

# TST-M2ASM 測試卡

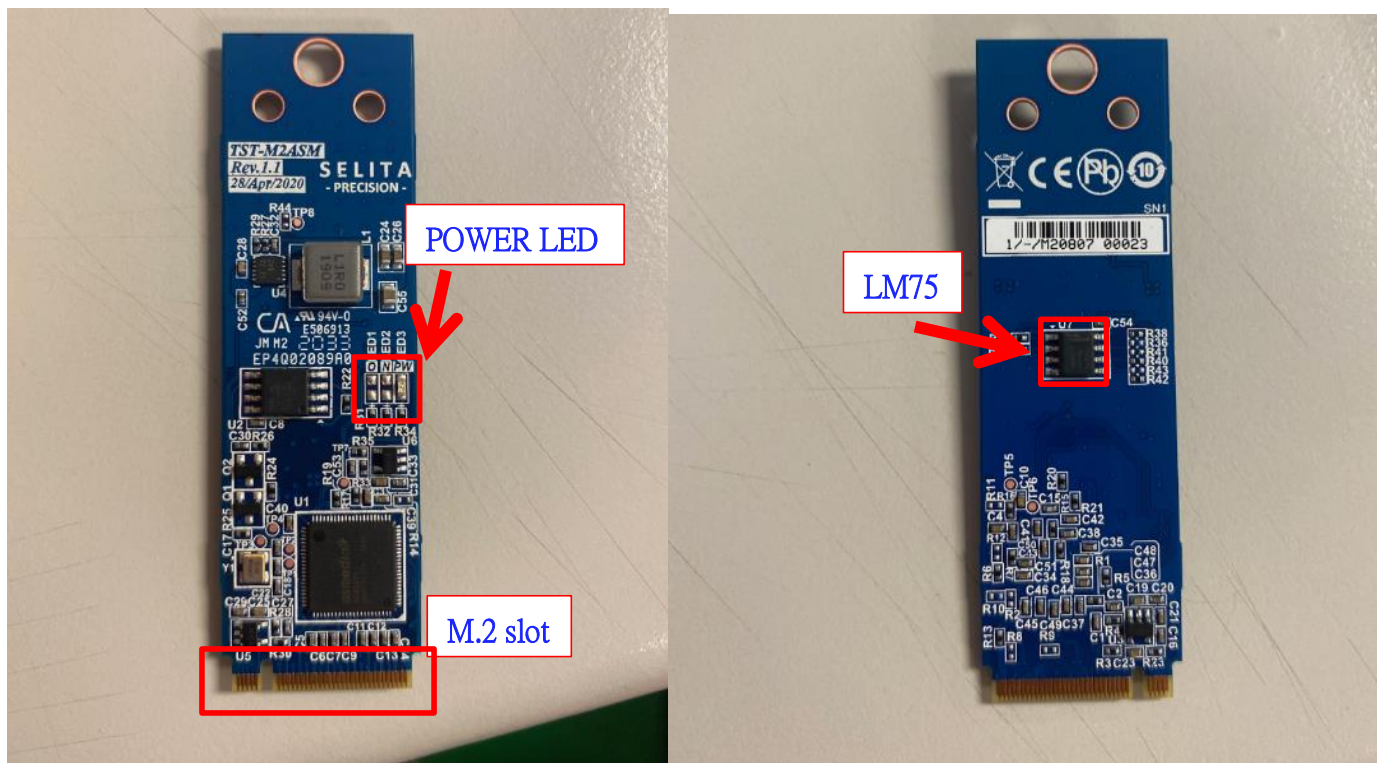
## 使用說明



### 一．TST-M2ASM 測試說明：

- 測試功能：提供 M.2 PCIE 訊號速率檢測,最高支援 GEN3 速率,可向下相容 GEN2.
- 測試環境：測試程式支援 DOS 及 WINDOWS

### 二. TST-M2ASM 測卡介面介紹：



### 三. TST-M2ASM 測試程式說明：

#### A. DOS 程式設定及測試：

##### A1.主程式指令說明：**M2ASMSPD.EXE**

執行 **M2ASMSPD.EXE** 程式即會顯示相關參數說明及主程式指令範例。

```
2SH-L
TST-M2ASM Speed chk Rev.1.02(C)CopyRight by SELITA Technology Co.
SELITA--Date: Sep 29 2020 :Time: 17:02:57 * Edited by Joshua.Ans--SELITA
HELP message: X word can skip the check
Usage: m2asmspd [/W file][/U file][/skipaddr !! /skipvdid]
PORT:
    1./W file : Data log write to file.
    2./U file : Compare log file.
    3./skipaddr: Skip Bus and Device and function address check.
    4./skipvdid: Skip Device ID and Vendor ID check.
    5.[?] : Call help message.
Max:Max Link Width.      Nego:Negotiated Link Width.
Sup:Support Link Speed.  Cur:Current Link Speed.
Tar:Target Link Speed.   PN:Port Number.   Rev:Capability Version.
Example:
    m2asmspd /w sample.dat
    m2asmspd /U sample.dat /skipaddr
    m2asmspd /?
The return value:
0:Check All PASS!
-1:Check Fail!
-----
Press any key to list the all of PCI Express device information....
```

