BoT-USB-TC

User Manual

V 1.1.1

1.

CHIPSEN

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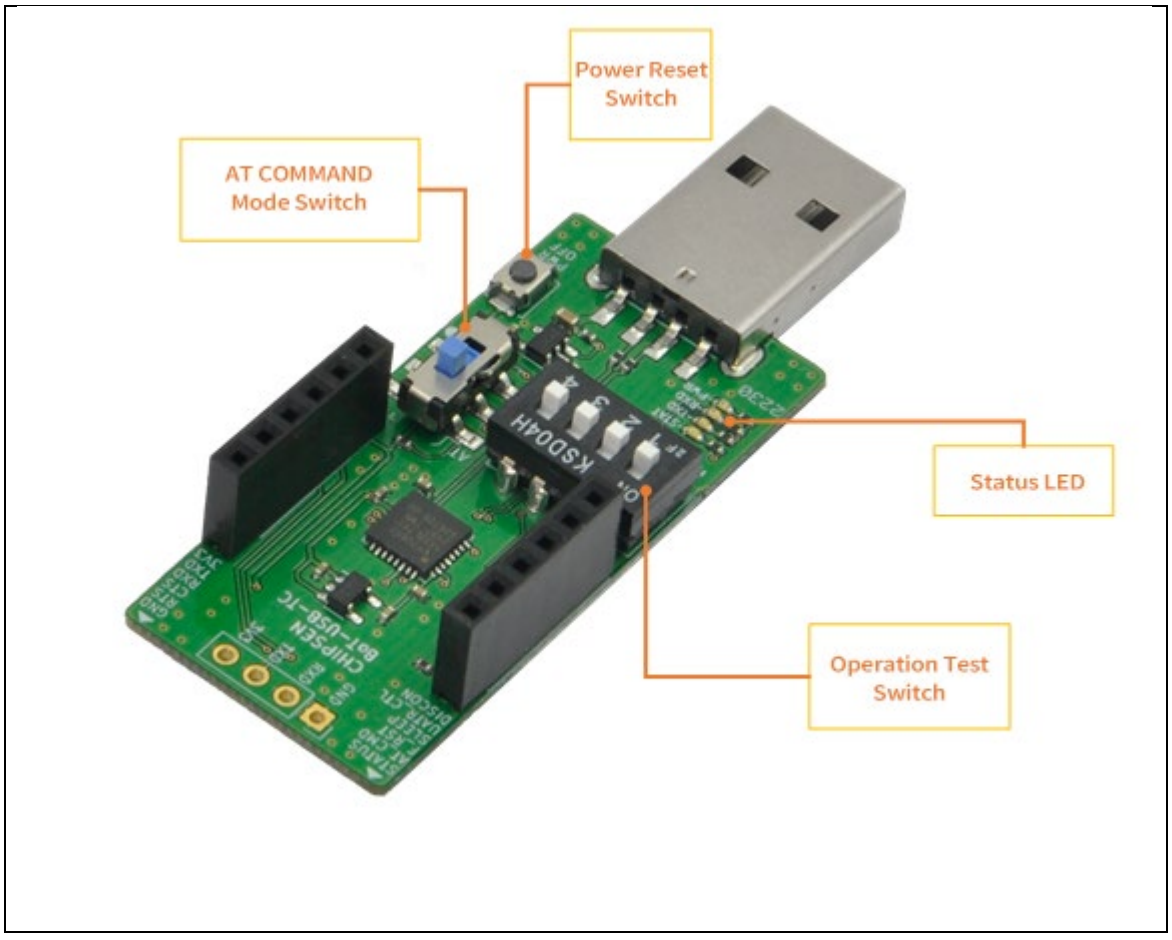
2. Product Overview

