



DRSMDA5D3x_CPU

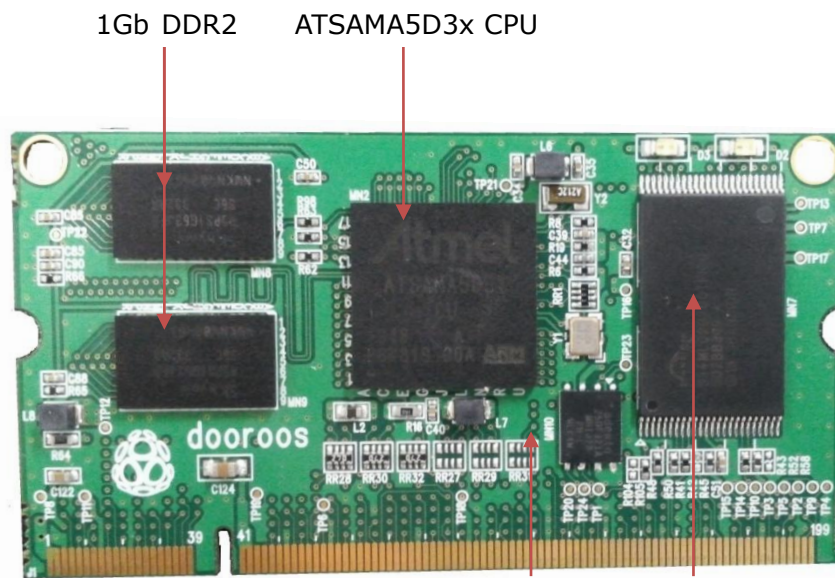
Introduction

Document Number: DOOROO-CPU-BD-2015-0428

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Version 0.2

DRSMDA5D3x_CPU



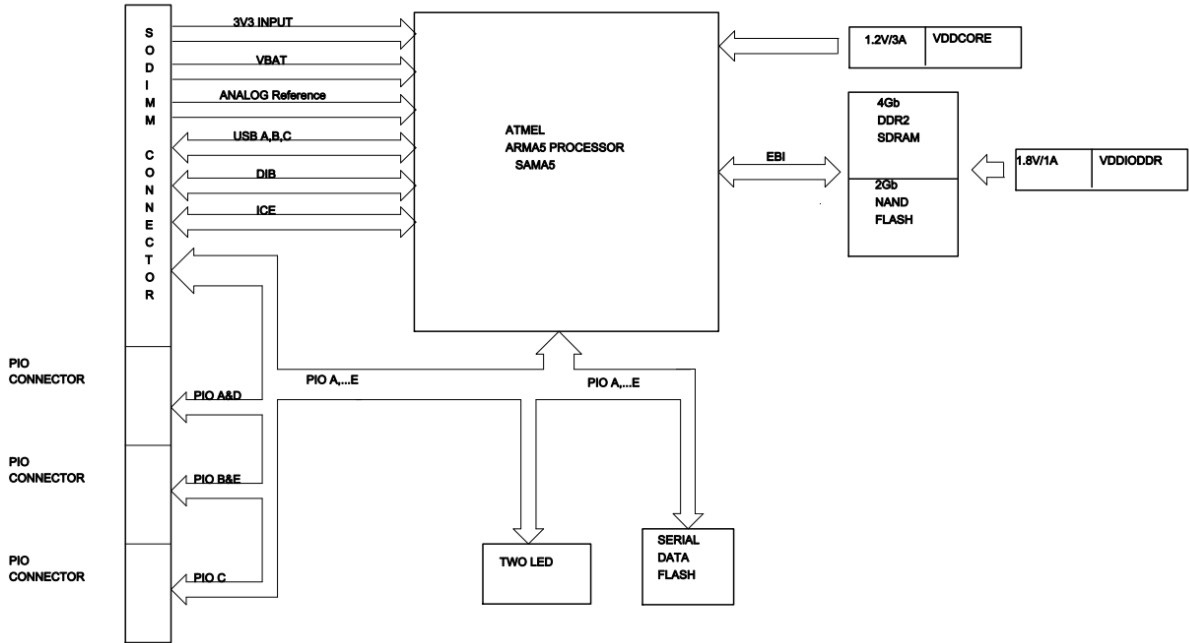
Serial Flash 2Gb NANDFLASH

Hardware Specification

CPU	ATSAMA5D3x (CORTEX-A5)
DDR2	H5PS1G63KFR-S6C(1Gb)
NAND FLASH	S34ML02G100TFI000(2Gb)
Serial Flash	AT25DF321A-MH-Y(32Mb)
LDO Voltage Regulators	XC6206P252MR-G(250mA)
STEP-DOWN DC-DC	PAM2306AYPAA
CRYSTAL	FA-238V-12M,12MHz/FC-135,32.768 kHz

