

# Lovibond® Water Testing

Tintometer® Group



## IRiM

### Device Firmware Update (DFU)



DE

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# Device Firmware Update (DFU)

## Programmieren mit USB Bootloader:

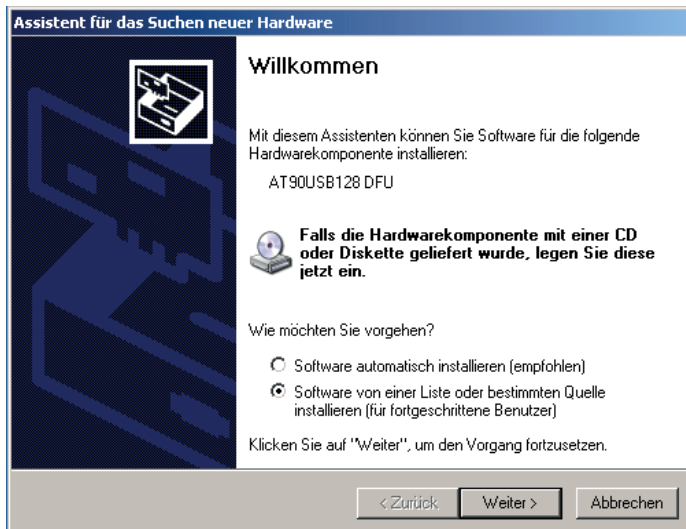
Das IRiM Board ist mit einem USB Bootloader vorprogrammiert, der sich auf dem Chip des AT90USB1287 Microcontrollers befindetet. Dies ist der einfachste und schnellste Weg, das Gerät direkt über die USB-Schnittstelle neu zu programmieren. Die "Flip" PC Anwendung ist auf der Homepage von Atmel erhältlich und bietet eine flexible Benutzerschnittstelle zur Neuprogrammierung des IRiM via USB.

Die "Flip" Software ist zum Aktualisieren der Firmware erforderlich (frei erhältlich auf der Homepage von Atmel).

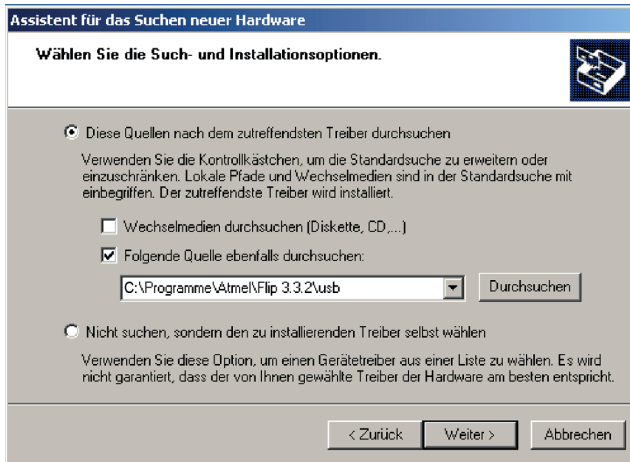
[http://www.atmel.com/dyn/products/tools.asp?family\\_id=604](http://www.atmel.com/dyn/products/tools.asp?family_id=604)

Führen Sie folgende Schritte aus, um das Gerät im DFU Modus zu starten:

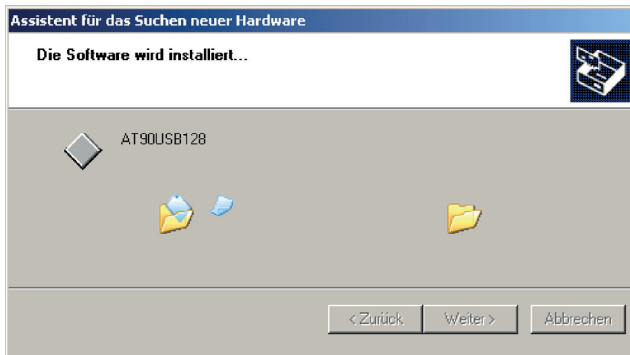
1. Installieren der Flip Software (Flip Version 3.0 oder höher ist erforderlich).
2. IRiM Board via USB-Kabel mit dem PC verbinden (Standard A zu B).
3. ON/OFF-Taste drücken und halten
4. RESET-Taste drücken und halten
5. RESET-Taste loslassen
6. ON/OFF-Taste loslassen
7. Sind die oben genannten Hardwarebedingungen in Ordnung, erscheint der Geräteerkennungs-Assistent auf dem PC. Folgen Sie den Anweisungen (siehe unten). Die INF-Datei befindet sich im USB-Unterverzeichnis der Flip Installation:  
"Install path:\ATMEL\FLIP\FLIPx.x\usb".



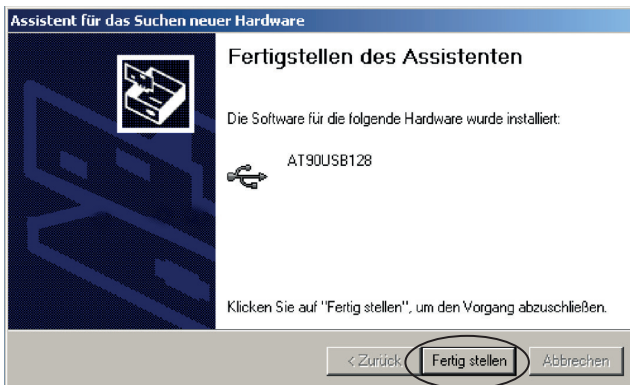
Geben Sie die Adresse der INF Datei wie folgt an: C:\Programme\ATMEL\FLIP 3.XX\usb



Der Treiber wird installiert.



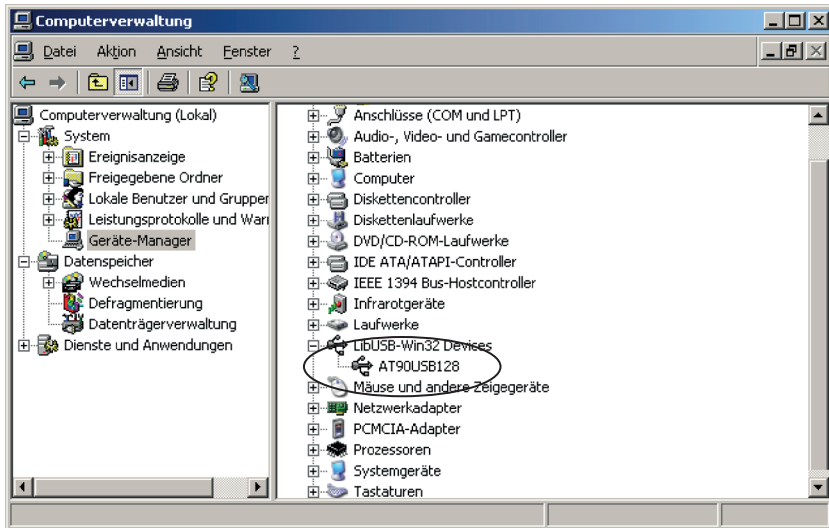
Nach erfolgreicher Installation erscheint die folgende Meldung. Durch Drücken von „Fertig stellen“ wird die Installation abgeschlossen.



Überprüfen Sie den Geräte-Manager

[Rechter Mausklick auf Arbeitsplatz > Verwalten > System > Geräte-Manager]

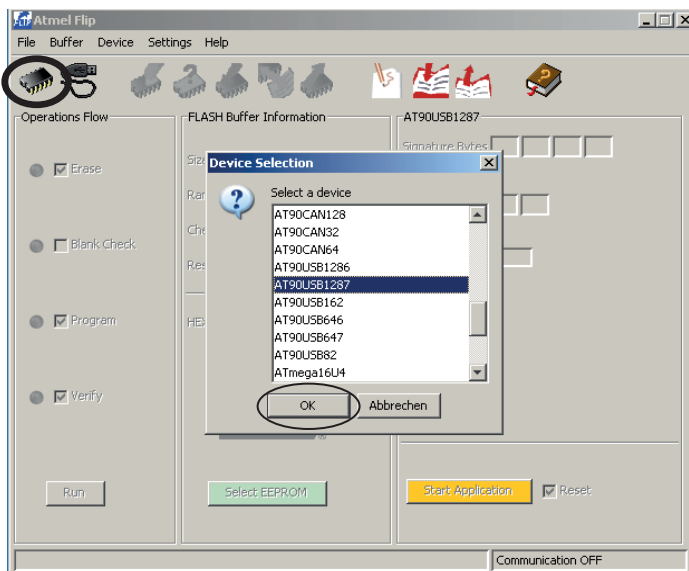
Dann sollte das unten gezeigte Symbol zu sehen sein. Falls nicht, beginnen Sie noch einmal ab Schritt 2 (IRiM Board und PC mit dem USB-Kabel verbinden).



