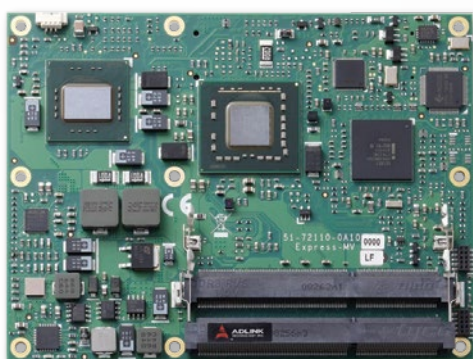




### Features

- Intel® Core™2 Duo processor (up to 2.26 GHz)
- Intel® GS45 and ICH9M-SFF chipset
- Dual SODIMM for up to 8 GB DDR3 at 1066 MHz
- Five PCIe x1, one PCIe x16 for graphics (or general purpose x8, x4 or x1)
- Single/dual channel 18/24-bit LVDS and TV-out (SDTV and HDTV)
- SATA 3 Gb/s, IDE (PATA), Gigabit LAN, USB 2.0

### Specifications

#### Core System

|                  |                                                                                                                                                                                                                                                                                                                                                                   |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU              | <p><b>Penryn SFF BGA type</b></p> <p>Intel® Core™2 Duo SP9300, FSB 1066, 2.26 GHz with 6MB L2 cache, 25 Watt</p> <p>Intel® Core™2 Duo SL9400, FSB 1066, LV 1.86 GHz with 6MB L2 cache, 17 Watt</p> <p>Intel® Core™2 Duo SU9300, FSB 800, ULV 1.2 GHz with 3MB L2 cache, 10 Watt</p> <p>Intel® Celeron® M 722, FSB 800, ULV 1.2GHz with 1MB L2 cache, 5.5 Watt</p> |
| Memory           | Dual stacked SODIMM sockets supporting dual channel memory, up to 8 GB of non-ECC, 800/1066 MHz DDR3                                                                                                                                                                                                                                                              |
| Chipset          | Intel® GS45 Express Graphics Memory Controller Hub SFF (Small Form Factor) and Intel® I/O Controller Hub ICH9M-SFF                                                                                                                                                                                                                                                |
| BIOS             | AMIBIOS®8 with CMOS backup in 16 Mbit SPI flash                                                                                                                                                                                                                                                                                                                   |
| Hardware Monitor | Supply voltages and CPU temperature                                                                                                                                                                                                                                                                                                                               |
| Watchdog Timer   | Programmable timer ranges to generate RESET                                                                                                                                                                                                                                                                                                                       |
| Expansion Busses | <p>Graphics PCI Express x16 bus for SDVO/HDMI/DisplayPort or general purpose PCI Express (x8 / x4 / x1)</p> <p>6 PCI Express x1: 0/1/2/3/4 are free, 5 is occupied by GbE; 0/1/2/3 x1 can be optionally configured as 1 x4</p> <p>32-bit PCI 2.3 at 33MHz, supporting 4 bus masters</p> <p>LPC, SMBus, I²C</p>                                                    |

#### Video

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chipset          | GS45 GMCH integrated Mobile Intel® Graphics Media Accelerator 4500MHD with core render clock 533 MHz @ 1.05-V core voltage or 266 MHz @ 1.025 L.P. Mode                                                                                                                                                                                                                                                                                |
| Integrated Video | Intel® Dynamic Video Memory Technology (Intel® DVMT 5.0)                                                                                                                                                                                                                                                                                                                                                                               |
| Feature Support  | <p>Video capture via x1 concurrent PCI Express port</p> <p>PAVP (Protected Audio-Video Path) support for Protected Intel® HD Audio Playback</p> <p>High performance MPEG-2 decoding</p> <p>WMV9 (VC-1) and H.264 (AVC) support</p> <p>Hardware acceleration for MPEG2 VLD/IDCT</p> <p>Microsoft DirectX 10 support</p> <p>Blu-ray support @ 40 Mb/s</p> <p>Hardware motion compensation</p> <p>Intermediate Z in classic rendering</p> |
| VGA Interface    | Analog VGA support by 300MHz DAC                                                                                                                                                                                                                                                                                                                                                                                                       |
| LVDS Interface   | Analog monitor support up to QXGA, supports VGA hot plug                                                                                                                                                                                                                                                                                                                                                                               |
| TV-out           | Single / Dual channel 18/24-bit at 25~112 MHz                                                                                                                                                                                                                                                                                                                                                                                          |
|                  | NTSC/PAL up to 1024x768 resolution supported                                                                                                                                                                                                                                                                                                                                                                                           |
|                  | HDTV 480p/720p/1080i/1080p modes supported (without Macrovision)                                                                                                                                                                                                                                                                                                                                                                       |

