



Features

- Intel® Atom™ Z530/Z510 processor
- Intel® System Controller Hub US15W
- Integrated hardware decoding for: MPEG2, MPEG4, H.264, WMV9 and VC1
- Two PCIe x1, PCI and LPC
- 18/24-bit LVDS and SDVO
- GbE LAN, eSATA, USB2.0, SDIO
- AMI BIOS and TPM 1.2 support
- Compact 95 x 95 mm footprint

Specifications

Core System

CPU	Intel® Atom™ processor Z530 at 1.6 GHz with 533 MHz FSB, 2.3 watts TDP and hyper threading Intel® Atom™ processor Z510 at 1.1 GHz with 400 MHz FSB, and 2.0 watts TDP
Memory	Single SO-DIMM socket, max. 2 GB of non-ECC, unbuffered 400/533 MHz DDR2
Chipset	Intel® System Controller Hub US15W
BIOS	AMI EFI BIOS
Hardware Monitor	Supply voltages and CPU temperature
Watchdog Timer	Programmable timer ranges to generate RESET
Expansion Busses	Two PCI Express x1 32-bit PCI 2.3 Masters at 33MHz (through PCIe-to-PCI bridge) LPC bus SMBus / I²C

Video

Chipset	GMA 500 integrated Intel® 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 in Intel® System Controller Hub US15W
Type	Supports AC97 or 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 PIO, MDMA (ATA-5) and UDMA (33/66/100) support
SATA (eSATA)	PCI Express to SATA II Host Controller Supports two port 3.0 Gbps SATA II interface Supports Hot Plugging like USB Supports SATA II Gen1m and Gen2m (External SATA Connection, eSATA)
USB	Eight USB v2.0 ports capable of transfers up to 480 MB/s; one port optionally configurable as USB client

TPM

Chipset	Infineon SLB9635TT1.2
Type	TPM 1.2

Power Specifications

Input Power	AT mode (12 V) and ATX mode (12 V and 5 Vsb)
Power States	Supports S0, S1, S3, S4, S5
Power Consumption	6 W (with Atom Z510 with 1 GB memory typical)

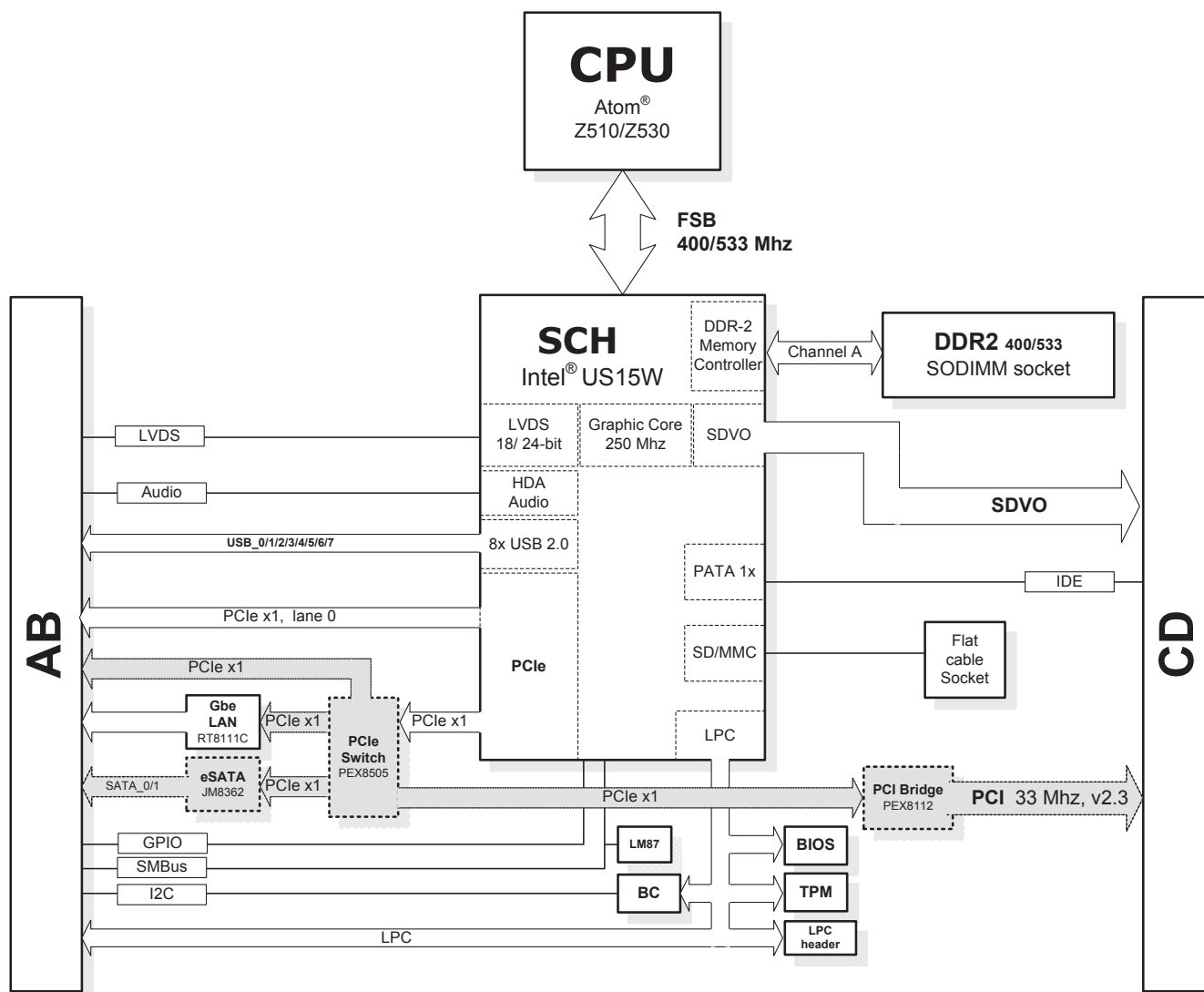
Mechanical and Environmental

Operating Temp.	0° 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 2 compatible pinout and mounting, 95 mm x 95 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 I²C Library for Win32, WinCE and Linux®

Functional Diagram



Ordering Information

Modules

Model Number	Description
Express-MLC-53	Compact COM Express™ module with Intel® Atom™ Z530 at 1.6 GHz
Express-MLC-51	Compact COM Express™ module with Intel® Atom™ Z510 at 1.1 GHz
Express-MLC-53B	Compact COM Express™ module with Intel® Atom™ Z530 at 1.6 GHz
Express-MLC-51B	Compact COM Express™ module with Intel® Atom™ Z510 at 1.1 GHz

Full vs Basic: B-type modules "Basic" are without support for PCI bus and SATA

Accessories

Model Number	Description
Heat Spreaders	
HTS-MLC-B	Heatspreader for Express-MLC (BGA CPU) with threaded standoffs