

Virtex UltraScale+ HBM VCU128-ES1 FPGA Evaluation Kit

- Part Number: EK-U1-VCU128-ES1-G
- Device Support:
 - Virtex UltraScale+

Product Description

The VCU128 board incorporates the all new Xilinx VU37P HBM FPGA that utilizes stacked silicon interconnect to add HBM die next to the FPGA die on the package substrate. Xilinx's high bandwidth memory (HBM)-enabled FPGAs are the clear solution to the computational bandwidth issues associated with using parallel memories like DDR4 on a PCB.

The VCU128 evaluation kit is optimized for quickly prototyping applications using Virtex UltraScale+ HBM FPGAs

Key Features & Benefits

- 8GB of on-chip High Bandwidth Memory (HBM)
- Multiple external memory interfaces (RLDRAM3, QDR-IV, DDR4)
- Quad 32Gbps QSFP28 Interfaces

- PCIe Gen3 x16 & Gen4 x8
- VITA 57.4 FMC+ Interface
- 10/100/1000 Mbps Ethernet

Featured Xilinx Devices

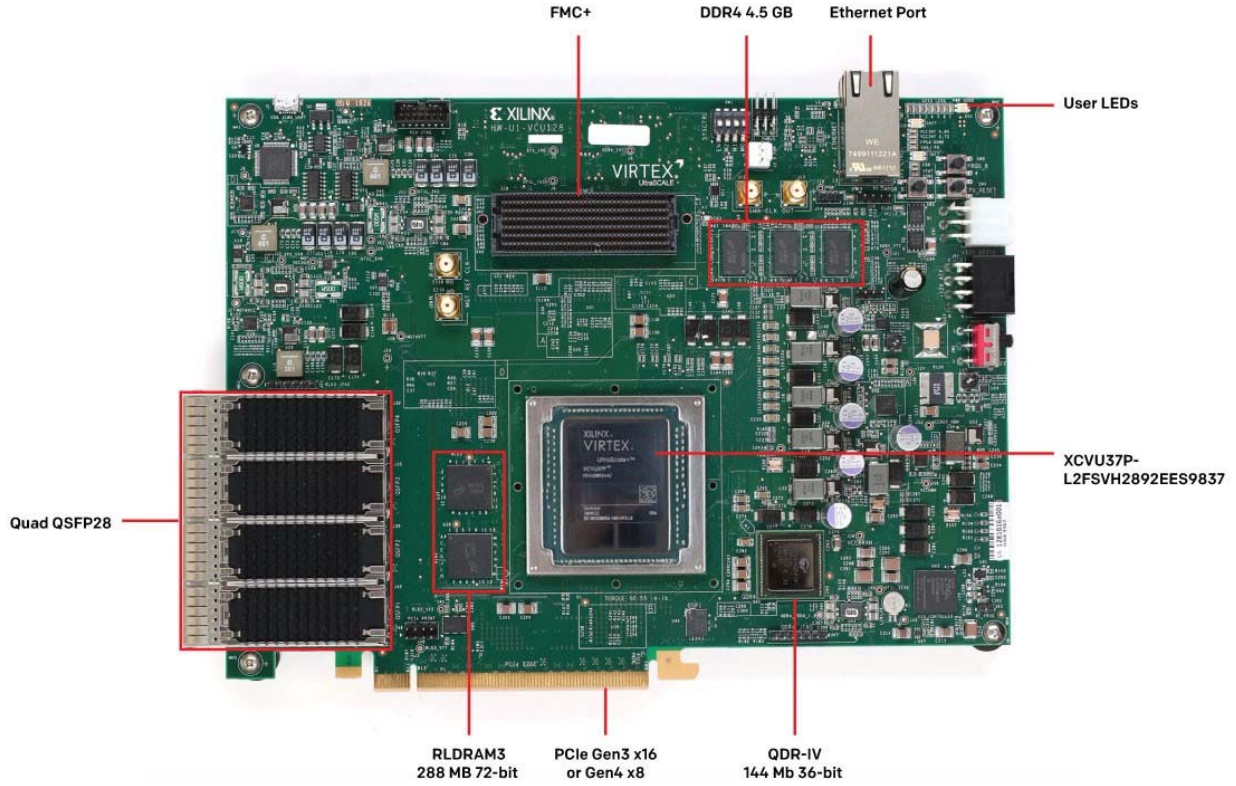
Featuring the Virtex UltraScale+ XCVU37P-L2FSVH2892EES9837 FPGA

System Logic Cells (K)	2,852
HBM DRAM (GB)	8
DSP Slices	9,024
Block RAM + UltraRAM (Mb)	340.9
GTY 32.75 Gb/s Transceivers	96
HP I/O	624



