EBAZ4205 Main Control Board Instruction
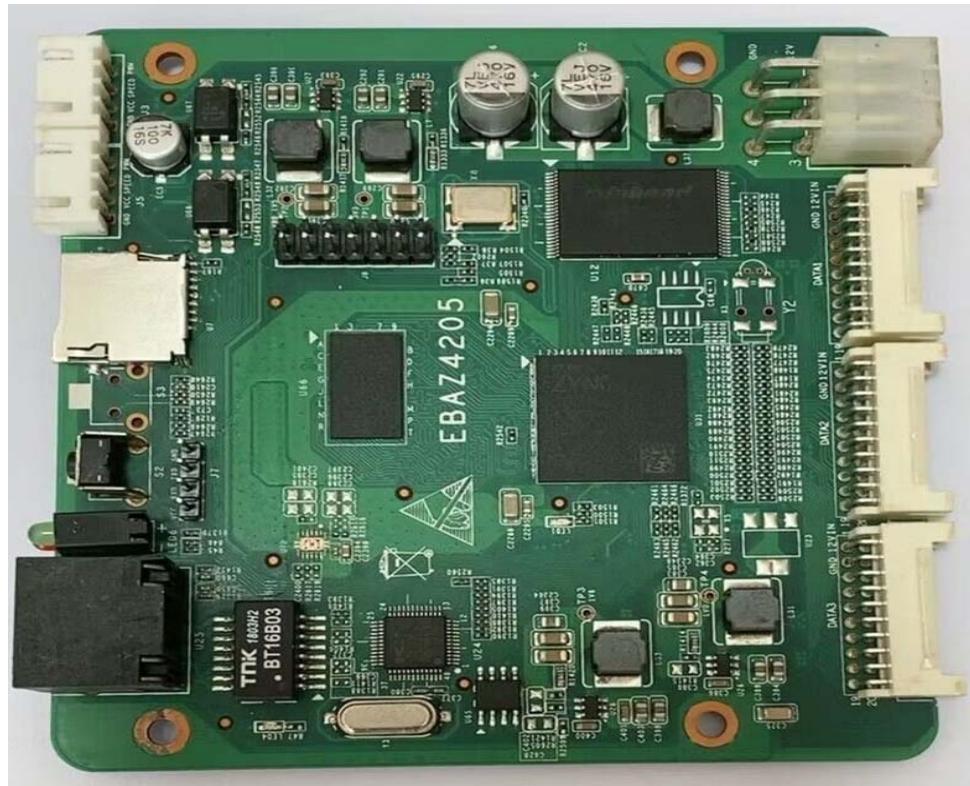
1. EBAZ4205 main control board parameters

