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

Korea Research Center for Measuring Instruments Co., Ltd.

79, Dongpyeon-ro 13beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do, Korea

Phone No : 82-31-443-1004, Fax : 82-31-444-1004, E-mail : krcmi@krcmi.co.kr

Accreditation No : KC01-038(1/92)

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

Field Code	Measured Quantity Instrument or Gauge	on-site
102. Linear dimension		
10201	Balls	N
10206	Dial/cylinder gauge testers	N
10208	Distance meters; electrooptic/laser	N
10209	End bars	N
10210	Extensometers, linear displacement transducers	Y
10211	Filler gauges	Y
10213	Gap gauges	N
10214	Gauge blocks, by comparison	N
10216	Height gauges/measuring machines	Y
10220	Standard measuring machines	Y
10223	electronic micrometers	N
10224	Height micrometers, Riser blocks	N
10225	Laser scan micrometers	Y
10227	Standard tape rules, Peripheral gauges	N
10228	Cylindrical plug/pin gauges, Thread measuring wire gauges	Y
10229	Radius gauges	N
10230	Ccylindrical ring gauges	N
10231	Step blocks	N
10232	Step gauges	N
10233	Taper thickness gauges	N
10234	Ultrasonic Thickness gauges	Y
10235	Ultrasonic/coating thickness specimens	N
10236	Coating thickness testers	Y
103. Angle		
10304	Bevel protractors	N
10311	Plate/Square/Electric levels	N
10320	Precision squares	N
104. Form		
10401	Form testers	Y
10404	Optical flat	N
10405	Optical parallels	N
10406	Parallel blocks	N
10407	Precision surface plates	Y
10409	Roundness measurement instruments	Y
10412	Straight edges	N
10413	Straight rules	N
105. Complex geometry		Y
10503	Contact coordinate measuring machines	Y
10504	Non-contact coordinate measuring machines	N
10505	Gauge block accessories	Y
10511	Measuring microscopes Profile projectors	N
10514	Taper plug gauges	N
10515	Taper ring gauges	Y
10517	Stylus type roughness testers	N
10519	Roughness standard/comparison specimens	N
10525	Thread plus gauges	N
10527	Thread ring gauges	N
10529	V-blocks, Box blocks	N
106. Various dimensional		
10601	Inside/Outside/Gear tooth calipers, Caliper gauges	Y
10603	Cylinder/Bore gauges	Y
10604	Depth gauges, Depth micrometers	Y
10605	Dial/digital gauges	Y
10609	Micro indicators, Test indicators	Y
10610	Micrometer heads	N
10611	3-Point Micrometers	Y
10612	Inside Micrometers	Y
10613	Outside Micrometers	Y
10617	Standard sieves	N
10620	Welding gauges	Y
201. Mass		
20105	Counter beam balances	Y
20106	Dial platform scale balances	Y
20107	Dial swing scale balances	Y
20108	Direct reading balances	Y
20109	Electric balances	Y
20112	Platform scale balances	Y
20113	Spring scale balances	Y
20114	Trip balances	Y
20116	Weights	N
202. Force		
20203	Tension/Compression testing machines	Y
20204	Push-pull gauges	N
203. Torque		
20302	Torque measuring devices	N
20303	Torque wrenches/drivers	Y
204. Pressure		
20402	Manometers	N
20403	Pneumatic pressure ballances	N
20404	Hydraulic pressure ballances	N
20406	Absolute pressure gauges	N
20407	Blood pressure gauge	Y
20408	Compound pressure gauges	Y
20409	Differential pressure gauges	Y
20411	Gauge pressure gauges	Y
20412	Pressure transducers /transmitters	Y
20413	Dial type vacuum gauges	Y
20414	Water Depth meters	Y
205. Vacuum		
20501	Capacitance diapfragm gauges	N
20504	Thermal conductivity gauges; pirani,thermocouple	N
206. Volume		
20601	Volumetric glasswares	N
20605	Concrete air content meters	N
20606	Piston type volume meters	N
209. Materiality / Fluid		
20901	Anemometer; hot-wire	N
20902	Anemometer;pitot tube, etc.	N
20908	Gas flowmeters; differential pressure	N
20911	Gas flowmeters; thermal mass, etc.	N
20914	Gas flowmeters; positive displacement	N
20916	Gas flowmeters; turbine	N
20918	Gas flowmeters; ultrasonic	N
20920	Gas flowmeters; variable area	N
20922	Gas flowmeters; vortex	N
20925	Anemometers; vane, etc	N
210. Hardness		
21001	Brinell hardness testers	Y

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Field Code	Measured Quantity Instrument or Gauge	on-site
21002	Rockwell hardness tester	Y
21003	Shore hardness testers	Y
21004	Vickers hardness testers	Y
21005	Durometer hardness testers	N
21006	Leeb hardness testers	N
301. Time/ frequency		
30102	Frequency standards	N
30103	General frequency sources	N
30104	Frequency meters/counters	Y
30106	Time interval meters/Stop watches/Timers	Y
302. Velocity & revolution		
30201	Standard RPM generators	Y
30202	Contact type tachometers	Y
30203	Photo tachometers/ stroboscopes	Y
30204	speed meters	Y
401. DC voltage & current		
40101	DC ammeters	Y
40102	Transconductance amplifiers	Y
40103	DC voltage/ current calibrators	Y
40104	Electrical temperature calibrators	Y
40105	DC current shunts	Y
40106	Galvanometers/null detectors	Y
40107	Potentiometers	Y
40108	DC Power supplies	Y
40110	DC voltage dividers	N
40111	DC voltage standards	N
40112	DC voltmeters	Y
40113	Static/Ionic voltmeters	N
402. Resistance, Capacitance and Inductance		
40201	Capacitance bridges/ indicators	Y
40202	Decade capacitors	Y
40204	Standard capacitors	N
40205	Earth testers	Y
40206	Inductance bridges/indicators	Y
40208	Inductors	Y
40210	Insulation testers	Y
40213	Resistance bridges & Similar instruments	Y
40214	Resistance meters	Y
40215	Resistors	Y
40217	Impedance bridges/LCR meters	Y
403. AC voltage, current & power		
40301	AC ammeters	Y
40302	Clamp ammeters/voltmeters	Y
40303	AC voltage/current calibrators	N
40304	Wattmeter calibrators	N
40305	AC current shunts	Y
40307	Voltage/current phase angle meters/synchro resolve meters	Y
40310	Power factor meters	Y
40311	AC power meters	Y
40312	AC power supplies	Y
40313	Puncture/safety testers	Y
40314	Power recorders	Y
40318	AC voltmeters	Y
40319	Watter hour meters	N
40320	Pulsed high voltage & current meter/Welding current meters	Y
40321	Ratio transformers	N
404. Other DC & LF Measurements		
40401	LF amplifier	Y
40402	DC/LF attenuators	Y
40403	Multimeter calibrators	Y
40404	Oscilloscope calibrators	N
40406	Video signal generators	N
40407	Audio distortion analyzers/ meters	Y
40409	LF/Audio signal analyzers	Y
40410	Line frequency meters	Y
40411	Function generators	Y
40413	AC/DC high voltages volt meters	Y
40414	LF impulse generators	Y
40416	Leakage current testers	Y
40417	Electronic AC/DC loads	Y
40419	Analogue/Digital multimeters	Y
40420	Noise meters	Y
40421	Oscilloscopes	Y
40423	Random wave generator	Y
40424	Volt/current recorders	Y
40425	Relay test sets	Y
40426	LF Signal generators	Y
40429	Sweep generators	Y
40430	Signal transducers	Y
40434	AC/DC high voltage generators	Y
40435	AC/DC high voltage probes	N
40436	Logic analyzers	N
40437	Telephone testers	Y
40438	Video signal analyzers	N
406. RF Measurements		
40601	RF amplifiers	Y
40602	Coaxial attenuators	Y
40605	Burst pulse generators	Y
40607	RF power meter calibrators	Y
40610	Coaxial directional couplers /splitters	Y
40613	Electrostatic discharge generators	N
40614	EMC receivers	Y
40615	RF filters	Y
40616	RF impedance meters	Y
40619	Coaxial standard mismatches	N
40621	Mobile communication test sets	Y
40622	Modulation meters	Y
40623	Network analyzers	Y
40624	Noise figure meters	Y
40626	Noise impulse simulators	Y
40635	RF Power meters	Y
40636	Diode power sensors	Y
40637	Thermocouple Power sensors	Y
40638	Pulse generators	Y
40640	RF signal generators	Y
40641	RF spectrum analyzers	Y
40642	RF speed guns	Y
40643	Surge generators	Y
40644	SWR meters	Y
40645	RF terminations	Y
40650	RF Voltmeters	Y
40652	Field strength meters	Y
40654	Dip simulators	Y
501. Contact thermometry		
50101	Temperature generators: ovens, furnaces, isothermal liquid baths,ice-point baths, Ionic voltmeters	Y
50102	Temperature indicators/ recorders/controllers, temperature calibrators	Y
50103	Glass thermometers; liquid in glass, Beckmann	N
50104	Resistance thermometers; SPRT, IPRT, thermistors,	Y
50105	Thermal expansion thermometers ; bimetal, gas or liquid type	Y
50106	Thermomecoules: noble base metal, pure metal, special type, etc.	Y
50107	Temperature transducers	Y
50109	Others; quartz, semiconductivity,optical fiber etc.	N

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Field Code	Measured Quantity Instrument or Gauge	on-site	Field Code	Measured Quantity Instrument or Gauge	on-site	Field Code	Measured Quantity Instrument or Gauge	on-site
502. non contact thermometry								
50204	Standard radiation thermometers	N						
50205	Thermal image apparatus	N						
50206	Blackbody furnaces	N						
503. Humidity								
50301	Dew-point hygrometers; chilled mirror, alumina thinfilm, etc.	N						
50302	Relative humidity hygrometers; polimer thinfilm, hair, etc	N						
50303	Psychrometers; assmann ventilated, PRT type, etc.	N						
50304	Temperature humidity recorders ; Hygrothermograph, etc	N						
50305	Transducers; dew-point/relative humidity	N						
50306	Humidity generators; two-pressure, flow mixing humidity gererator, constant temperature and humidity chamber, etc.	Y						
601. Sound in air								
60106	Sound level meter	N						
603. Vibration								
60301	Vibration calibrators	N						
60302	Vibration transducers	N						
60303	Vibration measuring instruments	N						
701. Photometry								
70101	Iluminance meters	N						
901. Chemical analysis								
90103	Gas 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 calbration 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	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Balls	10201	(5 ~ 25) mm	$\sqrt{0.34^2 + 0.003\ 2^2 \times l^2}$ μm (l of unit mm)	Measuring machines,standard / KRCMI-I-102-29
Dial/cylinder gauge testers	10206	(0 ~ 100) mm	$\sqrt{0.20^2 + 0.001\ 6^2 \times l^2}$ μm (l of unit mm)	Gauge blocks, Electronic micrometers / KRCMI-I-102-01
Distance meters; electrooptic/laser	10208	(0 ~ 40) m	$\sqrt{0.19^2 + 0.001\ 5^2 \times l^2}$ μm (l of unit m)	Laser interferometers / KRCMI-I-102-037
End bars	10209	(25 ~ 500) mm (500 ~ 1 000) mm	$\sqrt{0.25^2 + 0.003\ 1^2 \times l^2}$ μm (l of unit mm) $\sqrt{1.02^2 + 0.001\ 8^2 \times l^2}$ μm (l of unit mm)	Gauge blocks, Measuring machines, standard / KRCMI-I-102-03
Extensometers, linear displacement transducers Cylinder Wire	10210	(0 ~ 100) mm (0 ~ 2 000) mm	$\sqrt{1.7^2 + 0.002^2 \times l^2}$ μm (l of unit mm) 2.9 mm	Dial/cylinder gauge testers Multimeter / KRCMI-I-102-24
Filler gauges	10211	(0.01 ~ 5) mm	0.8 μm	Outside micrometers / KRCMI-I-102-04
Gapgauges	10213	(5 ~ 200) mm	$\sqrt{0.4^2 + 0.003\ 1^2 \times l^2}$ μm (l of unit mm)	Measuring machines, standard, Cylindrical ring gauges / KRCMI-I-102-06
Gauge blocks, by comparison	10214	(0.5 ~ 100) mm	$\sqrt{71^2 + 1.2^2 \times l^2}$ nm (l of unit mm)	Gauge blocks, Gauge block comparators / KRCMI-I-102-07
Height gauges/measuring machines	10216	(0 ~ 600) mm (600 ~ 1 000) mm	$\sqrt{0.6^2 + 0.001\ 5^2 \times l^2}$ μm (l of unit mm) $\sqrt{7.7 + 0.002\ 0^2 \times l^2}$ μm (l of unit mm)	Step gauges, Electronic micrometers, Precision surface plates / KRCMI-I-102-08
Measuring machines, standard	10220	(0 ~ 100) mm (100 ~ 500) mm	$\sqrt{0.36^2 + 0.001\ 3^2 \times l^2}$ μm (l of unit mm) $\sqrt{0.40^2 + 0.001\ 4^2 \times l^2}$ μm (l of unit mm)	Gauge blocks, Optical flats, Optical parallels, Monochromatic Light Source / KRCMI-I-102-09
Electronic micrometers	10223	(0 ~ 250) μm	0.36 μm	Surface plate Gauge block/ KRCMI-I-102-10
Heightmicrometers, Riserblocks Head Block	10224	(0 ~ 20) mm (5 ~ 600) mm	0.66 μm $\sqrt{1.4^2 + 0.003\ 0^2 \times l^2}$ μm (l of unit mm)	Gauge blocks, Electronic micrometers, Precision surface plates / KRCMI-I-102-11
Laser scan micrometers	10225	(0.1 ~ 60) mm	0.56 μm	Cylindrical plug gauges, / KRCMI-I-102-28

102. Linear dimension

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Standardtaperules, Peripheralgauges	10227	(0 ~ 40) m (40 ~ 80) m (80 ~ 100) m	$\sqrt{0.092^2 + 0.001\ 5^2 \times l^2}$ μm (l of unit m) $\sqrt{0.11^2 + 0.001\ 5^2 \times l^2}$ μm (l of unit m) $\sqrt{0.16^2 + 0.001\ 5^2 \times l^2}$ μm (l of unit m)	Standardtaperules, Micrometer heads / KRCMI-I-102-15
Cylindrical plug/pin gauges, Thread measuring wire gauges Cylindrical plug gauges, Cylindrical pin gauges, Thread measuring wire gauges	10228	 (0 ~ 30) mm (30~ 150) mm (0.17 ~ 3.5) mm	 1.4 μm $\sqrt{0.24^2 + 0.003\ 4^2 \times l^2}$ μm (l of unit mm) 0.3 μm	Measuring machines, standard, Electronic micrometers, Gauge blocks / KRCMI-I-102-12
Radius gauges	10229	(0 ~ 100) mm	2 μm	Non-contact coordinate measuring machines / KRCMI-I-102-22
Cylindrical ring gauges	10230	(5 ~ 200) mm	$\sqrt{0.62^2 + 0.003\ 1^2 \times l^2}$ μm (l of unit mm)	Measuring machines, standard, Cylindrical ring gauges / KRCMI-I-102-13
Step blocks	10231	(0 ~ 200) μm	0.57 μm	Gauge block comparators / KRCMI-I-102-29
Step gauges Step gauges Caliper checker Outside Inside Depth Micrometer Checker Master Block Block Interval	10232	 (0 ~ 310) mm (310 ~ 1 010) mm (0 ~ 600) mm (0 ~ 600) mm 25 mm (0 ~ 300) mm	 $\sqrt{0.54^2 + 0.000\ 62^2 \times l^2}$ μm (l of unit mm) $\sqrt{0.88^2 + 0.000\ 64^2 \times l^2}$ μm (l of unit mm) $\sqrt{0.58^2 + 0.002\ 0^2 \times l^2}$ μm (l of unit mm) $\sqrt{0.82^2 + 0.002\ 8^2 \times l^2}$ μm (l of unit mm) 0.46 μm $\sqrt{2.8^2 + 0.001\ 7^2 \times l^2}$ μm (l of unit mm)	Gauge blocks, Electronic micrometers, Precision surface plates / KRCMI-I-102-16
Taper thickness gauges	10233	(0 ~ 100) mm	2 μm	Microscopes / KRCMI-I-102-25
Ultrasonic thickness gauges	10234	(0 ~ 250) mm	7.0 μm	Standard thickness Surface plate, Gauge block / KRCMI-I-102-17
Ultrasonic/coating thickness specimens Ultrasonic	10235	 (2.5 ~ 300) mm	 $\sqrt{0.47^2 + 0.001\ 3^2 \times l^2}$ μm (l of unit mm)	Gauge blocks, Electronic micrometers, Precision surface plates / KRCMI-I-102-23

102. Linear dimension

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Coating thickness	10235	(10 ~ 500) μm (0.5 ~ 10) mm Flatness of zero metal plate	0.3 μm 1.5 μm 0.5 μm	
Coating thickness testers	10236	(0 ~ 1.5) mm	2.0 μm	Coating thickness specimens / KRCMI-I-102-18

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103. Angle

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Bevel protractors	10304	(0 ~ 180)°	0.6′	Angle gauge blocks / KRCMI-I-103-02
Plate/Square/Electric levels	10311			Fine angle generators,
Electronical		(0 ~ 2) mm/m	3.3 μm/m	Electronic micrometers,
		(2 ~ 9.7) mm/m	6.7 μm/m	Squareness testers,
Precision flat		±2°	5.5 μm/m	Precision surface plates
Squareness		(0 ~ 300) mm	2.5 μm	/ KRCMI-I-103-03
Flatness		-	1.3 μm	
Precision squares	10320			Squareness testers,
Perpendicularity		(0 ~ 450) mm	3.0 μm	Right angle testers
				/ KRCMI-I-103-01
Parallelism		(0 ~ 450) mm	1.4 μm	

104. Form

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Form testers	10401			Form standard specimens,
Height		(0 ~ 60) mm	0.14 μm	Cylindrical plug gauges
Width		(0 ~ 50) mm	1.0 μm	/ KRCMI-I-104-07
Angle		(30 ~ 90)°	2″	
Optical flats	10404	(25 ~ 75) mm	0.10 μm	Monochromatic Light Source,
		(75 ~ 100) mm	0.12 μm	Optical flats
				/ KRCMI-I-104-01
Optical parallels	10405			Monochromatic Light Source,
Flatness		(12 ~ 50) mm	0.08 μm	Gauge block comparators
Parallelism		(12 ~ 50) mm	0.10 μm	Optical flats /KRCMI-I-104-02
Parallel blocks	10406			Electronic micrometers,
Parallelism		(0 ~ 200) mm	1.2 μm	Precision surface plates
Flatness		(0 ~ 200) mm	1.2 μm	/ KRCMI-I-104-03
Difference between height and width of a pair		(0 ~ 400) μm	1.6 μm	
Precision surface plates	10407	(0 ~ 900) cm^2	0.40 μm	Electric levels
		(900 ~ 2 500) cm^2	0.61 μm	/ KRCMI-I-104-04
		(2 500 ~ 10 000) cm^2	1.0 μm	
		(10 000 ~ 40 000) cm^2	1.6 μm	
		(40 000 ~ 122 500) cm^2	2.5 μm	
		(122 500 ~ 202 500) cm^2	2.7 μm	
Roundness measurement instruments	10409			Roundness standard,
accuracy of Pick up		-	0.51 μm	Roundness magnification
rotate accuracyofcircumferential direction		360 °	0.02 μm	standard specimens
rotate accuracyof axial direction		360 °	0.07 μm	/ KRCMI-I-104-08
straightness of column		(0 ~ 250) mm	1.0 μm	
Straight edges	10412			Electronic micrometers,
straightness		(0 ~ 250) mm	4.4 μm	Precision surface plates,
		(250 ~ 500) mm	4.2 μm	Electric levels
		(500 ~ 750) mm	4.4 μm	/ KRCMI-I-104-06
		(750 ~ 1 000) mm	4.3 μm	
		(1 000 ~ 2 000) mm	7.3 μm	
Parallelism		(0 ~ 250) mm	3.8 μm	
		(250 ~ 500) mm	3.8 μm	
		(500 ~ 750) mm	3.8 μm	
		(750 ~ 1 000) mm	3.8 μm	
		(1 000 ~ 2 000) mm	6.4 μm	
Straight rules	10413	(0 ~ 2 000) mm	$\sqrt{68^2 + 8.0^2 \times l^2}$ μm (l of unit m)	Standardtaperules, Micrometer heads / KRCMI-I-104-05

105. Complex geometry

Measured Quantity Instrument or Gauge	Field code	Range	CMC (The Confidence Level is about 95 %)	Comments
Contact coordinate measuring machines	10503			Step gauges, Precision squares
X,Y,Z-axis accuracy		(0 ~ 1 000) mm	$\sqrt{0.82^2 + 0.006\,6^2 \times l^2}$ μm (l of unit mm)	/ KRCMI-I-105-03
straightness		(0 ~ 500) mm	3.0 μm	
Perpendicularity		(0 ~ 500) mm	3.0 μm	
Non-contact coordinate measuring machines	10504			Standard scale, Precision squares
X,Y-axis accuracy		(0 ~ 1 000) mm	$\sqrt{0.42^2 + 0.003\,0^2 \times l^2}$ μm (l of unit mm)	/ KRCMI-I-105-16
Perpendicularity		(0 ~ 500) mm	2.0 μm	
Gauge block accessories	10505			Gauge blocks, Gauge block comparators, Non-contact coordinate measuring machines, Precision surface plates / KRCMI-I-105-04
Round Type Jaw		8 mm	$\sqrt{0.12^2 + 0.001\,2^2 \times l^2}$ μm (l of unit mm)	
A Type Jaw		8 mm	$\sqrt{0.12^2 + 0.001\,2^2 \times l^2}$ μm (l of unit mm)	
B Type Jaw		Flatness	0.09 μm	
Scriber Point		Flatness	0.09 μm	
Center Point		eccentic distance	1.4 μm	
Base Block		35 mm	$\sqrt{0.20^2 + 0.001\,2^2 \times l^2}$ μm (l of unit mm)	
Measuring microscope, Profile projector	10511			Standard scale, Precision squares / KRCMI-I-105-05
X,Y-axis accuracy		(0 ~ 500) mm	$\sqrt{0.56^2 + 0.002\,6^2 \times l^2}$ μm (l of unit mm)	
Perpendicularity		(0 ~ 500) mm	2.0 μm	
Taper plug gauges	10514			Measuring machines, standard, Balls / KRCMI-I-105-07
taper angle		(0 ~ 60) °	1′ 29″	
diameter of taper Ring minimum		(0 ~ 200) mm	6.9 μm	
diameter of taper Ring maximum		(0 ~ 200) mm	8.7 μm	
length of taper Ring		(0 ~ 250) mm	4.4 μm	
Taper ring gauges	10515			Measuring machines, standard, Balls / KRCMI-I-105-09
taper angle		(0 ~ 60) °	4″	
diameter of taper Ring minimum		(1 ~ 30) mm	3.9 μm	
diameter of taper Ring maximum		(1 ~ 30) mm	1.3 μm	
length of taper Ring		(1 ~ 200) mm	6.1 μm	
Stylus type roughness testers	10517			Roughness standard specimens / KRCMI-I-105-10
longitudinall magnification		(0 ~ 120) μm	0.9 μm	
transversal magnification		(0 ~ 10) μm	0.20 μm	
Ra		(0 ~ 3.2) μm	0.007 μm	
Rz		(0 ~ 10.15) μm	0.071 μm	
Roughness standard /comparison specimens	10519	-		Roughness standard specimens, Stylus type roughness testers / KRCMI-I-105-12
Ra		(0 ~ 3) μm	0.01 μm	
Rz		(0 ~ 10) μm	0.08 μm	

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105. Complex geometry

Measured Quantity Instrument or Gauge	Field code	Range	CMC (The Confidence Level is about 95 %)	Comments
Thread plug gauges	10525			Measuring machines, standard,
effective diameter		(0.5 ~ 100) mm	1.6 μm	Non-contact coordinate
Pitch		(0.15 ~ 4) mm	1.2 μm	measuring machines,
external diameter		(0.5 ~ 100) mm	0.52 μm	Thread measuring wire gauges
				/ KRCMI-I-105-13
half-angle of thread		(1 ~ 45) °	0.1′	
Thread ring gauges	10527			Measuring machines, standard,
effective diameter		(6 ~ 100) mm	1.2 μm	Balls (Probe)
Pitch		(0.6 ~ 4) mm	0.28 μm	/ KRCMI-I-105-14
internal diameter		(5 ~ 100) mm	2.2 μm	
V-blocks, Box blocks	10529			Electronic micrometers,
flatness of base plate		(10 ~ 200) mm	1.1 μm	Gauge blocks
				Height measuring machines
Flatness of V plate		(10 ~ 200) mm	1.1 μm	/ KRCMI-I-105-15
Parallelism of culinder on the base and V plate		(10 ~ 200) mm	2.6 μm	
Inclination of V furrow about base		(10 ~ 200) mm	0.8 μm	
Parallelism of culider on the side and V plate		(10 ~ 200) mm	2.6 μm	
Height difference of pair		(10 ~ 200) mm	2.6 μm	

Accreditation No. : KC01-38(11/92)

