에이디반도체

Touch IC Market Leader

IC Eval. Kit MCU B/D User Guide

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Application 1 Team

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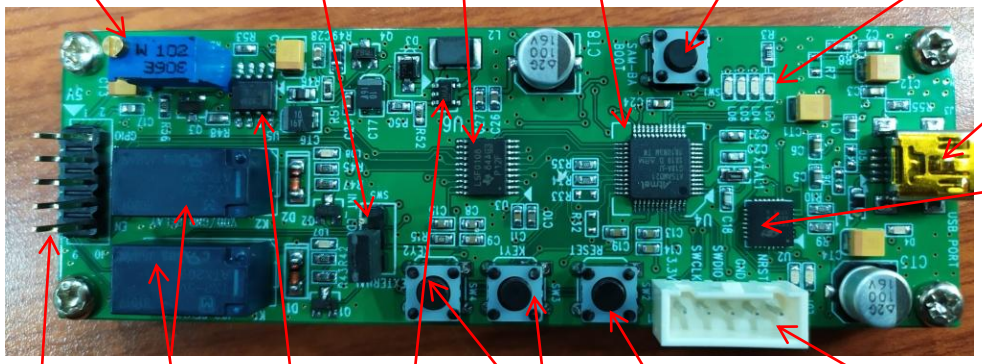
AD Semiconductor

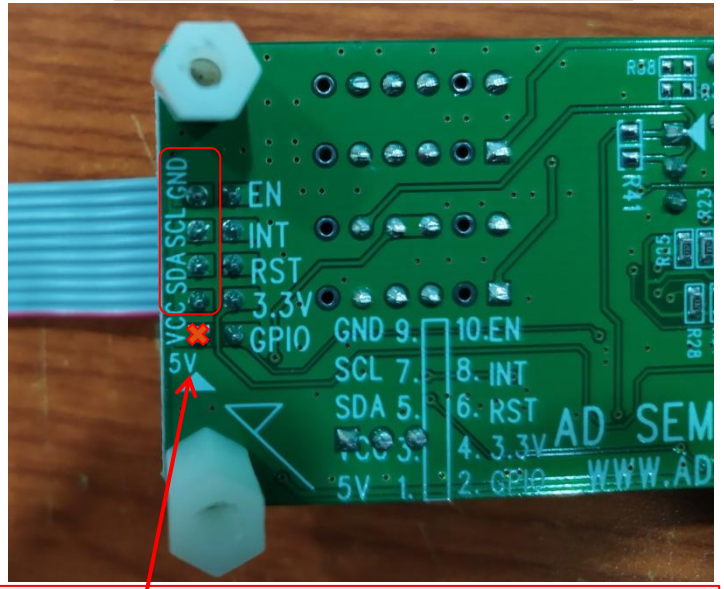
www.adsemicon.com

MCU B/D User Guide

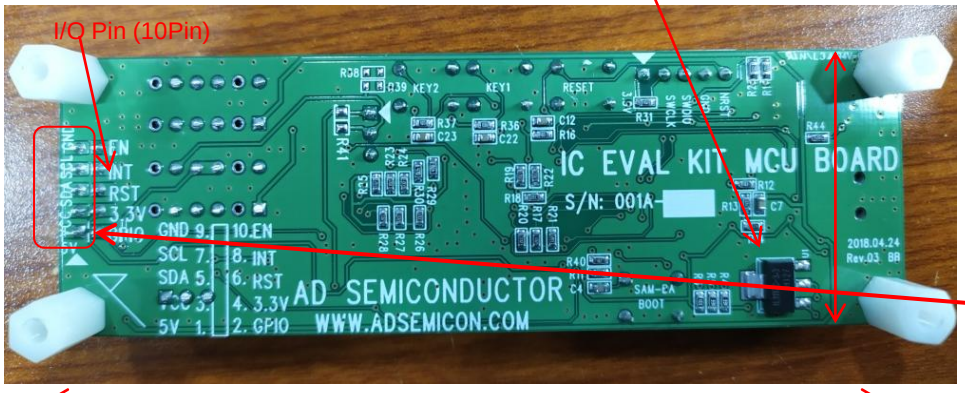
◆ H/W Layout



I/O Connector (Bottom View)



LDO (.3.3V)
(USB chip, MCU, Level Converter IC)

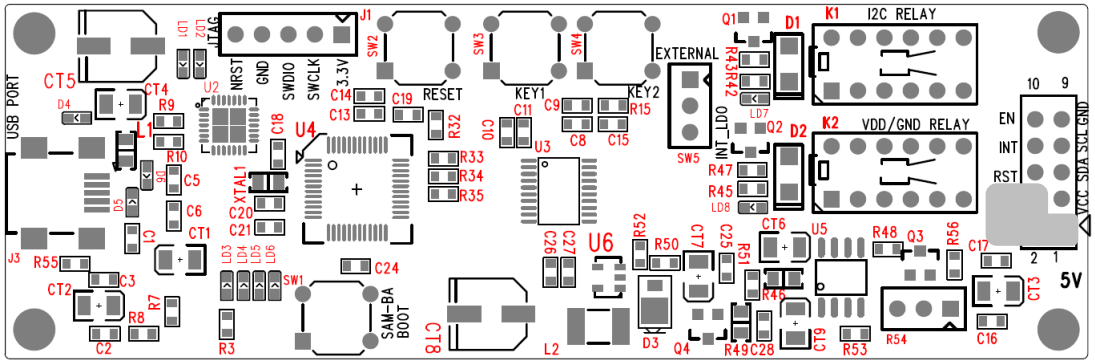


PIN 1:5V Output - Do not Connect
PIN 3:VDD Output (Supply to IC & PBA)
PIN 5:SDA
PIN 7:SCL
PIN 9:GND

