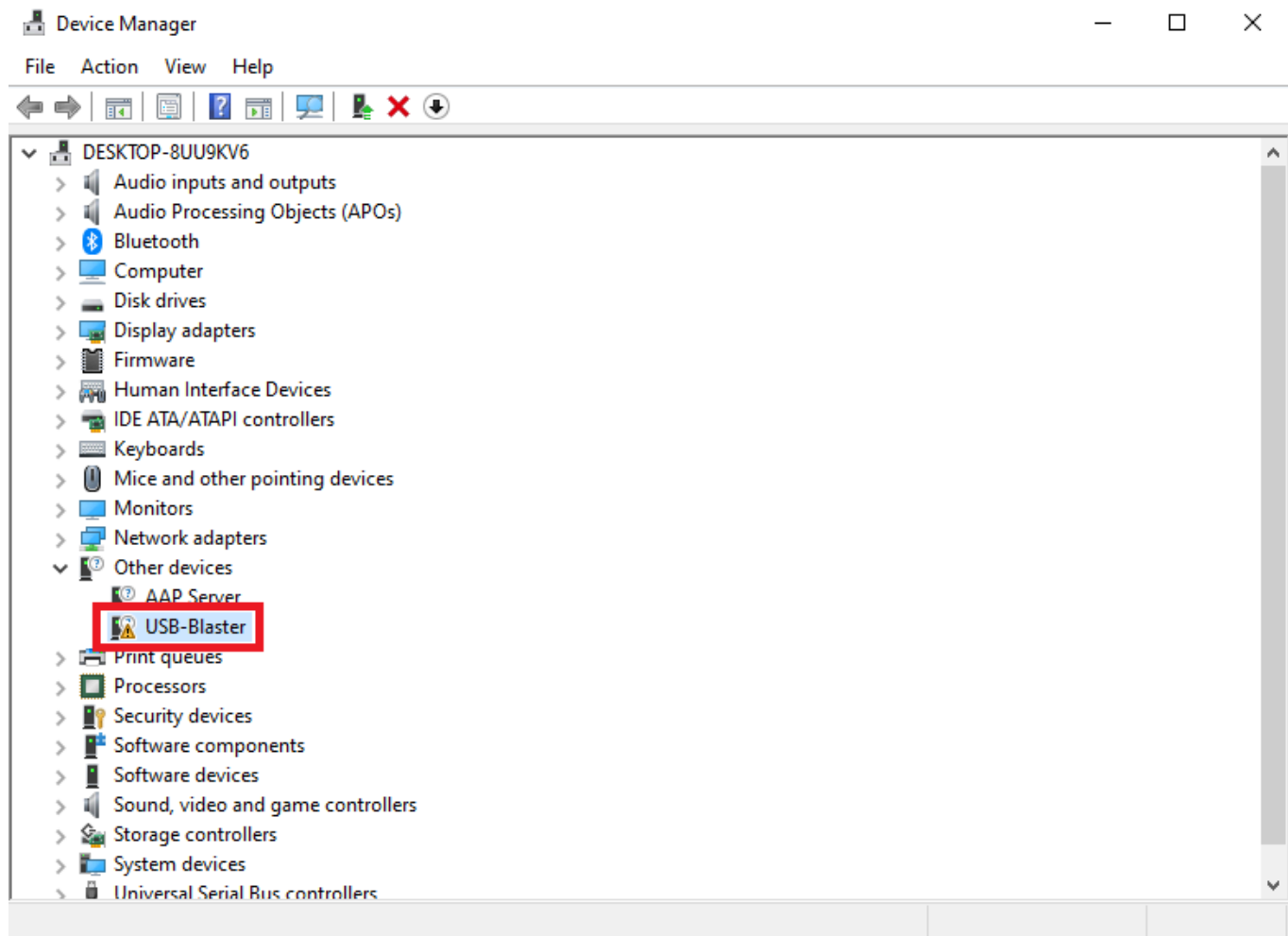


# USB-Blaster-Installation

## Driver-Installation

1. 當你把 **FPGA** 板透過 **USB** 線接上電腦時，打開裝置管理員會在 **Other Device** 裡面看到一個未安裝驅動程式的裝置，如下圖所示



2. 對其點右鍵 **Update driver** 並選取 **Browse my computer for drivers**



← Update Drivers - USB Receiver (Interface 2)

How do you want to search for drivers?

