USER'S GUIDE

LPC2148 PROGRAMMING PROCEDURE

NSK ELECTRONICS

LPC2148 PROGRAMMING PROCEDURE

In programming procedure there are two ways to program the LPC2148.
1. Automatic mode
2. Manual mode

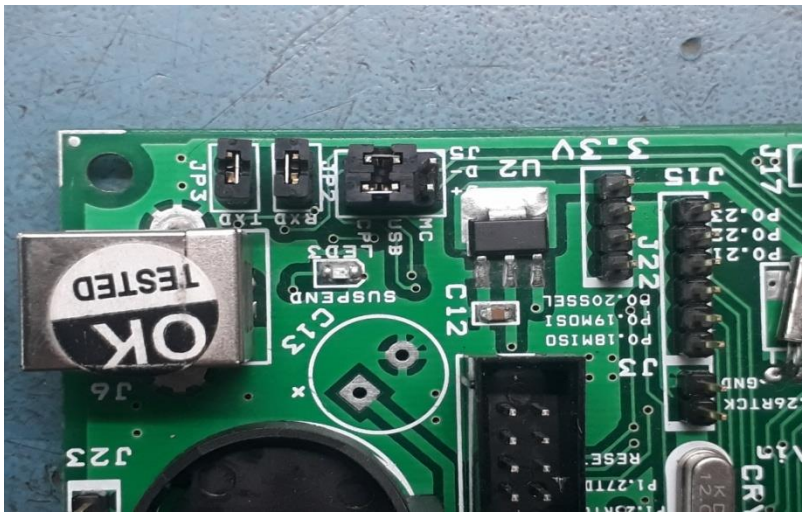
Automatic mode :

The simplest way is automatic mode, In automatic mode there will be no need of manual switching the ISP button to low for entering into programming mode during reset. This process will automatically done by USB flasher.

There are few simple steps to follow:

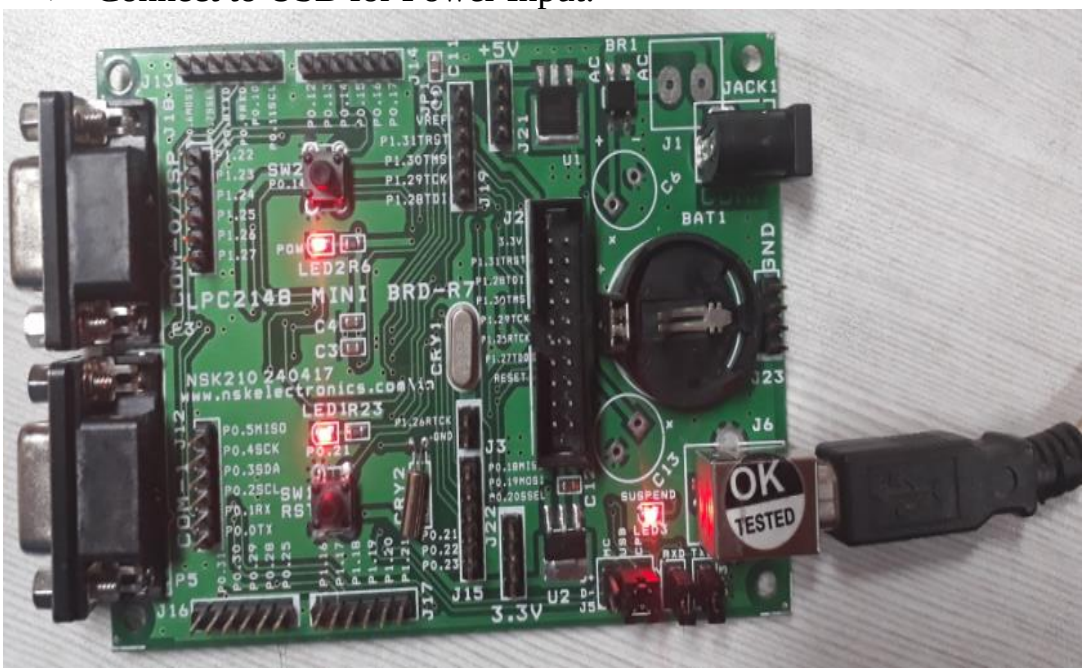
STEP: 1

- Connect the jumpers for TXD and RXD pins
- Connect the jumpers for USB to CP pins as shown in the picture.



