 21 MHz	0.018 dB	
Distortion factor		(-80 ~ 0) dB		
		20 Hz ~ 21 MHz	1.4 dB	
Output amplitude		20 Hz ~ 1 kHz		
		(0 ~ -60) dB	0.007 dB	
		(1 ~ 20) kHz		
		(0 ~ -60) dB	0.009 dB	
		(20 ~ 100) kHz		
Rise/Fall Time		(0 ~ -60) dB	0.015 dB	
		1 ns	5.9 ps	
		(1 ~ 10) ns	5.9×10^{-3}	
		(10 ~ 100) ns	1.3×10^{-3}	
		100 ns ~ 1 s	1.2×10^{-3}	
AM modulation		(5 ~ 99) %	1.2×10^{-2}	
FM modulation		(9 ~ 400) kHz	1.2×10^{-2}	
Duty Cycle		(1 ~ 99) %	5.8×10^{-3}	

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Transistor curve tracers DC Voltage (SMU, Base/Emitter/Collector)	40432	(-1 000 ~ -200) V	5.5×10^{-6}	Multimeter calibrators, Digital multimeters, Electrometers, High resistance meters /HCT-CS-103-40432
		(-200 ~ -100) V	1.1×10^{-5}	
		(-100 ~ -10) V	5.2×10^{-6}	
		(-10 ~ -1) V	3.7×10^{-6}	
		(-1 ~ -0.1) V	7.0×10^{-6}	
		(-0.1 ~ 0) V	4.9×10^{-6}	
		0 V	0.13 μ V	
		(0 ~ 0.1) V	4.9×10^{-6}	
		(0.1 ~ 1) V	7.0×10^{-6}	
		(1 ~ 10) V	3.7×10^{-6}	
		(10 ~ 100) V	5.2×10^{-6}	
		(100 ~ 200) V	1.1×10^{-5}	
		(200 ~ 1 000) V	5.5×10^{-6}	
DC Voltage (VSU, Base/Emitter/Collector)	40432	(-1 000 ~ -200) V	5.5×10^{-6}	Multimeter calibrators, Digital multimeters, Electrometers, High resistance meters /HCT-CS-103-40432
		(-200 ~ -100) V	1.1×10^{-5}	
		(-100 ~ -10) V	5.2×10^{-6}	
		(-10 ~ -1) V	3.7×10^{-6}	
		(-1 ~ -0.1) V	7.0×10^{-6}	
		(-0.1 ~ 0) V	4.9×10^{-6}	
		0 V	0.13 μ V	
		(0 ~ 0.1) V	4.9×10^{-6}	
		(0.1 ~ 1) V	7.0×10^{-6}	
		(1 ~ 10) V	3.7×10^{-6}	
		(10 ~ 100) V	5.2×10^{-6}	
		(100 ~ 200) V	1.1×10^{-5}	
		(200 ~ 1 000) V	5.5×10^{-6}	
VMU (Base/Emitter/Collector)	40432	(-1 000 ~ -200) V	5.5×10^{-6}	Multimeter calibrators, Digital multimeters, Electrometers, High resistance meters /HCT-CS-103-40432
		(-200 ~ -100) V	1.1×10^{-5}	
		(-100 ~ -10) V	5.2×10^{-6}	
		(-10 ~ -1) V	3.7×10^{-6}	
		(-1 ~ -0.1) V	7.0×10^{-6}	
		(-0.1 ~ 0) V	4.9×10^{-6}	
		0 V	0.13 μ V	
		(0 ~ 0.1) V	4.9×10^{-6}	
		(0.1 ~ 1) V	7.0×10^{-6}	
		(1 ~ 10) V	3.7×10^{-6}	
		(10 ~ 100) V	5.2×10^{-6}	
		(100 ~ 200) V	1.1×10^{-5}	
		(200 ~ 1 000) V	5.5×10^{-6}	
DC Current (SMU, Base/Emitter/Collector)	40432	(-50 ~ -20) A	1.3×10^{-5}	Multimeter calibrators, Digital multimeters, Electrometers, High resistance meters /HCT-CS-103-40432
		(-20 ~ -10) A	8.3×10^{-6}	
		(-10 ~ -2) A	4.9×10^{-4}	
		(-2 ~ -1) A	7.0×10^{-4}	
		(-1 ~ -0.1) A	2.2×10^{-4}	
		(-100 ~ -10) mA	4.8×10^{-5}	
		(-10 ~ -1) mA	1.5×10^{-5}	
		(-1 ~ -0.1) mA	1.3×10^{-5}	
		(-100 ~ -10) μ A	1.4×10^{-5}	
		(-10 ~ -1) μ A	8.1×10^{-5}	
		(-1 ~ -0.1) μ A	7.6×10^{-4}	
		(-100 ~ -10) nA	2.4×10^{-3}	
		(-10 ~ -1) nA	2.4×10^{-3}	
(-1 ~ -0.1) nA	5.8×10^{-3}			

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
DC Current (SMU, Base/Emitter/Collector)	40432	(-100 ~ -10) pA (-10 ~ -1) pA -1 pA ~ 0 A 0 A 0 A ~ 1 pA (1 ~ 10) pA (10 ~ 100) pA (0.1 ~ 1) nA (1 ~ 10) nA (10 ~ 100) nA (0.1 ~ 1) μA (1 ~ 10) μA (10 ~ 100) μA (0.1 ~ 1) mA (1 ~ 10) mA (10 ~ 100) mA (0.1 ~ 1) A (1 ~ 2) A (2 ~ 10) A (10 ~ 20) A (20 ~ 50) A	1.2×10^{-2} 1.2×10^{-2} 1.5×10^{-2} 8.1 nA 1.5×10^{-2} 1.2×10^{-2} 1.2×10^{-2} 5.8×10^{-3} 2.4×10^{-3} 2.4×10^{-3} 7.6×10^{-4} 8.1×10^{-5} 1.4×10^{-5} 1.3×10^{-5} 1.5×10^{-5} 4.8×10^{-5} 2.2×10^{-4} 7.0×10^{-4} 4.9×10^{-4} 8.3×10^{-6} 1.3×10^{-5}	
Waveform analyzers Output frequency Outout level	40433	1 Hz ~1 MHz 2 mV 20 Hz 20 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz (2 ~100) mV 20 Hz 20 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz (0.1 ~ 1) V 20 Hz 20 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz (1 ~ 10) V 20 Hz 20 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz (10 ~ 100) V 20 Hz 20 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz	6.2×10^{-5} 7.9 μV 3.5×10^{-3} 6.0×10^{-3} 1.3×10^{-2} 20 μV 1.8×10^{-4} 4.5×10^{-4} 1.1×10^{-3} 0.16 mV 1.2×10^{-4} 2.9×10^{-4} 8.2×10^{-4} 1.6 mV 1.2×10^{-4} 2.9×10^{-4} 8.2×10^{-4} 16 mV 1.7×10^{-4} 3.5×10^{-4} 8.1×10^{-4}	Multifunction calibrators Digital multimeters /HCT-CS-104-40433

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Output DC Offset	40433	-20 V ~ 0 mV	6.2×10^{-5}	
		0 mV	6.2 μ V	
		0 mV ~ 20 V	6.2×10^{-5}	
Output flatness		(-10 ~ 10) dB		
		20 Hz ~ 20 kHz	0.006 3 dB	
		(20 ~ 100) kHz	0.009 2 dB	
Output amplitude		20 Hz ~ 1 kHz		
		(-10 ~ -60) dB	0.061 dB	
		(1 ~ 20) kHz		
		(-10 ~ -60) dB	0.11 dB	
		(20 ~ 50) kHz		
		(-10 ~ -60) dB	0.11 dB	
Output impedance		50 Ω	6.2 m Ω	
		600 Ω	62 m Ω	
Input frequency		1 Hz ~ 1 MHz	6.2×10^{-5}	
AC Input level		2 mV		
		10 Hz	7.8 μ V	
		10 Hz ~ 20 kHz	3.8×10^{-3}	
		(20 ~ 50) kHz	3.9×10^{-3}	
		(50 ~ 100) kHz	4.6×10^{-3}	
		(2 ~ 100) mV		
		10 Hz	43 μ V	
		10 Hz ~ 20 kHz	1.6×10^{-4}	
		(20 ~ 50) kHz	2.4×10^{-4}	
		(50 ~ 100) kHz	5.7×10^{-4}	
		(0.1 ~ 1) V		
		10 Hz	0.14 mV	
		10 Hz ~ 20 kHz	9.0×10^{-5}	
		(20 ~ 50) kHz	1.5×10^{-4}	
		(50 ~ 100) kHz	1.5×10^{-4}	
		(1 ~ 10) V		
		10 Hz	3.4 mV	
		10 Hz ~ 20 kHz	9.0×10^{-5}	
		(20 ~ 50) kHz	1.2×10^{-4}	
		(50 ~ 100) kHz	1.4×10^{-4}	
		(10 ~ 100) V		
		10 Hz	10 mV	
		10 Hz ~ 20 kHz	1.0×10^{-4}	
		(20 ~ 50) kHz	1.3×10^{-4}	
(50 ~ 100) kHz	2.2×10^{-4}			
(100 ~ 300) V				
10 Hz	0.13 V			
10 Hz ~ 10 kHz	2.4×10^{-4}			

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
DC Input level Filter(weight,low,high pass, etc.) Distortion factor	40433	1 mV (1 ~ 100) mV (0.1 ~ 100) V (100 ~ 300) V 400 Hz ~ 80 kHz 20 Hz ~ 20 kHz (-10 ~ -60) dB (-60 ~ -70) dB (-70 ~ -80) dB 20 Hz ~ 20 kHz (0.001 ~ 0.01) % (0.01 ~ 30) %	6.2 μV 6.3×10 ⁻⁵ 6.2×10 ⁻⁵ 6.2×10 ⁻⁵ 2.1×10 ⁻⁴ 0.31 dB 0.38 dB 0.56 dB 5.5×10 ⁻² 3.1×10 ⁻²	
AC/DC high generator DC Voltage AC Voltage	40434	Positive 1 V 1 ~ 100 V (0.1 ~ 1) kV (1 ~ 2) kV (2 ~ 10) kV (10 ~ 20) kV (20 ~ 50) kV (50 ~ 100) kV Negative -1 V 1 ~ 100 V (0.1 ~ 1) kV (1 ~ 2) kV (2 ~ 10) kV (10 ~ 20) kV (20 ~ 50) kV (50 ~ 100) kV (50 ~ 60) Hz 100 V (0.1 ~ 1) kV (1 ~ 10) kV (10 ~ 20) kV (20 ~ 40) kV (40 ~ 60) kV (60 ~ 75) kV	1 mV 6.1×10 ⁻⁴ 1.1×10 ⁻⁵ 1.0×10 ⁻³ 6.1×10 ⁻⁴ 4.1×10 ⁻⁴ 4.4×10 ⁻⁴ 4.1×10 ⁻⁴ 1 mV 6.1×10 ⁻⁴ 1.1×10 ⁻⁵ 1.0×10 ⁻³ 6.1×10 ⁻⁴ 4.1×10 ⁻⁴ 4.4×10 ⁻⁴ 4.1×10 ⁻⁴ 13 mV 1.6×10 ⁻⁷ 2.4×10 ⁻³ 2.3×10 ⁻³ 2.1×10 ⁻³ 2.0×10 ⁻³ 4.3×10 ⁻³	High voltage voltmeters /HCT-CS-055-40434
AC/DC high voltage probes DC Voltage	40435	Positive ≤ 1 kV (1 : 1) 10 mV ~ 1 000 V (1 ~ 5 : 1) 100 mV ~ 1 000 V (5 ~ 10 : 1) 100 mV ~ 1 000 V	3.9×10 ⁻⁵ 2.2×10 ⁻⁴ 1.8×10 ⁻⁴	High voltage sources /HCT-CS-056-40435

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
DC Voltage	40435	(10 ~ 50 : 1)	1.7×10^{-3}	
		(1 ~ 1 000) V		
		(50 ~ 100 : 1)		
		(10 ~ 1 000) V	2.2×10^{-3}	
		(100 ~ 500 : 1)		
		(10 ~ 1 000) V	5.3×10^{-2}	
		(100 ~ 1 000 : 1)		
		(100 ~ 1 000) V	0.20 %	
		Negative		
		> 1 kV 이상		
		(100 : 1)		
		(1 ~ 5) kV	0.044 %	
		(100 ~ 1 000 : 1)		
		(1 ~ 100) kV	0.45 %	
		(1 000 ~ 10 000 : 1)		
		(1 ~ 100) kV	4.5 %	
		≤ 1 kV		
		(1 : 1)		
		10 mV ~ 1 000 V	3.9×10^{-5}	
		(1 ~ 5 : 1)		
		100 mV ~ 1 000 V	2.2×10^{-4}	
		(5 ~ 10 : 1)		
		100 mV ~ 1 000 V	1.8×10^{-4}	
		(10 ~ 50 : 1)		
		(1 ~ 1 000) V	1.7×10^{-3}	
		(50 ~ 100 : 1)		
		(10 ~ 1 000) V	2.2×10^{-3}	
		(100 ~ 500 : 1)		
		(10 ~ 1 000) V	5.3×10^{-2}	
		(100 ~ 1 000 : 1)		
		(100 ~ 1 000) V	0.20 %	
		> 1 kV		
		(100 : 1)		
		(1 ~ 5) kV	0.045 %	
		(100 ~ 1 000 : 1)		
		(1 ~ 100) kV	0.45 %	
		(1 000 ~ 10 000 : 1)		
		(1 ~ 100) kV	4.5 %	

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Voltage	40435	50 Hz ~ 1 kHz 1 V (1 ~ 10) V (1 ~ 100) V 100 V ~ 1 kV (50 ~ 60) Hz 1 kV (1 ~ 10) kV (10 ~ 70) kV	90 μV 9.0×10^{-5} 1.0×10^{-4} 5.9×10^{-4} 0.08 kV 1.9×10^{-2} 2.0×10^{-2}	
Resistance		1 Ω (1 ~ 10) Ω (0.01 ~ 10) kΩ (10 ~ 100) kΩ (0.1 ~ 10) MΩ (10 ~ 100) MΩ (0.1 ~ 1) GΩ	0.58 mΩ 5.8×10^{-4} 5.8×10^{-4} 5.9×10^{-5} 5.8×10^{-4} 1.7×10^{-4} 1.9×10^{-3}	
Capacitance		(1 kHz) 1 pF (1 ~ 10) pF (10 ~ 100) pF (0.1 ~ 1) nF (1 ~ 10) nF	5.9 fF 9.3×10^{-4} 6.2×10^{-4} 5.9×10^{-3} 8.5×10^{-4}	
Logic analyzers Input voltage	40436	100 mV (0.1 ~ 1) V (1 ~ 2) V (2 ~ 3) V (3 ~ 10) V -100 mV (-0.1 ~ -1) V (-1 ~ -2) V (-2 ~ -3) V (-3 ~ -10) V	6.3 μV 1.3×10^{-4} 6.2×10^{-5} 3.2×10^{-5} 8.8×10^{-5} 6.3 μV 1.3×10^{-4} 6.2×10^{-5} 3.2×10^{-5} 8.8×10^{-5}	Multimeter calibrators /HCT-CS-201-40436
Telephone testers Frequency AC Amplitude	40437	1 Hz ~1 MHz 10 mV 20 Hz 20 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz (10 ~ 100) mV 20 Hz 20 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz	6.2×10^{-7} 10 μV 9.1×10^{-4} 1.5×10^{-3} 3.3×10^{-3} 20 μV 1.8×10^{-4} 4.5×10^{-4} 1.1×10^{-3}	Frequency counters, Digital multimeters /HCT-CS-127-40437