→ Search automatically for drivers

Windows will search your computer for the best available driver and install it on your device.

→ Browse my computer for drivers

Locate and install a driver manually.

Cancel

3. Quartus 的安裝位置內，內建的 **usb-blaster** 驅動程式 (DE10-Lite 不支援 usb-blaster II)



← Update Drivers - Altera USB-Blaster

Browse for drivers on your computer

Search for drivers in this location:

D:\Quartus\18.1\quartus\drivers\usb-blaster

Browse...

☒ Include subfolders

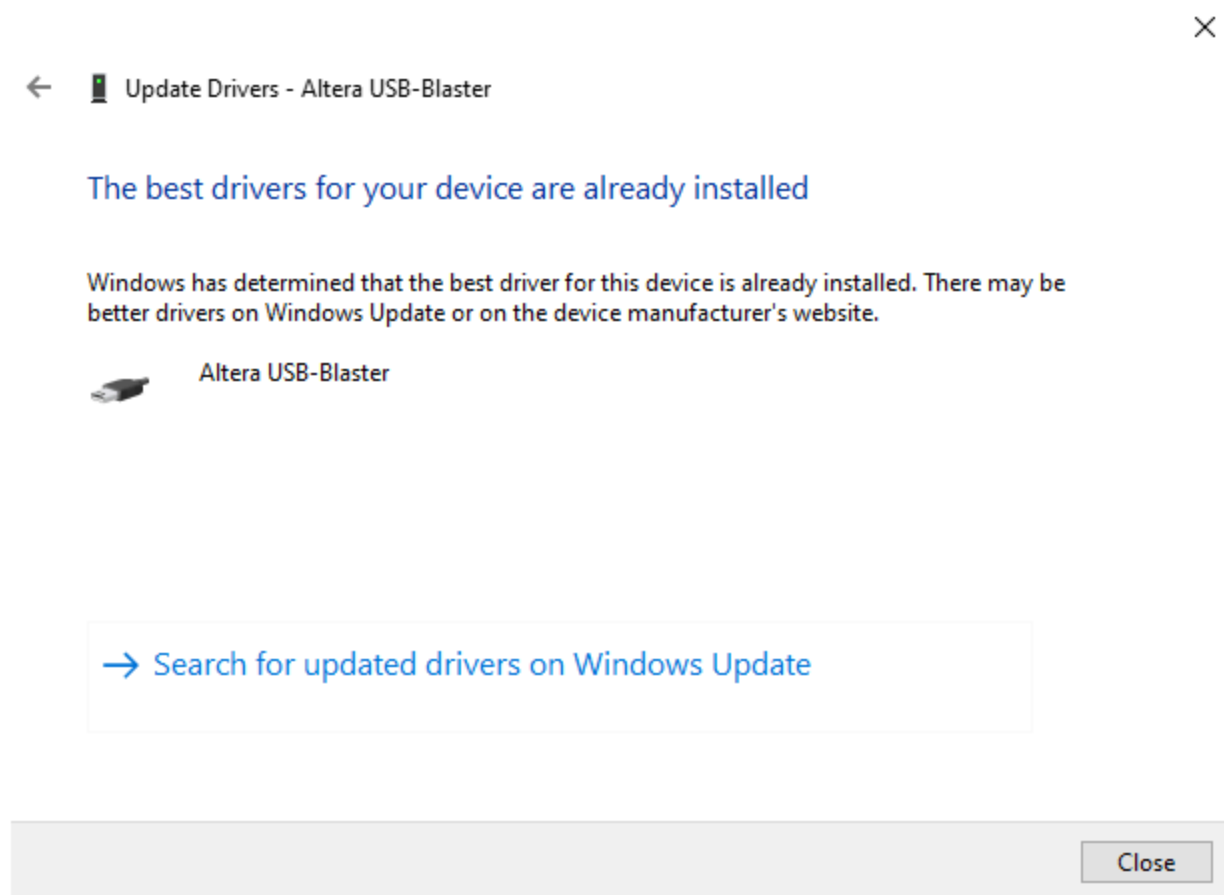
→ Let me pick from a list of available drivers on my computer

This list will show available drivers compatible with the device, and all drivers in the same category as the device.

