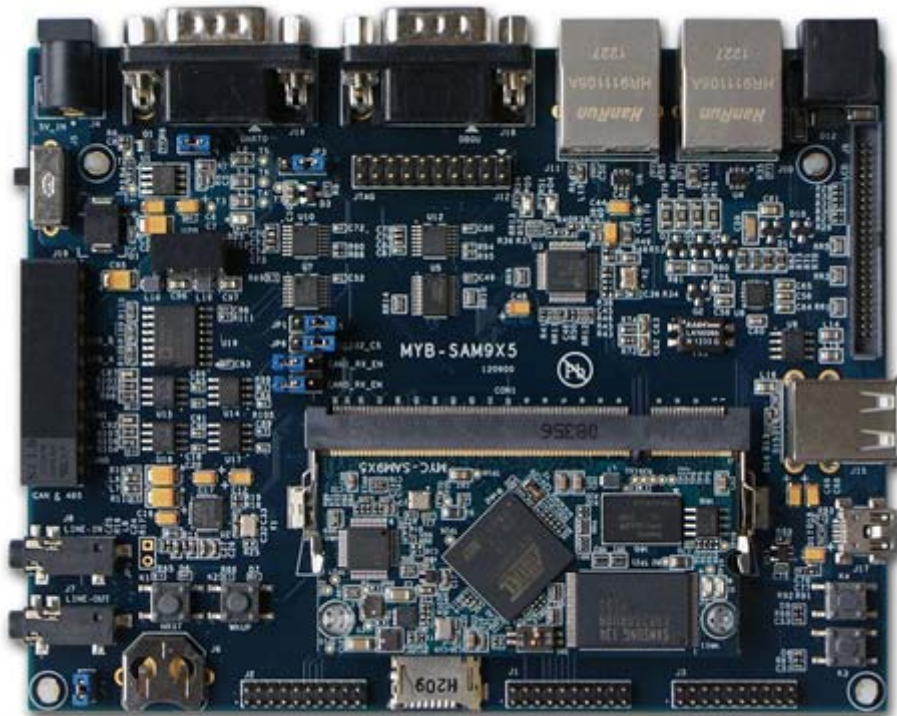


## MYD-SAM9X5 Dev Board

- ATMEL SAM9G15, SAM9G25, SAM9G35, SAM9X25, SAM9X35 ARM9, 400MHZ
- 256MB Nand-Flash, 4MB DataFlash, 128MB DDR2 SDRAM, 64KB EEPROM
- Ethernet, CAN, USB Host/OTG, uart, RS485, Audio
- KEIL MDK example code, Linux 2.6.39, Andriod
- Support 4.3''/7.0'' TFT LCD Module
- Tags: evaluation board, kit, SBC Board, eval kit.



The MYD-SAM9X5 development board series is a fully-featured evaluation platform base AT91SAM9X35, SAM9X25, SAM9G35, SAM9G25 and SAM9G15 ARM9 processor working at 400MHZ. It features rich memories include 128MB DDR2 SDRAM, 256MB NandFlash,4MB DataFlash. The board also carries interfaces support USB Host/OTG, Ethernet, LCD module, CAN, RS485 and SPI etc. The board support Linux 2.6.39 and Andriod 2.2.5 and deliver full periphery driver source code help users to make quick software application and evaluation for AT91SAM9X5 series processors.

The MYD-SAM9X5 development board provide detailed schematic documents,user manual, datasheet and full developed software Linux and Andriod BSP, these features makes a reference as evaluation kit to help users extensively evaluation, customization, develop hardware and software cover many fields like consumer appliances, printers, video process ,industrial control, display system,security device, electric power control system, PDA device and web terminals.



**MYD-SAM9x5 development board has follow types:**

**MYD-SAM9G15 development board (Base ATMEL SAM9G15)**

**MYD-SAM9G25 development board (Base ATMEL SAM9G25)**

**MYD-SAM9G35 development board (Base ATMEL SAM9G35)**

**MYD-SAM9X25 development board (Base ATMEL SAM9X25)**

**MYD-SAM9X35 development board (Base ATMEL SAM9X35)**

The MYD-SAM9X5 development board working as base board MYB-SAM9X5 plugged on a MYC-SAM9X5 CPU Module by SODIMM200 connector. The flexible combination of base board plug CPU Module is convenient to customize base board by user's specified requirement.



