

# LEC-iMX6

**SMARC<sup>®</sup> Short Size Module with Freescale i.MX6 Solo, DualLite, Dual or Quad Processor**

## Features

- Freescale SoC i.MX6 ARM Cortex A9 Solo, DualLite, Dual or Quad processor
- Integrated 2D/3D graphics processors, 3D 1080p video processing, power management
- Onboard DDR3L/1067 system memory from 512 MB to 2 GB
- Supports up to 64 GB eMMC, 1x SD/MMC, 1x SATA 3Gb/s
- Extreme Rugged operating temperature: -40°C to +85°C



## Specifications

### • Core System

#### CPU

Freescale i.MX6 Solo, DualLite, Dual or Quad processor

i.MX6 Quad, 4 cores, 800 MHz, 1 MB L2 cache, 3 displays, 1x SATA

i.MX6 Dual, 2 cores, 800 MHz, 1 MB L2 cache, 3 displays, 1x SATA

i.MX6 DualLite, 2 cores, 800 MHz, 512 kB L2 cache, 1 display, no SATA

i.MX6 Solo, 1 core, 800 MHz, 512 kB L2 cache, 1 display, no SATA

#### Memory

Onboard DDR3L-1066 system memory from 512 MB to 2 GB

#### Boot Loader

U-Boot boot loader

#### L2 Cache

From 512 kB to 1 MB

#### SEMA Board Controller

Supports: Voltage/Current monitoring, Power Sequencing, Logistics and Forensic

Information, Flat Panel Control, I<sup>2</sup>C Bus Control, GPIO Control, User Flash, Failsafe

BIOS (dual BIOS), Watchdog Timer and Fan Control

#### Debug Headers

JTAG debug interface on test-points

### • Ethernet

#### Interface

10/100/1000 GbE

### • Audio

#### Audio Codec

Located on carrier

#### Interface

S/PDIF

### • Camera

#### Serial

MIPI CSI camera, 2 lanes

#### Parallel

PCAM, 10-bit

### • I/O Interfaces

#### PCIe

1x PCIe x1

#### USB

2x USB 2.0 host, 1x USB OTG

#### SATA

1x SATA 3Gb/s

#### Flash Memory

Up to 64 GB eMMC (custom option)

#### GPIO

12x GPIO with interrupt

#### SDIO

1x SDIO

#### SPI

2x SPI

#### I<sup>2</sup>C

3x I<sup>2</sup>C

#### I<sup>2</sup>S

1x I<sup>2</sup>S

#### S/PDIF

1x S/PDIF

#### WDT

1x WDT

#### CAN

2x CAN

#### Management

Battery and System Management

## Specifications

- **Graphics**

**LCD**

Parallel LCD 24-bit

**LVDS**

LVDS single channel 24-bit

**HDMI**

HDMI 1.4a

- **Graphics**

High-performance video processing unit (VPU), supports SD and HD-level video decoders and SD-level encoders as a multi-standard video codec engine, as well as several important video processing functions, such as rotation and mirroring

