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## Zynq<sup>®</sup>-7000 SoC and Zynq<sup>®</sup> UltraScale+<sup>™</sup> MPSoC Systems Guide

FROM CONCEPT TO PRODUCTION

# Design it or Buy it?

## Avnet's ready-made SoC modules can shorten your development cycle

Today's quick time-to-market demands are forcing you to rethink how you design, build and deploy your products. Sometimes it's faster, less costly, and lower risk to incorporate an off-the-shelf solution instead of designing from the beginning. Avnet's System-On-Module (SOM) and Single-Board Computer (SBC) solutions for the Xilinx Zynq®-7000 SoC and Zynq UltraScale+ MPSoC SoC can reduce development times by more than four months, allowing you to focus your efforts on adding differentiating features and unique capabilities.

### Avnet's SoC Modules Offer the Following Benefits:

- Reduce risk by building your application upon a known working system
- Get running quickly with example designs, tutorials, and board support packages
- Start software development immediately

With now over fifteen years of experience building SOM products, we've helped many companies attain a jump start on their products and get to market faster. [Contact us](#) today to get started!

### Avnet's Zynq UltraScale+ MPSoC SOM Solutions

Features	UltraZed-EG				UltraZed-EV					
	ZU2CG	ZU3CG	ZU2EG	ZU3EG	ZU4EG	ZU4EV	ZU5EG	ZU5EV	ZU7EG	ZU7EV
Zynq Device	ZU2CG-1	ZU3CG-1	ZU2EG-1	ZU3EG-1	ZU4EG-1	ZU4EV-1	ZU5EG-1	ZU5EV-1	ZU7EG-1	ZU7EV-1
Programmable Logic Cells	103 K	154 K	103 K	154 K	192 K	192 K	256 K	256 K	504 K	504 K
DDR Memory	2 GB DDR4	2 GB DDR4	2 GB DDR4	2 GB DDR4	5 GB DDR4	5 GB DDR4	5 GB DDR4	5 GB DDR4	5 GB DDR4	5 GB DDR4
QSPI	512 Mb	512 Mb	512 Mb	512 Mb	512 Mb	512 Mb	512 Mb	512 Mb	512 Mb	512 Mb
uSD Card Cage	No	No	No	No	No	No	No	No	No	No
eMMC Memory	8 GB	8 GB	8 GB	8 GB	8 GB	8 GB	8 GB	8 GB	8 GB	8 GB
User I/O	180/26 <sup>1</sup>	180/26 <sup>1</sup>	180/26 <sup>1</sup>	180/26 <sup>1</sup>	152/26 <sup>1</sup>	152/26 <sup>1</sup>	152/26 <sup>1</sup>	152/26 <sup>1</sup>	152/26 <sup>1</sup>	152/26 <sup>1</sup>
GTP/GTX/GTR Ports	4 PS	4 PS	4 PS	4 PS	4 PS 16 PL	4 PS 16 PL	4 PS 16 PL	4 PS 16 PL	4 PS 16 PL	4 PS 16 PL
10/100/1000 Ethernet	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
USB 2.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
USB-UART	No	No	No	No	No	No	No	No	No	No
Other Peripherals	2 Kb EEPROM	2 Kb EEPROM	2 Kb EEPROM	2 Kb EEPROM	2 Kb EEPROM	2 Kb EEPROM	2 Kb EEPROM	2 Kb EEPROM	2 Kb EEPROM	2 Kb EEPROM
Size	3.5" x 2" 89 x 51 mm	3.5" x 2" 89 x 51 mm	3.5" x 2" 89 x 51 mm	3.5" x 2" 89 x 51 mm	4" x 2.5" 102 x 63.5 mm	4" x 2.5" 102 x 63.5 mm	4" x 2.5" 102 x 63.5 mm	4" x 2.5" 102 x 63.5 mm	4" x 2.5" 102 x 63.5 mm	4" x 2.5" 102 x 63.5 mm
Resale <sup>2</sup>	\$287 USD <sup>3</sup>	\$339 USD <sup>3</sup>	\$303 USD <sup>3</sup>	\$361 USD <sup>4</sup>	\$590 USD <sup>3</sup>	\$749 USD <sup>3</sup>	\$702 USD <sup>3</sup>	\$811 USD <sup>3</sup>	\$770 USD <sup>3</sup>	\$891 USD <sup>4</sup>

1. Zynq: PL IO / PS MIO  
 2. Resale based on 1k units (commercial grade)  
 3. Minimum Order Quantity 100 pieces  
 4. Minimum Order Quantity 1 piece

Pmod is a registered trademark of Digilent

## Avnet's Zynq-7000 SoC SOM Solutions

Features	PicoZed				MicroZed	
	7010	7015	7020	7030	7010	7020
Zynq Device	7Z010-1	7Z015-1	7Z020-1	7Z030-1	7Z010-1	7Z020-1
Programmable Logic Cells	28 K	74 K	85 K	125 K	28 K	85 K
DDR Memory	1 GB DDR3L	1 GB DDR3L	1 GB DDR3L	1 GB DDR3L	1 GB DDR3	1 GB DDR3
QSPI	128 Mb	128 Mb	128 Mb	128 Mb	128 Mb	128 Mb
uSD Card Cage	No	No	No	No	Yes	Yes
eMMC Memory	8 GB	8 GB	8 GB	8 GB	No	No
User I/O	100/13 <sup>1</sup>	135/13 <sup>1</sup>	125/13 <sup>1</sup>	135/13 <sup>1</sup>	100/8 <sup>1</sup>	115/8 <sup>1</sup>
GTP/GTX/GTR Ports	-	4	-	4	-	-
10/100/1000 Ethernet	Yes	Yes	Yes	Yes	Yes	Yes
USB 2.0	Yes	Yes	Yes	Yes	Yes	Yes
USB-UART	No	No	No	No	Yes	Yes
Other Peripherals	-	-	-	-	Pmod™	Pmod™
Size	4" x 2.25" 102 x 57 mm	4" x 2.25" 102 x 57 mm	4" x 2.25" 102 x 57 mm	4" x 2.25" 102 x 57 mm	4" x 2.25" 102 x 57 mm	4" x 2.25" 102 x 57 mm
Resale <sup>2</sup>	\$130 USD	\$195 USD	\$157 USD	\$273 USD	\$130 USD	\$157 USD

