



ATS-Four-channel Power Supply Test Operation Instruction



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Foreword

Dongguan Taoke Electronics Co. , Ltd. is located in Hengli, Dongguan, Dongguan City, Guangdong Province, is a research and development, manufacturing, sales as one of the strength of enterprises, combined with embedded software and hardware development and design. The company has long been committed to technical development, with professional software, application layer software and hardware team, with very professional program development related experience and management model, positioning as the core part of Automation Industrial Production Control Development, with self-developed measurement module, control module, can develop equipment for customers, achieve automatic testing, industrial automation control, for the production of Quality Assurance and improve efficiency.

Tk-pw008 power tester is the latest generation of power products. It integrates high-precision program-controlled power supply and electronic load. It can meet the power supply and load demand of power products. It can support QC2.0 、 QC3.0、 QC4.0、 Lightning Various AC and DC chargers.The design of the instrument makes full use of ARM's processing ability, program control technology and simulation actual situation, and can accurately control each test link in the test process to obtain the maximum test accuracy, is currently used for power product testing the most ideal tool.

Thank you for using Tk-pw008 test equipment, you can become our users, is our great honor. In order to enable you to use the TK-PW008 test instrument as quickly and skillfully as possible, we are equipped with the instrument operating manual at

random, please read this operating manual carefully before using the instrument. The contents of this manual are subject to change without prior notice.



一、 product introduction

1.1 Performance and technical specifications

- 1、 Support multi-channel individual testing or collaborative testing
- 2、 Support multiple interface product testing, such as Lightning,
Type-C, Micro, USB
- 3、 The car charger supports setting output voltage of any size (up to 32V, 10mV resolution)
- 4、 Internal integrated electronic load, support any set load current value (single maximum 10A, resolution 10mA)
- 5、 Support QC2.0, QC3.0, QC4.0 PPS, USB, PD, Vivo, OPPO and other quick-charge products
- 6、 D5V, 9V, 12V, 15V, 20V can choose the setting
- 7、 Support double voltage automatic switching test, carry voltage and current, over current protection, Short Circuit Protection, DC / AC conversion efficiency, ripple, etc.

1.2 Typical application

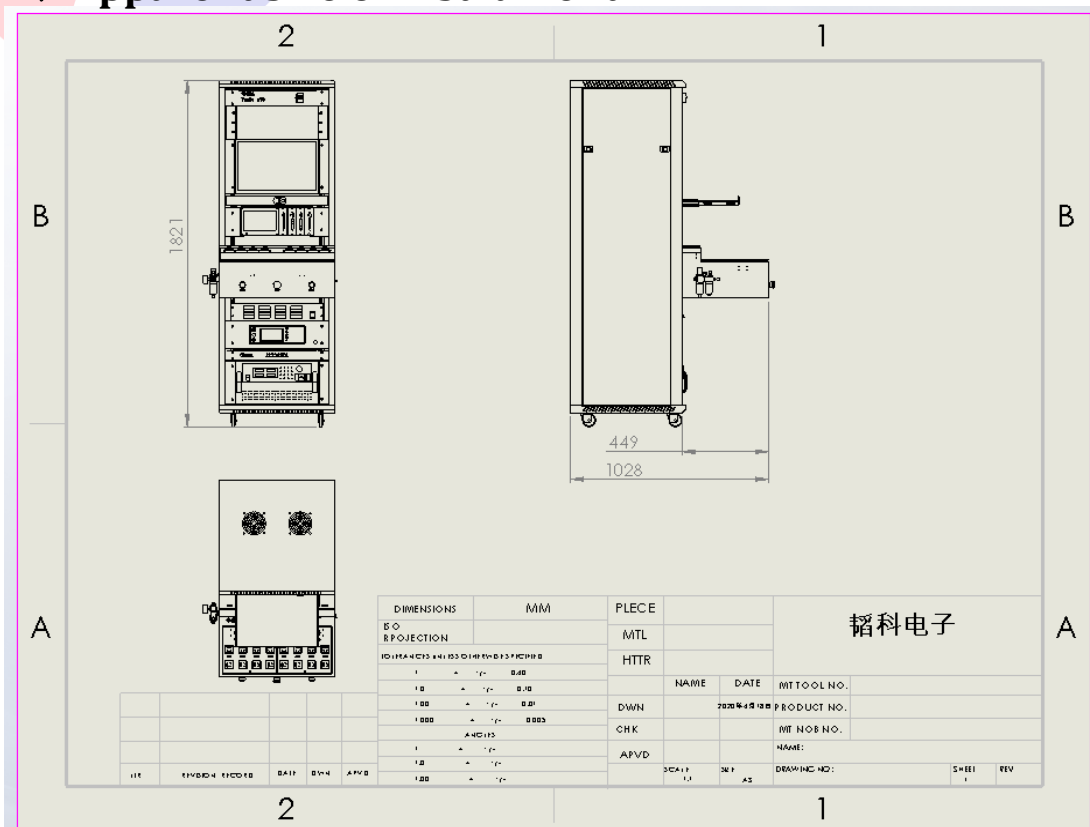
- 1、 Car Direct charging, mobile power supply, wireless charging and other charging products
- 2、 Single channel output product, can measure four at the same time
- 3、 Dual-channel output product for simultaneous measurement of two

- 4、 Four-channel products can be measured directly at one time
- 5、 QC2.0, QC3.0, QC4.0, PPS, USB, PD and other quick charge products, Lightning, Micro and other kinds of universal products

