

# **AW-CU300 EVB User Guide**

**(PCB 2223 Ver:I1,I2)**

**V0.2**

2015/06/12

Kai. Wu

# Relative Software

## Application Software

- FTDI VCP Drivers (FT2232D)
- Libusb-win32-bin-1.2.6.0
- Cygwin

## Set-up Procedure

1. Download FTDI VCP Drivers (FT2232D)
2. Download Libusb-win32-bin-1.2.6.0
3. Set Up CU277 EVB for Windows
4. Install FTDI VCP Drivers
5. Install Libusb-win32-bin-1.2.6.0
6. Install Cygwin
7. Insert file “OpenOCD.zip”
8. Burning MCU Image with normal firmware
9. Run WIFI Normal Driver
10. Burning MCU Image with MFG firmware
11. Run WIFI/BT MFG tool

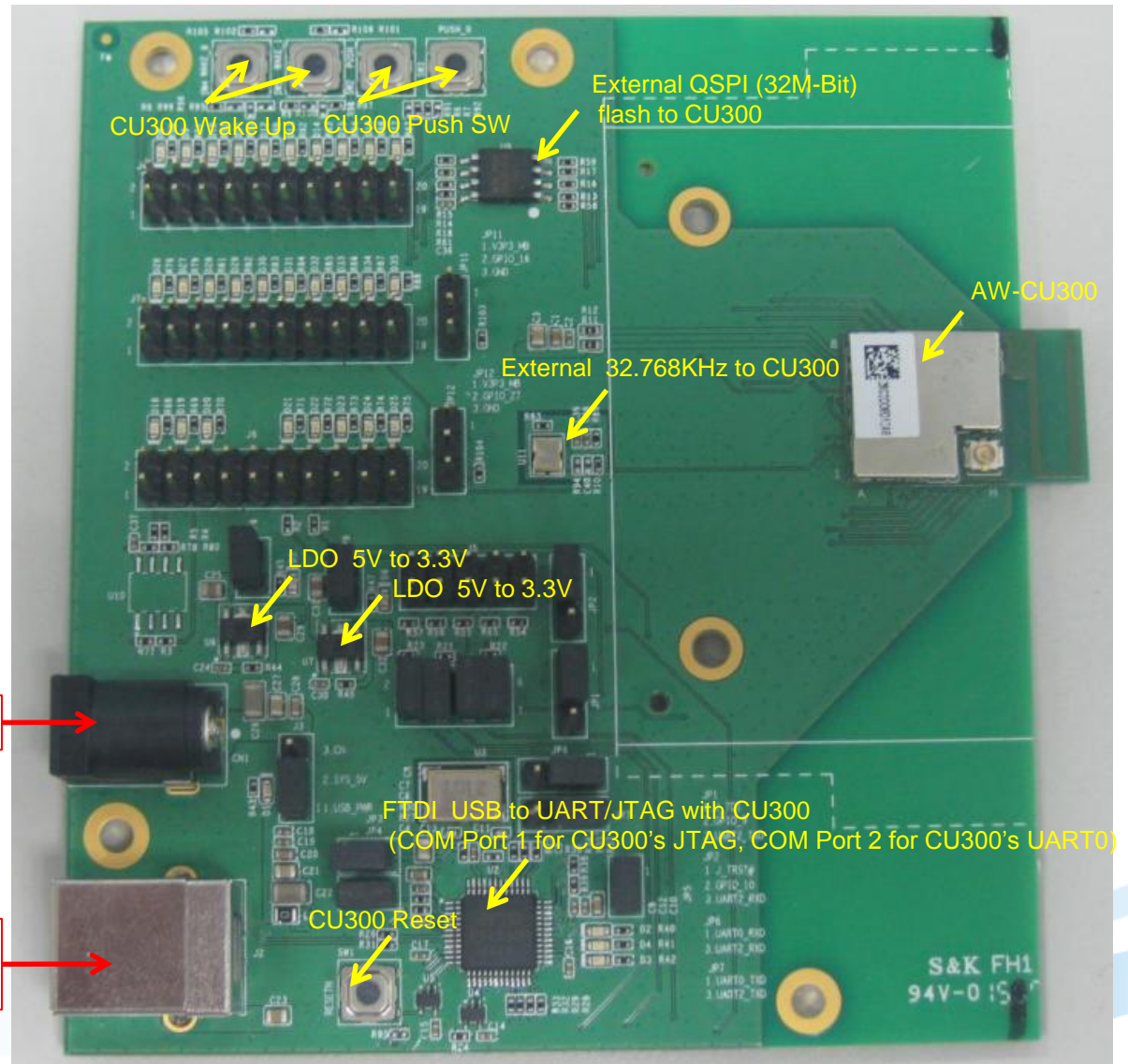
# Relative Hardware I1

## EVB Power Supply Option:

1. USB B-type 5V Input
2. Power Jack 5V Input  
(If the USB B-type driving force shortage)

Power Jack 5V Input

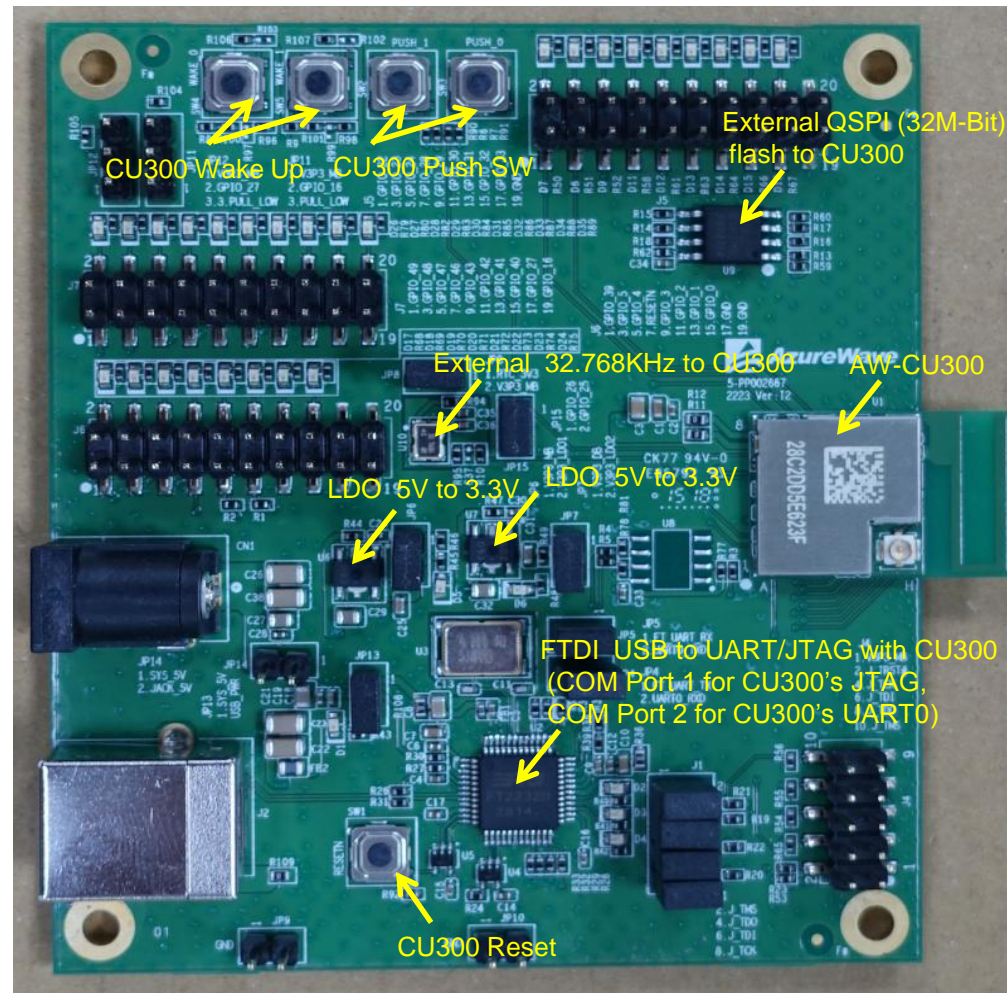
USB B-type 5V Input



# Relative Hardware I2

## EVB Power Supply Option:

1. USB B-type 5V Input
2. Power Jack 5V Input  
(If the USB B-type driving force shortage)



Power Jack 5V Input

USB B-type  
5V Input

# 1. Download FTDI VCP Drivers (FT2232D)

Install the driver manually. You can get the driver from FTDI's web site.

<http://www.ftdichip.com/Drivers/VCP.htm>

Currently Supported VCP Drivers:

Operating System	Release Date	Processor Architecture							Comments
		x86 (32-bit)	x64 (64-bit)	PPC	ARM	MIPSII	MIPSIV	SH4	
Windows	2014-02-21	<a href="#">2.10.00</a>	<a href="#">2.10.00</a>	-	-	-	-	-	2.10.00 WHQL Certified Available as setup executable <a href="#">Release Notes</a>

## 2. Download Libusb-win32

You can get the driver from libusb-win32's web site.