若已安裝測試卡會顯示相關 Device 資訊。

```
-----
Dev/Vend Bus Dev Func Max Neg Sup Cur PN Tar Rev PCI Device Type
-----
__M2ASM_ 001 00 00 4X 4X 8.0 8.0 00 8.0 02 USB 3.0
(Return Code = -1)...FAIL
```

##### A2. 解讀測試卡所顯示的相關 PCIE 資訊，請參照程式說明內容。

```
-----
Dev/Vend Bus Dev Func Max Neg Sup Cur PN Tar Rev PCI Device Type
-----
__M2ASM_ 001 00 00 4X 4X 8.0 8.0 00 8.0 02 USB 3.0
-----
```

```
Max:Max Link Width.      Nego:Negotiated Link Width.
Sup:Support Link Speed.  Cur:Current Link Speed.
Tar:Target Link Speed.   PN:Port Number.   Rev:Capability Version.
```



### A3. DOS 程式測試步驟

1. 先建立 PCIE Device 資訊比對檔,程式指令：**M2ASMSPD /w sample.dat**  
建立成功,於畫面上可確認所要比對的 PCIE Slot 規格.

```
TST-M2ASM Speed chk Rev.1.01(C)Copyright by SELITA Technology Co.  
SELITA--Date: Sep 29 2020 :Time: 09:05:05 * Edited by Joshua.Ans--SELITA  
Dev/Uend Bus Dev Func Max Neg Sup Cur PN Tar Rev PCie the status  
__M2ASM_ 001 00 00 4X 4X 8.0 8.0 00 8.0 02;USB 3.0  
(Return Code = 0)...PASS!!
```

- 2.執行測試指令：**M2ASMSPD /v sample.dat**

程式將比較建立的 sample 檔規格，若相關 PCIE 資訊規格相同即顯示 PASS

```
TST-M2ASM Speed chk Rev.1.01(C)Copyright by SELITA Technology Co.  
SELITA--Date: Sep 29 2020 :Time: 09:05:05 * Edited by Joshua.Ans--SELITA  
Nm Dev/Uend Bus Dev Func Max Neg Sup Cur PN Tar Rev PCie Test Result  
01 __M2ASM_ 001 00 00 4X 4X 8.0 8.0 00 8.0 02 ==> Pass  
(Return Code = 0)...PASS!!  
C:\M2ASMSPD>_
```

若抓取的資訊有差異即會顯示 FAIL.

```
TST-M2ASM Speed chk Rev.1.01(C)Copyright by SELITA Technology Co.  
SELITA--Date: Sep 29 2020 :Time: 09:05:05 * Edited by Joshua.Ans--SELITA  
Nm Dev/Uend Bus Dev Func Max Neg Sup Cur PN Tar Rev PCie Test Result  
01 __M2ASM_ 001 00 00 4X 4X 8.0 8.0 00 8.0 02 ==> ADDR Lose  
Error Card number data as below  
01 __M2ASM_ 001 00 00 4X 4X 8.0 8.0 00 8.0 02;USB 3.0  
(Return Code = -1)...FAIL  
C:\M2ASMSPD>_
```

## B. UEFI 程式設定及測試：

B1.主程式指令說明：**m2asmspd.efi**

測試方法指令與 DOS 環境相同

執行 **m2asmspd.efi** 程式即會顯示相關參數說明及主程式指令範例。

```
2 Dir(s)
FS0:\Selita_toolV1\Selita_tool\> m2asmspd.efi
TST-M2ASM Card Test Rev.1.00(C)Copyright by SELITA Technology Co.
SELITA--Date: Mar 10 2022 :Time: 09:21:15 * Edited by Joshua.Ans--SELITA
HELP message: X word can skip the check
Usage: m2asmspd [/W file] [/V file] [/skipaddr || /skipvddid]
PORT:
    1./W file : Data log write to file.
    2./V file : Compare log file.
    3./skipaddr: Skip Bus and Device and function address check.
    4./skipvddid: Skip Device ID and Vendor ID check.
Max:Max Link Width.      Nego:Negotiated Link Width.
Sup:Support Link Speed.  Cur:Current Link Speed.
Tar:Target Link Speed.   PN:Port Number.   Rev:Capability Version.
Example:
    m2asmspd /w sample.dat
    m2asmspd /V sample.dat /skipaddr
The return value:
    0:Check All PASS!
    -1:Check Fail!
-----
Dev/Vend Bus Dev Func Max Neg Sup Cur PN Tar Rev PCI Device Type
-----
```