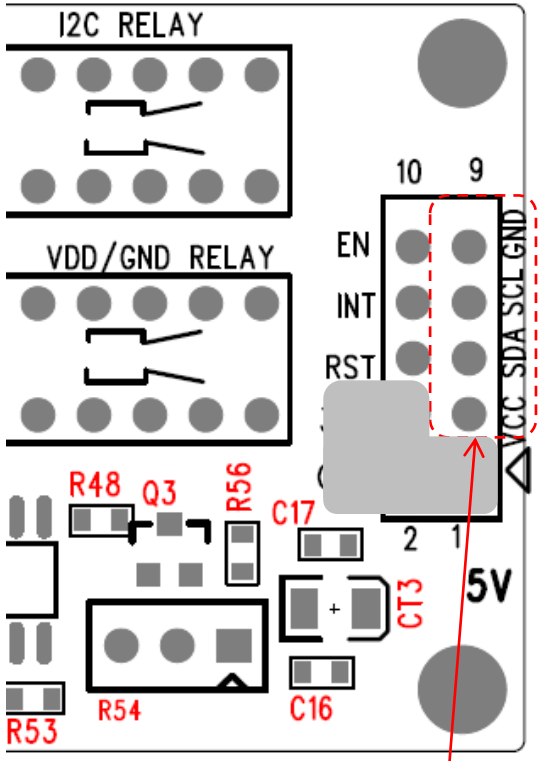
MCU B/D User Guide

◆ H/W Layout & I/O Connector Pin Map

▪ **Top Layer**

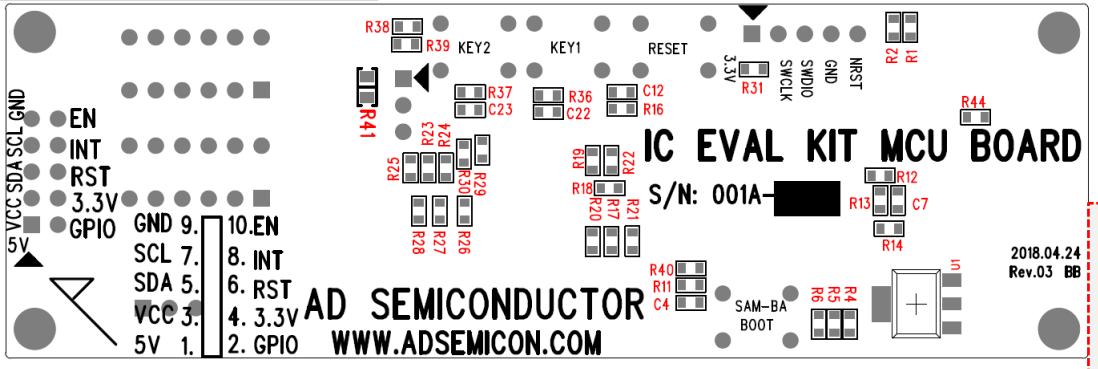


▪ **10 Pin Connector Pin Map (Top View)**



10 Pin (2x5Pin, 2.54[mm])

▪ **Bottom Layer**



• Please check to Pin number and Function.
Pin# 3: VDD Output (Default 3.3V Output), Voltage Adjustable (1.6 ~ 5.5 Output)
Pin# 5: SDA
Pin# 7: SCL
Pin# 9: GND

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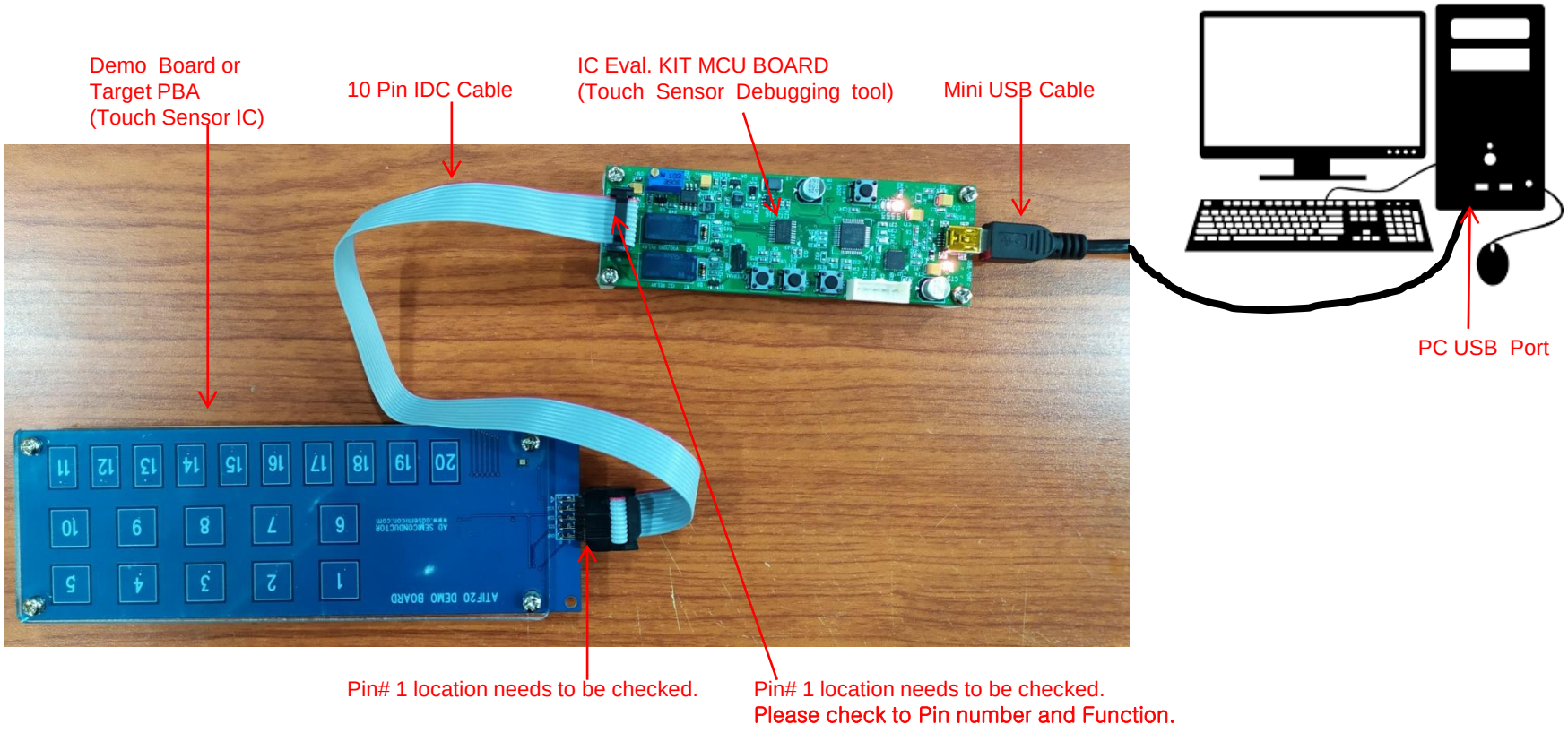
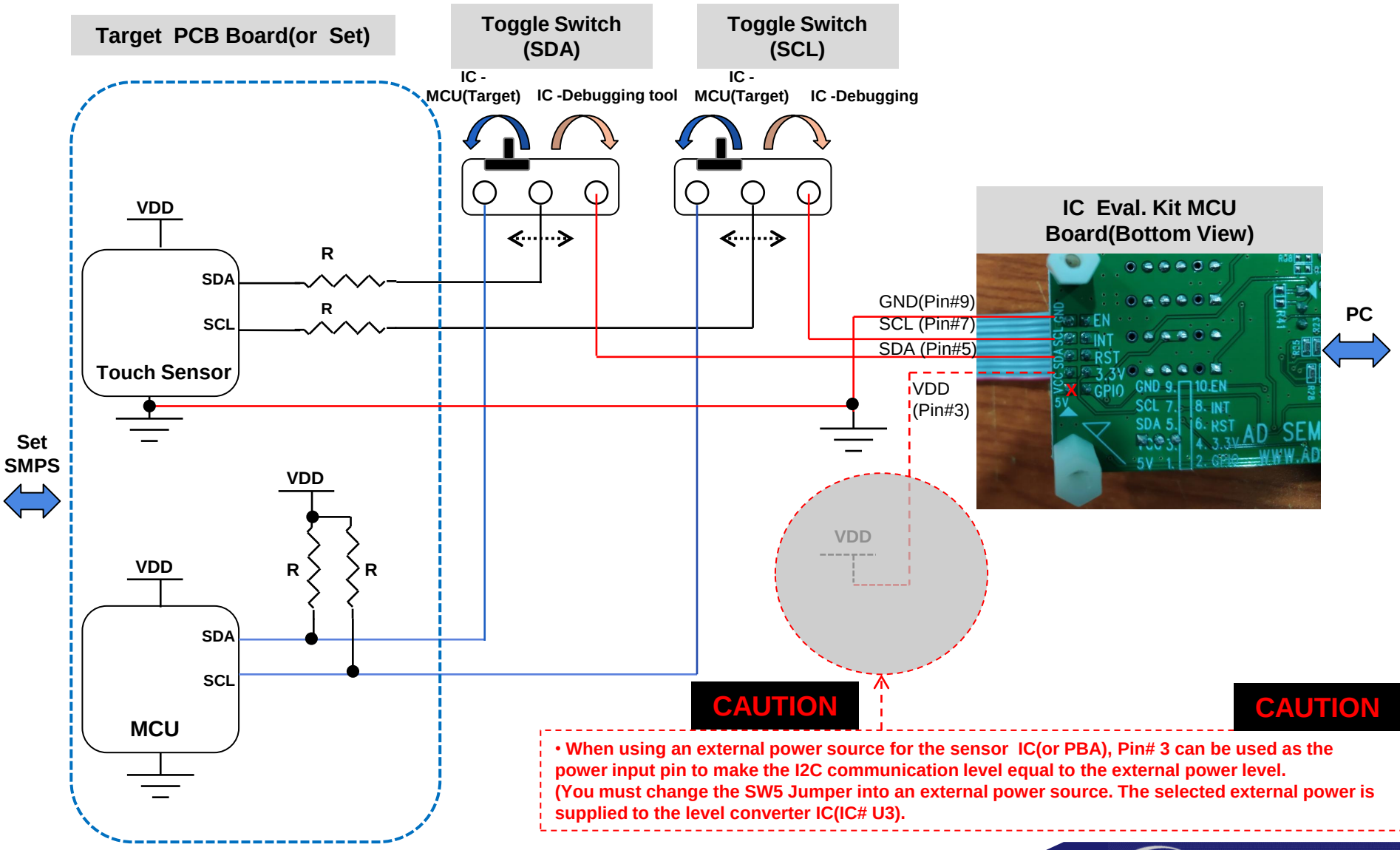
- H/W Setup (IC Demo Board)



