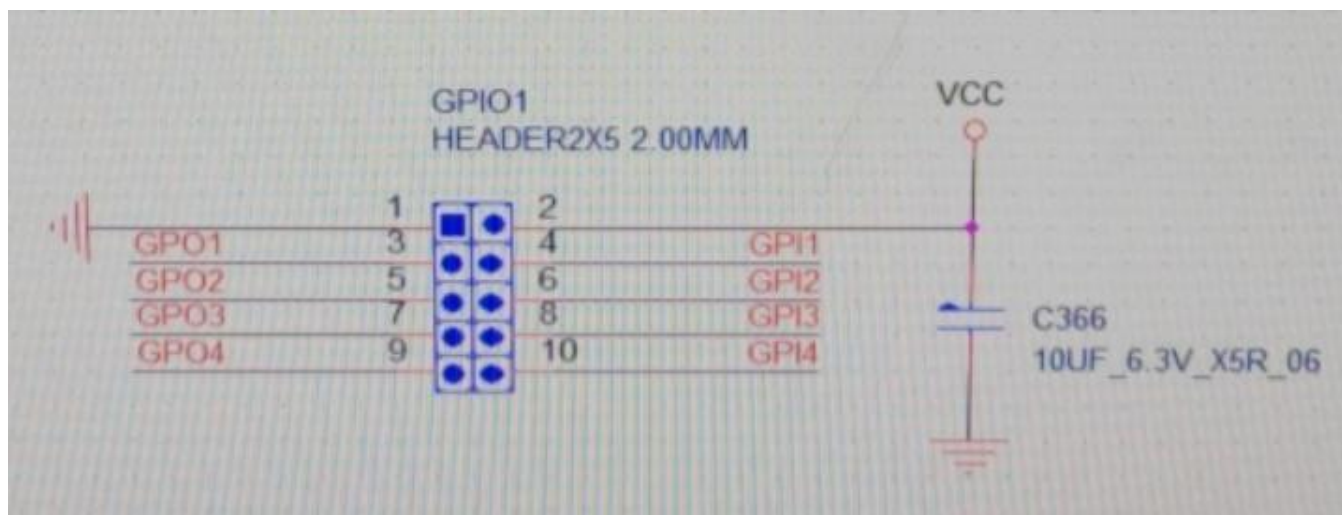


GPIO Test SOP

Preparation before testing:

1. Remind the hardware to send the GPIO schematic diagram to the BIOS and test, and the BIOS will convert the GPIO address and provide it to the test. The hardware GPIO schematic diagram is shown below (each project design is different):



2. Test environment:

System: Windows

Test software:  Rw.exe

File path: \\192.168.5.65\Test\Common Software\RW (available for Win11)

Test tools: multimeter,

DuPont line

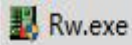
GPIO has three control modes: Super IO control (commonly used), Zhaoxin platform CPU control, and PCH control (memory)

