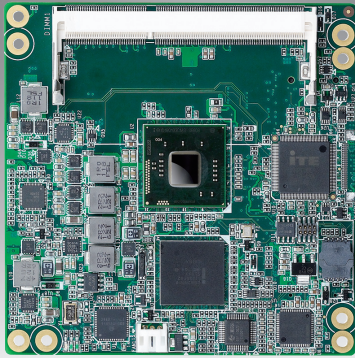


# SOM-6765

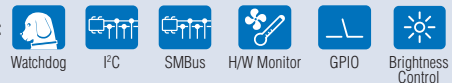
## Intel® Atom™ Processor N2600/N2800/D2550 COM Express® Compact Module



### Features

- Embedded Intel® Atom™ Processor N2600/N2800/D2550 + NM10
- Intel® Gfx support DX9 and OpenGL 3.0
- Supports VGA, 18/24 bit LVDS
- Supports DDR3 memory up to 1066 4GB
- Supports 2 PCIe x1, 4 PCI Master, LPC, SMBus, I2C Bus, 2 SATAII, EIDE, 8 USB2.0, GbE
- Supports iManager, SUSIAccess and Embedded Software APIs

#### Software APIs:

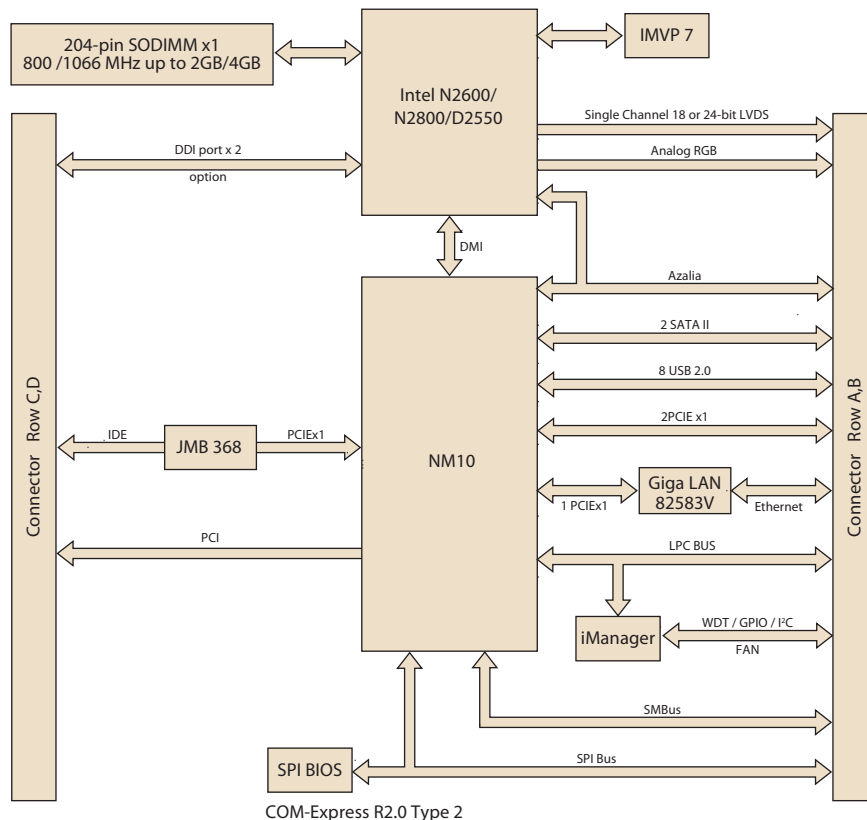


iManager susiAccess CE FCC

### Specifications

|                  |  |  |   |  |
|------------------|--|--|---|--|
| Form Factor      | COM Express R2.0 Compact Module, Type 2 Pin-out.                     |  |   |  |
| Processor System | CPU  | Intel Atom Processor N2600 1.6 GHz, 2 x 512 KB L2 Cache<br>Intel Atom Processor N2800 1.86GHz, 2 x 512 KB L2 Cache<br>Intel Atom Processor D2550 1.86GHz, 2 x 512KB L2 Cache |   |  |
|                  | System Chipset   | NM10   |   |  |
|                  | BIOS   | AMI EFI 16Mb   |   |  |
| Memory           | Technology   | Support DDR3 1066 MHz for N2800/D2550, DDR3 800 MHz for N2600  |   |  |
|                  | Max. Capacity  | Up to 4 GB for N2800/D2550, up to 2 GB for N2600   |   |  |
|                  | Socket   | 1 x 204-pin SODIMM Socket  |   |  |
| Display          | Chipset  | Intel Gfx integrated in Atom Processor   |   |  |
|                  | Graphic Engine   | Intel Gfx 640 MHz for N2800/D2550: 400 MHz for N2600, supports DX9, OpenGL 3.0, MPEG2/VC1/H.264 HW Decoder   |   |  |
|                  | LVDS   | 18-bit up to 1366x768 for N2600/N2800 and 24-bit up to 1440 x 900 for D2550  |   |  |
|                  | VGA  | 1920 x 1200  |   |  |
|                  | DDI  | 2 ports shared with HDMI/DVI/DisplayPort (Option)  |   |  |
|                  | TV Out   | -  |   |  |
|                  | SDVO   | -  |   |  |
| Ethernet         | Dual Display   | CRT + LVDS, CRT + DDI (Option)<br>LVDS + DDI (Option)  |   |  |
|                  | Chipset  | Intel 82583 Gigabit Ethernet   |   |  |
| WatchDog Timer   | Speed  | 10/100/1000 Mbps   |   |  |
|                  |  | 65536 level timer interval, from 0-65535 sec, multi-level, multi-option watchdog timer   |   |  |
| Expansion        | 2 PCIe x1 (Option for 4 PCIe x1), 4 PCI masters, LPC, SMBus, I2C Bus |  |   |  |
| I/O              | PATA   | 1 EIDE (UDMA 100)  |   |  |
|                  | SATA   | 2 SATAII (300 MB/s)  |   |  |
|                  | USB  | 8 USB 2.0  |   |  |
|                  | Audio  | High definition audio interface  |   |  |
|                  | GPIO   | 8-bit GPIO   |   |  |
| Power            | Power Type   | ATX, AT  |   |  |
|                  | Power Supply Voltage   | +12 V and +5 VSB for ATX, +12V for AT  |   |  |
|                  | Power Consumption (Typical)  | 6765N2600 (2G DDRIII 800)<br>7.06W @ Vin=12V   | 6765D2550 (4G DDRII 1066)<br>8.1W @ Vin=12V   | 6765N2800 (4G DDRIII 1066)<br>6.9W @ Vin=12V |
|                  | Power Consumption (Max, test in Burn In Test)                        | 6765N2600 (2G DDRIII 800)<br>9.08W @ Vin=12V   | 6765D2550 (4G DDRIII 1066)<br>10.3W @ Vin=12V | 6765N2800 (4G DDRIII 1066)<br>9.4W @ Vin=12V |
| Environment      | Temperature  | Operating: 0 ~ 60° C (32 ~ 140° F)<br>Storage: -40 ~ 85° C (-40 ~ 185° F)  |   |  |
|                  | Humidity   | Operating: 40° C @ 95% relative humidity, non-condensing<br>storage: 60° C @ 95%relative humidity, non-condensing  |   |  |
| Mechanical       | Dimensions   | 95 x 95 mm (3.74" x 3.74")   |   |  |