106. Various dimensional

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Inside/Outside/Gear tooth calipers, Caliper gauges	10601			Gauge blocks, Step gauges /KRCMI-I-106-01
Inside/Outside calipers		(0 ~ 2 000) mm	$\sqrt{14^2+0.006\ 4^2\times l^2}$ μm (l of unit mm)	
Caliper gauges		(0 ~ 50) mm	$\sqrt{0.8^2+0.006\ 3^2\times l^2}$ μm (l of unit mm)	
		(50 ~ 150) mm	$\sqrt{2.5+0.006\ 3^2\times l^2}$ μm (l of unit mm)	
Cylinder/Bore gauges	10603			Dial gauge tester / KRCMI-I-106-04
Cylinder gauges		(0 ~ 400) mm	$\sqrt{0.7^2+0.001\ 5^2\times l^2}$ μm	
Bore gauges		(0 ~ 100) mm	$\sqrt{0.9^2+0.002^2\times l^2}$ μm	
Depth gauges, Depth micrometers	10604			Gauge blocks, Precision sufrace plates /KRCMI-I-106-05
Depth gauges		(0 ~ 50) mm	$\sqrt{1.3^2+0.006\ 8^2\times l^2}$ μm (l of unit mm)	
		(50 ~ 1 000) mm	$\sqrt{8.7^2+0.006\ 7^2\times l^2}$ μm (l of unit mm)	
Depth micrometers		(0 ~ 300) mm	$\sqrt{1.3^2+0.002\ 6^2\times l^2}$ μm (l of unit mm)	
Dial/Digital gauges	10605	(0 ~ 100) mm	$\sqrt{0.7^2+0.015^2\times l^2}$ μm (l of unit mm)	Dial/Cylinder gauge testers /KRCMI-I-106-06
Micro Indicators, Test Indicators Micro Indicators Test Indicators	10609	(0 ~ 3) mm	0.5 μm	Dial/Cylinder gauge testers /KRCMI-I-106-08
Micrometer heads	10610	(0 ~ 50) mm	$\sqrt{0.6^2+0.016^2\times l^2}$ μm (l of unit mm)	Gauge blocks, Electronic micrometers KRCMI-I-106-09
3-points micrometers	10611	(ø 2 ~ ø 300) mm	$\sqrt{1.3^2+0.006\ 3^2\times l^2}$ μm (l of unit mm)	Cylindrical ring gauges /KRCMI-I-106-15
Inside micrometers	10612	(5 ~ 1 000) mm	$\sqrt{0.96^2+0.002\ 0^2\times l^2}$ μm (l of unit mm)	Gauge blocks, Gauge Block Accessories /KRCMI-I-106-12
Outside micrometers	10613			Gauge blocks Cylindrical plug/pin gauge /KRCMI-I-106-13
Outside micrometers		(0 ~ 25) mm	$\sqrt{0.2^2+0.001\ 3^2\times l^2}$ μm (l of unit mm)	
		(25 ~ 100) mm	$\sqrt{1.0^2+0.001\ 3^2\times l^2}$ μm (l of unit mm)	
		(100 ~2 000) mm	$\sqrt{1.5^2+0.003\ 7^2\times l^2}$ μm (l of unit mm)	
V-anvil micrometers		(2.5 ~ 50) mm	1.6 μm	

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106. Various dimensional

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Standard sieves	10617			Non-contact coordinate
Diameter of wire		(0 ~ 10) mm	1.8 μm	measuring machines
opening of sieve		(0 ~ 100) mm	2.1 μm	/KRCMI-I-106-17
Welding gauges	10620			비접촉식 좌표 측정기,
Height		(0 ~ 50) mm	0.2 mm	게이지 블록,브이블록,
deep		(0 ~ 50) mm	0.2 mm	원통형 플러그 게이지,
scale		(0 ~ 100) mm	0.1 mm	정밀정반
thickness		(0 ~ 20) mm	0.2 mm	/KRCMI-I-106-20
Angle		(0 ~ 90) °	0.4 °	
thickness gauge		(0 ~ 10) mm	0.1 mm	

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201. Mass

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Counter beam balances	20105	(0 ~ 311) g (311 ~ 2 610) g 2 610 g ~ 20 kg	11 mg 0.11 g 1.1 g	Weight / KRCMI-I-201-02
Dial platform scale balances	20106	(0 ~ 1) kg (1 ~ 10) kg (10 ~ 50) kg (50 ~ 200) kg	0.68 g 6.8 g 68 g 0.14 kg	Weight / KRCMI-I-201-03
Dial swing scale balances	20107	(0 ~ 10) kg (10 ~ 50) kg (50 ~ 200) kg (200 ~ 1 000) kg	1.8 g 8.9 g 0.09 kg 0.44 kg	Weight / KRCMI-I-201-04
Direct reading balances	20108	(0 ~ 160) g (160 ~ 200) g	0.11 mg 0.15 mg	Weight / KRCMI-I-201-05
Electric balances	20109	(0 ~ 5) g (5 ~ 20) g (20 ~ 200) g (200 ~ 300) g (300 ~ 1 000) g (1 000 ~ 3 000) g (3 ~ 5) kg (5 ~ 6) kg (6 ~ 30) kg (30 ~ 40) kg (40 ~ 60) kg (60 ~ 200) kg (200 ~ 500) kg (500 ~ 1 000) kg	40 µg 63 µg 0.19 mg 0.24 mg 0.9 mg 2.1 mg 4.3 mg 5.5 mg 20 mg 29 mg 64 mg 1.5 g 5.4 g 53 g	Weight / KRCMI-I-201-06
Platform scale balances	20112	(0 ~ 50) kg (50 ~ 200) kg (200 ~ 500) kg (500 ~ 1 000) kg	19 g 0.11 kg 0.19 kg 0.46 kg	Weight / KRCMI-I-201-07
Spring scale balances	20113	(0 ~ 1) kg (1 ~ 10) kg (10 ~ 50) kg (50 ~ 100) kg	0.68 g 6.8 g 68 g 0.14 kg	Weight / KRCMI-I-201-08
Trip balances	20114	(0 ~ 200) g 200 g ~ 1 kg (1 ~ 5) kg	0.19 g 0.95 g 4.74 g	Weight / KRCMI-I-201-09
Weights	20116	1 mg ~ 20 kg 1 mg 2 mg 5 mg 10 mg 20 mg 50 mg 100 mg 200 mg	(Class F1) 3.1 µg 3.1 µg 3.2 µg 3.8 µg 3.9 µg 4.7 µg 5.8 µg 6.5 µg	Weight,Balances electric / KRCMI-I-201-10

201. Mass

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
	20116	500 mg	8.6 µg	
		1 g	12 µg	
		2 g	14 µg	
		5 g	18 µg	
		10 g	25 µg	
		20 g	29 µg	
		50 g	37 µg	
		100 g	57 µg	
		200 g	0.10 mg	
		500 g	0.29 mg	
		1 kg	0.54 mg	
		2 kg	1.6 mg	
		5 kg	2.8 mg	
		10 kg	5.5 mg	
		20 kg	11 mg	

202. Force

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Tension/Compression testing machines	20203			Force measuring devices, electrical, Weights / KRCMI-I-202-02
Tension		(0.4 ~ 50) N	1.1×10^{-3}	
		(50 ~ 100) N	5.3×10^{-4}	
		(100 ~ 200) N	1.5×10^{-3}	
		(200 ~ 500) N	1.4×10^{-3}	
		(0.5 ~ 1) kN	8.9×10^{-4}	
		(1 ~ 3) kN	6.7×10^{-4}	
		(3 ~ 5) kN	2.1×10^{-3}	
Compression		(0.4 ~ 50) N	7.9×10^{-4}	
		(50 ~ 100) N	5.6×10^{-4}	
		(100 ~ 200) N	2.1×10^{-3}	
		(200 ~ 500) N	7.1×10^{-4}	
		(0.5 ~ 1) kN	8.8×10^{-4}	
		(1 ~ 2) kN	1.2×10^{-3}	
		(2 ~ 5) kN	1.2×10^{-3}	
		(5 ~ 10) kN	8.6×10^{-3}	
		(10 ~ 20) kN	9.6×10^{-4}	
		(20 ~ 50) kN	1.3×10^{-3}	
		(50 ~ 100) kN	1.0×10^{-3}	
		(100 ~ 200) kN	1.4×10^{-3}	
		(200 ~ 500) kN	9.6×10^{-4}	
		(0.5 ~ 1) MN	1.8×10^{-3}	
		(1 ~ 2) MN	1.5×10^{-3}	
		(2 ~ 3) MN	1.5×10^{-3}	
Push-pull gauges	20204	(2 ~ 1 000) N	7.3×10^{-4}	Weights / KRCMI-I-202-01

203. Torque

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Torque measuring devices	20302	(1 ~ 10) N·m	2.6×10^{-4}	Torque standards
		(10 ~ 50) N·m	6.2×10^{-4}	deadweight type
		(50 ~ 100) N·m	1.7×10^{-4}	/ KRCMI-I-203-03
		(100 ~ 200) N·m	8.5×10^{-4}	
		(200 ~ 500) N·m	3.7×10^{-4}	
		(500 ~ 1 000) N·m	3.0×10^{-4}	
		(1 000 ~ 2 000) N·m	1.8×10^{-4}	
Torque wrenches/drivers	20303	(0.0000 5 ~ 0.01) N · m	6.7×10^{-3}	Torque measuring devices
		(0.01 ~ 0.06) N · m	1.5×10^{-2}	/ KRCMI-I-203-01
		(0.06 ~ 0.6) N · m	1.1×10^{-2}	
		(0.6 ~ 6) N · m	5.3×10^{-3}	
		(6 ~ 20) N · m	8.3×10^{-3}	
		(20 ~ 50) N · m	4.7×10^{-3}	
		(50 ~ 100) N · m	7.4×10^{-3}	
		(100 ~ 200) N · m	1.4×10^{-2}	
		(200 ~ 500) N · m	5.9×10^{-3}	
		(500 ~ 1 000) N · m	7.8×10^{-3}	

204. Pressure

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Manometers	20402	(0 ~ 100) kPa	9.1×10^{-4}	air Dead Weight Tester / KRCMI-I-204-02
Pneumatic pressure ballances	20403	(4 ~ 200) kPa (0.2 ~ 3.5) MPa	8.6×10^{-5} 7.7×10^{-5}	air Dead Weight Tester / KRCMI-I-204-03
Hydraulic pressure ballances	20404	(0.1 ~ 120) MPa	5.7×10^{-5}	oil Dead Weight Tester / KRCMI-I-204-04
Absolute pressure gauges	20406	4 kPa abs. ~ 3 500 kPa abs.	8.1×10^{-5}	air Dead Weight Tester / KRCMI-I-204-05
Blood pressure gauge	20407	(0 ~ 40) kPa	2.1×10^{-3}	air Dead Weight Tester / KRCMI-I-204-06
Compound pressure gauges	20408	(-100 ~ 3 500) kPa	7.0×10^{-4}	air Dead Weight Tester / KRCMI-I-204-07
Differential pressure gauges	20409	(0 ~ 3 500) kPa	7.9×10^{-5}	air Dead Weight Tester / KRCMI-I-204-08
Gauge pressure gauges	20411	(0 ~ 3 500) kPa (3.5 ~ 20) MPa (20 ~ 120) MPa	7.9×10^{-5} 7.1×10^{-5} 5.9×10^{-5}	air Dead Weight Tester oil Dead Weight Tester / KRCMI-I-204-09
Pressure transducers/transmitters	20412	4 kPa abs. ~ 200 kPa abs. (200 ~ 3 500) kPa abs (0 ~ 120) MPa	4.6×10^{-4} 9.0×10^{-5} 7.3×10^{-5}	air Dead Weight Tester oil Dead Weight Tester / KRCMI-I-204-11
Dial type vacuum gauges	20413	(-100 ~ 0) kPa	8.8×10^{-4}	Air dead weight piston gage / KRCMI-I-204-12
Water Depth meters	20414	(0 ~ 3 500) kPa	5.6×10^{-4}	Water Depth meters /KRCMI-I-204-13

205. Vacuum

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Capacitance diaphragm gauges	20501	(0 ~ 13.332) Pa abs (13.332 ~ 133.32) Pa abs (133.32 ~ 1 333.2) Pa abs (1 333.2 ~ 133 322) Pa abs	0.03 Pa 0.04 Pa 0.8 Pa 20 Pa	Capacitance diaphragm gauges / KRCMI-I-205-01
Thermal conductivity gauges; pirani, thermocouple, convectron etc.	20504	(0 ~ 13.332) Pa abs (13.332 ~ 133.32) Pa abs (133.32 ~ 1 333.2) Pa abs (1 333.2 ~ 133 322) Pa abs	0.1 Pa 0.8 Pa 1.1 Pa 0.08 kPa	Capacitance diaphragm gauges / KRCMI-I-205-02

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206. Volume

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Volumetric glasswares	20601			balance, weight
Burets		(0 ~ 2) ml	1.8 μl	/ KRCMI-I-206-01
		(2 ~ 10) ml	5.9 μl	
		(10 ~ 25) ml	12 μl	
		(25 ~ 50) ml	20 μl	
		(50 ~ 100) ml	29 μl	
Cylinder		(0 ~ 5) ml	16 μl	
		(5 ~ 10) ml	18 μl	
		(10 ~ 25) ml	43 μl	
		(25 ~ 50) ml	86 μl	
		(50 ~ 100) ml	0.15 ml	
		(100 ~ 250) ml	0.34 ml	
		(250 ~ 500) ml	0.65 ml	
		(500 ~ 1 000) ml	1.3 ml	
		(1 000 ~ 2 000) ml	2.7 ml	
Flask		(0 ~ 5) ml	7.3 μl	
		(5 ~ 10) ml	7.7 μl	
		(10 ~ 25) ml	12 μl	
		(25 ~ 50) ml	20 μl	
		(50 ~ 100) ml	34 μl	
		(100 ~ 250) ml	73 μl	
		(250 ~ 500) ml	0.13 ml	
		(500 ~ 1 000) ml	0.28 ml	
		(1 000 ~ 2 000) ml	0.49 ml	
Pipet		(0 ~ 1) ml	0.7 μl	
		(1 ~ 2) ml	0.9 μl	
		(2 ~ 5) ml	2.0 μl	
		(5 ~ 10) ml	2.9 μl	
		(10 ~ 25) ml	6.1 μl	
		(25~ 50) ml	14 μl	
		(50 ~ 100) ml	24 μl	
		(100 ~ 200) ml	30 μl	
Concrete air content meters	20605			balance, weight
		(0 ~ 10) %	0.07 %	/ KRCMI-I-206-02
Piston type volume meters	20606			balance, weight
		(0 ~ 0.02) ml	0.06 μl	/ KRCMI-I-206-03
		(0.02 ~ 0.05) ml	0.14 μl	
		(0.05 ~ 0.1) ml	0.17 μl	
		(0.1 ~ 0.2) ml	0.57 μl	
		(0.2 ~ 0.5) ml	1.4 μl	
		(0.5 ~ 1) ml	1.7 μl	
		(1 ~ 2) ml	5.6 μl	
		(2 ~ 5) ml	14 μl	
		(5 ~ 10) ml	17 μl	
		(10 ~ 25) ml	71 μl	
		(25 ~ 50) ml	0.14 ml	
		(50 ~ 100) ml	0.17 ml	

Accreditation No. : KC01-38(20/92)

209. Materiality / Fluid

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Anemometers; hot-wire	20901	2 m/s ~ 5 m/s 5 m/s ~ 45 m/s	3.9×10^{-2} 3.5×10^{-2}	Wind tunnel,Pitot tube, Mano meter, MicroMano meter / KRCMI-I-209-01
Anemometers; pitot tube, etc.	20902	2 m/s ~ 5 m/s 5 m/s ~ 45 m/s	4.6×10^{-2} 4.9×10^{-2}	Wind tunnel,Pitot tube, Mano meter, MicroMano meter / KRCMI-I-209-02
Gas flowmeters; differential pressure	20908	0.002 m^3/h ~ 300 m3/h	2.6×10^{-3}	Sonic Nozzle / KRCMI-I-209-04
Gas flowmeters; thermal mass, etc.	20911	0.002 m^3/h ~ 300 m3/h	2.6×10^{-3}	Sonic Nozzle / KRCMI-I-209-04
Gas flowmeters; open channel, etc.	20914	0.002 m^3/h ~ 300 m3/h	2.6×10^{-3}	Sonic Nozzle / KRCMI-I-209-04
Gas Flowmeters; turbine	20916	0.002 m^3/h ~ 300 m3/h	2.6×10^{-3}	Sonic Nozzle / KRCMI-I-209-04
Gas flowmeters; ultrasonic	20918	0.002 m^3/h ~ 300 m3/h	2.6×10^{-3}	Sonic Nozzle / KRCMI-I-209-04
Variable-Area Meters for Gas	20920	0.002 m^3/h ~ 300 m3/h	2.6×10^{-3}	Sonic Nozzle / KRCMI-I-209-04
Vortex Flowmeters for Gas	20922	0.002 m^3/h ~ 300 m3/h	2.6×10^{-3}	Sonic Nozzle / KRCMI-I-209-04
Anemometers; vane, etc	20925	2 m/s ~ 5 m/s 5 m/s ~ 45 m/s	4.6×10^{-2} 4.9×10^{-2}	Wind tunnel,Pitot tube, Mano meter, MicroMano meter / KRCMI-I-209-03

Accreditation No. : KC01-38(22/92)

210. Hardness

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Brinell hardness testers	21001	(100 ~ 250) HBW 10/3000 (250 ~ 450) HBW 10/3000 (450 ~ 650) HBW 10/3000	3.3 HBW 5.2 HBW 8.3 HBW	Brinell hardness reference block / KRCMI-I-210-01
Rockwell hardness tester	21002	(20 ~ 70) HRC (10 ~ 100) HRBW	0.40 HRC 0.70 HRBW	Rockwell hardness reference block / KRCMI-I-210-02
Shore hardness testers	21003	(20 ~ 100) HSD	1.5 HSD	Shore hardness reference block / KRCMI-I-210-03
Vickers hardness testers	21004	(100 ~ 300) HV 0.2 (300 ~ 650) HV 0.2 (650 ~ 850) HV 0.2 (100 ~ 300) HV 0.5 (300 ~ 650) HV 0.5 (650 ~ 850) HV 0.5 (100 ~ 300) HV 1 (300 ~ 650) HV 1 (650 ~ 850) HV 1 (100 ~ 300) HV 10 (300 ~ 650) HV 10 (650 ~ 850) HV 10 (100 ~ 300) HV 20 (300 ~ 650) HV 20 (650 ~ 850) HV 20	5.6 HV 0.2 17 HV 0.2 26 HV 0.2 4.8 HV 0.5 14 HV 0.5 24 HV 0.5 4.6 HV 1 14 HV 1 20 HV 1 2.5 HV 10 7.6 HV 10 10 HV 10 2.7 HV 20 6.1 HV 20 14 HV 20	Vickers hardness reference block / KRCMI-I-210-04
Durometer hardness testers	21005	(0 ~ 100) HDA (0 ~ 100) HDB (0 ~ 100) HDC (0 ~ 100) HDD (0 ~ 100) HDE (0 ~ 100) HDF (0 ~ 100) HDO (0 ~ 100) HDOO	0.6 HDA 0.6 HDB 0.5 HDC 0.5 HDD 0.6 HDE 0.6 HDF 0.6 HDO 0.7 HDOO	Durometer calibrator / KRCMI-I-210-05
Leeb hardness testers	21006	< 500 HLD (500 ~ 700) HLD > 700 HLD	4.6 HLD 4.5 HLD 4.4 HLD	Leeb hardness reference block / KRCMI-I-210-06

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301. Time/ frequency

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Frequency standards	30102	100 ㎑ ~ 10 ㎒	1.2×10^{-12}	GPS Receiver Frequency Counter / KRCMI-I-301-01
General frequency sources	30103	0.001 Hz ~ 40 GHz	1.2×10^{-12}	GPS Receiver Frequency Counter / KRCMI-I-301-02
Frequency meters/counters	30104			GPS Receiver
Time base Osc.		(1 ~ 10) MHz	1.2×10^{-12}	Frequency Counter / KRCMI-I-301-03
Input Frequency		1 Hz ~ 18 GHz	5.8×10^{-11}	
Time interval meter/ Stop watches/Times	30106			Q Tester / KRCMI-I-301-04
time		(0.001 ~ 360 000) s	1.3×10^{-7}	
timer				GPS Receiver
time		(0.001 ~ 10^{8}) s	2.6×10^{-7}	Frequency Counter
count		9 999	1	Stop Watch / KRCMI-I-301-05

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302. Velocity & revolution

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Standard RPM generators	30201			Frequency Counter
Revolutions		(1 ~ 30) min^{-1}	0.06 min^{-1}	Stroboscope
		(30 ~ 100) min^{-1}	0.07 min^{-1}	Tachometer
		(100 ~ 500) min^{-1}	0.08 min^{-1}	/ KRCMI-I-302-01
		(500 ~ 4 000) min^{-1}	0.2 min^{-1}	
Centrifugal separator				
Revolutions		(100 ~ 9 000) min^{-1}	0.6 min^{-1}	
		(9 000 ~ 15 000) min^{-1}	1 min^{-1}	
Contact type tachometers	30202			RPM Calibration System
Revolutions		(6 ~ 100) min^{-1}	0.06 min^{-1}	G.P.S Receiver
		(100 ~ 4 000) min^{-1}	0.1 min^{-1}	/ KRCMI-I-302-02
Photo tachometers/stroboscopes	30203			RPM Calibration System
Revolutions		(1 ~ 10) min^{-1}	0.000 058 min^{-1}	G.P.S Receiver
		(10 ~ 100) min^{-1}	0.000 58 min^{-1}	Waveform Generator
		(100 ~ 1 000) min^{-1}	0.005 8 min^{-1}	/ KRCMI-I-302-03
		(1 000 ~ 100 000) min^{-1}	0.058 min^{-1}	
		(100 000 ~ 600 000) min^{-1}	0.58 min^{-1}	
stroboscopes				
Revolutions		(30 ~ 1 000) min^{-1}	0.005 8 min^{-1}	
		(1 000 ~ 100 000) min^{-1}	0.058 min^{-1}	
		(100 000 ~ 500 000) min^{-1}	0.58 min^{-1}	
Speed meters	30204			RPM Calibration System
Speed		3.6 m/h ~ 1 km/h	0.000 1 km/h	G.P.S Receiver
		(1 ~ 250) km/h	0.01 km/h	Tachometer
		(250 ~ 5 000) km/h	0.1 km/h	/ KRCMI-I-302-04
		(5 000 ~ 10 800) km/h	1 km/h	

Accreditation No. : KC01-38(25/92)

401. DC voltage & current

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
DC ammeters	40101	±(10 ~ 100) pA	2.6×10^{-3}	Meter Calibrator
		±(100 ~ 1 000) pA	6.9×10^{-5}	Transcomductance Amplifier
		±(1 ~ 10) nA	6.9×10^{-5}	/ KRCMI-I-401-01
		±(10 ~ 100) nA	6.2×10^{-5}	/ KRCMI-I-401-02
		±(0.1 ~ 1) μA	6.2×10^{-5}	
		±(1 ~ 10) μA	8.3×10^{-5}	
		±(10 ~ 100) μA	1.2×10^{-4}	
		±(0.1 ~ 1) mA	4.9×10^{-5}	
		±(1 ~ 10) mA	4.6×10^{-5}	
		±(10 ~ 100) mA	6.1×10^{-5}	
		±(0.1 ~ 1) A	1.1×10^{-4}	
		±(1 ~ 10) A	4.7×10^{-5}	
		±(10 ~ 100) A	4.6×10^{-4}	
Transconductance amplifiers	40102			Meter Calibrator
DC Current		±(0.1 ~ 1) mA	8.0×10^{-6}	Digital Multimeter
		±(1 ~ 10) mA	8.0×10^{-6}	Active Shunt
		±(10 ~ 100) mA	8.0×10^{-6}	Standard resistance
		±(0.1 ~ 1) A	1.6×10^{-5}	AC Measurement Standard
		±(1 ~ 10) A	1.6×10^{-5}	Current Shunt
		±(10 ~ 50) A	1.4×10^{-5}	/ KRCMI-I-401-03
		±(50 ~ 1 000) A	3.0×10^{-4}	
AC Current		(10 ~ 40) Hz		
		(0.1 ~ 1) mA	5.0×10^{-5}	
		(1 ~ 10) mA	4.0×10^{-5}	
		(10 ~ 100) mA	5.0×10^{-5}	
		(0.1 ~ 1) A	5.0×10^{-5}	
		(1 ~ 10) A	5.0×10^{-5}	
		(10 ~ 20) A	5.0×10^{-5}	
		(20 ~ 100) A	7.0×10^{-5}	
		(40 ~ 500) Hz		
		(0.1 ~ 1) mA	5.0×10^{-5}	
		(1 ~ 10) mA	4.0×10^{-5}	
		(10 ~ 100) mA	5.0×10^{-5}	
		(0.1 ~ 1) A	5.0×10^{-5}	
		(1 ~ 10) A	5.0×10^{-5}	
		(10 ~ 20) A	5.0×10^{-5}	
		(20 ~ 100) A	7.0×10^{-5}	
		(50 ~ 60) Hz		
		(40 ~ 200) A	4.0×10^{-4}	
		(200 ~ 1000) A	3.2×10^{-4}	
		(0.5 ~ 1) kHz		
		(0.1 ~ 1) mA	5.0×10^{-5}	
		(1 ~ 10) mA	4.0×10^{-5}	
		(10 ~ 100) mA	5.0×10^{-5}	

