



DRSMDA5D3x_CUSTOM

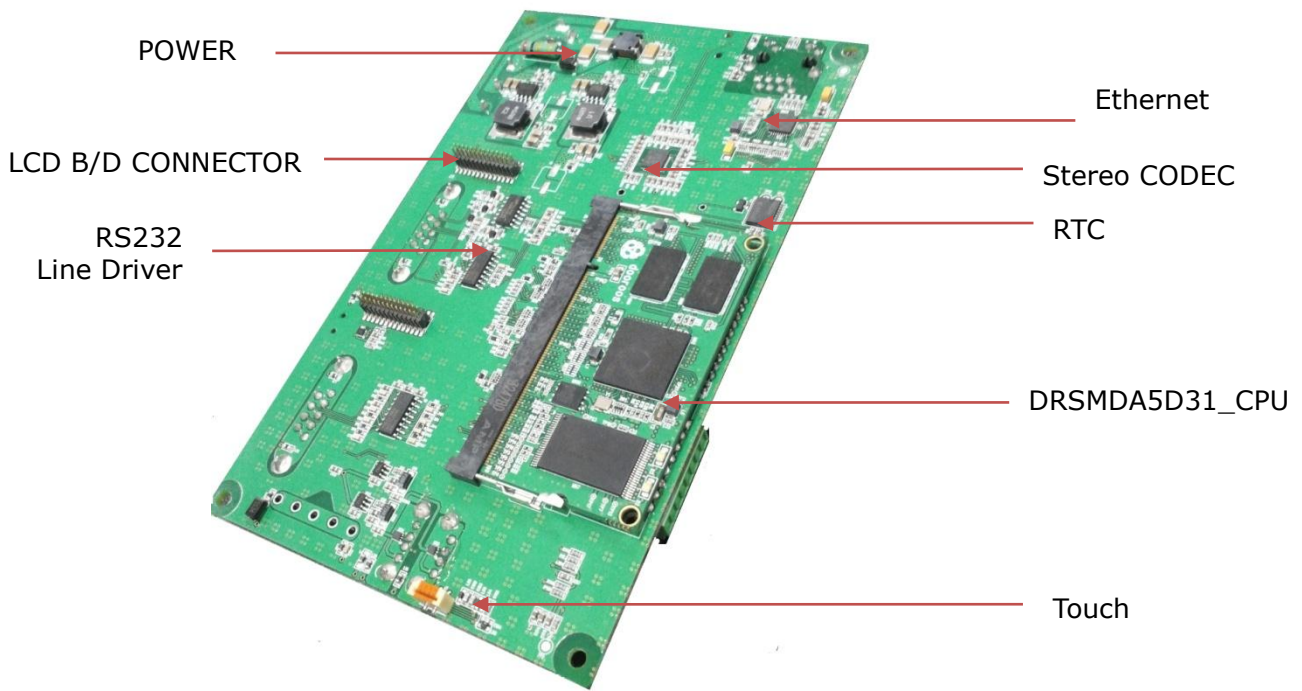
Introduction

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

doorroos@doorroos.org

Version 0.2

1.1. DRSM5D31_CUSTOM



PIO	Peripheral A	Peripheral B	Peripheral C
PA16			ISI_D0
PA17			ISI_D1
PA18		TWD2	ISI_D2
PA19		TWCK2	ISI_D3
PA20		PWMH0	ISI_D4
PA21		PWML0	ISI_D5
PA22		PWMH1	ISI_D6
PA23		PWML1	ISI_D7
PA30	TWD0	URXD1	ISI_VSYNC
PA31	TWCK0	UTXD1	ISI_HSYNC
PC26	SPI1_NPCS1	TWD1	ISI_D11
PC27	SPI1_NPCS2	TWCK1	ISI_D10
PC30	UTXD0		ISI_PCK
PC31	FIQ	PWMFI1	
PD24		AD4	
PD25		AD5	
PD26		AD6	
PD27		AD7	
PD31		AD11	PCK1
PE18			RXD3
PE19			TXD3
PE29		TCLK2	
PE31	IRQ	PWML1	