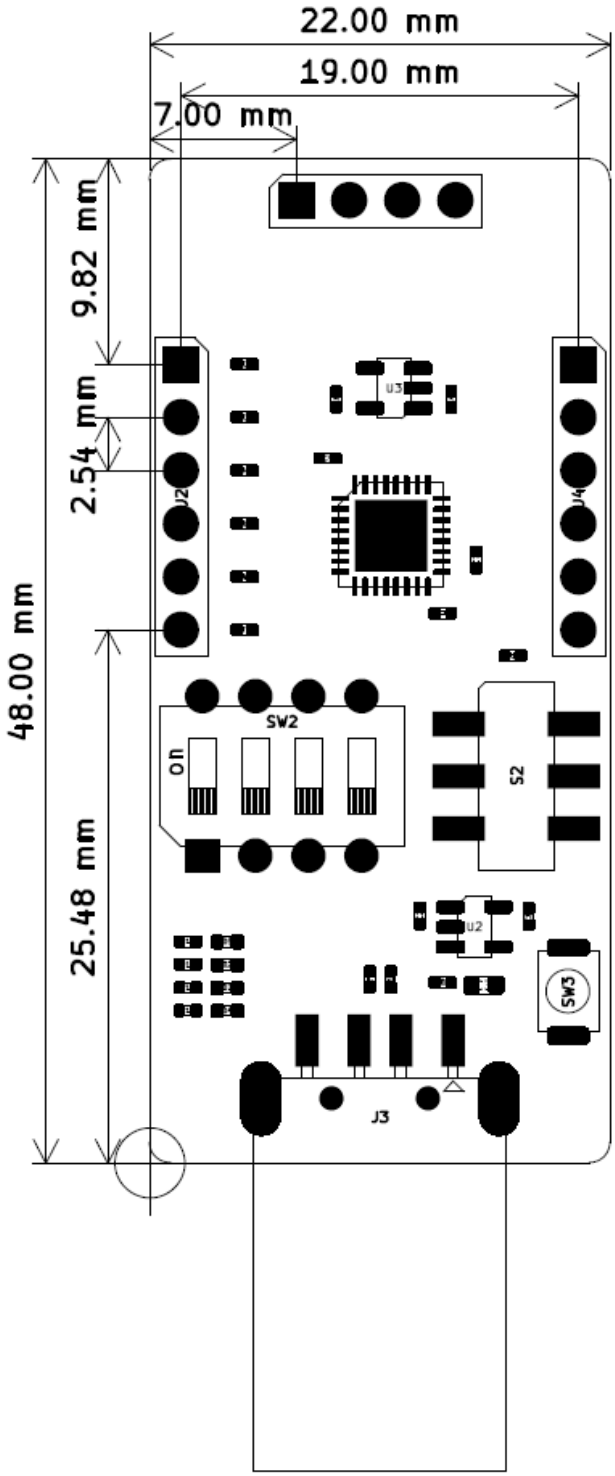
BoT-USB-TC is a test Board for DIP types of modules BoT-TMA50 and BoT-cDA110 to communicate with the PC, which allows the user to check the functionality setting and status of the BLE Module.

It is mounted on a USB terminal and can be used conveniently without external power.