#### Audio

|             |                                |
|-------------|--------------------------------|
| Chipset     | Integrated on Intel® ICH9M     |
| Audio Codec | HDA codec on carrier           |
| HDMI        | Audio routed to HDMI interface |

#### LAN

|           |                                                    |
|-----------|----------------------------------------------------|
| Chipset   | Integrated on Intel® ICH9M with Intel® 82567LM PHY |
| Interface | 10/100/1000 Mbps Ethernet                          |

#### Multi I/O

|         |                                                                  |
|---------|------------------------------------------------------------------|
| Chipset | Integrated on Intel® ICH9M                                       |
| USB     | Supports up to eight ports USB v. 2.0                            |
| SATA    | Four ports SATA 3 Gb/s with (optional) support for RAID 0,1,5,10 |
| PATA    | SATA to PATA JM20330 controller on SATA channel 3, Master only   |

#### Super I/O

Connected to LPC bus on carrier if needed

#### TPM

|         |                                  |
|---------|----------------------------------|
| Chipset | Infineon SLB9635TT1.2 (optional) |
| Type    | TPM 1.2                          |

#### Power Specifications

|                   |                                                                  |
|-------------------|------------------------------------------------------------------|
| Input Power       | AT mode (12 V +/- 5%) and ATX mode (12 V and 5 Vsb +/- 5%)       |
| Power States      | Supports S0, S1, S3, S4, S5                                      |
| Power Consumption | 18 W (with Core™2 Duo SU9300 at 1.2 GHz and 2 GB memory typical) |

