iG-G36M

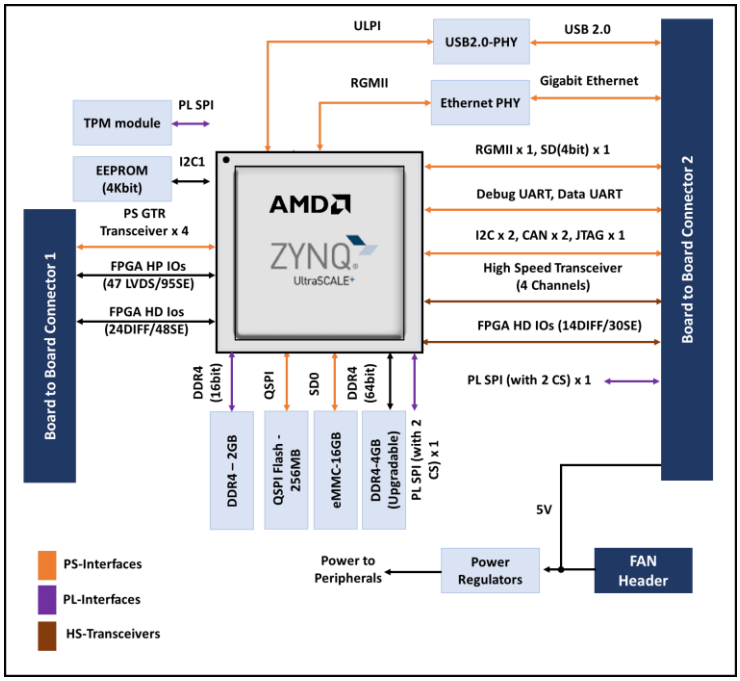
Zynq UltraScale+ MPSoC (ZU5/4/3T/3/2/1) System on Module

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
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
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
Board-to-Board Connector Features	**From PS Block** • PS GTR Transceivers x 4 • Gigabit Ethernet

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 IOs • 39 PLSYSMON Differential Analog IOs • 176 Single Ended IOs • SPI x1 (With 2 CS) Port
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
Operating Temp.	-40°C to +85°C (Industrial Grade)
Form Factor	50mm x 60mm (REN)
Power Input	5V through B2B Connector
Environment Spec.	REACH & RoHS3 Compliant

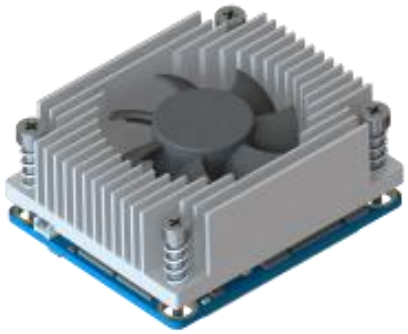
Ordering Information

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

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