MCU B/D User Guide

◆ H/W Setup Example (Touch Sensor IC Debugging)



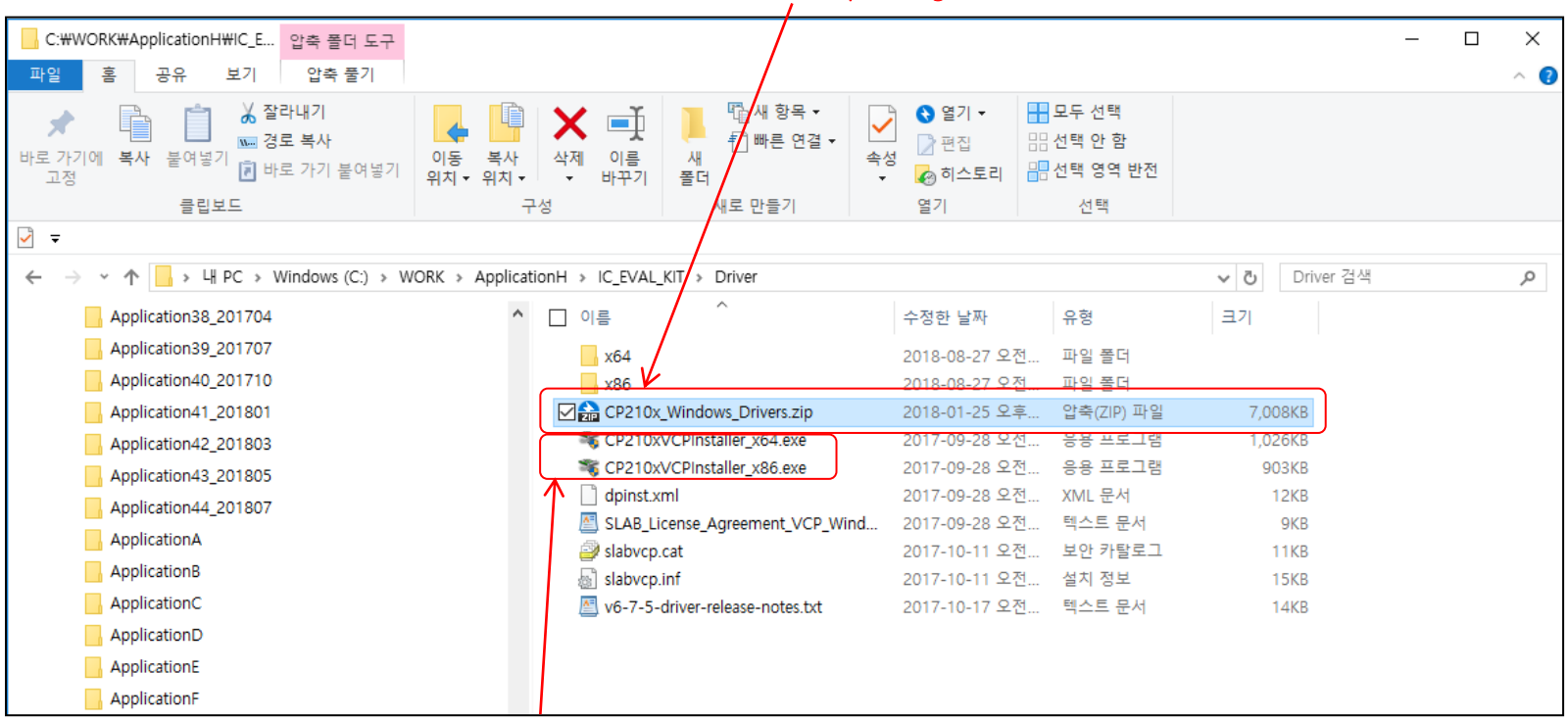
MCU B/D User Guide

◆ Windows driver Install guide for IC Eval. Kit MCU Board

1, Connect IC Eval. KIT MCU Board to PC using USB Cable.

2, Unzip the file to a temporary directory.

- Driver S/W (Zip or Exe file)
- Depending on the driver and PC OS Version filename is different.



- 32bit Windows = file name ~_x86
- 64bit Windows = file name ~_x64

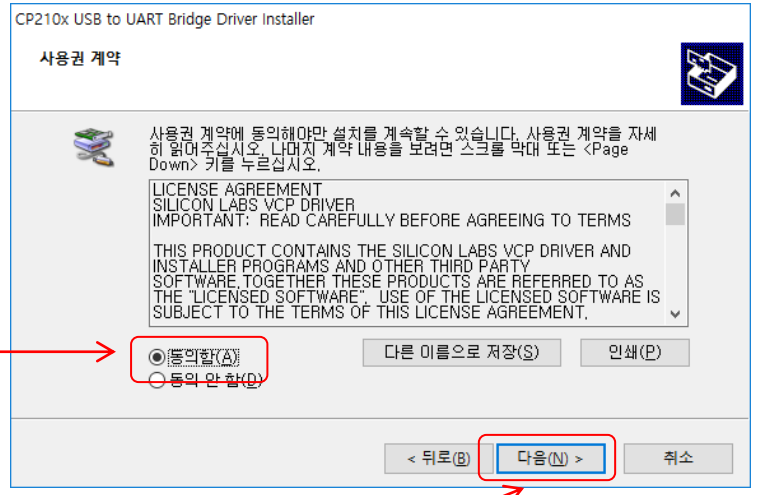
3, After extracting, select the file suitable for Windows version and start Driver install.

