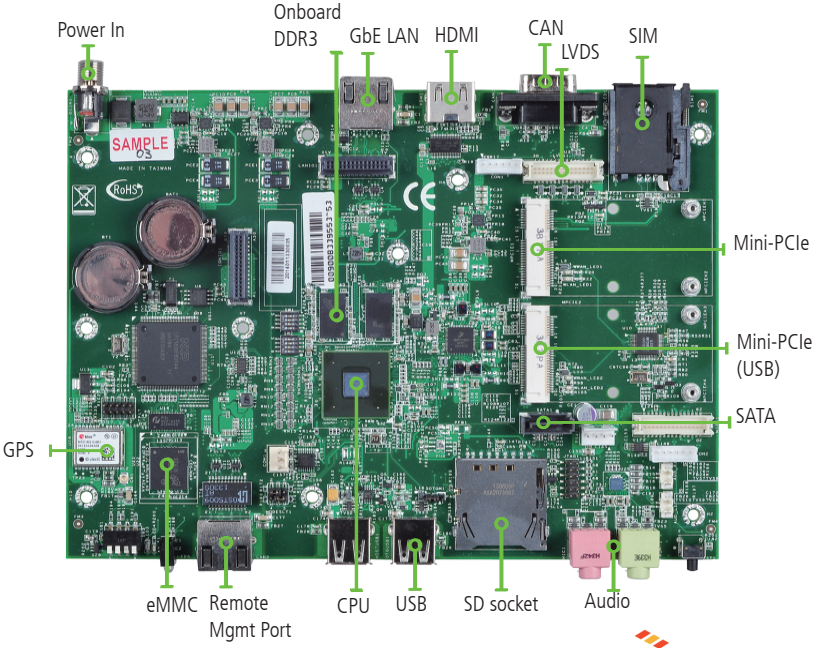
VES-500

Risc-based Single Board Computer with Freescale™ i.MX 6 Series Processor



Overview

The VES-500 is a RISC-based single board computer designed for industrial applications that demand performance and energy efficiency. Built with Freescale i.MX 6 processor, the VES-500 features extensive I/O features and optional expansion modules, making it an ideal hardware solution for a variety of industrial and commercial applications such as industrial communication (HMI, gateway controller), building automation (alarm, seurity), retail (digital signage, kiosk and vending machines) and in-vehicle surveillance.

Features

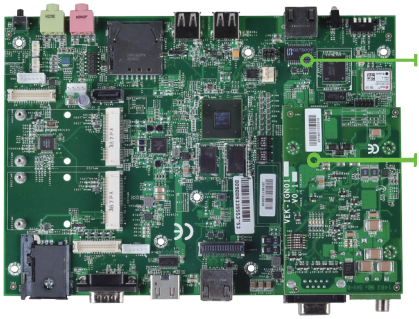
- Power-efficient Freescale™ iMX6 series processor
- Onboard DDR3 1 GB
- Onboard 4 GB eMMC & SD card reader
- Support for LVDS LCD with touchscreen
- 2 x Mini-PCIe (one with SIM card reader)
- Optional PoE and power ignition support (via expansion module)
- 1x audio (Mic line/in & out), DIO (2DI+2DO with VEK-IGN01 expansion module)
- 1x GbE LAN port, 1 x CAN Bus, GPS, G sensor
- 1 x USB 2.0 connector (Host/OTG), 1 x USB 2.0 connector (USB Host)
- Support for Linux BSP, Android 4.2 and Ubuntu from Freescale™

Lanner

Specifications

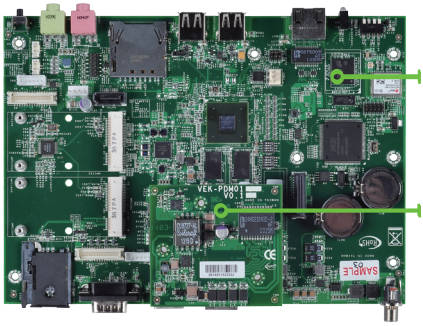
Processor Options		Freescale™ i.MX 6 series processor
Chipset		N/A
BIOS		N/A
System Memory	Technology	Onboard DDR3
	Capacity	1 GB
USB		1 x Type A USB 2.0 connector (Host/OTG), 1 x Type A USB 2.0 connector (USB Host)
Digital I/O		Through VEK-IGN01
Other I/O		1x CAN BUS, GPS, G sensor, 1x Mini-PCIe slotwith SIM card reader (USB signal only), 1x Mini-PCIe slot
OS Support		Android 4.2, Ubuntu from Freescale, basic Linux from Lanner/ Freescale (Subject to change)
Storage	SATA	1 x SATA port
	Expansion	1 x SD card socket, Onboard 4 GB eMMC
Networking	LAN	1 x 10/100/1000Mbps, Autosensing,RJ-45
	Controller	Atheros 8031
Display	Graphics Controller	Built in Vivante GC
	Display Interface	1 x HDMI (1920x1080P) + 1 x 18bit LVDS
LED Indicator		1 x Green-color for Power-on status, 1 x yellow-color for GPIO
Physical Characteristics	Weight	0.2 kg
	PCB Dimensions (WxD)	203 x 160 mm
	Mounting Options	N/A
Environment	Operation Temperature	-20~TBD (depend on chassis design)
	Storage Temperature	-20~70°C
	Ambient Relative Humidity (non-condensing)	5 to 95% (non-condensing)
Power	Input Voltage	12Vdc, PD 802.3at(with VEK-PDM01), 9~30Vdc(with VEK-IGN01)
	Connector	DC jack with lock for 12Vdc, 3pin terminal block for Ignition
	AC Adapter	N/A
Standard and Regulation	Green product	RoHS
Reliability	Alter tool	Built-in RTC (real-time clock) with battery lithium backup
	Automatic Reboot Trigger	Watchdog Timer 1~255 level time interval system reset, software programmable

Scenarios



Scenario 1

Power feed for the VES-500 via the VEK-IGN01 ignition control module, for in-vehicle applications.



Scenario 2

PSE power feed for the VES-500 via the VEK-PDM01 PoE PD module.

Ordering Information

VES-500A	Evaluation Board with freescale™ i.MX 6 Quad-core processor and Onboard DDR3 SDRAM
VES-500B	Evaluation Board with freescale™ i.MX 6 Dual-core processor and Onboard DDR3 SDRAM