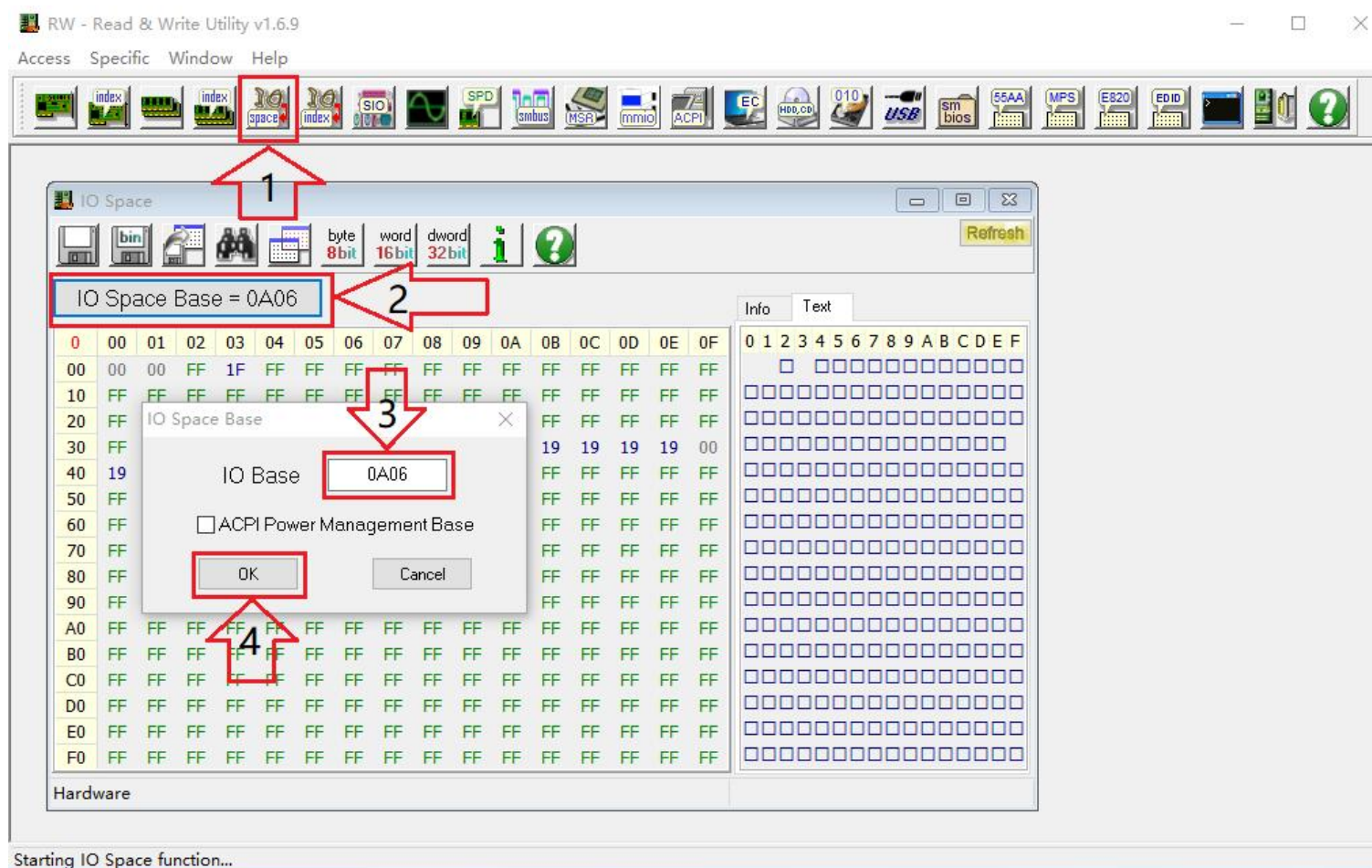
Through the RW software, input the corresponding GPIO address to control the pull-up or pull-down of different pin levels ("1" indicates high level, "0" indicates low level), and measure whether the voltage of the corresponding pin is normal (high state: 3.3V, low state: 0V)

Note: Due to different motherboard hardware designs, GPIO voltage values vary.
Please refer to the actual hardware design.

