

System On Module iW-RainboW-G42M

Zynq UltraScale+ RFSoc SOM



Xilinx 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 @ 10Gsps, 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.

Applications: 5G and LTE Wireless, satellite communication, Aerospace & Defense.

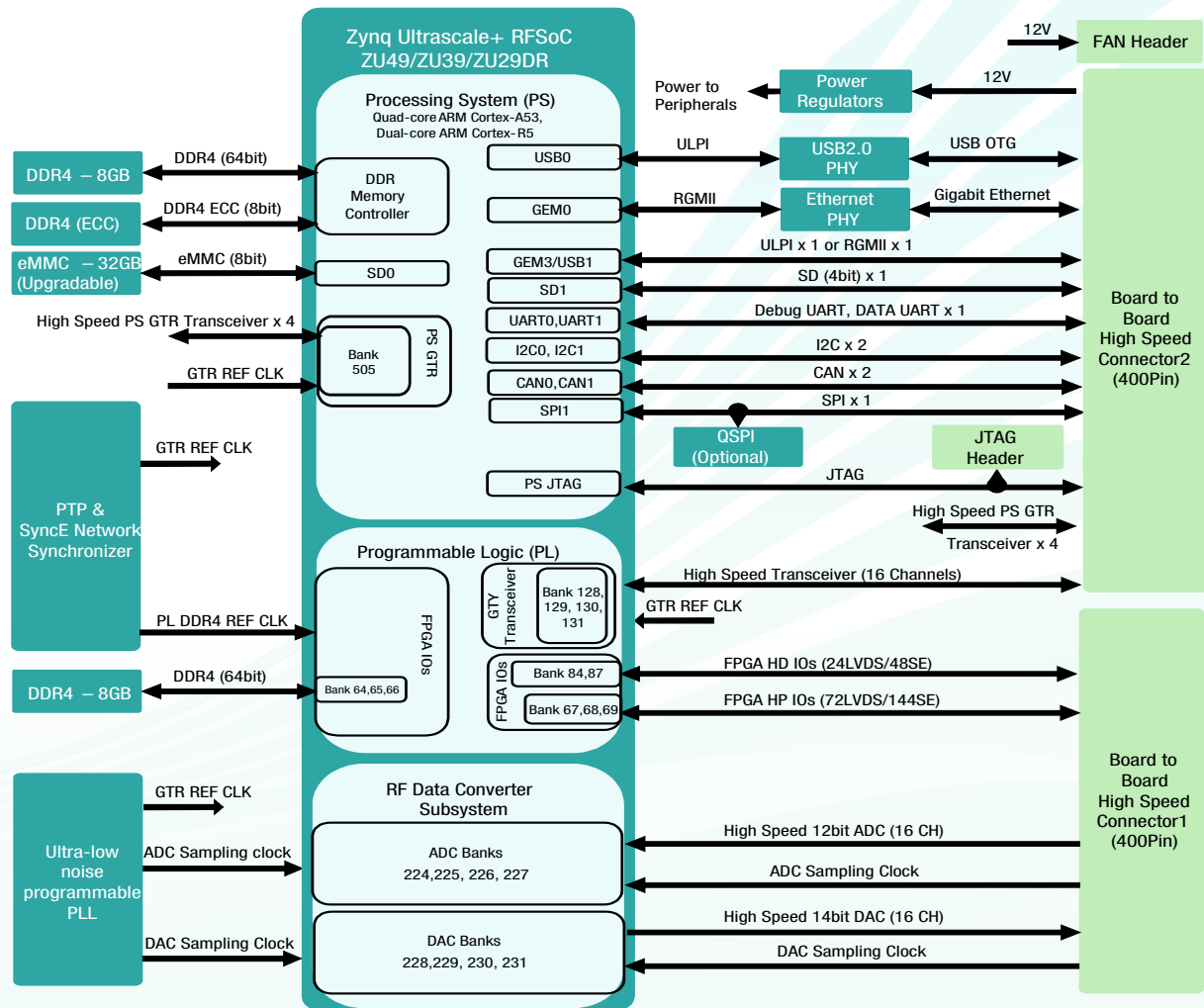
iW-RainboW-G42M HIGHLIGHTS

- Quad-core ARM Cortex-A53 MPCore upto 1.3GHz
- Dual-core Arm Cortex-R5F MPCore upto 533MHz
- Integrated Ultra low-noise programmable RF PLL
- Integrated syncE & PTP Network Synchronization
- Dual 400 pin Board to Board connectors with
 - 16 ADC Channels up to 2.5Gsps
 - 16 DAC Channels up to 10Gsps
 - 16 GTY Transceivers up to 28.21Gbps
 - Upto 192 FPGA IOs
- 64-bit PL DDR4
- 64-bit PS DDR with ECC
- 4 Channels GTR Transceivers up to 6Gbps
- Dual 10/100/1000 Mbps Ethernet

SPECIFICATIONS

On Board Features	72 LVDS / 144SE from HP BANKs
CPU	24 LVDS / 48SE from HD BANKs
Xilinx Zynq US+ RFSoc ZU49/ZU39/ZU29	Gigabit Ethernet x 1 Port
Quad Cortex A53 @ 1.3GHz	USB 2.0 OTG x 1 Port
Dual Cortex R5F upto 533MHz	SPI X 1 Port
16 ADC Channels support upto 2.5Gsps	QSPI/SPI
16 DAC Channels support upto 10Gsps	I2C X 2 Ports
Memory & Storage	SD X 1 Port
8GB DDR4 (64bit) PS with ECC	Debug UART
8GB DDR4 (64bit) for PL from BANK 64,65,66	DATA UART x 1 Port
32GB eMMC Flash (Expandable)	JTAG
On SOM Features	GEM3 or USB1 2.0 X 1 Port
Integrated syncE & PTP Network Synchronization	PS Transceivers x 4 @6Gbps
Integrated Ultra low-noise programmable RF PLL	OS Support
10/100/1000 Ethernet PHY for PS	Linux
USB 2.0 OTG Transceivers for PS	General Features
JTAG Header	Power Input
Fan Header	12V through Board to Board Connector 2
Zynq Ultrascale+ MPSoc PS Interfaces	Form Factor
Dual Board to Board Connector Interfaces:	100mm x 90mm
Zynq Ultrascale+ RFSoc PL Interfaces:	Operating Temperature
PL GTY Transceivers x 16 @ 28.21Gbps	-40°C to +85°C (Industrial grade)
	Environment Compliance:
	REACH & RoHS3

Zynq UltraScale+ RFSoc SOM Block Diagram



OS SUPPORT

Linux

DELIVERABLES

Zynq UltraScale+ RFSoc Module
Board Support Package
User Manual

OPTIONAL KITS/Modules

Zynq UltraScale+ RFSoc 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+ RFSoc SOM

The device can be ordered online from the iWave Website
<https://www.iwavesystems.com/product/zynq-ultrascale-rfsoc-som/>
Or from our Local Partners in your region
<http://www.iwavesystems.com/about-us/business-partner.html>

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