MCU B/D User Guide

◆ Windows driver Install guide for IC Eval. Kit MCU Board

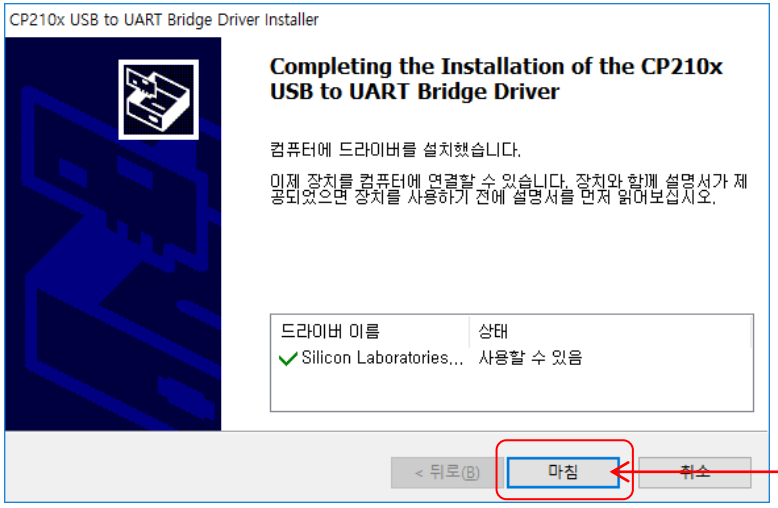
4, start install

•Next Step



•Agree

•Next Step

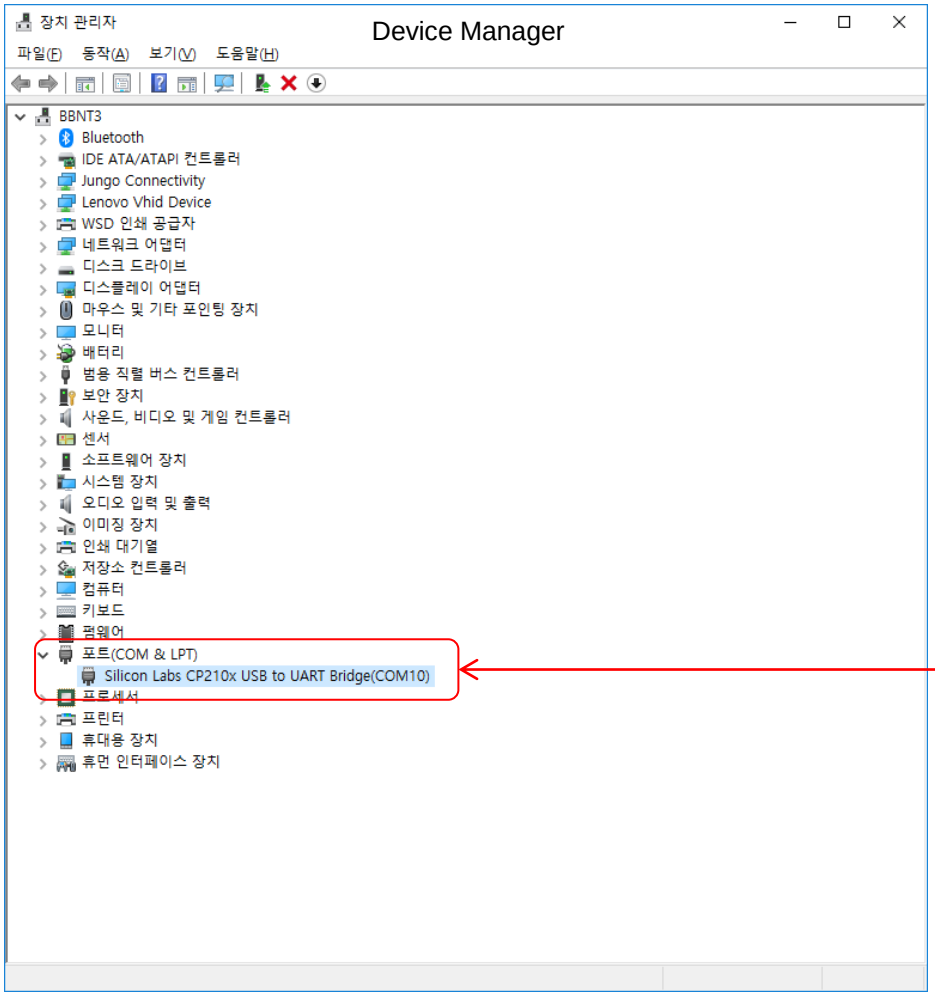


• install finish

MCU B/D User Guide

◆ Windows driver Install guide for IC Eval. Kit MCU Board

5, Driver install finish, Go to Windows START Menu -> Device Manager -> Port (COM & LPT) -> Silicon Lab CP210x ~ COM Port (COMx)



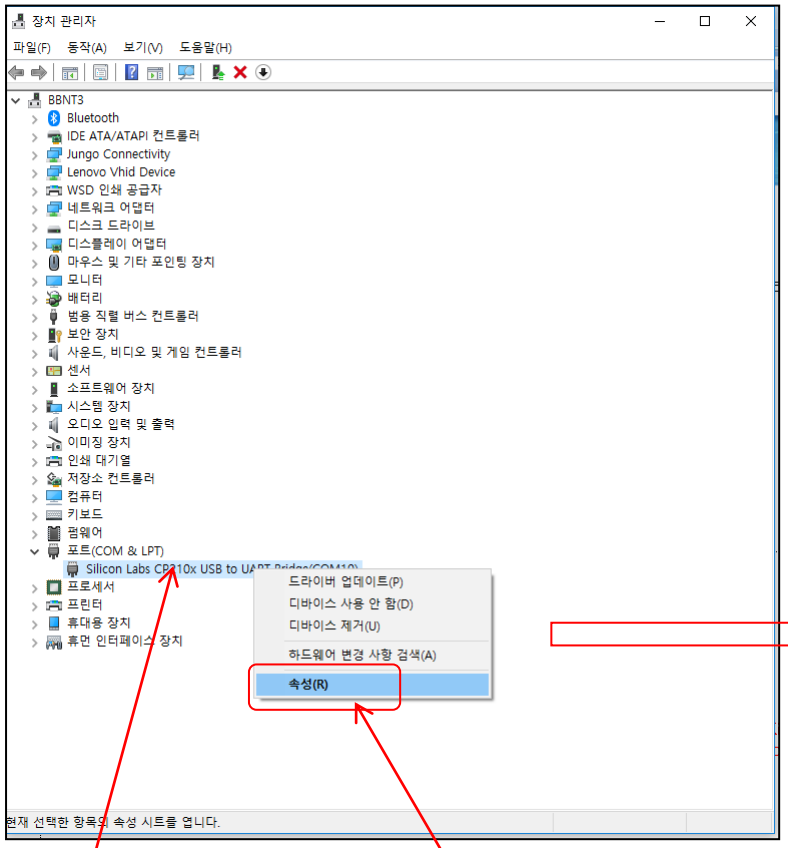
- MCU Board is recognized as COM Port.
- COM port number can be different for each computer.

MCU B/D User Guide

◆ Windows driver Install guide for IC Eval. Kit MCU Board

6, Right click the COM Port. -> Properties Menu -> Properties windows -> setting port -> speed = 115200bps ->OK

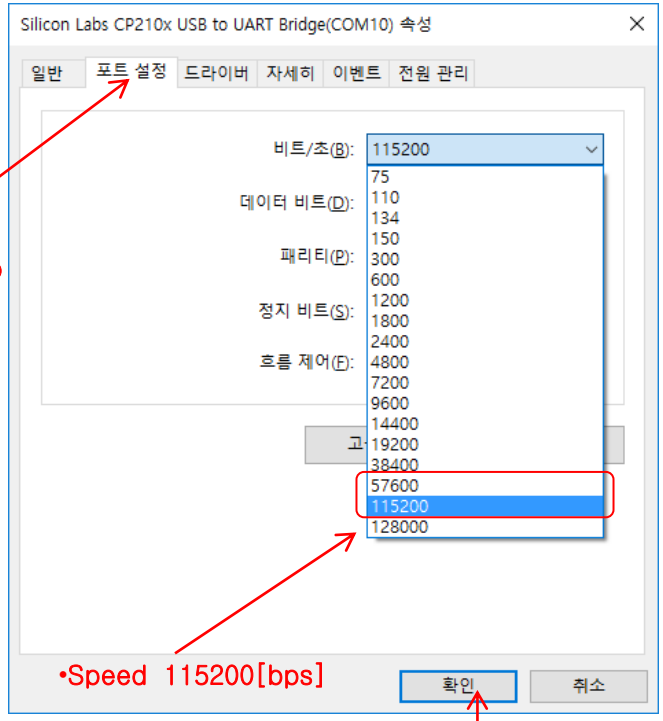
7, Driver installation complete, Run the PC UI PGM of the Touch Sensor IC.