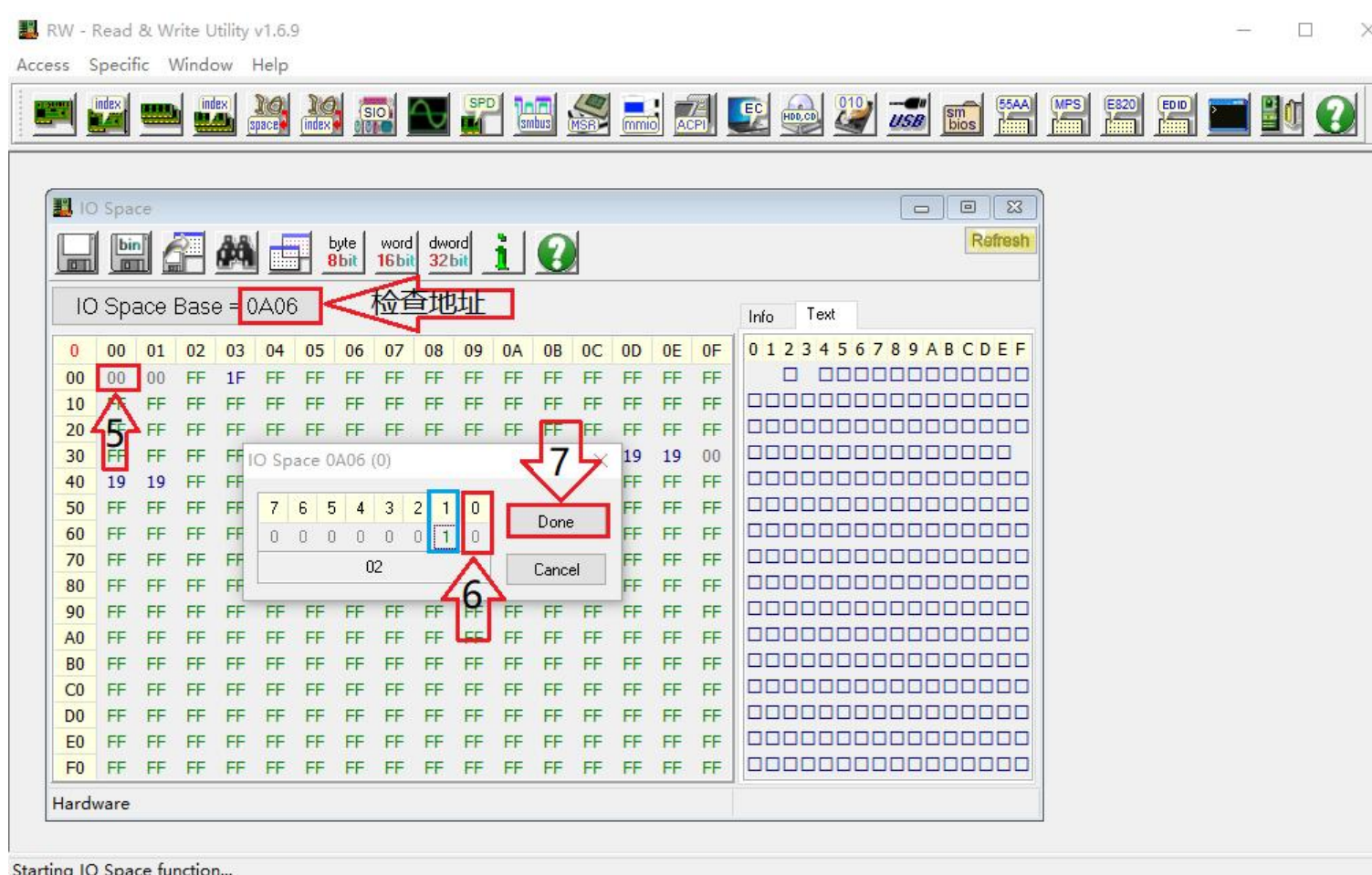
1. Super IO Control

Take Z0-H610TB-6CD8 as an example: (GPIO address provided by BIOS: 0A06)

1. Right-click the system and run the software as an administrator; 
2. Select "IO Space" on the software interface, Figure No. 1;
3. Double-click at Figure No. 2;
4. Enter 0A06 (GPIO address) in the pop-up window IO Base, Figure No. 3; 5. Click "OK", Figure No. 4;

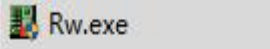


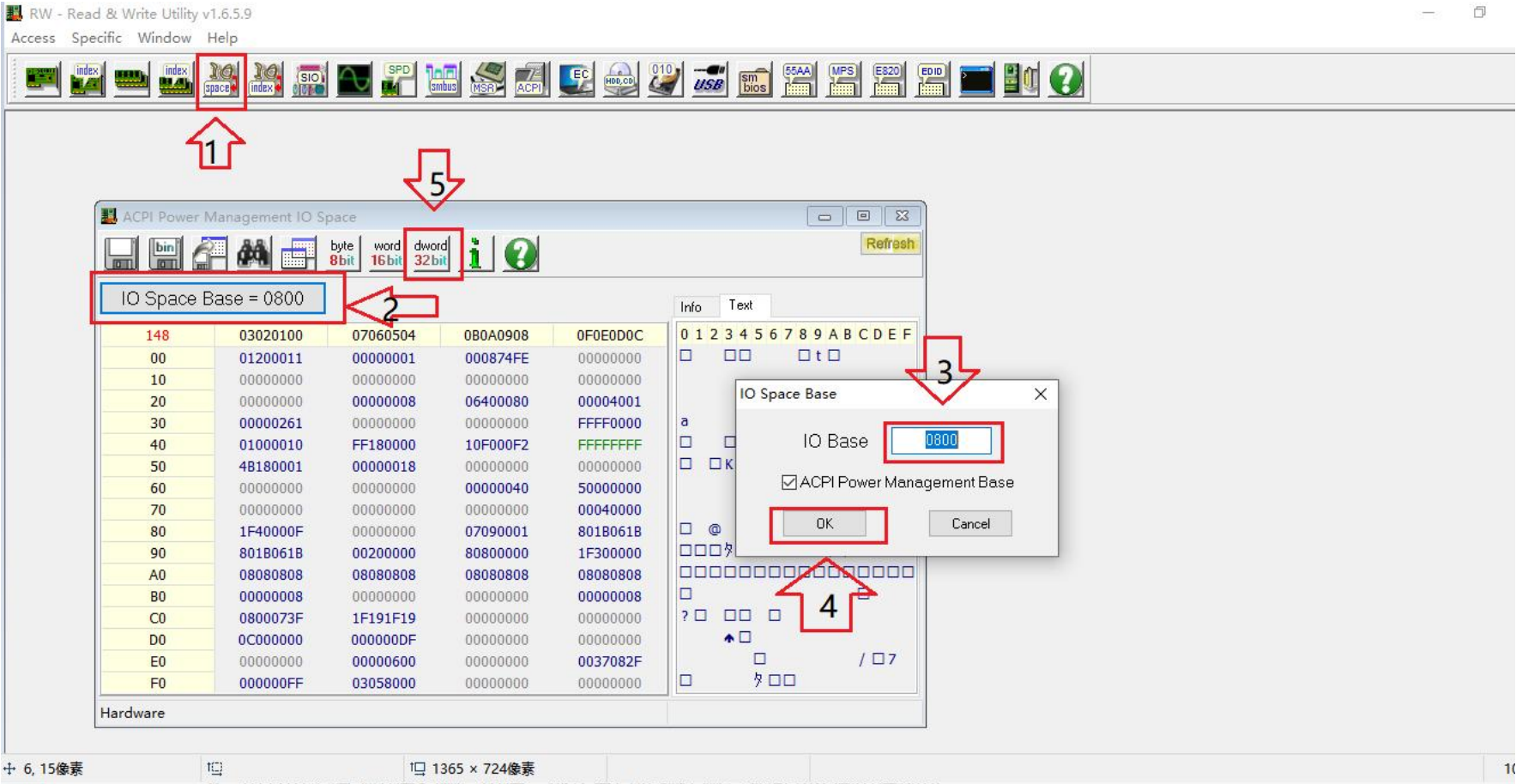
6. At No. 5 in the figure: double-click (check the GPIO address);
7. At No. 6 in the figure: "double-click" under the corresponding yellow bit position to enter "1" (i.e. high level, voltage is 3.3V) or enter "0" (i.e. low level, voltage is 0V);
8. After setting, No. 7 in the figure: select "Done";
9. Use a multimeter to adjust the voltage range to measure the voltage, and repeat this operation to measure the