Diagram-2 MYC-SAM9X5 CPU Module

**MYC-SAM9X5 CPU Modules have five types (Compatible with ATMEL official SAM9X5-EK):**

- MYC-SAM9G15 CPU Module** (Base ATMEL SAM9G15)
- MYC-SAM9G25 CPU Module** (Base ATMEL SAM9G25)
- MYC-SAM9G35 CPU Module** (Base ATMEL SAM9G35)
- MYC-SAM9X25 CPU Module** (Base ATMEL SAM9X25)
- MYC-SAM9X35 CPU Module** (Base ATMEL SAM9X35)

The CPU Module is a single-board computer that integrates all the core components, memories and plug on base board by SODIMM200 connector. The CPU Module equipped one of the five processor serves as a minimal CPU sub-system. All the five processor: SAM9G15, SAM9G25, SAM9G35, SAM9X25 and SAM9X35 share the same circuitry with minor configuration settings on MYC-SAM9X5 CPU module.

**All the five CPU modules compatible with ATMEL official SAM9X5-EK and can work on SAM9X5-EK's main board directly.**

**»CPU module hardware features**

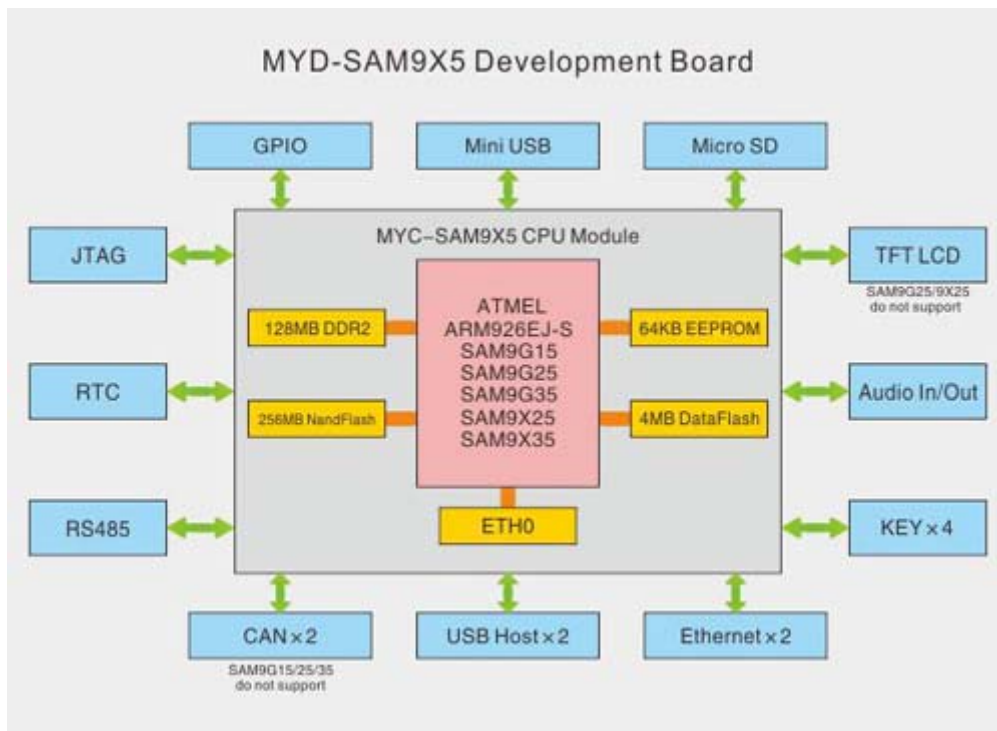
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- ATMEL SAM9G15/9G25/9G35/9X25/9X35 ARM9 processor
- 128MB DDR2 SDRAM, 256MB NandFlash, 4MB DataFlash, 64KB EEPROM
- 10/100Mb/s Ethernet MAC controller (DM9161)
- Power led(Red), system tick led(blue)
- 200pin gold finger

