EM-ZynqBox

Application Ready FPGA Platform

Application Ready FPGA Platform with Camera Interfaces, Gigabit Ethernet, HDMI, Serial/CAN and Expansion Slot for Automotive (ADAS), Image Processing and Industrial Applications (IoT)

- Xilinx Zynq FPGA with integrated Processing System
- Reference Designs for advanced Image Processing
- Front Interfaces: Gigabit Ethernet, USB, HDMI and Serial/CAN
- 5 LVDS Camera Interfaces (Rosenberger HSD)
- Expansion Slot for AMC modules
- Power Supply 12V DC
- Low Power (<20W)
- Optional: fanless version

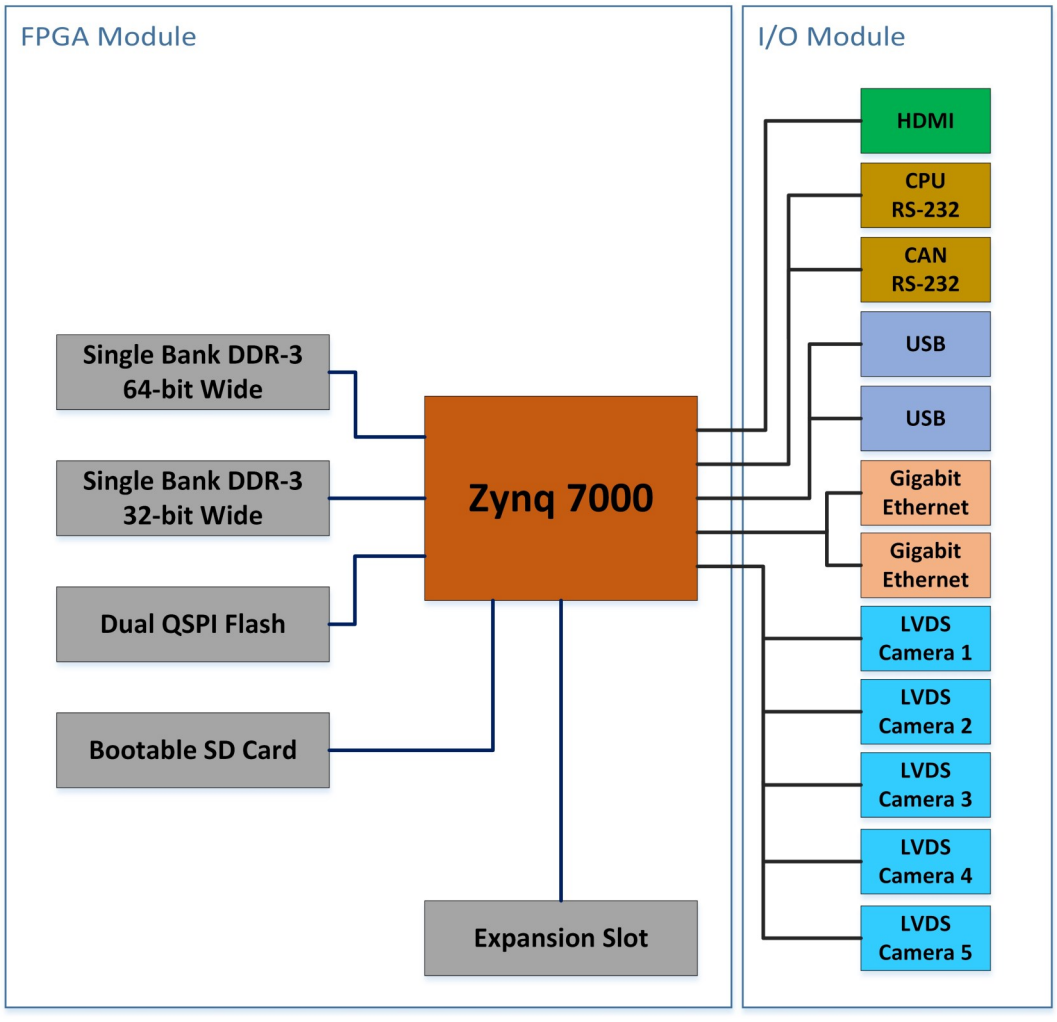
EM-ZynqBox is an Application Ready FPGA Platform with a solid chassis and is ideally suited for rapid FPGA Development and Integration Tests for Automotive applications as ADAS, advanced Image Processing, Surveillance and Industrial applications as IoT. Due to its robust construction and environmental specification it can be deployed at a machine site or in vehicles.

