Our Products Make Your Products Better®

EQUIPMENT MONITOR AND CONTROL

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EMAC, inc.
EQUIPMENT MONITOR AND CONTROL

Our Products Make Your Products Better®

Products & Services

- Hardware Engineering Service
- Software Engineering Service
- Box Build and Integration Service
- OEM Industrial Panel PCs
- OEM System on Modules (SoM)
- OEM Single Board Computers (SBC)
- Turnkey Embedded Computer Systems

Engineering

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) & Single Board Computer (SBC) product lines. This has allowed EMAC to design Custom Carrier Boards & SBCs 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 HW/SW IP Blocks provides an extremely cost affective semi-custom approach.

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

Hardware Engineering Services

EMAC provides hardware design services for ARM, x86 and microcontroller systems that incorporate real time control, graphic user interfaces, networking and wireless connectivity. We offer battery backup and charging, analog (sensor) signal processing, motor control for use in standard and rugged environments.

Software Engineering Services

EMAC provides software design services that include Embedded Linux, Windows OS , Android Builds & customization. We offer standard and Real Time driver development, application development (including Web based and Mobile), Remote Access and updating, database connectivity/utilization, porting code to new platforms and more.



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

Semi-Custom

EMAC has been doing custom engineering since 1985. Since that time EMAC has developed an array of single board computers (SBCs), System on Modules (SoMs), 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 leverage these off-the-shelf designs along with an arsenal of ready to run software library routines and device drivers in a semi-custom application. This semi-custom approach provides the customer with a substantial cost savings and time savings over a fully custom "design from scratch" approach.

Custom Engineering

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 product. 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 Devices (PLDs) or even Field Programmable Gate Arrays (FPGAs) can be developed.

U.S. Based Manufacturing

EMAC has in-house manufacturing capabilities that we use to produce our OEM products. We use these same capabilities to produce custom prototypes and production products for our customers. The ability to both engineer and manufacture allows us to be extremely efficient when designing and producing products.

ISO 9001: 2008

Certified

PERRY JOHNSON REGISTRARS, INC.

ANAB ACCREDITED ISO/IEC 17021 MANAGEMENT SYSTEMS CERTIFICATION BODY

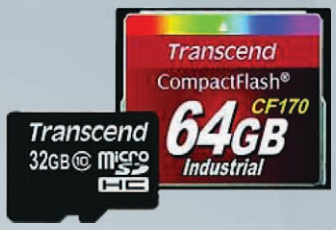
Integration/Box Build Services

EMAC can fully integrate any product that we sell or design. This includes the integration of software, memory, enclosures, cabling, etc. In addition to EMAC OEM products, we also offer a wide selection of distributed products from top tier manufacturers. These products can be mixed with our design services to provide Turn-Key solutions.

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.



Windows Embedded CE

Embedded Linux

Android

Windows Embedded Standard 7

Panel PCs

PPC-E4+
PPC-E4-3354
PPC-E7-3354
PPC-E10
PPC-E10-3354

PPC-E4+

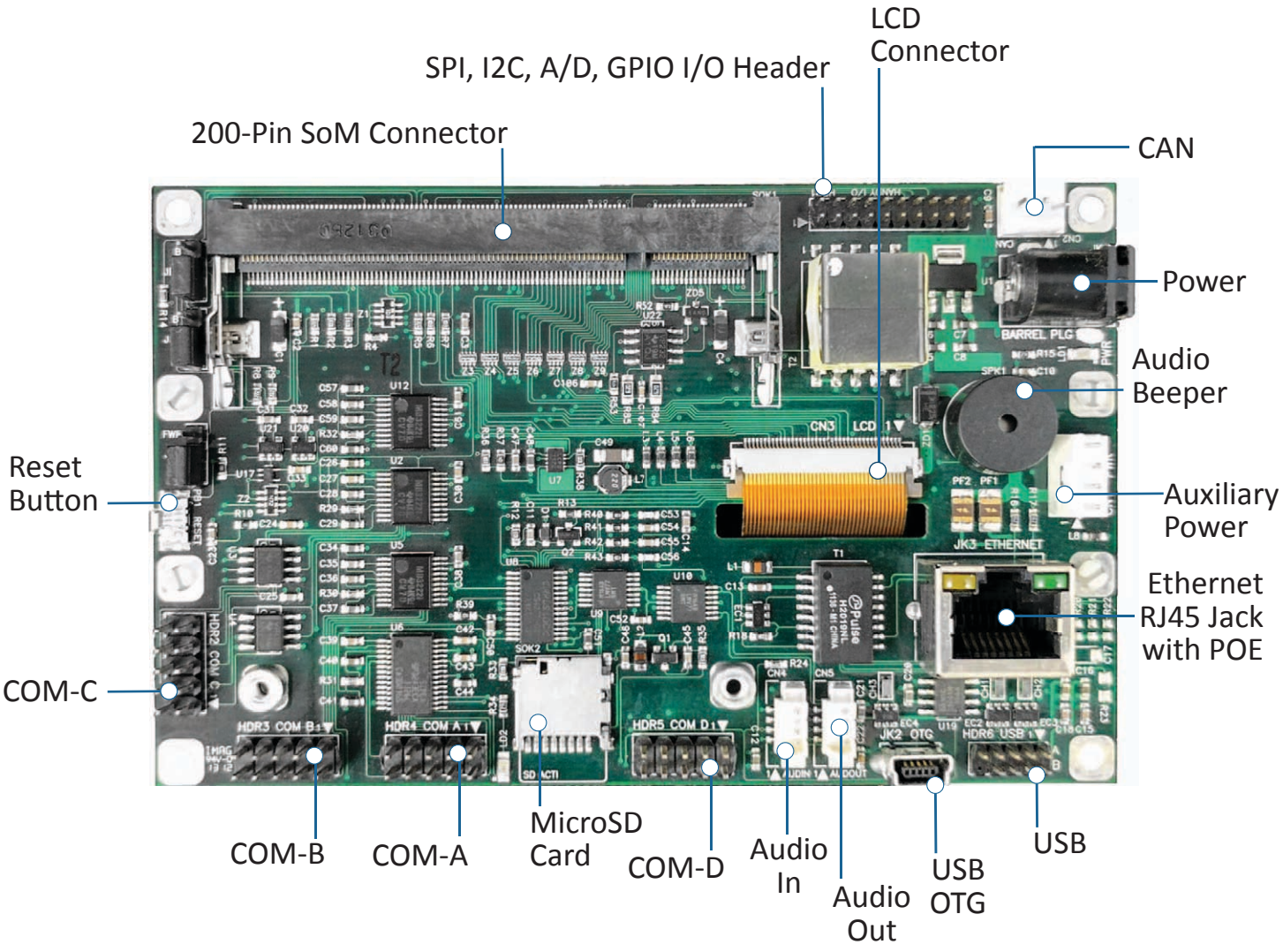
Panel PC Open Frame

Features

- Atmel ARM9 Jazelle AT91SAM9G45 400Mhz
- 128MB SDRAM
- 256MB NAND Flash, 8MB of Serial Flash
- 1x 10/100 BaseT Ethernet, POE (Optional)
- 32x GPIO, 1x SPI, 1x I2C, PWM
- 2x USB 2.0 Ports
- 4x Serial Ports
- WQVGA Resolution LCD with LED Backlight
- Inexpensive Open-Frame Design

Specifications

Processor	Atmel ARM9 Jazelle AT91SAM9G45
	400 MHz
Memory	128MB SDRAM
	256MB NAND Flash
	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" ×3" ×1.2" (121mm × 76mm × 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



Ordering Information

PRODUCT#	CPU	MEMORY	SERIAL	GPIO	USB	VIDEO	LAN	TEMPURATURE
PPC-E4+0300	Atmel ARM9 Jazelle AT91SAM9G45 400 MHz	128MB DDR2 RAM 256MB NAND Flash 8MB Serial Data Flash	4x	16x	1x USB Host, 1x USB OTG	WQVGA (480x272) Graphic LCD with Touch Screen	10/100 BaseT Ethernet	0° to +60° C
PPC-E4+0303	Atmel ARM9 Jazelle AT91SAM9G45 400 MHz	256MB SDRAM 1GB NAND Flash 8MB Serial Data Flash	4x	16x	1x USB Host, 1x USB OTG	WQVGA (480x272) Graphic LCD with Touch Screen	10/100 BaseT Ethernet with POE + Audio	0° to +60° C

Optional Accessories

PRODUCT #	POWER SUPPLY
PER-PWR-00041	Brick 30W w/ HDD & FDD connector +5/+12 VDC
PER-PWR-00032	5V @ 2.5A Power supply (110V @ 60 Hz US)
PER-PWR-00033	5V @ 3.2A Power supply (100-220V @ 47-63 Hz Intl.)

PPC-E4-3354

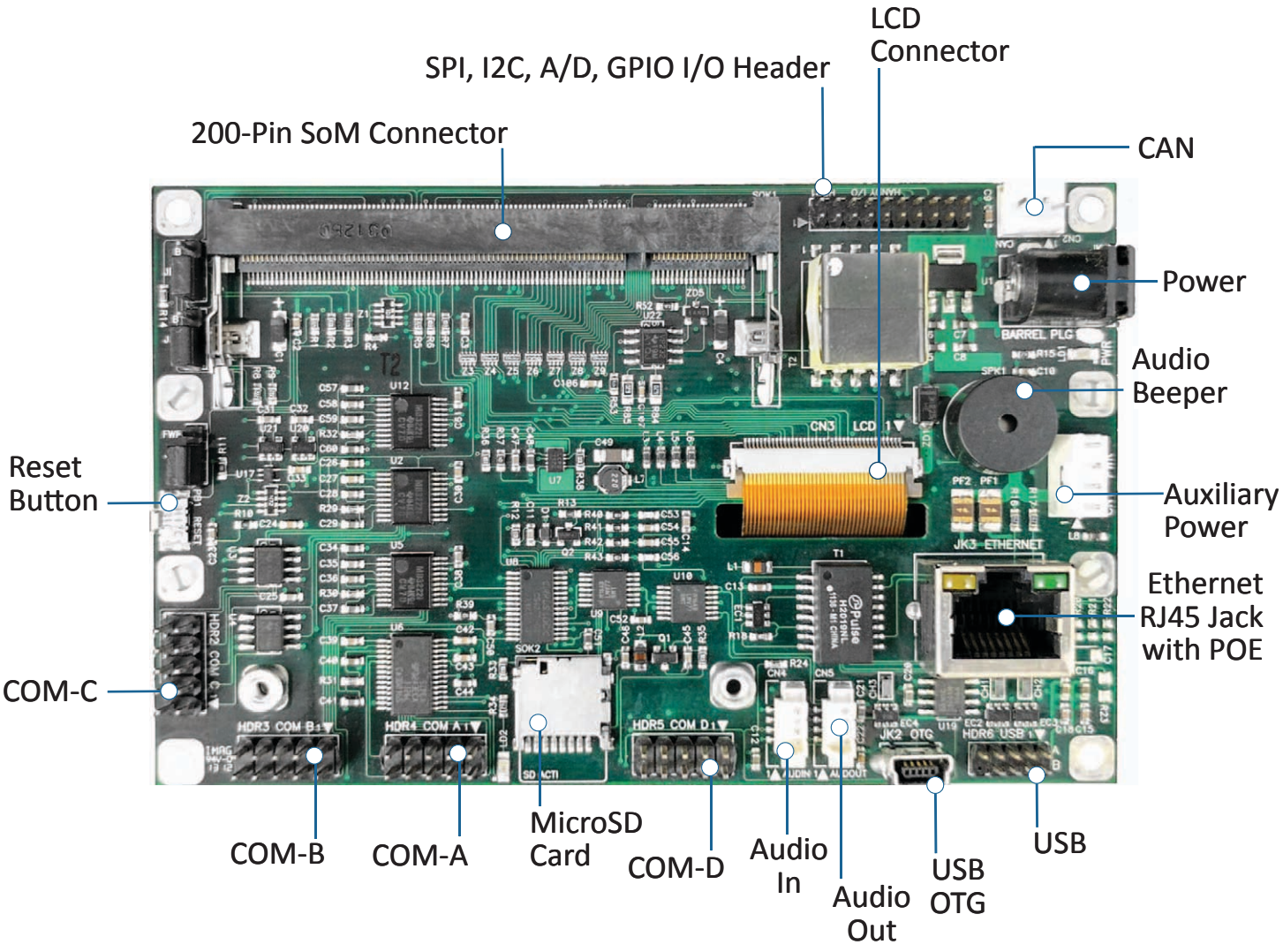
Panel PC Open Frame

Features

- TI AM3354 ARM Cortex-A8 1 GHz
- 512MB of DDR3 RAM
- 4GB eMMC Flash, 16MB Serial Data Flash
- 1x 10/100 BaseT Ethernet, POE (Optional)
- 16x GPIO, 1x I2S, 1x SPI, 1x I2C, 1x CAN, PWM
- 2x USB 2.0 Ports
- 4x Serial Ports
- WQVGA Resolution LCD with LED Backlight
- Inexpensive Open-Frame Design

Specifications

Processor	TI AM3354 ARM Cortex-A8
	1 GHz
Memory	512MB DDR3 RAM
	4GB eMMC Flash
	16MB of Serial Data Flash
	Micro SD Flash Card Socket
I/O	16x GPIO (5x Dedicated, 11x Configurable I/O)
	1x I2S 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	8x A/D Channels with 12-bit A/D Converter
Bus Expansion	Local ARM Cortex-A8
OS	EMAC OE Embedded Linux
Dimensions	4.8" ×3" ×1.2" (121mm × 76mm × 30mm)
Power Req.	8-36 Vdc Wide Input, POE, or Regulated 5 Vdc Power for SoM, USB & LCD
	Typical Running Current Consumption 4W
Environment	0° to + 60° C



Ordering Information

PRODUCT #	CPU	MEMORY	SERIAL	GPIO	USB	VIDEO	LAN	TEMPERATURE
PPC-E43-3354-01	TI AM3354 ARM Cortex-A8 1 GHz	512 DDR3 SDRAM 4GB eMMC Flash 16MB Serial Data Flash	4x	16x	1x USB Host, 1x USB OTG	WQVGA (480x272) Graphic LCD with Touch Screen	10/100 BaseT Ethernet	0° to +60° C
PPC-E43-3354-11	TI AM3354 ARM Cortex-A8 1 GHz	512 DDR3 SDRAM 4GB eMMC Flash 16MB Serial Data Flash	4x	16x	1x USB Host, 1x USB OTG	WQVGA (480x272) Graphic LCD with Touch Screen	10/100 BaseT Ethernet with POE	0° to +60° C

Optional Accessories

PRODUCT #	POWER SUPPLY
PER-PWR-00041	Brick 30W w/ HDD & FDD connector +5/+12 VDC
PER-PWR-00032	5V @ 2.5A Power supply (110V @ 60 Hz US)
PER-PWR-00033	5V @ 3.2A Power supply (100-220V @ 47-63 Hz Intl.)