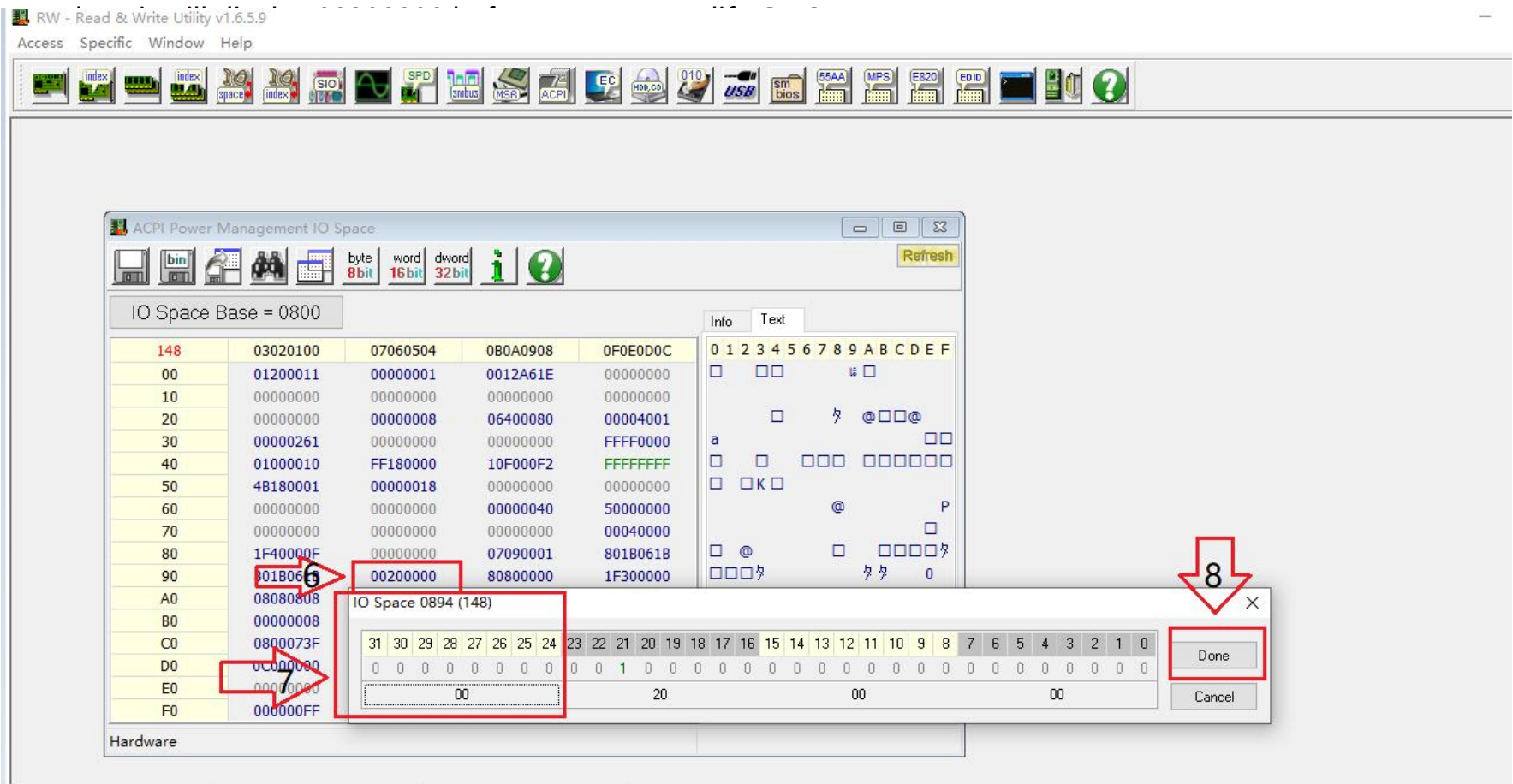
2. Zhaoxin Platform CPU Control:

Taking GG-KX6000T-6C2L V1.0 as an example, the GPIO address provided by BIOS is: 088C, bit7, bit8, bit12, bit13

- 1. Right-click the system and run the software as an administrator; 
- 2. Select "IO Space" in the software interface, Figure No. 1;
- 3. Double-click at Figure No. 2;
- 4. Enter 0800 in the pop-up window IO Base, Figure No. 3;
- 5. Click "OK", Figure No. 4;
- 6. Click 32bit, Figure No. 5;



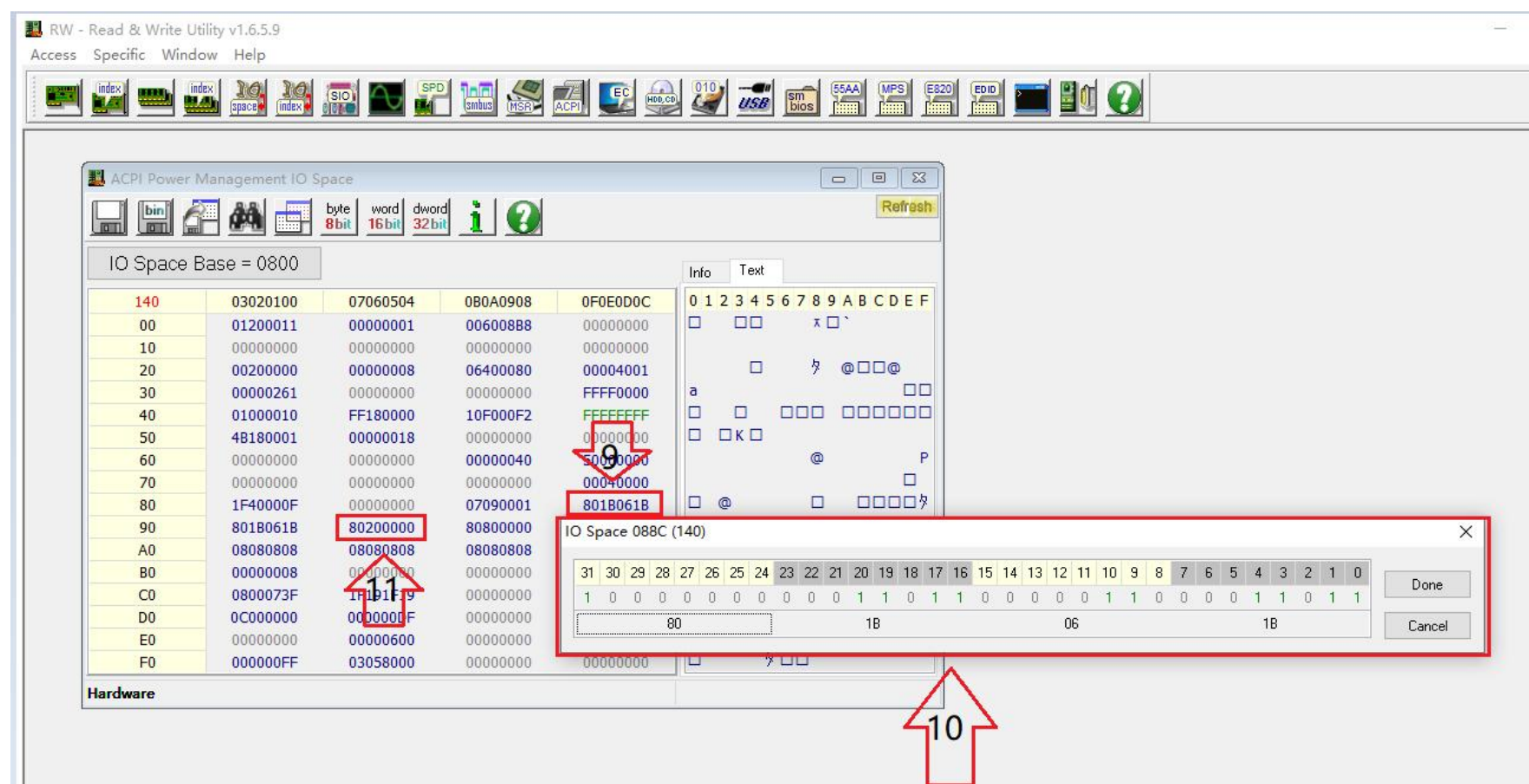
- 7. Find 0894, position 6 (default 80200000);
- 8. Change 0894 position 31bit to 0 (position 7), click Done (position 8), and after the change is