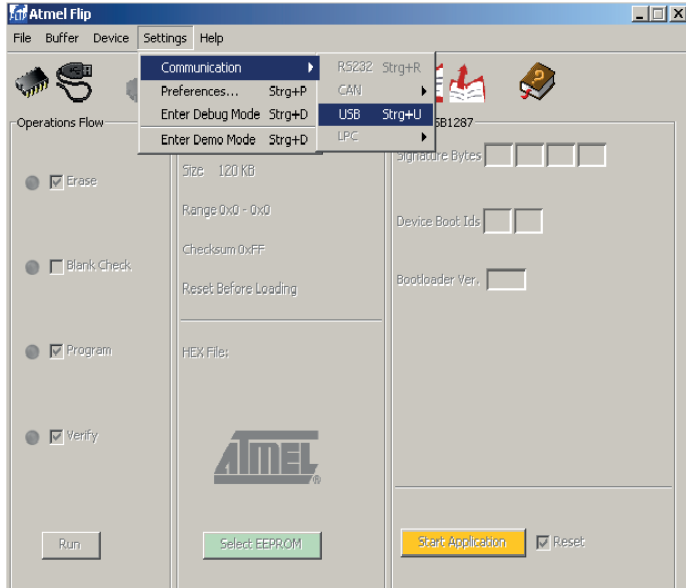
Befindet sich Ihr Gerät im DFU-Modus, starten Sie die FLIP Software und folgen den unten angegebenen Anweisungen:

**Start > Programme > flip 3.2.2 > flip3.2.2**

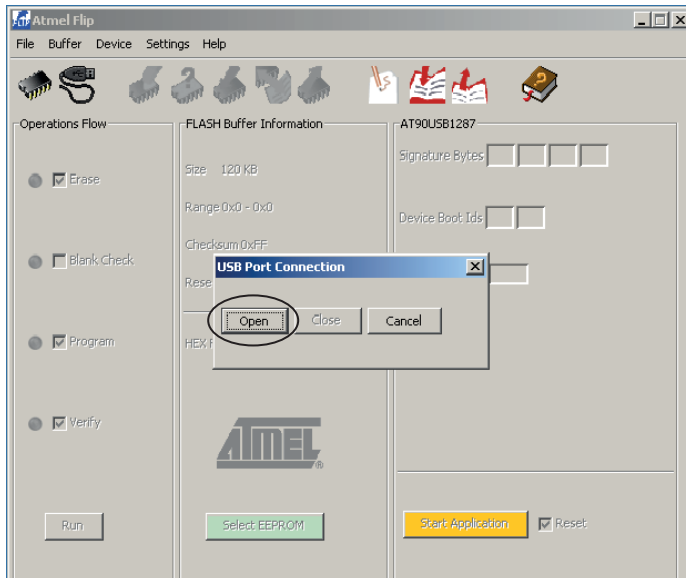
**1. Klicken Sie auf das Gerät: AT90USB 1287**



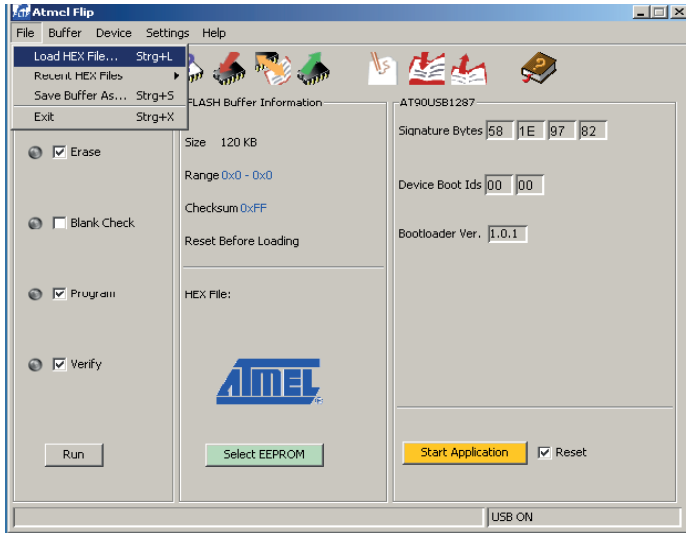
## 2. Wählen Sie USB als Kommunikationsmodus aus.



## 3. Starten Sie die Kommunikation.

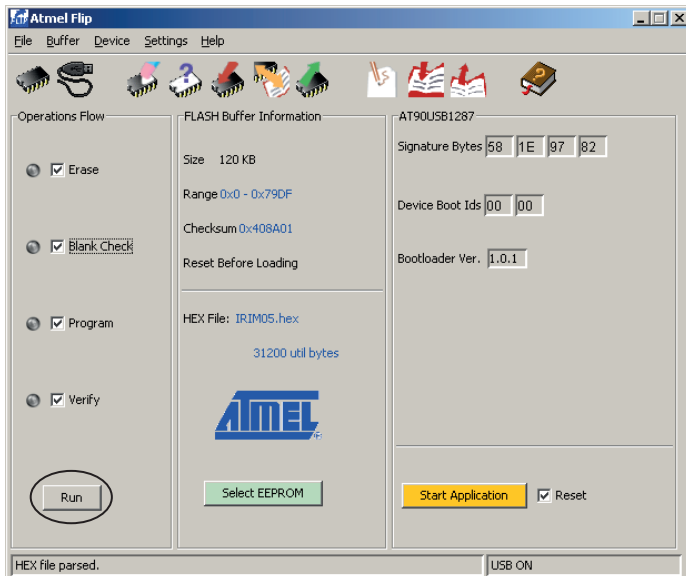


#### 4. Klicken Sie auf HEX Datei laden.

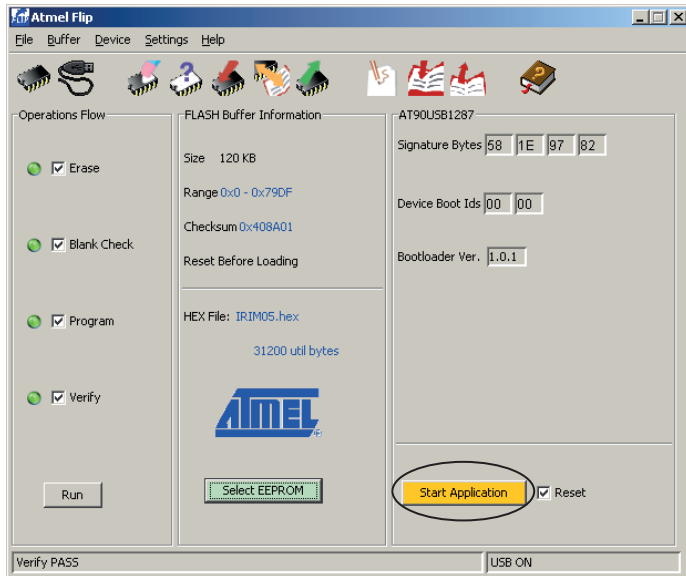


#### 5. Laden Sie die HEX Datei mit der IRiM Firmware.

#### 6. Aktivieren sie Erase, Blank Check, Program und Verify. Dann klicken Sie auf „Run“.



## 7. Starten Sie die Anwendung.



### Hinweise:

- Das IRiM verlässt den Bootloader und springt in die normale Anwendung, wenn die Taste „Anwendung starten“ in der "Flip"-Software gedrückt wird.
- Die LED für Strom wird von der Software gesteuert. Ist die Software nicht geladen, leuchtet die LED nicht, auch wenn eine Stromversorgung angeschlossen ist. Während des Bootloader-Programmiermodus sind alle LEDs aus.

### Abkürzungen

Abkürzung	Beschreibung
USB	Universeller serieller Bus
RS232 Kabel	Serielles Kommunikationskabel
IR	Infrarot
IRiM	Infrared interface Modul (Infrarot Schnittstellenmodul)
DFU	Device Firmware Update

## Device Firmware Update (DFU)

### Programming with USB boot loader:

This IRiM board has a pre-programmed USB boot loader located on the chip of the AT90USB 1287 Microcontrollers. This is the easiest and fastest way to reprogram the device directly over the USB interface. The "Flip" PC side application is available from the Atmel website and offers a flexible user friendly interface to reprogram the application per USB bus.

The "Flip" software is necessary to update the firmware (available free on the Atmel website).  
[http://www.atmel.com/dyn/products/tools.asp?family\\_id=604](http://www.atmel.com/dyn/products/tools.asp?family_id=604)

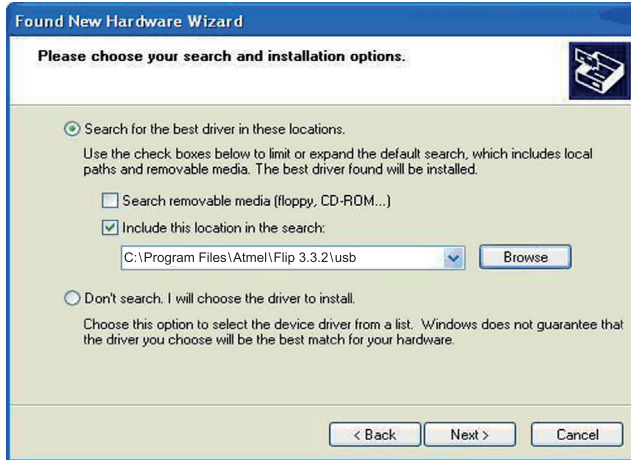
The following steps should be performed to start the device in DFU mode and load the hex file:

1. Install Flip software (Flip version 3.0 or above is required)
2. Connect the IRiM board to the PC using the USB cable (Standard A to B)
3. Push the ON/OFF key and hold it
4. Push the RESET key and hold it for a few seconds
5. Release the RESET key
6. Release the ON/OFF key
7. Assuming devices are operating and correctly connected, a new device detection wizard will be displayed on the PC. Please follow the instructions as shown below (the INF file is located in the USB sub directory following Flip installation:  
"Install path:\ATMEL\FLIP\FLIPx.x\usb"

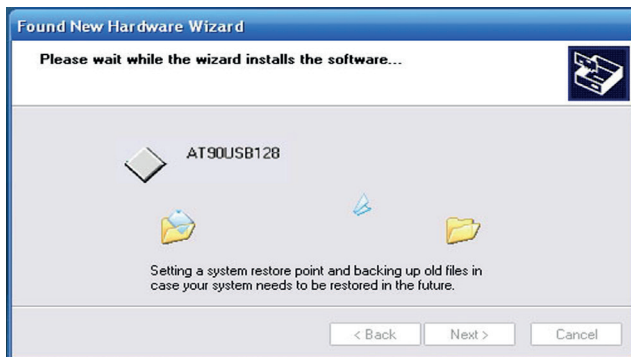




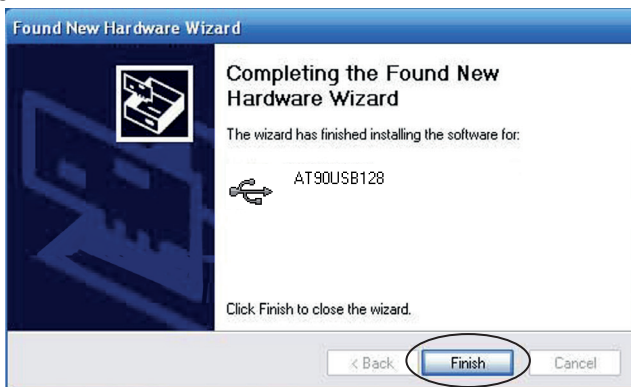
Select the INF file location as C:\Program Files\ATMEL\FLIP 3.XX\Usb



The software will be installed.