• Right click the COM Port

• Properties -> Properties Windwos

• Port Setting Tab

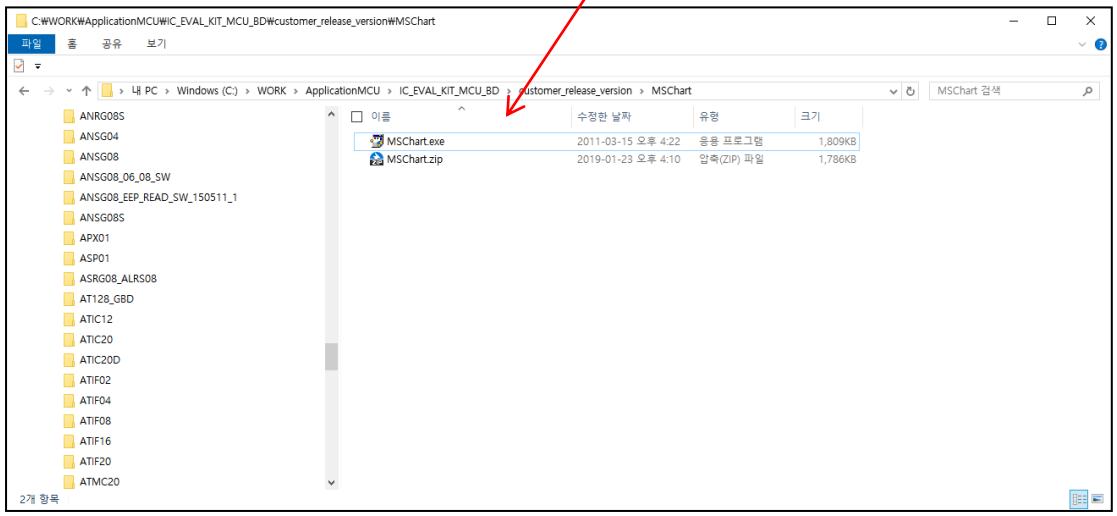


• OK

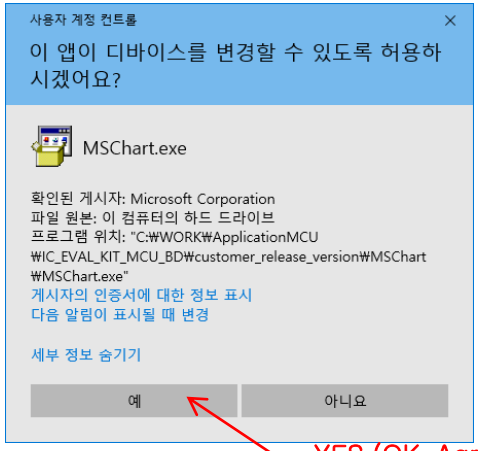
◆ MS Chart install

1, unzip to the MSChart.zip file.
2, double Click MSChart.exe

• MSChart install program



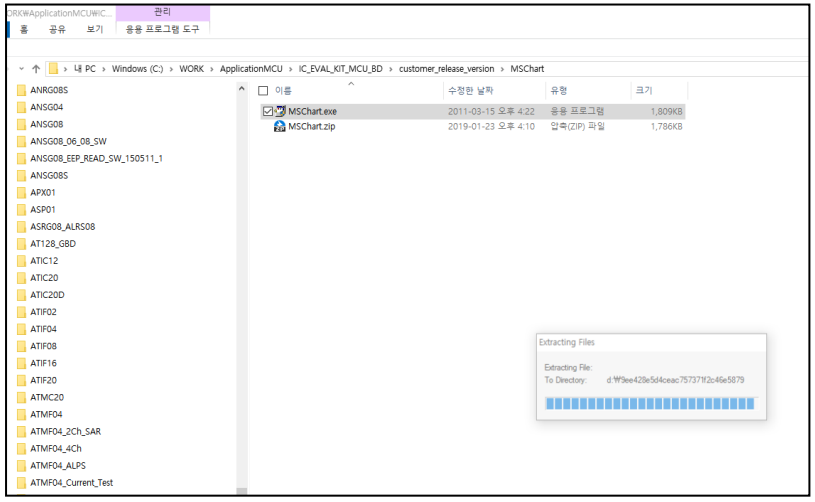
3, Select ‘YES’ when security related messages occur.



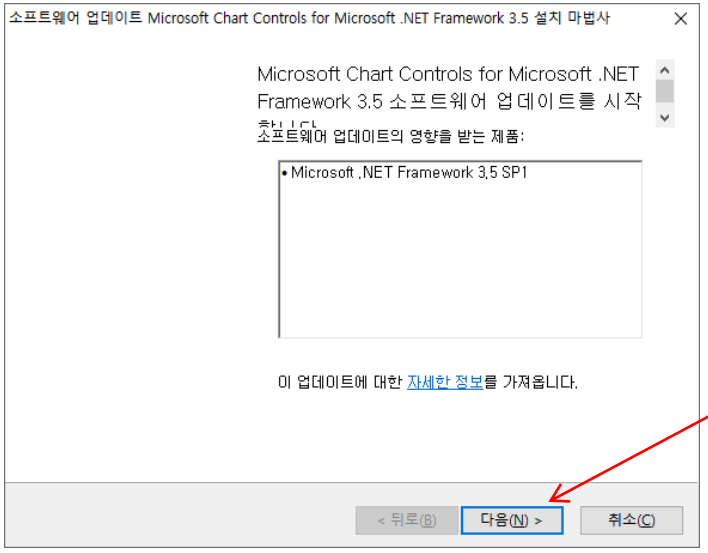
• YES (OK, Agree)

◆ MS Chart install

4, It will automatically uncompress and the installation window will appear.



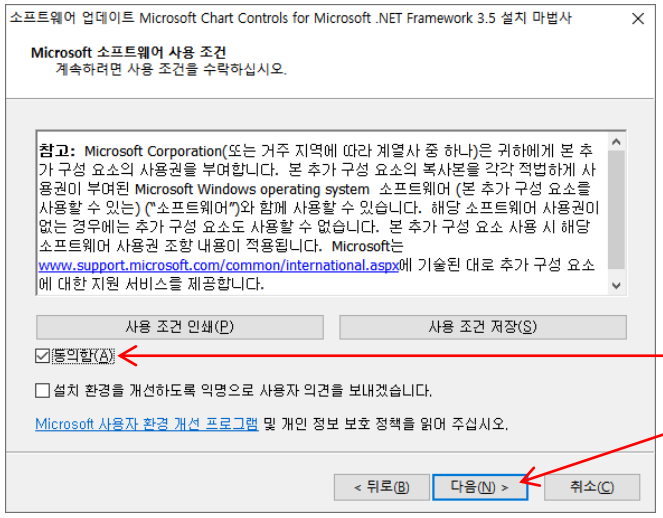
5, When the installation window appears, click the NEXT button.



• Next

◆ MS Chart install

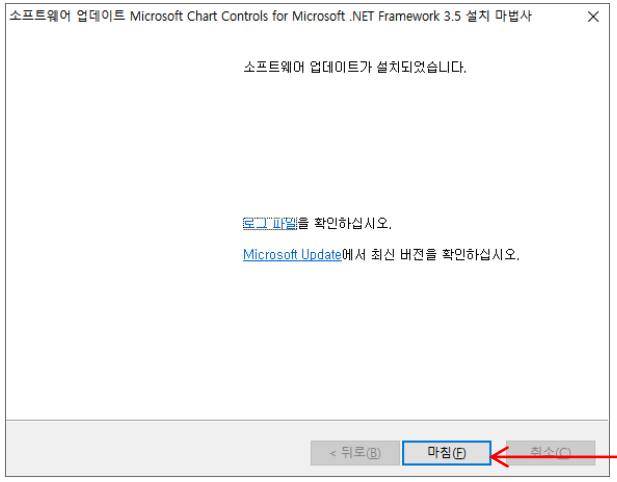
6, After checking the Software License Agreement Agree button, proceed to the next step.



