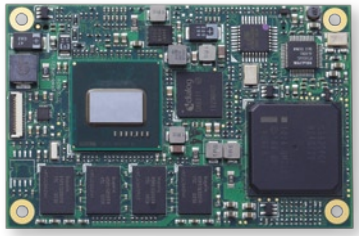
nanoX-TC

Mini COM Express® Type 10 Module with Intel® Atom™ Processor E6xx and EG20T PCH



Features

- Intel® Atom™ Processor E6xx from 600 MHz up to 1.6 GHz
- Up to 2 GB soldered DDR2 SDRAM at 800 MHz
- 24-bit LVDS and SDVO support
- 4x PCI Express x1 lanes
- Optional Intel® Platform Controller Hub EG20T for USB, LAN, SDIO, Serial & CAN bus and SATA
- COM Express® COM.0 R2.0 Type 10 Pinout

Specifications

Core System

CPU	Intel® Atom™ E680, 1.6 GHz, 3.9 W TDP
	Intel® Atom™ E660, 1.3 GHz, 3.3W TDP
	Intel® Atom™ E640, 1.0 GHz, 3.3W TDP
	Intel® Atom™ E620, 600 MHz, 2.7W TDP
	All processors support Intel® Hyper-Threading and Intel® Virtualization Technology
L2 cache	512 KB on all processors
Memory	Soldered 512 MB, 1 or 2 GB DDR2 at 800 MHz
BIOS	License-free bootloader or AMI UEFI flash
Hardware Monitor	Supply voltages and CPU temperature
Debug Interface	XDP SFF-26 extension for ICE debug
Embedded Features	Instant on with Intel Bootloader support, OEM BIOS settings, Board Info & Statistics, ACPI 3.0, Smart Battery Management support, Watchdog with programmable timer ranges
Expansion Busses	4 PCI Express x1 (0/1/2/3, port 3 is optionally used for EG20T PCH; no PCIe x4 support)
	LPC Bus, SMBus (system) , I²C (user)
	4 GPI and 4 GPO (shared with SDIO on optional EG20T)
	SPI (supports BIOS only)

Video

2D/3D Graphic Engine	Integrated in Intel® Atom™ Processor E6xx
Decoding	MPEG2, MPEG4, VC1, WMV9, H.264 and DivX
Encoding	MPEG4, H.264 (baseline at L3)
LVDS Interface	Single channel 18- or 24-bit pixel color depths with maximum resolution of up to 1280x768 @ 60 Hz. Pixel clock rate between 19.75 MHz (minimum) and 80 MHz (maximum).
SDVO	Serial digital video output supporting devices for DVI, TV-out, analog VGA. Maximum resolution of up to 1280x1024 @ 85 Hz and pixel clock rate up to 160 MHz.

Audio

High Definition Audio	Integrated in Intel® Atom™ Processor E6xx
Characteristics	Multi-channel audio stream, 32-bit sample depth, sample rate up to 192 kHz
Audio Codec	On carrier (standard support for ALC886)

Multi I/O and Storage

Chipset	Integrated in Intel® PCH EG20T
USB	Six USB 1.1/2.0 host ports and one USB 1.1/2.0 client port
SATA	Two ports supporting SATA 1.5 Gb/s and 3 Gb/s
SDIO port	SDIO/MMC supporting SDHC speed class 6 (shared with GPIO, selectable in the BIOS setup)

Ethernet

Serial and CAN	One RS-232 (RX/TX) and one CAN (AX/RX) port (optional 2x RS-232 w/o CAN)
GbE MAC	Integrated in Intel® EG20T PCH
PHY	Realtek RTL8211CL
Speed	10/100/1000 Mbps

Power

Input Power	4.75 V – 21 V wide range, supports AT mode and ATX mode (with additional 5 Vsb)
Power States	Supports S0, S1, S3, S4, S5
Power Consumption	5W at 5V typical, 3W idle
Smart Battery Support	Yes

