





# PC/104 selection guide

## CoreModule®

The CoreModule® family excels in Extreme Rugged™ applications and is frequently used in compact stacks where all the functions of the application are contained within the PC/104-ISM footprint. Stacks consist of a CoreModule® CPU and one or more off-the-shelf PC/104

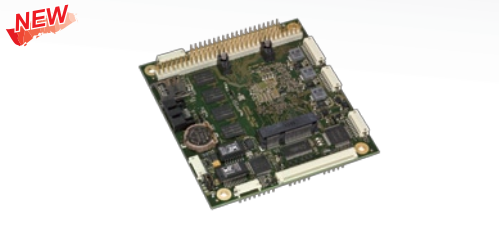
(or SUMIT-ISM) I/O expansion modules. The stack requires a small footprint and can be mounted directly inside the system enclosure for a durable, dependable PC-compatible assembly.



	PCI/104-Express	PC/104-Plus		PC/104
				
	<b>CoreModule® 920</b>	<b>CoreModule® 745</b>	<b>CoreModule® 720</b>	<b>CoreModule® 435</b>
CPU	Intel® Core™ i7-3517UE 1.7GHz Intel® Celeron® 807UE 1.0GHz	Intel® Atom™ N455 (single core) 1.66GHz Intel® Atom™ D525 (dual core) 1.8GHz	Intel® Atom™ E680T 1.6 GHz Intel® Atom™ E660T 1.3 GHz Intel® Atom™ E620T 0.6 GHz	Vortex86DX 800MHz Vortex86SX 300MHz
Cache	4MB/1MB Level 3	512KB / 1MB	512KB Level 2	16kB I-cache 16kB D-cache
DRAM	Up to 4GB soldered ECC DDR3	Up to 2GB DDR3	Up to 2GB soldered DDR2	256MB soldered DDR2
Bus Interface	PCI/104 Express	PC/104-Plus	PC/104-Plus	PC/104
PATA/ SATA	2x SATA 6 Gb/s	2x SATA	1x SATA	EIDE
Solid State Disk	8GB Onboard	4GB Onboard	8GB Onboard	CompactFlash
Serial Port	2x RS-232	2x RS-232 1x RS-232/422/485	1x RS-232 3x RS-232 (Tx and Rx only)	2x RS-232 2x RS-232/422/485
Parallel Port	No	No	No	No
Floppy	No	No	No	No
USB	4x USB 2.0	4x USB 2.0	6x USB 2.0	2x USB 2.0
Keyboard / Mouse	No	PS/2	No	PS/2
GPIO	No	8	8	8
Audio	available on HDMI port	No	No	No
Network	1x GbE	Gigabit Ethernet	Gigabit Ethernet	1x 10/100 1 Gigabit Ethernet
Video	Intel® HD Graphics 4000, VGA, DVI	Intel® GMA 3150, VGA	Optional VGA (via the SDVO-VGA adapter board)	VGA
Flat Panel	Dual channel 18/24-bit LVDS	Single channel 18-bit LVDS	Single channel 24-bit LVDS	TTL/TFT
SEMA Support	-	-	-	-
Standard Operating Temperature	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C
Optional Extended Temperature	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
Page Number	19	20	21	22



### PC/104



CoreModule® 86DX2

### PC/104-Plus



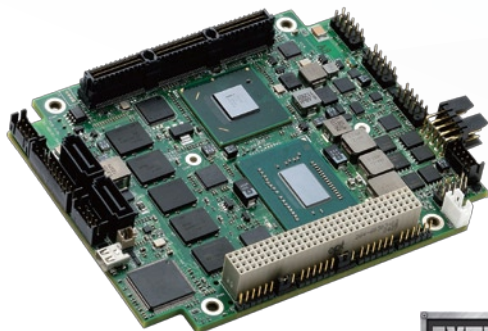
Cool FrontRunner-AF

CPU
Cache
DRAM
PATA/SATA
Solid State Disk
PCI Express
USB
GPIO
Flat Panel
Graphics
Audio
Network
Serial Port
Parallel Port
Floppy
Keyboard / Mouse
SEMA Support
Standard Operating Temperature
Optional Extended Temperature
Page Number

Vortex86DX2
16kB L1 I-cache 16kB L1 D-cache 256kB L2 cache
1GB soldered DDR2
1x SATA 1.5 Gb/s
N/A
PC/104
3x USB 2.0
8
Single channel 18/24-bit LVDS
VGA
High Definition Audio
1x GbE
4x RS-232/485
Yes
N/A
PS/2
Yes
0°C to +60°C
-20°C to +70°C -40°C to +85°C
23

AMD® T40R (1.0GHz) AMD® T56N (1.65GHz)
64kB L1 cache 2x 512kB L2 cache
Up to 4GB DDR3
1x SATA 6 Gb/s
N/A
PC/104-Plus
6x USB 2.0
8
Dual channel 18/24-bit LVDS
VGA
High Definition Audio
1x GbE
2x RS-232/422/485
N/A
N/A
PS/2
Yes
0°C to +60°C
-20°C to +70°C -40°C to +85°C
25