PPC-E7-3354

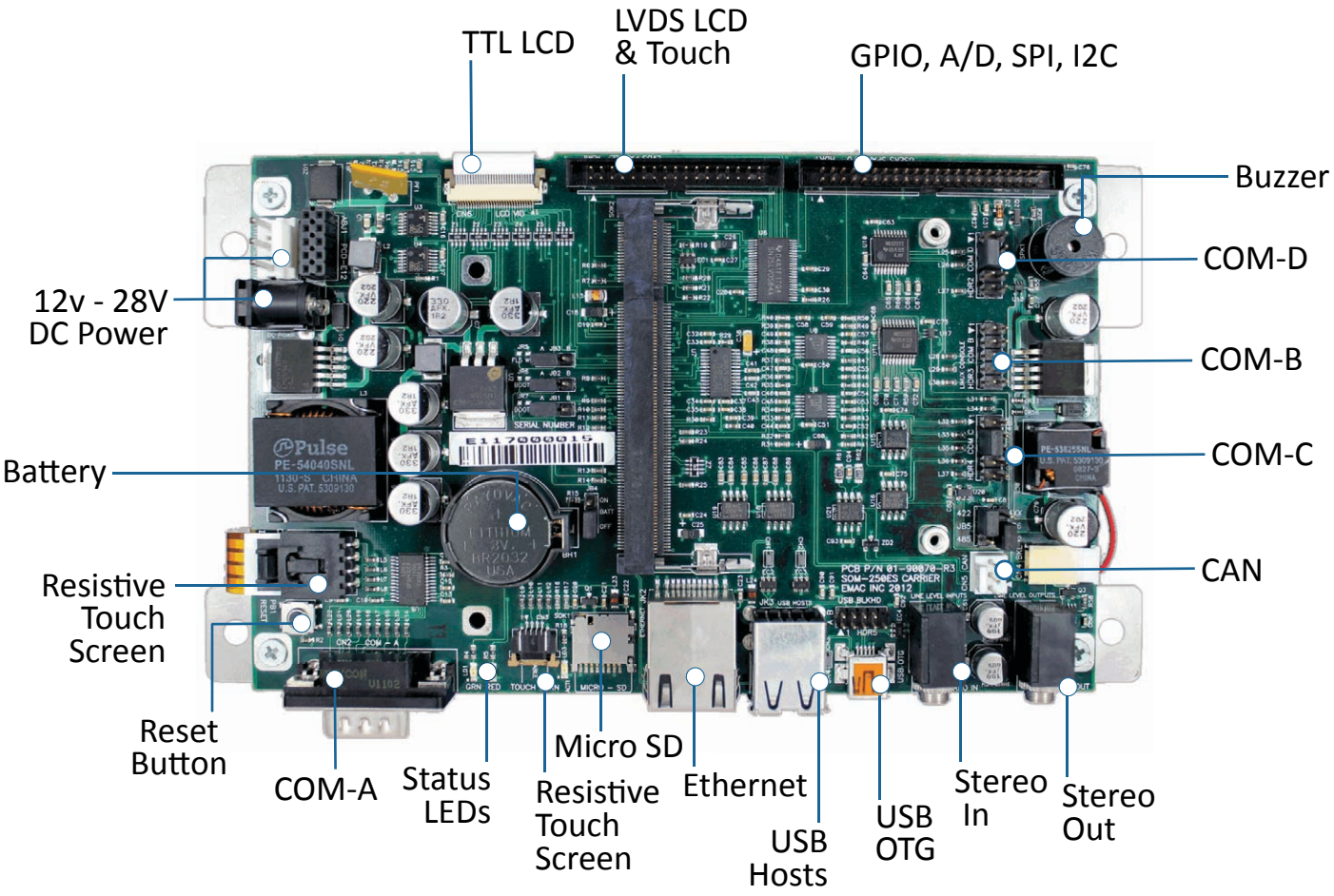
Panel PC Open Frame

Features

- Texas Instruments AM3354 ARM Cortex A8 1GHz
- 512MB DDR3L of SDRAM
- 4GB eMMC Flash, 16MB of Serial Data Flash
- 1x 10/100 BaseT Ethernet, POE (Optional)
- 16x GPIO, 1x SPI, 1x I2C, 1x CAN, PWM
- 3x USB 2.0 Ports
- 4x Serial Ports
- WVGA Resolution LCD with LED Backlight
- 4-Wire Resistive Touch Screen
- Inexpensive Open-Frame Design
- Wi-Fi and Bluetooth (Optional)

Specifications

Processor	Texas Instruments AM3354 ARM Cortex A8
	1 GHz
Memory	512MB DDR3L SDRAM
	4GB eMMC Flash
	16MB of Serial Data Flash
	1x Micro-SD Flash Card Socket
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)
	1x I2C Port
	Timer/Counters/PWM
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 12-bit A/D Converter
Bus Expansion	Local ARM9
OS	EMAC OE Embedded Linux
Dimensions	4.8" ×3" ×1.2" (121mm × 76mm × 30mm)
Power Req.	12V (+12 to +28 V DC)
	Typical Running Current Consumption 7W
Environment	0° to + 60° C



Ordering Information

PRODUCT #	CPU	MEMORY	SERIAL	GPIO	USB	VIDEO	LAN	TEMPERATURE
PPC-E70-3354-10	Texas Instruments AM3354 ARM Cortex A8 1 GHz	512MB DDR3 SDRAM 4GB eMMC FLASH 16GB Serial Data Flash	4x	16x	2x Host 1x OTG	WVGA (800x480) LCD Graphic Touch Screen	10/100BaseT Ethernet with on-board PHY	0° to +60° C

Optional Accessories

PRODUCT #	POWER SUPPLY
PER-PWR-00035	12V @ 2.1A Wall Power Supply (110 V @ 60 HZ US)
PER-PWR-00075	12V @ 2.1A, 90-264V @ 47-63Hz input, Universal power prongs for worldwide use, 2.1mm Barrel
PER-PWR-00090	12V @ 2.5A Desktop Power Supply, standard IEC 320-C14 input connector, 2.1mm barrel jack output

PPC-E10

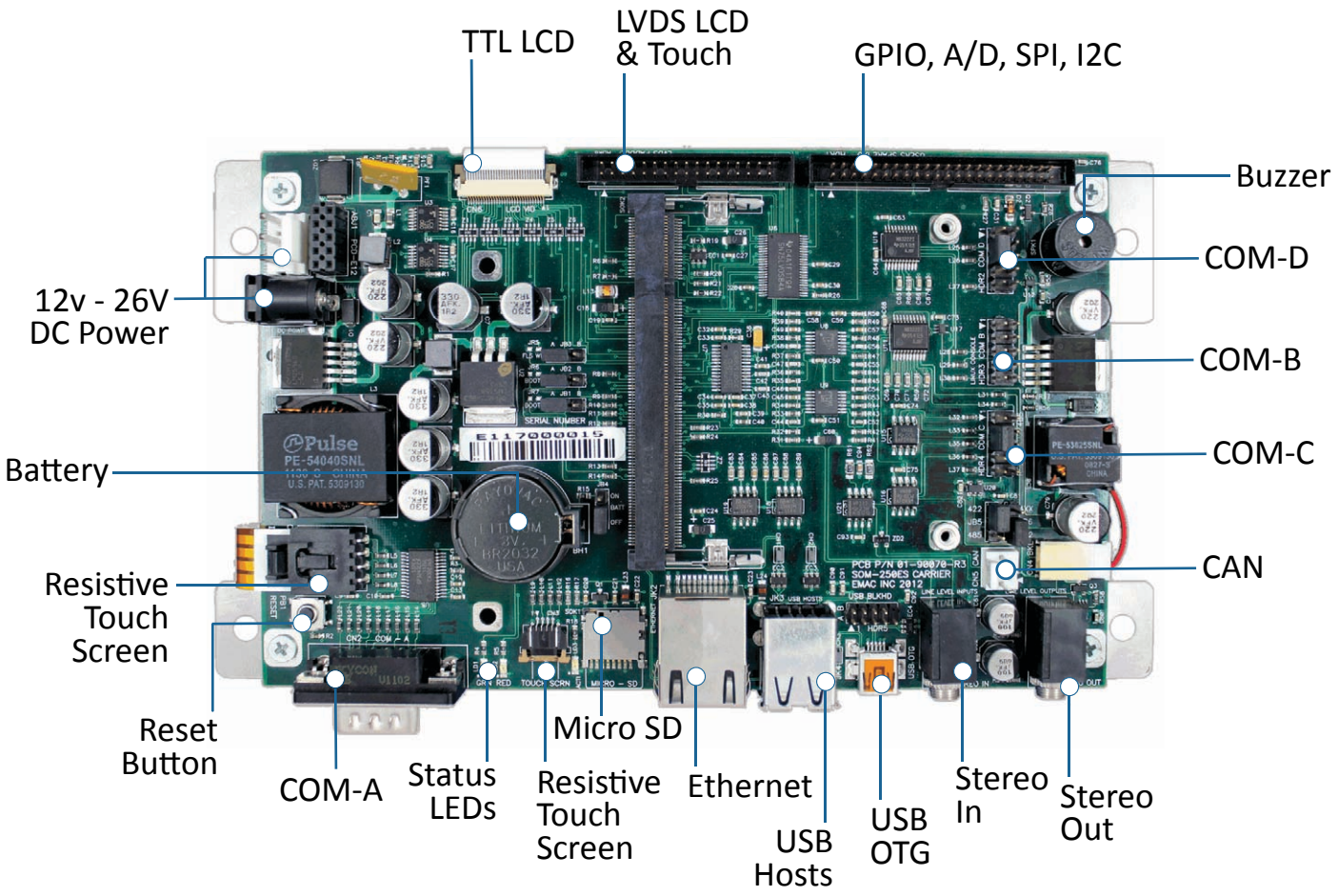
Panel PC Open Frame

Features

- TI Sitara 3517 ARM Cortex A8 Low Power 600 MHz
- 256MB DDR2 SDRAM
- 2GB eMMC Flash, 512MB Serial Data Flash
- 1x 10/100 BaseT Ethernet
- 16x GPIO, 1x SPI, 1x I2S, 1x I2C, 1x CAN
- 3x USB 2.0 Ports
- 4x Serial Ports
- WVGA Resolution LCD with LED Backlight
- Inexpensive Open-Frame Design
- Touch Screen Graphic LCD Interface
- Wi-Fi and Bluetooth (Optional)

Specifications

Processor	TI Sitara 3517 ARM Cortex A8 Fanless Low Power
	600 MHz
Memory	256MB DDR2 SDRAM
	2GB eMMC Flash
	512MB 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)
	1x SPI with chip selects
	1x I2C Port
Video	WSVGA (1024x600) Resolution with LED Backlight
	Graphic LCD Interface with Touch Screen
	Software Controlled Backlight On/Off & Brightness
Analog	2x A/D Channels with 12-bit A/D Converter
Bus Expansion	ARM Cortex A8
OS	EMAC OE Embedded Linux, Android Available
Dimensions	5.76" ×10.25" (146mm × 260mm)
Power Req.	12V (+12 to +28 V DC)
	Typical Running Current Consumption 7W
Environment	0° to + 60° C



Ordering Information

PROCUCT #	CPU	MEMORY	SERIAL	GPIO	USB	VIDEO	LAN	TEMPERATURE
PPC-E10-0100	TI Sitara 3517 ARM Cortex A8 Fanless Low Power 600 MHz	256MB DDR2 SDRAM 2GB eMMC Flash 512MB Serial Data Flash	4x	16x	1x USB Host, 1x USB OTG	WSVGA (1024x600) LCD Interface with Touch Screen	10/100 BaseT Ethernet	0° to +60° C

Optional Accessories

PRODUCT #	POWER SUPPLY
PER-PWR-00035	12V @ 2.1A Wall Power Supply (110 V @ 60 HZ US)
PER-PWR-00075	12V @ 2.1A, 90-264V @ 47-63Hz input, Universal power prongs for worldwide use, 2.1mm Barrel
PER-PWR-00090	12V @ 2.5A Desktop Power Supply, standard IEC 320-C14 input connector, 2.1mm barrel jack output

PRODUCT #	CABLES
CAB-40-004	DUAL USB Bracket w/6" Cable
CAB-35-003	6' DB9 to DB9 Null Modem Extention Cable

PPC-E10-3354

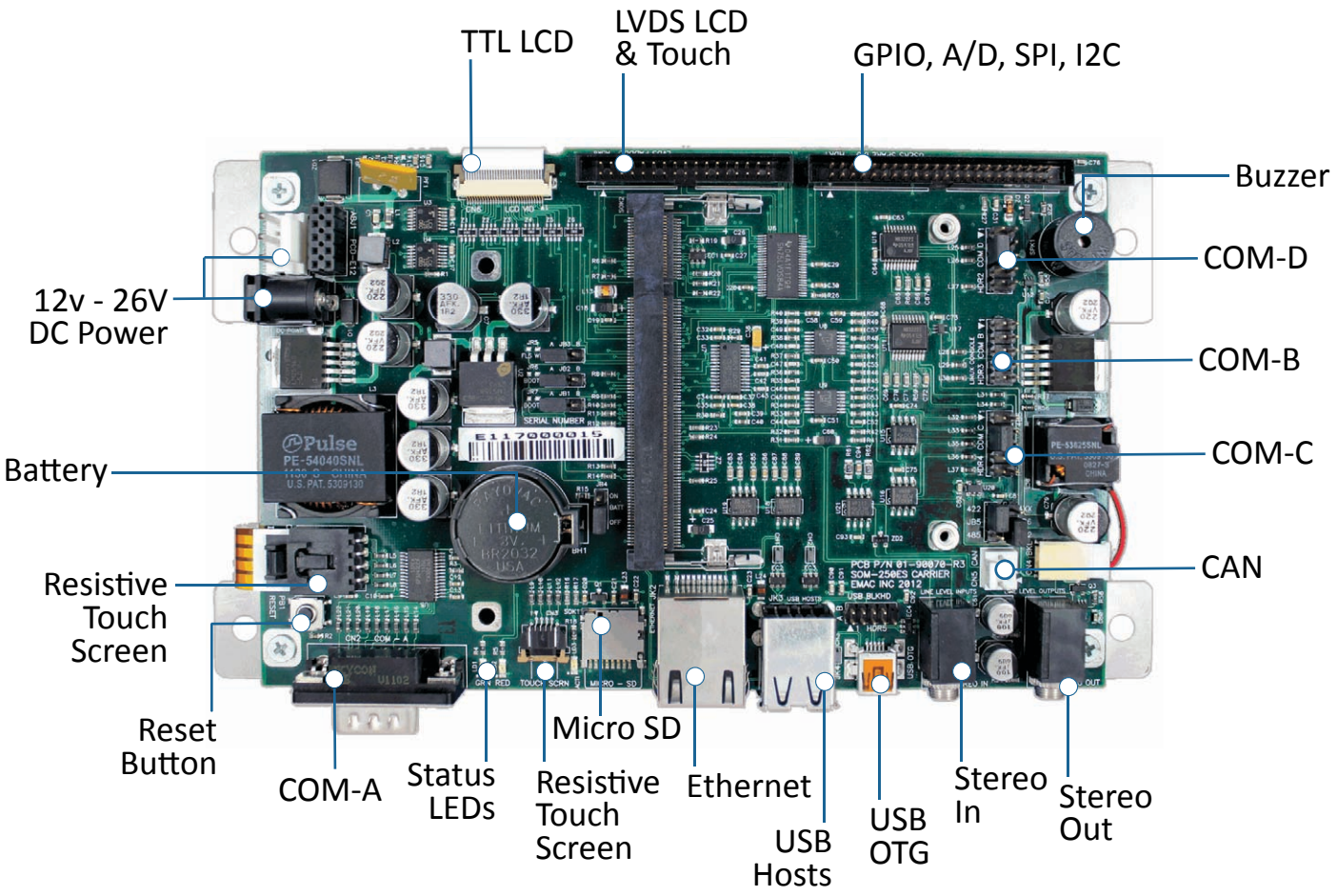
Panel PC Open Frame

Features

- TI AM3354 ARM Cortex A8 Low Power 1 GHz
- 512MB DDR2 SDRAM
- 4GB eMMC Flash, 16MB Serial Data Flash
- 1x 10/100 BaseT Ethernet
- 16x GPIO, 1x SPI, 1x I2S, 1x I2C, 1x CAN, PWM
- 3x USB 2.0 Ports
- 4x Serial Ports
- WSVGA Resolution LCD with LED Backlight
- 4-Wire Resistive Touch Screen
- Inexpensive Open-Frame Design
- Wi-Fi and Bluetooth (Optional)

Specifications

Processor	TI AM3354 ARM Cortex A8 Fanless Low Power
	1 GHz
Memory	512MB DDR2 SDRAM
	4GB eMMC Flash
	16MB of Serial Data 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
	2x 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)
	1x SPI with chip selects
	1x I2C Port
Video	WSVGA (1024x600) Resolution with LED Backlight
	Graphic LCD Interface with Touch Screen
	Software Controlled Backlight On/Off & Brightness
Analog	4x A/D Channels with 12-bit A/D Converter
Bus Expansion	ARM Cortex A8
OS	EMAC OE Embedded Linux, Android Available
Dimensions	5.76" ×10.25" (146mm × 260mm)
Power Req.	12V (+12 to +28 V DC)
	Typical Running Current Consumption 7W
Environment	0° to + 60° C



Ordering Information

PROCUCT #	CPU	MEMORY	SERIAL	GPIO	USB	VIDEO	LAN	TEMPERATURE
PPC-E10-3354	TI AM3354 ARM Cortex A8 Fanless Low Power 1 GHz	512MB DDR2 SDRAM 4GB eMMC Flash 16MB Serial Data Flash	4x	16x	2x USB Host, 1x USB OTG	WSVGA (1024x600) LCD Interface with Touch Screen	10/100 BaseT Ethernet	0° to +60° C

Optional Accessories

PRODUCT #	POWER SUPPLY
PER-PWR-00035	12V @ 2.1A Wall Power Supply (110 V @ 60 HZ US)
PER-PWR-00075	12V @ 2.1A, 90-264V @ 47-63Hz input, Universal power prongs for worldwide use, 2.1mm Barrel
PER-PWR-00090	12V @ 2.5A Desktop Power Supply, standard IEC 320-C14 input connector, 2.1mm barrel jack output

PRODUCT #	CABLES
CAB-40-004	DUAL USB Bracket w/6" Cable
CAB-35-003	6' DB9 to DB9 Null Modem Extention Cable

