

Mikromedia PSoC5LP

Pour les projets SIN

1 Introduction

La carte Mikromedia PSoC5LP se programme par bootloading.

La procédure est indiquée page 15 de la documentation. Le principe consiste en

l'exécution d'une communication entre le PC Host et la cible target, communication qui s'établit après le reset de la carte Mikromedia.

Les projets devront donc intégrer le composant Bootloadable (repère 01 ci-dessous) qui pointera sur les fichiers compilés du bootloader fourni par Mikromedia. Et c'est tout.



PSoC® bootloader quick guide

NOTE: Prior to use, bootloader .HEX file needs to be programmed into the mikromedia for PSoC® 5LP's MCU.

Start PSoC® Creator™ and open the appropriate Workspace File for PSoC® Creator™ (.cywrk file):

- 01 Double click the **Bootloadable** component and the **Configure** window will appear.
- 02 Click the **Dependencies** tab to find a reference to the associated bootloader .HEX and .ELF files.
- 03 Click the **Browse** button and choose the **Bootloader_USBFS.HEX** file from the pop-up window. The file can be find in the bootloader example folder. Click the **OK** button.

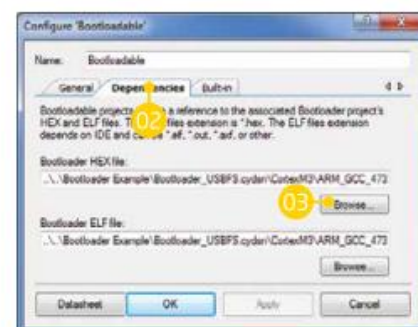
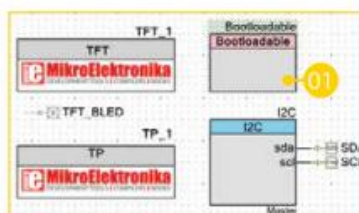


Figure 3-3: PSoC® bootloader host

Open PSoC® Creator™ Bootloader Host window (**Tools > Bootloader Host**):

- 04 Click the **blue folder icon** and choose the .CYACD file which will be uploaded to MCU memory from the pop-up window.
- 05 Connect the USB cable, or if already connected press the **Reset** button on your mikromedia board. **USB Human Interface Device** will appear in the **Ports** section of the window.
- 06 Click the **blue arrow icon** within 10s to program the MCU memory, otherwise the existing microcontroller program will execute.
- 07 If everything is done properly the board will automatically reset and your new program will execute.

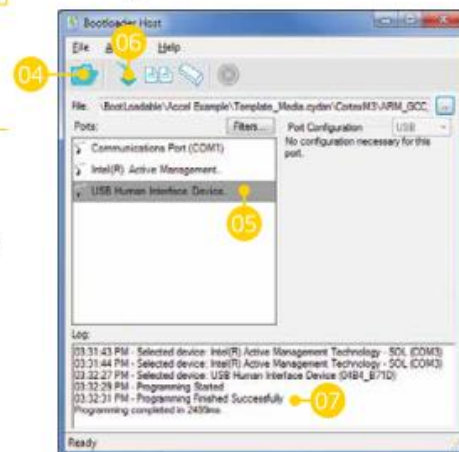
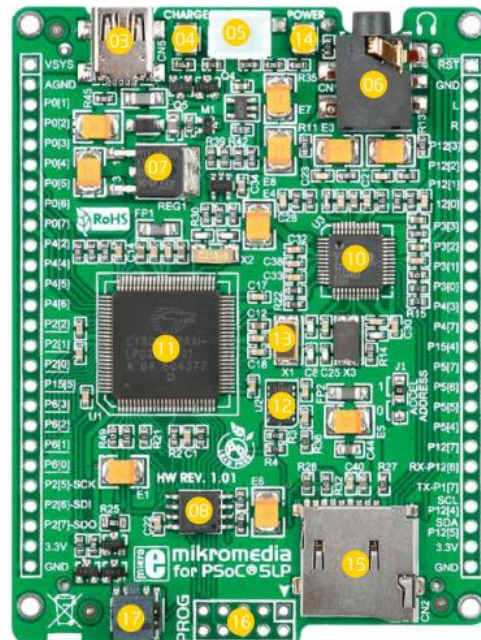
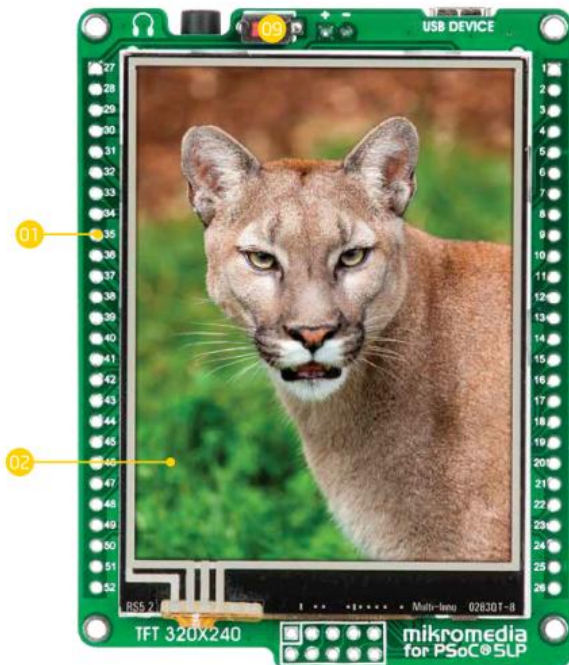