Board Size 67.6 x 36.5(mm)

■ Block Diagram



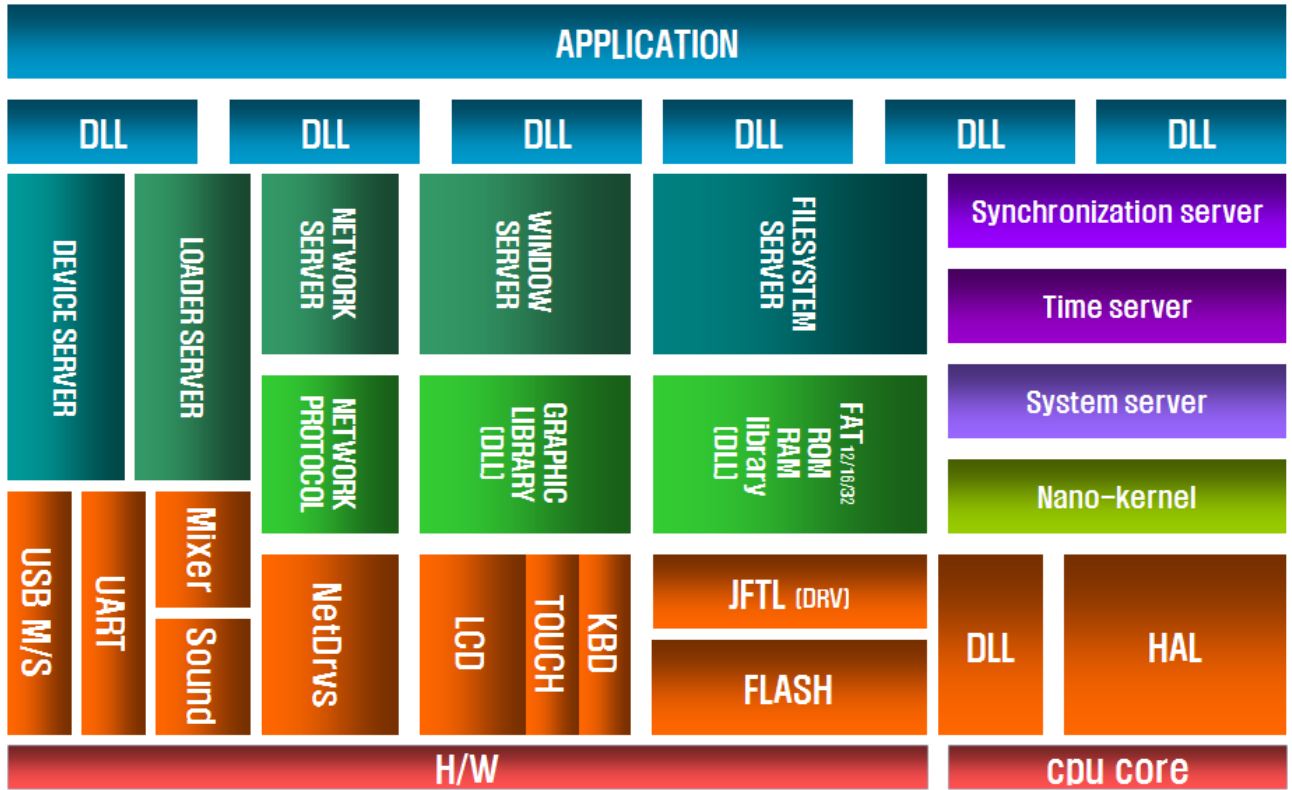
CPU	ATSAMA5D31 support (ATMEL cpu). ATSAMA5D32 support (ATMEL cpu). ATSAMA5D33 support (ATMEL cpu). ATSAMA5D34 support (ATMEL cpu). ATSAMA5D35 support (ATMEL cpu).
MEMORY	DDR2 Ram, SerialFlash, NAND flash.
POWER	3.3 volatage input. Internal Regulator for internal use.
DISPLAY	HDMI/LCD support. (5 Layer overlay)
USB HOST	EHCI/OHCI Keyboard, Mouse, HID Interface devices. USB memory, Printer. USB Camera, variable sensor devices available.
USB DEVICE	USB memory device USB Serial device ActiveSync device
ETHERNET	10M/100M ethernet support. (EMAC) 1G ethernet support. (GMAC)
SOUND	I2S support (WM8960....)
OTHERS	I ² C, SPI, CAN I/F. Timer(6channel), PWM(4 channel), CAN. USART, UART I/F Camera(ISI) I/F. SD/SDIO, eMMC I/F. SoftModem I/F 12bit ADC/Touch I/F GPIO, ...