401. DC voltage & current

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
AC Current	40102	(0.1 ~ 1) A	5.0×10^{-5}	
		(1 ~ 10) A	5.0×10^{-5}	
		(10 ~ 20) A	5.0×10^{-5}	
		(20 ~ 100) A	7.0×10^{-5}	
		(1 ~ 10) kHz		
		(1 ~ 10) mA	4.0×10^{-5}	
		(10 ~ 100) mA	5.0×10^{-5}	
		(0.1 ~ 1) A	5.0×10^{-5}	
		(1 ~ 10) A	1.1×10^{-4}	
		(10 ~ 20) A	1.1×10^{-4}	
Dc voltage/currant calibrators	40103			Digital Multimeter
DC Voltage		±1 mV	0.35 μV	Active Shunt
		±(1 ~ 10) mV	3.5×10^{-6}	Meter Calibrator
		±(10 ~ 100) mV	4.3×10^{-6}	Standard resistance
		±(0.1 ~ 1) V	1.8×10^{-6}	/ KRCMI-I-401-04
		±(1 ~ 10) V	1.2×10^{-6}	
		±(10 ~ 100) V	2.3×10^{-6}	
		±(100 ~ 1 000) V	2.2×10^{-6}	
AC Voltage		±(1 ~ 100) μA	8.2×10^{-6}	
		±(0.1 ~ 1) mA	8.2×10^{-6}	
		±(1 ~ 10) mA	8.2×10^{-6}	
		±(10 ~ 100) mA	8.2×10^{-6}	
		±(0.1 ~ 1) A	1.6×10^{-5}	
		±(1 ~ 10) A	1.6×10^{-5}	
		±(10 ~ 20) A	1.4×10^{-5}	
		±(20 ~ 100) A	1.6×10^{-5}	
Electrical temperature calibrators	40104			Digital multi meter
Voltage(MEASURE)		±(1 ~ 10) mV	8.0×10^{-5}	/ KRCMI-I-401-05
		±(10 ~ 100) mV	8.0×10^{-6}	
		±(0.1 ~ 1) V	7.0×10^{-6}	
		±(1 ~ 10) V	7.0×10^{-6}	
		±(10 ~ 100) V	7.0×10^{-6}	
Current(MEASURE)		±(1 ~ 10) mA	1.5×10^{-5}	
		±(10 ~ 100) mA	1.6×10^{-5}	
Resistance(MEASURE)		0 Ω	8 μΩ	
		(0 ~ 1) Ω	3.8 × 10-5	
		(1 ~ 10) Ω	1.0×10^{-5}	
		(10 ~ 100) Ω	9.0×10^{-6}	
		(0.1 ~ 1) kΩ	9.0×10^{-6}	
		(1 ~ 10) kΩ	9.0×10^{-6}	
Voltage(Source)		±(1 ~ 10) mV	8.0×10^{-5}	
		±(10 ~ 100) mV	9.0×10^{-6}	
		±(0.1 ~ 1) V	3.0×10^{-6}	
		±(1 ~ 10) V	3.0×10^{-6}	
		±(10 ~ 100) V	5.0×10^{-6}	

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401. DC voltage & current

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Current(Source)		±(1 ~ 10) mA	2.2×10^{-5}	
		±(10 ~ 100) mA	4.2×10^{-5}	
Resistance(Source)		0 Ω	12 μΩ	
		(0 ~ 1) Ω	1.5×10^{-5}	
		(1 ~ 10) Ω	8.0×10^{-6}	
		(10 ~ 100) Ω	5.0×10^{-6}	
		(0.1 ~ 1) kΩ	4.0×10^{-6}	
		(1 ~ 10) kΩ	4.0×10^{-6}	
DC current shunts	40105	25 μΩ	8 5 nΩ	DCC RESISTANCE BRIDGE
		(0.025 ~ 1) mΩ	3.5×10^{-6}	Standard resistance
		(1 ~ 10) mΩ	1.2×10^{-6}	Meter Calibrator
		(10 ~ 100) mΩ	2.7×10^{-6}	Transcomductance Amplifier
		(0.1 ~ 1) Ω	1.4×10^{-6}	Digital multi meter
		(1 ~ 10) Ω	1.4×10^{-6}	/ KRCMI-I-401-06
		(10 ~ 100) Ω	1.4×10^{-6}	
		(0.1 ~ 1) kΩ	1.3×10^{-6}	
		(1 ~ 10) kΩ	1.3×10^{-6}	
		(10 ~ 100) kΩ	4.0×10^{-6}	
Galvanometers/null detectors	40106			Meter Calibrator
DC Voltage		± 1 μV	5.8×10^{-4}	Divider
		±(1 ~ 3) μV	5.3×10^{-4}	/ KRCMI-I-401-07
		±(3 ~ 10) μV	4.2×10^{-4}	
		±(10 ~ 30) μV	2.8×10^{-4}	
		±(30 ~ 100) μV	4.2×10^{-4}	
		±(100 ~ 300) μV	2.8×10^{-4}	
		±(0.3 ~ 1) mV	4.2×10^{-4}	
		±(1 ~ 3) mV	2.8×10^{-4}	
		±(3 ~ 10) mV	4.1×10^{-4}	
		±(10 ~ 30) mV	2.7×10^{-4}	
		±(30 ~ 100) mV	4.1×10^{-4}	
		±(100 ~ 300) mV	2.7×10^{-4}	
		±(0.3 ~ 1) V	4.1×10^{-4}	
		±(1 ~ 3) V	2.7×10^{-4}	
		±(3 ~ 10) V	4.1×10^{-4}	
		±(10 ~ 30) V	2.7×10^{-4}	
		±(30 ~ 100) V	4.1×10^{-4}	
		±(100 ~ 300) V	2.7×10^{-4}	
		±(300 ~ 1 000) V	4.1×10^{-4}	
Potentiometers	40107			Meter Calibrator
DC Voltage		± 100 μV	4.2×10^{-4}	Divider
		±(0.1 ~ 1) mV	4.2×10^{-4}	/ KRCMI-I-401-09
		±(1 ~ 10) mV	4.1×10^{-4}	
		±(10 ~ 100) mV	4.1×10^{-4}	
		±(0.1 ~ 1) V	4.1×10^{-4}	
		±(1 ~ 10) V	4.1×10^{-4}	
		±(10 ~ 100) V	4.1×10^{-4}	
		±(100 ~ 1 000) V	4.1×10^{-4}	

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Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
DC power supplies	40108			Digital Multimeter
DC Voltage		±10 mV	0.54 μV	Active Shunt
		±(10 ~ 100) mV	4.7×10^{-6}	/ KRCMI-I-401-10
		±(0.1 ~ 1) V	8.4×10^{-6}	
		±(1 ~ 10) V	6.1×10^{-6}	
		±(10 ~ 100) V	8.9×10^{-6}	
		±(100 ~ 1 000) V	9.1×10^{-6}	
DC Current		±(1 ~ 10) mA	5.8×10^{-4}	
		±(10 ~ 100) mA	6.2×10^{-5}	
		±(100 mA ~ 1 A)	6.3×10^{-5}	
		±(1 ~ 10) A	2.9×10^{-5}	
		±(10 ~ 100) A	3.5×10^{-5}	
		±(100 ~ 300) A	2.1×10^{-4}	
		±(300 ~ 600) A	2.2×10^{-4}	
		±(600 ~ 1 000) A	2.5×10^{-4}	
DC voltage dividers	40110	Ratio		Meter Calibrator
DC Voltage		0.001 ~ 1		Divider
		DC Voltage		/ KRCMI-I-401-13
		10mV ~ 1 kV	2.0×10^{-6}	
DC voltage standards	40111			DC volt meter
DC Voltage		1 V	0.78 μV	DC REFERENCE STD
		1.018 V	0.76 μV	/ KRCMI-I-401-14
		10 V	7.4 μV	
DC voltmeters	40112			Meter Calibrator
DC Voltage		± 0 mV	61 nV	/ KRCMI-I-401-01
		±(0 ~ 1) mV	6.1×10^{-5}	
		±(1 ~ 10) mV	7.0×10^{-6}	
		±(10 ~ 100) mV	3.4×10^{-6}	
		±(0.1 ~ 1) V	1.8×10^{-6}	
		±(1 ~ 10) V	1.5×10^{-6}	
		±(10 ~ 100) V	2.5×10^{-6}	
		±(100 ~ 1 000) V	2.6×10^{-6}	
Voltmeters, static	40113			Meter Calibrator
DC Voltage		±(0 ~ 1) kV	6.1×10^{-4}	Dc high voltage supply
		±(1 ~ 5) kV	1.1×10^{-3}	High voltage Digital Meter
		±(5 ~ 10) kV	1.1×10^{-3}	/ KRCMI-I-401-12
		±(10 ~ 15) kV	1.1×10^{-3}	
		±(15 ~ 20) kV	1.1×10^{-3}	
		±(20 ~ 25) kV	4.1×10^{-3}	
		±(25 ~ 30) kV	4.1×10^{-3}	
		±(30 ~ 35) kV	4.0×10^{-3}	
		±(35 ~ 40) kV	4.0×10^{-3}	

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402. Resistance, Capacitance and Inductance

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Capacitance bridges/indicators	40201	1 kHz		Standard Air Capacitor Set / KRCMI-I-402-01
		1 pF	3.5×10^{-4}	
		(1 ~ 10) pF	2.6×10^{-5}	
		(10 ~ 100) pF	2.6×10^{-5}	
		(0.1 ~ 1) nF	3.0×10^{-5}	
		(1 ~ 10) nF	9.0×10^{-5}	
		(10 ~ 100) nF	9.0×10^{-5}	
		(0.1 ~ 1) μF	1.2×10^{-4}	
		10 kHz		
		10 nF	2.5×10^{-4}	
		(10 ~ 100) nF	2.5×10^{-4}	
		(0.1 ~ 1) μF	2.7×10^{-4}	
		100 kHz		
		10 nF	2.5×10^{-4}	
		(10 ~ 100) nF	2.5×10^{-4}	
		(0.1 ~ 1) μF	2.7×10^{-4}	
		1 MHz		
		1 pF	4.4×10^{-4}	
		(1 ~ 10) pF	4.2×10^{-4}	
		(10 ~ 100) pF	4.2×10^{-4}	
		(0.1 ~ 1) nF	4.3×10^{-4}	
		2 MHz		
		1 pF	4.9×10^{-4}	
		(1 ~ 10) pF	4.2×10^{-4}	
		(10 ~ 100) pF	4.2×10^{-4}	
		(0.1 ~ 1) nF	4.5×10^{-4}	
		3 MHz		
		1 pF	5.9×10^{-4}	
		(1 ~ 10) pF	4.2×10^{-4}	
		(10 ~ 100) pF	4.3×10^{-4}	
		(0.1 ~ 1) nF	5.2×10^{-4}	
		4 MHz		
		1 pF	7.6×10^{-4}	
		(1 ~ 10) pF	4.2×10^{-4}	
		(10 ~ 100) pF	4.3×10^{-4}	
		(0.1 ~ 1) nF	6.1×10^{-4}	
		5 MHz		
		1 pF	9.8×10^{-4}	
		(1 ~ 10) pF	4.2×10^{-4}	
		(10 ~ 100) pF	4.5×10^{-4}	
		(0.1 ~ 1) nF	7.6×10^{-4}	

402. Resistance, Capacitance and Inductance

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Capacitance bridges/indicators	40201	10 MHz		
		1 pF	3.4×10^{-3}	
		(1 ~ 10) pF	2.4×10^{-3}	
		(10 ~ 100) pF	2.4×10^{-3}	
		(0.1 ~ 1) nF	3.2×10^{-3}	
		13 MHz		
		1 pF	4.4×10^{-3}	
		(1 ~ 10) pF	2.4×10^{-3}	
		(10 ~ 100) pF	2.4×10^{-3}	
		(0.1 ~ 1) nF	3.8×10^{-3}	
FREQNCY		100 Hz ~ 100 MHz	1.0×10^{-6}	
Decade capacitors	40202	1 kHz		RLC Digibridge
		1 pF	0.56 fF	/ KRCMI-I-402-02
		(1 ~ 10) pF	4.5×10^{-4}	
		(10 ~ 100) pF	4.5×10^{-4}	
		(0.1 ~ 1) nF	4.5×10^{-4}	
		(1 ~ 10) nF	3.0×10^{-4}	
		(10 ~ 100) nF	2.8×10^{-4}	
		(0.1 ~ 1) μF	2.8×10^{-4}	
		(1 ~ 10) μF	8.5×10^{-4}	
Standard capacitors	40204	1 kHz		
		1 pF	3.5×10^{-4}	Capacitance Bridge
		10 pF	5.0×10^{-5}	/ KRCMI-I-402-03
		100 pF	5.0×10^{-5}	
		1 nF	5.0×10^{-5}	
		10 nF	9.0×10^{-5}	
		100 nF	9.0×10^{-5}	
		1 μF	1.2×10^{-4}	
Earth testers	40205			Decade Resistor
Resistor		1 mΩ	1.0×10^{-4}	Meter Calibrator
		(1 ~ 10) mΩ	1.0×10^{-4}	/ KRCMI-I-402-04
		(10 ~ 100) mΩ	1.0×10^{-4}	
		(0.1 ~ 1) Ω	2.0×10^{-4}	
		(1 ~ 10) Ω	1.0×10^{-4}	
		(10 ~ 100) Ω	1.0×10^{-4}	
		(0.1 ~ 100) kΩ	1.0×10^{-4}	
AC Voltage		60 Hz		
		1 V	1.0×10^{-4}	
		(1 ~ 1 000) V	1.0×10^{-4}	
AC Current		60 Hz		
		1 A	1.0×10^{-3}	
		1 A ~ 40 A	1.3×10^{-3}	
		40 A ~ 80 A	1.0×10^{-3}	
		80 A ~ 100 A	1.1×10^{-3}	

402. Resistance, Capacitance and Inductance

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Inductance bridges/indicators	40206	1 kHz		Standard Inductor
Inductance		100 μH	1.9×10^{-4}	/ KRCMI-I-402-12
		(0.1 ~ 1) mH	1.3×10^{-4}	
		(1 ~ 10) mH	1.3×10^{-4}	
		(10 ~ 100) mH	1.3×10^{-4}	
		(0.1 ~ 1) H	1.3×10^{-4}	
		(1 ~ 10) H	1.5×10^{-4}	
Frequency		60 Hz ~ 100 MHz	1.0×10^{-6}	
Standard inductor	40208	1 kHz		Digital Multimeter
		100 μH	1.0×10^{-4}	/ KRCMI-I-402-05
		1 mH	1.0×10^{-4}	
		10 mH	1.0×10^{-4}	
		100 mH	1.0×10^{-4}	
		1 H	1.0×10^{-4}	
		10 H	1.0×10^{-4}	
Decade inductor		1 kHz		RLC Digibridge
		100 μH	46 nH	/ KRCMI-I-402-06
		(0.1 ~ 1) mH	3.5×10^{-4}	
		(1 ~ 10) mH	3.5×10^{-4}	
		(10 ~ 100) mH	3.5×10^{-4}	
		(0.1 ~ 1) H	3.5×10^{-4}	
		(1 ~ 10) H	3.5×10^{-4}	
Mega ohm testers	40210			Decade Resistor
Resistor		(1 ~ 10) kΩ	1.0×10^{-4}	Digital Multimeter
		(10 ~ 100) kΩ	1.0×10^{-4}	/ KRCMI-I-402-07
		(0.1 ~ 1) MΩ	1.0×10^{-4}	
		(1 ~ 10) MΩ	2.0×10^{-4}	
		(10 ~ 100) MΩ	3.0×10^{-4}	
		(0.1 ~ 1) GΩ	3.0×10^{-4}	
		(1 ~ 10) GΩ	9.0×10^{-4}	
		(10 ~ 100) GΩ	1.5×10^{-3}	
		(0.1 ~ 1) TΩ	2.8×10^{-3}	
		(1 ~ 10) TΩ	5.5×10^{-3}	
DC Voltage(Output Volage)		(1 ~ 10) V	1.0×10^{-5}	
		(10 ~ 50) V	2.0×10^{-5}	
		(50 ~ 100) V	1.0×10^{-5}	
		(100 ~ 500) V	2.0×10^{-5}	
		(0.5 ~ 1) kV	1.0×10^{-5}	
		(1 ~ 5) kV	6.4×10^{-3}	
		(1 ~ 10) kV	6.2×10^{-3}	
AC Voltage		60 Hz		
		(1 ~ 1 000) V	1.0×10^{-4}	
DC Voltage		(1 ~ 1 000) V	1.0×10^{-4}	

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402. Resistance, Capacitance and Inductance

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Resistance bridges/similar	40213			Standard Resistor
Resistance bridge		1 mΩ	1.1×10^{-2}	/ KRCMI-I-402-08
Measuring arm		(1 ~ 10) mΩ	1.1×10^{-3}	
		(10 ~ 100) mΩ	2.0×10^{-4}	
		(0.1 ~ 1) Ω	2.0×10^{-5}	
		(1 ~ 10) Ω	6.0×10^{-6}	
		(10 ~ 100) Ω	1.1×10^{-5}	
		(0.1 ~ 1) kΩ	1.1×10^{-5}	
		(1 ~ 10) kΩ	1.1×10^{-5}	
		(10 ~ 100) kΩ	1.1×10^{-5}	
		(0.1 ~ 1) MΩ	2.0×10^{-5}	
		(1 ~ 10) MΩ	2.0×10^{-5}	
		(10 ~ 100) MΩ	4.0×10^{-5}	
		(0.1 ~ 1) GΩ	1.7×10^{-4}	
Ratio arm		(1 ~ 10) mΩ	2.2×10^{-6}	
		(10 ~ 100) mΩ	2.2×10^{-6}	
		(0.1 ~ 1) Ω	4.3×10^{-7}	
		(1 ~ 10) Ω	4.3×10^{-7}	
		(10 ~ 100) Ω	4.3×10^{-7}	
		(0.1 ~ 1) kΩ	4.3×10^{-7}	
		(1 ~ 10) kΩ	3.5×10^{-7}	
		(10 ~ 100) kΩ	6.9×10^{-7}	
		(0.1 ~ 1) MΩ	8.4×10^{-7}	
		(1 ~ 10) MΩ	2.0×10^{-6}	
		(10 ~ 100) MΩ	4.6×10^{-6}	
		(0.1 ~ 1) GΩ	5.7×10^{-6}	
Resistance meters	40214	25 μΩ	1.2×10^{-3}	Standard Resistor
Ohmmeter		(25 ~ 50) μΩ	6.0×10^{-4}	/ KRCMI-I-402-09
		(50 ~ 100) μΩ	3.0×10^{-5}	
		(0.1 ~ 1) mΩ	2.0×10^{-5}	
		(1 ~ 10) mΩ	2.0×10^{-5}	
		(10 ~ 100) mΩ	3.0×10^{-6}	
		(0.1 ~ 1) Ω	3.0×10^{-6}	
		(1 ~ 10) Ω	3.0×10^{-6}	
		(10 ~ 100) Ω	3.0×10^{-6}	
		(0.1 ~ 1) kΩ	3.0×10^{-6}	
		(1 ~ 10) kΩ	3.0×10^{-6}	
		(10 ~ 100) kΩ	5.0×10^{-6}	
		(0.1 ~ 1) MΩ	6.0×10^{-6}	
		(1 ~ 10) MΩ	9.0×10^{-6}	
		(10 ~ 100) MΩ	2.5×10^{-5}	
		(0.1 ~ 1) GΩ	4.0×10^{-5}	
		(1 ~ 10) GΩ	9.0×10^{-4}	
		(10 ~ 100) GΩ	1.5×10^{-3}	
		(0.1 ~ 1) TΩ	2.8×10^{-3}	
		(1 ~ 10) TΩ	5.5×10^{-3}	

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402. Resistance, Capacitance and Inductance

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
AC Ohmmeter	40214	1 kHz		
		1 Ω	3.1×10^{-4}	
		10 Ω	3.1×10^{-4}	
		100 Ω	3.1×10^{-4}	
		1 kΩ	3.1×10^{-4}	
		10 kΩ	1.4×10^{-4}	
		100 kΩ	1.4×10^{-4}	
		1 MΩ	2.5×10^{-4}	
Resistors	40215			Resistance Measuring System
Standard resistor		1 mΩ	4.0×10^{-6}	/ KRCMI-I-402-10
		(1 ~ 10) mΩ	4.0×10^{-6}	
		(10 ~ 100) mΩ	2.0×10^{-6}	
		(0.1 ~ 1) Ω	2.3×10^{-6}	
		(1 ~ 10) Ω	2.3×10^{-6}	
		(10 ~ 100) Ω	2.3×10^{-6}	
		(0.1 ~ 1) kΩ	2.3×10^{-6}	
		(1 ~ 10) kΩ	2.3×10^{-6}	
		(10 ~ 100) kΩ	4.6×10^{-6}	
		(0.1 ~ 1) MΩ	4.0×10^{-6}	
		(1 ~ 10) MΩ	8.0×10^{-6}	
		(10 ~ 100) MΩ	1.7×10^{-5}	
		(0.1 ~ 1) GΩ	3.1×10^{-5}	
		(1 ~ 10) GΩ	3.0×10^{-4}	
		(10 ~ 100) GΩ	4.0×10^{-4}	
		(0.1 ~ 1) TΩ	2.0×10^{-3}	
		(1 ~ 10) TΩ	6.0×10^{-3}	
		(10 ~ 100) TΩ	7.0×10^{-3}	
AC Standard resistor		1 kHz		RLC Digibridge
		1 Ω	3.1×10^{-4}	Standard Resistor
		10 Ω	3.1×10^{-4}	/ KRCMI-I-402-10
		100 Ω	3.1×10^{-4}	
		1 kΩ	3.1×10^{-4}	
		10 kΩ	1.4×10^{-4}	
		100 kΩ	1.4×10^{-4}	
		1 MΩ	2.5×10^{-4}	
		100 kHz		
		1 kΩ	4.1×10^{-4}	
		10 kΩ	4.1×10^{-4}	
		100 kΩ	4.1×10^{-4}	
Decade resistor		0 Ω	0.08 μΩ	Digital Multimeter
		(1 ~ 10) mΩ	5.0×10^{-4}	/ KRCMI-I-402-11
		(10 ~ 100) mΩ	1.5×10^{-4}	
		(0.1 ~ 1) Ω	1.5×10^{-4}	
		(1 ~ 10) Ω	1.7×10^{-5}	
		(10 ~ 100) Ω	1.1×10^{-5}	
		(0.1 ~ 1) kΩ	1.0×10^{-5}	

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402. Resistance, Capacitance and Inductance

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Decade resistor	40215	(1 ~ 10) kΩ	1.0×10^{-5}	
		(10 ~ 100) kΩ	1.0×10^{-5}	
		(0.1 ~ 1) MΩ	1.5×10^{-5}	
		(1 ~ 10) MΩ	1.5×10^{-5}	
		(10 ~ 100) MΩ	7.5×10^{-5}	
		(0.1 ~ 1) GΩ	6.0×10^{-4}	
		(1 ~ 10) GΩ	1.0×10^{-3}	
		(10 ~ 100) GΩ	1.3×10^{-3}	
		(0.1 ~ 1) TΩ	5.0×10^{-3}	
		(1 ~ 10) TΩ	6.7×10^{-3}	
Impedance bridges/LCR meters	40217			Standard Inductor Series
Frequency		100 Hz ~ 100 MHz	1.0×10^{-6}	Standard Capacitor Series Standard Resistor set
AC Voltage		1 kHz		Digital Multi Meter
		100 mV	1.8×10^{-4}	/ KRCMI-I-402- 13
		(0.1 ~ 1) V	1.0×10^{-4}	
		(1 ~ 10) V	1.0×10^{-4}	
		(10 ~ 50) V	1.8×10^{-4}	
DC Bias		±(10 ~ 100) mV	1.0×10^{-5}	
		±(0.1 ~ 10) V	1.0×10^{-5}	
		±(10 ~ 50) V	2.0×10^{-5}	
Inductance		1 kHz		
		100 μH	1.9×10^{-4}	
		1 mH ~ 10 mH	1.3×10^{-4}	
		10 mH ~ 100 mH	1.3×10^{-4}	
		100 mH ~ 1 H	1.3×10^{-4}	
		1 H ~ 10 H	1.5×10^{-4}	
Capacitance		1 kHz		
		1 pF	3.5×10^{-4}	
		10 pF	3.5×10^{-4}	
		100 pF	3.5×10^{-4}	
		1 000 pF	3.5×10^{-4}	
		10 nF	8.0×10^{-5}	
		100 nF	8.0×10^{-5}	
		1 μF	1.2×10^{-4}	
		10 μF	8.0×10^{-4}	
		10 kHz		
		10 nF	2.5×10^{-4}	
		100 nF	2.5×10^{-4}	
		1 μF	2.5×10^{-4}	
		100 kHz		
		10 nF	2.5×10^{-4}	

Accreditation No. : KC01-38(35/92)

