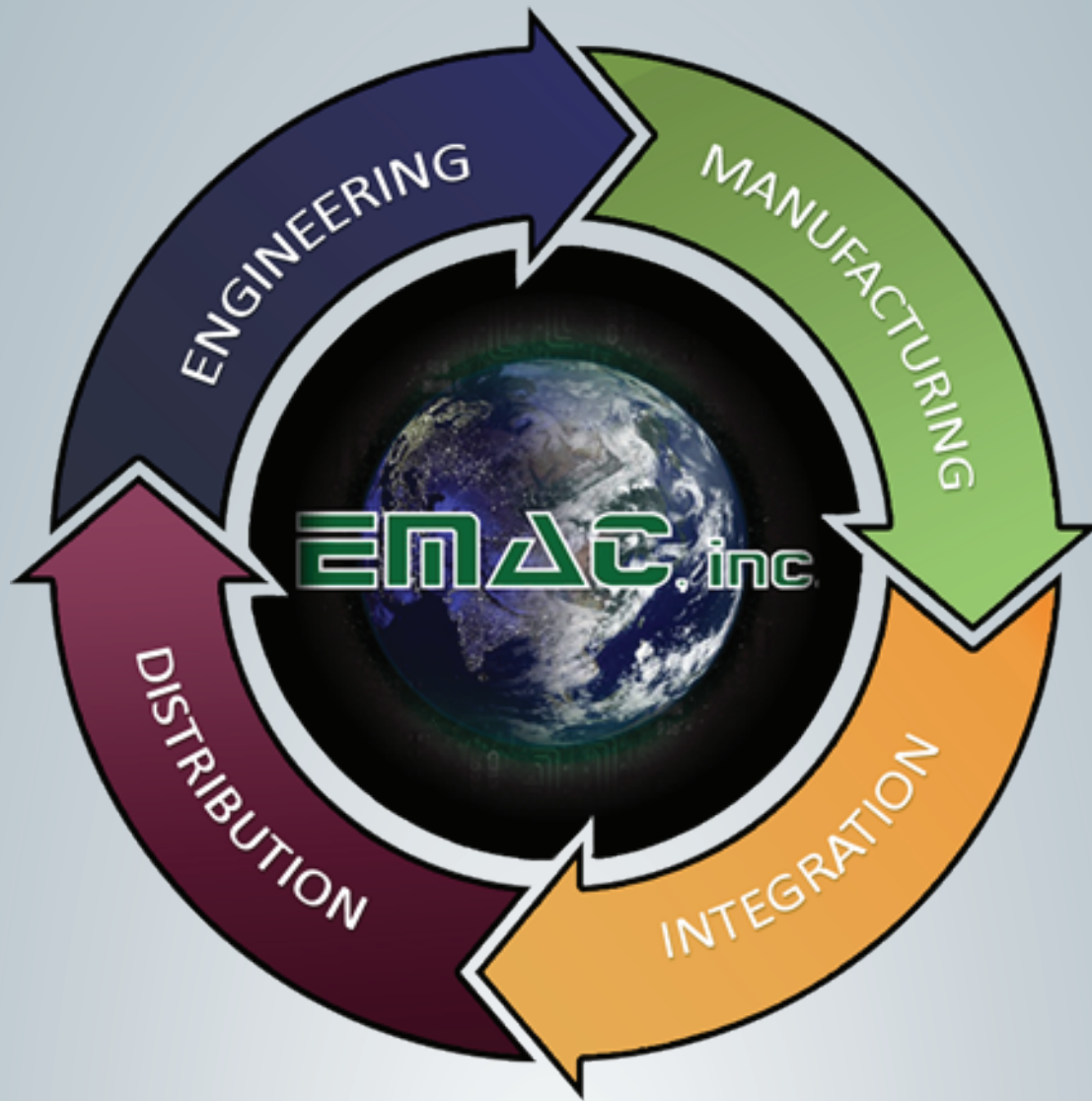


Our Products Make Your Products Better®



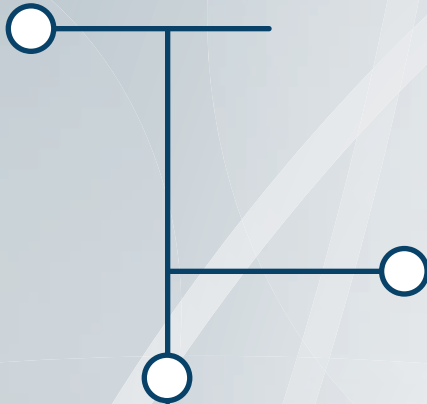
EQUIPMENT MONITOR AND CONTROL

About Us

EMAC, Inc. is a global leader in embedded system design and manufacturing

EMAC Embedded Systems

EMAC, Inc., - Equipment Monitor And Control offers a comprehensive line of products and services for the embedded systems market. Since 1985 we have provided customers worldwide with single board computers, I/O peripherals, System on Modules (SoM's), Panel PCs, custom engineering and manufacturing services.




OEM & COTS

EMAC offers both OEM manufacturing as well as a comprehensive line of distributed COTS products that include x86 Single Board Computers, System on Modules (SoM), Panel PCs, PC/104 modules, embedded servers, embedded operating systems, solid state drives, and custom carrier boards.

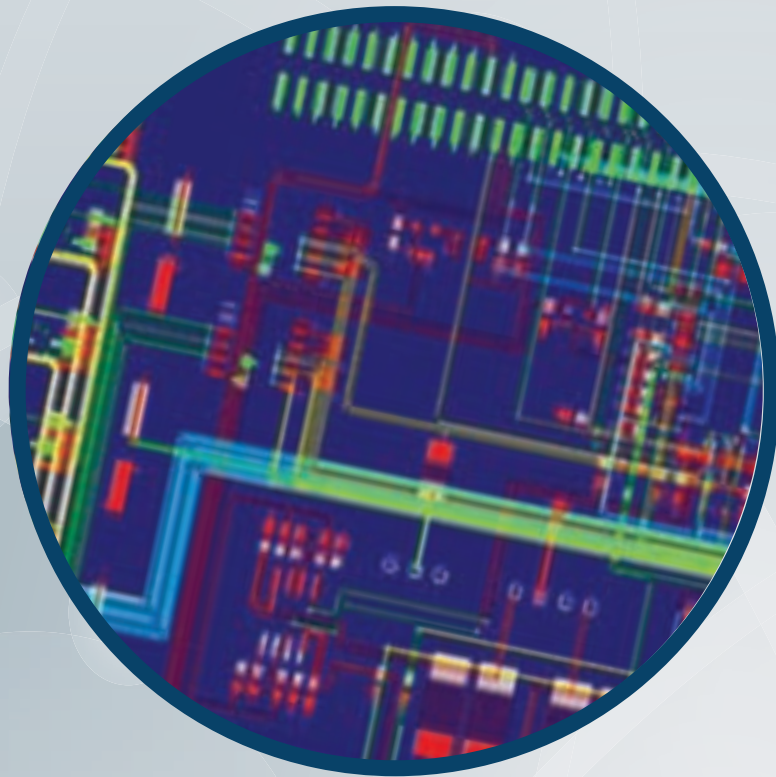
Semi-Custom Engineering

EMAC's semi-custom engineering service bridges the gap between OEM sales and full-custom engineering. EMAC designs, builds, and manufactures turn-key products for many of our customers, often with off-the-shelf EMAC products combined with custom components.



EMAC's OEM products are designed and manufactured in the USA.

Engineering



EMAC, Inc. Engineering

Semi-custom engineering is a new concept when it comes to custom application/product engineering. EMAC has been doing custom engineering since 1985. Since that time EMAC has developed an array of single board computers, peripherals, and development software. These off-the-shelf products have a variety of features allowing them to be easily incorporated into a number of applications. Typically EMAC can make use of these off-the-shelf items along with an arsenal of ready to run library routines and device drivers in a custom application. This semi-custom approach provides the customer with a substantial cost savings and time savings over a fully custom approach.

Semi-Custom

The semi-custom approach works extremely well for prototypes and small production runs. If your application is cost sensitive or will be mass produced then a fully custom approach makes the most sense for production units. If a fully custom approach is warranted and the application requirements can be met by our off-the-shelf components, then a semi-custom design of the prototype is a cost effective method of determining the feasibility of an application. After the prototype has been approved, a fully custom design can be derived from the semi-custom prototype. Hardware design of digital, analog and microprocessor based circuitry is no problem. Circuits containing programmable logic or even ASIC's can be developed. Multilayer PC boards and surface mount technology can be incorporated into your design.

Capabilities

EMAC is an acronym for Equipment Monitor And Control. Since our inception in 1985, EMAC has been producing hardware and software for this marketplace. Since 2006 EMAC has focused on Embedded Data Acquisition and Control using ARM based processors primarily in our System on Module (SoM) product line. This has allowed EMAC to design Custom Carrier Boards for customers using our standard HW/SW library of IP blocks which include: A/Ds up to 24-bit, D/As up to 16-bit, Valve & Motor drivers, Isolated GPIO, Relays, Decoders, Video Capture, LCD/Touch, CAN, USB, Wi-fi, Bluetooth, Zigbee, Cellar Modem, Ethernet, Field Bus Protocols, Real Time (Xenomai), Battery/Low Power, etc. Utilizing these IP Blocks in conjunction with an Off-Shelf SoM provides an extremely cost affective semi-custom approach.

Manufacturing

End-to-End Manufacturing

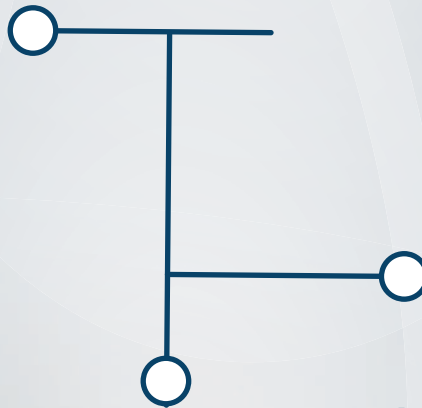
EMAC provides End-to-End Manufacturing delivered through Lean Six Sigma principles. The manufacturing services division of EMAC is a powerful resource combining the skills and technologies of a centrally located design and manufacturing facility in Carbondale, IL.



EMAC
OEM

Order Fulfillment

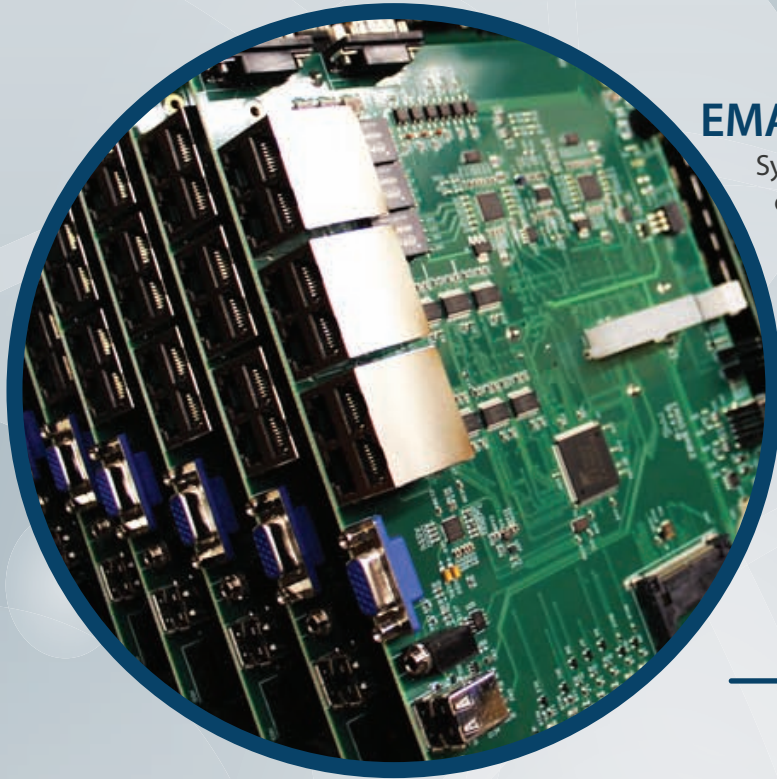
EMAC's facility is dedicated to engineering, manufacturing, system assembly and box build services. EMAC can even provide order fulfillment services including direct order processing, RMA services, pick and pack and final product configuration on certain products. We support assembly and box build services with an experienced team of professionals who ensure that every product shipped directly from EMAC's facility meet our customer's stringent order fulfillment and logistics demands.



Product Protection

Not only does EMAC build your devices, we specialize in protecting them to ensure a long product life when client requirements demand this service. This includes ruggedizing and testing for the most extreme applications and environments. The EMAC engineering team can provide recommendations on testing and the additional steps necessary to protect the final product.

Integration



EMAC, Inc. Integration

System integration has become increasingly complex with systems needing to be designed to connect together, both within the system under construction and to systems that are already deployed. EMAC offers a complete range of services that addresses the full integration lifecycle - from assessment and design to development and management.

Top Quality Products

EMAC's integration project engineers identify and implement solutions to accelerate your time-to-market, reduce the risk of improperly configured systems, minimize technical support costs and deliver cost-competitive, top quality products to you or your customers. EMAC separates itself from the competition by offering key differentiators that make a difference within the entire process from design to delivery.

Design to Delivery

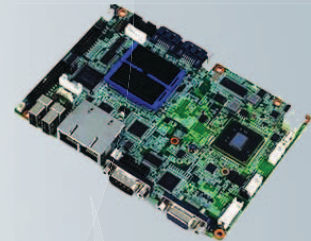
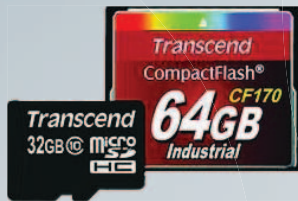
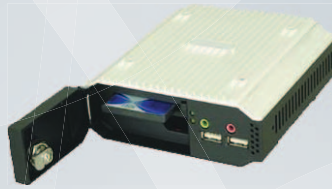
EMAC can provide your company with quality built embedded computer systems that are completely integrated and built to your specifications. This will allow your company to forego the cost of expanding your internal infrastructure. EMAC Provides Integrated Solutions from Design to Delivery.



Distribution

EMAC, Inc. Distribution

In addition to EMAC OEM solutions, we offer a broad range of single board computers, embedded servers, rugged tablets, solid state drives, and panel PCs from the leading names in embedded. Our experienced team can help you find a software/hardware solution that integrates commercial off the shelf (COTS) products and custom/semi-custom manufacturing when you need it. EMAC engineers and technicians can do as much or as little as your project needs. We can even ship the final product to your customer from our warehouse.