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Amplitude	40437	(0.1 ~ 1) V 20 Hz 20 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz	0.16 mV 1.4×10^{-4} 2.9×10^{-4} 8.5×10^{-4}	
		(1 ~ 10) V 20 Hz 20 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz	1.6 mV 1.4×10^{-4} 2.9×10^{-4} 8.2×10^{-4}	
		(10 ~ 100) V 20 Hz 20 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz	1.6 mV 1.4×10^{-4} 2.9×10^{-4} 8.2×10^{-4}	
		(100 ~ 500) V 20 Hz 20 Hz ~ 1 kHz	91 mV 1.9×10^{-4}	
		(20 ~ -10) dBm 20 Hz 20 Hz ~ 20 kHz (20 ~ 100) kHz	0.006 2 dB 0.006 3 dB 0.010 dB	
AC Amplitude		(-10 ~ -40) dBm 20 Hz 20 Hz ~ 20 kHz (20 ~ 100) kHz	0.006 1 dB 0.007 0 dB 0.011 dB	
Loop Current		1 mA (1 ~ 100) mA (0.1 ~ 1) A	0.62 μ A 6.2×10^{-4} 6.2×10^{-4}	
DC Voltage		10 mV 10 mV ~ 100 V (100 ~ 500) V	6.2 μ V 6.2×10^{-4} 1.3×10^{-4}	
Dial Level		(-39 ~ 10) dBm	0.58 dB	
Resistance		50 Ω (50 ~ 1 000) Ω	6.2 m Ω 6.2×10^{-4}	
Video signal analyzers SQUARE WAVE level	40438	50 mV (50 ~ 100) mV (100 ~ 200) mV (200 ~ 300) mV (300 ~ 400) mV (400 ~ 500) mV (500 ~ 600) mV (600 ~ 1 000) mV	0.11 mV 1.5×10^{-3} 1.4×10^{-3} 1.3×10^{-3} 1.9×10^{-3} 1.7×10^{-3} 1.5×10^{-3} 1.5×10^{-3}	Video signal generators / HCT-CS-130-40438

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
SINE WAVE level	40438	50 mV (50 ~ 100) mV (100 ~ 200) mV (200 ~ 300) mV (300 ~ 400) mV (400 ~ 500) mV (500 ~ 600) mV (600 ~ 700) mV (700 ~ 1 000) mV	1.4 mV 2.1×10^{-2} 2.7×10^{-2} 2.2×10^{-2} 2.5×10^{-2} 2.2×10^{-2} 2.1×10^{-2} 3.4×10^{-2} 3.1×10^{-2}	
BURST Frequency		(3 ~ 5) MHz	4.8×10^{-7}	
Vector scopes, Video signal monitors Color Bar Level(chrominance)		50 mV (50 ~ 100) mV (100 ~ 200) mV (200 ~ 300) mV (300 ~ 400) mV (400 ~ 800) mV (800 ~ 1 000) mV	3.4 mV 3.4×10^{-2} 2.4×10^{-2} 1.6×10^{-2} 1.3×10^{-2} 1.2×10^{-2} 9.8×10^{-3}	
Color Bar phase		0 ° ~ 360 °	0.7 °	
Frequency		50 Hz ~ 10 MHz	5.8×10^{-5}	
Vertical Level		50 mV (50 ~ 100) mV (100 ~ 200) mV (200 ~ 300) mV (300 ~ 400) mV (400 ~ 500) mV (500 ~ 600) mV (600 ~ 700) mV (700 ~ 800) mV (800 ~ 900) mV (900 ~ 1 000) mV	2.1 mV 2.1×10^{-2} 1.4×10^{-2} 8.4×10^{-3} 6.2×10^{-3} 4.9×10^{-3} 4.1×10^{-3} 3.3×10^{-3} 3.1×10^{-3} 2.8×10^{-3} 3.2×10^{-3}	
Vertical Level(Response)		(50 kHz ~ 10 MHz) 50 mV (0 ~ 100) mV (100 ~ 200) mV (200 ~ 300) mV (300 ~ 400) mV (400 ~ 500) mV (500 ~ 600) mV (600 ~ 700) mV (700 ~ 800) mV (800 ~ 900) mV (900 ~ 1 000) mV	2.5 mV 2.9×10^{-2} 3.0×10^{-2} 2.3×10^{-2} 2.6×10^{-2} 2.3×10^{-2} 2.1×10^{-2} 3.5×10^{-2} 3.1×10^{-2} 2.9×10^{-2} 2.7×10^{-2}	

405. Low frequency electronic & magnetic field

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Flux meters	40503	0.1 mWb (0.1 ~ 1) mWb 1 mWb ~ 10 Wb	0.6 μ Wb 1.5×10^{-3} 8.2×10^{-4}	Volt-second generator / HCT-CS-257-40503
Flux sources	40504	0.1 mWb (0.1 ~ 1) mWb (1 ~ 10) mWb (10 ~ 100) mWb (0.1 ~ 10) Wb	12 nWb 1.2×10^{-4} 1.4×10^{-5} 6.1×10^{-6} 1.2×10^{-5}	DMM, Counter, Scope / HCT-CS-258-40504
Magnetometers	40508	0 mT (0 ~ 1) mT (1 ~ 25) mT (40 ~ 150) mT (150 ~ 1 000) mT (1 ~ 1.9) T	2.2 μ T 6.7×10^{-3} 3.7×10^{-3} 7.3×10^{-4} 7.2×10^{-4} 7.9×10^{-4}	Helmholtz coil, Electro magnet NMR teslameter / HCT-CS-259-40508
Reference/standard magnets	40510	5 mT (5 ~ 10) mT (10 ~ 100) mT (0.1 ~ 1) T (1 ~ 2) T	31 μ T 3.2×10^{-3} 3.7×10^{-3} 1.5×10^{-3} 1.2×10^{-3}	Helmholtz coil, Electro magnet Gauss meter / HCT-CS-260-40510

406. Radio frequency measurement

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Delta time measurement (rise/fall/duration/period/ repetition rate/burst duration)	40605	(20 ~ 50) μ s (50 ~ 100) μ s (100 ~ 200) μ s (200 ~ 500) μ s (0.5 ~ 1) ms (1 ~ 2) ms (2 ~ 5) ms (5 ~ 10) ms (10 ~ 20) ms (20 ~ 50) ms (50 ~ 100) ms (100 ~ 200) ms (200 ~ 500) ms (0.5 ~ 1.0) s (1.0 ~ 2.0) s (2.0 ~ 5.0) s	1.3×10^{-4} 8.3×10^{-4} 4.2×10^{-4} 6.1×10^{-4} 2.8×10^{-2} 3.5×10^{-2} 2.3×10^{-4} 5.9×10^{-4} 3.0×10^{-4} 1.6×10^{-4} 5.8×10^{-4} 6.7×10^{-4} 2.7×10^{-4} 2.1×10^{-3} 1.0×10^{-3} 4.2×10^{-4}	
Frequency measurement		2.5 kHz (2.5 ~ 5) kHz (5 ~ 10) kHz (10 ~ 100) kHz (0.1 ~ 1) MHz (1 ~ 3) MHz (3 ~ 10) MHz (10 ~ 30) MHz (30 ~ 100) MHz	1.6 Hz 3.3×10^{-4} 8.8×10^{-4} 6.6×10^{-4} 1.2×10^{-3} 3.2×10^{-4} 6.6×10^{-4} 3.6×10^{-4} 1.5×10^{-3}	
Attenuator calibrators Attenuation measurement accuracy	40606	0 dB ~ 10 dB 10 dB ~ 20 dB 20 dB ~ 30 dB 30 dB ~ 40 dB 40 dB ~ 50 dB 50 dB ~ 60 dB 60 dB ~ 70 dB 70 dB ~ 80 dB 80 dB ~ 90 dB 90 dB ~ 100 dB 100 dB ~ 110 dB 110 dB ~ 120 dB	0.027 dB 0.029 dB 0.032 dB 0.038 dB 0.043 dB 0.043 dB 0.048 dB 0.054 dB 0.060 dB 0.066 dB 0.069 dB 0.074 dB	Standard attenuators / HCT-CS-175-40606
RF power meter calibrators Power range	40607	3 μ W 10 μ W 30 μ W 100 μ W 300 μ W 1 mW 3 mW 10 mW 30 mW 100 mW	0.27 nW 0.44 nW 1.8 nW 2.9 nW 15 nW 0.02 μ W 0.10 μ W 0.18 μ W 0.45 μ W 2.5 μ W	Digital multimeter / HCT-CS-166-40607

406. Radio frequency measurement

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
EMC transducers; current probes, absorbing clamps etc. EMC transducers Transfer impedance Reflection coefficient Absorbing clamps Insertion loss	40608	5 Hz ~ 400 MHz 400 MHz ~ 3 GHz 5 Hz ~ 3 GHz 30 MHz ~ 1 GHz	0.54 dB 1.1 dB 5.9×10^{-3} 1.8 dB	Network analyzers, Calibration kits / HCT-CS-167-40608
Coaxial directional couplers /splitters Coupling factor	40610	(5 Hz ~ 9 kHz) 0 dB ~ 10 dB 10 dB ~ 20 dB 20 dB ~ 30 dB 30 dB ~ 40 dB 40 dB ~ 50 dB 50 dB ~ 60 dB (9 kHz ~ 26.5 GHz) 0 dB ~ 10 dB 10 dB ~ 20 dB 20 dB ~ 30 dB 30 dB ~ 40 dB 40 dB ~ 50 dB 50 dB ~ 60 dB 60 dB ~ 70 dB 70 dB ~ 80 dB 80 dB ~ 90 dB 90 dB ~ 100 dB 100 dB ~ 110 dB 110 dB ~ 120 dB (26.5 GHz ~ 40 GHz) 0 dB ~ 10 dB 10 dB ~ 20 dB 20 dB ~ 30 dB 30 dB ~ 40 dB 40 dB ~ 50 dB 50 dB ~ 60 dB	0.11 dB 0.13 dB 0.15 dB 0.17 dB 0.21 dB 0.30 dB 0.04 dB 0.04 dB 0.05 dB 0.05 dB 0.06 dB 0.06 dB 0.07 dB 0.08 dB 0.08 dB 0.09 dB 0.09 dB 0.10 dB 0.21 dB 0.23 dB 0.29 dB 0.30 dB 0.47 dB 1.2 dB	Network analyzers, Calibration kits / HCT-CS-110-40610
Waveguide standard mismatches Coupling factor	40611	(40 GHz ~ 75 GHz) 0 dB ~ 10 dB 10 dB ~ 20 dB 20 dB ~ 30 dB 30 dB ~ 40 dB 40 dB ~ 50 dB 50 dB ~ 60 dB (75 GHz ~ 110 GHz) 0 dB ~ 10 dB 10 dB ~ 20 dB 20 dB ~ 30 dB 30 dB ~ 40 dB 40 dB ~ 50 dB 50 dB ~ 60 dB	0.34 dB 0.34 dB 0.34 dB 0.34 dB 0.34 dB 0.36 dB 0.34 dB 0.34 dB 0.34 dB 0.34 dB 0.34 dB 0.36 dB	Network analyzers, Calibration kits / HCT-CS-349-40611

406. Radio frequency measuremet

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.	
Electrostatic discharge generators Current(Ip)	40613	Positive & Negative (6.7 ~ 7.5) A	3.0×10^{-2}	Electrostatic discharge measurement system, Oscilloscope calibrators / HCT-CS-111-40613	
		(7.5 ~ 15) A	2.1×10^{-2}		
		(15 ~ 22.5) A	2.7×10^{-2}		
		(22.5 ~ 30) A	2.3×10^{-2}		
		(30 ~ 45.0) A	2.7×10^{-2}		
		(45.0 ~ 56.3) A	2.5×10^{-2}		
		(56.3 ~ 75) A	2.3×10^{-2}		
		(75 ~ 93.8) A	2.2×10^{-2}		
		(93.8 ~ 150) A	2.5×10^{-2}		
		T1 30 ns, 65 ns	Positive & Negative (2 ~ 4) A		4.9×10^{-2}
			(4 ~ 8) A		2.9×10^{-2}
			(8 ~ 12) A		4.2×10^{-2}
			(12 ~ 16) A		3.4×10^{-2}
			(16 ~ 24) A		4.3×10^{-2}
			(24 ~ 30) A		3.6×10^{-2}
			(30 ~ 40) A		3.0×10^{-2}
			(40 ~ 50) A		2.7×10^{-2}
			(50 ~ 80) A		3.5×10^{-2}
		T2 60 ns, 130 ns	Positive & Negative (1 ~ 2) A		9.4×10^{-2}
			(2 ~ 4) A		4.9×10^{-2}
			(4 ~ 6) A		7.9×10^{-2}
			(6 ~ 8) A		6.0×10^{-2}
			(8 ~ 12) A		8.1×10^{-2}
			(12 ~ 15) A		6.4×10^{-2}
			(15 ~ 20) A		5.0×10^{-2}
			(20 ~ 25) A		4.1×10^{-2}
			(25 ~ 40) A		6.2×10^{-2}
		T3 180 ns, 400 ns	Positive & Negative (0.3 ~ 0.55) A		6.1×10^{-2}
			(0.55 ~ 1.10) A		3.4×10^{-2}
			(1.10 ~ 1.65) A		5.5×10^{-2}
			(1.65 ~ 2.20) A		4.3×10^{-2}
			(2.20 ~ 3.30) A		7.8×10^{-2}
			(3.30 ~ 4.13) A		6.8×10^{-2}
			(4.13 ~ 5.50) A		5.3×10^{-2}
			(5.50 ~ 6.88) A		4.4×10^{-2}
			(6.88 ~ 10.6) A		4.5×10^{-2}
		T4 360 ns, 800 ns	Positive & Negative (0.1 ~ 0.30) A		1.1×10^{-1}
			(0.30 ~ 0.60) A		5.7×10^{-2}
			(0.60 ~ 0.90) A		9.7×10^{-2}
			(0.90 ~ 1.20) A		7.4×10^{-2}
	(1.20 ~ 1.80) A	1.4×10^{-1}			
	(1.80 ~ 2.25) A	1.2×10^{-1}			
	(2.25 ~ 3.00) A	9.2×10^{-2}			
	(3.00 ~ 3.75) A	7.4×10^{-2}			
	(3.75 ~ 5.90) A	7.6×10^{-2}			