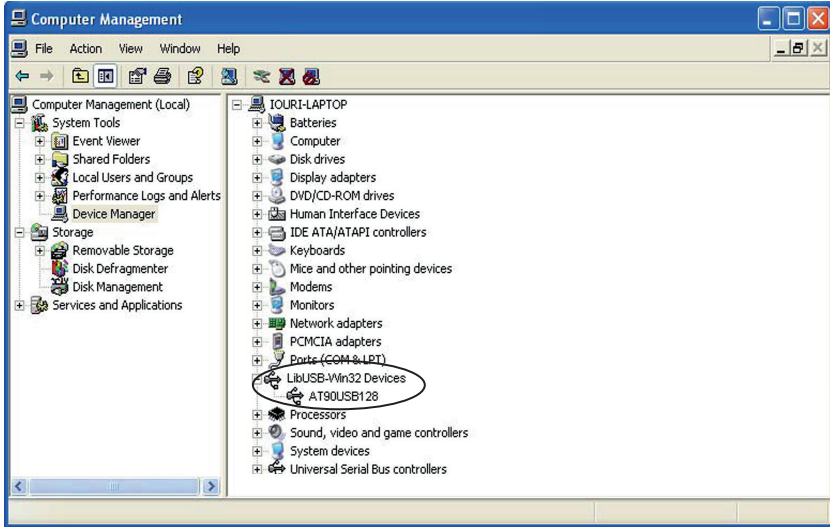
If the installation is successful the following message appears. The installation is completed by pressing "Finish".



Check the Device Manager

[Right Click **My Computer** >> **Management** >> **System tools** >> **Device Manager**]

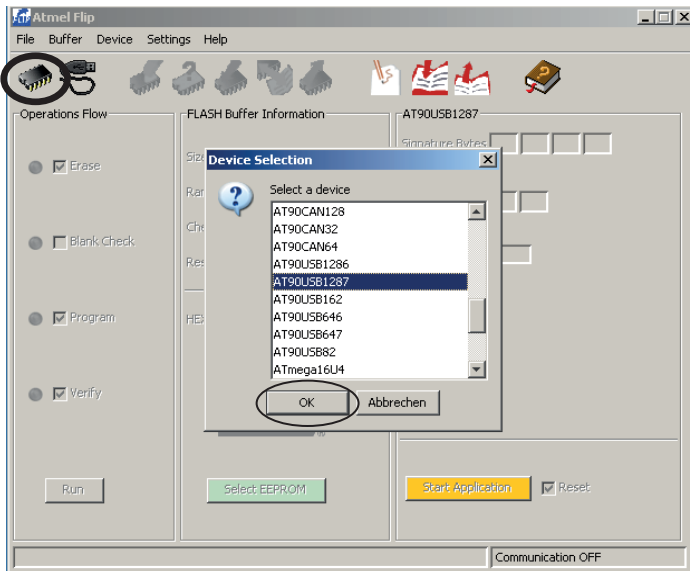
You should see the same icon as shown in the figure below. If not start again from step 2 (connect IRIiM board with the PC per USB).



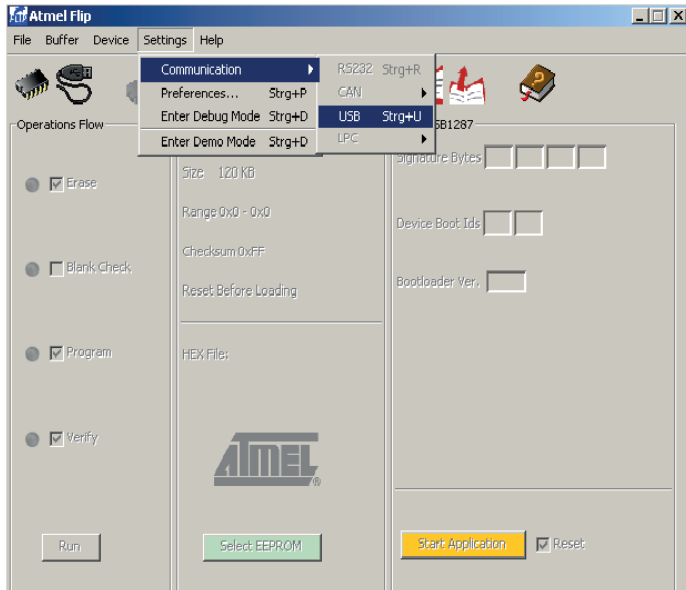
If your device is in DFU mode, start the FLIP software and follow the instructions explained below:

**Start >> programs >> flip 3.2.2 >> flip3.2.2**

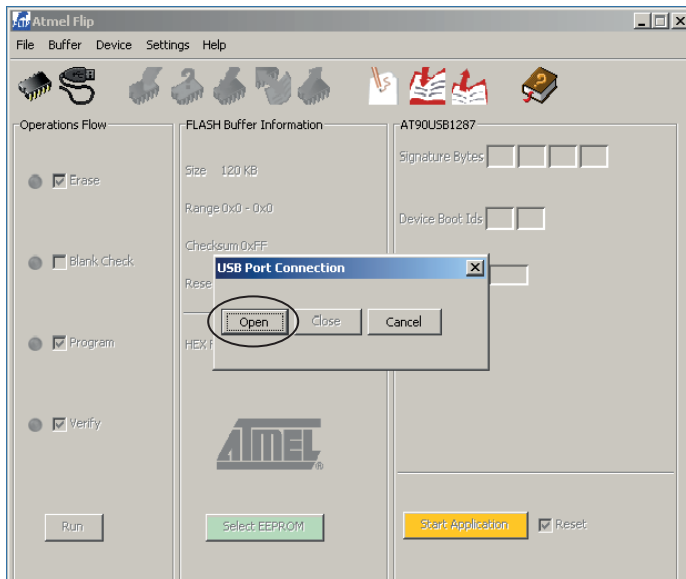
**1. Select AT90USB 1287 device.**



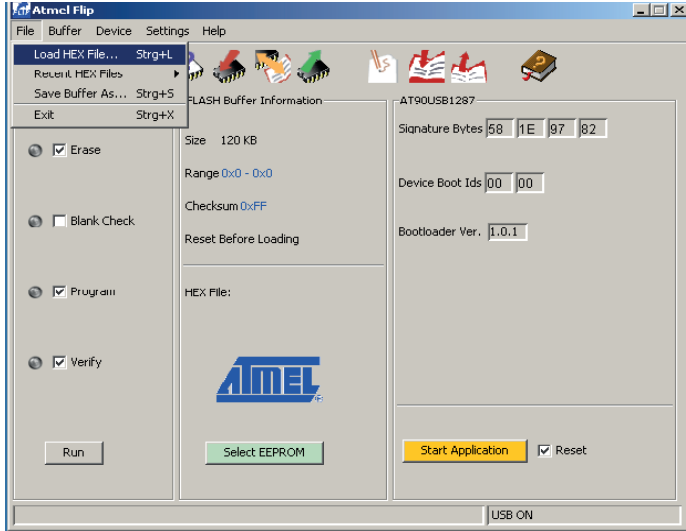
## 2. Select the USB as communication mode.



## 3. Open the communication.

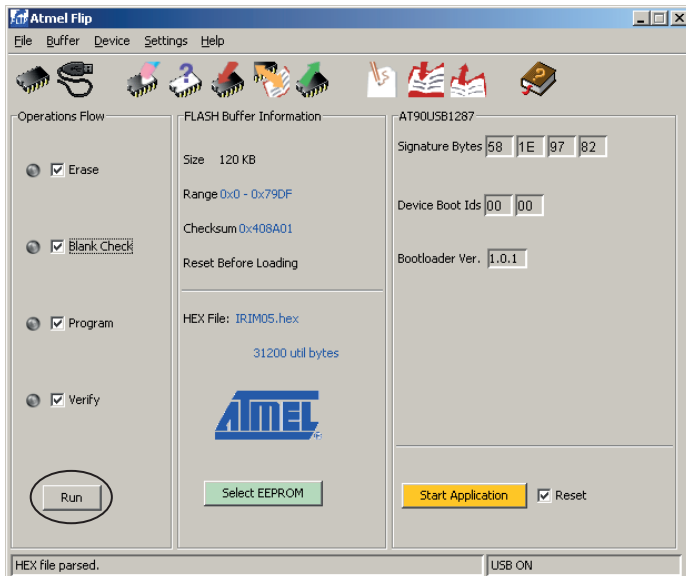


4. Choose the HEX file to load.

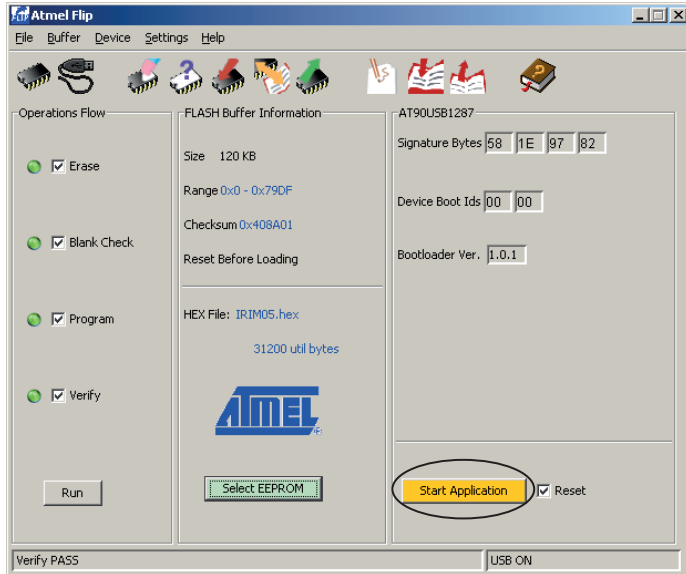


5. Load the HEX file of the IRiM software.

6. Activate Erase, Blank Check, Program and Verify, then select the "Run" button.



## 7. Start the application.



### Note:

- The AT90USB boot loader will detach and jump into the user application when "Start Application" button is pressed.
- POWER LED is controlled by software. If the software is not downloaded the LED will not be illuminated although power is connected. During the boot loader programming mode all LED's will be off.

