



Features

- SMARC compliant
- Audio codec
- GPS u-blox and G-sensor
- USB hub
- RGB to HDMI
- Compatible with both Short and Full size modules



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
I ² S	2x SPI interface 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 PCIe Gen1 or Gen 2 (module dependent) Reference clock pair Full set of PCIe support signals May be configured as PCIe target if module chipset allows 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)

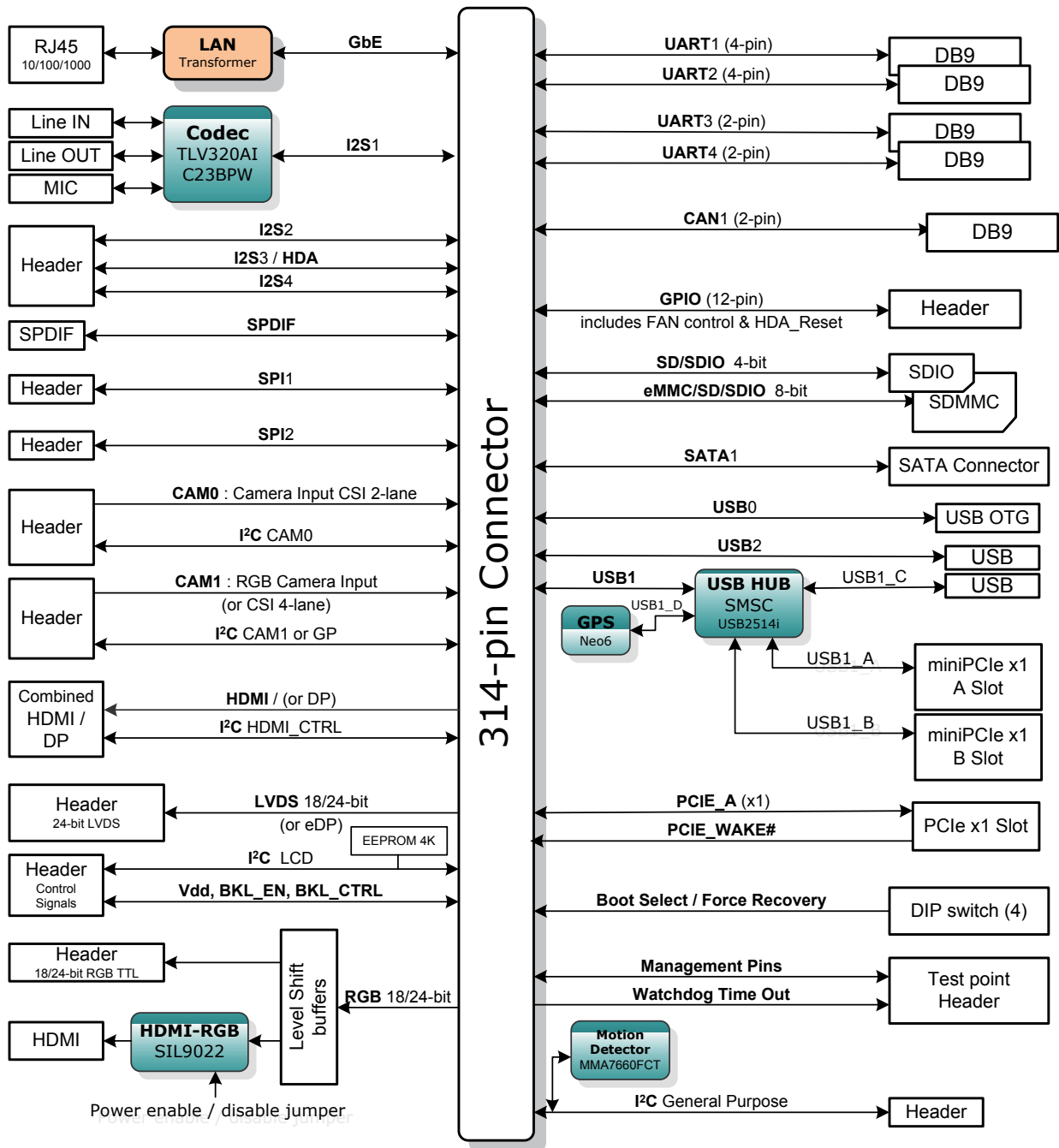
Alternate Function Blocks (AFB)

Standard Module: AFB pins are reserved
 MOST Bus AFB
 Dual GBE AFB
 FieldBus AFB

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