402. Resistance, Capacitance and Inductance

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Capacitance	40217	100 nF	2.5×10^{-4}	
		1 μF	2.5×10^{-4}	
		1 MHz		
		1 pF	4.3×10^{-4}	
		10 pF	4.2×10^{-4}	
		100 pF	4.2×10^{-4}	
		1 000 pF	4.3×10^{-4}	
		2 MHz		
		1 pF	4.8×10^{-4}	
		10 pF	4.2×10^{-4}	
		100 pF	4.2×10^{-4}	
		1 000 pF	4.5×10^{-4}	
		3 MHz		
		1 pF	5.9×10^{-4}	
		10 pF	4.2×10^{-4}	
		100 pF	4.3×10^{-4}	
		1 000 pF	5.1×10^{-4}	
		4 MHz		
		1 pF	7.6×10^{-4}	
		10 pF	4.2×10^{-4}	
		100 pF	4.3×10^{-4}	
		1 000 pF	6.1×10^{-4}	
		5 MHz		
		1 pF	9.8×10^{-4}	
		10 pF	4.2×10^{-4}	
		100 pF	4.5×10^{-4}	
		1 000 pF	7.6×10^{-4}	
		10 MHz		
		1 pF	3.4×10^{-3}	
		10 pF	2.4×10^{-3}	
		100 pF	2.4×10^{-3}	
		1 000 pF	3.1×10^{-3}	
		13 MHz		
		1 pF	4.4×10^{-3}	
		10 pF	2.4×10^{-3}	
		100 pF	2.4×10^{-3}	
		1 000 pF	3.8×10^{-3}	

Accreditation No. : KC01-38(36/92)

402. Resistance, Capacitance and Inductance

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Resistance	40217	1 kHz		
		1 Ω	3.1×10^{-4}	
		10 Ω	3.1×10^{-4}	
		100 Ω	3.1×10^{-4}	
		1 kΩ	3.1×10^{-4}	
		10 kΩ	1.4×10^{-4}	
		100 kΩ	1.4×10^{-4}	
		1 MΩ	2.6×10^{-4}	
		100 kHz		
		1 kΩ	4.0×10^{-4}	
		10 kΩ	4.0×10^{-4}	
		100 kΩ	4.0×10^{-4}	
		1 MHz		
		10 Ω	4.0×10^{-4}	
		100 Ω	4.0×10^{-4}	
		1 kΩ	4.0×10^{-4}	
		10 kΩ	4.0×10^{-4}	
		100 kΩ	4.0×10^{-4}	
		2 MHz		
		10 Ω	6.0×10^{-4}	
		100 Ω	5.0×10^{-4}	
		1 kΩ	4.0×10^{-4}	
		3 MHz		
		10 Ω	7.0×10^{-4}	
		100 Ω	6.0×10^{-4}	
		1 kΩ	4.0×10^{-4}	
		4 MHz		
		10 Ω	7.0×10^{-4}	
		100 Ω	6.0×10^{-4}	
		1 kΩ	5.0×10^{-4}	
		5 MHz		
		10 Ω	1.0×10^{-3}	
		100 Ω	7.0×10^{-4}	
		1 kΩ	6.0×10^{-4}	
		10 MHz		
		10 Ω	4.1×10^{-3}	

Accreditation No. : KC01-38(37/92)

402. Resistance, Capacitance and Inductance

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Resistance	40217	100 Ω	2.0×10^{-3}	
		1 kΩ	2.1×10^{-3}	
		13 MHz		
		10 Ω	6.2×10^{-3}	
		100 Ω	3.1×10^{-3}	
		1 kΩ	3.1×10^{-3}	
Schering Bridge		(50 ~ 60) Hz		
Capacitance		1 000 pF	1.0×10^{-4}	
tan δ		60 Hz		
		0.001	5.1×10^{-5}	
		0.005	5.1×10^{-5}	
		0.0001	5.1×10^{-5}	
		0.0005	5.1×10^{-5}	
		0.00001	5.1×10^{-5}	
		0.00005	5.1×10^{-5}	

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Ammeters/AC	40301			Meter Calibrator
AC current		40 Hz ~ 10 kHz		Transcomductance Amplifier
		(0.1 ~ 10) mA	1.9×10^{-4}	/ KRCMI-I-403-01
		(10 ~ 100) mA	1.9×10^{-4}	
		(0.1 ~ 1) A	1.9×10^{-4}	
		(1 ~ 10) A	3.6×10^{-4}	
		50 Hz ~ 60 Hz		
		(10 ~ 20) A	6.0×10^{-4}	
		(20 ~ 50) A	5.2×10^{-4}	
		(50 ~ 100) A	5.0×10^{-4}	
		(100 ~ 200) A	5.5×10^{-4}	
Ammeters/voltmeters, AC clamp	40302			Meter Calibrator
DC voltage		0 V	72 μV	Current Coil
		(0 ~ 1 000) V	1.0×10^{-4}	Transcomductance Amplifier
				/ KRCMI-I-403-02
DC current		0 μA	12 nA	
		(0 ~ 100) μA	2.3×10^{-3}	
		(0.1 ~ 100) mA	2.3×10^{-3}	
		(0.1 ~ 1) A	2.3×10^{-3}	
		(1 ~ 10) A	2.4×10^{-3}	
		(10 ~ 20) A	2.5×10^{-3}	
		(20 ~ 50) A	2.6×10^{-3}	
		(50 ~ 100) A	2.6×10^{-3}	
		(100 ~ 1 000) A	2.5×10^{-3}	
		(1 000 ~ 2 500) A	2.4×10^{-3}	
		(2 500 ~ 5 000) A	2.4×10^{-3}	
AC voltage		40 Hz ~ 100 kHz		
		1 mV	0.74 μV	
		(1 ~ 20) mV	2.3×10^{-4}	
		(20 ~ 100) mV	6.5×10^{-5}	
		(0.1 ~ 1) V	1.0×10^{-5}	
		(1 ~ 10) V	5.8×10^{-4}	
		(10 ~ 100) V	1.0×10^{-4}	
		50 Hz ~ 1 kHz		
		(100 ~ 1 000) V	1.0×10^{-4}	
AC current		10 Hz ~ 10 kHz		
		1 mA	3.0 μA	
		(1 ~ 10) mA	2.3×10^{-3}	
		(10 ~ 100) mA	2.3×10^{-3}	
		(0.1 ~ 1) A	2.3×10^{-3}	
		(1 ~ 10) A	2.4×10^{-3}	
		(50 ~ 60) Hz		
		(10 ~ 20) A	3.3×10^{-3}	

Accreditation No. : KC01-38(39/92)

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
AC current	40302	(20 ~ 50) A	2.4×10^{-3}	
		(50 ~ 150) A	2.4×10^{-3}	
		(150 ~ 200) A	2.4×10^{-3}	
		(200 ~ 600) A	2.4×10^{-3}	
		(600 ~ 800) A	2.5×10^{-3}	
		(800 ~ 1 000) A	2.5×10^{-3}	
		(1 000 ~ 6 000) A	3.8×10^{-3}	
Resistance		(10 ~ 100) mΩ	3.0×10^{-4}	
		(0.1 ~ 1) Ω	1.2×10^{-4}	
		(1 ~ 1 000) Ω	1.0×10^{-4}	
		(1 ~ 1 000) kΩ	1.0×10^{-4}	
		(1 ~ 100) MΩ	1.0×10^{-4}	
Calibrators, AC	40303			Digital Multimeter
AC voltage		(2 ~ 100) Mv		Active Shunt
		10 Hz ~ 20 kHz	5.0×10^{-5}	/ KRCMI-I-403-03
		20 kHz ~ 100 kHz	8.0×10^{-5}	
		100 kHz ~ 1 MHz	2.4×10^{-4}	
		(0.1 ~ 1.0) V		
		10 Hz ~ 50 kHz	5.0×10^{-5}	
		50 kHz ~ 100 kHz	6.0×10^{-5}	
		100 kHz ~ 500 kHz	1.6×10^{-4}	
		500 kHz ~ 1 MHz	1.7×10^{-4}	
		(1.0 ~ 10) V		
		10 Hz ~ 100 kHz	5.0×10^{-5}	
		100 kHz ~ 1 MHz	1.6×10^{-4}	
		(10 ~ 100) V		
		40 Hz ~ 50 kHz	5.0×10^{-5}	
		50 kHz ~ 100 kHz	6.0×10^{-5}	
		(100 ~ 1 000) V		
		50 Hz ~ 20 kHz	5.0×10^{-5}	
AC current		100 μA		
		60 Hz	1.3×10^{-4}	
		1 kHz	7.0×10^{-5}	
		(0.1 ~ 1.0) mA		
		40 Hz ~ 10 kHz	5.0×10^{-5}	
		(1.0 ~ 10) mA		
		40 Hz ~ 10 kHz	4.0×10^{-5}	
		10 mA ~ 1.0 A		
		40 Hz ~ 10 kHz	5.0×10^{-5}	

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
AC current	40303	(1.0 ~ 10) A		
		40 Hz ~ 1 kHz	5.0×10^{-5}	
		1 KHz ~ 10 kHz	1.1×10^{-4}	
		(10 ~ 100) A		
		40 Hz ~ 1 kHz	7.0×10^{-5}	
		(50 ~ 60) Hz		
		(100 ~ 150) A	4.7×10^{-4}	
		(150 ~ 200) A	4.0×10^{-4}	
Electrical Power Stavdard	40304			
AC voltage		(0.04 ~ 1) kHz		
		100 mV	8.0 μV	Digital Multimeter
		(0.1 ~ 100) V	8.0×10^{-5}	Digital Powermeter
		(100 ~ 1 000) V	8.0×10^{-5}	KRCMI-I-403-13
AC current		(0.04 ~ 1) kHz		
		1 mA	5.0 μA	
		(1 ~ 10) mA	7.0×10^{-4}	
		(10 ~ 100) mA	4.4×10^{-4}	
		(0.1 ~ 1) A	8.7×10^{-4}	
		(1 ~ 10) A	8.7×10^{-4}	
		(10 ~ 50) A	8.0×10^{-4}	
		(50 ~ 60) Hz		
		(50 ~ 100) A	8.4×10^{-4}	
		(100 ~ 150) A	5.9×10^{-4}	
		(150 ~ 200) A	4.9×10^{-4}	
active power		(50 ~ 60) Hz		
		0.6 mW	1.3×10^{-2}	
		(0.6 ~ 1.2) mW	9.1×10^{-3}	
		(1.2 ~ 6) mW	2.0×10^{-4}	
		6 mW ~ 0.6 W	2.0×10^{-4}	
		(0.6 ~ 1.2) W	1.0×10^{-4}	
		(1.2 ~ 6) W	3.8×10^{-5}	
		(6 ~ 60) W	9.2×10^{-5}	
		(60 ~ 120) W	9.2×10^{-5}	
		(120 ~ 600) W	9.2×10^{-5}	
		(0.6 ~ 1.2) kW	9.2×10^{-5}	
		(1.2 ~ 2.4) kW	9.2×10^{-5}	
		(2.4 ~ 6) kW	9.2×10^{-5}	
		(6 ~ 9.6) kW	9.4×10^{-5}	
		(9.6 ~ 12) kW	9.2×10^{-5}	
		(12 ~ 14.4) kW	9.2×10^{-5}	
		(14.4 ~ 19.2) kW	9.1×10^{-5}	
		(19.2 ~ 24) kW	9.1×10^{-5}	
		(24 ~ 28.8) kW	1.2×10^{-4}	

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
active power	40304	(28.8 ~ 30.4) kW	9.1×10^{-5}	
		(30.4 ~ 38) kW	1.1×10^{-4}	
		(38 ~ 45.6) kW	1.1×10^{-4}	
reactive power		(50 ~ 60) Hz		
		0.6 mVar	1.3×10^{-2}	
		(0.6 ~ 1.2) mVar	9.1×10^{-3}	
		(1.2 ~ 6) mVar	2.0×10^{-4}	
		6 mVar ~ 0.6 Var	2.0×10^{-4}	
		(0.6 ~ 1.2) Var	1.0×10^{-4}	
		(1.2 ~ 6) Var	3.8×10^{-5}	
		(6 ~ 60) Var	9.2×10^{-5}	
		(60 ~ 120) Var	9.2×10^{-5}	
		(120 ~ 600) Var	9.2×10^{-5}	
		(0.6 ~ 1.2) kVar	9.2×10^{-5}	
		(1.2 ~ 2.4) kVar	9.2×10^{-5}	
		(2.4 ~ 6) kVar	9.2×10^{-5}	
		(6 ~ 9.6) kVar	9.4×10^{-5}	
		(9.6 ~ 12) kVar	9.2×10^{-5}	
		(12 ~ 14.4) kVar	9.2×10^{-5}	
		(14.4 ~ 19.2) kVar	9.1×10^{-5}	
		(19.2 ~ 24) kVar	9.1×10^{-5}	
		(24 ~ 28.8) kVar	1.2×10^{-4}	
		(28.8 ~ 30.4) kVar	9.1×10^{-5}	
		(30.4 ~ 38) kVar	1.1×10^{-4}	
		(38 ~ 45.6) kVar	1.1×10^{-4}	
factor		(50 ~ 60) Hz		
		-1 ~ 1	1.1×10^{-4}	
T.H.D				Meter Calibrator
voltage		(50 ~ 3 000) Hz		
		(0.5 ~ 20) %	0.003 5 %	
current		(50 ~ 3 000) Hz		
		(0.5 ~ 20) %	0.003 5 %	
AC current shunts	40305			Meter Calibrator
AC Resistance		(40 Hz ~ 1 kHz)		Digital Multimeter
		(0.025~ 1) mΩ	2.4×10^{-3}	Transcomductance Amplifier
		(1 ~ 10) mΩ	5.9×10^{-4}	/ KRCMI-I-403-04
		(10 ~ 100) mΩ	4.4×10^{-4}	
		(0.1 ~ 100) Ω	2.9×10^{-4}	
		(0.1 ~ 10) kΩ	1.9×10^{-4}	
Phase Angle Meter	40307			Electrical Power Stavdard
		(50 ~ 60) Hz		/ KRCMI-I-403-10
Phase Angle		(-180 ~ 180)°	0.006°	

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Power factor meters	40310			Electrical Power Stavdard / KRCMI-I-403-05
Power factor meters		(50 ~ 60) Hz		
factor		-1 ~ 1	1.6×10^{-4}	
reactiv factor meter		(50 ~ 60) Hz		
reactiv factor		-1 ~ 1	1.6×10^{-4}	
AC power meters	40311			
AC Watt Meter Power meters, AC				Electrical Power Stavdard
DC voltage		(0.1 ~ 1 000) V	6.2×10^{-5}	Calibrator Current Coil / KRCMI-I-403-06
DC current		0 μA	20 nA	
		(0 ~ 100) μA	1.2×10^{-4}	
		(0.1 ~ 1) mA	4.9×10^{-5}	
		(1 ~ 10) mA	5.8×10^{-5}	
		(10 ~ 100) mA	6.8×10^{-5}	
		(0.1 ~ 1) A	4.7×10^{-4}	
		(1 ~ 10) A	4.7×10^{-4}	
		(10 ~ 20) A	8.8×10^{-4}	
		(20 ~ 50) A	8.8×10^{-4}	
		(50 ~ 100) A	9.4×10^{-4}	
		(150 ~ 200) A	6.2×10^{-4}	
		(200 ~ 400) A	3.9×10^{-4}	
		(400 ~ 600) A	1.5×10^{-3}	
		(600 ~ 800) A	1.7×10^{-3}	
		(800 ~ 1000) A	2.0×10^{-3}	
		(1 000 ~ 2 500) A	2.0×10^{-3}	
		(2 500 ~ 5 000) A	2.4×10^{-3}	
AC voltage		50 Hz ~ 1 kHz		
		(2 ~ 20) mV	2.3×10^{-4}	
		(20 ~ 100) mV	4.2×10^{-4}	
		(0.1 ~ 1) V	3.3×10^{-4}	
		(1 ~ 10) V	9.1×10^{-5}	
		(10 ~ 1 000) V	1.0×10^{-4}	
AC current		50 Hz ~ 60 Hz		
		(1 ~ 100) mA	2.0×10^{-4}	
		(0.1 ~ 10) A	7.3×10^{-4}	
		(10 ~ 20) A	3.3×10^{-3}	
		(20 ~ 50) A	2.5×10^{-3}	
		(50 ~ 150) A	2.4×10^{-3}	
		(150 ~ 200) A	2.4×10^{-3}	
		(200 ~ 400) A	2.4×10^{-3}	
		(400 ~ 600) A	2.4×10^{-3}	
		(600 ~ 800) A	2.5×10^{-3}	
		(800 ~ 1000) A	2.3×10^{-3}	
		(1 000 ~ 2 500) A	4.4×10^{-3}	
		(2 500 ~ 6 000) A	3.5×10^{-3}	

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
DC power	40311	0.001 mW ~ 60 W	1.2×10^{-4}	
		(60 ~ 120) W	1.2×10^{-4}	
		(600 ~ 1 200) W	1.2×10^{-4}	
		(1.2 ~ 2.4) kW	1.2×10^{-4}	
		(2.4 ~ 4.8) kW	1.2×10^{-4}	
active power		(50 ~ 60) Hz		
		(1.2 ~ 6) mW	1.7×10^{-4}	
		6 mW ~ 0.6 W	1.7×10^{-4}	
		(0.6 · 1.2) W	1.7×10^{-4}	
		(1.2 ~ 6) W	1.7×10^{-4}	
		(6 ~ 18) W	6.7×10^{-4}	
		(18 ~ 24) W	6.3×10^{-4}	
		(24 ~ 30) W	6.7×10^{-4}	
		(30 ~ 36) W	8.3×10^{-4}	
		(36 ~ 60) W	6.7×10^{-4}	
		(60 ~ 72) W	6.9×10^{-4}	
		(72 ~ 120) W	6.7×10^{-4}	
		(120 ~ 240) W	6.3×10^{-4}	
		(240 ~ 1 800) W	6.7×10^{-4}	
		(1.8 ~ 2.4) kW	6.3×10^{-4}	
		(2.4 ~ 3) kW	6.7×10^{-4}	
		(3 ~ 3.6) kW	8.3×10^{-4}	
		(3.6 ~ 4.8) kW	6.0×10^{-4}	
		(4.8 ~ 6) kW	6.7×10^{-4}	
		(6 ~ 7.2) kW	6.9×10^{-4}	
		(7.2 ~ 12) kW	1.7×10^{-3}	
		(12 ~ 600) kW	1.2×10^{-3}	
		(600 ~ 720) kW	1.2×10^{-3}	
		(720 ~ 960) kW	1.2×10^{-3}	
		(960 ~ 1 200) kW	1.2×10^{-3}	
reactive power		(50 ~ 60) Hz		
		(1.2 ~ 600) mVar	1.7×10^{-4}	
		(0.6 ~ 1.2) Var	1.7×10^{-4}	
		(1.2 ~ 6) Var	1.7×10^{-4}	
		(18 ~ 24) Var	6.3×10^{-4}	
		(24 ~ 30) Var	6.7×10^{-4}	
		(30 ~ 36) Var	8.3×10^{-4}	
		(36 ~ 60) Var	6.7×10^{-4}	
		(60 ~ 72) Var	6.9×10^{-4}	
		(72 ~ 120) Var	6.7×10^{-4}	
		(120 ~ 240) Var	6.3×10^{-4}	
		(240 ~ 1 800) Var	6.7×10^{-4}	
		(1.8 ~ 2.4) kVar	6.3×10^{-4}	
		(2.4 ~ 3) kVar	6.7×10^{-4}	
		(3 ~ 3.6) kVar	8.3×10^{-4}	
		(3.6 ~ 4.8) kVar	6.0×10^{-4}	

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
reactive power	40311	(4.8 ~ 6) kVar	6.7×10^{-4}	
		(6 ~ 7.2) kVar	6.9×10^{-4}	
		(7.2 ~ 12) kVar	1.7×10^{-3}	
		(12 ~ 600) kVar	1.2×10^{-3}	
		(600 ~ 720) kVar	1.2×10^{-3}	
		(720 ~ 960) kVar	1.2×10^{-3}	
		(960 ~ 1 200) kVar	1.2×10^{-3}	
		(50 ~ 60) Hz		
factor		-1 ~ 1	1.1×10^{-4}	
Frequency		10 Hz ~ 1 MHz	0.8×10^{-4}	
T.H.D				
voltage		(50 ~ 3 000) Hz		
		(0.5 ~ 20) %	0.003 1 %	
current		(50 ~ 3 000) Hz		
		(0.5 ~ 20) %	0.003 1 %	
Power supplies, AC	40312			Digital Multimeter / KRCMI-I-403-07
AC voltage		(0.04 ~ 10) kHz		
		(2 ~ 20) mV	3.1×10^{-4}	
		(20 ~ 100) mV	3.1×10^{-4}	
		(0.1 ~ 1) V	1.2×10^{-4}	
		(1 ~ 10) V	1.2×10^{-4}	
		(10 ~ 100) V	1.2×10^{-4}	
		(100 ~ 200) V	7.3×10^{-5}	
		(200 ~ 300) V	5.8×10^{-5}	
		(300 ~ 600) V	7.8×10^{-5}	
		(600 ~ 1 000) V	1.3×10^{-4}	
AC current		40 Hz ~ 1 kHz		
		(1 ~ 100) mA	1.2×10^{-4}	
		(0.1 ~ 1) A	8.7×10^{-4}	
		(1 ~ 10) A	4.1×10^{-4}	
		(10 ~ 50) A	4.5×10^{-4}	
		(50 ~ 100) A	5.8×10^{-4}	
DC voltage		0 mV	5.7 nV	
		(0 ~ 100) mV	1.6×10^{-5}	
		(0.1 ~ 1) V	1.2×10^{-6}	
		(1 ~ 10) V	5.9×10^{-4}	
		(10 ~ 50) V	2.3×10^{-4}	
		(50 ~ 100) V	1.2×10^{-4}	
		(100 ~ 200) V	6.8×10^{-5}	
		(200 ~ 300) V	4.5×10^{-5}	
		(300 ~ 400) V	3.4×10^{-5}	
		(400 ~ 1 000) V	1.2×10^{-4}	

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403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Frequency	40312	10 Hz ~ 10 kHz	6.0×10^{-5}	
Puncture/safety testers	40313			High Voltage Divider
DC Voltage(Positive)		0 kV	0.6 V	High Voltage Digital Meter
		±(0 ~ 1) kV	6.0×10^{-4}	Digital Multimeter
		±(1 ~ 5) kV	6.0×10^{-4}	Curr.Calibrator For W.Tester
		±(5 ~ 10) kV	5.0×10^{-4}	/ KRCMI-I-403-08
		±(10 ~ 15) kV	4.7×10^{-4}	
		±(15 ~ 20) kV	4.5×10^{-4}	
		±(20 ~ 30) kV	6.7×10^{-4}	
		±(30 ~ 40) kV	5.0×10^{-4}	
		±(40 ~ 200) kV	9.0×10^{-4}	
DC Current		0 mA	0.65 μA	
		(0 ~ 0.5) mA	1.3×10^{-3}	
		(0.5 ~ 1) mA	6.6×10^{-4}	
		(1 ~ 2) mA	3.3×10^{-4}	
		(2 ~ 5) mA	1.5×10^{-4}	
		(5 ~ 10) mA	6.4×10^{-4}	
		(10 ~ 50) mA	6.0×10^{-4}	
		(50 ~ 100) mA	6.0×10^{-4}	
AC Voltage		(50 ~ 60) Hz		
		(0.01 ~ 1) kV	1.3×10^{-4}	
		(1 ~ 200) kV	1.3×10^{-3}	
AC Current		(50 ~ 60) Hz		
		(0.5 ~ 1) mA	1.2×10^{-2}	
		(1 ~ 2) mA	1.2×10^{-2}	
		(2 ~ 5) mA	1.2×10^{-2}	
		(5 ~ 10) mA	1.2×10^{-2}	
		(10 ~ 20) mA	1.2×10^{-2}	
		(20 ~ 50) mA	1.2×10^{-2}	
		(50 ~ 100) mA	1.2×10^{-2}	
Time		(0.001 ~ 0.1) s	1.1×10^{-2}	
		(0.1 ~ 0.2) s	9.3×10^{-3}	
		(0.2 ~ 0.5) s	8.9×10^{-3}	
		(0.5 ~ 1) s	6.1×10^{-4}	
		(1 ~ 10) s	3.2×10^{-4}	
		(10 ~ 60) s	1.5×10^{-4}	
spark test		(0.01 ~ 1) kV	1.6×10^{-2}	
		(1 ~ 10) kV	1.8×10^{-2}	
		(10 ~ 15) kV	3.2×10^{-2}	
		(15 ~ 20) kV	3.1×10^{-2}	
insulating oil test		(0.01 ~ 100) kV	1.6×10^{-2}	

