Zynq UltraScale+ RFSoC ZCU1275 Characterization Kit

- **Part Number:** CK-U1-ZCU1275-G
- **Device Support:**
  - o Zynq UltraScale+ RFSoC

Product Description

The Zynq UltraScale+ RFSoC ZCU1275 Characterization Kit provides everything you need to characterize and evaluate the integrated ADCs and DACs, as well as GTY, GTR transceivers available on the Zynq UltraScale+ XCZU29DR-2FFVF1760E RFSoC. All 16 12-bit 2GSPS ADCs, all 16 14-bit 6.4GSPS DACs, all 16 GTY transceivers, and all 4 GTR transceivers are accessible through Samtec BullsEye connectors. The BullsEye connector allows you to connect to custom baluns and test equipment for the highest level of flexibility in testing custom applications. Find out more and see what is included in the kit.

Key Features & Benefits

- Hardware environment for characterizing and evaluating the integrated ADC, DAC, and transceivers on the Zynq UltraScale+ XCZU29DR-2FFVF1760E RFSoC
- Integrated 16x16 ADC, DAC design example
- Integrated Bit Error Ratio Test (IBERT) reference design
- BullsEye connectors supporting full ADC, DAC, GTY transceivers, and GTR transceivers

- SMA power probe channels for all ADC/DAC rails, all GTY/GTR rails, and VCCINT/VCCO_HP/VCCO_HD rails
- Analog RF SuperClock module supporting all ADC/DAC clock requirements
- GT SuperClock module supporting GTY/GTR reference clock requirements
- One high pin count (HPC) FPGA Mezzanine Card (FMC) connector
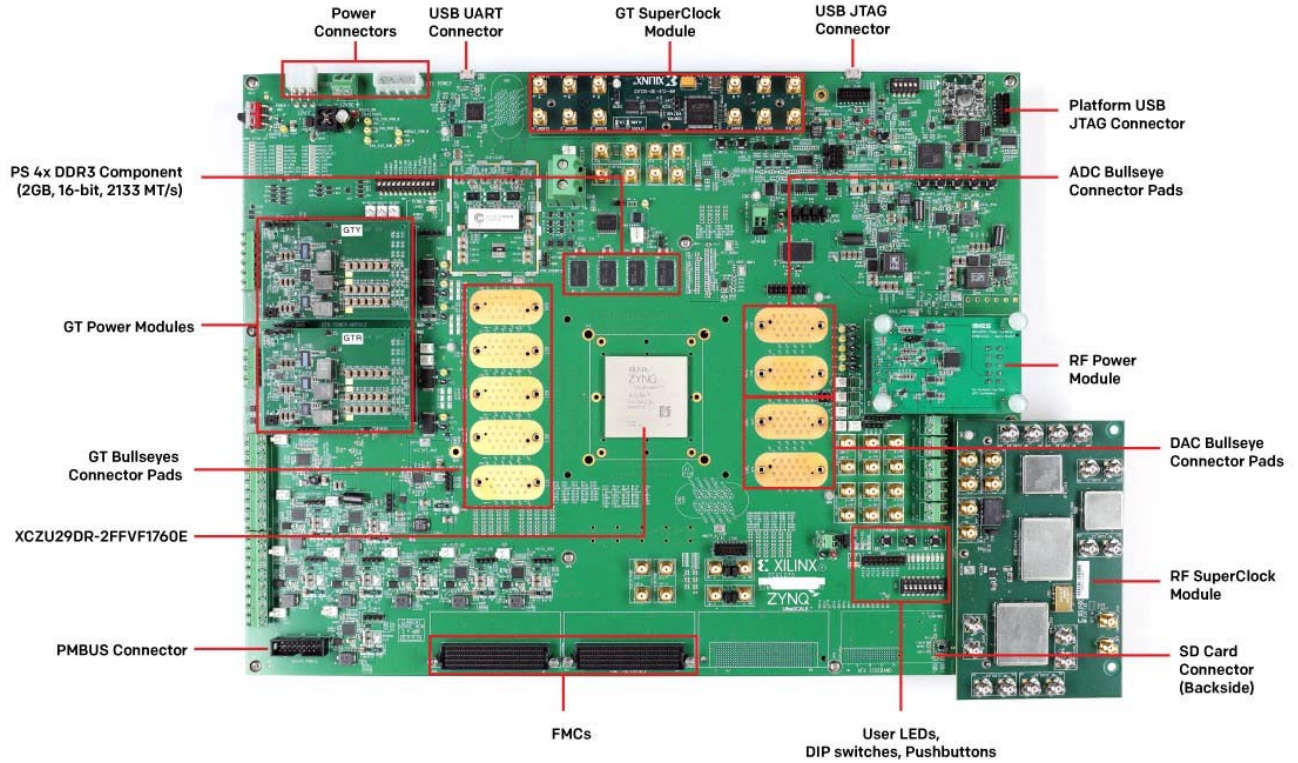- One low pin count (LPC) FMC connector