1. Zynq; PL IO / PS MIO
2. Resale based on 1k units

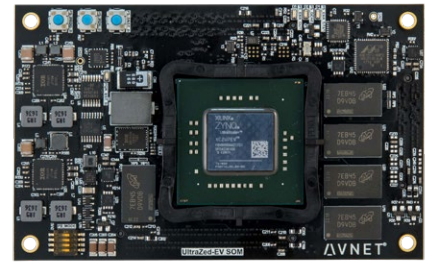
Pmod is a registered trademark of Digilent

### Custom SOM Offerings

Customize the module with Avnet Design Services – an Avnet Company with extensive experience designing and customizing single board computer platforms. Email us at [customize@avnet.com](mailto:customize@avnet.com) to explore the options.

# UltraZed-EV™

UltraZed-EV™ SOM is a high performance, full-featured, System-On-Module (SOM) based on the Xilinx Zynq® UltraScale+™ MPSoC EV family of devices. Designed in a small form factor, the UltraZed-EV SOM on-board dual system memory, high-speed transceivers, Ethernet, USB, and configuration memory provides an ideal platform for embedded video processing systems. The UltraZed-EV provides easy access to 152 user I/O pins, 26 PS MIO pins, 4 highspeed PS GTR transceivers along with 4 GTR reference clock inputs, and 16 PL high-speed GTH transceivers along with 8 GTH reference clock inputs through three I/O connectors on the backside of the module. These connectors provide USB 2.0, USB 3.0, PCIe Gen2, DisplayPort, SATA 3.0, FMC-HPC and more! The MPSoC EV device with its integrated H.264 / H.265 video codec unit is capable of simultaneous encode and decode up to 4Kx2K (60fps).



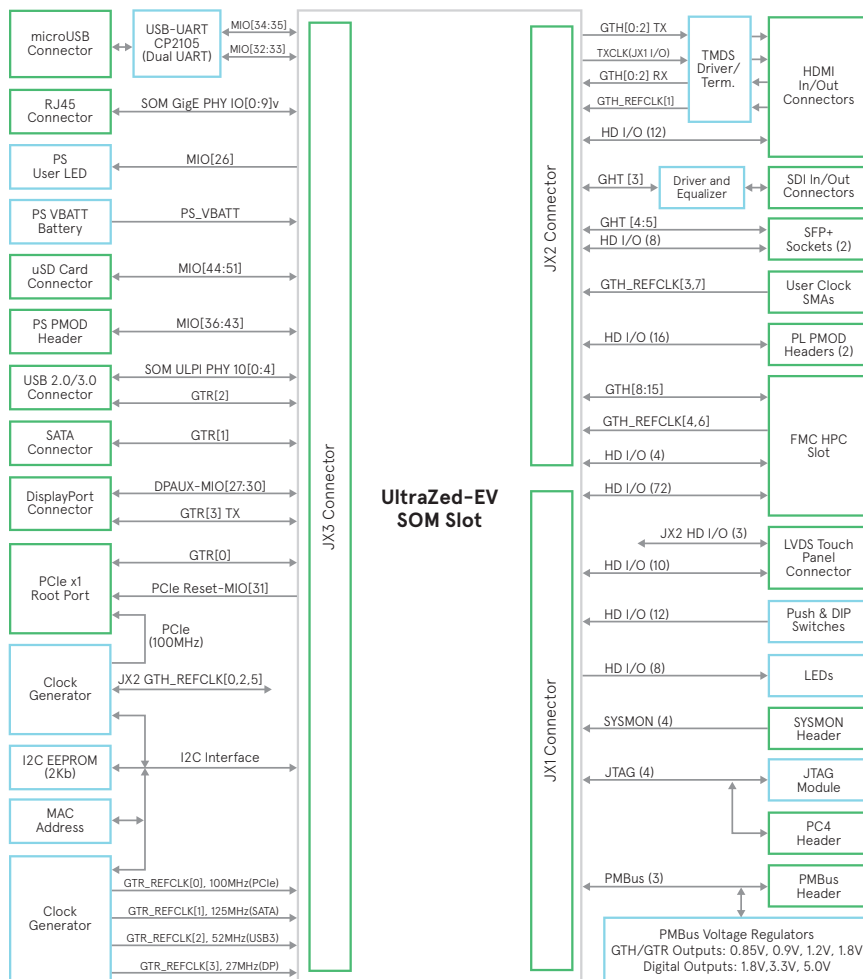
## PARTS

Part Number	Description	Resale	Resale* 100-499
AES-ZU7EV-1-SOM-G	UltraZed-EV SOM (Extended Temp)	\$999 USD	Call
AES-ZU7EV-1-SOM-I-G	UltraZed-EV SOM (Industrial Temp)	\$1,199 USD	Call

