# Microcontroller Reprogramming Procedure via Infineon Memtool

# Agenda

- Application Kit Contents
- PCB and Pinouts
- Re-Programming Procedure with Infineon Memtool 4.6

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# Application Kit Contents


1. Power Drill Demo Board
2. FTDI Cable
3. Memory Stick
4. Flat Cables

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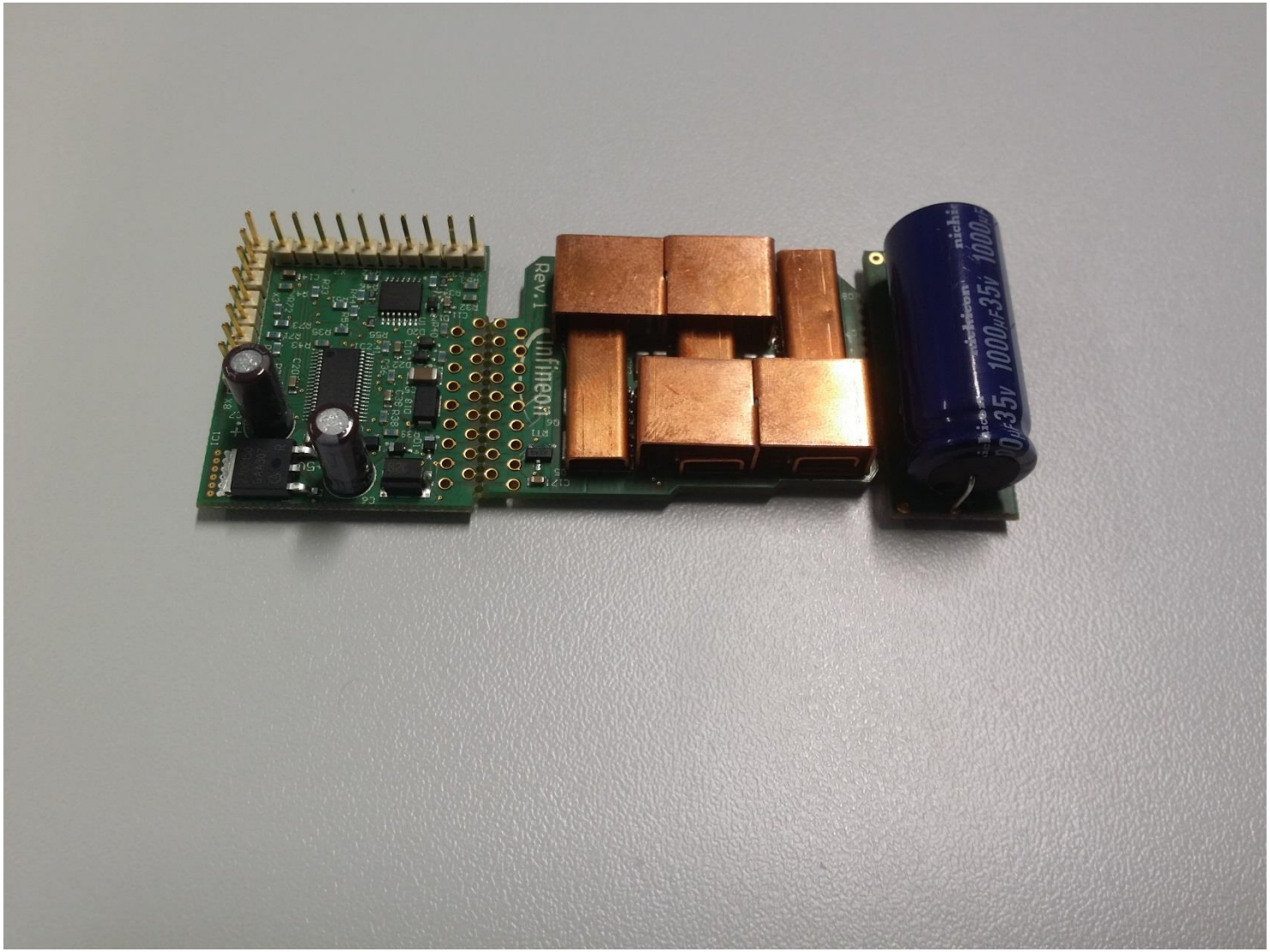
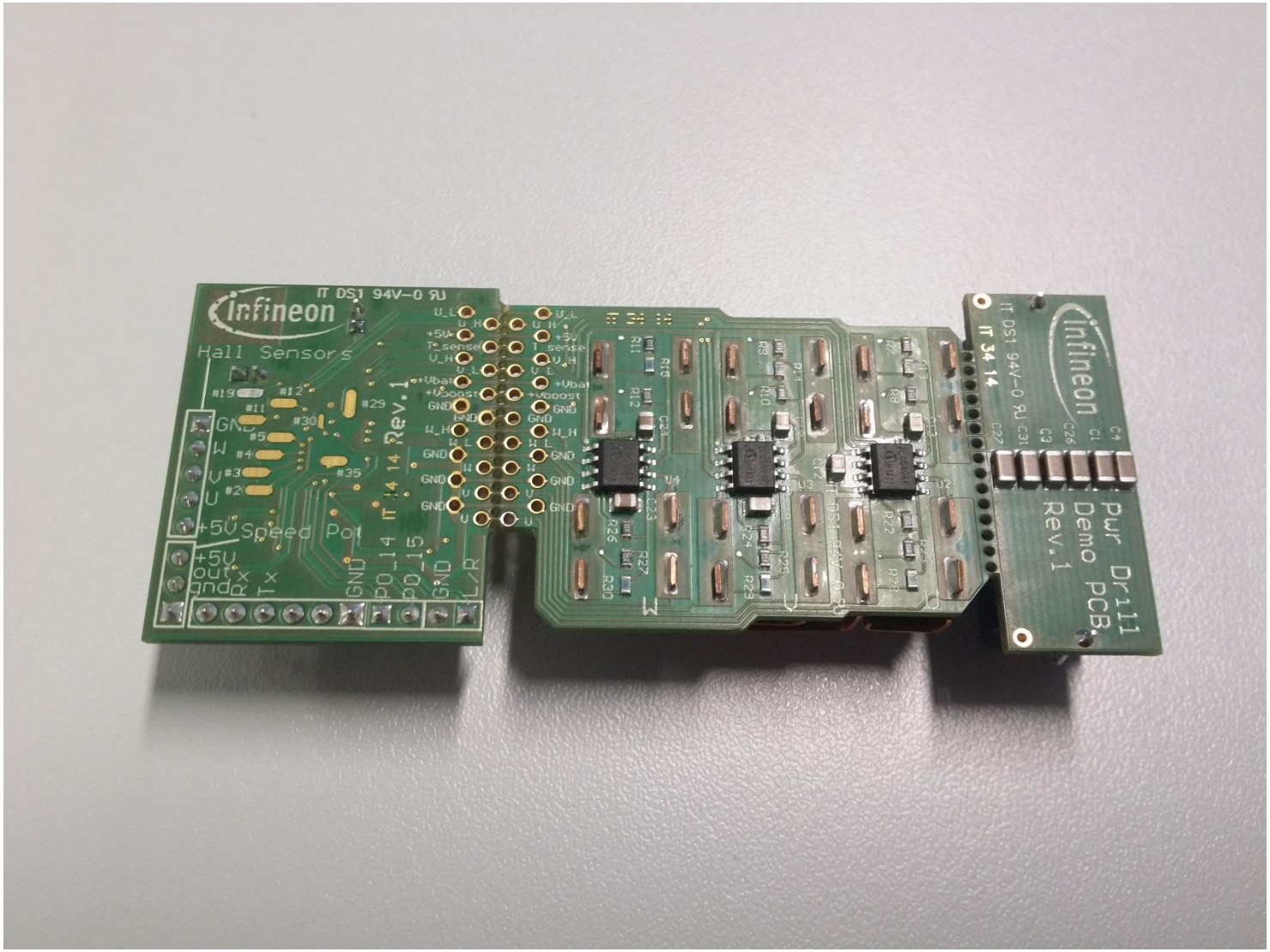
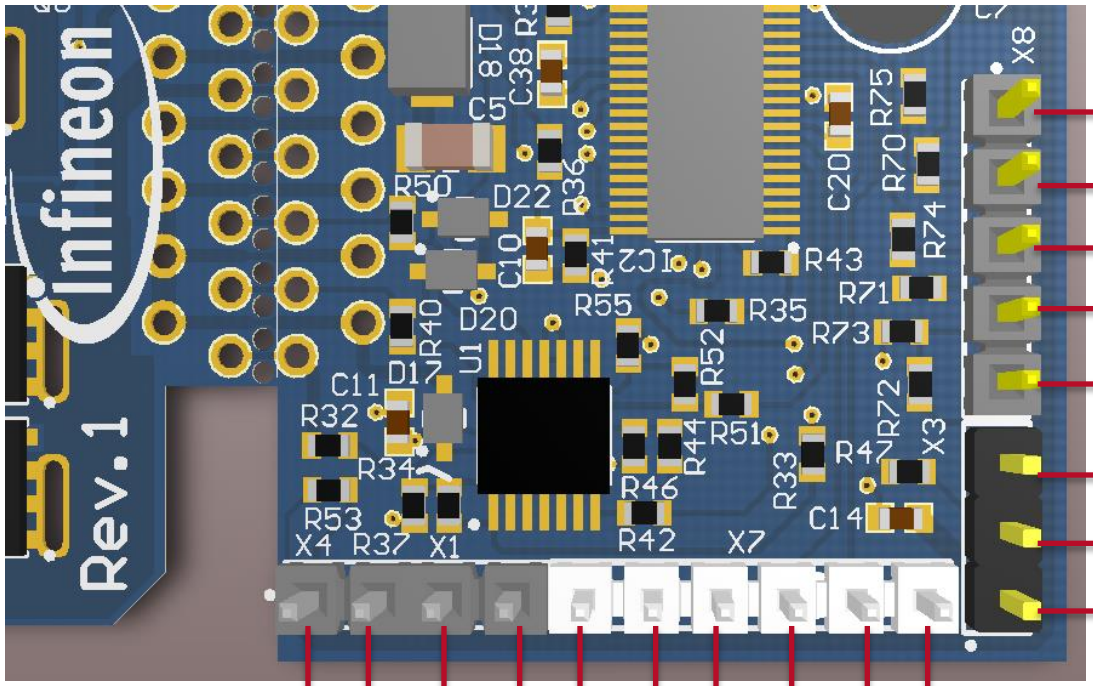
# PCB– Top side



