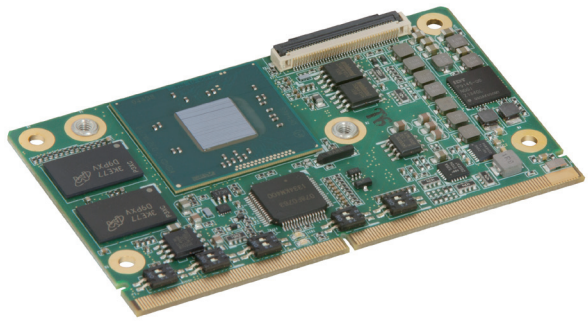
LEC-BTS

SMARC® Short 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 4 GB DDR3L at 1066/1333 MHz (non-ECC)
- HDMI and LVDS
- GbE, camera interface
- 1x SATA 3Gb/s, 1x USB 3.0, 3x USB 2.0, max. 12x GPIO
- Extreme Rugged™ operating temperature: -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, 5 W TDP

Memory
Up to 4 GB DDR3L at 1066/1333 MHz, memory down non-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

MMC
1x MMC interface to carrier

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

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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

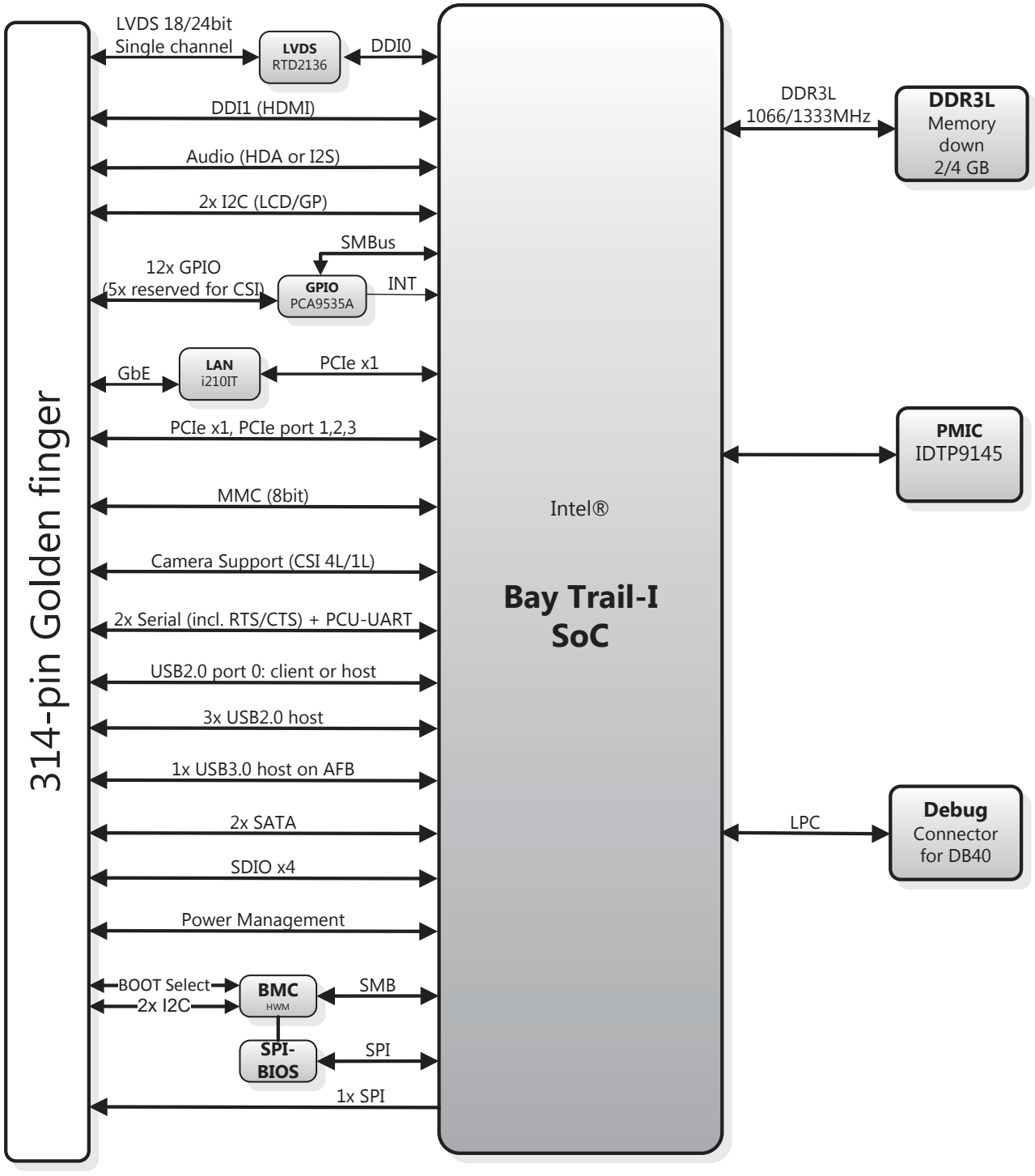
Standard Support
Linux, VxWorks, Windows 7/8, indows Embedded, Compact 7

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-BTS4-2G-ER**
  SMARC Short Size Module with Intel Atom™ E3845, quad core, 2 GB DDR3L, -40°C to +85°C
- **LEC-BTS2-2G-ER**
  SMARC Short Size Module with Intel® Atom™ E3826, dual core, 2 GB DDR3L, -40°C to +85°C
- **LEC-BTS1-2G-ER**
  SMARC Short Size Module with Intel Atom™ E3815, single core, 2 GB DDR3L, -40°C to +85°C
- **LEC-BTS4-4G-ER**
  SMARC Short Size Module with Intel Atom E3845, quad core, 4 GB DDR3L, -45°C to 85°C
- **LEC-BTS20-2G-ER**
  SMARC Short Size Module with Intel Atom E3805, dual core, headless, 2 GB DDR3L, -45°C to 85°C
- **LEC-BTS21-2G-CT**
  SMARC Short Size Module with Intel Celeron N2807, dual core, 2 GB DDR3L, 0°C to 60°C
- **LEC-BTS-HS**
  Heatspreader for LEC-BTS

*other configurations by request

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

All products and company name listed are trademarks or trade names of their respective companies.
Updated Jul. 29, 2016. ©2016 ADLINK Technology, Inc. All Rights Reserved.
All specifications are subject to change without further notice.