### Acronyms

Acronym	Description
USB	Universal serial bus
RS232 cable	Serial communication cable
IR	Infrared
IRiM	Infrared interface Module
DFU	Device Firmware Update

## Mise à jour du micrologiciel du module (DFU)

### Programmation avec le chargeur d'amorçage USB (bootloader)

La carte du module IRiM a été préprogrammée au moyen d'un chargeur d'amorçage USB (bootloader), qui se trouve sur la puce du microcontrôleur AT90USB1287. Ceci représente le moyen le plus simple et le plus rapide pour reprogrammer l'appareil directement, via l'interface USB. L'application pour PC "Flip" PC vous est proposée sur le site Internet de la société Atmel et elle met à votre disposition une interface utilisateur souple pour la reprogrammation du module IRiM via USB.

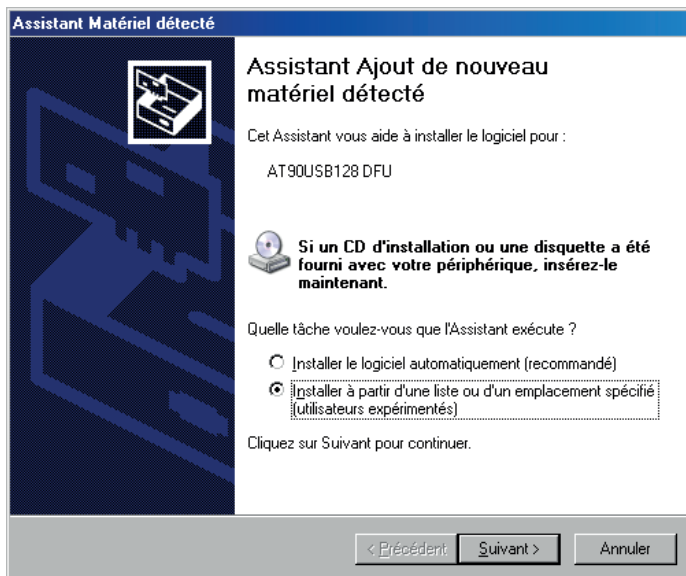
Le logiciel "Flip" est nécessaire pour la mise à jour du micrologiciel du module (il est proposé gratuitement sur le site Internet de la société Atmel).

[http://www.atmel.com/dyn/products/tools.asp?family\\_id=604](http://www.atmel.com/dyn/products/tools.asp?family_id=604)

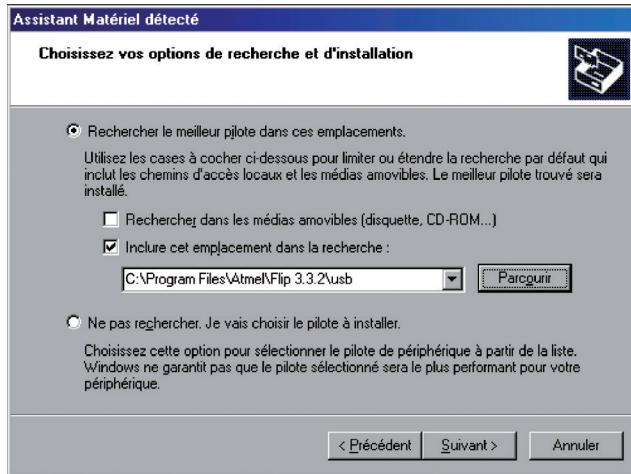
Procéder de la manière suivante pour démarrer l'appareil en mode DFU:

1. Installez le logiciel Flip (la version 3.0 de Flip ou une version plus récente nécessaire).
2. Raccorder la carte du module IRiM au PC via un câble USB (standard A à B).
3. Enfoncer et maintenir la touche ON/OFF.
4. Enfoncer et maintenir la touche RESET.
5. Relâcher la touche RESET.
6. Relâcher la touche ON/OFF
7. Si la configuration de matériels précédente est en ordre, l'assistant d'identification de périphériques s'affichera au PC. Suivez les instructions affichées (voir plus bas). Le fichier INF se trouve dans le sous-dossier USB du dossier d'installation de Flip:

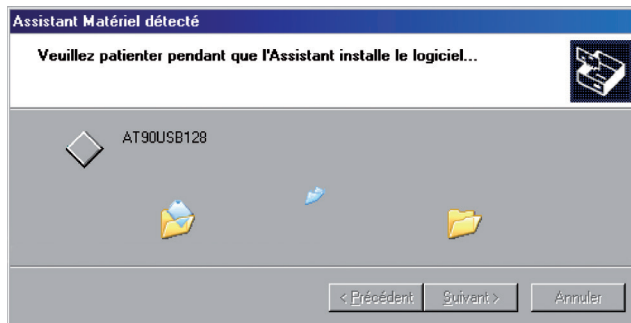
"Dossier d'installation:\ATMEL\FLIP\FLIPx.x\usb"



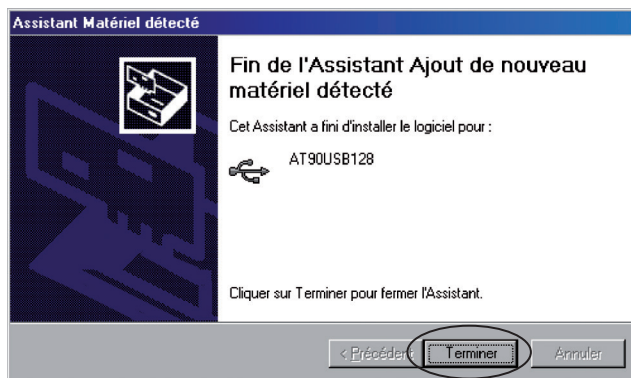
Saisissez l'adresse du fichier INF comme suit: C:\Program Files\ATMEL\FLIP 3.XX\usb



L'installation du pilote de gestion démarre.



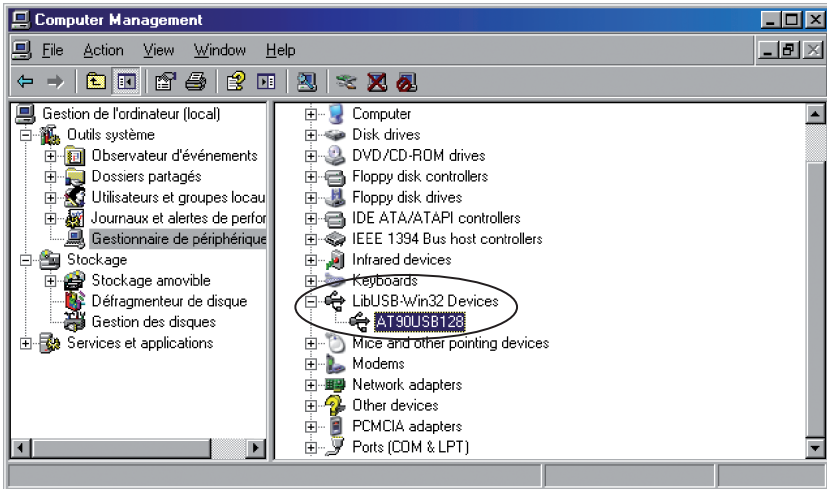
Le message suivant s'affiche une fois que l'installation est terminée avec succès. Terminez l'installation par un clic sur "Terminer".



Vérifiez le gestionnaire de périphériques:

[Clic droit avec la souris sur Poste de travail > Gestion > Système > Gestionnaire de périphériques]

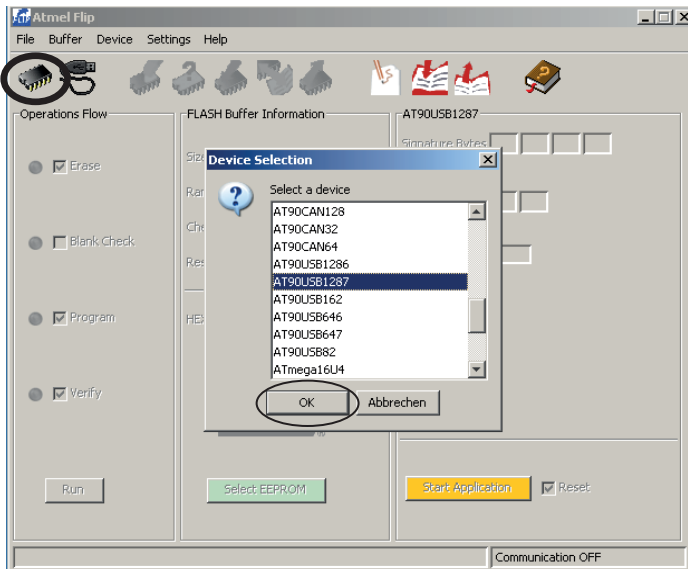
Il devrait alors être possible de voir le symbole ci-après. Si tel n'est pas le cas, recommencer la procédure à l'étape 2 (relier la carte du module IRiM au PC via le câble USB).