•Please check Agree button (Agree OK)

• NEXT

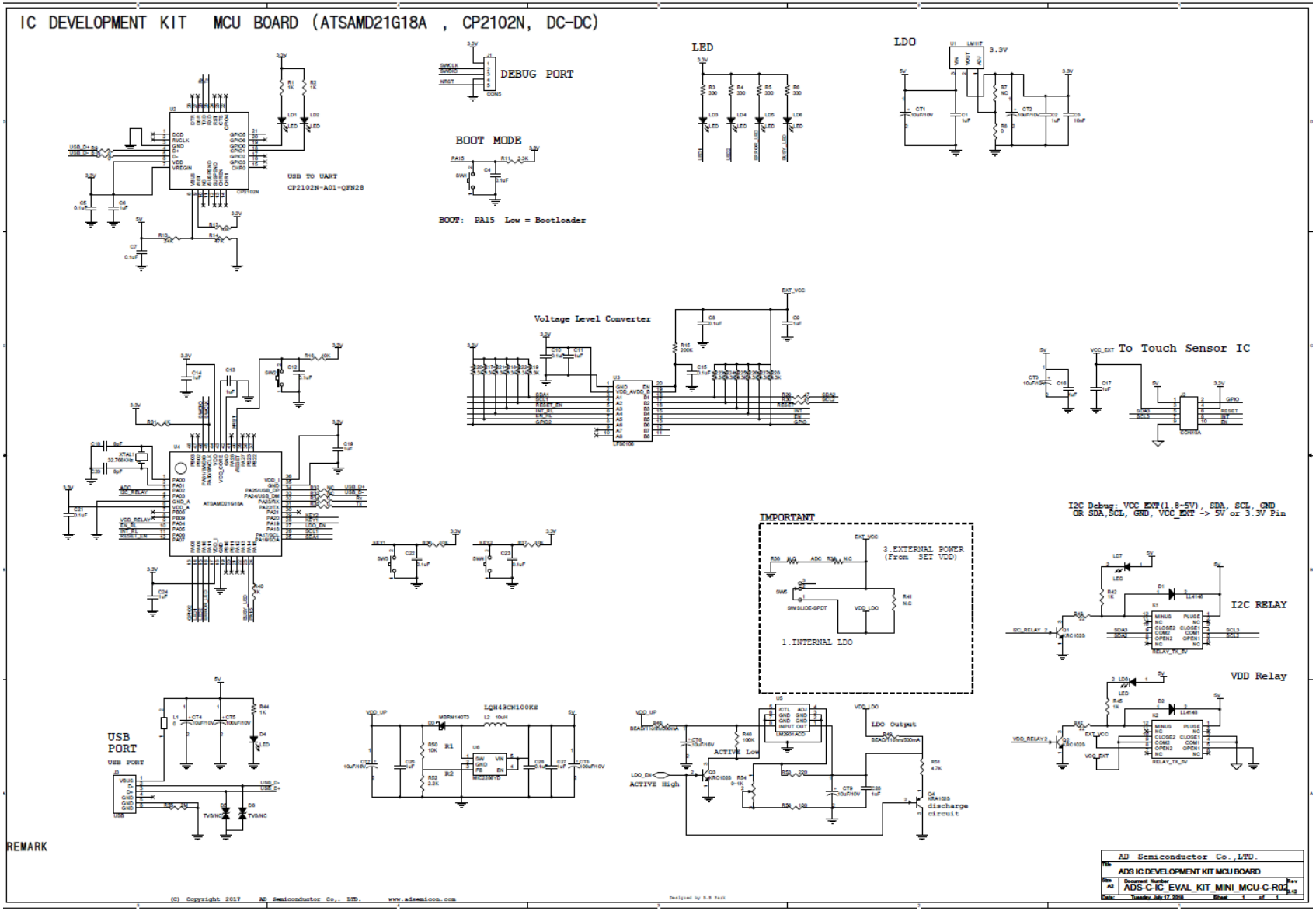
7, Press the Finish button to complete the installation.



• Finish

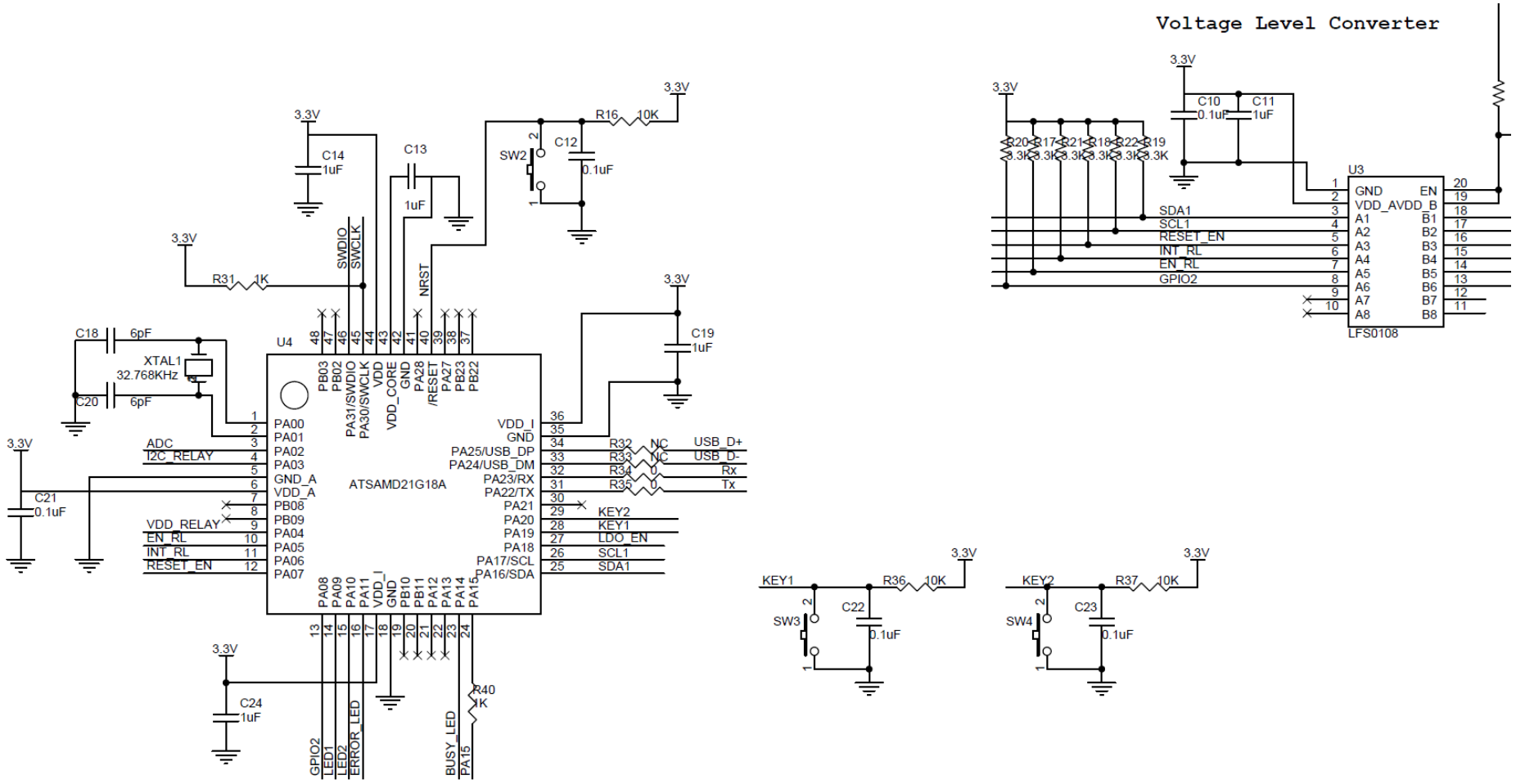
MCU B/D User Guide

- H/W Schematic



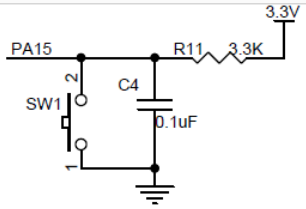
MCU B/D User Guide

- H/W Schematic (MCU & Voltage Level Converter)



