

Re: Selection of a USB microcontroller

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- *From:* -jg <Jim.Granville@xxxxxxxxx>
 - *Date:* 26 Apr 2007 14:57:10 -0700
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FD wrote:

Hi there,

I am in the process of selecting a general purpose microcontroller for several new developments.

There are several uCs with USB, but how to select the best one?

I guess some of you already have some hands-on experiences.

Apart from the USB port, for easy interfacing to a PC, it is important that it is low cost in quantities of 10s to 100s.

A requirement is ease of programming, not only for the microcontroller but also the driver on the PC, to get the communication up and running quickly.

The best programming language would be C. C++ and Pascal (Delphi) on the PC is no problem and so is some assembler in the microcontroller.

The microcontroller should be around 5 to 20 MIPS with at least 8KB Flash, 2KB RAM and a little non-volatile storage (like EEPROM).

I have experience with Atmel ATmega8, 32 and 128 (without USB). Lots of Flash and RAM, but they are not so good in industrial environments.

The 8051 family is much more reliable, but my very good experiences with these are over 5 years old.

I consider the Microchip PICs as being to light-weighted.

Any recommendations are highly appreciated.

The EVAL boards from both SiLabs and Atmel are cheap, so I'd get both, and trial both pathways.

SiLabs also have boards and chips that are RS232-USB, which is another option,

and can be good if your expected range of Embedded devices is wide.

ST have uPSD devices with USB, if you are looking at the higher pin count end.

Above this, there are ARM devices with USB and the new Atmel

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AT32UC3A0512

is also capable looking silicon – but you are then getting way above
8K Flash.

-jg

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