Embedded Linux



Android



144 Pin SODIMM ARM System on Module



Low Power

Industrial Temperature

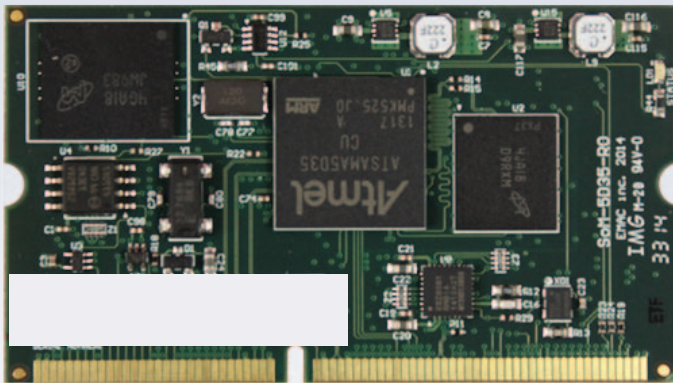
Small Size

I/O Rich (Ethernet, USB, CAN, Serial, I2S, I2C, SPI, SDIO, GPIO, A/D, PWM)

Industrial Temperature

SoM-A5D35

Embedded System on Module (SoM)



Features

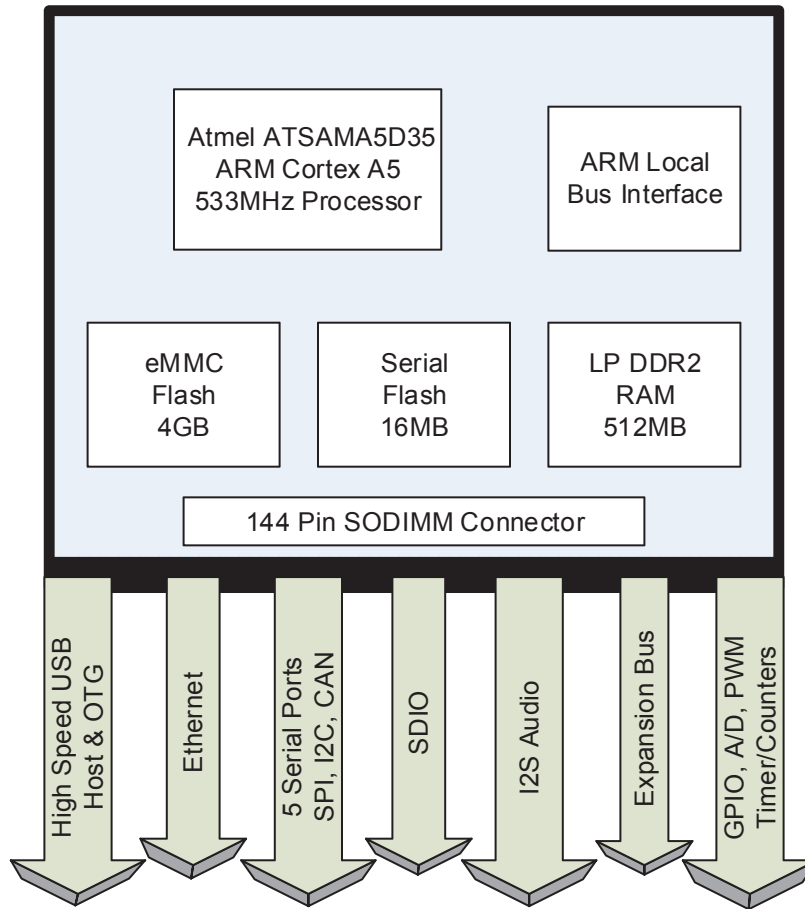
- Atmel ARM Cortex A5 ATSAM5D35 536 Mhz
- 512MB of LP DDR2 RAM
- 4 GB eMMC Flash, 16MB Serial Data Flash
- Ethernet, A/D, SPI, I2C, I2S, PWM, GPIO, CAN
- 5x Serial Ports & 1x SDIO Port
- 3x High Speed USB Ports
- Wide Temperature -40° to + 85° C



Specifications

Processor	Atmel ARM Cortex A5 ATSAM5D35 processor 536 Mhz
Memory	512MB of LP DDR2 RAM 4GB of eMMC Flash 16MB of Serial Data Flash
I/O	18x GPIO (3.3V) Lines 1x SDIO SD port 1x I2S Audio Port 2x CAN 2.0Bb Ports 1x 10/100 BaseT Ethernet 2x USB 2.0 High Speed Host Ports 1x USB 2.0 High Speed Host/Device Port 5x Serial Ports 2x SPI Ports 2x Timer/Counters, 2x Programmable Clock Outputs, 8x PWM 2x I2C Ports
Analog	4x A/D Channels with 12-bit A/D Converter
Bus Expansion	Local ARM ATSAM5D35 Bus
OS	EMAC OE Embedded Linux
Dimensions	Small 144 pin SODIMM form factor 2.66" x 1.5" (67mm x 38mm)
Power Req.	3.3 Vdc Typical Running Current Consumption 175mA Low Operating and Sleep Current APM Sleep Mode
Environment	-40° to + 85° C Industrial Wide Temperature 90% Upper Operating Humidity

Block Diagram



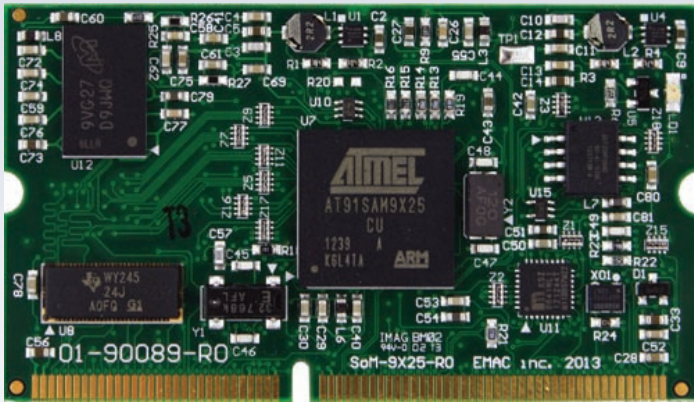
Ordering Information

Product #	CPU	Memory	Serial	GPIO	USB	Analog	LAN	Temperature
SoM-A5D35-140	Atmel ARM Cortex A5 ATSAMA5D35 536 MHz	512MB LP DDR2 4GB eMMC 16MB Serial Flash	5x	18x	2x HS Host 1x HS OTG	4x 12-bit A/D Channels	1x 10/100 Base-T	-40° to +85° C

Carrier Board Options

PRODUCT #	DESCRIPTION
SoM-150ES-000	Standard Carrier Board
SoM-150ES-007	Bare-Bones Carrier Board
SoM-150ES-031	Deluxe Carrier with A/D, D/A, Audio





Features

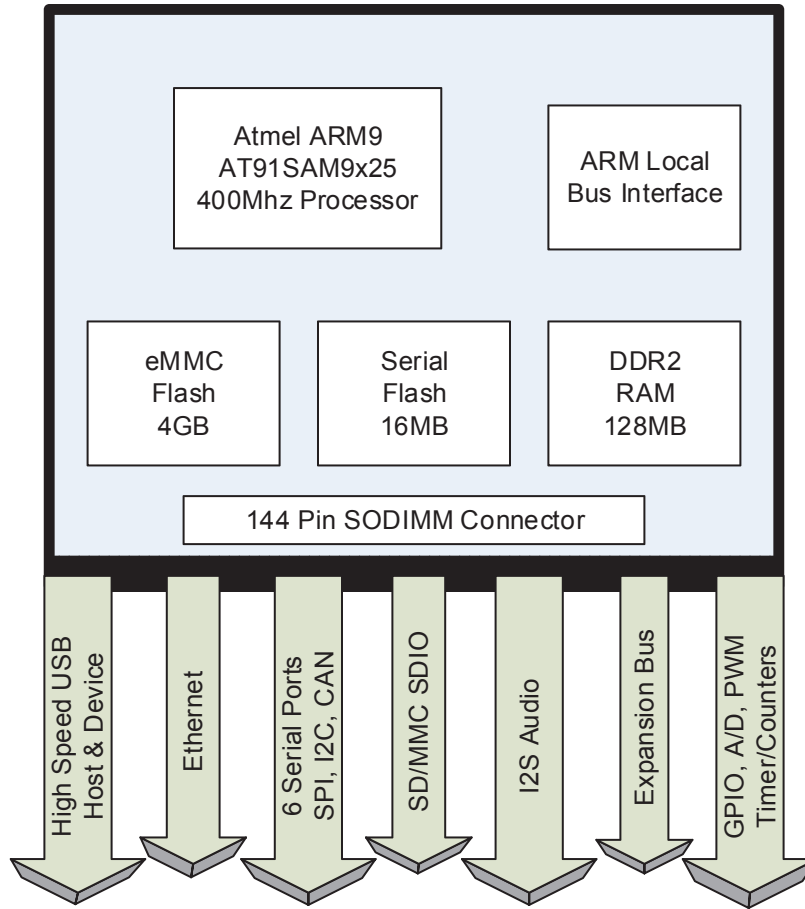
- Atmel ARM9 AT91SAM9X25 400 MHz
- Up to 128 MB of DDR2 RAM
- Up to 4 GB eMMC, Up to 16 MB Serial Data Flash
- Ethernet, A/D, SPI, I2C, I2S, PWM, GPIO, CAN
- 6x Serial Ports
- 3x USB Ports, 1x SDIO Port
- Wide Temperature -40° to + 85° C



Specifications

Processor	Embedded Atmel ARM9 AT91SAM9x25 Processor 400 MHz
Memory	128 MB of DDR2 RAM 4 GB of eMMC Flash 8 MB Serial Data Flash, 16 MB of Serial Data Flash (Optional) Resident Flash Bootloader
I/O	32x GPIO with 16 ma. drive when used as an output 1x SDIO 4-bit Parallel SDHC Interface 1x I2S Audio Port 2x CAN 2.0B Ports 1x 10/100 BaseT Ethernet: On-board PHY (2nd Ethernet Optional) 1x USB 2.0 High Speed Host Port 1x USB 2.0 Full Speed Host Port 1x USB 2.0 High Speed OTG 6x Serial Ports 2x SPI High-Speed Ports with Chip Selects Timer/Counters/PWM 2x I2C Ports
Analog	4x A/D Channels with 10-bit A/D Converter
Bus Expansion	Local ARM AT91SAM9X25 Bus
OS	EMAC OE Embedded Linux
Dimensions	Small 144 pin SODIMM form factor 2.66" x 1.5" (67mm x 38mm)
Power Req.	3.3 V Typical Running Current Consumption 170 mA
Environmental	-40° to + 85° C Industrial Wide Temperature 90% Upper Operating Humidity

Block Diagram



Ordering Information

Product #	CPU	Memory	Serial	GPIO	USB	Analog	LAN	Temperature
SoM-9x25-120	Atmel ARM9 AT91SAM9X25 400 MHz	128MB DDR2 4GB eMMC 8MB Serial Flash	6x	32x	1x HS Host 1x FS Host 1x FS OTG	4x 10-bit A/D Channels	10/100 BaseT on-board PHY (2nd optional)	-40° to +85° C

Carrier Board Options

PRODUCT #	DESCRIPTION
SoM-150ES-000	Standard Carrier Board
SoM-150ES-007	Bare-Bones Carrier Board
SoM-150ES-031	Deluxe Carrier with A/D, D/A, Audio



SoM-9G25M

Embedded System on Module (SoM)



Features

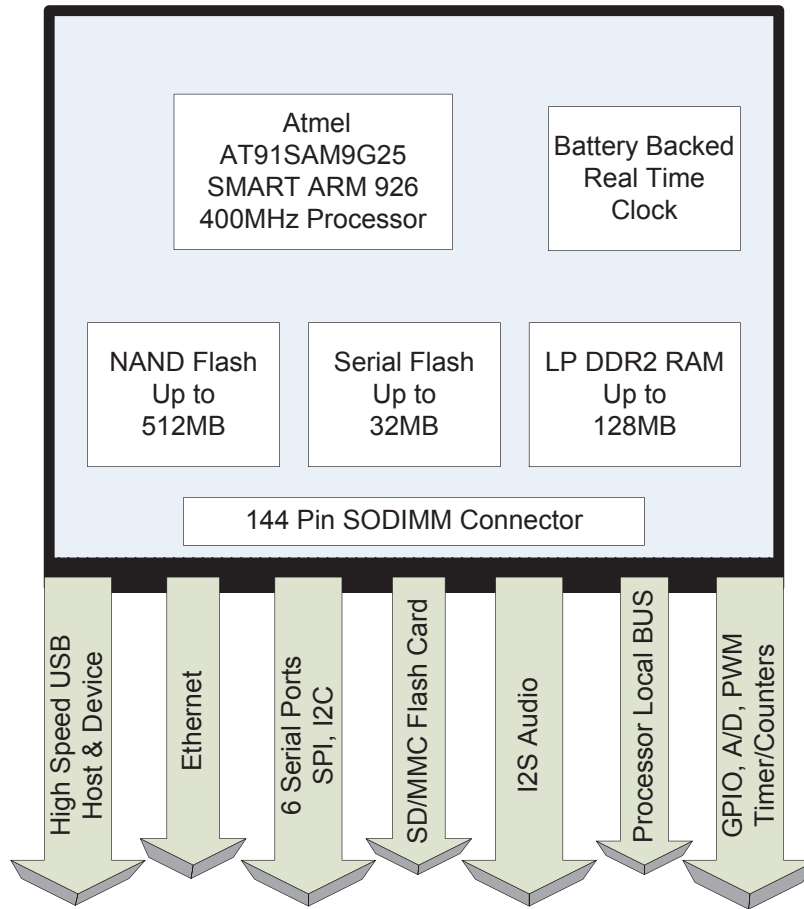
- Atmel ARM9 AT91SAM9G25 400 MHz
- Up to 128 MB DDR2, Up to 32 MB Serial Data Flash
- SD/MMC Flash Card Interface on Carrier
- Up to 512 MB NAND Flash
- Ethernet, A/D, SPI, I2C, I2S PWM, GPIO
- 3x USB, 6x Serial Ports & 1x SDIO Port
- Wide Temperature -40° to +85° C



Specifications

Processor	Atmel ARM9 AT91SAM9G25 Low Power Fanless Processor 400 MHz
Memory	Up to 128 MB DDR2 256 MB NAND Flash Up to 512 MB NAND Flash (Minimum order quantity applies) Up to 32 MB Serial Data Flash SDHC SD/MMC Flash Card Port/Interface (on Carrier)
I/O	18x GPIO 1x SDIO Port 1 I2S Audio Port 1x 10/100 BaseT Ethernet with on-board PHY 1x USB 2.0 High Speed Host Port 1x USB 2.0 High Speed Device Port 1x USB 2.0 Full Speed Host Port 6x Serial ports, 3 with handshake 2x SPI Ports 4x Timer/Counters/PWM 2x I2C Ports
Analog	5x A/D Channels with 10-bit A/D Converter
Bus Expansion	Local ARM Bus
OS	EMAC OE Embedded Linux
Dimensions	Small 144 pin SODIMM form factor 2.66" x 1.5" (67mm x 38mm)
Power Req.	3.3 V Typical Running Current Consumption 200mA
Environment	-40° to +85° C Industrial Wide Temperature 90% Upper Operating Humidity

Block Diagram



Ordering Information

Product #	CPU	Memory	Serial	GPIO	USB	Analog	LAN	Temperature
SoM-9G25M-111	Atmel ARM9 AT91SAM9G25 400 MHz	64MB DDR RAM 256MB NAND 8MB Serial Flash	6x	18x	1x HS Host 1x HS Device 1x FS Host	5x 10-Bit A/D Channels	1x 10/100 Base-T	-40° to + 85° C
SoM-9G25M-122 BUILD TO ORDER	Atmel ARM9 AT91SAM9G25 400 MHz	128MB DDR RAM 256MB NAND 8MB Serial Flash	6x	18x	1x HS Host 1x HS Device 1x FS Host	5x 10-Bit A/D Channels	1x 10/100 Base-T	-40° to + 85° C

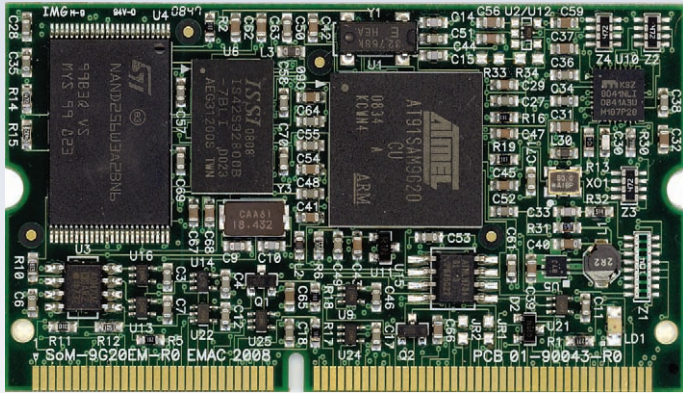
Carrier Board Options

PRODUCT #	DESCRIPTION
SoM-150ES-000	Standard Carrier Board
SoM-150ES-007	Bare-Bones Carrier Board
SoM-150ES-031	Deluxe Carrier with A/D, D/A, Audio



SoM-9G20M

Embedded System on Module (SoM)



