

*...embedding excellence*



# EMBEDDED COMPUTER TECHNOLOGY



Addendum 2011

nanoRISC® | Qseven™

## MSC NANORISC-S5PV210

Samsung® Cortex™-A8



www.msc-ge.com  
 ▶▶ Quick Link: 7021



### DESCRIPTION

nanoRISC® is a module concept combining the latest low power RISC controllers and embedded interfaces on a small form factor COM (Computer On Module). Ideally suited for embedded applications, a variety of easy-to-use interfaces are available.

The nanoRISC form factor has been created for applications requiring a small form factor and lowest power consumption. nanoRISC modules will be plugged onto an application-specific baseboard.

The design of the nanoRISC S5PV210 module is based on the new Samsung® Cortex™-A8 CPU offering high performance, lowest power consumption and a high degree of functional integration for entry-level embedded applications. The S5PV210 processor is combined with DDR2 SDRAM, SLC NAND Flash, 10/100Mbit Ethernet LAN and a power management controller (PMIC).

The module is available in commercial and extended commercial temperature range.

Support for Linux is available (Windows CE on request).

70 x 50		+85°C	
2.5 W			
Mid		-25°C	

### HIGHLIGHTS

- Samsung® S5PV210 Cortex™-A8 CPU clocked at 800MHz or 1.0GHz
- Up to 1Gbyte DDR2 SDRAM soldered
- Up to 4Gbyte SLC NAND Flash soldered
- Up to 32Gbyte eMMC Flash
- 10/100 Base-T Ethernet Interface
- USB 2.0 Host
- USB 2.0 OTG Host/Client High Speed
- Multiple Graphics Interfaces:
  - RGB 18/24 bit up to 1,366 x 768
  - HDMI up to 1,080p
  - TV Out with support for PAL, NTSC, CVBS and S-Video
- CAN 2.0B, 3x UART, 2x SPI, 2x I<sup>2</sup>C
- AC97 and I<sup>2</sup>S Audio Interface
- SD V2.0 / SDIO V1.0 / MMC V4.2

## MSC NANORISC-S5PC100

Samsung® Cortex™-A8



www.msc-ge.com  
 ▶▶ Quick Link: 7023



### DESCRIPTION

nanoRISC® is a module concept combining the latest low power RISC controllers and embedded interfaces on a small form factor COM (Computer On Module). Ideally suited for embedded applications, a variety of easy-to-use interfaces are available.

The nanoRISC form factor has been created for applications requiring a small form factor and lowest power consumption. nanoRISC® modules will be plugged onto an application-specific baseboard.

The design of the nanoRISC S5PC100 module is based on the new Samsung® Cortex™ A8 CPU offering high performance, lowest power consumption and a high degree of functional integration for entry level embedded applications. The S5PC100 processor is combined with DDR2 SDRAM, SLC NAND Flash, 10/100Mbit Ethernet LAN and a power management controller (PMIC).

The module is available in commercial and extended commercial temperature range.

Support for Linux is available (Windows CE on request).

70 x 50		+85°C	
2.5 W			
Mid		-25°C	

### HIGHLIGHTS

- Samsung® S5PC100 Cortex™-A8 CPU clocked at 667MHz or 833MHz
- Up to 512Mbyte DDR2 SDRAM soldered
- Up to 4Gbyte SLC NAND Flash soldered
- Up to 32Gbyte eMMC Flash
- 10/100 Base-T Ethernet Interface
- USB 1.1 Host
- USB 2.0 OTG Host/Client High Speed
- Multiple Graphics Interfaces:
  - RGB 18/24 bit up to 1,280 x 720
  - HDMI (480p, 576p, 720p)
  - TV Out with support for PAL, NTSC, CVBS and S-Video
- CAN 2.0B, 2x UART, 2x SPI, 2x I<sup>2</sup>C
- AC97 and I<sup>2</sup>S Audio Interface
- SD V2.0 / SDIO V1.0 / MMC V4.2

## MSC NANORISC-S3C2416

Samsung® ARM9



www.msc-ge.com  
 ▶▶ Quick Link: 7156



### DESCRIPTION

nanoRISC® is a module concept combining the latest low power RISC controllers and embedded interfaces on a small form factor COM (Computer On Module). Ideally suited for embedded applications, a variety of easy-to-use interfaces are available.

The nanoRISC form factor has been created for applications requiring a small form factor and lowest power consumption. nanoRISC® modules will be plugged onto an application-specific baseboard.

The design of the nanoRISC S3C2416 module is based on the new Samsung® ARM9 CPU offering high performance, lowest power consumption and a high degree of functional integration for entry level embedded applications. The S3C2416 processor is combined with DDR2 SDRAM, SLC NAND Flash, 10/100Mbit Ethernet LAN and a power management controller (PMIC).

The module is available in commercial and industrial temperature range.

Support for Linux is available  
 (Windows CE on request).