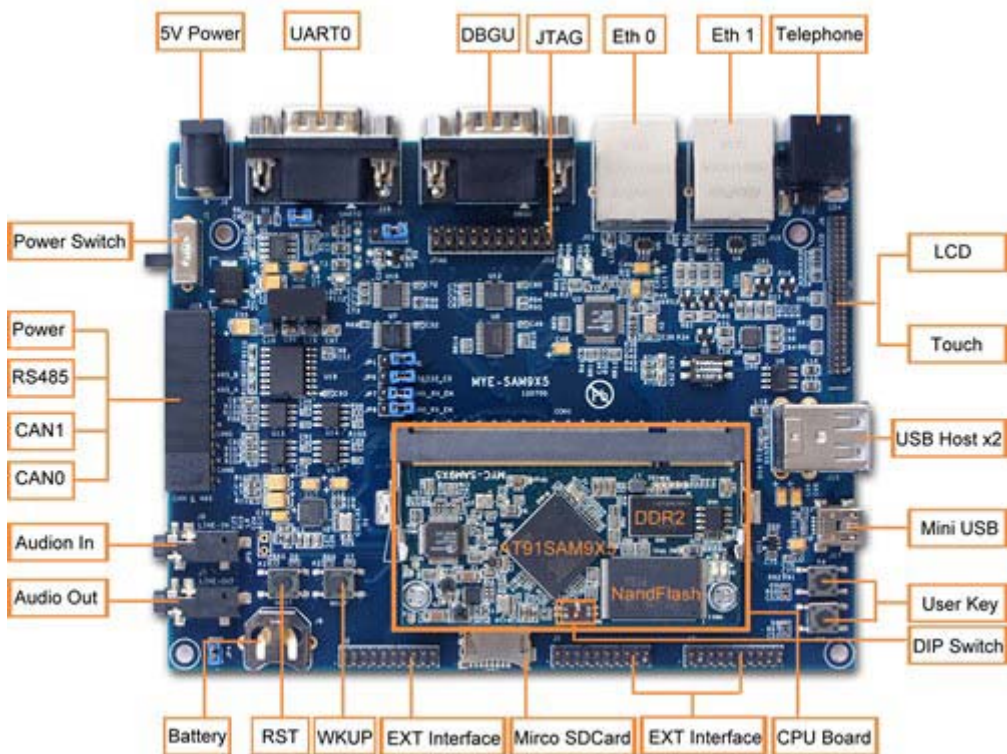
MYD-SAM9X5 development board equipped industrial standard components to meet hard working environment, and route independent circuitry for CAN and RS485 to avoid disturb. The MYD-SAM9X5 based on ATMEL SAM9X5 ARM9 MPUs's features and advantage, being a full function tool enables users to extensively evaluate, prototype, and customization.

Users are likely to have MYIR design new base board with specified interfaces and plug on CPU modules directly, it cut down design time and material cost effectively.

»Function Block



»Periphery and interfaces



## »Development board specifications

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### Processor

- ATMEL SAM9G15,SAM9G25,SAM9G35,SAM9X25 and SAM9X35 ARM9 processor, 16KB data Cache,16KB instruction Cache, MMU
- On-chip: 32KB SRAM,64KB ROM

### Memory and storage

- 128MB DDR2 SDRAM ,256MB Nand-Flash, 4MB DataFlash, 64KB EEPROM
- SD Card slot

### Periphery interfaces

- Serial port
  - 1x DBGU(Debug Unit)
  - 1xUART0(reuse with RS485)
  - 2x extended UART1 andUART3(without MAX3232),1x UART2(have MAX3232)
- RS485 reuse with UART0,switch by jumper
- LCD interface (MYD-SAM9G15/G35/X35 support 4.3''/7.0'' TFT LCD Module)
- 2xCAN (Available on MYD-SAM9X25 and MYD-SAM9X35)
- 2xHigh speed USB HOST
- 1x mini USB OTG
- SD Card slot
- Ethernet
  - MYD-SAM9G15 doesn't support Ethernet.
  - MYD-SAM9X25 support 2x Ethernet port(J10 and J11)
  - MYD-SAM9G25,MYD-SAM9G35,MYD-SAM9X35 support one Ethernet port(J11)
- 2xSPI ,2xI2C , 4xADC and 41xGPIO pins(refer to user manual for reuse pins)
- Debug interface: 20-pin, 2.54mm JTAG standard.

### Board features

- Board size:
  - Base board,140mm x 108mm
  - CPU Module,68mm x 35mm
- PCB layers:
  - Base board,4 layers
  - CPU Module,8 layers

- PCB Flash gold process
- Working temperature: -40°~+85°
- Industrial level PCB board and components
- Rohs compliance, Lead-free

Noted: MYD-SAM9X5 board base ATMEL ARM9 processor, mainly focus on industrial application working in harsh environment, the board with its components are industrial level can work in -40°~+85°. If the products you are developing is cost sensitive and working at 0°~+70°, please contact us for new quotation, we can replace with some non-industrial components to cut down cost for your requirement.