## B3. DOS 程式測試步驟

1. 先建立 PCIE Device 資訊比對檔,程式指令：**M2ASMSPD.efi /w 1.dat**

建立成功,於畫面上可確認所要比對的 PCIE Slot 規格.

```
FS0:\Selita_toolV1\Selita_tool\> m2asmspd.efi /w 1.dat
TST-M2ASM Card Test Rev.1.00(C)Copyright by SELITA Technology Co.
SELITA--Date: Mar 10 2022 :Time: 09:21:15 * Edited by Joshua.Ans--SELITA
Dev/Vend Bus Dev Func Max Neg Sup Cur PN Tar Rev PCIe the status
_M2ASM__ 002 00 00 4X 4X 8.0 8.0 00 8.0 02;Serial Bus Controller
(Return Code = 0)...PASS!!
FS0:\Selita_toolV1\Selita_tool\>
```



## 2.執行測試指令：**M2ASMSPD /v 1.dat**

程式將比較建立的 1.dat 檔規格，若相關 PCIE 資訊規格相同即顯示 PASS

```
FS0:\Selita_toolV1\Selita_tool> m2asmspd.efi /v 1.dat
TST-M2ASM Card Test Rev.1.00(C)CopyRight by SELITA Technology Co.
SELITA--Date: Mar 10 2022 :Time: 09:21:15 * Edited by Joshua.Ans--SELITA
Nm Dev/Vend Bus Dev Func Max Neg Sup Cur PN Tar Rev PCie Test Result
01 _M2ASM__ 002 00 00 4X 4X 8.0 8.0 00 8.0 02 ==> Pass

(Return Code = 0)...PASS!!
FS0:\Selita_toolV1\Selita_tool> _
```

若抓取的資訊有差異即會顯示 FAIL.

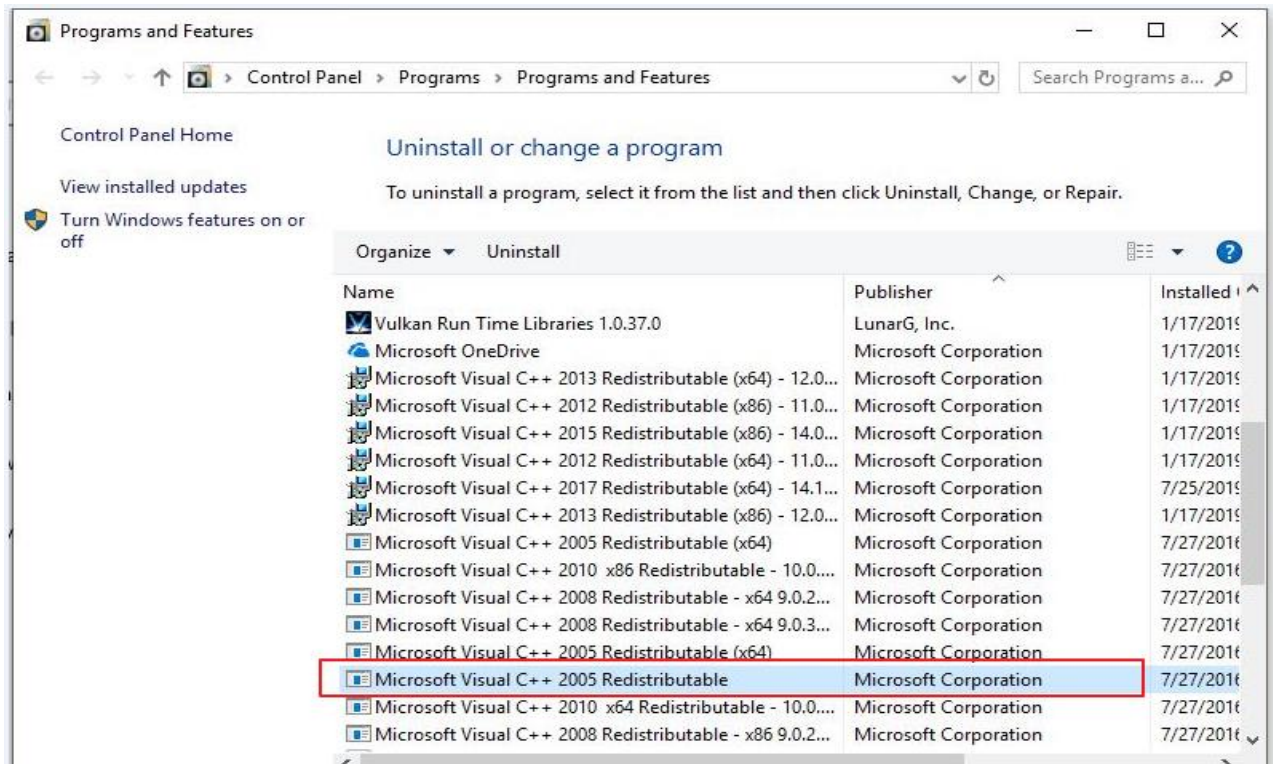
```
fs4:\Selita_toolV1\Selita_tool> m2asmspd.efi /v 1.dat
TST-M2ASM Card Test Rev.1.00(C)CopyRight by SELITA Technology Co.
SELITA--Date: Mar 10 2022 :Time: 09:21:15 * Edited by Joshua.Ans--SELITA
Card sub system ID not match!(Set)0x32421458 not 0x14583242(Get)
Card sub system ID not match!(Set)0x32421458 not 0x14583242(Get)
Nm Dev/Vend Bus Dev Func Max Neg Sup Cur PN Tar Rev PCie Test Result
01 _M2ASM__ 002 00 00 4X 4X 8.0 8.0 00 8.0 02 ==> ADDR Lose

(Return Code = -1)...FAIL
fs4:\Selita_toolV1\Selita_tool> _
```