9. Open 088C (GPIO address), position 9 in the figure.

10. Enter "1" (high level, voltage is 3.3V) or "0" (low level, voltage is 0V) under the corresponding 7, 8, 12, 13 bit positions. After setting, click Done, number 10;

11. After setting, you need to return to step 8 and modify the 31 bit of position 0894 back to 1. After modification, it will display 80200000 before you can use a multimeter to measure voltage.



3. PCH control (memory)

The GPIO address is shown in the figure below:

GPO1 - 0xFED0E178
GPO2 - 0xFED0E278
GPO3 - 0xFED0E168
GPO4 - 0xFED0E158
GPI1 - 0xFED0E1C8
GPI2 - 0xFED0E1B8
GPI3 - 0xFED0E188
GPI4 - 0xFED0E198

GPIO 地址解释: (示例: GPO1 - 0xFED0E178)

GPI: 通用输入

GPO: 通用输出

0xFED0E178: 0x 表示前都是 "0"

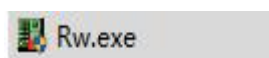
Take NUC-BAYT-2C2L as an example:

GPIO addresses provided by BIOS:

GPO1 - 0xFED0E178 GPO2 - 0xFED0E278 GPO3 - 0xFED0E168 GPO4 - 0xFED0E158

GPI1 - 0xFED0E1C8 GPI2 - 0xFED0E1B8 GPI3 - 0xFED0E188 GPI4 - 0xFED0E198

1. Right-click the system and run the software as an administrator;



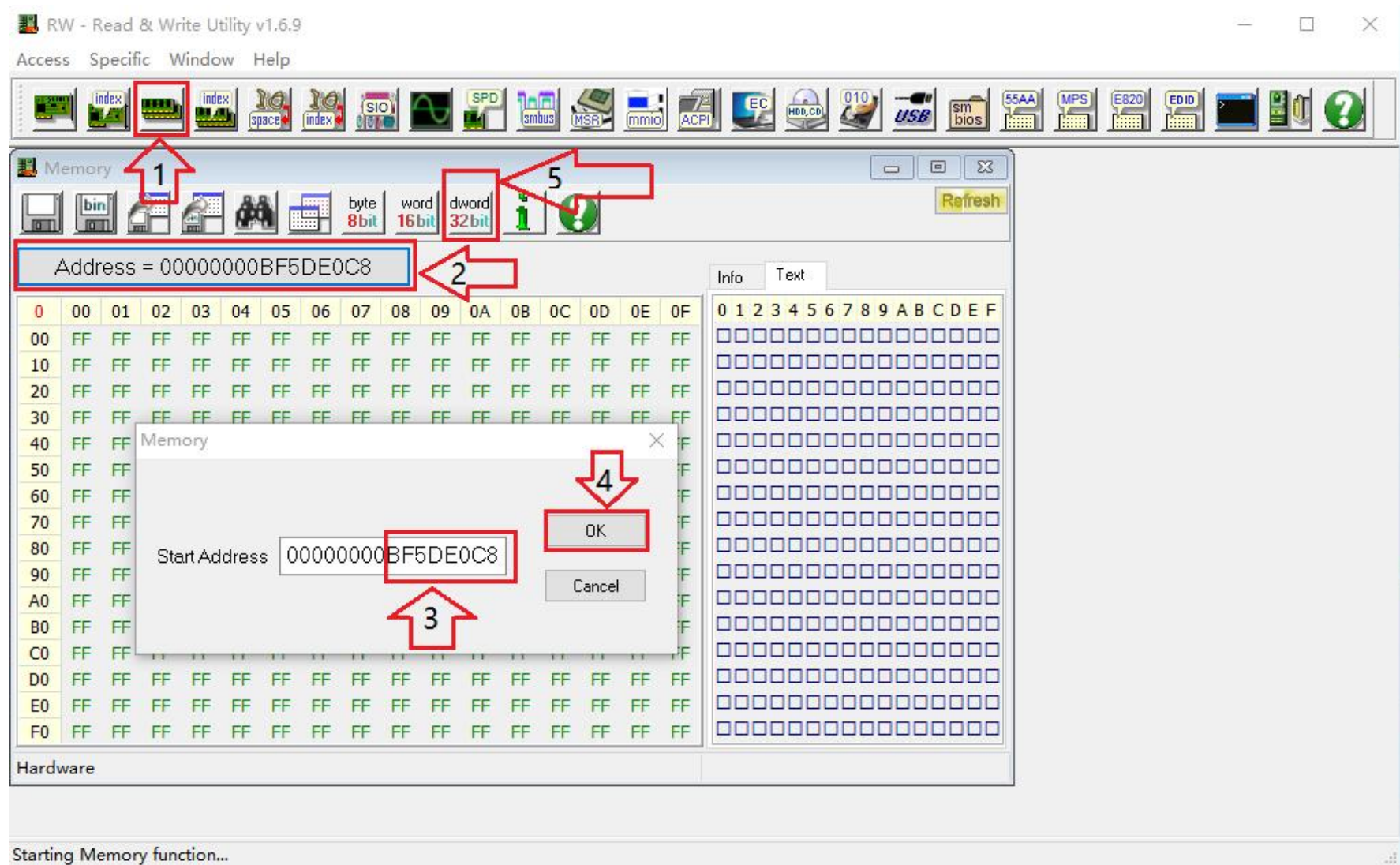
2. Select "Memory" on the software interface, Figure No. 1;