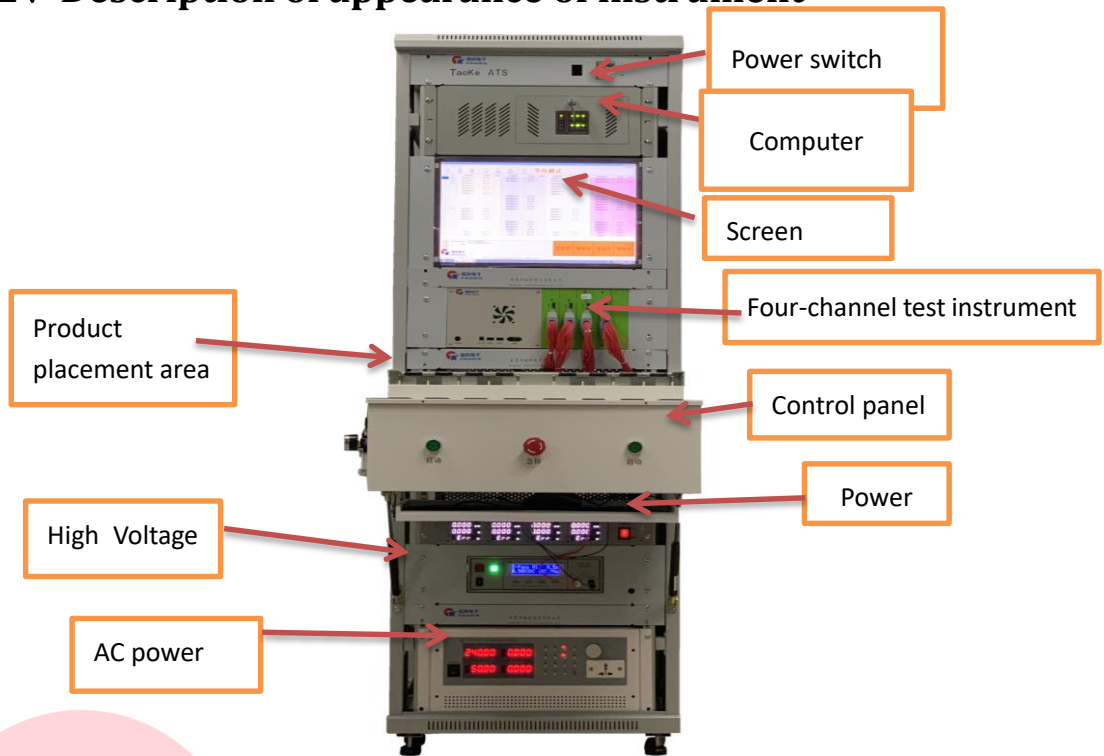


Introduction of instrument size and appearance

2.1、 Apparent size of instrument



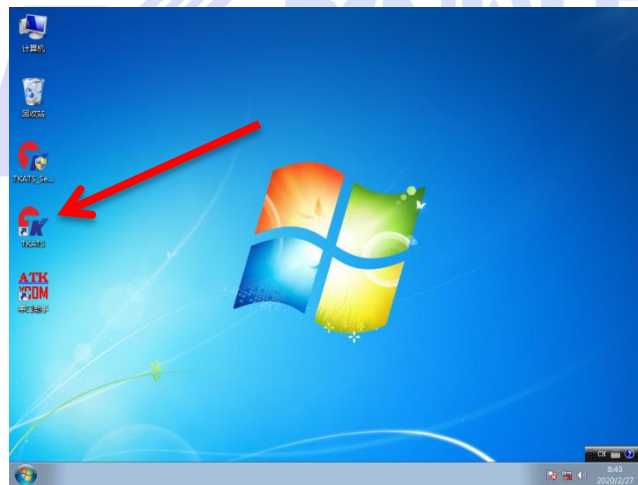
2.2、Description of appearance of instrument



三、 Operation Procedure

3.1. BOOT check and open test software

- 1、 Turn on the leakage switch on the ATS and make sure all the instruments are charged properly
- 2、 check the high-pressure Valve next to the test stand whether the normal air pressure, normal for (0.4~0.6MPa)
- 3、 confirm normal after opening the computer panel, press the Computer Boot Button boot
- 4、 After entering the interface, double-click the test software shortcut (shown in figure) to open the test software



- 5、 After opening the software, the test interface is shown as follows
(Note: After opening the software normally, the cylinder inside the test bed will have a reset action) . By default, the material number before closing will be opened, and there will be no abnormal indication at mark No. 1, mark No. 2 is the pre-test material number