<http://sourceforge.net/projects/libusb-win32>

Home / Browse / Software Development / libusb-win32 /

### libusb-win32


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 Tweet < 4

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 讚 < 23

sf

Download

libusb-win32-bin-1.2.6.0.zip

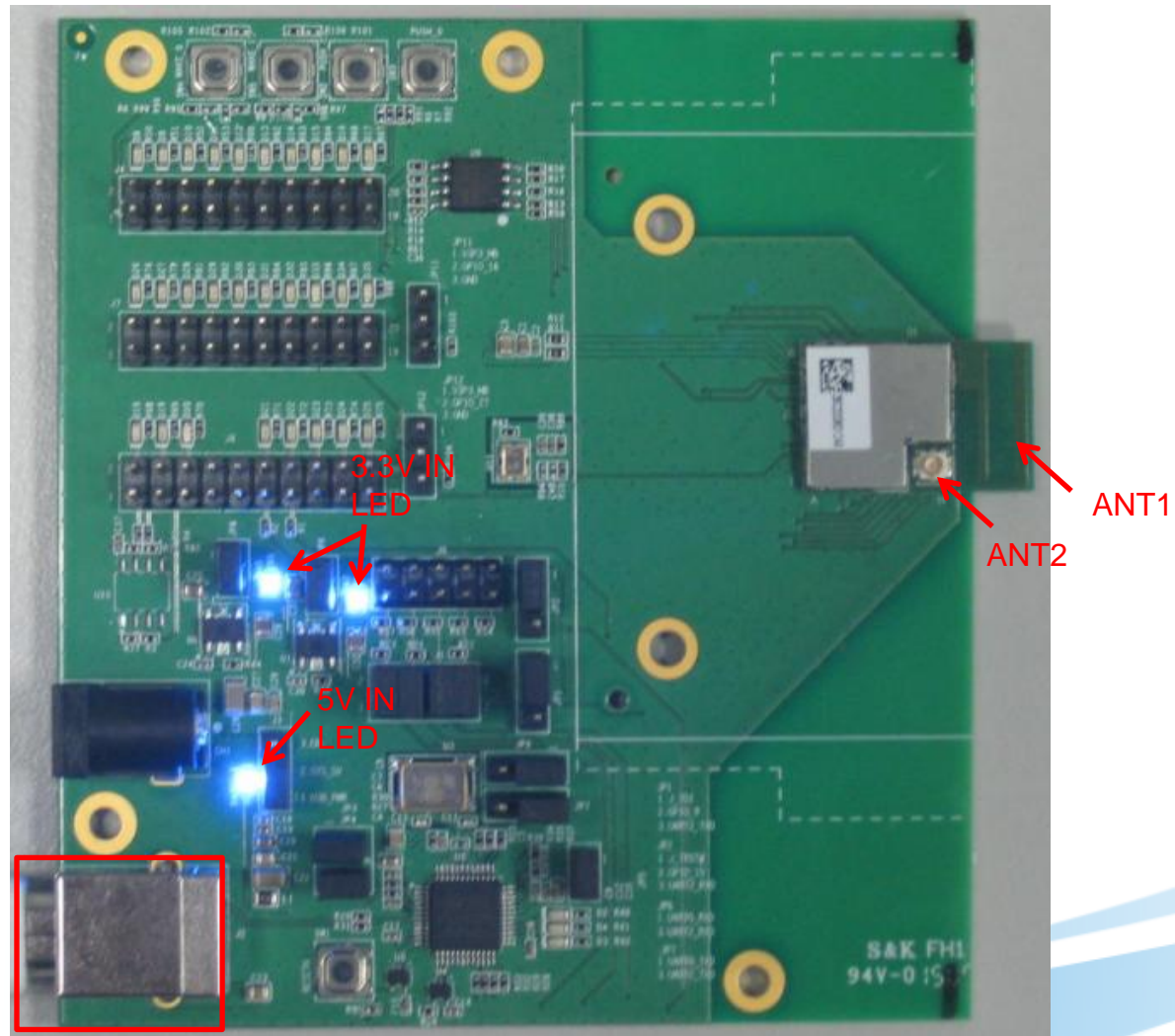


[Browse All Files](#)

# 3. Set Up CU300 EVB I1 for Windows

The USB port (B type) connects the CU300 evaluation board to the PC.

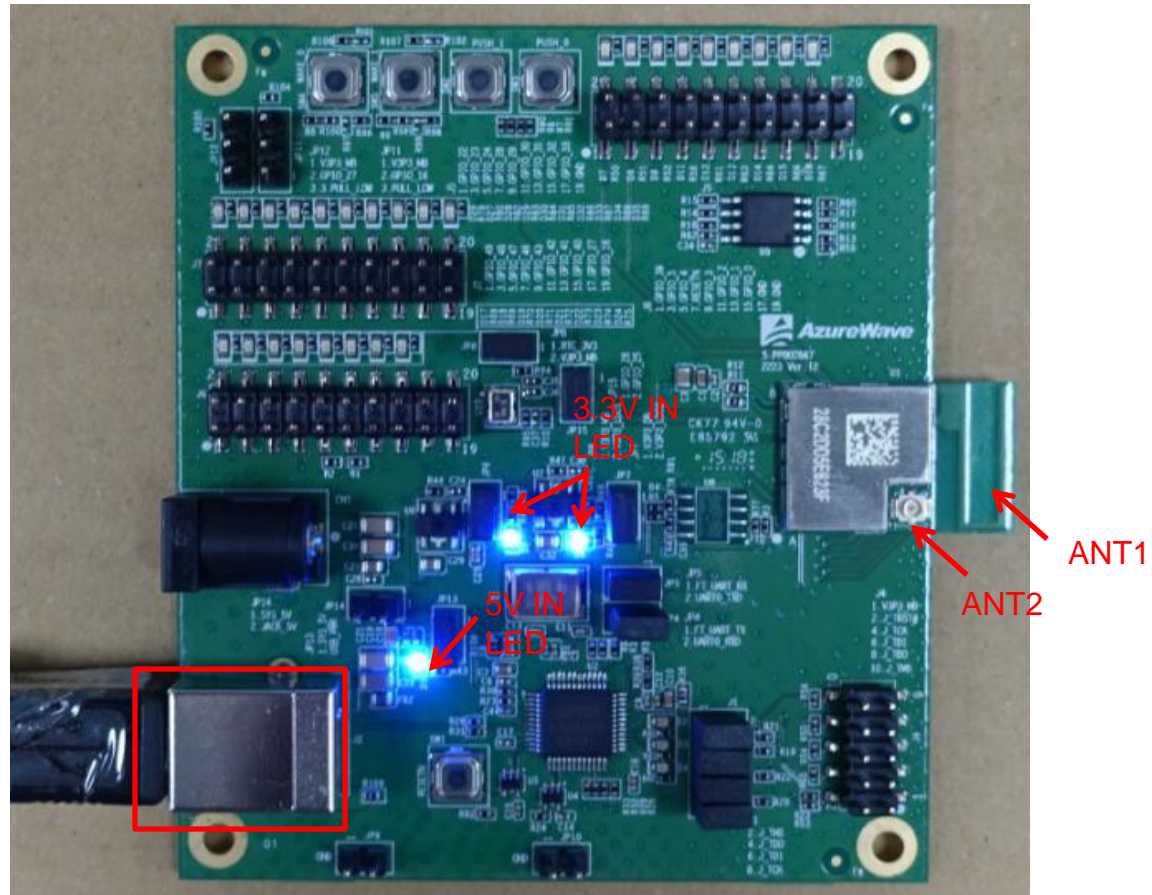
Please refer to “AW-CU300 EVB I1’s PCB Info” document.



# 3. Set Up CU300 EVB I2 for Windows

The USB port (B type) connects the CU300 evaluation board to the PC.

Please refer to “AW-CU300 EVB I2’s PCB Info” document.