Mechanical and Environmental

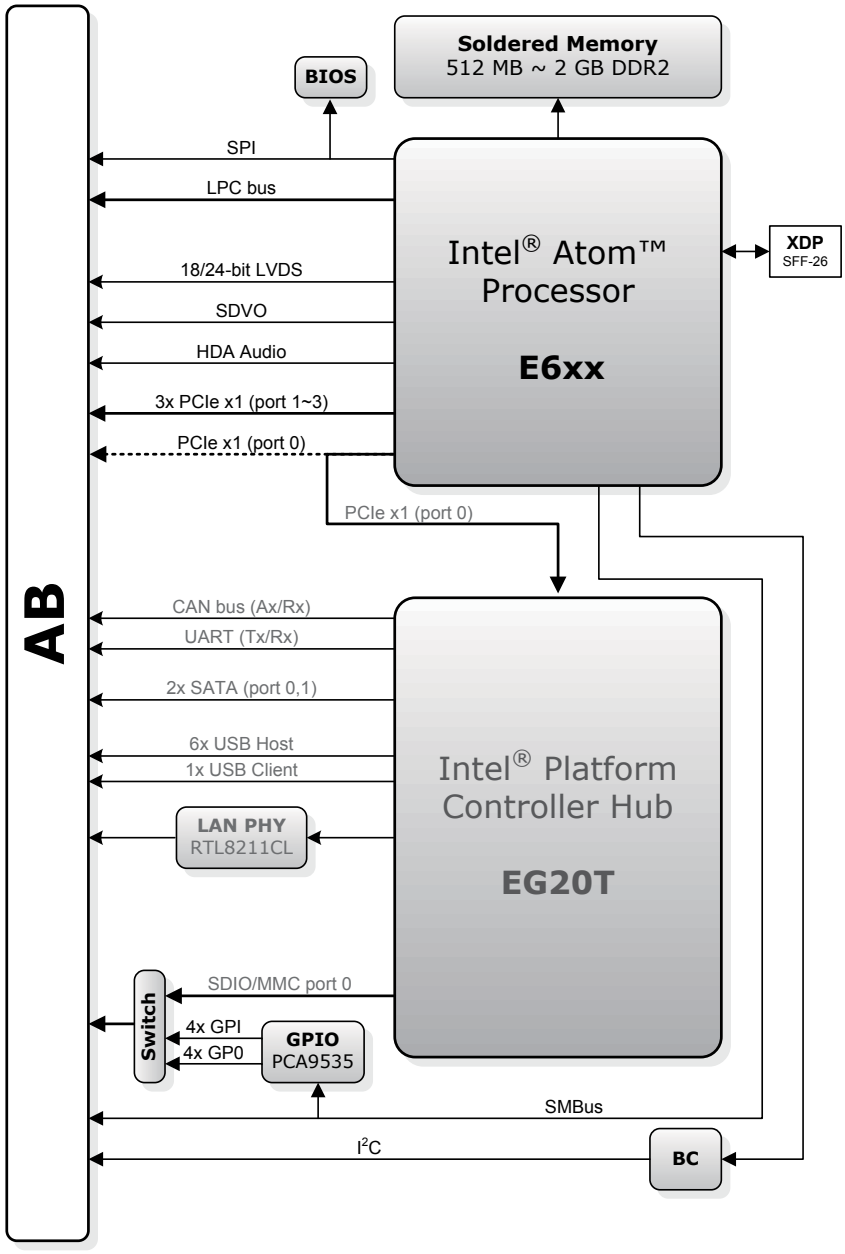
Operating Temperature	0°C to 70°C
Storage Temperature	-20°C to 80°C
Humidity	90% at 60°C
Shock	15G peak-to-peak, 11ms duration, non-operation
Vibration	Non-operating: 1.88 Grms, 5-500 Hz, each axis
	Operating: 0.5 Grms, 5-500 Hz, each axis
Compatibility	PICMG COM Express® COM.0 R2.0 Type 10
Mechanical	Mini size 84 mm x 55 mm (3.3" x 2.17")
Certification	CE, FCC, HALT

Operating Systems

Standard Support	Windows XP/Windows 7
	Linux
Extended Support (BSP)	Embedded XP
	WinCE 6.0
	Linux/Moblin
	VxWorks 6.x
	QNX
	AIDI Library

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Functional Diagram



Ordering Information

Modules

Model Number	Description
nanoX-TC-E680-1G	Mini size COM Express Type 10 Module with Intel® Atom™ E680 processor at 1.6GHz, PCH EG20T and 1 GB soldered DDR2 SDRAM
nanoX-TC-E660-1G	Mini size COM Express Type 10 Module with Intel® Atom™ E660 processor at 1.3GHz, PCH EG20T, and 1 GB soldered DDR2 SDRAM
nanoX-TC-E640-1G	Mini size COM Express Type 10 Module with Intel® Atom™ E640 processor at 1.0GHz, PCH EG20T, and 1 GB soldered DDR2 SDRAM
nanoX-TC-E620-1G	Mini size COM Express Type 10 Module with Intel® Atom™ E620 processor at 600 MHz, PCH EG20T, and 1 GB soldered DDR2 SDRAM

Accessories

Model Number	Description
Heat Spreaders	
HTS-nXTC-B	Heatspreader for nanoX-TC with threaded standoffs for bottom mounting
HTS-nXTC-BT	Heatspreader for nanoX-TC with throughole standoffs for top mounting
Passive Heatsinks	
THS-nXTC-B	Multidirectional Heatsink for nanoX-TC with threaded standoffs for bottom mounting
THS-nXTC-BT	Multidirectional Heatsink for nanoX-TC with threaded standoffs for top mounting

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