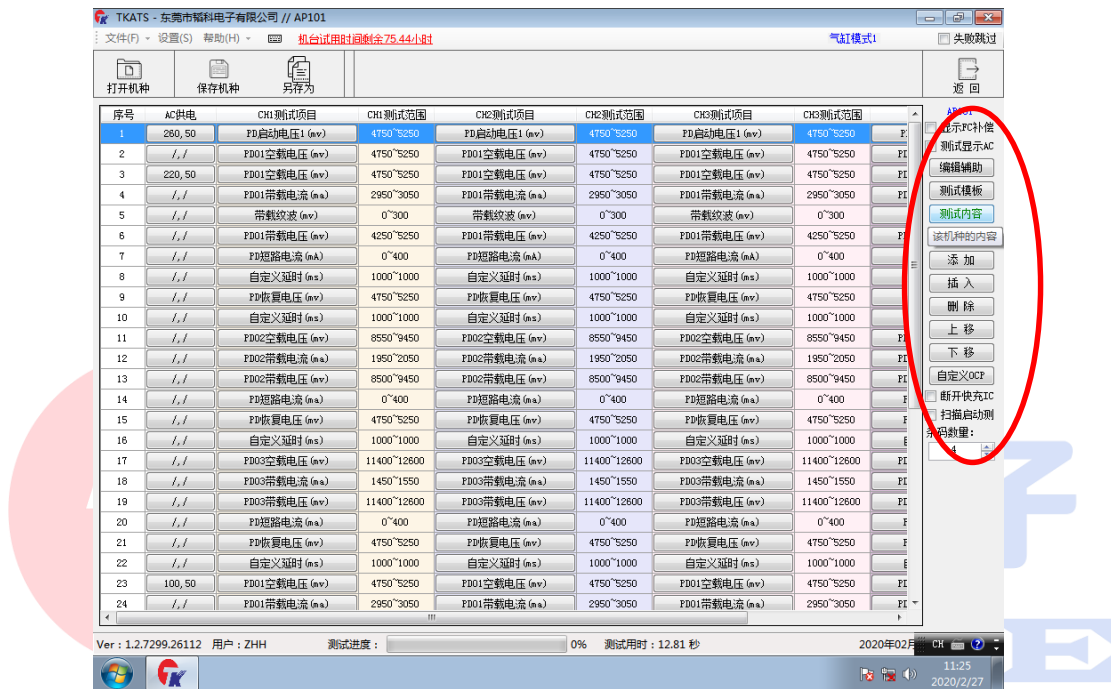


3.2、Introduction to test software menu

3.2.1 FILE MENU BAR INTERFACE: The main function is to open and edit the material number



3.2.2、 After opening the material number, click on the edit machine to enter the content editing interface as follows, you can edit the test items and test scope, you can add, insert, delete, move and so on



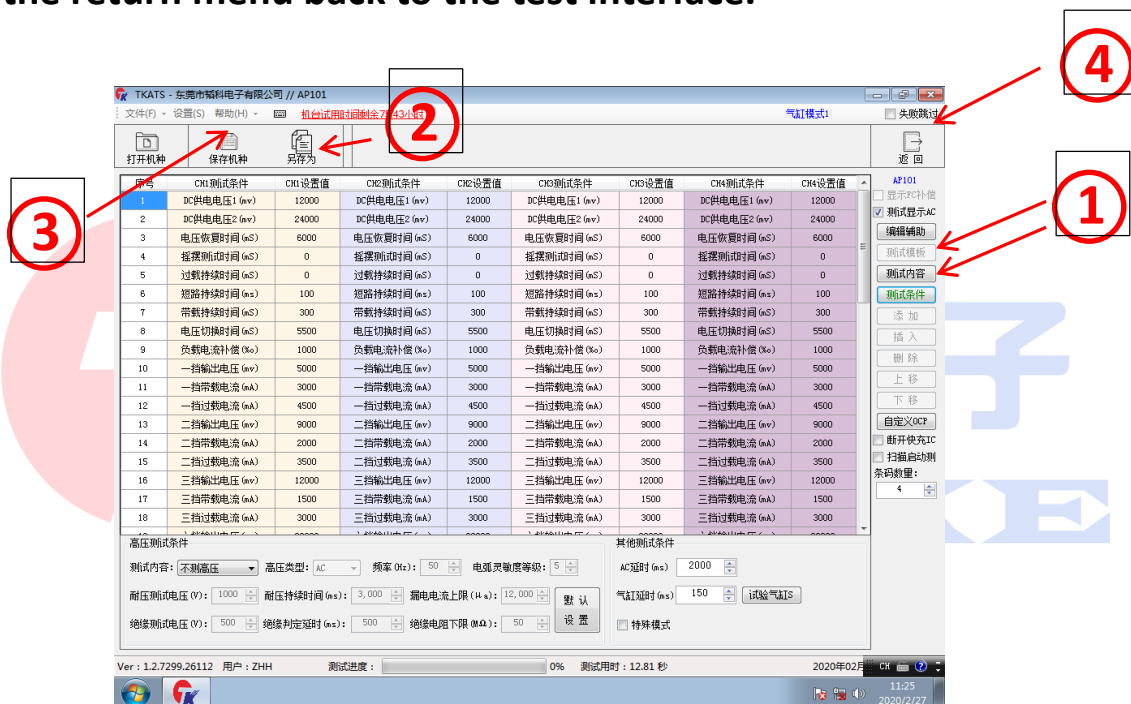
3.2.3、 Click the edit assistant menu to copy and delete the whole content between each channel, convenient and fast, and save step by step after editing.



The screenshot displays the TAATS software interface for a four-channel power supply test. The main window shows a table of test items with columns for sequence number, test item, and range. A dialog box titled '范围值替换/快速复制' (Range Replacement/Quick Copy) is open, showing options to copy and paste content across channels. Red annotations highlight key UI elements: 1 points to the '返回' (Return) button in the top right; 2 points to the '范围值替换/快速复制' dialog box; 3 points to the '保存机种' (Save Model) button in the top left; and 4 points to the '另存为' (Save As) button in the top left.

