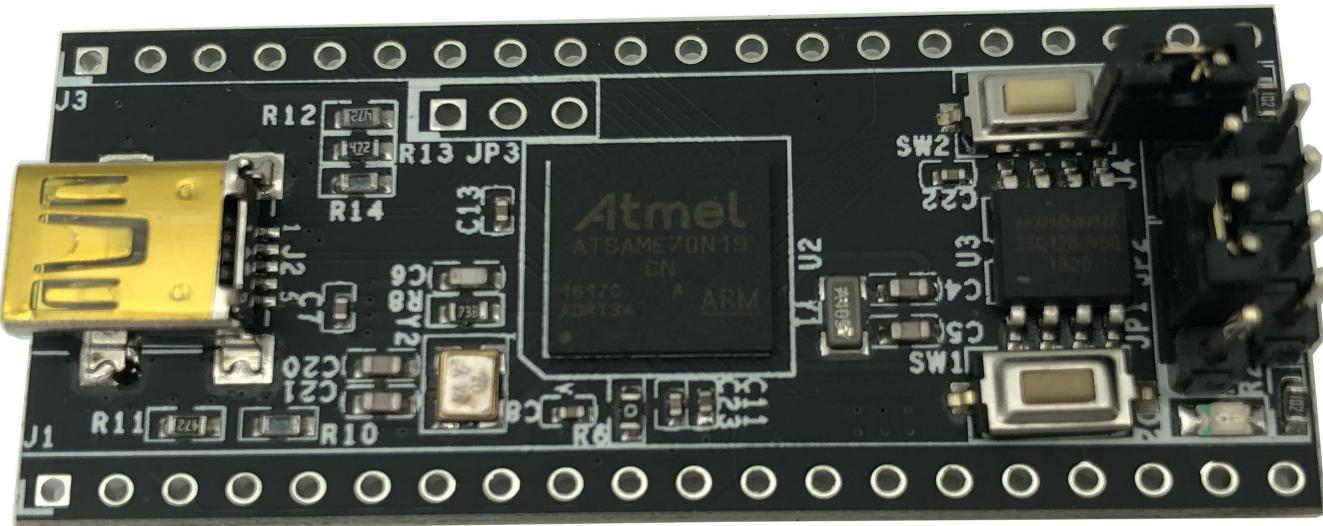
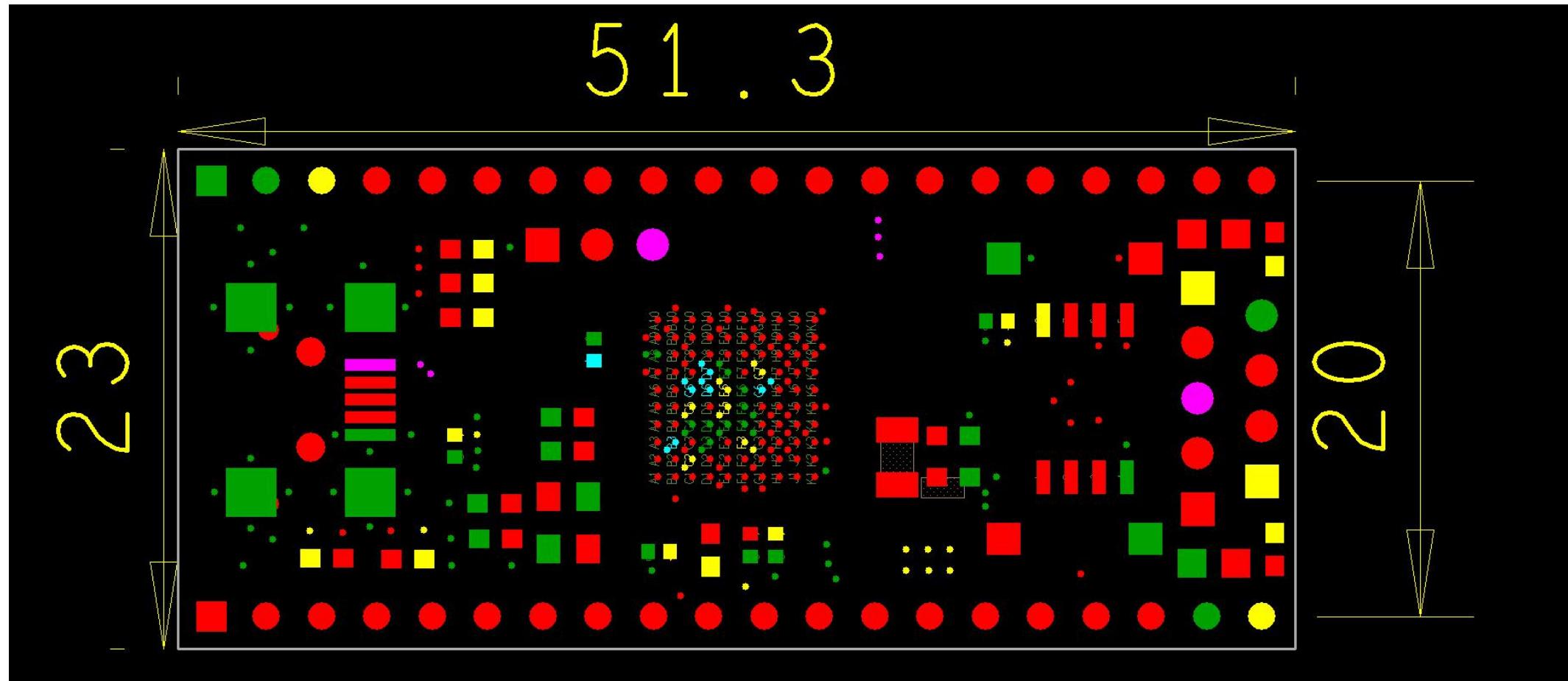