# PCB – Bottom side



# Pinouts – Demo Board PCB




GND
Hall W
Hall V
Hall U
+5V

Hall sensor connection

+5V
wiper
GND

Potentiometer connection

L/R
GND
P0_15
P0_14
GND
NC
NC
Tx
Rx
NC

Motor rotation selection

Debug connection

UART connection

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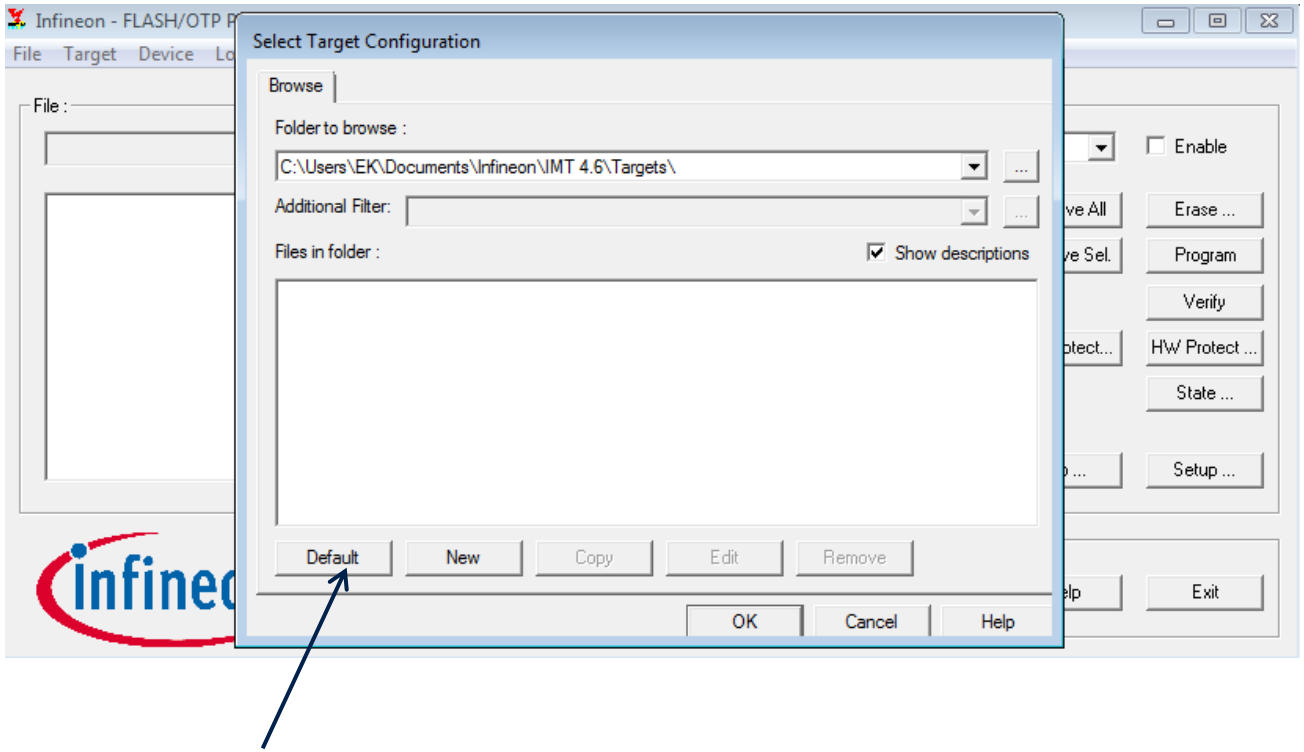
# Re-Programing with Infineon Memtool 4.6

- The C-code is included with the demo board package, which can be modified and used to re-program the microcontroller ( for example the switching frequency needs to be changed from 10kHz to 9kHz)
- Use following steps to re-program the demo board:
  - Modify the C-code in DAVE
  - Complie the programm
  - .hex file will be available in the folder "C:\DAVE3_workspace\ws3.1.10*My project***Release**"
- Refer to following slides how to load the .hex file into the microcontroller

# Re-Programing with Infineon Memtool 4.6

- Install Infineon Memtool 4.6 (contained in memory stick content Software folder).
- During installation select CDM driver package installation

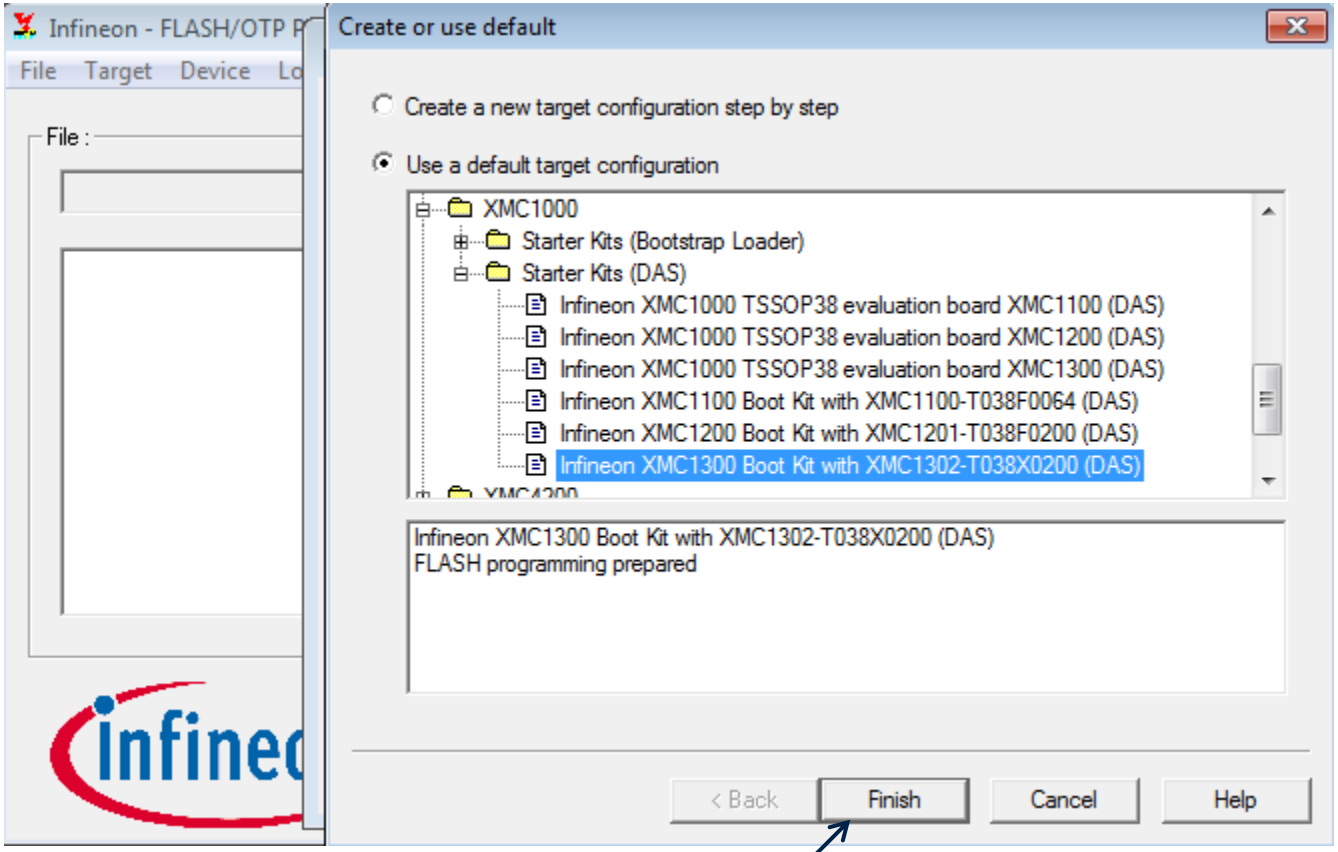
Click on Target tab and select "Infineon XMC 1300 boot kit with XMC1302-T038X0200 (Minimon/UART-over-DAS)"