\*Contact your local Avnet sales office for pricing on higher quantities

## FEATURES

- Xilinx XCZU7EV-1FBVB900 device (SOM also supports 4EV, 5EV, 4EG, 5EG, or 7EG device in the FBVB900 package)
- PS DDR4 SDRAM (4GB, in x64 configuration)
- PL DDR4 SDRAM (1GB, in x16 configuration)
- Dual QSPI Flash (64MB)
- I2C EEPROM (2Kb)
- eMMC Flash (8GB, x8)
- USB 2.0 ULPI PHY
- Ethernet PHY
- PS reference clock input
- 3 JX connectors, providing
  - PS JTAG interface
  - PL SYSMON interface
  - Gigabit Ethernet RJ45 connector interface
  - PMBus interface
  - Power Good output, input voltages, and output sense pins



Additional information and downloadable documentation for UltraZed-EV can be obtained at [avnet.me/ultrazed-ev](http://avnet.me/ultrazed-ev)

# UltraZed-EG™

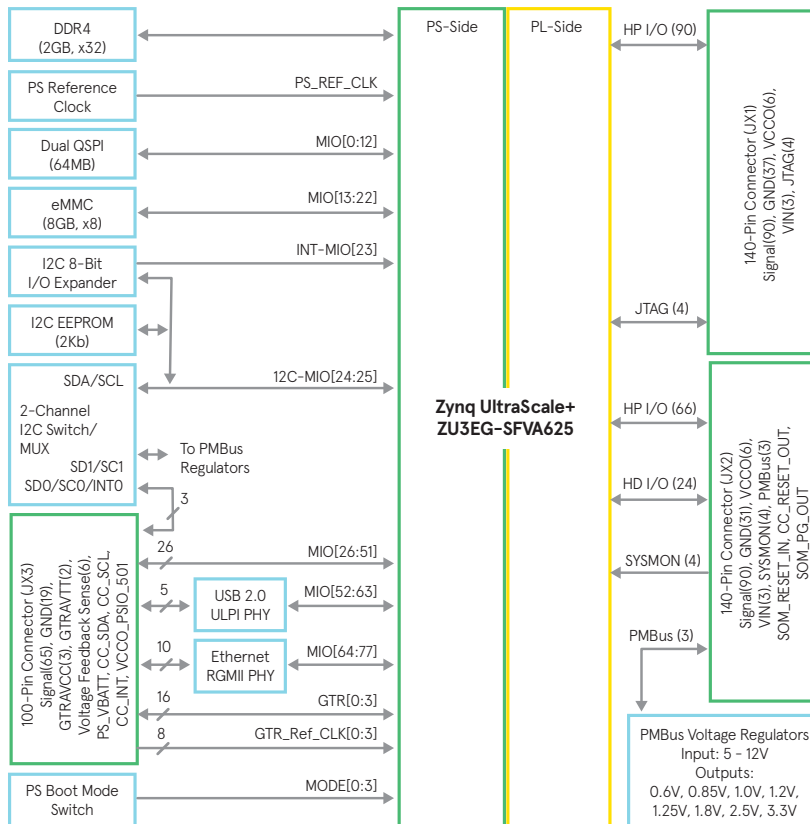
UltraZed-EG™ SOM is a highly flexible, rugged, System-On-Module (SOM) based on the Xilinx Zynq® UltraScale+™ MPSoC. Designed in a small form factor, the UltraZed-EG SOM packages all the necessary functions such as system memory, Ethernet, USB, and configuration memory needed for an embedded processing system. The UltraZed-EG provides easy access to 180 user I/O pins, 26 PS MIO pins, and 4 high-speed PS GTR transceivers along with 4 GTR reference clock inputs through three I/O connectors on the backside of the module.

Designers can simply design their own carrier card, plug-in UltraZed-EG SOM, and start their application development with a proven Zynq UltraScale+ MPSoC sub-system. Available with the Zynq UltraScale+ MPSoC XCZU3EG-SFVA625 device, the UltraZed-EG SOM enables designers to build high-performance systems with confidence and ease. By simply plugging the off-the-shelf UltraZed-EG SOM into an application specific carrier card, system bring-up and debug time can be cut in half, while overall system cost can be reduced by 20% or more versus a standard chip-down design.

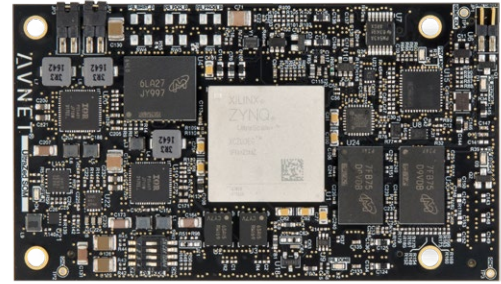
## PARTS

Part Number	Description	Resale 1-99	Resale* 100-499
AES-ZU3EG-1-SOM-I-G	UltraZed-EG SOM	\$535 USD	\$479 USD

\*Contact your local Avnet sales office for pricing on higher quantities



Additional information and downloadable documentation for UltraZed can be obtained at [avnet.me/ultrazed-eg](http://avnet.me/ultrazed-eg)



## FEATURES

### MPSoC

- Xilinx XCZU3EG-1SFVA625 device
- Other options are available with MOQ=100

### Memory

- DDR4 SDRAM (2GB, in x32 configuration)
- Dual QSPI Flash (64MB)
- I2C EEPROM (2Kb)
- eMMC Flash (8GB, in x8 configuration)

### Communications

- USB 2.0 ULPI PHY
- Gigabit Ethernet PHY

### Other

- PS reference clock input
- On-board voltage regulators
- Power-On Reset (POR) circuit
- 4-position boot mode slide switch
- Heatsink included