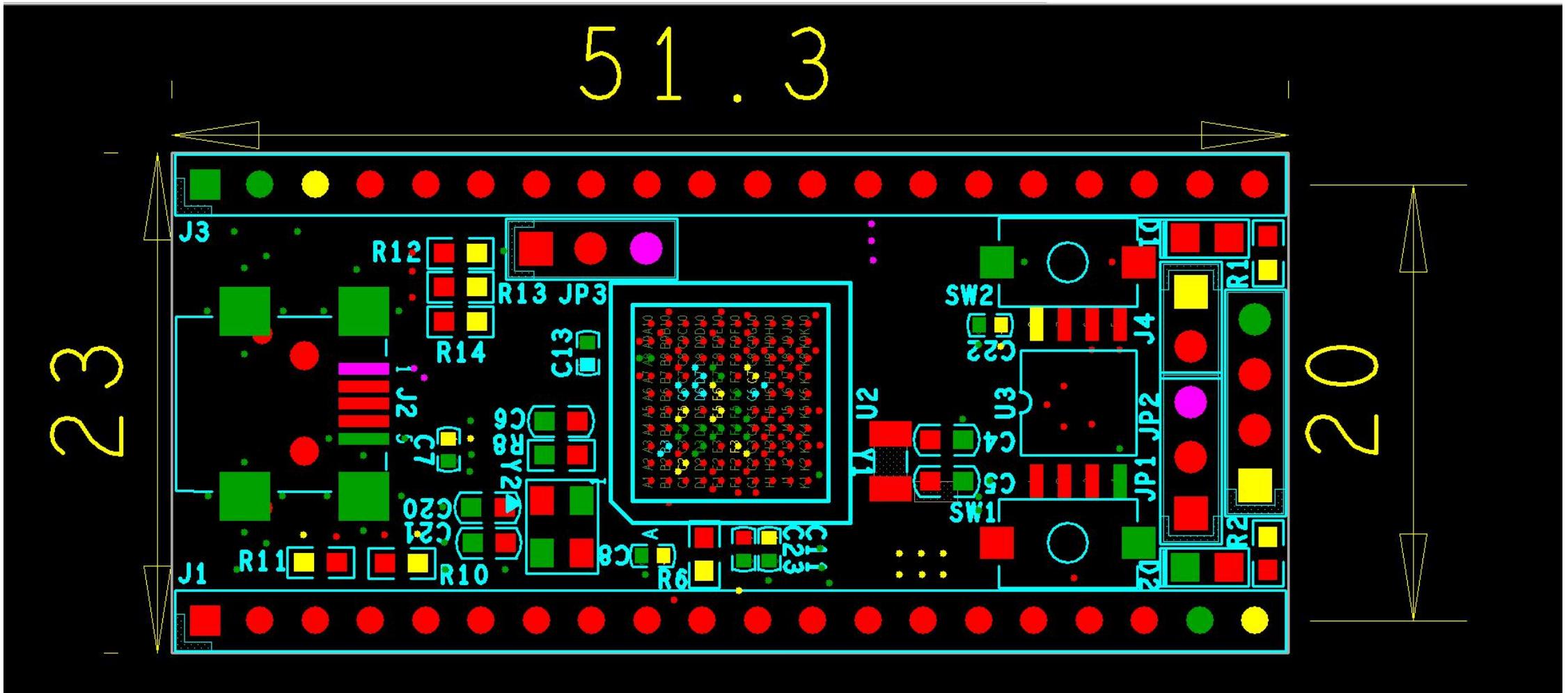
How to Drive QMTECH SAME70 Core Board



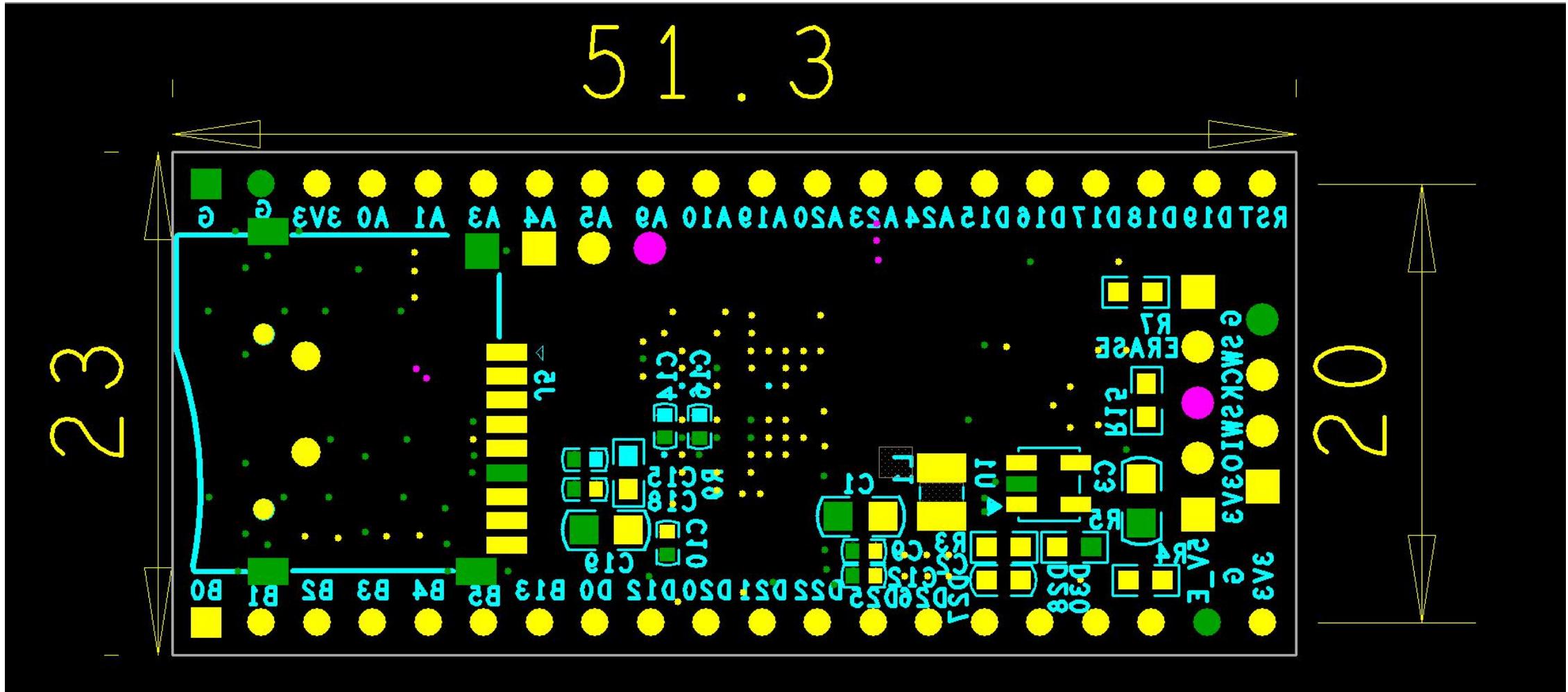
Dimension



Silk Screen Top



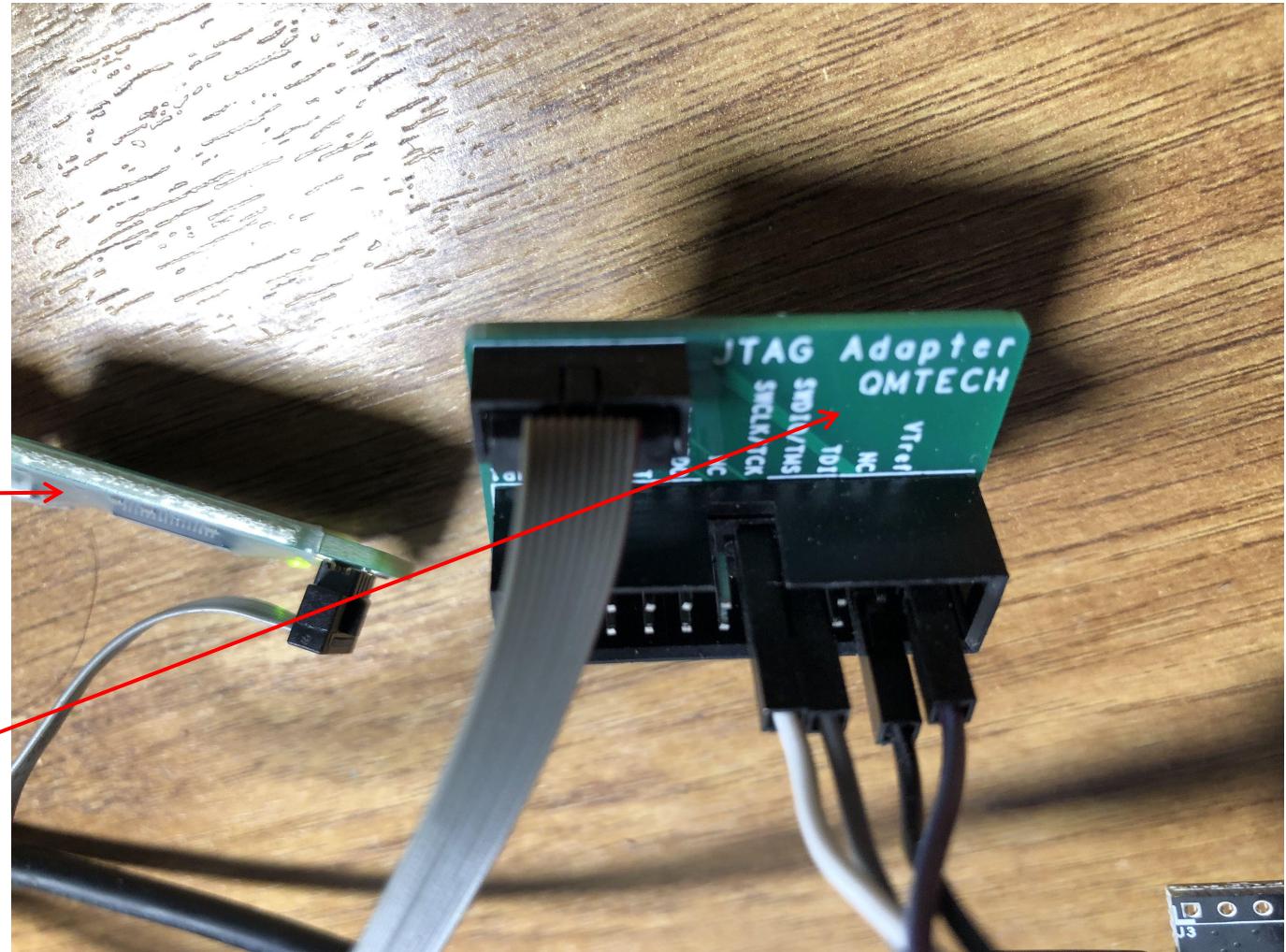
Silk Screen Bottom



Example JTAG-SWD Adapter

JLINK EDU MINI

JTAG to SWD Adapter
