

iCan PicoPop Carrier-7EV

PCIe Form Factor Development Board
for the iCan PicoPop

Preliminary



iCan PicoPop Carrier is a PCIe base board to unleash the performances of the **iCan PicoPop** SOM.

Various state-of-the-art interfaces allow developments in versatile fields such as video processing with streaming and encoding applications, signal processing, data analysis, Software Defined Radio, automotive ADAS, and more ...

The numerous reference designs that use the SOM features combined with the carrier board interfaces save time and focus on the user's expertise.

Technical Specifications

iCan PicoPop SOM

- Featuring the Zynq UltraScale+ MPSoC **XCZU7EV-1FBVB900I**
- Samtec 2x 180 pins 0.5 mm pitch connector
- ARM® Dual-core Cortex™-R5 (600 MHz RT CPU)
- ARM® Mali™-400 MP2 GPU
- H.264 / H.265 HW Codec up to Ultra-HD 4K (60 fps)
- 502k System Logic Cells
- Memory 38Mbit

Video

- 2x 12G-SDI (In / out)
- 1 PAL / NTSC SD video decoder
- 1 PAL / NTSC SD video encoder
- 1 HDMI In
- 1 HDMI Out

Oxytronic maintained Linux BSP

- Yocto toolchain
- Xilinx Kernel $\geq 4.9.0$

Miscellaneous

- Board size: 111mm x 167mm
- Temp. Range: -40/+85°C
- PCB: IPC Class 2 (Class 3 on demand)

Storage

- 2 USB 3.0 type A
- Micro-SD card connector
- SATA

Network connectivity

- 1x Tri-mode Gigabit Ethernet (PS)
- 1x Tri-mode Gigabit Ethernet (PL)

General connectivity

- Raspberry Pi compatible GPIO
- Raspberry Pi Display Serial Interface
- Raspberry Pi Camera Interface
- USB JTAG (PS)
- 1x UART console
- 1 external power input

High-Speed connectivity

- PCIe® Gen3 x8 (PL) – End point
- PCIe® Gen3 x1 (PS) – Root complex

Applications

- Video Processing
- Broadcast
- Video Over IP
- Embedded Video/Radio Communication
- Embedded Vision
- Data Processing
- ADAS (Advanced Driver Assistance Systems)
- Civil / Military UAV Datalink
- Electro-Optical Systems
- Autonomous Vehicles
- Mobile Military Radio
- Broadcast Cameras
- Unmanned Ground Systems
- Real-time Control

Benefits

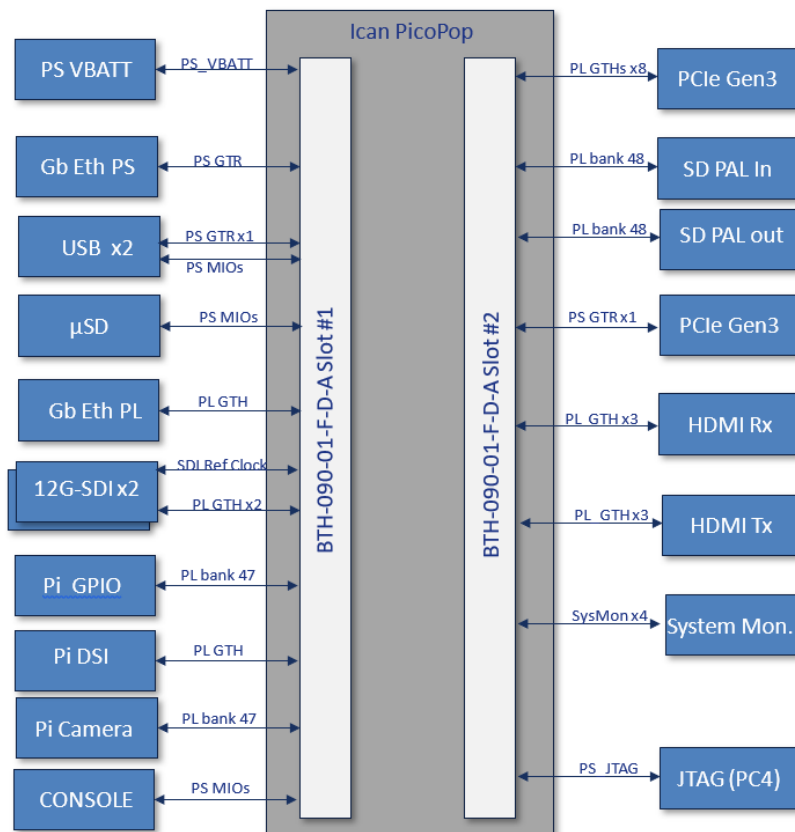
Thanks to its SoC architecture and the BSP package provided with the kit, customers can use the iCan PicoPop platform to prototype their own system, by developing the SW application and customizing the embedded programmable logic within the FPGA.

Moreover, iCan PicoPop carrier board can serve as a basis for optimized developments of a custom carrier board.

Oxytronic Added-Value and Services

- Support is provided directly by the board's development team, in France
- Oxytronic can provide, as design services:
 - the development of your embedded application software
 - the development and manufacturing of your customized carrier board
 - the HW customization of your specific iCan PicoPop board

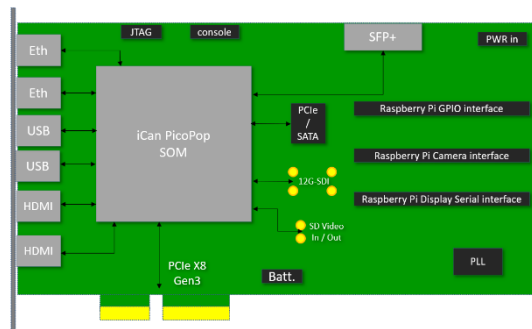
Block Diagram



In the box

Take advantage of Oxytronic reference designs to improve your productivity and your time to market!

- Audio / Video reference design:
 - Multiple HD/3G/4K SDI streaming over IP (Ethernet & wireless) and loopback
 - SD PAL/NTSC streaming over IP (Ethernet & wireless) and loopback
 - PCIe video capture
 - High level synthesis in video processing
 - HD/3G/4K SDI to HDMI (or Display Port)
 - HDMI video streaming over IP (Ethernet & wireless)
- Connectivity reference design:
 - Basic PCIe data processing
 - SATA or USB for data storage
- Platform reference design:
 - Featuring system monitor, Ethernet & wireless debug link
 - Embedded debugging (ILA / VIO)
 - Partial configuration



Board comes with user manual, custom I/Os pinouts assignments, and 3D model. Specific Yocto meta-layer will bring you up to speed in your software development. Moreover, stay up to date and download fresh BSP with our git lab repository. A dedicated wiki gives relevant information to use our products with the greatest efficiency.

Board Selection

Reference	Availability
iCan PicoPop Carrier-7EV	2021

Related Products

- **iCan PicoPop SOM:** high performance, small form factor System On Module (SOM), based on the Xilinx Zynq® UltraScale+™ MPSoC. The board is available with ZU4-5-7 CG-EG-EV families of devices.



More information



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