



# 校准证书

## CALIBRATION CERTIFICATE



证书编号:  
Certificate No. J201708048199-06-0001

第 1 页 共 5 页  
Page of

委托方  
Client 优利德科技（中国）有限公司

委托方地址  
Address 东莞松山湖高新技术产业开发区工业北一路6号

仪器名称  
Description 掌上型万用表

型号/规格  
Model/Type UT33D+


制造厂  
Manufacturer UNI-T

出厂编号  
Serial No. C173517442

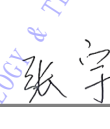
管理号  
Asset No. -----

校准日期  
Date of Calibration 2017年11月30日  
Y M D

样品接收日期  
Date of Receipt 2017年11月29日  
Y M D

批准人:  
Approved Signatory  (主任)

审核:  
Inspected by 

校准:  
Calibrated by 

证书专用章  
(Stamp)

地址: 广东省广州市黄埔大道西平云路163号  
Address: No.163.Pingyun Rd, West of HuangPu Ave.Guangzhou.Guangdong.China

计量校准机构备案号 (The record number): [2012]粤量校S003号

联系电话 (Tel.): 020-38699960,66830999,400-602-0999

传真 (Fax): 020-38698685

网站 (Website): [http:// www.grgtest.com](http://www.grgtest.com)

邮政编码 (Postcode): 510656

电子邮件 (E-mail): [grgtest@grgtest.com](mailto:grgtest@grgtest.com)



扫一扫验真伪



## 校准说明

### DIRECTIONS OF CALIBRATION

证书编号: J201708048199-06-0001

第 2 页 共 5 页

Certificate No.

Page of

1. 本实验室出具的数据均可溯源至国家计量基准和国际单位制(SI).  
(All data issued by GRGTest are traced to National Primary Standards and International System of Units(SI).)
2. 本结果仅对当次被测样品有效, 如有疑问请在15个工作日内反馈。(The result is ONLY valid for the tested sample, please feedback to us within 15 working days if you have any question.)
3. 本证书编号具有唯一性, 后缀若带有“-Gx”的证书为替换证书, 自发出后原证书即刻作废。  
(Each certificate has a unique number. The suffix of "-Gx" will be added to the number as a replacement of the old version. The original certificate will be officially invalid once the new certificate number is issued.)
4. 证书中如有最大允许误差、判定结果, 仅供参考, 其中“P”代表“合格”, “F”代表“不合格”。证书中结论判定是指测得值是否符合规定要求的限定值, 而使用人员还应结合实际测量要求, 评估校准结果测量不确定度对符合性评定的影响。(MPE & judgement result in the datasheet is only for reference, "P" represents "Pass" and "F" represents "Fail". The judgement is made on the basis of whether the measured value conforms to the limited value specified in the regulation, whereas users should evaluate the effects of measurement uncertainty of calibration results on conformity determination associated with actual measurement.)
5. 本次校准的技术依据及CNAS认可范围, 超出范围的内容未被认可。注: 详细的认可范围请查看CNAS网站中注册编号为L0446的证书附件。(Reference document and accredited scope by CNAS for calibration, beyond which isn't accredited. Please see the attachment of certificate No.L0446 on CNAS website for details.)

JJF 1587-2016 数字多用表校准规范(C.S. for Multimeters): DCV:1mV~1100V;ACV:

10mV~1000V(10Hz~1MHz); DCA:1μA~100A;ACA:10μA~120A(10Hz~30kHz);OHM: 1Ω~1100MΩ

#### 6. 本次校准使用的主要测量标准(Main Standards of Measurement Used in the Calibration.):

名称 / 型号 Description / Model	编号 Serial No.	证书编号 Certificate No.	证书有效期 Due Date	技术特征 Technique Character
多功能校准仪/5522A	3473901	J201701209262-30-0001	2018-05-22	DCV: ±1.2E-5 ACV: ±1.7E-4 DCI: ±1E-4 ACI: ±4.7E-4 Ohm: ±2.8E-5

#### 7. 校准地点、环境条件(Place and environmental conditions of the calibration):

地点 Place	广州计量电子电磁室	温度 Temperature	22 °C	相对湿度 Relative Humidity	50 %
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#### 8. 建议复校时间间隔:

1年, 送校单位也可按实际使用情况自主决定。

Suggested calibration interval is

1 year or it can be altered depending on the actual usage of the user.



# 校准结果

## RESULTS OF CALIBRATION

证书编号: J201708048199-06-0001

第 3 页 共 5 页

Certificate No.

Page of

1、外观以及一般性检查: 正常

In view of External and Generality check : Pass

2、直流电压测量的校准 (Calibration of DC Voltage)