STEP: 2

- Connect to USB for Power Input.



NOTE: LPC2148 Board Can Work either in 12V AC/DC or USB Power, Do not connect both.

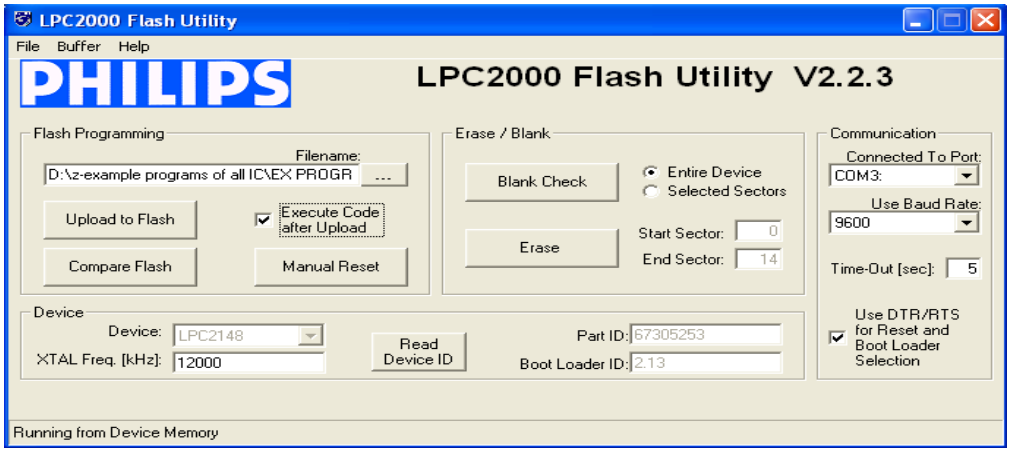
STEP: 3

- Select Correct COM port Number, BAUD RATE(9600) and XTAL Frequency(12000). COM Port can be identified in Device Manager (My Computer → Properties) in PC.

- Do not select Device, Part Id and Bootloader Id, It Will automatically Identify.

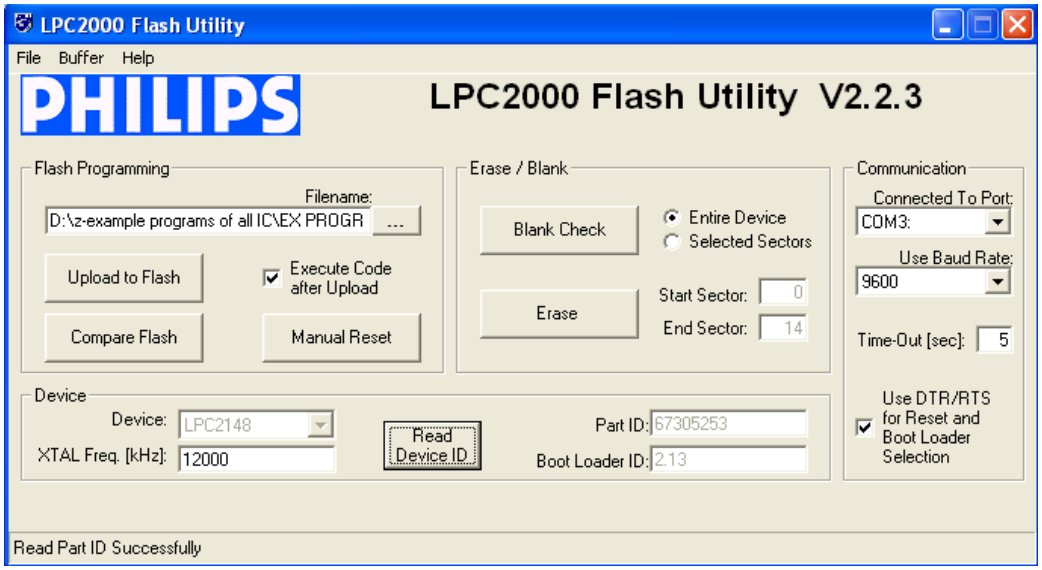
- Enable DTR/RTS For Reset and Bootloader Selection.