1.27MM pitch to 2.54MM pitch Convert



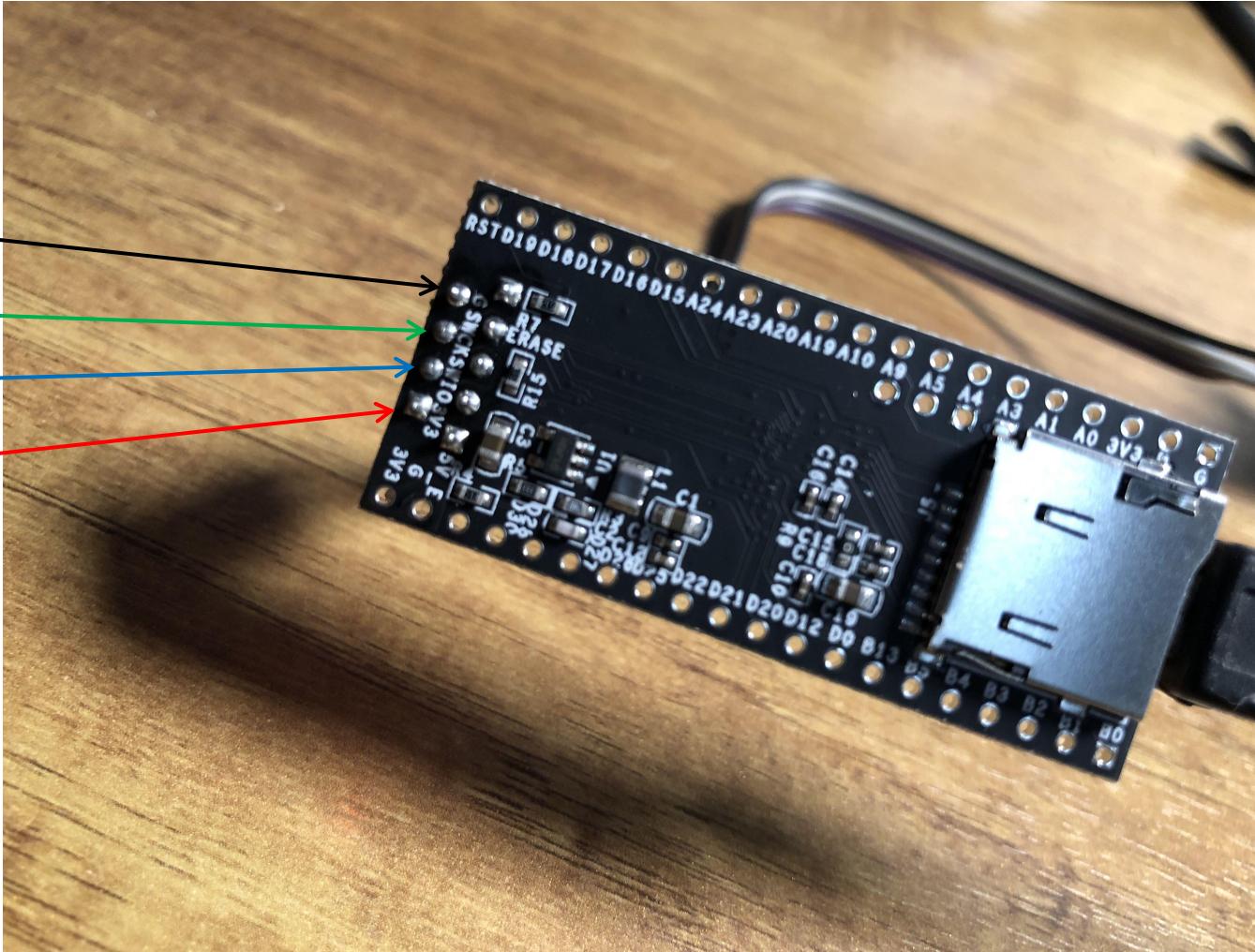
SWD PORT

GND

SWCK

SWIO

3V3



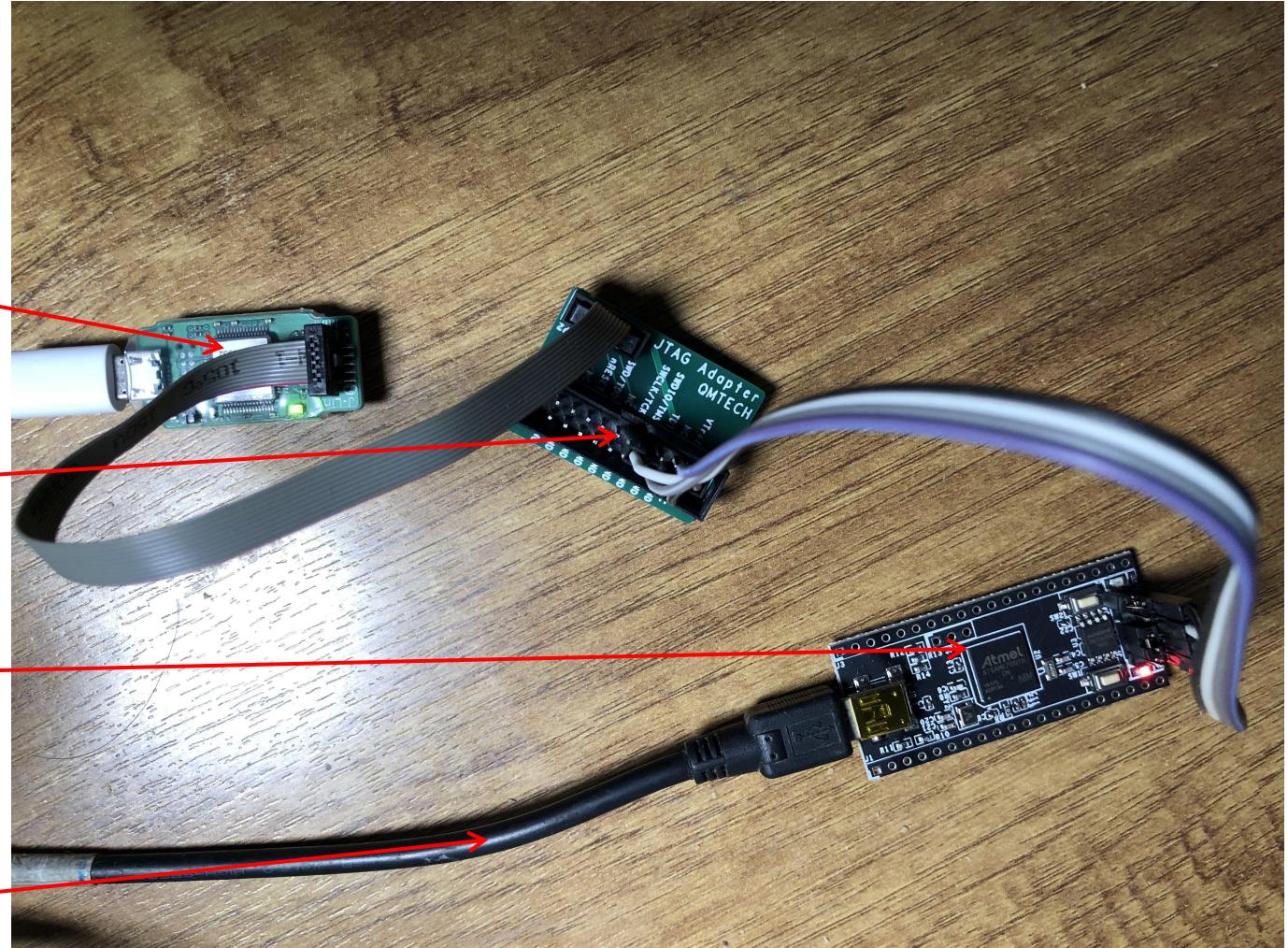
Example Setup for SAME70 Board

JLINK EDU MINI

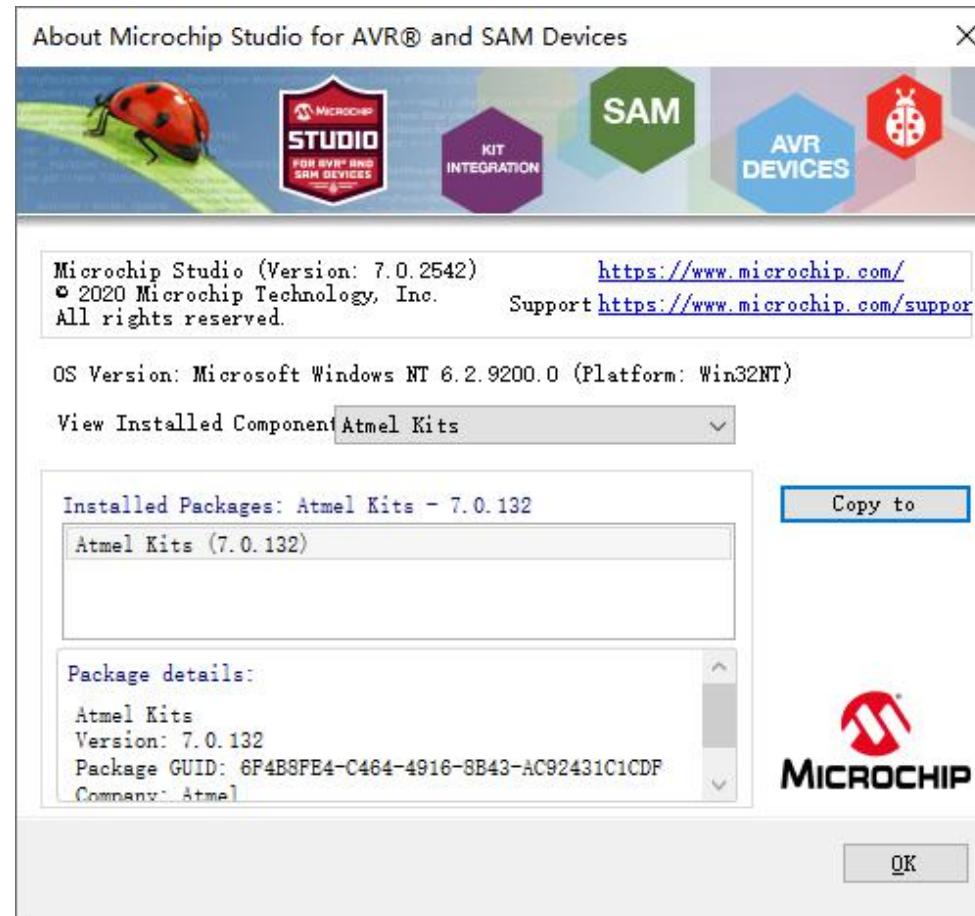
JTAG to SWD Adapter

QMTECH SAME70 Board

Mini USB Cable to connect
to PC. Mini USB cable provides
power supply and USB communication
to the SAME70 Board



MicroChip Studio Version 7.02



IO Toggle Example in Microchip Studio

The screenshot shows the Microchip Studio interface with the following components:

- Title Bar:** SAME70_IOPORT_EXAMPLE32 - Microchip Studio
- Menu Bar:** File, Edit, View, VAssistX, ASF, Project, Build, Debug, Tools, Window, Help
- Toolbar:** Includes icons for Open, Save, Print, Undo, Redo, Cut, Copy, Paste, Find, Replace, and various build and debug tools.
- Debug Browser:** Shows connection to ATSAME70N19 and SWD on J-Link (801032932).
- Code Editor:** Displays the file `ioport_example3.c` with the following code:/* Support and FAQ: visit Microchip Support
 */
#include <asf.h>
#include "conf_example.h"

static void led_toggle(bool status)
{
 unsigned int i = 0, j = 0;
 bool value;