■ Software Specification

BOOT	JBOOT supported.																																								
OS	<p>dooroos.realtime (http://www.dooroos.org)</p> <ul style="list-style-type: none"> - filesystem server (FAT, ROM, RAM) - device server - window server (GUI) - network server (TCP/IP) 																																								
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Usb driver	<p>USB DEVICE : activesync driver USB DEVICE : mass storage driver USB DEVICE : cdc driver USB HOST : HID keyboard driver USB HOST : HID mouse driver USB HOST : mass storage driver USB HOST : camera driver USB HOST : printer driver</p>																																								
Sample Apps.	<p>Various OS API/Resource demo apps. Network communication apps. (TCP, UDP, RAW) Network protocol apps. (dhcp, ftp, webserver) GUI apps. Simple games Image viewer Media player. Simple shell program.</p>																																								

	Various Setting apps. World clock sample apps. Etc. Visit the homepage http://www.dooroos.org
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● dooroos.realtime block diagram



■ **doorros.realtime benefits**



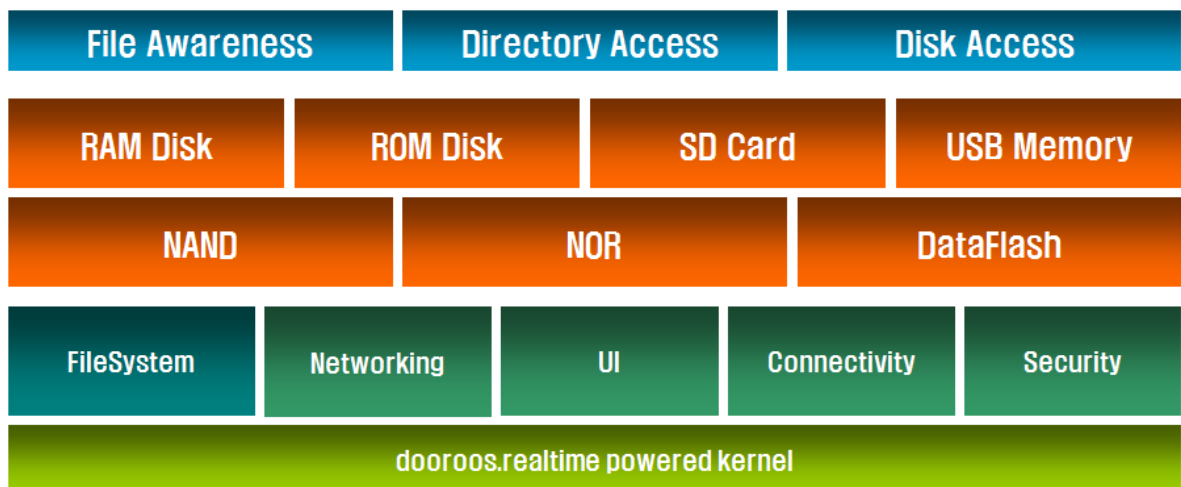
Power Management

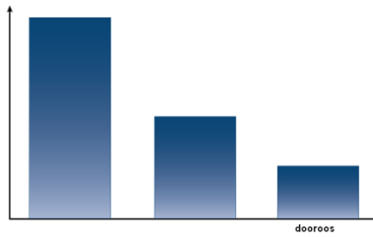
Software driven power management is crucial for extending battery life in portable devices, thermal management and for producing energy efficient embedded devices. Embedded developers can now take advantage of the last power saving features in today's processors with the built-in Power Management Framework in the doorros.realtime. Software Developers control overall system power consumption with high-level APIs, while doorros.realtime manages the power mode transition of each device in system.