# 4-1. Install FTDI VCP Drivers

**尋找新增硬體精靈**

這個精靈協助您安裝軟體於：  
Dual RS232-HS

如果您的硬體附有安裝 CD 或磁片，現在將它插入。

您要精靈執行什麼工作？

- 自動安裝軟體 (建議選項) (A)
- 從清單或特定位置安裝 (進階) (S)

請按 [下一步] 繼續。

< 上一步 (B)   下一步 (N) >   取消

**硬體更新精靈**

請選擇您的搜尋和安裝選項。

- 在這些位置中搜尋最好的驅動程式 (S)  
使用下列複取方塊來限制或擴充包括本機路徑和可卸式媒體的預設搜尋，將安裝找到的最佳驅動程式。
- 搜尋可卸式媒體 (軟碟, CD-ROM...) (M)
- 搜尋時包括這個位置 (O):  
D:\usb\_driver4   瀏覽 (B)
- 不要搜尋, 我將選擇要安裝的驅動程式 (D)  
選擇這個選項來從清單中選取裝置驅動程式。Windows 不保證您所選取的驅動程式最符合您的硬體。

< 上一步 (B)   下一步 (N) >   取消

**瀏覽資料夾**

選擇包含您的硬體的資料夾。

- Application form
- CDM v2.10.00 WHQL Certified
- amd64
- i386
- Static
- DESK

要瀏覽任何子資料夾，請按上述 + 號。

確定   取消

**尋找新增硬體精靈**

完成尋找新增硬體精靈

這個精靈安裝了軟體於：  
USB Serial Converter A

按 [完成] 關閉精靈。

**DONE**

< 上一步 (B)   完成   取消

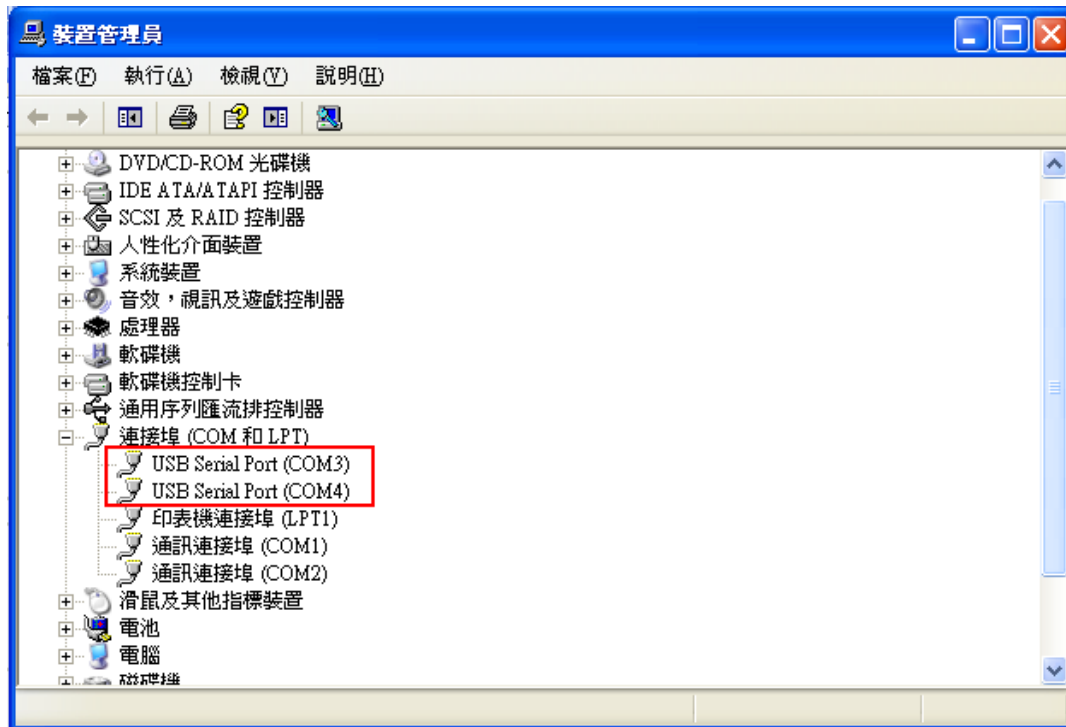
# 4-2. Install FTDI VCP Drivers

## Verifying Driver Installation:

To verify that driver installation has completed successfully, you can open the **“Device Manager”** (right-click My Computer, select Properties).

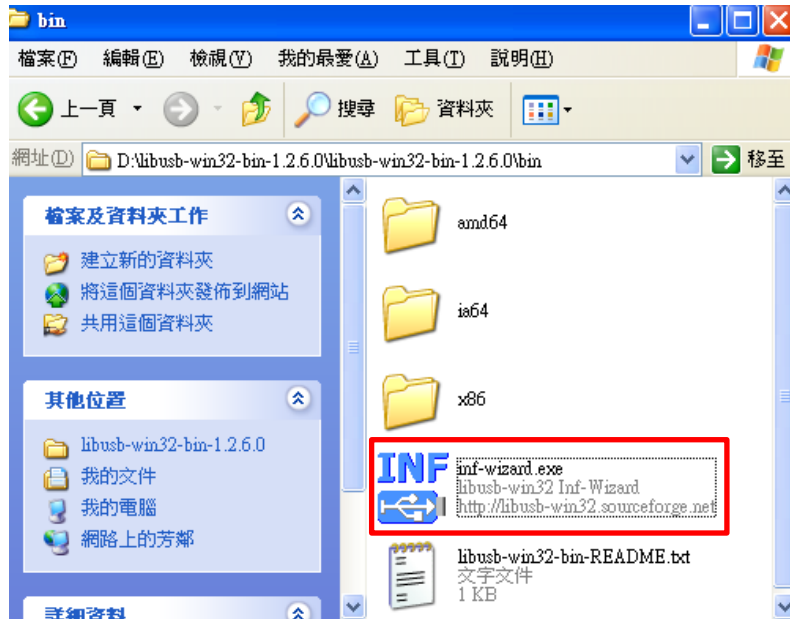
In the **System Properties** windows, select Hardware, Device Manager.

Two **“USB Serial Port”** should be listed under MY-PC\Ports (COM & LPT)

