PSMRC-M640F

SMARC module based on Freescale MX6 Processor

PSMRC-M640F is designed as CPU module series with SMARC form factor. It is based on embedded Freescale™ i.MX6 processor, an ARM® Cortex ® -A9 processor, Single, Dual and Quad-Core.

The SMARC (“Smart Mobility ARChitecture”), small form factor of lower power, cost concern, and high performance, is used as building blocks for portable and stationary embedded systems. The SMARC pin-out is optimized for the features common to ARM CPUs and not common to the x86 PC world. The modular approach allows scalability, fast time to market and upgradability while still maintaining cost, performance, low power and small physical size.

FEATURES

- Freescale™ i.MX6 Cortex A9 application processor, Single / Dual / Quad core SKU
- Ultra low power consumption: 2W (Single core) ~ 6W (Quad core)
- Longevity support more than 10 years
- Built-in H/W Graphics accelerators, Open GL ES2.0, Open VG1.1 supported
- 4 independent displays supported. Multi-format of encode & decode.
- Parallel LCD display interfaces
- Serial and parallel camera input provisions
- Multiple I2C, I2S and serial port options
- USB client / host mode (OTG) operation
- SD and eMMC card operation

GENERAL

Processor	- Freescale™ i.MX6 Family, single-, dual- and quad-core processors (ARM Cortex™–A9), up to1.2GHz Atom
PMIC	Freescale PF0100
Memory	up to 2GB DDR3 onboard
Storage	- 1 x SDIO(8bit) interface to golden finger - 1 x SDIO(4bit) interface to golden finger - 1 x SATA interface to golden finger
USB	- 1 x USB OTG interface to golden finger - 1 x USB 2.0 host interfaceto golden finger
Watchdog Timer	- Programmable via S/W from 1sec to 255min
Ethernet	1 x Gigabit Ethernet signal to golden finger
Audio	- I2S Interface golden finger - SPDIF to golden finger
Expansion Interface	- 1 x PCIe (1 lanes interface to golden finger) - 3 x I2C interface to golden finger - 2 x SPI interface to golden finger - 4 x GPIO interface to golden finger - 1 x JTAG onboard pin header (optional) - MIPI CSI to golden finger
Power Requirement	+5VDC ±5% From MXM edge connector DC 5V from golden finger, reserve one pin header on module for 5V input
Dimension	82mm(L) x 50mm(W)
Environment	- Operation Temperature: 0~60 °C, R.H. 5%-95% - Storage Temperature: -20~80 °C, R.H. 5%-95%
UART	4 x UART signal to golden finger (2 x 2 wire, 2 x 4 wire)
CAN BUS	2 x CAN bus signal to golden finger

DISPLAY

Graphic Controller	Freescale i.MX 6 Family intergrated
Display Interface	- 1 x HDMI signal to golden finger - LVDS signal to golden finger - TTL signal to golden finger

ORDERING GUIDE

AB1-XXXXZ	PSMRC-M640F, quad-core CPU Module board
AB9-XXXXZ	PSMRC-C300ARM, I/O carrier board
AB1-XXXXZ	PSMRC-M620F, dual-core CPU Module Board
AB1-XXXXZ	PSMRC-M610F, single-core CPU Module Board