70 x 50		+85°C	
1.8 W			
Entry		-40°C	

### HIGHLIGHTS

- Samsung® S3C2416 ARM9 CPU clocked at 400MHz
- Up to 128Mbyte DDR2 SDRAM soldered
- Up to 1Gbyte SLC NAND Flash soldered
- Up to 32Gbyte eMMC Flash
- 10/100 Base-T Ethernet Interface
- USB 1.1 Host
- USB 2.0 Device
- RGB Graphics Interface up to 640 x 480
- CAN 2.0B, 3x UART, 2x SPI, 2x I<sup>2</sup>C
- AC97 and I<sup>2</sup>S Audio Interface
- SD V2.0 / MMC V4.2
- RTC, System Monitoring, Watchdog
- Touchscreen and ADC Interface
- PWM and Timer
- Power Management with Lithium Battery Charger

## MSC NANORISC-MB2

Embedded Platform



www.msc-ge.com  
 ▶▶ Quick Link: 7024



### DESCRIPTION

nanoRISC® is a module concept combining the latest low power RISC controllers and embedded interfaces on a small form factor COM (Computer On Module). Ideally suited for embedded applications, a variety of easy-to-use interfaces are available.

The nanoRISC form factor has been created for applications requiring a small form factor and lowest power consumption. nanoRISC modules will be plugged onto an application-specific baseboard.

The evaluation platform MSC NANORISC-MB2 offers a variety of interfaces commonly used in embedded applications such as LAN, USB, Graphics with RGB 18/24 Bit and LVDS interfaces and various serial ports such as UARTs, CAN, I<sup>2</sup>C and SPI.

In addition a camera interface and an SD Card socket are supported to enhance the functionality and usability of the nanoRISC motherboard.

The board is available in commercial and industrial temperature range.

Support for Linux is available  
 (Windows CE on request).

160 x 100		+85°C	
		-40°C	

### HIGHLIGHTS

- Socket for nanoRISC® compatible modules
- LCD Panel Interfaces with both support for LVDS and RGB
- Backlight Power 8..20VDC (depending on external power supply)
- Standard DVI Connector
- 10/100 Base-T Ethernet Interface
- USB Host Port (dual, depending on module)
- USB OTG / Client Port (dep. on module)
- Touch Screen Support (4-wire resistive)
- ITU656 Video Input Interface
- CAN Bus, 2x COM Ports on 9pin Sub-D
- AC97 Audio Codec with standard Audio Connectors
- SD Card Slot (depending on module)
- Local Bus on Pin Header
- Battery Charger Support (Lithium Cell)
- 8..20V Power Supply Input

# nanoRISC®

## MSC NANORISC-SK-MB2 Evaluation and Development Kit

**NEW**



**ARM**

www.msc-ge.com  
▶▶ Quick Link: 7025



### DESCRIPTION

nanoRISC® is a module concept combining the latest low power RISC controllers and embedded interfaces on a small form factor COM (Computer On Module). Ideally suited for embedded applications, a variety of easy-to-use interfaces are available.

The nanoRISC form factor has been created for applications requiring a small form factor and lowest power consumption. nanoRISC modules will be plugged onto an application-specific baseboard.

The nanoRISC Evaluation and Development Kit is a complete, ready-to-run Starterkit für MSC's range of nanoRISC processor modules. It consists of the nanoRISC Embedded Platform Board MB2, a suitable Power Supply and a 7-inch WVGA Display and a suitable Debug Adapter. The nanoRISC module of choice and the appropriate SD Card with pre-installed Linux Operating System must be ordered separately. The complete BSP (Board Support Package) and further Drivers and Tools can be downloaded from the MSC FTP server (address supplied).

Users can select any nanoRISC processor module and use it with the Starterkit. The resulting hardware will then be immediately ready for use.

### HIGHLIGHTS

- Evaluation and Development Kit for all nanoRISC® Modules
- Includes 7" LCD panel 800 x 480 pixels with all required interface cables
- Power Supply included
- Debug Adapter provided
- SD Card with pre-installed Linux Operating System to be ordered with CPU module
- nanoRISC CPU module not contained – please order separately
- Complete range of usable interfaces:
  - 10/100 Base-T Ethernet Interface
  - USB Host Port (dual, depending on module)
  - USB OTG / Client Port (dep. on module)
  - CAN Bus, 2x COM Ports on 9pin Sub-D
  - AC97 Audio Codec with standard Audio Connectors

# Qseven™

## MSC Q7-MB-EP4 Embedded Platform ARM

**NEW**



www.msc-ge.com  
▶▶ Quick Link: 7169



### DESCRIPTION

The Qseven™ embedded platform MSC Q7-MB-EP4 offers a variety of interfaces commonly used in embedded applications such as Gigabit LAN, USB 2.0, serial and LVDS / DVI for display attachment. In addition mini PCI Express™, mSATA and SD-Card sockets are supported to extend the functions on the baseboard.

The Qseven slot of the EP4 board is placed on the solder side making it easy to thermally connect the Qseven heatspreader to a metal enclosure and provide fanless heat dissipation.

148x102

### HIGHLIGHTS

- DVI connector
- Dual Gigabit Ethernet
- mini PCI Express slot
- MMC/SD Card socket
- mSATA slot
- SATA connector
- RS232 on pin header
- CAN bus on pin header
- Five USB 2.0 Host interfaces, four external
- One USB 2.0 Client interface
- Touch Screen controller onboard
- LVDS display connection via JILI30
- Backlight interface 3.3 / 5 / 12VDC
- Wide supply range from 10 - 28VDC

# Take a Look - We Are Close to You



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SYSTEMS  
COMPONENTS  
VERTRIEBS GMBH**

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