

System On Module iW-RainboW-G45M

Stratix 10 GX/SX SoC FPGA SOM



Intel Stratix 10 GX/SX SoC FPGA based System on Modules features the SX SoC FPGA Family devices - SX850, SX1100, SX1650, SX2100, SX2500 and SX2800 supports a Hard Processor System comprising of Quad-core 64-bit ARM Cortex-A53 up to 1.5GHz and Intel Stratix 10GX FPGA Family devices - GX850, GX1100, GX1650, GX2100, GX2500 & GX2800 with the NF43 -F1760 package. The Intel Stratix 10 SX SOM features 64-bit DDR4 for HPS with ECC and 2 x 64bit DDR4 for FPGA, USB2.0 PHY, Gigabit Ethernet PHY, eMMC and QSPI on SOM. USB2.0, Gigabit Ethernet, FPGA IOs and 48 High speed transceivers are made available to the Carrier Board through High-Speed Board to Board Connectors. The GXT Transceivers on Board are capable of supporting up to 28.3Gbps speed. Furthermore, the SOM features SMARTVID feature that adjusts the voltage as per the temperature and performance requirements thus lowering the Power Consumption of the device.

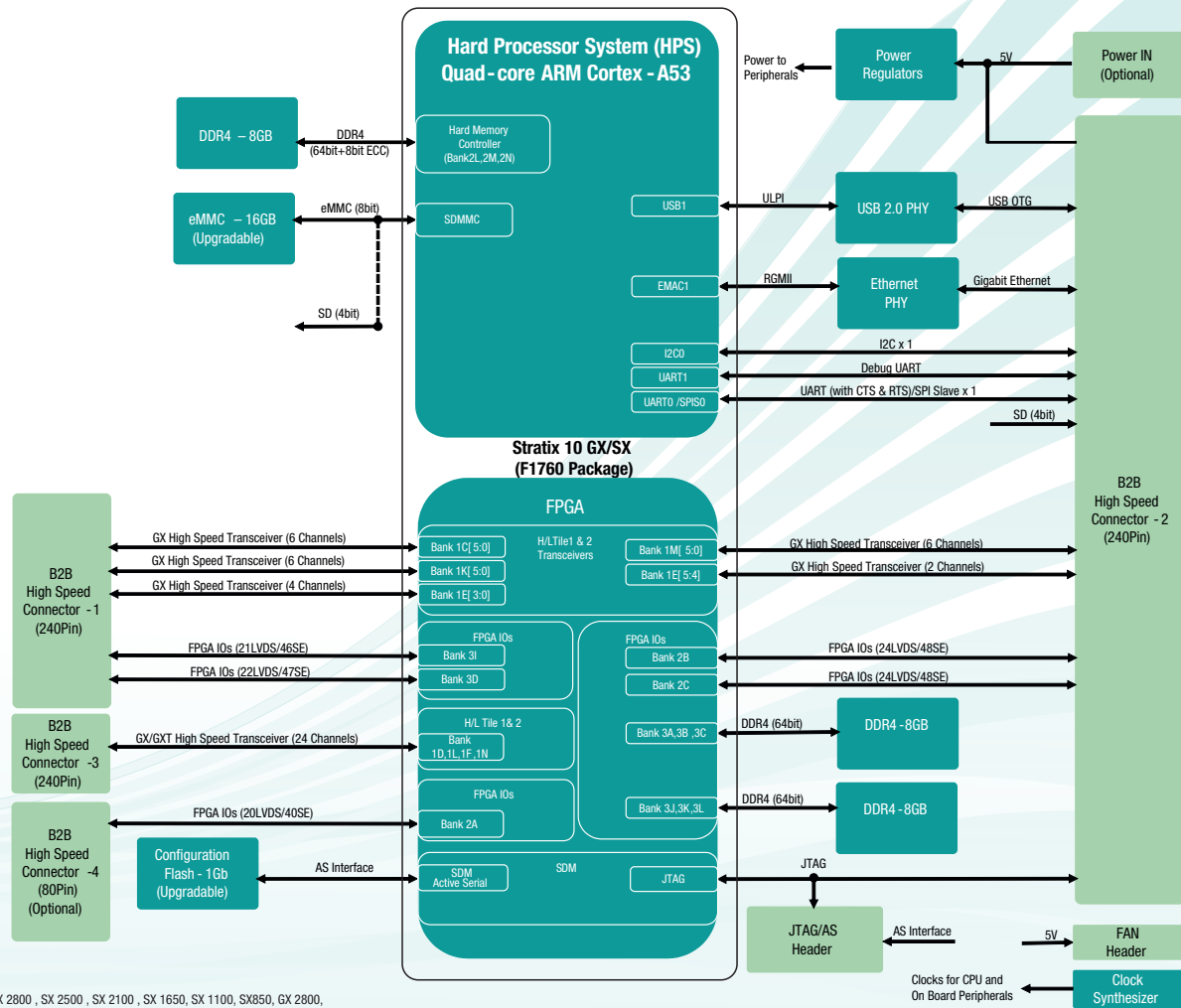
iW-RainboW-G45M HIGHLIGHTS

- Quad-Core 64bit ARM Cortex -A53 with MPU up to 1500MHz
- 32GB eMMC Flash (Upgradable)
- 1Gb QSPI Flash (Upgradable)
- 8GB DDR4 for HPS with ECC (64bit + 8bit) (Upgradable)
- 2 x 8GB DDR4 for FPGA (64bit + 64bit) (Upgradable)
- On SOM Gigabit Ethernet PHY
- Industrial Grade availability

SPECIFICATIONS

On Board Features	Stratix 10 SX HPS Features
Supported CPU Devices	Gigabit Ethernet x 1 Port
Stratix10 SX SoC:	USB2.0 OTG x 1 Port
SX850, SX1100, SX1650, SX2100, SX2500, SX2800	SPI/UART x 1 Port
Quad Core 64bit ARM Cortex -A53 with MPU	I2C x 1 Port
Up to 2753K Logic Elements & 9,33,120 ALMs	SDMMC x 1 Port
Stratix10 GX FPGA:	Debug UART
GX850, GX1100, GX1650, GX2100, GX2500, GX2800	Stratix 10 GX/SX SDM Features
Up to 2753K Logic Elements & 9,33,120 ALMs	QSPI Flash x 1 Port