Next

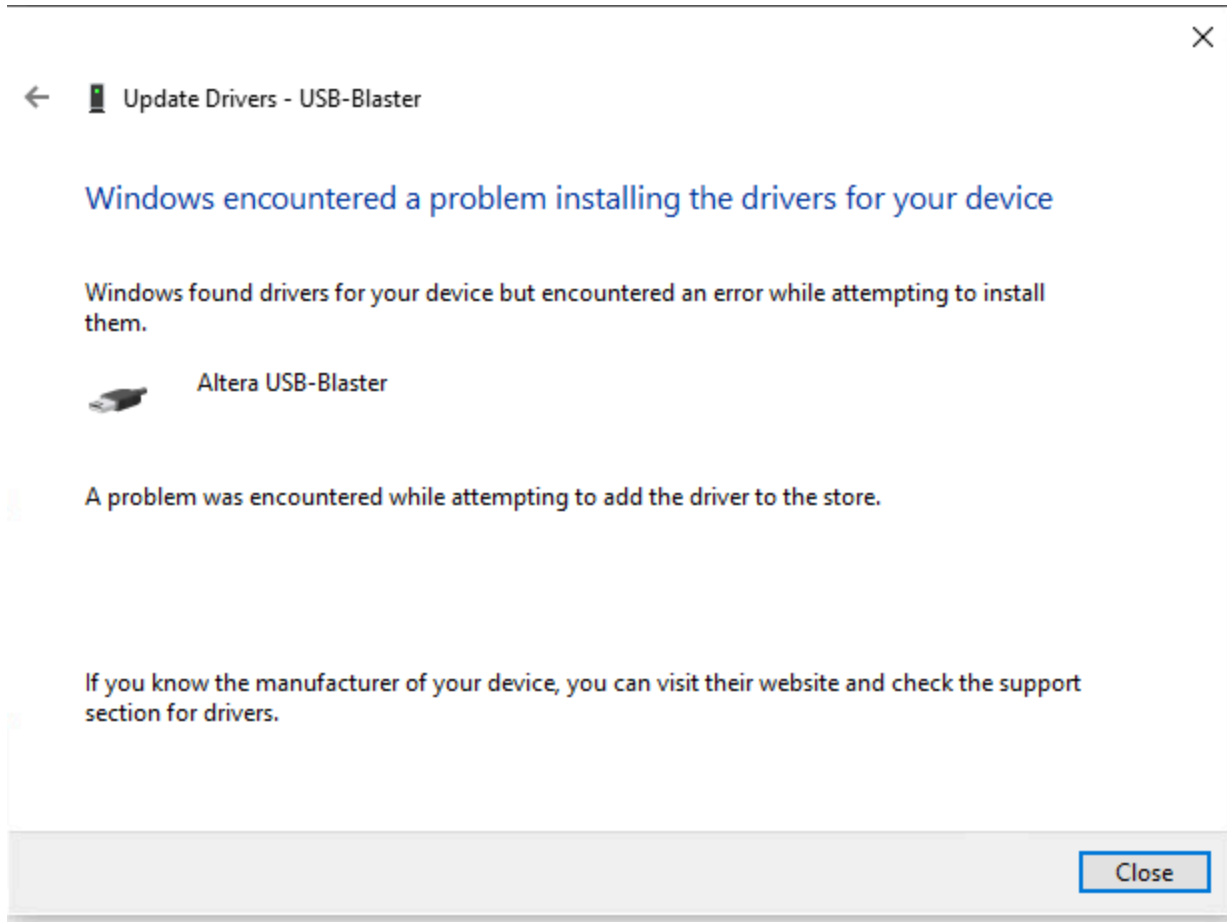
Cancel

4. 安裝完成後即可看到如下畫面，看到該畫面就代表你完成安裝燒入的驅動程式了 🎉



## Disable-Driver-Signature-Enforcement

若您使用的電腦的 OS 為 **Windows 11**，照上述方式安裝時在最後一個步驟有機會出現如下圖的畫面，因為該 **USB-Blaster I** 並沒有正式支援 **Windows11**，USB-Blaster I 驅動是使用舊簽章的驅動，因此需手動繞過簽章限制



1. 按住 **Shift** 鍵點擊開始功能表中的 **Restart** 後，電腦會在重新啟動後進入安全模式，接著依序點選 **Troubleshoot > Advanced Options > Startup Settings > Restart**，電腦又會再重新啟動一次
2. 第二次重啟過後會顯示如下圖，按 **7** 或 **F7** 選取 **Disable driver signature enforcement**

# Startup Settings

Press a number to choose from the options below:

Use number keys or functions keys F1-F9.

- 1) Enable debugging
- 2) Enable boot logging
- 3) Enable low-resolution video
- 4) Enable Safe Mode
- 5) Enable Safe Mode with Networking
- 6) Enable Safe Mode with Command Prompt
- 7) Disable driver signature enforcement
- 8) Disable early launch anti-malware protection
- 9) Disable automatic restart after failure