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
low-frequency puncture tester	40313	(0.01 ~ 1) kV	1.6×10^{-2}	
		(1 ~ 10) kV	1.8×10^{-2}	
		(10 ~ 15) kV	3.2×10^{-2}	
		(15 ~ 20) kV	3.1×10^{-2}	
Recorders, power	40314			Electrical Power Stavdard / KRCMI-I-403-11
AC voltage		50 Hz ~ 1 kHz		
		(2 ~ 20) mV	2.3×10^{-4}	
		(20 ~ 100) mV	4.2×10^{-4}	
		(0.1 ~ 1) V	3.3×10^{-4}	
		(1 ~ 10) V	9.1×10^{-5}	
		(10 ~ 1 000) V	1.0×10^{-4}	
AC Current		50 Hz ~ 1 kHz		
		(1 ~ 10) mA	2.0×10^{-4}	
		(10 ~ 100) mA	2.0×10^{-4}	
		(0.1 ~ 1) A	7.3×10^{-4}	
		(1 ~ 10) A	7.3×10^{-4}	
		(50 ~ 60) Hz		
		(10 ~ 20) A	3.3×10^{-3}	
		(20 ~ 50) A	2.5×10^{-3}	
		(50 ~ 150) A	2.4×10^{-3}	
		(150 ~ 200) A	2.4×10^{-3}	
		(200 ~ 400) A	2.4×10^{-3}	
		(400 ~ 600) A	2.4×10^{-3}	
		(600 ~ 800) A	2.5×10^{-3}	
		(800 ~ 1000) A	2.3×10^{-3}	
		(1 000 ~ 2 500) A	4.4×10^{-3}	
		(2 500 ~ 6 000) A	3.5×10^{-3}	
AC Wattage		(50 ~ 60) Hz		
		(1.2 ~ 600) mW	1.7×10^{-4}	
		(0.6 ~ 1.2) W	1.7×10^{-4}	
		(1.2 ~ 6) W	1.7×10^{-4}	
		(18 ~ 24) W	6.3×10^{-4}	
		(24 ~ 30) W	6.7×10^{-4}	
		(30 ~ 36) W	8.3×10^{-4}	
		(36 ~ 60) W	6.7×10^{-4}	
		(60 ~ 72) W	6.9×10^{-4}	
		(72 ~ 120) W	6.7×10^{-4}	
		(120 ~ 240) W	6.3×10^{-4}	
		(240 ~ 1 800) W	6.7×10^{-4}	
		(1.8 ~ 2.4) kW	6.3×10^{-4}	
		(2.4 ~ 3) kW	6.7×10^{-4}	
		(3 ~ 3.6) kW	8.3×10^{-4}	
		(3.6 ~ 4.8) kW	6.0×10^{-4}	
		(4.8 ~ 6) kW	6.7×10^{-4}	

403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
AC Wattage	40314	(6 ~ 7.2) kW	6.9×10^{-4}	
		(7.2 ~ 12) kW	1.7×10^{-3}	
		(12 ~ 24) kW	4.2×10^{-3}	
		(24 ~ 600) kW	1.2×10^{-3}	
		(600 ~ 720) kW	1.2×10^{-3}	
		(720 ~ 960) kW	1.2×10^{-3}	
		(960 ~ 1 200) kW	1.2×10^{-3}	
factor		(50 ~ 60) Hz		
		-1 ~ 1	1.4×10^{-4}	
rms voltmeters, AC	40318			Synthesizer Level Generator Meter Calibrator / KRCMI-I-403-09
AC voltage		10 Hz ~ 10 kHz		
		(1 ~ 10) mV	3.7×10^{-4}	
		(10 ~ 100) mV	6.5×10^{-5}	
		(0.1 ~ 1) V	1.0×10^{-5}	
		(1 ~ 10) V	5.8×10^{-4}	
		(10 ~ 100) V	1.0×10^{-4}	
		(10 ~ 100) kHz		
		(1 ~ 10) mV	2.3×10^{-4}	
		(10 ~ 100) mV	6.5×10^{-5}	
		(0.1 ~ 1) V	1.0×10^{-5}	
		(1 ~ 10) V	6.0×10^{-4}	
		(10 ~ 100) V	2.0×10^{-4}	
		100 kHz ~ 1 MHz		
		(100 mV ~ 1 V)	1.0×10^{-5}	
		(1V ~ 10 V)	5.8×10^{-4}	
Level		40 Hz ~ 10 kHz		
		(40 ~ 60) dB	0.01 dB	
		(20 ~ 40) dB	0.01 dB	
		(-20 ~ 0) dB	0.01 dB	
		(-40 ~ -20) dB	0.01 dB	
		(-60 ~ -40) dB	0.01 dB	
frequency response		10 Hz ~ 1 MHz	3.3×10^{-4}	
Watter hour meters	40319			Watt hour meters /KRCMI-I-403-15
Reference watt-hour meter Reference power meter Effective Power Amount		(Single phase) (50 ~ 60) Hz (60 ~ 380) V (0.05 ~ 120) A (-1 ~ 1) ±(0 ~ 100) %	0.011 %	

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403. AC voltage, current & power

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Effective Power Amount	40319	(Three phase) (50 ~ 60) Hz (60 ~ 380) V (0.05 ~ 120) A (-1 ~ 1) ±(0 ~ 100) %	 0.017 %	
Invalid Power Amount		(Single phase) (50 ~ 60) Hz (60 380) V (0.05 ~ 120) A (-1 ~ 1) ±(0 ~ 100) %	 0.021 %	
Invalid Power Amount		(Three phase) (50 ~ 60) Hz (60 ~ 380) V (0.05 ~ 120) A (-1 ~ 1) ±(0 ~ 100) %	 0.035 %	
Impulse High Voltage.High Current Tester /Welding.Weid Current Tester	40320			Standard Current Transformer Digital Multimeter Oscilloscope Shunt KRCMI-I-403-12
AC Current		60 Hz (1 ~ 10) A (10 ~ 50) A (50 ~ 100) A (100 ~ 400) A (400 ~ 1 400) A (1 400 ~ 2 900) A (2 900 ~ 4 000) A	 8.2×10^{-3} 7.0×10^{-3} 6.8×10^{-3} 4.6×10^{-4} 4.2×10^{-3} 4.7×10^{-3} 3.6×10^{-3}	
Time		(1 ~ 500) ms (0.5 ~ 60) s	3.0×10^{-3} 2.4×10^{-3}	
DC Current		(1 ~ 10) A (10 ~ 100) A (100 ~ 1 000) A	8.1×10^{-3} 3.5×10^{-3} 3.2×10^{-3}	
Ratio transformers Turn Current Coil 직류전류 (Ratio)	40321	 2 ~ 50	 1.2×10^{-3}	Meter Calibrator Current Coil Transcomductance Amplifier / KRCMI-I-403-02
교류전류 (Ratio)		(50 ~ 60) Hz 2 ~ 50	 1.5×10^{-3}	

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
LF amplifiers	40401			
Gain		(0 ~ 60) dB		Synthesizer level generator
		10 Hz ~ 100 kHz	0.14 dB	Selective level meter
		(0.1 ~ 20) MHz	0.23 dB	Meter calibrator
				Oscilloscope
Current probe and Current probe		DC ~ 1 kHz		Transconductance amplifier
Amplifier for oscilloscope		(1 ~ 100) mA	7.5×10^{-3}	/ KRCMI-I-404-22
Current(Ap-p)		(0.1 ~ 1) A	6.5×10^{-3}	
		(1 ~ 10) A	7.7×10^{-3}	
		(1 ~ 10) kHz		
		(1 ~ 100) mA	7.8×10^{-3}	
		(0.1 ~ 1) A	6.8×10^{-3}	
		(1 ~ 10) A	1.1×10^{-2}	
Rising time		≤ 7 ns	1.0×10^{-2}	
DC/LF attenuators	40402			Synthesizer Level Generator
attenuation		40 Hz ~ 100 kHz		Selective Level Meter
		(0 ~ -50) dB	0.07 dB	/ KRCMI-I-404-03
		(-50 ~ -60) dB	0.09 dB	
		(-60 ~ -70) dB	0.11 dB	
		100 kHz ~ 30 MHz		
		(0 ~ -10) dB	0.15 dB	
		(-10 ~ -30) dB	0.16 dB	
		(-30 ~ -60) dB	0.21 dB	
		(-60 ~ -70) dB	0.59 dB	
Multimeter calibrators	40403			
DC voltage		±(0 ~ 220) mV	0.43 μV	DC reference standard
		±(0.22 ~ 2.2) V	1.8×10^{-6}	Reference divider
		±(2.2 ~ 11) V	1.2×10^{-6}	Nanovoltmeter
		±(11 ~ 22) V	1.4×10^{-6}	Reference multimeter
		±(22 ~ 220) V	2.3×10^{-6}	AC measurement standard
		±(220 ~ 1 100) V	2.2×10^{-6}	AC current shunt
				AC resistor
DC current		±(0 ~ 220) μA	0.8 nA	Standard resistor
		±(0.22 ~ 220) mA	8.0×10^{-6}	Current shunt
		±(0.22 ~ 2.2) A	1.8×10^{-5}	Meter calibrator
		±(2.2 ~ 10) A	5.2×10^{-5}	Amplifier
		±(10 ~ 20) A	5.5×10^{-5}	/ KRCMI-I-404-04
		±(20 ~ 100) A	4.0×10^{-4}	
AC voltage		(1 ~ 220) mV		
		10 Hz ~ 20 kHz	5.0×10^{-5}	
		20 kHz ~ 100 kHz	8.0×10^{-5}	
		100 kHz ~ 1 MHz	2.4×10^{-4}	

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
AC voltage	40403	(0.22 ~ 2.2) V		
		10 Hz ~ 50 kHz	5.0×10^{-5}	
		50 kHz ~ 100 kHz	6.0×10^{-5}	
		100 kHz ~ 500 kHz	1.6×10^{-4}	
		500 kHz ~ 1 MHz	1.7×10^{-4}	
		(2.2 ~ 22) V		
		10 Hz ~ 100 kHz	5.0×10^{-5}	
		100 kHz ~ 1 MHz	1.6×10^{-4}	
		10 Hz ~ 50 kHz	5.0×10^{-5}	
		50 kHz ~ 100 kHz	6.0×10^{-5}	
		(220 ~ 1 100) V		
		50 Hz ~ 20 kHz	5.0×10^{-5}	
AC current		(10 ~ 220) μA		
		10 Hz ~ 60 Hz	1.3×10^{-4}	
		60 Hz ~ 1 kHz	7.0×10^{-5}	
		(0.22 ~ 2.2) mA		
		10 Hz ~ 10 kHz	5.0×10^{-5}	
		(2.2 ~ 22) mA		
		10 Hz ~ 10 kHz	4.0×10^{-5}	
		22 mA ~ 2.2 A		
		10 Hz ~ 10 kHz	5.0×10^{-5}	
		(2.2 ~ 20) A		
		10 Hz ~ 1 kHz	5.0×10^{-5}	
		1 KHz ~ 10 kHz	1.1×10^{-4}	
		(20 ~ 100) A		
		10 Hz ~ 10 kHz	7.0×10^{-5}	
		(50 ~ 60) Hz		
		(100 ~ 150) A	4.7×10^{-4}	
		(150 ~ 200) A	4.0×10^{-4}	
Resistance		0.1 Ω ~ 10 kΩ	2.3×10^{-6}	
		(10 ~ 100) kΩ	3.5×10^{-6}	
		(0.1 ~ 1) MΩ	3.6×10^{-6}	
		(1 ~ 10) MΩ	7.7×10^{-6}	
		(10 ~ 100) MΩ	1.7×10^{-5}	
Frequency		10 Hz	6.0×10^{-4}	
		10 Hz ~ 10 Mz	6.0×10^{-5}	

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404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Oscilloscope calibrators	40404			
DC Voltage		±(0 ~ 2) mV	0.36 μV	Oscilloscope
		±(2 ~ 5) mV	8.0×10^{-5}	Universal Counter
		±(5 ~ 10) mV	7.0×10^{-5}	Digital Multimeter
		±(10 ~ 50) mV	2.0×10^{-5}	AC MEASUREMENT STANDARD
		±(50 ~ 100) mV	6.0×10^{-5}	EPM SERIES POWER METER
		±(100 ~ 500) mV	2.0×10^{-5}	POWER SENSOR
		±(0.5 ~ 1) V	6.0×10^{-5}	/ KRCMI-I-404-05
		±(1 ~ 5) V	1.6×10^{-5}	
		±(5 ~ 10) V	6.0×10^{-5}	
		±(10 ~ 50) V	1.8×10^{-5}	
		±(50 ~ 100) V	6.0×10^{-5}	
		±(100 ~ 200) V	3.0×10^{-5}	
AC Voltage		100 Hz ~ 10 kHz		
		(0.1 ~ 2) mV	2.0×10^{-4}	
		(2 ~ 5) mV	8.0×10^{-5}	
		(5 ~ 10) mV	7.0×10^{-5}	
		(10 ~ 50) mV	2.0×10^{-5}	
		(50 ~ 100) mV	6.0×10^{-5}	
		(100 ~ 500) mV	1.4×10^{-5}	
		(0.5 ~ 1) V	6.0×10^{-5}	
		(1 ~ 5) V	1.6×10^{-5}	
		(5 ~ 10) V	6.0×10^{-5}	
		(10 ~ 50) V	1.8×10^{-5}	
		(50 ~ 100) V	6.0×10^{-5}	
		(100 ~ 200) V	3.0×10^{-5}	
Time		(0.1 ~ 0.5) ns	1.2×10^{-7}	
		(0.5 ~ 1) ns	5.8×10^{-7}	
		(1 ~ 2) ns	2.9×10^{-7}	
		(2 ~ 5) ns	1.2×10^{-7}	
		(5 ~ 10) ns	5.8×10^{-7}	
		(10 ~ 20) ns	2.9×10^{-7}	
		(20 ~ 50) ns	1.2×10^{-7}	
		(50 ~ 100) ns	5.8×10^{-7}	
		(0.1 ~ 0.2) μs	2.9×10^{-7}	
		(0.2 ~ 0.5) μs	1.2×10^{-7}	
		(0.5 ~ 1) μs	5.8×10^{-7}	
		(1 ~ 2) μs	2.9×10^{-7}	
		(2 ~ 5) μs	1.2×10^{-7}	
		(5 ~ 10) μs	5.8×10^{-7}	
		(10 ~ 20) μs	2.9×10^{-7}	
		(20 ~ 50) μs	1.2×10^{-7}	
		(50 ~ 100) μs	5.8×10^{-7}	
		(0.1 ~ 0.2) ms	2.9×10^{-7}	
		(0.2 ~ 0.5) ms	1.2×10^{-7}	

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Time	40404	(0.5 ~ 1) ms	5.8×10^{-7}	
		(1 ~ 2) ms	2.9×10^{-7}	
		(2 ~ 5) ms	1.2×10^{-7}	
		(5 ~ 10) ms	5.8×10^{-7}	
		(10 ~ 20) ms	2.9×10^{-7}	
		(20 ~ 50) ms	1.2×10^{-7}	
		(50 ~ 100) ms	5.8×10^{-7}	
		(0.1 ~ 0.2) s	2.9×10^{-7}	
		(0.2 ~ 0.5) s	1.2×10^{-7}	
		(0.5 ~ 1) s	5.8×10^{-7}	
		(1 ~ 2) s	2.9×10^{-7}	
		(2 ~ 5) s	1.2×10^{-7}	
Output Frequency		100 Hz ~ 1 GHz	5.8×10^{-9}	
Output Level		(0.1 ~ 1) V		
		50 kHz ~ 1 MHz	6.0×10^{-4}	
		(1 ~ 10) MHz	1.4×10^{-2}	
		10 MHz ~ 1 GHz	1.5×10^{-2}	
		(1 ~ 4) GHz	1.9×10^{-2}	
		(4 ~ 10) GHz	2.0×10^{-2}	
Video signal generators	40406			
Color pattern generators				Video measurement set
Subcarrier Frequency		(NTSC/PAL)		Spectrum analyzer
		(1 ~ 5) MHz	3.0×10^{-8}	Universal counter
				GPS receiver
Line Frequency		(NTSC/PAL)		/ KRCMI-I-404-27
		(10 ~ 50) kHz	6.4×10^{-8}	/ KRCMI-I-406-24
Field Frequency		(NTSC/PAL)		
		(10 ~ 100) Hz	2.0×10^{-6}	
Bar Amplitude		(NTSC/PAL)		
		(0.1 ~ 1) V_{p-p}	3.9×10^{-3}	
Burst Amplitude		(NTSC/PAL)		
		(100 ~ 400) mV_{p-p}	5.7×10^{-3}	
Sync Amplitude		(NTSC/PAL)		
		(100 ~ 400) mV_{p-p}	4.3×10^{-3}	
Luminance		(NTSC/PAL)		
		10 mV_{p-p} ~ 1 V_{p-p}	6.5×10^{-3}	
		(NTSC/PAL)		
Chrominance		10 mV_{p-p} ~ 1 V_{p-p}	8.1×10^{-3}	
RF Frequency		(NTSC/PAL)		

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
RF Frequency	40406	(10 ~ 900) MHz	1 kHz	
Phase		(NTSC/PAL) 0 ° ~ 360 °	1.3 °	
Audio distortion analyzers/ meters	40407			Meter calibrator Distortion meter calibrator Audio analyzer / KRCMI-I-404-04 / KRCMI-I-404-06
AC Volatge		(0.1 ~ 10) mV 40 Hz ~ 50 kHz (10 ~ 100) mV 40 Hz ~ 50 kHz	 1.0×10^{-3} 2.0×10^{-4}	
DC Voltage		(0.1 ~ 10) V 40 Hz ~ 50 kHz (10 ~ 100) V 40 Hz ~ 20 kHz 20 kHz ~ 50 kHz (100 ~ 1 000) V 40 Hz ~ 1 kHz 1 kHz ~ 20 kHz	 1.0×10^{-4} 1.0×10^{-4} 2.0×10^{-4} 1.0×10^{-4} 2.0×10^{-4}	
DC Voltage		±(0 ~ 100) mV ±(0.1 ~ 10) V ±(10 ~ 50) V	0.01 mV 1.0×10^{-4} 1.2×10^{-4}	
Frequency response		40 Hz ~ 100 kHz (0.1 ~ 10) V	 6.0×10^{-4}	
Distortion		40 Hz ~ 20 kHz (0 ~ -70) dB (-70 ~ -80) dB (-80 ~ -90) dB (30 ~ 0.1) % (0.1 ~ 0.01) % (0.01 ~ 0.003) %	 0.17 dB 0.26 dB 0.42 dB 2.0×10^{-2} 3.0×10^{-2} 4.9×10^{-2}	
Level		40 Hz ~ 100 kHz (20 ~ -80) dB 100 kHz ~ 1 MHz (20 ~ -80) dB 1 MHz ~ 10 MHz (20 ~ -80) dB	 0.08 dB 0.09 dB 0.18 dB	

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
LF/Audio signal analyzers	40409			
Input Level		10 Hz ~ 100 kHz		Selective Level Meter
		(50 ~ -80) dB	0.07 dB	Meter Calibrator
				Universal Counter
Input AC Voltage		(0.1 ~ 100) mV		Digital Multimeter
		40 Hz ~ 50 kHz	2.0×10^{-4}	Distortion Meter Calibrator
		50 kHz ~ 100 kHz	4.0×10^{-4}	Synthesizer Level Generator
		100 kHz ~ 200 kHz	6.0×10^{-4}	Digital Signal Generator
		200 kHz ~ 500 kHz	1.1×10^{-3}	Measuring Receiver
		500 kHz ~ 1 MHz	3.0×10^{-3}	/ KRCMI I 404 07
		(0.1 ~ 1) V		
		40 Hz ~ 50 kHz	1.0×10^{-4}	
		50 kHz ~ 100 kHz	2.0×10^{-4}	
		100 kHz ~ 200 kHz	5.0×10^{-4}	
		200 kHz ~ 500 kHz	1.0×10^{-3}	
		500 kHz ~ 1 MHz	1.5×10^{-3}	
		(1 ~ 10) V		
		40 Hz ~ 50 kHz	1.0×10^{-4}	
		50 kHz ~ 100 kHz	2.0×10^{-4}	
		100 kHz ~ 200 kHz	4.0×10^{-4}	
		200 kHz ~ 500 kHz	1.0×10^{-3}	
		500 kHz ~ 1 MHz	1.6×10^{-3}	
		(10 ~ 100) V		
		40 Hz ~ 20 kHz	1.0×10^{-4}	
		20 kHz ~ 100 kHz	2.0×10^{-4}	
		(100 ~ 300) V		
		40 Hz ~ 20 kHz	3.3×10^{-4}	
Input Frequency		1 Hz ~ 500 kHz	6.0×10^{-6}	
Input DC Voltage		(-100 ~ 100) V	1.0×10^{-4}	
Output AC Voltage		(0.1 ~ 100) mV		
		40 Hz ~ 10 kHz	6.0×10^{-4}	
		10 kHz ~ 20 kHz	7.0×10^{-4}	
		20 kHz ~ 50 kHz	1.0×10^{-3}	
		50 kHz ~ 100 kHz	1.1×10^{-3}	
		(0.1 ~ 10) V		
		40 Hz ~ 20 kHz	6.0×10^{-4}	
		20 kHz ~ 100 kHz	8.0×10^{-4}	
		100 kHz ~ 1 MHz	8.1×10^{-3}	
		(10 ~ 30) V		
		40 Hz ~ 10 kHz	2.3×10^{-4}	

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Output AC Voltage	40409	10 kHz ~ 20 kHz	3.3×10^{-4}	
		20 kHz ~ 100 kHz	1.1×10^{-3}	
		100 kHz ~ 1 MHz	8.0×10^{-3}	
Output Level		10 Hz ~ 100 kHz		
		(50 ~ -60) dB	0.051 dB	
		(-60 ~ -80) dB	0.11 dB	
		100 kHz ~ 1 MHz		
		(40 ~ 30) dB	0.065 dB	
		(30 ~ -30) dB	0.066 dB	
		(-30 ~ -80) dB	0.13 dB	
Output Frequency		1 Hz ~ 200 kHz	6.0×10^{-6}	
Distortion		40 Hz ~ 20 kHz		
		(0 ~ -70) dB	0.17 dB	
		(-70 ~ -80) dB	0.26 dB	
		(-80 ~ -90) dB	0.42 dB	
		(30 ~ 0.1) %	2.0×10^{-2}	
		(0.1 ~ 0.01) %	3.0×10^{-2}	
		(0.01 ~ 0.003) %	5.0×10^{-2}	
Standard Frequency		1 MHz, 10 MHz	6.0×10^{-9}	
Input Level		40 Hz ~ 100 kHz		
		(10 ~ -60) dBm	0.09 dB	
		(-60 ~ -100) dBm	0.13 dB	
		100 kHz ~ 30 MHz		
		(10 ~ -60) dB	0.13 dB	
		(-60 ~ -100) dB	0.59 dB	
Frequency Response		100 Hz ~ 30 MHz		
		(0 ~ -20) dBm	0.08 dB	
Line frequency meters	40410			AC Voltage Current standard / KRCMI-I-404-08
Frequency		(1 ~ 300) V		
		10 Hz ~ 50 Hz	2.0×10^{-4}	
		50 Hz ~ 60 Hz	1.7×10^{-4}	
		60 Hz ~ 100 Hz	1.0×10^{-4}	
		100 Hz ~ 500 Hz	2.0×10^{-4}	
		500 Hz ~ 1 kHz	1.0×10^{-3}	
Function generators	40411			
Muster frequency		1MHz, 10 MHz	6.0×10^{-10}	Universal counter Oscilloscope
Frequency		1 mHz ~ 500 MHz	6.0×10^{-9}	Digital multimeter Measuring receiver

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Output voltage	40411	(1 ~ 10) mV		/ KRCMI-I-404-09
		40 Hz ~ 20 kHz	1.8×10^{-3}	/ KRCMI-I-404-23
		20 kHz ~ 50 kHz	2.9×10^{-3}	
		50 kHz ~ 100 kHz	6.6×10^{-3}	
		100 kHz ~ 1 MHz	5.0×10^{-3}	
		1 MHz ~ 10 MHz	3.0×10^{-2}	
		(10 ~ 100) mV		
		40 Hz ~ 10 kHz	6.0×10^{-4}	
		10 kHz ~ 50 kHz	7.0×10^{-4}	
		50 kHz ~ 100 kHz	9.0×10^{-4}	
		100 kHz ~ 1 MHz	4.4×10^{-3}	
		1 MHz ~ 10 MHz	2.1×10^{-2}	
		(0.1 ~ 1) V		
		10 mHz ~ 40 Hz	8.4×10^{-3}	
		40 Hz ~ 20 kHz	6.0×10^{-4}	
		20 kHz ~ 100 kHz	8.0×10^{-4}	
		100 kHz ~ 1 MHz	4.4×10^{-3}	
		1 MHz ~ 10 MHz	2.1×10^{-2}	
		(1 ~ 10) V		
		10 mHz ~ 40 Hz	8.3×10^{-3}	
		40 Hz ~ 20 kHz	6.0×10^{-4}	
		20 kHz ~ 100 kHz	7.0×10^{-4}	
		100 kHz ~ 1 MHz	4.4×10^{-3}	
		1 MHz ~ 10 MHz	2.1×10^{-2}	
		(10 ~ 60) V		
		10 mHz ~ 40 Hz	8.1×10^{-3}	
		40 Hz ~ 10 kHz	3.0×10^{-4}	
		10 kHz ~ 20 kHz	3.3×10^{-4}	
		20 kHz ~ 50 kHz	5.0×10^{-4}	
		50 kHz ~ 100 kHz	7.0×10^{-4}	
		100 kHz ~ 1 MHz	4.3×10^{-3}	
Level flatness		10 Hz ~ 10 kHz		
		(0.1 ~ 10) V	6.0×10^{-4}	
		10 kHz ~ 100 kHz		
		(0.1 ~ 10) V	8.0×10^{-4}	
		100 Hz ~ 250 MHz		
		(0 ~ -30) dBm	0.22 dB	
DC off set		(-20 ~ 20) V	6.0×10^{-4}	
Amplitude modulation		(0 ~ 100) %	1.7×10^{-2}	