Open the Memtool and click on "Default" to select the microcontroller

# Re-Programing with Infineon Memtool 4.6

Scroll through the selection list and select the
"Infineon XMC 1300 boot kit with XMC1302-T038X0200 (Minimon/UART-over-DAS)"

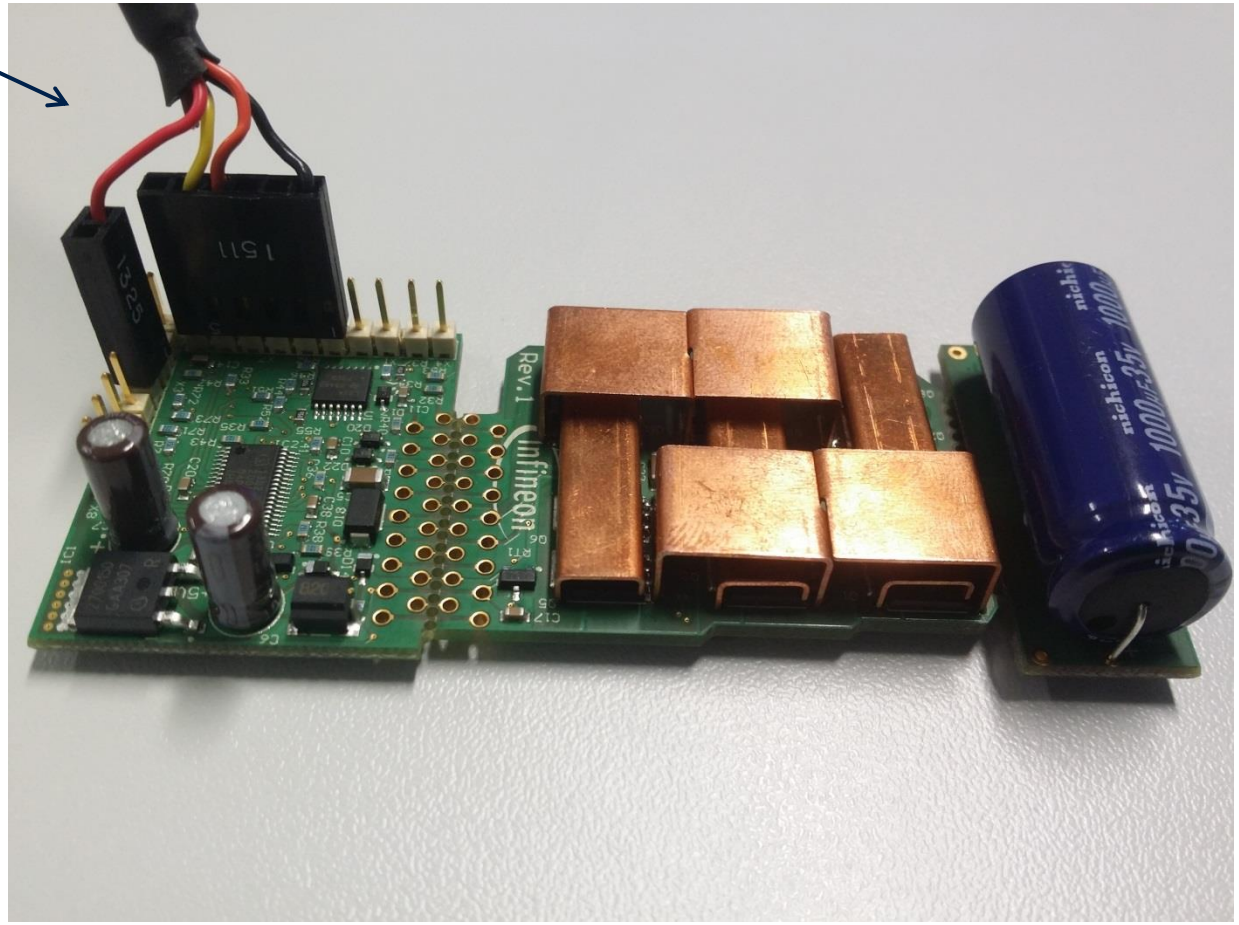



Then click on the "Finish" button

# Re-Programing with Infineon Memtool 4.6

- Connecting the FTDI cable

Make and connect cable to Demo Board as shown (connection scheme is given below)



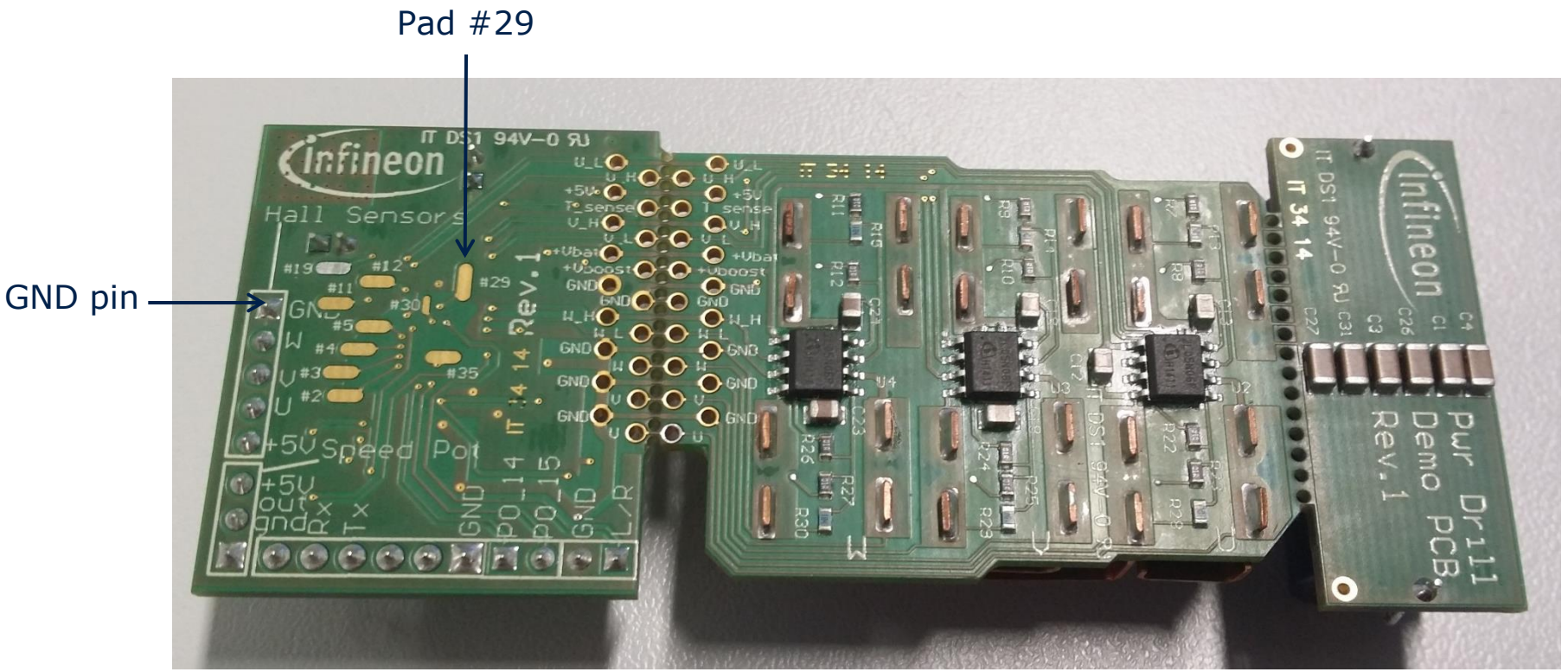

Connection Scheme:

| FTDI cable | | Demo Board |
|---|---|---|
| 5V (Red) | ⟷ | 5V (con X3-pin 6) |
| GND(Black) | ⟷ | GND (con X7-pin 6) |
| TX (Yellow) | ⟷ | RX (con X7-pin2 |
| RX (Orange) | ⟷ | TX (con X7-pin3 |