- Enable Execute code after upload.



STEP: 4

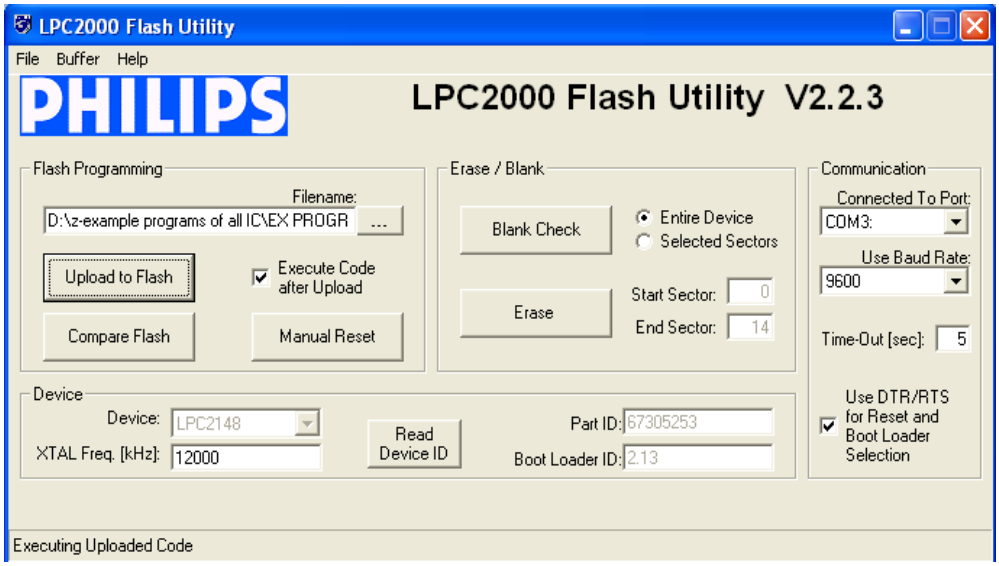
- Click Read Device Id.



- Device, Part Id and Bootloader Id is Read Successfully.

STEP: 5

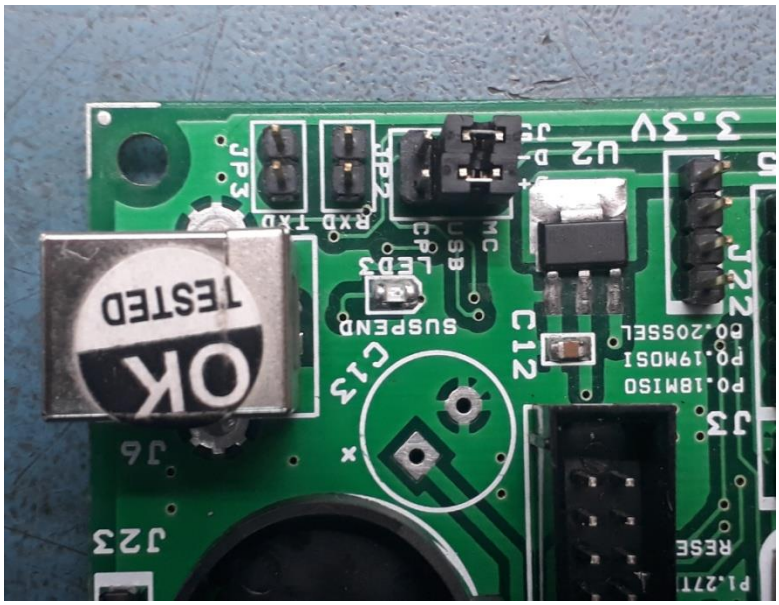
- Select the HEX File and click Upload to flash.
- The code will start to execute after uploading.



STEP: 6

Interfacing USB with **LPC2148**

- Connect the jumpers for USB to MC.