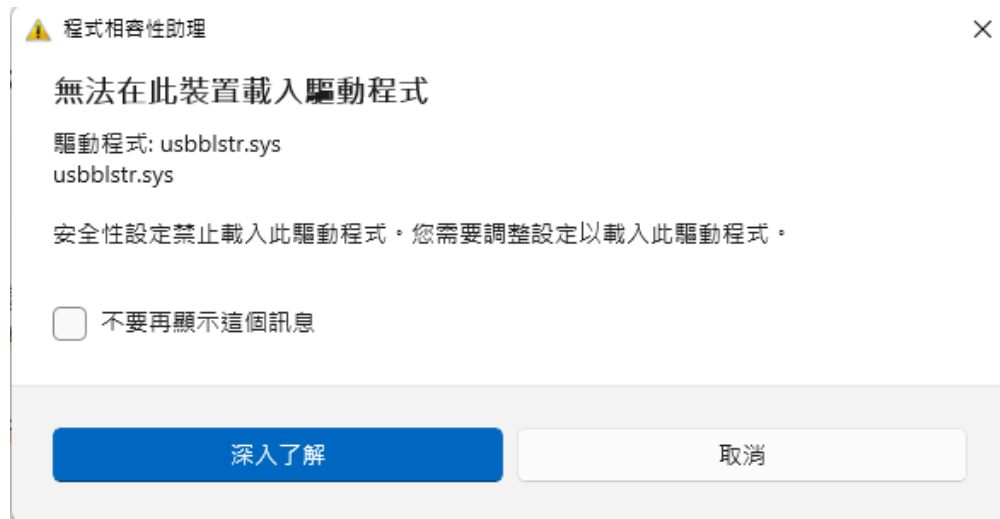
Press F10 for more options

Press Enter to return to your operating system

