

# SOM-4463 B2

Intel® Atom™ Processor  
N455/D525 ETX CPU Module



## Features

- Embedded Intel® Atom™ Processor N455 1.66 GHz single Core™/ D525 1.80 GHz dual-Core™ + ICH8M
- Intel® Gen 3.5 DX9, MPEG2 hardware decoder, multiple display: VGA, 18/24-bit LVDS
- Supports DDR3-667 for N455 up to 2GB and DDR3-800 for D525 up to 4GB
- Supports 4 PCI, ISA, 2 IDE, 2 SATAII, 4 USB 2.0
- Supports SUSIAccess and Embedded Software APIs

Software APIs:



## Specifications

|                  |                                      |                                                                                                                    |
|------------------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Form Factor      |                                      | ETX 3.0                                                                                                            |
| Processor System | CPU                                  | Intel Atom N455 1.67 GHz (single Core), 512 KB L2 Cache<br>Intel Atom D525 1.80 GHz (dual Core), 1 MB L2 Cache     |
|                  | System Chipset                       | ICH8M                                                                                                              |
|                  | BIOS                                 | AMI 16 Mbit Flash BIOS                                                                                             |
| Memory           | Technology                           | DDR3 667 MHz (N455) and 800 MHz (D525)                                                                             |
|                  | Max. Capacity                        | Up to 2 GB (N455); Up to 4 GB (D525)                                                                               |
|                  | Socket                               | 1 x 204-pin SODIMM socket                                                                                          |
| Display          | Chipset                              | Intel Atom N455 or Intel Atom D525                                                                                 |
|                  | Graphic Engine                       | Intel Gen 3.5 DX9, MPEG2 hardware decoder                                                                          |
|                  | LVDS                                 | 18/24-bit single channel LVDS                                                                                      |
|                  | VGA                                  | Intel Atom N455 Single Core up to 1400 x 1050 (SXGA)<br>Intel Atom D525 Dual Core up to 2048 x 1536                |
|                  | DVI                                  | -                                                                                                                  |
|                  | TV Out                               | -                                                                                                                  |
|                  | SDVO                                 | -                                                                                                                  |
|                  | Dual Display                         | CRT + LVDS                                                                                                         |
| Ethernet         | Chipset                              | Realtek RTL8106E-CG 10/100 Mbps Ethernet                                                                           |
|                  | Speed                                | 10/100 Mbps                                                                                                        |
| WatchDog Timer   |                                      | 256 level timer interval, from 0 to 255 sec or min setup by software, jumperless selection, generates system reset |
| Expansion        |                                      | ISA, 4 PCI masters                                                                                                 |
| I/O              | PATA                                 | 2 x EIDE (UDMA 100)                                                                                                |
|                  | SATA                                 | 2 x SATAII (300 MB/s)                                                                                              |
|                  | USB                                  | 4 x USB 2.0                                                                                                        |
|                  | Audio                                | ALC892 Audio                                                                                                       |
|                  | GPIO                                 | 1-bit GPIO, 2-bit GPE                                                                                              |
|                  | COM                                  | 2 x COM Ports                                                                                                      |
|                  | FDD/LPT                              | 1 x FDD or LPT                                                                                                     |
| Power            | Power Type                           | ATX, AT                                                                                                            |
|                  | Power Supply Voltage                 | +5 V (+5VSB is required for ATX power scheme)                                                                      |
|                  | Power Consumption (Typical)          | 4463N (2 GB DDRIII 1333) +5 V @ 1.82 A<br>4463D (2 GB DDRIII 1333) +5 V @ 2.18 A                                   |
|                  | Power Consumption (Max, test in HCT) | 4463N (2 GB DDRIII 1333) +5 V @ 2.25 A<br>4463D (2 GB DDRIII 1333) +5 V @ 2.73 A                                   |
|                  | Operating Temperature                | 0 ~ 60° C (32 ~ 140° F)                                                                                            |
| Environment      | Humidity                             | Operating: 40° C @ 95% relative humidity, non-condensing<br>Storage: 60° C @ 95%relative humidity, non-condensing  |
| Mechanical       | Dimensions                           | 114 x 95 mm (3.74" x 4.5")                                                                                         |

| Part No.        | CPU       | L2 Cache | Chipset | LVDS      | VGA | 10/100 LAN | HD Audio | PCI | USB 2.0 | SATA      | PATA | SMBus | ATX Power | AT Power | Thermal Solution | Operating Temp. |
|-----------------|-----------|----------|---------|-----------|-----|------------|----------|-----|---------|-----------|------|-------|-----------|----------|------------------|-----------------|
| SOM-4463N-S6B2E | Atom N455 | 512KB    | ICH8M   | 18/24-bit | Yes | 1          | Yes      | 4   | 4       | 2 SATA II | 2    | 1     | Yes       | Yes      | Passive          | 0 ~ 60° C       |
| SOM-4463D-S8B2E | Atom D525 | 1MB      | ICH8M   | 18/24-bit | Yes | 1          | Yes      | 4   | 4       | 2 SATA II | 2    | 1     | Yes       | Yes      | Active           | 0 ~ 60° C       |

| Part No.         | Description                      |
|------------------|----------------------------------|
| SOM-DB4700-00A1E | Development Board for ETX Rev.A1 |

| Part No. | Description            | Quantity |
|----------|------------------------|----------|
| -        | SOM-4463 B2 CPU Module | 1        |

| Part No.       | Description                    |
|----------------|--------------------------------|
| 1960012091T00S | Semi-Heatsink 114 x 96 x 15 mm |
| 1750001980     | Semi-Cooler 114 x 96 x 15 mm   |

| OS        | Part No.   | Description |
|-----------|------------|-------------|
| WES (XPE) | 2070012909 | WES2009     |
| WinCE     |            | WinCE 6.0   |
| WinCE     |            | WinCE 7.0   |
| QNX       |            | V6.4.1      |