



Zynq UltraScale+ RFSoc ZCU216 Evaluation Kit

by: Xilinx, Inc



Equipped with the industry's only single-chip adaptable radio device, the Zynq® UltraScale+™ RFSoc ZCU216 evaluation kit, is the ideal platform for both rapid prototyping and high-performance RF application development.

Price: \$14,394.00
Part Number: EK-U1-ZCU216-V1-G
Lead Time: 16 weeks
Device Support: Zynq UltraScale+ RFSoc

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OVERVIEW



Product Description

Equipped with the industry's only single-chip adaptable radio platform, the Zynq® UltraScale+™ RFSoc ZCU216 Evaluation Kit is the ideal platform for both rapid prototyping and high-performance RF application development.

Featuring the Zynq UltraScale+ RFSoc Gen 3 ZU49DR, the ZCU216 evaluation kit supports direct RF sampling of sub-6GHz bands utilizing 16T16R high speed RF-DACs and RF-ADCs.

In addition to the excellent RF converter technology in the ZCU49DR device, the ZCU216 kit provides add-on cards, a wide range of connectivity options, and comprehensive development tools and IPs to help users to develop cutting-edge RF designs such as:

- 5G sub-6GHz massive-MIMO radio
- 5G mmWave intermediate frequency (IF) transceiver
- Fixed wireless access
- Digital phased array radar
- Terrestrial satellite communications
- Spectrum analyzers
- High-speed RF testers

Key Features

Reference Design and Add-on Cards for Fast Evaluation and Prototyping

- Integrated RF design examples
- XM650 16T16R N79 band loopback add-on card for quick loopback test
- XM655 16T16R breakout add-on card for in-depth performance measurements
- CLK104 RF clock add-on card for internal (up to 1.2GHz) and external (up to 10GHz) reference clocking

Essential On-Board Features for Broad Application Development

- DDR4 DIMM – 4GB, 64-bit, 2,666MT/s, attached to programmable logic (PL)
- DDR4 SODIMM – 4GB, 64-bit, 2,400MT/s, attached to the processing system (PS)
- I/O expansion options – FPGA Mezzanine Card (FMC+) interfaces, RFMC 2.0 interfaces, and Pmod connections
- High-speed I/Os – 2x2 SFP28 interfaces to support up to 4 SFP/SFP+/zSFP+/SFP28 modules

Featured Xilinx Devices

Featuring the Zynq UltraScale+ **XCZU49DR-2FFVF1760** RFSoc

14-bit, 2.5GSPS RF-ADC	16
14-bit, 9.85GSPS RF-DAC	16
Max. RF input Frequency (GHz)	6
System Logic Cells (K)	930



Memory (Mb)	60.5
DSP Slices	4,272
33G Transceivers	16
Maximum I/O Pins	408

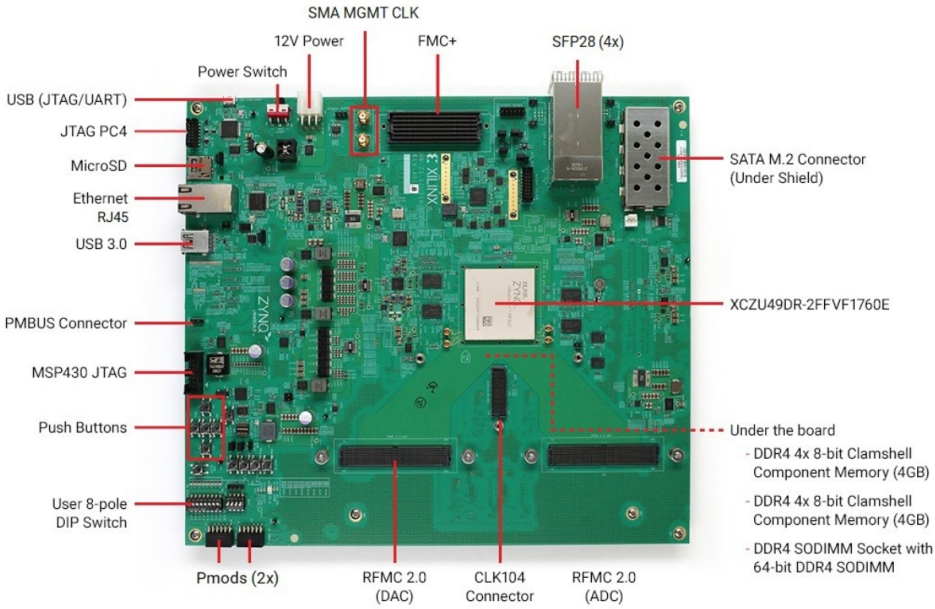


PRODUCT INFORMATION

Specifications What's Inside

Board Features

Featuring the Zynq® UltraScale+™ XCZU49DR-2FFVF1760 RFSoc



Board Specifications	Value
Height	12.225 inch (31.05 cm)
Width	10.675 inch (27.11 cm)
Thickness (+/-5%)	0.119 inch (0.302 cm)
Operating Environmental Temperature	0°C to +45°C
Storage Environmental Temperature	-25°C to +60°C
RF Data Converter	
# of 14-bit ADCs	16
Max Rate (GSPS)	2.5
# of 14-bit DACs	16
Max Rate (GSPS)	9.85
Memory	
PS DDR4	4GB 64-bit SODIMM
PL DDR4	8GB 64-bit Component
Micro SD Card	16GB
M.2 SATA Connector	Yes
QSPI	2
Communications & Networking	