Figure 3-4: PSoC® bootloader host



2 Le matériel disponible

La carte Mikromedia dispose d'un grand nombre de ressources disponibles :



- 01 Connection Pads
- 02 TFT display 320x240px
- 03 USB MINI-B connector
- 04 CHARGE indicator LED
- 05 Li-Polymer battery connector
- 06 3.5mm headphone connector
- 07 Power supply regulator
- 08 FRAM
- 09 RESET button
- 10 VS1053 Stereo mp3 coder/decoder
- 11 CY8C5868AXI-LP035 microcontroller
- 12 Accelerometer
- 13 Crystal oscillator
- 14 Power indication LED
- 15 microSD Card Slot
- 16 mikroProg connector
- 17 Cortex Debug connector

System Specification



power supply
Via USB cable (5V DC)



power consumption
46 mA with erased MCU
(when on-board modules are inactive)



board dimensions
81.2 x 60.5 mm (3.19 x 2.38 inch)



weight
~50g (0.11lbs)



Description brève de la carte

The **mikromedia for PSoC® 5LP** is a compact development system with lots of on-board peripherals which allow development of devices with multimedia content. The central part of the system is a 32-bit **CY8C5868AXI-LP035** microcontroller. The mikromedia for PSoC® 5LP features integrated modules such as stereo MP3 codec, **320x240 TFT touch screen** display, accelerometer, USB connector, audio connector, MMC/SD card slot, 2Mbit FRAM, two 1x26 connection pads and other. It comes pre-programmed with a **USB HID PSoC® bootloader**, but can also be programmed with external programmers, such as mikroProg™ for PSoC® 5LP or other external programmers. Mikromedia is compact and slim which makes it a convenient platform for mobile devices.