量程 Range (mV)	标准值 Reference (mV)	示值 Indication (mV)	误差 Error (mV)	不确定度 U (k=2) (mV)	允许误差 MPE (mV)	结论 Conclusion (Pass/Fail)	
200	20.00	19.9	-0.1	0.02	±0.3	P	
	100.00	99.9	-0.1	0.1	±0.7	P	
	190.00	189.9	-0.1	0.2	±1.2	P	
	2000	200.0	199	-1	1	±3	P
	600.0	599	-1	1	±5	P	
	1000.0	999	-1	1	±7	P	
	1400.0	1399	-1	1	±9	P	
	1900.0	1900	0	2	±12	P	
	-200.0	-199	1	1	±3	P	
	-600.0	-599	1	1	±5	P	
-1000.0	-999	1	1	±7	P		
-1400.0	-1399	1	1	±9	P		
-1900.0	-1900	0	2	±12	P		
(V)	(V)	(V)	(V)	(V)	(V)		
20	2.000	1.99	-0.01	0.01	±0.03	P	
	10.000	10.01	0.01	0.01	±0.07	P	
	19.000	19.02	0.02	0.02	±0.12	P	
200	20.00	20.0	0.0	0.02	±0.3	P	
	100.00	100.1	0.1	0.1	±0.7	P	
	190.00	190.4	0.4	0.2	±1.2	P	
600	200.0	200	0	1	±4	P	
	300.0	300	0	1	±4	P	
	490.0	491	1	1	±6	P	
	590.0	592	2	1	±7	P	



校准结果  
RESULTS OF CALIBRATION

证书编号: J201708048199-06-0001

第 4 页 共 5 页

Certificate No.

Page of

## 3、60Hz交流电压测量的校准 (Calibration of AC Voltage, 60Hz)

量程 Range	标准值 Reference	示值 Indication	误差 Error	不确定度 $U (k=2)$	允许误差 MPE	结论 Conclusion
(V)	(V)	(V)	(V)	(V)	(V)	(Pass/Fail)
200	20.00	20.0	0.0	0.02	$\pm 1.2$	P
	100.00	100.1	0.1	0.1	$\pm 2.2$	P
	190.00	190.2	0.2	0.2	$\pm 3.3$	P
500	200.0	201	1	1	$\pm 12$	P
	300.0	301	1	1	$\pm 14$	P
	490.0	492	2	1	$\pm 16$	P

## 4、直流电流测量的校准 (Calibration of DC Current)

量程 Range	标准值 Reference	示值 Indication	误差 Error	不确定度 $U (k=2)$	允许误差 MPE	结论 Conclusion
( $\mu$ A)	( $\mu$ A)	( $\mu$ A)	( $\mu$ A)	( $\mu$ A)	( $\mu$ A)	(Pass/Fail)
2000	200.0	199	-1	1	$\pm 4$	P
	1000.0	998	-2	1	$\pm 12$	P
	1900.0	1897	-3	2	$\pm 21$	P
(mA)	2.000	2.00	0.00	0.01	$\pm 0.04$	P
	10.000	10.01	0.01	0.01	$\pm 0.12$	P
	19.000	19.03	0.03	0.02	$\pm 0.21$	P
200	20.00	19.9	-0.1	0.1	$\pm 0.4$	P
	100.00	100.0	0.0	0.1	$\pm 1.4$	P
	190.00	190.0	0.0	0.2	$\pm 2.5$	P
(A)	0.200	0.19	-0.01	0.001	$\pm 0.05$	P
	5.000	4.99	-0.01	0.01	$\pm 0.15$	P
	10.000	9.98	-0.02	0.01	$\pm 0.25$	P

校准结果  
RESULTS OF CALIBRATION

证书编号: J201708048199-06-0001

第 5 页 共 5 页

Certificate No.

Page of

## 5、电阻测量的校准 (Calibration of Resistance)

量程 Range	标准值 Reference	示值 Indication	误差 Error	不确定度 $U$ ( $k=2$ )	允许误差 MPE	结论 Conclusion
( $\Omega$ )	( $\Omega$ )	( $\Omega$ )	( $\Omega$ )	( $\Omega$ )	( $\Omega$ )	(Pass/Fail)
200	20.00	20.0	0.0	0.1	$\pm 0.7$	P
	100.00	99.7	-0.3	0.1	$\pm 1.3$	P
	190.00	189.4	-0.6	0.2	$\pm 2.0$	P
2000	200.0	199	-1	1	$\pm 4$	P
	1000.0	997	-3	1	$\pm 10$	P
	1900.0	1895	-5	2	$\pm 17$	P
(k $\Omega$ )	(k $\Omega$ )	(k $\Omega$ )	(k $\Omega$ )	(k $\Omega$ )	(k $\Omega$ )	
20	2.000	1.99	-0.01	0.01	$\pm 0.04$	P
	10.000	9.98	-0.02	0.01	$\pm 0.10$	P
	19.000	18.98	-0.02	0.02	$\pm 0.17$	P
200	20.00	19.8	-0.2	0.1	$\pm 0.4$	P
	100.00	99.9	-0.1	0.1	$\pm 1.0$	P
	190.00	189.9	-0.1	0.2	$\pm 1.7$	P
(M $\Omega$ )	(M $\Omega$ )	(M $\Omega$ )	(M $\Omega$ )	(M $\Omega$ )	(M $\Omega$ )	
20	0.200	0.19	-0.01	0.001	$\pm 0.05$	P
	10.000	10.00	0.00	0.01	$\pm 0.15$	P
	19.000	18.98	-0.02	0.02	$\pm 0.24$	P

备注:

Notes:

结论 (Conclusion): 所校项目符合技术要求

1.本报告中的扩展不确定度是由标准不确定度乘以包含概率约为95%时的包含因子 $k$ 。The expanded uncertainty is given in the report by the standard uncertainty multiplied by the probability of about 95% when the factor  $k$ .

2.依据(Reference document)

JJF 1059.1-2012 测量不确定度评定与表示

(JJF 1059.1-2012 Evaluation and Expression of Uncertainty in Measurement)

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