Features

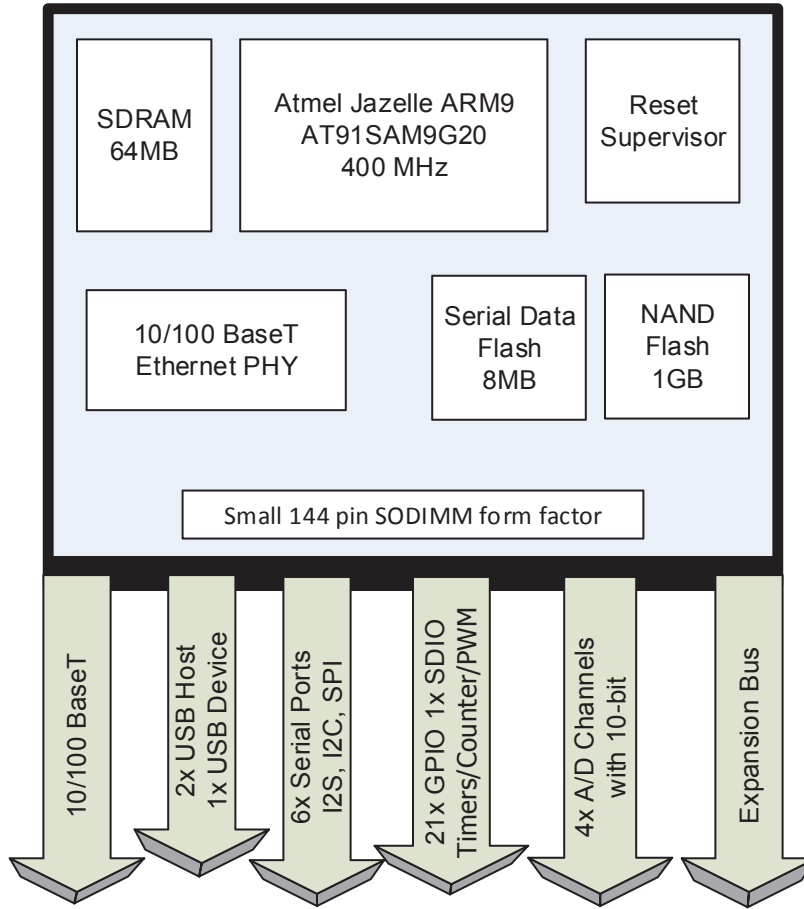
- Atmel Jazelle ARM9 AT91SAM9G20 400 MHz
- 64 MB of SDRAM, 133 MHz SDRAM
- Up to 1 GB NAND, Up to 8 MB Serial Data Flash
- Ethernet, A/D, SPI, I2C, I2S PWM, GPIO
- 3x USB, 6x Serial Ports & 1x SDIO Port
- Wide Temperature -40° to + 85° C



Specifications

Processor	Embedded Atmel ARM9 Jazelle AT91SAM9G20 400 MHz
Memory	Up to 64 MB of SDRAM, 133 MHz SDRAM Up to 1 GB of NAND Flash Up to 8 MB of Serial Data Flash SD/MMC Flash Card Interface
I/O	32x GPIO 1x SDIO 1x I2S Audio Port 1x 10/100 BaseT Ethernet with on-board PHY 2x USB 2.0 Full Speed Host Ports 1x USB 2.0 Full Speed Device Port 6x Serial ports (4x with Handshake; 7x Serial Ports Optional) 2x SPI Ports 5x Timer/Counters, 3x Programmable Clock Outputs, 4x PWM Battery backed Real Time Clock 1x I2C Port
Analog	4x A/D Channels with 10-bit
Bus Expansion	Local ARM Bus
OS	EMAC OE Embedded Linux
Dimensions	Small 144 pin SODIMM form factor 2.66" x 1.5" (67mm x 38mm)
Power Req.	3.3 V Typical Running Current Consumption 200mA
Environment	-40° to + 85° C Industrial Wide Temperature 90% Upper Operating Humidity

Block Diagram



Ordering Information

Product #	CPU	Memory	Serial	GPIO	USB	Analog	LAN	Temperature
SoM-9G20M-120	Atmel ARM9 Jazelle AT91SAM G20 400 MHz	32MB SDRAM 256MB Flash 8MB Serial Flash	6x	32x	2x FS Host 1x FS Device	4x 10-bit A/D Channels	1x 10/100 BaseT w/ On-board PHY	-40° to +85° C
SoM-9G20M-130	Atmel ARM9 Jazelle AT91SAM G20 400 MHz	64MB SDRAM 1GB NAND 8MB Serial Flash	6x	32x	2x FS Host 1x FS Device	4x 10-bit A/D Channels	1x 10/100 BaseT w/ On-board PHY	-40° to +85° C

Carrier Board Options

PRODUCT #	DESCRIPTION
SoM-150ES-000	Standard Carrier Board
SoM-150ES-007	Bare-Bones Carrier Board
SoM-150ES-031	Deluxe Carrier with A/D, D/A, Audio



SoM-9260M

Embedded System on Module (SoM)



Features

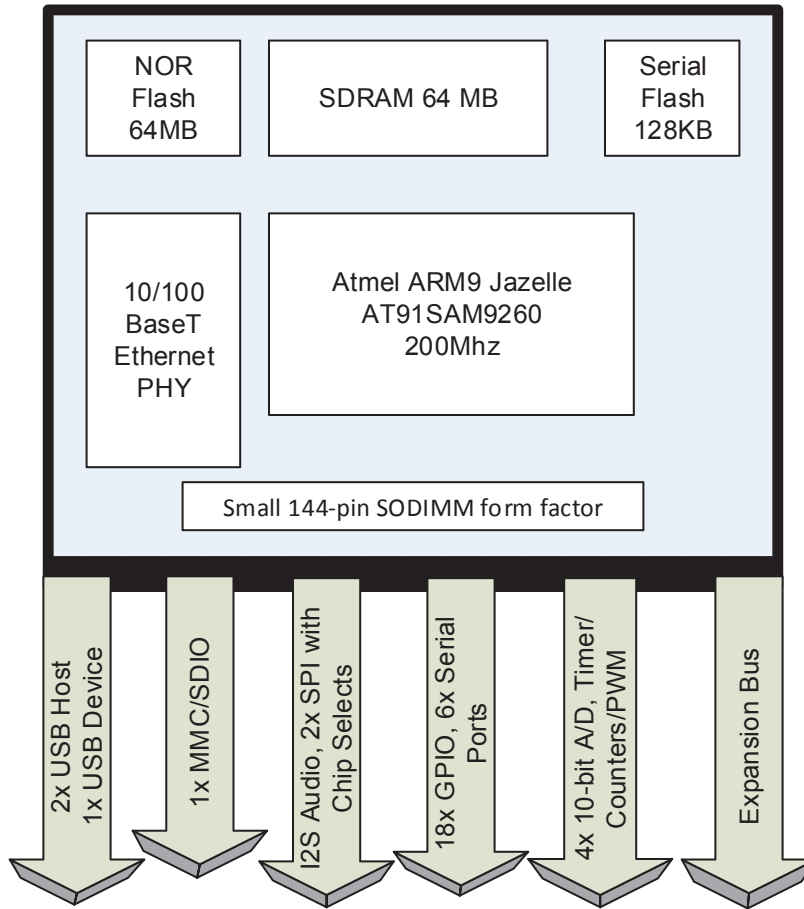
- Atmel ARM9 Jazelle AT91SAM9260 200 MHz
- Up to 64 MB SDRAM
- Up to 64MB Flash, 128KB Serial Data Flash
- Ethernet, A/D, SPI, I2C, I2S PWM, GPIO
- 3x USB, 6x Serial Ports



Specifications

Processor	Atmel ARM9 Jazelle AT91SAM9260 200 MHz
Memory	Up to 64MB SDRAM Up to 64MB Flash 128KB Serial Data Flash SD/MMC Flash Card Interface
I/O	32x GPIO 2x I2C Ports 1x 10/100/BaseT Ethernet with on-board PHY 2x USB 2.0 Full Speed Host Ports 1x USB 2.0 Full Speed Device Port 6x Serial Ports (3 with handshake) 5x Timer/Counters/PWM Battery Backed Real Time Clock 1x I2S Audio Port 2x SPI Ports
Analog	4x A/D Channels with 10-bit A/D Converter
Bus Expansion	Local ARM AT91SAM9260 Bus
OS	EMAC OE Embedded Linux
Dimensions	Small 144 pin SODIMM form factor 2.66" x 1.5" (67mm x 38mm)
Power Req.	3.3 V Typical Running Current Consumption 300mA and ~5mA Sleep Current
Environment	-25° to + 75° C 90% Upper Operating Humidity

Block Diagram



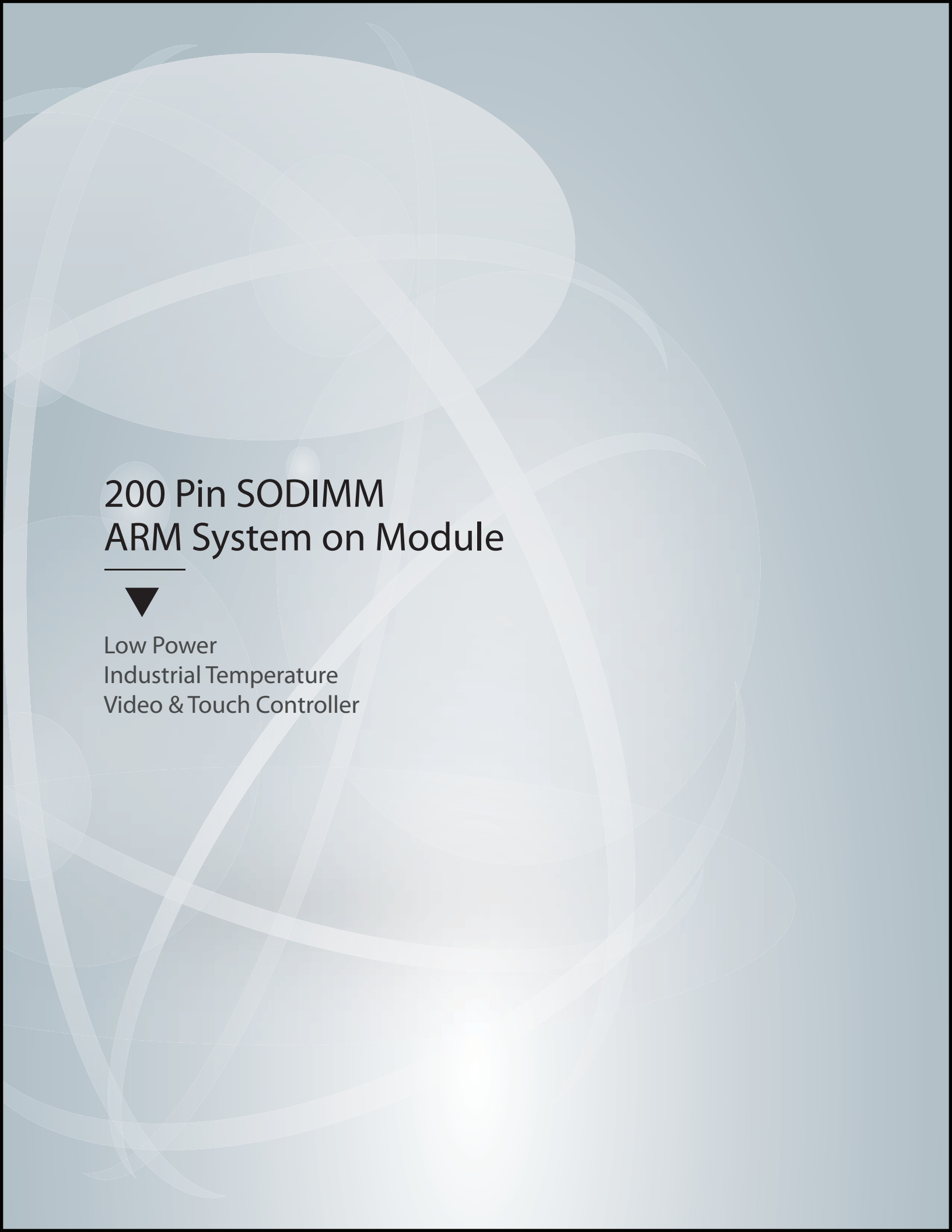
Ordering Information

Product #	CPU	Memory	Serial	GPIO	USB	Analog	LAN	Temperature
SoM-9260M-120	Atmel ARM9 Jazelle AT91 AM9260 200 MHz	32MB SDRAM 32MB Flash 128KB Serial Flash	6x	32x	2x FS Host 1x FS Device	4x 10-bit A/D Channels	1x 10/100 BaseT w/ On-board PHY	-25° to + 75° C
SoM-9260M-130	Atmel ARM9 Jazelle AT91 AM9260 200 MHz	64MB SDRAM 64MB Flash 128KB Serial Flash	6x	32x	2x FS Host 1x FS Device	4x 10-bit A/D Channels	1x 10/100 BaseT w/ On-board PHY	-25° to + 75° C

Carrier Board Options

PRODUCT #	DESCRIPTION
SoM-150ES-000	Standard Carrier Board
SoM-150ES-007	Bare-Bones Carrier Board
SoM-150ES-031	Deluxe Carrier with A/D, D/A, Audio





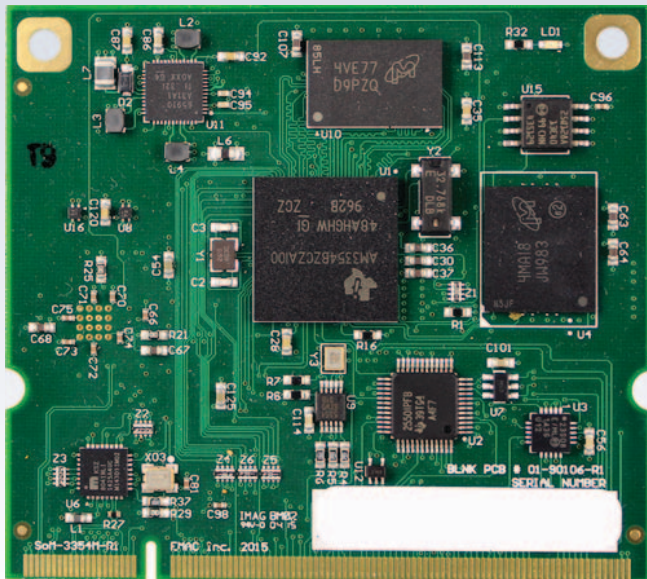
200 Pin SODIMM ARM System on Module



Low Power
Industrial Temperature
Video & Touch Controller

SoM-3354M

Embedded System on Module (SoM)



Features

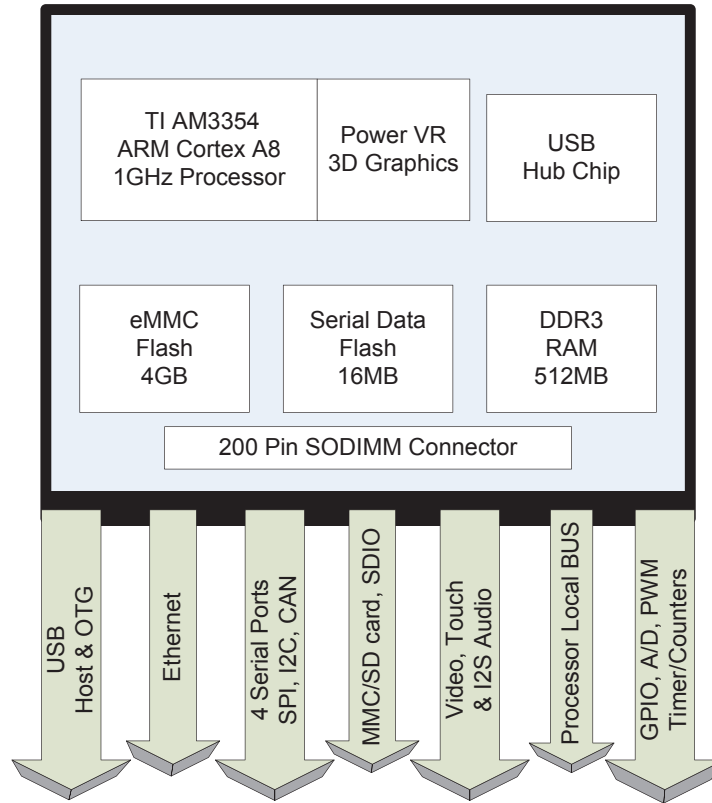
- TI AM3354 ARM Cortex-A8 1 GHz processor
- 512 MB of DDR3 RAM
- 4 GB of eMMC Flash, 16 MB Serial Data Flash
- Ethernet, 4x Serial Ports, A/D, SPI, I2C, I2S & CAN
- 3x USB 2.0 High Speed Ports & 1x SDIO Port
- LCD & Resistive Touch Interfaces
- Wide Temperature -40° to + 85° C