**NEW**



### Features

- Dual-core 3rd Generation Intel® Core™ Processor
- Up to 4GB industrial grade soldered-down ECC 1600MHz DDR3 memory
- One HDMI, one VGA, and one 18/24-bit LVDS display interfaces
- 8GB industrial grade solid state drive (SSD)
- one PCIe x16 (Gen 3) and 1 x4 or 4 x1 (Gen 2)
- Two SATA 6 Gb/s ports, two Gigabit Ethernet, four USB 2.0 interfaces, and two serial ports
- PCI/104-Express Type 1 and PCI/104 expansion interfaces
- Extended Temperature: -40°C to +85°C
- 50% thicker PCB for high vibration environments

### Specifications

#### Core System

CPU	Intel® Core™ i7-3517UE 1.7GHz (up to 2.8GHz Turbo), 4MB L3 cache, 17W, dual core Intel® Celeron® 807UE 1.0GHz, 1MB L3 cache, 10W, single core
Chipset	Mobile Intel® QM67 Express Chipset (PCH)
Memory	2 or 4GB single channel industrial grade solder down ECC 1600 MHz DDR3 memory
BIOS	AMI EFI with CMOS backup in 16 Mb SPI flash
Hardware Monitor	Supply voltages and CPU temperature
Watchdog Timer	Programmable timer range to generate RESET
Technologies	PAVP 3.0, Intel® AMT 8.0, Intel® VT, Intel® AES-NI, Intel® HT, Intel® HD Graphics with Dynamic Frequency, Intel® Turbo Boost , Dynamic Turbo, Intel® AVX 1.0, Intel® Quick Sync Video

#### Bus Interfaces

Expansion Busses	PCI/104 (32-bit 33/66MHz) PCI/104-Express Type 1 with PCI Express x16 (Gen3) bus LPC bus, SMBus (system), I <sup>2</sup> C (user)
------------------	---

#### Video

Integrated in Processor	HD Graphics 4000 at 350-1000 MHz
Integrated Video	DirectX 11.0, OpenGL 3.1, and OCL 1.1
Media Processing	Decode (HW JPEG & MJPEG decode), encode (full HW MPEG2 encode), transcode Intel® Clear Video HD Technology + enhanced media processing
VGA Interface	Analog VGA support with 300 MHz DAC Analog monitor support up to QXGA (2048 x 1536) and VGA hot plug
LVDS Interface	Dual-channel 18/24-bit LVDS
Digital Display Interface	One DVI

#### Audio

Chipset	Integrated on mobile Intel® QM67 Express Chipset, available on HDMI port
---------	--

#### Ethernet

10/100/1000Mbps	Two GbE: one from PCH using Intel® 82579 PHY, one from Intel® 82574 MAC/PHY
-----------------	---

#### Multi I/O and Storage

Chipset	Integrated on Mobile Intel® QM67 Express Chipset
USB	Four USB 2.0 ports (plus two to the PCI/104-Express stack)
SATA	Two SATA 6 Gb/s (plus two SATA 3 Gb/s to the PCI/104-Express stack) with support for RAID 0,1,5,10
Storage	Onboard 8GB industrial grade SS
Serial Ports	Two RS-232 Serial ports implemented in LPC based Super I/O

#### Power Specifications

Input Power	5V (3.3V and 12V if required by the PCI/104-Express stack)
Power States	Supports S1, S4, S5
Power Consumption	9W typical

#### Mechanical and Environmental

Size	106 mm x 96 mm, PCI/104-Express form factor compatible
Board Thickness	0.093" (2.36 mm thick)
Operating Temperature	Standard: -20°C to +70°C Extended: -40°C to +85°C (CPU throttling at 800MHz, no throttling to +75°C)
Storage Temperature	-55°C to +85°C
Humidity	90% at 60°C non-condensing
Shock	50G peak-to-peak, 11ms duration, MIL-STD-202G Method 213B
Vibration	Operating: 11.96 Grms, 50-20,000 Hz, each axis, MIL-STD-202G Method 214A

#### Operating Systems

Standard Support	Windows 7, Linux
Extended Support (BSP)	WES 7, WES 2009, WEC 7, VxWorks 6.9, QNX 6.5

### Ordering Information

#### Modules

Model Number	Description/Configuration
<b>CM-920-R-10</b>	PCI/104-Express with Intel® Celeron 807UE 1.0GHz, 10W, 2GB solder down DDR3 1066 memory, 8GB SSD, 18/24 bit LVDS, VGA, HDMI, SATA, PCI Express, PCI
<b>CM-920-R-17</b>	PCI/104-Express with Intel® Core™ i7-3517UE 1.7GHz, 17W, 2GB solder down DDR3 1066 memory, 8GB SSD, 18/24 bit LVDS, VGA, HDMI, SATA, PCI Express, PCI
<b>CM-920-L-10</b>	CM-920 Quick Start Kit includes CM-920-R-10, cable kit, CM920-TM-CU. USB stick with BSP/drivers and manuals
<b>CM-920-L-17</b>	CM-920 Quick Start Kit includes CM-920-R-17, cable kit, CM920-TM-CU. USB stick with BSP/drivers and manuals

