

iW-RainboW- G35V

Zynq UltraScale+ MPSoC (ZU19/17/11EG) 3U VPX Plug-In Module (Switch Profile)

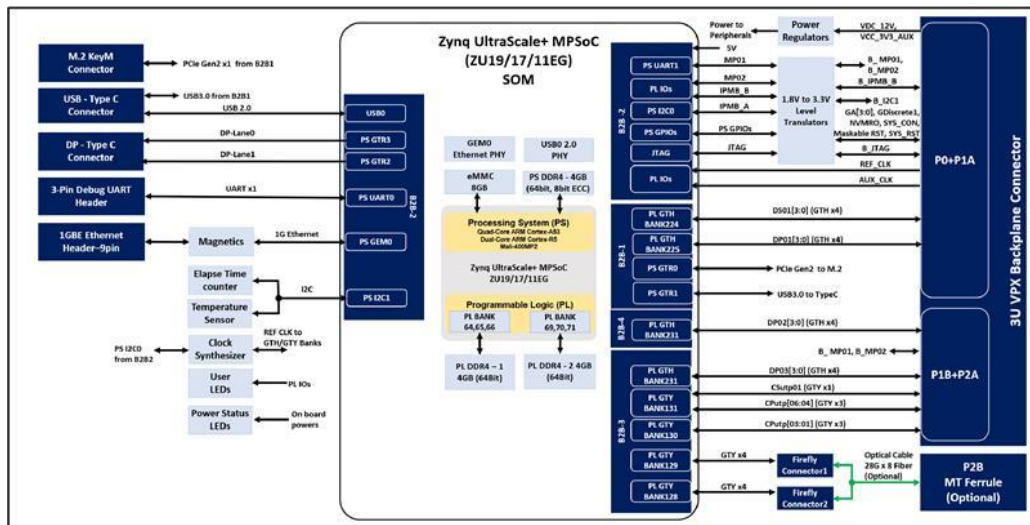
iWave's 3U-VPX Plug-in Module based on ZU19/17/11EG Zynq UltraScale+ MPSoC SOM, comprises of the Zynq UltraScale+ MPSoC SOM and a 3U-VPX Carrier board. The SOM boasts a 64-bit 4GB DDR4 RAM for the PS (Processing System), featuring 8-bit ECC, and a 64-bit Dual 4GB DDR4 RAM for the PL (Programmable Logic). The Zynq UltraScale+ MPSoC (ZU19/17/11EG) 3U-VPX Plug-in Module is equipped with VPX Connectors (P1A+P1B & P1B+P2A) and an MT Ferrule Connector (P2B). This VPX Module offers a seamless Ethernet interface, delivering 1GBase-KX/10GBase-KR connectivity to the Backplane. Furthermore, there's an optional feature for PCIe Gen3 support through the VPX Connector's Data Plane and Expansion Switch.



Highlights

- ❖ Ethernet and PCIe Hybrid Switch
- ❖ Compatible with ZU19/17/11EG Zynq™ UltraScale+™ Devices
- ❖ 64bit, 8GB PS DDR4 RAM with ECC (Expandable)
- ❖ Dual 64 bit, 8GB PL DDR4 RAM (Expandable)
- ❖ Up to 1,143K Logic cells & 523K LUTs
- ❖ 3U VPX Connectors based on ANSI/VITA 46.30 (P0+P1A & P1B+P2A)
- ❖ 8 Optical transceivers through MT Ferrule Connector (P2B) based on ANSI/VITA66.4