406. Radio frequency measurement

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Rise/Fall Time	40613	(0.5 ~ 1) ns	3.7×10^{-2}	
Voltage		Positive & Negative (0.1 ~ 0.5) kV	1.5×10^{-2}	
		(0.5 ~ 1) kV	9.0×10^{-3}	
		(1 ~ 2) kV	2.4×10^{-2}	
		(2 ~ 4) kV	1.2×10^{-2}	
		(4 ~ 6) kV	1.1×10^{-2}	
		(6 ~ 8) kV	8.6×10^{-3}	
		(8 ~ 10) kV	7.8×10^{-3}	
		(10 ~ 12) kV	8.1×10^{-3}	
		(12 ~ 14) kV	8.4×10^{-3}	
		(14 ~ 16) kV	7.4×10^{-3}	
		(16 ~ 18) kV	7.1×10^{-3}	
		(18 ~ 20) kV	6.9×10^{-3}	
		(20 ~ 25) kV	7.9×10^{-3}	
(25 ~ 30) kV	6.6×10^{-3}			
Semiconductor ESD Peak Current (HBM)	Positive & Negative (0.15 ~ 0.17) A	4.9×10^{-2}		
	(0.17 ~ 0.33) A	3.9×10^{-2}		
	(0.33 ~ 1.33) A	3.6×10^{-2}		
	(1.33 ~ 5.23) A	3.5×10^{-2}		
Semiconductor ESD Peak Current (MM)	Positive & Negative (1.5 ~ 7.0) A	3.7×10^{-2}		
	(7 ~ 16) A	3.6×10^{-2}		
Semiconductor ESD Rise/Fall Time	(1 ~ 11) ns	1.8×10^{-2}		
Semiconductor ESD Decay Time	(100 ~ 200) ns	3.5×10^{-3}		
Semi ESD Peak Voltage	Positive & Negative (0.01 ~ 1) kV	3.5×10^{-2}		
	(1 ~ 2) kV	6.1×10^{-2}		
	(2 ~ 4) kV	4.4×10^{-2}		
	(4 ~ 8) kV	3.8×10^{-2}		
EMC receivers	40614	80 kHz ~ 100 MHz	5.8×10^{-11}	Calibration pulse generators, Frequency standards, Power sensors, Standard attenuators, RF signal generators, Network analyzers / HCT-CS-112-40614
Reference frequency		9 kHz ~ 1 GHz	3.8×10^{-3}	
		1 GHz ~ 3 GHz	5.3×10^{-3}	
		3 GHz ~ 20 GHz	9.3×10^{-3}	
		20 GHz ~ 40 GHz	1.2×10^{-2}	
		40 GHz ~ 50 GHz	5.9×10^{-2}	
Input impedance (Reflection coefficient)		10 Hz ~ 2 GHz	0.04 dB	
		2 GHz ~ 12 GHz	0.06 dB	
		12 GHz ~ 40 GHz	0.08 dB	
		40 GHz ~ 50 GHz	0.25 dB	
Sinewave voltage accuracy	9 kHz ~ 40 GHz	0.25 dB		
Pulse response	9 kHz ~ 1 GHz	0.10 dB		
Repetition frequency response				

406. Radio frequency measurement

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.	
Overall selectivity	40614	9 kHz ~ 40 GHz	0.08 dB		
IF rejection ratio		9 kHz ~ 40 GHz	0.31 dB		
Image frequency response		9 kHz ~ 40 GHz	0.31 dB		
Other spurious response		9 kHz ~ 40 GHz	0.31 dB		
Random noise		9 kHz ~ 40 GHz	0.07 dB		
Resolution bandwidth		10 Hz ~ 20 MHz	7.4×10^{-4}		
RF filters	40615	Cutoff frequency	6.4×10^{-7}	Network analyzers, Calibration kits / HCT-CS-113-40615	
Insert loss		(9 kHz ~ 1 GHz)			
		0 dB ~ 10 dB	0.11 dB		
		10 dB ~ 20 dB	0.12 dB		
		20 dB ~ 30 dB	0.14 dB		
		30 dB ~ 40 dB	0.17 dB		
		40 dB ~ 50 dB	0.21 dB		
		50 dB ~ 60 dB	0.30 dB		
		60 dB ~ 70 dB	0.54 dB		
		70 dB ~ 80 dB	1.3 dB		
		80 dB ~ 100 dB	3.3 dB		
		(1 GHz ~ 18 GHz)			
		0 dB ~ 10 dB	0.11 dB		
		10 dB ~ 20 dB	0.12 dB		
		20 dB ~ 30 dB	0.13 dB		
		30 dB ~ 40 dB	0.15 dB		
		40 dB ~ 50 dB	0.20 dB		
		50 dB ~ 60 dB	0.34 dB		
		60 dB ~ 70 dB	0.72 dB		
		70 dB ~ 80 dB	1.9 dB		
		80 dB ~ 100 dB	4.7 dB		
		(18 GHz ~ 26.5 GHz)			
		0 dB ~ 10 dB	0.21 dB		
		10 dB ~ 20 dB	0.23 dB		
		20 dB ~ 30 dB	0.24 dB		
		30 dB ~ 40 dB	0.27 dB		
		40 dB ~ 50 dB	0.35 dB		
		50 dB ~ 60 dB	0.59 dB		
		60 dB ~ 70 dB	1.3 dB		
		70 dB ~ 80 dB	3.2 dB		
		80 dB ~ 100 dB	7.6 dB		
(26.5 GHz ~ 40 GHz)					
0 dB ~ 10 dB		0.21 dB			
10 dB ~ 20 dB		0.23 dB			
20 dB ~ 30 dB		0.24 dB			
30 dB ~ 40 dB		0.29 dB			
40 dB ~ 50 dB	0.47 dB				
50 dB ~ 60 dB	1.2 dB				
60 dB ~ 70 dB	3.1 dB				

406. Radio frequency measurement

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
RF impedance meters Output frequency Output level	40616	1 MHz ~ 18 GHz (9 kHz ~ 18 GHz) 0 dBm ~ 20 dBm -10 dBm ~ 0 dBm -30 dBm ~ -10 dBm -50 dBm ~ -30 dBm -50 dBm ~ -70 dBm -90 dBm ~ -100 dBm -110 dBm ~ -90 dBm -120 dBm ~ -110 dBm	5.8×10^{-11} 0.19 dB 0.18 dB 0.19 dB 0.20 dB 0.21 dB 0.22 dB 0.23 dB 0.24 dB	Frequency standards, Measuring receivers / HCT-CS-176-40616
RF impulse generators Impulse level	40617	9 kHz ~ 1 GHz	0.28 dB	RF spectrum analyzers / HCT-CS-248-40617
Line impedance stabilization networks LISN Impedance Phase angle Voltage division factor Isolation Coupling decoupling networks CDN Impedance Phase angle Voltage division factor Impedance stabilization networks ISN Impedance Phase angle Voltage division factor Longitudinal Conversion Loss EM clamps Coupling factor Decoupling factor Impedance Impedance converters Impedance Phase angle Attenuator	40618	5 Hz ~ 1 GHz 5 Hz ~ 1 GHz 5 Hz ~ 1 GHz (9 kHz ~ 200 MHz) (0 ~ 50) dB (50 ~ 60) dB (60 ~ 70) dB (70 ~ 80) dB (80 ~ 90) dB 5 Hz ~ 1 GHz 5 Hz ~ 1 GHz 5 Hz ~ 1 GHz 9 kHz ~ 1 GHz 9 kHz ~ 1 GHz 9 kHz ~ 1 GHz 9 kHz ~ 1 GHz 9 kHz ~ 1 GHz 9 kHz ~ 1 GHz 9 kHz ~ 1 GHz 5 Hz ~ 3 GHz 5 Hz ~ 3 GHz 5 Hz ~ 3 GHz	2.0×10^{-2} 0.02 ° 0.12 dB 0.2 dB 0.3 dB 0.5 dB 1.2 dB 3.1 dB 2.0×10^{-2} 0.02 ° 0.12 dB 2.0×10^{-2} 0.02 ° 0.12 dB 0.27 dB 0.30 dB 0.30 dB 1.8×10^{-2} 6.0×10^{-3} 0.011 ° 0.13 dB	Network analyzers, Calibration kits / HCT-CS-114-40618 / HCT-CS-163-40618 / HCT-CS-199-40618 / HCT-CS-206-40618 / HCT-CS-249-40618
Coaxial standard mismatches Reflection coefficients	40619	(0 ~ 1) 9 kHz ~ 1 GHz 1 GHz ~ 18 GHz	4.8×10^{-3} 1.0×10^{-2}	Network analyzers, Calibration kits / HCT-CS-174-40619

406. Radio frequency measurement

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.	
Mobile communication test sets	40621	1 mHz ~ 46 GHz	5.8×10^{-11}	Frequency standards, Power sensors, Measuring receivers, RF spectrum analyzers /HCT-CS-115-40621	
Output frequency					
Output level		(-30 dBm ~ 20 dBm)			
		9 kHz ~ 100 MHz	0.05 dB		
		100 MHz ~ 1 GHz	0.07 dB		
		1 GHz ~ 8 GHz	0.08 dB		
		8 GHz ~ 12 GHz	0.09 dB		
		12 GHz ~ 26 GHz	0.12 dB		
		26 GHz ~ 40 GHz	0.15 dB		
		40 GHz ~ 50 GHz	0.21 dB		
Absolute TRFL accuracy		(9 kHz ~ 8 GHz)			
		0 dBm ~ 30 dBm	0.15 dB		
		-40 dBm ~ 0 dBm	0.16 dB		
		-80 dBm ~ -40 dBm	0.18 dB		
		-120 dBm ~ -80 dBm	0.20 dB		
		-140 dBm ~ -120 dBm	0.21 dB		
		(8 GHz ~ 18 GHz)			
		0 dBm ~ 30 dBm	0.20 dB		
		-40 dBm ~ 0 dBm	0.20 dB		
		-80 dBm ~ -40 dBm	0.22 dB		
		-120 dBm ~ -80 dBm	0.24 dB		
	-140 dBm ~ -120 dBm	0.25 dB			
	(18 GHz ~ 26.5 GHz)				
	0 dBm ~ 30 dBm	0.27 dB			
	-40 dBm ~ 0 dBm	0.27 dB			
	-80 dBm ~ -40 dBm	0.29 dB			
	-120 dBm ~ -80 dBm	0.31 dB			
	-140 dBm ~ -120 dBm	0.32 dB			
Relative TRFL accuracy	(9 kHz ~ 18 GHz)				
	0 dBm ~ 30 dBm	0.05 dB			
	-40 dBm ~ 0 dBm	0.05 dB			
	-80 dBm ~ -40 dBm	0.08 dB			
	-120 dBm ~ -80 dBm	0.09 dB			
	-140 dBm ~ -120 dBm	0.10 dB			
	(18 GHz ~ 26.5 GHz)				
	0 dBm ~ 30 dBm	0.05 dB			
	-40 dBm ~ 0 dBm	0.05 dB			
	-80 dBm ~ -40 dBm	0.08 dB			
	-120 dBm ~ -80 dBm	0.09 dB			
	-140 dBm ~ -120 dBm	0.11 dB			
Output amplitude modulation		(CW 100 kHz ~ 26.5 GHz, Rate 10 Hz ~ 100 kHz) (1 ~ 100) %	1.2×10^{-2}		
Output frequency modulation		(CW 100 kHz ~ 26.5 GHz, Rate 10 Hz ~ 100 kHz) 0.1 Hz ~ 5 MHz	1.2×10^{-2}		
Output phase modulation		(CW 100 kHz ~ 26.5 GHz, Rate 10 Hz ~ 100 kHz) (0.1 ~ 10) krad	1.2×10^{-2}		

406. Radio frequency measurement

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.		
Output phase distortion	40621	100 kHz ~ 26.5 GHz	3.0×10^{-2}			
Output harmonics		9 kHz ~ 10 GHz 10 GHz ~ 26.5 GHz	1.4 dB 1.7 dB			
Output AC Voltage		(10 Hz ~ 25 kHz) 10 mV ~ 100 V	7.4×10^{-4}			
Output DC voltage		10 mV ~ 100 V	5.8×10^{-5}			
Input frequency		1 mHz ~ 18 GHz	5.8×10^{-11}			
Input voltage		(-120 dBm ~ 20 dBm) 9 kHz ~ 100 MHz 100 MHz ~ 1 GHz 1 GHz ~ 8 GHz 8 GHz ~ 12 GHz 12 GHz ~ 18 GHz 18 GHz ~ 50 GHz	0.05 dB 0.07 dB 0.08 dB 0.09 dB 0.12 dB 0.12 dB			
Input level linearity		(9 kHz ~ 26.5 GHz) -10 dBm ~ 30 dBm -20 dBm ~ -10 dBm -30 dBm ~ -20 dBm -40 dBm ~ -30 dBm -50 dBm ~ -40 dBm -60 dBm ~ -50 dBm -70 dBm ~ -60 dBm -80 dBm ~ -70 dBm -90 dBm ~ -80 dBm -100 dBm ~ -90 dBm -110 dBm ~ -100 dBm -140 dBm ~ -110 dBm	0.034 dB 0.040 dB 0.046 dB 0.052 dB 0.058 dB 0.064 dB 0.070 dB 0.076 dB 0.080 dB 0.086 dB 0.092 dB 0.098 dB			
Input amplitude modulation		100 kHz ~ 26.5 GHz	1.2×10^{-2}			
Input frequency modulation		100 kHz ~ 26.5 GHz	1.2×10^{-2}			
Input phase modulation		100 kHz ~ 26.5 GHz	1.2×10^{-2}			
Input modulation distortion		100 kHz ~ 26.5 GHz	3.0×10^{-2}			
Input harmonics		9 kHz ~ 10 GHz 10 GHz ~ 18 GHz	1.4 dB 1.7 dB			
Input AC voltage		(10 Hz ~ 25 kHz) 10 mV ~ 100 V	7.4×10^{-4}			
Input DC voltage		10 mV ~ 100 V	7.3×10^{-5}			
Modulation meters		40622	1 mHz ~ 26.5 GHz		5.8×10^{-11}	Measuring receivers, AM/FM test source / HCT-CS-116-40622
Frequency						
Amplitude Modulation			(CW 100 kHz ~ 26.5 GHz, Rate 10 Hz ~ 100 kHz) (1 ~ 100) %		1.2×10^{-2}	

406. Radio frequency measurement

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Frequency Modulation	40622	(CW 100 kHz ~ 26.5 GHz, Rate 10 Hz ~ 100 kHz) 0.1 Hz ~ 5 MHz	1.2×10^{-2}	
Phase Modulation		(CW 100 kHz ~ 26.5 GHz, Rate 10 Hz ~ 100 kHz) (0.1 ~ 10) krad	1.2×10^{-2}	
Audio RMS Accuracy		(20 Hz ~ 50 kHz) 100 mV ~ 5 V	1.2×10^{-3}	
Reference Power		(50 MHz) 1 mW	8.0×10^{-3}	
Zero Set		0.000 μ W	0.001 μ W	
		0.00 μ W	0.01 μ W	
		0.0 μ W	0.1 μ W	
		0.000 mW	0.001 mW	
		0.00 mW	0.01 mW	
Range-to-Range Error		10 μ W ~ 100 mW	1.3×10^{-3}	
Tuned RF Level	(0 ~ 10) dB	0.027 dB		
	(10 ~ 20) dB	0.029 dB		
	(20 ~ 30) dB	0.032 dB		
	(30 ~ 40) dB	0.038 dB		
	(40 ~ 50) dB	0.043 dB		
	(50 ~ 60) dB	0.043 dB		
	(60 ~ 70) dB	0.048 dB		
	(70 ~ 80) dB	0.054 dB		
	(80 ~ 90) dB	0.060 dB		
	(90 ~ 100) dB	0.066 dB		
(100 ~ 110) dB	0.069 dB			
(110 ~ 120) dB	0.074 dB			
Network analyzers	40623	1 mHz ~ 46 GHz	5.8×10^{-11}	Calibration kit Frequency standards, Standard attenuators, Power sensors, Standard mismatches / HCT-CS-117-40623
Output frequency				
Output level accuracy		(-30 dBm ~ 20 dBm)		
		5 Hz ~ 100 MHz	0.06 dB	
		100 MHz ~ 1 GHz	0.07 dB	
		1 GHz ~ 8 GHz	0.08 dB	
		8 GHz ~ 12 GHz	0.09 dB	
		12 GHz ~ 18 GHz	0.12 dB	
		18 GHz ~ 26 GHz	0.12 dB	
		26 GHz ~ 33 GHz	0.14 dB	
	33 GHz ~ 40 GHz	0.15 dB		
40 GHz ~ 50 GHz	0.15 dB			
50 GHz ~ 75 GHz	0.24 dB			
75 GHz ~ 110 GHz	0.28 dB			
Absolute TRFL accuracy	(9 kHz ~ 8 GHz)			
	0 dBm ~ 30 dBm	0.15 dB		
	-40 dBm ~ 0 dBm	0.16 dB		
	-80 dBm ~ -40 dBm	0.18 dB		
	-120 dBm ~ -80 dBm	0.20 dB		
-140 dBm ~ -120 dBm	0.21 dB			

