

Re: AT91SAM7S256-128-64-321 USB and USART usage (clocking)

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- *From:* "Ulf Samuelsson" <ulf@xxxxxxxxxxxxxx>
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"jaac" <jaime.aranguren@xxxxxxxxxx> skrev i meddelandet
<news:1144357700.726570.299560@xx>

Hi,

I want to know if it is possible to use at the same time the USB and UART peripheral on the AT91SAM7S256-128-64-321, with zero error on the UART part.

The clocking scheme is what concerns me. As far as I understand you have the main clock MCK from an external crystal (or clock signal). Is MCK derived directly, I mean, does MCK have the same frequency as the external crystal? The UART peripheral takes its input from either MCK or MCK/DIV. USB needs a couple of clocks: clock from the PLL at 48MHz and MCK.

So, what are the recommended values of external clock and external PLL filter if one needs:

1. Core running at 60 MHz
2. UART running at 115200 bps / 57600 bps / 38400 bps / 19200 bps / 9600 bps (possibility of using any of them)
3. USB connectivity

Or are USART and USB connectivity mutually exclusive???

You only have a single PLL so you can run USB only if the core is running 48 MHz.

This is an excellent starting point for UARTs since the PC UART BAUD rate generator is using a 24 MHz crystal prescaled by 13.

The SAM7S has resolution enhancement – Have to read the datasheet carefully to discover that...

so you should be able to run 1,842 Mbps if needed.

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Regards,

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Best Regards,

Ulf Samuelsson

This is intended to be my personal opinion which may,
or may not be shared by my employer Atmel Nordic AB

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