Embedded Servers

SIB- A5D35 Low Power Server
SIB-104G Embedded Server

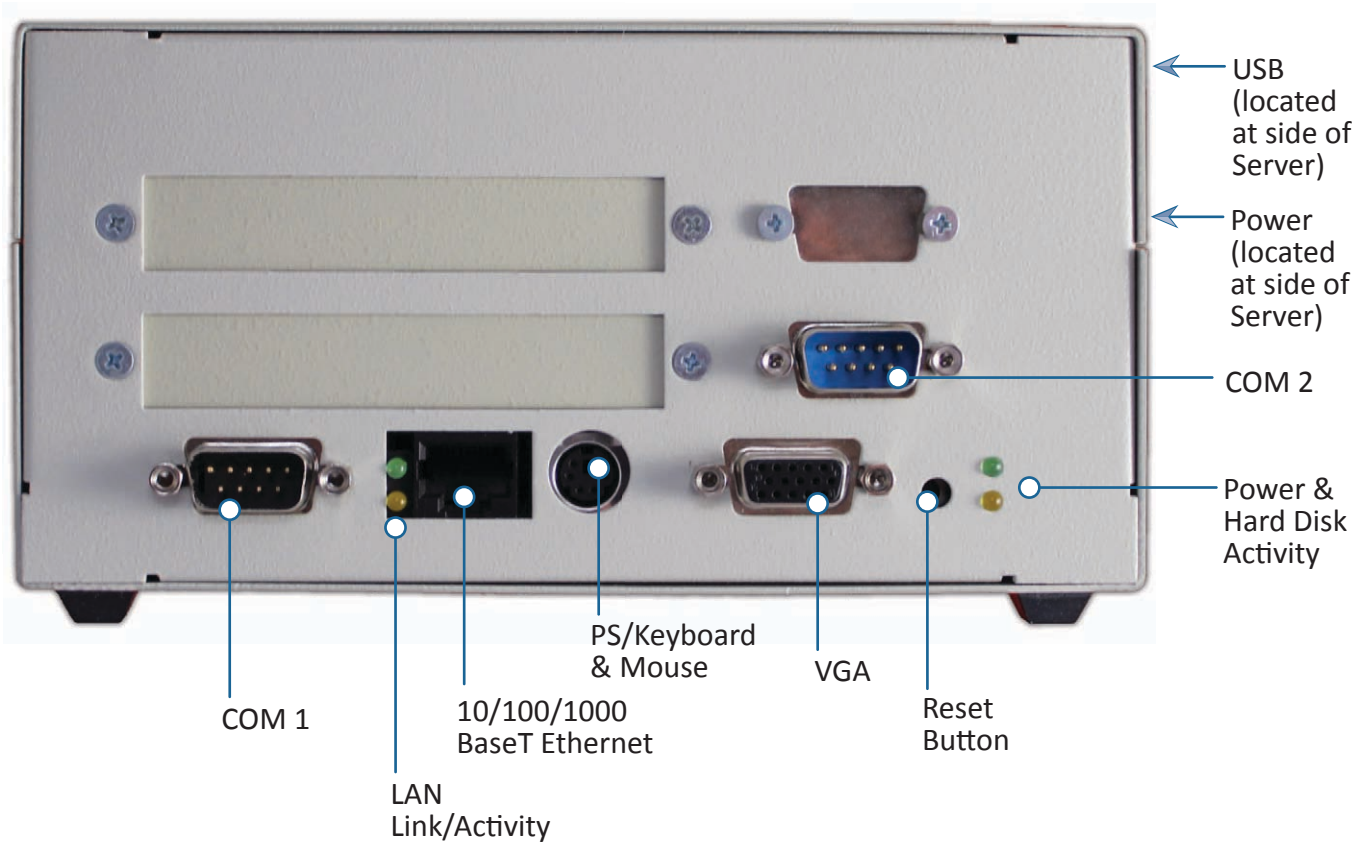
SIB-104G

Features

- AMD Geode TR16 615 MHz
- 1GB DDR3 RAM Onboard
- 16GB mSATA Module
- Dual 10/100/1000 BaseT Ethernet
- 8x GPIO
- 2x USB 2.0 Ports
- 4x Serial Ports
- PC/104 Expansion
- -45° to +85° C Optional

Specifications

Processor	AMD Geode TR16
	615 MHz
Memory	1GB DDR3 RAM Onboard (up to 4GB optional)
	16GB mSATA Module
I/O	8x GPIO
	Audio (Line-in, line-out, mic-in) ALC892 Codec
	2x Gigabit LAN, Realtek™ RTL8100E & Realtek™ RTL8111E
	1x 10/100/1000 BaseT Ethernet (Standard), Dual 10/100/1000 Base-T Ethernet (Deluxe)
	2x USB 2.0 Host Ports (2x USB 2.0 Host ports internal)
	3x RS232 & 1x 232/422/485 Serial Ports
Bus Expansion	PC/104 with 2 Internal Cards Slots, 1x Mini PCIe Half-size & 1x LPC
OS	EMAC OE Linux, XP Embedded (XPE) / WES7 - Windows Embedded Standard 7
Dimensions	2.75" ×6.53" ×4.45" (69mm × 165mm × 113mm)
Power Req.	5V
	Typical Running Current Consumption 1.48 A
	30W desktop power supply with din connector included
Environment	0° to +60° C Operating Tempurature (-45° to +85° C Optional)
	90% Upper Operating Humidity



Ordering Information

PRODUCT #	CPU	MEMORY	SERIAL	GPIO	USB	OS	LAN	TEMPERATURE
SIB-104GW-00	AMD Geode TR16 615 MHz	1GB DDR3 RAM Onboard 16GB mSATA	4x	8x	2x	WES7	1x 10/100/1000 BaseT Ethernet	-40° to +85° C
SIB-104GW-01	AMD Geode TR16 615 MHz	1GB DDR3 RAM Onboard 16GB mSATA	4x	8x	2x	Deluxe WES 7	2x 10/100/1000 BaseT Ethernet	-40° to +85° C
SIB-104GS-00	AMD Geode TR16 615 MHz	2GB DDR3 RAM Onboard 16GB mSATA	4x	8x	2x	Linux	1x 10/100/1000 BaseT Ethernet	0° to +60° C
SIB-104GS-01	AMD Geode TR16 615 MHz	2GB DDR3 RAM Onboard 16GB mSATA	4x	8x	2x	Deluxe Linux	2x 10/100/1000 BaseT Ethernet	0° to +60° C

SIB-A5D35

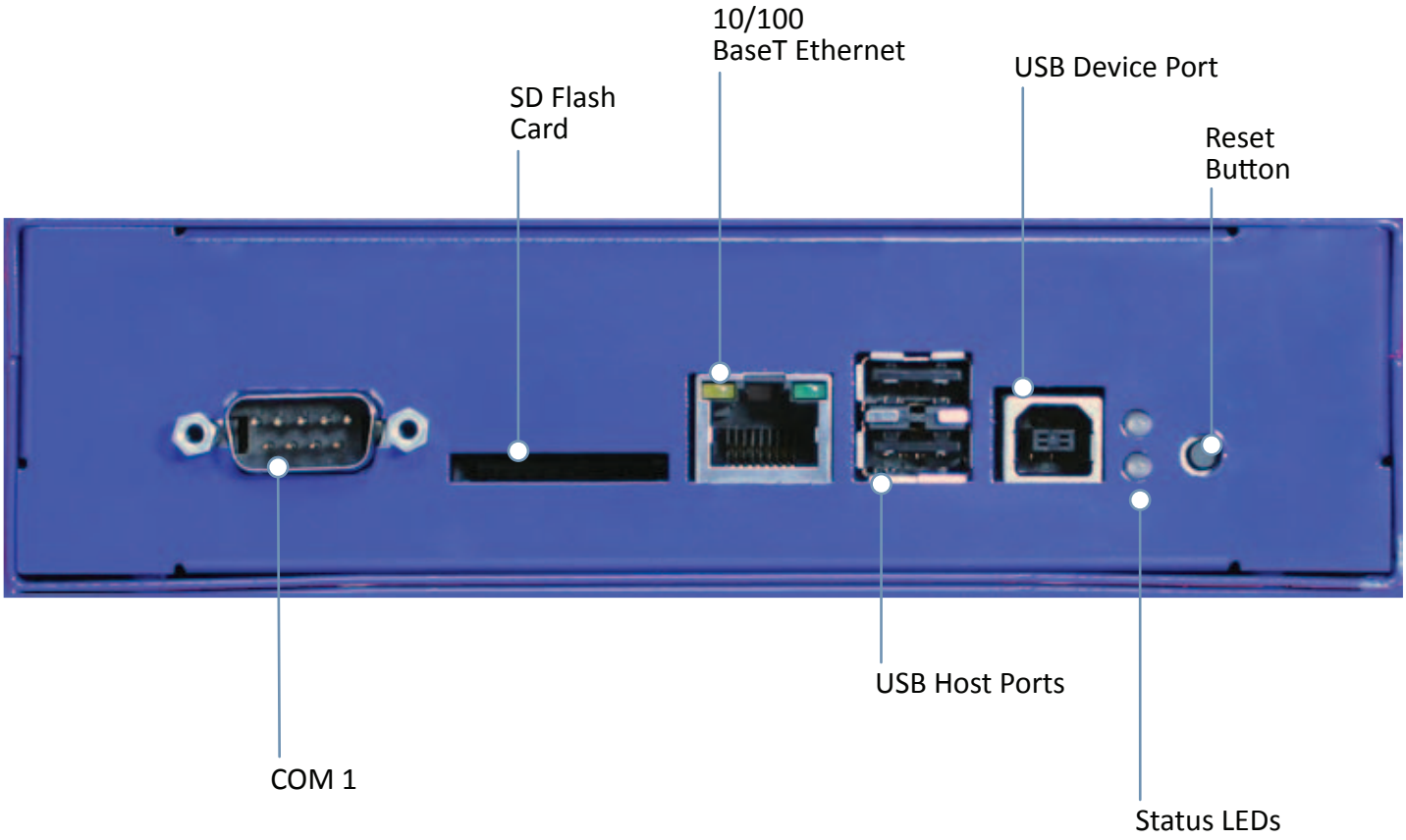
Low Power Embedded Server

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 Processor GPIO
- 4x 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
	3x RS232 & 1x RS232/422/485
	2x USB 2.0 High Speed Host Port
	1x USB 2.0 High Speed Device Port
	2x SPI Ports (3 SPI CS)
	2x I2C Ports
	Timer/Counters and Pulse Width Modulation (PWM) Port
	Battery for non-volitile RAM and Real Time Clock
	MMC/SD Card Socket
Analog	4x A/D Channels with 12-bit A/D Converter (0 to 2.5V)
OS	EMAC OE Embedded Linux
Dimensions	1.75" ×6.5" ×4.45" (44mm × 165mm × 113mm)
Power Req.	5 V
	Typical Running Current Consumption 500 mA
Environment	0° to + 70° C Operating Temperature (-45° - 85° C Optional)
	90% Upper Operating Humidity



Ordering Information

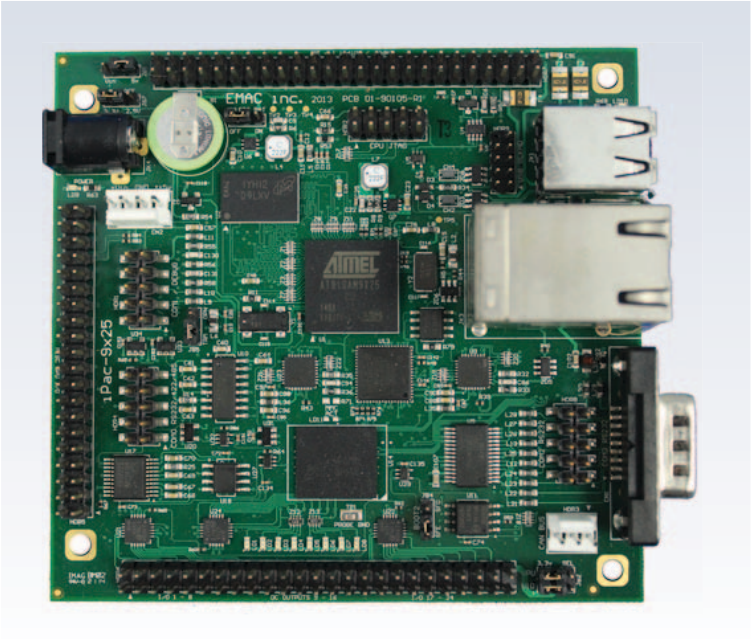
PRODUCT #	CPU	MEMORY	SERIAL	GPIO	USB	ANALOG	LAN	TEMPERATURE
SIB-A5D35-000-R	Atmel ARM Cortex A5 ATSAMA5D35 536 MHz	512MB LP DDR2 4GB eMMC Flash 16 MB Serial Data Flash	4x	24x	2x HS Host 1x HS Device	4x 12-bit A/D Channels	1x 10/100 BaseT Ethernet	0° to +70 ° C
SIB-A5D35-031-R	Atmel ARM Cortex A5 ATSAMA5D35 536 MHz	512MB LP DDR2 4GB eMMC Flash 16 MB Serial Data Flash	4x	24x	2x HS Host 1x HS Device	8x 12-bit A/D Channels, 2x 12-bit D/A, Line In/Out	1x 10/100 BaseT Ethernet	0° to +70 ° C

Single Board Computer

iPAC-9x25

iPAC-9x25

Embedded Single Board Computer

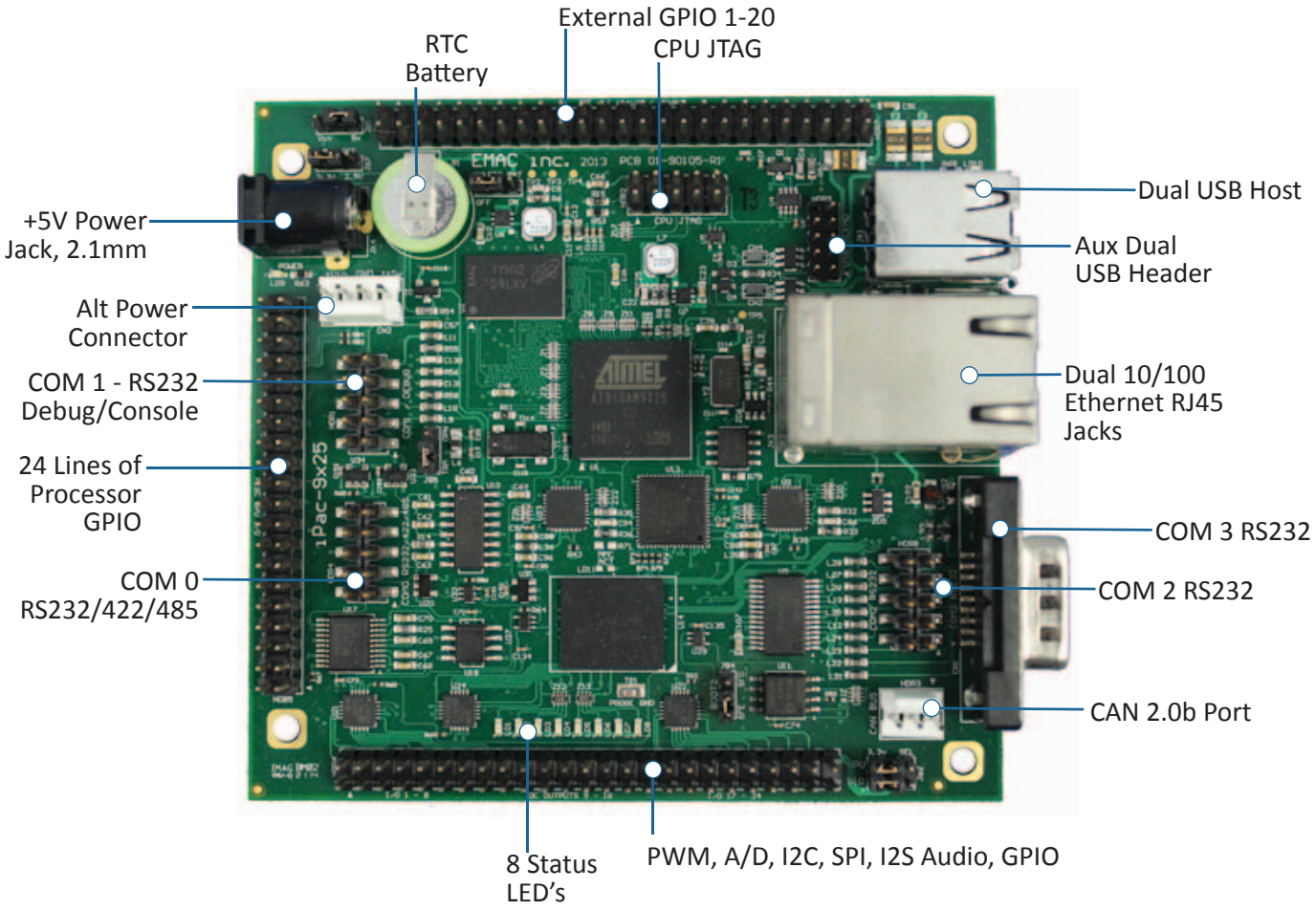


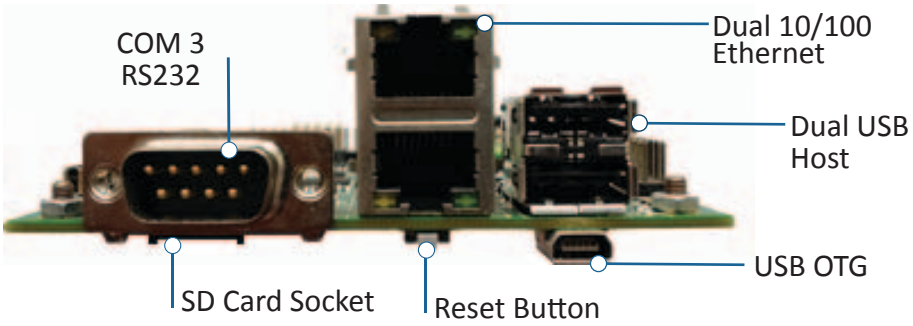
Features

- 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
	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 with10-bit A/D Converter - 0 to 2.5V Range
Bus Expansion	None
OS	EMAC OE Embedded Linux
Dimensions	3.77" ×3.54" (95mm × 89mm; PC/104 footprint)
Power Req.	5 V
	Typical Running Current Consumption 500mA (with no USB devices connected)
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

Optional Accessories

PRODUCT #	POWER SUPPLY
PER-PWR-00032	5V @ 2.5A Power supply (110V @ 60 Hz US)
PER-PWR-00033	5V @ 3.2A Power supply (100-220V @ 47-63 Hz Intl.)