#### Accessories

Model Number	Description/Configuration
<b>CM-920-X-01</b>	CM-920 cable kit (RoHS). Additional cables to be defined as required for extreme rugged pin headers
<b>CM-920-TM-AL</b>	CM-920 Aluminum Heatspreader
<b>CM-920-TM-CU</b>	CM-920 Copper Heatsink
<b>CM-920-TM-FAN</b>	CM-920 Aluminum/Copper Heatsink with Fan



### Features

- Intel® Atom™ Processor N455/D525
- Up to 4GB Single Channel DDR3 SDRAM
- PC/104-Plus expansion
- Intel® 82574IT Gigabit Ethernet, 3 COMs, 4 USB, 4GB SSD onboard
- Integrated graphics DirectX 9 controller at 200MHz
- Single Channel 18-bit LVDS and analog VGA

### Specifications

#### Core System

CPU – Intel® Atom™ N455, 1.66GHz, 6.5 W (1 core/2 threads)  
 – Intel® Atom™ D525, 1.8GHz, 13 W (2 cores/4 threads)  
 Cache – 1MB, 8-way L2 cache for D525 dual-core processor  
 – 512KB, 8-way L2 cache for N455 single-core processor  
 Chipset – Intel® ICH8-M I/O Control Hub  
 Memory – Up to 2GB DDR3-667 (N455) or DDR3-800 (D525) on single SODIMM (Raw Card-A or Raw Card-B format only)  
 FSB – 1066MHz  
 BIOS – AMI with CMOS backup in 16Mbit SPI flash with ACPI 2.0  
 Hardware Monitor – DC voltages, CPU temperature

#### Bus Interfaces

PC/104-Plus (ISA and PCI), SMBus, LPC

#### Multi I/O and Storage

SATA – 2 SATA 3 Gb/s  
 Storage – Onboard 4GB industrial grade SSD  
 USB – 4 USB 2.0 ports  
 Serial – 2 RS-232 & 1 RS-232/422/485  
 GPIO – 8

#### Ethernet

Intel® 82574IT Gigabit Ethernet Controller

#### Video

Intel® GMA 3150, DirectX 9 compliant Pixel Shader v2.0  
 Single Channel 18-bit LVDS  
 Analog VGA

#### Power

Input Power – AT mode (5V DC +/-5%)  
 Power States – Supports S0

#### Mechanical and Environmental

Size – 106 mm x 96 mm, PC/104-Plus form factor  
 Board Thickness – 0.093" (2.36 mm thick)  
 Operating Temperature
 

- Standard: -20°C to +70°C
- Extended: -40°C to +85°C

 Storage Temperature: -55°C to +85°C  
 Humidity – 90% at 60°C  
 Shock – Non-operating: 50G peak-to-peak, 11ms duration, MIL-STD-202G Method 213B  
 Vibration – Operating: 11.95 Grms, 50-2000 Hz, each axis, MIL-STD-202G Method 214A

#### Operating Systems

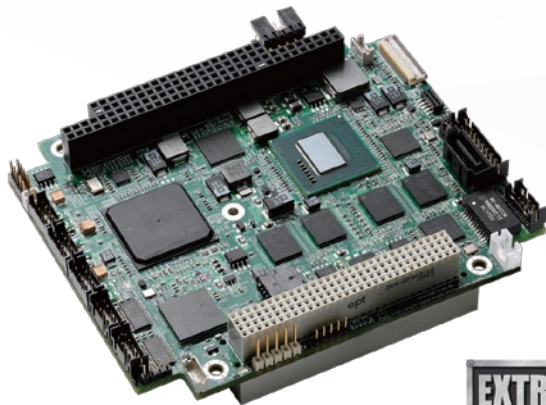
Standard Support - Windows 7, Windows XP, Linux  
 Extended Support (BSP) - WES 2009, WES 7, WEC 7, WinCE 6.0, VxWorks 6.7/6.9, QNX 6.4  
 \*Note: Available upon request or contact us for additional software support

### Ordering Information Modules

Model Number	Description/Configuration
CM-745-R-27	CoreModule™ 745, Intel® Atom™ SC N455, 1.66GHz, 0MB RAM, 4GB SSD, Video, Gigabit Ethernet, PC/104-Plus
CM-745-R-29	CoreModule™ 745, Intel® Atom™ DC D525, 1.8GHz, 0MB RAM, 4GB SSD, Video, Gigabit Ethernet, PC/104-Plus
CM-745-L-27	1.66GHz QuickStart Kit (R-27 SBC, 1GB RAM, Cable kit, aluminum heatsink Software)
CM-745-L-29	1.8GHz QuickStart Kit (R-29 SBC, 2GB RAM, Cable kit, copper heatsink, Software)