 /* Get the KEY input status*/
 value = ioport_get_pin_level(EXAMPLE_BUTTON);

 for (i = 0; i < 5000; i++)
 {
 for(j = 0; j < 5000; j++)
 {
 ioport_set_pin_level(EXAMPLE_LED, status & value);
 }
 }
}

int main(void)
{
 sysclk_init();
 board_init();
 ioport_init();

 /* Set output direction on the given LED IOPORT */
 ioport_set_pin_dir(EXAMPLE_LED, IOPORT_DIR_OUTPUT);

 /* Set direction and pullup on the given button IOPORT */
 ioport_set_pin_dir(EXAMPLE_BUTTON, IOPORT_DIR_INPUT);
 ioport_set_pin_mode(EXAMPLE_BUTTON, IOPORT_MODE_PULLUP);

 while (true) {
 /* Get value from button and output it on led */
 led_toggle(0);
 led_toggle(1);
 }
}
- Solution Explorer:** Shows the project structure:
 - Solution 'SAME70_IOPORT_EXAMPLE32' (1 project)
 - SAME70_IOPORT_EXAMPLE32
 - Dependencies
 - Output Files
 - Libraries
 - src
 - ASF
 - config
 - conf_board.h
 - conf_clock.h
 - conf_example.h
 - asf.h
 - ioport_example3.c
- Properties View:** VA View, VA Outline, Solution Explorer.
- Error List:** Entire Solution, 0 Errors, 0 Warnings, 0 Messages, Build + IntelliSense.
- Output:** Ready.

SAME70_IOPORT_EXAMPLE32 - Microchip Studio

File Edit View VAssistX ASF Project Build Debug Tools Window Help

Advanced Mode Quick Launch (Ctrl+Q) 87 KB/s

Hex SWD on J-Link (801032932)

SAME70_IOPORT_EXAMPLE32* ioport_example3.c

Build Configuration: N/A Platform: N/A

Toolchain Device

Current Device: ATSAME70N19 Change Device...

Device Name: ATSAME70N19

App/Boot Memory (Kbytes): 512

Data Memory (bytes): 262144

EEPROM (bytes): N/A

Speed: N/A

Vcc: N/A

Family: SAME70

[Device page for ATSAME70N19](#)

[Datasheet](#)

Supported Tools

- mEDBG
- Atmel-ICE
- MPLAB® PICkit 4
- JTAGICE3
- EDBG
- EDBG MSD
- Power Debugger
- J-Link
- J-Link over IP
- J-Link ARM-Pro
- J-Link Ultra
- SAM-ICE

Device ATSAME70N19

Solution Explorer

Solution 'SAME70_IOPORT_EXAMPLE32' (1 project)

- SAME70_IOPORT_EXAMPLE32
 - Dependencies
 - Output Files
 - Libraries
 - src
 - ASF
 - config
 - conf_board.h
 - conf_clock.h
 - conf_example.h
 - asf.h
 - ioport_example3.c