# Re-Programing with Infineon Memtool 4.6

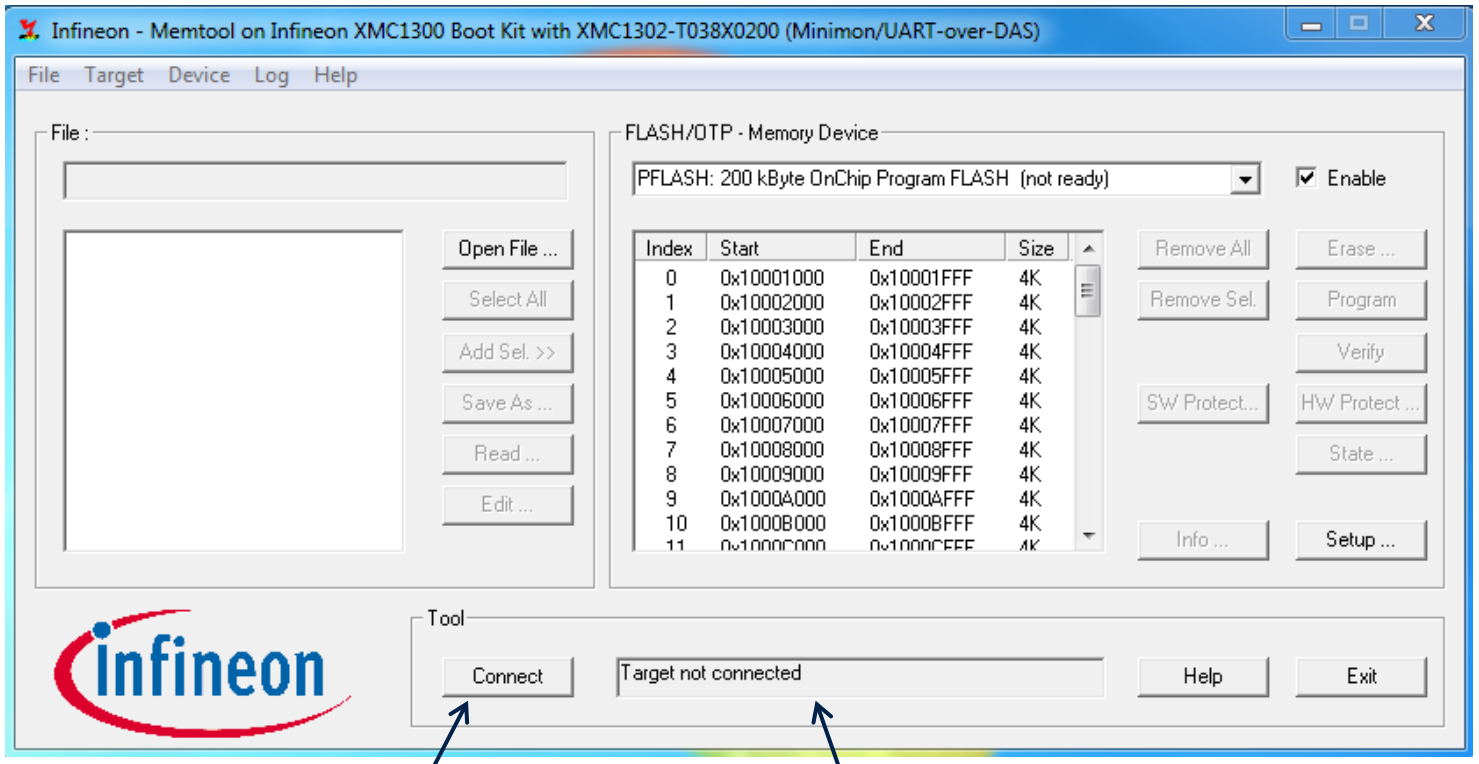
- Accessing the Re-programming mode

**Before** plugging in the FTDI cable in the PC USB port ( before powering up the board), **SHORT** the marked "**Pad #29" with "GND** pin"




After making the SHORT, Plug in the FTDI cable. Remove the short after 2sec.
Keep the FTDI cable plugged in.

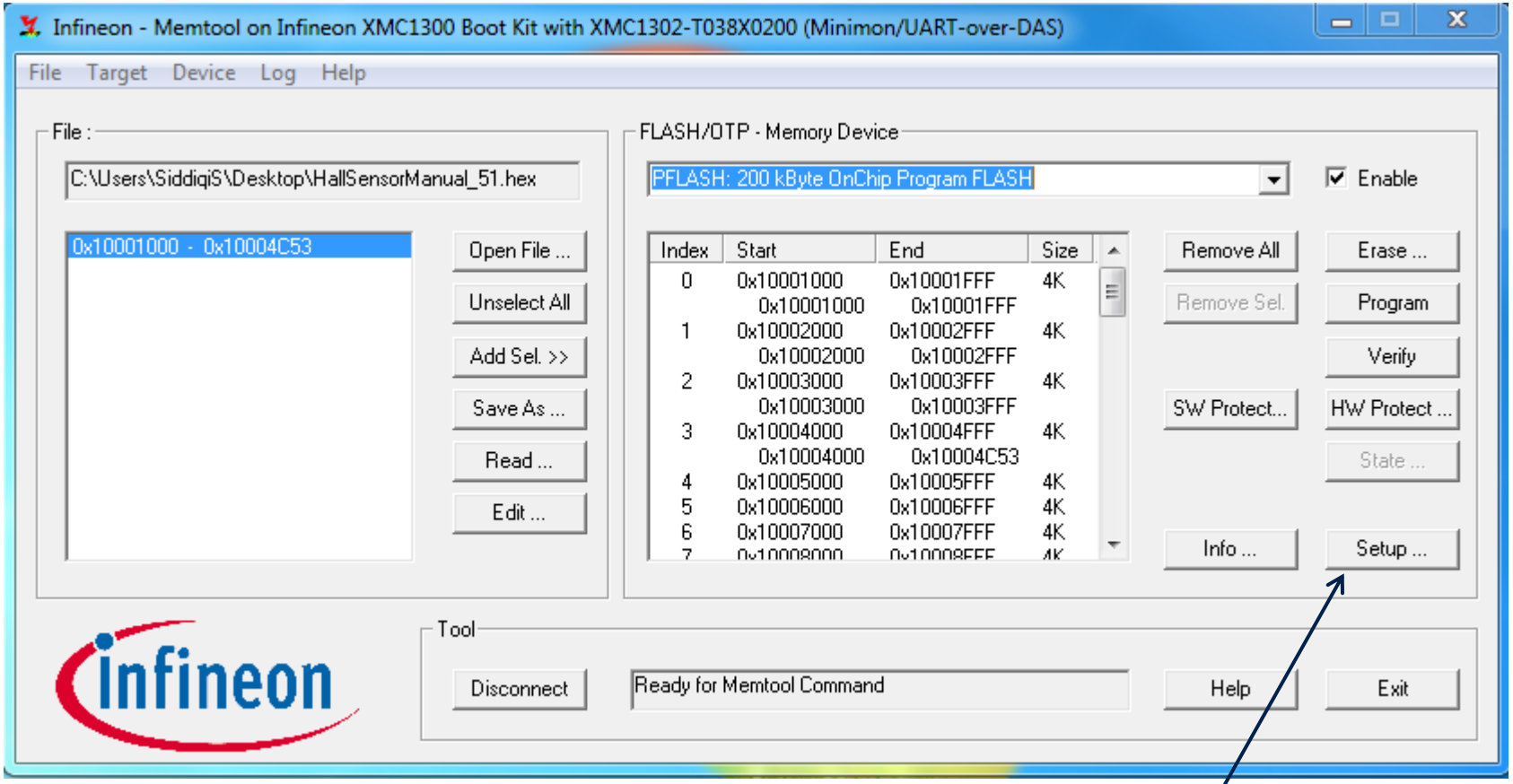
# Re-Programing with Infineon Memtool 4.6




Click on the "**Connect**" button.

