

# Single Board Computer iW-RainboW-G36S

## ZU5/ZU4/ZU3/ZU2 Zynq Ultrascale+ SBC



The ZU5/ZU4/ZU3/ZU2 Zynq Ultrascale+ SBC is the industry-first Two in One Board which serves as both Single Board Computer and System On Module. By having MPSoC with all the necessary peripheral interface connectors like 4K HDMI Input & Output, 12G SDI Video Input & Output, Dual Gigabit Ethernet & USB3.0, etc., it serves as Single Board Computer and By having Board to Board Connectors with 120 FPGA IOs for expansion, it servers as System On Module.

The board features Xilinx Zynq Ultrascale+ MPSoC CG/EG/EV devices with a C784 package. Having MPSoC with the software-programmable capability of Application processor & hardware programmable capability of FPGA with a Real-time processor provides full freedom for users to design any product without limitation.

**APPLICATIONS:** AI/ML, Industrial IoT, Human Machine Interface, Advanced Driver Assistance Systems.

### iW-RainboW-G36S HIGHLIGHTS

Zynq Ultrascale+ MPSoC (ZU5/ZU4/ZU3/ZU2)

64bit PS DDR4 with ECC & 32bit PL DDR4

Board to Board Connector with 120 FPGA IOs

4K HDMI Input & Output Ports, Display Port

10G Ethernet through SFP+ Connector

Dual Gigabit Ethernet & USB3.0 ports

M.2 KeyB port with SATA/PCIe & USB3.0

802.11 a/b/g/n/ac Wi-Fi & BT 5.0

12G SDI Video Input & Output (Optional)