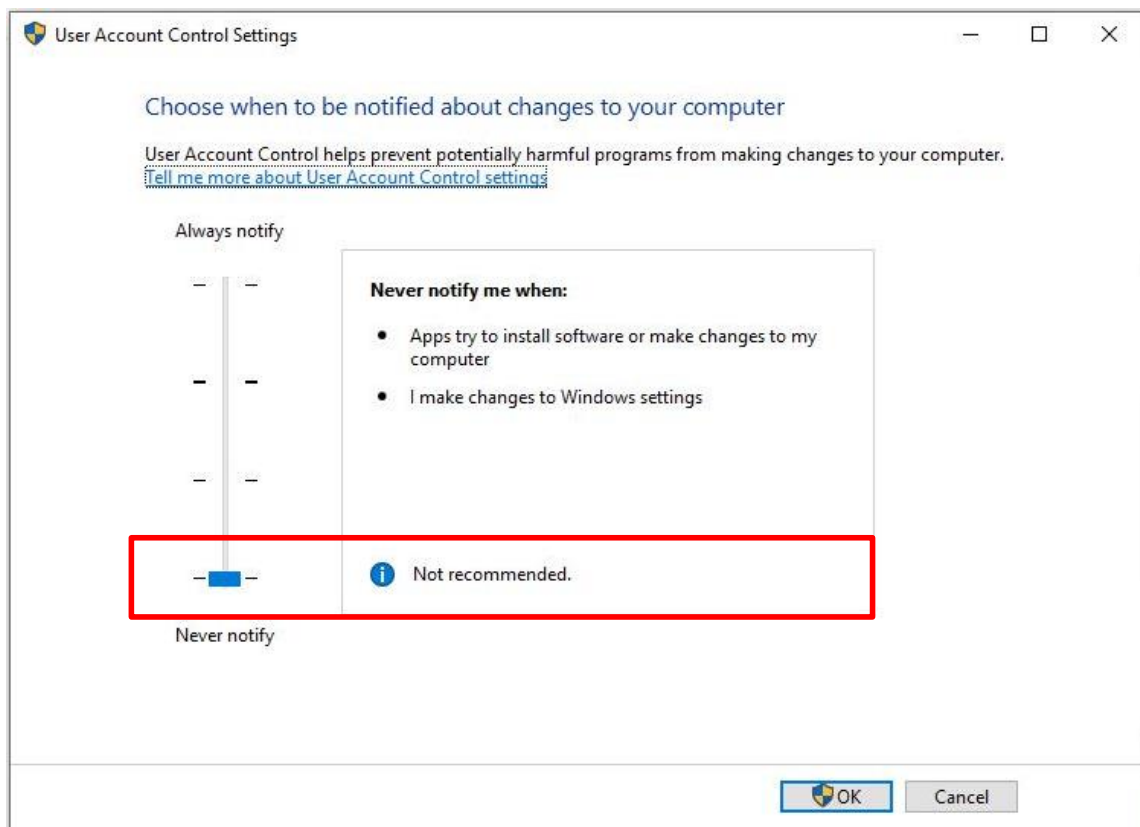
## C. Windows 程式設定及測試說明：

### C1.Windows 環境設定.

1.發散套件安裝: 請先安裝 Microsoft Visual C++ 2005 發散套件 vc2005\_x86\_EN.exe



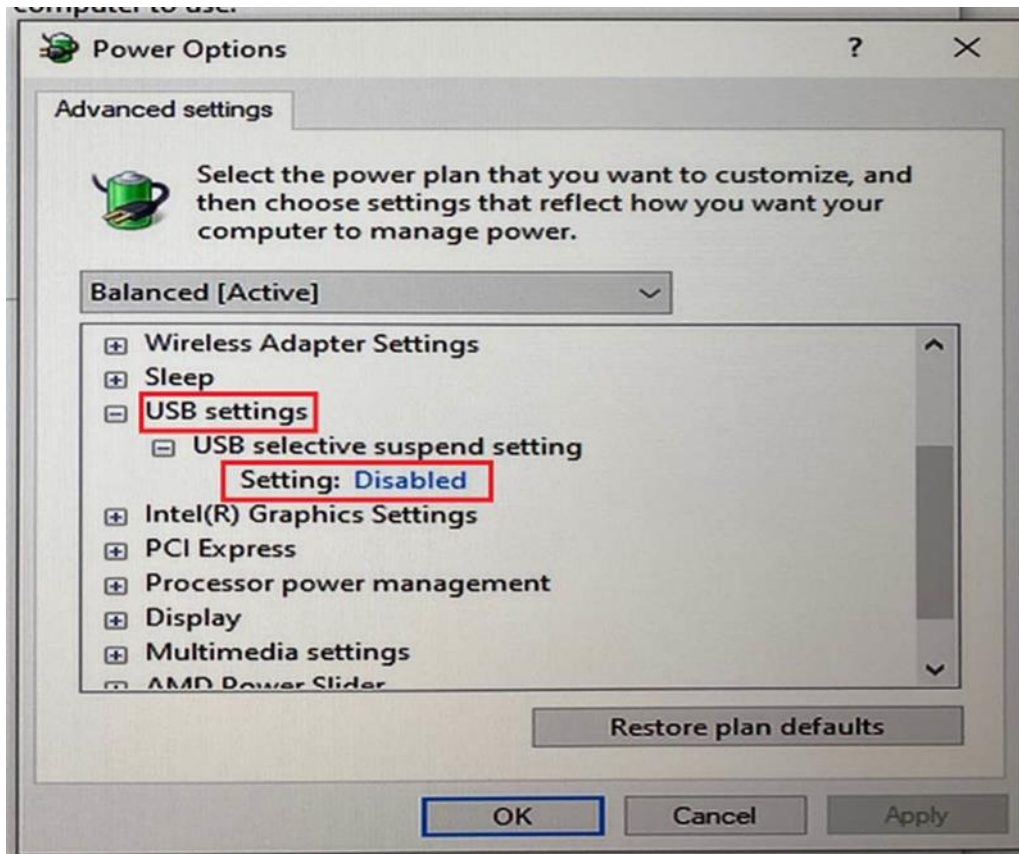
2.UAC(使用者帳戶控制)權限拉到最低



### 3. 關閉 USB 省電模式

進入 Power Options -> Change plan Settings -> Change advanced power settings

-> USB settings -> USB selective suspend setting -> Setting: **Disabled**



## C2.程式 Config.cfg 檔設定.

主要用於設定 PCIE 比對 Sample.dat 資訊檔的路徑.

```
CONFIG - Notepad
File Edit Format View Help
[VFYITEM]
VFYMODE=1 VFYMODE=1, 檔案比對模式，請保持設定為 1