#### Accessories

Model Number	Description/Configuration
CM-745-X-01	CM-745 cable kit (RoHS)
CM-745-TM-AL	CM-745 Aluminum Heatsink
CM-745-TM-CU	CM-745 Copper Heatsink
CM-745-TM-FAN	CM-745 Aluminum Heatsink with Fan
DDR3 memory	Verified industrial grade 1GB, 2GB, 4GB DDR3 SODIMM memory available



### Features

- Intel® Atom™ Processor E600T series from 600 MHz up to 1.6 GHz
- Up to 2 GB soldered industrial grade DDR2 SDRAM at 800 MHz
- 24-bit LVDS
- Intel® Platform Controller Hub EG20T for USB, LAN, SDIO, Serial, CAN bus and SATA
- 8GB industrial grade SSD soldered onboard
- PC/104-Plus (ISA and PCI)
- Extended Temperature: -40°C to +85°C
- 50% thicker PCB for high vibration environments

### Specifications

#### Core System

- CPU – Intel® Core™Atom™ Processor E620T, 0.6GHz, 512KB L2 cache, 3.3W, single core
- Intel® Core™Atom™ Processor E660T, 1.3GHz, 512KB L2 cache, 3.6W, single core
  - Intel® Core™Atom™ Processor E680T, 1.6GHz, 512KB L2 cache, 4.5W, single core

DRAM – Up to 2GB industrial grade Single Channel DDR2 800 soldered down

Chipset – Intel® EG20T Platform Controller Hub

BIOS – AMI with ACPI 2.0

#### Video

Optional VGA (via SDVO-to-VGA adapter board)

LVDS – 24-bit Single Channel, 1280x768 pixel at 60Hz with backlight

#### Bus Interfaces

PC/104-Plus (PCI, ISA)

CAN Bus (single channel)

#### Multi I/O and Storage

SATA – 1 device

8GB industrial grade SSD (occupies one SATA device)

USB – 6 USB 2.0 ports

Serial – 1 RS-232 (full modem), 3 RS-232 (TX and RX only)

SDIO

Storage – Onboard 8GB industrial grade SSD

#### Ethernet

Intel® 82574IT Gigabit Ethernet Controller

#### Power

Input Power – AT mode (5V +/- 5%)

Power States – Supports S0

#### Mechanical and Environmental

Size – PC/104-Plus form factor 106mm x 96mm

Board Thickness – 0.093" (2.3mm thick)

Operating Temperature

- Standard: -20°C to +70°C
- Extended: -40°C to +85°C

Storage Temperature - -55°C to +85°C

Humidity – 90% at 60°C

Shock – Non-operation: 50G peak-to-peak, 11ms duration, MIL-STD-202G Method 213B

Vibration – Operation: 11.95 Grms, 50-2000 Hz, each axis, MIL-STD-202G Method 214A

### Operating Systems

Standard Support - Windows 7, Windows XP, Linux

Extended Support (BSP) - WES 2009, Win XPe, WES 7, WEC 7, WinCE 6.0, VxWorks 6.8

\*Note: Available upon request. Contact us for more software support.

### Ordering Information

#### Modules

Model Number	Description/Configuration
CM-720-R-06	PC/104-Plus Intel® Atom™ Processor E620T at 0.6 GHz with 2GB RAM and 8 GB SSD
CM-720-R-13	PC/104-Plus Intel® Atom™ Processor E660T at 1.3 GHz with 2GB RAM and 8 GB SSD
CM-720-R-16	PC/104-Plus Intel® Atom™ Processor E680T at 1.6 GHz with 2GB RAM and 8 GB SSD
CM-720-L-06	0.6GHz QuickStart Kit (R-06 SBC, 2GB onboard RAM, CM-720-TM-CU copper passive heatsink, SDVO-VGA adapter board, Cable Kit, Software)
CM-720-L-13	1.3GHz QuickStart Kit (R-13 SBC, 2GB onboard RAM, CM-720-TM-CU copper passive heatsink, SDVO-VGA adapter board, Cable Kit, Software)
CM-720-L-16	1.6GHz QuickStart Kit (R-16 SBC, 2GB onboard RAM, CM-720-TM-CU copper passive heatsink, SDVO-VGA adapter board, Cable Kit, Software)

#### Accessories

Model Number	Description/Configuration
SDVO-VGA-R-10	SDVO-to-VGA adapter board, 1x SDVO (input), 1x VGA box header (output) for CoreModule 720
CM-720-X-01	CM-720 cable kit (RoHS)
CM-720-TM-AL	CM-720 Aluminum Heatsink
CM-720-TM-CU	CM-720 Copper Heatsink
CM-720-TM-FAN	CM-720 Aluminum Heatsink with Fan