Compact form factor 100mm x 72mm

10+ Years long term support

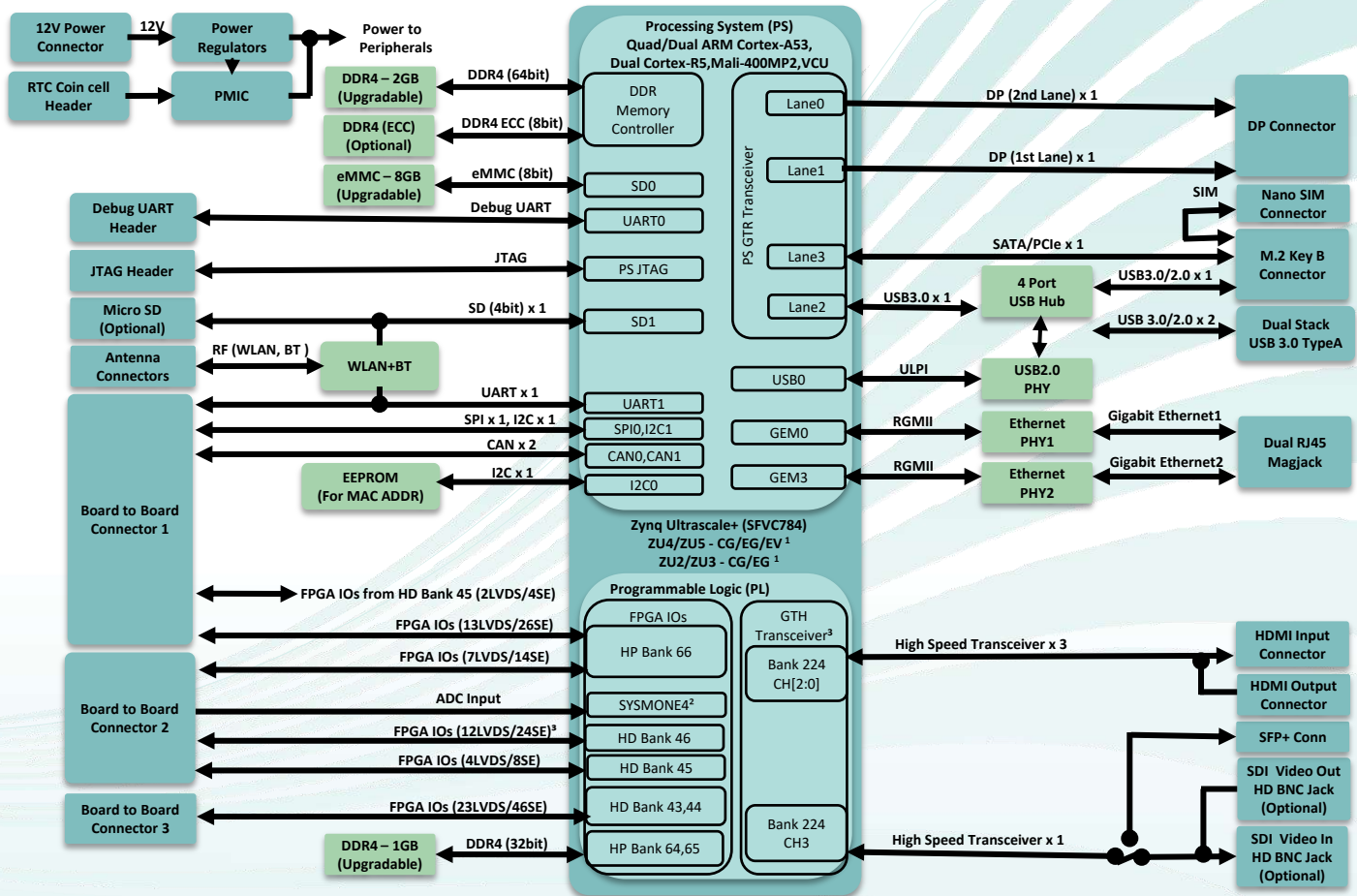
### SPECIFICATIONS

Zynq Ultrascale + MPSoC
Processing System (PS)
Quad/Dual Arm Cortex -A53 @ 1.5GHz
Dual Cortex-R5 @ 600MHz
H.264/H.265 Video Encoder/Decoder (VCU)
ARM Mali-400 MP2 GPU @677MHz
Programming Logic (PL)
Up to 256K Logic Cells
PL GTH Transceivers x 4 @ 12.5 Gbps
Memory Interfaces
64bit PS DDR4 with ECC
32bit PL DDR4
eMMC Flash
Micro SD Connector #
EEPROM for MAC Address
Features from PS:
WLAN & BT with Antenna Connectors
Dual Gigabit Ethernet through RJ45 Magjack
Dual USB3.0 Type A Jack
Display Port Connector
M.2 Key B Connector with SATA/PCIe & USB3.0
Debug UART Header
JTAG Header
RTC Coin Cell Header

Features from PL
4K HDMI Output Connector
4K HDMI Input Connector
SFP+ Connector
12G SDI Input through HD BNC Jack #
12G SDI Output through HD BNC Jack #
Board to Board Connectors
PS Interfaces
UART x 1
SPI x 1
CAN x 2
I2C x 1
PL Interfaces
FPGA IOs from HP Bank – 20LVDS/40SE
FPGA IOs from HD Bank – 41LVDS/82SE
OS Support
Linux
QNX*
Power Supply
12V input through 2.5mm Jack
Temperature Supported
-40°C to +85°C Industrial
RoHS2 and REACH Compliance
<b>Form Factor :</b> 100mm x 72mm

# Optional

## Zynq Ultrascale+ (ZU5/ZU4/ZU3/ZU2) SBC Block Diagram



<sup>1</sup> CG devices supports Dual ARM Cortex-A53 & Dual ARM Cortex-R5. EG devices supports Quad ARM Cortex-A53, Dual ARM Cortex-R5 & Mali-400MP2 GPU. EV devices supports Quad ARM Cortex-A53, Dual ARM Cortex-R5, Mali-400MP2 GPU & H.264/H.265 VCU.

<sup>2</sup> SYSMONE4 supports 10bit 200KSPS ADC and supports upto 17 Analog Inputs (One dedicated Analog input and 16 auxiliary analog input from any PL BANK)

<sup>3</sup> GTH Transceiver block is supported in ZU4 & ZU5 MPSoC with data rates up to 12.5Gb/s. GTH transceiver block is not supported in ZU2 & ZU3 MPSoC.

" " This symbol indicates Hardware assembly options available in the board and by default which option is supported. Contact iWave to support other assembly option.

### OS SUPPORT

Linux  
QNX\*

### DELIVERABLES

Zynq Ultrascale+ SBC  
Board Support Package  
User Manual

### OPTIONAL KITS/Modules

Power Adaptor  
Heat Sink

### CUSTOM DEVELOPMENT

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

iWave Systems Technologies, established in 1999, focuses on Product Engineering Services involving Embedded Hardware, Software & FPGA. The company designs and develops cutting edge products and solutions. iWave has been an innovator in the development of highly integrated, high performance, low power and low cost System On Modules and Development Platforms.

iWave System has won the confidence of its customers over the years by being a reliable partner in developing innovative products. Our engineers combine outstanding System design experience to deliver Quality Solutions. iWave specializes across Industrial, Automotive and Medical domains. We support our customers by being time efficient, which in turn helps our customers accelerate time to market their products. iWave is a Windows embedded Silver partner and a winner of the Partner Excellence Award.

\*Optional items not included in the standard deliverables.

Note: iWave reserves the right to change these specifications without notice as part of iWave continuous effort to meet the best in breed specification. The registered trademarks are proprietary of their respective owners.



### ZU5/ZU4/ZU3/ZU2 Zynq Ultrascale+ SBC

The device can be ordered online from the iWave Website

<http://www.iwavesystems.com/webforms>

Or from our Local Partners in your region

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