### Software

- Linux BSP and reference designs

### User I/O (via three board-to-board connectors)

- 3 JX micro-header connectors (2 x 140-pin, 1 x 100-pin) providing the following connections to the Carrier Cards
- 180 user PL I/O pins
- 26 user PS MIO pins (one full MIO bank)
- 4 PS GTR transceivers
- 4 PS GTR reference clock inputs
- PS JTAG interface
- PL SYSMON interface
- USB 2.0 connector interface
- PMBus interface
- Carrier Card I2C interface
- SOM Reset input
- Carrier Card interrupt input
- Carrier Card Reset output
- Power Good output

# PicoZed™

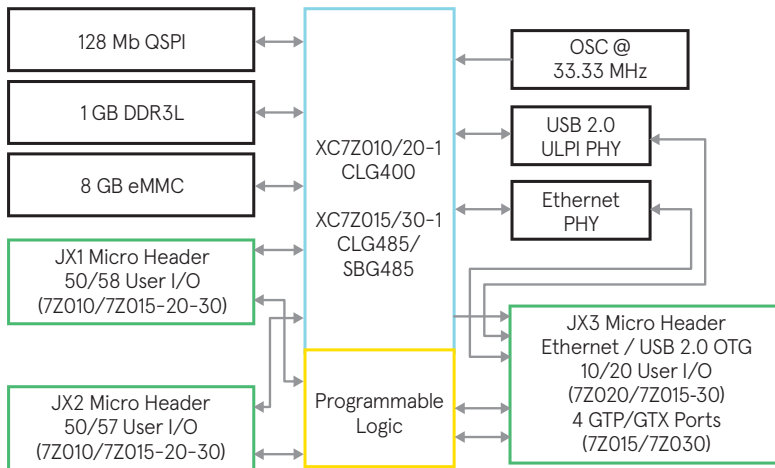
PicoZed™ is a highly flexible, rugged SOM that is based on the Xilinx Zynq-7000 SoC. It offers designers the flexibility to migrate between the 7010, 7015, 7020, and 7030 Zynq-7000 SoC devices in a pin-compatible footprint. The PicoZed module contains the common functions required to support the core of most SoC designs, including memory, configuration, Ethernet, USB, clocks, and power. It provides easy access to over 100 user I/O pins through three I/O connectors on the backside of the module. These connectors also support access to dedicated interfaces for Ethernet, USB, JTAG, power and other control signals, as well as the GTP/GTX transceivers on the 7015/7030 models. The transceiver based 7015 and 7030 versions of PicoZed are a superset of the 7010/7020 version, adding four high-speed serial transceiver ports to the I/O connectors. Designers can simply design their own carrier card, plug-in PicoZed, and start their application development with a proven Zynq-7000 SoC sub-system.

Industrial Temperature PicoZed SOMs are built with components supporting extended temperatures of -40 to +85°C. Due to the configurability of the Zynq device, the user must perform final temperature testing validation.

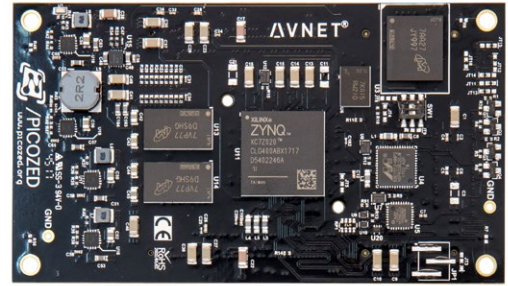
## PARTS

Part Number	Description	Resale 1-99	Resale* 100-499
AES-Z7PZ-7Z010-SOM-G	7010 PicoZed SOM	\$178 USD	\$165 USD
AES-Z7PZ-7Z010-SOM-I-G	7010 Ind. Temp PicoZed SOM	\$217 USD	\$201 USD
AES-Z7PZ-7Z015-SOM-I-G	7015 Ind. Temp PicoZed SOM	\$265 USD	\$246 USD
AES-Z7PZ-7Z020-SOM-G	7020 PicoZed SOM	\$213 USD	\$197 USD
AES-Z7PZ-7Z020-SOM-I-G	7020 Ind. Temp PicoZed SOM	\$265 USD	\$245 USD
AES-Z7PZ-7Z030-SOM-I-G	7030 Ind. Temp PicoZed SOM	\$375 USD	\$346 USD

\*Contact your local Avnet sales office for pricing on higher quantities



Additional information and downloadable documentation for PicoZed can be obtained at [avnet.me/picozed](http://avnet.me/picozed).



## FEATURES

### SoC options

- XC7Z010-1CLG400
- XC7Z015-1CLG485
- XC7Z020-1CLG400
- XC7Z030-1SBG485

### Memory

- 1 GB of DDR3L SDRAM
- 8 GB eMMC
- 128 Mb of QSPI Flash

### Communications

- 10/100/1000 Ethernet PHY
- USB 2.0 OTG PHY

### User I/O (via three board-to-board connectors)

- 7Z010 Version
  - 113 User I/O (100 PL, 13 PS MIO)
  - PL I/O configurable as up to 48 LVDS pairs or 100 single-ended I/O
- 7Z015 Version
  - 148 User I/O (135 PL, 13 PS MIO)
  - PL I/O configurable as up to 65 LVDS pairs or 135 single-ended I/O
  - 4 GTP Transceivers
- 7Z020 Version
  - 138 User I/O (125 PL, 13 PS MIO)
  - PL I/O configurable as up to 60 LVDS pairs or 125 single-ended I/O
- 7Z030 Version
  - 148 User I/O (135 PL, 13 PS MIO)
  - PL I/O configurable as up to 65 LVDS pairs or 135 single-ended I/O
  - 4 GTX Transceivers

### Other

- JTAG configuration port accessible via I/O connectors
- PS JTAG pins accessible via I/O connectors
- 33.33 MHz oscillator

### Software

- Linux BSP and reference designs

### Mechanical

- 4 inches x 2.25 inches (102 mm x 57 mm)