序号	测试项	CK1测试项目	CK1测试范围	CK2测试项目	CK2测试范围	CK3测试项目	CK3测试范围
1	280_50	PD自动电压 (mv)	4750~5250	PD自动电压 (mv)	4750~5250	PD自动电压 (mv)	4750~5250
2	/ / /	PD01空载电压 (mv)	4750~5250	PD01空载电压 (mv)	4750~5250	PD01空载电压 (mv)	4750~5250
3	220_50	PD01空载电压 (mv)	4750~5250	PD01空载电压 (mv)	4750~5250	PD01空载电压 (mv)	4750~5250
4	/ / /	PD01带载电流 (mA)	2950~3050	PD01带载电流 (mA)	2950~3050	PD01带载电流 (mA)	2950~3050
5	/ / /	带载纹波 (mv)		带载纹波 (mv)		带载纹波 (mv)	
6	/ / /	PD01带载电压 (mv)		PD01带载电压 (mv)		PD01带载电压 (mv)	
7	/ / /	PD短路电流 (mA)		PD短路电流 (mA)		PD短路电流 (mA)	
8	/ / /	自定义延时 (ms)		自定义延时 (ms)		自定义延时 (ms)	
9	/ / /	PD恢复电压 (mv)		PD恢复电压 (mv)		PD恢复电压 (mv)	
10	/ / /	自定义延时 (ms)		自定义延时 (ms)		自定义延时 (ms)	
11	/ / /	PD02空载电压 (mv)		PD02空载电压 (mv)		PD02空载电压 (mv)	
12	/ / /	PD02带载电压 (mv)		PD02带载电压 (mv)		PD02带载电压 (mv)	
13	/ / /	PD02带载电流 (mA)		PD02带载电流 (mA)		PD02带载电流 (mA)	
14	/ / /	PD短路电流 (mA)		PD短路电流 (mA)		PD短路电流 (mA)	
15	/ / /	PD恢复电压 (mv)		PD恢复电压 (mv)		PD恢复电压 (mv)	
16	/ / /	自定义延时 (ms)		自定义延时 (ms)		自定义延时 (ms)	
17	/ / /	PD03空载电压 (mv)	11400~12600	PD03空载电压 (mv)	11400~12600	PD03空载电压 (mv)	11400~12600
18	/ / /	PD03带载电压 (mv)	1450~1550	PD03带载电压 (mv)	1450~1550	PD03带载电压 (mv)	1450~1550
19	/ / /	PD03带载电流 (mA)	11400~12600	PD03带载电流 (mA)	11400~12600	PD03带载电流 (mA)	11400~12600
20	/ / /	PD短路电流 (mA)	0~400	PD短路电流 (mA)	0~400	PD短路电流 (mA)	0~400
21	/ / /	PD恢复电压 (mv)	4750~5250	PD恢复电压 (mv)	4750~5250	PD恢复电压 (mv)	4750~5250
22	/ / /	自定义延时 (ms)	1000~1000	自定义延时 (ms)	1000~1000	自定义延时 (ms)	1000~1000
23	100_50	PD01空载电压 (mv)	4750~5250	PD01空载电压 (mv)	4750~5250	PD01空载电压 (mv)	4750~5250
24	/ / /	PD01带载电流 (mA)	2950~3050	PD01带载电流 (mA)	2950~3050	PD01带载电流 (mA)	2950~3050

3.2.4、 Click the test conditions button to enter the conditions setting interface, as shown in the image below, where the edit assistant function can switch between the test content and the test conditions that can be tested under the test content, after the completion of the content editing, first check machine material number, and then click save machine, and then click the return menu back to the test interface.



3.3、 Settings Menu

Default no need to enter a password, directly click OK to enter, you can directly set a new password (engineer operation)



3.4、 help menu:

3.4.1、 启动老化测试

if you want to test an aging product, click on initiate the aging test (this is for engineers) . The aging action is a cyclic aging test

3.4.2、 查看模块版本

Click to confirm the current module version number and module communication in figure 1

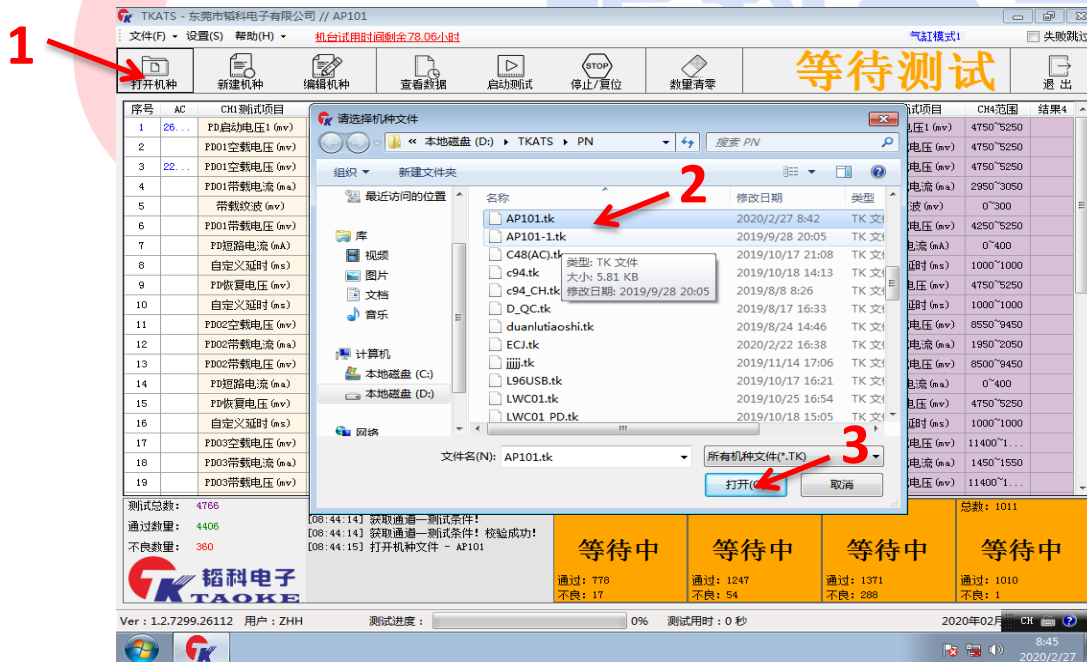
3.4.3、 通道临时停用

This allows you to customize the opening and closing of test channels to allow the engineer to debug and deactivate them after removing the hooks before the desired channel



