

# Zynq UltraScale+ RFSoc ZCU208 Evaluation Kit

## OVERVIEW

Equipped with the industry's only single-chip adaptable radio device, the Zynq® UltraScale+™ RFSoc ZCU208 evaluation kit is the ideal platform for both rapid prototyping and high-performance RF application development. The equipped ZU48DR is Xilinx's highest ADC sample rate RFSoc device, designed for applications requiring wide instantaneous bandwidth. Eight integrated SD-FEC cores provide forward error correction at 80% lower power consumption than soft implementations, making the ZU48DR ideal for DOCSIS, microwave backhaul, and small cell applications.

Reference add-on cards and connectivity options make the ZCU208 kit suitable for developing, testing, and debug of next-generation products while reducing development complexity and improving time to market.

## KEY FEATURES

### Features Industry's Only Adaptable Single-Chip Radio Platform

- > Zynq UltraScale+ RFSoc Gen 3 ZU48DR on the ZCU208 board
- > Full sub-6GHz with extended mmWave and multi-band support
- > Integrated direct RF-sampling enabling RF design in the digital domain
- > 8x 14-bit resolution 5GSPS RF-ADCs
- > 8x 14-bit resolution 10GSPS RF-DACs
  - 8 SD-FEC cores
  - Lidless package for improved thermal dissipation

### Includes Add-On Cards for Evaluation and Rapid Prototyping

- > XM650 16T16R N79 band loopback add-on card for quick out of box evaluation
- > XM655 16T16R breakout add-on card for in-depth performance measurements
- > CLK104 RF clock add-on card for internal reference clocking and external sampling clocking

### Offers Flexible I/O Options

- > FPGA Mezzanine Card (FMC+) including 12x 33Gb/s transceivers and 34 user defined differential I/O signals
- > 2x 400pin RFMC 2.0 18GB/s interfaces
- > 2x2 SFP28 interfaces for 4 SFP/SFP+/zSFP+/SFP28 modules

### Comprehensive Development Tools and IP

- > Programmable configurations with Vivado® Design Suite and IP
- > RF Data Converter Evaluation Tool and RF Power Advantage Tool
- > Reference designs and board files for rapid development



## TARGET APPLICATIONS

### WIRELESS

- > 5G mmWave Intermediate Frequency (IF) Transceiver
- > 5G Sub-6GHz Massive-MIMO Radio
- > Fixed Wireless Access
- > Software Defined Radio
- > Microwave Backhaul

### AEROSPACE AND DEFENSE

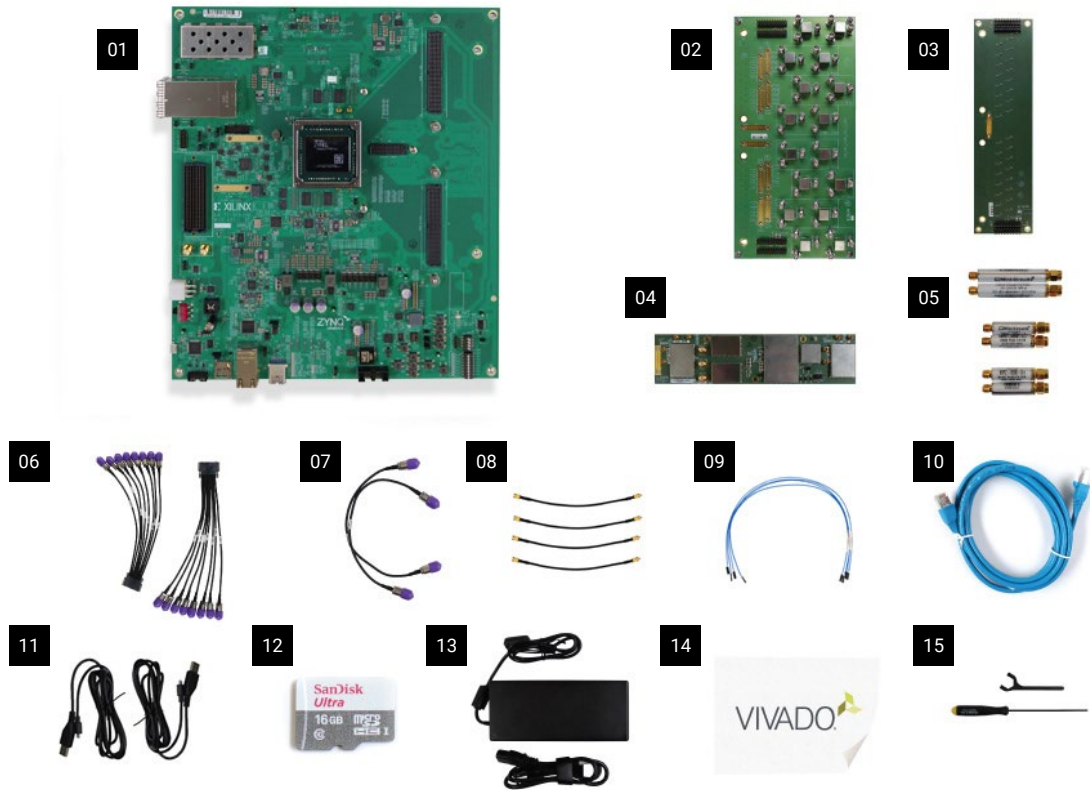
- > Digital Phased Array Radar
- > Terrestrial Satellite Communications

### CABLE ACCESS

- > Remote PHY for DOCSIS 3.1 and 4.0

### TEST AND MEASUREMENT

- > Spectrum Analyzers
- > High-Speed RF Testers



- |    |  |    |  |
|----|--|----|--|
| 01 | ZCU208 Evaluation Board  | 08 | 4 SSMP to SSMP Cables                        |
| 02 | XM655 16T16R Breakout Add-On Card  | 09 | 4 Joy Signal Jumper Cables                   |
| 03 | XM650 16T16R N79 Loopback Add-On Card  | 10 | Ethernet Cable                               |
| 04 | CLK104 RF Clock Add-On Card  | 11 | 2 Micro USB Cables                           |
| 05 | 6 Filters<br>2 Low Pass: DC-2500MHz<br>2 Mid Band Pass: 3000-4300MHz<br>2 High Band Pass: 4900-6200MHz | 12 | MicroSD Card                                 |
| 06 | 2 Carlisle SMA 8 Cable Assemblies  | 13 | Power Cords and Adapters                     |
| 07 | 2 SMA Cables   | 14 | Vivado® Design Suite: System Edition Voucher |
|    |  | 15 | Hand Tools                                   |

TAKE THE NEXT STEP

For more information, documents, and reference designs, or to purchase, visit [www.xilinx.com/zcu208](http://www.xilinx.com/zcu208)

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