## Block Diagram



## Ordering Information

| Part No.          | CPU        | L2 Cache | Chipset | LVDS   | VGA | HDMI/DVI/DisplayPort (Option) | Giga LAN | HD Audio | PCIe x1 | PCI | USB 2.0 | SATA II | LPC | SMBus | I <sup>2</sup> C Bus | ATX Power | AT Power | Thermal Solution | Operating Temp. |
|-------------------|------------|----------|---------|--------|-----|-------------------------------|----------|----------|---------|-----|---------|---------|-----|-------|----------------------|-----------|----------|------------------|-----------------|
| SOM-6765N-S6A1E   | Atom N2600 | 1 MB     | NM10    | 18-bit | Yes | 2                             | 1        | Yes      | 2       | 4   | 8       | 2       | 1   | 1     | 1                    | Yes       | Yes      | Passive          | 0 ~ 60° C       |
| SOM-6765NZ-S6A1E  | Atom N2600 | 1 MB     | NM10    | 18-bit | Yes | 2                             | 1        | Yes      | 2       | 4   | 8       | 2       | 1   | 1     | 1                    | Yes       | Yes      | Passive          | -20 ~ 80° C     |
| SOM-6765NZ2-S6A1E | Atom N2600 | 1 MB     | NM10    | 18-bit | Yes | 2                             | 1        | Yes      | 2       | 4   | 8       | 2       | 1   | 1     | 1                    | Yes       | Yes      | Passive          | -40 ~ 85° C     |
| SOM-6765N-S8A1E   | Atom N2800 | 1 MB     | NM10    | 18-bit | Yes | 2                             | 1        | Yes      | 2       | 4   | 8       | 2       | 1   | 1     | 1                    | Yes       | Yes      | Passive          | 0 ~ 60° C       |
| SOM-6765NZ-S8A1E  | Atom N2800 | 1 MB     | NM10    | 18-bit | Yes | 2                             | 1        | Yes      | 2       | 4   | 8       | 2       | 1   | 1     | 1                    | Yes       | Yes      | Passive          | -20 ~ 80° C     |
| SOM-6765NZ2-S8A1E | Atom N2800 | 1 MB     | NM10    | 18-bit | Yes | 2                             | 1        | Yes      | 2       | 4   | 8       | 2       | 1   | 1     | 1                    | Yes       | Yes      | Passive          | -40 ~ 85° C     |
| SOM-6765D-S8A1E   | Atom D2550 | 1 MB     | NM10    | 24-bit | Yes | 2                             | 1        | Yes      | 2       | 4   | 8       | 2       | 1   | 1     | 1                    | Yes       | Yes      | Active           | 0 ~ 60° C       |
| SOM-6765DZ-S8A1E  | Atom D2550 | 1 MB     | NM10    | 24-bit | Yes | 2                             | 1        | Yes      | 2       | 4   | 8       | 2       | 1   | 1     | 1                    | Yes       | Yes      | Active           | -20 ~ 80° C     |
| SOM-6765DZ2-S8A1E | Atom D2550 | 1 MB     | NM10    | 24-bit | Yes | 2                             | 1        | Yes      | 2       | 4   | 8       | 2       | 1   | 1     | 1                    | Yes       | Yes      | Active           | -40 ~ 85° C     |

Note: Passive = fanless; Active = with fan

## Development Board

| Part No.         | Description                             |
|------------------|---|
| SOM-DB5720-00A1E | Development Board for COM Express Type2 |

## Optional Accessories

| Part No.       | Description                                |
|----------------|--|
| 1960048815N001 | Semi-Heatsink 95 x 95 x 17 mm              |
| 1960048819N001 | Semi-Cooler 95 x 95 x 33.5 mm with 12V fan |

## Packing List

| Part No.       | Description         | Quantity |
|----------------|---------------------|----------|
| -              | SOM-6765 CPU Module | 1        |
| 1960053504N001 | Heatspreader        | 1        |