406. Radio frequency measuremet

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Absolute TRFL accuracy	40623	(8 GHz ~ 18 GHz)		
		0 dBm ~ 30 dBm	0.20 dB	
		-40 dBm ~ 0 dBm	0.20 dB	
		-80 dBm ~ -40 dBm	0.22 dB	
		-120 dBm ~ -80 dBm	0.24 dB	
		-140 dBm ~ -120 dBm	0.25 dB	
		(18 GHz ~ 26.5 GHz)		
		0 dBm ~ 30 dBm	0.27 dB	
		-40 dBm ~ 0 dBm	0.27 dB	
		-80 dBm ~ -40 dBm	0.29 dB	
		-120 dBm ~ -80 dBm	0.31 dB	
		-140 dBm ~ -120 dBm	0.32 dB	
		(26.5 GHz ~ 40 GHz)		
		-30 dBm ~ 20 dBm	0.27 dB	
		(40 GHz ~ 50 GHz)		
-30 dBm ~ 20 dBm	0.31 dB			
Output level linearity		(9 kHz ~ 26.5 GHz)		
		0 dBm ~ 10 dBm	0.034 dB	
		-10 dBm ~ 0 dBm	0.034 dB	
		-20 dBm ~ -10 dBm	0.040 dB	
		-30 dBm ~ -20 dBm	0.046 dB	
		-40 dBm ~ -30 dBm	0.052 dB	
		-50 dBm ~ -40 dBm	0.058 dB	
		-60 dBm ~ -50 dBm	0.064 dB	
		-70 dBm ~ -60 dBm	0.070 dB	
		-80 dBm ~ -70 dBm	0.076 dB	
		-90 dBm ~ -80 dBm	0.080 dB	
		-100 dBm ~ -90 dBm	0.086 dB	
		-110 dBm ~ -100 dBm	0.092 dB	
		-120 dBm ~ -110 dBm	0.098 dB	
		(26.5 GHz ~ 40 GHz)		
-30 dBm ~ 20 dBm	0.024 dB			
(40 GHz ~ 50 GHz)				
-30 dBm ~ 20 dBm	0.050 dB			
Harmonics		20 Hz ~ 20 GHz	1.4 dB	
		20 GHz ~ 40 GHz	1.7 dB	
Magnitude dynamic accuracy		0 dB ~ 120 dB	0.029 dB	
Mismatch measurement accuracy		9 kHz ~ 1 GHz	4.8×10^{-3}	
		1 GHz ~ 18 GHz	1.0×10^{-2}	
Input impedance		9 kHz ~ 1 GHz	4.8×10^{-3}	
		1 GHz ~ 18 GHz	1.0×10^{-2}	

406. Radio frequency measurement

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Noise figure meters Output frequency Input impedance Output DC voltage Noise figure	40624	1 mHz ~ 18 GHz 9 kHz ~ 1 GHz 1 GHz ~ 3 GHz 3 GHz ~ 18 GHz 0 V 0.1 V ~ 30 V 10 MHz ~ 18 GHz	5.8×10^{-11} 0.9×10^{-2} 1.2×10^{-2} 1.9×10^{-2} 10 μ V 1.1×10^{-6} 0.35 dB	Noise standards RF signal generators, Noise sources / HCT-CS-118-40624
Noise generators Output frequency Output level	40625	1 mHz ~ 18 GHz (-120 dBm ~ 30 dBm) 9 kHz ~ 3 GHz 3 GHz ~ 6.6 GHz 6.6 GHz ~ 18 GHz	5.8×10^{-11} 0.51 dB 1.8 dB 2.4 dB	RF spectrum generators / HCT-CS-177-40625
Noise impulse simulators Output Voltage Delta time measurement (rise/fall/duration/period/ repetition rate/burst duration)	40626	Positive & Negative 10 V (10 ~ 20) V (20 ~ 50) V (50 ~ 200) V (200 ~ 250) V (250 ~ 500) V (0.5 ~ 1) kV (1 ~ 2) kV (2 ~ 2.5) kV (2.5 ~ 3) kV (3 ~ 4) kV 0.1 ns (0.1 ~ 1.0) ns (1.0 ~ 2.0) ns (2.0 ~ 5.0) ns (5.0 ~ 10.0) ns (10 ~ 20) ns (20 ~ 50) ns (50 ~ 100) ns (100 ~ 200) ns (200 ~ 500) ns (0.5 ~ 1.0) μ s (1.0 ~ 2.0) μ s (2.0 ~ 5.0) μ s (5.0 ~ 10.0) μ s (10 ~ 20) μ s (20 ~ 50) μ s (50 ~ 100) μ s (100 ~ 200) μ s (200 ~ 500) μ s (0.5 ~ 1) ms (1 ~ 2) ms (2 ~ 5) ms (5 ~ 10) ms	0.39 V 3.8×10^{-2} 3.3×10^{-2} 3.8×10^{-2} 3.4×10^{-2} 3.3×10^{-2} 3.8×10^{-2} 3.1×10^{-2} 2.8×10^{-2} 2.7×10^{-2} 3.8×10^{-2} 0.014 ns 1.4×10^{-2} 7.0×10^{-3} 2.8×10^{-3} 1.6×10^{-3} 8.0×10^{-4} 3.2×10^{-4} 6.0×10^{-4} 7.0×10^{-4} 2.8×10^{-4} 1.2×10^{-3} 5.8×10^{-4} 2.3×10^{-4} 5.9×10^{-4} 3.1×10^{-4} 1.3×10^{-4} 8.4×10^{-4} 4.2×10^{-4} 6.1×10^{-4} 2.8×10^{-2} 3.5×10^{-2} 2.3×10^{-4} 5.9×10^{-4}	High voltage probes Oscilloscopes /HCT-CS-119-40626

406. Radio frequency measurement

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Delta time measurement (rise/fall/duration/period/ repetition rate/burst duration)	40626	(10 ~ 20) ms (20 ~ 50) ms (50 ~ 100) ms (100 ~ 200) ms (200 ~ 500) ms (0.5 ~ 1.0) s (1.0 ~ 2.0) s (2.0 ~ 5.0) s	3.0×10^{-4} 1.6×10^{-4} 5.8×10^{-4} 2.9×10^{-4} 1.2×10^{-4} 2.1×10^{-3} 1.0×10^{-3} 4.2×10^{-4}	
RF power meters RF power meters Output frequency Output levels Instrument accuracy Input level accuracy Input voltage RF high power meters Calibration factor	40635	1 mHz ~ 18 GHz (10 MHz ~ 300 MHz) 1 μ W ~ 100 mW 3 μ W ~ 100 mW (9 kHz ~ 18 GHz) -80 dBm ~ 20 dBm (DC) 0 V ~ 400 V (10 kHz ~ 220 MHz) 0.01 W ~ 2.5 kW (200 MHz ~ 1 GHz) 0.01 W ~ 100 W (1 GHz ~ 4.2 GHz) 0.01 W ~ 10 W	5.8×10^{-11} 5.1×10^{-3} 4.4×10^{-3} 0.15 dB 5.8×10^{-5} 1.5×10^{-2} 2.9×10^{-2} 3.5×10^{-2}	Range calibrators, Power sensors /HCT-CS-120-40635 RF calorimeters /HCT-CS-162-40635
Diode power sensors Calibration factor	40636	(1 μ W ~ 100 mW) 9 kHz ~ 1 GHz 1 GHz ~ 10 GHz 10 GHz ~ 18 GHz 18 GHz ~ 26 GHz 26 GHz ~ 34 GHz 34 GHz ~ 38 GHz 38 GHz ~ 43 GHz 43 GHz ~ 50 GHz (0 ~ 1) 9 kHz ~ 1 GHz 1 GHz ~ 3 GHz 3 GHz ~ 20 GHz 20 GHz ~ 40 GHz 40 GHz ~ 50 GHz	1.5×10^{-2} 1.6×10^{-2} 2.1×10^{-2} 2.1×10^{-2} 2.5×10^{-2} 3.0×10^{-2} 3.3×10^{-2} 3.6×10^{-2} 3.8×10^{-3} 5.3×10^{-3} 9.3×10^{-3} 1.2×10^{-2} 5.9×10^{-2}	Coaxial thermistor mounts Power sensors /HCT-CS-121-40636

406. Radio frequency measurement

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Thermocouple power sensors Calibration factor	40637	(1 μ W ~ 100 mW)		Coaxial thermistor mounts Power sensors /HCT-CS-122-40637
		9 kHz ~ 1 GHz	1.5×10^{-2}	
		1 GHz ~ 10 GHz	1.6×10^{-2}	
		10 GHz ~ 18 GHz	2.1×10^{-2}	
		18 GHz ~ 26 GHz	2.1×10^{-2}	
		26 GHz ~ 34 GHz	2.5×10^{-2}	
		34 GHz ~ 38 GHz	3.0×10^{-2}	
		38 GHz ~ 43 GHz	3.3×10^{-2}	
		43 GHz ~ 50 GHz	3.6×10^{-2}	
Reflection coefficient		(0 ~ 1)		
		9 kHz ~ 1 GHz	3.8×10^{-3}	
		1 GHz ~ 3 GHz	5.3×10^{-3}	
		3 GHz ~ 20 GHz	9.3×10^{-3}	
		20 GHz ~ 40 GHz	1.2×10^{-2}	
	40 GHz ~ 50 GHz	5.9×10^{-2}		
Pulse generators	40638			Frequency coueters, Oscilloscopes /HCT-CS-123-40646
Frequency		1 Hz ~ 10 GHz	6.1×10^{-9}	
Period		300 ps ~ 1 s	6.1×10^{-9}	
Delay		1 s ~ 100 ns	1.2×10^{-3}	
		(100 ~ 10) ns	1.3×10^{-3}	
		(10 ~ 1) ns	5.9×10^{-3}	
Double Pulse		1 s ~ 100 ns	1.2×10^{-3}	
		(100 ~ 10) ns	1.3×10^{-3}	
		(10 ~ 1) ns	5.9×10^{-3}	
Width		1 s ~ 100 ns	1.2×10^{-3}	
		(100 ~ 10) ns	1.3×10^{-3}	
		(10 ~ 1) ns	5.9×10^{-3}	
Transition Time		1 s ~ 100 ns	1.2×10^{-3}	
		(100 ~ 10) ns	1.3×10^{-3}	
		(10 ~ 1) ns	5.9×10^{-3}	
DC Level		10 mV	6.2 μ V	
		10 mV ~ 100 V	6.2×10^{-4}	
Output Level		10 mV		
	20 Hz ~ 1 kHz	9.4 μ V		
	(1 ~ 20) kHz	9.4 μ V		
	(20 ~ 100) kHz	9.4 μ V		
	(10 ~ 100) mV			
	20 Hz ~ 1 kHz	6.4×10^{-4}		
	(1 ~ 20) kHz	7.6×10^{-4}		
	(20 ~ 100) kHz	1.1×10^{-3}		
	(100 mV ~ 1 V)			
	20 Hz ~ 20 kHz	6.4×10^{-4}		
(20 ~ 50) kHz	6.7×10^{-4}			
(50 ~ 100) kHz	6.7×10^{-4}			

406. Radio frequency measurement

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Output Level	40638	(1 ~ 10) V 20 Hz ~ 20 kHz (20 ~ 50) kHz (50 ~ 100) kHz (10 ~ 100) V 20 Hz ~ 20 kHz (20 ~ 50) kHz (50 ~ 100) kHz (100 ~ 300) V 20 Hz ~ 1 kHz	6.4×10^{-4} 6.7×10^{-4} 6.7×10^{-4} 6.4×10^{-4} 6.7×10^{-4} 6.7×10^{-4} 3.1×10^{-4}	
Radar test sets	40639			VOR/ILS signal calibrators, Frequency standards, Power sensors
Output frequency		1 mHz ~ 18 GHz	5.8×10^{-11}	
Output level		(9 kHz ~ 18 GHz) 10 dBm ~ 30 dBm -30 dBm ~ 10 dBm -60 dBm ~ -30 dBm -100 dBm ~ -60 dBm -120 dBm ~ -100 dBm	0.12 dB 0.12 dB 0.13 dB 0.15 dB 0.30 dB	/ HCT-CS-168-40639(RADAR) / HCT-CS-204-40639(SART) / HCT-CS-207-40639(AIS) / HCT-CS-209-40639(GMDSS) / HCT-CS-214-40639(EPIRB)
Harmonics		(9 kHz ~ 5 GHz) -100 dBc ~ 0 dBc (5 GHz ~ 18 GHz) -100 dBc ~ 0 dBc	1.2 dB 1.5 dB	
Output modulation signal level		(9 kHz ~ 18 GHz) -100 dBc ~ 0 dBc	1.3 dB	
Output amplitude modulation		(CW 9 kHz ~ 18 GHz, Rate 10 Hz ~ 100 kHz) 0 % ~ 100 %	1.7×10^{-2}	
Output frequency modulation		(CW 9 kHz ~ 18 GHz, Rate 10 Hz ~ 100 kHz) 0 kHz ~ 800 kHz	1.2×10^{-2}	
Output modulation distortion		(9 kHz ~ 18 GHz) 0 % ~ 100 %	1.2×10^{-2}	
Phase		(9 kHz ~ 18 GHz) 0° ~ 360°	1.2×10^{-2}	
DDM		100 kHz ~ 1.36 GHz	3.0×10^{-2}	
SDM		100 kHz ~ 1.36 GHz	3.0×10^{-2}	
VOR		100 kHz ~ 1.36 GHz	3.0×10^{-2}	
Pulse width		1 ns ~ 10 ms	2.3×10^{-2}	
Input frequency		9 kHz ~ 18 GHz	5.8×10^{-10}	
Input level		(100 kHz ~ 1.36 GHz) 1 mW ~ 100 W	1.9×10^{-2}	

406. Radio frequency measurement

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
RF signal generators	40640			Measuring receivers, Power sensors, Frequency standards, RF spectrum analyzers / HCT-CS-124-40640
Output frequency		1 mHz ~ 46 GHz	5.8×10^{-11}	
Absolute output level		(-30 dBm ~ 20 dBm)		
		5 Hz ~ 100 MHz	0.05 dB	
		100 MHz ~ 1 GHz	0.07 dB	
		1 GHz ~ 8 GHz	0.08 dB	
		8 GHz ~ 12 GHz	0.09 dB	
		12 GHz ~ 18 GHz	0.12 dB	
		18 GHz ~ 26 GHz	0.11 dB	
		26 GHz ~ 33 GHz	0.13 dB	
		33 GHz ~ 40 GHz	0.14 dB	
		40 GHz ~ 50 GHz	0.16 dB	
		50 GHz ~ 75 GHz	0.21 dB	
		75 GHz ~ 110 GHz	0.28 dB	
Absolute TRFL accuracy		(9 kHz ~ 8 GHz)		
		0 dBm ~ 30 dBm	0.15 dB	
		-40 dBm ~ 0 dBm	0.16 dB	
		-80 dBm ~ -40 dBm	0.18 dB	
		-120 dBm ~ -80 dBm	0.20 dB	
		-140 dBm ~ -120 dBm	0.21 dB	
	(8 GHz ~ 18 GHz)			
	0 dBm ~ 30 dBm	0.20 dB		
	-40 dBm ~ 0 dBm	0.20 dB		
	-80 dBm ~ -40 dBm	0.22 dB		
	-120 dBm ~ -80 dBm	0.24 dB		
	-140 dBm ~ -120 dBm	0.25 dB		
	(18 GHz ~ 26.5 GHz)			
	0 dBm ~ 30 dBm	0.27 dB		
	-40 dBm ~ 0 dBm	0.27 dB		
	-80 dBm ~ -40 dBm	0.29 dB		
	-120 dBm ~ -80 dBm	0.31 dB		
	-140 dBm ~ -120 dBm	0.32 dB		
Relative TRFL accuracy	(9 kHz ~ 26.5 GHz)			
	0 dBm ~ 30 dBm	0.05 dB		
	-40 dBm ~ 0 dBm	0.05 dB		
	-80 dBm ~ -40 dBm	0.08 dB		
	-120 dBm ~ -80 dBm	0.09 dB		
	-140 dBm ~ -120 dBm	0.11 dB		
Output amplitude modulation	(CW 100 kHz ~ 26.5 GHz, Rate 10 Hz ~ 100 kHz) (1 ~ 100) %	1.2×10^{-2}		
Output frequency modulation	(CW 100 kHz ~ 26.5 GHz, Rate 10 Hz ~ 100 kHz) 0.1 Hz ~ 5 MHz	1.2×10^{-2}		
Output phase modulation	(CW 100 kHz ~ 26.5 GHz, Rate 10 Hz ~ 100 kHz) (0.1 ~ 10) krad	1.2×10^{-2}		
Output modulation distortion	100 kHz ~ 26.5 GHz	3.0×10^{-2}		