Board Features

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Board Specifications	Value
Length	9.5 inch (24.13 cm)
Height	7.53 inch (19.14 cm)
Thickness (+/-5%)	0.061 inch (0.1549 cm)
Operating Environmental Temperature	0°C to +45°C
Storage Environmental Temperature	-25°C to +60°C

Memory	
DDR4 Component	4.5 GB – 5 x (512 Mb x 16)
QDR4 Component	144 Mb – 1 x (4 Mb x 36)
RLD3 Component	288 MB – 2 x (1.125 Gb x 36)
Communications & Networking	
QSFP28 Optical	4
Ethernet Port	2
PCIe Gen3 x16 or Gen4 x8	1
USB UART	Yes
Display	
DIP Switches	Yes
LEDs	Yes
Push buttons	Yes
Expansion Connectors	
FMC+-HSPC connector	1

Control & I/O		
IIC		Yes
PMBUS		Yes
Power		
12V wall adapter		Yes
ATX power compatible		Yes

What's Inside the Box

Featuring the Virtex UltraScale+ XCVU37P-L2FSVH2892EES9837 FPGA

- 01 VCU128 Evaluation Board
- 02 Samtec FMC+ Loopback Cards
- 03 FMC, FMC+ and PCIe Loopback Cards
- Power Cords and Adapter
- 04 ATX PCIe Minifit Jr Power Adapter
- 05 Vivado® Design Suite: Design Edition Voucher Code
Node locked & Device-locked to the XCVU37P FPGA, including 1 year of updates
- 06 QSFP+ Universal Loopback Adapter
- 07 Ethernet Cable
- 08 Micro USB Cable
- 09 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 XCVU37P FPGA, including 1 year of updates

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

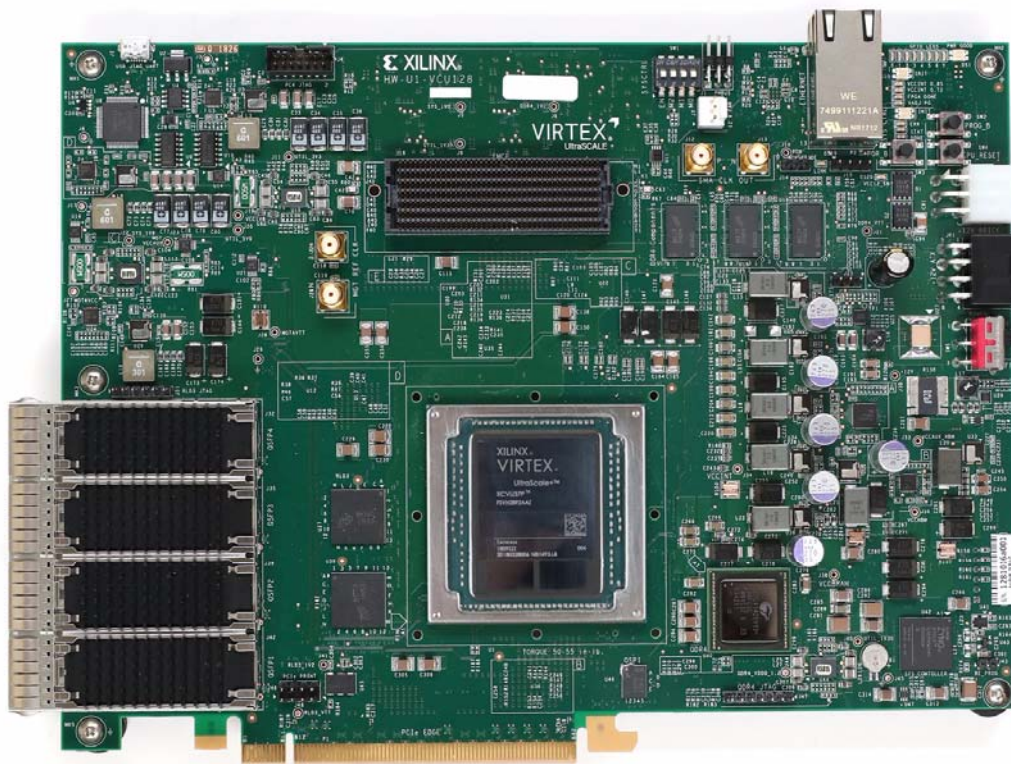
Provider Name	Product Category	Item	Description
Red Hat	Operating System	Fedora	Fedora-20 is used for UltraScale TRDs
Open Source	Software Tool	TeraTerm	One of many possible terminal emulators used for serial connection from your PC to the evaluation kit.

Training

- Training Resources
- Design Hub
- Vivado Design Suite Training Course
- Designing with the UltraScale and UltraScale+ Architectures

Support

- Solution Center
- Community Forums
- Knowledge Base
- Partner Design Services



<https://www.xilinx.com/products/boards-and-kits/vcu128-es1.html#overview/12-20-18>