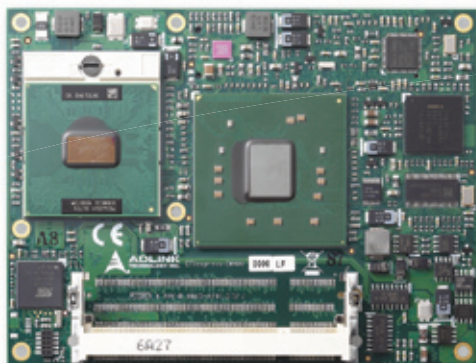


# Express-IW400

Server Level COM Express™ Module with  
Intel® Pentium® Processor and 3100 Chipset



## Features

- Intel® Pentium® M and Celeron® M Processor
- Two PCI Express® x4 or one x8 with EDMA
- Two vertical or one horizontal SO-RDIMM sockets for DDR2 400 with ECC
- Intel® 82573 GbE LAN
- USB 2.0, Serial ATA and IDE support
- Standard size PICMG® COM.0 COM Express™ Module Type 2

## Specifications

### Core System

|                  |                                                                                                                                                                                                                                                                                                                                |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU              | Intel® Core™2 Duo T7400, 2.16GHz, 4MB L2 cache, 34 W<br><b>Socket type</b><br>Intel® Pentium® M 745 at 1.8 GHz, 2MB L2 cache, 21W<br>Intel® Celeron® M 370 at 1.5 GHz, 1MB L2 cache, 21 W<br><b>BGA type</b><br>Intel® Pentium® M 738 at 1.4 GHz, 2MB L2 cache, 10W<br>Intel® Celeron® M 373 at 1.0 GHz, 512KB L2 cache, 5.5 W |
| Memory           | Single channel registered ECC DDR2 at 400MHz up to 4 GB<br>Option 1: one horizontal SODIMM socket, max. 2 GB<br>Option 2: two vertical SODIMM sockets, max. 4 GB                                                                                                                                                               |
| Chipset          | Intel® 3100 single integrated chip (Memory Controller Hub + I/O Controller Hub)                                                                                                                                                                                                                                                |
| BIOS             | AMIBIOS8 in 512 kB FWH with console redirection and CMOS EEPROM backup                                                                                                                                                                                                                                                         |
| Hardware Monitor | Supply voltages and CPU temperature                                                                                                                                                                                                                                                                                            |
| Watchdog Timer   | Two stage watchdog timer                                                                                                                                                                                                                                                                                                       |
| Expansion Busses | One PCIe x8 lane configurable as two PCIe x4 lanes<br>Four PCIe x1 lanes (one occupied by onboard GbE)<br>32-bit PCI rev 2.3 at 33MHz<br>LPC bus<br>SMBus / I²C                                                                                                                                                                |

### Video

|            |                                                                      |
|------------|----------------------------------------------------------------------|
| On carrier | Optional VGA support needs to be added on PCI or PCIe bus on carrier |
|------------|----------------------------------------------------------------------|

### LAN

|           |                                        |
|-----------|----------------------------------------|
| Chipset   | PCIe type Intel® 82573                 |
| Interface | 10/100/1000BASE-T IEEE 802.3 compliant |

### Multi I/O

|          |                                                                   |
|----------|-------------------------------------------------------------------|
| Chipset  | Integrated in Intel® 3100                                         |
| USB      | Supports up to four USB 2.0 ports, supports legacy keyboard/mouse |
| SATA     | Four integrated Serial ATA 150 ports                              |
| PATA IDE | Single channel IDE for CF card support (SATA to IDE conversion)   |