Si votre appareil est au mode DFU, lancez le logiciel Flip et suivez les instructions affichés ci-après :

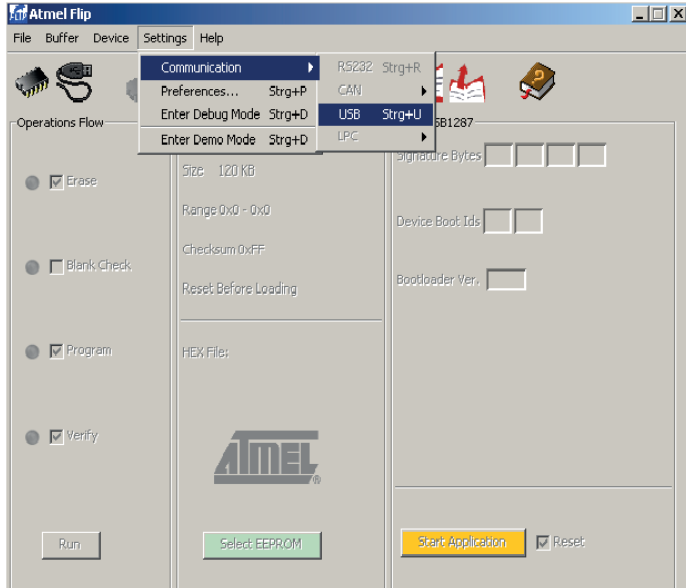
**Démarrage >> Programmes >> flip 3.2.2 >> flip3.2.2**

**1. Faites un clic sur l'appareil: AT90USB1287.**

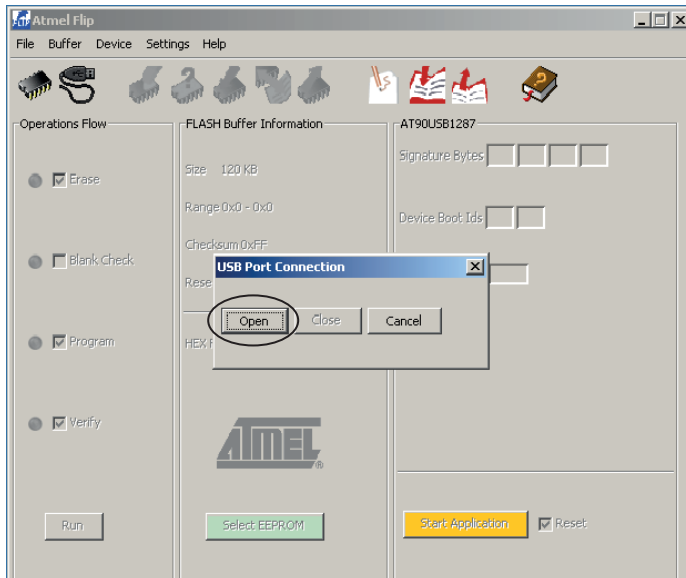




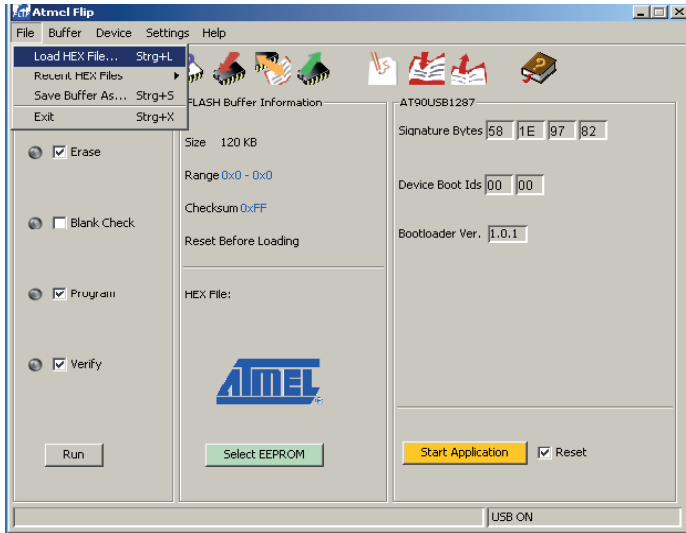
## 2. Sélectionnez USB comme mode de communication.



## 3. Démarrez la communication.

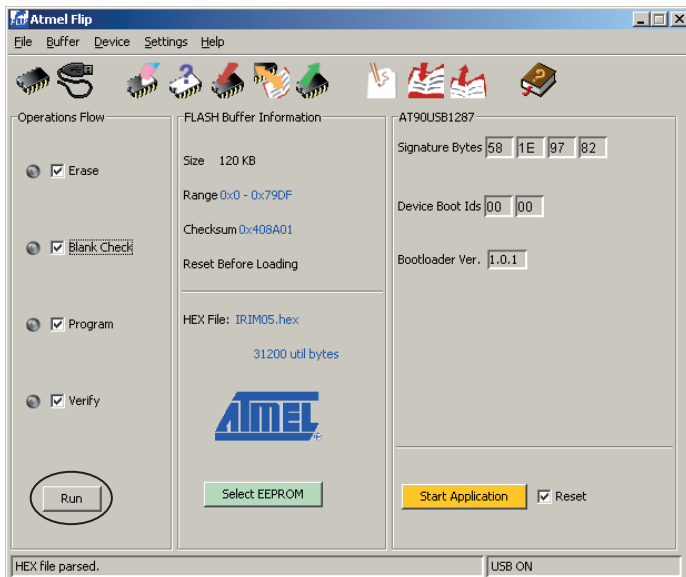


4. Cliquez sur "Load HEX file".

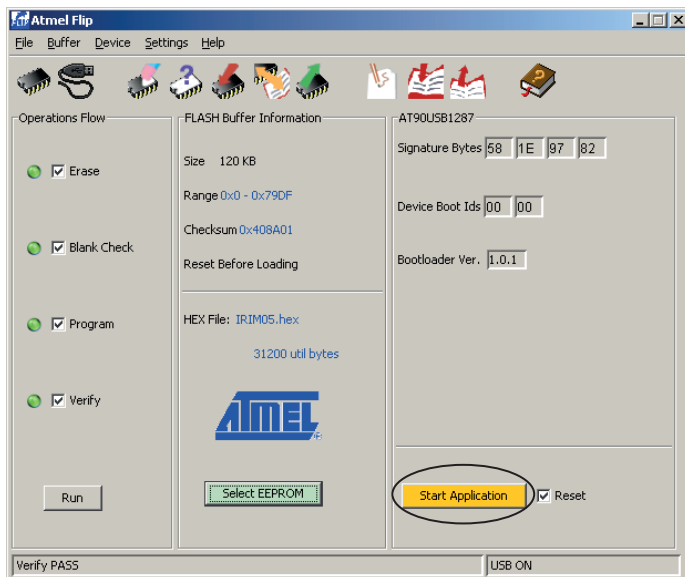


5. Chargez le fichier HEX contenant le micrologiciel du module IRiM.

6. Faites des crochets pour les cases Erase, Blank Check, Program et Verify. Cliquez enfin sur "Run" [Exécuter].



## 7. Démarrez l'application.



### Remarque:

- Le module IRiM quitte le chargeur d'amorçage et saute à l'application normale lorsque vous cliquez sur le bouton "Start Application" dans le logiciel Flip.
- La DEL représentant le courant est pilotée par le logiciel. Si le logiciel n'est pas chargé, la DEL reste éteinte même si une source de courant électrique est connectée. Toutes les DEL sont éteintes durant le mode de programmation via le chargeur d'amorçage (bootloader).

### Abréviations

Abréviation	Description
USB	Bus sériel universel
Câble RS232	Câble de communication sériel
IR	Infrarouge
IRiM	Infrared interface Modul (module d'interface infrarouge)
DFU	Device Firmware Update (mise à jour du micrologiciel de périphérique)

## Device Firmware Update (DFU)

### Programming with USB boot loader:

L'IRiM board è preprogrammata con il boot loader USB che si trova sul chip del Microcontrollore AT90USB1287. E' il modo più rapido e più semplice per riprogrammare la periferica tramite l'interfaccia USB. L'applicazione del PC "Flip" è disponibile sul sito Atmel ed offre un'interfaccia utente flessibile per la programmazione dell'IRiM mediante USB.

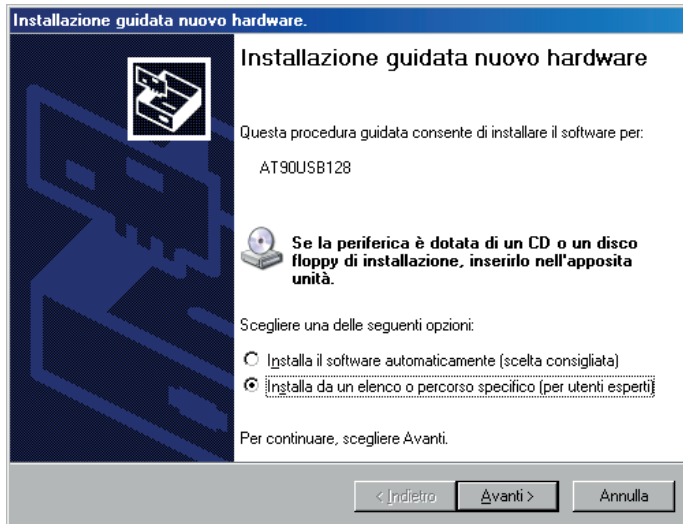
Il software "Flip" è necessario per l'aggiornamento del firmware (disponibile gratuitamente sul sito Atmel).