- **Mechanical and Environmental**

**Form Factor**

Form Factor

SMARC Specifications v1.0

**Dimensions**

SMARC short size module, 82 mm x 50 mm

**Operating Temperature**

Standard: 0°C to +60°C

Extreme Rugged: -40°C to +85°C

**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**

Windows Embedded Compact 7, Linux

**Extended Support (BSP)**

Android, VxWorks, QNX

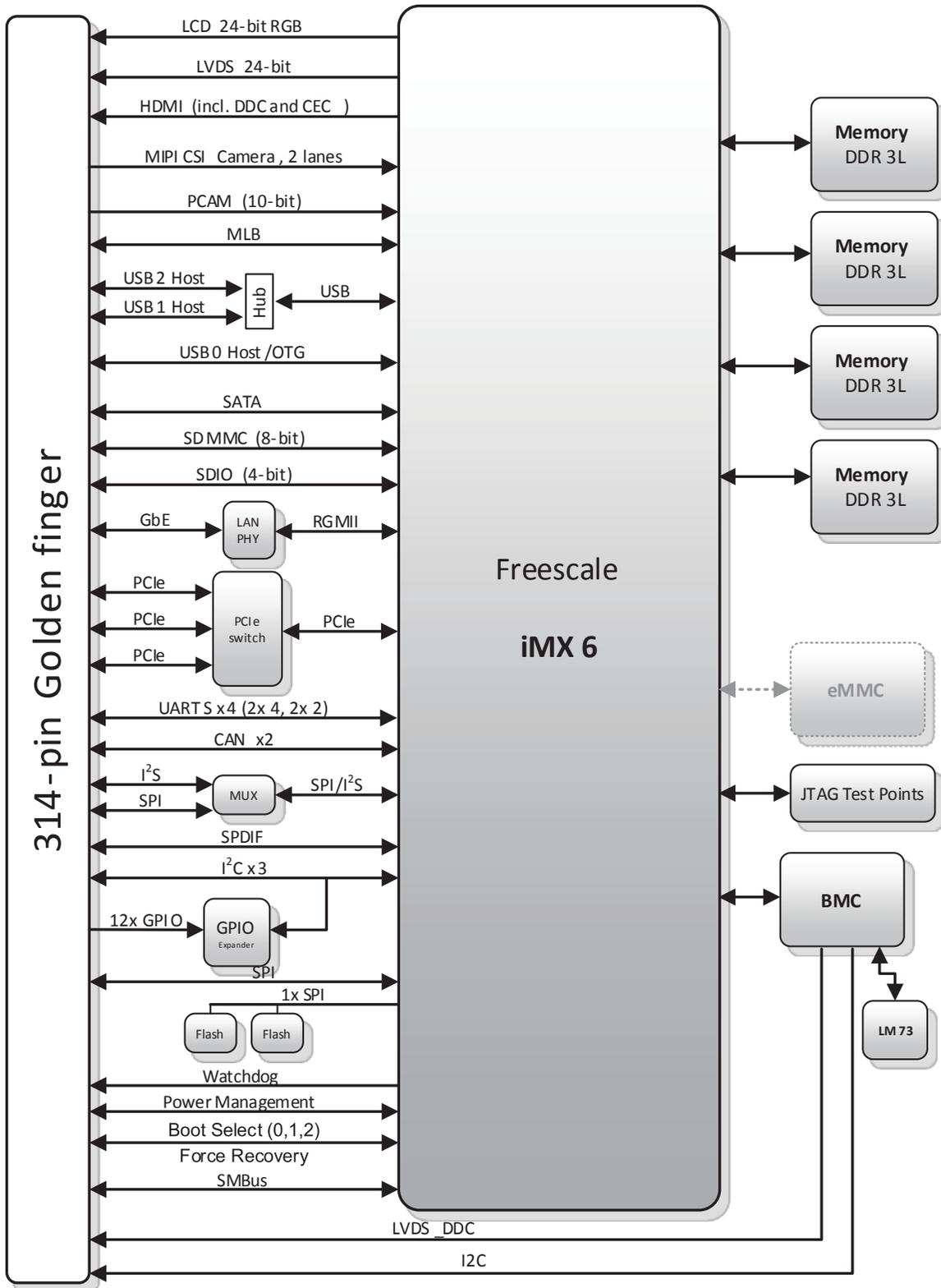
- **Intelligent Middleware**

**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-iMX64-2G-8G-ER**  
SMARC Short Module with Freescale i.MX6, Quad, 2 GB RAM, 8 GB eMMC, Extreme Rugged operating temperature: -40°C to +85°C
- **LEC-iMX62-2G-8G-ER**  
SMARC Short Module with Freescale i.MX6, Dual, 2 GB RAM, 8 GB eMMC, Extreme Rugged operating temperature: -40°C to +85°C
- **LEC-iMX62-1G-4G-ER**  
SMARC Short Module with Freescale i.MX6, Dual, 1 GB RAM, 4 GB eMMC, Extreme Rugged operating temperature: -40°C to +85°C
- **LEC-iMX62L-2G-8G-ER**  
SMARC Short Module with Freescale i.MX6, DualLite, 2 GB RAM, 8 GB eMMC, Extreme Rugged operating temperature: -40°C to +85°C
- **LEC-iMX61-1G-8G-ER**  
SMARC Short Module with Freescale i.MX6, Solo, 1 GB RAM, 8 GB eMMC, Extreme Rugged™ operating temperature: -40°C to +85°C
- **LEC-iMX6-HS2**  
Heatspreader for LEC-iMX6 Solo/Dual Lite

\*other configurations by request