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Frequency modulation	40411	1 Hz ~ 400 kHz	2.8×10^{-2}	
Phase modulation		0 ° ~ 360 °	0.073 °	
Level		10 Hz ~ 20 MHz		
		(10 ~ -60) dBm	0.19 dB	
		(-60 ~ -80) dBm	0.59 dB	
		(20 ~ 100) MHz		
		(10 ~ -60) dBm	0.18 dB	
		(-60 ~ -80) dBm	0.59 dB	
Rise time ,Fall time		100 ps ~ 1 s	6.0×10^{-3}	
Sync TTL level		(0.1 ~ 1) V	9 mV	
		(1 ~ 10) V	9.0×10^{-3}	
Period		(1 ~ 10) ns	6.0×10^{-4}	
		(10 ~ 100) ns	6.0×10^{-5}	
		(0.1 ~ 1) μs	6.0×10^{-6}	
		(1 ~ 10) μs	6.0×10^{-7}	
		10 μs ~ 10 s	6.0×10^{-8}	
AC/DC high voltages volt meters	40413			
DC Voltage		0 kV	0.58 V	Kilovolt Meter
		±(0 ~ 1) kV	1.0×10^{-3}	High voltage Digital Meter
		±(1 ~ 5) kV	6.0×10^{-4}	DC high voltage supply
		±(5 ~ 40) kV	5.0×10^{-4}	AC high voltage supply
		±(40 ~ 200) kV	1.0×10^{-3}	Digital Multimeter / KRCMI-I-404-10
AC Voltage		(50 ~ 60) Hz		
		0.01 kV	0.58 V	
		(0.01 ~ 1) kV	1.0×10^{-3}	
		(1 ~ 20) kV	1.2×10^{-3}	
		(20 ~ 200) kV	1.3×10^{-3}	
LF Impulse generators	40414			Oscilloscope
Output Voltage		±(0 ~ 1) kV	0.003 kV	High Voltage Probe
		±(1 ~ 10) kV	3.0×10^{-3}	Killovolt Meter
		±(10 ~ 15) kV	3.3×10^{-3}	/ KRCMI-I-404-20
		±(15 ~ 30) kV	3.5×10^{-3}	
Pulse width		20 ns ~ 100 ms	2.0×10^{-3}	
Impulse Time		20 ns ~ 100 ms	2.0×10^{-3}	
Leakage current testers	40416			
AC voltage		40 Hz ~ 1 kHz		Meter calibrator
		1 mV ~ 400 V	1.0×10^{-4}	/ KRCMI-I-404-12

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
AC current	40416	40 Hz ~ 1 kHz (0.01 ~ 0.1) mA	1.0×10^{-3}	
		40 Hz ~ 1 kHz 0.1 mA ~ 1 A	1.0×10^{-4}	
DC current		(0 ~ 100) μA	0.1 μA	
		(0.1 ~ 100) mA	1.0×10^{-4}	
		(100 ~ 200) mA	5.0×10^{-5}	
Electronic AC/DC loads	40417			Calibrator Transconductance Amplifier / KRCMI I 404 13
DC Voltage		(0 ~ 100) mV	0.4 mV	
		(0.1 ~ 1 000) V	2.0×10^{-6}	
DC Current		(0 ~ 1) mA	0.01 μA	
		(1 ~ 10) mA	1.0×10^{-5}	
		10 mA ~ 1 A	2.0×10^{-5}	
		(1 ~ 10) A	1.0×10^{-4}	
		(10 ~ 100) A	2.0×10^{-4}	
		(100 ~ 200) A	3.0×10^{-4}	
		(200 ~ 600) A	2.5×10^{-4}	
		(600 ~ 1 000) A	2.4×10^{-4}	
AC Voltage		(50 ~ 60) Hz (1 ~ 100) mV	5 μV	
		(0.1 ~ 10) V	4.0×10^{-5}	
		(10 ~ 1 000) V	5.0×10^{-5}	
AC Current		(50 ~ 60) Hz (0.1 ~ 1) mA	0.01 μA	
		(1 ~ 100) mA	1.0×10^{-4}	
		(0.1 ~ 10) A	2.0×10^{-4}	
		(10 ~ 100) A	3.0×10^{-3}	
Analogue/Digital multimeters	40419			
DC Voltage		±(0 ~ 200) mV	0.20 μV	Meter Calibrator Standard Resistor set DECADE RESISTANCE BOX RUBIDIUM FREQUENCY STANDARD WAVEFORM GENERATOR / KRCMI-I-404-14
		±(0.2 ~ 20) V	2.0×10^{-6}	
		±(20 ~ 1 000) V	2.3×10^{-6}	
AC Voltage		(1 ~ 200) mV 10 Hz ~ 20 kHz	6 μV	
		20 kHz ~ 100 kHz	8 μV	
		100 kHz ~ 200 kHz	25 μV	
		200 kHz ~ 500 kHz	33 μV	
		500 kHz ~ 1 MHz	0.6 mV	

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
AC Voltage	40419	(0.2 ~ 2) V		
		10 Hz ~ 20 kHz	6.0×10^{-5}	
		20 kHz ~ 100 kHz	8.0×10^{-5}	
		100 kHz ~ 200 kHz	2.5×10^{-4}	
		200 kHz ~ 500 kHz	3.3×10^{-4}	
		500 kHz ~ 1 MHz	6.0×10^{-4}	
		(2 ~ 20) V		
		10 Hz ~ 50 kHz	5.0×10^{-5}	
		50 kHz ~ 100 kHz	6.0×10^{-5}	
		100 kHz ~ 200 kHz	1.0×10^{-4}	
		200 kHz ~ 500 kHz	1.6×10^{-4}	
		500 kHz ~ 1 MHz	2.6×10^{-4}	
		(20 ~ 200) V		
		10 Hz ~ 20 kHz	5.0×10^{-5}	
		20 kHz ~ 50 kHz	6.0×10^{-5}	
		50 kHz ~ 100 kHz	8.0×10^{-5}	
		(200 ~ 1 000) V		
		10 Hz ~ 20 kHz	5.0×10^{-5}	
DC Current		±(0 ~ 200) μA	1.8 nA	
		±(0.2 ~ 2) mA	1.8×10^{-5}	
		±(2 ~ 20) mA	1.3×10^{-5}	
		±(20 ~ 200) mA	1.4×10^{-5}	
		±(0.2 ~ 2) A	1.9×10^{-5}	
		±(2 ~ 20) A	4.3×10^{-5}	
AC Current		(1 ~ 200) μA		
		10 Hz ~ 1 kHz	9 nA	
		(0.2 ~ 2) mA		
		10 Hz ~ 1 kHz	9.0×10^{-5}	
		1 kHz ~ 10 kHz	5.8×10^{4}	
		(2 ~ 20) mA		
		10 Hz ~ 1 kHz	8.0×10^{-5}	
		1 kHz ~ 10 kHz	5.8×10^{-4}	
		(20 ~ 200) mA		
		10 Hz ~ 1 kHz	1.0×10^{-4}	
		1 kHz ~ 10 kHz	5.3×10^{-4}	
		(0.2 ~ 2) A		
		10 Hz ~ 1 kHz	1.4×10^{-4}	
		1 kHz ~ 10 kHz	9.9×10^{-4}	

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
AC Current	40419	(2 ~ 20) A		
		10 Hz ~ 1 kHz	2.4×10^{-4}	
		1 kHz ~ 10 kHz	3.4×10^{-4}	
Resistance		0 Ω ~ 1 Ω	2.3 μΩ	
		1 Ω ~ 20 kΩ	2.4×10^{-6}	
		20 kΩ ~ 200 kΩ	3.5×10^{-6}	
		0.2 MΩ ~ 2 MΩ	4.0×10^{-6}	
		2 MΩ ~ 20 MΩ	8.0×10^{-6}	
		20 MΩ ~ 200 MΩ	1.7×10^{-5}	
		200 MΩ~ 2 GΩ	1.8×10^{-5}	
		2 GΩ ~ 20 GΩ	1.1×10^{-3}	
Frequency		10 Hz ~ 10 MHz	1.0×10^{-6}	
Noise meters	40420			
Voltage		1 kHz		Meter Calibrator
		(0.3 ~ 1) mV	9.1×10^{-3}	/ KRCMI-I-404-15
		(1 ~ 3) mV	3.1×10^{-3}	
		(3 ~ 10) mV	1.1×10^{-3}	
		(10 ~ 30) mV	2.0×10^{-3}	
		(30 ~ 100) mV	4.0×10^{-4}	
		(100 ~ 300) mV	2.0×10^{-3}	
		(0.3 ~ 1) V	6.0×10^{-4}	
		(1 ~ 3) V	2.0×10^{-3}	
		(3 ~ 10) V	6.0×10^{-4}	
		(10 ~ 30) V	2.0×10^{-3}	
		(30 ~ 100) V	6.0×10^{-4}	
		(100 ~ 300) V	2.0×10^{-3}	
Freq.Response		10 Hz ~ 50 kHz		
		(0.3 ~ 3) V	6.0×10^{-3}	
Weighting Filters		1 kHz, (0.3 ~ 1) V		
DIN/AUDIO			6.0×10^{-3}	
DIN/NOISE			6.0×10^{-3}	
JIS A			6.0×10^{-3}	
CCIR			6.0×10^{-3}	
CCIR/ARM			6.0×10^{-3}	
Oscilloscopes	40421			Calibration generator
DC Voltage		±(0 ~ 1) mV	0.5 μV	Leveled sine wave generator
		±(1 ~ 2) mV	2.5×10^{-4}	Digital multimeter
		±(2 ~ 10) mV	1.0×10^{-4}	Universal counter
		±(10 ~ 20) mV	5.0×10^{-5}	/ KRCMI-I-404-16
		±(20 ~ 50) mV	2.0×10^{-5}	
		±(50 ~ 100) mV	1.0×10^{-4}	
		±(100 ~ 200) mV	5.0×10^{-5}	
		±(200 ~ 500) mV	2.0×10^{-5}	
		±(0.5 ~ 1) V	1.0×10^{-4}	

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
DC Voltage	40421	±(1 ~ 2) V	5.0×10^{-5}	
		±(2 ~ 5) V	2.0×10^{-5}	
		±(5 ~ 10) V	1.0×10^{-4}	
		±(10 ~ 20) V	5.0×10^{-5}	
		±(20 ~ 50) V	2.0×10^{-5}	
		±(50 ~ 100) V	1.0×10^{-4}	
		±(100 ~ 200) V	5.0×10^{-5}	
Square wave voltage		(0.1 ~ 5) mV	1.6×10^{-3}	
		(5 ~ 10) mV	2.0×10^{-3}	
		(10 ~ 20) mV	1.5×10^{-3}	
		(20 ~ 50) mV	1.2×10^{-3}	
		(50 ~ 100) mV	1.0×10^{-3}	
		(100 ~ 200) mV	1.5×10^{-3}	
		(200 ~ 500) mV	1.2×10^{-3}	
		(0.5 ~ 1) V	1.0×10^{-3}	
		(1 ~ 2) V	1.5×10^{-3}	
		(2 ~ 5) V	1.2×10^{-3}	
		(5 ~ 20) V	1.0×10^{-3}	
		(20 ~ 100) V	1.2×10^{-3}	
Sine wave voltage		(1 ~ 200) mV		
		10 Hz ~ 20 kHz	6.0×10^{-5}	
		20 kHz ~ 100 kHz	8.0×10^{-5}	
		100 kHz ~ 200 kHz	2.5×10^{-4}	
		200 kHz ~ 500 kHz	3.3×10^{-4}	
		500 kHz ~ 1 MHz	6.0×10^{-4}	
		(0.2 ~ 2) V		
		10 Hz ~ 50 kHz	5.0×10^{-5}	
		50 kHz ~ 100 kHz	6.0×10^{-5}	
		100 kHz ~ 200 kHz	1.0×10^{-4}	
		200 kHz ~ 500 kHz	1.6×10^{-4}	
		500 kHz ~ 1 MHz	2.6×10^{-4}	
		(2 ~ 20) V		
		10 Hz ~ 50 kHz	5.0×10^{-5}	
		50 kHz ~ 100 kHz	6.0×10^{-5}	
		100 kHz ~ 200 kHz	1.0×10^{-4}	
		200 kHz ~ 500 kHz	1.5×10^{-4}	
		500 kHz ~ 1 MHz	2.2×10^{-4}	
		(20 ~ 200) V		
		10 Hz ~ 20 kHz	5.0×10^{-5}	
		20 kHz ~ 50 kHz	6.0×10^{-5}	
		50 kHz ~ 100 kHz	8.0×10^{-5}	

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404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Period	40421	(0.1 ~ 1) ns	2.7×10^{-3}	
		(1 ~ 2) ns	1.4×10^{-3}	
		(2 ~ 5) ns	5.4×10^{-4}	
		(5 ~ 10) ns	3.0×10^{-4}	
		(10 ~ 20) ns	1.5×10^{-4}	
		(20 ~ 50) ns	8.0×10^{-5}	
		(50 ~ 100) ns	1.0×10^{-4}	
		(100 ~ 200) ns	5.0×10^{-5}	
		(200 ~ 500) ns	6.0×10^{-5}	
		(0.5 ~ 1) μs	1.0×10^{-4}	
		(1 ~ 2) μs	5.0×10^{-5}	
		(2 ~ 5) μs	6.0×10^{-5}	
		(5 ~ 10) μs	1.0×10^{-4}	
		(10 ~ 20) μs	5.0×10^{-5}	
		(20 ~ 50) μs	6.0×10^{-5}	
		(50 ~ 100) μs	1.0×10^{-4}	
		(100 ~ 200) μs	5.0×10^{-5}	
		(200 ~ 500) μs	6.0×10^{-5}	
		(0.5 ~ 1) ms	1.0×10^{-4}	
		(1 ~ 2) ms	5.0×10^{-5}	
		(2 ~ 5) ms	6.0×10^{-5}	
		(5 ~ 10) ms	1.0×10^{-4}	
		(10 ~ 20) ms	5.0×10^{-5}	
		(20 ~ 50) ms	6.0×10^{-5}	
		(50 ~ 100) ms	1.0×10^{-4}	
		(100 ~ 200) ms	5.0×10^{-5}	
		(200 ~ 500) ms	6.0×10^{-5}	
		(0.5 ~ 1) s	1.0×10^{-4}	
		(1 ~ 2) s	5.0×10^{-5}	
		(2 ~ 5) s	6.0×10^{-5}	
bandwidth		(0.1 ~ 1) V_{p-p}		
		50 kHz ~ 100 MHz	2.2×10^{-2}	
		100 MHz ~ 500 MHz	3.7×10^{-2}	
		0.5 GHz ~ 1 GHz	4.8×10^{-2}	
		1 GHz ~ 16 GHz	5.7×10^{2}	
CAL output amplitude		(0.1 ~ 10) V	1.0×10^{-5}	
Cal output Frequency		(0.1 ~ 10) kHz	1.0×10^{-5}	
Impedance		50 Ω	2.0×10^{-5}	
		1 MΩ	6.0×10^{-5}	
Random wave generator	40423			Universal Counter
Frequency		(0.1 ~ 100) Hz	6.0×10^{-8}	Digital Multi Meter
		100 Hz ~ 100 MHz	6.0×10^{-9}	Measuring Receiver
		100 MHz ~ 300 MHz	2.0×10^{-8}	/ KRCMI-I-404-24

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Level	40423	(1 ~ 100) mV		
		40 Hz ~ 10 kHz	6.0×10^{-4}	
		10 kHz ~ 50 kHz	7.0×10^{-4}	
		50 kHz ~ 100 kHz	9.0×10^{-4}	
		0.1 MHz ~ 1 MHz	4.4×10^{-3}	
		1 MHz ~ 30 MHz	2.2×10^{-2}	
		(0.1 ~ 1) V		
		40 Hz ~ 20 kHz	6.0×10^{-4}	
		20 kHz ~ 100 kHz	8.0×10^{-4}	
		0.1 MHz ~ 1 MHz	4.4×10^{-3}	
		1 MHz ~ 30 MHz	2.2×10^{-2}	
		(1 ~ 10) V		
		40 Hz ~ 20 kHz	6.0×10^{-4}	
		20 kHz ~ 100 kHz	7.0×10^{-4}	
		0.1 MHz ~ 1 MHz	4.4×10^{-3}	
		1 MHz ~ 30 MHz	2.2×10^{-2}	
		(10 ~ 30) V		
		40 Hz ~ 10 kHz	2.0×10^{-4}	
		10 kHz ~ 20 kHz	2.3×10^{-4}	
		20 kHz ~ 50 kHz	4.0×10^{-4}	
		50 kHz ~ 100 kHz	3.7×10^{-4}	
		0.1 MHz ~ 1 MHz	4.3×10^{-3}	
		1 MHz ~ 30 MHz	2.2×10^{-2}	
Volt/Current recorders	40424			Meter Calibrator
DC Voltage		±(0 ~ 100) mV	1 μV	Turncoil
		±(0.1 ~ 1 000) V	1.0×10^{-4}	/ KRCMI-I-404-17
DC Current		(0 ~ 100) μA	0.01 μA	
		100 μA ~ 20 A	2.0×10^{-4}	
		(20 ~ 100) A	1.0×10^{-3}	
		(100 ~ 500) A	2.0×10^{-3}	
		(500 ~ 1 000) A	3.0×10^{-3}	
		(1 000 ~ 2 000) A	2.0×10^{-3}	
AC Voltage		(0.1 ~ 100) mV		
		40 Hz ~ 10 kHz	5 μV	
		(0.1 ~ 1 000) V		
		40 Hz ~ 10 kHz	1.0×10^{-4}	
AC Current		(0.01 ~ 1) mA		
		40 Hz ~ 1 kHz	0.1 μA	
		1 kHz ~ 10 kHz	0.6 μA	

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
AC Current	40424	(1 ~ 10) mA		
		40 Hz ~ 1 kHz	1.0×10^{-4}	
		1 kHz ~ 10 kHz	6.0×10^{-4}	
		(10 ~ 100) mA		
		40 Hz ~ 1 kHz	1.0×10^{-4}	
		1 kHz ~ 10 kHz	5.0×10^{-4}	
		(0.1 ~ 1) A		
		40 Hz ~ 1 kHz	2.0×10^{-4}	
		1 kHz ~ 10 kHz	1.0×10^{-3}	
		(1 ~ 20) A		
		40 Hz ~ 1 kHz	3.0×10^{-4}	
		1 kHz ~ 10 kHz	4.0×10^{-4}	
		60 Hz		
		(20 ~ 100) A	3.0×10^{-3}	
		(100 ~ 500) A	2.0×10^{-3}	
		(500 ~ 1 000) A	1.5×10^{-2}	
		(1 000 ~ 2 000) A	1.1×10^{-2}	
Relay test sets	40425			Digital multimeter
Output DC voltage		(0 ~ 100) mV	1.0 μV	Meter calibrator
		(0.1 ~ 10) V	6.0×10^{-6}	Active shunt
		(10 ~ 1 000) V	8.0×10^{-6}	/ KRCMI-I-404-18
Output DC current		(0 ~ 1) mA	0.13 μA	
		1 mA ~ 1 A	1.3×10^{-4}	
		(1 ~ 10) A	1.5×10^{-4}	
		(10 ~ 100) A	2.2×10^{-4}	
		(100 ~ 150) A	2.1×10^{-4}	
		(150 ~ 200) A	3.6×10^{-4}	
		(200 ~ 250) A	3.2×10^{-4}	
		(250 ~ 300) A	3.0×10^{-4}	
		(300 ~ 350) A	2.9×10^{-4}	
		(350 ~ 400) A	2.8×10^{-4}	
		(400 ~ 450) A	2.7×10^{-4}	
		(450 ~ 500) A	2.6×10^{-4}	
		(500 ~ 550) A	2.5×10^{-4}	
		(550 ~ 600) A	2.7×10^{-4}	
		(600 ~ 700) A	2.6×10^{-4}	
		(700 ~ 850) A	2.5×10^{-4}	
		(850 ~ 1 000) A	2.4×10^{-4}	
Output AC voltage		(1 ~ 100) mV		
		40 Hz	2.1×10^{-4}	
		40 Hz ~ 1 kHz	1.8×10^{-5}	
		(0.1 ~ 100) V		

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Output AC voltage	40425	40 Hz	1.2×10^{-4}	
		40 Hz ~ 1 kHz	1.1×10^{-5}	
		(100 ~ 1 000) V		
		40 Hz ~ 1 kHz	1.3×10^{-5}	
Output AC Current		40 Hz ~ 1 kHz		
		1 mA ~ 1 A	1.3×10^{-3}	
		(1 ~ 10) A	1.4×10^{-3}	
		(10 ~ 100) A	3.7×10^{-4}	
		60 Hz		
		(100 ~ 200) A	2.5×10^{-4}	
		(200 ~ 300) A	2.2×10^{-4}	
		(300 ~ 400) A	2.1×10^{-4}	
		(400 ~ 500) A	6.4×10^{-4}	
		(500 ~ 600) A	5.5×10^{-4}	
		(600 ~ 700) A	4.9×10^{-4}	
		(700 ~ 800) A	4.4×10^{-4}	
		(800 ~ 900) A	4.0×10^{-4}	
		(900 ~ 1 000) A	3.7×10^{-4}	
		(1 000 ~ 1 500) A	2.9×10^{-4}	
		(1 500 ~ 2 000) A	2.5×10^{-4}	
		(2 000 ~ 2 500) A	4.0×10^{-4}	
		(2 500 ~ 3 000) A	3.3×10^{-4}	
		(3 000 ~ 3 500) A	3.1×10^{-4}	
		(3 500 ~ 4 000) A	3.0×10^{-4}	
		(4 ~ 19) kA	1.1×10^{-2}	
Input DC Voltage		(0 ~ 100) mV	0.1 mV	
		(0.1 ~ 1) V	1.0×10^{-3}	
		(1 ~ 1 000) V	1.0×10^{-4}	
Input AC Voltage		1 mV ~ 1 V		
		40 Hz ~ 1 kHz	1.0×10^{-3}	
		(1 ~ 1 000) V		
		40 Hz ~ 1 kHz	1.0×10^{-4}	
Input DC current		(0 ~ 100) mA	0.1 mA	
		(0.1 ~ 1) A	1.0×10^{-3}	
		(1 ~ 10) A	1.0×10^{-4}	
		(10 ~ 100) A	2.4×10^{-4}	
Input AC current		1 mA ~ 1 A		
		40 Hz ~ 1 kHz	1.0×10^{-3}	
		(1 ~ 10) A		
		40 Hz ~ 1 kHz	4.0×10^{-4}	

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Input AC current	40425	(10 ~ 100) A		
		40 Hz ~ 400 Hz	1.8×10^{-3}	
Time interval		1 ms ~ 100 s	6.0×10^{-5}	
LF signal generators	40426			Universal Counter
Frequency		0.01 Hz ~ 500 MHz	6.0×10^{-9}	True RMS Volt meter
				Selective Level Meter
Output Voltage		(1 ~ 100) mV		Oscilloscope
		40 Hz ~ 10 kHz	2.1×10^{-4}	/ KRCMI I 404 19
		10 kHz ~ 20 kHz	4.0×10^{-4}	
		20 kHz ~ 50 kHz	4.5×10^{-4}	
		50 kHz ~ 100 kHz	7.5×10^{-4}	
		0.1 MHz ~ 1 MHz	4.4×10^{-3}	
		1 MHz ~ 10 MHz	2.2×10^{-2}	
		(0.1 ~ 1) V		
		40 Hz ~ 20 kHz	6.0×10^{-4}	
		20 kHz ~ 100 kHz	8.0×10^{-4}	
		0.1 MHz ~ 1 MHz	4.4×10^{-3}	
		1 MHz ~ 10 MHz	2.2×10^{-2}	
		(1 ~ 10) V		
		40 Hz ~ 20 kHz	6.0×10^{-4}	
		20 kHz ~ 100 kHz	7.0×10^{-4}	
		0.1 MHz ~ 1 MHz	4.4×10^{-3}	
		1 MHz ~ 10 MHz	2.2×10^{-2}	
		(10 ~ 30) V		
		40 Hz ~ 10 kHz	2.0×10^{-4}	
		10 kHz ~ 20 kHz	2.3×10^{-4}	
		20 kHz ~ 100 kHz	3.7×10^{-4}	
		0.1 MHz ~ 1 MHz	4.4×10^{-3}	
		(30 ~ 300) V		
		40 Hz ~ 20 kHz	6.0×10^{-4}	
		20 kHz ~ 100 kHz	7.0×10^{-4}	
Frequency Response		10 Hz ~ 100 kHz		
		(0.1 ~ 10) V	5.0×10^{-4}	
		100 Hz ~ 30 MHz		
		(10 ~ -30) dB	0.08 dB	
Attenuator		10 Hz ~ 10 MHz		
		(0 ~ 60) dB	0.08 dB	
Rise Time , Fall Time		100 ps ~ 1 ms	1.0×10^{-3}	

