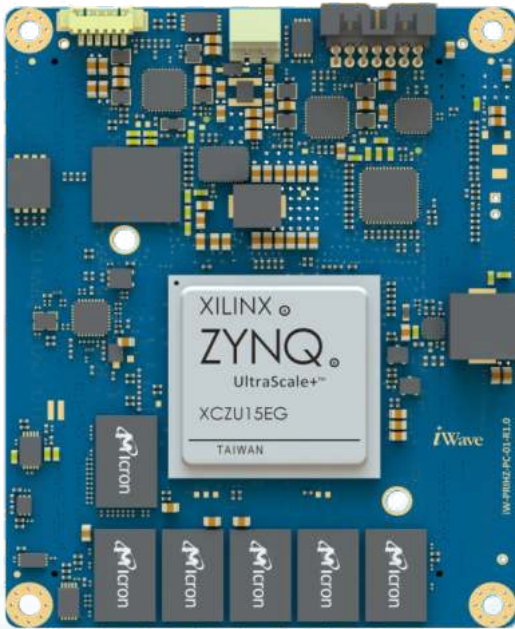


# System On Module iW-RainboW-G65M

## Zynq UltraScale+ MPSoC System On Module



Xilinx Zynq UltraScale+ SoC based System On Module features the Xilinx's Zynq UltraScale+ SoC CG/EG devices with FFVC900 Package. The MPSoC Supports Quad/Dual Cortex A53 up to 1.5GHz with programmable logic cells ranging from 469K to 747K. The SOM supports high speed connectivity peripherals such as PCIe, USB3.0, SATA3.1, Display port, Gigabit Ethernet through GTR high speed transceivers from MPSoC.

**Applications:** Industrial Motor Control, Sensor Fusion, Traffic engineering, Flight Navigation, Missile & Munitions, Missile Construction, Cloud Computing, Networking, Data Center, Medical, Endoscopy, Machine Vision.

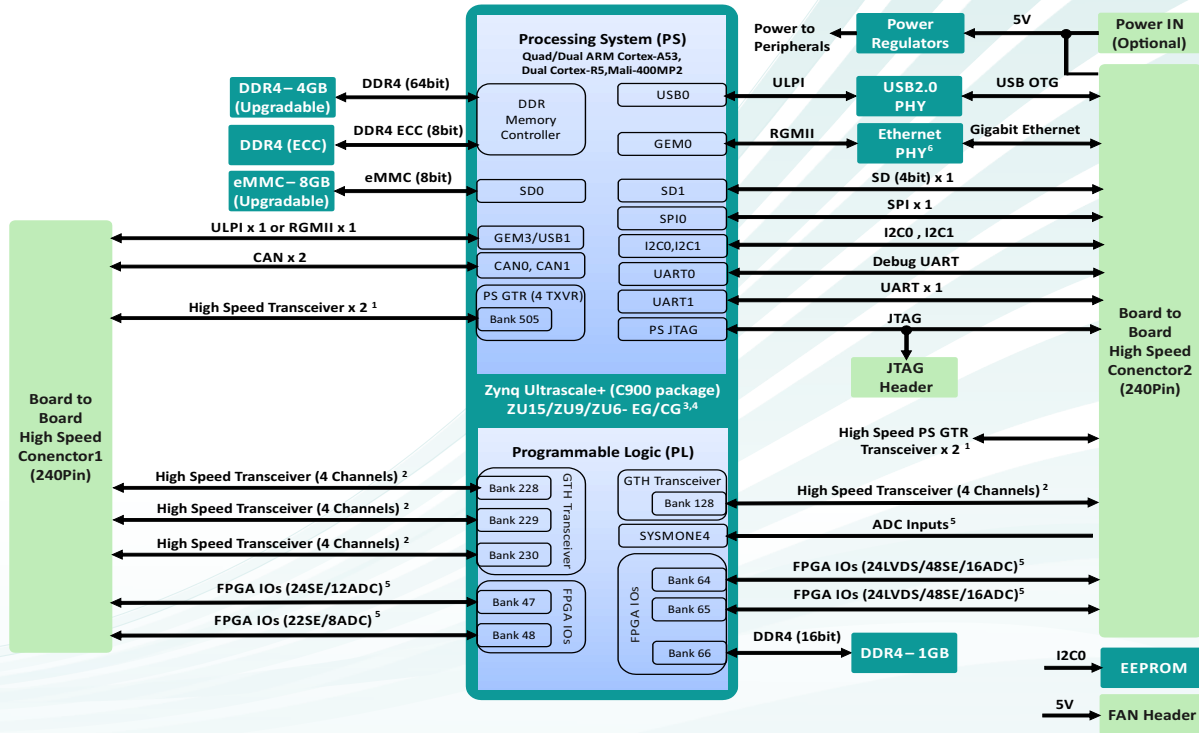
### iW-RainboW-G65M HIGHLIGHTS

- Quad/Dual Cortex A53 up to 1.5GHz
- Dual Cortex R5 up to 600MHz
- ARM Mali 400 MP2
- 16 Channels GTH Transceivers upto 16.3Gbps
- 4 Channels GTR Transceivers upto 6Gbps
- 48 LVDS Pairs/ 96 SE IOs, 46 SE FPGA IOs
- Industrial grade availability
- 10+ Years availability

