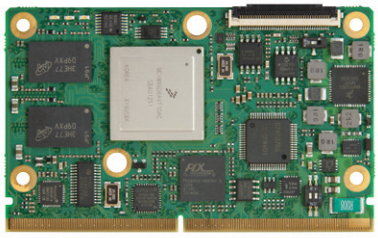
LEC-iMX6

SMARC® 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

SGeT STANDARDIZATION GROUP FOR EMBEDDED TECHNOLOGIES SEMA SMARC *LEC = Low Energy Computer-on-Module

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, Logistics and Forensic information, Flat Panel Control, General Purpose I²C, Failsafe SPI Flash, Watchdog Timer
Debug Headers	JTAG debug interface on test-points

Graphics

LCD	Parallel LCD 24-bit
LVDS	LVDS single channel 24-bit
HDMI	HDMI 1.4a

Video

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

Audio

Audio Codec	Located on carrier
Interface	S/PDIF

Ethernet

Interface	10/100/1000 GbE

I/O Interfaces

USB	2x USB 2.0 host, 1x USB OTG
SATA	1x SATA 3Gb/s
Serial	4x UART
Flash Memory	Up to 64 GB eMMC (custom option)
GPIO	12x GPIO with interrupt
PCIe	1x PCIe x1
SDIO	1x SDIO
SPI	2x SPI
I²C	3x I²C
I²S	1x I²S
S/PDIF	1x S/PDIF
WDT	1x WDT
CAN	2x CAN
Management	Battery and System Management

Camera

Serial	MIPI CSI camera, 2 lanes
Parallel	PCAM, 10-bit

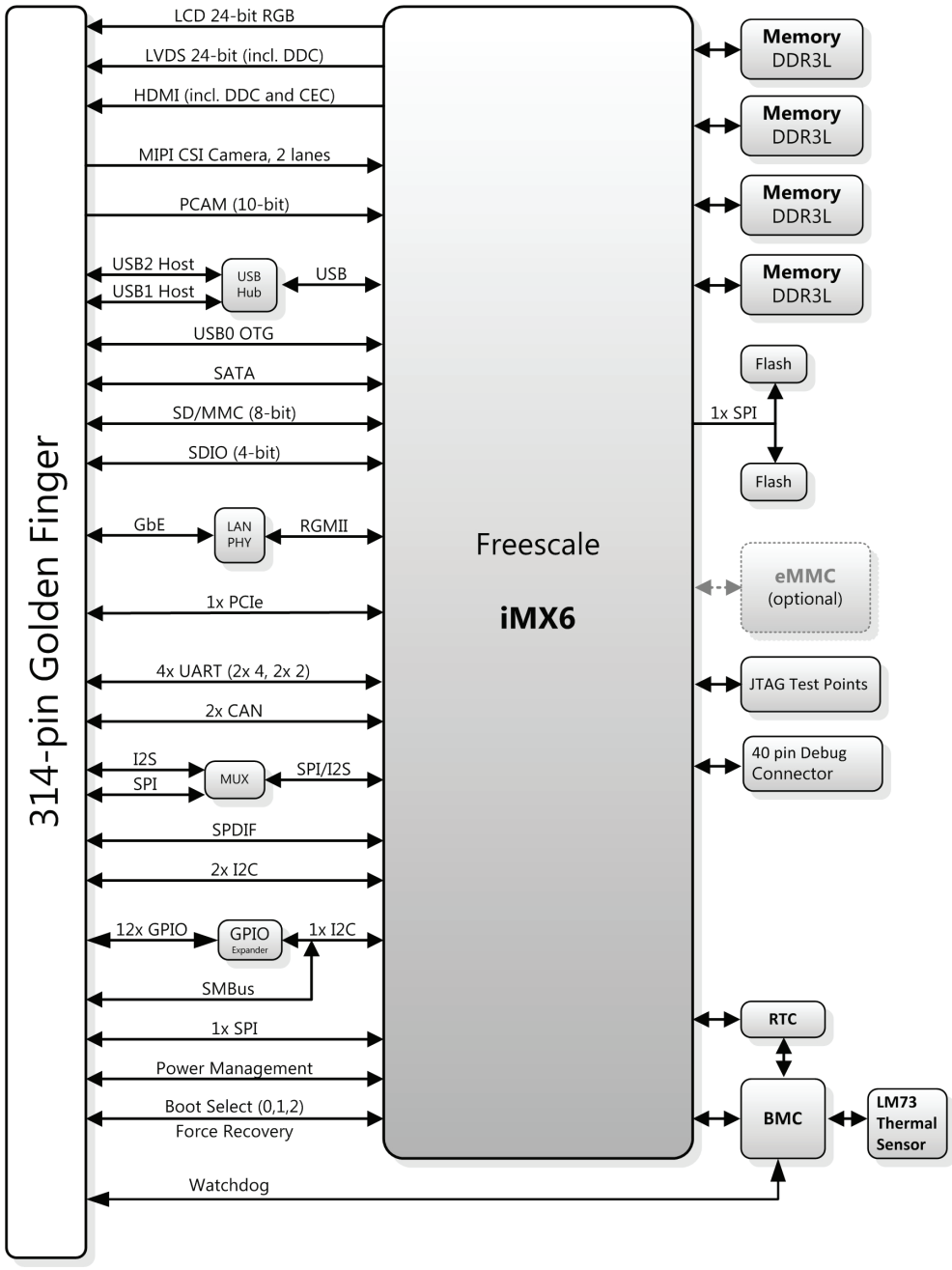
Mechanical and Environmental

Form Factor	SMARC Specification 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 non-condensing
	5-95% RH storage (and operating with conformal coating)
Shock and Vibration	IEC 60068-2-64 and IEC-60068-2-27 MIL-STD-202F, Method 213B, Table 213-I, Condition A and Method 214A, Table 214-I, Condition D
HALT	Thermal Stress, Vibration Stress, Thermal Shock and Combined Test

Operating Systems

Standard Support	Windows Embedded Compact 7, Linux
On request	Android, VxWorks, QNX

Functional Diagram



Ordering Information

Modules

Model Number	Description/Configuration
LEC-iMX64-2G-8G-ER	SMARC ° Short Module with Freescale i.MX6, Quad, 2 GB RAM, 8 GB eMMC, -40°C to +85°C
LEC-iMX62-2G-8G-ER	SMARC ° Short Module with Freescale i.MX6, Dual, 2 GB RAM, 8 GB eMMC, -40°C to +85°C
LEC-iMX62-1G-4G-ER	SMARC ° Short Module with Freescale i.MX6, Dual, 1 GB RAM, 4 GB eMMC, -40°C to +85°C
LEC-iMX62L-2G-8G-ER	SMARC ° Short Module with Freescale i.MX6, DualLite, 2 GB RAM, 8 GB eMMC, -40°C to +85°C
LEC-iMX61-1G-8G-ER	SMARC ° Short Module with Freescale i.MX6, Solo, 1 GB RAM, 8 GB eMMC, -40°C to +85°C
LEC-iMX6-HS	Heatspreader for LEC-iMX6