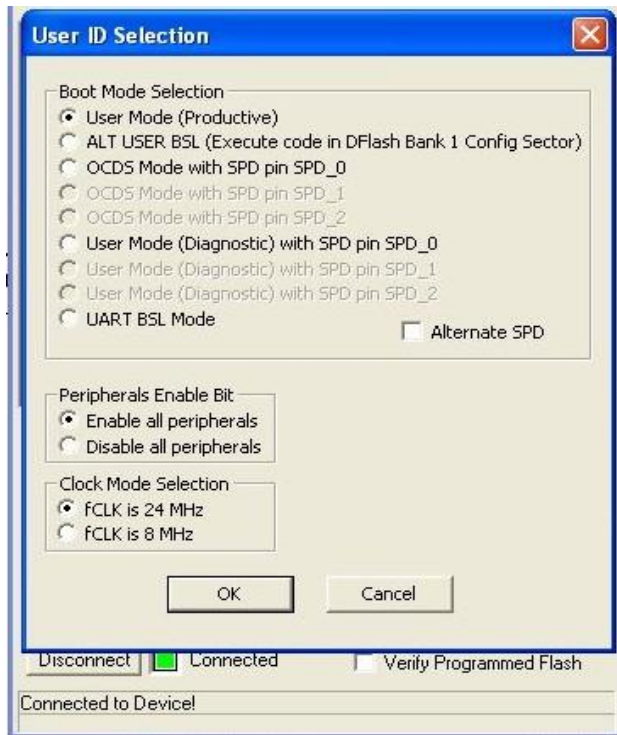


How to use the UART BSL Mode in your mass production system

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2011-6-11

Back ground:



If the User mode (productive) is selected, the Boot ROM will jump to program memory address 0000H to execute the user code in the Flash memory. In this mode, the content in the Flash memory are protected from external access. This is the normal operating mode of the XC83x. this was described in the user manual, but I do not agree with this.

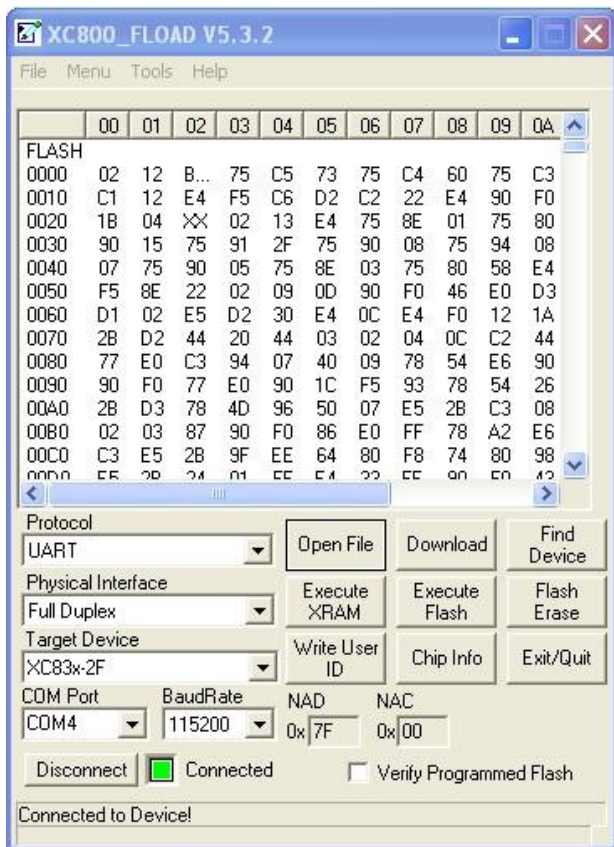
Some time, we or our customer need us to do a small change ,so we need to use the UART update the firmware in our system not the wiggler tools ,because not all the customer had the special tools like wiggler in hand .

Target :

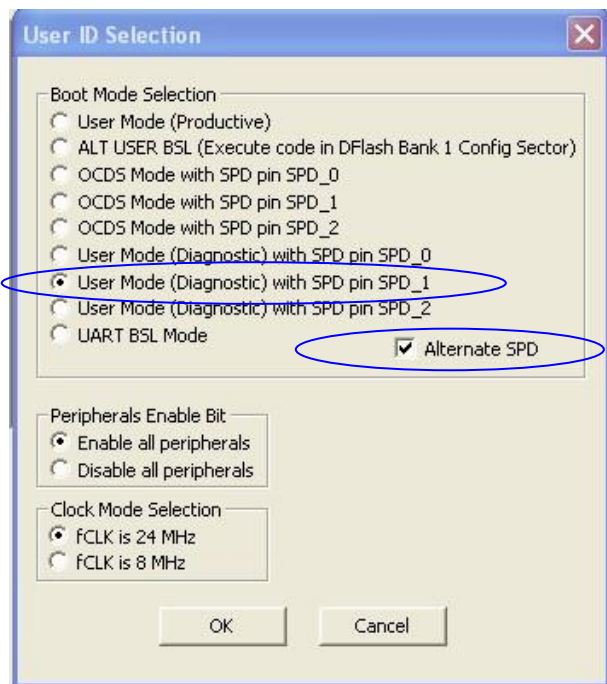
How could we do? if we want change the firmware through UART with a simple RS232 cable, by the way , if something wrong we can use a tools to modify it back,

Follow this step you can do it

Step 1: modify your user code and add the jump UART BSI function.



Step 2



Step 3

You should setting the boot mode to SPD1 not SPD0, because you need the Tx and Rx pin to do the normal RX232 function.

Step 1, this is the first step you should modify your code and test it and confirm it can work properly ..
Software :

Infineon had design this in the BOOT ROM area of the xc836 chip, the location is 0xDFEA

The BR_UART_BSL sub function is used for Re-enter UART BSL Mode

Declare this in your .h file for example : void BR_UART_BSL(void);

Insert the following code into your software

External or a RS232 command to trigger the system jump to below :

```
{
    TR2 = 0; // stop timer
    SFR_PAGE(_cc0, noSST); // switch to page 0
    IEN0 = 0x00;
    IEN1 = 0x00;
    CCU6_TCTR4L = 0x00; //
    CCU6_TCTR4H = 0x00; //
    // Above is my experiment, not the user manual recommend.
    IEA = 0;
    NMICON = 0x00;
    // BCON.BGSEL SFR field bit to be set accordingly
    // I did not change this value
    SP = 0xE0 ; Stack Pointer (SP) Setting: 0x07 <= SP <= 0x60 or
    BR_UART_BSL(); // start UART BSL
}
```

}

After this you can use the xc800 fload software to burn your new software into the xc836 again.

Step 2: connect the target chip xc836 with UART BSL mode

Step 3: Change user ID to User mode (Diagnostic) with SPD pin SPD1 (SPD0 used for UART function)

Note:

Attention to the IO initial function in your software ,avoid to setting the P0_DATAOUT or you can reset the RX TX port to the default state before you going into the BR_UART_BSL mode.

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2011-05-11
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