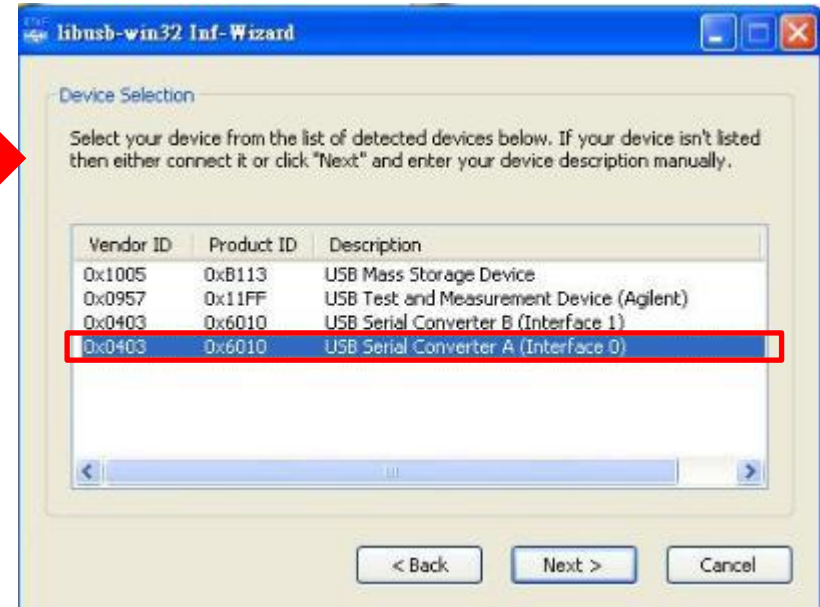


# 5-1. Install Libusb-win32

## Install inf-wizard:



## USB Serial Converter A (Interface 0)



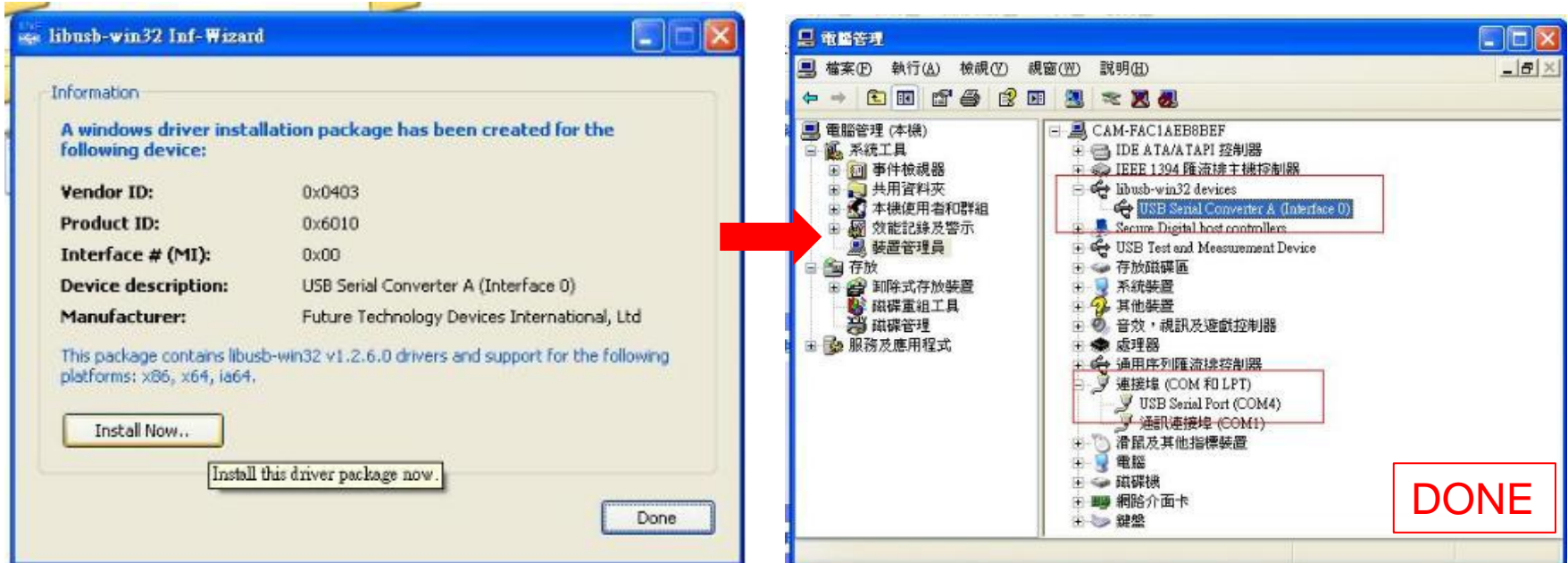
## 5-2. Install Libusb-win32

### Verifying Driver Installation:

To verify that driver installation has completed successfully, you can open the **“Device Manager”** (right-click My Computer, select Properties).

In the **System Properties** windows, select Hardware, Device Manager.

One **“USB Serial Converter A”** should be listed under MY-PC\Ports (lib usb-win32 devices)



# 6-1. Install Cygwin

## Install Cygwin:

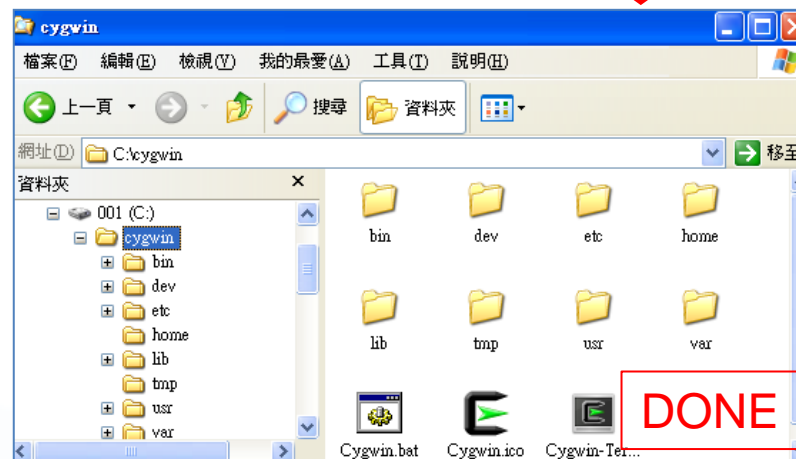
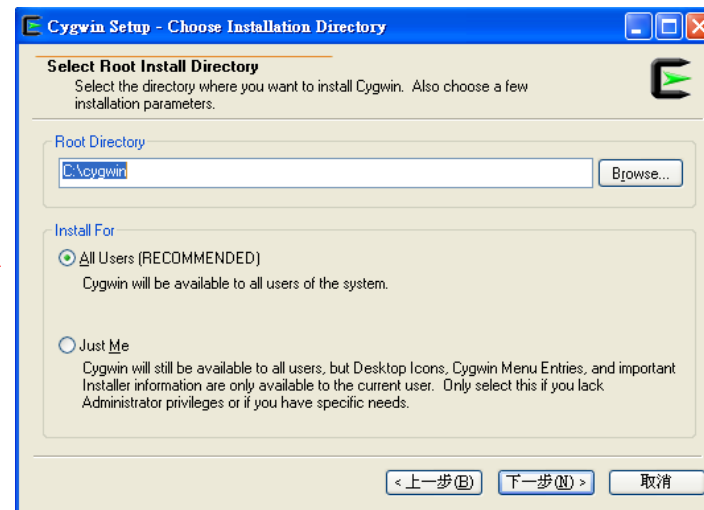
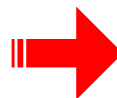
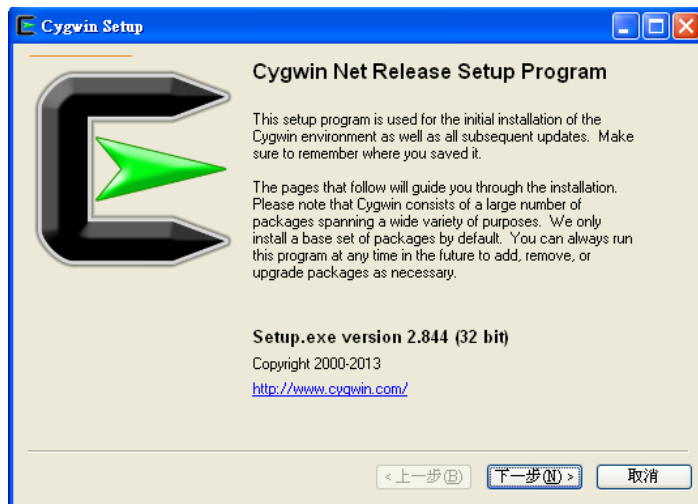
1. Install Cygwin from: [http://www.cygwin.com/setup\\_x86.exe](http://www.cygwin.com/setup_x86.exe) (for x86 32-bit systems) or [http://www.cygwin.com/setup\\_x86\\_64.exe](http://www.cygwin.com/setup_x86_64.exe) (for x86 64-bit systems)
2. Select the option Install from Internet
3. Use default installation path: c:\cygwin. If you chose an alternate installation directory, please make sure that there are no spaces in the path.
4. Pick the Local Package Directory (this is the download cache directory)
5. Select the option Direct Connection
6. Select any mirror you want to use
7. Add additional packages to the default selection:

Click “Next”. The Cygwin Setup window will show the progress as each package gets installed.

### Note:

If you are not familiar with cygwin, please visit <http://cygwin.com/> for additional information and details. In particular, the Cygwin User Guide (<http://cygwin.com/cygwin-ug-net/>) is a good resource for new users.

