Zynq RFSoC DFE ZCU670 Evaluation Kit

OVERVIEW

Equipped with the industry’s only single-chip adaptable radio device, now with hardened IP for the radio digital front-end (DFE), the Xilinx® Zynq® RFSoC DFE ZCU670 Evaluation Kit is the ideal adaptive radio prototyping platform for out-of-box evaluation and application development for 5G New Radio (5G NR) and a breadth of other RF applications.

The kit features the Zynq RFSoC DFE ZU67DR 8T8R device, representing a new class of adaptive SoCs that integrates more hardened IP than soft logic, thereby delivering the cost economies of an ASIC with the flexibility of a hardware adaptable platform. The kit comes with a breadth of connectivity options, expansion cards, software, and tools to build out and validate your system.

HIGHLIGHTS

The Only Adaptive SoC with a Fully Hardened Radio Subsystem

> 8x 10GSPS DACs | 8x 2.95GSPS ADCs and 2x 5.9GSPS ADCs
> RF input/output frequency up to 7.125GHz, 400MHz iBW
> 3GPPP-compliant 5G NR cores: DUC, DDC, CFR, DPD, Low-PHY IP
> Adaptive logic for differentiation and future market requirements
> Arm® processing subsystem for DFE configuration and control

Breadth of On-Board Connectivity Options

> 4GB DDR4, 64-bit, 2666MT/s to programmable logic (PL)
> 4GB DDR4 SODIMM, 64-bit at 2400MT/s to processing subsystem (PS)
> Quad SFP/SFP+ cage assembly
> 8 user-I/O, single-color LEDs

Add-on Cards for Expansion, Rapid Prototyping, and System Validation

> FPGA Mezzanine Card (FMC+) interface for I/O expansion
> XM650 card for N79 band loopback test, and reference layout for baluns
> XM755 breakout card for in-depth measurement and multi-tile sync

TARGET APPLICATIONS

5G New Radio (5G NR)

> Massive-MIMO Macrocell
> Multi-Mode (4G/5G) Macrocell
> Fixed Wireless Access
> Small Cell Nodes

Aerospace and Defense

> 5G for Government/Private Spectrum
> Milcom and Satcom Modems
> Data Links

Test and Measurement

> Portable Test Equipment
> UE Emulation/RF Testers
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**KIT CONTENTS**

01. ZCU670 Evaluation Board
02. XM755 16T16R Breakout Add-on Card
03. XM650 16T16R N79 Band Loopback Add-on Card
04. 8 Filters
   - 2 Low Pass: DC-2500MHz
   - 2 Mid-Band Pass: 3000-4300MHz
   - 2 High-Band Pass: 4900-6200MHz
   - 2 High-Band Pass: 5600-7000MHz
05. 3 Carlisle SMA Cable Assemblies
06. 2 SMA Cables
07. 4 Joy Signal Jumper Cables
08. Ethernet Cable
09. 2 Micro USB Cables
10. MicroSD Card
11. Power Cords and Adapters
12. Vivado® ML Enterprise Edition Voucher
13. Hand Tools

**TAKE THE NEXT STEP**

For more information, documents, and reference designs, or to purchase, visit [www.xilinx.com/zcu670](http://www.xilinx.com/zcu670)