FILENAME=C:\TSTM2ASM\sample.dat 設定比對 Sample.dat 檔路徑
SKIPADDR=0
SKIPVDID=0 預留特殊功能，請勿變動。(預設 0)
```

## C3.程式 SYSTEM.INI 檔設定.

```
SYSTEM - Notepad
File Edit Format View Help
[EXECUTE]
AUTORUN=0 程式開啟即自動測試：設定 1 開啟自動測試；0 關閉
STOPEND=0 測試完成自動關閉畫面結束：設定 1 關閉畫面；0 保留畫面
SETUPSET=1 設定 1 開啟程式比對檔設定；0 關閉。建議設定完成改為 0 避免測試人員誤設定.
Debug Mode=0 程式除錯模式，設定 1 開啟；0 關閉

[PATH]
PATH=C:\TSTM2ASM\ 設定程式路徑位置
LOG_PATH=C:\TSTM2ASM\LOG\result.log 設定 TEST LOG 路徑位置

[ERRORCODE]
ERRORCODE=MATF0F 預設不良代碼，可依需求變更

[ITEM]
ITEM=TST-M2ASM Card check

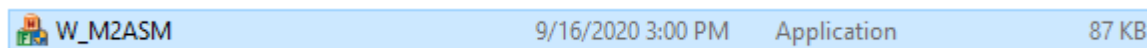
[MULTI]
WINIO=on

[EXECUTE]
```