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Sweep generators	40429			Digital Multimeter
Frequency		1 mHz ~ 10 MHz	6.0×10^{-9}	Universal Counter
				True RMS Volt Meter
Output Voltage		(1 ~ 100) mV		/ KRCMI-I-404-25
		40 Hz ~ 10 kHz	2.1×10^{-4}	
		10 kHz ~ 20 kHz	4.0×10^{-4}	
		20 kHz ~ 50 kHz	4.5×10^{-4}	
		50 kHz ~ 100 kHz	7.5×10^{-4}	
		0.1 MHz ~ 1 MHz	4.4×10^{-3}	
		1 MHz ~ 10 MHz	2.2×10^{-3}	
		(0.1 ~ 1) V		
		40 Hz ~ 20 kHz	6.0×10^{-4}	
		20 kIz ~ 100 kIz	8.0×10^{-4}	
		0.1 MHz ~ 1 MHz	4.4×10^{-3}	
		1 MHz ~ 10 MHz	2.2×10^{-2}	
		(1 ~ 10) V		
		40 Hz ~ 20 kHz	6.0×10^{-4}	
		20 kHz ~ 100 kHz	7.0×10^{-4}	
		0.1 MHz ~ 1 MHz	4.4×10^{-3}	
		1 MHz ~ 10 MHz	2.2×10^{-2}	
		(10 ~ 30) V		
		40 Hz ~ 10 kHz	2.0×10^{-4}	
		10 kHz ~ 20 kHz	2.3×10^{-4}	
		20 kHz ~ 100 kHz	3.7×10^{-4}	
		0.1 MHz ~ 1 MHz	4.4×10^{-3}	
output level flatness		10 Hz ~ 100 kHz		
		(0.1 ~ 10) V	5.9×10^{-4}	
		100 kHz ~ 10 MHz		
		(0 ~ -30) dB	0.08 dB	
Level		10 Hz ~ 10 MHz		
		(10 ~ -60) dBm	0.18 dB	
		(-60 ~ -80) dBm	0.59 dB	
Signal transducers	40430			
DC Voltage		(0 ~ 100) mV	1 μV	Digital Multimeter
		(0.1 ~ 1 000) V	1.0×10^{-5}	Meter Calibrator
				/ KRCMI-I-404-26
AC Voltage		(1 ~ 100) mV		
		40 Hz	2.0×10^{-4}	
		40 Hz ~ 1 kHz	1.7×10^{-4}	
		1 kHz ~ 10 kHz	2.0×10^{-4}	
		10 kHz ~ 20 kHz	3.9×10^{-4}	

Accreditation No. : KC01-38(68/92)

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
AC Voltage	40430	20 kHz ~ 50 kHz	7.5×10^{-4}	
		50 kHz ~ 100 kHz	9.6×10^{-4}	
		(0.1 ~ 10) V		
		40 Hz	1.1×10^{-4}	
		40 Hz ~ 1 kHz	9.0×10^{-5}	
		1 kHz ~ 10 kHz	1.1×10^{-4}	
		10 kHz ~ 20 kHz	1.8×10^{-4}	
		20 kHz ~ 50 kHz	5.3×10^{-4}	
		50 kHz ~ 100 kHz	5.4×10^{-4}	
		(10 ~ 100) V		
		40 Hz	1.1×10^{-4}	
		40 Hz ~ 1 kHz	9.0×10^{-5}	
		1 kHz ~ 10 kHz	1.1×10^{-4}	
		10 kHz ~ 20 kHz	1.8×10^{-4}	
		20 kHz ~ 50 kHz	5.3×10^{-4}	
		50 kHz ~ 100 kHz	5.5×10^{-4}	
		(100 ~ 1 000) V		
		40 Hz ~ 10 kHz	1.1×10^{-4}	
		10 kHz ~ 20 kHz	2.1×10^{-4}	
DC Current		(0 ~ 100) μA	4 μA	
		(0.1 ~ 10) mA	3.0×10^{-5}	
		(10 ~ 100) mA	5.0×10^{-5}	
		(0.1 ~ 1) A	1.1×10^{-4}	
		(1 ~ 10) A	2.8×10^{-4}	
AC Current		(0.001 ~ 1) mA		
		40 Hz ~ 1 kHz	4.9×10^{-4}	
		1 kHz ~ 10 kHz	1.7×10^{-3}	
		(1 ~ 10) mA		
		40 Hz ~ 1 kHz	4.9×10^{-4}	
		1 kHz ~ 10 kHz	1.5×10^{-3}	
		(10 ~ 100) mA		
		40 Hz ~ 1 kHz	4.9×10^{-4}	
		1 kHz ~ 10 kHz	1.2×10^{-3}	
		(0.1 ~ 1) A		
		40 Hz ~ 1 kHz	8.7×10^{-4}	
		1 kHz ~ 10 kHz	6.9×10^{-3}	
		(1 ~ 10) A		
		40 Hz ~ 1 kHz	1.2×10^{-3}	
		1 kHz ~ 10 kHz	2.6×10^{-3}	

Accreditation No. : KC01-38(69/92)

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Output Frequency	40430	1 Hz ~ 20 kHz	1.0×10^{-6}	
AC/DC high voltage generators	40434			
DC Voltage		0 kV	0.6 V	Kilovolt Meter
		±(0 ~ 1) kV	1.0×10^{-3}	High voltage Digital Meter
		±(1 ~ 5) kV	6.0×10^{-4}	Digital Multimeter
		±(5 ~ 20) kV	5.0×10^{-4}	/ KRCMI-I-401-11
		±(20 ~ 200) kV	1.0×10^{-3}	
AC Voltage		(50 ~ 60) Hz		
		0.1 kV	0.6 V	
		(0.1 ~ 1) kV	1.0×10^{-3}	
		(1 ~ 10) kV	1.2×10^{-3}	
		(10 ~ 200) kV	1.3×10^{-3}	
AC/DC high voltage probes	40435			
DC Voltage		0 kV	2 V	Kilovolt Meter
		±(0 ~ 1) kV	1.0×10^{-3}	High voltage Digital Meter
		±(1 ~ 5) kV	6.0×10^{-4}	DC high voltage supply
		±(5 ~ 40) kV	5.0×10^{-4}	AC high voltage supply
		±(40 ~ 200) kV	1.0×10^{-3}	Digital Multimeter
				/ KRCMI-I-401-08
AC Voltage		(50 ~ 60) Hz		
		0.01 kV	1 V	
		(0.01 ~ 1) kV	6.0×10^{-4}	
		(1 ~ 20) kV	1.2×10^{-3}	
		(20 ~ 200) kV	1.3×10^{-3}	
Ratio		DC		
		±(0.01 ~ 1) kV		
		(10 ~ 10 000) : 1	6.5×10^{-5}	
		±(1 ~ 200) kV		
		(1 000 ~ 10 000) : 1	9.2×10^{-4}	
		AC		
		(40 Hz ~ 100 kHz)		
		(0.01 ~ 1) kV		
		(10 ~ 10 000) : 1	7.5×10^{-4}	
		(50 ~ 60) Hz		
		(1 ~ 200) kV		
		(1 000 ~ 10 000) : 1	1.2×10^{-3}	
Logic analyzers	40436			
Voltage		(0.01 ~ 1) V	6.0×10^{-4}	Meter calibrator
		(1 ~ 10) V	6.0×10^{-5}	Calibration Generator
				/ KRCMI-I-404-28
Time		1 ns ~ 5 s	6.0×10^{-5}	

Accreditation No. : KC01-38(70/92)

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Telephone testers	40437			
Bell ring frequency		(15 ~ 1 000) Hz	4.0×10^{-4}	Selective level meter Digital multimeter
Bell ring voltage		(10 ~ 100) V	6.0×10^{-4}	Universal counter
		(100 ~ 150) V	6.6×10^{-4}	/ KRCMI-I-404-31
Line output voltage		48 V	1.3×10^{-4}	
Receiving frequency		400 Hz	1.5×10^{-4}	
Level		(-50 ~ 10) dBm	0.09 dB	
Video signal analyzers	40438			
Vector scopes				Video Measurement Set
Amplitude (NTSC/PAL)		(0 ~ 1) V_{p-p}	1.6×10^{-2}	Signal Generation Platform Universal Counter
Phase		0 ° ~ 360 °	1.3 °	/ KRCMI-I-406-29
Frequency		(3 ~ 5) MHz	1.3×10^{-7}	/ KRCMI-I-406-30
Video signal monitors				
Frequency		50 kHz ~ 5 MHz	1.2×10^{-6}	
Amplitude (NTSC/PAL)		(0 ~ 1) V_{p-p}	1.5×10^{-2}	

Accreditation No. : KC01-38(71/92)

406. RF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
RF amplifiers	40601			Syntesizer Sweeper
Amplitude gain		(0 ~ 30) dB		Power Meter
		9 kHz ~ 1 GHz	0.09 dB	Power Sensor
		(1 ~ 5) GHz	0.10 dB	Attenuator Set
		(5 ~ 10) GHz	0.12 dB	Network Analyzer
		(10 ~ 12) GHz	0.14 dB	Calibration Kit
		(12 ~ 18) GHz	0.18 dB	/ KRCMI-I-406-14
		(30 ~ 60) dB		
		9 kHz ~ 1 GHz	0.19 dB	
		(1 ~ 9) GHz	0.22 dB	
		(9 ~ 14) GHz	0.24 dB	
		(14 ~ 18) GHz	0.25 dB	
Coaxial attenuators	40602			Syntesizer Sweeper
Attenuation		100 kHz ~ 1 GHz		Attenuator Set
		(0 ~ 10) dB	0.10 dB	Power Meter
		(10 ~ 30) dB	0.12 dB	Power Sensor
		(30 ~ 60) dB	0.16 dB	Directional Bridge
		(60 ~ 120) dB	0.19 dB	Dual Directional Coupler
				Network Analyzer
		(1 ~ 5) GHz		Calibration Kit
		(0 ~ 10) dB	0.10 dB	Microwave Converter
		(10 ~ 30) dB	0.12 dB	Sensor Module
		(30 ~ 60) dB	0.16 dB	Measuring Receiver
		(60 ~ 120) dB	0.24 dB	/ KRCMI-I-406-01
		(5 ~ 10) GHz		
		(0 ~ 10) dB	0.11 dB	
		(10 ~ 30) dB	0.14 dB	
		(30 ~ 60) dB	0.16 dB	
		(60 ~ 120) dB	0.28 dB	
		(10 ~ 18) GHz		
		(0 ~ 10) dB	0.15 dB	
		(10 ~ 30) dB	0.16 dB	
		(30 ~ 60) dB	0.23 dB	
		(60 ~ 120) dB	0.33 dB	
Burst pulse generator	40605			Digitizing Oscilloscope
Voltage		(±)		High Voltage Probe
		Open Circuit		Attenuator Set
		(10 ~ 500) V	2.6×10^{-2}	/ KRCMI-I-406-25
		(0.5 ~ 4.8) kV	2.6×10^{-2}	
		50 Ω		
		(25 ~ 500) V	3.0×10^{-2}	
		(0.5 ~ 2.4) kV	3.0×10^{-2}	
		1 000 Ω		
		(25 ~ 500) V	3.0×10^{-2}	
		(0.5 ~ 4.57) kV	3.0×10^{-2}	
Rise / Fall Time		(1 ~ 5) ns	1.6×10^{-2}	
		(5 ~ 10) ns	3.6×10^{-3}	

Accreditation No. : KC01-38(72/92)

406. RF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Pulse Width	40605	(10 ~ 50) ns	5.2×10^{-3}	
		(50 ~ 200) ns	4.6×10^{-3}	
Burst Duration		(5 ~ 20) ms	3.4×10^{-3}	
		(40 ~ 60) ms	3.6×10^{-3}	
Repetition rate		(10 ~ 300) μs	4.7×10^{-3}	
Burst Period		(50 ~ 100) ms	3.5×10^{-3}	
		(100 ~ 400) ms	4.0×10^{-3}	
Oscillation frequency		(0.09 ~ 0.1) MHz	4.9×10^{-3}	
		(0.1 ~ 40) MHz	5.0×10^{-3}	
RF power meter calibrators	40607	3 μW	0.18 nW	Power Meter Power Sensor Digital Multimeter / KRCMI-I-406-15
		10 μW	0.41 nW	
		30 μW	1.8 nW	
		100 μW	3.2 nW	
		300 μW	18 nW	
		1 mW	0.12 μW	
		3 mW	0.20 μW	
		10 mW	0.80 μW	
		30 mW	1.6 μW	
		100 mW	11 μW	
Coaxial directional couplers/ splitters	40610	(0 ~ 20) dB		Network Analyzer Calibration Kit / KRCMI-I-406-16
		9 kHz ~ 18 GHz	0.06 dB	
		(20 ~ 40) dB		
		9 kHz ~ 15 GHz	0.08 dB	
		(15 ~ 18) GHz	0.09 dB	
		(40 ~ 50) dB		
		9 kHz ~ 10 GHz	0.16 dB	
		(10 ~ 18) GHz	0.18 dB	
		(50 ~ 64) dB		
		(10 ~ 100) MHz	0.65 dB	
		(0.1 ~ 18) GHz	0.72 dB	
Electrostatic discharge generators	40613			Oscilloscope ESD Target System High Voltage Probe / KRCMI-I-406-27
Peak Current		(±)		
		(1 ~ 22.5) A	2.9×10^{-2}	
		(22.5 ~ 52.5) A	2.9×10^{-2}	
		(52.5 ~ 120) A	2.9×10^{-2}	
T1 Current (30 ~ 65) ns		(±)		
		(1 ~ 2) A	3.3×10^{-2}	
		(2 ~ 12) A	3.2×10^{-2}	
		(12 ~ 20) A	3.1×10^{-2}	
		(20 ~ 80) A	3.0×10^{-2}	
T1 Current (180 ~ 400) ns		(±)		
		(0.20 ~ 1.10) A	1.1×10^{-1}	
		(1.10 ~ 1.65) A	7.9×10^{-2}	

Accreditation No. : KC01-38(73/92)

406. RF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
T1 Current (180 ~ 400) ns	40613	±(1.65 ~ 3.30) A	6.2×10^{-2}	
		±(3.30~ 4.13) A	5.5×10^{-2}	
		±(4.13~ 10.0) A	6.2×10^{-2}	
T2 Current (60 ~ 130) ns		(±)		
		(0.5 ~ 6) A	4.3×10^{-2}	
		(6 ~ 8) A	3.4×10^{-2}	
		(8 ~ 25) A	3.2×10^{-2}	
		(25 ~ 35) A	3.0×10^{-2}	
T2 Current (360 ~ 800) ns		(±)		
		(0.1 ~ 0.6) A	2.2×10^{-1}	
		(0.6 ~ 1.8) A	1.5×10^{-1}	
		(1.8 ~ 2.25) A	6.9×10^{-2}	
		(2.25 ~ 5.2) A	1.1×10^{-1}	
Rise Time		(±)		
		(2 ~ 30) kV		
		(0.6 ~ 1) ns	2.7×10^{-3}	
Discharge Voltage		(±)		
		(0.1 ~ 12) kV	4.2×10^{-3}	
		(12 ~ 30) kV	4.3×10^{-3}	
EMC receivers	40614			Syntesizer Sweeper
Input Level		100 kHz ~ 10 MHz		Power Meter
		(-70 ~ 15) dBm	0.10 dB	Power Sensor
		(-100 ~ -70) dBm	0.11 dB	Attenuator Set
		(-110 ~ -100) dBr	0.15 dB	Network Analyzer
		(-120 ~ -110) dBr	0.20 dB	Calibration Kit
		10 MHz ~ 1 GHz		Microwave Converter
		(-30 ~ 15) dBm	0.10 dB	Sensor Module
		(-80 ~ -30) dBm	0.11 dB	Pulse/CW Micro. Counter
		(-100 ~ -80) dBm	0.12 dB	Synthesized CW Generator
		(-110 ~ -100) dBr	0.15 dB	/ KRCMI-I-406-17
		(-120 ~ -110) dBr	0.20 dB	
		(1 ~ 5) GHz		
		(-10 ~ 15) dBm	0.11 dB	
		(-80 ~ -10) dBm	0.12 dB	
		(-100 ~ -80) dBm	0.13 dB	
		(5 ~ 10) GHz		
		(-10 ~ 15) dBm	0.11 dB	
		(-80 ~ -10) dBm	0.12 dB	
		(-100 ~ -80) dBm	0.13 dB	
		(10 ~ 15) GHz		
		(-70 ~ 15) dBm	0.13 dB	
		(-100 ~ -70) dBm	0.14 dB	
		(15 ~ 18) GHz		
		(-10 ~ 15) dBm	0.13 dB	

Accreditation No. : KC01-38(74/92)

406. RF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Input Level	40614	(-80 ~ -10) dBm	0.14 dB	
		(-100 ~ -80) dBm	0.15 dB	
Output Level		100 kHz ~ 10 MHz		
		(-50 ~ 15) dBm	0.07 dB	
		(-90 ~ -50) dBm	0.08 dB	
		(-100 ~ -90) dBm	0.09 dB	
		(-110 ~ -100) dBm	0.13 dB	
		(-120 ~ -110) dBm	0.18 dB	
		10 MHz ~ 1 GHz		
		(-50 ~ -15) dBm	0.07 dB	
		(-90 ~ -50) dBm	0.08 dB	
		(-100 ~ -90) dBm	0.09 dB	
		(-110 ~ -100) dBm	0.13 dB	
		(-120 ~ -110) dBm	0.18 dB	
		(1 ~ 5) GHz		
		(-20 ~ 15) dBm	0.08 dB	
		(-70 ~ -20) dBm	0.09 dB	
		(-100 ~ -70) dBm	0.10 dB	
		(5 ~ 10) GHz		
		(-20 ~ 15) dBm	0.08 dB	
		(-70 ~ -20) dBm	0.09 dB	
		(-100 ~ -70) dBm	0.10 dB	
		(10 ~ 15) GHz		
		(-40 ~ 15) dBm	0.10 dB	
		(-90 ~ -40) dBm	0.11 dB	
		(-100 ~ -90) dBm	0.12 dB	
		(15 ~ 18) GHz		
		(-10 ~ 15) dBm	0.10 dB	
		(-80 ~ -10) dBm	0.11 dB	
		(-100 ~ -80) dBm	0.12 dB	
Frequency		1 MHz ~ 18 GHz	6.4×10^{-10}	
RF filters	40615			Network Analyzer
Cut-off frequency		9 kHz ~ 60 MHz	4.0×10^{-6}	Calibration Kit
		(0.06 ~ 7) GHz	7.0×10^{-7}	/ KRCMI-I-406-18
		(7 ~ 18) GHz	1.7×10^{-7}	
Insertion loss		9 kHz ~ 1 GHz	0.06 dB	
		(1 ~ 6) GHz	0.07 dB	
		(6 ~ 18) GHz	0.08 dB	
RF impedance meters	40616			Network Analyzer
VSWR		1.0		Calibration Kit
		(0.05 ~ 1) GHz	0.059	Pulse/CW Micro. Counter
		(1 ~ 12) GHz	0.062	Power Meter
		(12 ~ 18) GHz	0.096	Power Sensor
				Spectrum Analyzer

Accreditation No. : KC01-38(75/92)

406. RF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
VSWR	40616	1.2		Mismatch Set
		(0.05 ~ 1) GHz	0.071	/ KRCMI-I-406-19
		(1 ~ 6) GHz	0.074	
		(6 ~ 12) GHz	0.085	
		(12 ~ 18) GHz	0.12	
		1.5		
		(0.05 ~ 3) GHz	0.095	
		(3 ~ 12) GHz	0.11	
		(12 ~ 18) GHz	0.20	
		2.0		
		(0.05 ~ 1) GHz	0.14	
		(1 ~ 12) GHz	0.16	
		(12 ~ 18) GHz	0.27	
Output Level		(-30 ~ 10) dBm		
		(0.01 ~ 1) GHz	0.08 dB	
		(1 ~ 10) GHz	0.09 dB	
		(10 ~ 18) GHz	0.12 dB	
Frequency		1 MHz ~ 18 GHz	6.1×10^{-9}	
Coaxial standard mismatches	40619			Calibration Kit
VSWR		1.0 ~ 1.2		/ KRCMI-I-406-20
		(0.05 ~ 2) GHz	1.6×10^{-2}	
		(2 ~ 7) GHz	3.0×10^{-2}	
		(7 ~ 18) GHz	3.1×10^{-2}	
		1.2 ~ 1.5		
		(0.05 ~ 2) GHz	1.8×10^{-2}	
		(2 ~ 7) GHz	3.1×10^{-2}	
		(7 ~ 18) GHz	3.4×10^{-2}	
		1.5 ~ 2.0		
		(0.05 ~ 2) GHz	2.1×10^{-2}	
		(2 ~ 8) GHz	3.8×10^{-2}	
		(8 ~ 18) GHz	4.1×10^{-2}	
Mobile communication test sets	40621			Power Splitter
Frequency		20 Hz ~ 25 kHz	6.1×10^{-8}	Measuring Receiver
		100 kHz ~ 6 GHz	6.4×10^{-10}	Microwave Converter
				Sensor Module
Output Level		100 kHz ~ 1 GHz		Digital Multimeter
		(-10 ~ 20) dBm	0.18 dB	Audio Analyzer
		(-40 ~ -10) dBm	0.25 dB	Spectrum Analyzer
		(-80 ~ -40) dBm	0.30 dB	Signal Generator
		(-110 ~ -80) dBm	0.34 dB	Universal Counter
		(-127 ~ -110) dBm	0.36 dB	Dual Directional Coupler
		1 GHz ~ 6 GHz		/ KRCMI-I-406-02
		(-10 ~ 20) dBm	0.20 dB	

Accreditation No. : KC01-38(76/92)

406. RF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Output Level	40621	(-40 ~ -10) dBm	0.26 dB	
		(-80 ~ -40) dBm	0.30 dB	
		(-110 ~ -80) dBm	0.35 dB	
		(-127 ~ -110) dBm	0.37 dB	
Level Flateness		100 kHz ~ 6 GHz		
		(-30 ~ 0) dBm	0.18 dB	
Frequency Modulation		(1 ~ 100) kHz	2.4×10^{-2}	
Amplitude Modulation		(1 ~ 100) %	2.4×10^{-2}	
Output AC Level		10 Hz ~ 25 kHz		
		(10 ~ 100) mV	1.0×10^{-3}	
		(0.1 ~ 1) V	9.9×10^{-4}	
		(1 ~ 10) V	7.5×10^{-4}	
Input AC Level		10 Hz ~ 25 kHz		
		10 mV ~ 10 V	6.1×10^{-4}	
Output DC Level		(0.1 ~ 10) V	6.9×10^{-5}	
Input DC level		(0.1 ~ 10) V	6.1×10^{-4}	
Input Level		100 kHz ~ 6 GHz		
		(-20 ~ 10) dBm	0.19 dB	
		(-40 ~ -20) dBm	0.25 dB	
		(-80 ~ -40) dBm	0.30 dB	
Modulation meters	40622			Audio Analyzer
AM		150 kHz ~ 1.3 GHz		Syntesizer Sweeper
		1 %	0.01 %	Synthesized CW Generator
		(1 ~ 20) %	0.28 %	Power Meter
		(20 ~ 40) %	0.57 %	Power Sensor
		(40 ~ 60) %	0.84 %	AM/FM Test Source
		(60 ~ 80) %	1.1 %	Network Analyzer
		(80 ~ 100) %	1.4 %	Calibration Kit
				Microwave Converter
FM		150 kHz ~ 1.3 GHz		Sensor Module
		1 kHz	1.0×10^{-2}	Power Splitter
		(1 ~ 100) kHz	1.4×10^{-2}	/ KRCMI-I-406-21
PM		150 kHz ~ 1.3 GHz		
		(1 ~ 100) rad	1.4×10^{-2}	
Network analyzers	40623			Universal Counter
Frequency		10 Hz ~ 1 kHz	5.8×10^{-8}	Power Meter
		1 kHz ~ 10 MHz	5.8×10^{-9}	Power Sensor
		10 MHz ~ 18 GHz	8.2×10^{-10}	Calibration Kit

Accreditation No. : KC01-38(77/92)

406. RF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Output level accuracy & linearity	40623	-60 dBm ~ 20 dBm		Measuring Receiver
		10 Hz ~ 10 kHz	0.05 dB	Microwave Converter
		10 kHz ~ 100 MHz	0.10 dB	Sensor Module
		100 MHz ~ 1 GHz	0.11 dB	Spectrum Analyzer
		1 GHz ~ 5 GHz	0.16 dB	Attenuator Set
		5 GHz ~ 10 GHz	0.17 dB	/ KRCMI-I-406-03
		10 GHz ~ 15 GHz	0.18 dB	
		15 GHz ~ 18 GHz	0.21 dB	
Output level flatness		-40 dBm ~ 0 dBm		
		10 Hz ~ 10 kHz	0.04 dB	
		10 kHz ~ 100 MHz	0.10 dB	
		100 MHz ~ 1 GHz	0.11 dB	
		1 GHz ~ 5 GHz	0.14 dB	
		5 GHz ~ 10 GHz	0.15 dB	
		10 GHz ~ 15 GHz	0.18 dB	
		15 GHz ~ 18 GHz	0.21 dB	
Dynamic range accuracy		100 kHz ~ 18 GHz		
		0 dB ~ 20 dB	0.04 dB	
		20 dB ~ 40 dB	0.05 dB	
		40 dB ~ 60 dB	0.06 dB	
		60 dB ~ 70 dB	0.07 dB	
		70 dB ~ 90 dB	0.08 dB	
		90 dB ~ 100 dB	0.09 dB	
SWR		1.0		
		DC ~ 1 GHz	0.012	
		1 GHz ~ 6 GHz	0.021	
		6 GHz ~ 12 GHz	0.023	
		12 GHz ~ 18 GHz	0.024	
		1.2		
		DC ~ 1 GHz	0.016	
		1 GHz ~ 9 GHz	0.027	
		9 GHz ~ 12 GHz	0.028	
		12 GHz ~ 15 GHz	0.025	
		15 GHz ~ 18 GHz	0.026	
		1.5		
		DC ~ 1 GHz	0.023	
		1 GHz ~ 6 GHz	0.042	
		6 GHz ~ 9 GHz	0.044	
		9 GHz ~ 12 GHz	0.047	
		12 GHz ~ 15 GHz	0.046	
		15 GHz ~ 18 GHz	0.050	
		2.0		
		DC ~ 1 GHz	0.039	

