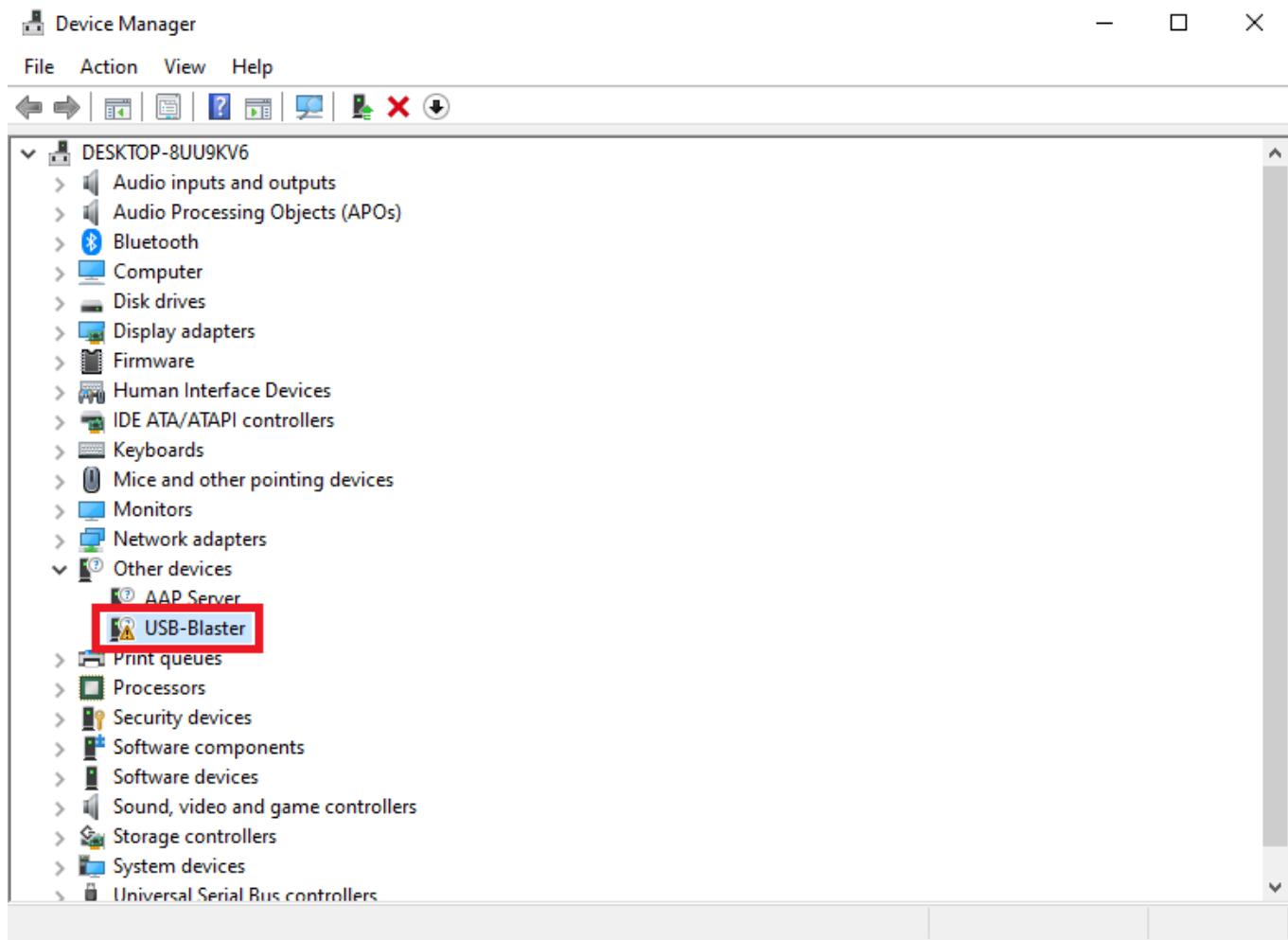


# USB-Blaster-Installation

## 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**

X

← 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)