### Features

- -40°C to +85°C operating temperature range
- 10/100 Ethernet, Gigabit Ethernet, 3D Video
- 4x Serial, 2x USB, 8x GPIOs
- PC/104 Expansion
- Ultra Low Power
- 486 migration

### Specifications

#### Core System

CPU	300MHz Vortex86SX or 800MHz Vortex86DX
Cache	16kB I-cache, 16kB D-cache
Memory	256MB soldered DDR2
System Controllers	PC-compatible DMA and interrupt controller and timers
Real Time Clock	Battery-backed RTC/CMOS
Powerfail Reset	Triggers when key voltage drops below predetermined thresholds
BIOS	AMI BIOS

#### Bus Interface

PC/104	ISA
--------	-----

#### Multi I/O and Storage

PATA	DMA 100 IDE interface supports up to two hard drives
Storage	CompactFlash socket
Serial	2x RS-232, 2x RS-232/422/485
USB	2x USB 2.0 ports
KB/MS	PS/2 interface
GPIO	Eight general-purpose digital I/O pins

#### Ethernet

Ethernet	1x integrated Vortex86 10/100 port and 1x Intel 82451PI Gigabit Ethernet
----------	--

#### Video

Graphics Engine	Integrated 2D, 64-bit, single-cycle, 100MHz
Resolution	1600x768
Video Memory	32MB/64MB DDR2
VGA	Yes
TTL/TFT	Dual channels 12-bit or Single Channel 18-bit color depths Supports 3.3V, 5V flat panels

#### Power

Power Requirement	1.3A @5V
-------------------	----------

#### Mechanical and Environmental

Form Factor	PC/104
Dimensions	90x96mm (3.6x3.8")
Board Thickness	0.093" (2.36mm thick)
Operating Temperature	(100 LFM system air flow) • Standard: -20°C to +70°C • Extended: -40°C to +85°C
Storage Temperature	-55°C to +85°C

#### Operating Systems

Extended Support (BSP) Win XPe, WinCE 5.0/6.0, QNX 6.5

### Ordering Information

#### Modules

Model Number	Description/Configuration
CM-435-R-10	CoreModule® 435, 300MHz Vortex CPU, 256MB RAM, Video, 10/100 & Gigabit Ethernet
CM-435-R-12	CoreModule® 435, 800MHz Vortex CPU, 256MB RAM, Video, 10/100 & Gigabit Ethernet

#### Accessories

Model Number	Description/Configuration
CM-435-L-10	300MHz QuickStart Kit (CM-435-R-10 SBC, cable kit, software, documentation)
CM-435-L-12	800MHz QuickStart Kit (CM-435-R-12 SBC, cable kit, software, documentation)

# CoreModule® 86DX2 PC/104 Single Board Computer with Vortex86DX2 System-on-Chip

**NEW**



## Features

- Ultra low power, DM&P Vortex86DX2 SoC
- Full ISA bus support with built in redundancy
- 1 GB onboard DDR2 memory
- 2x Ethernet ports
- 8x GPIO
- VGA and 18/24-bit single channel LVDS
- HD Audio
- PCI Express Mini Card and MicroSD slot
- -40°C to +85°C operating temperature range
- Supports Smart Embedded Management Agent (SEMA) functions

## Specifications

### Core System

CPU	Vortex86DX2 SoC, 800/1000 MHz
Memory	1GB DDR2 soldered on board
BIOS	AMI BIOS, integrated in SoC
SEMA	Yes
Hardware Monitor	2x LAN, watchdog
Watchdog Timer	Yes, 3 different
Expansion Busses	PC/104 (ISA) PCI Express Mini Card slot

### Video

VGA Interface	Yes
LVDS Interface	18/24 bit single channel

### Audio

Chipset	ALC886
Audio Codec	HD Audio

### Ethernet

Chipset	1x Integrated PHY
Speed	10/100 Mbit
Chipset	1x i210IT
Speed	10/100/1000 Mbit

### Multi I/O and Storage

USB	4x USB 2.0 host ports (3x I/O header, 1x MiniPCI Express slot)
SATA	SATA 1.0
MicroSD	1x standard slot for micro SD and micro SDHC, UDMA-2 mode
Serial	4x RS-232/RS-485
PS2	Keyboard and mouse
LPT	Yes
GPIO	8 (alternative TTL level COM Port or PWM)
A/D	8x Input

### Power

Input Power	5V only
Power Consumption	TBD (estimated ~ 6 to 7 W)
Power States	no ACPI