[http://www.atmel.com/dyn/products/tools.asp?family\\_id=604](http://www.atmel.com/dyn/products/tools.asp?family_id=604)

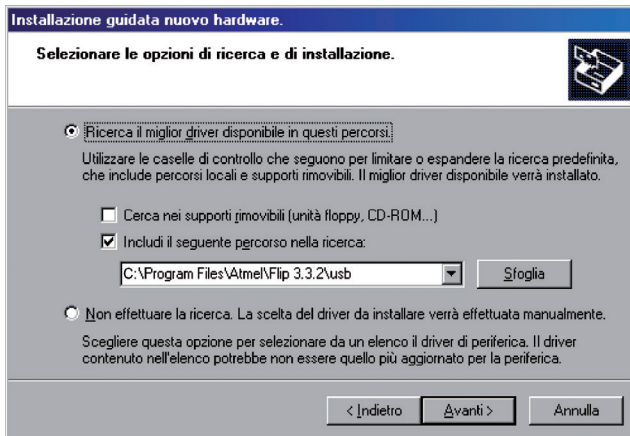
Esegui le seguenti operazioni per avviare la periferica nella modalità DFU:

1. Installazione del software Flip (è necessaria la versione Flip 3.0 o superiore)
2. Collegare l'IRiM board al PC con il cavo USB (standard da A a B)
3. Tenere premuto il tasto ON/OFF
4. Tenere premuto il tasto RESET
5. Rilasciare il tasto RESET
6. Rilasciare il tasto ON/OFF
7. Se le condizioni hardware summenzionate vengono rispettate, sul PC appare l'assistente di riconoscimento della periferica. Seguire le istruzioni (vedi sotto). Il file INF si trova nella sottocartella USB dell'installazione Flip:

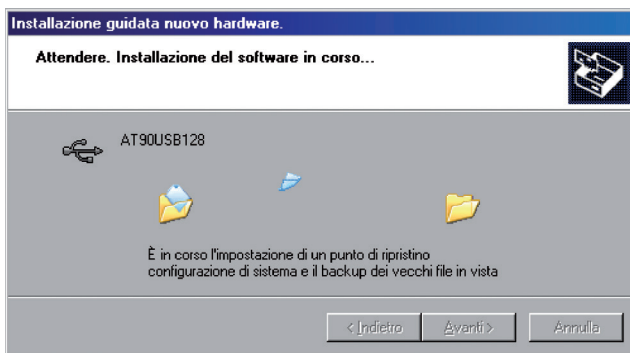
"Install path:\ATMEL\FLIP\FLIPx.x\usb"



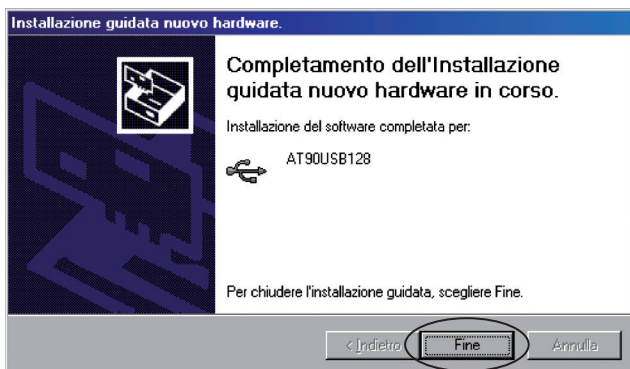
Indicare l'indirizzo del file INF come di seguito riportato C:\Program Files\ATMEL\FLIP 3.XX\Usb



Viene installato il driver.

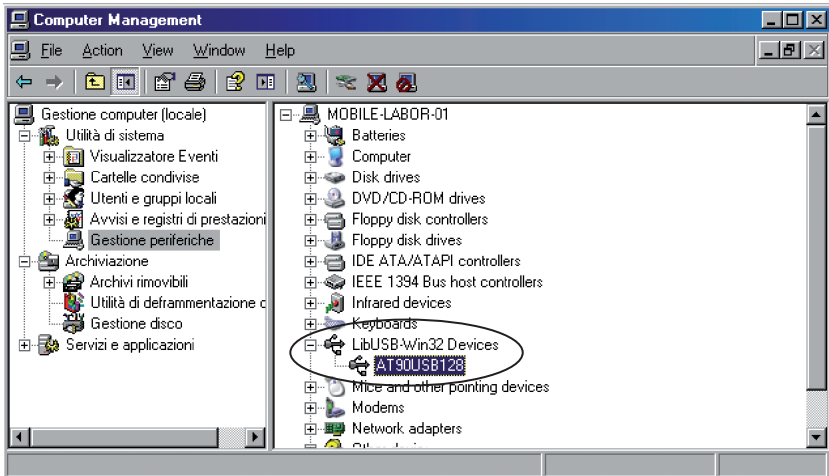


Una volta eseguita l'installazione appare il seguente messaggio. Premendo "Fine" viene completata l'installazione.



Verificare la gestione delle periferiche [cliccare con il tasto destro del mouse su **Risorse del computer >> Gestione >> Utilità di sistema >> Gestione periferiche**]

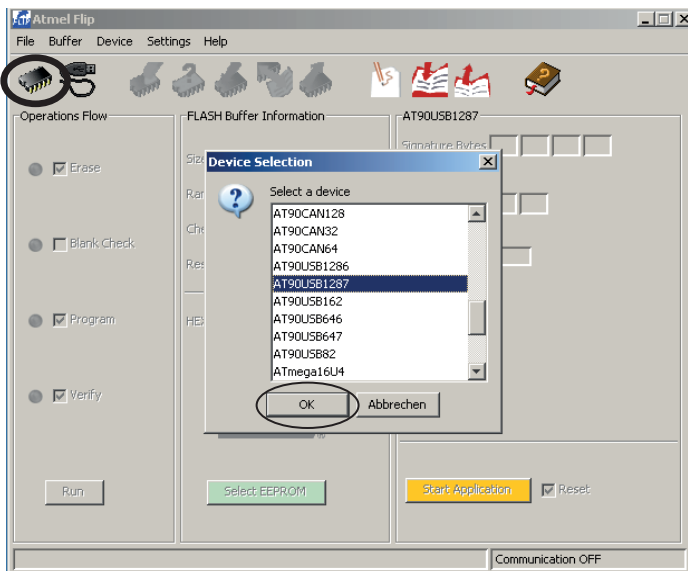
Sarà visibile il simbolo di seguito riportato. Altrimenti, iniziare ancora una volta dalla fase 2 (collegare l'IRiM Board al PC con il cavo USB).



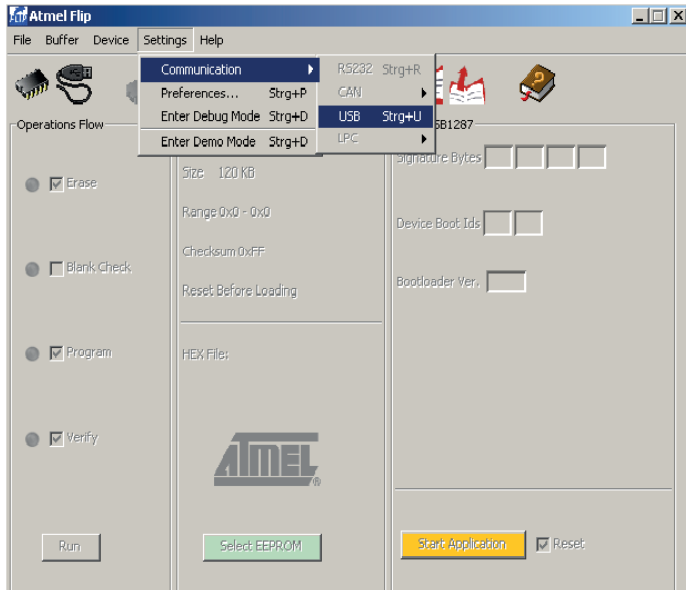
Se la periferica si trova nella modalità DFU, avviare il software FLIP e seguire le istruzioni qui di seguito riportate:

**Start >> Programmi >> flip 3.2.2 >> flip3.2.2**

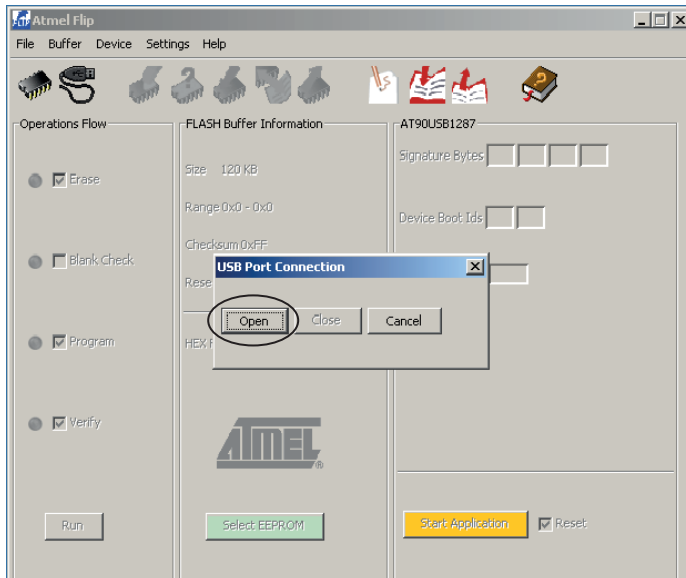
### 1. Cliccare sulla periferica: AT90USB1287.



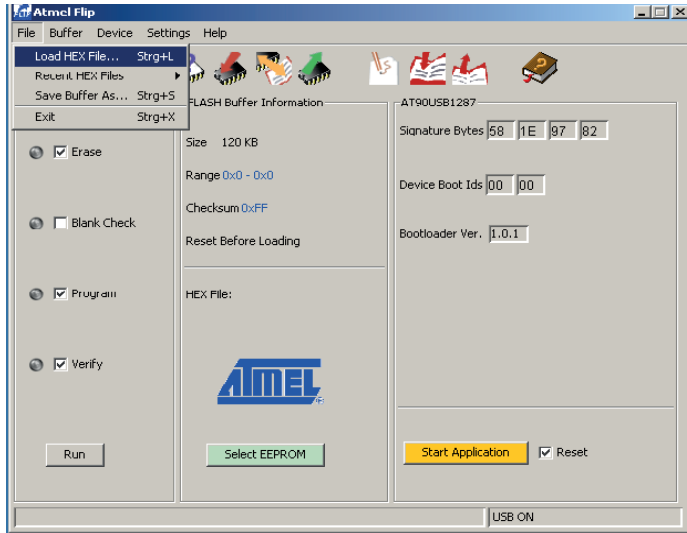
## 2. Selezionare USB come modalità di comunicazione.



