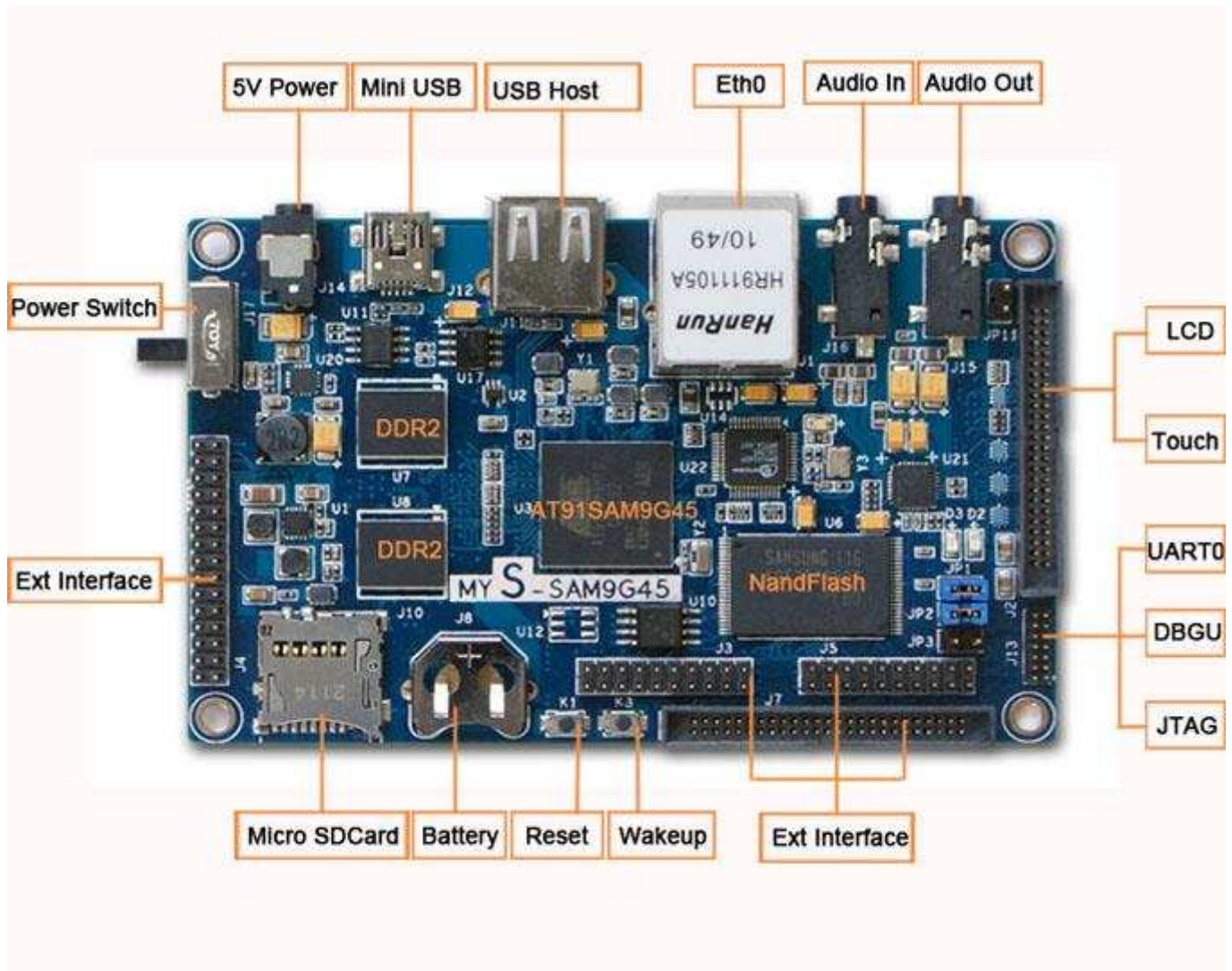# MYS-SAM9G45 Single Board Computer

The MYS-SAM9G45 Single Board Computer is highly-integrated controller board for Atmel AT91SAM9G45 which is a 400MHz ARM926 based embedded microprocessor with DDR2 and LPDDR support, a wide range of connectivity and user interface peripherals, as well as a dual external bus interface.

Measuring 100mm by 64mm, the compact board takes full features of the SAM9G45 processor. It has 128MB DDR2 SDRAM, 256MB Nand Flash, 4MB Data Flash and 512KB EEPROM on board and exposes many peripheral interfaces including two USB Host and one OTG, Ethernet, LCD, TF, Audio, etc.