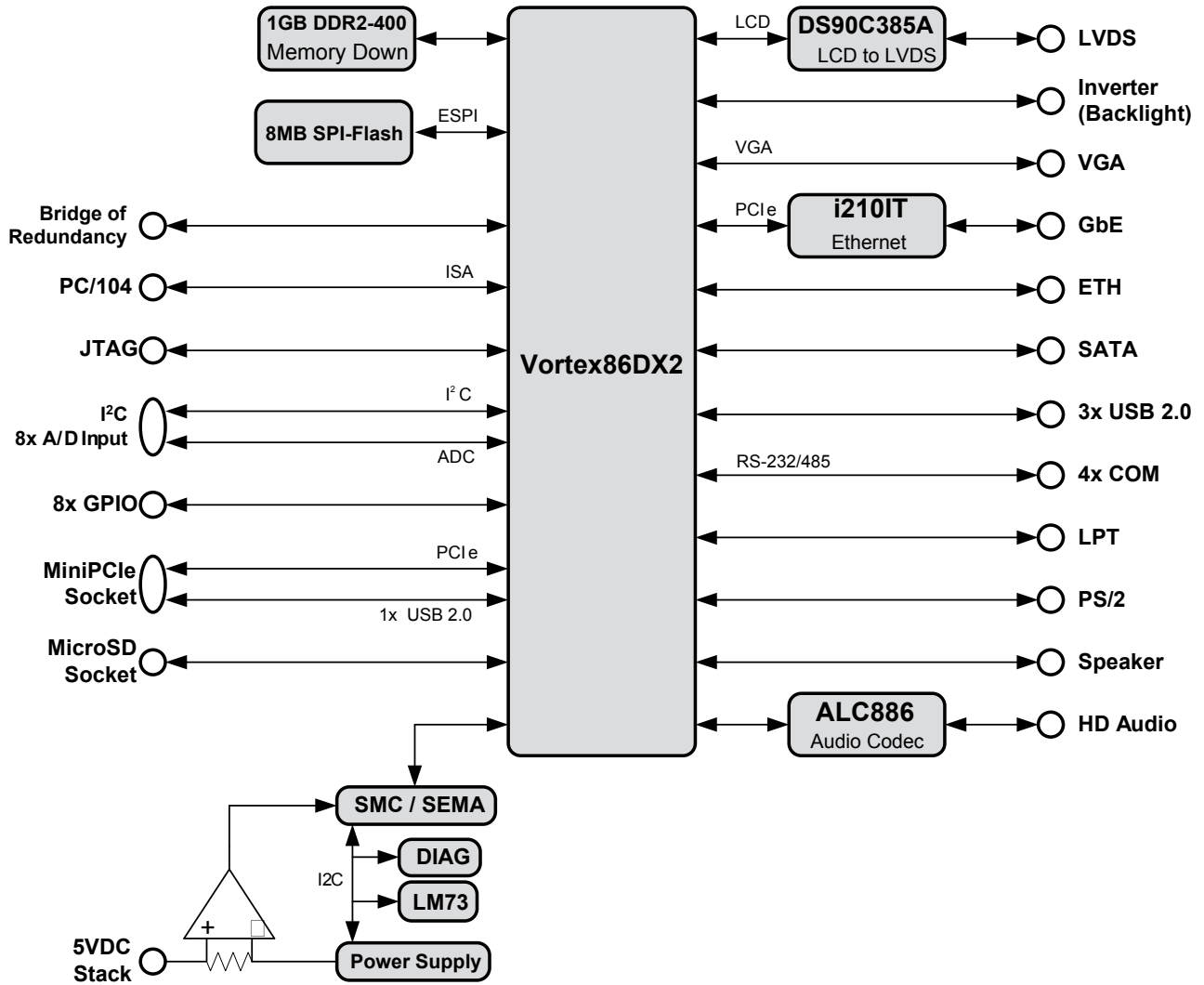
### Mechanical and Environmental

Dimensions	96 mm x 90 mm (3.775" x 3.550")
Operating Temperature	Standard: 0°C to 60°C Industrial: -20°C to 70°C Extended: -40°C to 85°C
Storage Temperature	-55°C to 85°C
Cooling	TBD
Humidity	10% to 90% (non-condensing)
Shock	Non-operating: 50G peak-to-peak, 11ms duration, MIL-STD-202G Method 213B
Vibration	Operating: 11.95 Grms, 50-2000 Hz, each axis, MIL-STD-202G Method 214A
MTBF	TBD

### Operating Systems

Standard Support	Windows XP, Windows XPe, Win CE 6.0, Linux
------------------	--

## Functional Diagram

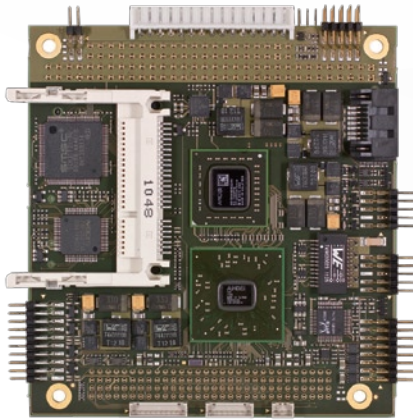


## Ordering Information

### Modules

Model Number	Description/Configuration
702-0018-10	PC/104, CM-86DX2, Vortex86DX2, 1GHz, 1GB RAM, 0°C to +60°C
802-0018-10	PC/104, CM-86DX2, Vortex86DX2, 1GHz, 1GB RAM, -20°C to +70°C
902-0018-10	PC/104, CM-86DX2, Vortex86DX2, 800MHz, 1GB RAM, -40°C to +85°C