406. Radio frequency measurement

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Harmonics	40640	20 Hz ~ 20 GHz	1.4 dB	
		20 GHz ~ 40 GHz	1.7 dB	
Pulse modulation		1 μs ~ 1 s	1.2×10^{-3}	
RF spectrum analyzers	40641			Power sensors, Frequency standards, RF signal generators, Standard attenuators / HCT-CS-125-40641
Reference frequency		10 MHz ~ 1 GHz	5.8×10^{-11}	
Reference level		(10 MHz ~ 1 GHz) -30 dBm ~ 10 dBm	0.07 dB	
Frequency readout		5 Hz ~ 110 GHz	$9.6 \times 10^{-4} \cdot \text{SPAN}$	
Frequency counter		5 Hz ~ 110 GHz	0.1 Hz	
Frequency span		5 Hz ~ 110 GHz	$1.4 \times 10^{-3} \cdot \text{SPAN}$	
Resolution bandwidth		1 Hz ~ 100 MHz	$2.2 \times 10^{-3} \cdot \text{RBW}$	
Resolution bandwidth selectivity		1 Hz ~ 100 MHz	$4.0 \times 10^{-3} \cdot \text{RBW}$	
Resolution bandwidth switching error		1 Hz ~ 100 MHz	0.004 dB	
Input attenuator accuracy		0 dB ~ 100 dB	0.08 dB	
Scale fidelity		0 dB ~ 100 dB	0.08 dB	
Reference level accuracy		0 dB ~ 100 dB	0.06 dB	
Frequency response		5 Hz ~ 4 GHz	0.09 dB	
		4 GHz ~ 18 GHz	0.15 dB	
		18 GHz ~ 26.5 GHz	0.19 dB	
	26.5 GHz ~ 40 GHz	0.21 dB		
	40 GHz ~ 110 GHz	0.35 dB		
Average noise level	5 Hz ~ 3 GHz	0.58 dB		
	3 GHz ~ 12 GHz	1.0 dB		
	12 GHz ~ 18 GHz	1.4 dB		
	18 GHz ~ 40 GHz	1.7 dB		
	40 GHz ~ 50 GHz	2.0 dB		
Sideband noise level	-30 kHz ~ 30 kHz	1.7 dB		
Input level	(1 kHz ~ 100 kHz) -60 dBV ~ 30 dBV	0.18 dB		
Conversion factor	18 GHz ~ 110 GHz	0.82 dB		
RF speed guns	40642			Frequency standards / HCT-CS-278-40642
Speed		(5 ~ 2 000) m/s	0.03 m/s	

406. Radio frequency measurement

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.	
Surge generators	40643	Positive & Negative		High voltage probes /HCT-CS-126-40643	
Voltage output		2 V	0.11 V		
		(2 ~ 10) V	1.1×10^{-2}		
		(10 ~ 20) V	7.6×10^{-3}		
		(20 ~ 50) V	4.4×10^{-3}		
		(50 ~ 100) V	4.2×10^{-3}		
		(100 ~ 200) V	4.7×10^{-3}		
		(200 ~ 500) V	1.7×10^{-3}		
		(500 ~ 1000 V)	4.0×10^{-3}		
		(1 ~ 2) kV	5.0×10^{-2}		
		(2 ~ 4) kV	2.8×10^{-2}		
		(4 ~ 6) kV	2.0×10^{-2}		
		(6 ~ 8) kV	1.6×10^{-2}		
		(8 ~ 10) kV	1.4×10^{-2}		
		(10 ~ 12) kV	1.2×10^{-2}		
		(12 ~ 15) kV	1.1×10^{-2}		
		(15 ~ 18) kV	9.8×10^{-3}		
		(18 ~ 20) kV	8.8×10^{-3}		
Current output		Positive & Negative			
		1 A	28 mA		
		(1 ~ 2) A	1.4×10^{-2}		
		(2 ~ 5) A	7.2×10^{-3}		
		(5 ~ 10) A	6.2×10^{-3}		
		(10 ~ 20) A	6.0×10^{-3}		
		(20 ~ 50) A	5.5×10^{-3}		
		(50 ~ 100) A	4.2×10^{-3}		
		(100 ~ 200) A	6.0×10^{-3}		
		(200 ~ 500) A	5.5×10^{-3}		
		(500 ~ 1 000) A	4.2×10^{-4}		
		(1 000 ~ 2 000) A	6.3×10^{-3}		
		(2 000 ~ 3 000) A	9.6×10^{-3}		
		(3 000 ~ 5 000) A	5.7×10^{-3}		
		(5 000 ~ 7 000) A	6.3×10^{-3}		
		(7 000 ~ 10 000) A	4.4×10^{-3}		
		(10 000 ~ 20 000) A	6.1×10^{-3}		
		(20 000 ~ 50 000) A	2.5×10^{-3}		
		(50 000 ~ 100 000) A	1.3×10^{-3}		
Delta time measurement (rise/fall/duration/period/ repetition rate/burst duration)	0.2 ns	0.015 ns			
	(0.2 ~ 1) ns	1.5×10^{-2}			
	(1 ~ 2) ns	7.5×10^{-3}			
	(2 ~ 5) ns	3.0×10^{-3}			
	(5 ~ 10) ns	6.0×10^{-3}			
	(10 ~ 20) ns	3.0×10^{-3}			
	(20 ~ 50) ns	1.2×10^{-3}			
	(50 ~ 100) ns	5.9×10^{-3}			
	(100 ~ 200) ns	2.9×10^{-3}			
	(200 ~ 500) ns	1.2×10^{-3}			
	(0.5 ~ 1) μ s	5.9×10^{-3}			
	(1 ~ 2) μ s	2.9×10^{-3}			
	(2 ~ 5) μ s	1.2×10^{-3}			
	(5 ~ 10) μ s	5.9×10^{-3}			
	(1 ~ 20) μ s	2.9×10^{-3}			
	(20 ~ 50) μ s	1.2×10^{-3}			

406. Radio frequency measurement

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Delta time measurement (rise/fall/duration/period/ repetition rate/burst duration)	40643	(50 ~ 100) μ s	5.9×10^{-3}	
		(100 ~ 200) μ s	2.9×10^{-2}	
		(200 ~ 500) μ s	1.2×10^{-2}	
		(0.5 ~ 1) ms	5.9×10^{-3}	
		(1 ~ 2) ms	2.9×10^{-3}	
		(2 ~ 5) ms	1.2×10^{-3}	
		(5 ~ 10) ms	5.9×10^{-3}	
		(10 ~ 20) ms	2.9×10^{-3}	
		(20 ~ 50) ms	1.2×10^{-3}	
		(50 ~ 100) ms	5.9×10^{-3}	
		(100 ~ 200) ms	2.9×10^{-3}	
		(200 ~ 500) ms	1.2×10^{-3}	
		(0.5 ~ 1) s	5.9×10^{-3}	
		(1 ~ 2) s	2.9×10^{-3}	
	(2 ~ 5) s	1.2×10^{-3}		
	(5 ~ 10) s	5.9×10^{-3}		
Frequency		0.1 Hz	5.8 mHz	
		(0.1 ~ 1) Hz	5.9×10^{-6}	
		1 Hz ~ 10 MHz	1.2×10^{-6}	
RF terminations Reflection coefficients	40645	(0 ~ 1)		Network analyzers, Calibration kits / HCT-CS-128-40645
		5 Hz ~ 9 kHz	4.4×10^{-3}	
		9 kHz ~ 1 GHz	4.8×10^{-3}	
		1 GHz ~ 18 GHz	1.0×10^{-2}	
		18 GHz ~ 40 GHz	1.3×10^{-2}	
		40 GHz ~ 50 GHz	1.4×10^{-2}	
		50 GHz ~ 75 GHz	2.1×10^{-2}	
		75 GHz ~ 110 GHz	2.4×10^{-2}	
Coaxial thermistor mounts Calibration factor	40646	(1 μ W ~ 100 mW)		Coaxial thermistor mounts / HCT-CS-129-40646
		10 MHz ~ 1 GHz	1.4×10^{-2}	
		1 GHz ~ 10 GHz	1.6×10^{-2}	
		10 GHz ~ 18 GHz	2.1×10^{-2}	
Reflection coefficient		(0 ~ 1)		
		10 MHz ~ 1 GHz	3.8×10^{-3}	
		1 GHz ~ 3 GHz	5.3×10^{-3}	
		3 GHz ~ 18 GHz	9.3×10^{-3}	
Transmission trouble testers Pulse width	40648	1 ns ~ 100 μ s	1.4×10^{-2}	Frequency counters, Oscilloscopes, Artifacts / HCT-CS-261-40648
Pulse amplitude		1 mV ~ 20 V	6.3×10^{-2}	
Pulse rate		1 ns ~ 100 μ s	5.8×10^{-11}	
Pulse reflection delay time		1 ns ~ 200 μ s	1.5×10^{-2}	
Impedance		0 Ω	1.2 m Ω	
		0.1 Ω ~ 500 Ω	1.0×10^{-4}	
Insertion loss		1 MHz ~ 2.5 GHz	0.32 dB	
Return loss		1 MHz ~ 2.5 GHz	0.51 dB	

406. Radio frequency measurement

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
RF voltmeters Voltage	40650	(DC) 0 V ~ 400 V (DC ~ 100 kHz) 0.1 mV ~ 10 V (100 kHz ~ 1 GHz) -120 dBm ~ 20 dBm	5.8×10^{-5} 1.6×10^{-4} 0.15 dB	Meter calibrators, Power sensors / HCT-CS-133-40650
Vector voltmeters Voltage	40651	(DC) 0 V ~ 400 V (DC ~ 100 kHz) 0.1 mV ~ 10 V (100 kHz ~ 1 GHz) -120 dBm ~ 20 dBm	5.8×10^{-5} 1.6×10^{-4} 0.15 dB	Meter calibrators, Power sensors / HCT-CS-173-40651
Field strength meters Frequency Frequency response Amplitude modulation Frequency modulation	40652	9 kHz ~ 18 GHz 9 kHz ~ 4 GHz 4 GHz ~ 18 GHz 100 kHz ~ 18 GHz 100 kHz ~ 18 GHz	5.8×10^{-11} 0.09 dB 0.15 dB 1.2×10^{-2} 1.2×10^{-2}	Power sensors, Frequency standards / HCT-CS-200-40652
AM/FM test sources Output frequency Vestigial FM Vestigial AM Distortion factor	40653	1 MHz ~ 1 GHz 50 Hz ~ 3 kHz 50 Hz ~ 3 kHz 12.5 kHz ~ 400 kHz	6.4×10^{-11} 2.0×10^{-2} 2.0×10^{-2} 4.0×10^{-4}	Measuring receivers / HCT-CS-250-40653
Dip simulators Output voltage DC Output voltage AC Output voltage	40654	1 V (1 ~ 10) V (10 ~ 50) V (50 ~ 100) V (100 ~ 150) V (150 ~ 200) V (200 ~ 250) V (250 ~ 300) V (300 ~ 400) V (50 ~ 60) Hz 50 V (50 ~ 100) V (100 ~ 150) V (150 ~ 200) V (200 ~ 250) V	0.65 mV 6.5×10^{-4} 8.2×10^{-5} 1.6×10^{-4} 9.2×10^{-5} 2.4×10^{-2} 1.9×10^{-2} 1.6×10^{-2} 1.4×10^{-2} 0.30 V 3.4×10^{-3} 3.1×10^{-3} 2.4×10^{-3} 2.1×10^{-3}	Digital multimeters, Oscilloscopes, High voltage probes /HCT-CS-202-40654

406. Radio frequency measurement

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Output voltage	40654	(250 ~ 300) V	1.8×10^{-3}	
		(300 ~ 400) V	1.5×10^{-3}	
Line frequency		(50 ~ 60) Hz	3.5×10^{-4}	
Dip & Up Voltage DC Voltage		(0 ~ 12) V		
		0 %		
		0 V	0.36 V	
		(0 ~ 40) %		
		(0 ~ 4.8) V	7.9×10^{-2}	
		(40 ~ 70) %		
		(4.8 ~ 8.4) V	5.0×10^{-2}	
		(70 ~ 80) %		
		(8.4 ~ 9.6) V	4.4×10^{-2}	
		(80 ~ 120) %		
		(9.6 ~ 14.4) V	3.5×10^{-2}	
		(12 ~ 25) V		
		0 %		
		0 V	0.36 V	
		(0 ~ 40) %		
		(0 ~ 10) V	4.3×10^{-2}	
		(40 ~ 70) %		
		(10 ~ 17.5) V	3.1×10^{-2}	
		(70 ~ 80) %		
		(17.5 ~ 20) V	2.9×10^{-2}	
		(80 ~ 120) %		
		(20 ~ 30) V	2.6×10^{-2}	
		(25 ~ 50) V		
		0 %		
		0 V	0.36 V	
		(0 ~ 40) %		
		(0 ~ 20) V	2.9×10^{-2}	
		(40 ~ 70) %		
		(20 ~ 35) V	2.5×10^{-2}	
		(70 ~ 80) %		
		(35 ~ 40) V	2.5×10^{-2}	
		(80 ~ 120) %		
		(40 ~ 60) V	2.4×10^{-2}	
		(50 ~ 100) V		
		0 %		
		0 V	0.37 V	
		(0 ~ 40) %		
		(0 ~ 40) V	2.6×10^{-2}	
		(40 ~ 70) %		
		(40 ~ 70) V	2.4×10^{-2}	
		(70 ~ 80) %		
		(70 ~ 80) V	2.4×10^{-2}	
		(80 ~ 120) %		
		(80 ~ 120) V	2.3×10^{-2}	
		(100 ~ 200) V		
		0 %		
		0 V	0.37 V	

406. Radio frequency measuremet

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Dip & Up Voltage DC Voltage	40654	(0 ~ 40) %		
		(0 ~ 80) V	2.8×10^{-2}	
		(40 ~ 70) %		
		(80 ~ 140) V	2.4×10^{-2}	
		(70 ~ 80) %		
		(140 ~ 160) V	2.4×10^{-2}	
		(80 ~ 120) %		
		(160 ~ 240) V	2.4×10^{-2}	
		(200 ~ 300) V		
		0 %		
		0 V	0.35 V	
		(0 ~ 40) %		
		(0 ~ 120) V	2.8×10^{-2}	
		(40 ~ 70) %		
		(120 ~ 210) V	2.5×10^{-2}	
		(70 ~ 80) %		
		(210 ~ 240) V	2.5×10^{-2}	
		(80 ~ 120) %		
		(240 ~ 360) V	2.4×10^{-2}	
		(300 ~ 400) V		
		0 %		
		0 V	0.37 V	
		(0 ~ 40) %		
		(0 ~ 160) V	2.6×10^{-2}	
		(40 ~ 70) %		
		(160 ~ 280) V	2.4×10^{-2}	
		(70 ~ 80) %		
		(280 ~ 320) V	2.4×10^{-2}	
		(80 ~ 120) %		
		(320 ~ 480) V	2.3×10^{-2}	
		(100 ~ 110) V, (50 ~ 60) Hz		
		0 %		
		0 V	0.37 V	
		(0 ~ 40) %		
		(0 ~ 44) V	3.3×10^{-2}	
		(40 ~ 70) %		
(44 ~ 77) V	2.7×10^{-2}			
(70 ~ 80) %				
(77 ~ 88) V	2.6×10^{-2}			
(80 ~ 120) %				
(88 ~ 132) V	2.4×10^{-2}			
(110 ~ 120) V, (50 ~ 60) Hz				
0 %				
0 V	0.37 V			
(0 ~ 40) %				
(0 ~ 48) V	3.2×10^{-2}			
(40 ~ 70) %				
(48 ~ 84) V	2.6×10^{-2}			
(70 ~ 80) %				
(84 ~ 96) V	2.6×10^{-2}			
(80 ~ 120) %				
(96 ~ 144) V	2.4×10^{-2}			

