



iWave's Arria 10 SoC System on Module is based on the Arria 10 SX family device with F34 package. The module is equipped with 32-bit DDR4 PS memory support for HPS with ECC and 64-bit DDR4 support for FPGA. All of the IOs and high speed transceiver blocks will be available on the SOM board to board connectors.

APPLICATIONS: Test and measurement equipment, Control and intelligence equipment, diagnostic medical imaging equipment, Wireless infrastructure equipment, Compute and storage equipment, Broadcast and distribution equipment.

iW-RainboW-G24M

HIGHLIGHTS

Arria10 SOC & FPGA device compatibility

- SX270, SX320, SX480, SX570, Sx660
- GX270, GX320, GX480, GX570, Gx660

4GB DDR4 for FPGA

24 high speed transceivers @ 17.4Gbps

48/96 LVDS from BANK 3B & 3C

93 SE from BANK 2A & 3A

Industrial grade availability

10+ Years availability

SPECIFICATIONS

SOC: Arria10 SoC/FPGA

Dual Core, Cortex - A9 CPU @ 1.5GHz
SX480 (10AS048) FPGA Fabric

Memory

2GB DDR4 with ECC for HPS
4GB DDR4 for FPGA
Micro SD for HPS boot
8GB eMMC Flash for HPS boot (Optional)
QSPI Flash for FPGA

Communication:

10/100/100 Ethernet PHY For HPS
USB2.0 transceiver for HPS

Power Supply:

5V through SOMB2B connector 2

Temperature support:

-40°C to +85°C Industrial

Dual 240 Pin Board to Board Connector:

Arria10 SoC HPS IO interfaces:

Gigabit Ethernet x 1 Port
USB 2.0 OTG x 1 Port
SD (4bit) x 1 Port (optional)
SPI x 1 Port
I2C x 1 Port
HPS Dedicated UART Console
GPIOs-14 Nos

Arria10 SoC FPGA IO interfaces:

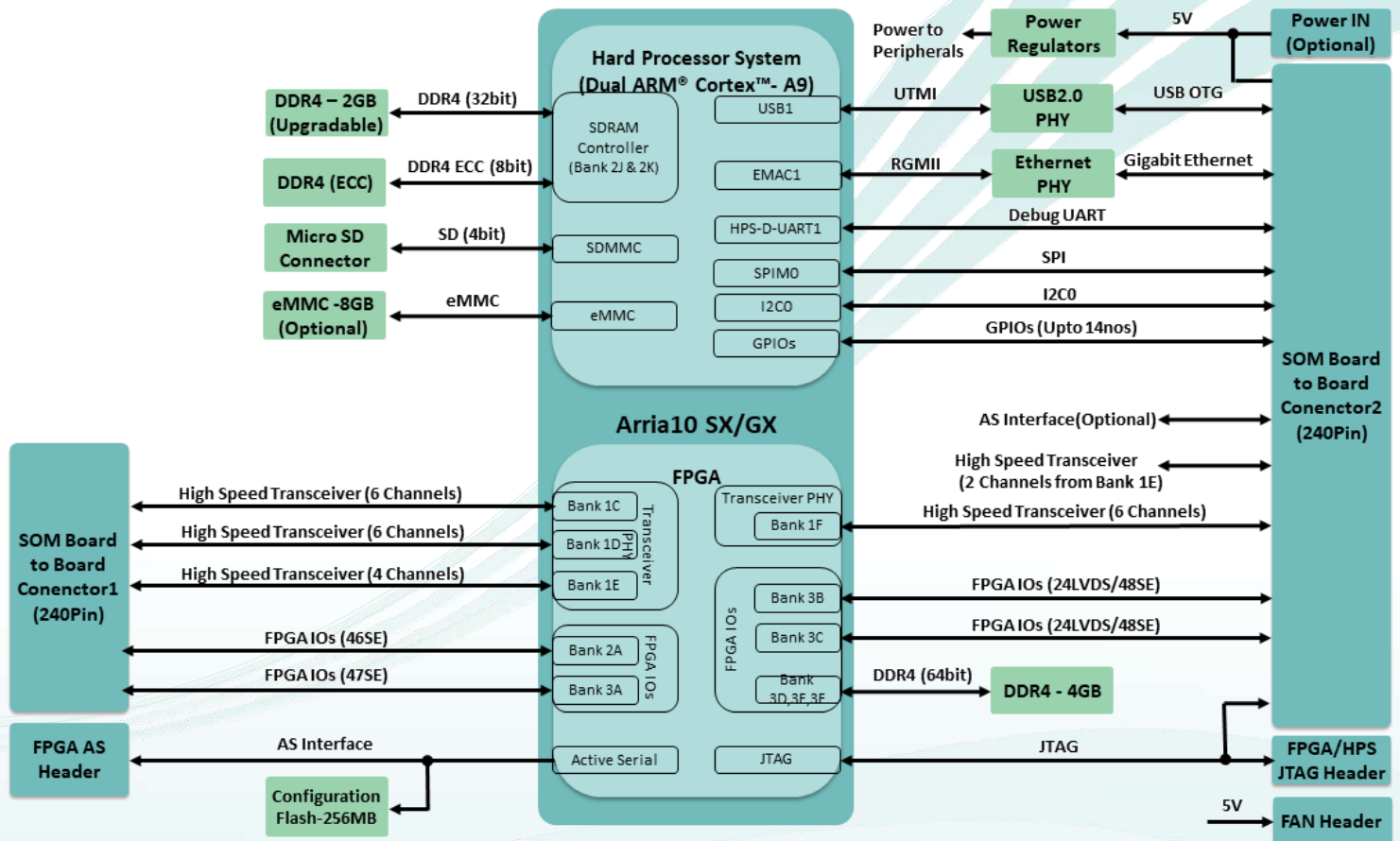
24 high - speed transceivers
48/96 LVDS from BANK 3B & 3C
93 SE from BANK 2A & 3A

Headers: HPS/FPGA JTAG, FPGAA headers

OS Support: Linux 4.9.78

Form Factor: 95mm x 75mm

Arria 10 SoC SOM - BLOCK DIAGRAM



Note:

- HPS (Hard Processing System) is supported only in Arria10 SoC family (SX) devices.
- All IOs in SOM Expansion connectors are 1.8V tolerant IOs. Bank 3B, 3C, 3A supports variable IO level setting from PMIC (1.8V, 1.5V, 1.35V, 1.2V).
- Each FPGA IO Bank (2A, 3A, 3B, 3C) which goes to Expansion connectors support two General Purpose Clock Input (1 in 2A) & two General Purpose Clock Output (LVDS/SE).
- Since 3D, 3E & 3F banks are available only in some version of Arria10 parts, FPGA DDR4 (64bit) can be supported only where these banks supported devices are used.

OS SUPPORT

Linux 4.9.78

DELIVERABLES

Arria 10 SoC SOM
Board Support Package
User Manual

OPTIONAL KITS/Modules

Arria 10 SoC Development Kit

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's expertise has brought out multiple SOMs based on ARM NXP, Intel Atom, Marvell and TI Processors.

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's continuous effort to meet the best in breed specification. The registered trademarks are proprietary of their respective owners.

Ordering the Arria 10 SoC SOM

The SOM Module can be ordered online from the iWave Website
<http://www.iwavesystems.com/webforms>

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