USB (UART/JTAG)	1
RJ45	1
SFP28	4
USB 3.0	1
Display	
DIP Switches	Yes
LEDs	Yes (RGB)
Push Buttons	Yes
Expansion Connectors	
FMC+	1
Pmod	2
RFMC 2.0	2
Add-on Cards	
XM650	1
XM655	1
CLK104	1
Control & I/O	
I2C	Yes
PMBUS	Yes
JTAG PC4 Header	Yes
Boot Options	
SD Boot	Yes
QSPI Boot	Yes
JTAG Boot	Yes
Power	
12V Wall Adapter	Yes
ATX Power Compatible	Yes

RESOURCES

DocumentationTools & IPTraining & Support

Featured Documents



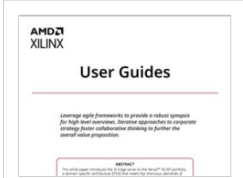
Xilinx ZCU216 Product Brief





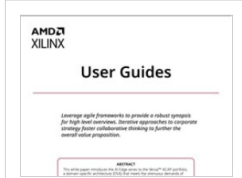
Zynq UltraScale+ RFSoC Evaluation Kit Selection Guide





Evaluation Board User Guide





RF Data Converter Evaluation Tool User Guide



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Step 1: Board Revision 1

☒ Rev 1.0

Step 2: Tools Version 1

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☐ Vivado Design Suite 2020.1

Step 3: Show Documentation

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Document Type		Results per page	25	50	75	100	Title ^	Date v
☐	Board Files	9						
☐	User Guides	3						
☐	Example Designs	2						
		Results 1-14 of 14						
	UG1390 - ZCU216 Evaluation Board User Guide (UG1390) (v1.1)							Jul 10, 2020
	Document Type: User Guides							
	Describes in detail the features of the ZCU216 evaluation board. Use this guide for developing and evaluating designs targeting the Zynq® UltraScale+™ RFSoc on the ZCU216 board.							
	UG1433 - Zynq UltraScale+ RFSoc ZCU208 and ZCU216 RF Data Converter Evaluation Tool User Guide (UG1433) (v1.2)							Oct 27, 2021
	Document Type: User Guides							
	Describes the features and functions of the Zynq® UltraScale+™ RFSoc ZCU208/ZCU216 data converter evaluation tool.							
	XTP577 - ZCU216 Schematics (v1.0)							May 25, 2022
	Document Type: Board Files							
	Design File(s):							
	zcu216-schematic-source-rdf0544.zip							
	zcu216-bom-rdf0545.zip							
	zcu216-xdc-rdf0546.zip							
	XTP578 - ZCU216 Allegro Board (v1.0)							Mar 17, 2020
	Document Type: Board Files							
	Design File(s):							
	zcu216-allegro-board-source-rdf0547.zip							
	zcu216-gerber-files-rdf0548.zip							
	XTP580 - ZCU216 Board Interface Test (v1.1)							Jul 20, 2021
	Document Type: Example Designs							
	Running the ZCU216 Board Interface Test (BIT)							
	 See All Versions							
	Design File(s):							
	rdf0549-zcu216-bit-c-2020-1.zip							
	XTP587 - ZCU216 Software Install and Board Setup Tutorial (v1.0)							Oct 23, 2020
	Document Type: Example Designs							
	Installing Xilinx software, UART drivers, and Board Setup for the ZCU216							
	 See All Versions							
	XTP631 - XM650 Schematics (v1.0)							Mar 19, 2020
	Document Type: Board Files							
	Design File(s):							
	xm650-schematic-source-rdf0591.zip							
	xm650-bom-rdf0592.zip							
	XTP632 - XM650 Allegro Board (v1.0)							Mar 19, 2020
	Document Type: Board Files							
	Design File(s):							
	xm650-allegro-board-source-rdf0593.zip							
	xm650-gerber-files-rdf0594.zip							
	XTP633 - XM655 Schematics (v1.0)							Mar 19, 2020
	Document Type: Board Files							
	Design File(s):							
	xm655-schematic-source-rdf0595.zip							
	xm655-bom-rdf0596.zip							
	XTP635 - CLK104 Schematics (v1.0)							Mar 19, 2020
	Document Type: Board Files							
	Design File(s):							
	clk104-schematic-source-rdf0599.zip							
	clk104-bom-rdf0600.zip							
	XTP636 - CLK104 Allegro Board (v1.0)							Mar 19, 2020
	Document Type: Board Files							

Design File(s):

[clk104-allegro-board-source-rdf0601.zip](#)

[clk104-gerber-files-rdf0602.zip](#)



XTP655 - XM655 Allegro Board (v1.0)

Jul 08, 2020

Document Type: Board Files

Design File(s):

[xm655-allegro-board-source-rdf0608.zip](#)

[xm655-allegro-board-xtp655.zip](#)

[xm655-gerber-files-rdf0609.zip](#)



XTP666 - ZCU216 CE DoC (v1.0)

Oct 21, 2020

Document Type: Board Files

ZCU216 Declaration of Conformity for CE compliance



XTP671 - ZCU216 Kit Flyer (v1.0)

Dec 18, 2020

Document Type: User Guides

ZCU216 Getting Started Guide

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Characterization Kit

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