



Features

- Intel® Atom™ Processor Z530/Z510
- Intel® System Controller Hub US15W
- One PCIe x1 (opt. 2 without LAN)
- 18/24-bit LVDS and SDVO
- GbE LAN, SATA, USB 2.0, SDIO, LPC
- AMIBIOS®8 BIOS
- Solid State Disk: 1 GB up to 8 GB
- Mini Compact 84 mm x 55 mm footprint

Specifications

Core System

CPU	Intel® Atom™ processor Z530 at 1.6 GHz with 533 MHz FSB, 2.3 watts TDP, supports Hyper-Threading Intel® Atom™ processor Z510 at 1.1 GHz with 400 MHz FSB, 2.0 watts TDP
Memory	Soldered 512/1024 MB non-ECC, unbuffered 400/533 MHz DDR2
Chipset	Intel® System Controller Hub US15W
BIOS	AMIBIOS®8 with CMOS backup in 8 Mbit LPC flash
Hardware Monitor	Supply voltages and CPU temperature
Watchdog Timer	Programmable timer ranges to generate RESET
Expansion Buses	Two PCI Express x1 LPC bus SMBus / I²C

Video

Chipset	GMA 500 integrated on Intel® on System Controller Hub US15W
Features	Ultra low power integrated 3D graphics core with full HD HW video decode engine and dual independent display support
VGA Interface	Analog VGA not supported
LVDS Interface	Single channel 18/24-bit at 25~112 MHz
SDVO	May be used for any external display device (HDMI/DVI, analog TV, VGA and LVDS); includes EDID and EDID-less support, and a 160 MHz pixel clock

Audio

Chipset	Integrated on Intel® System Controller Hub US15W
Type	Supports Intel® High Definition Audio codec on carrier board

LAN

Chipset	Realtek RTL8111C PCI Express Gigabit Ethernet Controller
Interface	10/100/1000 Mbps with Wake-on-LAN and Alert on LAN support

Multi I/O

IDE (PATA)	Single channel IDE with UDMA (33/66/100) connects to onboard Solid State Disk of 1 GB up to 8 GB
SATA	PATA to SATA bridge One SATA port
USB	Eight USB 2.0 ports capable of transfers up to 480 MB/s; one port optionally configurable as USB client

Power Specifications

Input Power	4.75V ~ 14V wide range input support, with optional 5Vsb for ATX support
Power States	Supports S0, S1, S3, S4, S5
Power Consumption	5 W (with Atom Z510 and 512 MB memory, typical)