Specifications

Processor	TI AM3354 ARM Cortex-A8 Processor with Neon Math Coprocessor 1 GHz
Memory	512 DDR3 SDRAM 4 GB of eMMC Flash, Up to 16 GB eMMC Flash Upgrade (Minimum order quantity applies) 16 MB Serial Data Flash
I/O	22x GPIO (3.3V) Lines 1x SDIO Port 1x I2S Audio Port 1x CAN Port 1x 10/100 BaseT Ethernet 2x USB 2.0 High Speed Hosts Ports 1x USB 2.0 High Speed OTG (Host or Device) 4x Serial Ports with RTS/CTS Handshake 2x SPI Ports with 4 Slave Selects 2x Timer/Counters/PWM 1x I2C hardware Port
Video	2D/3D Accelerated Video up to 2048x2048 4-Wire Resistive Touch Controller
Analog	4x A/D Channels with 12-bit A/D Resolution
Expansion	Local ARM 16-bit Bus
OS	EMAC OE Embedded Linux
Dimensions	200 pin SODIMM form factor 2.66" x 2.375" (67mm x 60mm)
Power Req.	3.3 V with On-board Core/Memory Regulators Typical Running Current Consumption 325mA
Environment	-40° to + 85° C Industrial Wide Temperature 90% Upper Operating Humidity

Block Diagram



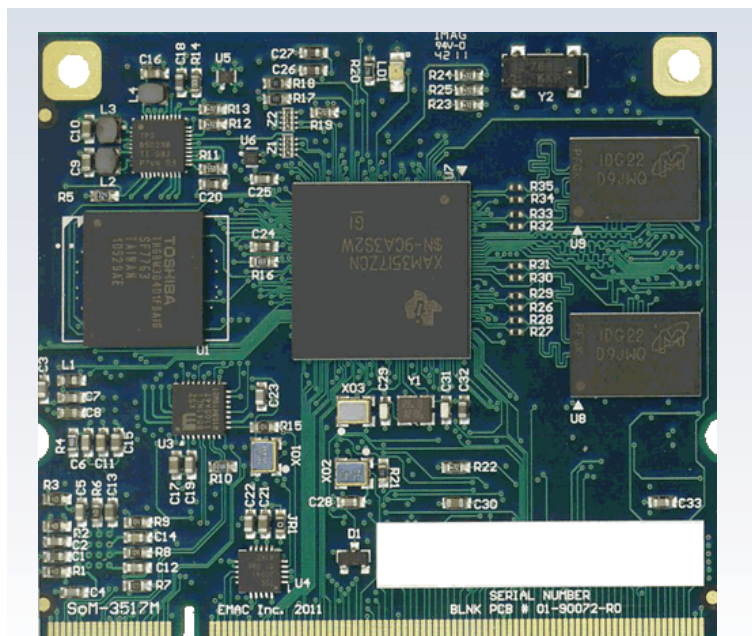
Ordering Information

Product #	CPU	Memory	Serial	GPIO	USB	Video	LAN	Temperature
SoM-3354M-140	TI AM3354 ARM Cortex A8 1GHz	4GB eMMC 512MB DDR3 16MB Serial Flash	4x	22x	2 Host 1 OTG	18-bit TTL 4-Wire with Resistive Touch	1x 10/100 BaseT	-40° to +85° C
SoM-3354M-141	TI AM3354 ARM Cortex A8 1GHz	4GB eMMC 512MB DDR3 16MB Serial Flash	2x	14x	1 OTG	18-bit TTL 4-Wire with Resistive Touch	1x 10/100 BaseT	-40° to +85° C

Carrier Board Options

PRODUCT #	DESCRIPTION
SoM-200ES-000	Standard Carrier Board with CAN, 4.3" LCD Touch Screen
SoM-200ES-001	Deluxe Standard Carrier with CAN, Audio, 4.3" LCD Touch Screen
SoM-200ES-007	Bare-Bones Carrier Board
SoM-210ES-000	Standard Carrier Board with 4.3" LCD & Touch Screen
SoM-210ES-007	Bare-bones carrier board
SoM-212ES-000	Standard Carrier Board with LCD & Touch Screen
SoM-212ES-003	Deluxe Carrier with POE, Audio, LCD & Touch Screen
SoM-212ES-007	Bare-Bones Carrier Board
SoM-250ES-000	Standard Carrier Board with CAN, Audio, 7" LCD Touch Screen
SoM-250ES-001	Standard Carrier Board with CAN, Audio, 10" LVDS LCD Touch Screen
SoM-250ES-007	Bare-Bones Carrier Board, no LCD





Features

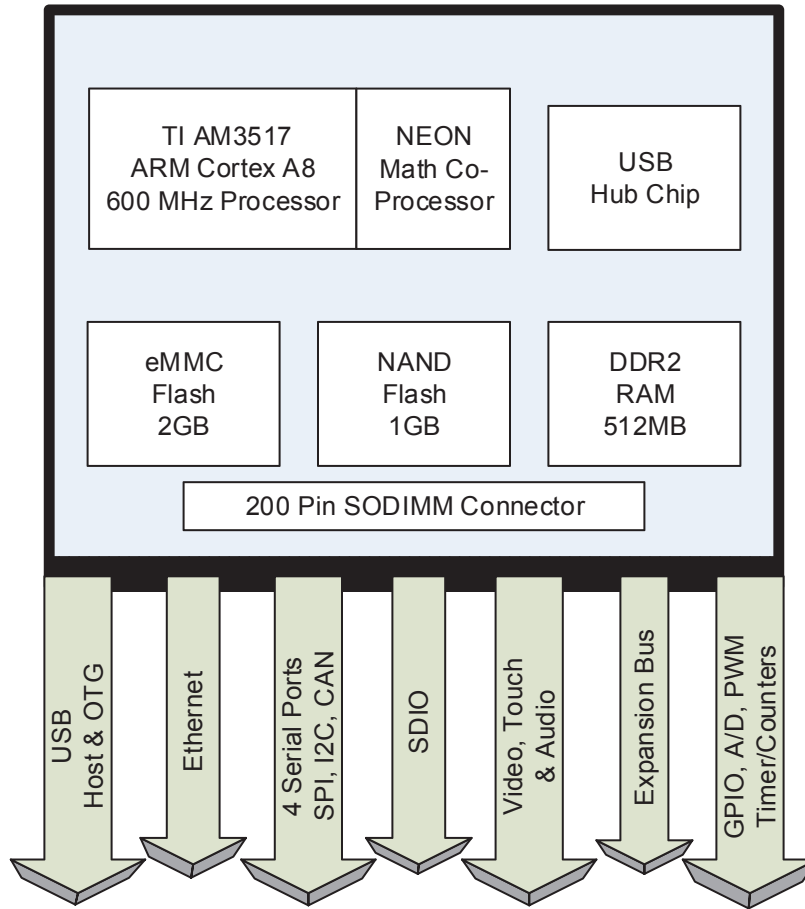
- Embedded TI ARM Cortex-A8 600 MHz
- Up to 512MB of DDR2 RAM
- Up to 4GB eMMC Flash
- Ethernet, A/D, SPI, I2C, I2S, PWM, GPIO, CAN
- 4x Serial Ports, 2x SPI ports with chip selects
- 2D/3D Accelerated Video with Resistive Touch
- -40 to +85 version (Minimum Order Qty. Applies)



Specifications

Processor	Embedded TI AM3517 ARM Cortex-A8 with Neon Math Co-processor 600 MHz
Memory	Up to 512 MB of DDR2 RAM Up to 4GB of eMMC Flash, Up to 1GB NAND Flash
I/O	16x GPIO (3.3V) Lines 1x I2S Audio Port 1x CAN 2.0b Port 1x 10/100 BaseT Ethernet 2x USB 1.1/2.0 High Speed Host Ports 1x USB 2.0 High Speed OTG (Host/Device) Port 4x Serial Ports 2x SPI Ports Timer/Counters/PWM (11x General Purpose Timers) 2x I2C Hardware Ports
Video	2D/3D Accelerated HD Video up to 2048 x 2048 12-bit 4-Wire Analog Resistive Touch Screen Interface
Analog	2x A/D Channels with 12-bit A/D Converter
Bus Expansion	Local ARM Cortex-A8 Multiplexed Bus accessible through SODIMM
OS	EMAC OE Embedded Linux
Dimensions	Small 200 pin SODIMM form factor 2.66" x 2.375" (67mm x 60mm)
Power Req.	3.3 V Typical Running Current Consumption 470 mA
Environment	0° to + 70° Operating Temperature (-40° to + 85° C Minimum Order Quantity Applies) 90% Upper Operating Humidity

Block Diagram



Ordering Information

Product #	CPU	Memory	Serial	GPIO	USB	Video	LAN	Temperature
SoM-3517M-130	TI AM3517 ARM Cortex-A8 600 MHz	256 MB DDR2 2GB eMMC 512 MB Serial Flash	4x	16x	2x HS Hosts 1x HS OTG	24-bit DSTN/TFT LCD with Touch	10/100 BaseT	0° to +75° C Optional -40° to +85° C

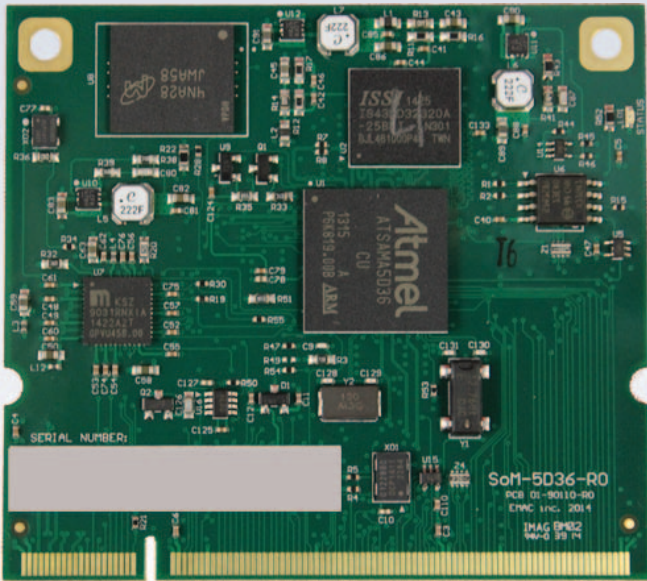
Carrier Board Options

PRODUCT #	DESCRIPTION
SoM-200ES-000	Standard Carrier Board with CAN, 4.3" LCD Touch Screen
SoM-200ES-001	Deluxe Standard Carrier with CAN, Audio, 4.3" LCD Touch Screen
SoM-200ES-007	Bare-Bones Carrier Board
SoM-210ES-000	Standard Carrier Board with 4.3" LCD & Touch Screen
SoM-210ES-007	Bare-bones carrier board
SoM-212ES-000	Standard Carrier Board with LCD & Touch Screen
SoM-212ES-003	Deluxe Carrier with POE, Audio, LCD & Touch Screen
SoM-212ES-007	Bare-Bones Carrier Board
SoM-250ES-000	Standard Carrier Board with CAN, Audio, 7" LCD Touch Screen
SoM-250ES-001	Standard Carrier Board with CAN, Audio, 10" LVDS LCD Touch Screen
SoM-250ES-007	Bare-Bones Carrier Board, no LCD



SoM-A5D36

Embedded Atmel ARM Cortex A5 ATSAMA5D36



Features

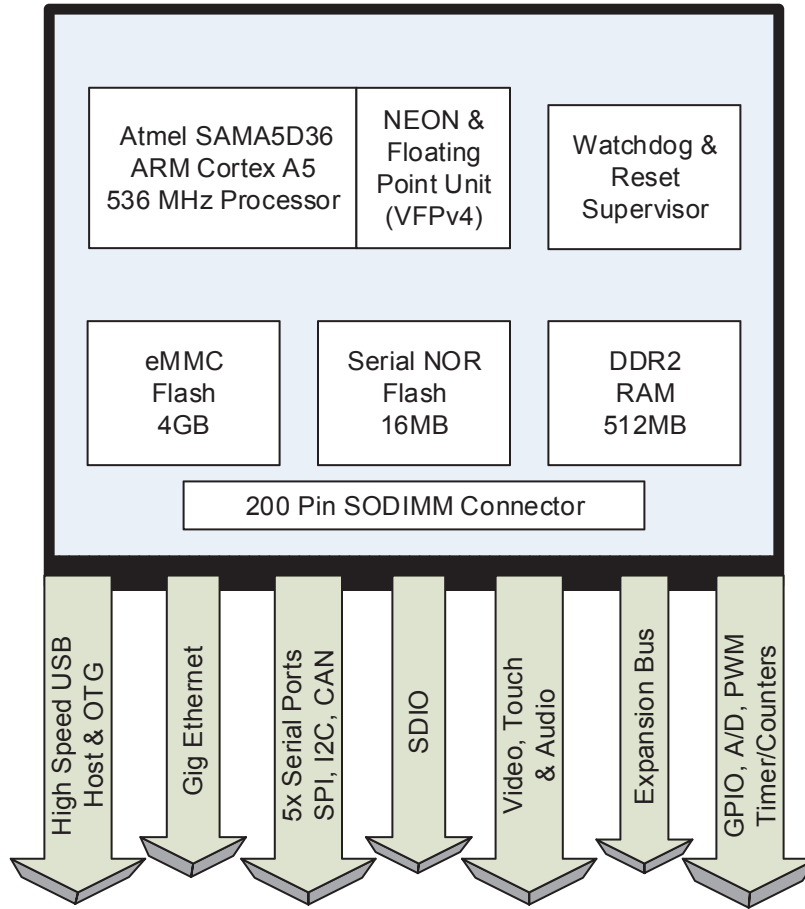
- Atmel ARM Cortex A5 536Mhz Processor
- 512 MB of LP DDR2 RAM
- 4 GB of eMMC Flash, 16MB Serial Data Flash
- Ethernet, A/D, SPI, I2C, I2S, PWM, GPIO, CAN
- 3x USB, 5x Serial Ports & 2x SDIO Port
- LCD and Resistive Touch Interfaces
- Wide Temperature -40° to + 85° C



Specifications

Processor	Embedded Atmel ARM Cortex A5 ATSAMA5D36 536Mhz
Memory	Up to 512 MB of LP DDR2 RAM Up to 4 GB of eMMC Flash 16MB of Serial Data Flash
I/O	21x GPIO (3.3V) Lines 2x SDIO SD Port 1x I2S Audio Port 2x CAN 2.0b Ports 1x 10/100/1000 BaseT Ethernet with 2nd Ethernet MAC Available 2x USB 2.0 High Speed Host Ports 1x USB 2.0 High Speed OTG (Host/Device) 5x Serial Ports 2x SPI Ports 5x Timer/Counters, 2x Programmable Clock Outputs, 4x PWM 2x I2C Ports
Analog	6x A/D Channels with 12-bit (0 to 3.3V)
Video	12-bit 4-wire Analog Resistive Touch Screen 24-bit LCD Controller
Bus Expansion	Local ARM Bus
OS	Embedded EMAC OE Linux
Dimensions	Small 200 pin SODIMM form factor 2.66" x 2.375" (67mm x 60mm)
Power Req.	3.3Vdc Typical Running Current Consumption 175mA
Environment	-40° to + 85° C Industrial Wide Temperature 90% Upper Operating Humidity

Block Diagram



Ordering Information

Product #	CPU	Memory	Serial	GPIO	USB	Video	LAN	Temperature
SoM-A5D36-140	Atmel ARM Cortex A5 ATSAM5D36 536Mhz	512MB LP DDR2 4GB eMMC 16MB Serial Flash	5x	21x	2x HS Host 1x HS OTG	24-bit 4-wire LCD with Resistive Touch	1x 10/100/1000 BaseT w/MAC	-40° to +85° C

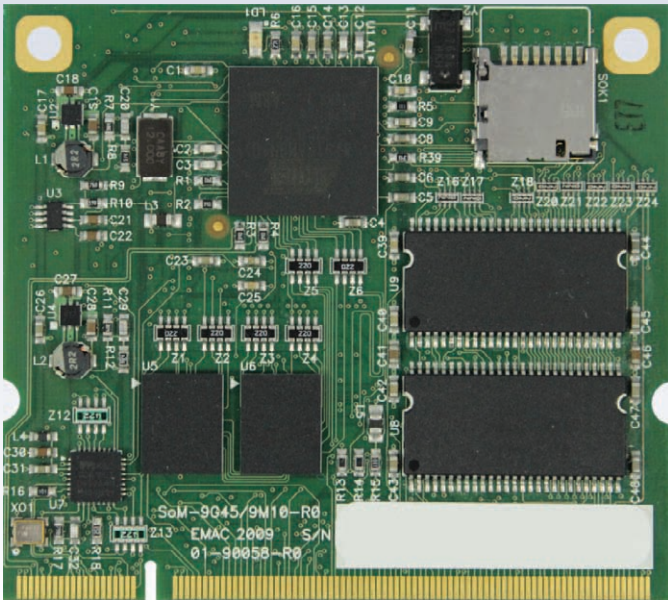
Carrier Board Options

PRODUCT #	DESCRIPTION
SOM-200GS-000	Standard 200-pin Carrier w/SD Card & 4.3" LCD
SOM-200GS-001	Deluxe 200-pin Carrier w/WiFi & 4.3" LCD
SOM-200GS-007	Bare-Bones 200-pin Carrier w/SD Card



