



### 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
- Ultra Compact 84 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, and 2.0 watts TDP
Memory	Soldered 512 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 Busses	Two PCI Express x1 LPC bus SMBus / I <sup>2</sup> C

#### 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
CRT 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/CRT 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 v2.0 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)

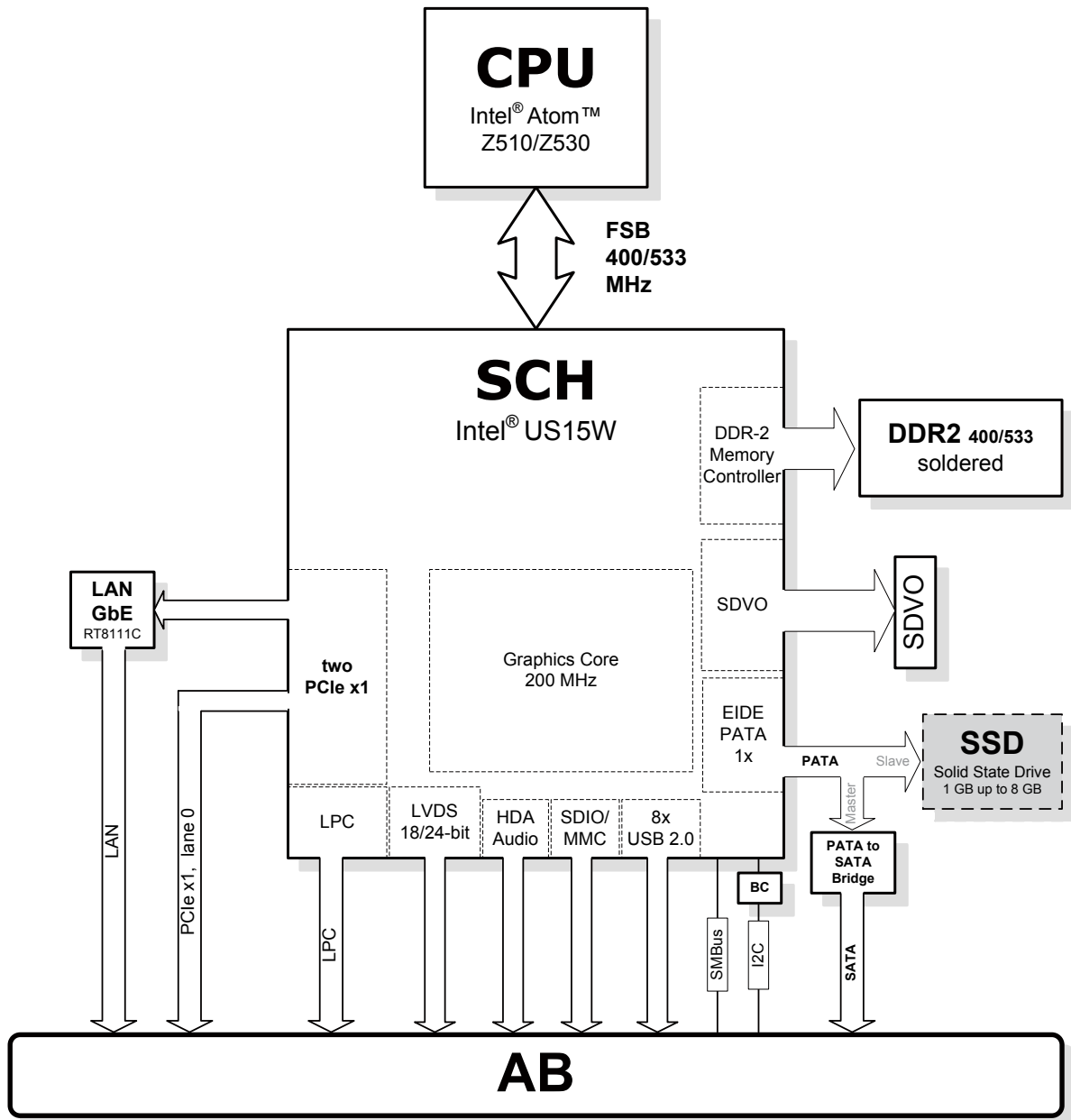
#### Mechanical and Environmental

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-operation: 1.88 Grms, 5-500 Hz, each axis Operation: 0.5 Grms, 5-500 Hz, each axis
Form Factor	COM Express™ Type 1 compatible pinout "Ultra" size : 84 mm x 55 mm
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 I <sup>2</sup> C Library for Win32, WinCE and Linux®

## Functional Diagram



## Ordering Information

### Modules

Model Number	Description
nanoX-ML-51/512-0	Ultra COM Express™ Type 1 compatible module with Intel® Atom™ processor Z510 at 1.1 GHz and 512 MB DDR2
nanoX-ML-53/512-0	Ultra COM Express™ Type 1 compatible module with Intel® Atom™ processor Z530 at 1.6 GHz and 512 MB DDR2

### Accessories

Model Number	Description
<b>Heat Spreader</b>	
HTS-nML-B	Heatspreader for nanoX-ML (BGA CPU) with threaded standoffs
THS-nML-B	Low profile Heatsink for nanoX-ML (BGA CPU) with threaded standoffs