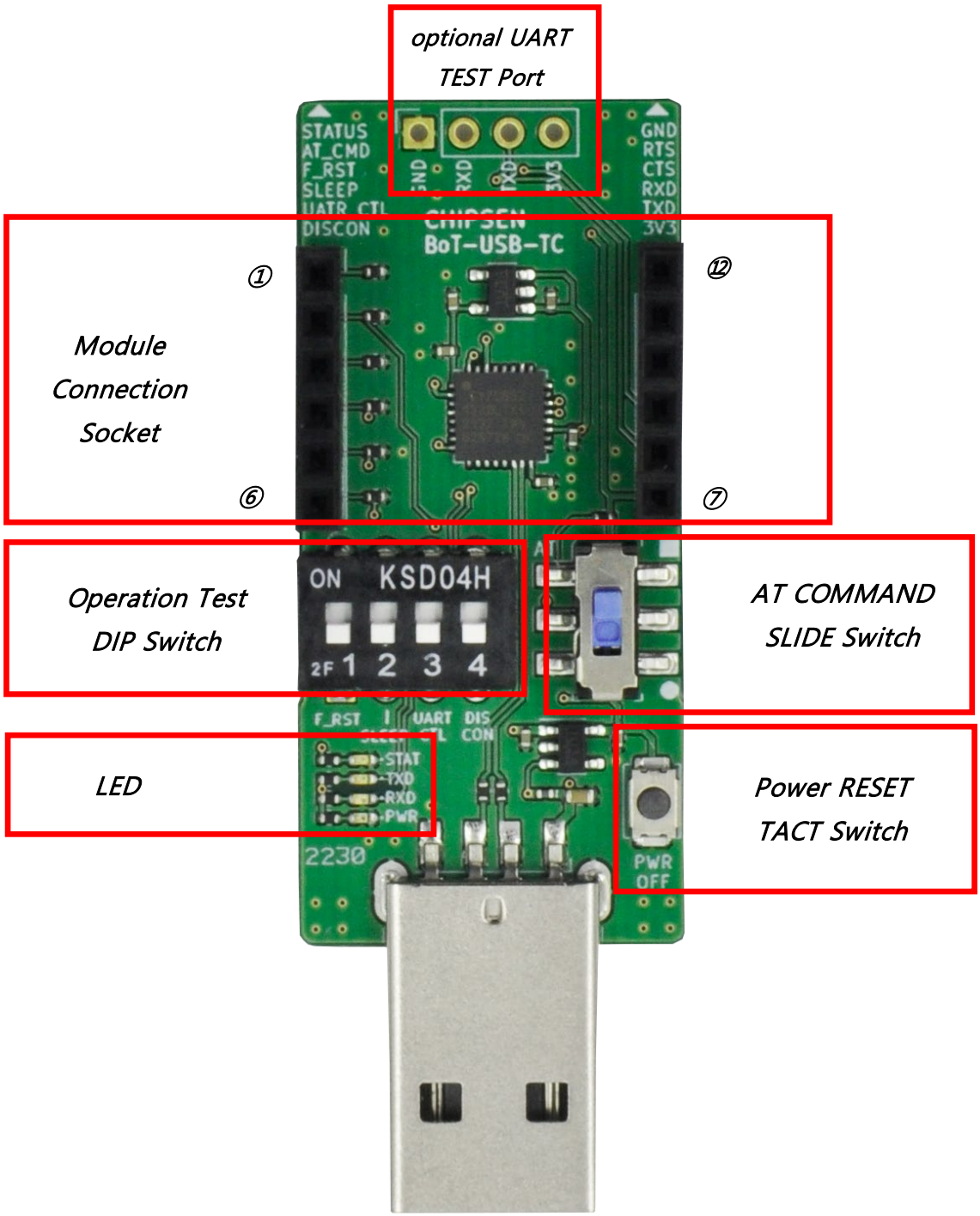
2.1. BoT-USB-TC Appearance



2.2. BoT-USB-TC Dimension



2.3. BoT-USB-TC Interface Details



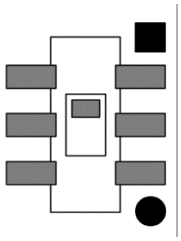
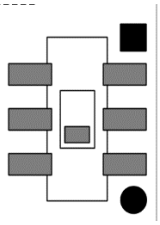
2.3.1. Optional UART TEST PORT

A test port is used for testing UART operation and for connecting and testing with other external devices without when modules are not installed. The voltage is 3.3V output up to 300mA, and the UART operation voltage level is 3.3V.