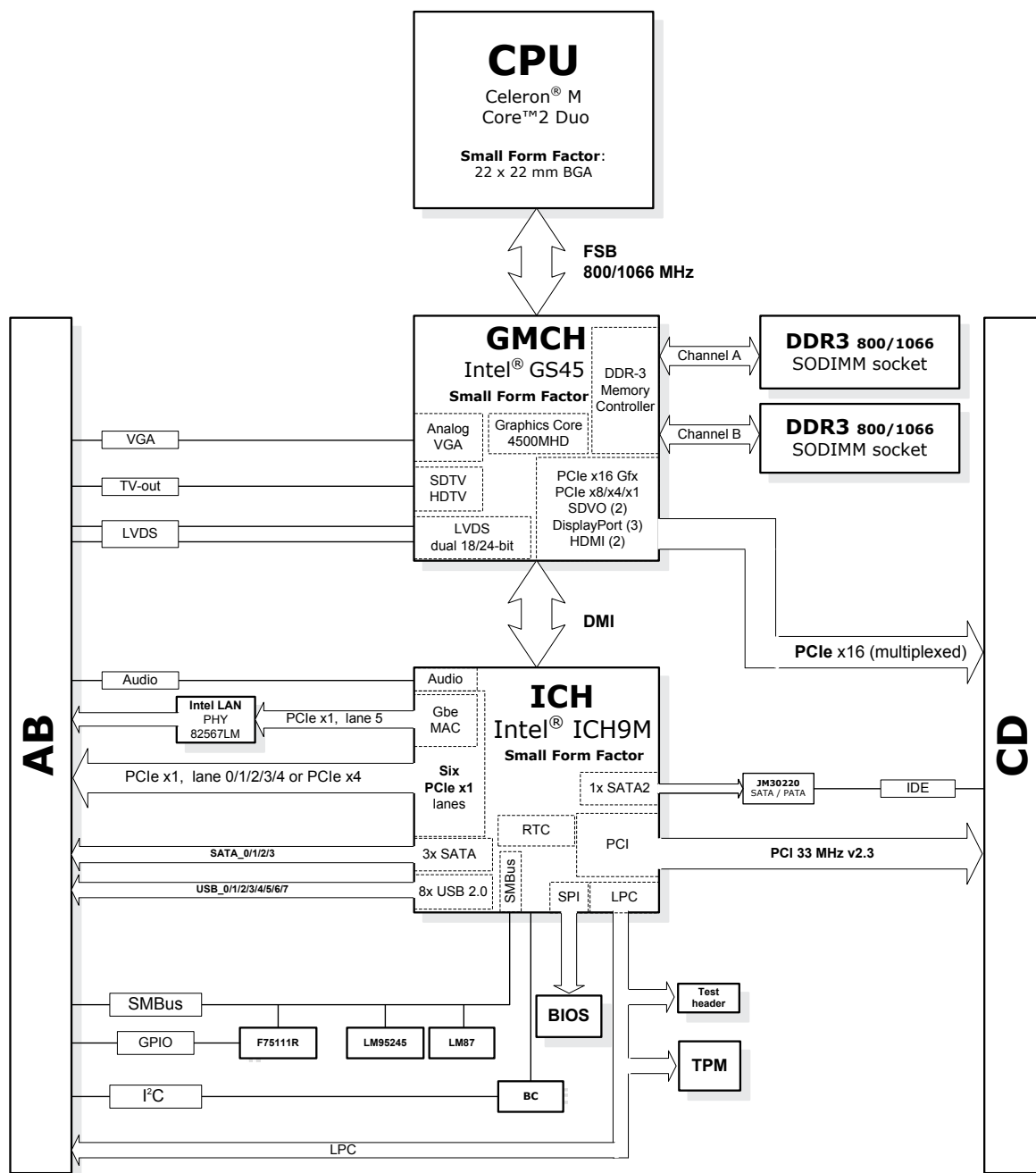
#### Mechanical and Environmental

|                 |                                                                                           |
|-----------------|-------------------------------------------------------------------------------------------|
| Operating Temp. | Standard: 0°C to 60°C                                                                     |
| Storage Temp.   | -20°C to 80°C                                                                             |
| Humidity        | 90% at 60°C                                                                               |
| Shock           | 15G peak-to-peak, 11ms duration, non-operation                                            |
| Vibration       | Non-operating: 1.88 Grms, 5-500 Hz, each axis<br>Operating: 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 | <p>Windows® XP 32/64-bit</p> <p>Windows® Vista 32/64-bit</p> <p>Windows® Server 2003/2008</p> <p>Linux® 2.6.x</p>   |
| Extended Support | <p>Embedded XP BSP</p> <p>Linux® 2.6.x BSP</p> <p>WinCE 6.0 BSP</p> <p>AIDI Library for Win32, WinCE and Linux®</p> |

## Functional Diagram



## Ordering Information

### Modules

| Model Number             | Description/Configuration                                                   |
|--------------------------|-----------------------------------------------------------------------------|
| <b>Express-MV-SP9300</b> | COM Express® Module with Intel® Core™2 Duo processor SP9300 at 2.26 GHz     |
| <b>Express-MV-SL9400</b> | COM Express® Module with LV Intel® Core™2 Duo processor SL9400 at 1.86 GHz  |
| <b>Express-MV-SU9300</b> | COM Express® Module with ULV Intel® Core™2 Duo processor SU9300 at 1.20 GHz |
| <b>Express-MV-722</b>    | COM Express® Module with ULV Intel® Celeron® M processor 722 at 1.20 GHz    |

### Accessories

| Model Number                        | Description/Configuration                                                                                                                         |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Heat Spreaders</b>               |                                                                                                                                                   |
| HTS-MV-B                            | Heatspreader for Express-MV (BGA CPU) with threaded standoffs                                                                                     |
| <b>Passive Heatsinks</b>            |                                                                                                                                                   |
| THS-MV-BL                           | Low Profile Heatsink for Express-MV (BGA CPU) with threaded standoffs for bottom mounting with long cooling fins (incl screws for 5 and 8 mm btb) |
| <b>Heatsink with Active Cooling</b> |                                                                                                                                                   |
| THSF-MV-B                           | High Performance Heatsink with Fan for Express-MV (BGA CPU) with threaded standoffs                                                               |



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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