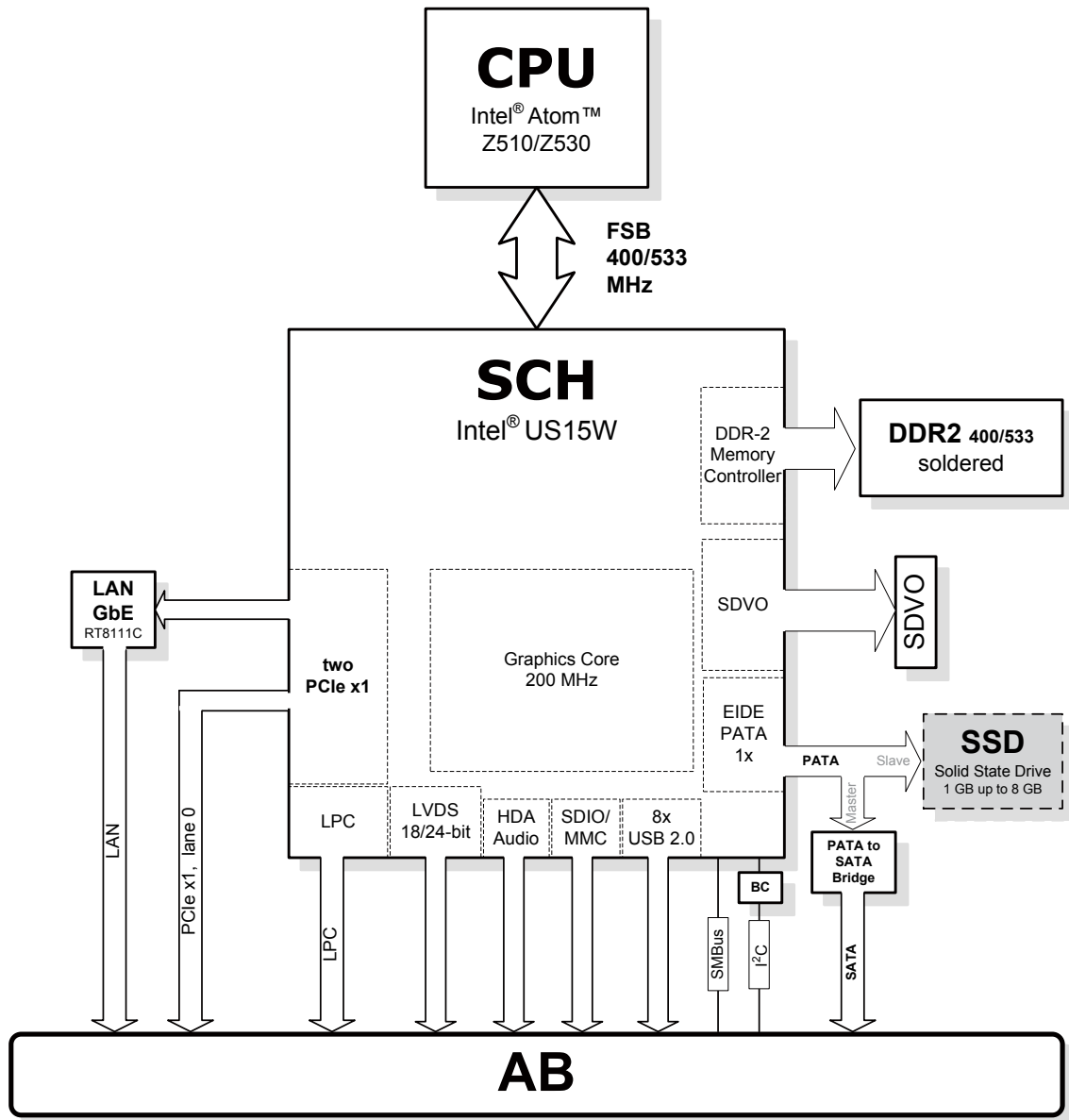
Mechanical and Environmental

Operating Temp.	0°C to 60°C
Storage Temp.	-20°C to 80°C
Humidity	10% to 90%, storage: 5% to 95% (non condensing)
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 Type 1
Mechanical	Mini size 84 mm x 55 mm (3.3" x 2.17")
Certifications	CE, FCC

Operating Systems

Standard Support	Windows® XP 32-bit Windows® Vista 32-bit Linux® 2.6.26 and up
Extended Support	Embedded XP BSP WinCE BSP Linux® 2.6.x BSP AIDI I²C Library for Win32, WinCE and Linux®

Functional Diagram



Ordering Information

Modules

Model Number	Description
nanoX-ML-51/512-0	Mini COM Express® Type 1 compatible module with Intel® Atom™ processor Z510 at 1.1 GHz and 512 MB DDR2
nanoX-ML-53/512-0	Mini COM Express® Type 1 compatible module with Intel® Atom™ processor Z530 at 1.6 GHz and 512 MB DDR2
nanoX-ML-51-512/4G	Mini COM Express® Type 1 compatible module with Intel® Atom™ Processor Z510 at 1.1 GHz, 512 MB memory and 4 GB SSD storage
nanoX-ML-53-512/4G	Mini COM Express® Type 1 compatible module with Intel® Atom™ Processor Z530 at 1.6 GHz, 512 MB memory and 4 GB SSD storage
nanoX-ML-51-1024/4G	Mini COM Express® Type 1 compatible module with Intel® Atom™ Processor Z510 at 1.1 GHz, 1GB memory and 4 GB SSD storage
nanoX-ML-53-1024/4G	Mini COM Express® Type 1 compatible module with Intel® Atom™ Processor Z530 at 1.6 GHz, 1GB memory and 4 GB SSD storage

Accessories

Model Number	Description
Heat Spreaders	
HTS-nML-B	Heatspreader for nanoX-ML (BGA CPU) with threaded standoffs
Passive Heatsinks	
THS-nML-B	Low profile Heatsink for nanoX-ML (BGA CPU) with threaded standoffs