### SPECIFICATIONS

<b>SoC:</b>	<b>Zynq Ultrascale+ MPSoC PS Interfaces:</b>
Xilinx Zynq UltraScale+ ZU15EG ZU6/9 CG/EG	Gigabit Ethernet x1 Port
Quad/Dual Cortex A53 @ 1.5GHz	USB2.0 OTG x1 Port
Dual Cortex R5, ARM Mali 400 MP2	SPI x 1 Port
<b>Memory:</b>	CAN x 2 Ports
4GB DDR4 for PS with ECC(Expandable up to 8GB)	I2C x 2 Ports
1GB DDR4 for PL(Expandable up to 2GB)	SD x 1 Port
8GB eMMC Flash(Expandable up to 128GB)	Debug UART
<b>On SOM Features:</b>	UART x 1 Port
10/100/1000 Ethernet PHY For PS	JTAG
USB2.0 OTG Transceiver for PS	GEM 3 or USB1 2.0 x 1 Port
4Kb EEPROM for board configuration	PS Transceivers x4 @ 6Gbps
<b>Headers:</b>	<b>Operating System: Linux</b>
JTAG, FAN	<b>Power Supply:</b>
<b>Dual Board to Board Connector interfaces</b>	5V through Board to Board connector2
<b>Zynq Ultrascale+ MPSoC PL Interfaces:</b>	<b>Temperature Support:</b>
PL Transceivers x 16 @ 16.3 Gbps	-40°C to +85°C (Industrial grade operation)
48 LVDS/96 SE from HP BANKS	<b>Form Factor:</b>
46 SE from HD Banks	95mm x 75mm

## Zynq Ultrascale+ MPSoC SOM Block Diagram



<sup>1</sup> PS GTR Transceiver supports data rates up to 6Gb/s and can be configured as PCIe/SATA/USB3.0/DisplayPort/Ethernet SGMII.  
<sup>2</sup> PL GTH Transceiver supports data rates up to 16.3Gb/s  
<sup>3</sup> EG devices supports Quad ARM Cortex-A53, Dual ARM Cortex-R5 & Mali-400MP2 GPU.CG devices supports Dual ARM Cortex-A53 & Dual ARM Cortex-R5 and doesn't support Mali GPU.  
<sup>4</sup> ZU6 & ZU9 supports both CG & EG. ZU15 supports only EG.  
<sup>5</sup> SYSMONE4 supports 10bit 200KSPS ADC and supports upto 17 Analog Inputs (One dedicated Analog input and 16 auxiliary analog input from any PL BANKS)  
<sup>6</sup> On-SOM Ethernet PHY have feature of PTP controlled in it.

### OS SUPPORT

Linux version 6.1.30  
Xilinx-v2023.2

### DELIVERABLES

Zynq Ultrascale+ Module  
Board Support Package  
Datasheet

### OPTIONAL KITS/Modules

Zynq Ultrascale+ Development Kit  
Heat Sink

### CUSTOM DEVELOPMENT

BSP Development/OS Porting  
Custom SOM/Carrier Development  
Custom Application/GUI Development  
Design Review and Support

iWave Systems Technologies is an ISO 9001:2015 certified company, head quartered in Bangalore India established in the year 1999. The company focuses on providing embedded solution and services for Industrial, Medical, Automotive and various other Embedded Computing applications. iWave Systems offers wide range of System On Modules and Single Board Computers built using wide range of CPU and FPGA SoC platforms with different form factors such as Qseven, SMARC, SODIMM and HPC by closely working with Tier-1 silicon companies such as NXP, Xilinx, Intel etc.

iWave Systems offers various state of art ready ODM solutions such as Connected Telematic Control Unit / OBD II devices for the automotive edge analytics, Comprehensive ARINC818 solutions for the low latency Aerospace applications and Rugged IP rated performance scalable HMI solutions for Industrial applications.

iWave Systems also provides comprehensive Engineering design services involving Embedded Hardware, FPGA and Software development. iWave offers carrier board and custom hardware development with manufacturing and certification services. iWave's Hardware expertise spans complex board design up to 30 layers; Analog, Digital & RF Designs; FPGA Development up to 3+ million gates and VHDL / Verilog RTL Development & Verification. Our Software expertise ranges from OS Porting, Firmware & Device Drivers Development and Wireless & Protocol

\*Optional items not included in the standard deliverables.

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### Zynq Ultrascale+ Module

The device can be ordered online from the iWave Website

<https://www.iwavesystems.com>

Or from our Local Partners in your region

<http://www.iwavesystems.com/about-us/business-partner.html>

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