# MicroZed™

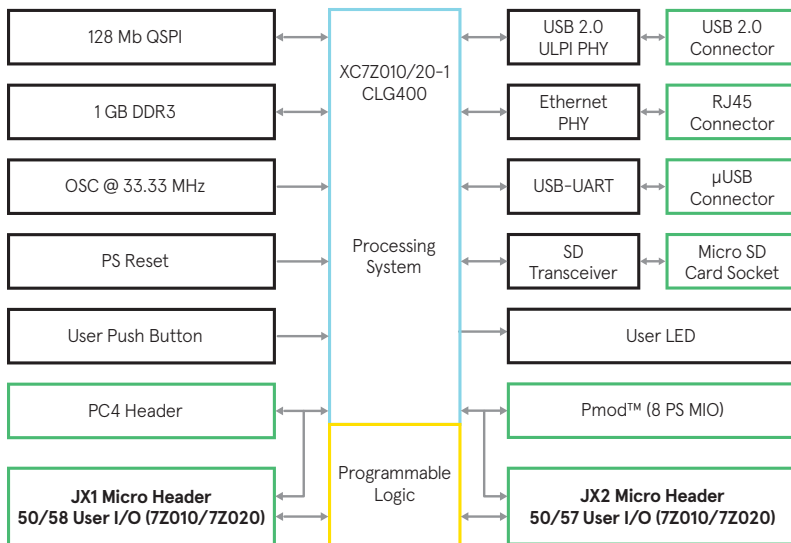
MicroZed™ is a low-cost SOM that is based on the Xilinx Zynq®-7000 SoC. In addition to the Zynq-7000 SoC, the module contains the common functions and interfaces required to support the core of most SoC designs, including memory, configuration, Ethernet, USB, and clocks. On the bottom side of the module, MicroZed contains two 100-pin I/O headers that provide connection to two I/O banks on the programmable logic (PL) side of the Zynq-7000 SoC device. When plugged onto a user designed baseboard or carrier card, these 100-pin connectors provide connectivity between the Zynq-7000 SoC PL I/Os and the user circuits on the carrier card. MicroZed also includes on-board power regulation that supports 5 V input with an option to support 12 V input.

Industrial Temperature MicroZed SOMs are built with components supporting extended temperatures of -40 to +85°C, with the exception of the use of the microSD card connector. Due to the configurability of the Zynq device, the user must perform final temperature testing validation.

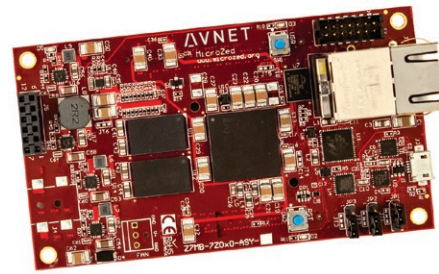
## PARTS

Part Number	Description	Resale 1-99	Resale* 100-499
AES-Z7MB-7Z010-SOM-G	7Z010 MicroZed SOM	\$178 USD	\$165 USD
AES-Z7MB-7Z010-SOM-I-G	7Z010 Ind. Temp MicroZed SOM	\$217 USD	\$201 USD
AES-Z7MB-7Z020-SOM-G	7Z020 MicroZed SOM	\$213 USD	\$197 USD
AES-Z7MB-7Z020-SOM-I-G	7Z020 Ind. Temp MicroZed SOM	\$265 USD	\$245 USD

\*Contact your local Avnet sales office for pricing on higher quantities



Additional information and downloadable documentation for MicroZed can be obtained at [avnet.me/microzed](http://avnet.me/microzed).



## FEATURES

### SoC

- XC7Z010-1CLG400 or
- XC7Z020-1CLG400

### Memory

- 1 GB of DDR3 SDRAM
- 128 Mb of QSPI Flash
- MicroSD card interface

### Communications

- 10/100/1000 Ethernet
- USB 2.0 OTG
- USB-UART

### User I/O (via dual board-to-board connectors)

- 7Z010 Version
  - 108 User I/O (100 PL, 8 PS MIO)
  - PL I/O configurable as up to 48 LVDS pairs or 100 single-ended I/O
- 7Z020 Version
  - 123 User I/O (115 PL, 8 PS MIO)
  - PL I/O configurable as up to 55 LVDS pairs or 115 single-ended I/O

### Other

- 2x6 Digilent Pmod® compatible interface providing 8 PS MIO connections for user I/O
- Xilinx PC4 JTAG configuration port
- PS JTAG pins accessible via Pmod or I/O headers
- 33.33 MHz oscillator
- User LED and push button

### Software

- Linux BSP and reference designs

### Mechanical

- 4 inches x 2.25 inches (102 mm x 57 mm)

# Ultra96™-V2

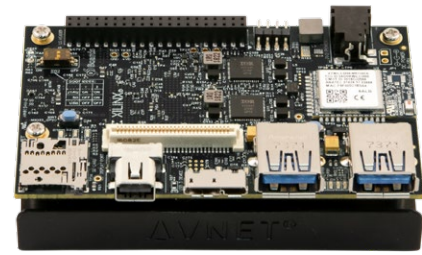
Ultra96-V2 is an Arm-based, Xilinx Zynq UltraScale+™ MPSoC development board based on the Linaro 96Boards specification. The 96Boards' specifications are open and define a standard board layout for development platforms that can be used by software application, hardware device, kernel, and other system software developers. Ultra96-V2 represents a unique position in the 96Boards community with a wide range of potential peripherals and acceleration engines in the programmable logic that is not available from other offerings.

