AMD Virtex™ UltraScale+™ HBM VCU128 FPGA Evaluation Kit

Part Number: EK-U1-VCU128-G

The VCU128 board incorporates the all new AMD Virtex™ UltraScale+™ VU37P HBM FPGA that integrates 8GB of HBM DRAM adjacent to FPGA die to enable massive memory bandwidth and much smaller PCB footprint. Virtex UltraScale+ HBM FPGAs alleviate bandwidth bottlenecks and power consumption associated with using parallel memories, like DDR4, in compute, database, and network acceleration applications. The VCU128 evaluation kit is optimized for quickly prototyping applications using Virtex UltraScale+ HBM FPGAs.

Key Features & Benefits

Massive Memory Bandwidth for compute intensive applications

- 8GB of integrated HBM
- Up to 460GB/s of HBM bandwidth
- Multiple external memory interfaces (RLDRAM3, QDR-IV, DDR4)

Flexible connectivity for broad applications

- Quad 28.12Gb/s QSFP28 interfaces
- PCIe® Gen3 x16 & Gen4 x8
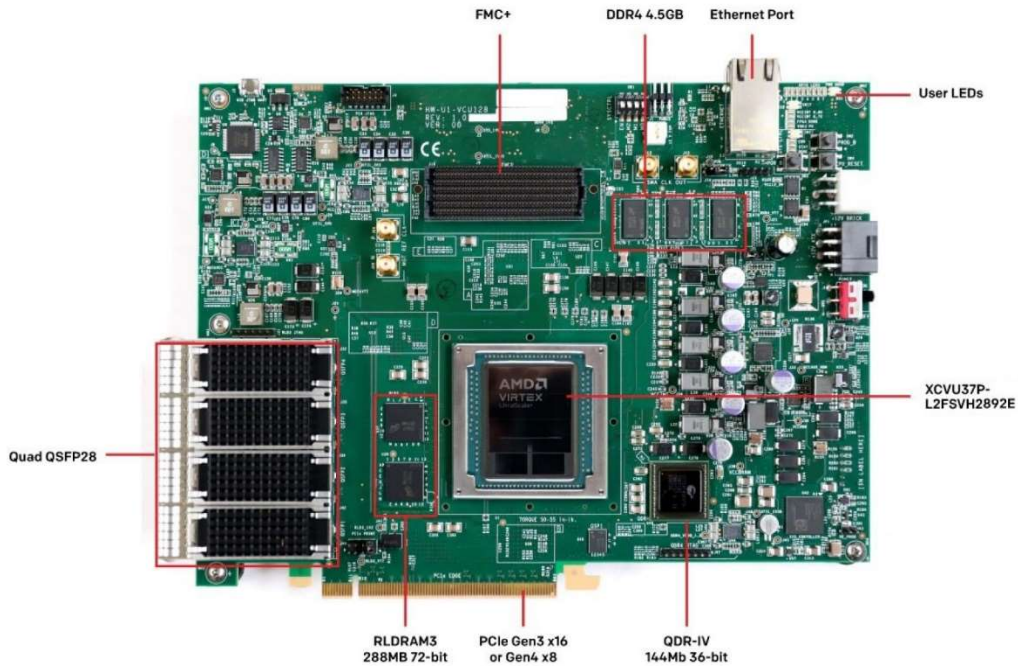- VITA 57.4 FMC+ interface
- 10/100/1000Mb/s Ethernet

Featured AMD Devices

Featuring the Virtex UltraScale+ XCVU37P-L2FSVH2892E FPGA

System Logic Cells (K)	2,852
HBM DRAM (GB)	8
DSP Slices	9,024
Block RAM + UltraRAM (Mb)	340.9
GTY 28.12Gb/s Transceivers	96
HP I/O	624

Board Features

Featuring the Virtex™ UltraScale+™ XCVU37P-L2FSVH2892E FPGA

FMC+ DDR4 4.5GB Ethernet Port

User LEDs

HW-U1-VCU128

XCVU37P-
L2FSVH2892E

Quad QSFP28

RLDRAM3   PCIe Gen3 x16   QDR-IV
288MB 72-bit   or Gen4 x8   144Mb 36-bit

Board Specifications	Value
Length	9.5 inch (24.13 cm)
Height	7.53 inch (19.14 cm)
Thickness	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)

Control I/O	
IIC	Yes
PMBUS	Yes

Expansion Connectors	
FMC+-HSPC Connector	1

Communication & 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

Power	
12V Wall Adapter	Yes
ATX Power Compatible	Yes