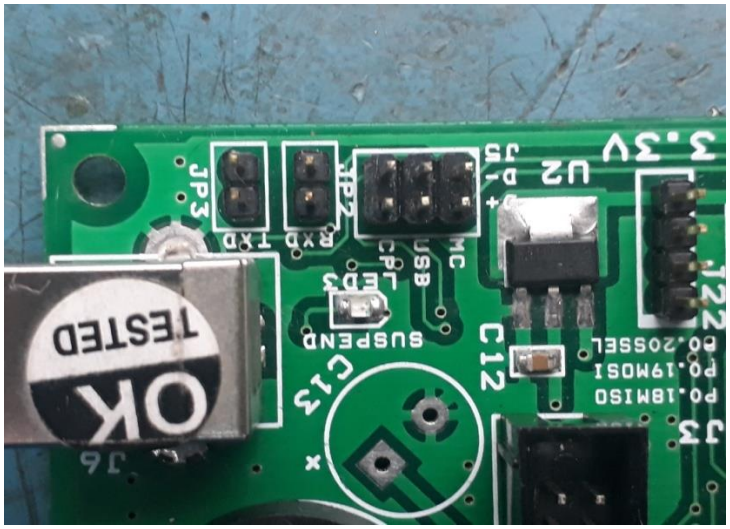


For more details refer the below link :
https://www.pantechsolutions.net/microcontroller-tutorials/how-to-interface-usb-2-0-with-lpc2148-arm7-development-board

Manual mode :

STEP: 1

- Remove all the jumpers while communicating through **COM0/ISP Port** to PC via RS232 Port.



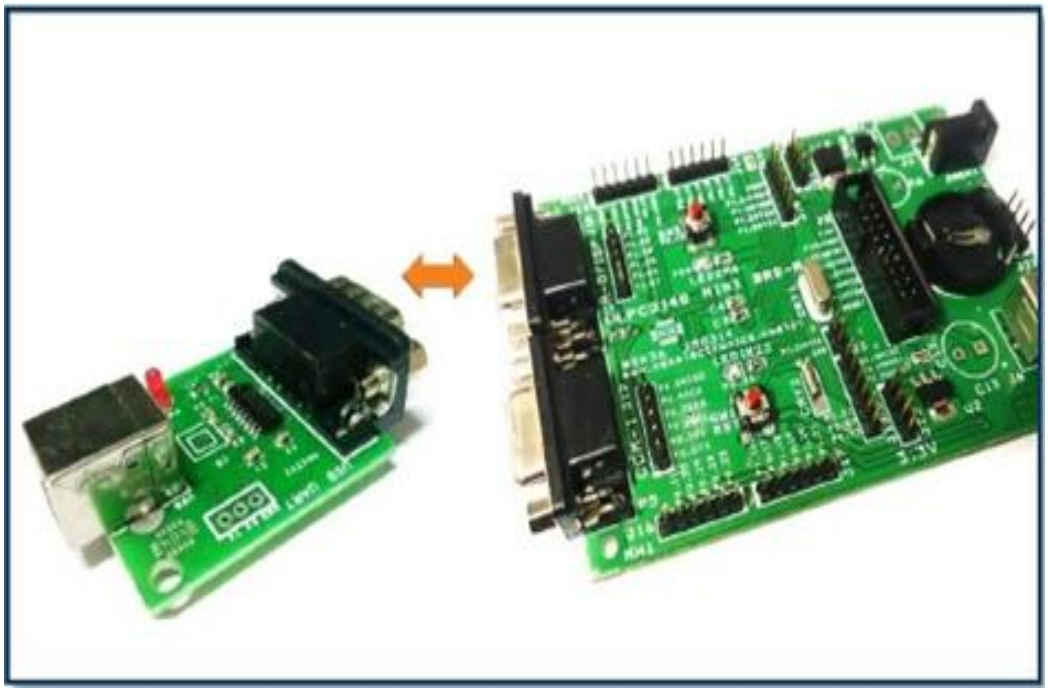
STEP: 2

- Supply Input Voltage 12V AC/DC {or} Connect to USB for Power Input.

