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Xilinx Zynq UltraScale+ MPSoC FPGA ZCU102 Evaluation Kit
Part Number: EK-U1-ZCU102-ES2-G

Product Description

The ZCU102 Evaluation Kit enables designers to jumpstart designs for Automotive, Industrial, Video and Communications applications. This kit features a Zynq UltraScale+™ MPSoC FPGA device with a quad-core ARM® Cortex-A53, dual-core Cortex-R5 real-time processors, and a Mali-400 MP2 graphics processing unit based on Xilinx's 16nm FinFET+ programmable logic fabric. The ZCU102 supports all major peripherals and interfaces enabling development for a wide range of applications.

Device Support: Zynq UltraScale+ MPSoC FPGA

Key Features & Benefits
Optimized for quick application prototyping with Zynq Ultrascale+ MPSoC FPGA

DDR4 SODIMM – 4GB 64-bit w/ ECC attached to Processor Subsystem (PS)

DDR4 Component – 512MB 16-bit attached to Programmable Logic (PL)

PCIe Root Port Gen2x4, USB3, Display Port & SATA

4x SFP+ cages for Ethernet

2x FPGA Mezzanine Card (FMC) interfaces for I/O expansion including 16 x 16.3 Gb/s GTH transceivers and 64 user defined differential I/O signals

Featured Accessories
Platform Cable USB II
FMC Loopback Card

What's Included

ZCU102 Evaluation board featuring the Zynq UltraScale XCZU9EG-2FFVB1156 FPGA

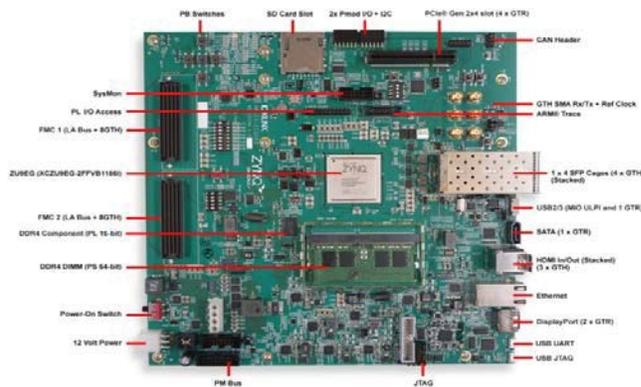Access to a full seat of Vivado® Design Suite: Design Edition
   Node-locked and device-locked to the XCZU9EG

Design examples and targeted reference designs for easy onboarding

Accessories including USB cables, power, etc.

Featured Documents

Zynq UltraScale+ MPSoC FPGA Product Tables

In the Box
ZCU102 Peripherals

Power Supply
USB Cables
USB hub
Ethernet Cable

Featured Xilinx Devices
XCZU9EG-2FFVB1156I MPSoC

Processors: ARM® quad-core Cortex-A53, dual-core Cortex R5, Mali-400 MP2 GPU
IO: 406
LC: 480K
BRAM: 32.1 Mb

Board Features

Configuration

Onboard JTAG configuration circuitry to enable configuration over USB
Dual Quad-SPI flash memory
Boot from SD card

Communication & Networking

RGMII communications at 10, 100, or 1000 Mb/s. Serial GMII interface-supports a 1 Gb/s SGMII interface
4x SFP+ cage
SMA GTH support (4x SMA Tx/Rx connectors)
UART To USB bridge
RJ45 Ethernet connector
SATA (1 x GTR) (note1)
PCIe Gen2x4 Root Port (note1)

Expansion Connectors

2x FMC-HPC connectors (16 GTH Transceivers, 64 differential user defined signals)
2x PMOD headers
IIC

Control & I/O

6x Directional Push Buttons (5x PL, 1x PS)
DIP switches (8x PL)
PMBUS & System Controller MSP430 for power, clocks, and I2C bus switching
USB2/3 (MIO ULPI and 1 GTR) (note1)

Memory

PS 4GB DDR4 64-bit SODIMM w/ ECC
PL 512MB DDR4 component memory ([256 Mb x 16] devices) at 1200MHz / 2400Mbps DDR
8KB IIC EEPROM
Dual 64MB Quad SPI flash
SD card slot

Display

HDMI video input and output (3 GTH)
External Retimer device driving an HDMI output connector
9x GPIO user LEDs (8x PL, 1x PS)
VESA DisplayPort 1.2 source-only controller supports up to two lanes of main link data at rates of 1.62 Gb/s, 2.70 Gb/s, or 5.40 Gb/s.

Clocking

Programmable clocks
System clocks, user clocks, jitter attenuated clocks
2x SMA MGT input clocks

Power

12V wall adapter or ATX

Note 1: Switch enables either PCIe Root Port OR SATA, USB2/3 & DisplayPort

Included in this Kit
Design and Development Tools

Name	Description	License Type
Vivado Design Suite: Design Edition	The Xilinx Vivado® Design Suite is a revolutionary IP and System Centric design environment built from the ground up to accelerate the design for all programmable devices.	Node locked & Device-locked to the XCZU9EG MPSoC FPGA, with 1 year of updates
Xilinx SDK	Full suite of tools for embedded software development and debug targeting Xilinx platforms	Free
PetaLinux Tools	Configure, Build and Deploy Linux operating system to Xilinx platforms	Free

Intellectual Property

Name	Description	License Type
Memory Interface Generator (MIG)	MIG is a free software tool used to generate memory controllers and interfaces for Xilinx FPGAs	No-Charge IP

Additional Tools, IP and Resources

Provider Name	Product Category	Item	Description
Open Source	Software Tool	TeraTerm	One of many possible terminal emulators used for serial connection from your PC to the evaluation kit.