2.3.2. Module Connection Socket Interface

Pin No.	Pin Name	Pin Function	Description
1	STATUS	INPUT	High= LED ON Low= LED OFF
2	AT COMMAND	OUTPUT	. Setting AT command mode of BoT-TMA50 Refer to the description of AT COMMAND MODE Switch operation.
3	FACTORY RESET	OUTPUT	DIP Switch OFF = Low, 470K pull-down DIP Switch ON = High TMA50: Disconnect & Factory Reset cDA110: Factory Reset
4	SLEEP	OUTPUT	DIP Switch OFF = Low, 470K pull-down DIP Switch ON = High TMA50: Sleep mode control cDA110: Not used
5	UART ON/OFF	OUTPUT	DIP Switch OFF = Low, 470K pull-down DIP Switch ON = High TMA50: UART ON / OFF control cDA110: Not used
6	DISCONNECTION	OUTPUT	DIP Switch OFF = Low, 470K pull-down DIP Switch ON = High TMA50: Not used cDA110: Disconnect operating Active High rising edge detection.
7	VDD	POWER	Main Power. typ. DC 3.3V
8	UART TXD	DIGITAL OUTPUT	UART Transmit Data
9	UART RXD	DIGITAL INPUT	UART Receive Data
10	UART CTS	UART CTS	UART Clear to Send
11	UART RTS	UART RTS	UART Request to Send
12	GND	GROUND	Ground

2.3.3. AT COMMAND SLIDE Switch (Only for BoT-TMA50 series)

AT COMMND MODE(High)	BYPASS MODE(Low)
	
When the slide switch is moved up to ■ direction, 3.3V High is input to AT COMMAND Pin.	When the slide switch is moved up to ● direction, LOW is input to AT COMMAND Pin.(470K pull-down)

※ AT COMMAND / BYPASS MODE

- In the HOST, a state in which Bluetooth module's device settings can be changed or instructed to perform a specific action is called AT-COMMAND mode, and a state in which Bluetooth module is connected to the Remote Device and DATA can be delivered to the Remote Device is called the BYPASS mode. Bluetooth module always maintains AT-COMAND mode if it is not connected to the Remote Device, and is switched to BYPASS mode as soon as it is connected to the Remote Device.

2.3.4. **Operation Test DIP Switch**

DIP Switch to test module's operation. You can test GPIO function which is embodied In Commercial Standard Firmware. When the DIP Switch is OFF, Low(with 470K pill-down) is input to GPIO, when the DIP Switch is ON, High is input to GPIO. The operation differ depending on the module connected, refer to the user manual and datasheet of the module for the details of GPIO operation.

No.	Function	Description
1	Factory RESET	. TMA50 series; - High: if it is connected with the counterpart device, terminate the connection. If High is maintained for more than 4 seconds, every setting value is returned to the factory reset. . cDA110 series; - High is maintained for more than 1 second, every setting value is returned to factory reset.
2	Sleep	. TMA50 series; - High: Enters to low power mode. - Low: Wakes up and then reboot. . cDA110 series; - Not used, Not connected
3	UART Control	. TMA50 series; - High: UART off, decrease standby current. - Low: UART on, possible to UART communication. . cDA110 series; - Not used, Not connected
4	Disconnect	. TMA50 series; - Not used, Not connected . cDA110 series; - Low->High(Connected status): Connection terminates. (rising edge detection)

2.3.5. **Power Reset Switch**

Reset Switch to block power supplied to module. It is used when the module doesn't work properly, or you need to reset the power. While you're pressing the button, the power supplied is blocked.

2.3.6. **Status LED**

It shows the operation status of BoT-USB-TC.

STAT LED	High input to STATUS Pin, LED is turned on. (The module follows STATUS pin operation setting)
TXD LED	When the BoT-USB-TC transfers UART data, LED is flashed.
RXD LED	When the BoT-USB-TC receives UART data, LED is flashed.
PWR LED	BoT-USB-TC shows the status of the power input to the module. The power 3.3V output successfully LED is turned on.