In the basic version EM-ZynqBox is based on a Xilinx Zynq 7045 FPGA with integrated Dual ARM Cortex-A9 CPU. It is equipped with 5 LVDS camera interfaces with Rosenberger HSD connectors for automotive cameras, 2 serial interfaces or optional CAN, 2 USB, 2 Gigabit Ethernet, HDMI interface and JTAG.

Via the Expansion Slot the functionality of the EM-ZynqBox can easily be extended with available AMC Modules, providing additional interfaces, CPUs, GPUs or additional FPGAs. Project specific Expansion Modules can be built.

EM-ZynqBox is delivered ready-to-use with pre-installed default FPGA Image and PetaLinux V2014.4 .

Due to its modular design the EM-ZynqBox can be easily modified on customer request by exchanging the I/O Module for supporting other interfaces. It is also possible to exchange the FPGA Module to support another FPGA family (e.g. Zynq Ultrascale+).



The functionality of the EM-ZynqBox will be extended by additional IP-Cores, e.g. for advanced Image Processing and rugged fanless variants.

Target Applications:

- Automotive (ADAS)
- Advanced Image Processing
- Surveillance
- Industrial (IoT)

Technical Information

Type	**FPGA Box**	Xilinx FPGA Zynq-7000 Series Device (Zynq Ultrascale+ in preparation) SoC CPU included in FPGA package Two banks of DDR3: • FPGA: 2GB, 64-bit • CPU: 512MB, 32-bit
Interfaces	**Ethernet** **USB** **Graphic Ports** **Serial Ports** **Camera Interfaces** **JTAG**	2x Gigabit Ethernet RJ-45 2x USB 2.0 1x HDMI 2x RS232, optional: CAN 5x LVDS (HSD) via flex Cable for Xilinx Platform Cable USB II
Expansion (optional)	**AMC**	Single-width full-size AMC module
Mechanical	**Mounting** **Dimensions (W x H x D)** **Weight**	Desktop, optional DIN-Rail or wall-mount 310 x 44 x 221 mm 1.5 kg
Power	**Input Voltage Range**	12 VDC
Power Consumption	**Typical**	<20 W
Environment	**Operating Temperature** **Storage Temperature** **Relative Humidity** **Operating Vibration** **Operating Shock**	-5°C to 45°C (optional: -20°C to +70°C) -40°C to +85°C 95% @ 40°C (non-condensing) 5 to 500Hz, 1G 30Gs, each axis
Software Support	**Linux**	PetaLinux V2014.4 Board Support Package Pre-Installed in QSPI Flash with file system on SD card
Reference Designs	**Base I/O Channels**	VHDL/Vivado Default FPGA Image in Flash

Ordering Information

Configuration	Description	Order Code
EM-ZynqBox 7045DT	ZynqBox, Desktop, 12V with Xilinx Zynq 7045 FPGA	**A09552**
EM-ZynqBox 7100DT	ZynqBox, Desktop, 12V with Xilinx Zynq 7100 FPGA	**A09553**
EM-ZynqBox 7045DR	ZynqBox, DIN-Rail, 12V with Xilinx Zynq 7045 FPGA	**A09558**
EM-ZynqBox 7100DR	ZynqBox, DIN-Rail, 12V with Xilinx Zynq 7100 FPGA	**A09559**
EM-ZynqBox 7045WM	ZynqBox, Wall-Mount, 12V with Xilinx Zynq 7045 FPGA	**A09560**
EM-ZynqBox 7100WM	ZynqBox, Wall-Mount, 12V with Xilinx Zynq 7100 FPGA	**A09561**

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