3. Double-click at Figure No. 2;

4. Enter FED0E178 (8-bit GPIO address) in the pop-up window Start

Address, Figure No. 3; 5. Click "OK", Figure No. 4;

6. Figure No. 5: Double-click "dword 32bit";



7. At No. 6 in the figure: double-click (check the GPIO address);

8. At No. 7 in the figure: "double-click" under the corresponding yellow bit position to enter "1" (i.e. high level, voltage is 3.3V) or enter "0" (i.e. low level, voltage is 0V);

9. After setting, No. 8 in the figure: select "Done";

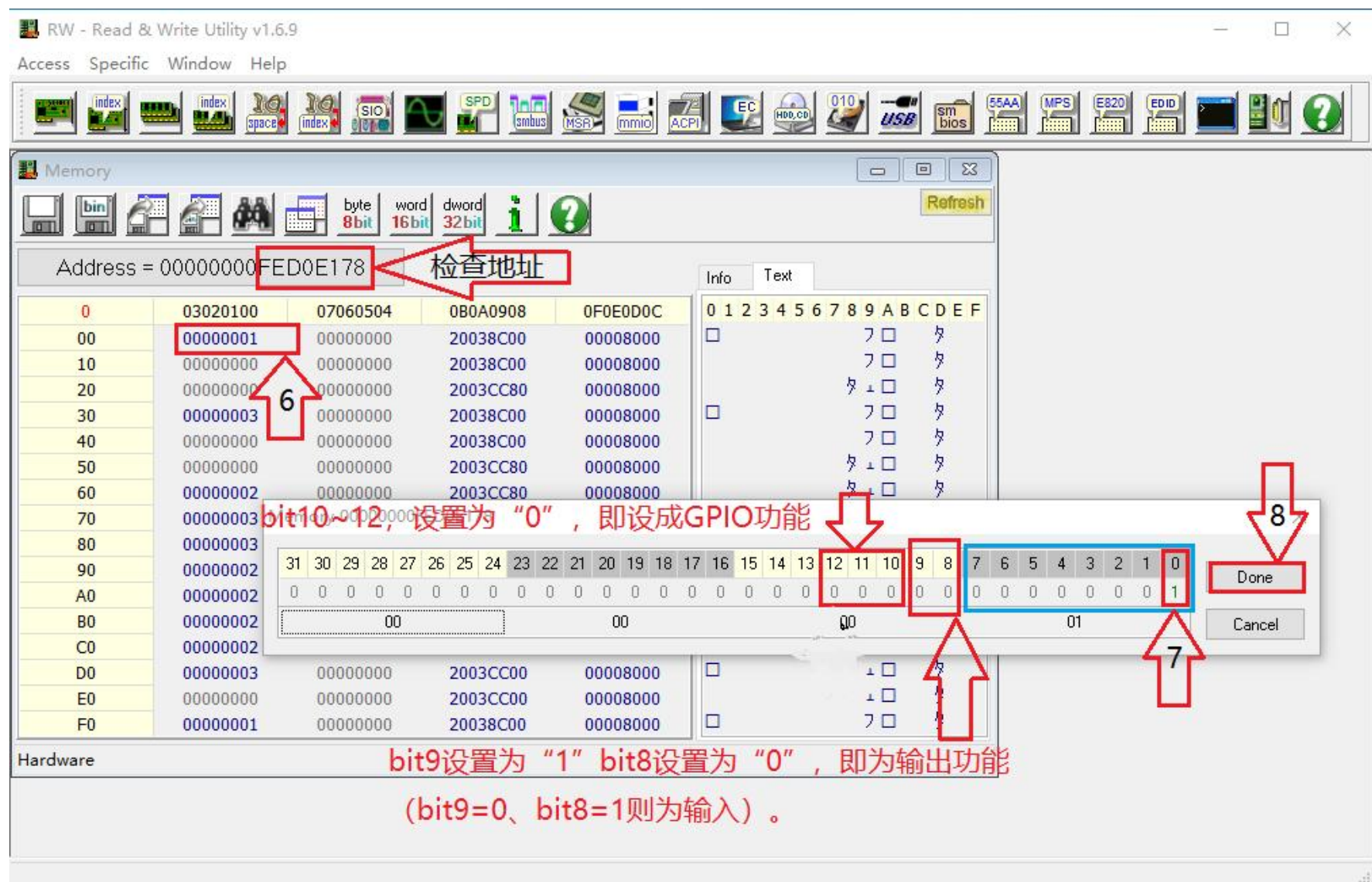
10. Use a multimeter to adjust the voltage range to measure the voltage, and repeat this operation to measure the voltage of different pins.