#### C4.Windows 測試程式畫面說明.

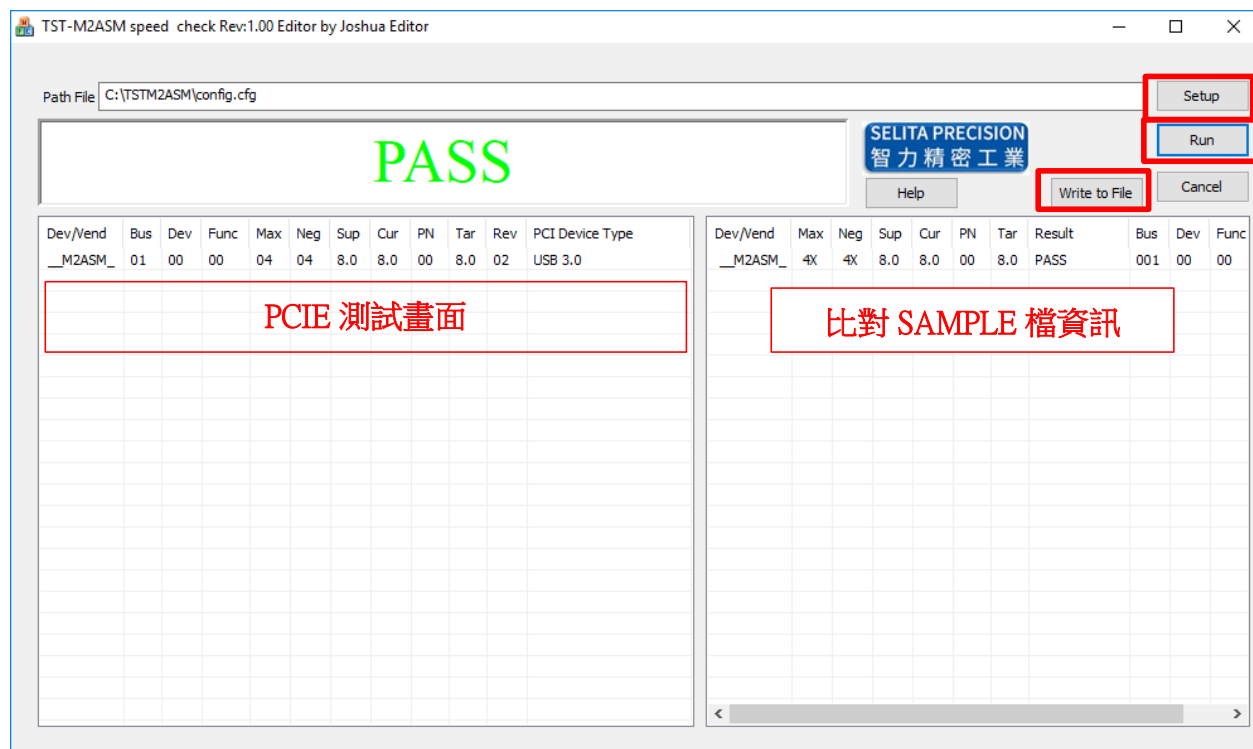
主程式=W\_M2ASM.exe



『Setup』 = 設定 config.cfg 路徑 (SYSTEM.INI SETUPSET 需設為 1)

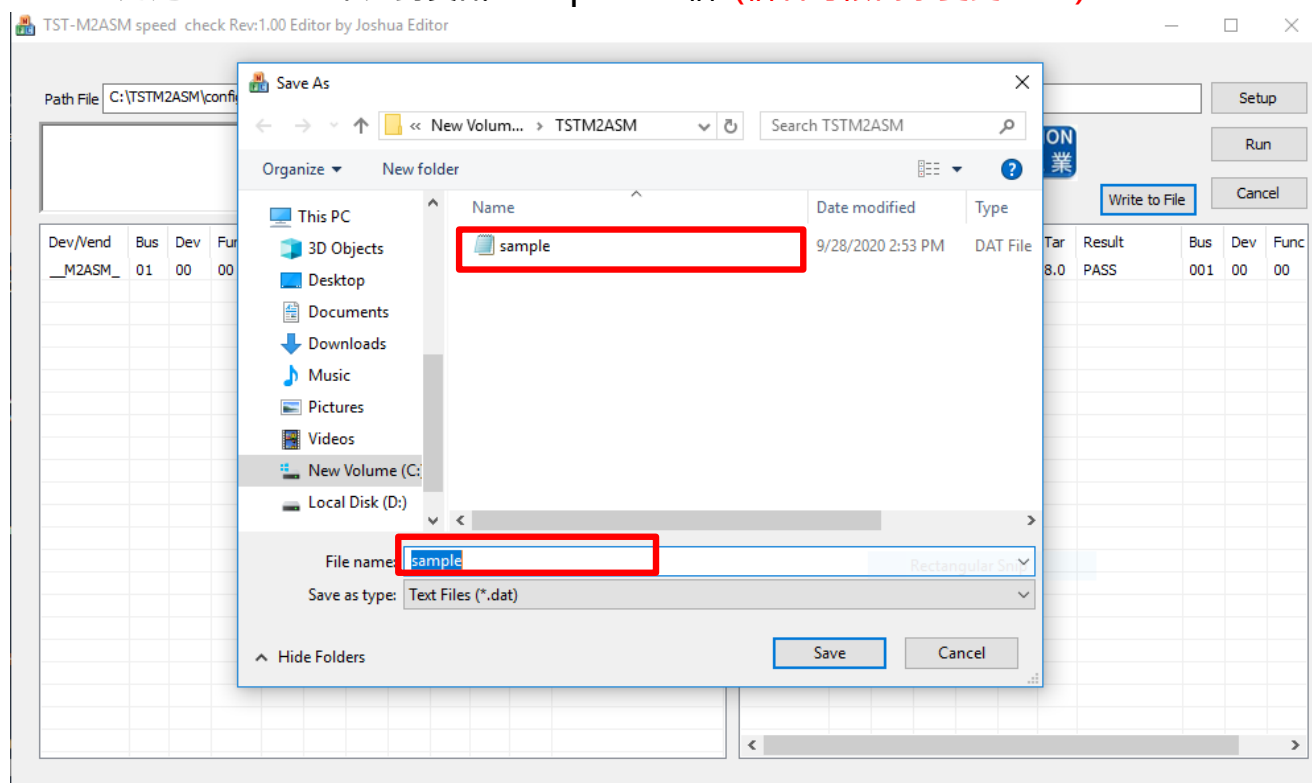
『Write to File』 = 將抓取結果建立至 sample.dat 檔. (SYSTEM.INI SETUPSET 需設為 1)