### Features

- AMD Fusion® APU, single and dual core
- Up to 4 GB DDR3 RAM
- Graphics: Radeon HD6320 (T56N), Radeon HD6250 (T40R)
- LVDS: 1920 x 1200 resolution
- Gigabit Ethernet, 6x USB 2.0
- SATA port
- High Definition Audio
- Power consumption: max. 18 W
- Extended temperature range: -40°C +85°C
- Supports Smart Embedded Management Agent (SEMA) functions

### Specifications

#### Core System

Processor	AMD® T40R, 1.0 GHz, single core AMD® T56N, 1.65 GHz, dual core
BIOS	EFI 2x SPI Flash (fail save)
Board Format	PC/104-Plus 96 mm x 90 mm (3.775" x 4.050")
Platform controller hub	AMD® Hudson-E1 Fusion
ISA Bus	PC/104 via LPC to ISA bridge
PCI Bus	PC/104, 3.3V compliant Peripherals need their own 3.3V supply
SPI Bus	Yes
Watchdog	Yes (1 second to 255 minutes)
PS/2	Yes

#### Video

Graphics	Radeon HD6320, 500MHz (T56N) Radeon HD6250, 280MHz (T40R)
VGA	Yes
LVDS	Dual channel, 18/24-bit 1920 x 1200 pixel at 60 Hz

#### Audio

HD audio	ALC886
----------	--------

#### Ethernet

10/100/1000 Mbit	
------------------	--

#### Multi I/O and Storage

RAM (max.)	Up to 4GB DDR3 SO-DIMM
USB	6x USB 2.0
Serial	2x RS-232/422/485
SATA	1x SATA 6 Gb/s 1x CFast slot

#### Super I/O

	SCH3112
GPIO	8

#### Power

RTC Backup	Lithium battery, CR1225 replaceable
Power Supply	5 V ±5 % All voltages are generated on-board
Power Consumption	10W to 18W, depending on processor and memory
SEMA	Condition monitoring, with power sense