|	
main control	XC7Z010CLG400-1
Memory	256MB DDR3 EM6GD16EWKG/MT41K128M16
nand	128MB SLC Winbond W29N01HV
Ethernet	100M network chipIP101GA
Power	Mainboard power supply 12V (interface type 5557-6pin) and compatible with 5V
Interface	1-way serial port PS UART1, 2-way PWM, 14-pin standard JTAG support Xilinx simulator, 3 20-pin IO ports
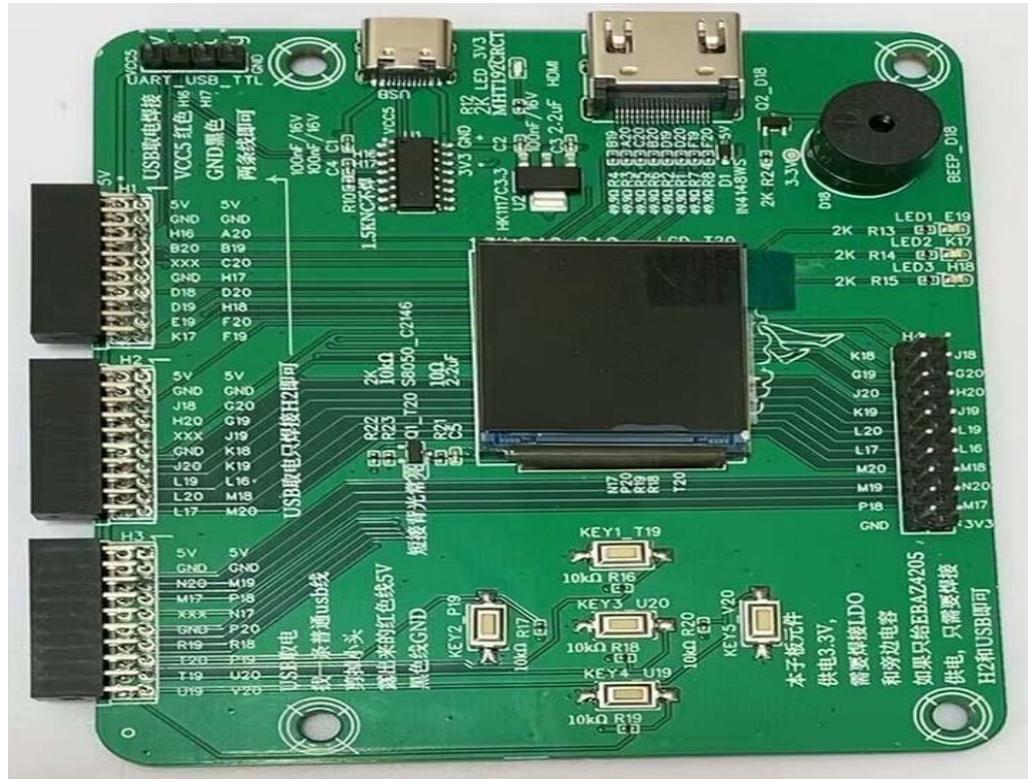
Adapter board parameters：

|	
Interface	1 serial port;4 20pin IO ports;1 USB interface;1 HDMI interface;5 keys;1 LCD screen (optional);1 speaker
Function	USB to serial port function;HDMI function;LCD function key function;IO port and speaker function
Dimension	86*100mm
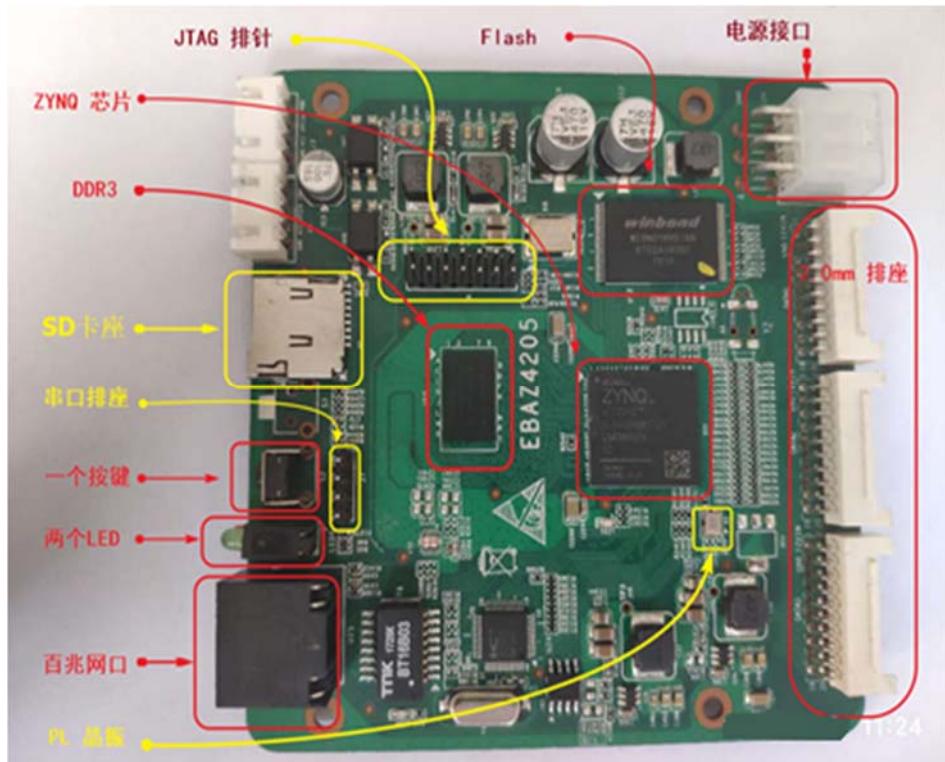
2. Pictures of main board and adapter board:

Adapter board：

3. Pictures after welding
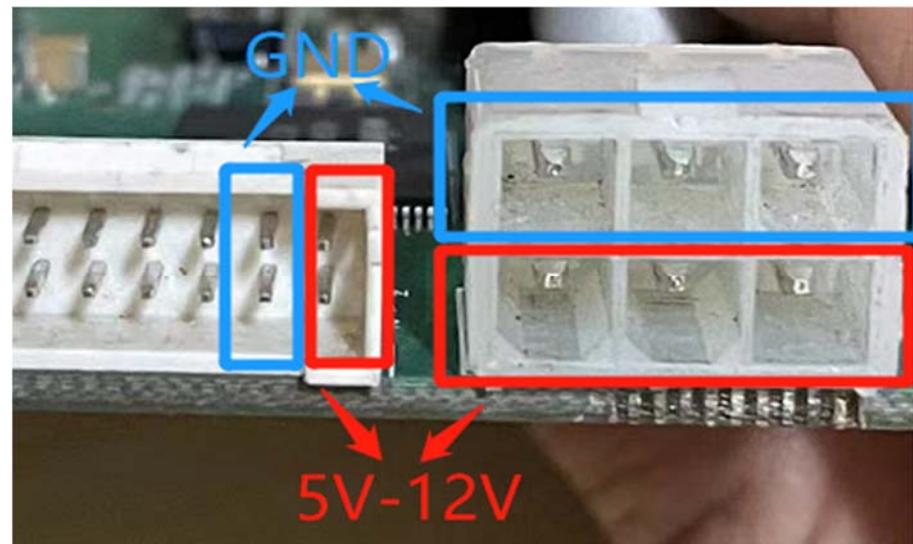
Note: The yellow ones in the figure need to be welded by yourself.
The motherboard is not welded by default!
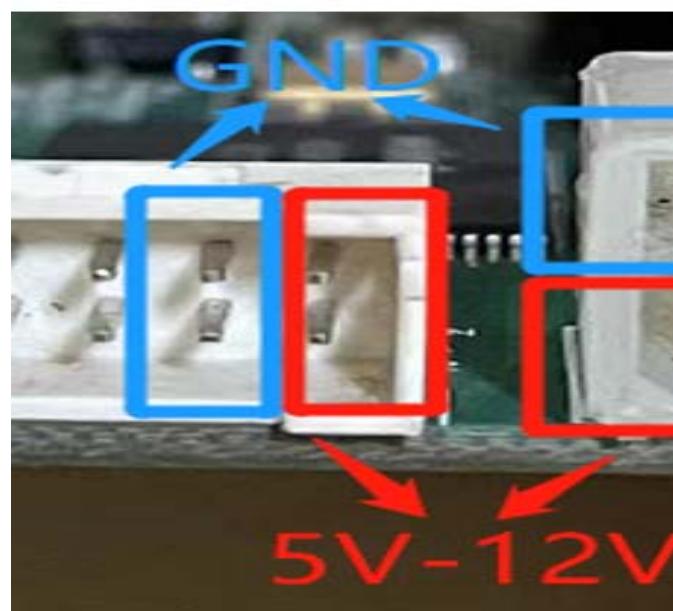
4.Power supply mode:

4.1　Main board direct power supply mode:
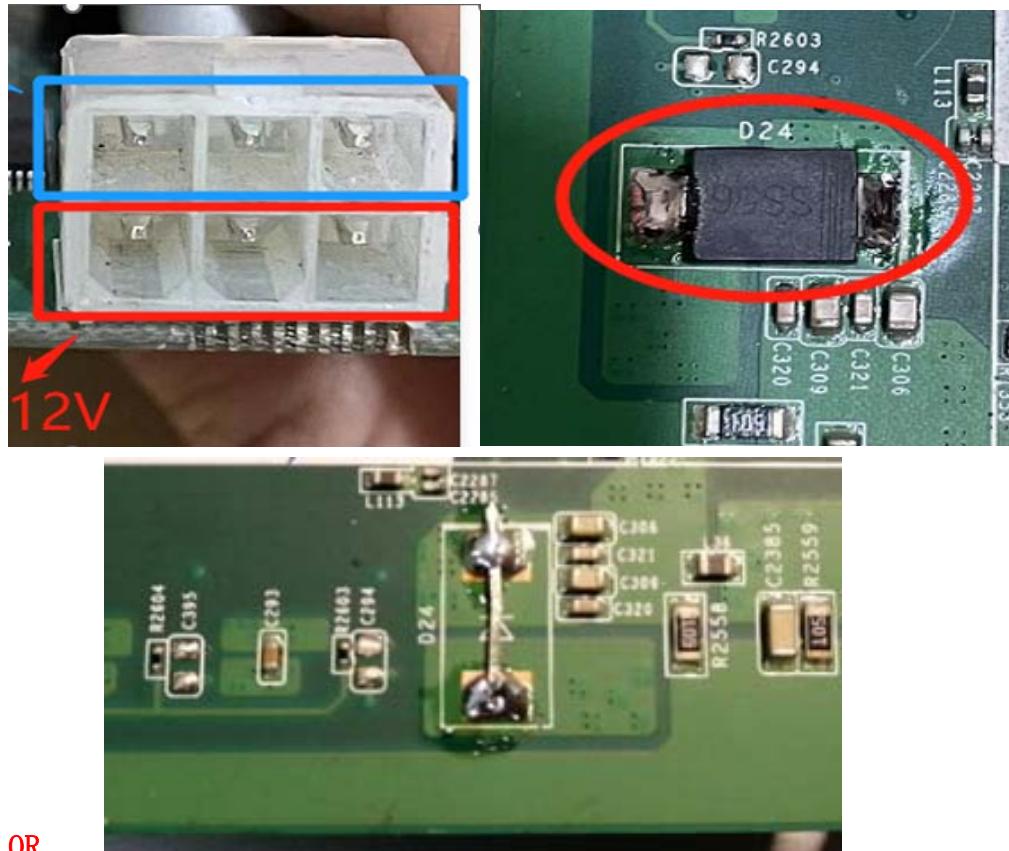
You can choose between the left cable connector and the right socket
Warning: The power supply and ground cannot be connected reversely, and the board will be burnt out after being connected reversely (when wiring the flat cable interface, be careful not to connect it to the common hole, otherwise it will also be burnt out)
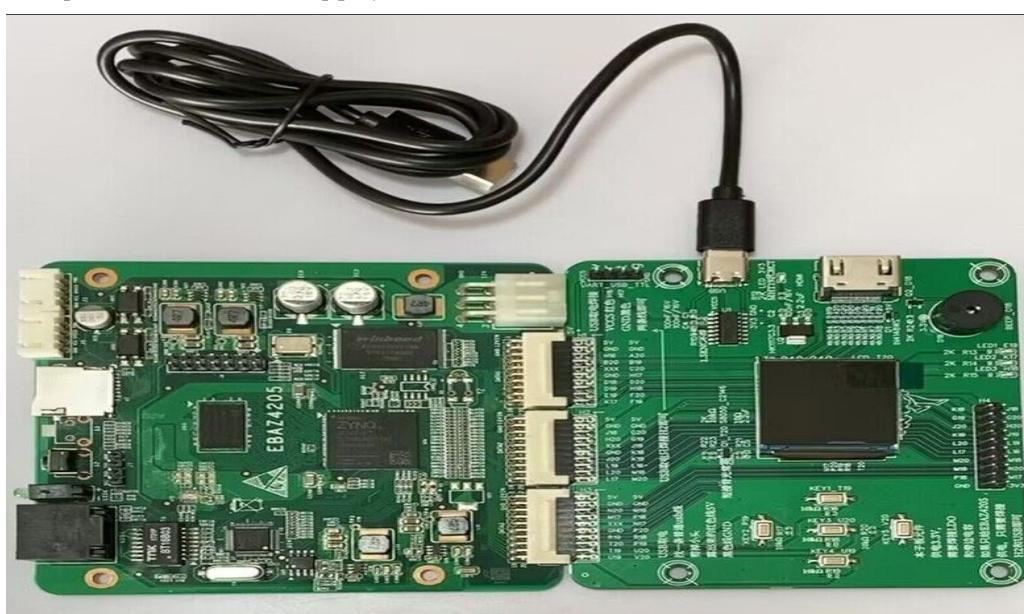
4.1.1 Directly use the three 20pin ports on the board for power supply without changing any hardware, 5V/12V can be used.

