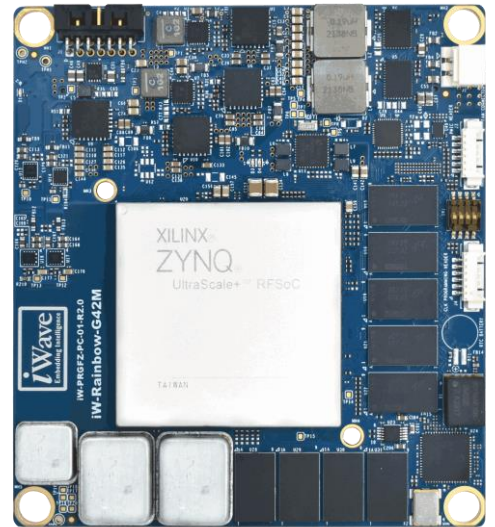


iW-RainboW- G42M

ZU49/ZU39/ZU29DR RFSoc

System on Module

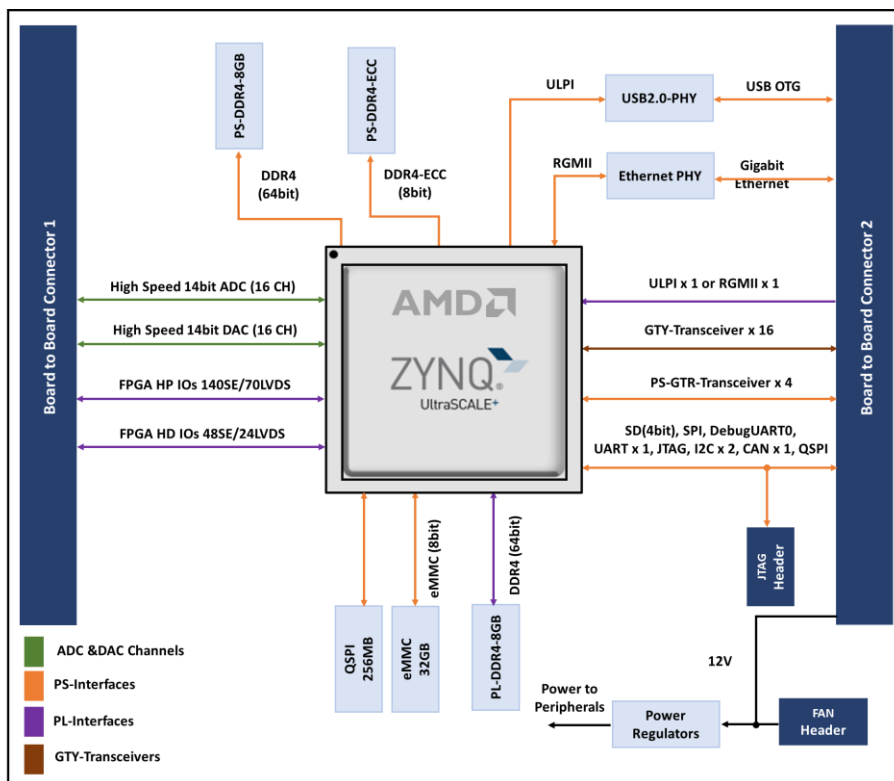
Zynq UltraScale+ RFSoc based System On Module features the Zynq UltraScale+ RFSoc ZU49/ZU39/ZU29 devices with FFVF1760 package. RFSoc supports Quad Cortex A53 up to 1.3GHz and Dual Cortex R5F up to 533MHz. SOM supports upto 16 channels of RF-ADCs @ 2.5Gsps and 16 channels of RF-DACs @ 9.85Gsps, all with excellent noise spectral density. SOM has integrated syncE & PTP synchronization and ultra low-noise programmable RF PLL. SOM also supports high speed connectivity peripherals such as PCIe, USB3.0, SATA3.1, Display port, Gigabit Ethernet through GTR high speed transceivers from RFSoc and 64-bit 8GB PL DDR4 and 64-bit 8GB PS DDR4 with ECC. Furthermore, it supports 16 GTY high speed Transceivers which can support up to 28.21Gbps to run demanding applications.