PRODUCT #	TERMINAL BOARDS
PCD-39E00-000	Screw Terminal Board Kit w/40 & 50 pin connection cables
PCD-3950	50-pin Wire Screw Terminal Block, with Flat Cable

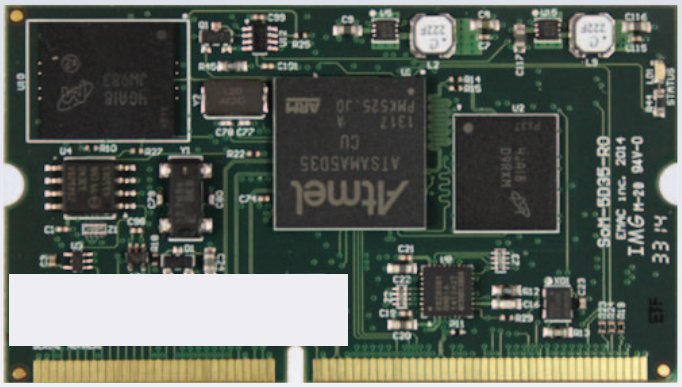
*Requires Qty. 2 Terminal Boards to utilize all GPIO

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)



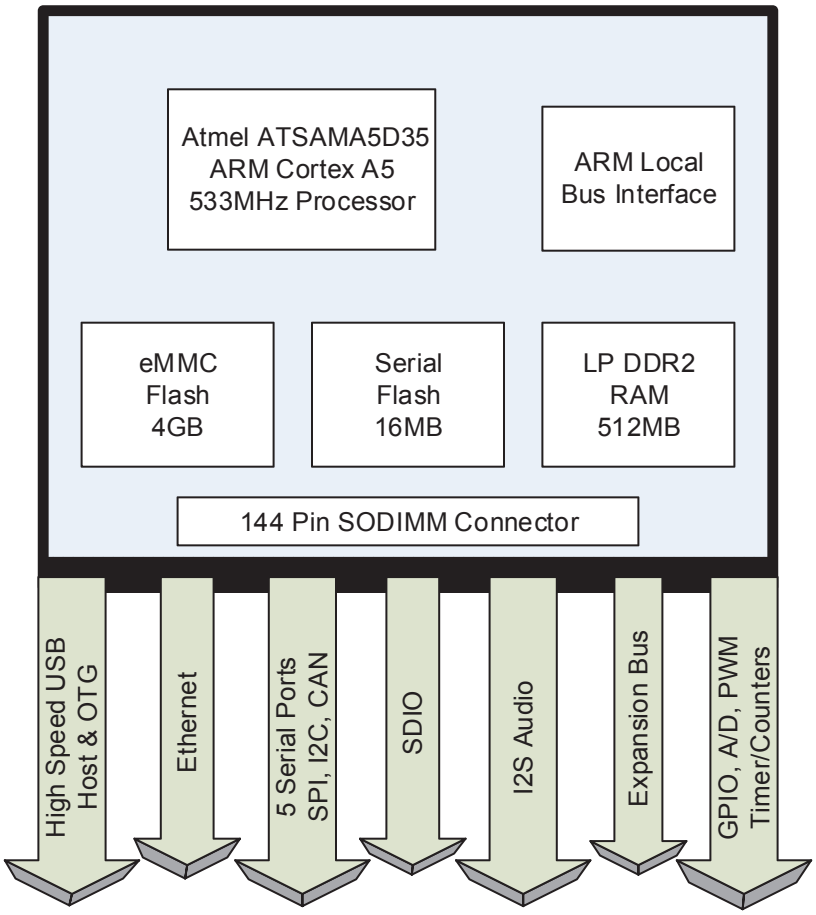
Features

- Atmel ARM Cortex A5 ATSAMA5D35 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 ATSAMA5D35 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 2.0B 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 ATSAMA5D35 Bus
OS	EMAC OE Embedded Linux
Dimensions	Small 144 pin SODIMM form factor 2.66" ×1.5" (67mm × 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

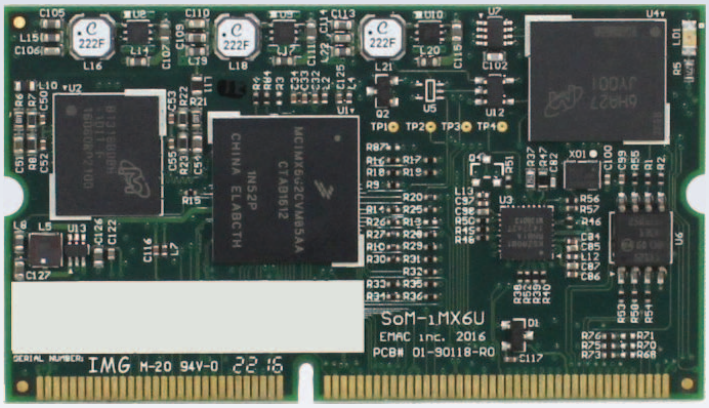
Product #	CPU	Memory	Serial	GPIO	USB	Analog	LAN	Temperature
SoM-A5D35-140	Atmel ARM Cortex A5 ATSAMA5D35 536 MHz	512MB LP DDR2 4GB eMMC 16MB Serial Flash	5x	18x	2x HS Host 1x HS OTG	4x 12-bit A/D Channels	1x 10/100 Base-T	-40° to +85° C

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

SoM-iMX6U

Embedded System on Module (SoM)



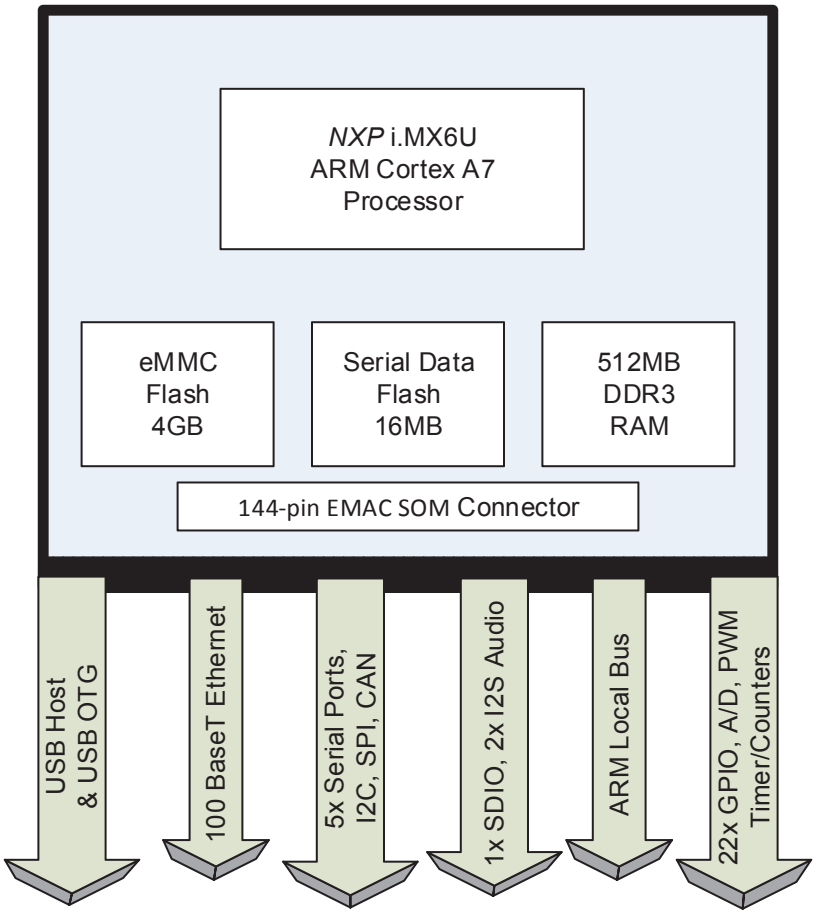
Features

- APM Sleep Mode of 3.5mA
- Freescale/NXP i.MX6 UltraLite (MCIMX6G1)
- Cortex A7 528MHz Processor Speed
- 512MB LP DDR2 RAM
- 4GB eMMC Flash, 16MB Serial Data Flash
- 10/100 Ethernet SPI, I2C, I2S & CAN
- 22x GPIO, 2x USB, 5x Serial Ports, 1x SDIO
- Industrial Temperature -40° to + 85° C

Specifications

Processor	Freescale/NXP i.MX6 UltraLite (MCIMX6G1) Cortex A7
	528 MHz
Memory	512MB of LP DDR2 RAM
	4GB of eMMC Flash
	16MB of Serial Data Flash
IO	22x GPIO (3.3V Lines)
	1x SDIO SD Port
	2x I2S Audio Port with Line In/Out
	1x CAN Port
	1x 10/100 BaseT Ethernet
	1x USB 2.0 High Speed Host Port
	1x USB 2.0 High Speed OTG (Host/Device) Port
	5x Serial Ports (1x with handshake, 4x without handshake)
	1x SPI Port
	2x Timer/Counters/PWM
	Internal Real Time Clock/Calendar (with external battery backup)
	External Reset Button provision and green Status LED
	1x I2C Port
Analog	4x A/D Channels with 12-bit A/D Resolution (0-3.3v)
Bus Expansion	144-pin SODIMM form factor
OS	EMAC OE Linux
Dimensions	2.66" x 1.5"
Power Req.	Typical Running Current 160mA
	APM Sleep Mode of 3.5mA
Environment	-40° to + 85° C Industrial Temperature
	90% Upper Operating Humidity

Block Diagram



Ordering Information

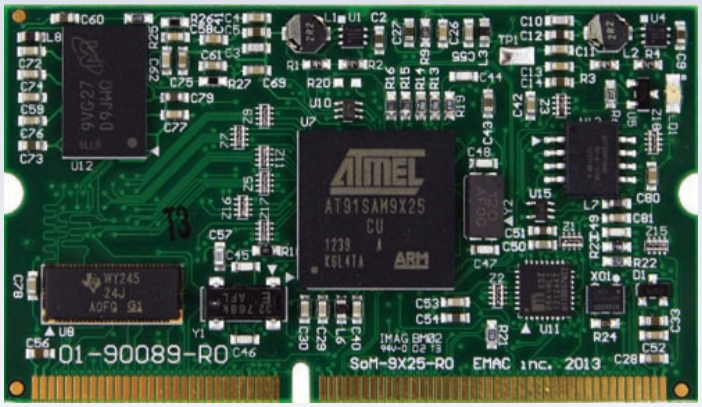
PRODUCT #	CPU	MEMORY	SERIAL	GPIO	USB	ANALOG	LAN	TEMPERATURE
SOM-iMX6U-140	Freescale ARM Cortex A7 IMX6 UltraLite 528 MHz	512MB LP DDR2 4GB eMMC 16MB Serial Flash	5x	22x	1x HS Host 1x HS OTG	4x 12-bit A/D Channels	1x 100/100 Base T Ethernet	-40° to +85° C

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-9x25M

Embedded System on Module (SoM)



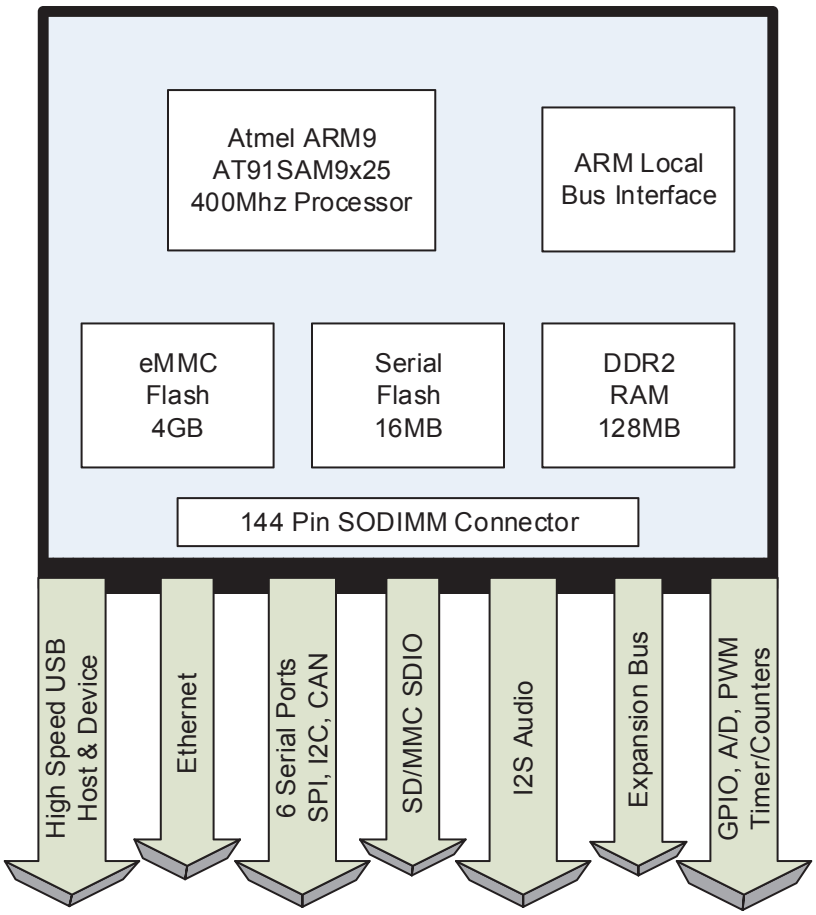
Features

- 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" ×1.5" (67mm × 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)

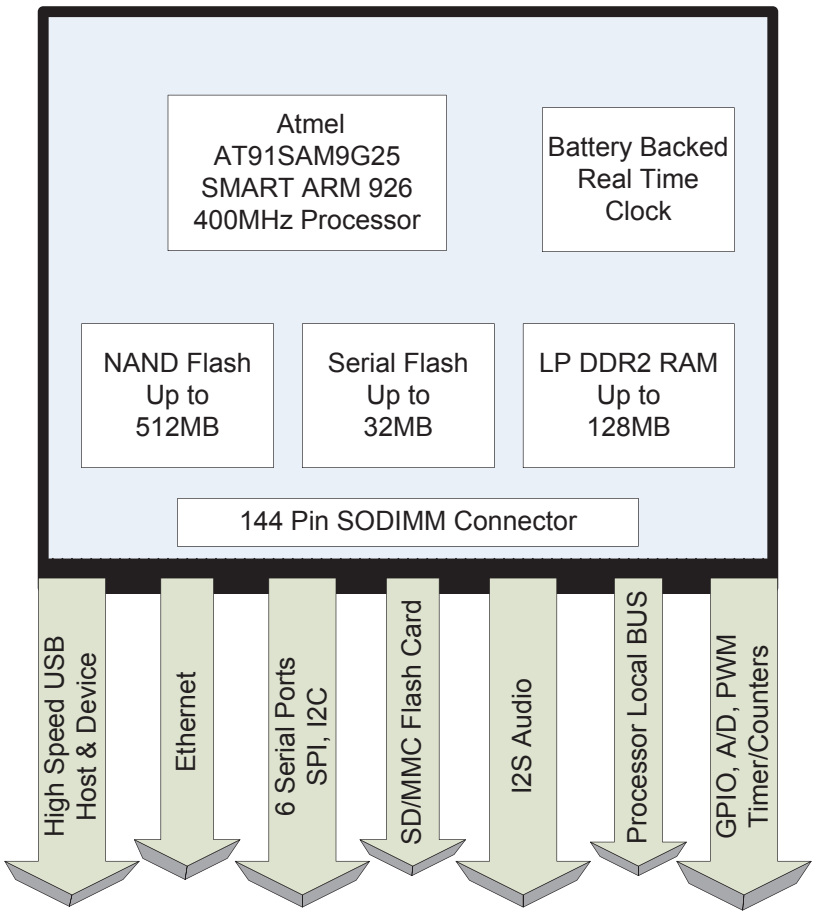
Features

- 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 × 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