NOTE: LPC2148 Board Can Work either in 12V AC/DC or USB Power, Do not connect both.

STEP: 3

Connect **LPC2148 – COM0/ISP Port** to PC via RS232 Port. If RS232 Port is not available in your PC, use USB to UART Converter.



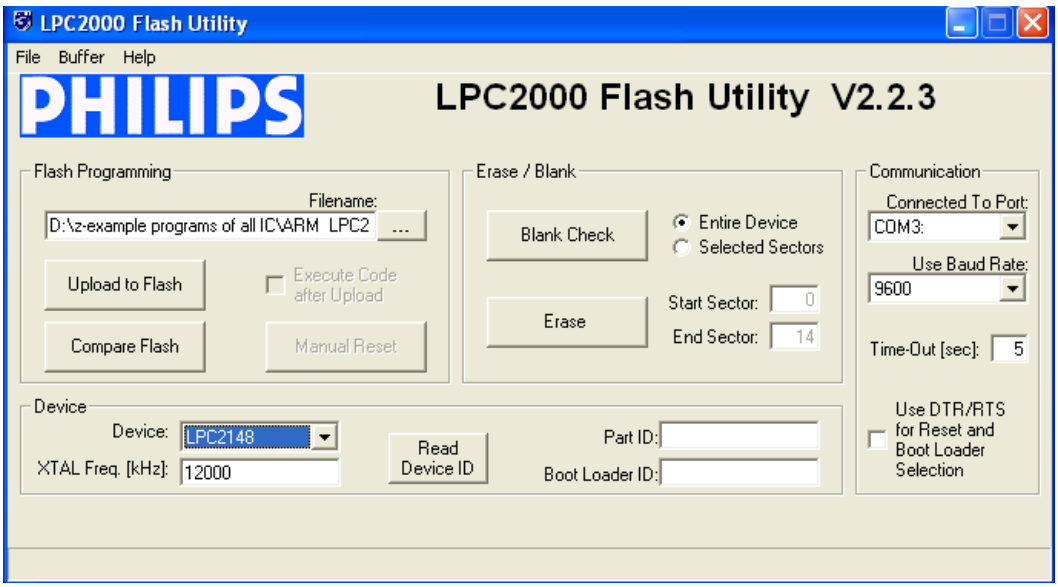
STEP: 3

In Flash Utility

- Select Correct COM port Number, BAUD RATE(9600) and XTAL Frequency(12000).

COM Port can be identified in Device Manager (My Computer →Properties) in PC.

- Do not select Device, Part Id and Bootloader Id, It Will automatically Identify.
- Disable DTR/RTS for Reset and Bootloader Selection.

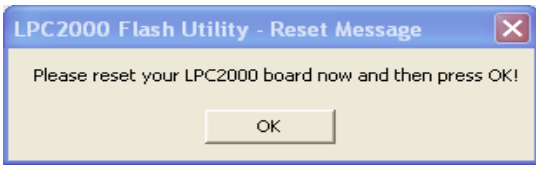


STEP: 4 How to Enter into ISP mode manually

- Click Read Device Id.

If p0.14 is pulled low during RESET, it will enter into ISP mode In ISP only we can Flash, Read, and verify hex file. The bootloader uses UART#0 for downloading new program (Hex code) into the processor FLASH. If the processor samples P0.14 low after reset the bootloader is entered, else the application code is executed.