4.1.2 Use the special power interface on the board for power supply D24 needs to be short-circuited or diode added. 5V/12V can be used.

OR
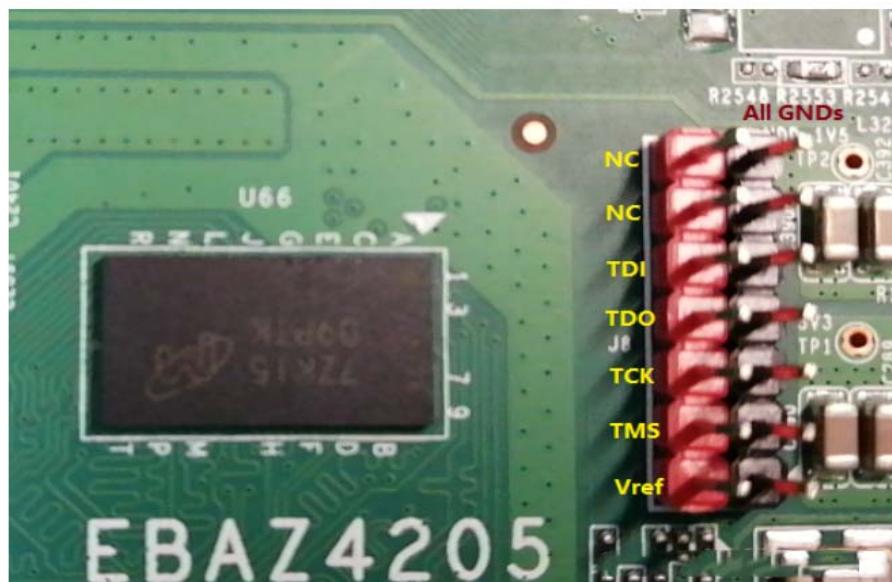
4.2 Main board and adapter board Use the USB power supply of the adapter board to supply 5V
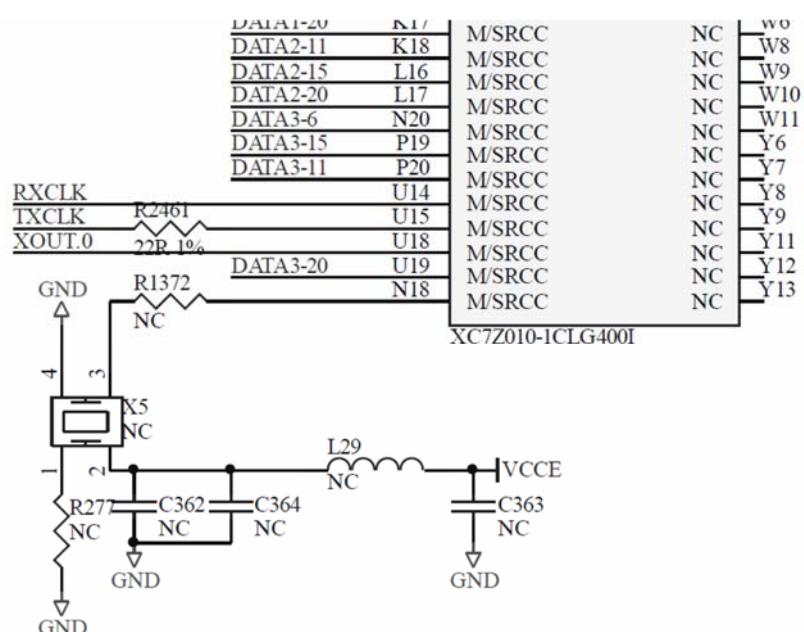
5. LED instructions:

LED4 is connected between VCC and GND to indicate power supply;

LED1 is connected to DONE of ZYNQ_ 0 pin, used to indicate the completion of ZYNQ configuration

LED6 is connected to the red and green indicator lights of W13 and W14 on ZYNQ

Two network port indicators connected to IP101GA

Pin definition of download port:

6. Add crystal oscillator in PL mode
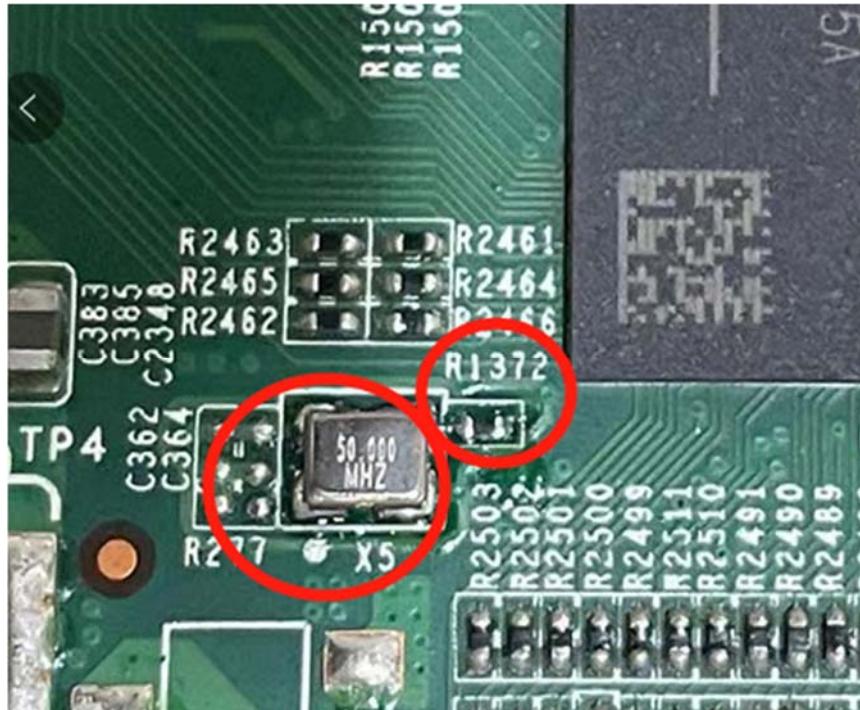
By default, the crystal oscillator of the PL part of the motherboard
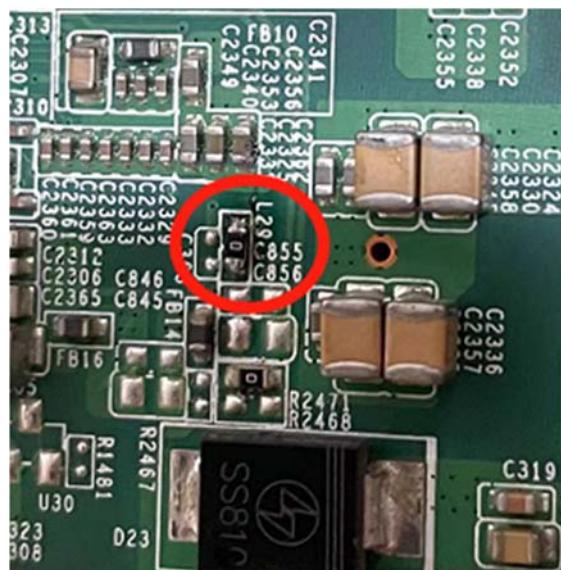
is not welded. There are two ways to use the PL logic part:

1. Use PS to share the clock with PL,

2. PL part is welded with a crystal oscillator separately

   Including: One 3225 active crystal oscillator (50M recommended);
One 0402 resistor of 0-22R; One 0R resistor or magnetic bead of 0603