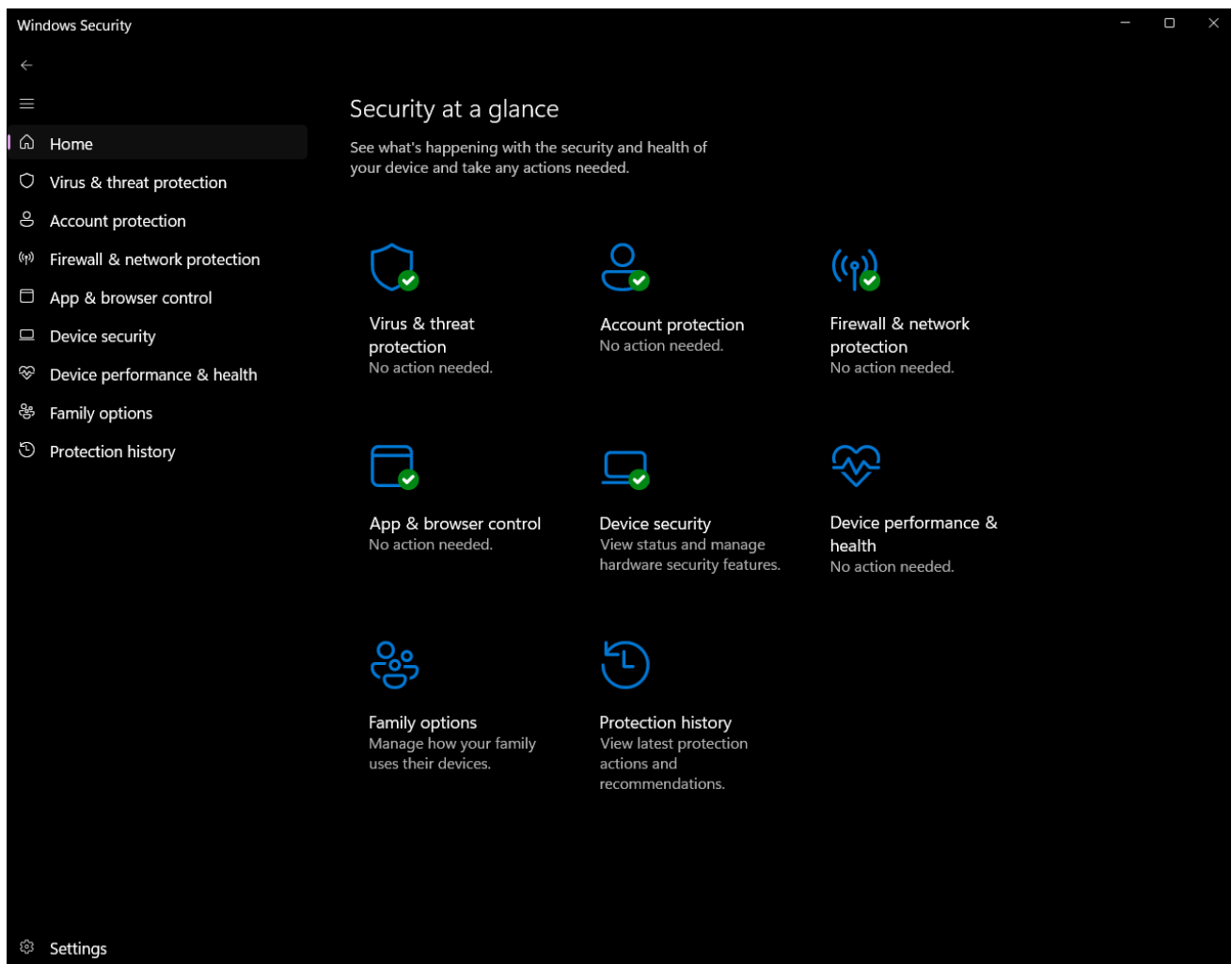
3. 接下來就是重新操作一次上方 [Driver-Installation](#) 的安裝驅動程式的步驟就可以成功安裝驅動程式了 🎉

