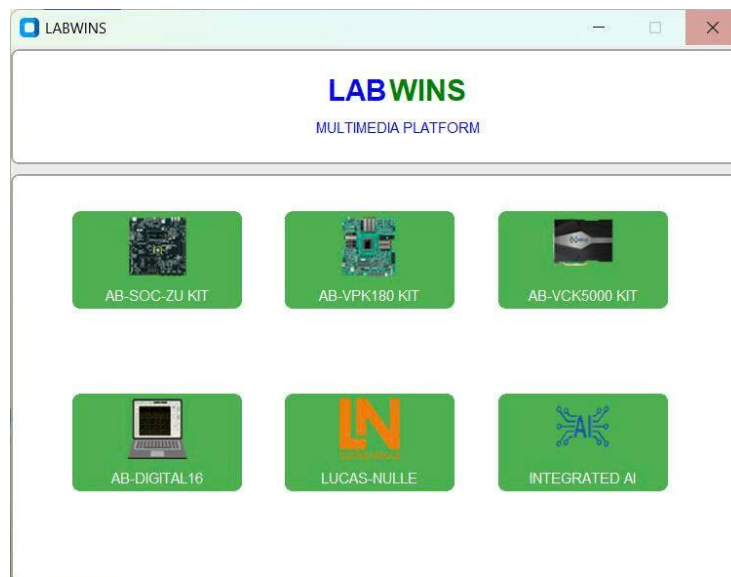
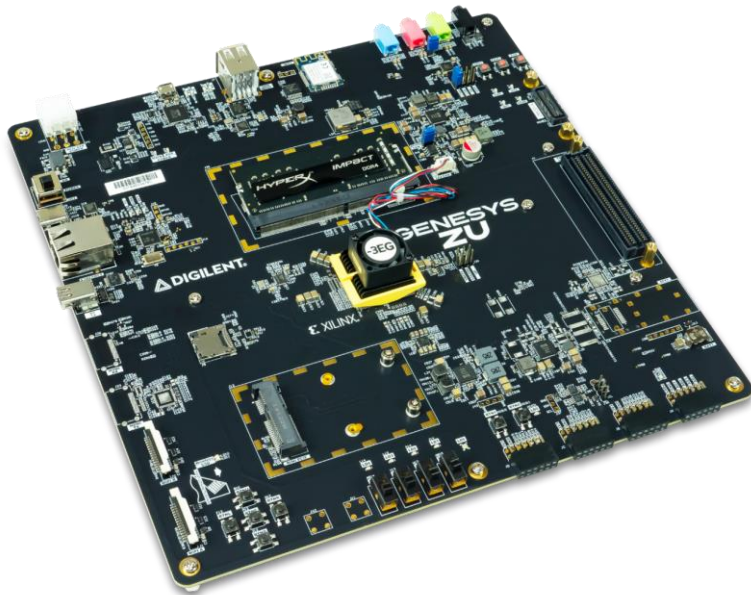


FPGA SoC ZU Practice Board

Training system for teaching and practising of the FPGA SoC ZU based on the Genesys ZU-5EV board platform from the manufacturer Digilent.



FPGA SoC ZU Practice Board

Features FPGA SoC processor

Zynq Ultrascale+	• XCZU5EV-SFVC784-1-E • 256 Mbit QSPI Flash memory on-board • USB FTDI interface for programming and debugging • MicroSD card interface, supporting SDR104 mode • Board status and diagnostics using and on-board platform MCU • 256K logic cells • 5.1 Mb Block RAM • 18.0 Mb UltraRAM • 1248 DSP Slices • 4 clock management tiles • DDR4, 4GB, 2133 MT/s, upgradeable memory
Application Processor	• Quad-core ARM Cortex-A53 MPCore up to 1.5 GHz
Real-time Processor	• Dual-core ARM Cortex-R5 MPCore up to 600 MHz
Graphics Processor	• MaliTM-400 MP2
Video Codec	• H.264/H.265
Peripheral Connectivity	• USB Type-C 3.1 Gen1 Dual-Role Device • MiniPCIe / mSATA: dual slot, Half-/Full-size • USB 2.0 Host: 2x Type-A



FPGA SoC ZU Practice Board

Features FPGA SoC processor	
Network Connectivity	• 2.4GHz On-board Wi-Fi • Ethernet 1G w/ IEEE 1588 • WLAN / WWAN / LoRa (option: MiniPCle) • SFP+ 10G Ethernet
Storage	• Main memory: DDR4, 4GB, 2133 MT/s, upgradeable • 104 MB/s SD • SSD option: mSATA • ISSI 256 Mib SNOR Flash
Multimedia	• 1.2a Dual-Lane DisplayPort • 2 x MIPI/Pcam Dual-Lane • Audio Codec • HDMI Source • HDMI Sink
Expansion	• 1 x Zmod port following the SYZYGY Standard interface specification • 4 x Pmod ports • 1 x FMC expansion connector • 1 x SYZYGY (Included in Zmod port) • 1 x FMC Gigabit
User I/O	• 4 PL-connected LEDs • 1 MIO-connected LED • 5 PL-connected buttons • 2 MIO-connected buttons • 4 PL-connected switches
Product Compliance	• HTC: 8471500150 • ECCN: 5A992

User manual and sample exercises



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Labwins Multimedia Training Platform

Features

- **LabWins** is a nationally copyrighted multimedia platform software. It is a comprehensive training platform that includes measuring tools, virtual interfaces (VI), theoretical, and practical courses.
- **Programming tool integration:** Capable of embedding software/libraries such as Vivado and Vitis for SoC design, image processing, and AI.
- Provides features ranging from simulation, monitoring, and signal analysis, to learning progress management.
- **Administration features:** Manage and evaluate learning progress: provides learning progress management tools on the teacher's server, allowing teachers to distribute lessons, track and evaluate each student's learning results and knowledge tests on client computers.
- **LabSoft Module developed by Lucas-Nülle (Germany):** Can integrate multiple courses.

The lessons include fundamental theoretical content on:

- **Hardware startup and basic peripheral testing**
- **System introduction and programming familiarization**
- **Custom digital signal generation and transmission**
- **Image/video signal processing and transmission**
- **Application of digital signal processing in embedded systems**