SoM-9G45M

Embedded System on Module (SoM)



Features

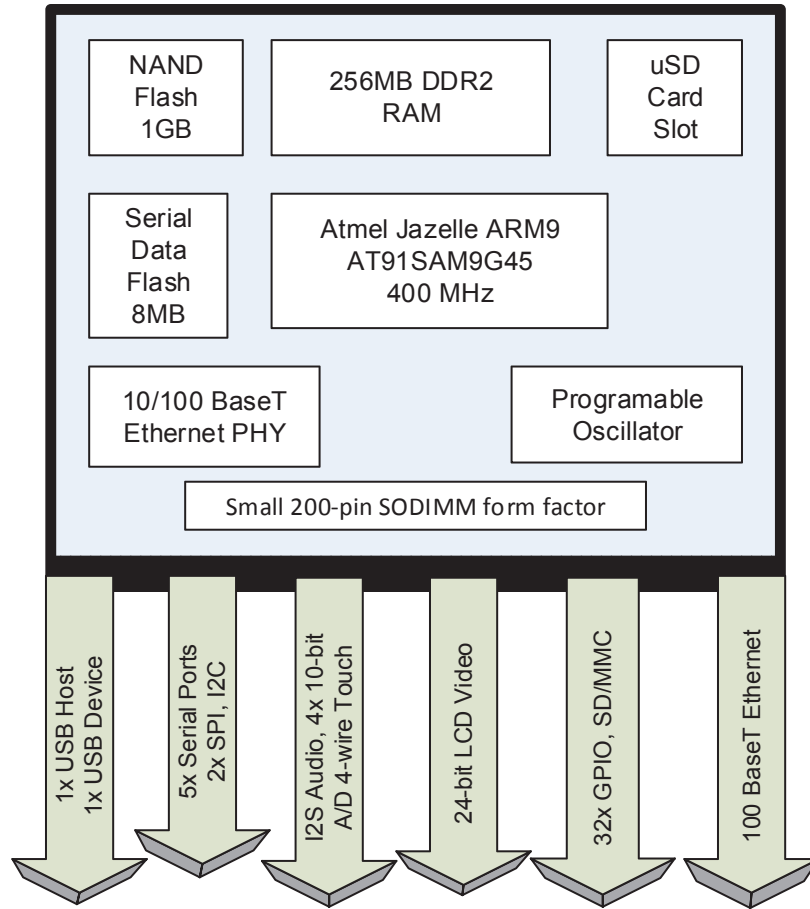
- Atmel ARM9 AT91SAM9G45 Jazelle 400MHz
- Up to 256MB DDR2 RAM
- Up to 8MB of Serial Data Flash
- Up to 1GB of NAND Flash
- Ethernet, A/D, SPI, I2C, I2S PWM, GPIO
- 2x USB, 5x Serial Ports 3 with Handshake
- LCD & Resistive Touch Interfaces
- Wide Temperature -40° to + 85° C



Specifications

Processor	Embedded Atmel ARM9 Jazelle AT91SAM9G45 400 MHz
Memory	Up to 256 MB of DDR2 RAM, 133 MHz SDRAM Up to 1 GB of NAND Flash Up to 8 MB of Serial Data Flash SD/MMC Flash Card Interface
I/O	32x GPIO 1x I2S Audio Ports 1x 10/100 BaseT Ethernet with on-board PHY 1x USB 2.0 High Speed Host Port 1x USB 2.0 High Speed OTG (Host/Device) 5x Serial Ports, 4 with Handshake (UARTS: 5x TTL, 3 with RTS/CTS handshaking & Auto RS485) 2x SPI Ports 2x Timer/Counters/PWM Battery backed Real Time Clock 1x I2C Port
Video	LCD Video Interface with up 1280 x 860 resolution 4-wire Touch Screen Interface
Analog	4x A/D Channels with 10-bit Resolution
Bus Expansion	Local ARM Bus
OS	Embedded EMAC OE Linux
Dimensions	Small, 200-pin SODIMM form factor 2.66" x 2.375" (67mm x 60mm)
Power Req.	3.3 V Typical Running Current Consumption 300mA
Environment	-40° to + 85° C Industrial Wide Temperature 90% Upper Operating Humidity

Block Diagram



Ordering Information

Product #	CPU	Memory	Serial	GPIO	USB	Video	LAN	Temperature
SoM-9G45-120	Atmel ARM926 AT91SAM9G45 Jazelle 400MHz	128MB DDR2 256 NAND 8MB Serial Data	5x	32x	1x HS Host 1x HS OTG	LCD Interface with 4-wire Touch	1x 10/100 BaseT w/ On-board PHY	-40° to +85° C

Carrier Board Options

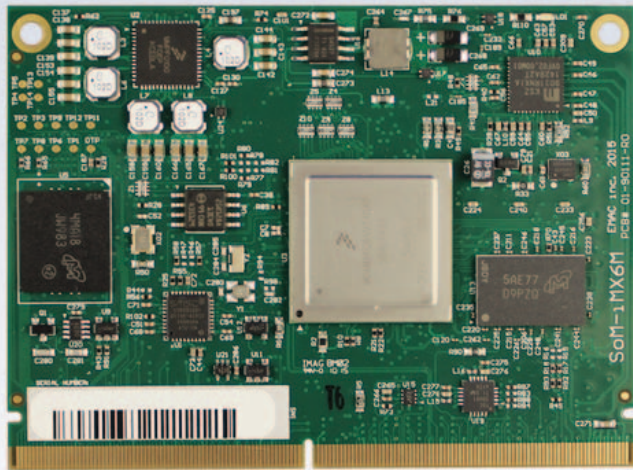
PRODUCT #	DESCRIPTION
SoM-200ES-000	Standard Carrier Board with CAN, 4.3" LCD Touch Screen
SoM-200ES-001	Deluxe Standard Carrier with CAN, Audio, 4.3" LCD Touch Screen
SoM-200ES-007	Bare-Bones Carrier Board
SoM-210ES-000	Standard Carrier Board with 4.3" LCD & Touch Screen
SoM-210ES-007	Bare-Bones carrier board
SoM-212ES-000	Standard Carrier Board with LCD & Touch Screen
SoM-212ES-003	Deluxe Carrier with POE, Audio, LCD & Touch Screen
SoM-212ES-007	Bare-Bones Carrier Board
SoM-250ES-000	Standard Carrier Board with CAN, Audio, 7" LCD Touch Screen
SoM-250ES-001	Standard Carrier Board with CAN, Audio, 10" LVDS LCD Touch Screen
SoM-250ES-007	Bare-Bones Carrier Board, no LCD



314 Pin SODIMM ARM System on Module



HDMI /LVDS Dual Video with Touch Controller
PCIe Bus Expansion
SATA Support
Industrial Temperature -40° - +85°



Features

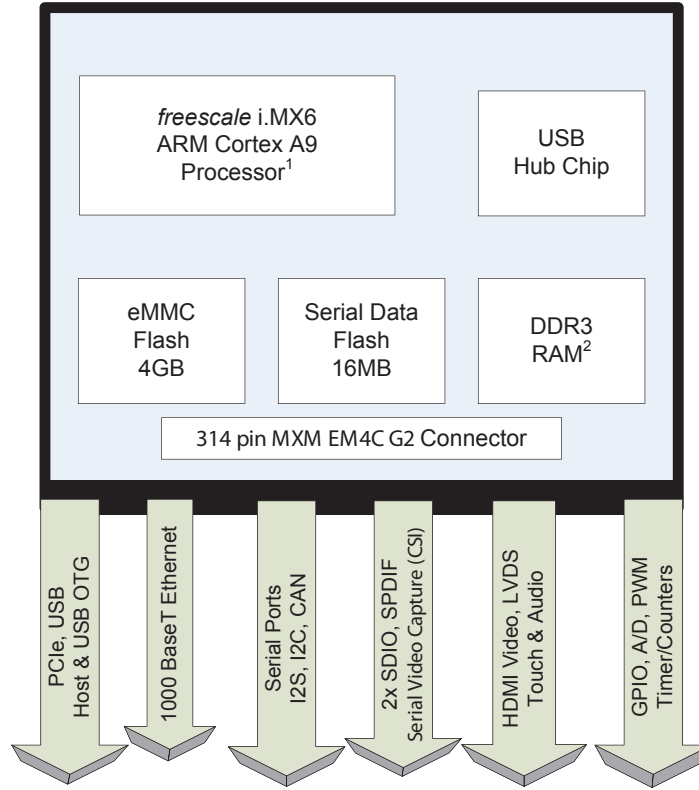
- Solo/Dual/Quad iMX6 ARM Cortex A9 Fanless
- 800 MHz, 1 GHz, Up to 1.2 GHz Processor Speed
- Up to 2 GB of DDR3 RAM
- 4 GB of eMMC Flash, 16 MB Serial Data Flash
- 1x 1000 Ethernet, SATA, A/D, SPI, I2C, I2S & CAN
- 4x USB, 4x Serial Ports, 2x SDIO
- Wide Temperature -40° to + 85° C
- HDMI /LVDS Dual Video with Touch Controller
- 1x PCIe 2.0 Port



Specifications

Processor	Freeseale Solo/Dual/Quad iMX6 ARM Cortex A9 Fanless Processor 800 MHz, 1 GHz, Up to 1.2 GHz (Minimum Order Quantity Applies)
Memory	Up to 2 GB DDR3 RAM 4 GB of eMMC Flash 16 MB of Serial Data Flash Micro SD Card interface with Status LED
IO	16x GPIO 2x SDIO, 1x SATA 2x I2S, 1x SPDIF 2x CAN Ports 1x 1000 BaseT Ethernet with Status LEDs 3x USB 2.0 High Speed Host Ports 1x USB 2.0 High OTG (Host/Device) 4x Serial Ports with Handshake 2x SPI Ports 2x Timer/Counters/4x PWMs 4x I2C Ports Programmable LED
Video	24-bit LVDS / HDMI 1x Serial Video Capture (CSI) Port 4-wire Analog Resistive Touch Screen
Analog	4x A/D Channels with 12-bit A/D Resolution
Bus Expansion	1x PCIe
OS	EMAC OE Linux
Dimensions	314 pin MXM EM4C G2 Microcontroller SODIMM 3.23" x 2.363" (82mm x 60mm)
Power Req.	5 V
Environment	-40° to + 85° C Industrial Wide Temperature 90% Upper Operating Humidity

Block Diagram



Note ¹ - iMX6 CPU available in Solo, Dual or Quad Core Running at 800 MHz 1.0GHz or 1.2GHz

Note ² - Memory options of 512MB, 1GB and 2GB

Ordering Information

Product #	CPU	Memory	Serial	GPIO	USB	Video	LAN	Temperature
SOM-iMX6M-141 (Solo)	iMX6 ARM Cortex A9 800 MHz	512MB DDR3 4GB eMMC 16MB Serial Flash	4x	16x	3x HS Host 1x OTG	HDMI/LVDS with Touch	1x 1000 BaseT w/Status LEDs	-40° to +85° C
SOM-iMX6M-352 (Dual)	iMX6 ARM Cortex A9 1 GHz	1GB DDR3 4GB eMMC 16MB Serial Flash	4x	16x	3x HS Host 1x OTG	HDMI/LVDS with Touch	1x 1000 BaseT w/Status LEDs	-40° to +85° C
SOM-iMX6M-354 (Quad)	iMX6 ARM Cortex A9 1 GHz	2GB DDR3 4GB eMMC 16MB Serial Flash	4x	16x	3x HS Host 1x OTG	HDMI/LVDS with Touch	1x 1000 BaseT w/Status LEDs	-40° to +85° C

Carrier Board Options

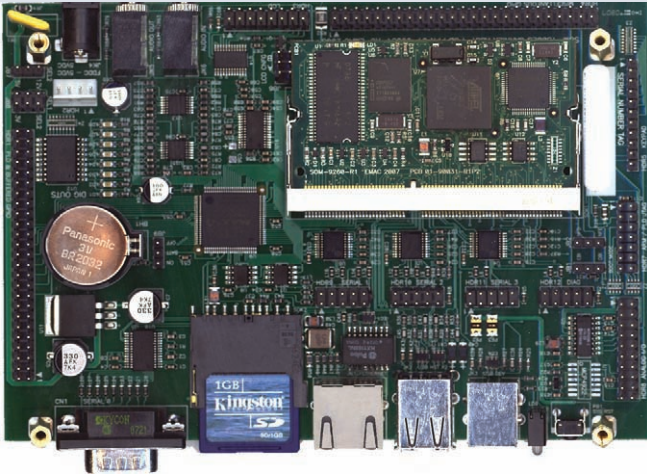
PRODUCT #	DESCRIPTION
SOM-320ES-000	Standard Carrier Board SOM OEM 314-pin
SOM-320ES-101	Deluxe Standard Carrier Board SOM OEM 314-pin with Wi-Fi
SOM-320ES-107	Bare-Bones Carrier Board SOM OEM 314-pin



(COTS) Development/Carrier Boards



Commercial Off The Shelf
144 Pin Carrier Board
200 Pin Carrier Boards



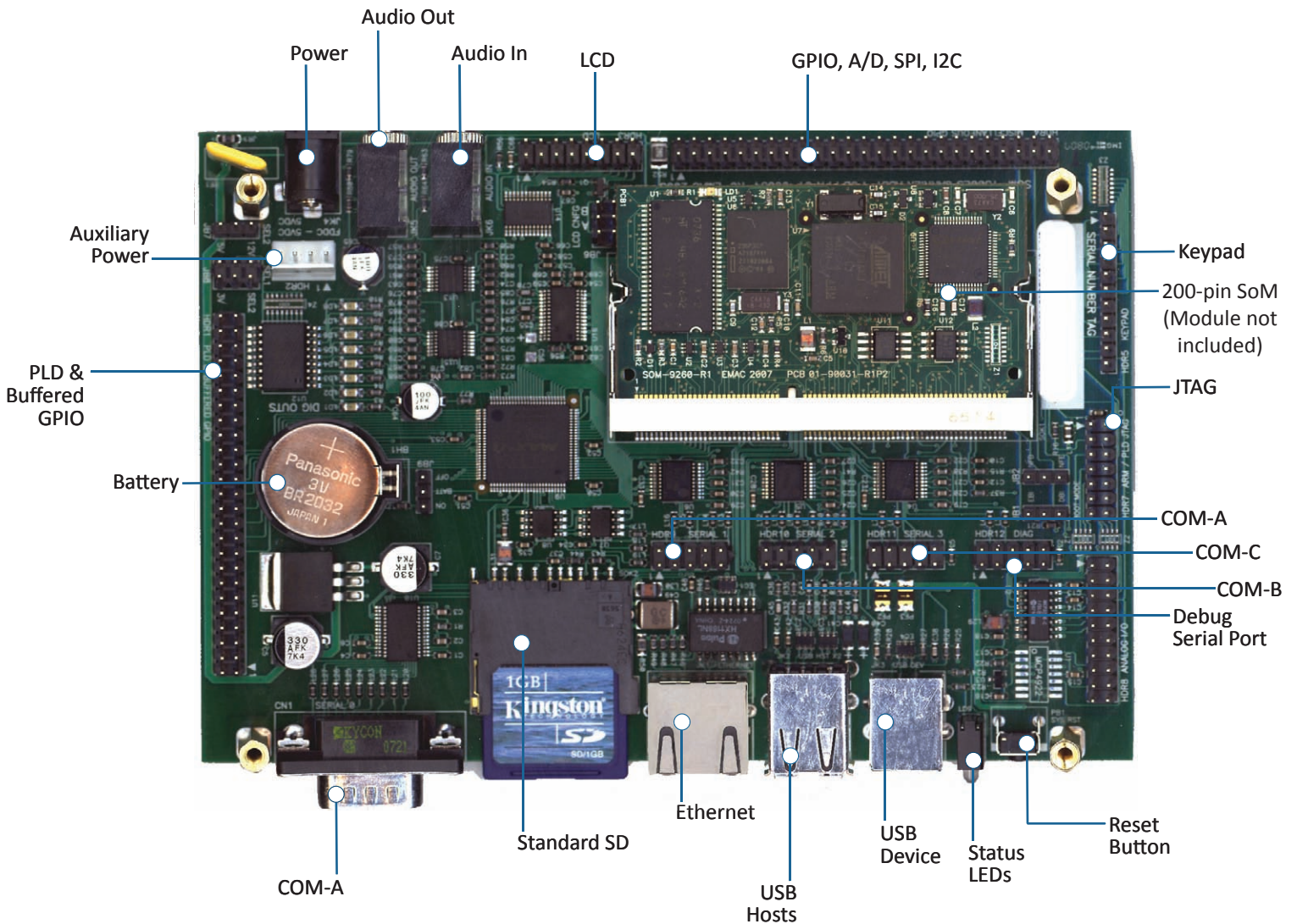
Features

- 4x Serial Ports (3x RS232, 1x RS232/485)
- Up to 48x Digital General Purpose I/O lines
- 1x 10/100 BaseT Ethernet
- Audio & CAN 2.0B
- 2x USB Host Jack & 1x USB Device Jack
- 8x A/D & 4x D/A