406. Radio frequency measuremet

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Dip & Up Voltage DC Voltage	40654	(120 ~ 220) V, (50 ~ 60) Hz 0 % 0 V (0 ~ 40) % (0 ~ 88) V (40 ~ 70) % (88 ~ 154) V (70 ~ 80) % (154 ~ 176) V (80 ~ 120) % (176 ~ 264) V	0.38 V 3.2×10^{-2} 2.6×10^{-2} 2.6×10^{-2} 2.4×10^{-2}	
		(220 ~ 230) V, (50 ~ 60) Hz 0 % 0 V (0 ~ 40) % (0 ~ 92) V (40 ~ 70) % (92 ~ 161) V (70 ~ 80) % (161 ~ 184) V (80 ~ 120) % (184 ~ 276) V	0.38 V 3.2×10^{-2} 2.6×10^{-2} 2.5×10^{-2} 2.4×10^{-2}	
		(230 ~ 380) V, (50 ~ 60) Hz 0 % 0 V (0 ~ 40) % (0 ~ 152) V (40 ~ 70) % (152 ~ 266) V (70 ~ 80) % (266 ~ 304) V (80 ~ 120) % (304 ~ 456) V	0.39 V 3.3×10^{-2} 2.7×10^{-2} 2.6×10^{-2} 2.4×10^{-2}	
		(380 ~ 400) V, (50 ~ 60) Hz 0 % 0 V (0 ~ 40) % (0 ~ 160) V (40 ~ 70) % (160 ~ 280) V (70 ~ 80) % (280 ~ 320) V (80 ~ 120) % (320 ~ 480) V	0.39 V 3.2×10^{-2} 2.6×10^{-2} 2.6×10^{-2} 2.4×10^{-2}	
Delta Time		0.2 ns (0.2 ~ 1) ns (1 ~ 2) ns (2 ~ 5) ns (5 ~ 10) ns (10 ~ 20) ns (20 ~ 50) ns (50 ~ 100) ns (100 ~ 200) ns	0.015 ns 1.5×10^{-2} 7.5×10^{-3} 3.0×10^{-3} 6.0×10^{-3} 3.0×10^{-3} 1.2×10^{-3} 5.9×10^{-3} 2.9×10^{-3}	

406. Radio frequency measurement

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Delta Time	40654	(200 ~ 500) ns (0.5 ~ 1) μs (1 ~ 2) μs (2 ~ 5) μs (5 ~ 10) μs (10 ~ 20) μs (20 ~ 50) μs (50 ~ 100) μs (100 ~ 200) μs (200 ~ 500) μs (0.5 ~ 1) ms (1 ~ 2) ms (2 ~ 5) ms (5 ~ 10) ms (10 ~ 20) ms (20 ~ 50) ms (50 ~ 100) ms (100 ~ 200) ms (200 ~ 500) ms (0.5 ~ 1) s (1 ~ 2) s (2 ~ 5) s (5 ~ 10) s	1.2×10^{-3} 5.9×10^{-3} 2.9×10^{-3} 1.2×10^{-3} 5.9×10^{-3} 2.9×10^{-3} 1.2×10^{-3} 5.9×10^{-3} 2.9×10^{-2} 1.2×10^{-2} 5.9×10^{-3} 2.9×10^{-3} 1.2×10^{-3} 5.9×10^{-3} 2.9×10^{-3} 1.2×10^{-3} 5.9×10^{-3} 2.9×10^{-3} 1.2×10^{-3} 5.9×10^{-3}	
Inrush current		50 A (50 ~ 100) A (100 ~ 500) A (500 ~ 1 000) A	0.24 A 4.2×10^{-3} 4.7×10^{-3} 4.2×10^{-3}	
Frequency		10 Hz ~ 1 kHz	1.2×10^{-3}	

407. Field strength & antenna

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Microwave leakage monitors Power Density	40701	2.45 GHz (0.01 ~ 3) mW/cm ²	0.16	Transfer standard probes / HCT-CS-310-40701
Probes E-field probes H-field probes Frequency response linearity	40702	5 kHz ~ 200 MHz (1 ~ 800) V/m 200 MHz ~ 1 GHz (1 ~ 300) V/m (1 ~ 18) GHz (1 ~ 200) V/m (18 ~ 40) GHz (1 ~ 200) V/m 10 Hz ~ 400 kHz (0.16 ~ 40) A/m 400 kHz ~ 220 MHz (0.02 ~ 2.97) A/m 220 MHz ~ 1 GHz (0.02 ~ 1.48) A/m (50 ~ 60) Hz (0.16 ~ 400) A/m	0.13 0.13 0.13 0.14 0.06 0.14 0.16 0.04	Transfer probes / HCT-CS-262-40702 H-field probes / HCT-CS-311-40702
Dipole antennas SAR E-field probe Conversion factor Diple antenna Antenna factor VSWR Radiation pattern Bioconacal pattern Antenna factor VSWR Log periodic antenna Antenna factor VSWR	40703	800 MHz ~ 6 GHz 20 MHz ~ 18 GHz 20 MHz ~ 18 GHz 700 MHz ~ 18 GHz 20 MHz ~ 18 GHz (18 GHz ~ 40 GHz) 20 MHz ~ 18 GHz (18 ~ 40) GHz 20 MHz ~ 18 GHz (18 ~ 40) GHz 20 MHz ~ 6 GHz (6 ~ 40) GHz	1.3×10 ⁻¹ 1.1 dB 0.02 1.4 dB 1.2 dB 1.5 dB 0.02 0.24 1.2 dB 1.4 dB 0.02 0.24	SAR calibration system / HCT-CS-106-40703 Network analyzers / HCT-CS-263-40703 Network analyzers / HCT-CS-272-40703 Network analyzers / HCT-CS-273-40703
Loop antennas Antenna factor	40704	10 Hz ~ 30 MHz 30 MHz ~ 400 MHz	1.3 dB 1.5 dB	Standard loop antennas / HCT-CS-237-40704

407. Field strength & antenna

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Monopole antennas Antenna factor	40705	1 kHz ~ 30 MHz	1.4 dB	Network analyzers / HCT-CS-238-40705
Horn antennas Antenna factor	40707	200 MHz ~ 18 GHz (18 ~ 40) GHz (40 ~ 110) GHz	0.9 dB 1.4 dB 1.2 dB	Network analyzers / HCT-CS-264-40707
VSWR		200 MHz ~ 40 GHz (40 ~ 110) GHz	0.02 0.03	
Radiation pattern		700 MHz ~ 18 GHz (18 ~ 40 GHz)	1.4 dB 1.4 dB	

501. Contact thermometry

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Temperature generators: ovensm furnaces, isothermal liquid baths, ice-point baths, dry-block calibrators dry-block calibrators Ice-point baths Isothermal liquid baths Furnaces Temperature controlled chambers/ovens	50101	(-80 ~ 500) °C 0 °C (-80 ~ 500) °C (250 ~ 1 100) °C (1 100 ~ 1 600) °C (-80 ~ 250) °C (250 ~ 400) °C	0.05 °C 0.02 °C 0.03 °C 0.9 °C 2.6 °C 0.5 °C 1.0 °C	Standard thermometers, /HCT-CS-203-50101 /HCT-CS-210-50101 /HCT-CS-211-50101 /HCT-CS-212-50101 /HCT-CS-134-50101
Temperature inducators/recoders/ controllers, temperature calibrators Temperature indicators/recorders /controllers (With Sensor) Thermoeletric Type Resistance Type (Without Sensor) Thermoelectric Type Resistance Type	50102	(-80 ~ 250) °C (250 ~ 500) °C (500 ~ 1 100) °C (-80 ~ 250) °C (250 ~ 500) °C (-80 ~ 1 100) °C (-80 ~ 500) °C	0.4 °C 0.7 °C 1.7 °C 0.03 °C 0.06 °C 0.04 °C 0.03 °C	Standard thermometers, /HCT-CS-135-50102 /HCT-CS-274-50102 /HCT-CS-137-50102 /HCT-CS-139-50102
Glass thermometers; liquid-in-glass, Beckmann liquid-in-glass	50103	(-80 ~ 250) °C	0.04 °C	Standard thermometers, / HCT-CS-147-50103
Resistance thermometers; SPRT, IPRT, thermistors, etc. IPRT	50104	(-80 ~ 500) °C	0.04 °C	Standard thermometers, / HCT-CS-148-50104
Thermal expansion thermometers; bimetal, gas or liquid type bimetal	50105	(-80 ~ 250) °C (250 ~ 500) °C	0.6 °C 1.4 °C	Standard thermometers, / HCT-CS-149-50105
Thermomecoules: noble metal, base metal, pure metal, special type, etc. Jewelry thermocouple Nonmmetal thermocouple	50106	(0 ~ 250) °C (250 ~ 500) °C (500 ~ 1 100) °C (-80 ~ 250) °C (250 ~ 500) °C (500 ~ 1 100) °C	0.5 °C 0.4 °C 1.0 °C 0.4 °C 0.7 °C 1.8 °C	Standard thermometers, Standard thermocouples /HCT-CS-152-50106 /HCT-CS-151-50106
Temperature transducers	50107	(-80 ~ 250) °C	0.11 °C	Standard thermometers / HCT-CS-170-50107

502. Non contact thermometry

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Standard radiation thermometers	50204	(-20 ~ 0) °C (0 ~ 50) °C (50 ~ 200) °C (200 ~ 800) °C (800 ~ 1 000) °C	1.0 °C 0.3 °C 0.4 °C 1.4 °C 1.8 °C	Standard radiation thermometers, Blackbody sources HCT-CS-222-50204
Thermal image apparatus	50205	(-20 ~ 0) °C (0 ~ 50) °C (50 ~ 200) °C (200 ~ 800) °C (800 ~ 1 000) °C	1.0 °C 0.3 °C 0.4 °C 1.4 °C 1.8 °C	Standard radiation thermometers, Blackbody sources HCT-CS-286-50205
Blackbody furnaces	50206	(-20 ~ 0) °C (0 ~ 200) °C (200 ~ 400) °C (400 ~ 500) °C (500 ~ 800) °C (800 ~ 1 000) °C	1.0 °C 0.4 °C 0.8 °C 1.0 °C 1.4 °C 1.8 °C	Standard radiation thermometers HCT-CS-333-50206

503. Humidity

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Dew-point hygrometers; chilled mirror, alumina thin film, etc. Alumina thinfilm	50301	(-20 ~ 47) °C D.P.	0.7 °C D.P.	Automatic dewpoint hygrometers /HCT-CS-154-50301
Relative humidity hygrometers; polimer thinfilm, etc. Hair (Humidity) (Termometry) Polimer thinfilm (Humidity) (Termometry)	50302	(30 ~ 90) % R.H. (-20 ~ 50) °C (5 ~ 98) % R.H. (-40 ~ 85) °C	2.9 % R.H. 0.5 °C 2.1 % R.H. 0.4 °C	Audomatic dewpoint hygrometers, Standard thermometers / HCT-CS-153-50302 / HCT-CS-156-50302
Temperature humidity recoders; Hygrothermograph, etc. (Humidity) (Termometry)	50304	(30 ~ 90) % R.H. (-20 ~ 50) °C	2.8 % R.H. 0.8 °C	Audomatic dewpoint hygrometers / HCT-CS-157-50304
Transducers; dew-point/ relative humidity Relative humidity	50305	(5 ~ 95) % R.H.	2.6 % R.H.	Audomatic dewpoint hygrometers / HCT-CS-171-50305
Humidity generators: two-pressure, two-temperature, flow mixing humidity generator, constant temperature and humidity chamber, etc. Flow mixing humidity generator Constant temperature and humidity chamber Humidity Thermometry	50306	(5 ~ 98) % R.H. (10 ~ 98) % R.H. (-80 ~ 250) °C	2.0 % R.H. 2.5 % R.H. 0.5 °C	Audomatic dewpoint hygrometers / HCT-CS-213-50306 Audomatic dewpoint hygrometers / HCT-CS-182-50306 Temperature indicators / HCT-CS-182-50306

601. Sound in air

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Sound calibrators; Multifunction calibrator	60102	31.5 Hz (31.5 ~ 63) Hz (63 ~ 8 000) Hz (8 000 ~ 12 500) Hz	0.14 dB 0.12 dB 0.11 dB 0.13 dB	Autostic calibrators /HCT-CS-195-60102
Pistonphone, Sound calibraor		250 Hz 1 000 Hz	0.11 dB 0.11 dB	Autostic calibrators /HCT-CS-196-60102
Microphones Pistonphone 3-port coupler	60104	250 Hz	0.14 dB	Pistonphone / HCT-CS-194-60104
		20 Hz (20 ~ 25) Hz (25 ~ 31.5) Hz (31.5 ~ 50) Hz (50 ~ 63) Hz (63 ~ 1 250) Hz (1 250 ~ 6 300) Hz (6 300 ~ 8 000) Hz (8 000 ~ 10 000) Hz (10 000 ~ 12 500) Hz (12 500 ~ 16 000) Hz	0.16 dB 0.14 dB 0.13 dB 0.12 dB 0.10 dB 0.09 dB 0.10 dB 0.24 dB 0.26 dB 0.27 dB 0.36 dB	3-port Coupler, Microphone / HCT-CS-293-60104
Sound level meters Multifunction calibrator	60106	(63 ~ 4 000) Hz (4 000 ~ 8 000) Hz	0.3 dB 0.4 dB	Acoustic calibrator / HCT-CS-158-60107
3-port coupler		125 Hz (125 ~ 2 500) Hz (2 500 ~ 8 000) Hz	0.4 dB 0.2 dB 0.3 dB	3-port coupler / HCT-CS-172-60107