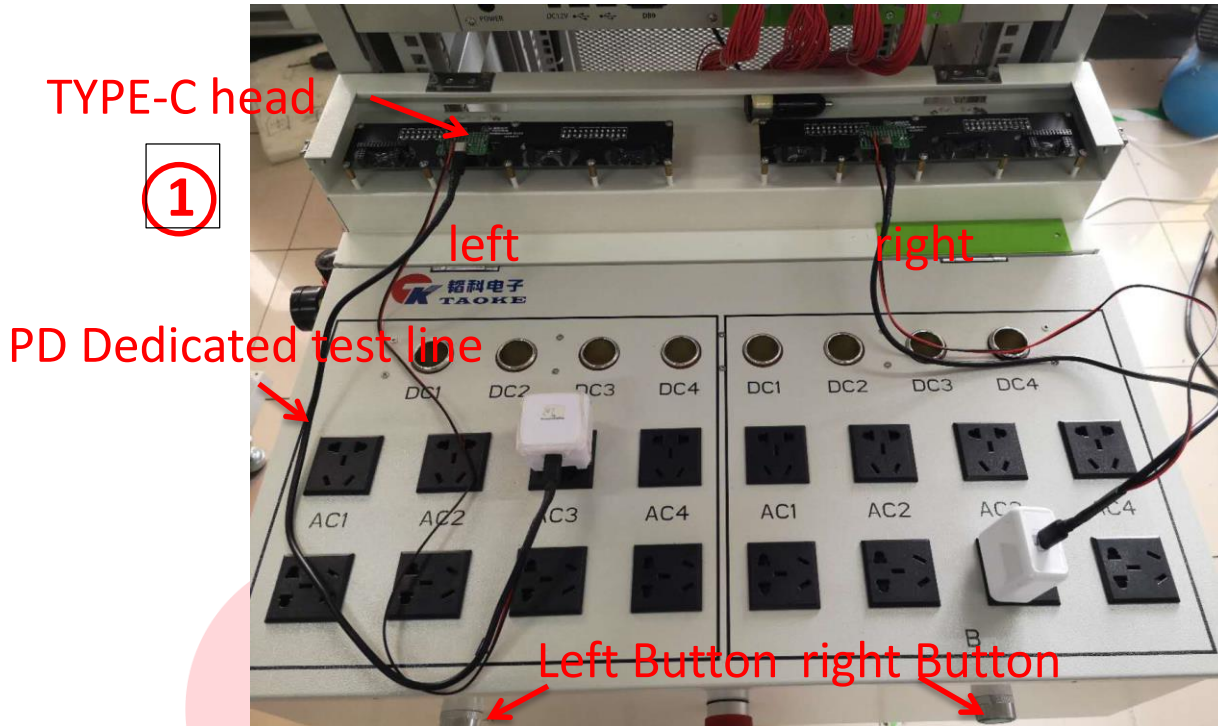
四、Functional verification of the device (PD)

4.1、Click the open machine option (label 1) in the file menu bar, select the material number of the test product (AP101) in the dialog box that pops up, and then click open



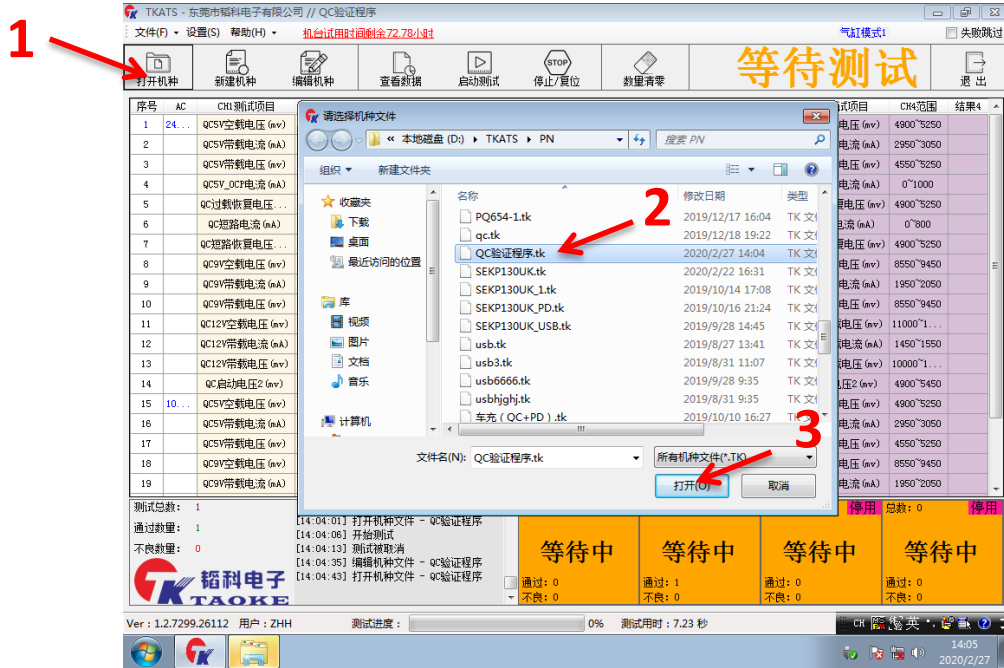
4.2、INSERT THE TYPE-C test head with test line in the icon position (marked 1) , insert the product at the other end (shown below) , press the left button to start the test, the interface will

show you are testing (left) , the test result is PASS, then OK, same on the right (Note: Each channel must be verified)