MCU B/D User Guide

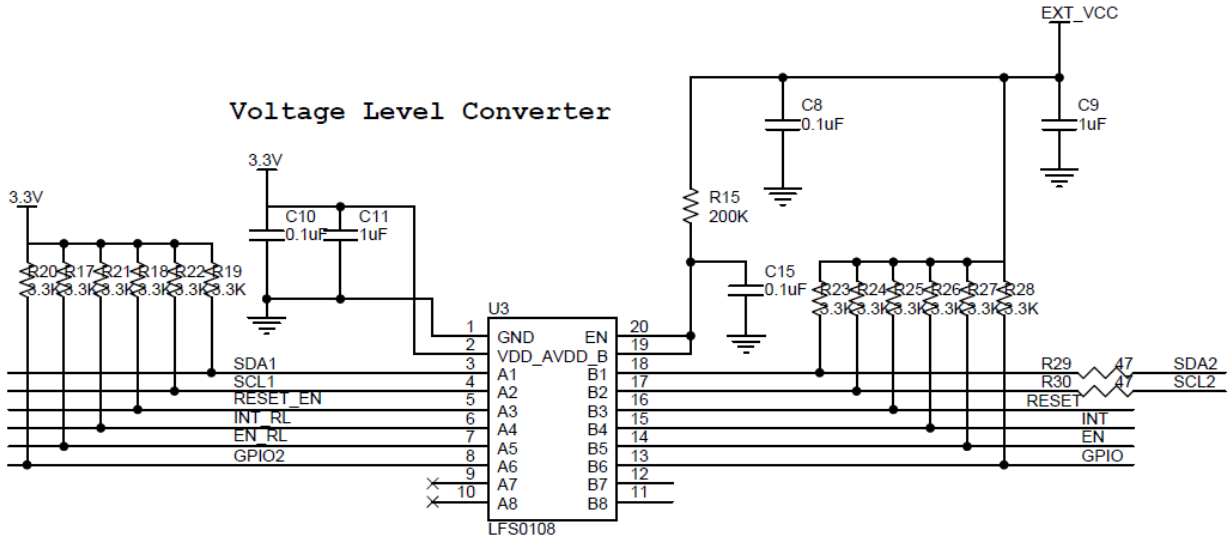
◆ H/W Schematic (Voltage level Converter)



BOOT: PA15 Low = Bootloader

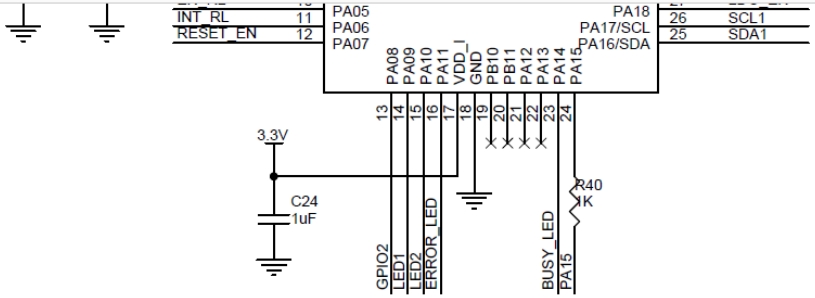
LED1 LED2 ERRO BUSY

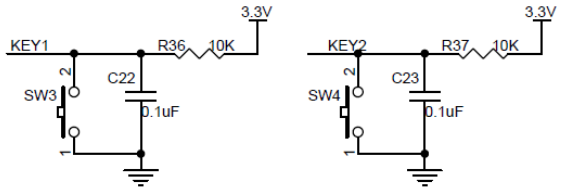
*** Supply VDD pin for I2C Voltage Level Convert IC**
•When changing voltage, I2C communication voltage level is also changed.
***if you change SW5 Jumper, you can use external voltage.**

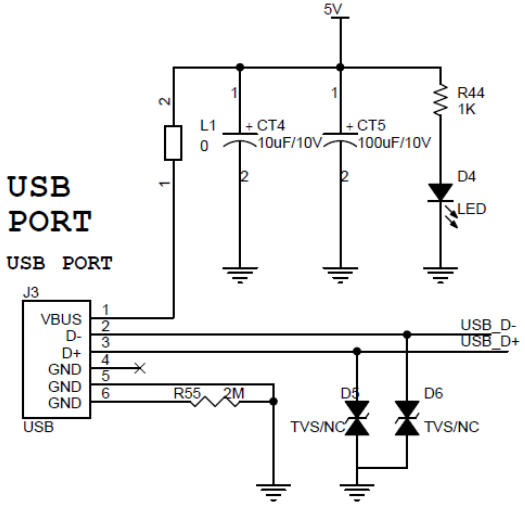


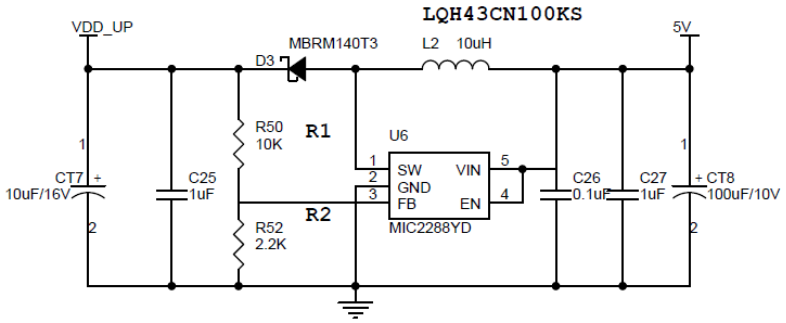
MCU B/D User Guide

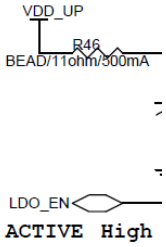
- H/W Schematic (USB Port & DC-DC IC)





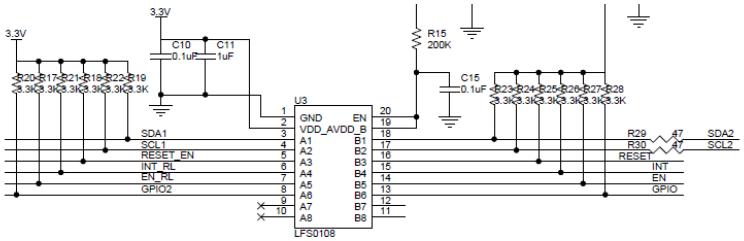


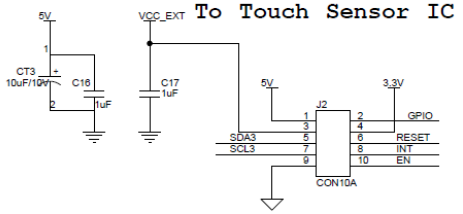




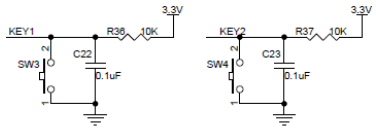
MCU B/D User Guide

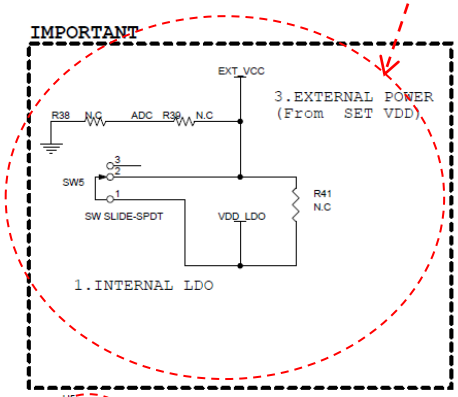
- H/W Schematic (LDO, Relay, I/O Port)