This field will indicate if the connection was successful

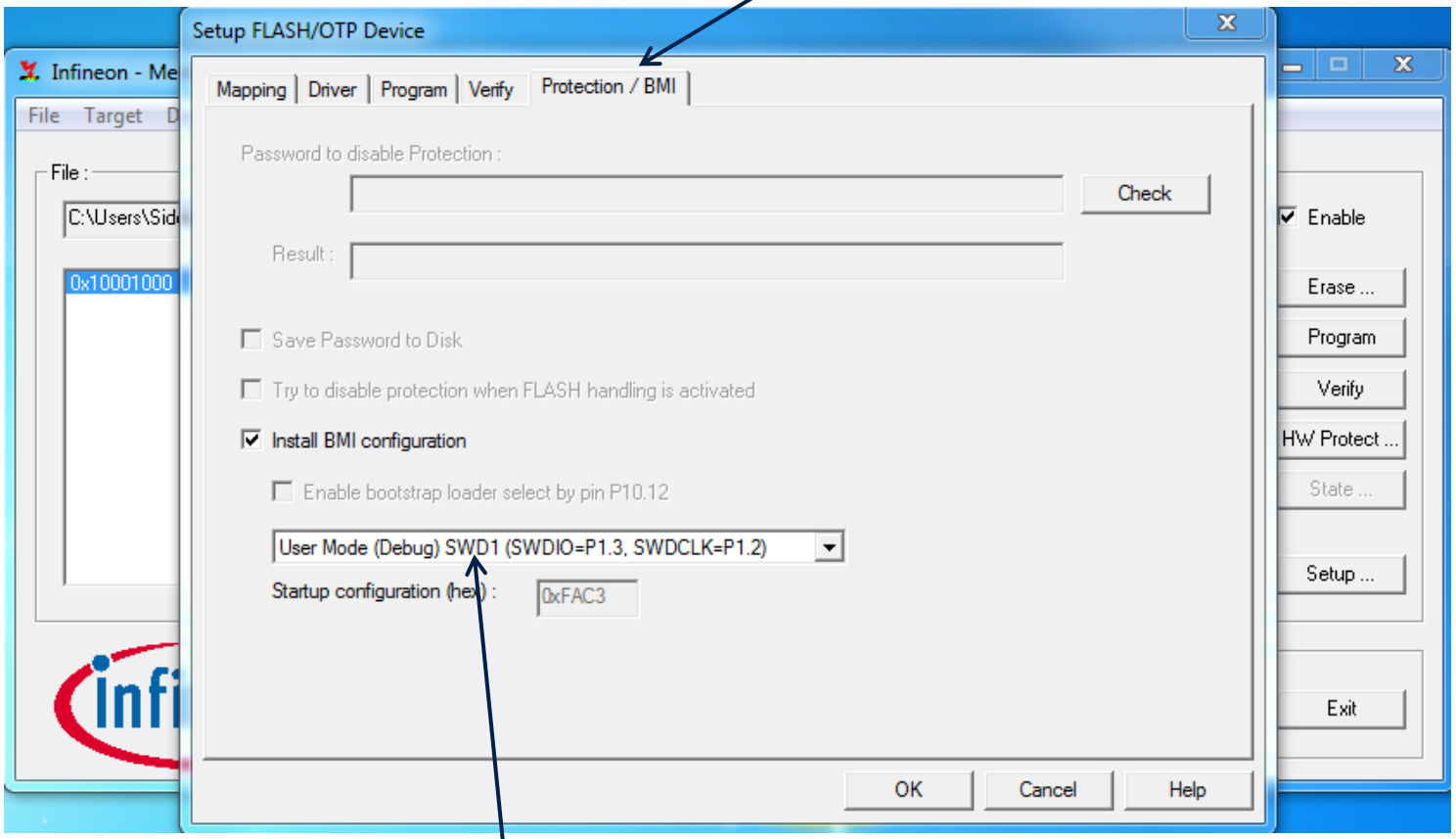
# Re-Programing with Infineon Memtool 4.6