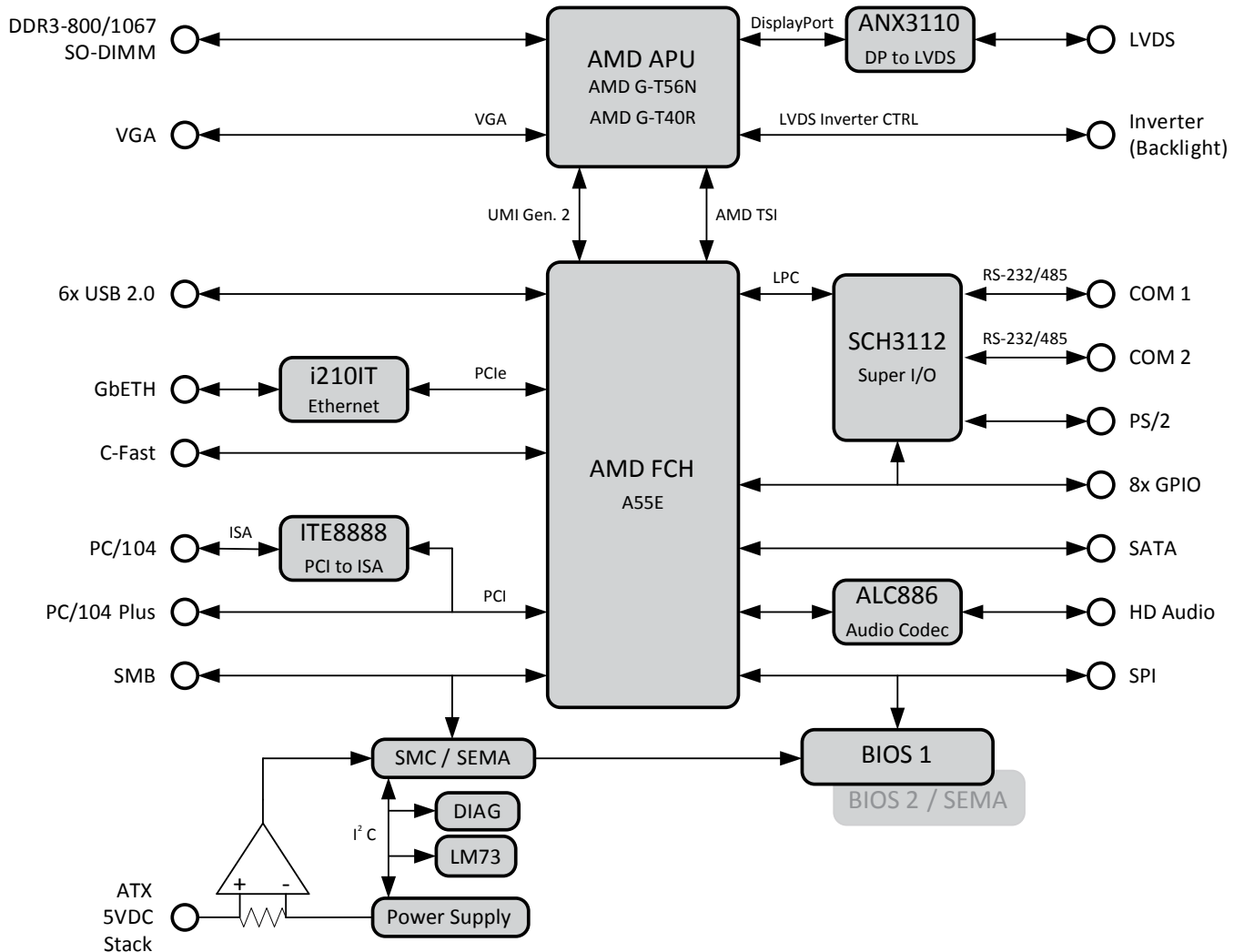
#### Mechanical and Environmental

Cooling	T40R: passive T56N: active
MTBF	172.356 hours at 25°C
Operating Temperature	Standard: 0°C to +60°C Industrial: -20°C to +70°C Extended: -40°C to +85°C (only T40R)
Panel Backlight	+12 V, +5 V, including control signal
Shock/Vibration	Non-operating: 40G peak-to-peak, 11ms duration, MIL-STD-202G Method 213B Operating: 11.95 Grms, 50-2000 Hz, each axis, MIL-STD-202G Method 214A
Status LED	HDD, power mode, live, 2x Ethernet, watchdog

#### Operating Systems

Standard Support	Windows XP, Windows XPe, Windows 7, Windows Embedded Standard 7, Linux
------------------	--

## Functional Diagram



## Ordering Information

### Modules

Model Number	Description/Configuration
703-0028-10	PC/104-Plus, CFR-AF, AMD T56N, 1.65 GHz DC, incl. heat spreader, 0°C to +60°C
803-0028-10	PC/104-Plus, CFR-AF, AMD T56N, 1.65 GHz DC, incl. heat spreader, -20°C to +70°C
703-0029-10	PC/104-Plus, CFR-AF, AMD T40R, 1.0 GHz SC, incl. heat spreader, 0°C to +60°C
803-0029-10	PC/104-Plus, CFR-AF, AMD T40R, 1.0 GHz SC, incl. heat spreader, -20°C to +70°C
903-0029-10	PC/104-Plus, CFR-AF, AMD T40R, 1.0 GHz SC, incl. heat spreader, -40°C to +85°C

### Accessories

Model Number	Description/Configuration
760-0029-10	RAM, DDR3, SO-DIMM, 2GB, 0°C to +60°C
960-0029-10	RAM, DDR3, SO-DIMM, 2GB, -40°C to +85°C
760-0030-10	RAM, DDR3, SO-DIMM, 4GB, 0°C to +60°C
960-0030-10	RAM, DDR3, SO-DIMM, 4GB, -40°C to +85°C
763-0022-10	Cable set, CFR-AF
765-0049-11	Heat sink, passive, CFR-AF
765-0049-12	Heat sink, active, CFR-AF

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Adhesive Tapes](#) category:*

*Click to view products by [3M](#) manufacturer:*

Other Similar products are found below :

[56-YELLOW-34"X72YD](#) [00-021200-13972-7](#) [021200-64630](#) [60 TAPE \(1"\)](#) [62-GRAY-12"X36YD](#) [62-GRAY-1"X36YD](#) [69-1"X36YD](#) [764-1"x36yd-Red](#) [764-1"x36yd-White](#) [9500PC-3/4](#) [967454-1](#) [1181 19MM X 16,5 METERS](#) [130C-1X15FT](#) [E39-RS1-CA](#) [1900-48mm](#) [22-1/2X36YD](#) [88-SUPER-34X44FT](#) [890103N001](#) [2670](#) [96](#) [EVK-TA-TM047NBH01](#) [20-1"X60YDS](#) [2020-18mmx55m](#) [H150](#) [363](#) [3900-Blue](#) [3939-24mmx55m](#) [44-TAN-14"X90YD](#) [4504-34x18](#) [471-Trans-1"x36yd-Bulk](#) [5414 34X36](#) [35-Gray-1/2](#) [4008-12"X36YD](#) [4104-34"x18yd](#) [4116](#) [444-1"x36yd](#) [4466 1"](#) [4466W-1/2"x36yd](#) [4492B-12"x72yd](#) [4492B-1"x72yd](#) [4496W-12"x36yd](#) [4508-1"x36yd](#) [4516-3/8x36](#) [4726](#) [1/2"X36YD](#) [054007-43154](#) [054007-43152](#) [06149](#) [11-32-2857](#) [5419 1/2"](#) [56 TAPE \(1/2"\)](#)