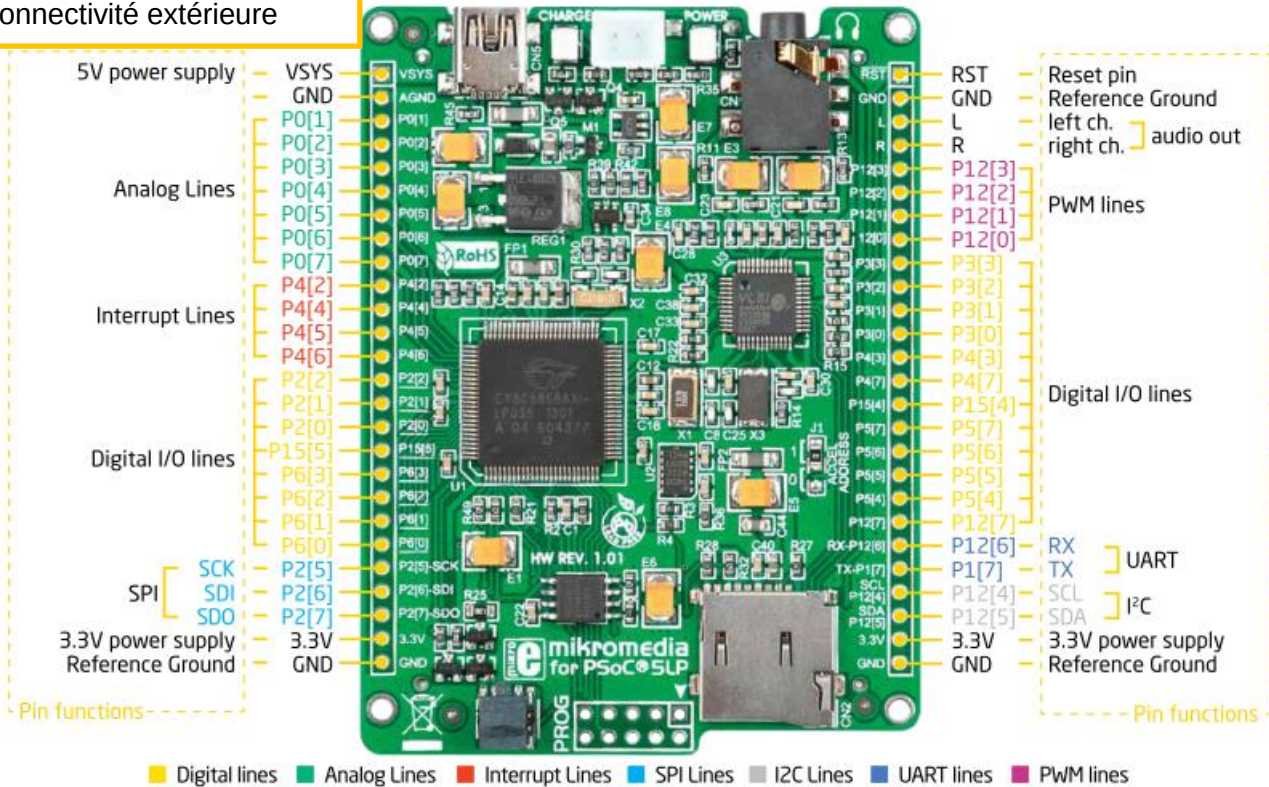


Touch Screen



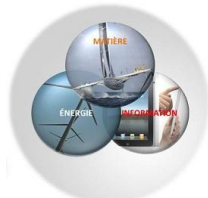


40 Broches disponibles pour la connectivité extérieure



Rappel : dans un PSoC toutes les broches sont disponibles et ne sont pas pré-affectées mêmes si il y a quelques choix privilégiés en termes de performances. Donc les sorties analog peuvent être logic et vice et versa. Derrière ces broches c'est la souplesse du PSoC par exemple dans des projets de l'année dernière en terminale SIN mise en œuvre de cinq liaisons séries dans un projet de RFID sans difficulté.

La carte fonctionne en 3,3V à partir de l'alimentation USB de 5V. Prévoir des translateurs de niveaux si accès à de la logique 5V.

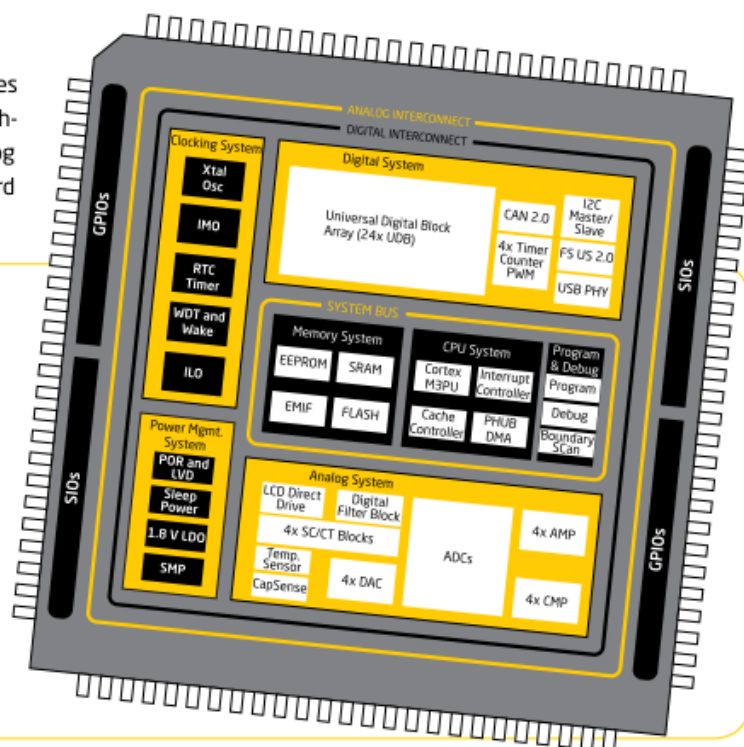


Le PSoC 5 LP est le plus puissant de la famille PSoC de Cypress

The **mikromedia for PSoC® 5LP** development system comes with the **CY8C5868AXI-LP035** microcontroller. This high-performance 32-bit microcontroller with its integrated analog and digital modules and in combination with other on-board modules is ideal for multimedia applications.

Key microcontroller features

- 64 MHz, 32-bit ARM® Cortex™-M3 Core;
- 256 KB Flash; 64 KB SRAM;
- 4 dedicated comparators
- 62 I/O pins;
- SPI, I²C, UART, CAN, USB, ADC, DAC;
- Timers, counters, PWMs;
- Internal Oscillators;
- RTCC; etc.



Mise en œuvre des PSoC avec les élèves de STI2D voir ici :

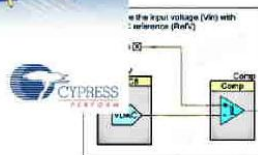
http://sti2d.patque.com/Site_PSoC/Index_distant.htm

PSoC® Creator™



Cliquer sur l'écran du PC pour démarrer

P.G Vox Novembre 2013 V1.0

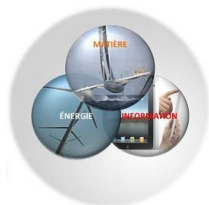


Mise en oeuvre des PSoC

PSoc / Liaison Delphi / Bus I2C / Raspberry / Matlab / Développement durable

Cliquer sur l'écran





Indique un document ressource



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