Click on the **Setup** button

# Re-Programing with Infineon Memtool 4.6

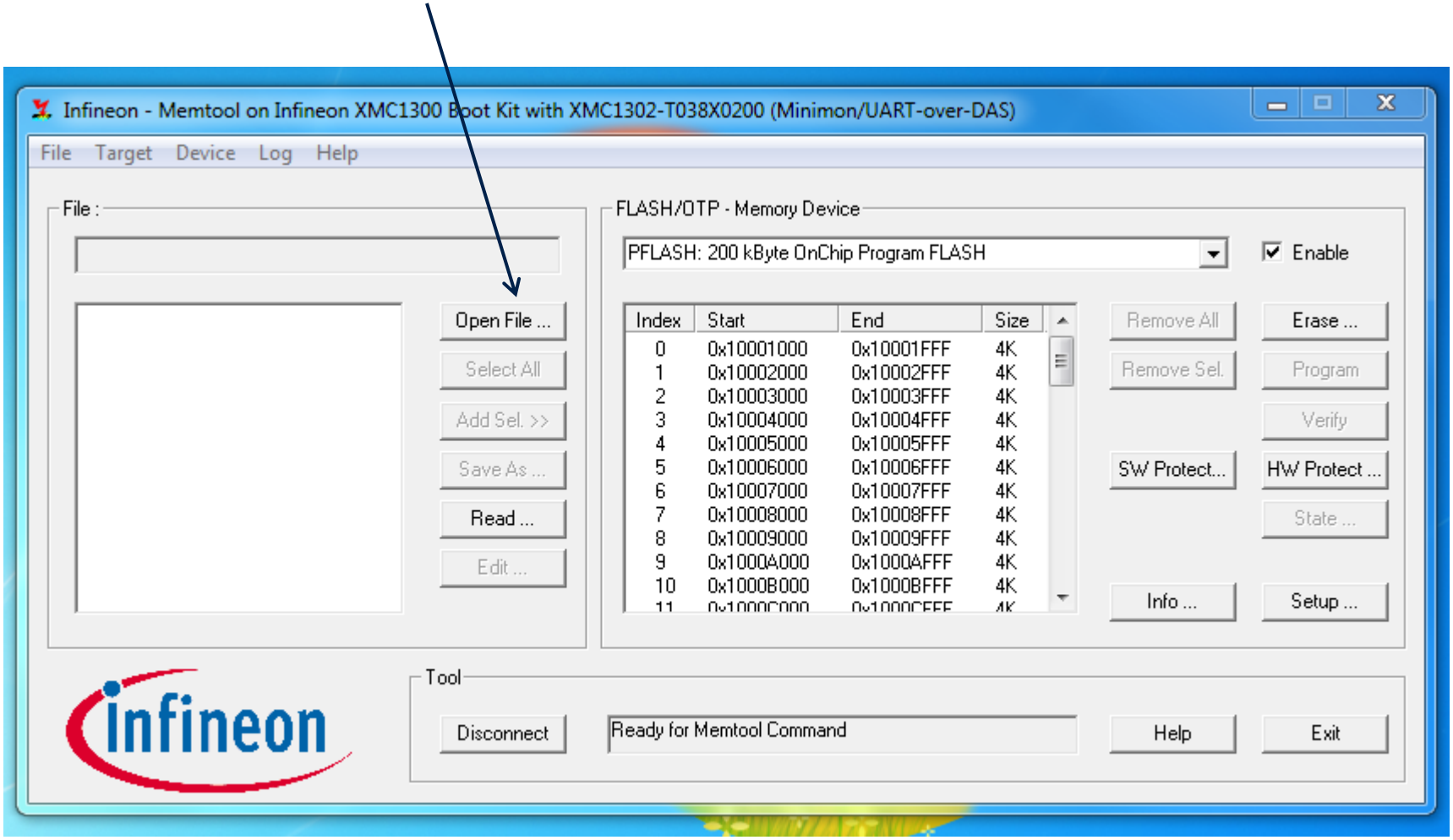
Click on "**Production/BMI"** tab



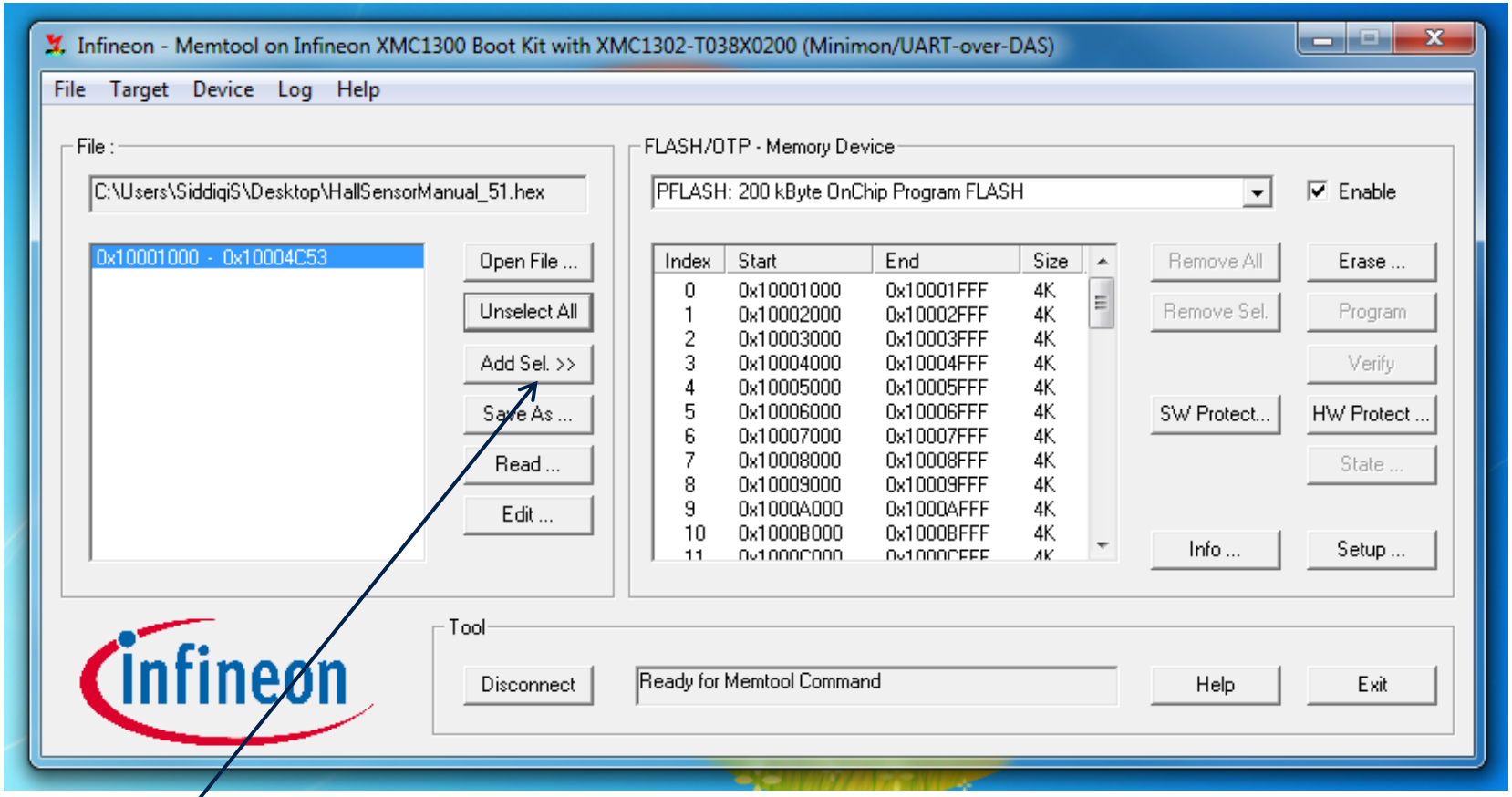

Select "**User Mode (Debug) SWD1 (SWDIO=P1.3, SWDCLK=P1.2)**"

# Re-Programing with Infineon Memtool 4.6

Click on the "**Open file**" button and browse to the location where you stored the ".hex" file.



# Re-Programing with Infineon Memtool 4.6

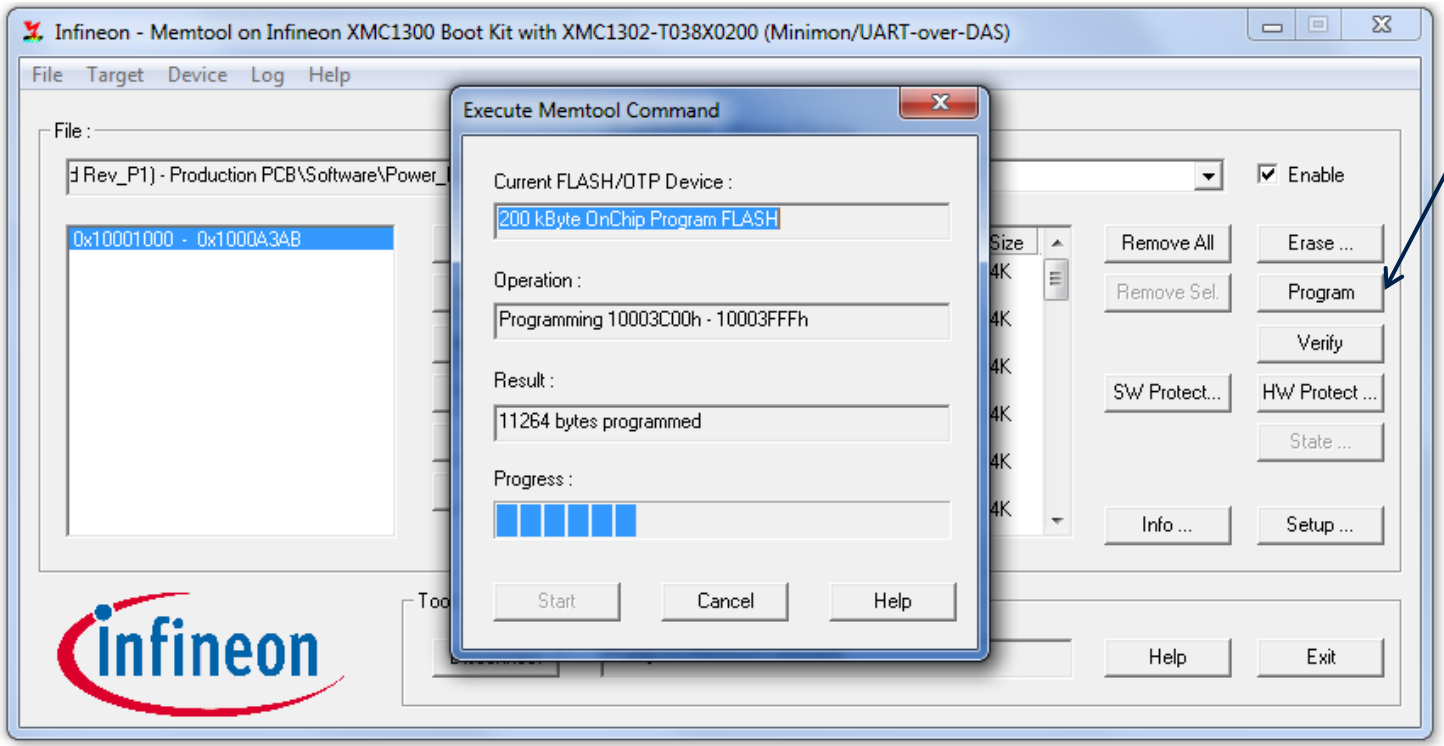



A file will appear in the left window.

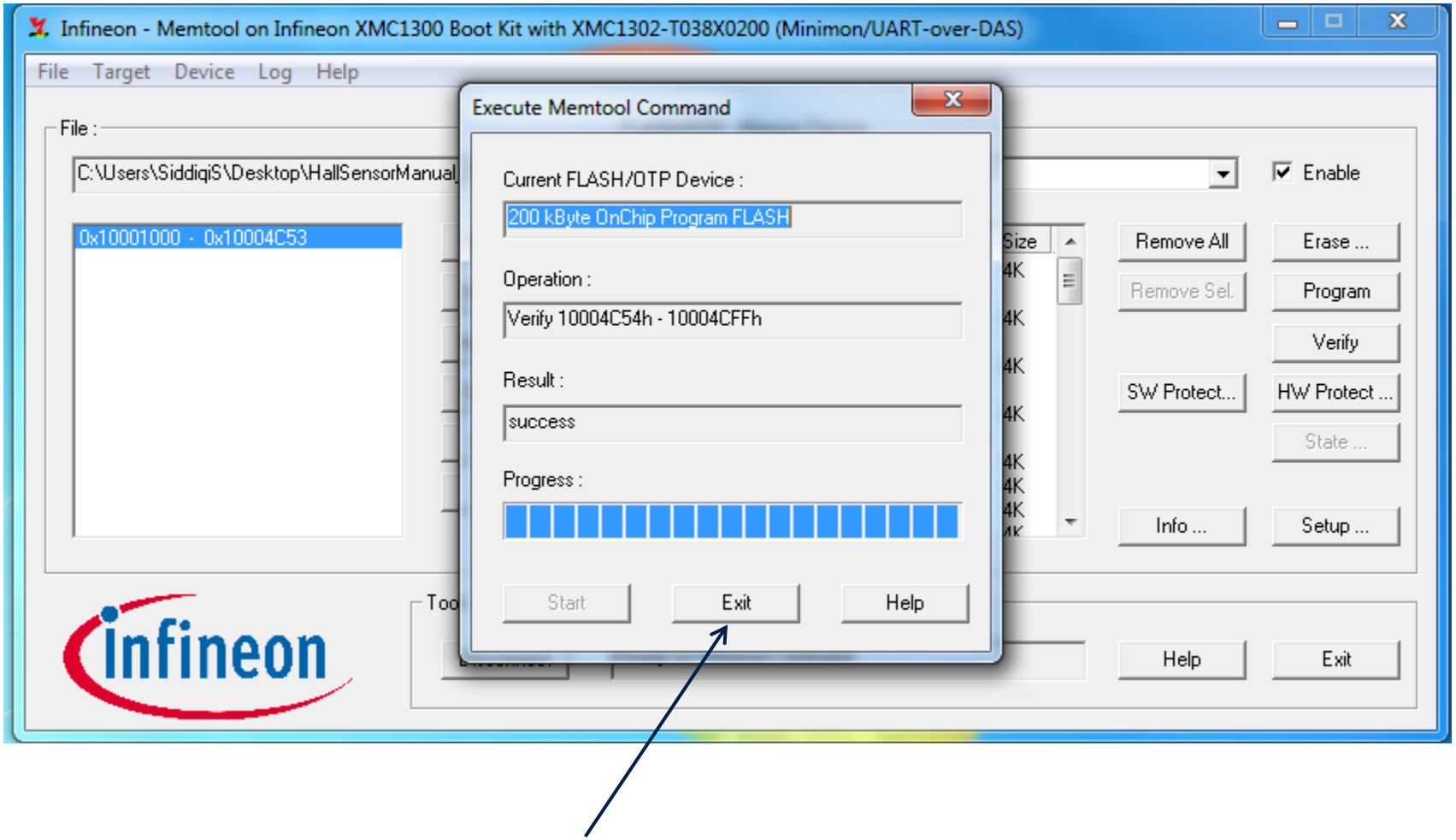
Click on "**Add Sel**" button to transfer the files into the microcontroller table