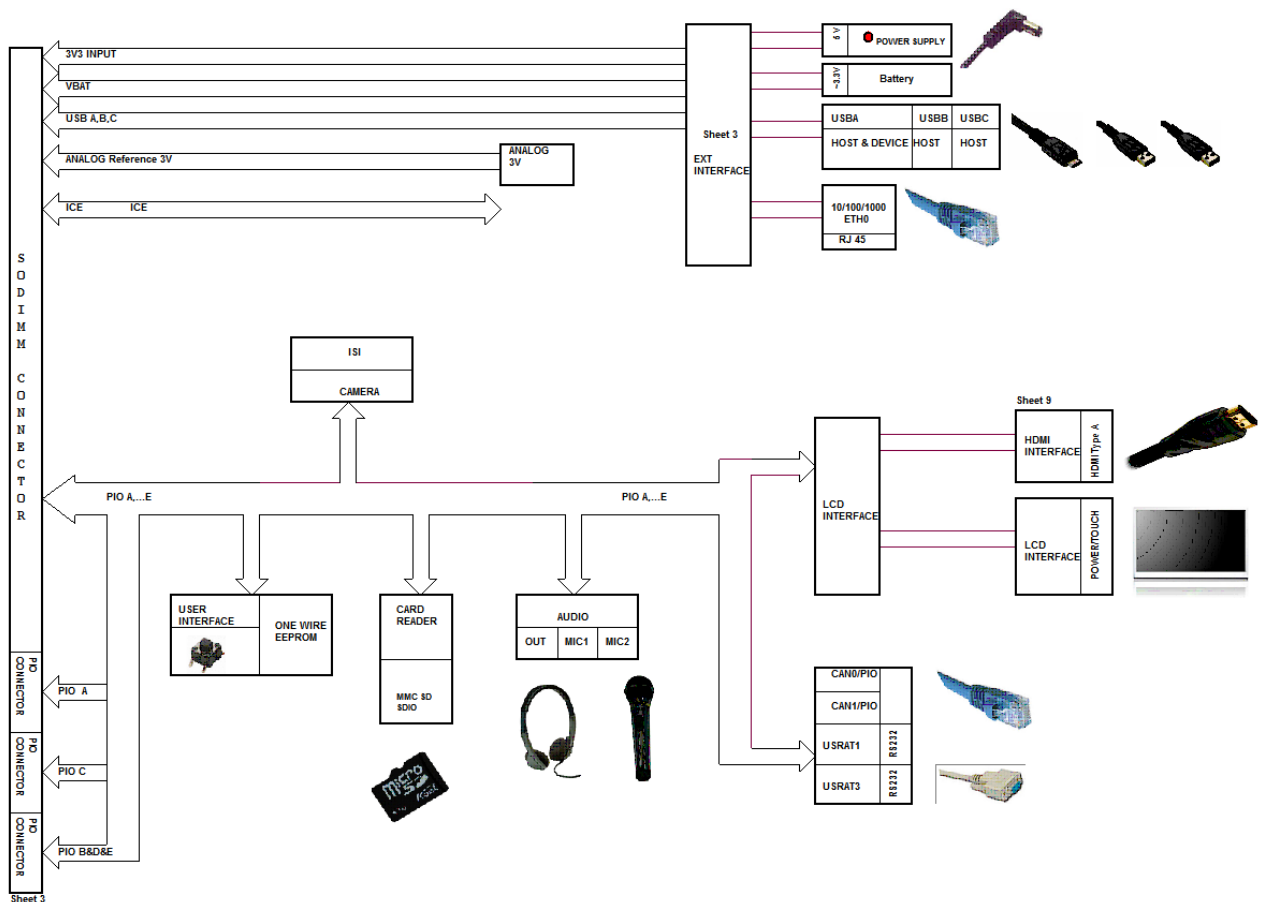
Hardware Specification

TRANSCEIVER	KSZ8081RNB
CAN	PCA82C251
Stereo CODEC	ALC5621
REAL TIME CLOCK	RTC-8564JE
CRYSTAL	XTAL-3.2X2.5/4PIN,25MHz/CFPX-17,28.63636MHz
RS232	SP3232EEN
RS485	SP3070EEN

Board Size

95 x 150(mm)

Block Diagram



CPU module	DRSMDA5D31_CPU acceptable
LAN	EMAC (10/100M) supported.
DISPLAY	LCD / HDMI interface, Backlight interface
TOUCH	Touch panel interface
SOUND	ALC5621 supported