『Run』 = 開始測試

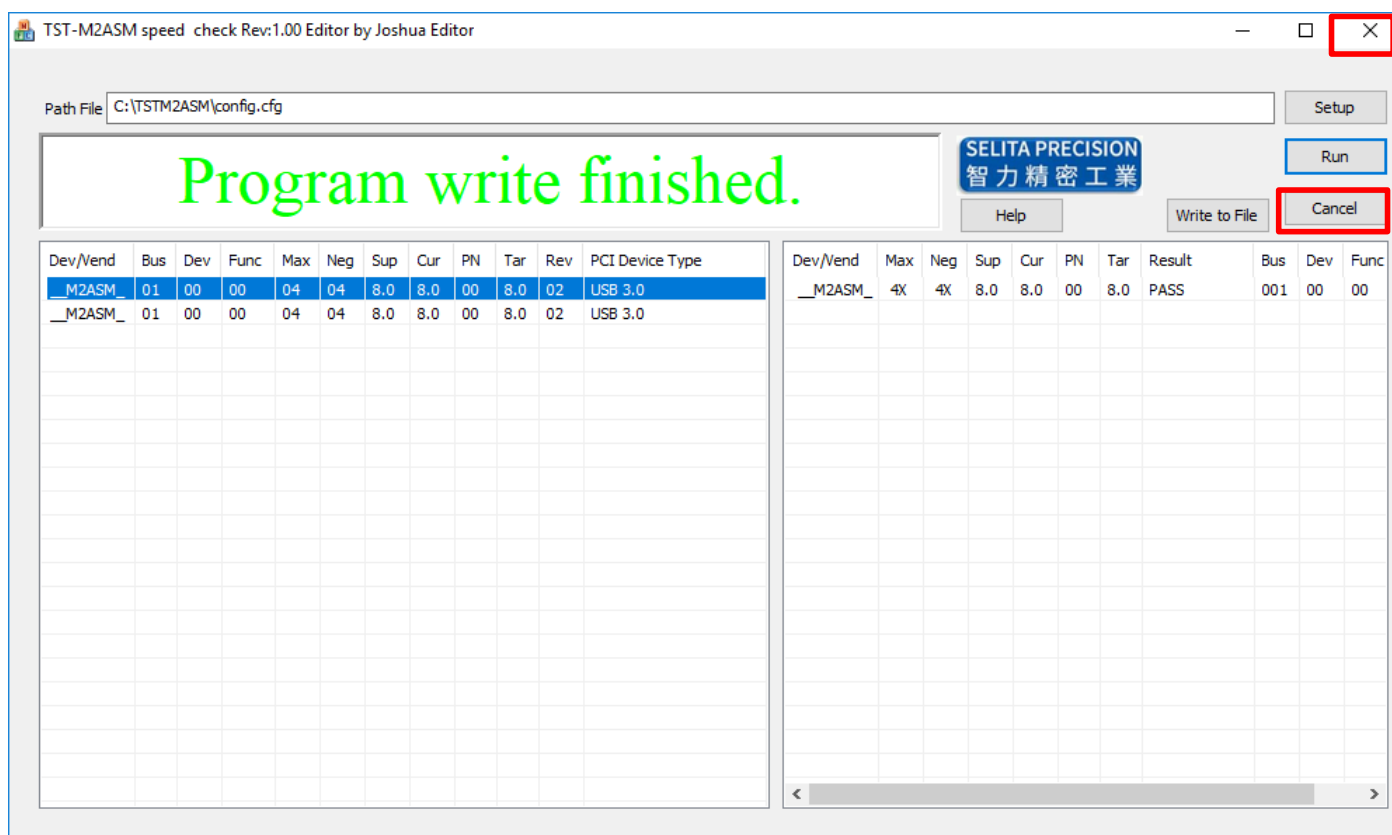


#### C5.測試步驟.

1. 先建立 PCIE 正確比對資訊 sample.dat 檔. (檔名可依需求變更\*.dat)