X

← 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

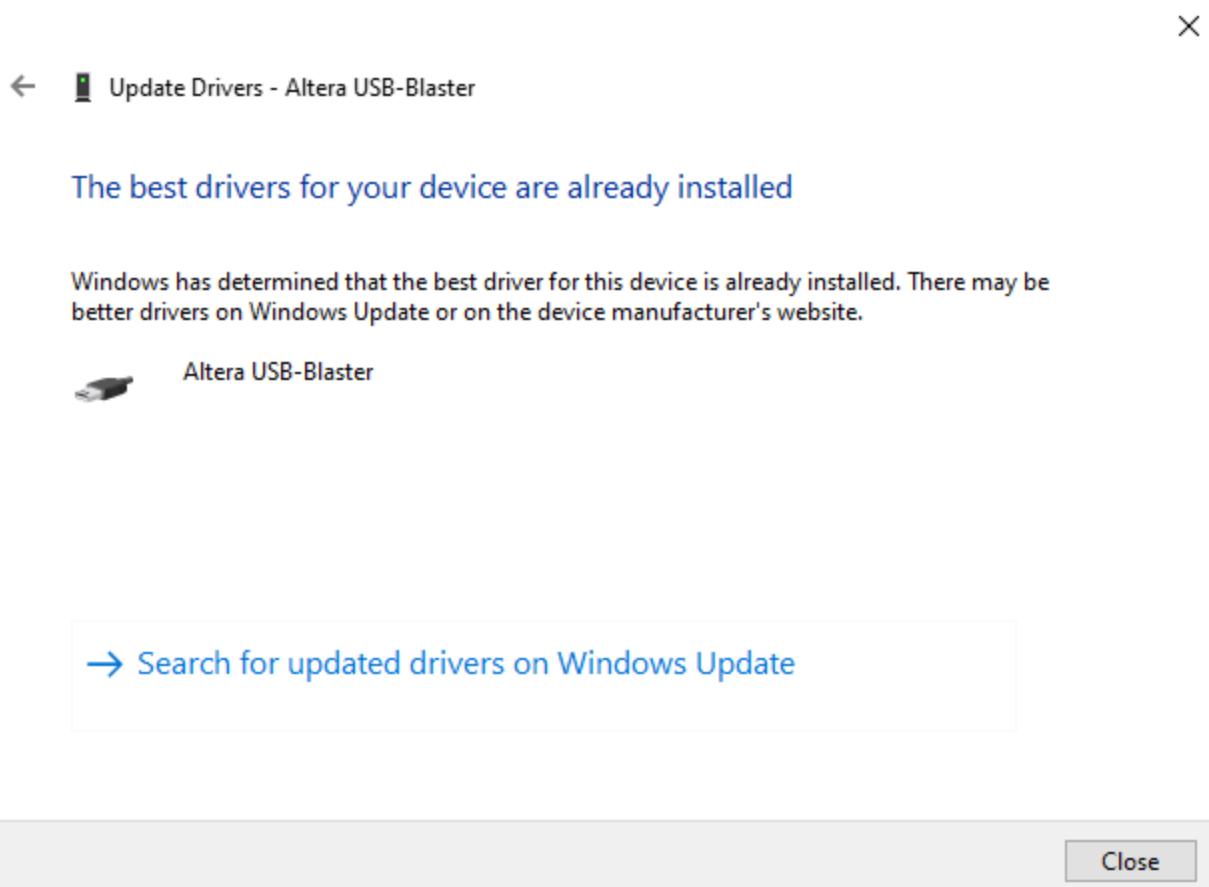
→ Let me pick from a list of available drivers on my computer

