



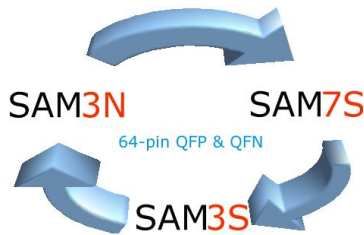
## Atmel SAM3S Ideal Upgrade Path for Atmel SAM7S Customers

**The Atmel® SAM3S series is the new family of Cortex M3 Flash Microcontrollers.**

**What are the customer benefits when migrating from a SAM7S-based system to a SAM3S-based system in terms of pin-to-pin compatibility, system performance improvements and peripherals?**

### Hardware Compatibility Preserves Investments

Inspired by the Atmel SAM7S series, the SAM3S enables easy migration to a more powerful and feature-rich MCU thanks to hardware compatibility between devices. Available in 48-, 64- and 100-pin QFP/QFN package options, the SAM3S 64-pin devices offer pin-to-pin compatibility with the SAM7S. In its 48-pin version, the SAM3S differs by only one pin from the SAM7S.



### Improved System Performance

Atmel SAM3S Architecture	Atmel SAM7S Architecture
<ul style="list-style-type: none"> <li>Cortex-M3</li> </ul>	<ul style="list-style-type: none"> <li>ARM7TDMI</li> </ul>
<ul style="list-style-type: none"> <li>AHB/APB AMBA Architecture</li> </ul>	<ul style="list-style-type: none"> <li>ASB/APB Architecture</li> </ul>
<ul style="list-style-type: none"> <li>64MHz maximum frequency</li> </ul>	<ul style="list-style-type: none"> <li>55MHz maximum frequency</li> </ul>
<ul style="list-style-type: none"> <li>128-bit wide Flash access</li> </ul>	<ul style="list-style-type: none"> <li>32-bit wide Flash access</li> </ul>
<ul style="list-style-type: none"> <li>Two on-chip PLLs</li> </ul>	<ul style="list-style-type: none"> <li>One on-chip PLL</li> </ul>

Additionally there are many more improvements with regard to lower power consumption (Stand-by mode: SAM7S:37uW, SAM3S: 17uW (wait mode); Active mode: SAM7S: 50mW, SAM3S: 37mW), power management (Operating Voltage down to 1.62V at SAM3S), signal integrity & PCB design, new safety and security features, system control and clock improvements, such as a 32kHz external crystal for better accuracy when using RTC.

### Renewed Peripheral Set

Atmel SAM3S Peripherals	
<ul style="list-style-type: none"> <li>High-speed peripherals including USB2.0 FS Device, High-speed HS SD/SDIO/MMC, USART, SPI</li> </ul>	<ul style="list-style-type: none"> <li>Up to 16-channel 12-bit 1Msps ADC with PGA stage and differential inputs, 2-channel 12-bit 1Msps DAC, analog comparator</li> </ul>
<ul style="list-style-type: none"> <li>Powerful and flexible 16-bit timers with quadrature decoder and gray counter</li> </ul>	<ul style="list-style-type: none"> <li>Powerful PWM unit, calendar RTC, Watchdog</li> </ul>

For more information about the Atmel® SAM3S series, please click the following link:  
<http://www.atmel.com/products/at91/>

We would be pleased to receive your inquiry at: [info@ineltek.com](mailto:info@ineltek.com)