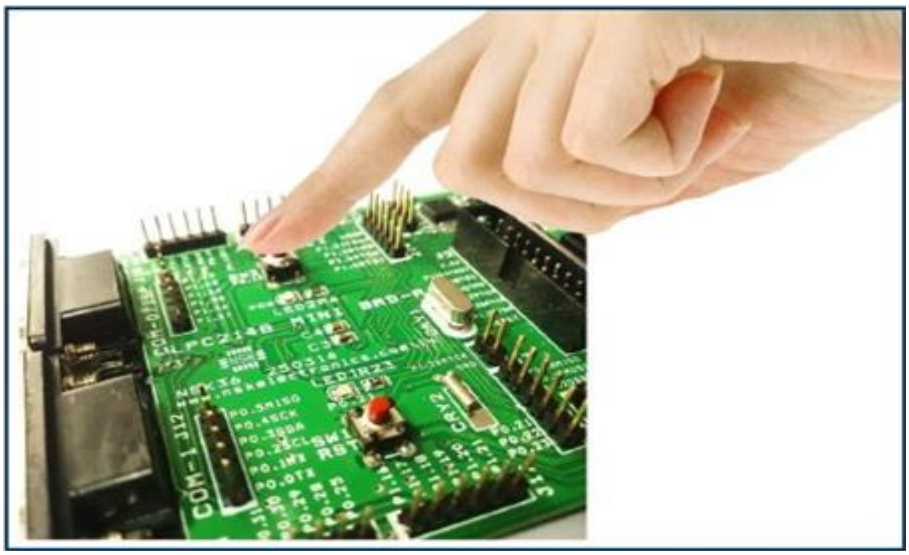
- It will ask for "Please Reset Your Lpc2000 Board".



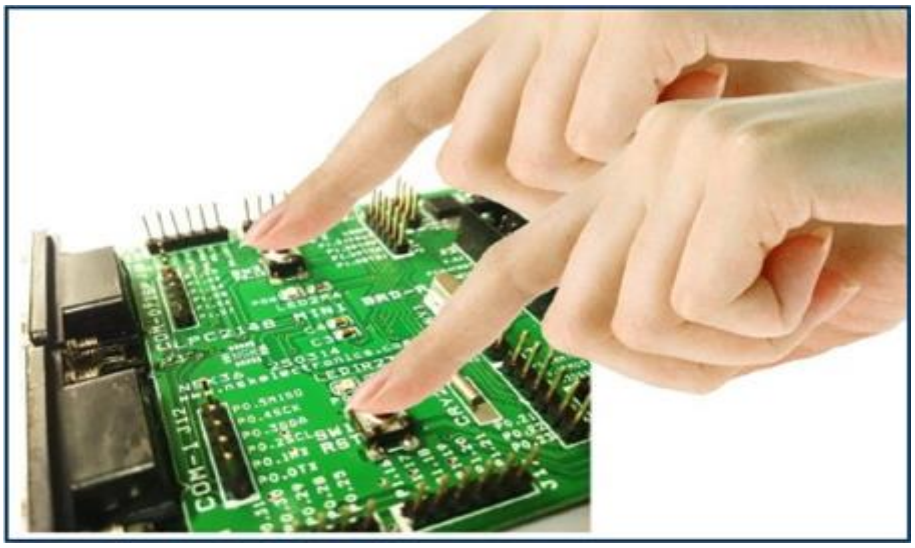
- Sometimes if error message like "Cannot Communicate with Test Board" Comes

Click Read Device Id again It will ask for "Please Reset Your Lpc2000 Board".

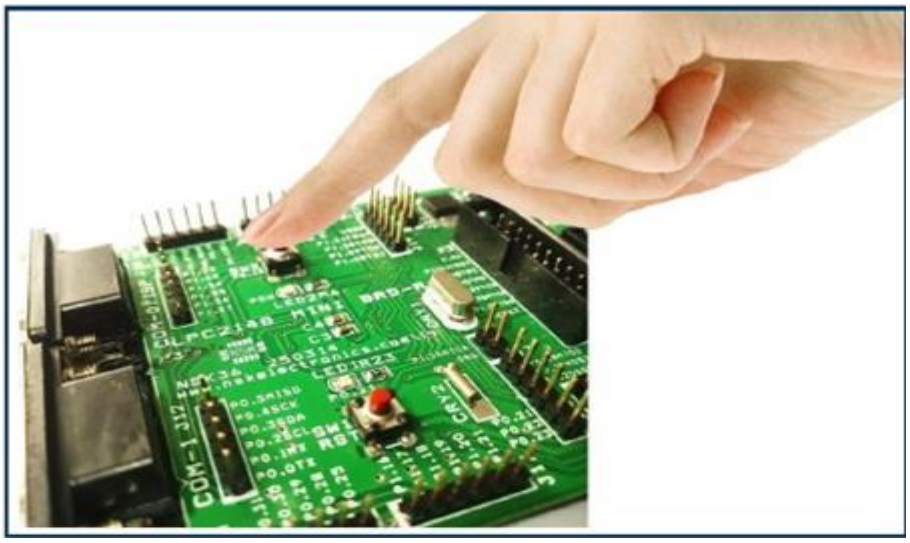
- Now in LPC 2148 board press ISP switch (sw2)