406. RF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
SWR	40623	1 GHz ~ 6 GHz 6 GHz ~ 9 GHz 9 GHz ~ 12 GHz 12 GHz ~ 15 GHz 15 GHz ~ 18 GHz	0.070 0.075 0.073 0.069 0.090	
Noise figure meters Reference Frequency Input SWR Noise figure Supply Voltage	40624	 10 MHz 10 MHz ~ 12 GHz 12 GHz ~ 18 GHz 10 MHz ~ 6 GHz 6 GHz ~ 18 GHz (0 ~ 30) V	 6.4×10^{-10} 0.07 0.11 0.47 dB 0.48 dB 0.001 4 V	Network Analyzer Noise Source Digital Multimeter Universal Counter / KRCMI-I-406-28
Noise impulse simulators Pulse Voltage Pulse Width Rise Time	40626	 ± (0.01 ~ 5) Kv 50 ns ~ 1 ms (0.1 ~ 100) ns	 2.8×10^{-2} 3.5×10^{-3} 4.6×10^{-3}	High Voltage Prove Oscilloscope / KRCMI-I-406-04
RF power meters Power Reference Power	40635	 3 μW ~ 100 mW 1 mW	 2.5×10^{-3} 5.6×10^{-3}	Range Calibrator Thermistor Mount Power Meter, Power Sensor Digital Multimeter / KRCMI-I-406-05
Diode power sensors	40636	(3 μW ~ 100 mW) 9 kHz ~ 1 GHz 1 GHz ~ 6 GHz 6 GHz ~ 12 GHz 12 GHz ~ 15 GHz 15 GHz ~ 18 GHz	 1.5×10^{-2} 1.8×10^{-2} 2.1×10^{-2} 2.2×10^{-2} 2.6×10^{-2}	Power Meter Synthesized Sweeper Dual Directional Coupler / KRCMI-I-406-06
Thermocouple power sensors	40637	(3 μW ~ 100 mW) 9 kHz ~ 1 GHz 1 GHz ~ 6 GHz 6 GHz ~ 12 GHz 12 GHz ~ 15 GHz 15 GHz ~ 18 GHz	 1.5×10^{-2} 1.8×10^{-2} 2.1×10^{-2} 2.2×10^{-2} 2.6×10^{-2}	Power Meter Synthesized Sweeper Dual Directional Coupler / KRCMI-I-406-07
Pulse generators Period Delay Width	40638	 100 ps ~ 10 s 1 ns ~ 10 s 100 ps ~ 10 s	 5.8×10^{-9} 5.8×10^{-3} 5.8×10^{-3}	Universal Counter Oscilloscope / KRCMI-I-406-08

Accreditation No. : KC01-38(79/92)

406. RF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Transition time	40638	4.5 ns ~ 10 ms	5.8×10^{-3}	
Output level		± (1 mV ~ 20 V)	1.8×10^{-3}	
RF signal generators	40640			Universal Counter
Frequency		9 kHz ~ 18 GHz	6.0×10^{-10}	Synthesizer Sweeper
				Power Meter
Output level		9 kHz ~ 150 kHz		Power Sensor
		(-60 ~ 20) dBm	0.10 dB	Measuring Receiver
				Microwave Converter
		150 kHz ~ 100		Sensor Module
		(0 ~ 20) dBm	0.17 dB	GPS Receiver
		(-40 ~ 0) dBm	0.18 dB	Spectrum Analyzer
		(-50 ~ -40) dBm	0.19 dB	/ KRCMI-I-406-09
		(-80 ~ -50) dBm	0.24 dB	
		(-120 ~ -80) dBm	0.25 dB	
		100 MHz ~ 1 GHz		
		(0 ~ 20) dBm	0.17 dB	
		(-40 ~ 0) dBm	0.18 dB	
		(-50 ~ -40) dBm	0.19 dB	
		(-80 ~ -50) dBm	0.24 dB	
		(-120 ~ -80) dBm	0.26 dB	
		1 GHz ~ 2 GHz		
		(0 ~ 20) dBm	0.18 dB	
		(-40 ~ 0) dBm	0.19 dB	
		(-50 ~ -40) dBm	0.20 dB	
		(-80 ~ -50) dBm	0.25 dB	
		(-120 ~ -80) dBm	0.26 dB	
		2 GHz ~ 10 GHz		
		(0 ~ 20) dBm	0.19 dB	
		(-40 ~ 0) dBm	0.20 dB	
		(-50 ~ -40) dBm	0.21 dB	
		(-80 ~ -50) dBm	0.25 dB	
		(-120 ~ -80) dBm	0.27 dB	
		10 GHz ~ 18 GHz		
		(0 ~ 20) dBm	0.20 dB	
		(-40 ~ 0) dBm	0.21 dB	
		(-50 ~ -40) dBm	0.22 dB	
		(-80 ~ -50) dBm	0.26 dB	
		(-120 ~ -80) dBm	0.28 dB	
Level Flatness		(-40 ~ 0) dBm		
		9 kHz ~ 1 GHz	0.08 dB	
		1 GHz ~ 2 GHz	0.09 dB	

		2 GHz ~ 3 GHz	0.11 dB	

406. RF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Level Flatness	40640	3 GHz ~ 9 GHz 9 GHz ~ 18 GHz	0.12 dB 0.14 dB	
FM Modulation		(1 ~ 100) kHz	2.4×10^{-2}	
AM Modulation		(1 ~ 100) %	2.4×10^{-2}	
Audio Frequency		40 Hz ~ 100 kHz	6.1×10^{-8}	
RF spectrum analyzers	40641			GPS Receiver
Reference		10 MHz	4.0×10^{-10}	Universal Counter Syntesizer Sweeper
Frequency Readout		9 kHz ~ 18 GHz	$6.0 \times 10^{-4} \times$ Span	Synthesized CW Generator Power Meter
Frequency Mark Count		9 kHz ~ 18 GHz	0.6 Hz	Power Sensor Power Splitter
Frequency span		8 kHz ~ 1 800 MHz	$1.4 \times 10^{-4} \times$ Span	/ KRCMI-I-406-10
Scale Fidelity		(-20 ~ 0) dB (-40 ~ -20) dB (-60 ~ -40) dB (-80 ~ -60) dB	0.05 dB 0.06 dB 0.07 dB 0.09 dB	
Reference Level		(-20 ~ 0) dBm (-40 ~ -20) dBm (-60 ~ -40) dBm (-80 ~ -60) dBm	0.05 dB 0.06 dB 0.07 dB 0.09 dB	
Resolution Bandwidth		1 kHz ~ 10 MHz	$2.2 \times 10^{-3} \times$ RBW	
Cal output Frequency		(1 ~ 500) MHz	7.8×10^{-9}	
Cal output amplitude		(-30 ~ 0) dBm	0.06 dB	
Frequency response		9 kHz ~ 500 MHz 500 MHz ~ 3 GHz 3 GHz ~ 10 GHz 10 GHz ~ 18 GHz	0.08 dB 0.10 dB 0.11 dB 0.15 dB	
RF speed guns	40642			Speed Calibrator
Speed		(5 ~ 1 600) m/s (1 600 ~ 3 000) m/s	0.01 m/s 0.02 m/s	Microwave Frequency Counter / KRCMI-I-406-32
Frequency		(10.2 ~ 10.6) GHz	7 kHz	
Surge Generator	40643			High Voltage Prove
Voltage		(±) (0.02 ~ 20) V (20 ~ 70) V	 3.2×10^{-3} 1.2×10^{-2}	Oscilloscope Current Monitor Attenuator

Accreditation No. : KC01-38(81/92)

406. RF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Voltage	40643	(70 ~ 100) V	2.6×10^{-2}	/ KRCMI-I-406-11
		(0.1 ~ 30) kV	2.6×10^{-2}	
		(30 ~ 100) kV	1.0×10^{-2}	
		(100 ~ 500) kV	1.0×10^{-2}	
Current		(±)		
		(1 ~ 50) A	1.7×10^{-2}	
		(50 ~ 100) A	1.7×10^{-2}	
		(100 ~ 500) A	1.7×10^{-2}	
		(500 ~ 1 000) A	1.7×10^{-2}	
		(1 ~ 5) kA	1.7×10^{-2}	
		(5 ~ 10) kA	1.7×10^{-2}	
		(10 ~ 50) kA	1.7×10^{-2}	
		(50 ~ 100) kA	1.7×10^{-2}	
		(100 ~ 150) kA	2.0×10^{-2}	
		(150 ~ 200) kA	2.0×10^{-2}	
Front Time		(0.4 ~ 10) μs	3.4×10^{-3}	
		(10 ~ 400) μs	3.6×10^{-3}	
Time to Half Value		(10 ~ 800) μs	4.0×10^{-3}	
		(0.8 ~ 6) ms	4.0×10^{-3}	
Rise Time , Fall Time		(0.002 ~ 1 000) μs	3.6×10^{-3}	
		(1 ~ 10) ms	3.6×10^{-3}	
		(10 ~ 20) ms	6.0×10^{-3}	
Pulse Width		(1 ~ 1 000) μs	3.5×10^{-3}	
		(1 ~ 500) ms	3.5×10^{-3}	
Duration Time		(0.01 ~ 1 000) μs	3.5×10^{-3}	
		(1 ~ 1 000) ms	3.5×10^{-3}	
		(1 ~ 6) s	3.5×10^{-3}	
Phase		(220 V , 60 Hz)		
		0° ~ 10°	7.0×10^{-2}	
		10° ~ 90°	8.1×10^{-3}	
		90° ~ 180°	4.4×10^{-3}	
		180° ~ 270°	3.3×10^{-3}	
		270° ~ 360°	2.8×10^{-3}	
		(230 V , 50 Hz)		
		0° ~ 10°	5.9×10^{-2}	
		10° ~ 90°	6.7×10^{-3}	
		90° ~ 180°	3.7×10^{-3}	
		180° ~ 270°	2.7×10^{-3}	
		270° ~ 360°	2.3×10^{-3}	

Accreditation No. : KC01-38(82/92)

406. RF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Ratio	40643	(±) (50 ~ 350) kV 200 ~ 50 000 (±) (350 ~ 500) kV 200 ~ 50 000	 7.1×10^{-3} 1.1×10^{-2}	
SWR meters VSWR	40644	 1.0 DC ~ 1 GHz (1 ~12) GHz (12 ~ 18) GHz 1.2 DC ~ 3 GHz (3 ~ 9) GHz (9 ~ 18) GHz 1.5 DC ~ 3 GHz (3 ~ 6) GHz (6 ~ 9) GHz (9 ~ 12) GHz (12 ~ 15) GHz (15 ~ 18) GHz 2.0 DC ~ 3 GHz (3 ~ 6) GHz (6 ~ 9) GHz (9 ~ 15) GHz (15 ~ 18) GHz	 0.013 0.023 0.024 0.016 0.026 0.027 0.022 0.038 0.042 0.044 0.047 0.049 0.039 0.067 0.070 0.074 0.090	Network Analyzer Calibration Kit Spectrum Analyzer Mismatch Set Pulse/CW Micro. Counter Power Meter Power Sensor / KRCMI-I-406-22
Source power		(-30 ~ 10) dBm (0.01 ~ 1) GHz (1 ~ 10) GHz (10 ~ 18) GHz	 0.07 dB 0.09 dB 0.12 dB	
Frequency		100 kHz ~ 18 GHz	6.1×10^{-9}	
RF terminations VSWR	40645	 (0.05 ~ 2) GHz (2 ~ 18) GHz	 0.009 0.012	Network Analyzer Calibration Kit / KRCMI-I-406-23
RF voltmeters Voltage	40650	 100 kHz ~ 1 GHz 1 mV ~ 10 V	 2.2×10^{-2}	Power Meter Signal Generator / KRCMI-I-406-13
Field strength meters Reference frequency	40652	 10 MHz	 1×10^{-8}	Measuring Receiver Signal Generator Power Sensor

Accreditation No. : KC01-38(83/92)

406. RF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Frequency response	40652	-40 dBm ~ 10 dBm		Frequency Counter /KRCMI-I-406-33
		50 MHz ~ 1 GHz	0.23 dB	
		1 GHz ~ 8 GHz	0.35 dB	
		8 GHz ~ 18 GHz	0.47 dB	
		-80 dBm ~ -40 dBm		
		50 MHz ~ 1 GHz	0.23 dB	
		1 GHz ~ 8 GHz	0.37 dB	
		8 GHz ~ 18 GHz	0.49 dB	
Amplitude modulation		150 kHz ~ 18 GHz		
		5 % ~ 100 %	2.7×10^{-2}	
Frequency modulation		150 kHz ~ 18 GHz		
		5 kHz ~ 100 kHz	2.7×10^{-2}	
Dip simulators	40654			Oscilloscope
Line Voltage		(50 ~ 60) Hz		Digital Multimeter
		(10 ~ 100) V	2.3×10^{-3}	Frequency Counter
		(100 ~ 300) V	1.1×10^{-3}	High Voltage Differential
		(300 ~ 400) V	9.5×10^{-4}	Probe / KRCMI-I-406-31
Line Frequency		(49 ~ 61) Hz	2.0×10^{-4}	
Dip & Up Voltage		220 V , (50 ~ 60) Hz		
		Dip : 120 %		
		(250 ~ 300) V	2.5×10^{-2}	
		Dip : 80 %		
		(160 ~ 200) V	1.9×10^{-2}	
		Dip : 70 %		
		(140 ~ 180) V	2.1×10^{-2}	
		Dip : 40 %		
		(80 ~ 100) V	3.7×10^{-2}	
		Dip : 0 %		
		(1 ~ 10) V	3.4×10^{-1}	
		120 V , (50 ~ 60) Hz		
		Dip : 120 %		
		(110 ~ 170) V	2.2×10^{-2}	
		Dip : 80 %		
		(70 ~ 120) V	1.8×10^{-2}	
		Dip : 70 %		
		(60 ~ 100) V	2.0×10^{-2}	
		Dip : 40 %		
		(30 ~ 60) V	3.5×10^{-2}	
		Dip : 0 %		
		(1 ~ 10) V	1.7×10^{-1}	

Accreditation No. : KC01-38(84/92)

406. RF Measurements

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Duration Time	40654	(1 ~ 10) ms	4.0×10^{-3}	
		(10 ~ 50) ms	4.0×10^{-3}	
		(50 ~ 100) ms	4.0×10^{-3}	
		(100 ~ 500) ms	4.0×10^{-3}	
		(0.5 ~ 1) s	4.0×10^{-3}	
		(1 ~ 6) s	4.0×10^{-3}	
Phase		(220 V , 60 Hz)		
		0° ~ 10°	7.0×10^{-2}	
		10° ~ 90°	8.1×10^{-3}	
		90° ~ 180°	4.4×10^{-3}	
		180° ~ 270°	3.3×10^{-3}	
		270° ~ 360°	2.8×10^{-3}	
		(230 V , 50 Hz)		
		0° ~ 10°	1.3×10^{-1}	
		10° ~ 90°	1.4×10^{-2}	
		90° ~ 180°	7.8×10^{-3}	
		180° ~ 270°	5.9×10^{-3}	
		270° ~ 360°	5.0×10^{-3}	

Accreditation No. : KC01-38(85/92)

501. temperature

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Temperature generators: ovens, furnaces, isothermal liquid baths, ice-point baths, dry-block calibrators	50101	(-196 ~ 0) ℃ 0 ℃ (0 ~ 550) ℃ (550 ~ 700) ℃ (700 ~ 1 100) ℃ (1 100 ~ 1 500) ℃ (1 000 ~ 1 100) ℃ (1 100 ~ 1 200) ℃	0.018 ℃ 0.015 ℃ 0.018 ℃ 0.49 ℃ 0.67 ℃ 3.1 ℃ 1.2 ℃ 4.0 ℃	S.P.R.T / KRCMI-I-501-01 S.P.R.T S-Type Thermocouple / KRCMI-I-501-02
Temperature indicators/ recorders /controllers, temperature calibrators	50102			
Temperature indicators/recorders /controllers (with Sensors)		(-196 ~ 550) ℃ (550 ~ 700) ℃ (700 ~ 1 100) ℃ (1 100 ~ 1 500) ℃	0.022 ℃ 0.49 ℃ 0.60 ℃ 3.1 ℃	S.P.R.T S-Type Thermocouple / KRCMI-I-501-03
Thermoelectric (only indicators)		(-196 ~ 650) ℃ (650 ~ 1 000) ℃ (1 000 ~ 1 300) ℃ (1 300 ~ 1 500) ℃	0.04 ℃ 0.16 ℃ 0.22 ℃ 0.36 ℃	Meter Calibrator / KRCMI-I-501-04
Electric temp. calibrator Thermoelectric		(-196 ~ 0) ℃ (0 ~ 1 300) ℃ (1 300 ~ 1 500) ℃	0.05 ℃ 0.03 ℃ 0.1 ℃	Meter Calibrator / KRCMI-I-501-05
Glass thermometers: liquid-in-glass, Beckmann	50103	(-80 ~ -50) ℃ (-50 ~ 400) ℃ (400 ~ 500) ℃	0.15 ℃ 0.04 ℃ 0.58 ℃	S.P.R.T / KRCMI-I-501-06
Resistance thermometers; SPRT, IPRT, thermistors, etc	50104	(-196 ~ 550) ℃	0.024 ℃	S.P.R.T / KRCMI-I-501-08
Thermal expansion thermometers; bimetal, gas or liquid type	50105	(-50 ~ 150) ℃ (150 ~ 250) ℃ (250 ~ 350) ℃ (350 ~ 550) ℃	0.3 ℃ 0.6 ℃ 1.4 ℃ 3.0 ℃	S.P.R.T S-Type Thermocouple / KRCMI-I-501-10
Thermomecoules: noble metal, base metal, pure metal, special type, etc.	50106			S.P.R.T S-Type Thermocouple / KRCMI-I-501-11
Thermocouple		(-196 ~ 550) ℃ (550 ~ 1 100) ℃ (1 100 ~ 1 300) ℃	0.4 ℃ 0.9 ℃ 3.1 ℃	
Noble-metal thermocouple		(0 ~ 1 100) ℃ (1 100 ~ 1 500) ℃	0.8 ℃ 3.1 ℃	S-Type Thermocouple / KRCMI-I-501-13
Temperature transducers	50107	(-196 ~ 550) ℃ (550 ~ 1 100) ℃ (1 100 ~ 1 300) ℃	0.04 ℃ 0.8 ℃ 3.1 ℃	S.P.R.T S-Type Thermocouple / KRCMI-I-501-12

Accreditation No. : KC01-38(86/92)

501. temperature

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Others: quartz,semiconductivity, optical fiber etc. Semiconductive thermometers	50109	(-50 ~ 250) ℃	0.06 ℃	S.P.R.T / KRCMI-I-501-09

Accreditation No. : KC01-38(87/92)

502. non contact thermometry

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Radiation thermometers	50204	(0 ~ 50) ℃ (50 ~ 150) ℃ (150 ~ 200) ℃ (200 ~ 400) ℃ (400 ~ 600) ℃ (600 ~ 800) ℃ (800 ~ 900) ℃ (900 ~ 1 000) ℃	1.6 ℃ 1.7 ℃ 1.9 ℃ 2.0 ℃ 2.2 ℃ 2.4 ℃ 2.5 ℃ 2.7 ℃	Standard radiation Thermometers / KRCMI-I-502-01
Thermal image apparatus	50205	(50 ~ 100) ℃ (100 ~ 150) ℃ (150 ~ 200) ℃ (200 ~ 400) ℃ (400 ~ 500) ℃	1.8 ℃ 1.9 ℃ 2.0 ℃ 2.1 ℃ 2.3 ℃	Standard radiation Thermometers / KRCMI-I-502-02
Blackbody furnaces	50206	(0 ~ 50) ℃ (50 ~ 150) ℃ (150 ~ 200) ℃ (200 ~ 400) ℃ (400 ~ 600) ℃ (600 ~ 800) ℃ (800 ~ 900) ℃ (900 ~ 1 000) ℃	1.2 ℃ 1.4 ℃ 1.6 ℃ 1.7 ℃ 1.9 ℃ 2.2 ℃ 2.3 ℃ 2.5 ℃	Standard radiation Thermometers / KRCMI-I-502-03

Accreditation No. : KC01-38(88/92)

503. Humidity

Measured Quantity Instrument or Gauge	Field code	Range	Uncertainty of measurement (The Confidence Level is about 95 %)	Comments
Dew-point hygrometers;chilled mirror, alumina thinfilm	50301	(-80 ~ -70) ℃	0.64 ℃ D.P.	Dewpoint Metet / KRCMI-I-503-09
		(-70 ~ -20) ℃	0.40 ℃ D.P.	
		(-20 ~ 10) ℃ D.P.	0.18 ℃ D.P.	
		(10 ~ 70) ℃ D.P.	0.14 ℃ D.P.	
		(70 ~ 93) ℃ D.P.	0.16 ℃ D.P.	
Relative humidity hygrometers; polimer thinfilm, hair	50302	(20 ~ 30) % R.H.	1.9 % R.H.	Dewpoint Metet / KRCMI-I-503-01
		(30 ~ 50) % R.H.	1.6 % R.H.	
		(50 ~ 70) % R.H.	1.8 % R.H.	
		(70 ~ 90) % R.H.	2.1 % R.H.	Dewpoint Metet / KRCMI-I-503-02
		(90 ~ 95) % R.H.	2.2 % R.H.	
		(-40 ~ 100) ℃	0.4 ℃	
Psychrometers; assmann ventilated, PRT type	50303	(20 ~ 70) % R.H.	1.9 % R.H.	Dewpoint Metet / KRCMI-I-503-03
		(70 ~ 95) % R.H.	2.2 % R.H.	
		(-40 ~ 100) ℃	0.4 ℃	Calibrator / KRCMI-I-503-04
Temperature humidity recorders ; Hygrothermograph	50304	(20 ~ 30) % R.H.	1.9 % R.H.	Dewpoint Metet / KRCMI-I-503-05
		(30 ~ 50) % R.H.	1.6 % R.H.	
		(50 ~ 70) % R.H.	1.8 % R.H.	
		(70 ~ 90) % R.H.	2.1 % R.H.	
		(90 ~ 95) % R.H.	2.2 % R.H.	
		(-20 ~ 50) ℃	0.4 ℃	
Transducers; dew-point/ dew-point humidity	50305	(-70 ~ -10) ℃ D.P	0.43 ℃ D.P.	Dewpoint Metet / KRCMI-I-503-06
		(-10 ~ 80) ℃ D.P.	0.35 ℃ D.P.	
relative humidity		(20 ~ 70) % R.H.	1.9 % R.H.	
		(70 ~ 90) % R.H.	2.1 % R.H.	
		(90 ~ 95) % R.H.	2.3 % R.H.	
Humidity generators; two-pressure, two-temperature, flow mixing humidity gererator, constant temperature and humidity chamber)	50306	(10 ~ 80) % R.H.	1.8 % R.H.	Dewpoint Metet / KRCMI-I-503-07
		(80 ~ 95) % R.H.	2.4 % R.H.	
		(-75 ~ 180) ℃	0.4 ℃	

Accreditation No. : KC01-38(89/92)

601. Acoustics

Measured Quantity Instrument or Gauge	Field code	Range	CMC (The Confidence Level is about 95 %)	Comments
Sound level meters	60106	125 Hz 250 Hz 500 Hz 1 kHz 2 kHz 4 kHz 8 kHz	0.3 dB 0.2 dB 0.2 dB 0.2 dB 0.2 dB 0.3 dB 0.3 dB	Calibrator / KRCMI-I-601-01

Accreditation No. : KC01-38(90/92)

603. Vibration

Measured Quantity Instrument or Gauge	Field code	Range	CMC (The Confidence Level is about 95 %)	Comments
Vibration calibrators	60301	(20 ~ 1 250) Hz	1.6×10^{-2}	Accelerometer / KRCMI-I-603-01
Vibration transducers	60302	(10 ~ 2 500) Hz (2 500 ~ 5 000) Hz	1.5×10^{-2} 1.6×10^{-2}	Accelerometer / KRCMI-I-603-02
Vibration measuring instruments Acceleration	60303	(10 ~ 2 500) Hz	1.5×10^{-2}	Accelerometer / KRCMI-I-603-03
Speed		(10 ~ 2 500) Hz	1.5×10^{-2}	
Displacement		(10 ~ 160) Hz (160 ~ 315) Hz (315 ~ 630) Hz	1.4×10^{-2} 2.1×10^{-2} 6.6×10^{-2}	

Accreditation No. : KC01-38(91/92)

701. Photometry

Measured Quantity Instrument or Gauge	Field code	Range	CMC (The Confidence Level is about 95 %)	Comments
Iluminance meters	70101	0.5 lx (0.5 ~ 1) lx (1 ~ 3 000) lx	2.7 % 2.5 % 2.4 %	Illuminance / KRCMI-I-701-01

Accreditation No. : KC01-38(92/92)

901. Chemical analysis

Measured Quantity Instrument or Gauge	Field code	Range	CMC (The Confidence Level is about 95 %)	Comments
Gas analyzers O_2	90106	(5 ~ 25) cmol/mol	2.4 %	Standard Gas / KRCMI-I-901-01