Featured Xilinx Devices

Featuring the Zynq UltraScale+ **XCZU29DR-2FFVF1760E** RFSoC

12-bit, 2GSPS RF-ADC	16
14-bit, 6.4GSPS RF-DAC	16
System Logic Cells (K)	930
DSP Slices	4,272
Memory (Mb)	60.5
33G Transceivers	16
Maximum I/O Pins	456

Board Features

Featuring the Zync UltraScale+ **XCZU29DR-2FFVF1760E** RFSoC
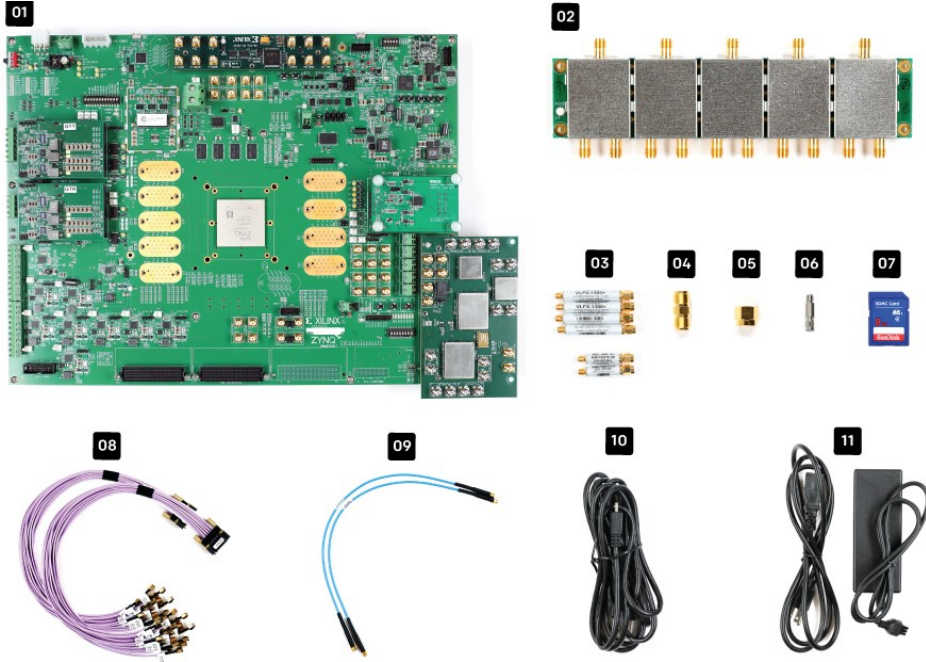

Board Specifications	Value
Length	16 inch (40.6 cm)
Height	12.6 inch (30.0 cm)
Thickness (+/-5%)	0.13456 inch (0.3418 cm)
Operating Environmental Temperature	0°C to +45°C
Storage Environmental Temperature	-25°C to +60°C

Memory	
PS DDR3 Component	4x2GB
Communications & Networking	
Samtec BullsEye connector for ADC	2
Samtec BullsEye connector for DAC	2
Samtec BullsEye connector for GTY	4
Samtec BullsEye connector for GTR	1
USB UART	Yes
Display	
DIP Switches	Yes
LEDs	Yes
Push buttons	Yes
Expansion Connectors	
FMC-HPC connector	1
FMC-LPC connector	1

Clocking	
GT SuperClock-2 module	Yes
Analog SuperClock-RF2 module	Yes
Control & I/O	
IIC	Yes
PMBUS	Yes
Power	
12V wall adapter	Yes
ATX power compatible	Yes

What's Inside the Box

Featuring the Zync UltraScale+ **XCZU29DR-2FFVF1760** RFSoC

01	ZCU1275 Board
02	Balun board
03	6 Filters Two 2500MHz low pass, two 1300MHz low pass, two 3000-4300 MHz bandpass
04	16 SMA to SMA adapters
05	8 SMA Terminators
06	2 DC Blocks
07	8GB SD Card
08	2 BullsEye Cables
09	2 SMA Cables
10	Micro USB Cable
11	Power Cords and Adapters

Design Tools

Name	Description	License Type
Vivado Design Suite: System 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 XCZU29DR RFSoC, 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
Red Hat	Operating System	Fedora	Fedora-20 is used for UltraScale TRDs
Open Source	Software Tool	TeraTerm	One of many possible terminal emulators used for serial connection from your PC to