Specifications

Compatibility	EMAC 144-pin SODIMM socket
I/O	30x PLD Controlled General Purpose digital I/O lines in addition to SoM I/O lines
	24x General Purpose digital (PLD) I/O lines
	8x GPIO Lines are High Drive Digital Output Lines with Status LEDs (500 ma. sink)
	1x CAN 2.0B Port
	1x 10/100 BaseT Ethernet with onboard Magnetics and RJ45 Jack
	4x Serial Ports (3x RS232, 1x RS232/485)
	2x USB Host Jack
	1x USB Device Jack
	24-key Keypad Interface
	Battery for nonvolatile RAM & Real Time Clock
Video	MMC/SD Flash Card Socket
	Power and MMC/SD status LEDs
Analog	System Reset button
	Character LCD interface
	8 channel 12-bit A/D single ended
Dimensions	2 channel 12-bit D/A (0 - 2.5V output)
	I2S Audio Stereo CODEC with Line In/Out Jacks
	Small 144-pin Form Factor 4.37" × 6" (110mm × 152mm)
Power Req.	5V Typical Voltage
	Typical Running Current Consumption 1.5A
	Typical 5 Volts @ 1.5A including SoM & USB (Note: up to 1.0A is required if USB Host is providing power to USB devices.)
Environment	0 - 70 C Operating Temperature [optional -40 to +85C]
	90% Upper Operating Humidity



*System on Module (SoM) Module not included

Carrier Board Options

PRODUCT #	DESCRIPTION
SoM-150ES-000	Standard Carrier Board with PLD
SoM-150ES-007	Bare-Bones Carrier Board without PLD
SoM-150ES-031	Deluxe Carrier with PLD, A/D, D/A, Audio





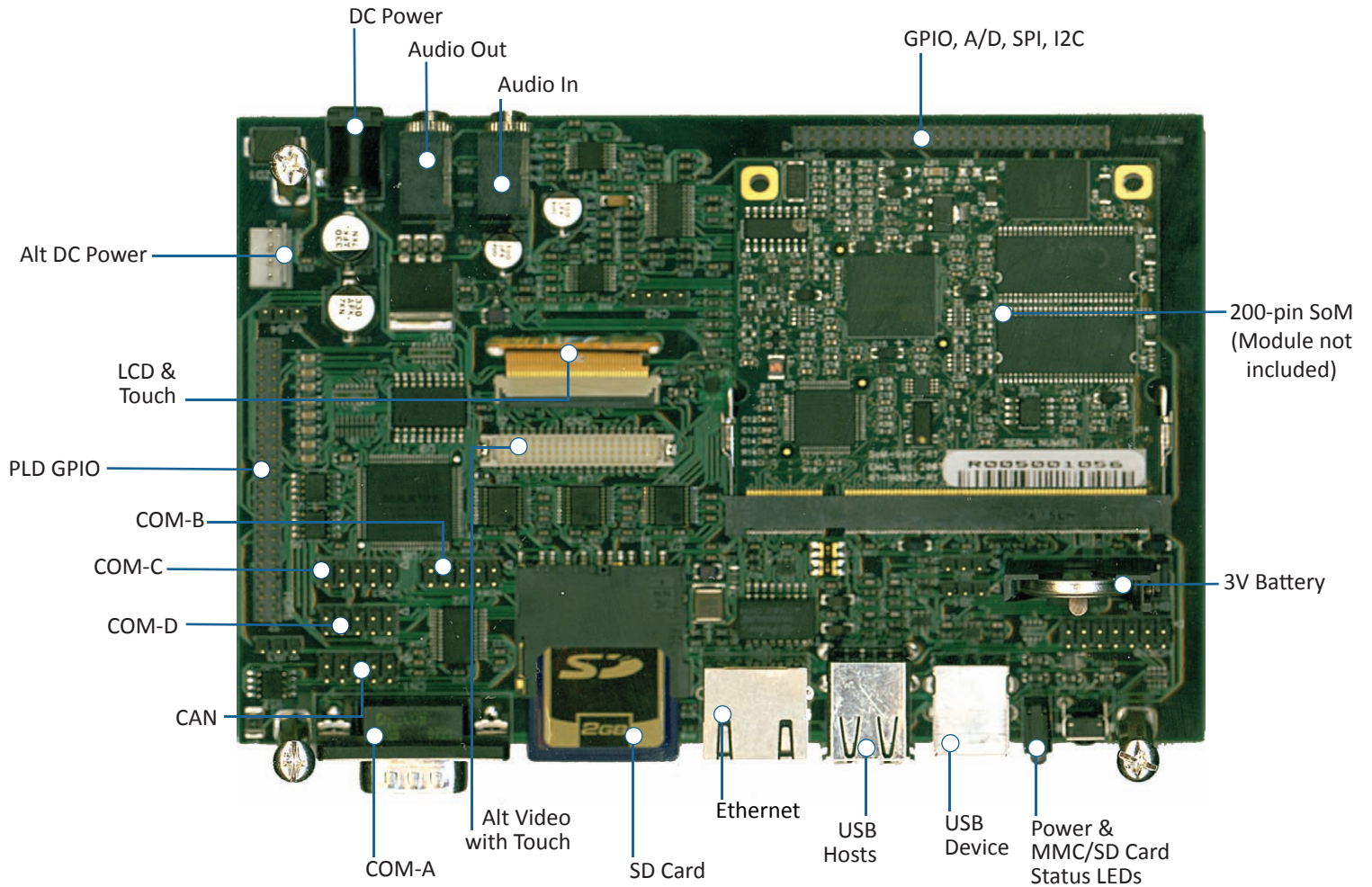
Features

- 4x Serial Ports (3x RS232 & 1x RS232/422/485)
- 1x 10/100 Base-T Ethernet
- 1x SD Flash Card Socket
- 2x USB 2.0 Host Ports & 1x USB Device Port
- I2S Audio, 1x I2C, 1x SPI, 1x CAN
- Up to 56x I/O Lines



Specifications

Compatibility	EMAC 200-pin SODIMM socket
Memory	1x SD Flash Card Sockets
I/O	24x GPIO Lines, 32 SOM Specific I/O Lines
	1x I2S Audio Line In/Out Port
	1x 10/100 Base-T Ethernet with RJ45 Jack
	2x USB 2.0 Host Ports
	1x USB 2.0 Device Port
	4x Serial Ports (3x RS232 & 1x RS232/422/485)
	1x CAN 2.0 Port
	1x SPI (3 chip selects)
	Reset Button
	Battery for nonvolatile RAM and Real Time Clock
Power and MMC/SD card status LEDs	
1x I2C Port	
Analog	4x A/D Channels
Video	1x 4.3" Graphic LCD interface for TFT WQVGA LCD (480x272)
	1x 4-wire Resistive Touch Screen Interface
	Backlight Brightness Control
	1x 44-pin Dual Row 2mm Auxiliary Video/Touch Connector
Dimensions	4.375" x 6.0" (111.13 x 152.40mm)
Power Req.	5V DC
	Typical Running Current Consumption 800mA
Environment	0° to 60°C Operating Temperature [-40° to +85°C optional]
	90% Upper Operating Humidity



*System on Module (SoM) - Module not included

Carrier Board Options

PRODUCT #	DESCRIPTION
SoM-200ES-000	Standard Carrier Board with 4x serial ports, CAN, PLD, LCD/w Touch
SoM-200ES-001	Deluxe Carrier Board includes Audio in addition to Standard Options
SoM-200ES-007	Bare-Bones Carrier Board include Standard Options with the exception of PLD & LCD



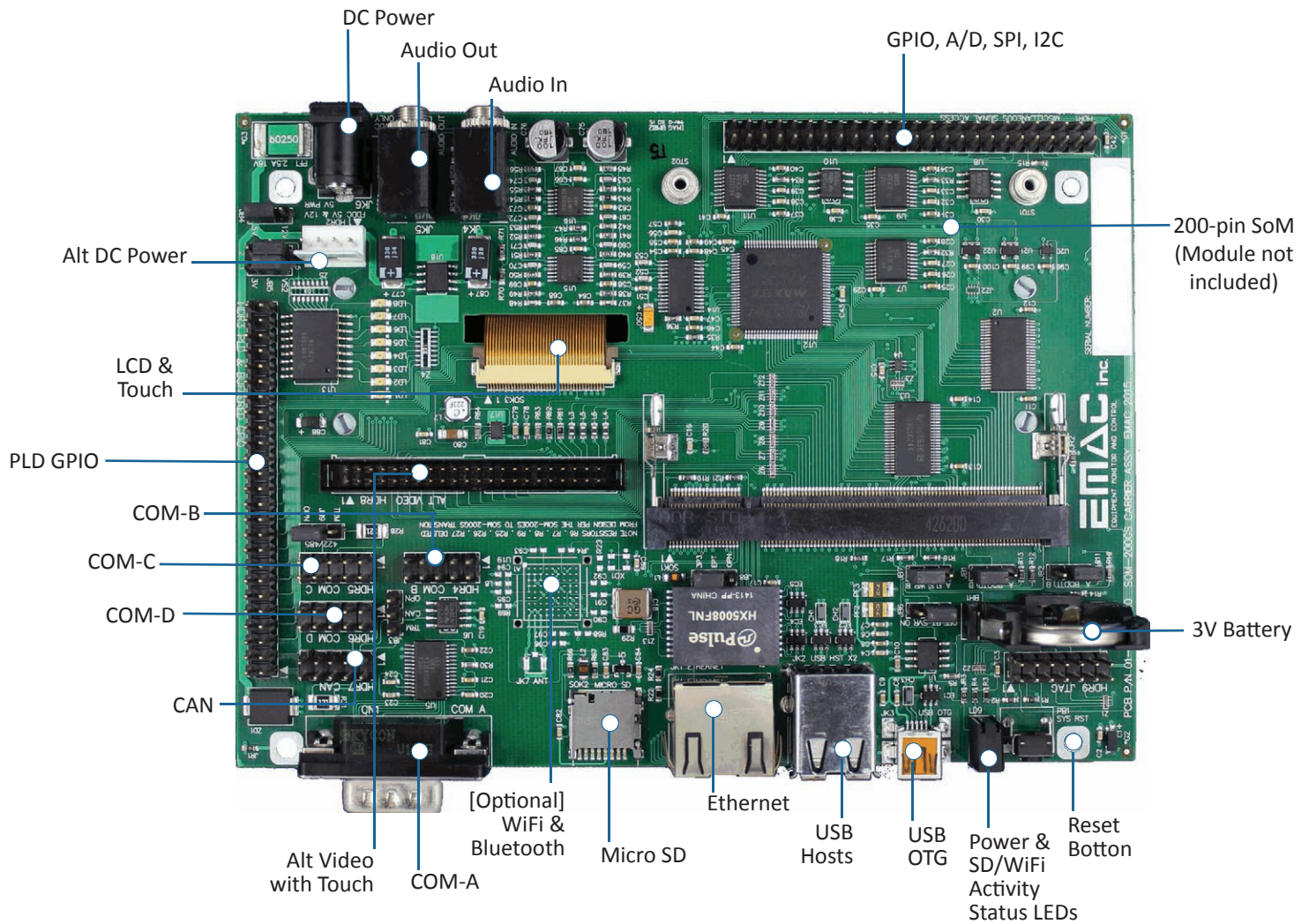
Features

- 4x Serial Ports (3x RS232 & 1x RS232/422/485)
- Gigabit Ethernet with Status LEDs
- 2x USB 2.0 Host & 1x USB OTG Ports
- I2S Audio Line In/Out Port & SD Card Slot
- Up to 56x I/O Lines
- WiFi 802.11 b/g/n [optional]
- Bluetooth 3.0 + High Speed [optional]
- 4.3" LCD with Touch



Specifications

Compatibility	EMAC 200-pin SODIMM socket
Memory	1x SD Flash Card Socket (Optional)
I/O	24x General Purpose Digital (PLD) I/O Lines: 8x Digital Input Lines, 8x Digital Output lines with 20 ma. drive, 8x High Drive Digital (PLD) Output Lines with Status LEDs 500ma. sink
	32x SOM Specific I/O Lines
	1x I2S Audio Line In/Out Port
	4x Serial Ports (3x RS232 & 1x RS232/422/485)
	1x CAN 2.0 Port
	Reset Button
	Power & SD/WiFi Activity Status LEDs
	2x USB 2.0 Host & 1 USB OTG Ports
	1x 10/100/1000 BaseT "Gigabit" Ethernet with Status LEDs
	1x WiFi 802.11 b/g/n (optional)
1x Bluetooth 3.0 + High Speed [optional]	
1x I2C, 1x SPI (3 chip selects)	
Analog	4x Channels A/D
Video	1x 4.3" Graphic LCD Interface for TFT WQVGA (480x272)
	1x 44-pin dual row 2mm auxiliary video/touch connector
	Backlight Brightness Control
	1x 4-wire Resistive Touch Screen Interface
Dimensions	4.375" x 6.0" (111.13 x 152.40mm)
Power Req.	5V DC
	Typical Running Current Consumption 800mA (830mA with WiFi) 5V +/- 10%
	Floppy power supply connector and standard barrel power jack
Environment	0° to 60°C Operating Temperature [-40° to +85°C optional]
	90% Upper Operating Humidity



*System on Module (SoM) - Module not included

Carrier Board Options

PRODUCT #	DESCRIPTION
SOM-200GS-000	Standard 200-pin Carrier w/SD Card Socket & 4.3" LCD
SOM-200GS-001	Deluxe 200-pin Carrier w/WiFi & 4.3" LCD, without SD Card Socket
SOM-200GS-007	Bare-Bones Carrier Board includes Standard Options with the exception of PLD & LCD