3. Driver Installation

3.1. Auto Installation

A) When you connect the PC with this product, it must have an Internet connection to auto installation.

B) If you've used the same product in the past, the installation is possible without the internet.

C) The automatic installation process takes about 30 seconds to 5 minutes and is proportional to the PC processing speed.

D) When the installation is complete, the following screen appears.

E) Each Serial Converter will be recognized as a different COM port number, and products that were installed in the past will be recognized as the same COM port number. But if the port was changed, the COM port number also will be changed.

3.2. Manual Installation

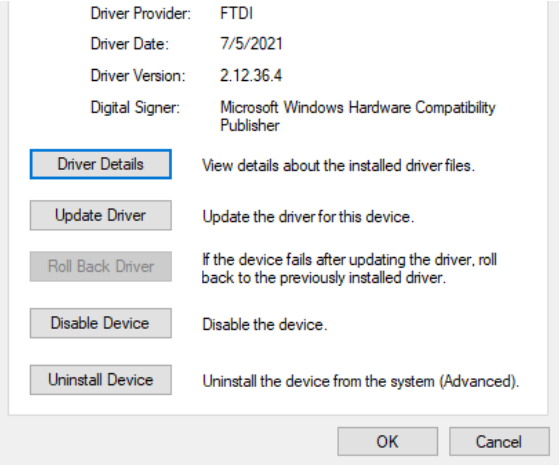
If the PC doesn't automatically recognize your device or doesn't connect to the internet, please install it in the following order. (Ex Windows OS)

3.2.1. Manual installation FTDI Driver Manual Installation

A) VCP Drivers - FTDI (ftdichip.com) Click this link.

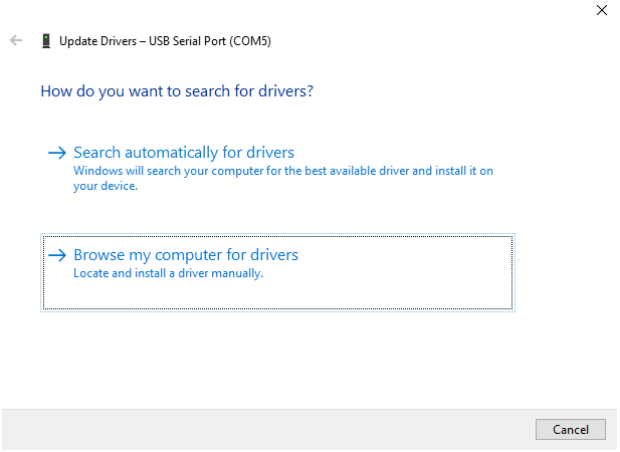
B) Download the drivers for your OS.

C) Unzip the file.



D) Update drivers that are not installed in Device Manager.

