

VL-SiEN : SiEN FPGA DEVELOPMENT BOARD

Overview

SiEN (Temple) is an industrial-grade, compact SBC based on Xilinx® Zynq™ UltraScale+™ MPSoC (CG / EG Series). It combines ARM® multi-core processing with FPGA fabric, enabling high-performance embedded, networking, vision, and real-time control applications. Integrated power management, Linux BSP, and customizable carrier boards ensure rapid prototyping and low BOM cost.

This should be a Two Board System

1. System on Module(SoM) Board

2. Carrier Board

System on Module Board

Processor:

- EG series: Quad-core Arm Cortex-A53 MPCore

- CG series: Dual-core Arm Cortex-A53 MPCore

- Enhanced NEON Extension and Single & Double precision FPU

- 32KB Instruction and Data L1 Cache

- 64KB Unified L2 Cache

- 256 KB On-chip Memory for application core

FPGA: Xilinx ZynqMP Advanced low power FPGA Fabric

Memory:

- 4/8GB LPDDR4 Support

- 16Gb/32Gb eMMC

- 16MB/32MB QSPI Support

Ethernet - 4Nos

- 2 x 1Gbps VSC8211 Optical Ethernet

- 4 x 10/100/1000 BASE-T KSZ9031 Ethernet module

USB: 1 x USB 2.0 OTG

uSD: 1 x uSD support up to 32GB

Display: Through LVDS Interface / Display Port

Power Supply: 12V, 7W (Max)

Power Supply Sequence: ATMEGA328P Power supply sequencing & monitoring

Boot Support: JTAG / QSPI / eMMC

Form Factor:

- 90 mm x 70 mm

- 2 x 100 Pin High speed connectors

Software Support: Linux, BSP

On Board Unique Encryption ID Support

On Board Unique MAC ID support



Additional Interfaces:

- CAN 2.0 / UART
- 170 FPGA IO's
- Analog Inputs (Multiplex and Shared)

Carrier Board

Power Supply : 12V

User GPIO Monochrome LEDs

On Board RS486 Interface

On Board isolated 2 x DI and 2 x DO

On Board RTC, Battery

On Board additional GPIO interface

On Board Unique MAC ID Support

On Board 4 x RJ45 & 2 x SFP COnnector

On Board JTAG and UART debug interface

User Slide Switch and Push Button I/O

Additional Interfaces

• CAN 2.0 / UART

• 170 FPGA IO's

• Analog Inputs (Multiplex and Shared)

USB

• 1 x USB 2.0 OTG

Ethernet

• 2 x SFP Optical Ethernet Connector

• 4 x RJ45 Copper Connector

uSD

1 x uSD Support up to 32GB

Display

Through LVDS interface / Display Port

Serial

1 x UART, 1 x I2C, 1 x CAN 2.0

Form Factor

1600 mm x 125 mm

2 x 100 pin High Speed Connectors