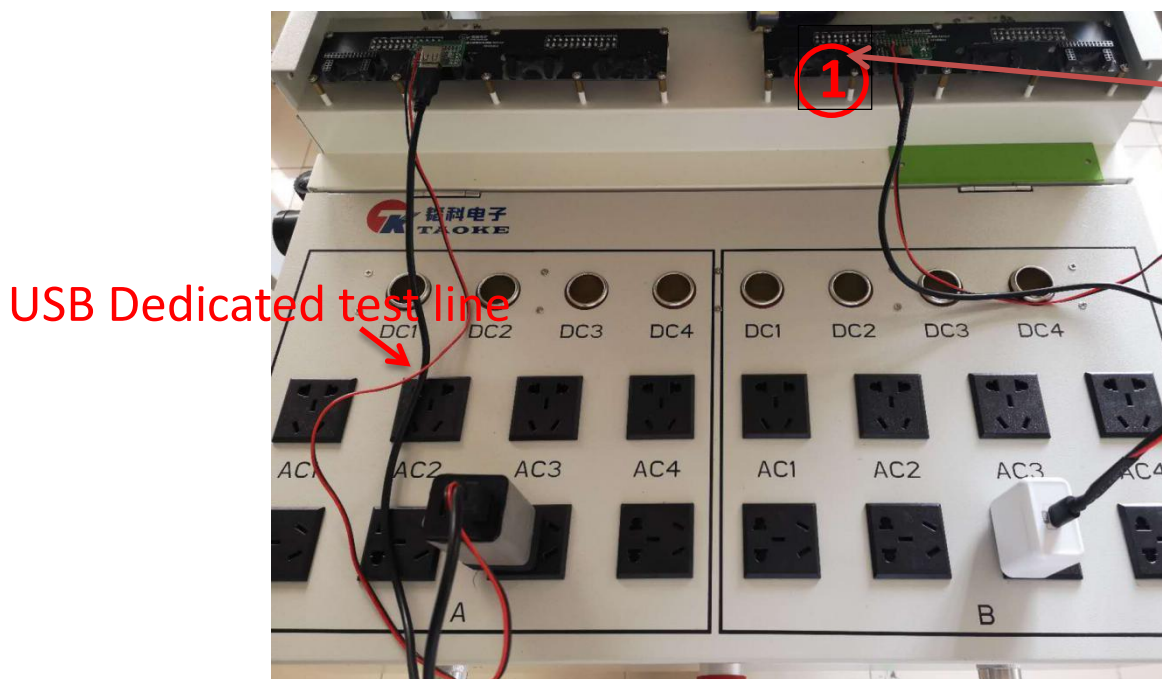


五、 Functional verification of the device (QC、USB)

5.1 Click the open machine option (label 1) in the file menu bar, select the material number of the test product (QC verifier) in the dialog box that pops up, and then click open



5.2 Plug the USB test head with test cable into the diagram (marked 1), plug the product at the other end (shown below), press the left button to start the test, the interface will show the test (left), the same with the test results, the right. Note: Each channel must be verified



六、Aging test (Engineer operation)

6.1 By clicking the start aging test option in the help menu bar and entering a nine-digit Password (120500...) in the pop-up Password box, the software prompts that the aging test is about to start, and the aging starts automatically.

6.2 The equipment each channel aging number is 10000 times, when the defective rate is less than 0.5% , to meet the shipping standard, and through the help Menu Bar Click stop aging test, aging end



The screenshot shows the TKATS software interface. At the top, there is a menu bar with options like '文件(F)', '设置(S)', and '帮助(H)'. Below the menu bar is a toolbar with icons for '打开机种', '新建机种', '编辑机种', '查看数据', '启动测试', '停止/复位', '数量清零', and '退出'. A large yellow banner in the center reads '等待测试'. Below this is a table with 19 rows of test parameters for four channels (CH1-CH4). The table columns include '序号', 'AC', 'CH1测试项目', 'CH1范围', '结果1', 'CH2测试项目', 'CH2范围', '结果2', 'CH3测试项目', 'CH3范围', '结果3', 'CH4测试项目', 'CH4范围', and '结果4'. The bottom of the interface shows a summary bar with statistics: '测试总数: 5164', '通过数量: 4792', '不良数量: 372'. It also displays a log of recent events and a progress bar at the bottom indicating 100% test progress.

