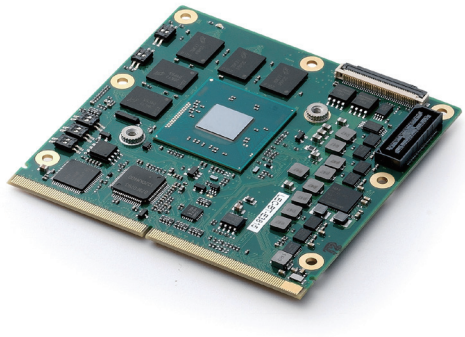
LEC-BT

SMARC® Full Size Module with Intel® Atom™ Processor E3800 Series System-on-Chip

Features

- Single, dual or quad-core Intel® Atom™ Processor E3800 Series System-on-Chip
- Up to 8 GB DDR3L at 1066/1333 MHz (ECC)
- HDMI and LVDS, onboard eMMC
- GbE, camera interface
- 1x SATA 3Gb/s, 1x USB 3.0, 3x USB 2.0,
- max. 12x GPIO
- Extreme Rugged™ operating temperatur e: -40°C to 85°C



Specifications

Core System

CPU

Intel® Atom ™ E3800 Series, single, dual or quad-core SoC with integrated graphics
Atom™ E3845 (4C/1333), 1.91 GHz, Gfx 542/792 MHz (Turbo), 10 W TDP
Atom™ E3826 (2C/1066), 1.46 GHz, Gfx 533/667 MHz (Turbo), 7 W TDP
Atom™ E3815 (1C/1066), 1.46 GHz, Gfx 400/-MHz (No Turbo), 5 W TDP
Atom™ E3805 (2C/1066), 1.33 GHz (No GFX) 3W TDP

Memory

Up to 8 GB DDR3L at 1066/1333 MHz, memory down with ECC

Embedded BIOS

AMI UEFI with CMOS backup in 8 MB SPI BIOS, Fast Boot support

Cache

512 kB to 2 MB L2 cache

SEMA Board Controller

Supports: Voltage/Current monitoring, Power Sequencing, Logistics and Forensic Information, Flat Panel Control, I²C Bus Control, GPIO Control, User Flash, Failsafe BIOS (dual BIOS), Watchdog Timer and Fan Control

Audio

Chipset

Intel® HD Audio integrated in SoC

Ports

1x I²S and 1x HDA for audio codec on carrier

Ethernet

Intel® MAC/PHY

1x Intel® i210-IT Ethernet controller

Interface

10/100/1000 GbE

I/O Interfaces

PCIe

3x PCIe x1 Gen2

USB

1x USB 3.0 + 3x USB 2.0

SATA

1x SATA 3 Gb/s

SDIO

1x SDIO (4-bit)

Camera

CSI 4L/1L

Serial

2x SPI, 2x I2C, 1x I2S, Power Management, 2x UART

eMMC

Soldered, bootable eMMC flash storage from 4 to 64 GB (optional)

GPIO

12x GPIO, 5x used for camera, 7x available

Video

GPU Feature Support

7th generation Intel® graphics core architecture with four execution units, supports two independent displays 2D and 3D graphics hardware acceleration Support for DirectX 11.1, OGLES 2.0, OGL 3.2
Video decode HW acceleration for H.264, MPEG2, VC1, VP8 formats
Video encode HW acceleration for H.264, MPEG2 formats

LVDS

Single channel 18/24-bit LVDS from DDI0

HDMI/DP++

HDMI 1.4a from DDI1

Power

Standard Input

3.0 V~5.25 V DC ±5%

Power States

C0-C6, S0, S3, S4, S5

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Mechanical and Environmental

Form Factor
SMARC Specifications v1.1

Dimension
SMARC full size module, 82 mm x 80 mm

Operating Temperature
Standard: 0°C to +60°C
Extreme Rugged: -40ºC to +85ºC

Humidity
5-90% RH operating, non-condensing
5-95% RH storage (and operating with conformal coating)