## 3. Avviare la comunicazione.

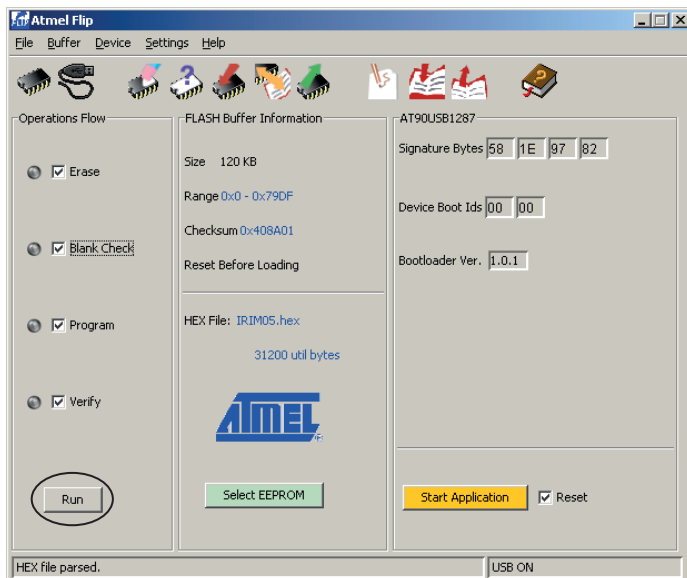


4. Cliccare su "Load HEX File" .



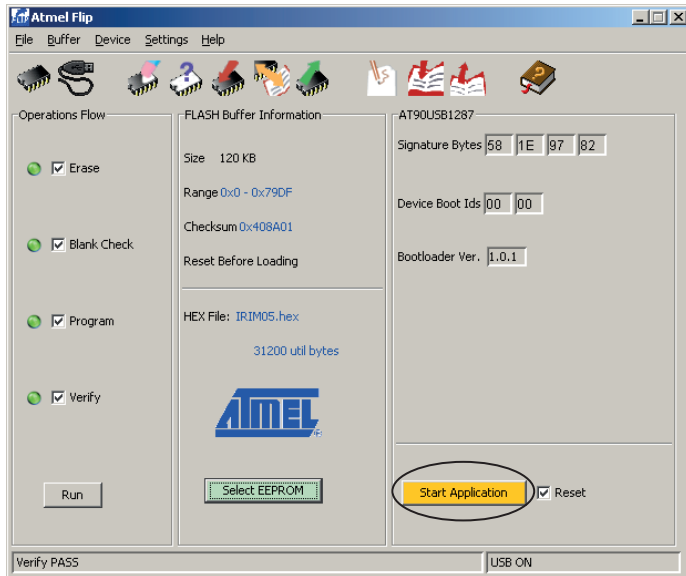
5. Caricare il file HEX con il firmware IriM.

6. Attivare Erase, Blank Check, Program e Verify. Quindi cliccare su "Run".





## 7. Avviare l'applicazione.



### Note:

- L'IRiM lascia il boot loader e passa alla normale applicazione premendo il tasto "Start Application" nel software "Flip".
- Il LED dell'alimentazione viene gestito dal software. Se il software non è stato caricato, il LED non si accende, anche se è presente l'alimentazione. Durante la modalità di programmazione boot loader tutti i LED sono spenti.

### Abbreviazioni

Abbreviazioni	Descrizione
USB	Universal serial bus
Cavo RS232	Cavo di comunicazione seriale
IR	Infrarossi
IRiM	Infrared interface Module (modulo con interfaccia a raggi infrarossi)
DFU	Device Firmware Update

# Actualización Device Firmware Update (DFU)

## Programar con Bootloader USB:

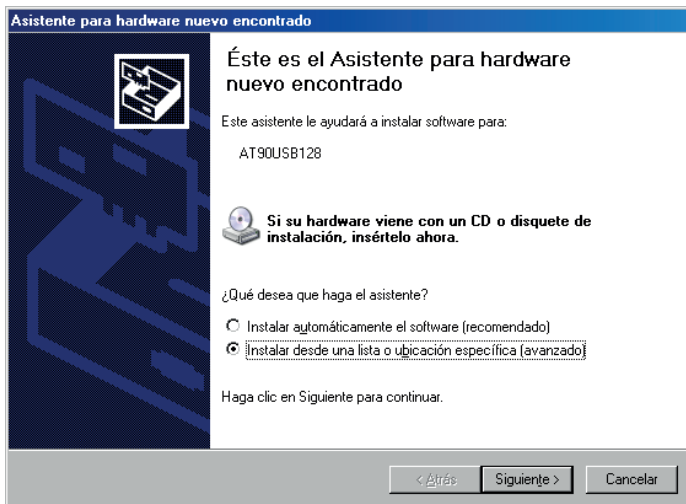
El board IRiM está preprogramado con un Bootloader USB, que se encuentra en el Chip del microcontrolador AT90USB1287. Este es el camino más sencillo y rápido para volver a programar el aparato directamente mediante el interfaz USB. La aplicación para PC "Flip" se puede conseguir en la página web de Atmel y ofrece un interfaz de usuario flexible para la nueva programación del IRiM vía USB.

El software "Flip" es necesario para actualizar el firmware (se consigue en forma gratuita en la página web de Atmel).

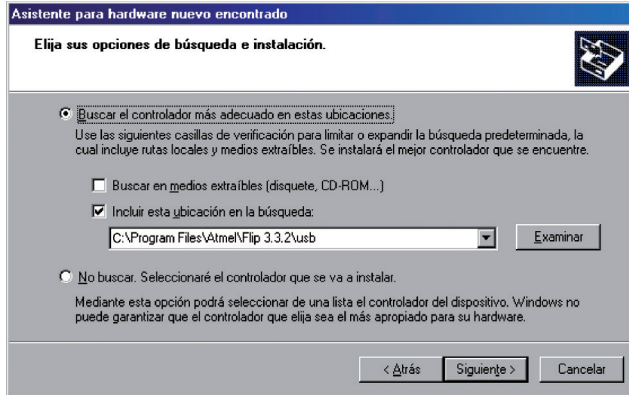
[http://www.atmel.com/dyn/products/tools.asp?family\\_id=604](http://www.atmel.com/dyn/products/tools.asp?family_id=604)

De los siguientes pasos para inicializar el aparato en modo DFU:

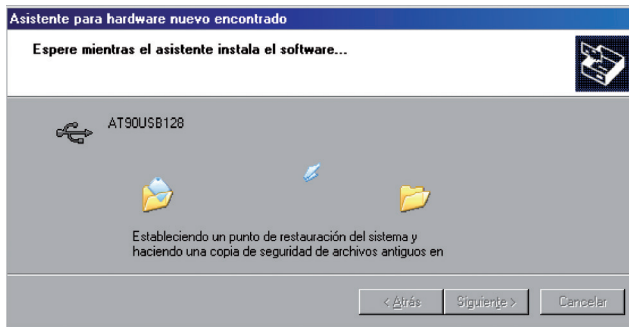
1. Instale el software Flip (es necesaria la versión 3.0 o mayor de Flip).
  2. Conectar con el PC el board IRiM con el cable USB (estándar A a B).
  3. Presionar y mantener presionada la tecla ON/OFF
  4. Presionar y mantener presionada la tecla RESET
  5. Soltar la tecla RESET
  6. Soltar la tecla ON/OFF
7. Si las condiciones del hardware mencionadas anteriormente están en orden, aparecerá el asistente del reconocimiento del aparato en el ordenador/PC. Siga las instrucciones (véase más abajo). El archivo INF se encuentra en el subdirectorio USB de la instalación del Flip:  
"Install path:\ATMEL\FLIP\FLIPx.x\usb"



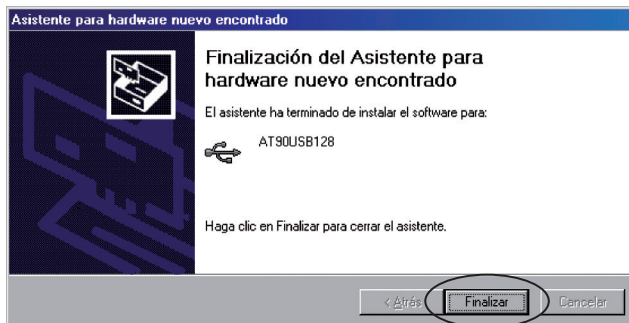
Ingrese la dirección del archivo INF de la siguiente manera C:\Program Files\ATMEL\FLIP 3.XX\usb



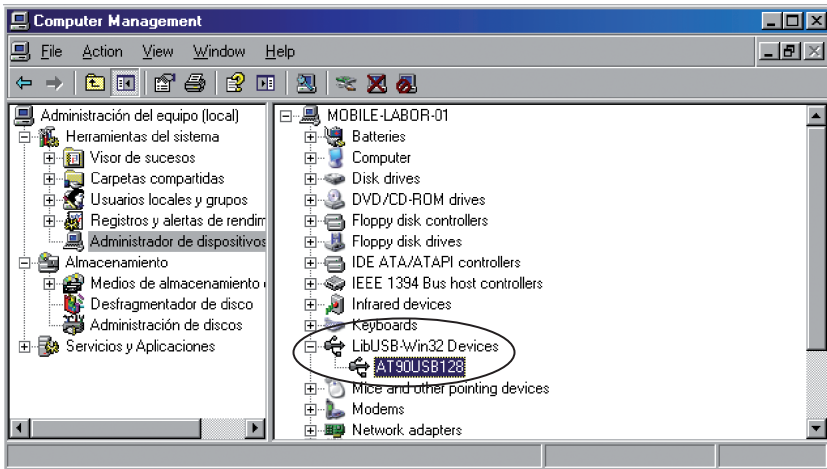
Será instalado el controlador.