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

Next

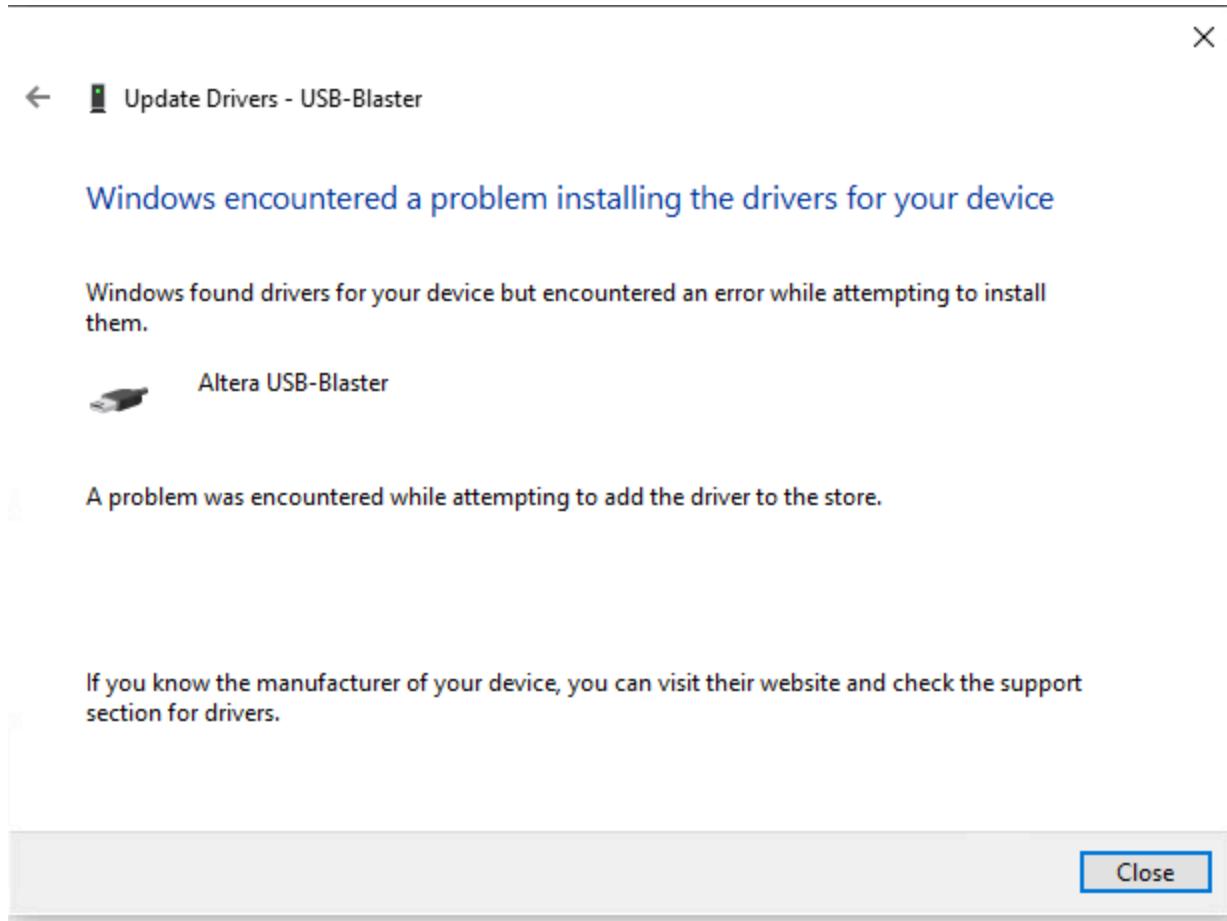
Cancel

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

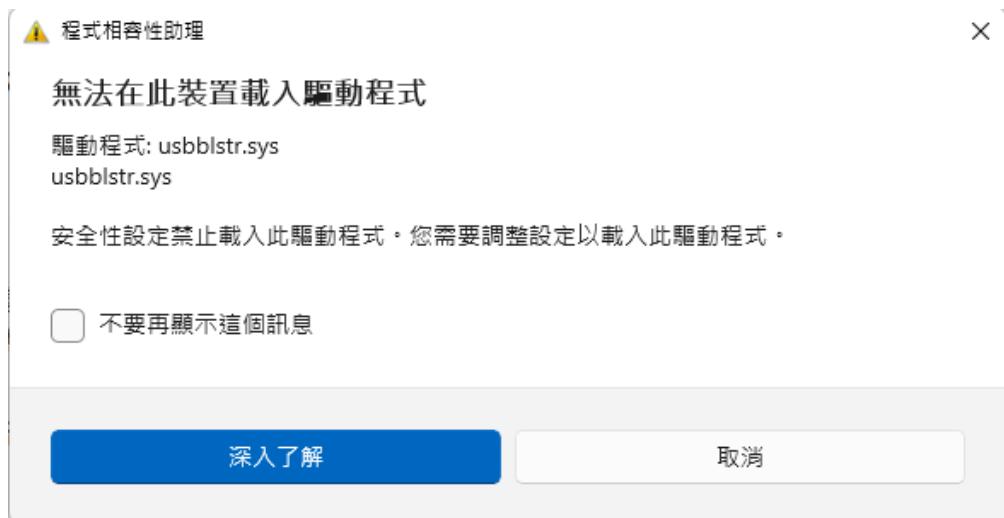
Press F10 for more options

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

Windows Security

Home

Virus & threat protection

Account protection

Firewall & network protection

App & browser control

Device security

Device performance & health

Family options

Protection history

Settings

## Security at a glance

See what's happening with the security and health of your device and take any actions needed.

 Virus & threat protection No action needed.	 Account protection No action needed.	 Firewall & network protection No action needed.
 App & browser control No action needed.	 Device security View status and manage hardware security features.	 Device performance & health No action needed.
 Family options Manage how your family uses their devices.	 Protection history View latest protection actions and recommendations.	

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

Windows Security

Home Virus & threat protection Account protection Firewall & network protection App & browser control Device security Device performance & health Family options Protection history

Core isolation

Security features available on your device that use virtualization-based security.

**Memory integrity**

Prevents attacks from inserting malicious code into high-security processes.

Off [Learn more](#)

**Memory integrity must be enabled to use this feature.**

**Kernel-mode Hardware-enforced Stack Protection**

Prevents attacks that substitute return addresses in kernel-mode memory to launch harmful code.

Off [Learn more](#)

**Memory access protection**

Protects your device's memory from attacks by malicious external devices.

[Learn more](#)

**Local Security Authority protection**

Helps protect user credentials by preventing unsigned drivers and plugins from loading into the Local Security Authority.

On [Learn more](#)

Have a question? [Get help](#)

Help improve Windows Security [Give us feedback](#)

[Change your privacy settings](#)

[View and change privacy settings for your Windows 11 Home device](#)

[Privacy settings](#)

[Privacy dashboard](#)

[Privacy Statement](#)

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 🎉