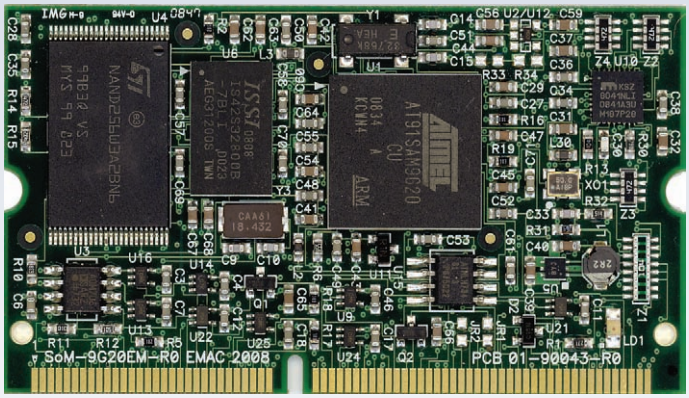
Product #	CPU	Memory	Serial	GPIO	USB	Analog	LAN	Temperature
SoM-9G25M-111	Atmel ARM9 AT91SAM9G25 400 MHz	64MB DDR RAM 256MB NAND 8MB Serial Flash	6x	18x	1x HS Host 1x HS Device 1x FS Host	5x 10-Bit A/D Channels	1x 10/100 Base-T	-40° to + 85° C
SoM-9G25M-122 BUILD TO ORDER	Atmel ARM9 AT91SAM9G25 400 MHz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



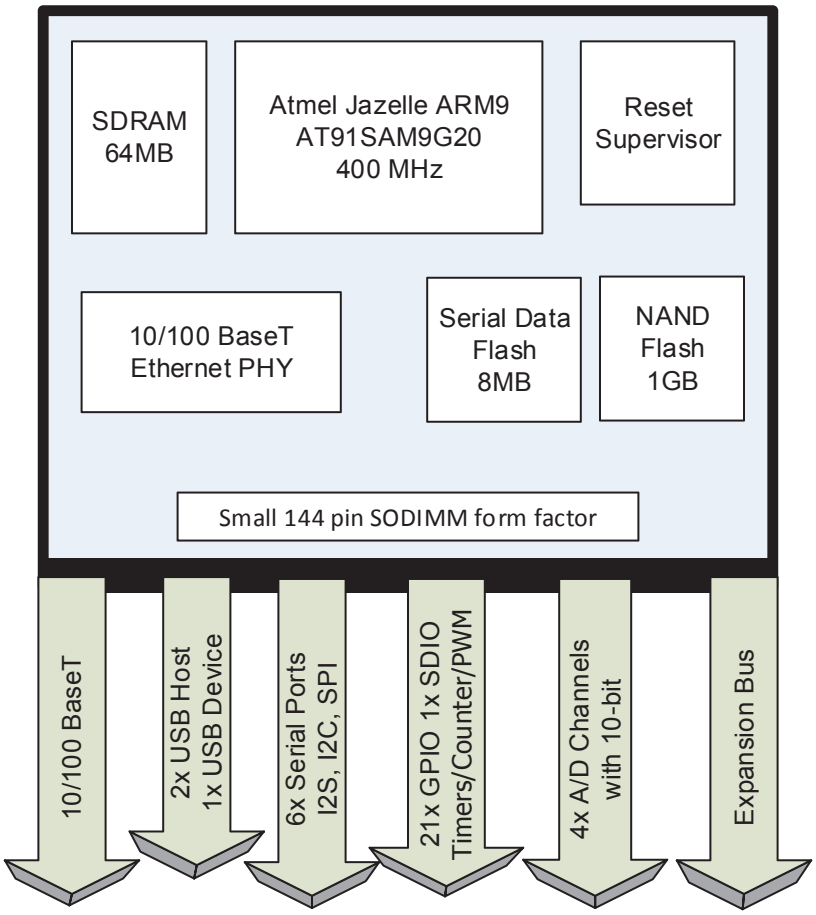
Features

- 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" ×1.5" (67mm × 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

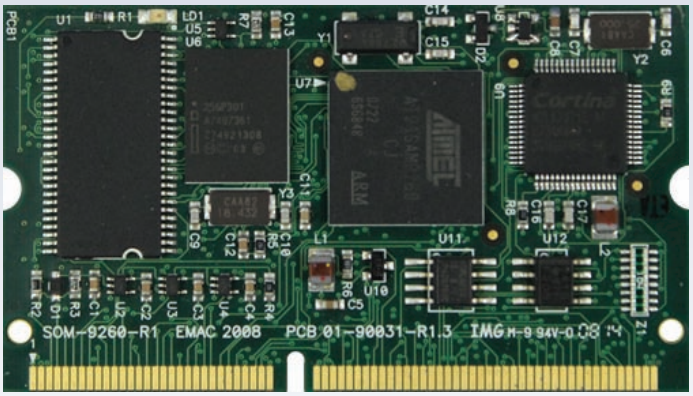
Product #	CPU	Memory	Serial	GPIO	USB	Analog	LAN	Temperature
SoM-9G20M-120	Atmel ARM9 Jazelle AT91SAM G20 400 MHz	32MB SDRAM 256MB Flash 8MB Serial Flash	6x	32x	2x FS Host 1x FS Device	4x 10-bit A/D Channels	1x 10/100 BaseT w/ On-board PHY	-40° to +85° C
SoM-9G20M-130	Atmel ARM9 Jazelle AT91SAM G20 400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



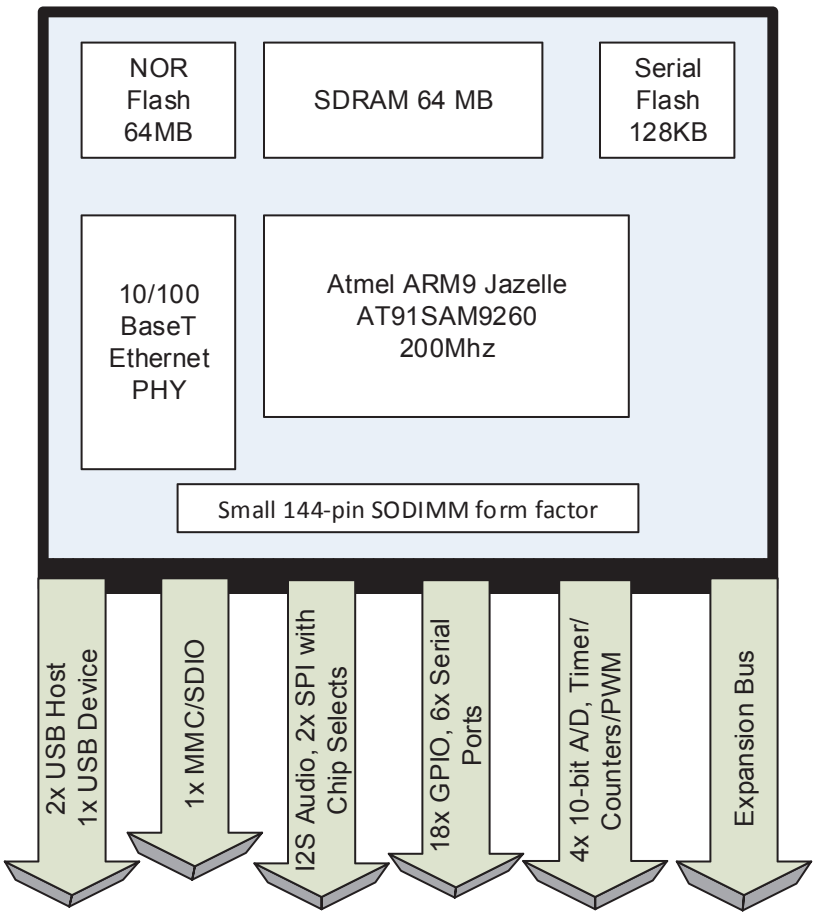
Features

- 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" ×1.5" (67mm × 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

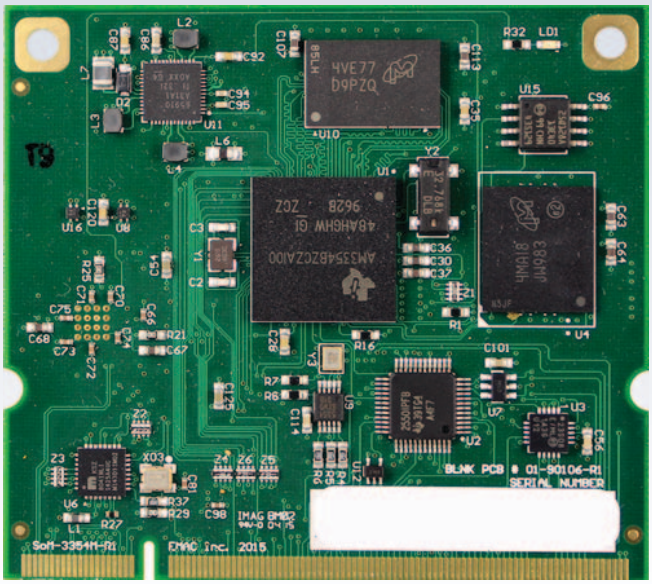
PRODUCT #	DESCRIPTION
SoM-150ES-000	Standard Carrier Board
SoM-150ES-007	Bare-Bones Carrier Board
SoM-150ES-031	Deluxe Carrier with A/D, D/A, Audio

200 Pin SODIMM
ARM System on Module

Low Power
Industrial Temperature
Video & Touch Controller

SoM-3354M

Embedded System on Module (SoM)



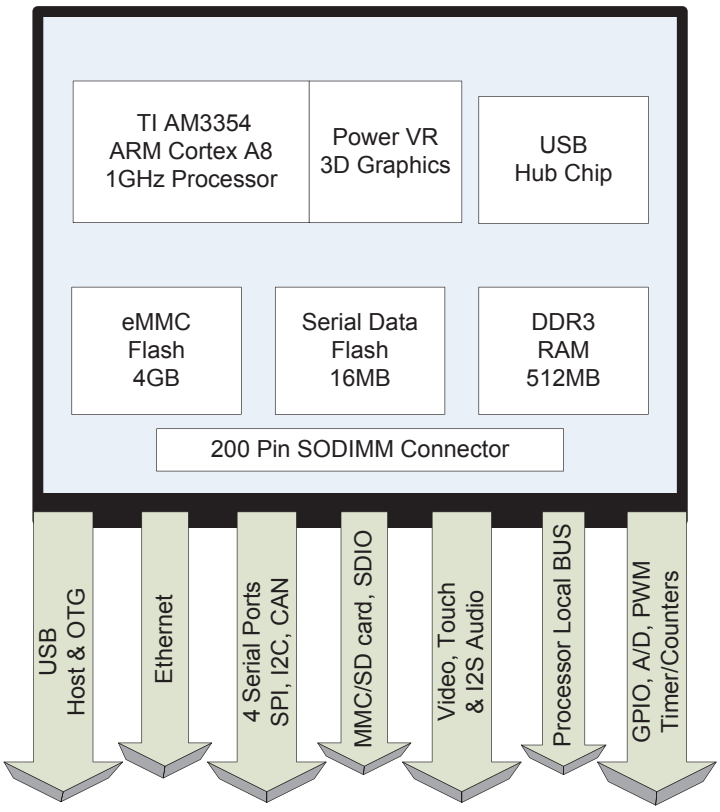
Features

- 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 to16 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" ×2.375" (67mm × 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

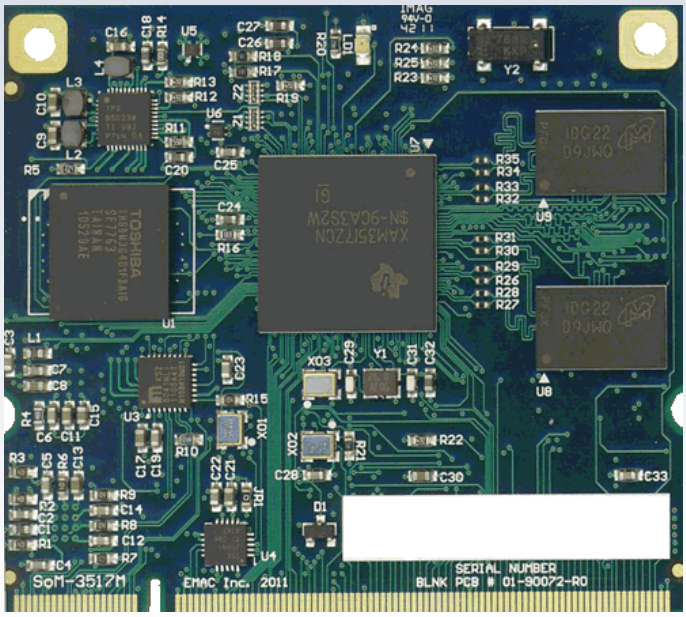
Product #	CPU	Memory	Serial	GPIO	USB	Video	LAN	Temperature
SoM-3354M-140	TI AM3354 ARM Cortex A8 1GHz	4GB eMMC 512MB DDR3 16MB Serial Flash	4x	22x	2 Host 1 OTG	18-bit TTL 4-Wire with Resistive Touch	1x 10/100 BaseT	-40° to +85° C
SoM-3354M-141	TI AM3354 ARM Cortex A8 1GHz	4GB eMMC 512MB DDR3 16MB Serial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

SoM-3517M

Embedded System on Module (SoM)



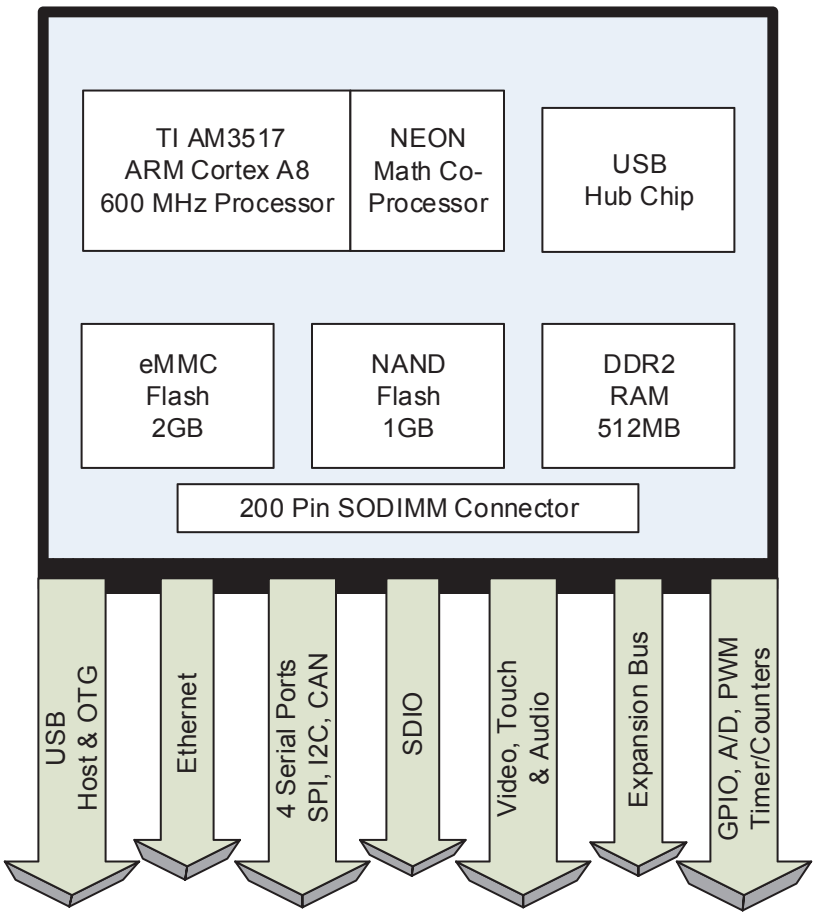
Features

- 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" ×2.375" (67mm × 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