Features

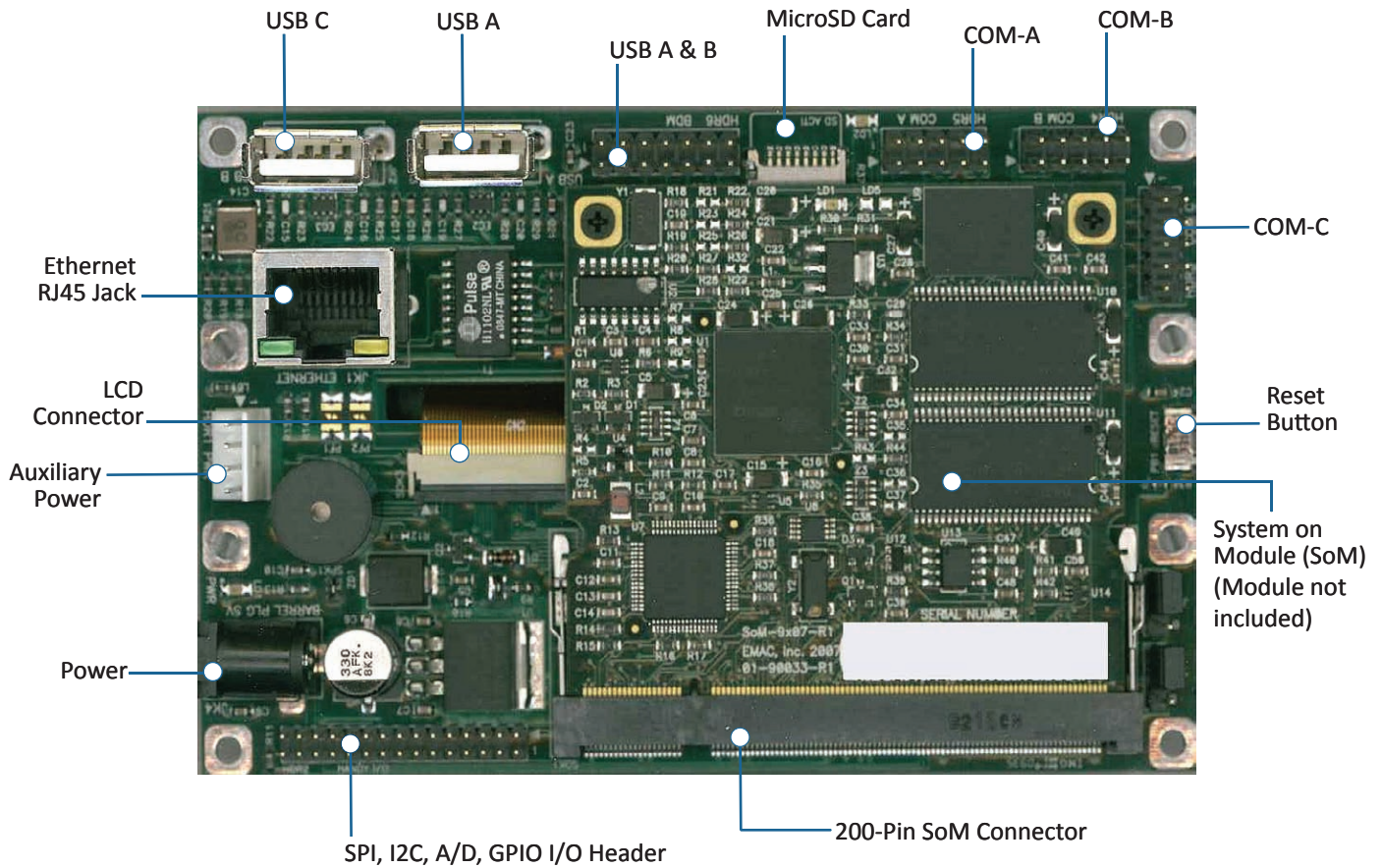
- 3x Serial Ports (2x RS232 & 1x RS232/485)
- 10/100 BaseT Ethernet with On-Board RJ-45
- 3x USB 2.0 Host Ports
- MicroSD Flash Card Interface
- 26x SoM Specific I/O lines & JTAG
- 4.3" Graphic LCD with WQVGA TTL Interface
- Resistive Touch Screen Interface
- Small enough to fit into a 2U chassis



Specifications

Compatibility	EMAC 200-pin SODIMM socket
Memory	1x MicroSD Flash Card Socket
I/O	26x SoM Specific I/O lines & JTAG
	1x I2S Audio Port
	3x Serial Ports (2x serial RS232 Ports & 1x RS232/485 Port)
	1x 10/100 BaseT ethernet with On-Board RJ-45
	2x USB 2.0 Hosts (with access to an additional Host Port)
	Battery for Real Time Clock
	Reset Button
	1x Audio Beeper
	1x SPI Port
	Timer/Counters & Pulse Width Modulation (PWM)
1x I2C Hardware Port	
Analog	4x A/D Channels
Video	4.3" Graphic LCD Interface for TFT WQVGA (400 x 272)
	Durability - Over one million touches
	Luminance: 400 (cd/m ²)
	Backlight Brightness Control
	1x 4-wire Resistive Touch Screen Interface
Dimensions	4.8" x3" (121mm x 76mm)
Power Req.	5V DC Including SOM, USB & LCD
	Typical Running Current Consumption 1.0A (Note: up to 1.0A additional is required if USB Host is providing power up to to 3x USB devices)
Environment	0° to 60° C Operating Temperature
	90% Upper Operating Humidity





*System on Module (SoM) - Module not included

Carrier Board Options

PRODUCT #	DESCRIPTION
SoM-210ES-000	Standard Carrier Board with 4.3" TFT Color LCD
SoM-210ES-007	Bare-Bones Carrier Board without LCD



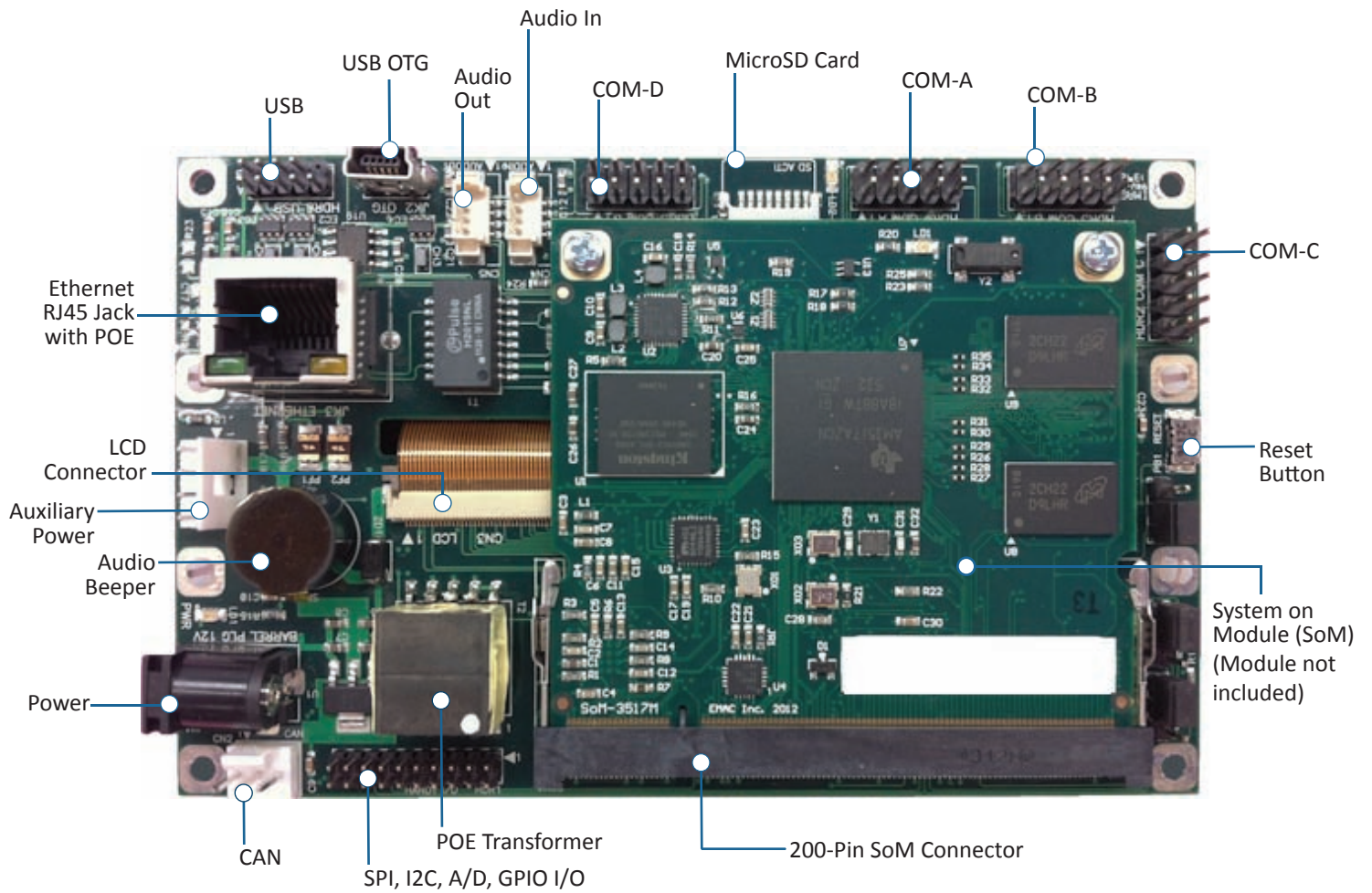
Features

- 4x Serial Ports (3x RS232 & 1x RS232/485)
- 10/100 BaseT Ethernet with On-Board RJ-45
- 2x USB 2.0 Hosts & 1 USB OTG
- 26x SoM Specific I/O lines
- 4.3" Graphic WQVGA LCD with TTL Interface
- Resistive Touch Screen Interface
- Small enough to fit into a 2U chassis



Specifications

Compatibility	EMAC 200-pin SODIMM socket
Memory	1x MicroSD Flash Card Socket
I/O	26x SoM Specific I/O lines
	1x I2S Audio Line In/Out Port
	4x Serial Ports (3x serial RS232 Ports & 1x RS232/485 Port)
	1x CAN 2.0b Port
	1x 10/100 BaseT ethernet with On-Board RJ-45 (POE Type 1 Optional)
	2x USB 2.0 Host Ports
	1x USB OTG (Host/Device)
	Battery for Real Time Clock
	Reset Button
	1x Software Controller Beeper
	1x SPI Port
Analog	Timer/Counters & Pulse Width Modulation (PWM) Ports
	1x I2C Hardware Port
Video	4x Channels A/D
	4.3" Graphic LCD Interface for TFT WQVGA (400 x 272)
	Durability - Over one million touches
	Luminance: 400 (cd/m ²)
	Backlight Brightness Control
Dimensions	1x 4-wire Resistive Touch Screen Interface
	4.8" x 3" (121mm x 76mm)
Power Req.	8-36 Vdc Wide Input or Regulated 5 Vdc Power for SoM, USB & LCD
	Typical Running Current Consumption 5W
	(Note: up to 1.0A additional is required if USB Host is providing power up to 3x USB devices)
Environment	Power Over Ethernet Device (POE Type 1 Optional)
	0° to 60°C Operating Temperature
	90% Upper Operating Humidity



*System on Module (SoM) - Module not included

Carrier Board Options

PRODUCT #	DESCRIPTION
SoM-212ES-000	Standard Carrier Board with Touch Screen
SoM-212ES-003	Deluxe Carrier Board with Touch Screen, POE, and Stereo Audio
SoM-212ES-007	Bare-Bones Carrier Board without LCD



Features

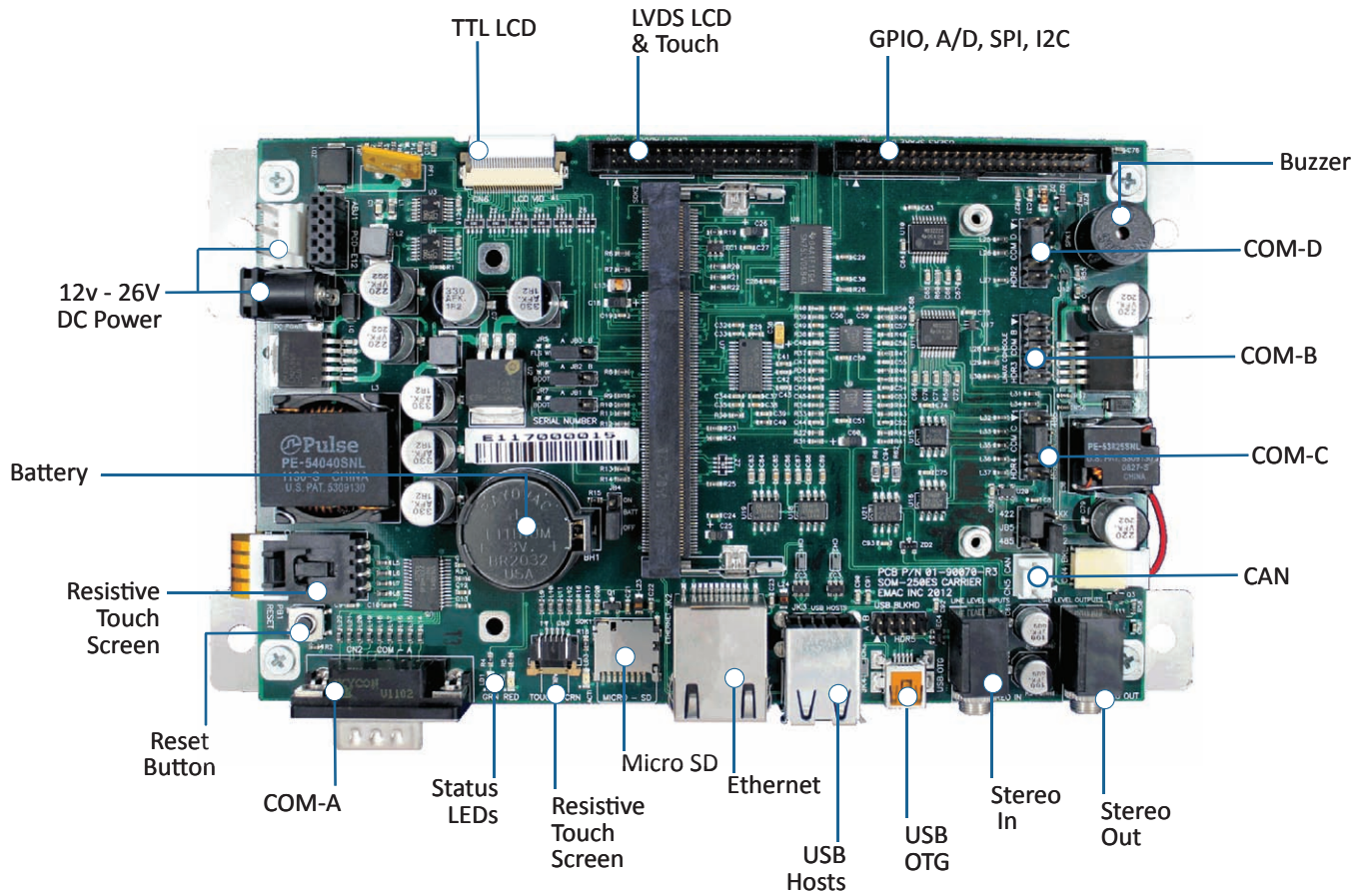
- 4x Serial Ports (3x RS232 & 1x RS232/422/485)
- 22x SoM Specific I/O Lines
- 10/100 BaseT Ethernet with Status LEDs
- Graphic LCD with TTL & LVDS Interfaces
- Resistive Touch Screen Interface
- 2x USB Host & 1x USB OTG Port
- I2S Audio Port with Line-In/Line-Out



Specifications

Compatibility	EMAC 200-pin SODIMM socket
Memory	Micro-SD card Slot
I/O	22x SoM Specific I/O lines (GPIO, A/D, SPI, I2C) 4x Serial Ports (3x RS232 & 1x RS232/422/485) 1x I2S Audio port with Line-In/Line-Out 1x CAN 2.0B Port 10/100 BaseT Ethernet with Status LEDs 2x USB 2.0 High Speed Host port 1x USB 2.0 High Speed OTG port Battery for nonvolatile RAM and Real Time Clock System Reset button 1x Audio Beeper
Analog	4x Channels A/D
Video	7" TFT Color LCD, 800 x 480 WVGA @ 256K Colors 330 (cd/m ²), Durability - Over one million touches 10" TFT LVDS Color LCD, 1024 x 600 WSVGA @ 256K Colors 250 (cd/m ²), Durability - Over one million touches Backlight Brightness Control 4-Wire Analog Resistive Touch Screen
Dimensions	7.55" x 4.15" (191mm x 105mm)
Power Req.	Input Voltage +12 to +26 Vdc. Typical Running Current Consumption 350mA @12 Vdc including SoM, USB & LCD (Note: Up to 1.0A is Req. if USB Host is providing power to 3x USB devices)
Environment	0° to 60°C Operating Temperature 90% Upper Operating Humidity