# 6-2. Install Cygwin



# 7-1. Insert file “OpenOCD.zip”

Unzip “CU300\_OpenOCD.zip” and put “readelf.exe” to C:\cygwin\bin

網址(C:) C:\cygwin\bin

檔案及資料夾工作

- 將這個檔案重新命名
- 移動這個檔案
- 複製這個檔案
- 將這個檔案發佈到網站
- 以電子郵件傳送這個檔案
- 刪除這個檔案

其他位置

- cygwin
- 我的文件
- 共用文件
- 我的電腦
- 網路上的芳鄰

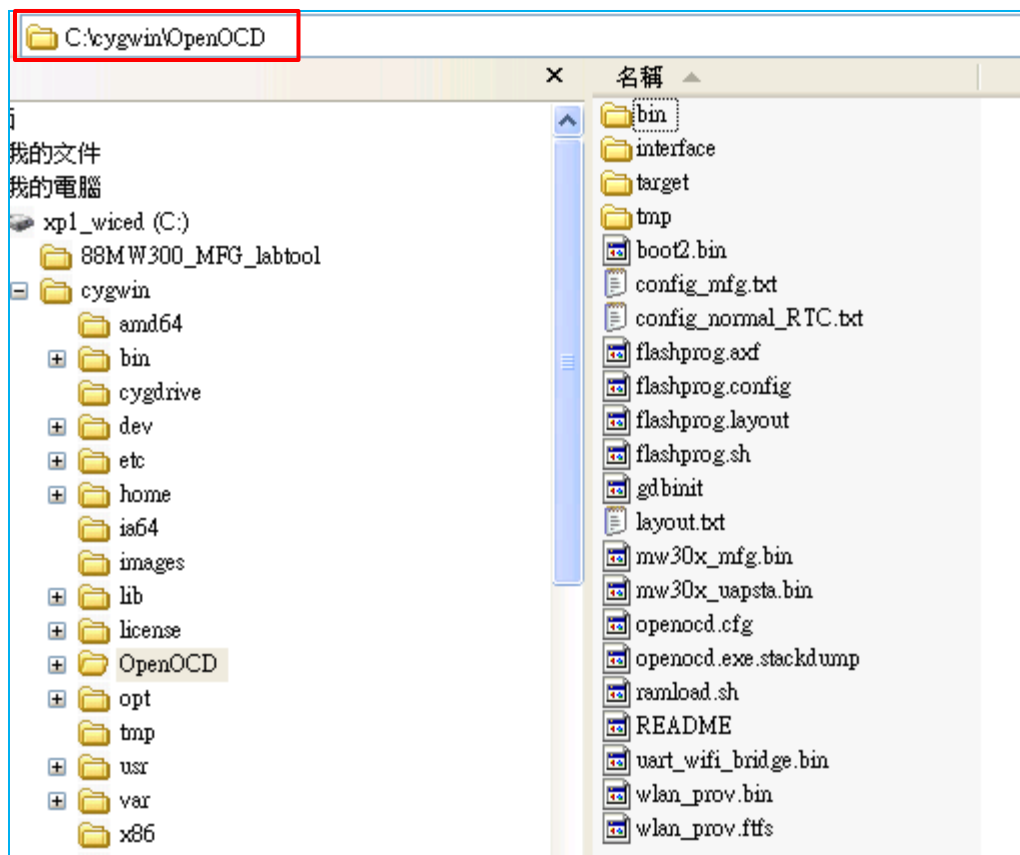
詳細資料

**readelf.exe**  
應用程式  
修改日期: 2012年3月28日, 上午 02:36  
大小: 344 KB

名稱	大小	類型	修改日期
pydoc3.2	1 KB	2 檔案	2012/7/24 上午 04:50
pygettext.py	22 KB	PY 檔案	2012/6/9 下午 11:35
pyobject-codegen-2.0	1 KB	0 檔案	2011/11/16 上午 10:...
pygtk-codegen-2.0	1 KB	0 檔案	2011/4/29 下午 02:39
pygtk-demo	1 KB	檔案	2011/4/29 下午 02:39
pyhtmlizer	1 KB	檔案	2012/3/19 下午 04:27
pyrexc	1 KB	檔案	2010/5/27 上午 08:38
python	1 KB	系統檔案	2012/10/18 下午 01:...
python2.6.exe	5 KB	應用程式	2012/6/9 下午 11:35
python2.6-config	2 KB	6-CONFIG 檔案	2012/6/9 下午 11:35
python3	1 KB	系統檔案	2012/10/18 下午 01:...
python3.2	1 KB	2 檔案	2012/10/18 下午 01:...
python3.2m.exe	7 KB	應用程式	2012/7/24 上午 04:50
python3.2m-config	2 KB	2M-CONFIG 檔案	2012/7/24 上午 04:50
python3-config	1 KB	系統檔案	2012/10/18 下午 01:...
python-config	1 KB	系統檔案	2012/10/18 下午 01:...
R	9 KB	檔案	2012/6/23 上午 05:23
ramload.sh	1 KB	SH 檔案	2013/5/28 下午 04:33
ramload.sh.bak	1 KB	BAK 檔案	2012/12/7 下午 06:17
ranlib.exe	645 KB	應用程式	2012/3/28 上午 02:36
rcs2log	1 KB	系統檔案	2013/10/17 下午 02:...
readcd	1 KB	系統檔案	2013/10/17 下午 02:...
<b>readelf.exe</b>	345 KB	應用程式	2012/3/28 上午 02:36
readlink.exe	27 KB	應用程式	2012/2/6 下午 09:59
README	4 KB	檔案	2012/12/7 下午 06:17
readshortcut.exe	14 KB	應用程式	2012/4/14 上午 09:50

## 7-2. Insert file “OpenOCD.zip”

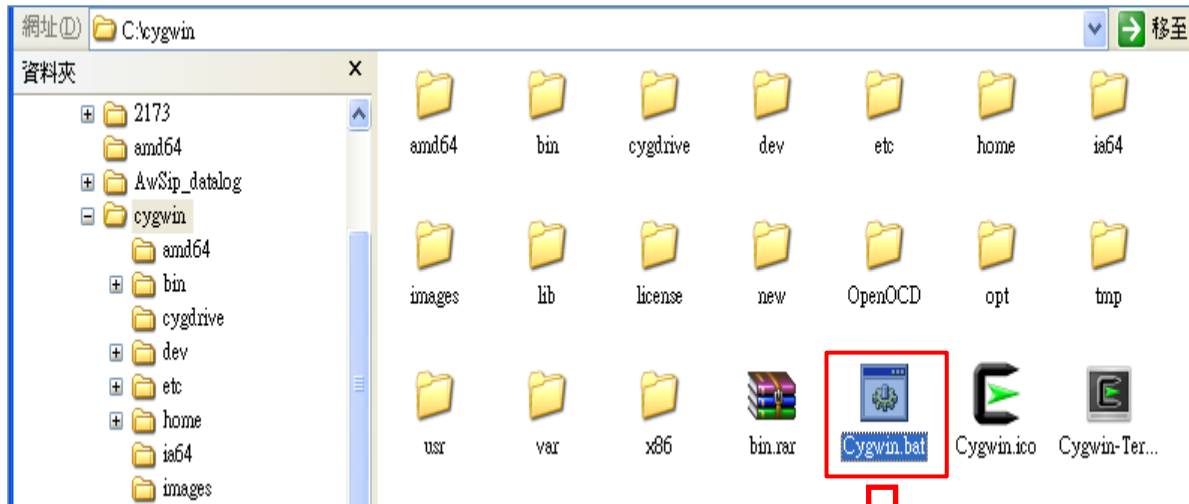
Unzip “CU300\_OpenOCD.zip” and put them to C:\cygwin\





# 7-3. Insert file “OpenOCD.zip”

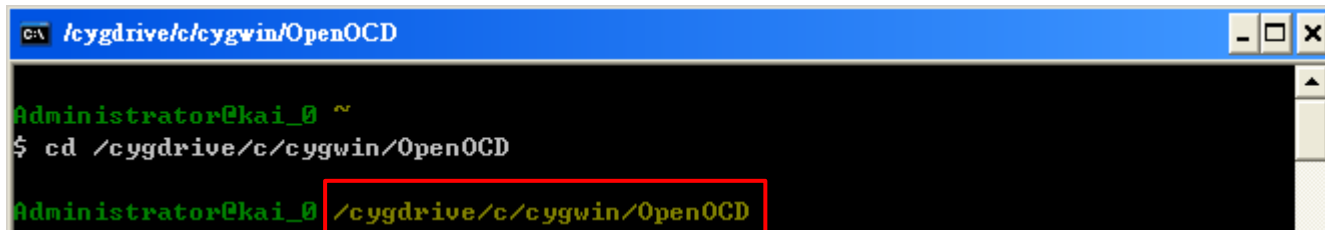
## Process C:\cygwin\Cygwin.bat



```
C:\ /cygdrive/c/cygwin/OpenOCD
Administrator@kai_0 ~
$ cd /cygdrive/c/cygwin/OpenOCD
Administrator@kai_0 /cygdrive/c/cygwin/OpenOCD
```

## 7-4. Insert file “OpenOCD.zip”

Key in command : `cd /cygdrive/c/cygwin/OpenOCD`

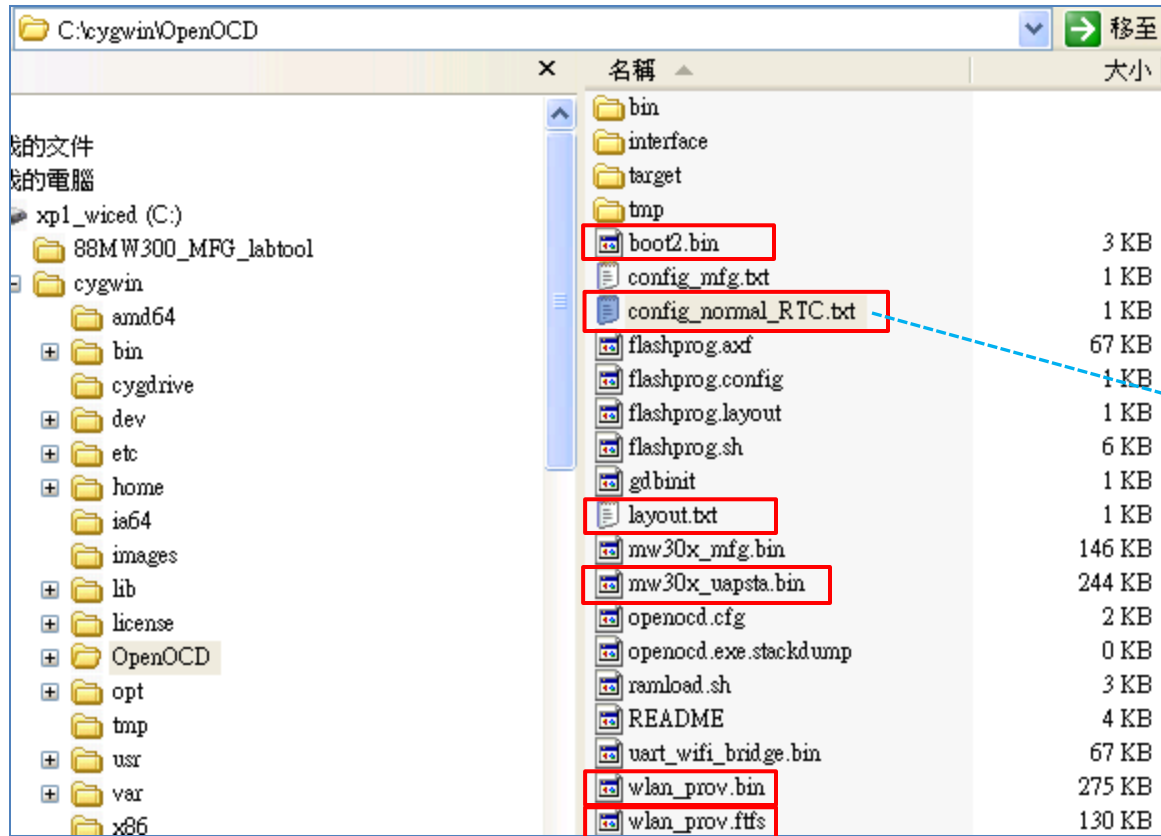


```
C:\ /cygdrive/c/cygwin/OpenOCD
Administrator@kai_0 ~
$ cd /cygdrive/c/cygwin/OpenOCD
Administrator@kai_0 /cygdrive/c/cygwin/OpenOCD
```