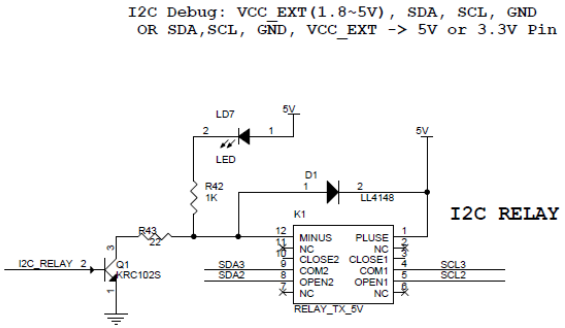


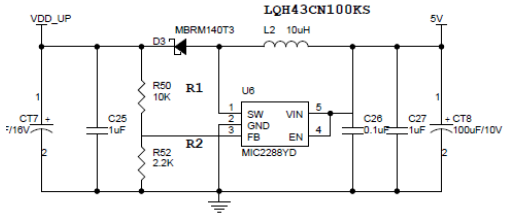


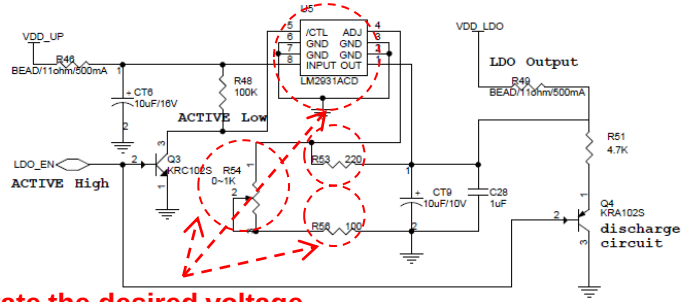
- When changing voltage, I2C communication voltage level is also changed.
- *if you change SW5 Jumper, you can use external voltage.

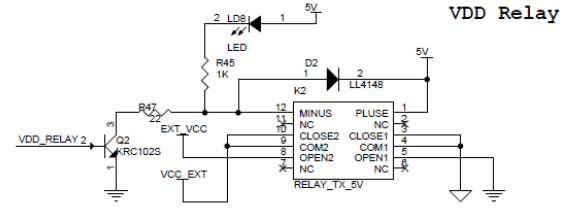








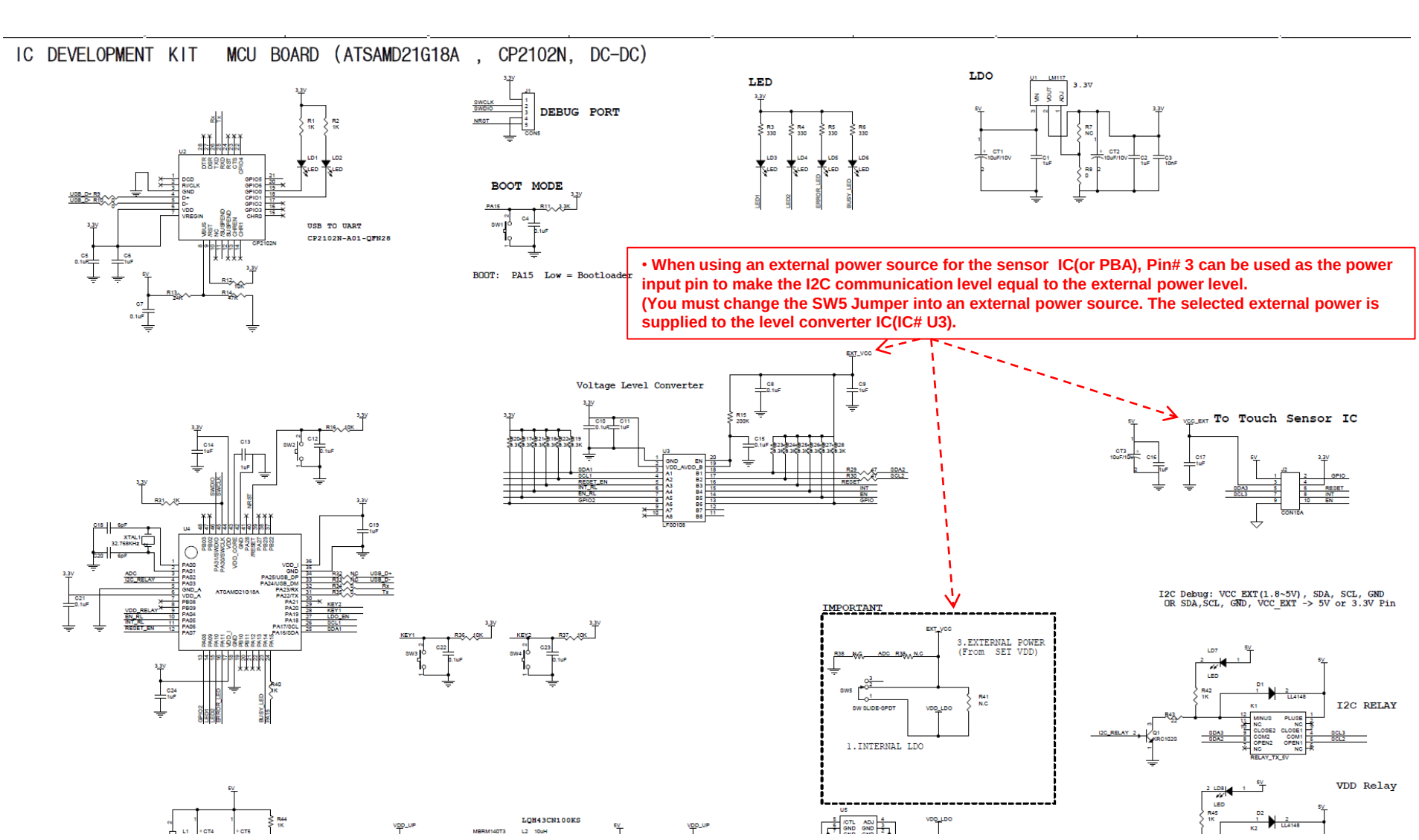




- If the variable resistor does not generate the desired voltage, change the values of resistors R53, R56, and R54. (Refer to ON Semi. LM2931ACD LDO IC Spec)

MCU B/D User Guide

- H/W Schematic (USB to UART, MCU JTAG, LDO, LED)



MCU B/D User Guide

◆ For more information, please visit:

- **Silabs CP2102N USB to UART IC Driver (IC Eval. Kit MCU Board Driver)**
  https://www.silabs.com/products/development-tools/software/usb-to-uart-bridge-vcp-drivers
- Microchip(ATMEL) ATSAMD21G18A-AU MCU
  https://www.microchip.com/wwwproducts/en/ATSAMD21G18
- ON Semi LM2931 LDO Voltage Regulator IC
  https://www.onsemi.com/pub/Collateral/LM2931-D.PDF
- TI LSF0108PWR Level Translator IC
  http://www.ti.com/lit/ds/symlink/lsf0102.pdf
- Microchip MIC2288YD5-TR DC/DC Switching Regulator IC
  https://www.microchip.com/wwwproducts/en/MIC2288
- IC Eval. Kit MCU BOARD Set
  http://www.adsemicon.com

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