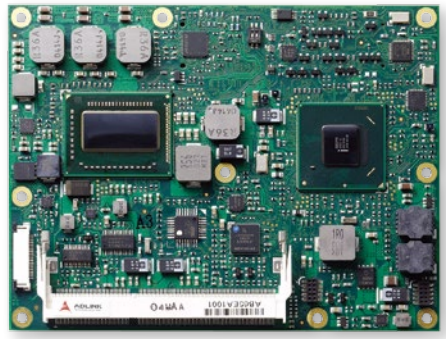
Express-HR

COM Express® Type 6 Module with Intel® Core™ and Celeron® Processor

Features

- Intel® Quad or Dual Core™ i7/i5/i3 and Celeron® Processor with Intel® QM67 Chipset
- Up to 16GB Dual Channel DDR3 SDRAM at 1333MHz
- Three Digital Display Interfaces (DDI) for HDMI/DVI/DisplayPort or SDVO
- Seven PCIe x1, one PCIe x16 (Gen2) for graphics (or general purpose x8/4/1)
- GbE, two SATA 3 Gb/s, two SATA 6 Gb/s, eight USB 2.0



Specifications

Core System

CPU

Intel® Core™ i7/i5/i3, 32 nm process, BGA type
Intel® Core™ i7-2715QE 2.1 GHz (3.0 GHz Turbo), 6MB L3 cache, 45W (4C)
Intel® Core i7-2655LE 2.2 GHz (2.9 GHz Turbo), 4MB L3 cache, 25W (2C)
Intel® Core™ i7-2610UE 1.5 GHz (2.4 GHz Turbo), 4MB L3 cache, 17W (2C)
Intel® Core™ i5-2515E 2.5 GHz (3.2 GHz Turbo), 3MB L3 cache, 35W (2C)
Intel® Core™ i3-2310E 2.1 GHz, 3MB L3 Cache, 35W (2C)
Intel® Core™ i3-2340UE 1.3 GHz, 3MB L3 Cache, 17W (2C)
Intel® Celeron® B810E 1.6 GHz, 2MB L3 Cache, 35W (2C) Intel® Celeron® 847E 1.1 GHz, 2MB L3 Cache, 17W (2C)

Memory

Dual channel non-ECC 1066/1333 MHz DDR3 memory up to 16GB in dual SODIMM socket

Chipset

Intel® Mobile QM67 Express Chipset

L3 Cache

6MB (i7-2715QE), 4MB(i7-2655LE and i7-2610UE), 3MB (i5-2515E)

BIOS

AMI EFI with CMOS backup in 16 Mbit SPI flash with iAMT

Hardware Monitor

Supply voltages and CPU temperature

Debug Interface

XDP SFF-26 extension for ICE debug

Watchdog Timer

Programmable timer range to generate RESET

Expansion Busses

PCI Express x16 (Gen2) bus for discrete graphics solution or general purpose PCI Express (2 x8 or 1 x8 with 2 x4)
8 PCI Express x1: Lanes 0/1/2/3/4/5/6 are free, lane 7 is occupied by GbE
LPC bus, SMBus (system) , I2C (user)

Video

Integrated in Processor

HD Graphics 3000 at 650–1300 MHz

Integrated Video

DirectX 10.1 and OpenGL 3.0

Feature Support

Intel Clear Video HD Technology
Advanced Scheduler 2.0, 1.0, XPDM support
DirectX Video Acceleration (DXVA) support for full AVC/VC1/MPEG2 hardware decode

VGA Interface

Analog VGA support with 300 MHz DAC
Analog monitor support up to QXGA (2048 x 1536) and VGA hot plug

LVDS Interface

Dual channel 18/24-bit LVDS

Digital Display Interface

Three DDI ports supporting HDMI / DVI / DisplayPort or SDVO

Audio

Chipset

Integrated on Intel® PCH QM67

Audio Codec

On Express-BASE6 carrier (ALC886)

Ethernet

Chipset: Intel® Gigabit Ethernet PHY WG82579LM
Interface: 10/100/1000 Mbps Ethernet

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Specifications

Multi I/O and Storage

Chipset: Integrated on QM67

USB: Supports up to eight ports USB 2.0

SATA: Supports two SATA ports at 6 Gb/s and two ports at 3 Gb/s with support for RAID 0,1,5,10

