

Avnet UltraZed-EV™ SOM

Powered by the Xilinx Zynq® UltraScale+™ MPSoC EV Family

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 high-speed 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.

Designers can simply design their own carrier card, plug-in UltraZed-EV SOM, and start their application development with a proven Zynq UltraScale+ MPSoC sub-system. Available with the Zynq UltraScale+ MPSoC **XCZU7EV-FBVB900**, **XCZU5EV-FBVB900**, or **XCZU4EV-FBVB900** device (the UltraZed-EV SOM will also support the **XCZU4EG**, **XCZU5EG**, and **XCZU7EG** device in the FBVB900 package), the UltraZed-EV SOM enables designers to build multimedia, automotive ADAS, surveillance, and other embedded vision applications with confidence and ease. 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).

Avnet UltraZed-EV SOM/Zynq UltraScale+ MPSoC Device Feature			
Resources	Feature	XCZU7EV-FBVB900	XCZU5EV-FBVB900
Zynq UltraScale+ MPSoC Processing System (PS)	Application Processing Unit – 64-bit Cortex-A53	4 APUs @ 1.2 – 1.5 GHz	
	Real-Time Processing Unit – 32-bit Cortex-R5	2 RPU @ 500 – 600 MHz	
	Graphic Processing Unit – ARM Mali™-400 MP2	1 GPU @ 600 – 667 MHz	
	Embedded/External Memory	256KB On-Chip RAM, DDR4-2400 (64-bit), QSPI, eMMC	
	General Connectivity	USB 2.0, UART, CAN, I2C, SPI, GPIO	
	High-Speed Connectivity	PCIe Gen1/2, SATA 3.0, DisplayPort, USB 3.0, SGMII	
Zynq UltraScale+ MPSoC Programmable Logic (PL)	Video Codec Unit (VCU) – H.264/H.265	1	1
	CLB LUTs	230,400	117,120
	Block RAM (Mb)	11.0	5.1
	DSP Slices	1,728	1,056
	High Performance I/O	156	156
	High Density I/O	48	48
	System Monitor	2	2
	PCIe Gen3 x16 and Gen4 x8	2	2
	GTH Transceivers @ up to 16.3Gbps	16	16

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Resources	Feature	XCZU7EV-FBVB900	XCZU5EV-FBVB900
Avnet UltraZed-EV SOM On-board Resources	Zynq UltraScale+ MPSoC (All Speed Grades)	✓	✓
	Primary Boot Device	Dual QSPI Flash (64MB)	
	Primary/Secondary Boot Device	eMMC (8GB, x8)	
	PS System Memory	DDR4-2400 (4GB, x64)	
	PL Memory	DDR4-2400 (1GB, x16)	
	USB 2.0 ULPI PHY	✓	
	Gigabit Ethernet RGMII PHY	✓	
	I2C EEPROM	2Kb	
	Processing System Reference Clock Input	33.33 MHz	
Avnet UltraZed-EV SOM External Interfaces	USB 2.0/3.0 OTG/Host	✓	
	Gigabit Ethernet	✓	
	Display Port 1.2a, 4K	✓	
	SATA Host 3.0	✓	
	PCIe Endpoint/Root Port, Gen 1/2/3/4	✓	
	GTH Transceivers @ up to 16.3Gbps	16	
	Programmable Logic High-Performance I/O	104	
	Programmable Logic High-Density I/O	48	
	microSD/SD Card	✓	
	System Monitor	✓	
	SDIO	2	
	UART	2	
	I2C	2	
	SPI	2	
	CAN	2	
	PMBus	✓	
JTAG	✓		
Avnet UltraZed-EV SOM Power Management	Input Power	5 – 12V DC	
	Programmable PMBus Voltage Regulators	✓	
	Separate PS and PL Power Domains	✓	
	PS Low Power Mode Support	✓	
	Runtime Power Management Support via PMBus	✓	

For additional information on Avnet's [UltraZed-EV SOM](#) and development platform options, please contact your local Avnet FAE.