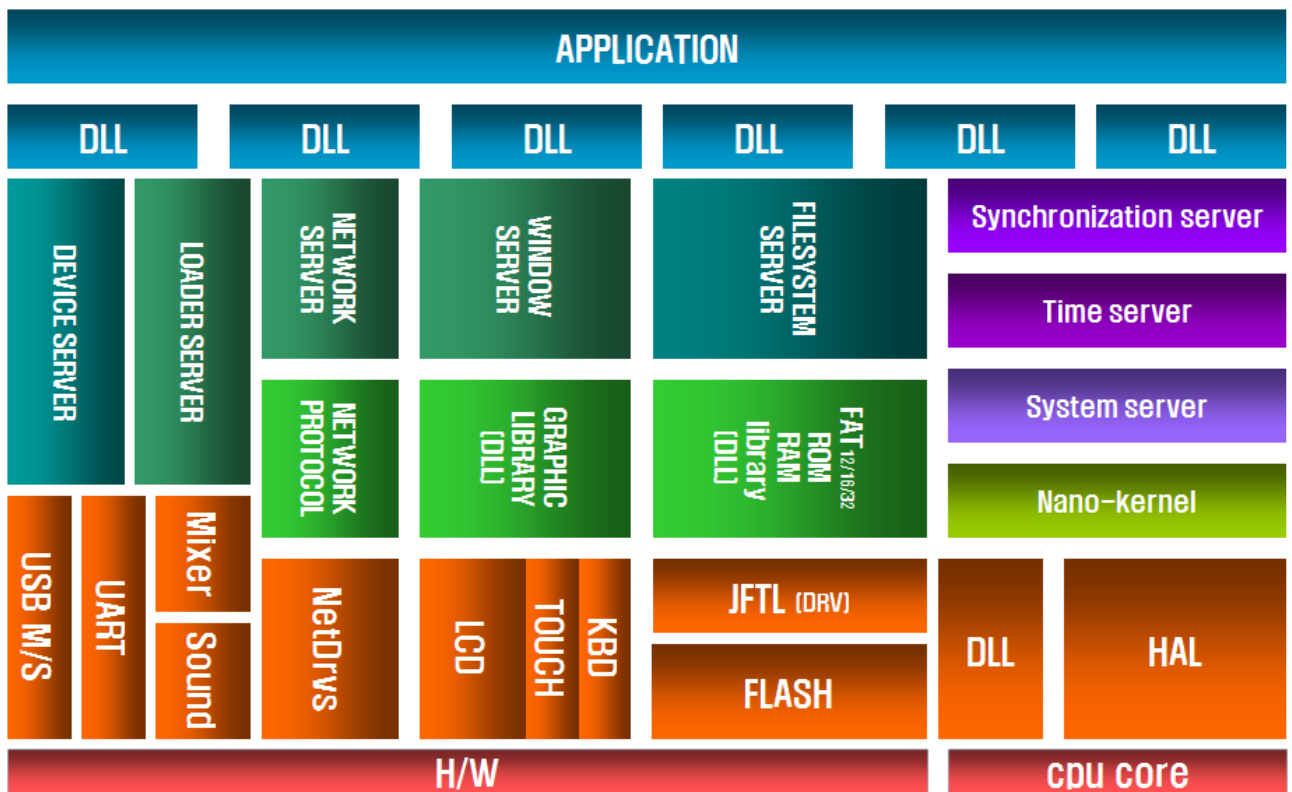
CAN	PCA82C251 supported
Micro SD	Micro SD card Socket
RTC	RTC supported (external power)
UART	RS232+RS485, RS232 supported
USB	USB device I/F, USB host I/F
EXTENSION PORT1(20pin)	
EXTENSION PORT2(8pin)	

Software Specification

BOOT	JBOOT supported.																																								
OS	dooroos.realtime (http://www.dooroos.org) <ul style="list-style-type: none"> - filesystem server (FAT, ROM, RAM) - device server - window server (GUI) - network server (TCP/IP) 																																								
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Sample Apps.	Various OS API/Resource demo apps. Network communication apps. (TCP, UDP, RAW)																																								

	<p>Network protocol apps. (dhcp, ftp, webserver)</p> <p>GUI apps.</p> <p>Simple games</p> <p>Image viewer</p> <p>Media player.</p> <p>Simple shell program.</p> <p>Various Setting apps.</p> <p>World clock sample apps.</p> <p>Etc.</p> <p>Visit the homepage http://www.dooroos.org</p>
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dooroos.realtime block diagram