序号	AC	CH1测试项目	CH1范围	结果1	CH2测试项目	CH2范围	结果2	CH3测试项目	CH3范围	结果3	CH4测试项目	CH4范围	结果4
1	26...	PD启动电压1 (mv)	4750~5250		PD启动电压1 (mv)	4750~5250		PD启动电压1 (mv)	4750~5250		PD启动电压1 (mv)	4750~5250	
2		PD01空载电压 (mv)	4750~5250		PD01空载电压 (mv)	4750~5250		PD01空载电压 (mv)	4750~5250		PD01空载电压 (mv)	4750~5250	
3	22...	PD01空载电压 (mv)	4750~5250		PD01空载电压 (mv)	4750~5250		PD01空载电压 (mv)	4750~5250		PD01空载电压 (mv)	4750~5250	
4		PD01带载电流 (ma)	2950~3050		PD01带载电流 (ma)	2950~3050		PD01带载电流 (ma)	2950~3050		PD01带载电流 (ma)	2950~3050	
5		带载纹波 (mv)	0~300		带载纹波 (mv)	0~300		带载纹波 (mv)	0~300		带载纹波 (mv)	0~300	
6		PD01带载电压 (mv)	4250~5250		PD01带载电压 (mv)	4250~5250		PD01带载电压 (mv)	4250~5250		PD01带载电压 (mv)	4250~5250	
7		PD短路电流 (mA)	0~400		PD短路电流 (mA)	0~400		PD短路电流 (mA)	0~400		PD短路电流 (mA)	0~400	
8		自定义延时 (ms)	1000~1000		自定义延时 (ms)	1000~1000		自定义延时 (ms)	1000~1000		自定义延时 (ms)	1000~1000	
9		PD恢复电压 (mv)	4750~5250		PD恢复电压 (mv)	4750~5250		PD恢复电压 (mv)	4750~5250		PD恢复电压 (mv)	4750~5250	
10		自定义延时 (ms)	1000~1000		自定义延时 (ms)	1000~1000		自定义延时 (ms)	1000~1000		自定义延时 (ms)	1000~1000	
11		PD02空载电压 (mv)	8550~9450		PD02空载电压 (mv)	8550~9450		PD02空载电压 (mv)	8550~9450		PD02空载电压 (mv)	8550~9450	
12		PD02带载电流 (ma)	1950~2050		PD02带载电流 (ma)	1950~2050		PD02带载电流 (ma)	1950~2050		PD02带载电流 (ma)	1950~2050	
13		PD02带载电压 (mv)	8500~9450		PD02带载电压 (mv)	8500~9450		PD02带载电压 (mv)	8500~9450		PD02带载电压 (mv)	8500~9450	
14		PD短路电流 (ma)	0~400		PD短路电流 (ma)	0~400		PD短路电流 (ma)	0~400		PD短路电流 (ma)	0~400	
15		PD恢复电压 (mv)	4750~5250		PD恢复电压 (mv)	4750~5250		PD恢复电压 (mv)	4750~5250		PD恢复电压 (mv)	4750~5250	
16		自定义延时 (ms)	1000~1000		自定义延时 (ms)	1000~1000		自定义延时 (ms)	1000~1000		自定义延时 (ms)	1000~1000	
17		PD03空载电压 (mv)	11400~1...		PD03空载电压 (mv)	11400~1...		PD03空载电压 (mv)	11400~1...		PD03空载电压 (mv)	11400~1...	
18		PD03带载电流 (ma)	1450~1550		PD03带载电流 (ma)	1450~1550		PD03带载电流 (ma)	1450~1550		PD03带载电流 (ma)	1450~1550	
19		PD03带载电压 (mv)	11400~1...		PD03带载电压 (mv)	11400~1...		PD03带载电压 (mv)	11400~1...		PD03带载电压 (mv)	11400~1...	

notes: Shut down when the mouse click the start menu bar shutdown button normal shutdown, do not illegal power-off, in

case of data loss



七、A corresponding diagram of the channel is attached



The screenshot shows the TKATS software interface with a test plan table and a status bar. The table lists 19 test items for four channels (CH1-CH4). The status bar shows four channels in a 'waiting for test' state.