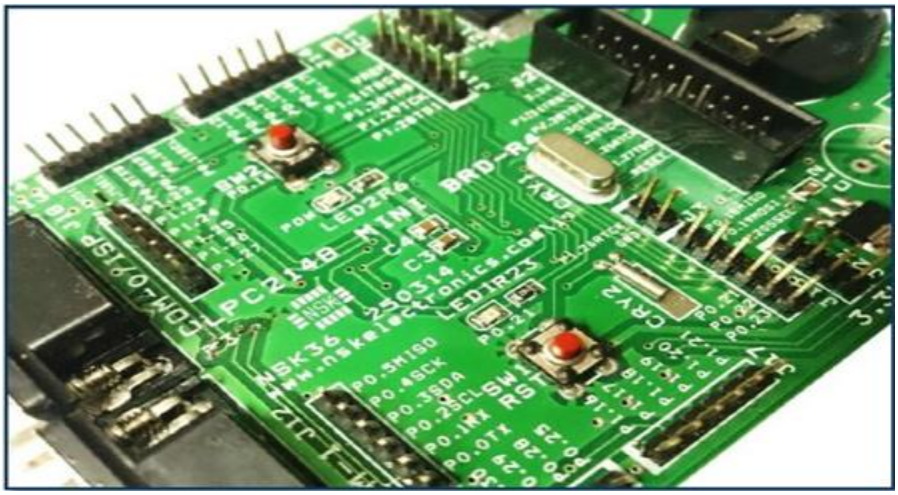
- By holding ISP switch, press RESET switch (sw1)



- Now release RESET switch (sw1)

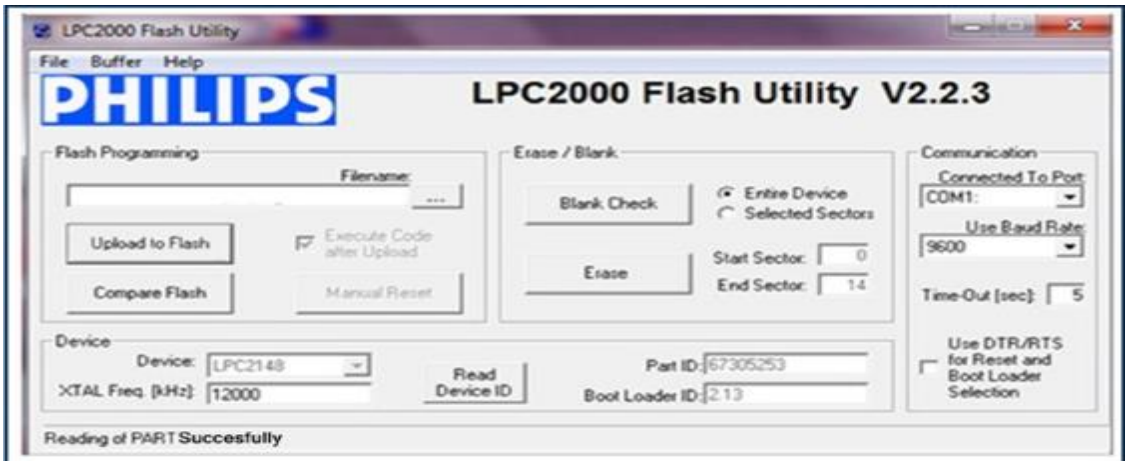


- Then release ISP switch (sw2) also.



- Now click OK

- Device, Part Id and Bootloader Id is Read Successfully.



STEP: 5

Select the HEX File and click Upload to FLASH after Uploading Press RESET Switch (sw1) for Return t he LPC2148 Board into Application mode.