■ **dooroos.realtime benefits**



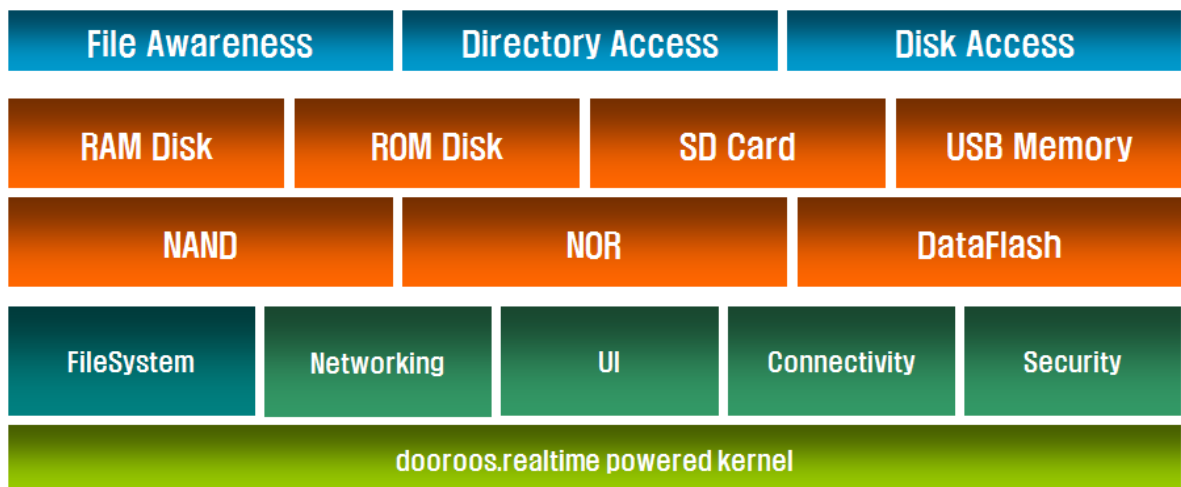
Power Management

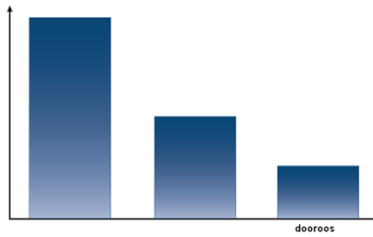
Software driven power management is crucial for extending battery life in portable devices, thermal management and for producing energy efficient embedded devices. Embedded developers can now take advantage of the last power saving features in today's processors with the built-in Power Management Framework in the dooroos.realtime. Software Developers control overall system power consumption with high-level APIs, while dooroos.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 three-safe, and multiple tasks can simultaneously access multiple files across any combination of physical media.