The board supports running Linux 2.6.30 and Andriod 2.3.1 operating systems and is delivered with driver source code to help users create their own application. MYIR also offers detailed documents as well as some necessary cable accessories along with the goods delivery which help user to start their development quickly.

The MYS-SAM9G45 SBC board is smart in size and advanced in PCB design, it's easy to embed into your products directly which will help cut down cost and reduce time. It can be used for a wide range of applications including Industrial Control Terminal, Intelligent Instrumentation, Data Acquisition and Analysis, Medical products, Network Terminal, etc.

Processor

- Atmel AT91SAM9G45 ARM926EJ-S processor
  - 32-bit ARM RISC processor running at up to 400MHz
  - 32KB Data Cache, 32KB Instruction Cache with MMU
  - 64KB Chip SRAM, 64KB ROM

Memory and Storage

- 128MB DDR2 SDRAM, 256MB Nand Flash,4MB Data Flash and 512KB EEPROM
- 1 x Micro SD Card slot

Peripheral Interfaces

- One RS232 serial port
- One LCD interface (support 24-bit true color, resolution up to 1280 x 860)
- One 4-wire touch screen interface
- USB
  - 2 x High-speed USB 2.0 Host port
  - 1 x High-speed Mini USB 2.0 OTG port
- One 10/100Mbps Ethernet
- One CAN interface
- One Audio input port (3.5mm Jack)
- One stereo Audio output port (3.5mm Jack)
- RTC Battery socket
- One 14-pin JTAG interface
- One power indicator (Red LED)
- One User LED (Blue)
- Two buttons (one for Reset, one for WakeUp)
- Four expansion interfaces

Mechanical Parameters

- Dimension:　100mm x 64mm
- PCB layers:　8-layer design
- Power supply: 5V/2A
- Working Temp.: 0~70 Celsius (commercial level) or -40~85 Celsius (industrial level)
  Noted: Our products are delivered of commercial grade (0~70 Celsius) by default.　Anyhow the MYS-SAM9G45 board base on Atmel ARM9 processor can work for industrial applications working in harsh environment with working temperature ranging from -40 Celsius to 85 Celsius. Please contact us for price and availability of products of industrial grade if you needed.

OS support and Sample codes

- Linux 2.6.30
- Andriod 2.3.1
- Keil MDK-ARM example code

Software Features

MYIR has ported Linux 2.6. 30 and Android 2.3.1 OS on the MYS-SAM9G45 board and software development package is provided along with the board, many of the drivers are in source code. MYIR also offers plenty of MDK-ARM sample codes for this board. Customers can create their own applications based on the material. Please refer to the software features below:

Linux Features

Name		Description
Bootloader	AT91Bootstrap	Guide Uboot
	Uboot	Version: UBoot1.3.4
		Function: 1. NandFlash erase/read/write 2. Support network download image 3.Configure, save setting 4.support bootm,bootargs setting
Linux-2.6.x		ROM/CRAM/EXT2/EXT3/FAT/NFS/ JFFS2/UBIFS
Kernel and device driver	System clock	System frequency:400MHz
	Display driver	Support4.3'' LCD
	Touchscreen	Touch screen
	DM9000	DM9000 ethernet driver
	HSMMC	SD/MMC/SDIO driver
	NANDFLASH	Nandflash driver
	SERIAL	Com driver
	USB Host	Support USB keyboard, mouse, U-disk
	DMA	DMA driver
	SPI	SPI driver
	IIC	I2Cdriver
	USB Gadget	USB Gadget driver
	Jffs2 file system	Support jffs2 file system
Cross compile	arm-none-linux-gnueabi	Cross compile tools chain
PC Software	SAM-BA1.13+USB	SAM-BA download kernel into board Nanflash via USB

MDK-ARM Features

Name	Description
NandFlash	NandFlash operation
fatfs	File system operation
filesystem	The implement of source-open FAT file system
datafalsh	SPI with dataflash
twi-eeprom	Access EEprom by TWI
rtt	Timer
rtc	Real time clock

Andriod Features

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.
Android	Android 2.3.1	
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	

Order Information (Product Item/Part No.)

MYS-SAM9G45 Single Board Computer/MYS-SAM9G45

Packing List

- One MYS-SAM9G45 Single Board Computer
- One DB9-to-DB9 Serial cable
- One Net cable
- One USB cable
- One JTAG and UART conversion board
- One Product DVD
- 4.3-inch LCD/TSP (optional)
- 7-inch LCD/TSP (optional)

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