Ultra96-V2 boots from the provided Delkin 16 GB microSD card (Embedded Linux available via download). Engineers have options of connecting to Ultra96-V2 through a Webserver using integrated wireless access point capability or to use the provided Petalinux desktop environment which can be viewed on the integrated Mini DisplayPort video output. Multiple application examples and on-board development options are provided as examples.

Ultra96-V2 provides four user-controllable LEDs. Engineers may also interact with the board through the 96Boards-compatible low-speed and high-speed expansion connectors by adding peripheral accessories.

Micron LPDDR4 memory provides 2 GB of RAM in a 512M x 32 configuration. A Microchip radio module includes 802.11b/g/n WiFi and Bluetooth 5 Low Energy support, and is Agency Certified in more than 75 countries. UARTs are accessible on a header as well as through the expansion connector. JTAG is available through a header (external USB-JTAG required). I2C is available through the expansion connector.

Ultra96-V2 provides one upstream (device) and two downstream (host) USB 3.0 connections. A USB 2.0 downstream (host) interface is provided on the high-speed expansion bus. Two Microchip USB3320 USB 2.0 ULPI Transceivers and one Microchip USB5744 4-Port SS/HS USB Controller Hub are specified. The integrated power supply from Infineon generates all on-board voltages from an external 12V supply (available as an accessory).



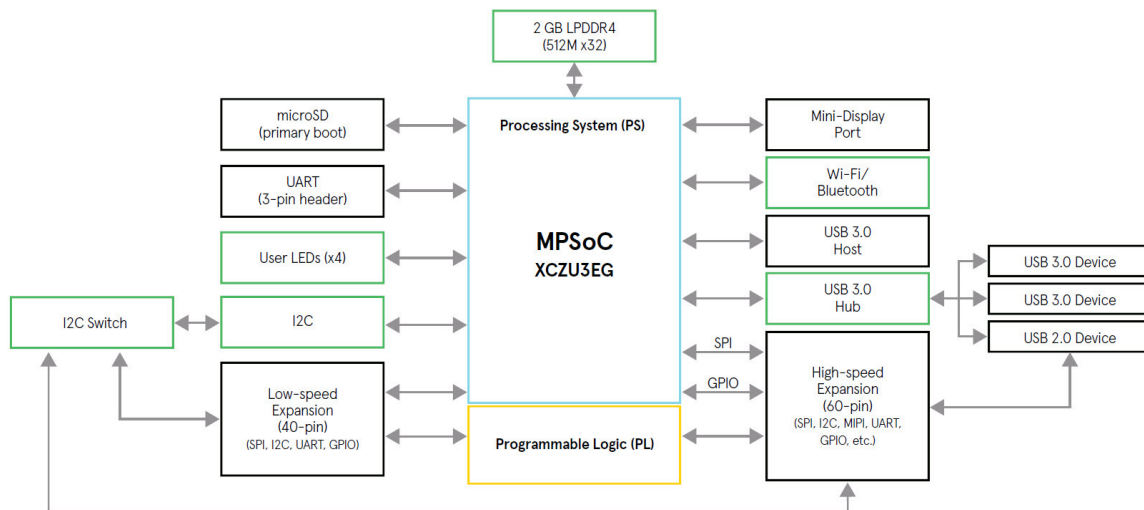
## FEATURES

- Xilinx Zynq UltraScale+ MPSoC ZU3EG A484
- Micron 2 GB (512M x32) LPDDR4 Memory
- Delkin 16 GB microSD card + adapter
  - Embedded Linux available via download
- Wi-Fi / Bluetooth
- Mini DisplayPort (MiniDP or mDP)
- 1x USB 3.0 Type Micro-B upstream port
- 2x USB 3.0, 1x USB 2.0 Type A downstream ports
- 40-pin 96Boards Low-speed expansion header
- 60-pin 96Boards High-speed expansion header
- IDT programmable LVDS and Single-ended Clocks
- 85mm x 54mm form factor
- Linaro 96Boards Consumer Edition compatible

## PARTS

Part Number	Description	Resale	Resale* 100-499
AES-ULTRA96-V2-G	Ultra96-V2 Zynq UltraScale+ ZU3EG Development Board	\$249.00	\$229.00

\*Contact your local Avnet sales office for pricing on higher quantities



To purchase this kit, visit [www.avnet.me/ultra96v2](http://www.avnet.me/ultra96v2)

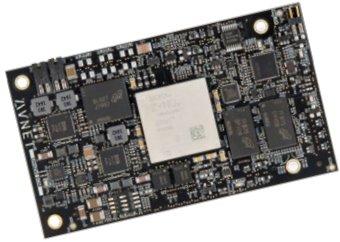


# Development Kits, Carrier Cards and Accessories



## ULTRAZED-EV™

Part Number	Description	Resale	Website
AES-ZU7EV-1-SK-G	UltraZed-EV Starter Kit	\$1,595 USD	<a href="http://avnet.me/ultrazed-ev-sk">avnet.me/ultrazed-ev-sk</a>
AES-ZUEV-CC-G	UltraZed-EV Carrier Card	\$649 USD	<a href="http://avnet.me/ultrazed-ev-cc">avnet.me/ultrazed-ev-cc</a>



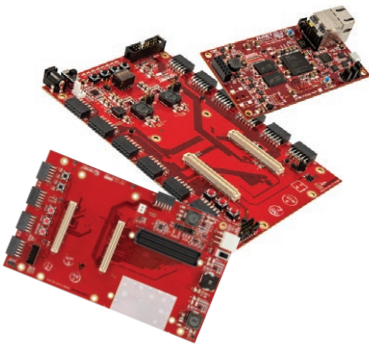
## ULTRAZED-EG™

Part Number	Description	Resale	Website
AES-ZU3EG-1-SK-G	UltraZed-EG Starter Kit	\$895 USD	<a href="http://avnet.me/ultrazed-eg-sk">avnet.me/ultrazed-eg-sk</a>
AES-ZU-IOCC-G	UltraZed-EG IO Carrier Card	\$499 USD	<a href="http://avnet.me/ultrazed-iocc">avnet.me/ultrazed-iocc</a>
AES-ZU-PCIECC-G	UltraZed-EG PCIe Carrier Card	\$499 USD	<a href="http://avnet.me/ultrazed-pcie">avnet.me/ultrazed-pcie</a>