# USB-Blaster-Driver-Installation-Blocked-by-Memory-Integrity

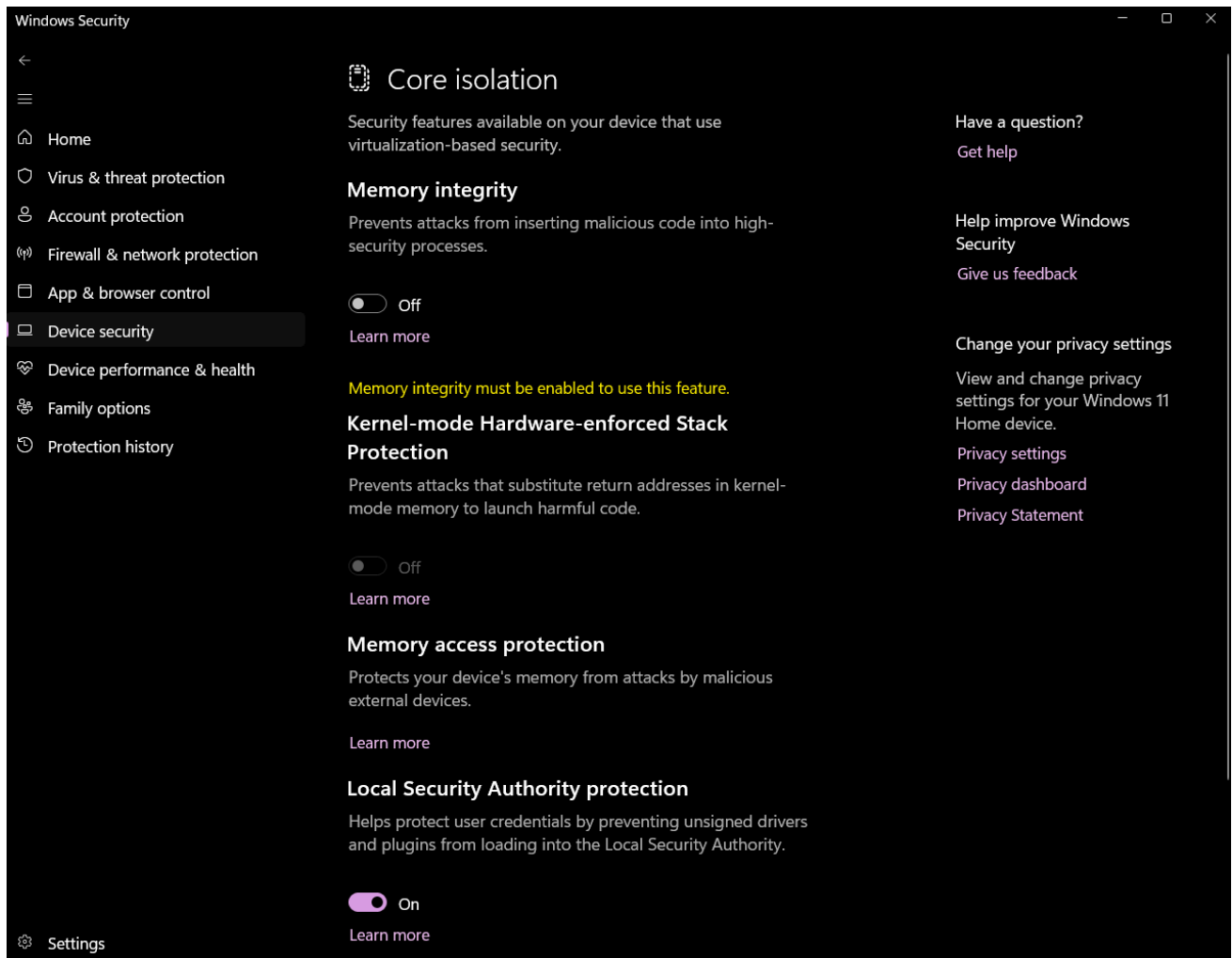
若您照著上述方式 [Disable-Driver-Signature-Enforcement](#) 已經 停用驅動程式強制簽章 來安裝 USB-Blaster，但在裝置管理員裡面安裝時仍然出現 ⚠️ 在你的FPGA版USB連接Port上，出現下方圖片，可能是因為 **Windows 11** 的「**Memory Integrity**」功能擋住未簽章驅動所導致的，這是 Win11 預設開啟的「Core Isolation」保護機制之一



1. 打開 Windows 的 **Settings**
2. 點選 **Privacy & security > Windows security > Open Windows security**，此時將跳出下方視窗



3. 點選 **Device security > Core Isolation details > Memory integrity (off)**



4. 接下來就是重新操作一次上方 [Driver-Installation](#) 的安裝驅動程式的步驟就可以成功安裝驅動程式了 🎉