Stratix 10 SX SoC FPGA HPS Interfaces	PMBus X 1 Port
32GB eMMC Flash (Upgradable)	JTAG x 1 Port
1GB QSPI Flash (Upgradable)	Control Signals
8GB DDR4 for HPS with ECC (64bit + 8bit) (Upgradable)	OS Support
2 x 8GB DDR4 for FPGA (64bit + 64bit) (Upgradable)	Linux
On SOM Features	Power Input
Gigabit Ethernet PHY for HPS	5V
USB2.0 OTG Transceiver for HPS	Operating Temperature
JTAG/ Active Serial Header, Fan Header	-40°C to +85°C (Industrial Grade)
	Form factor
	110mm x 75mm
	Environment Specification
	RoHS3 & REACH Compliant

Stratix 10 GX/SX SoC FPGA SOM Block Diagram



Compatible SoC: SX 2800 , SX 2500 , SX 2100 , SX 1650, SX 1100, SX850, GX 2800, GX 2500, GX 2100, GX 1650, GX 1100 and GX 850.
H-Tile supports upto 24 GX channels @ upto 17.4Gbps and upto 16 GXT channels @ 28.3Gbps. Tile supports upto 24 GX channels @ upto 17.4Gbps for Chip to chip & 12.5Gbps for Backplane. And upto 8 GXT channels @ 26.6Gbps for Chip to chip & 12.5Gbps for Backplane. for both Chip to chip & Backplane.
In H-Tile, only Channels 0, 1, 3, and 4 (of transceiver Bank) & in L-Tile, only Channels 2 and 3 (of transceiver Bank) can be configured as GXT channels
Bank 2A, 2B & 2C is for SX2800, SX2500, SX2100, SX1650, GX2800, GX2500, GX2100 & GX1650 devices. Bank 2C, 2F & 2K is for SX1100, SX850, GX2110, GX1660, GX1100 & GX850 devices.

OS SUPPORT

Linux

DELIVERABLES

Stratix 10 GX/SX SoC FPGA SOM
Board Support Package
User Manual

OPTIONAL KITS/Modules

Stratix 10 GX/SX SoC FPGA Development Kit
Fan 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.

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*Optional items not included in the standard deliverables.

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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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