## ULTRA96-V2™

Part Number	Description	Resale	Website
AES-ULTRA96-V2-G	Ultra96-V2 Zynq UltraScale+ ZU3EG Development Board	\$249 USD	<a href="http://avnet.me/ultra96v2">avnet.me/ultra96v2</a>
AES-ACC-U96-JTAG	UART / JTAG cable	\$39 USD	<a href="http://avnet.me/ultra96jtag">avnet.me/ultra96jtag</a>
AES-ACC-U96-4APWR	96Board Power 12V @ 4A	\$19.99 USD	<a href="http://avnet.me/96Board4APower">avnet.me/96Board4APower</a>



## MICROZED™

Part Number	Description	Resale	Website
AES-Z7MB-7Z010-G	MicroZed Evaluation Kit	\$199 USD	<a href="http://avnet.me/microzed">avnet.me/microzed</a>
AES-MBCC-IO-G	I/O Carrier Card	\$149 USD	<a href="http://avnet.me/mz-io-cc">avnet.me/mz-io-cc</a>
AES-MBCC-FMC-G	FMC Carrier Card	\$159 USD	<a href="http://avnet.me/mz-fmc-cc">avnet.me/mz-fmc-cc</a>
AES-ARDUINO-CC-G	Arduino Carrier Card	\$89 USD	<a href="http://avnet.me/mz-arduino-cc">avnet.me/mz-arduino-cc</a>
AES-MBCC-BRK-G	Breakout Carrier Card	\$59 USD	<a href="http://avnet.me/mz-breakout-cc">avnet.me/mz-breakout-cc</a>



## PICOZED™

Part Number	Description	Resale	Website
AES-PZCC-FMC-V2-G	PicoZed Carrier Card V2	\$349 USD	<a href="http://avnet.me/pz-fmc-v2-cc">avnet.me/pz-fmc-v2-cc</a>

## FMC

Part Number	Description	Resale	Website
AES-FMC-NETW1-G	Network FMC	\$149 USD	<a href="http://avnet.me/fmc-network1">avnet.me/fmc-network1</a>
AES-FMC-MULTICAM4-G	Multicamera FMC	\$299 USD	<a href="http://avnet.me/fmc-multicam">avnet.me/fmc-multicam</a>
AES-FMC-HDMI-CAM-G	HDMI I/O FMC Module	\$250 USD	<a href="http://avnet.me/fmc-hdmi-cam">avnet.me/fmc-hdmi-cam</a>
AES-FMC-ISMNET2-G	ISM Networking FMC v2	\$250 USD	<a href="http://avnet.me/fmc-ismnet2">avnet.me/fmc-ismnet2</a>

## OTHER KITS AND ACCESSORIES

Part Number	Description	Resale	Website
AES-MINIZED-7Z007-G	MiniZed Z7007S Starter Kit	\$89 USD	<a href="http://avnet.me/minized">avnet.me/minized</a>
AES-Z7EV-7Z020-G	ZedBoard	\$475 USD	<a href="http://avnet.me/zedboard-dev-kit">avnet.me/zedboard-dev-kit</a>
AES-PMOD-TPM20-SLB9670-G	Infineon TPM v2.0 Peripheral Module	\$29.95 USD	<a href="http://avnet.me/tpm2.0">avnet.me/tpm2.0</a>
AES-CAM-ON-P1300C-G	PYTHON-1300C Module	\$499 USD	<a href="http://avnet.me/python1300">avnet.me/python1300</a>
AES-PMOD-TDM114-G	TDNext 1.26Mpixel Pmod Camera Kit	\$69 USD	<a href="http://avnet.me/tdnext">avnet.me/tdnext</a>
AES-PMOD-MUR-1DX-G	Murata 1DX Ble WiFi Bluetooth Pmod WiFi/BLE Module	\$59 USD	<a href="http://avnet.me/pmod_1dx">avnet.me/pmod_1dx</a>
210-299P-KIT	JTAG HS3 Programming Cable	\$41.59 USD	<a href="http://avnet.me/jtaghs3">avnet.me/jtaghs3</a>
AES-FMC-MC4-AR0231AT-G	Quad AR0231AT Camera FMC Bundle	\$1,699 USD	<a href="http://avnet.me/fmc-quad-cam">avnet.me/fmc-quad-cam</a>
AES-ACC-U96-ME-MEZ	96Boards Low-Speed (LS) Mezzanine board	\$16 USD	<a href="http://avnet.me/ClickMezzanine">avnet.me/ClickMezzanine</a>
AES-ACC-U96-ME-SK	96Boards Low-Speed (LS) Mezzanine board Starter Kit (Mezzanine board and three Click boards)	\$49 USD	<a href="http://avnet.me/ClickMezzanine">avnet.me/ClickMezzanine</a>

## Support

Our community-based [site](#) is dedicated to helping you jump-start your Xilinx Zynq®-7000 All Programmable SoCs and UltraScale+ MPSoC projects. You'll find reference designs, documentation and training material supporting the platforms and solutions presented here. We hope you'll sign-on, join the community and get started today!

## Reference Designs

[Download](#) the various reference designs and tutorials for any of the Zynq-based products.