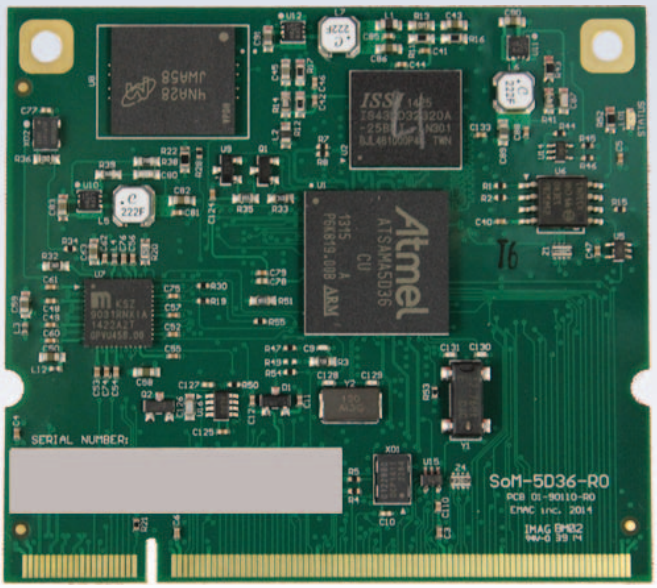
Product #	CPU	Memory	Serial	GPIO	USB	Video	LAN	Temperature
SoM-3517M-130	TI AM3517 ARM Cortex-A8 600 MHz	256 MB DDR2 2GB eMMC 512 MB Serial Flash	4x	16x	2x HS Hosts 1x HS OTG	24-bit DSTN/TFT LCD with Touch	10/100 BaseT	0° to +75° C Optional -40° to +85° C

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



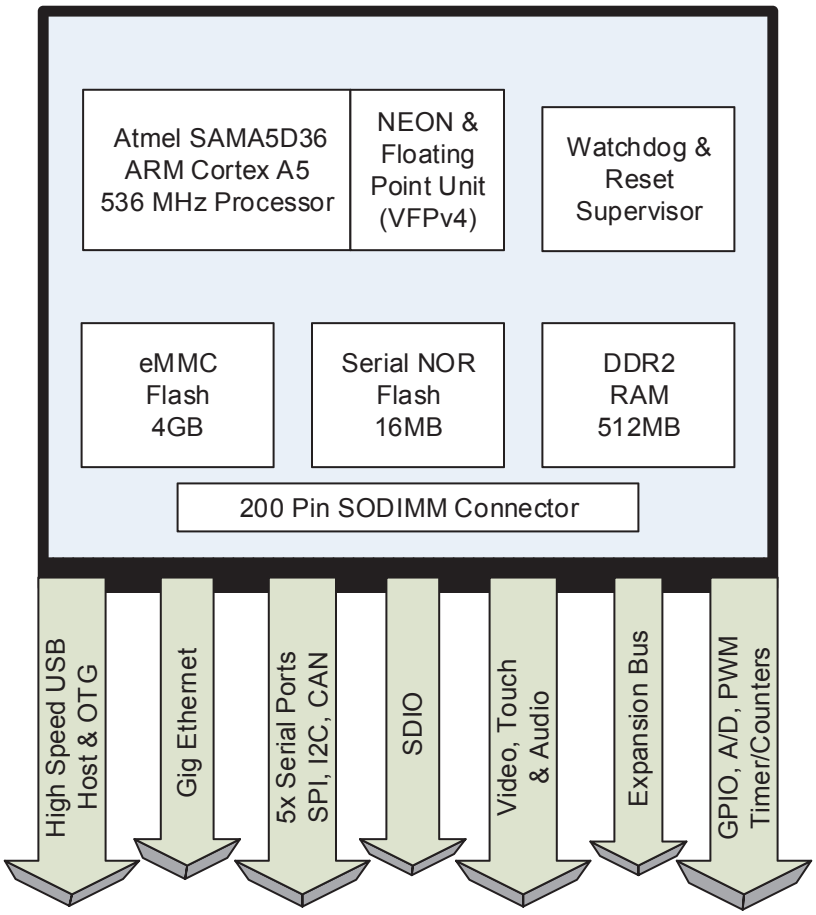
Features

- 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 × 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

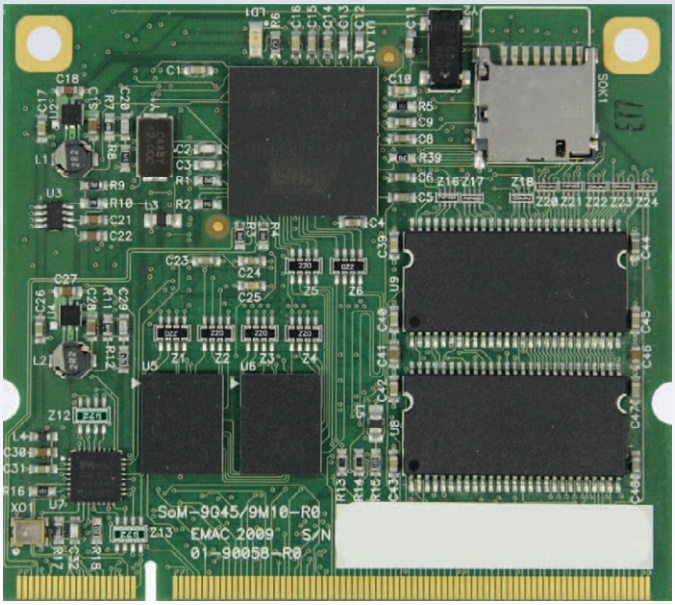
Product #	CPU	Memory	Serial	GPIO	USB	Video	LAN	Temperature
SoM-A5D36-140	Atmel ARM Cortex A5 ATSAMA5D36 536Mhz	512MB LP DDR2 4GB eMMC 16MB Serial Flash	5x	21x	2x HS Host 1x HS OTG	24-bit 4-wire LCD with Resistive Touch	1x 10/100/1000 BaseT w/MAC	-40° to +85° C

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)



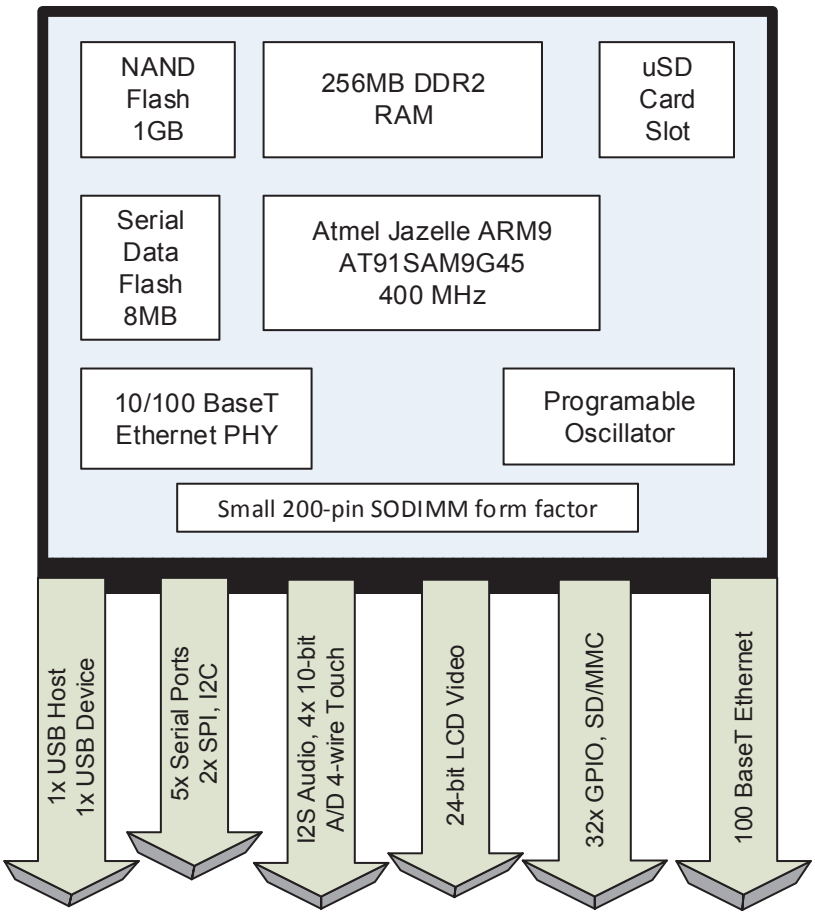
Features

- 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" ×2.375" (67mm × 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

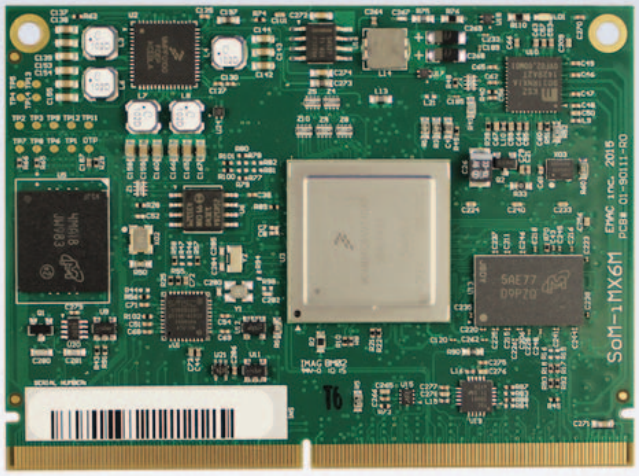
PRODUCT #	DESCRIPTION
SoM-200ES-000	Standard Carrier Board with CAN, 4.3" LCD Touch Screen
SoM-200ES-001	Deluxe Standard Carrier with CAN, Audio, 4.3" LCD Touch Screen
SoM-200ES-007	Bare-Bones Carrier Board
SoM-210ES-000	Standard Carrier Board with 4.3" LCD & Touch Screen
SoM-210ES-007	Bare-Bones carrier 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°

SoM-iMX6M

Embedded System on Module (SoM)



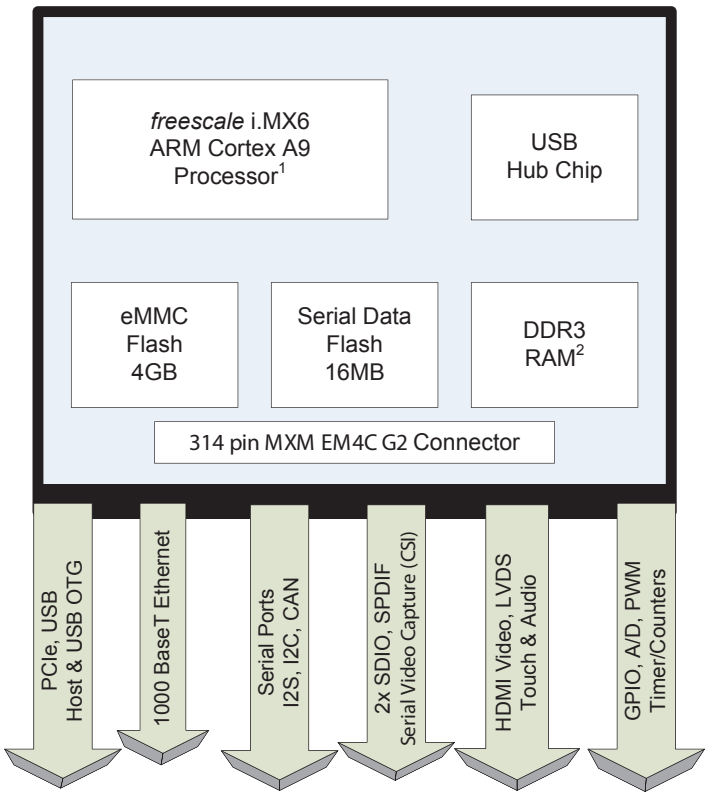
Features

- 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
- 3x 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	Freescale 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
	2x 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 Controller
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 × 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	2x 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	2x 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	2x HS Host 1x OTG	HDMI/LVDS with Touch	1x 1000 BaseT w/Status LEDs	-40° to +85° C

Carrier Board Options

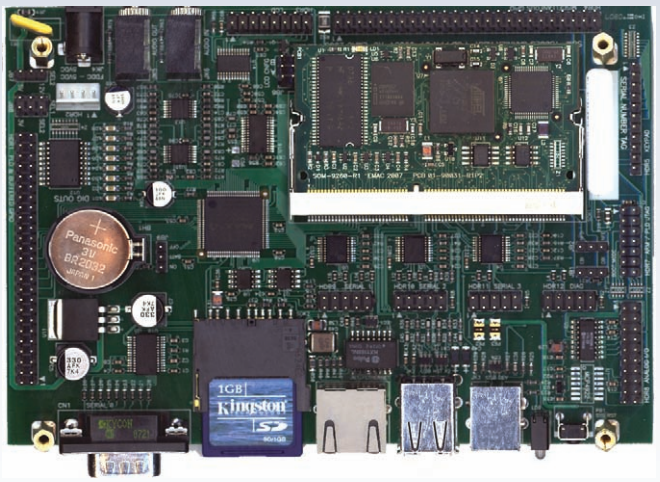
PRODUCT #	DESCRIPTION
SOM-320ES-000	Standard Carrier Board SOM OEM 314-pin
SOM-320ES-101	Deluxe Standard Carrier Board SOM OEM 314-pin with Wi-Fi
SOM-320ES-107	Bare-Bones Carrier Board SOM OEM 314-pin

(COTS) Development/Carrier Boards

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

SoM-150ES

144-pin SODIMM Carrier Board

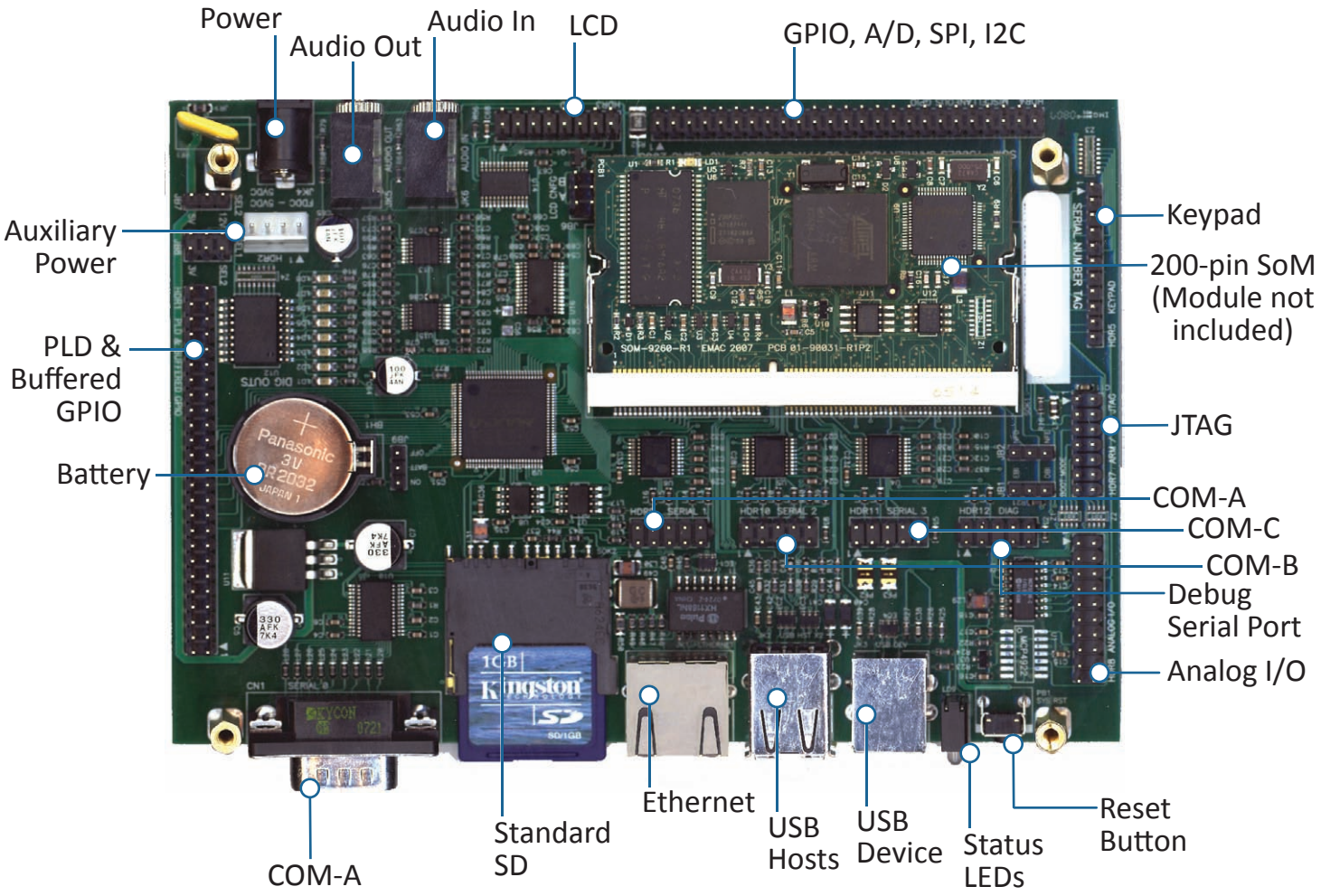


Features

- 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 (Actual I/O Availability is SoM Dependent)

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
	MMC/SD Flash Card Socket
	Power and MMC/SD status LEDs
	System Reset button
Video	Character LCD interface
Analog	8 channel 12-bit A/D single ended
	2 channel 12-bit D/A (0 - 2.5V output)
	I2S Audio Stereo CODEC with Line In/Out Jacks
Dimensions	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

Optional Accessories

PRODUCT #	POWER SUPPLY
PER-ENC-00007	SOM-150 Steel MicroBox Chassis
PER-PWR-00041	Brick 30W w/ HDD & FDD connector +5/+12 VDC
PER-PWR-00032	5V @ 2.5A Power supply (110V @ 60 Hz US)
PER-PWR-00033	5V @ 3.2A Power supply (100-220V @ 47-63 Hz Intl.)