Block Diagram



Technical Specifications

ZU19/17/11 EG – Zynq UltraScale+ MPSoC	Processing System (PS) - Compatible SoCs – ZU11EG, ZU17EG & ZU19EG - Quad ARM Cortex A53 @1.5GHz - Dual-core ARM Cortex-R5 (up to 600MHz) - Mali-400 MP2 Graphics Processor @677MHz Programming Logic (PL/FPGA) - Up to 1,143K Logic cells & 522K LUTs	
RAM Memory	4GB DDR4 for PS with ECC 4GB DDR4 (64 Bit) for PL from BANK 64,65,66 4GB DDR4 (64 Bit) for PL from BANK 69,70,71	
On-SoM Flash	8GB eMMC Flash (Expandable)	
3U-VPX Front Panel Features	- USB3.0 & USB 2.0 through USB Type-C Connector 4K DisplayPort through Type-C Connector 1G Ethernet through 9-Pin Header	
Other On-Board Features	- PCIe Gen2 through M.2(Key-M) Connector - Quad User LEDs - Temperature Sensor - Time Elapse Counter	
Clock Generators	- Clock Synthesizer with 10 Outputs 3 LVDS Clock Buffers for Transceivers reference Clocks	
Slot Profile	SLT3-SWH-4F1U7U1J-14.8.7-n	
Module Profile	MOD3-SWH-4F1U7U1J-16.8.7-n	
3U-VPX Backplane Features		3U-VPX Connector (P0+P1A) - DP01[3:0] - 1G/2.5G/10G or PCIe Gen3 (using GTH Transceivers @ up to 16Gbps/lane) - DP02[3:0] - 1G/2.5G/10G Ethernet (using GTH Transceivers @ Upto 16Gbps/lane) 1 REF Clock Differential Pair Input 1 AUX Clock Differential Pair Input - I2C x 2 - JTAG - Geographical Address (GA[0:4] & GP) - Control Signals 12V - 7 Power pins and 3.3V_AUX 3U-VPX Connector (P1B+P2A) - DP02[0:2] - 1G/2.5G/10G Ethernet (using GTH Transceivers @ up to 16Gbps/lane) - DP03[3:0] - 1G/2.5G/10G Ethernet (using GTH Transceivers @ up to 16Gbps/lane) - CPUTp[6:1] - 1G/2.5G/10G/25G Ethernet (using GTY Transceivers @ up to 25Gbps/lane) - Csutp01 - 1G/2.5G/10G/25G Ethernet (using GTY Transceivers @ up to 25Gbps/lane) - MP01 and MP02 - Maskable Reset
MT Ferrule Connector (P2B)		8 Fiber Optical Transceiver using two Firefly Connector (using GTY Transceivers @ up to 28.125Gbps)
Form Factor		160mm X 100mm
Power Input		12V through 7 Power Pins of P0
Environment Spec.		RoHS, REACH Compliant & CE

Ordering Information

iW-G35V-19EG-4E004G-E008G-BIA

ZU19EG (-2) MPSoC (XCZU19EG-2FFVC1760I), 4GB PS DDR4 with ECC, Dual 4GB PL DDR4, 8GB eMMC, 3U VPX Backplane connectors, 3U VPX Heatspreader with Wedgelocks & Ejector and without MT Ferrule (no Optical)

iW-G35V-19EG-4E004G-E008G-BIB

ZU19EG (-2) MPSoC (XCZU19EG-2FFVC1760I), 4GB PS DDR4 with ECC, Dual 4GB PL DDR4, 8GB EMMC, 3U VPX Backplane connectors, MT Ferrule with Single Firefly (8 Optical – 4 TX & 4 RX), 3U VPX Heatspreader with Wedgelocks & Ejector

Product accessories



Thermal Solutions

For any highly integrated FPGA VPX Plug-in Module, thermal design is a very important factor. iWave supports a VITA 65.0 compliant 3U Conduction Cooled heat spreader.

Applications

■ Military & Aerospace Systems

Designed for Military & Aerospace systems, It delivers high-performance processing, secure computing, and rugged reliability for mission-critical applications.

■ Embedded Computing

Optimized for embedded computing, It delivers high-performance processing, low-latency data handling, and scalable integration for advanced embedded systems..

■ Data Center & Network Infrastructure

Ideal for Data Center & Network Infrastructure, it enables high-speed data processing, low-latency networking, and scalable acceleration for next-generation communication systems.

■ Sensor Networks and Telecommunications

Optimized for Sensor Networks and Telecommunications, it delivers high-speed signal processing, real-time data analytics, and reliable connectivity for advanced communication systems.

A Global Leader in Embedded Systems Engineering and Solutions

Since 1999, we have pioneered leadership in embedded systems technology, establishing ourselves as a strategic embedded technology partner for advanced solutions. Our comprehensive portfolio encompasses ARM and FPGA System on Modules, COTS FPGA solutions, and ODM solutions which include Telematics, Gateways & HMI Solutions.

Beyond our robust product ecosystem, we provide comprehensive ODM support with specialized custom design and manufacturing capabilities, enabling customers to accelerate and optimize their product development roadmaps. With a strategic focus on industrial, automotive, medical, and avionics markets, we deliver innovative technology solutions to global clients.

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