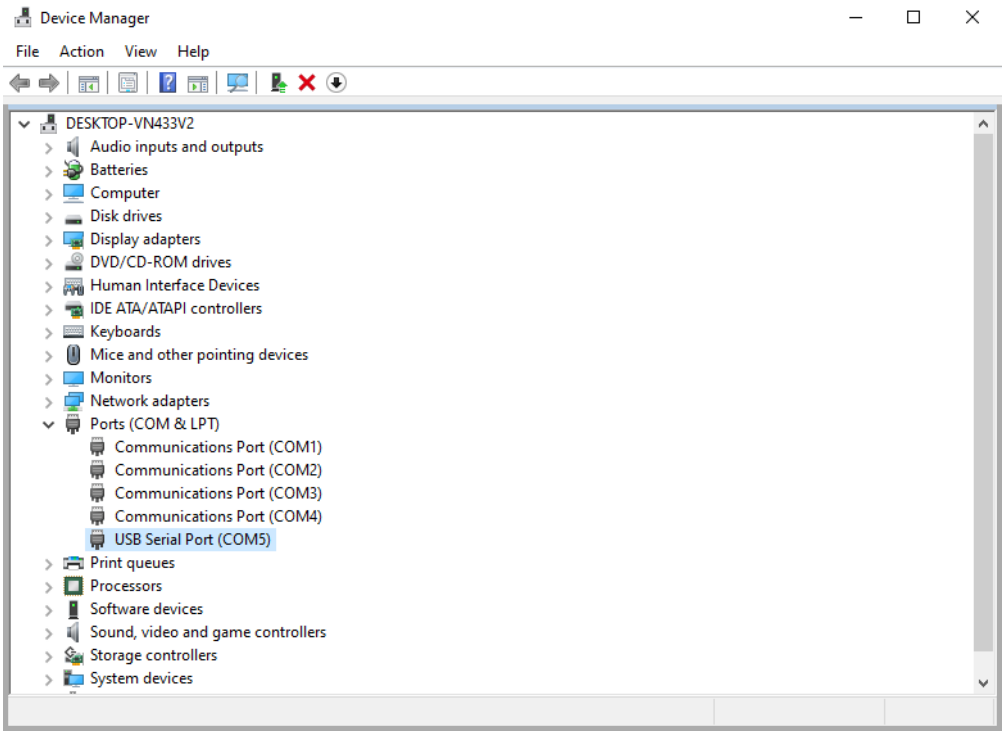
E) Select the driver to manual.



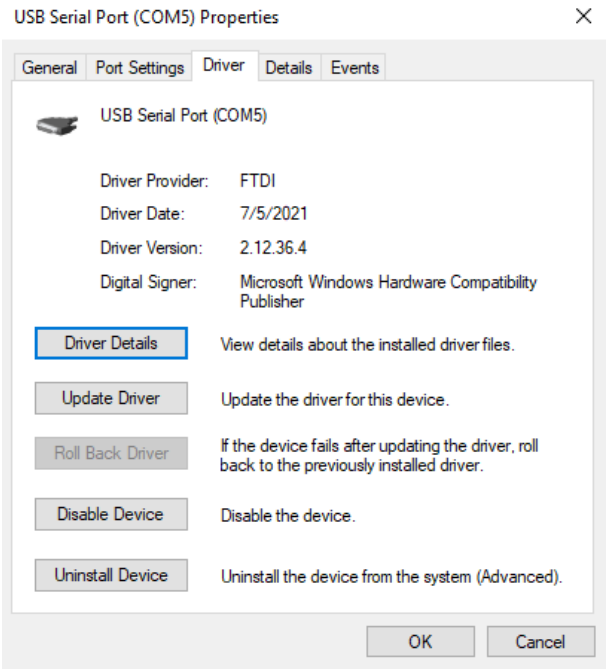
F) Automatically install by specifying a path to folder unzipped.

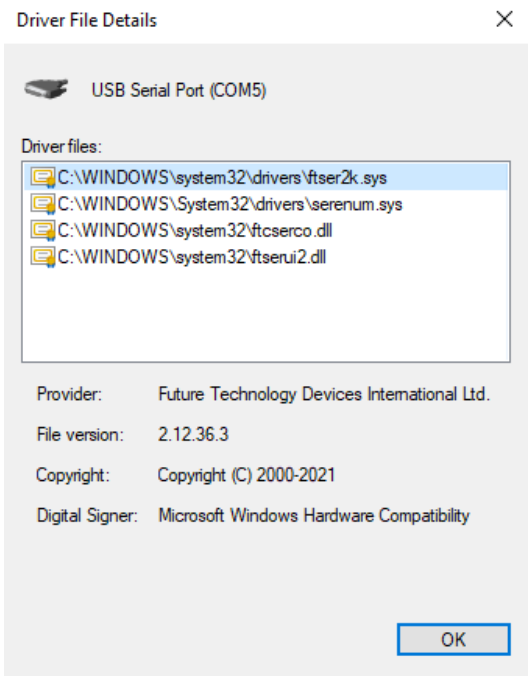
G) The installed port is possible to be checked as follows.