Check the path is correct

# 8-1. Burning Normal F/W

Check config\_normal\_RTC.txt, layout.txt ... 6 files in the OpenOCD folder



Check path name



## 8-2. Burning Normal F/W

Key in command : `./flashprog.sh -l layout.txt -b config_normal_RTC.txt`

```
kai@kai-0 ~  
$ cd /cygdrive/c/cygwin/OpenOCD  
kai@kai-0 /cygdrive/c/cygwin/OpenOCD  
$ ./flashprog.sh -l layout.txt -b config_normal_RTC.txt
```

## 8-3. Burning Normal F/W

Burning information print as followed:

**Note : Please restart DUT after burning (Plug-in and Plug-out USB)**

```
C:\ /cygdrive/c/cygwin/OpenOCD
requesting target halt and executing a soft reset
target state: halted
target halted due to debug-request, current mode: Thread
xPSR: 0x01000000 pc: 0x00007f14 msp: 0x20001000
30848 bytes written at address 0x00100000
downloaded 30848 bytes in 0.250000s (120.500 KiB/s)
verified 30848 bytes in 0.406250s (74.154 KiB/s)
semihosting is enabled

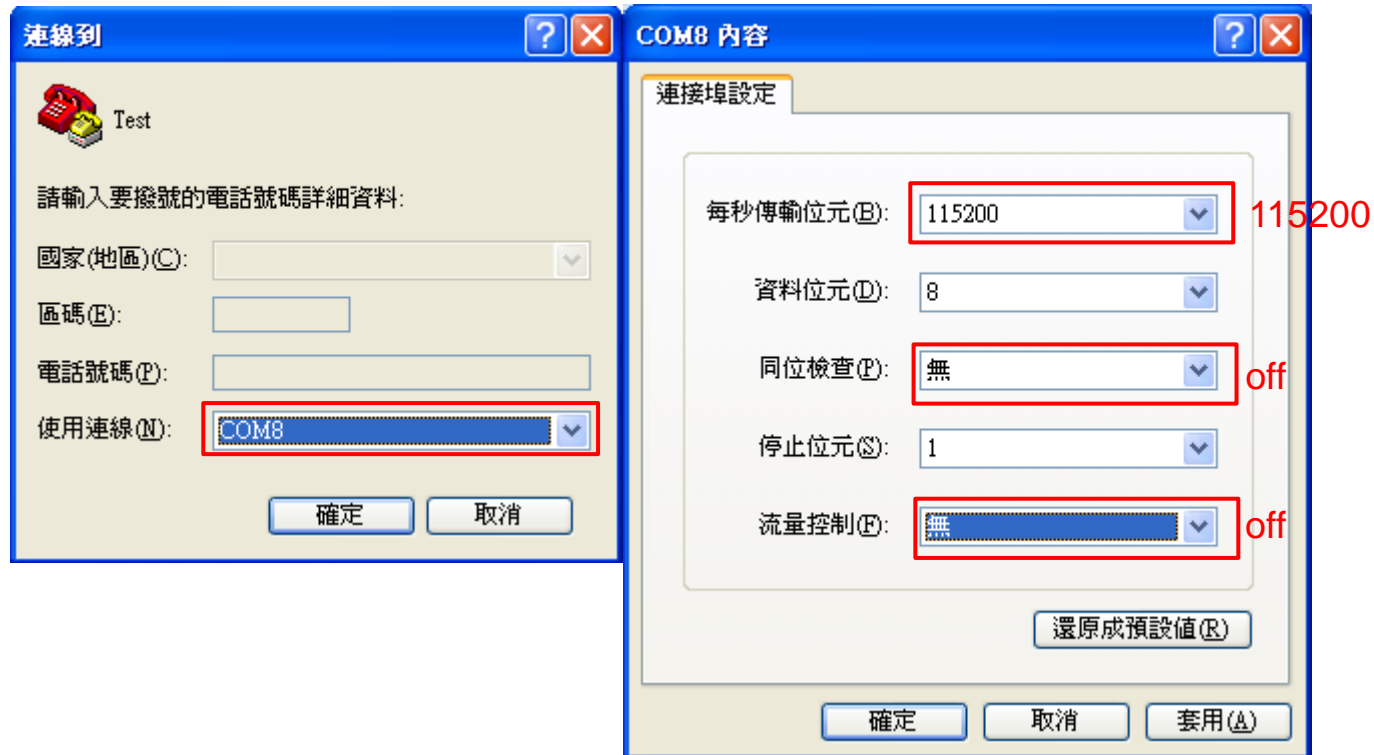
Flashprog version: 2.0.5
Erasing primary flash...done
Writing new flash layout...done
Writing "boot2" @0x0 (primary)...done
Writing "mcutfw" @0x7000 (primary).....done
Writing "ftfs" @0xb7000 (primary)....done
Writing "wififw" @0x117000 (primary).....done
Please press CTRL+C to exit.
Exiting.

Terminated

kai@kai-0 /cygdrive/c/cygwin/OpenOCD
$
```

# 9-1. Run normal F/W

Open OS terminal and set USB comport (reference to the page9 ), set baud-rate as 115200

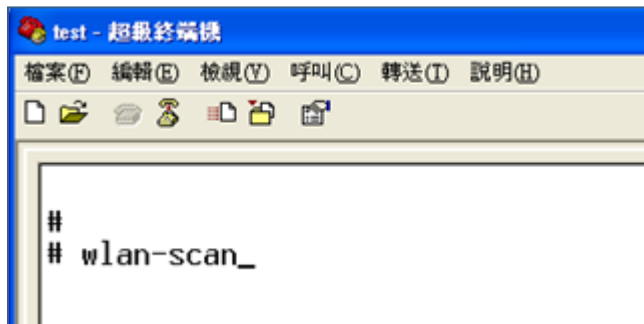


## 9-2. Run normal F/W

Enter help on the screen to see a full list of commands available for use

EX:

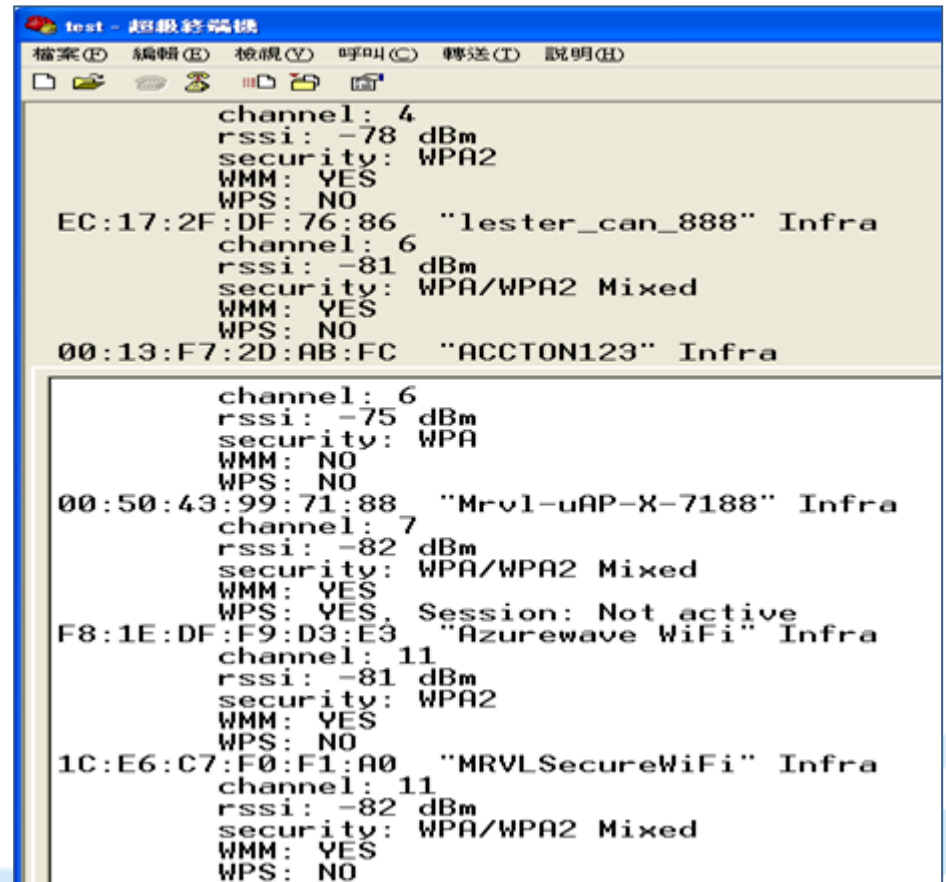
wlan-scan



```
test - 超級終端機
檔案(F) 編輯(E) 檢視(V) 呼叫(C) 轉送(T) 說明(H)
#
# wlan-scan_
```