Super I/O

Connected to LPC bus on carrier if needed

TPM

Chipset: Infineon SLB9635TT1.2

Type: TPM 1.2

Power

Standard Voltage Input: ATX = 12V±5% / 5Vsb or AT = 12V±5%

Wide Voltage Input: ATX = 8.5~18V / 5Vsb or AT = 8.5 ~18V

Power States: Supports S0, S1, S3, S4, S5

Power Consumption: 22 W with Core™ i7-2610UE at 1.5 GHz and 2 GB memory typical

Smart Battery Support: Yes

Mechanical and Environmental

Operating Temperature

Standard: 0°C to 60°C

Storage Temperature: -20°C to 80°C

Humidity

90% at 60°C

Shock

15G peak-to-peak, 11ms duration, non-operating

Vibration

Non-operating: 1.88Grms, 5-500Hz, each axis

Operating: 0.5Grms, 5-500Hz, each axis

Compatibility: COM Express Type 6, Basic size, 125mm x 95mm

Certification: CE, FCC, HALT

Operating Systems

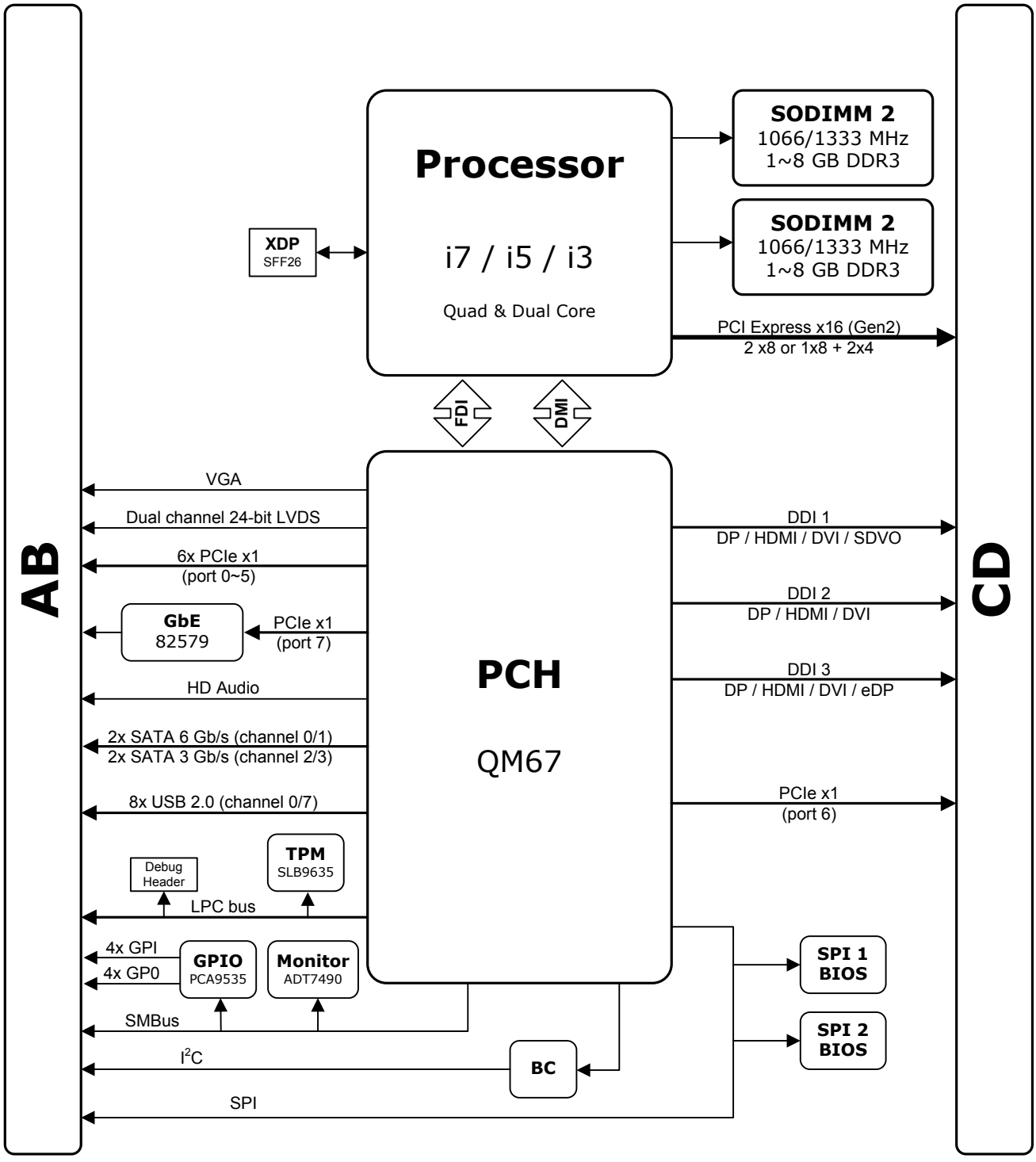
Standard Support

Windows XP(e)/Windows 7, Linux

Extended Support (BSP)

Embedded XP support package, Linux 2.6.x BSP, VxWorks 6.x , AIDI Library for Windows and Linux

Functional Diagram



Ordering Information

- **Express-HR-i7-2715QE**
  COM Express® Type 6 module with 4C Intel® Core™ i7-2715QE SV processor at 2.1GHz with QM67 chipset
- **Express-HR-i7-2655LE**
  COM Express® Type 6 module with 2C Intel® Core™ i7-2655LE LV processor at 2.2GHz with QM67 chipset
- **Express-HR-i7-2610UE**
  COM Express® Type 6 module with 2C Intel® Core™ i7-2610UE ULV processor at 1.5 GHz with QM67 Chipset
- **Express-HR-i5-2515E**
  COM Express® Type 6 module with 2C Intel® Core™ i5-2515E SV processor at 2.5 GHz with QM67 Chipset
- **Express-HR-i3-2310E**
  COM Express® Type 6 module with 2C Intel® Core™ i3-2310E SV processor at 2.1 GHz with QM67 Chipset
- **Express-HR-i3-2340UE**
  COM Express® Type 6 module with 2C Intel® Core™ i3-2340UE ULV processor at 1.3 GHz with QM67 Chipset
- **Express-HR-B810E**
  COM Express® Type 6 module with 2C Intel® Celeron® B810E SV processor at 1.6 GHz with QM67 Chipset
- **Express-HR-B-847E**
  COM Express® Type 6 module with 2C Intel® Celeron® B847E ULV processor at 1.1 GHz with QM67 Chipset

Accessories

Heat Spreaders

- **THSH-HR-BL**
  High Profile Heatsink for Express-HR with threaded standoffs

Passive Heatsinks

- **HTS-HR-B**
  Heatspreader for Express-HR with threaded standoffs

Heatsink with Active Cooling

- **THSF-HR-BL**
  High Performance Heatsink with Fan for Express-HR with threaded standoffs
- **THSF-HR-BL-QC**
  High Performance Heatsink with Fan for Express-HR Quad-Core CPU with threaded standoffs

Starter Kit

- **COM Express Type 6 Starter Kit Plus**
  COM Express formfactor starter kit with Express-BASE6 board, power supply, and accessory kit

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