Después de la instalación exitosa aparecerá el siguiente aviso. Presionando "Finalizar" será concluida la instalación.



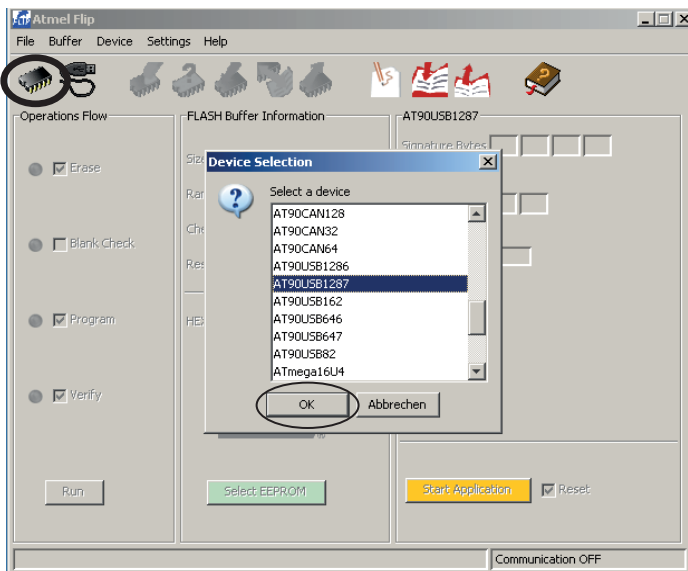
Compruebe el manager de aparatos  
[Clic a la derecha Mi PC > Administrar > Herramientas del sistema > Administrador de dispositivos].  
Entonces se deberá poder ver el símbolo indicado más abajo. En caso de no ser así, vuelva a comenzar desde el paso 2 (conectar con el cable USB el board IRiM y el PC).



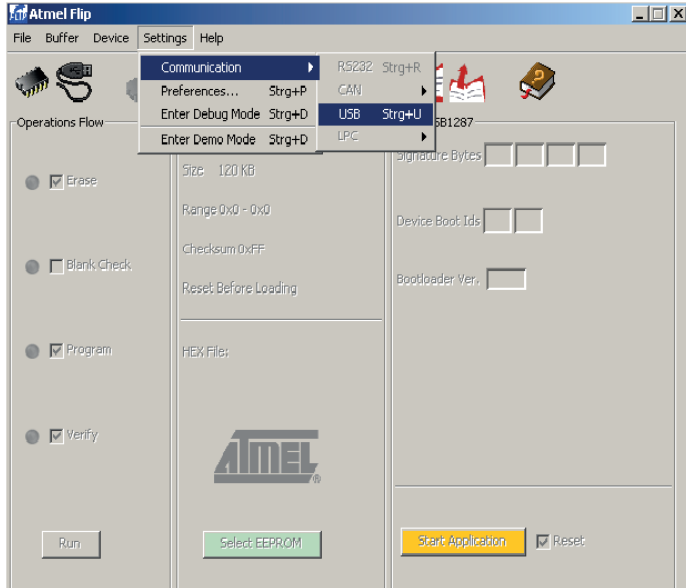
Si su aparato se encuentra en el modo DFU, inicie el software FLIP y siga las instrucciones indicadas más abajo:

**Start >> Programme >> flip 3.2.2 >> flip3.2.2**

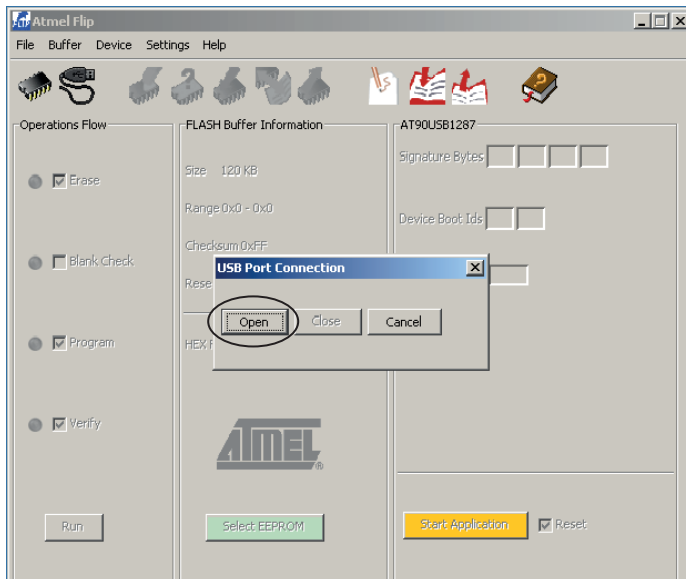
**1. Haga un clic sobre el aparato: AT90USB1287.**



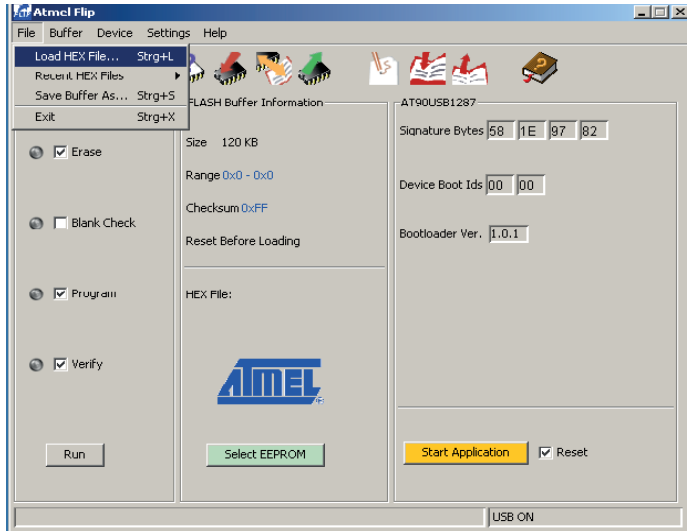
## 2. Seleccione USB como modo de comunicación.



## 3. Inicie la comunicación.

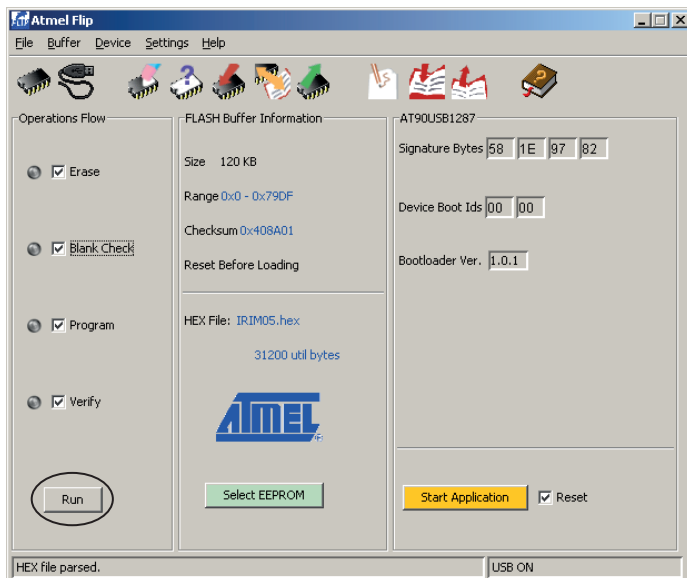


#### 4. Haga un clic sobre cargar archivo HEX.

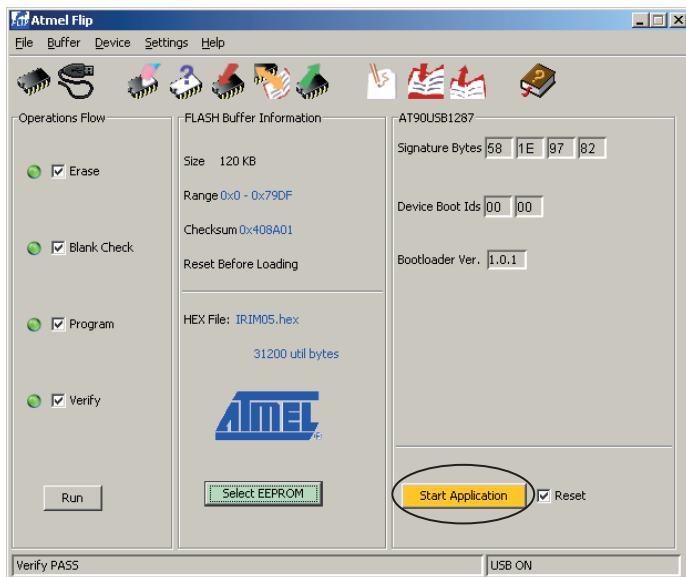


#### 5. Cargue el archivo HEX con el firmware de IRiM.

#### 6. Active Erase, Blank Check, Program y Verify. Luego haga un clic sobre "Run".



## 7. Inicie la aplicación.



### Advertencias:

- El IRiM abandona el bootloader y salta a la aplicación normal cuando se presiona la tecla "Iniciar aplicación" en el software "Flip".
- El LED para la corriente es controlado por el software. Si el software no ha sido cargado, no se iluminará el LED, aunque esté conectada la alimentación de corriente. Mientras se esté en el modo de programación del bootloader estarán apagados todos los LEDs.

### Abreviaturas

Abreviatura	Descripción
USB	Bus universal en serie
RS232 cable	Cable de comunicación en serie
IR	Infrarrojo
IRiM	Infrared interface Modul (Módulo de interfaz infrarrojo)
DFU	Device Firmware Update

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