- Voltage supply:
  - Base board,5V/2A
  - CPU Module,3V3 from SODIMM200 connector
- Linux 2.6.3
- Andriod 2.3.5
- KEIL example code

#### MYD-SAM9X5 Development Board features comparison

Products	MYD-SAM9X25	MYD-SAM9X35	MYD-SAM9G15	MYD-SAM9G25	MYD-SAM9G35
<b>Processor</b>					
CPU	AT91SAM9X25	AT91SAM9X35	AT91SAM9G15	AT91SAM9G25	AT91SAM9G35
Core	ARM926EJ-S,working frequency400MHz				
SRAM	32KB				
In-chip ROM	64KB				
<b>External memory</b>					
SDRAM	128MB				
NandFlash	256MB				
DataFlash	4MB				
EEPROM	64KB				
Micro SD	1				
<b>Interfaces on MYB-SAM9G base board</b>					
Ethernet	2	1	0	1	1
CAN	2	2	0	0	0
USB HOST	2				

USB OTG	1				
UART(DBGU,UART0)	2				
RS485	1				
Telephone	1				
<b>User interface</b>					
LCD support	0	1	1	0	1
Audio input	1				
Audio output	1				
User button	2				
System button	2				
<b>System interface</b>					
RTC	1				
JTAG interface	1				
<b>User extend interface(Please refer to user manual for reuse pins)</b>					
Serial port(UART1,2,3)	3				
SPI	2				
TWD(I2C)	2				
ADC module	4				
PWM	4				
GPIO pins	41				

»Software resource

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**MDK source code list**

Content	Name	Description
<b>System</b>	getting-started	Boot up chip and configure periheries
	pmc_clock_switching	System clock switch
<b>Memory</b>	twi_eeprom	Access EEPROM by TWI

<b>device test</b>	hsmci_multimedia_card	Media card test
	hsmci_sdcard	SD card test
	smc_nandflash	Nandflash test
	spi_serialflash	Dataflash test
<b>User interact</b>	adc_touchscreen	Getting touch panel event by ADC
	lcd	Configure LCD controller
	ssc_dma_audio	Play wav media files
<b>Data transfer</b>	adc_adc10	Demonstrate ADC
	can	CAN test
	dma	DMA test
	periph_protect	PIO controller protect
	pwm	PWM channel configure, generate cycle and frequency
	usart_serial	USART0 to DBUG
	emac	Ethernet test
	rs485	RS485 test
<b>USB Device</b>	usb_audio_looprec	USB Desktop Speaker
	usb_cdc_serial	USB convert to RS-232
	usb_core	USB module
	usb_hid_keyboard	USB Keyboard
	usb_hid_mouse	USB Mouser
	usb_hid_msd	USB device with keyboard and memory
	usb_hid_transfer	User HID device
	usb_iad_cdc_cdc	2xUSB convert to RS-232
	usb_iad_cdc_hid	USB device(USB convert to RS232 and USB HID keyboard)
	usb_iad_cdc_msd	USB convert to RS232 and U-disk
	usb_massstorage	USB convert to mass storage disk



## Linux source code

Content	Name	description
<b>Boot code</b>	AT91Bootstrap	First boot code
	u-boot	u-boot
<b>Linux internal</b>	Linux2.6.39	
<b>Device driver</b>	Ethernet	Ethernet driver
	LCD+Touch	LCD and touch panel,support 4.3'', 7'' and 10.2''
	USB Host	USB Host driver, support OHCI and EHCI mode
	USB Device	USB Devicedriver(Gadget)
	Audio	WM8731 audio driver
	MMC / SD	MMC/SD driver
	NandFlash	NandFlash/Smart Media driver
	UART	Serial port driver
	TWI(I2C)	Two Wire Interface(I2C)driver
	SPI	SPI driver
	RTC	RTC clock driver
	PWM	PWM(pulse modulate)driver
LED	GPIO LED and PWM LED driver	
<b>File system</b>	Angstrom-X11	X11 File system with desktop UI

## Andriod source code

Content	Name	description
Boot code	AT91Bootstrap	Uboot
	Uboot	1.support NandFlash read/write 2.download image by ethernet 3.configure 4.Supportmemory display, compare and modify 5. support bootm,bootargs setting.
Linux internal	Linux2.6.39	
Device driver	Ethernet	Ethernet driver
	LCD+Touch	LCD and touch panel driver
	USB	USBHOSTx2,USBOTG
	MMC/SD	MicroSD driver
	UART	USART0,DBGU driver
	SPI	SPI driver
	TWI(I2C)	Two Wire Interface(I2C)driver
	DMA	DMA driver
	GPIO	GPIO driver
File system	Android file system	

### »Application field

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MYD-SAM9x5 development board applies to: internet terminal, auto-control, medical instrument, home auto device, security device, embedded training,consumer appliances, printers, video process ,industrial control, display system, PDA devicefields.

»Packing list

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<b>NO</b>	<b>NAME</b>	<b>QTY</b>	<b>DESCRIPTION</b>
1	MYD-SAM9x5 development board	1	Include base board + CPU Modules
2	Ethernet cable	1	150cm
3	mini USB 2.0 cable	1	150cm
4	Power adapter	1	5V/2A
5	Serial port cable	1	150cm
6	DVD	1	Include schematic PDF, user manual, source code