### Super I/O

Connected to LPC bus on carrier if needed

### 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 | 20 W typical (with Pentium® M 738 and 2 GB memory) |

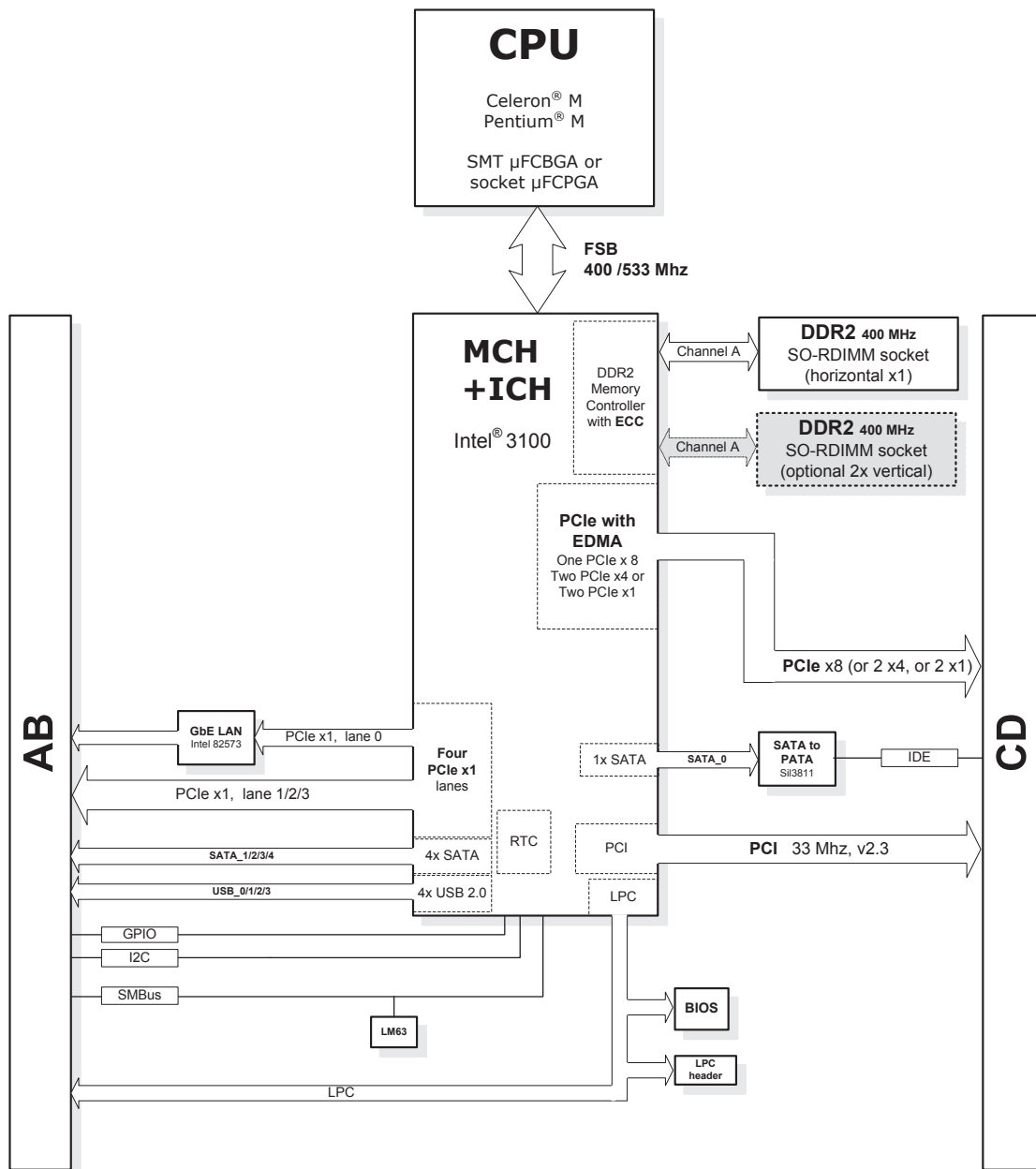
### Mechanical and Environmental

|                 |                                                                                           |
|-----------------|-------------------------------------------------------------------------------------------|
| Operating Temp. | 0° to 60°C                                                                                |
| Storage Temp.   | -20°C to 80°C                                                                             |
| Humidity        | Up to 90% at 60°C (TBD)                                                                   |
| Shock           | 15G peak-to-peak, 11ms duration, non-operation                                            |
| Vibration       | Non-operation: 1.88 Grms, 5-500 Hz, each axis<br>Operation: 0.5 Grms, 5-500 Hz, each axis |
| Form Factor     | COM Express™ Type 2, basic form factor, 95 mm x 125 mm                                    |
| Certifications  | CE, FCC                                                                                   |

### Operating Systems

|                  |                                                                              |
|------------------|------------------------------------------------------------------------------|
| Standard Support | Windows® XP 32/64-bit<br>Linux® 2.6.26 and up                                |
| Extended Support | Embedded XP BSP<br>Linux® 2.6.x BSP<br>AIDI I²C Library for Win32 and Linux® |

## Functional Diagram



## Ordering Information

### Modules

| Model Number             | Description/Configuration                                                                                                                       |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Express-IW400-S</b>   | Server level COM Express™ module with socket CPU (for Intel® Celeron® M 370 processor at 1.5 GHz or Intel® Pentium® M 745 processor at 1.8 GHz) |
| <b>Express-IW400V-S</b>  | Server level COM Express™ module with socket for CPU and two vertical SO-RDIMM sockets                                                          |
| <b>Express-IW400-373</b> | Server level COM Express™ module with Celeron® M 373 processor at 1 GHz                                                                         |
| <b>Express-IW400-738</b> | Server level COM Express™ module with Pentium® M 738 processor at 1.4 GHz                                                                       |

V-type (Vertical): All modules above are with single horizontal SO-RDIMM socket, except for IW400V type which has two vertical SO-RDIMM sockets

### Accessories

| Model Number                        | Description/Configuration                                                                                                        |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>Heat Spreaders</b>               |                                                                                                                                  |
| HTS-DW400-B                         | Heatspreader for Express-IW400 (BGA CPU, horizontal SORDIMM) with threaded standoffs                                             |
| <b>Heatsink with Active Cooling</b> |                                                                                                                                  |
| THSF-DW400V-S                       | High Performance Heatsink with Fan for Express-IW400 and DW400 (Socket CPU and dual vertical SODIMMs) with threaded standoffs    |
| THSF-DW400-S                        | High Performance Heatsink with Fan for Express-IW400 and DW400 (Socket CPU and single horizontal SODIMM) with threaded standoffs |