# Re-Programing with Infineon Memtool 4.6

Click on **Program**



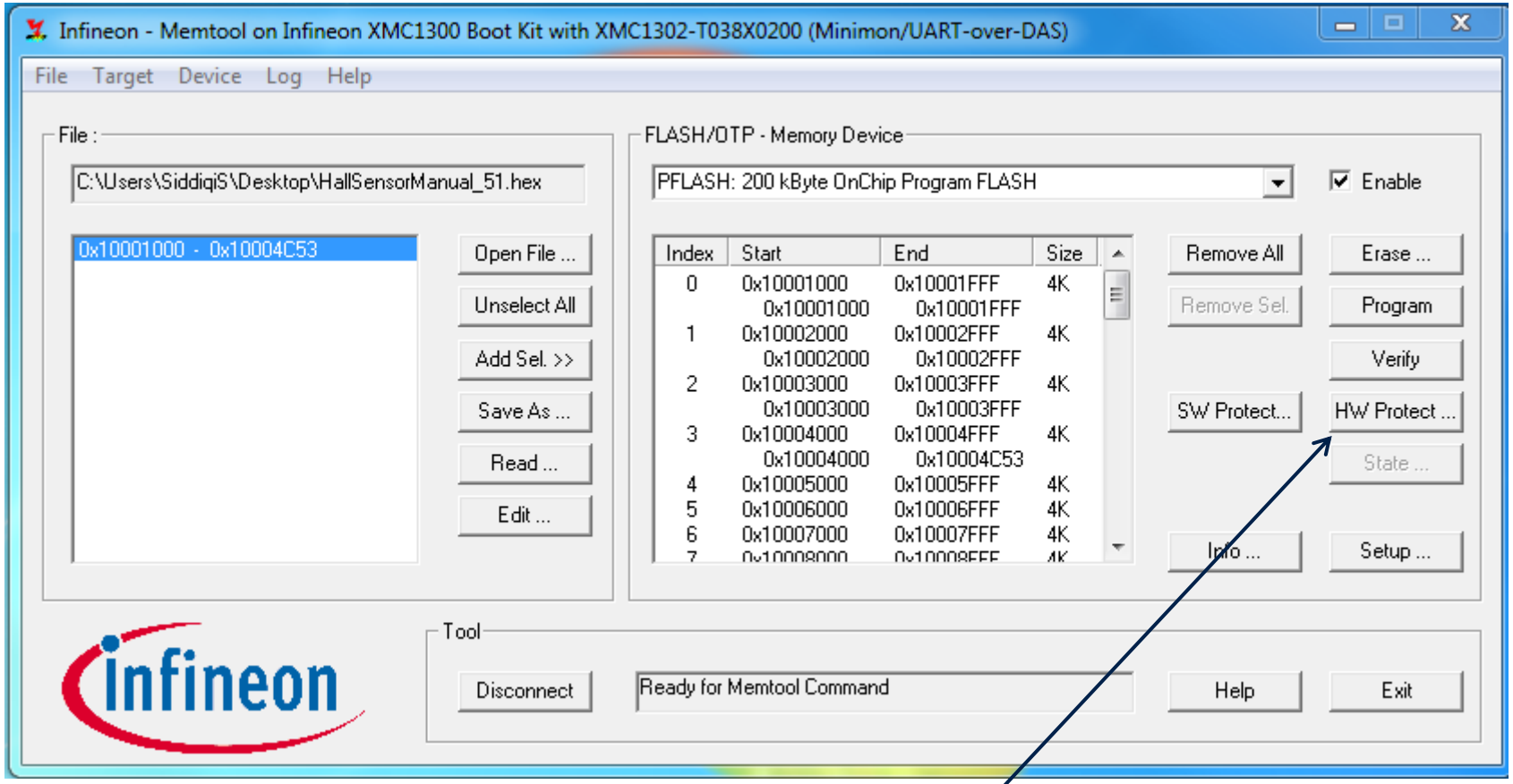
# Re-Programing with Infineon Memtool 4.6




Click on "**Exit**" button when programing is completed.

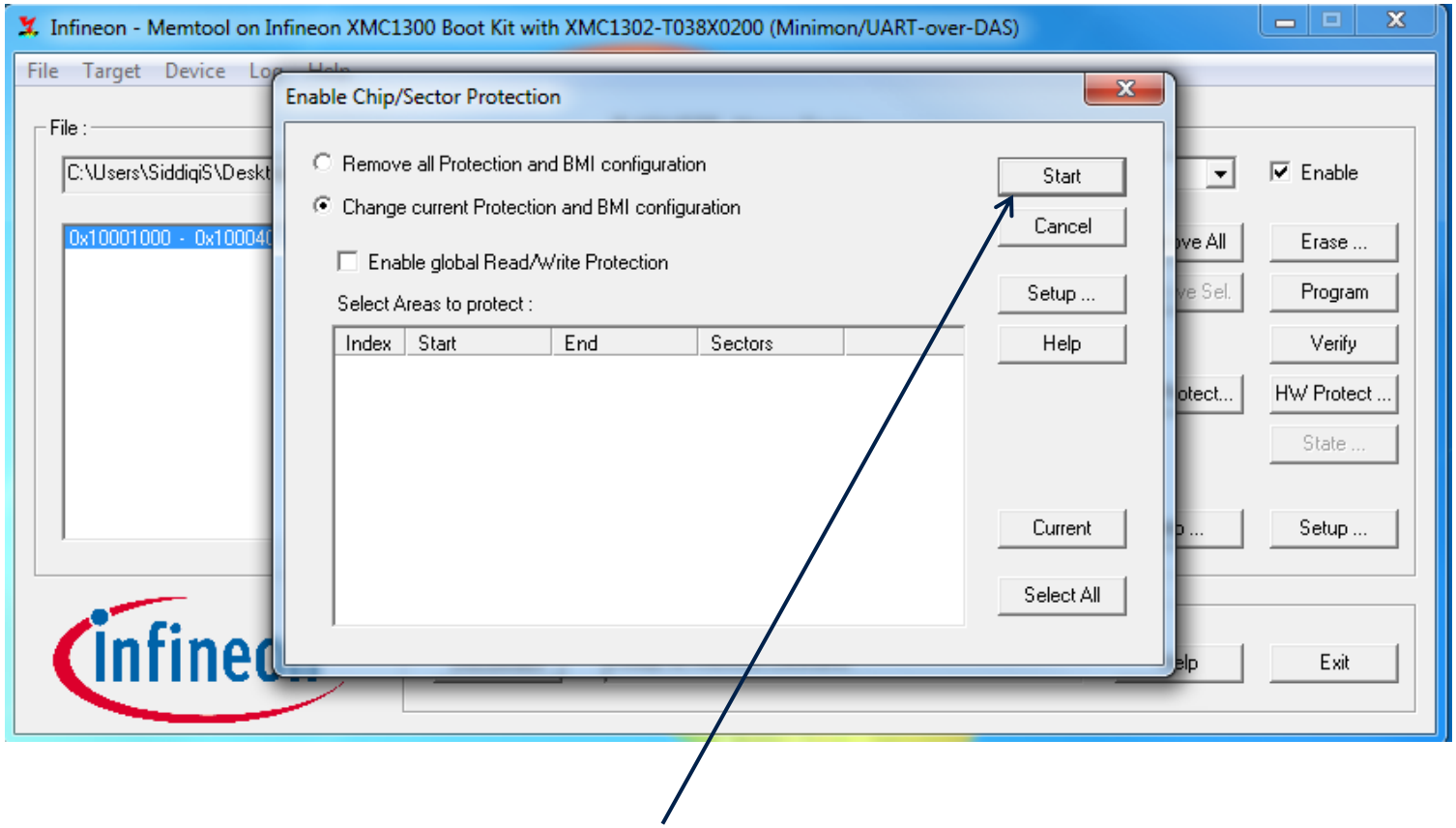
# Re-Programing with Infineon Memtool 4.6