603. Vibration

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Vibration calibrators Vibration calibrator	60301	(20 ~ 1 250) Hz	1.9×10^{-2}	Standard accelerometer / HCT-CS-219-60301
Vibration transducers Vibration transducer	60302	1 Hz (1 ~ 5) Hz (5 ~ 8) Hz (8 ~ 20) Hz (20 ~ 630) Hz (630 ~ 1 250) Hz (1 250 ~ 2 500) Hz (2 500 ~ 5 000) Hz (5 000 ~ 10 000) Hz (10 000 ~ 15 000) Hz (15 000 ~ 20 000) Hz	1.9×10^{-2} 2.0×10^{-2} 1.9×10^{-2} 1.2×10^{-2} 1.1×10^{-2} 1.2×10^{-2} 1.7×10^{-2} 2.1×10^{-2} 3.0×10^{-2} 4.1×10^{-2} 5.3×10^{-2}	Standard accelerometers / HCT-CS-220-60302
Vibration transducer(Shock)		(0.1 ~ 11) ms 200 m/s ² (200 ~ 500) m/s ² (500 ~ 1 000) m/s ² (1 000 ~ 5 000) m/s ² (5 000 ~ 20 000) m/s ² (20 000 ~ 100 000) m/s ²	3.6×10^{-2} 3.2×10^{-2} 3.1×10^{-2} 3.6×10^{-2} 3.3×10^{-2} 4.0×10^{-2}	Standard accelerometers / HCT-CS-291-60302
Vibration measuring instruments Vibration measuring instrument Acceleration	60303	10 Hz (10 ~ 40) Hz (40 ~ 100) Hz (100 ~ 630) Hz (630 ~ 1 250) Hz (1 250 ~ 2 500) Hz	1.7×10^{-2} 1.8×10^{-2} 1.7×10^{-2} 1.8×10^{-2} 1.9×10^{-2} 2.1×10^{-2}	Standard accelerometers / HCT-CS-221-60303
Velocity		(10 ~ 40) Hz (40 ~ 160) Hz (160 ~ 630) Hz (630 ~ 1 250) Hz (1 250 ~ 2 500) Hz	1.8×10^{-2} 1.7×10^{-2} 1.8×10^{-2} 2.1×10^{-2} 2.7×10^{-2}	
Displacement		(10 ~ 160) Hz (160 ~ 315) Hz	1.6×10^{-2} 2.2×10^{-2}	
Vibration measuring instrument(Shock)		200 m/s ² (200 ~ 500) m/s ² (500 ~ 1 000) m/s ² (1 000 ~ 1 500) m/s ² (1 500 ~ 2 000) m/s ²	4.9×10^{-2} 3.5×10^{-2} 3.3×10^{-2} 3.2×10^{-2} 3.7×10^{-2}	Standard accelerometers / HCT-CS-292-60303

701. Photometry

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Illuminance meters	70101	0.5 lx (0.5 ~ 10) lx (10 ~ 2 000) lx (2 000 ~ 11 000) lx	3.4×10^{-2} 2.9×10^{-2} 2.8×10^{-2} 2.9×10^{-2}	Reference Illuminance meters /HCT-CS-159-70101
Luminance meters Luminance	70102	(2 ~ 10) cd/m ² (10 ~ 100) cd/m ² (100 ~ 1 000) cd/m ² (1 000 ~ 13 000) cd/m ²	2.4×10^{-2} 1.7×10^{-2} 1.6×10^{-2} 1.8×10^{-2}	Luminance standard sources /HCT-CS-316-70102
Total luminous flux meters Total luminous flux	70103	(70 ~ 20 000) lm	2.3×10^{-2}	Total luminous flux standard lamp / HCT-CS-296-70103
Luminous intensity meters Luminous intensity	70104	(8.22 ~ 2 950) cd	3.3×10^{-2}	Luminous intensity standard lamp / HCT-CS-297-70104

702. Property of detectors & sources

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Color temperature meters Color temperature	70202	(2 836 ~ 3 061) K	22 K	Color temperature standard lamps / HCT-CS-298-70202
Color temperature standard lamps Color temperature	70203	2 856 K	22 K	Color temperature standard lamps, Spectral irradiance meters / HCT-CS-299-70203
Calorimeters; source color Chromaticity coordinates (CIE 1931) Luminance Illuminance	70204	x,y : (0.01 ~ 0.9) Tungsten light sources 2 856 K x y Red x y Green x y Blue x y White x y (2 ~ 10) cd/m ² (10 ~ 100) cd/m ² (100 ~ 1 000) cd/m ² (1 000 ~ 13 000) cd/m ² 1 lx (1 ~ 2 000) lx	0.003 0.003 0.005 0.004 0.006 0.005 0.004 0.004 0.004 0.004 2.4×10^{-2} 1.7×10^{-2} 1.6×10^{-2} 1.8×10^{-2} 3.0×10^{-2} 2.8×10^{-2}	Luminance standard sources, Color temperature standard lamps, Color filters / HCT-CS-317-70204
Total luminance flux standard lamps Total luminance flux	70209	(70 ~ 20 000) lm	3.6×10^{-2}	Total luminous flux standard lamps, Total luminous flux meters / HCT-CS-300-70209
Display color analyzers; luminance,, chromaticity, white balance, etc. Chromaticity(x, y) Chromaticity coordinates (CIE 1931) Luminance	70213	x,y : (0.01 ~ 0.9) Tungsten light sources 2 856 K x y Red x y Green x y Blue x y White x y (2 ~ 10) cd/m ² (10 ~ 100) cd/m ² (100 ~ 1 000) cd/m ²	0.003 0.003 0.005 0.004 0.006 0.005 0.004 0.004 0.004 0.004 2.4×10^{-2} 1.7×10^{-2} 1.6×10^{-2}	Luminance standard sources, Color filters / HCT-CS-318-70213

Accreditation No. : KC00-011(144/150)

		(1 000 ~ 13 000) cd/m ²	1.8×10^{-2}	
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702. Property of detectors & sources

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Luminous intensity standard lamps Luminous intensity	70214	(8.22 ~ 2 950) cd	3.3×10^{-2}	Luminous intensity standard lamps, Luminous intensity meters / HCT-CS-301-70214
Spectral irradiance standard lamps Spectral irradiance Illuminance Color temperature Chromaticity coordinates (CIE 1931)	70215	250 nm (250 ~ 255) nm (255 ~ 265) nm (265 ~ 275) nm (275 ~ 285) nm (285 ~ 295) nm (295 ~ 305) nm (305 ~ 340) nm (340 ~ 370) nm (370 ~ 400) nm (400 ~ 475) nm (475 ~ 1 020) nm (6 833 ~ 7 224) lx (3 014 ~ 3 061) K x (0.431 ~ 0.437) y (0.401 ~ 0.407)	7.6×10^{-2} 6.6×10^{-2} 6.2×10^{-2} 5.7×10^{-2} 5.3×10^{-2} 5.0×10^{-2} 4.4×10^{-2} 4.0×10^{-2} 3.5×10^{-2} 2.9×10^{-2} 2.6×10^{-2} 2.2×10^{-2} 2.8×10^{-2} 22 K 0.003 0.003	Spectral irradiance standard lamps, Spectral irradiance meters / HCT-CS-302-70215
Total spectral radiant flux standard lamps Total spectral radiant Total luminous flux Color temperature Chromaticity coordinates (CIE 1931)	70216	350 nm (350 ~ 365) nm (365 ~ 380) nm (380 ~ 410) nm (410 ~ 480) nm (480 ~ 850) nm (2 130 ~ 2 208) nm (2 715 ~ 2 758) K x (0.454 ~ 0.460) y (0.407 ~ 0.413)	6.2×10^{-2} 5.1×10^{-2} 4.3×10^{-2} 3.6×10^{-2} 2.9×10^{-2} 2.6×10^{-2} 2.6×10^{-2} 22 K 0.003 0.003	Total spectral radiant flux standard lamps Total spectral radiant flux meters / HCT-CS-303-70216
Luminance standard sources Luminance Chromaticity coordinates (CIE 1931)	70217	(2 ~ 13 000) cd/m ² x,y : (0.01 ~ 0.9) Tungsten light sources 2 856 K x y Red x y Green x y Blue x y White x y	2.4×10^{-2} 0.003 0.003 0.005 0.004 0.006 0.005 0.004 0.004 0.004 0.004	Spectral radiance meters, Colorimeters; source color / HCT-CS-319-70217

702. Property of detectors & sources

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Spectral radiance standard sources Spectral radiance	70218	380 nm (380 ~ 395) nm (395 ~ 410) nm (410 ~ 430) nm (430 ~ 450) nm (450 ~ 475) nm (475 ~ 505) nm (505 ~ 1 005) nm (1 005 ~ 1 040) nm	4.3×10^{-2} 3.8×10^{-2} 3.4×10^{-2} 3.1×10^{-2} 2.9×10^{-2} 2.5×10^{-2} 2.2×10^{-2} 2.0×10^{-2} 2.1×10^{-2}	Spectral radiance standard sources, Spectral radiance meters / HCT-CS-320-70218
UV irradiance meters	70219	365 nm $60 \mu\text{W}/\text{cm}^2 \sim 200 \text{mW}/\text{cm}^2$ 405 nm $60 \mu\text{W}/\text{cm}^2 \sim 70 \text{mW}/\text{cm}^2$	4.8×10^{-2} 4.8×10^{-2}	UV Sensors /HCT-CS-159-70101
Spectral irradiance meters Wavelength Spectral irradiance Illuminance Color temperature Chromaticity coordinates (CIE 1931)	70220	(350 ~ 850) nm 250 nm (250 ~ 255) nm (255 ~ 275) nm (275 ~ 300) nm (300 ~ 340) nm (340 ~ 455) nm (455 ~ 565) nm (565 ~ 1 020) nm (6 833 ~ 7 224) lx (3 014 ~ 3 061) K x (0.431 ~ 0.437) y (0.401 ~ 0.407)	0.51 nm 6.7×10^{-2} 6.1×10^{-2} 5.2×10^{-2} 4.4×10^{-2} 3.7×10^{-2} 2.9×10^{-2} 2.2×10^{-2} 2.0×10^{-2} 2.9×10^{-2} 22 K 0.003 0.003	Spectral irradiance standard lamps / HCT-CS-304-70220
Total spectral radiant flux meters Wavelength Total spectral radiant flux Total luminous flux meters Color temperature Chromaticity coordinates (CIE 1931)	70221	(350 ~ 850) nm 350 nm (350 ~ 355) nm (355 ~ 370) nm (370 ~ 390) nm (390 ~ 425) nm (425 ~ 460) nm (460 ~ 850) nm (2 130 ~ 2 208) lm (2 715 ~ 2 758) K x (0.454 ~ 0.460) y (0.407 ~ 0.413)	0.51 nm 5.0×10^{-2} 4.0×10^{-2} 3.7×10^{-2} 3.1×10^{-2} 2.4×10^{-2} 2.0×10^{-2} 1.9×10^{-2} 2.3×10^{-2} 22 K 0.004 0.004	Total spectral radiant flux standard lamps / HCT-CS-305-70221

702. Property of detectors & sources

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Spectral radiance meters Wavelength Spectral radiance Luminance Color temperature Chromaticity coordinates (CIE 1931)	70222	(400 ~ 765) nm (380) nm (380 ~ 395) nm (395 ~ 410) nm (410 ~ 430) nm (430 ~ 445) nm (445 ~ 465) nm (465 ~ 485) nm (485 ~ 1 040) nm (2 ~ 10) cd/m ² (10 ~ 100) cd/m ² (100 ~ 1 000) cd/m ² (1 000 ~ 13 000) cd/m ² (2 841 ~ 2 881) K x : (0.447 ~ 0.451) y : (0.409 ~ 0.413)	0.51 nm 4.1×10^{-2} 3.6×10^{-2} 3.3×10^{-2} 3.0×10^{-2} 2.7×10^{-2} 2.4×10^{-2} 2.1×10^{-2} 1.8×10^{-2} 2.4×10^{-2} 1.7×10^{-2} 1.6×10^{-2} 1.8×10^{-2} 22 K 0.003 0.003	Spectral radiance meters, Luminance standard sources / HCT-CS-321-70222
Spectral radiant intensity meters Wavelength Spectral radiant intensity	70223	(350 ~ 850) nm 250 nm (250 ~ 255) nm (255 ~ 275) nm (275 ~ 300) nm (300 ~ 340) nm (340 ~ 455) nm (455 ~ 565) nm (565 ~ 1 020) nm	0.51 nm 6.7×10^{-2} 6.1×10^{-2} 5.2×10^{-2} 4.4×10^{-2} 3.7×10^{-2} 2.9×10^{-2} 2.2×10^{-2} 2.0×10^{-2}	Luminous intensity standard lamps / HCT-CS-306-70223

704. Fiber optics

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Broadband light sources Wavelength output Optical power output	70402	1 310 nm 1 550 nm 1 310 nm (-60 ~ 0) dBm 1 550 nm (-60 ~ 0) dBm	5.4×10^{-7} 4.6×10^{-7} 0.08 dB 0.08 dB	Wavelength meters, Optical power meters / HCT-CS-266-70402
Optical attenuators Optical attenuation	70410	1 310 nm, 1 550 nm (-60 ~ 0) dB	0.04 dB	Optical power meters / HCT-CS-267-70410
Optical loss testers Wavelength output Optical power input Linearity measure	70413	1 310 nm 1 550 nm 1 310 nm (-60 ~ 0) dBm 1 550 nm (-60 ~ 0) dBm 1 310 nm, 1 550 nm (-60 ~ 0) dB	5.4×10^{-7} 4.6×10^{-7} 0.08 dB 0.08 dB 0.04 dB	Wavelength meters, Optical power meters / HCT-CS-280-70413
Optical multimeters Optical power input Linearity measure	70415	1 310 nm (-60 ~ 0) dBm 1 550 nm (-60 ~ 0) dBm 1 310 nm, 1 550 nm (-60 ~ 0) dB	0.08 dB 0.08 dB 0.04 dB	Optical power meters / HCT-CS-268-70415
Optical spectrum analyzers Wavelength output Resolution measure Optical power output Linearity measure	70417	1 310 nm, 1 550 nm 1 310 nm, 1 550 nm RBW (0.1 ~ 1) nm 1 310 nm (-60 ~ 0) dBm 1 550 nm (-60 ~ 0) dBm 1 310 nm, 1 550 nm (-60 ~ 0) dB	0.084 nm 0.084 nm 0.08 dB 0.08 dB 0.04 dB	Wavelength meters, Optical power meters / HCT-CS-269-70417

704. Fiber optics

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Optical time domain reflectometers; OTDR	70418			Optical spectrum analyzers, Standard CRM / HCT-CS-270-70418
Wavelength		1 310 nm 1 550 nm	0.36 nm 0.36 nm	
Length		(1 310 nm) 3 km 13 km (1 550 nm) 3 km 13 km	0.1 m 0.34 m 0.1 m 0.34 m	
Return loss		(1 310 nm) 3 km 13 km (1 550 nm) 3 km 13 km	0.07 dB 0.18 dB 0.07 dB 0.07 dB	
ASE light sources	70430			Wavelength meters, Optical power meters / HCT-CS-281-70430
Wavelength output		1 310 nm 1 550 nm	5.4×10^{-7} 4.6×10^{-7}	
Optical power output		1 310 nm (-60 ~ 0) dBm 1 550 nm (-60 ~ 0) dBm	0.08 dB 0.08 dB	
Optical power stabilized lasers and LDs	70433			Wavelength meters, Optical power meters / HCT-CS-271-70433
Wavelength output		1 310 nm 1 550 nm	5.4×10^{-7} 4.6×10^{-7}	
Optical power output		1 310 nm (-60 ~ 0) dBm 1 550 nm (-60 ~ 0) dBm	0.08 dB 0.08 dB	

901. Chemical analysis

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Environmental air quality monitoring instruments	90102			CRM / HCT-CS-346-90102
Oxygen(O ₂)		0 cmol/mol ~ 22.0 cmol/mol	3.0×10^{-2}	
Carbon monoxide(CO)		0 μmol/mol ~ 105 μmol/mol	2.6×10^{-2}	
Sulfer dioxide(SO ₂)		0 μmol/mol ~ 110 μmol/mol	4.9×10^{-2}	
Nitrogen monoxide(NO)		0 μmol/mol ~ 110 μmol/mol	2.0×10^{-2}	
Gas analyzers	90103			CRM / HCT-CS-164-90103
Oxygen(O ₂)		0 cmol/mol ~ 22.0 cmol/mol	3.0×10^{-2}	
Carbon monoxide(CO)		0 μmol/mol ~ 105 μmol/mol	2.6×10^{-2}	
Methane(CH ₄)		0 cmol/mol ~ 2.2 cmol/mol	2.2×10^{-2}	
Carbon dioxide(CO ₂)		0 cmol/mol ~ 10.5 cmol/mol	2.2×10^{-2}	
Hydrogen sulfide(H ₂ S)		0 μmol/mol ~ 53 μmol/mol	3.5×10^{-2}	
Sulfer dioxide(SO ₂)		0 μmol/mol ~ 110 μmol/mol	4.9×10^{-2}	
Hydrogen chloride(HCl)		0 μmol/mol ~ 53 μmol/mol	5.0×10^{-2}	
Nitrogen monoxide(NO)		0 μmol/mol ~ 110 μmol/mol	2.1×10^{-2}	
Hydrogen(H ₂)		0 cmol/mol ~ 2.2 cmol/mol	4.7×10^{-2}	
Exhaust gas test instruments	90104			CRM / HCT-CS-347-90104
Oxygen(O ₂)		0.3 cmol/mol ~ 1.0 cmol/mol	3.0×10^{-2}	
Carbon monoxide(CO)		0.3 cmol/mol ~ 5.0 cmol/mol	2.2×10^{-2}	
Carbon dioxide(CO ₂)		5.0 cmol/mol ~ 10.5 cmol/mol	2.2×10^{-2}	
Nitrogen monoxide(NO)		500 μmol/mol ~ 1 000 μmol/mol	2.0×10^{-2}	

SCOPE OF ACCREDITATION TO ISO/IEC 17025-2017 & KS Q ISO/IEC 17025-2017

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CALIBRATION

Valid To : Jan. 07, 2026.