序号	AC	CH1测试项目	CH1范围	结果1	CH2测试项目	CH2范围	结果2	CH3测试项目	CH3范围	结果3	CH4测试项目	CH4范围	结果4
1	26...	PD自动电压1 (mv)	4750~5250		PD自动电压1 (mv)	4750~5250		PD自动电压1 (mv)	4750~5250		PD自动电压1 (mv)	4750~5250	
2		PD01空载电压 (mv)	4750~5250		PD01空载电压 (mv)	4750~5250		PD01空载电压 (mv)	4750~5250		PD01空载电压 (mv)	4750~5250	
3	22...	PD01空载电压 (mv)	4750~5250		PD01空载电压 (mv)	4750~5250		PD01空载电压 (mv)	4750~5250		PD01空载电压 (mv)	4750~5250	
4		PD01带载电流 (ma)	2950~3050		PD01带载电流 (ma)	2950~3050		PD01带载电流 (ma)	2950~3050		PD01带载电流 (ma)	2950~3050	
5		带载纹波 (mv)	0~300		带载纹波 (mv)	0~300		带载纹波 (mv)	0~300		带载纹波 (mv)	0~300	
6		PD01带载电压 (mv)	4250~5250		PD01带载电压 (mv)	4250~5250		PD01带载电压 (mv)	4250~5250		PD01带载电压 (mv)	4250~5250	
7		PD短路电流 (ma)	0~400		PD短路电流 (ma)	0~400		PD短路电流 (ma)	0~400		PD短路电流 (ma)	0~400	
8		自定义延时 (ms)	1000~1000		自定义延时 (ms)	1000~1000		自定义延时 (ms)	1000~1000		自定义延时 (ms)	1000~1000	
9		PD恢复电压 (mv)	4750~5250		PD恢复电压 (mv)	4750~5250		PD恢复电压 (mv)	4750~5250		PD恢复电压 (mv)	4750~5250	
10		自定义延时 (ms)	1000~1000		自定义延时 (ms)	1000~1000		自定义延时 (ms)	1000~1000		自定义延时 (ms)	1000~1000	
11		PD02空载电压 (mv)	8550~9450		PD02空载电压 (mv)	8550~9450		PD02空载电压 (mv)	8550~9450		PD02空载电压 (mv)	8550~9450	
12		PD02带载电流 (ma)	1950~2050		PD02带载电流 (ma)	1950~2050		PD02带载电流 (ma)	1950~2050		PD02带载电流 (ma)	1950~2050	
13		PD02带载电压 (mv)	8500~9450		PD02带载电压 (mv)	8500~9450		PD02带载电压 (mv)	8500~9450		PD02带载电压 (mv)	8500~9450	
14		PD短路电流 (ma)	0~400		PD短路电流 (ma)	0~400		PD短路电流 (ma)	0~400		PD短路电流 (ma)	0~400	
15		PD恢复电压 (mv)	4750~5250		PD恢复电压 (mv)	4750~5250		PD恢复电压 (mv)	4750~5250		PD恢复电压 (mv)	4750~5250	
16		自定义延时 (ms)	1000~1000		自定义延时 (ms)	1000~1000		自定义延时 (ms)	1000~1000		自定义延时 (ms)	1000~1000	
17		PD03空载电压 (mv)	11400~11400		PD03空载电压 (mv)	11400~11400		PD03空载电压 (mv)	11400~11400		PD03空载电压 (mv)	11400~11400	
18		PD03带载电流 (ma)	1450~1550		PD03带载电流 (ma)	1450~1550		PD03带载电流 (ma)	1450~1550		PD03带载电流 (ma)	1450~1550	
19		PD03带载电压 (mv)	11400~11400		PD03带载电压 (mv)	11400~11400		PD03带载电压 (mv)	11400~11400		PD03带载电压 (mv)	11400~11400	

测试总数: 4809 启动软件 - Ver: 1.2.7299.26112 总数: 795
 通过数量: 4446 [09:34:54] 获取通道一测试条件! [09:34:54] 获取通道一测试条件! 校验成功!
 不良数量: 363 [09:34:55] 打开机种文件 - AP101

通道一 等待中 通道二 等待中 通道三 等待中 通道四 等待中

通过: 778 通过: 1287 通过: 1371 通过: 1010
 不良: 17 不良: 57 不良: 288 不良: 1

Ver: 1.2.7299.26112 用户: ZHH 测试进度: 0% 测试用时: 0秒 2020年02月 9:35



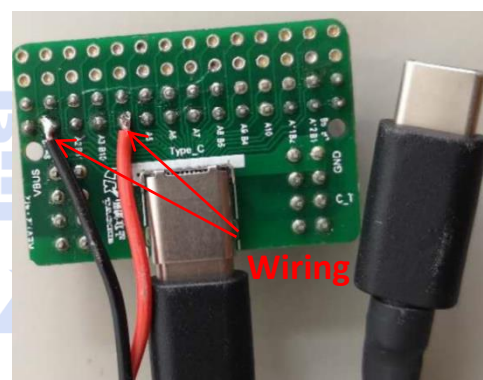
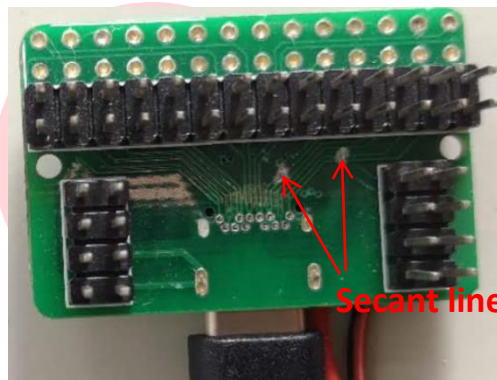
八、 Demonstration of equipment verification sample and test head



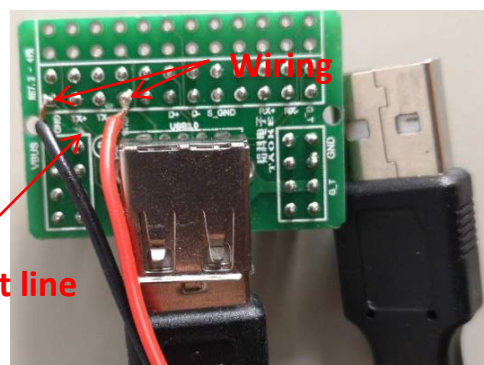
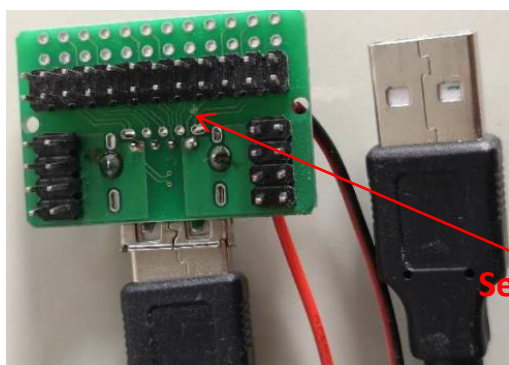
PD Functional Verification Sample



QC Functional Verification Sample



PD Test head Secant and wiring



QC Test head Secant and wiring

Customer satisfaction is our eternal pursuit

Dongguan Taoke Electronics Co. , Ltd.

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