HALT
Thermal Stress, Vibration Stress, Thermal Shock and Combined Test

Operation System

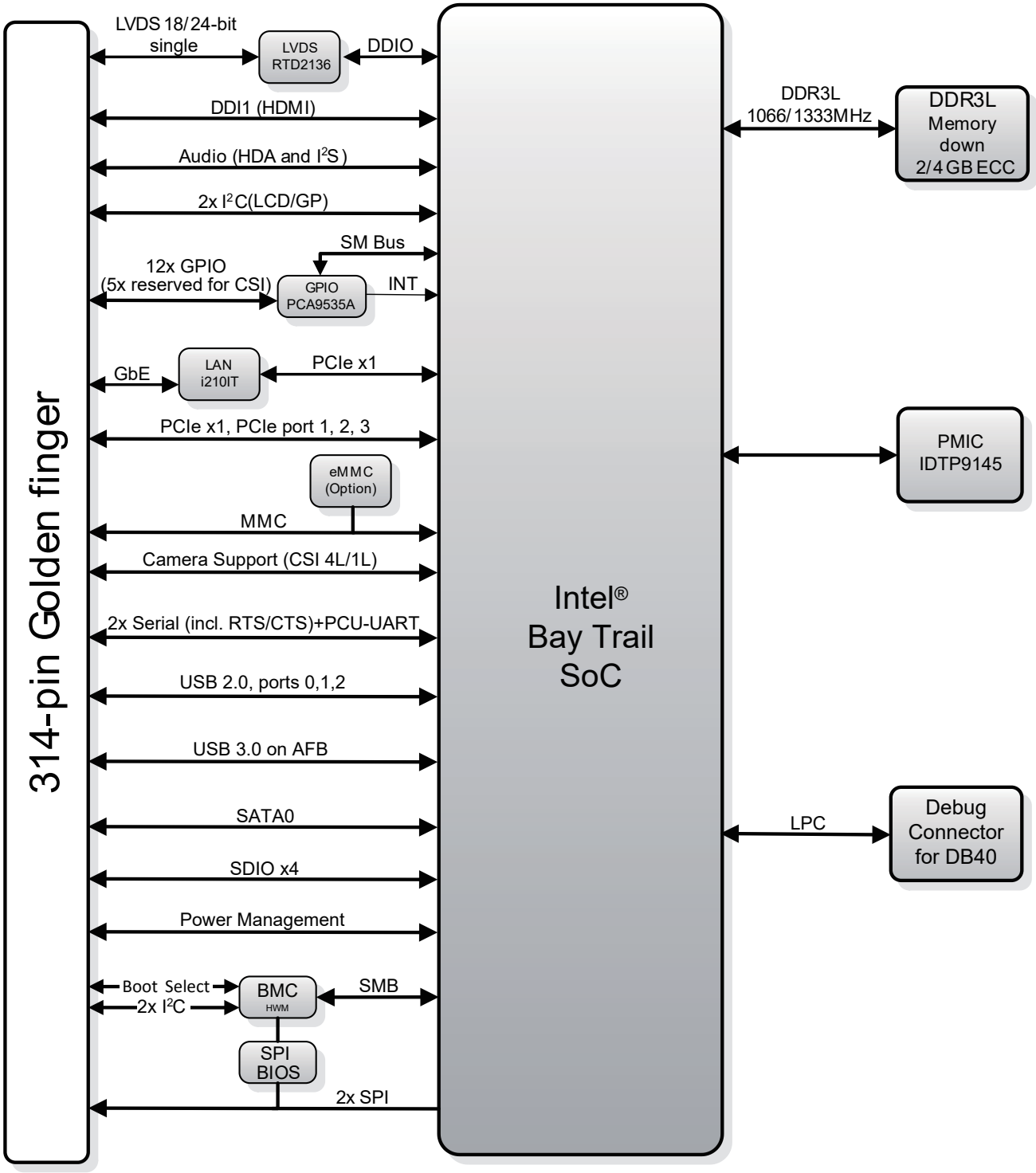
Standard Support
Linux, VxWorks, Windows 7/8, Windows Embedded, Compact 7

Extended Support (BSP)
QNX, Android

Intelligent Middleware

SEMA®
Local management, control of embedded computer systems Extended EAPI for monitoring, controlling and analytics applications Multiple OS support and across platforms (x86, ARM)

Functional Diagram



Ordering Information

- **LEC-BT4-4G-8G-ER**
  SMARC Full Size Module with Intel® Atom™ E3845, quad core, 4 GB DDR3L, 8 GB eMMC, Extreme Rugged™ operating temperature: -40°C to +85°C
- **LEC-BT2-2G-8G-ER**
  SMARC Full Size Module with Intel® Atom™ E3826, dual core, 2 GB DDR3L, 8 GB eMMC, Extreme Rugged™ operating temperature: -40°C to +85°C
- **LEC-BT1-2G-8G-ER**
  SMARC Full Size Module with Intel® Atom™ E3815, single core, 2 GB DDR3L, 8 GB eMMC, Extreme Rugged™ operating temperature: -40°C to +85°C
- **LEC-BT-HS**
  Heatspreader for LEC-BTS

*other configurations by request

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