



## Main Features

- Onboard Intel® Atom™ processor D2550 1.86GHz CPU
- Intel® NM10 Express chipset
- One 204-pin SO-DIMM socket supports up to 4 GB DDR3 800/1066 MHz SDRAM
- Display: VGA & LVDS1 (1 x DF13 20-pin 18/24-bit Single channel) & LVDS2 (2 x DF13 20-pin 24/48-bit Single channel)
- 2 x Mini-PCle
- 2 x Intel® 82574L PCI Express Gigabit Ethernet
- 2 x SATA
- 6 x USB, 4-in/4-out GPIO, Mic-in, Speak out
- Serial port: 3 x RS232, 1 x RS232/422/485 port
- Support AT/ATX mode and Single +12VDC input

## Product Overview

The SBC 354DL is a 3.5" SBC embedded board with an on-board Intel® Atom™ processor D2550 1.86GHz CPU with 1MB L2 cache, which supports DDR3 800/1066 memory, along with integrated SGX545 PowerVR Core @ 400/640 MHz Enhanced Gfx & Video, support DX\*10.1, OpenGL 3.0, Full HD-Decode (MPEG2, VC1, AVC, H.264), along with integrated graphics for large display application to support Multiple Display. Intel® NM10 Express chipset provides two SATA, four serial ports, six USB2.0 ports, two Gigabit Ethernet LAN port, two Mini-PCle interface for application. The EBC 354DL is a great solution featuring a low power consumption processor and small footprint with versatile displays and numerous I/O port support at multi-media applications.

## Specifications

### CPU Support

- Intel® Atom™ processor D2550 1.86GHz CPU

### Main Memory

- One 204-pin SO-DIMM socket supports up to 4 GB DDR3 800/1066 MHz SDRAM

### Chipset

- Intel® NM10 Express chipset

### BIOS

- AMI BIOS
- Plug & Play support
- Advanced power management
- Advanced configuration & power interface
- 8M bits SPI ROM

### On-board LAN

- 2 x Intel® PCI Express Gigabit Ethernet
- Support boot from LAN (PXE)
- 2 x RJ45 with LED

### Display

- Intel® Atom™ processor D2550 integrated 3D graphics engine, enhances Gfx & video, support DX\*10.1, OpenGL 3.0, and Full HD decode (MPEG2, VC1, AVC, H.264), delivers sophisticated graphics for large display applications, dual independent displays support, at graphics base frequency up to 640MHz, provides a wealth of options for high-resolution displays

### Analog VGA interface:

- 1 x VGA within DSUB connector
- Resolution up to 1920 x 1200 75Hz

### LVDS-1 interface:

- Single (24bit) LVDS panel, resolution up to 1440 x 900 DF13 20-pin LVDS connector for internal connection

### CCFL interface:

- 1 x CCFL for LCD Panel Backlight Inverter & PWM/Analog dimming control

### LVDS-2 interface:

- Single (24bit/48bit) LVDS panel, resolution up to 2560 x 1600 with two DF13 20-pin LVDS connector for internal connection

### CCFL interface:

- 1 x CCFL for LCD Panel Backlight Inverter & PWM/Analog dimming control

### Audio

- Realtek ALC886 CODEC for High Definition
- 1 x Mic-in and 1 x Line-out Pin header

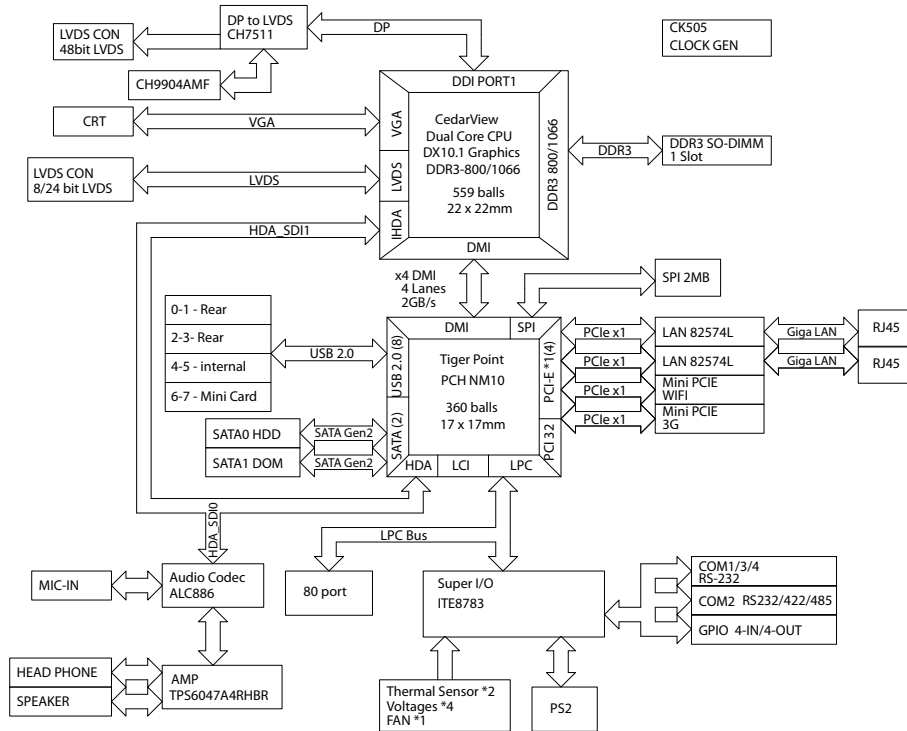
### Expansion

- 2 x Mini-PCle

### I/O Interface

- Serial port: 4 port  
COM1, 3, 4 support RS232 with 10-pin box header  
COM2 support RS232/422/485 with 10-pin box header
- USB2.0: 6 ports

## Block Diagram



- 4 ports edge connector
- 2 ports by 2.0mm JST connector
- 8 GPIO lines via header (GPI 0~3 and GPO0~3) TTL Level (0/5 V)
- On-board power LED and HDD active LED pin header
- 1 x 3-pin Fan connector (for CPU)
- 1 x keyboard/mouse pin header
- On-board buzzer/SMBus2.0/reset SW/on & off switch button

### Edge I/O Interface

- 1 x VGA D-SUB connector
- 2 x dual stack USB connector
- 2 x RJ45 with LED connector

### Watchdog Timer

- Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (tolerance 15% under room temperature 25°C)

### Storage

- 2 x SATA port

### System Monitor

- Monitoring of 4 voltages and 2 temperatures
- 4 voltage (Vcore, +12V, +3.3V, 5V)
- 2 temperatures (CPU, system)
- 1 fan speed detection

### On-board RTC

- On-chip RTC with battery backup
- 1 x external Li-Ion battery

### Power Input

- Support AT and ATX mode

### Power Requirements

- Power requirement: +12V DC Input
- One 4-pin power connector

### Dimensions

- 3.5" SBC Form Factor/146mm (L) x 105mm (W) (5.7" x 4.1")

### Environment

- Operating temperature: -15°C to 60°C
- Storage temperature: -20°C to 85°C
- Relative humidity: operating 10% to 90%, non-condensing

### Certifications

- CE approval
- FCC Class A

## Ordering Information

### • EBC 354DL (P/N: 10E00035402X0) RoHS Compliant

Low power Embedded Board with Intel® Atom™ D2550 processor and based on Intel® integrated graphics engine w/ VGA/24bit LVDS1/48bit LVDS2/6 x USB2.0/4 x COMs/2 x Mini-PCle/2 x Gigabit LAN/2 x SATA