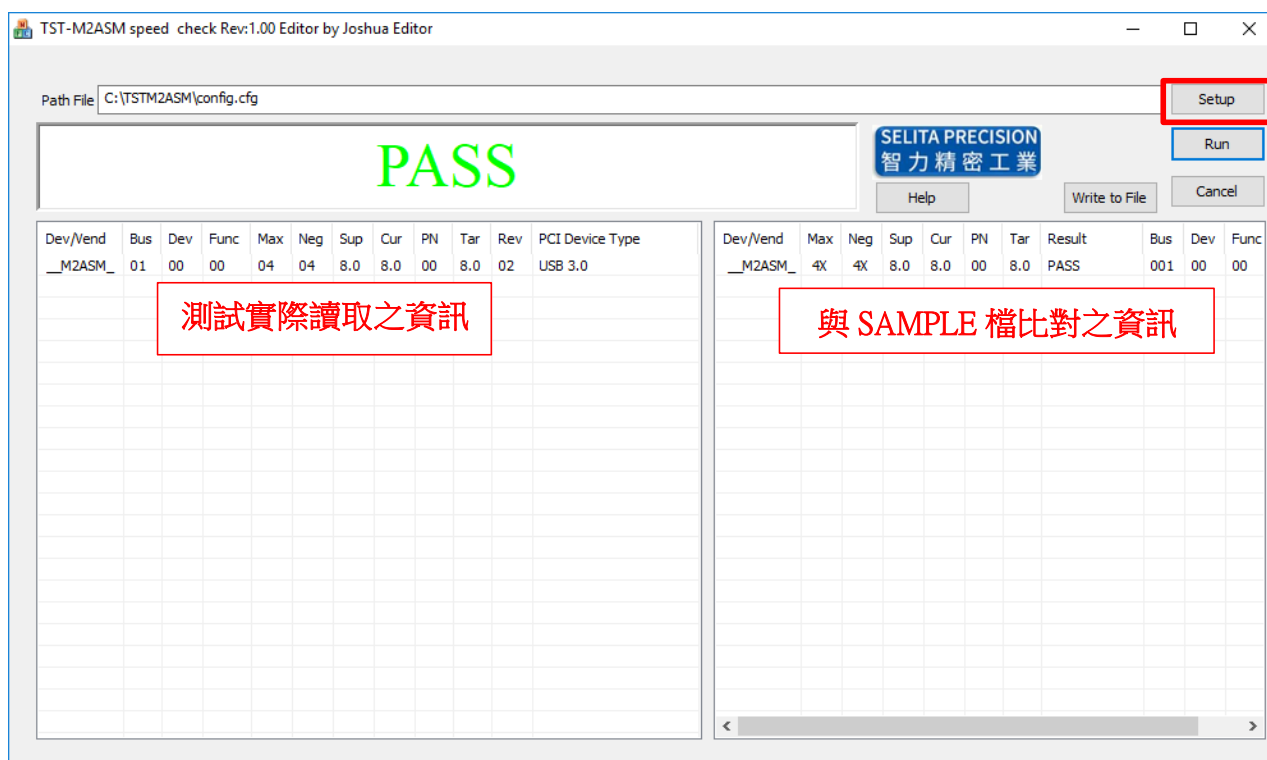
2. sample 檔建立完成後請先關掉程式。



3. 開啟程式按下『Run』執行測試。

(SYSTEM.INI 設定 AUTORUN=1 開啟程式即會自動測試)

測試結果 PASS 畫面。



## 測試結果 FAIL 畫面.

TST-M2ASM speed check Rev:1.00 Editor by Joshua Editor

Path File: C:\TSTM2ASM\config.cfg

Setup Run Write to File Cancel Help

**FAIL**

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Dev/Vend	Bus	Dev	Func	Max	Neg	Sup	Cur	PN	Tar	Rev	PCI Device Type
__M2ASM	04	00	00	04	04	8.0	8.0	00	8.0	02	USB 3.0

測試實際讀取之資訊

nd	Max	Neg	Sup	Cur	PN	Tar	Result	Bus	Dev	Func	Rev
SM_	4X	4X	8.0	8.0	00	8.0	ADDR FAIL	001	00	00	02

與 SAMPLE 檔比對之資訊