Storage Support

Storage device can be formatted for FAT, the same file system can also be present on connected IDE, SD, USB, as well as the soldered down and on-chip Flash devices. Access to file systems is thread-safe, and multiple tasks can simultaneously access multiple files across any combination of physical media.





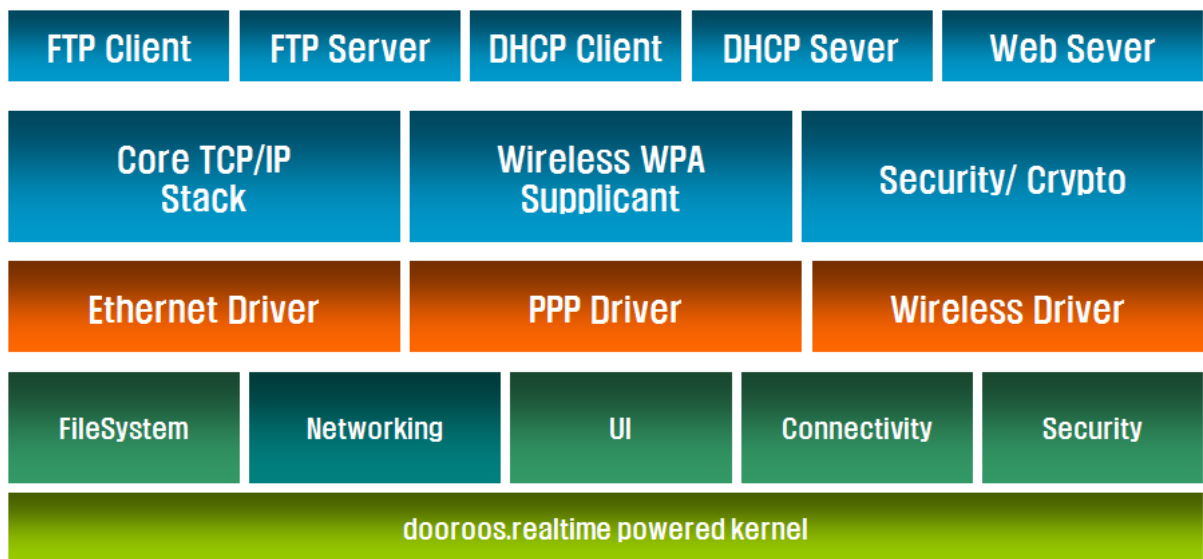
Configurable Code

When you build your dooroos.realtime based system, only the dooroos.realtime components and various middleware library(.dll) required by the system are assembled separately in the final image. By ensuring code size is kept to a minimum, dooroos.realtime can significantly reduce your certification costs, since certification effort is directly proportional to the lines of code being validated. A proven platform, the dooroos.realtime code based has been through the certification/debug process time and time again. With dooroos.realtime as the underlying platform, software developers can be confident their devices will pass the scrutiny of government agencies to ensure safety requirements are met. Source code is provided to facilitate the certification process.



Ready to Wifi

Embedded system facilities can be challenging wireless environments with varying levels of signal strength, multiple AP's from different manufacturers, and a range of authentication and encryption methods that must be supported. The dooroos.realtime wi-fi solution comprises an **wifi** that has a proven track record of reliability and robustness in these demanding environments. Wi-Fi Certified in accordance with the Wi-Fi Alliance, dooroos.realtime delivers a comprehensive solution with 802.11a/b/g/n support on the industry's leading chipset manufacturers including Atheros, Ralink. Because security is important when transmitting protected information over unsecure networks, dooroos.realtime can provide the crypto services to deliver encryption that includes AES, SHA and others.