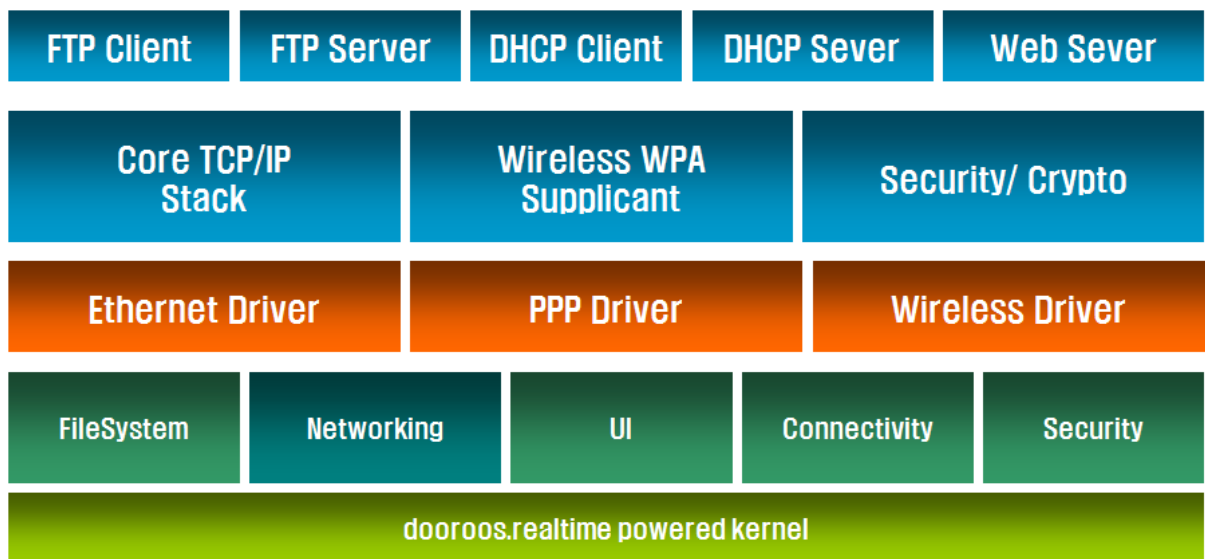
Configurable Code

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.





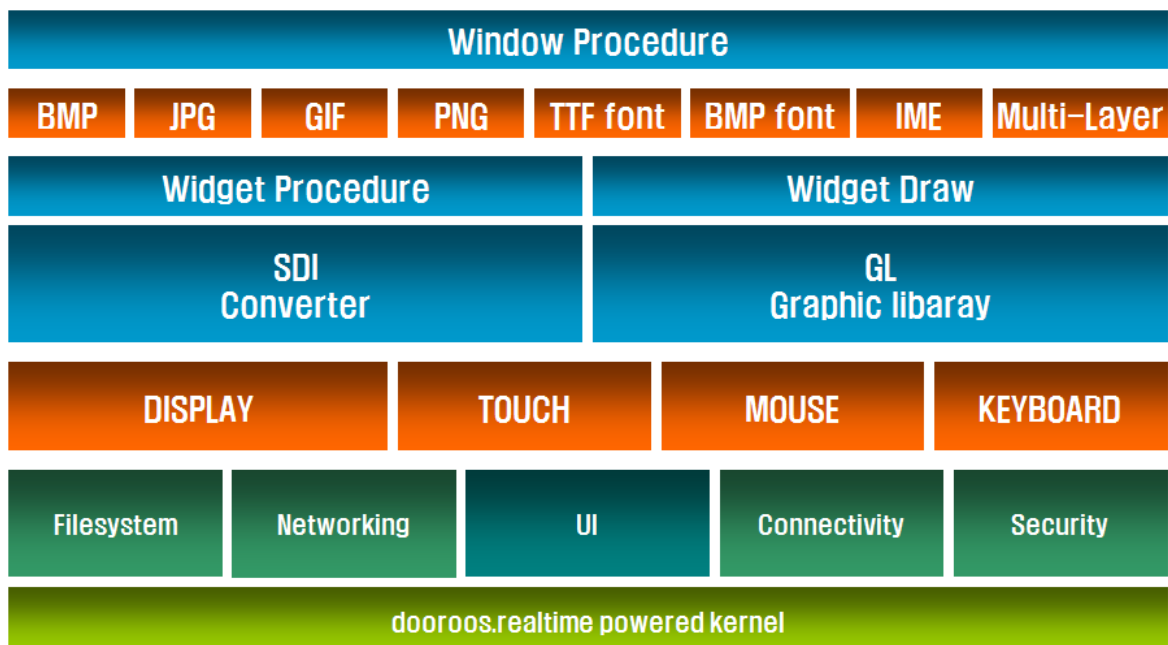
Ready to USB

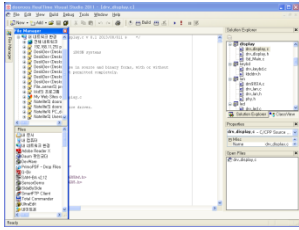
Embedded system device designers can incorporate USB Host, Device, connectivity into systems with the dooroos.realtime. dooroos.realtime offers one of the most comprehensive USB solutions in the industry and is offering both Host and Device nodes.



Integrated UI Development

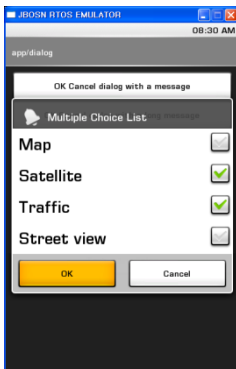
dooroos.realtime comes integrate with dooroos graphical user interface solution with window server helping ensure that developers can create the type of user interfaces demanded in today's emdbded system devices. Our UI solutions include the many middleware(.dll) to handling the image, font and drawing 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