VA View VA Outline Solution Explorer Properties

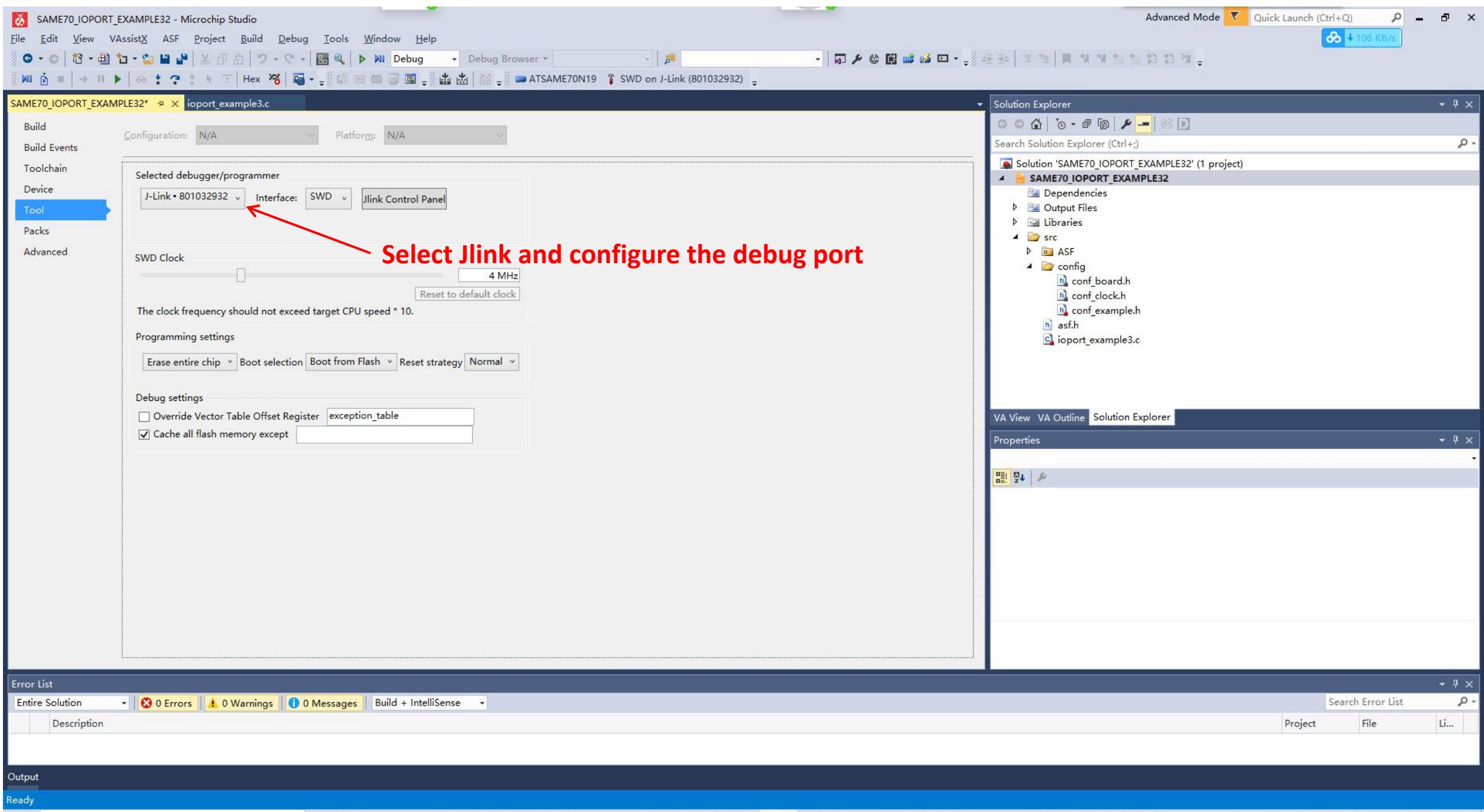
Error List

Entire Solution 0 Errors 0 Warnings 0 Messages Build + IntelliSense

Description Project File Li...

Output

Ready



SAME70_IOPORT_EXAMPLE32 (Debugging) - Microchip Studio

File Edit View VAssistX ASF Project Build Debug Tools Window Help

Advanced Mode Quick Launch (Ctrl+Q)

104 KB/s

ioport_example3.c Continue (F5)

main

```
int main(void)
{
    unsigned int i = 0, j = 0;
    bool value;

    /* Get the KEY input status*/
    value = ioport_get_pin_level(EXAMPLE_BUTTON);

    for ( i = 0; i < 5000; i++ )
    {
        for( j = 0; j < 5000; j ++ )
        {
            ioport_set_pin_level(EXAMPLE_LED, status & value);
        }
    }
}

int main(void)
{
    sysclk_init();
    board_init();
    ioport_init();

    /* Set output direction on the given LED IOPORTs */
    ioport_set_pin_dir(EXAMPLE_LED, IOPORT_DIR_OUTPUT);

    /* Set direction and pullup on the given button IOPORT */
    ioport_set_pin_dir(EXAMPLE_BUTTON, IOPORT_DIR_INPUT);
    ioport_set_pin_mode(EXAMPLE_BUTTON, IOPORT_MODE_PULLUP);

    while (true) {
        /* Get value from button and output it on led */
        led_toggle(0);
        led_toggle(1);
    }
}
```

Start debugging and one board LED blinking.....

Solution Explorer

Solution 'SAME70_IOPORT_EXAMPLE32' (1 project)

- SAME70_IOPORT_EXAMPLE32
 - Dependencies
 - Output Files
 - Libraries
 - src
 - ASF
 - config
 - conf_board.h
 - conf_clock.h
 - conf_example.h
 - asf.h
 - ioport_example3.c

Memory 4

Memory: base PERIPHERALS Address: 0x40000000

Address	Value	Hex
0x40000000	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x4000001E	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x4000003C	00 00 00 25 00 00 0c 00 00 00 00 00 00 00 00 00%
0x4000005A	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x40000078	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x40000096	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x400000B4	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x400000D2	00 00 00 00 00 00 00 00 00 00 24 41 52 46 00 00ARF.....@
0x400000F0	49 43 4d 4d 41 41 45 43 12 00 00 00 06 02 00 00ICMMAEC.....

Call Stack Breakpoints Command Window Immediate Window Output Memory 4

Autos Locals Watch 1 Watch 2

Ready

Any further question, kindly send mail to:
zyjnumber@hotmail.com