- Open 'Device Manager' and you can check the port has added.



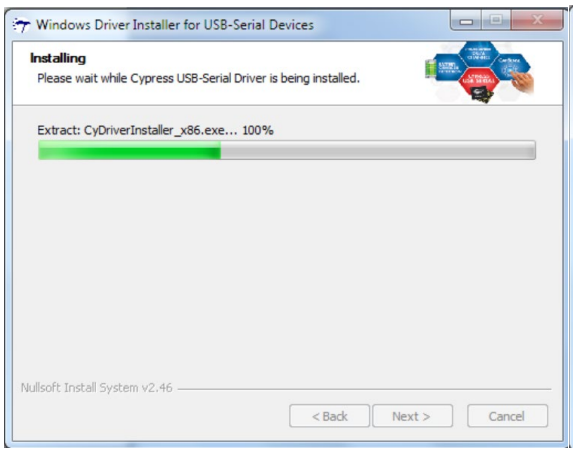
- Right-click on new added port to select Properties and check the driver has installed successfully.

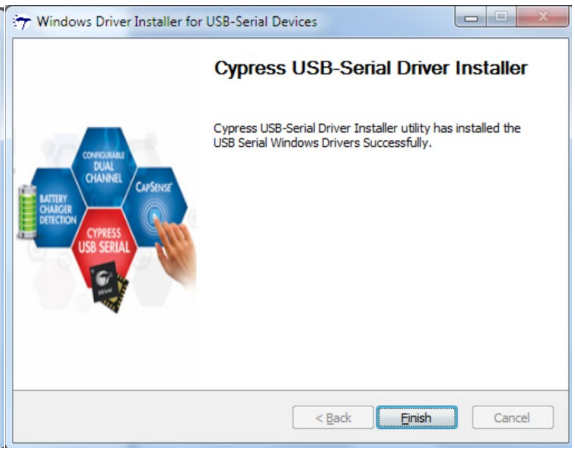




3.2.2. **Infineon (Cypress)Driver Manual Installation**

A) CypressDriverInstaller.exe (Download) Click this link to download, and run it.

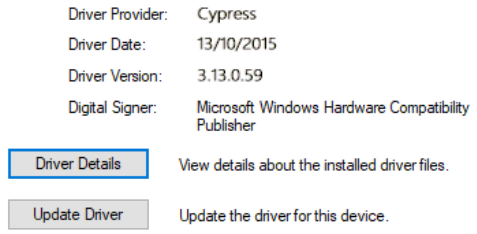




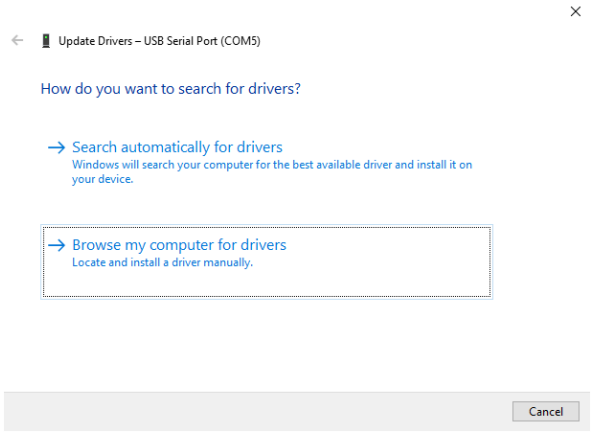
After install this, check USB Serial Port is recognized successfully on Device Manager

B) If the driver was not recognized automatically, Please proceed with the following steps.

C) Run Device Manager and update drivers that are not installed in Device Manager.



D) Specifying the location to install.



E) C:₩Program Files (x86)₩Cypress₩Cypress USB-Serial Driver
Specify the above path or the other path specified when the driver was installed.

F) When the installation is complete, verify that the driver is installed and working properly.