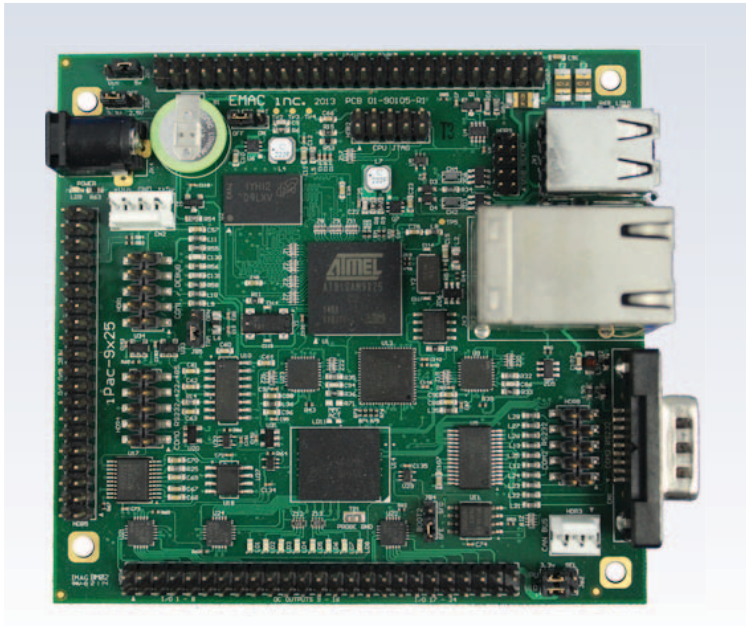




Carrier Board Options

PRODUCT #	DESCRIPTION
SoM-250ES-000	Standard Carrier Board with CAN, Audio, 7" LCD & Touch Screen
SoM-250ES-001	Deluxe Carrier Board with CAN, Audio, 10" LVDS LCD & Touch Screen
SoM-250ES-007	Bare-Bones Carrier Board without LCD





Features

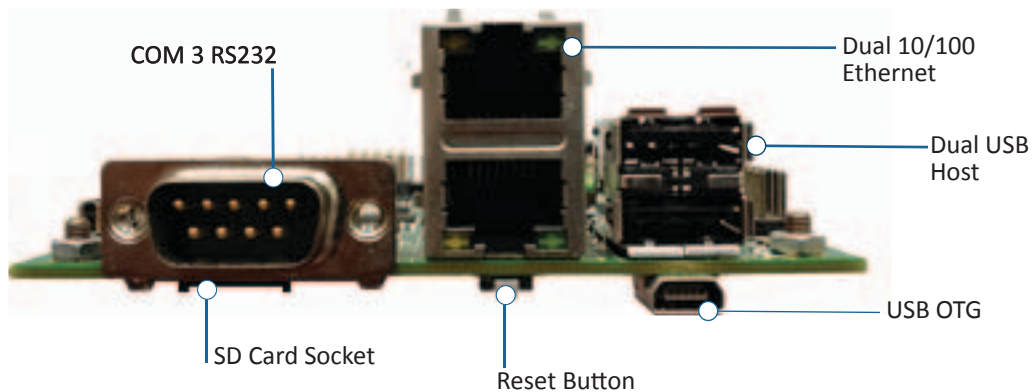
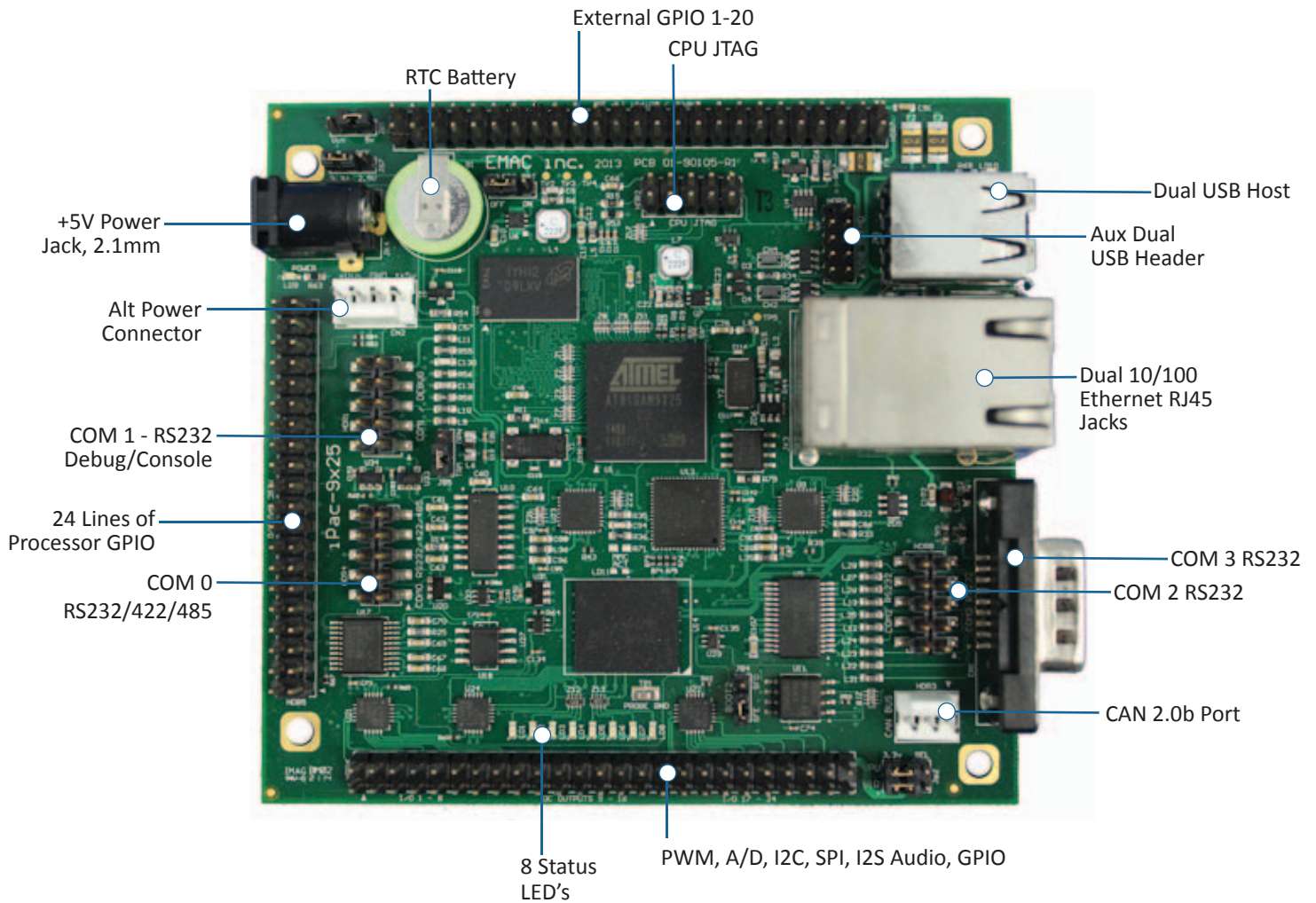
- Atmel AT91SAM9x25 400 Mhz Processor
- 128 MB of DDR2 RAM
- Up to 16GB of eMMC, 16MB Serial Data Flash
- Ethernet, A/D, SPI, I2C, I2S PWM, CAN
- 4x USB 2.0 Ports, 4x Serial Ports
- 36x GPIO Lines, 8x Hi-Drive Outputs
- Wide Temperature -40° to +85° C
- Wi-Fi and Bluetooth (optional)



Specifications

Processor	Embedded Atmel AT91SAM9X25 Processor 400 MHz
Memory	128 MB DDR2 RAM Up to 16 GB eMMC NAND Flash 16 MB Serial Data Flash
I/O	20x General Purpose SAM9X25 Digital I/O Lines, 16x SPI I/O Expander Based Digital I/O 8x High Drive Digital Outputs (Requires Qty. 2 Terminal Boards to utilize all GPIO) 1x I2S Audio Port 1x CAN 2.0b Port 2x Ethernet 10/100 Base-T with RJ45 2x USB 2.0 High Speed Host Port 1x USB 2.0 Full Speed Host Port 1x USB 2.0 High Speed OTG (Host/Device) 4x Serial Ports (3x RS232, 1x Full handshake & 1x RS232/422/485) 1x SPI Port 1x I2C Port Battery-Backed Real-Time Clock/Calendar Up to 4x 16-bit Pulse Width Modulation (PWM) WiFi and Bluetooth [Optional]
Analog	7x A/D Channels with 10-bit A/D Converter - 0 to 2.5V Range
Bus Expansion	None
OS	EMAC OE Embedded Linux
Dimensions	3.77" x 3.54" (95mm x 89mm; PC/104 footprint)
Power Req.	5 V (with no USB devices connected) Typical Running Current Consumption 500mA
Environment	-40° to + 85° C Industrial Wide Temperature 90% Upper Operating Humidity





Ordering Information

Product #	CPU	Memory	Serial	GPIO	USB	Analog	LAN	Temperature
IPAC-9X25-000	Atmel AT91SAM9X25 400 MHz	128MB DDR2 4GB eMMC 16MB Serial Flash	4x	44x	2x HS Host 1x FS Host 1x HS OTG	7x 10-Bit A/D Channels	2x 10/100 Base-T with RJ45	-40° to + 85° C





Features

- Atmel ARM Cortex A5 ATSAMA5D35 536 MHz
- 512 MB LP DDR2 RAM, 4 GB eMMC Flash
- 16MB Serial Data Flash
- Ethernet, CAN, I2S, SPI, I2C
- 2x USB 2.0 Host, 1x USB 2.0 Device
- 24x General Purpose digital (PLD) I/O lines
- 18x 3.3V I/O lines
- 4x RS232, 1x RS485/422 Serial Ports



Specifications

Processor	Atmel ARM Cortex A5 ATSAMA5D35 536 MHz
Memory	512MB LP DDR2 4GB eMMC Flash 16 MB Serial data flash
I/O	24x General Purpose digital (PLD) I/O lines 18x 3.3V I/O lines I2S Audio Port Line-in and Line-out (Optional on deluxe version) 1x CAN port 1x 10/100 BaseT Ethernet 2x USB 2.0 Full Speed Host Port 1x USB 2.0 Full Speed Device Port 2x SPI Ports (3 SPI CS) 2x I2C Ports Timer/Counters and Pulse Width Modulation (PWM) Port SPI Port I2C Port Pulse Width Modulators (PWM)
Analog	4x A/D Channels with 12-bit A/D Converter (0 to 2.5V on deluxe option)
OS	EMAC OE Embedded Linux
Dimensions	1.75" x 6.5" x 4.45" (44mm x 165mm x 113mm)
Power Req.	5 V Typical Running Current Consumption 500 mA
Environment	0° to + 70° C Operating Temperature 90% Upper Operating Humidity





Features

- AMD Geode LX800 500 MHz
- Up to 1GB DDR RAM
- 4GB Compact Flash
- 10/100 BaseT Ethernet
- 8x GPIO
- 2x USB 2.0 Ports
- 3x RS232, 1x 232/485/422 Serial Ports



Specifications

Processor	AMD Geode LX800
	500 MHz
Memory	Up to 1GB DDR
	4GB CompactFlash
I/O	8x GPIO
	AC97 with Mic-In, Line-In, Line Out Support
	2x Realtek™ RTL8100
	10/100 BaseT Ethernet (Standard), Dual 10/100 Base-T Ethernet (Deluxe)
	2x USB 2.0 Host Ports
Bus Expansion	3x RS232, 1x 232/485/422 Serial Ports
	PC/104 with 2 Internal Cards
OS	EMAC OE Linux, XP Embedded (XPE) / WES09, WES 7 - Windows Embedded Standard 7
Dimensions	2.75" x 6.53" x 4.45" (69mm x 165mm x 113mm)
Power Req.	5V
	Typical Running Current Consumption 700 mA
Environment	0° to +60° C Operating Temperature
	90% Upper Operating Humidity





Features

- Atmel ARM9 Jazelle AT91SAM9G45 400Mhz
- Up to 256 MB SDRAM, Up to 1GB Flash
- Up to 8MB of Serial Flash
- 10/100 Base-T Ethernet
- 32x GPIO, 1x SPI, 1x I2C, PWM
- 2x USB, 3 RS232 & 1 RS232/422/485 Ports
- WQVGA (480 x 272) Resolution with LED Backlight
- Inexpensive Open-Frame Design



Specifications

Processor	Atmel ARM9 Jazelle AT91SAM9G45 400 MHz
Memory	Up to 256 MB SDRAM Up to 1 GB Flash Up to 8MB of Serial Data Flash Micro SD Flash Card Socket
I/O	16x GPIO (5x Dedicated, 11x Configurable I/O) Audio with Line-in/out Port (Optional) 10/100 Base-T Ethernet (POE Type 1 Optional) 1x USB 2.0 (High Speed) Host port 1x USB 2.0 (High Speed) OTG Port 3x RS232 & 1x RS232/422/485 Port 1x SPI Port 1x I2C Port Timer/Counters/PWM 1x Audio Beeper
Video	WQVGA (480 x 272) Resolution with LED Backlight Graphic LCD Interface with Touch Screen Software Controlled Backlight On/Off & Brightness
Analog	4x A/D Channels with 10-bit A/D Converter
Bus Expansion	Local ARM9
OS	EMAC OE Embedded Linux
Dimensions	4.8" x 3" x 1.2" (121mm x 76mm x 30mm)
Power Req.	8-36 Vdc Wide Input, POE, or Regulated 5 Vdc Power for SoM, USB & LCD Typical Running Current Consumption 5W
Environment	0° to + 60° C





Features

- Texas Instruments AM 3354 ARM Cortex A8 1GHz
- Up to 512MB DDR3L of SDRAM, 4GB eMMC Flash
- Up to 16MB of Serial Flash
- 10/100 Base-T Ethernet
- 16x GPIO, 1x SPI, 1x I2C, PWM
- 3x USB, 3 RS232 & 1 RS232/422/485 Ports
- WVGA (800 x 480) Resolution with LED Backlight
- Inexpensive Open-Frame Design
- APM Sleep Mode
- Wi-Fi and Bluetooth (Optional)



Specifications

Processor	Texas Instruments AM3354 ARM Cortex A8 1 GHz
Memory	Up to 512MB Embedded DDR3L SDRAM 4GB eMMC Flash Up to 16MB of Serial Data Flash
I/O	16x General Purpose I/O 1x I2S Audio port with Stereo Line-In/Line-Out 1x 10/100BaseT Ethernet with on-board PHY 2x USB 2.0 (High Speed) Host port 1x USB 2.0 (High Speed) OTG port 3x RS232 & 1x RS232/422/485 Port Battery backed Real Time Clock Timer/Counters and Pulse Width Modulation (PWM) ports 1x I2C Port Timer/Counters/PWM Micro-SD Flash Card Socket
Video	WVGA (800 x 480) Resolution with LED Backlight Graphic LCD Interface with Touch Screen Software Controlled Backlight On/Off & Brightness
Analog	4x A/D Channels with 10-bit A/D Converter
Bus Expansion	Local ARM9
OS	EMAC OE Embedded Linux
Dimensions	4.8" x 3" x 1.2" (121mm x 76mm x 30mm)
Power Req.	12V (+12 to +28 V DC) Typical Running Current Consumption 500mA
Environment	0° to +60° C





Features

- TI ARM Cortex A8 Fanless Low Power 600 MHz
- Up to 512MB DDR2 SDRAM, Up to 4GB eMMC
- Up to 1GB NAND Flash
- 10/100 Base-T Ethernet
- 16x GPIO, 1x SPI, 1x I2S, 1x I2C, 1x CAN
- 2x USB, 3 RS232 & 1 RS232/422/485 Ports
- WVGA (1024x600) Resolution with LED Backlight
- Inexpensive Open-Frame Design
- Touch Screen Graphic LCD Interface
- Wi-Fi and Bluetooth (Optional)



Specifications

Processor	TI ARM Cortex A8 Fanless Low Power 600 MHz
Memory	Up to 512MB of Embedded DDR2 SDRAM 4GB eMMC Flash Up to 1GB of NAND Flash
I/O	16x General Purpose I/O 1x I2S Audio port with Line-In/Line-Out 1x 10/100BaseT Ethernet with on-board PHY 1x USB 2.0 (High Speed) Host port 1x USB 2.0 (High Speed) OTG port 3x RS232 & 1x RS232/422/485 Port CAN 2.0B Controller Battery backed Real Time Clock Timer/Counters and Pulse Width Modulation (PWM) ports 1x SPI with chip selects 1x I2C Port
Video	WVGA (1024x600) Resolution with LED Backlight Graphic LCD Interface with Touch Screen Software Controlled Backlight On/Off & Brightness
Analog	4x A/D Channels with 10-bit A/D Converter
Bus Expansion	ARM Cortex A8
OS	EMAC OE Embedded Linux, Android Available
Dimensions	5.76" x 10.25" (146mm x 260mm)
Power Req.	12V (+12 to +28 V DC) Typical Running Current Consumption 500mA
Environment	0° to +60° C



Clients