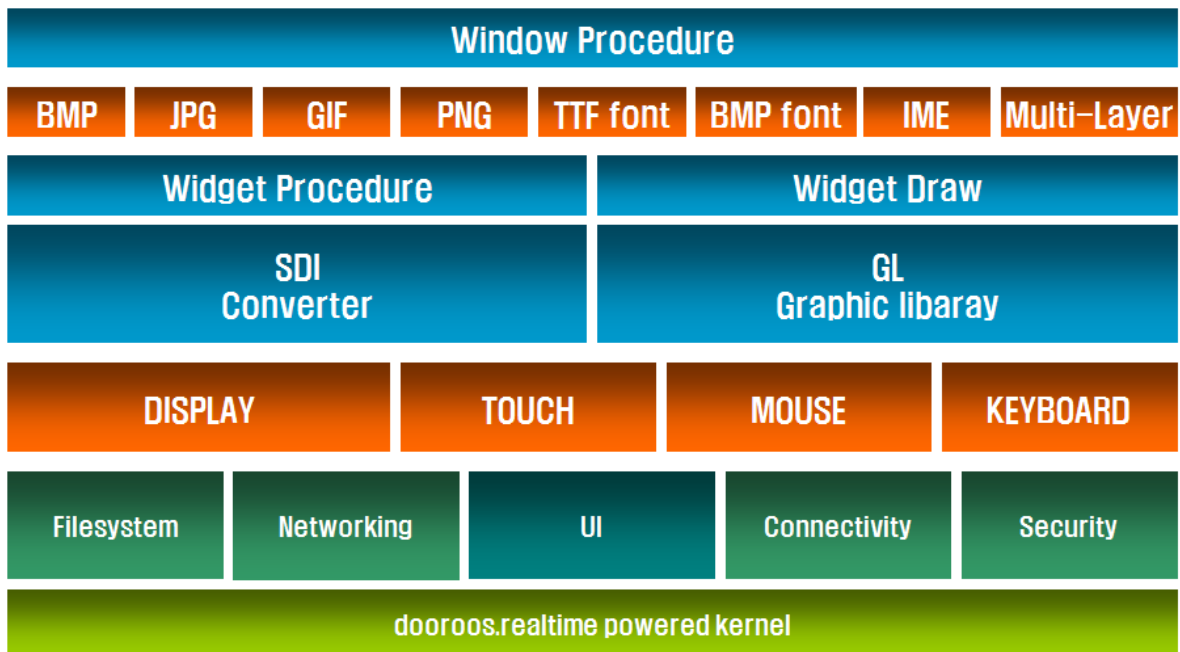
Ready to USB

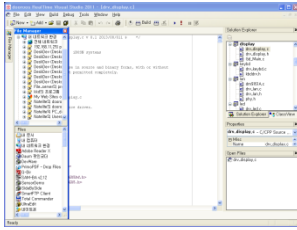
Embedded system device designers can incorporate USB Host, Device, connectivity into systems with the dooroos.realtime. dooroos.realtime offers one of the most comprehensive USB solutions in the industry and is offering both Host and Device nodes.



Integrated UI Development

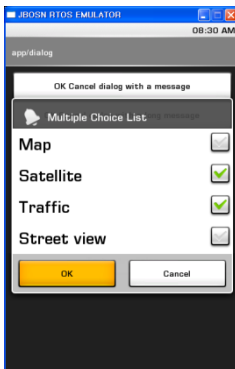
dooroos.realtime comes integrate with dooroos graphical user interface solution with window server helping ensure that developers can create the type of user interfaces demanded in today's emdbded system devices. Our UI solutions include the many middleware(.dll) to handling the image, font and drawing primitives. For UI optimizations and greater system reliability, dooroos.realtime visual studio has been integrated to allow developers to understand the interactions between the UI and the system.





Ready to IDE

The dooroos.realtime development environment enables developers to efficiently develop and build the code in an optimized environment. Dooroos.realtime visual studio is consists of a source code editor, build automation tools and project/solution management tools.



Emulator

The dooroos.realtime SDK includes a dooroos emulator — a virtual hardware device that runs on your computer. The emulator lets you develop and test dooroos.realtime applications without using a physical device.

The dooroos emulator mimics all of the hardware and software features of a typical hardware devices : Display, Touch, keyinput, sound, network, serial, etc except that it cannot place the special hardware device: SPI.... It provides a complete dooroos.realtime development environment which you can control by using your mouse or keyboard to generate events for your application. It also provides a screen in which your application is displayed, together with any other active dooroos.realtime applications.

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Developing for embedded system becomes a breeze. The dooroos emulator is super simple to install and lets you do serious embedded system development from your desktop.

Do your system development straight from your desktop.

dooroos.realtime embedded system proposal