## Forums

Ideas, questions and solutions from community [members](#).

## Training and Videos

[Learn](#) how to create your own designs or see what others have done. You'll find introductory courses, advanced topics, architectural overviews and links to other resources.

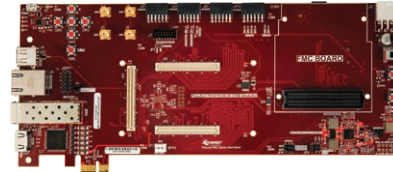
# System-on-Module Carrier Cards

## /PICOZED™

### FEATURES

#### Carrier Card V2

- microSD card socket
- x1 PCIe Gen 2
- SFP+ cage
- USB-UART
- SMA ports
- 10/100/1000 Ethernet connector
- USB 2.0 connector
- LPC FMC Expansion
- Ethernet MAC ID (x2)
- High-performance transceiver clock
- Up to 4 Pmod™ expansion connectors



PicoZed Carrier Card V2

## /MICROZED™

### FEATURES

#### Breakout Carrier Card

- Two 60-pin (2x30) 0.1" footprints

#### FMC Carrier Card

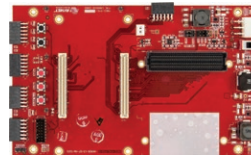
- LPC FMC expansion connector
- Up to 4 Pmod™ expansion connectors

#### Arduino Carrier Card

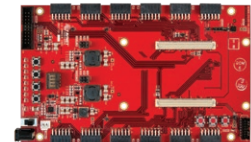
- Shield and Peripheral Module expansion (2x6 pin connectors)

#### I/O Carrier Card

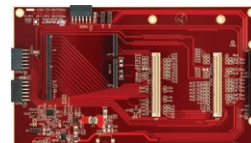
- Up to 12 Pmod™ expansion connectors



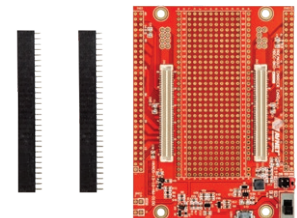
FMC Carrier Card



I/O Carrier Card



Arduino Carrier Card



Breakout Carrier Card

## /ULTRAZED-EG™

### FEATURES

#### PCIe Carrier Card

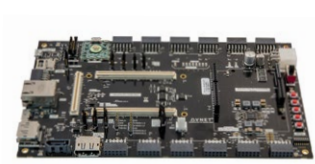
- LPC FMC Connector
- PCIe x1Endpoint
- 1 PS Pmod
- 2 PL Pmods
- DP, Ethernet, USB
- SATA

#### IO Carrier Card

- Arduino Slot
- 1 PS Pmod
- 12 PL Pmods
- DP, Ethernet, USB
- SATA



PCIe Carrier Card



I/O Carrier Card

PCB design source files available for all carriers to qualified customers.

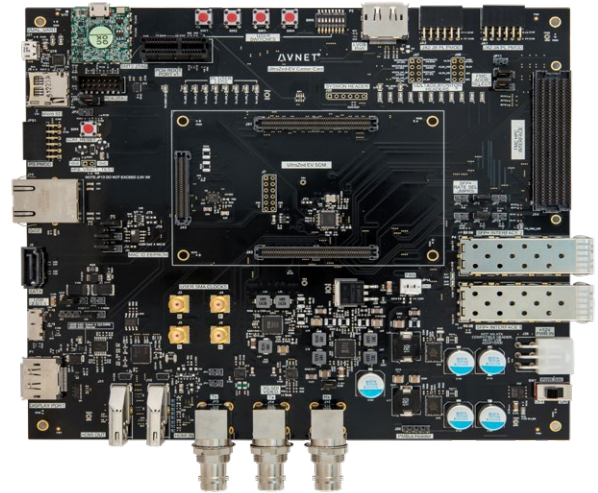
Contact your local Avnet FAE for more information.

# System-on-Module Carrier Cards

## /ULTRAZED-EV™

### FEATURES

- Single UltraZed-EV SOM slot
  - microSD card connector
  - PS PMOD header
  - Dual USB-UART
  - DisplayPort connector
  - USB 2.0/3.0 connector
  - SATA 3.0 host interface
  - PCIe Gen2 x1 Root Port
  - RJ45 connector
  - 2 PL PMOD headers
  - PL user DIP and Push switches
  - PL user LEDs
  - PS user LED
  - PMBus header
  - PS VBATT battery
  - SOM reset switch
  - Differential clock generator
  - Digilent USB-JTAG module
  - PC4 JTAG header
  - I2C MAC Address device
  - LVDS Touch Panel interface
  - HDMI In/Out Interfaces
  - 3G-SDI In/Out Interfaces
  - Dual SFP+ interfaces
  - FMC HPC slot
- 3 JX micro connectors (2 x 200-pin, 1 x 120-pin) providing the following connections to the UltraZed-EV SOM:
    - 152 user PL I/O pins
    - 26 user PS MIO pins (one full MIO bank)
    - 4 PS GTR transceivers
    - 4 PS GTR reference clock inputs
    - 16 PL GTH transceivers
    - 8 PL GTH reference clock inputs
    - PS JTAG interface
    - PL SYSMON interface
    - USB 2.0 connector interface
    - Gigabit Ethernet RJ45 connector interface
    - PMBus interface
    - SOM PS VBATT battery input
    - Carrier Card I2C interface
    - SOM Reset input, SOM Power Good output, and Carrier Card Reset output
    - Carrier Card interrupt input
    - Power and Ground pins



UltraZed-EV Carrier Card

PCB design source files available  
for all carriers to qualified customers.

Contact your local Avnet FAE  
for more information.

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