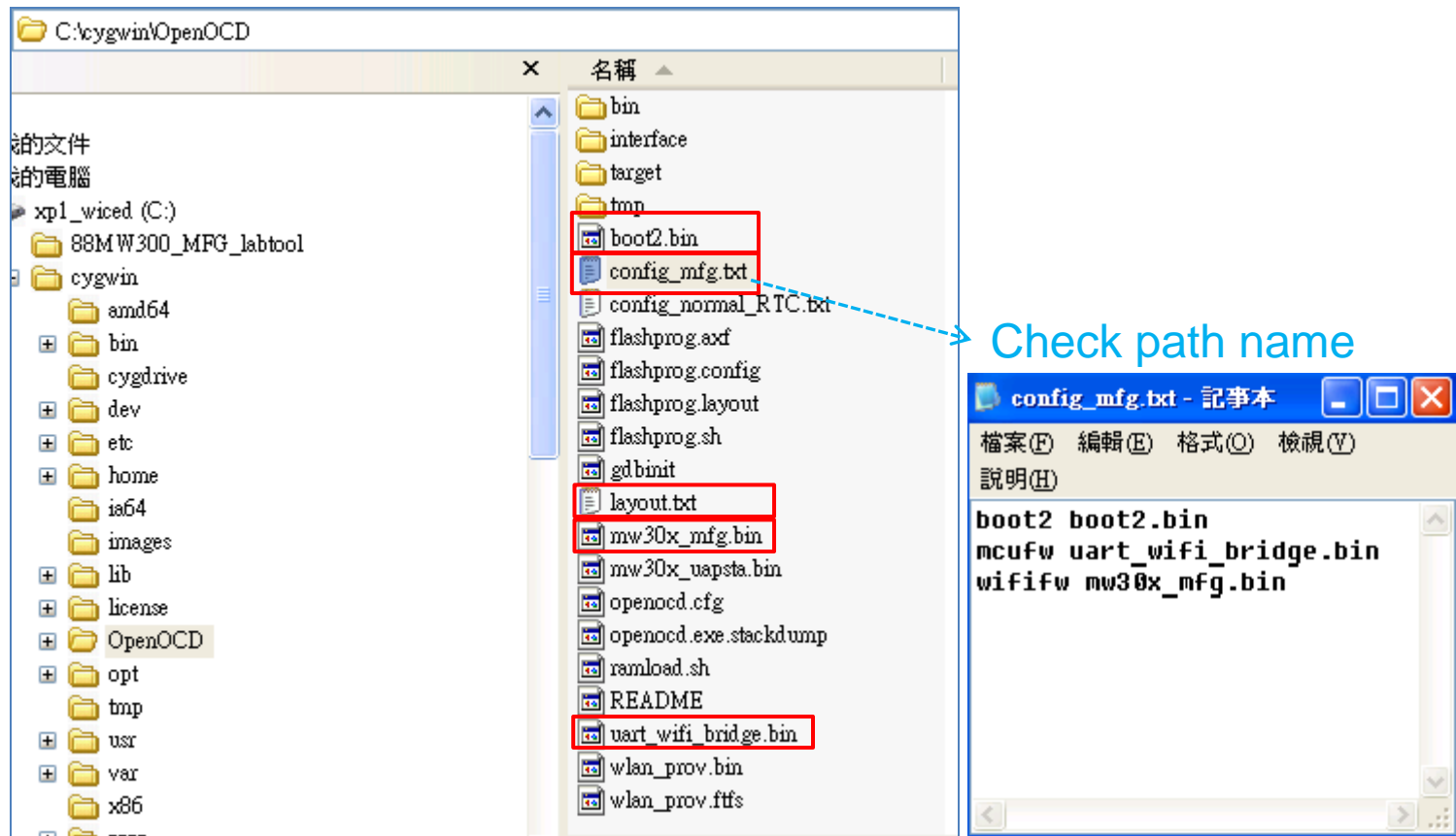
That will scan around AP



```
test - 超級終端機
檔案(F) 編輯(E) 檢視(V) 呼叫(C) 轉送(T) 說明(H)
channel: 4
rssi: -78 dBm
security: WPA2
WMM: YES
WPS: NO
EC:17:2F:DF:76:86 "lester_can_888" Infra
channel: 6
rssi: -81 dBm
security: WPA/WPA2 Mixed
WMM: YES
WPS: NO
00:13:F7:2D:AB:FC "ACCTON123" Infra
channel: 6
rssi: -75 dBm
security: WPA
WMM: NO
WPS: NO
00:50:43:99:71:88 "Mrvl-uAP-X-7188" Infra
channel: 7
rssi: -82 dBm
security: WPA/WPA2 Mixed
WMM: YES
WPS: YES, Session: Not active
F8:1E:DF:F9:D3:E3 "Azurewave WiFi" Infra
channel: 11
rssi: -81 dBm
security: WPA2
WMM: YES
WPS: NO
1C:E6:C7:F0:F1:A0 "MRVLSecureWiFi" Infra
channel: 11
rssi: -82 dBm
security: WPA/WPA2 Mixed
WMM: YES
WPS: NO
```

# 10-1. Burning MFG F/W

Check config\_mfg.txt, layout.txt ... 5files in OpenOCD folder





# 10-2. Burning MFG F/W

Command : `./flashprog.sh -l layout.txt -b config_mfg.txt`

```
kai@kai-0 ~  
$ cd /cygdrive/c/cygwin/OpenOCD  
kai@kai-0 /cygdrive/c/cygwin/OpenOCD  
$ ./flashprog.sh -l layout.txt -b config_mfg.txt
```

# 10-3. Burning MFG F/W

Burning information print as followed:

**Note : Please restart DUT after burning (Plug-in and Plug-out USB)**

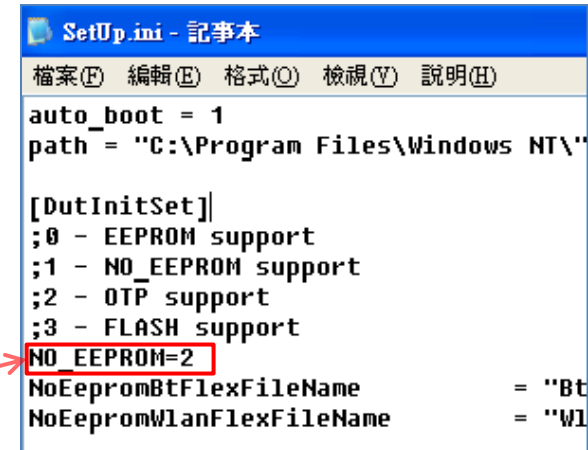
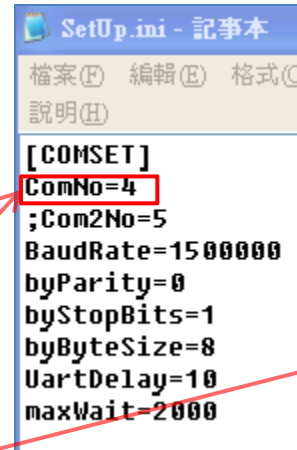
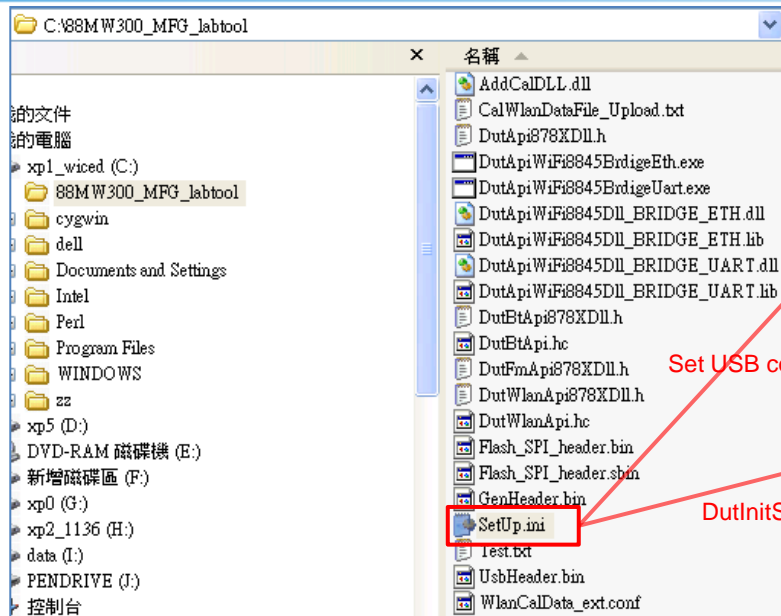
```
c:\ /cygdrive/c/cygwin/OpenOCD
xPSR: 0x01000000 pc: 0x00007f14 msp: 0x20001000
requesting target halt and executing a soft reset
target state: halted
target halted due to debug-request, current mode: Thread
xPSR: 0x01000000 pc: 0x00007f14 msp: 0x20001000
30848 bytes written at address 0x00100000
downloaded 30848 bytes in 0.296875s (101.474 KiB/s)
verified 30848 bytes in 0.531250s (56.706 KiB/s)
semihosting is enabled

Flashprog version: 2.0.5
Erasing primary flash...done
Writing new flash layout...done
Writing "boot2" @0x0 (primary)...done
Writing "mcufw" @0x7000 (primary)...done
Writing "wififw" @0x117000 (primary)....done
Please press CTRL+C to exit.
Exiting.

Terminated

kai@kai-0 /cygdrive/c/cygwin/OpenOCD
$
```

# 11-1. Run Marvel WIFI MFG tool

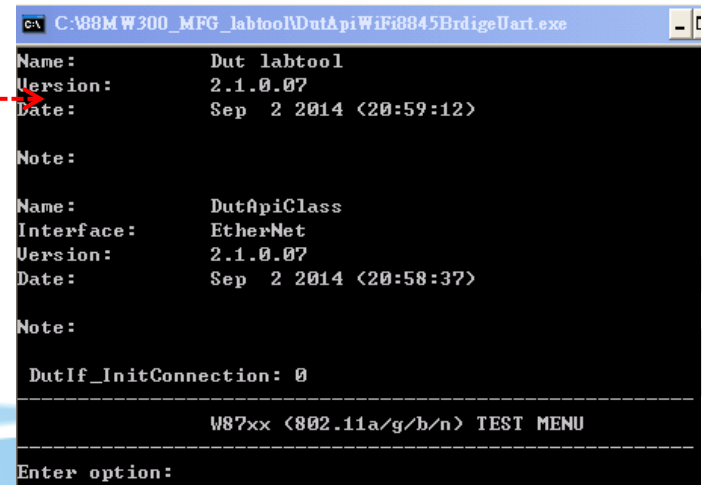
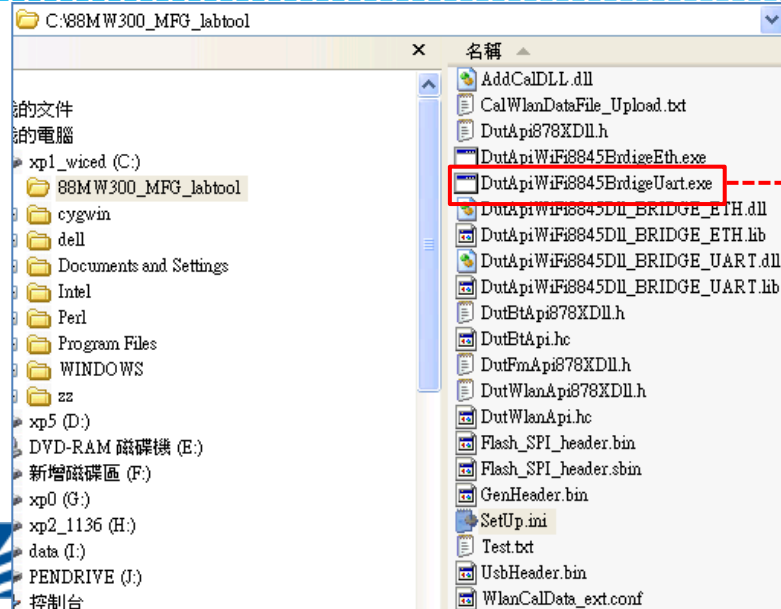


Set USB comport

DutInitSet to 2(OTP)



Run Marvel MFG tool



# 11-2. Run Marvel WIFI MFG tool

```
C:\188MW300_MFG_labtool\DutApiWiFi8845BrdigeUart.exe
Name:          Dut labtool
Version:       2.1.0.07
Date:         Sep  2 2014 <20:59:12>
Note:

Name:          DutApiClass
Interface:     EtherNet
Version:       2.1.0.07
Date:         Sep  2 2014 <20:58:37>
Note:

DutIf_InitConnection: 0

-----
W87>xx <802.11a/g/b/n> TEST MENU
-----
Enter option:
```

## **Federal Communication Commission Interference Statement**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**FCC Caution:** Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

### **Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This device is intended only for OEM integrators under the following conditions:

The antenna must be installed such that 20 cm is maintained between the antenna and users, and

The transmitter module may not be co-located with any other transmitter or antenna.

As long as 2 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed

**IMPORTANT NOTE:** In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

### **End Product Labeling**

This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: “Contains FCC ID: TLZ-CU300”. The grantee's FCC ID can be used only when all FCC compliance requirements are met.

### **Manual Information To the End User**

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user’s manual of the end product which integrates this module.

The end user manual shall include all required regulatory information/warning as show in this manual.

**Industry Canada statement:**

This device complies with RSS-247 of the Industry Canada Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Ce dispositif est conforme à la norme CNR-247 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

**Radiation Exposure Statement:**

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

**Déclaration d'exposition aux radiations:**

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

This device is intended only for OEM integrators under the following conditions: (For module device use)

- 1) The antenna must be installed such that 20 cm is maintained between the antenna and users, and
- 2) The transmitter module may not be co-located with any other transmitter or antenna.

As long as 2 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed.

Cet appareil est conçu uniquement pour les intégrateurs OEM dans les conditions suivantes: (Pour utilisation de dispositif module)

- 1) L'antenne doit être installée de telle sorte qu'une distance de 20 cm est respectée entre l'antenne et les utilisateurs, et
- 2) Le module émetteur peut ne pas être coïmplanté avec un autre émetteur ou antenne. Tant que les 2 conditions ci-dessus sont remplies, des essais supplémentaires sur l'émetteur ne seront pas nécessaires. Toutefois, l'intégrateur OEM est toujours responsable des essais sur son produit final pour toutes exigences de conformité supplémentaires requis pour ce module installé.

**IMPORTANT NOTE:**

In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the Canada authorization is no longer considered valid and the IC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate Canada authorization.

**NOTE IMPORTANTE:**

Dans le cas où ces conditions ne peuvent être satisfaites (par exemple pour certaines configurations d'ordinateur portable ou de certaines co-localisation avec un autre émetteur), l'autorisation du Canada n'est plus considéré comme valide et l'ID IC ne peut pas être utilisé sur le produit final. Dans ces circonstances, l'intégrateur OEM sera chargé de réévaluer le produit final (y compris l'émetteur) et l'obtention d'une autorisation distincte au Canada.



### **End Product Labeling**

This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: “Contains IC: 6100A-CU300”.

### **Plaque signalétique du produit final**

Ce module émetteur est autorisé uniquement pour une utilisation dans un dispositif où l'antenne peut être installée de telle sorte qu'une distance de 20cm peut être maintenue entre l'antenne et les utilisateurs. Le produit final doit être étiqueté dans un endroit visible avec l'inscription suivante: "Contient des IC: 6100A-CU300".

### **Manual Information To the End User**

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.

The end user manual shall include all required regulatory information/warning as show in this manual.

### **Manuel d'information à l'utilisateur final**

L'intégrateur OEM doit être conscient de ne pas fournir des informations à l'utilisateur final quant à la façon d'installer ou de supprimer ce module RF dans le manuel de l'utilisateur du produit final qui intègre ce module.

Le manuel de l'utilisateur final doit inclure toutes les informations réglementaires requises et avertissements comme indiqué dans ce manuel.

**THANK YOU!**

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