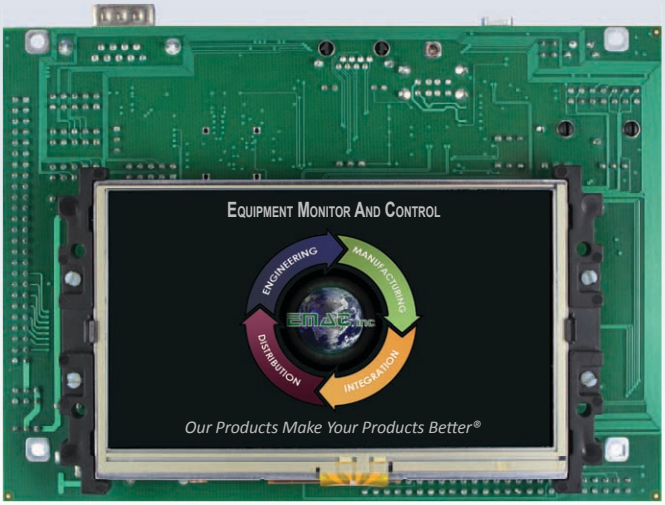
PRODUCT #	KEYPADS
E020-25	12 Key Membrane Telephone Style Keypad
E020-21	16 KEY Membrane HEX Style Keypad

PRODUCT #	TERMINAL BOARDS
PCD-3920	20-pin Wire Screw Terminal Block, with Flat Cable
PCD-3950	50-pin Wire Screw Terminal Block, with Flat Cable

PRODUCT #	DISPLAYS
E020-30	20 Char. X 2 Line LCD Display
E020-31	20 Char. X 2 Line LCD Backlit Display
E020-34	20 Char. X 2 line VF Display
E020-32	20 char. X 4 line LCD
E020-33	20 Char. X 4 line Backlit LCD (EOL, Limited Availability)

SoM-200ES

200-pin SODIMM Carrier Board

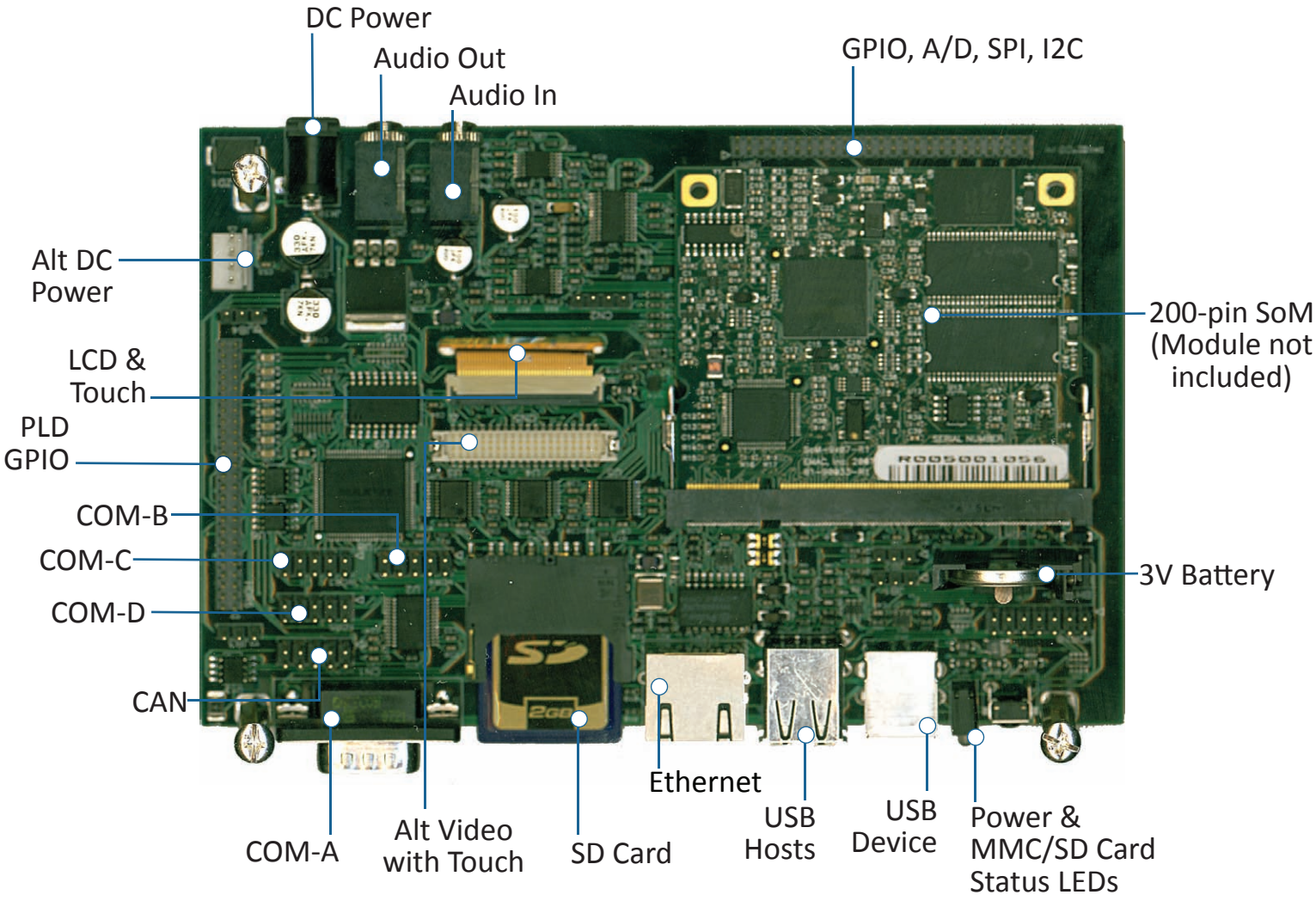


Features

- 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
- 1x WiFi 802.11 b/g/n (optional)

Specifications (Actual I/O Availability is SoM Dependent)

Compatibility	EMAC 200-pin SODIMM socket
Memory	1x SD Flash Card Socket
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

Optional Accessories

PRODUCT #	POWER SUPPLY
PER-PWR-00041	Brick 30W w/ HDD & FDD connector +5/+12 VDC
PER-PWR-00032	5V @ 2.5A Power supply (110V @ 60 Hz US)
PER-PWR-00033	5V @ 3.2A Power supply (100-220V @ 47-63 Hz Intl.)

PRODUCT #	TERMINAL BOARDS
PCD-3950	50-pin Wire Screw Terminal Block, with Flat Cable

SoM-200GS

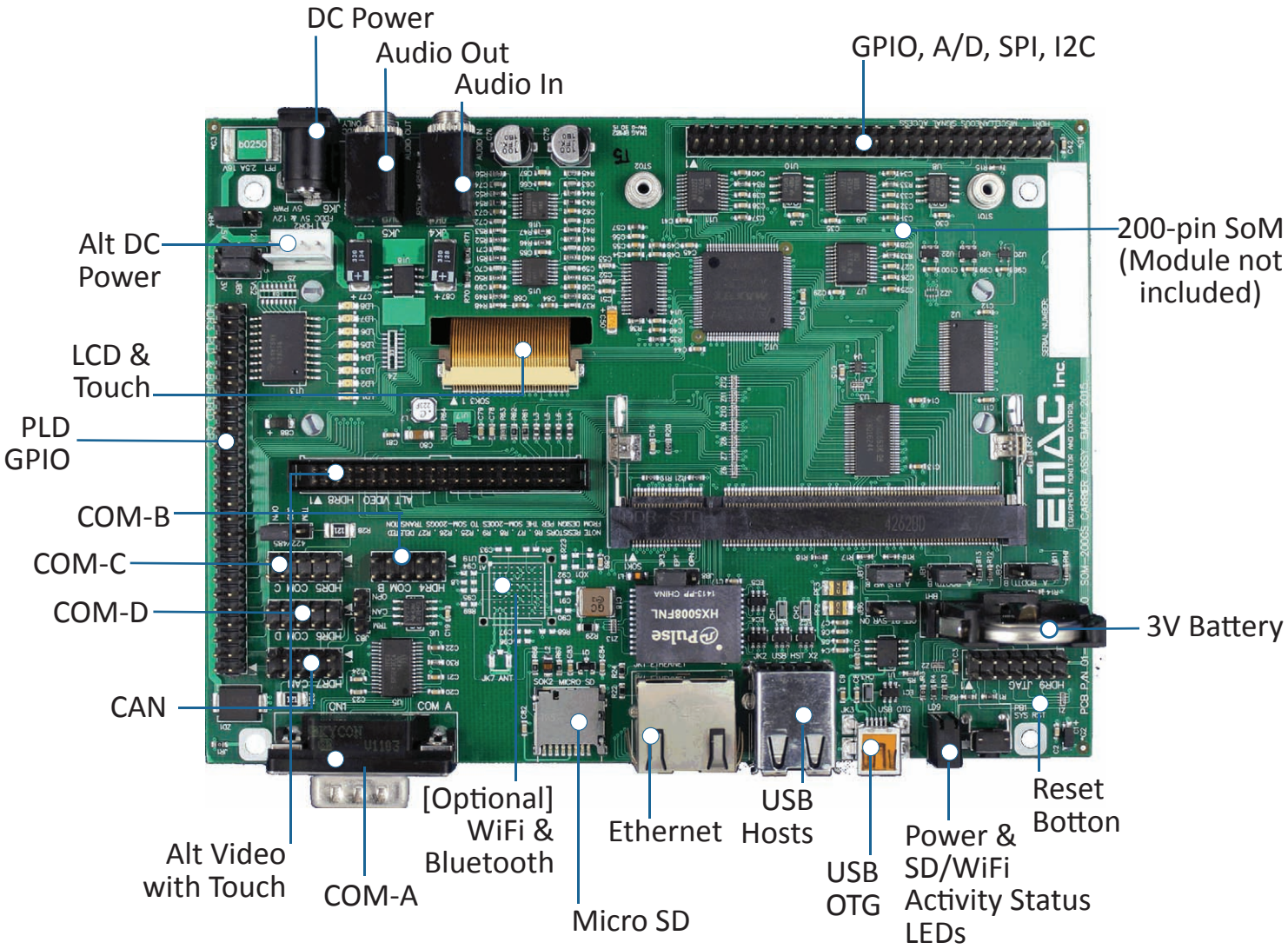
200-pin SODIMM Carrier Board

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 (Actual I/O Availability is SoM Dependent)

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
	1x 10/100/1000 BaseT "Gigabit" Ethernet with Status LEDs
	4x Serial Ports (3x RS232 & 1x RS232/422/485)
	1x CAN 2.0 Port
	2x USB 2.0 Host & 1 USB OTG Ports
	Reset Button
	Power & SD/WiFi Activity Status LEDs
	1x I2C, 1x SPI (3 chip selects)
	1x WiFi 802.11 b/g/n [optional]
	1x Bluetooth 3.0 + High Speed [optional]
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

Optional Accessories

PRODUCT #	POWER SUPPLY
PER-PWR-00041	Brick 30W w/ HDD & FDD connector +5/+12 VDC
PER-PWR-00032	5V @ 2.5A Power supply (110V @ 60 Hz US)
PER-PWR-00033	5V @ 3.2A Power supply (100-220V @ 47-63 Hz Intl.)

PRODUCT #	TERMINAL BOARDS
PCD-3950	50-pin Wire Screw Terminal Block, with Flat Cable

SoM-210ES

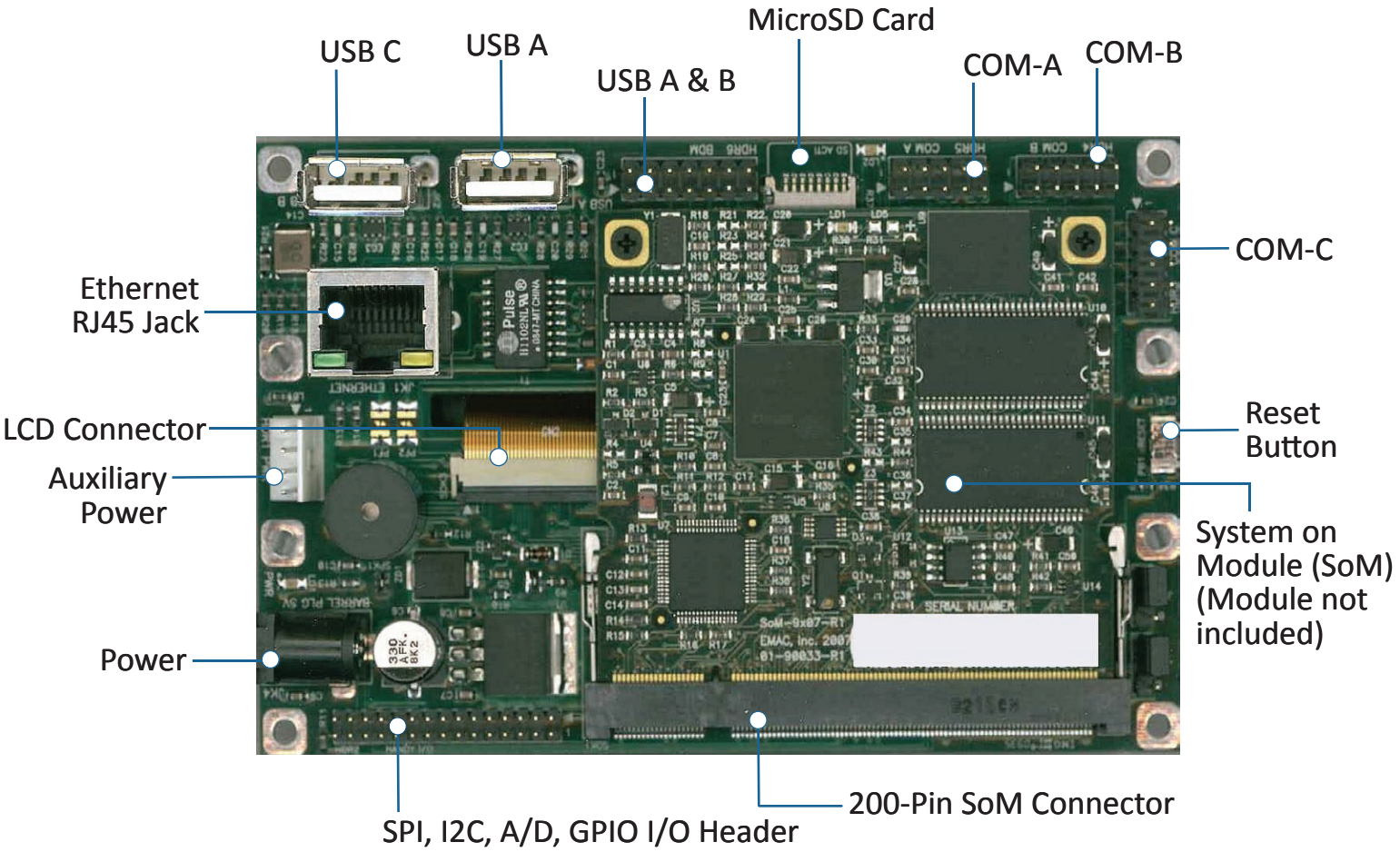
200-pin SODIMM Carrier Board

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 (Actual I/O Availability is SoM Dependent)

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" ×3" (121mm × 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

Optional Accessories

PRODUCT #	POWER SUPPLY
PER-PWR-00041	Brick 30W w/ HDD & FDD connector +5/+12 VDC
PER-PWR-00032	5V @ 2.5A Power supply (110V @ 60 Hz US)
PER-PWR-00033	5V @ 3.2A Power supply (100-220V @ 47-63 Hz Intl.)

