

iW-RainboW-G36M

Zynq UltraScale+ MPSoC (ZU5/4/3T/3/2/1) System on Module

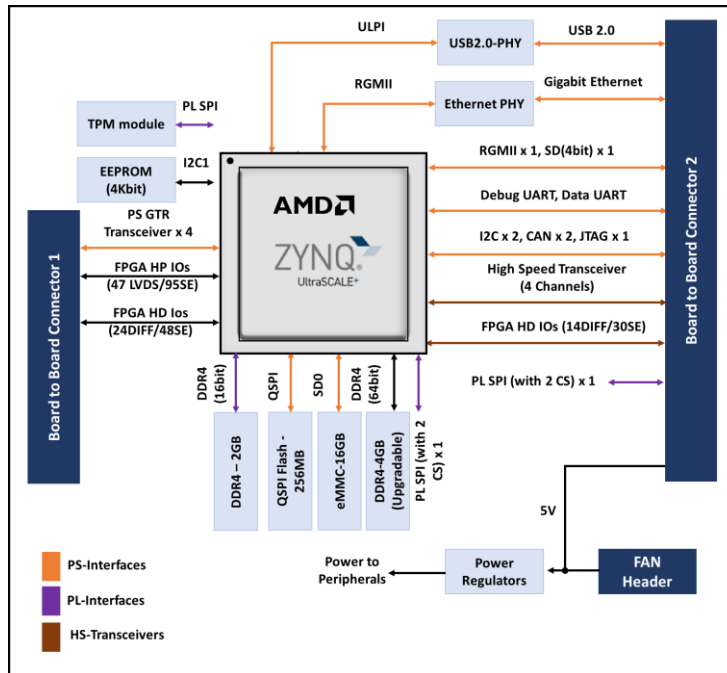
iWave's Zynq UltraScale+ MPSoC (ZU5/4/3T/3/2/1) SOM, boasts a 64-bit 4GB DDR4 RAM for the PS (Processing System) and a 16-bit 2GB DDR4 RAM for the PL (Programmable Logic). The Zynq UltraScale+ MPSoC SOM is compatible with ZU5, ZU4, ZU3T, ZU3, ZU2 and ZU1 MPSoC devices of SFVC784 package. The module is capable of high-speed connectivity peripherals such as PCIe, USB3.0, SATA and Gigabit Ethernet.



Highlights

- ❖ Zynq™ UltraScale+™ ZU5/4/3T/3/2/1 with SFVC784 Package
- ❖ 16bit, 2GB PL & 64bit, 2GB PS DDR4 RAM (Expandable)
- ❖ 16GB eMMC Flash
- ❖ 256MB QSPI Flash
- ❖ 4 High-Speed Transceiver lanes
- ❖ 4 x PS GTR Transceivers
- ❖ Up to 256.2K Logic cells & 117.12K LUTs
- ❖ On-SOM Gigabit Ethernet PHY
- ❖ USB2.0 transceiver
- ❖ RGMII Interface or ULPI Interface x 1

Block Diagram



Technical Specifications

ZU5/4/3T/3/2/1 – Zynq UltraScale+ MPSoC SOM	Processing System (PS): - Quad ARM Cortex A53 @1.5GHz - Dual-core ARM Cortex-R5 (up to 600MHz) - Mali™-400 MP2 Graphics Processor @677MHz Programmable Logic (PL/FPGA): - Up to 256.2K Logic cells & 117.12K LUTs	Board-to-Board Connector Features - RGMII x1 Port - USB 2.0 x1 Port - SD (4bit) x 1 Port - CAN Interface x2 Ports - Debug UART x1 Port - Data UART x1 Port - I2C x2 Ports, JTAG From PL/FPGA Block - GTH High Speed Transceivers x4 87 Differential I/Os 39 PLSYSMON Differential Analog I/Os 176 Single Ended I/Os - SPI x1 (With 2 CS) Port
RAM Memory	64bit 4GB DDR4 for PS 16bit 2GB DDR4 for FPGA from BANK 64	
On-SoM Flash	16GB eMMC Flash (Expandable) 256MB QSPI Flash 4Kbit EEPROM	
On-SOM Features	- Gigabit Ethernet PHY Transceiver - USB 2.0 Transceiver - Trusted Platform Module 2.0 - On-SOM Clock Synthesizer with 10 Outputs - Fan Header	Software Features - Multi OS Support: Linux, Ubuntu, VxWorks, PYNQ, Baremetal - Security: Secure boot, TPM, watchdog, multiboot - Docker & QEMU support - Dynamic FPGA configuration - Flexible boot options - BIST, 100G & video support
Zynq Ultrascale+ MPSoC PL Interfaces	- PL Transceivers x 4 @12.5Gbps 47 LVDS/95 SE from HP BANKs 24 DIFF/48 SE from HD Banks	Operating Temp. -40°C to +85°C (Industrial Grade)
Board-to-Board Connector Features	From PS Block - PS GTR Transceivers x 4 - Gigabit Ethernet	Form Factor 50mm x 60mm (REN)
		Power Input 5V through B2B Connector
		Environment Spec. REACH & RoHS3 Compliant

Ordering Information

iW-G36M-5EV1-4D004G-E016G-BEA	ZU5EV (-1) MPSOC, 4GB PS DDR4, 2GB PL DDR4, 16GB eMMC, Extended
iW-G36M-4EV1-4D004G-E016G-BEA	ZU4EV (-1) MPSOC, 4GB PS DDR4, 2GB PL DDR4, 16GB eMMC, Extended
iW-G36M-3TC1-4D004G-E016G-BEA	ZU3TCG (-1) MPSOC, 4GB PS DDR4, 16GB eMMC, extended
iW-G36M-3EG1-4D004G-E016G-BIA	ZU3EG (-1) MPSOC, 4GB PS DDR4, 16GB eMMC, Industrial
iW-G36M-2CG1-4D004G-E016G-BEA	ZU2CG (-1) MPSOC, 4GB PS DDR4 16GB eMMC, extended

Product accessories



Development Kit

Zynq UltraScale+ MPSoc Devkit features FMC+ (HPC), a 12-pin PMOD, SMA connectors from PL, PCIe x 4, DisplayPort, USB 3.0 & USB 2.0 OTG (Type-C), M.2 SATA



Thermal Solutions

For any highly integrated System on Modules, thermal design is a very important factor. iWave supports a Fan sink for MPSoc Based SOM.

Applications

- **Video Processing**

Video processing applications enhance, analyze, and manipulate video content for tasks like encoding, streaming, object detection, and real-time editing.

- **Sensor Fusion**

Enables advanced Sensor Fusion with real-time data processing, integration of multiple sensors, and high-speed connectivity for precise decision

- **Secure Solutions**

Secure solutions applications ensure data protection, encryption, authentication, and cybersecurity for secure communication and system integrity.

- **Networking**

Networking applications enable high-speed data transfer, connectivity, and communication across devices, systems, and infrastructures.

- **Military Construction**

Military construction applications involve designing and building secure, resilient infrastructure to support defense operations and strategic missions.

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.

mktg@iwave-global.com

iWave Global

Bangalore, India

iWave USA

Campbell, California

iWave Global East Coast LLC

New Jersey, USA

iWave Global

Ras Al Khaimah, UAE

iWave Global GmbH

Ratingen, Germany

iWave Europe

Rotterdam, Netherlands

iWave APAC

Taipei City, Taiwan

iWave Korea

Gyeonggi,-do, Korea

iWave Japan

Yokohama, Kanagawa

**iWave
Global**