Highlights

- ❖ Zynq™ UltraScale+™ RFSoc Family Compatible with ZU49/ZU39/ZU29
- ❖ Compatible with ZU49/ZU39/ZU29DR devices
- ❖ Up to 930K Logic cells & 425K LUTs
- ❖ PL GTY High Speed Transceivers x 16 @28.21 Gbps
- ❖ 16 ADC Channels support up to 2.5Gsps
- ❖ 16 DAC Channels support up to 9.85Gsps

Block Diagram



Technical Specifications

CPU	AMD Zynq US+ RFSoc ZU49/ZU39/ZU29 Quad Cortex A53 @1.3GHz Dual Cortex R5F upto 533MHz 16 ADC Channels support up to 2.5Gsps 16 DAC Channels support up to 9.85Gsps
Memory	8GB DDR4 (64bit) PS with ECC 8GB DDR4 (64bit) for PL from BANK 64,65,66 32GB eMMC Flash (Expandable)
On SOM Features	- Integrated syncE & PTP Network Synchronization - Integrated Ultra low-noise programmable RF PLL 10/100/1000 Ethernet PHY for PS - USB 2.0 OTG Transceivers for PS - JTAG Header - Fan Header

Zynq Ultrascale+ RFSoc PL Interfaces	- PL GTY Transceivers x 16 up to 28.21Gbps 72 LVDS / 144SE from HP BANKs 24 DIFF / 48SE from HD BANKs - Gigabit Ethernet x 1 Port - USB 2.0 OTG x 1 Port - SPI X 1 Port - QSPI/SPI - I2C X 2 Ports - SD X 1 Port - Debug UART - DATA UART x 1 Port - JTAG - GEM3 or USB1 2.0 X 1 Port - PS Transceivers x 4 @6Gbps
Operating System	Linux
Operating Temp.	-40°C to +85°C (Industrial Grade)
Form Factor	100mm x 90mm
Power Input	12 V through B2B Connector 2
Environment Spec.	REACH & RoHS3 Compliant

Ordering Information

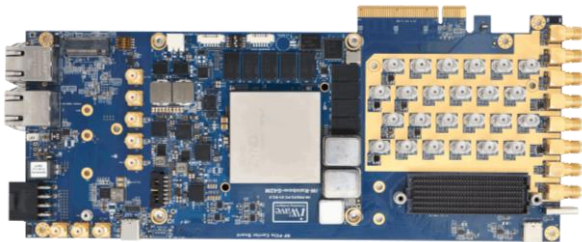
iW-G42M-ZU49-4E008G-E032G-LIE

ZU49DR -1 RFSoc with 8GB PS DDR4, 8GB FPGA DDR4, 32GB eMMC SOM with Linux

iW-G42M-ZU29-4E008G-E032G-LIE

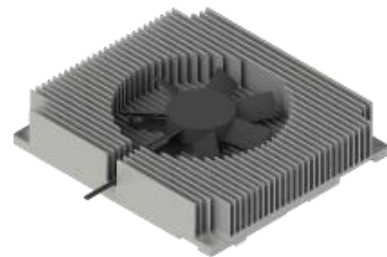
ZU29DR -1 Speed RFSoc with 8GB PS DDR4, 8GB FPGA DDR4, 32GB eMMC SOM with Linux

Product accessories



Development Kit

The iWave Zynq UltraScale+ RFSoc development kit includes a high-performance SOM with dedicated DDR4 memory for both processing and programmable logic, along with a PCIe-based carrier board featuring multiple SMA connectors and balun circuits for ADC/DAC validation.



Thermal Solutions

For any highly integrated System on Modules, thermal design is very important factor. iWave Supports heat Spreader and Fan Sink solution for RFSoc based SOM.

Applications

5G and LTE Wireless

Enable high-speed, low-latency communication for mobile networks, IoT, and critical real-time systems.

Satellite Communication

Enables long-distance wireless data transmission for broadband, navigation, broadcasting, and remote connectivity

Aerospace

It involves advanced communication, navigation, and radar systems for aviation and space exploration.

Defense

It uses advanced communication, radar, and electronic warfare systems for surveillance, security, and mission-critical operations

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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