Accreditation No. : KC00-011(1/2)

In recognition of the successful completion of the KOLAS evaluation process,
accreditation is granted to this laboratory to perform the following calibrations

Field Code	Item of Calibration	on-site	Field Code	Item of Calibration	on-site	Field Code	Item of Calibration	on-site
501. Temperature								
50101	Temperature generators: isothermal liquid baths, dry-block calibrators	Y						
50102	Temperature temperature calibrators	Y						
50104	Resistance thermometers; thermistors, etc.	Y						
50107	Temperature transducers	Y						

Note

1. This laboratory provides calibration services in permanent standard laboratory and at on-site.
2. Laboratory conducts on-site calibration should meet requirements of KOLAS-SR-007.
3. On-site calibration is allowed to items with marking 'Y', not allowed to items with marking 'N'.
4. Measurement uncertainty normally is quoted as an expanded uncertainty at a coverage probability of 95 %, which usually requires the use of a coverage factor of $k=2$. It expresses the lowest uncertainty of measurement that can be provided by accredited calibration laboratories in normal conditions.
5. Due to the calibration environment such as reference standards or customers' facilities, it is note that uncertainty of measurement on a calibration certificate may be expressed larger than measurement uncertainty on scope of accreditation in general.

501. Contact thermometry

Measured Quantity Instrument or Gauge	Field code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Temperature generators: ovens, furnaces, isothermal liquid baths, ice-point baths, dry-block calibrators Temperature controlled chambers/ovens	50101	(-40 ~ 250) °C	0.9 °C	Standard thermometers /HCT-CS-134-50101
Temperature indicators/recorders/ controllers, temperature calibrators Temperature indicators/recorders/ controllers (With Sensor) Thermoelectric type Resistance type (Without Sensor) Thermoelectric type Resistance type	50102	(-40 ~ 250) °C (-40 ~ 250) °C (-40 ~ 250) °C (-40 ~ 250) °C	0.4 °C 0.07 °C 0.08 °C 0.03 °C	Standard thermometers /HCT-CS-135-50102 /HCT-CS-274-50102 /HCT-CS-137-50102 /HCT-CS-139-50102
Resistance thermometers; SPRT, IPRT, thermistors, etc Thermometers, resistance	50104	(-40 ~ 250) °C	0.08 °C	Standard thermometers / HCT-CS-148-50104
Temperature transducers	50107	(-40 ~ 250) °C	0.16 °C	Standard thermometers / HCT-CS-170-50107

SCOPE OF ACCREDITATION TO ISO/IEC 17025-2017 & KS Q ISO/IEC 17025-2017

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CALIBRATION

Valid To : Jan. 07, 2026.

Accreditation No. : KC00-011(1/6)

In recognition of the successful completion of the KOLAS evaluation process,
 accreditation is granted to this laboratory to perform the following calibrations

Field Code	Item of Calibration	on-site	Field Code	Item of Calibration	on-site	Field Code	Item of Calibration	on-site
106. Various dimensional								
10615	Particle counters	Y						
404. Other DC & LF measurements								
40419	Analogue/digital multimeters	Y						

Note

1. This laboratory provides calibration services in permanent standard laboratory and at on-site.
2. Laboratory conducts on-site calibration should meet requirements of KOLAS-SR-007.
3. On-site calibration is allowed to items with marking 'Y', not allowed to items with marking 'N'.
4. Measurement uncertainty normally is quoted as an expanded uncertainty at a coverage probability of 95 %, which usually requires the use of a coverage factor of $k=2$. It expresses the lowest uncertainty of measurement that can be provided by accredited calibration laboratories in normal conditions.
5. Due to the calibration environment such as reference standards or customers' facilities, it is note that uncertainty of measurement on a calibration certificate may be expressed larger than measurement uncertainty on scope of accreditation in general.

106. Various dimensional

Measured Quantity Instrument or Gauge	Field code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Particle counters	10615			Standard Particle(CRM) / HCT-CS-028-10615
Airbone particle counter		(0 ~ 10) V	4.2×10^{-3}	
Laser reference voltage		(0 ~ 100) L/min	2.3×10^{-2}	
Flowrate		(0 ~ 6) V	2.1×10^{-3}	
Threshold voltage		(6 ~ 10) V	4.2×10^{-3}	
Counting efficiency				
CPC		(0 ~ 1.0) μm	3.0 %	
OPC		(0.1 ~ 1.0) μm	4.7 %	

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.			
Analogue/digital multimeters DC Voltage	40419	0 mV	1.2 μ V	Meter calibrators /HCT-CS-095-40419			
		-1 000 V ~ -100 V	2.3×10^{-5}				
		-100 V ~ -10 V	2.3×10^{-5}				
		-10 V ~ -1 V	1.7×10^{-5}				
		-1 V ~ -100 mV	1.6×10^{-5}				
		-100 mV ~ -10 mV	3.6×10^{-5}				
		-10 mV ~ 0 mV	1.6×10^{-4}				
		0 mV ~ 10 mV	1.6×10^{-4}				
		10 mV ~ 100 mV	3.6×10^{-5}				
		100 mV ~ 1 V	1.6×10^{-5}				
		1 V ~ 10 V	1.7×10^{-5}				
		10 V ~ 100 V	2.3×10^{-5}				
		100 V ~ 1 000 V	2.2×10^{-5}				
		DC Current	40419		0 μ A	23 nA	Meter calibrators /HCT-CS-095-40419
					-10 A ~ -3 A	6.4×10^{-4}	
-3 A ~ -1 A	7.7×10^{-4}						
-1 A ~ -100 mA	4.8×10^{-4}						
-100 mA ~ -10 mA	1.5×10^{-4}						
-10 mA ~ -1 mA	1.4×10^{-4}						
-1 mA ~ -100 μ A	1.8×10^{-4}						
-100 μ A ~ -10 μ A	4.0×10^{-4}						
-10 μ A ~ 0 μ A	2.5×10^{-3}						
0 μ A ~ 10 μ A	2.5×10^{-3}						
10 μ A ~ 100 μ A	4.1×10^{-4}						
100 μ A ~ 1 mA	1.8×10^{-4}						
1 mA ~ 10 mA	1.4×10^{-4}						
10 mA ~ 100 mA	1.5×10^{-4}						
100 mA ~ 1 A	4.9×10^{-4}						
Resistance	40419	1 Ω	1.4×10^{-4}	Meter calibrators /HCT-CS-095-40419			
		(1 ~ 10) Ω	5.6×10^{-5}				
		(10 ~ 100) Ω	3.3×10^{-5}				
		(0.1 ~ 1) k Ω	3.3×10^{-5}				
		(1 ~ 10) k Ω	3.3×10^{-5}				
		(10 ~ 100) k Ω	3.3×10^{-5}				
		(0.1 ~ 1) M Ω	4.3×10^{-5}				
		(1 ~ 10) M Ω	1.5×10^{-4}				
(10 ~ 100) M Ω	5.9×10^{-4}						
AC Voltage	40419	10 mV		Meter calibrators /HCT-CS-095-40419			
		10 Hz	1.6×10^{-3}				
		(10 ~ 40) Hz	1.4×10^{-3}				
		(40 ~ 100) Hz	1.2×10^{-3}				
		(100 ~ 500) Hz	1.2×10^{-3}				
		(0.5 ~ 1) kHz	1.2×10^{-3}				
		(1 ~ 10) kHz	1.2×10^{-3}				
		(10 ~ 20) kHz	1.2×10^{-3}				
		(20 ~ 50) kHz	1.4×10^{-3}				
		(50 ~ 100) kHz	4.7×10^{-3}				
		(100 ~ 200) kHz	1.1×10^{-2}				
(200 ~ 300) kHz	1.1×10^{-2}						

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Voltage	40419	(10 ~ 100) mV 10 Hz (10 ~ 40) Hz (40 ~ 100) Hz (100 ~ 500) Hz (0.5 ~ 1) kHz (1 ~ 10) kHz (10 ~ 20) kHz (20 ~ 50) kHz (50 ~ 100) kHz (100 ~ 200) kHz (200 ~ 300) kHz (0.1 ~ 1) V 10 Hz (10 ~ 40) Hz (40 ~ 100) Hz (100 ~ 500) Hz (0.5 ~ 1) kHz (1 ~ 10) kHz (10 ~ 20) kHz (20 ~ 50) kHz (50 ~ 100) kHz (100 ~ 200) kHz (200 ~ 300) kHz	6.7×10^{-4} 4.6×10^{-4} 3.6×10^{-4} 2.8×10^{-4} 2.8×10^{-4} 2.8×10^{-4} 3.0×10^{-4} 5.3×10^{-4} 1.3×10^{-3} 3.2×10^{-3} 3.3×10^{-3} 5.1×10^{-4} 4.2×10^{-4} 2.6×10^{-4} 2.6×10^{-4} 2.6×10^{-4} 2.7×10^{-4} 4.1×10^{-4} 9.1×10^{-4} 1.3×10^{-3} 3.5×10^{-3} 3.5×10^{-3}	
AC Voltage		(1 ~ 10) V 10 Hz (10 ~ 40) Hz (40 ~ 100) Hz (100 ~ 500) Hz (0.5 ~ 1) kHz (1 ~ 10) kHz (10 ~ 20) kHz (20 ~ 50) kHz (50 ~ 100) kHz (10 ~ 100) V 50 Hz (50 ~ 100) Hz (100 ~ 500) Hz (0.5 ~ 1) kHz (1 ~ 10) kHz (10 ~ 20) kHz (20 ~ 50) kHz (50 ~ 100) kHz (100 ~ 1 000) V 100 Hz (100 ~ 500) Hz (0.5 ~ 1) kHz	6.2×10^{-4} 4.3×10^{-4} 2.5×10^{-4} 2.5×10^{-4} 2.5×10^{-4} 2.5×10^{-4} 3.5×10^{-4} 4.9×10^{-4} 1.2×10^{-3} 2.6×10^{-4} 2.5×10^{-4} 2.5×10^{-4} 2.5×10^{-4} 3.1×10^{-4} 3.6×10^{-4} 4.4×10^{-4} 2.9×10^{-3} 3.6×10^{-4} 3.6×10^{-4} 3.6×10^{-4}	

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Current	40419	100 μ A		
		40 Hz	3.0×10^{-3}	
		(40 ~ 55) Hz	2.7×10^{-3}	
		(55 ~ 100) Hz	2.7×10^{-3}	
		(100 ~ 200) Hz	2.7×10^{-3}	
		(200 ~ 500) Hz	2.7×10^{-3}	
		(0.5 ~ 1) kHz	2.7×10^{-3}	
		(1 ~ 2) kHz	5.3×10^{-3}	
		(2 ~ 5) kHz	5.3×10^{-3}	
		(5 ~ 10) kHz	1.2×10^{-2}	
		(0.1 ~ 1) mA		
		40 Hz	1.6×10^{-3}	
		(40 ~ 55) Hz	1.3×10^{-3}	
		(55 ~ 100) Hz	1.3×10^{-3}	
		(100 ~ 200) Hz	1.3×10^{-3}	
		(200 ~ 500) Hz	1.3×10^{-3}	
		(0.5 ~ 1) kHz	1.3×10^{-3}	
		(1 ~ 2) kHz	2.5×10^{-3}	
		(2 ~ 5) kHz	2.5×10^{-3}	
		(5 ~ 10) kHz	6.1×10^{-3}	
		(1 ~ 10) mA		
		40 Hz	1.3×10^{-3}	
		(40 ~ 55) Hz	7.0×10^{-4}	
		(55 ~ 100) Hz	7.0×10^{-4}	
		(100 ~ 200) Hz	7.0×10^{-4}	
		(200 ~ 500) Hz	7.0×10^{-4}	
		(0.5 ~ 1) kHz	6.9×10^{-4}	
		(1 ~ 2) kHz	1.2×10^{-3}	
		(2 ~ 5) kHz	1.2×10^{-3}	
		(5 ~ 10) kHz	2.7×10^{-3}	
		(10 ~ 100) mA		
		40 Hz	1.3×10^{-3}	
		(40 ~ 55) Hz	7.0×10^{-4}	
		(55 ~ 100) Hz	7.0×10^{-4}	
		(100 ~ 200) Hz	7.0×10^{-4}	
		(200 ~ 500) Hz	7.0×10^{-4}	
		(0.5 ~ 1) kHz	7.0×10^{-4}	
		(1 ~ 2) kHz	1.7×10^{-3}	
		(2 ~ 5) kHz	1.7×10^{-3}	
		(5 ~ 10) kHz	3.5×10^{-3}	
		(0.1 ~ 1) A		
		40 Hz	2.2×10^{-3}	
		(40 ~ 55) Hz	7.0×10^{-4}	
		(55 ~ 100) Hz	7.0×10^{-4}	
		(100 ~ 200) Hz	7.0×10^{-4}	
		(200 ~ 500) Hz	7.0×10^{-4}	
		(0.5 ~ 1) kHz	7.0×10^{-4}	
		(1 ~ 2) kHz	8.1×10^{-3}	
(2 ~ 5) kHz	8.1×10^{-3}			

404. Other DC & LF measurements

Measured Quantity Instrument or Gauge	Field code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Current	40419	(1 ~ 3) A		
		55 Hz	7.6×10^{-4}	
		(55 ~ 100) Hz	7.6×10^{-4}	
		(100 ~ 200) Hz	7.6×10^{-4}	
		(200 ~ 500) Hz	7.6×10^{-4}	
		(0.5 ~ 1) kHz	7.6×10^{-4}	
		(1 ~ 2) kHz	7.3×10^{-3}	
		(2 ~ 5) kHz	7.3×10^{-3}	
		(3 ~ 10) A		
		55 Hz	2.0×10^{-3}	
		(55 ~ 100) Hz	2.0×10^{-3}	
		(100 ~ 200) Hz	2.3×10^{-3}	
		(200 ~ 500) Hz	2.3×10^{-3}	
		(0.5 ~ 1) kHz	2.3×10^{-3}	
		(1 ~ 2) kHz	3.5×10^{-2}	
		(2 ~ 5) kHz	3.5×10^{-2}	
Frequency		10 Hz	1.0×10^{-5}	
		(10 ~ 50) Hz	4.0×10^{-6}	
		(50 ~ 60) Hz	3.3×10^{-6}	
		60 Hz ~ 1 000 kHz	3.0×10^{-6}	