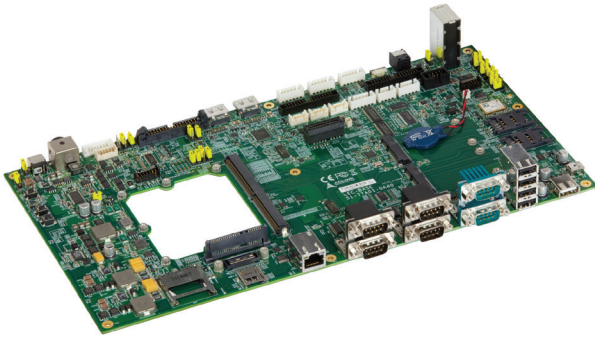


LEC-BASE R1

SMARC® Reference Carrier Board

LEC-BASE R1



Features

- SMARC compliant carrier board with MXM3 connector
- Compatible with both short and full size SMARC modules
- Supports parallel RGB, LVDS and HDMI displays
- Two mini PCIe slots for expansion cards (e.g. Wifi, 3G, ...) (not included) and two SIM card slots
- 2 camera connectors
- 4x UART, 2x CAN
- USB hub



SMARC

*LEC = Low Energy Computer-on-Module

Specifications

Interfaces

Display	Combined HDMI, DP LVDS 18/24-bit or eDP Panel support signals (I ² C, Power Enables, PWM)
Camera	Combined HDMI, 18/24-bit RGB Camera input 0: CSI-2 Camera input 1: RGB or CSI-4
SDIO	4-bit SD/SDIO card interfaces 8-bit eMMC/SD/SDIO interfaces
SPI	Off module boot use (optional) G-sensor ADXL345 BCCZ 2x SPI interface
I ² S	3x I ² S interface - Audio codec TLV320AIC23BPW - Line-in, Line-out, Mic - Optional with HDA
I ² C	4x I ² C - Power Management - HDMI - Camera 0 - Camera 1 or GP
Asynchronous Serial Port	4x asynchronous serial ports (UART) - Two with 2 wire handshake (RXD, TXD, RTS#, CTS#) - Two with data only (RXD, TXD) - Logic level interface
CAN Bus	1x CAN bus interface - Logic level signals from Module based CAN bus protocol controllers - RXD, TXD only
USB	5x USB - One with USB 2.0 OTG - 4x USB 2.0 Host operation (full speed and high speed)

PCI Express	One PCIe x1 link connector Two mini PCIe x1 slots PCIe Gen1 or Gen 2 (module dependent) Reference clock pair Full set of PCIe support signals PCIe wake signal
SATA	One SATA with power interface

Ethernet

RJ-45 10/100/1000 Ethernet (by LAN transformer)

S/PDIF

S/PDIF out for audio

Boot Source Select

Module: SPI/eMMC/NOR/NAND
Carrier: SPI/eMMC/SD Card/SATA
DIP Switch (4)

GPIO

12-pin header (including fan control and HDA reset)

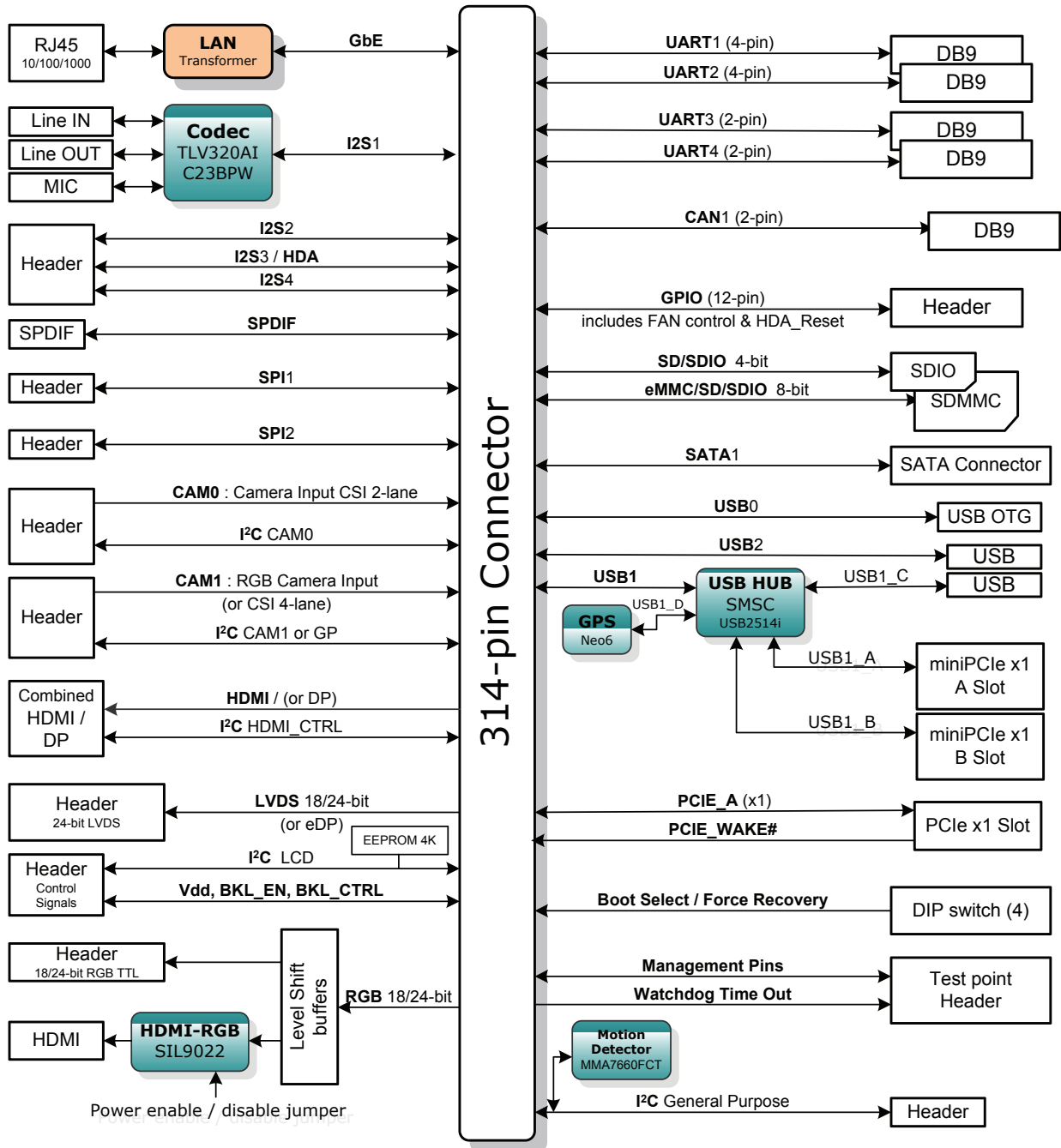
Alternate Function Blocks (AFB)

Dedicated AFB connector
Pinout is module dependent (See SMARC specification)

Mechanical and Environmental

Dimension	330 mm x 175 mm (L x W)
Board Connector	MXM 314 pins

Functional Diagram



Ordering Information

Modules

Model Number	Description/Configuration
LEC-BASE-R01	SMARC Reference Carrier Board, MXM 314 pins, 330 x 175 mm