SoM-212ES

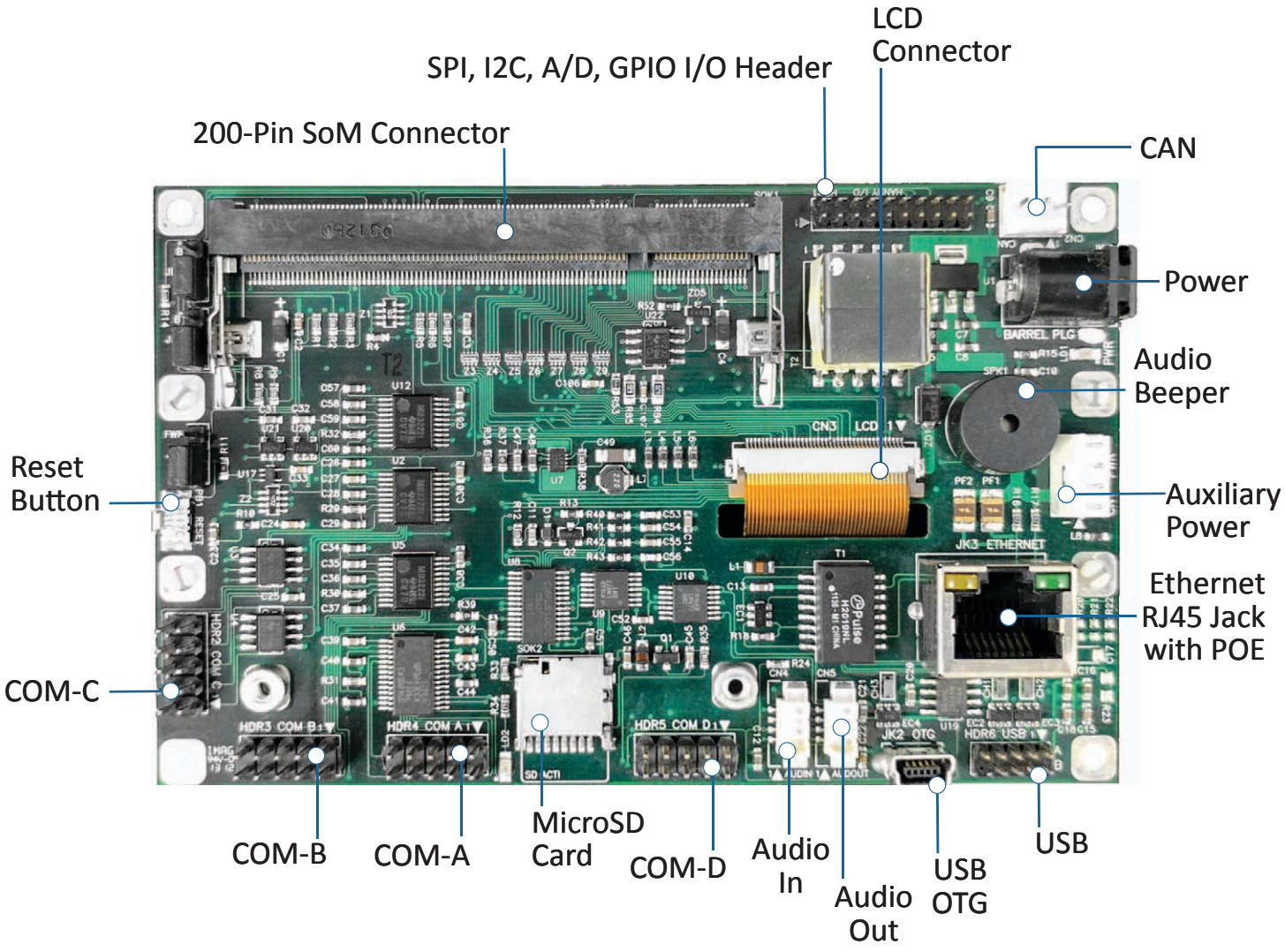
200-pin SODIMM Carrier Board

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
- Small enough to fit into a 2U chassis

Specifications (Actual I/O Availability is SoM Dependent)

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 thernet 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
	Timer/Counters & Pulse Width Modulation (PWM) Ports
	1x I2C Hardware Port
Analog	4x Channels A/D
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
Dimensions	4.8" ×3" (121mm × 76mm)
Power Req.	8-36 Vdc Wide Input or Regulated 5 Vdc Power for SoM, USB & LCD
	Typical Running Current Consumption is less that 5W (SoM dependent)
	(Note: up to 1.0A additional is required if USB Host is providing power up to 3x USB devices)
	Power Over Ethernet Device (POE Type 1 Optional)
Environment	0° to 60°C Operating Temperature
	90% Upper Operating Humidity



Carrier Board Options

PRODUCT #	DESCRIPTION
SoM-212ES-000	Standard Carrier Board, 4.3" LCD with Touch Screen
SoM-212ES-003	Deluxe Carrier Board, 4.3" LCD with Touch Screen, POE, and Stereo Audio
SoM-212ES-007	Bare-Bones Carrier Board without LCD

Optional Accessories

PRODUCT #	POWER SUPPLY
PER-PWR-00041	Brick 30W w/ HDD & FDD connector +5/+12 VDC
PER-PWR-00032	5V @ 2.5A Power supply (110V @ 60 Hz US)
PER-PWR-00033	5V @ 3.2A Power supply (100-220V @ 47-63 Hz Intl.)

Packing List

PRODUCT #	PERIPHERALS
SoM-212ES-000	4x CAB-35-001 Serial cables, LCD, bracket & 4x standoffs
SoM-212ES-003	2x CAB-60-020 Audio header to 1/8" headphone jack 4x CAB-35-001 Serial cables, LCD, bracket & 4x standoffs
SoM-212ES-007	1x CAB-35-001 Serial Cable

SoM-250ES

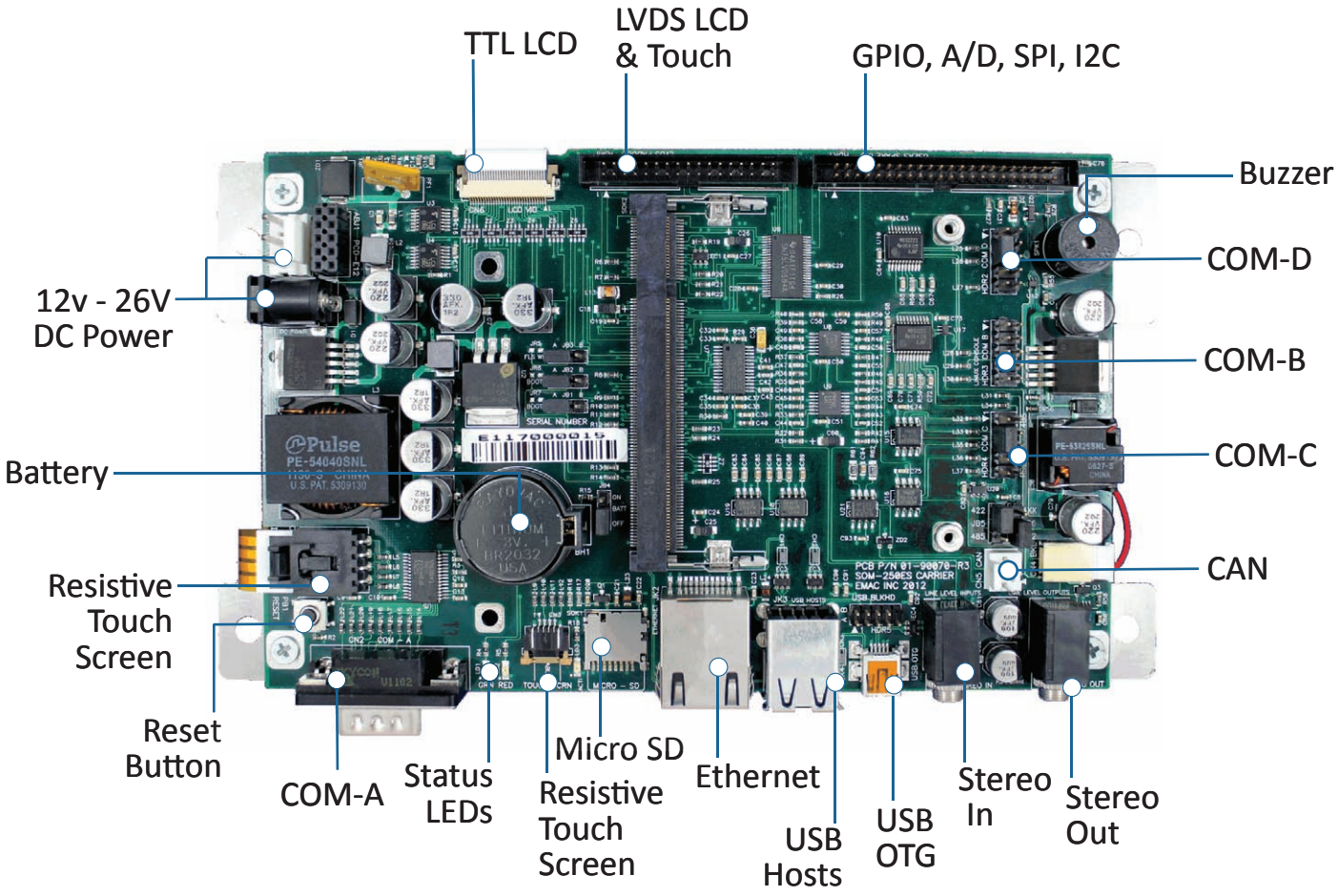
200-pin SODIMM Carrier Board

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 (Actual I/O Availability is SoM Dependent)

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" ×4.15" (191mm × 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

Optional Accessories

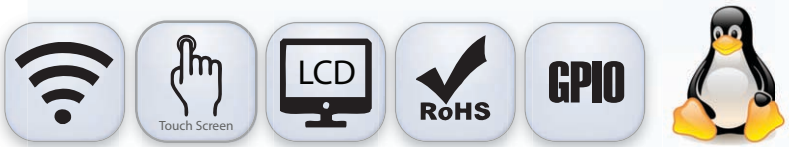
PRODUCT #	POWER SUPPLY
PER-PWR-00035	12V @ 2.1A Wall Power Supply (110 V @ 60 HZ US)
PER-PWR-00075	12V @ 2.1A, 90-264V @ 47-63Hz input, Universal power prongs for worldwide use, 2.1mm Barrel
PER-PWR-00090	12V @ 2.5A Desktop Power Supply, standard IEC 320-C14 input connector, 2.1mm barrel jack output

SoM-350ES

314-pin SODIMM Carrier Board

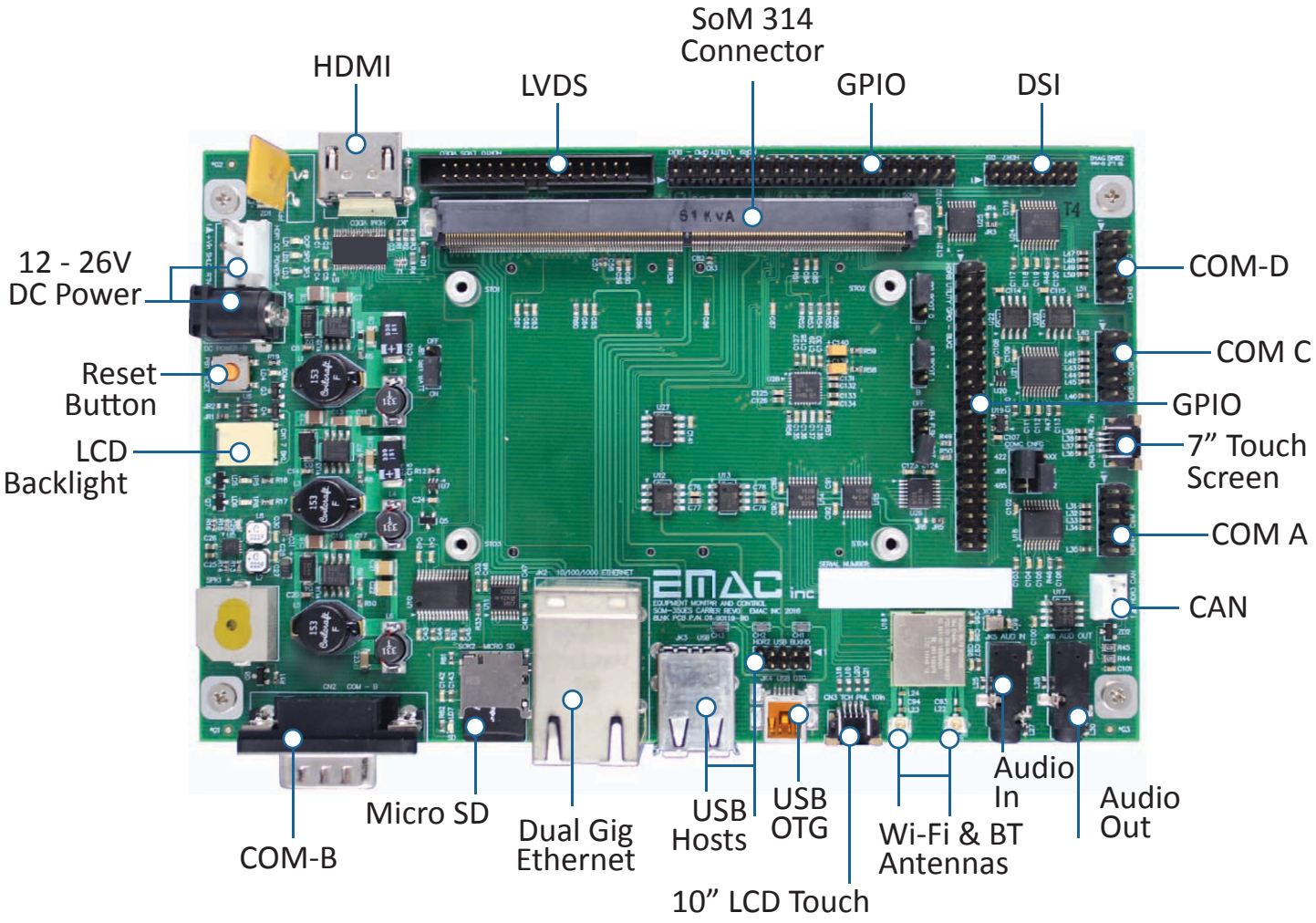
Features

- 4x Serial Ports (3x RS232 & 1x RS232/422/485)
- 16x Processor General Purpose I/O Lines
- 2x Gig BaseT Ethernet with Status LEDs
- Graphic LCD, HDMI, LVDS, & DSI Interfaces
- LCD & Resistive Touch Screen
- 3x USB Ports (2x USB HS Host & 1x USB OTG)
- I2S Audio Port with Line-In/Line-Out
- Wi-Fi & Bluetooth (Optional)



Specifications (Actual I/O Availability is SoM Dependent)

Compatibility	EMAC 314-pin MXM EM4C G2 Spec socket
Memory	1x mSATA Socket
	1x microSD Flash Card Socket
I/O	16x Processor General Purpose I/O (GPIO) SoM Lines
	I2S (1x I2S Audio port with Line-In/Line-Out & 1x I2S TTL)
	2x 10/100/1000 BaseT (Gig) Ethernet with Status LEDs
	2x CAN 2.0b (1x CAN with Transceiver & 1x CAN TTL)
	4x Serial ports (3x RS232 & 1x RS232/422/485)
	2x USB 2.0 High Speed Host ports
	1x USB 2.0 High Speed OTG port
	2x Timers/Counters & 4x PWM
	System Reset button
	1x Audio Beeper
	2x SPI, 3x I2C
Video	7" TFT Color LCD option, 800 x 480 WVGA @ 256K Colors (Operating Temperature: -20° to +70°C)
	800 (cd/m^2), Durability - Over one million touches
	10" TFT LVDS Color LCD option, 1024 x 600 WSVGA @ 256K Colors (Operating Temperature: 0° to +50°C)
	460 (cd/m^2), Durability - Over one million touches
	Graphic LCD, HDMI, LVDS, & DSI Interfaces
	Backlight Brightness Control
	4-Wire Analog Resistive Touch Screen
Analog	4x A/D Channels
Wireless	TI WL1835MOD supporting 802.11 a/b/g/n Wi-Fi, 2 × 2 MIMO channels (optional)
	TI WL1835MOD supporting Bluetooth with dual-mode Bluetooth 4.1 and Bluetooth LE (optional)
Dimensions	7.55" x 4.15" (191mm x 105mm)
Power Req.	12-26V @ 12W
Environment	0° to 60°C Operating Temperature [-40 to +85C optional]
	90% Upper Operating Humidity



Carrier Board Options

PRODUCT #	DESCRIPTION
SOM-350ES-000	Standard Carrier, 7” LCD without Wi-Fi
SOM-350ES-001	Standard Carrier, 10” LCD without Wi-Fi
SOM-350ES-010	Deluxe Carrier, 7” LCD with Wi-Fi
SOM-350ES-011	Deluxe Carrier, 10” LCD with Wi-Fi
SOM-350ES-017	Barebones Carrier board with Wi-Fi (No LCD)
SOM-350ES-007	Barebones carrier board (No LCD)

Optional Accessories

PRODUCT #	POWER SUPPLY
PER-PWR-00035	12V @ 2.1A Wall Power Supply (110 V @ 60 HZ US)
PER-PWR-00075	12V @ 2.1A, 90-264V @ 47-63Hz input, universal power prongs for worldwide use, 2.1mm barrel
PER-PWR-00090	12V @ 2.5A Desktop Power Supply, standard IEC 320-C14 input connector, 2.1mm barrel jack output

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