- **Necessary step for initializing the code – this will NOT lock up the micro.**
- **Further reprogramming is still possible**



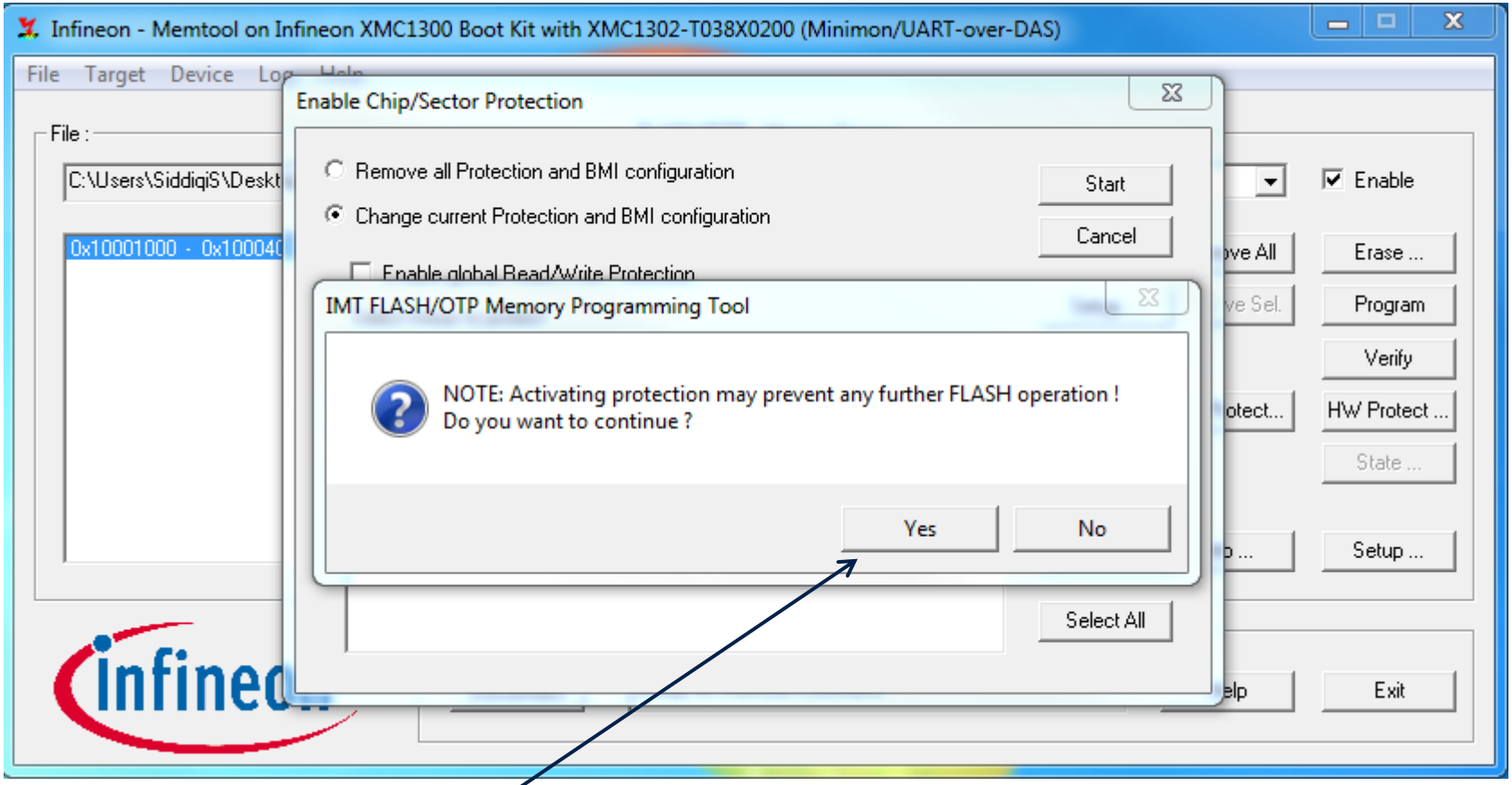

After Successful Programming, Click on "**HW Protect**" Button

# Re-Programing with Infineon Memtool 4.6



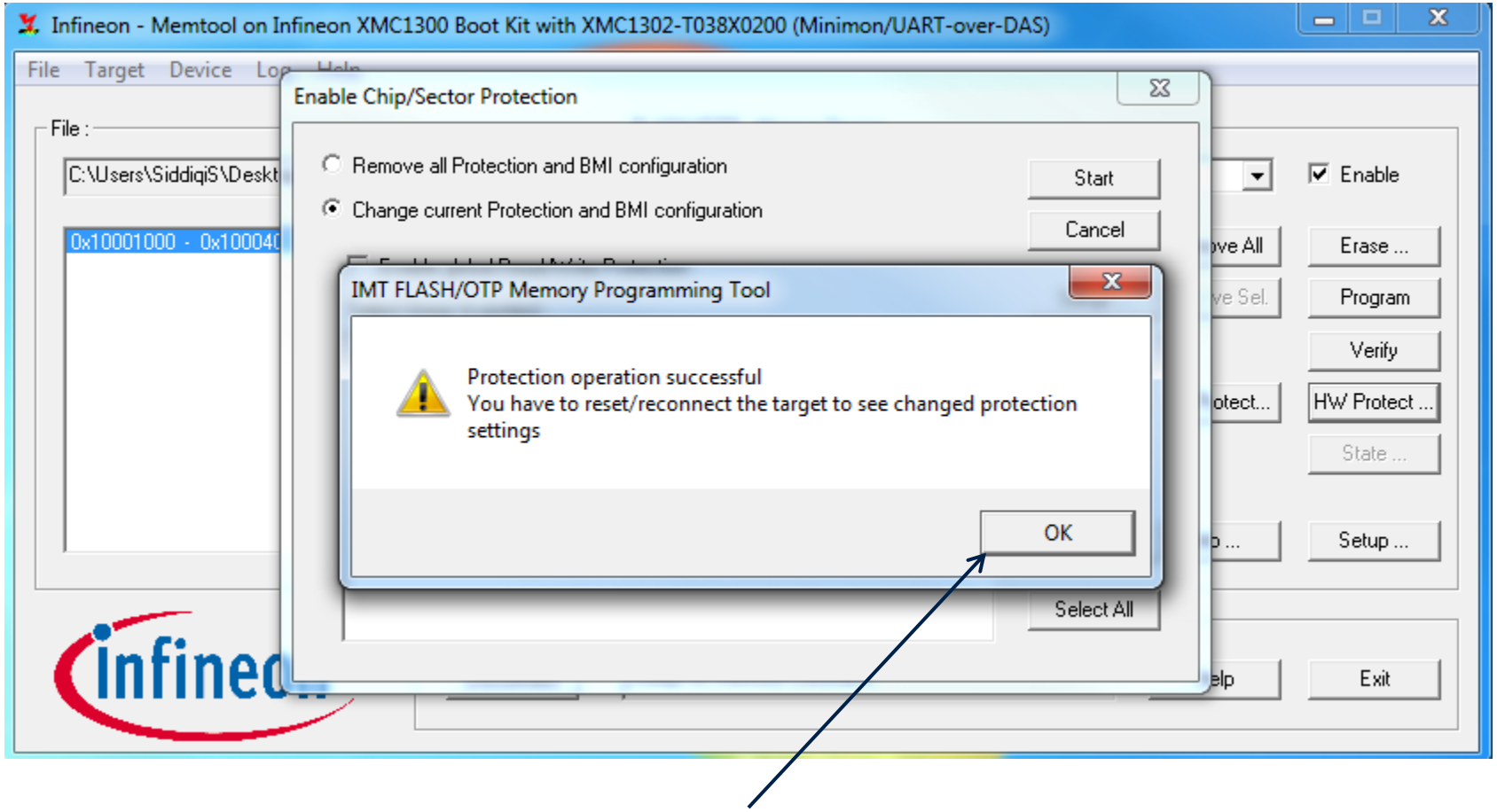

Click on the "**Start**" button

# Re-Programing with Infineon Memtool 4.6




Click '**Yes**'

# Re-Programing with Infineon Memtool 4.6




Click '**OK**' to end procedure and disconnect the FTDI Cable

# Re-Programing with Infineon Memtool 4.6

- Now the demo board is reprogrammed with the new program, and is ready to be connected to the motor and powered up.

# ENERGY EFFICIENCY
# MOBILITY
# SECURITY

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