X5 welding 3225 50M active crystal oscillator, R1372 welding 0402
0-22R resistance
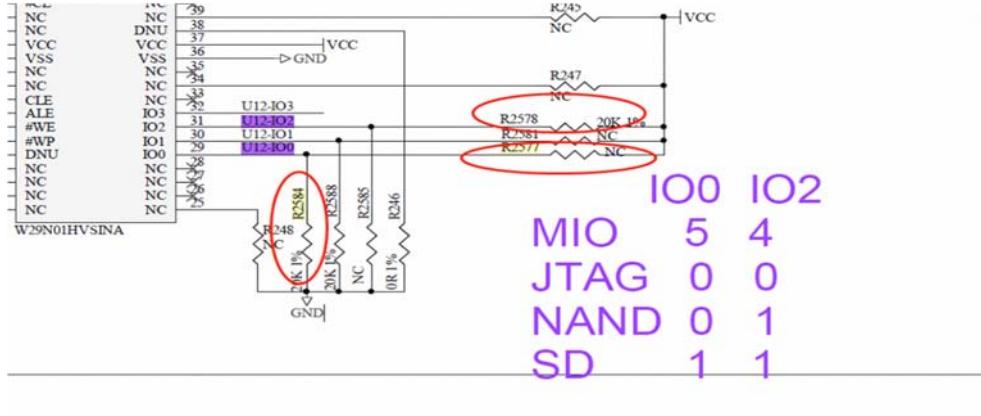
L29 can use 0R resistance of 0603 or magnetic beads

7. Mode of Startup

1. The starting process of ZYNQ is mainly based on ARM core. After power-on, the hardware first reads the IO at the PS end of ARM core to

determine whether the system starts from NAND, QSPI, SD Card or JTAG. (The default hardware of EBAZ4205 board is driven from NAND FLASH)

2. ARM's common FPGA (non ZYNQ) curing is to directly write BIT files into FLASH through QSPI. However, for ZYNQ, the PS terminal must cooperate to embed program

Let the system start from JTAG mode to enter debugging mode
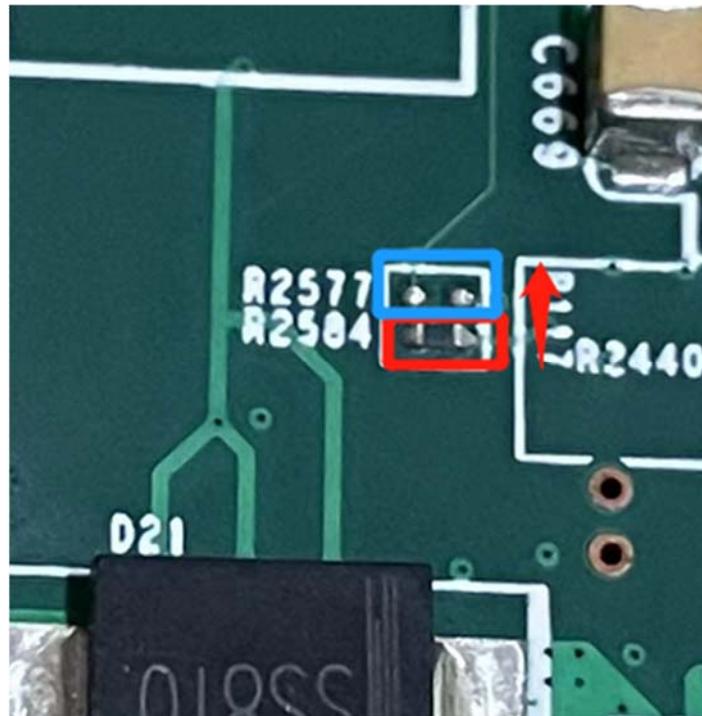
EBAZ4205 hardware starts from NAND mode by default. In order to solidify NAND program, we need to temporarily start the board from JTAG debugging mode (temporary). We only need to keep IO2 in low level state at the moment of power-on.

As shown in the figure below, you can select tweezers or switches to keep R2585 in short circuit state before the board is powered on, and then power on again to start the system from JTAG mode

Warning: Be careful not to damage the wiring and circuit during operation

3 If the board needs to be started by SD card. Move R2584 to R2577, and weld TF holder

8. Check the mainboard

The board is in NAND startup mode by default. If the code is not erased or the startup mode is not modified, the green indicator in led 6 will be on after power-on, and the other red indicator will flash after 1 minute (it proves that the board is working normally, the mine program is running successfully, and the system's own linux system can read the command line of linux through the serial port)

9. Notice

1 The code in the data is based on VIVADO 2018.3

2 The serial port J7 on the motherboard can be connected to TX, RX and GND, and the baud rate is 115200.

3 If the board runs PS core, select MT41K128M16JT-125 in the memory part of DDR setting, and select 16Bit as the data bit width.