

LR101-B16D Intel® Atom™ D510 Mini-ITX Board

PROCESSOR

- Intel® Atom™ D510 (Dual-Core)
- On die 2 x 512KB, 8-way L2 cache
- C0 and C1 C-states
- 1.6GHz core frequency, 1.10V voltage
- IA 32-bit and Intel® 64 architecture
- Micro-FCBGA8 packaging technologies

SOUTHBRIDGE

- Intel® ICH8M I/O Controller Hub

SYSTEM MEMORY

- Two 200-pin SODIMM sockets
- Supports DDR2 667/800MHz only
- Supports up to 4GB system memory
- Single channel memory interface
- Supports x16 devices

EXPANSION SLOTS

- 1 PCIE x1 slot
- 1 PCI slot
- 1 CompactFlash socket

ONBOARD GRAPHICS FEATURES

- Intel® GMA 3150
 - Contains a refresh of the 3rd generation graphics core
- 400MHz render clock frequency
- Display ports: LVDS and VGA
 - Integrated single LVDS channel supports resolution up to 1366x768, 18bpp
 - Analog VGA display output up to resolution 2048x1536 @ 60Hz
- DirectX 9 compliant Pixel Shader 2.0

S3 GRAPHICS FEATURES

- S3 Graphics Chrome® 435 ULP
- 500MHz core clock
- Four DDR2 512Mbit 32Mx16 memory
- Display ports: 2 DVI-I and 1 HDMI
 - Does not support multiple displays using HDMI and 2 DVI-I at the same time. For dual display, use the bottom DVI-I with either the top DVI-I or HDMI.
- DVI display resolution up to 2560x1600
- 64-bit memory bus width
- Dual rank 256MB maximum memory
- H.264/AVC - MPEG-4 Advanced Video Coding (AVC) hardware acceleration
- VC1 hardware acceleration based on SMPTE 421M and its derivative standards
- ChromotionHD 2.0 Programmable Video Engine
- DX10.1 Unified Shader Architecture - Shader Model 4.1
- Supports 32-bit OS (Windows 7/XP) only

ONBOARD AUDIO FEATURES

- Realtek ALC262 2-channel High Definition Audio
- High performance DACs with 100dB SNR
- ADCs with 90dB SNR
- Two stereo DACs support 24-bit PCM format for stereo audio playback
- Three stereo ADCs support 20-bit PCM format for multiple input streaming
- S/PDIF audio interface

ONBOARD LAN FEATURES

- Realtek RTL8111DL PCI Express Gigabit Ethernet controller
- Integrated 10/100/1000 transceiver
- Supports Full Duplex flow control (IEEE 802.3x)
- Fully compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab
- Supports power down / link down power saving

SERIAL ATA INTERFACE

- 3 Serial ATA ports compliant with SATA 1.0 specification
- SATA speed up to 3Gb/s (SATA 2.0)

REAR PANEL I/O PORTS

- 1 DC-in 12V jack
- 2 DVI-I ports (1 shared with HDMI port)
- 1 DB-15 VGA port
- 1 HDMI port
- 1 RJ45 LAN port
- 6 USB 2.0/1.1 ports
- Mic-in, line-in and line-out

I/O CONNECTORS

- 1 connector for 2 external USB 2.0/1.1 ports
- 2 connectors for 2 external serial ports
 - COM2 supports RS232/422/485
 - Pins 1 and 9 of COM1 functions as RS232 signal or power (selectable via jumper)
- 1 connector for PS/2 keyboard/mouse ports
- 1 LVDS LCD panel connector
- 1 LCD/inverter power connector
- 1 8-bit DIO connector
- 1 DIO power connector
- 1 front audio connector for line-out and mic-in jacks
- 1 CD-in connector
- 1 S/PDIF connector
- 3 Serial ATA connectors
- 1 44-pin IDE connector
- 1 4-pin power connector
- 1 front panel connector
- 1 chassis intrusion connector
- 2 fan connectors

MULTIPLE DISPLAYS

- Supports 4 displays
 - VGA + LVDS + Bottom DVI-I + Top DVI-I ; or
 - VGA + LVDS + Bottom DVI-I + HDMI

BIOS

- AMI BIOS
- SPI BIOS

ENERGY EFFICIENT DESIGN

- ACPI v1.0a specification
- System Power Management
- Wake-On-Events include:
 - Wake-On-PS/2 Keyboard/Mouse
 - Wake-On-USB Keyboard/Mouse
 - Wake-On-LAN
 - RTC timer to power-on the system
- AC power failure recovery

DAMAGE FREE INTELLIGENCE

- Monitors CPU/system temperature and overheat alarm
- Monitors CPU(V)/3.3V/5V/12V/VBAT(V) voltages and failure alarm
- Monitors system fan speed and failure alarm
- Read back capability that displays temperature, voltage and fan speed
- Watchdog timer function

TEMPERATURE

- 0°C to 60°C

HUMIDITY

- 10% to 90%

PCB

- Mini-ITX form factor
- 170mm (6.7") x 170mm (6.7")

REAR PANEL I/O PORTS