Remark:

Check whether the bit8~12 parameters are set correctly. (Applicable to platforms above 6th)

Bit10~12, set to 0, that is, set to GPIO function;

When bit9 is set to 1 and bit8 is set to 0, it is output function (bit9=0, bit8=1 is input).



4. Solution to the problem that Win11 system cannot run RW software

Under Win11 system, the problem that RW software cannot be opened can be solved by modifying the registry.

File path: \\192.168.5.65\Test\Common Software\RW (Win11 available), copy it to the desktop, unzip it into the

folder, double-click to run "En_RW">>>Select "Yes" in the pop-up window>>>After restarting the system, you can run RW software normally under Win11 system (both new and old versions of the software can be used normally).

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OneDrive

此电脑

网络

名称	修改日期	类型
office激活	2024/5/30 15:09	WinRAR
pcomm-lite_1.6_20121205141917	2022/3/4 13:45	WinRAR
pcomm-lite_1.6_20121205141917	2023/12/7 10:43	WinRAR
petst (LAN口吞吐量测试)	2018/4/24 23:07	应用程序
putty	2021/12/6 14:23	应用程序
putty	2024/1/10 11:32	WinRAR
QQPlayer_Setup_39_936	2018/5/18 14:36	应用程序
Readme	2023/9/27 13:51	文本文档
rebooter	2009/6/19 14:11	应用程序
rebooter	2023/4/21 13:42	WinRAR
RW (Win11可用)	2024/6/24 17:33	WinRAR
SetupRw	2022/3/25 17:26	WinRAR
SI测试工具	2024/1/15 15:10	WinRAR
sleeper_V2.3_1004	2019/3/27 11:46	WinRAR
sleeper_V2.3_1006	2019/4/24 18:33	WinRAR
sogou_explorer_8.0_0516	2018/5/18 14:38	应用程序
Speaker	2024/4/19 15:29	WinRAR
TAT1027	2018/5/16 15:58	WinRAR
USB3.0	2018/1/13 10:07	WinRAR
WDOG	2023/11/24 14:27	WinRAR
Win7 10激活软件最新	2021/3/24 9:27	WinRAR

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名称	修改日期	类型	Windows Registry Editor Version 5.00
rwportablex64	2022/2/21 16:02	文件夹	[HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\DeviceGuard \Scenarios \HypervisorEnforcedCodeIntegrity] "Enabled"=dword: 00000000 [HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CI\Config] "VulnerableDriverBlocklistEnable"=dwor d: 00000000
En_RW	2023/9/22 9:44	注册表项	
Readme	2023/9/22 9:46	文本文档	
rwportablex64	2019/11/12 10:39	WinRAR ZIP	

注册表编辑器

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添加信息可能会在无意中更改或删除值并导致组件无法继续正常工作。如果你不信任 C:\Users\YoYo\Desktop\RW\RW\En_RW.reg 中此信息的来源, 请不要将其添加到注册表中。

确定要继续吗?

是(Y)

否(N)