

G24-AFibre-10/40G

Arria 10 SX480

Network and Storage Accelerator

SmartNIC Card - 10G/40G

The G24-AFibre-10/40G, powered by Intel Arria 10 SX480 SoC FPGA, delivers line-rate 10/40GbE performance with PCIe Gen3 x8, quad SFP+ ports, and active cooling for reliability. With a dual-core Arm Cortex A9, ECC DDR4 memory, and DPDK acceleration, it enables programmable packet processing, crypto and QoS offloads, and real-time analytics.

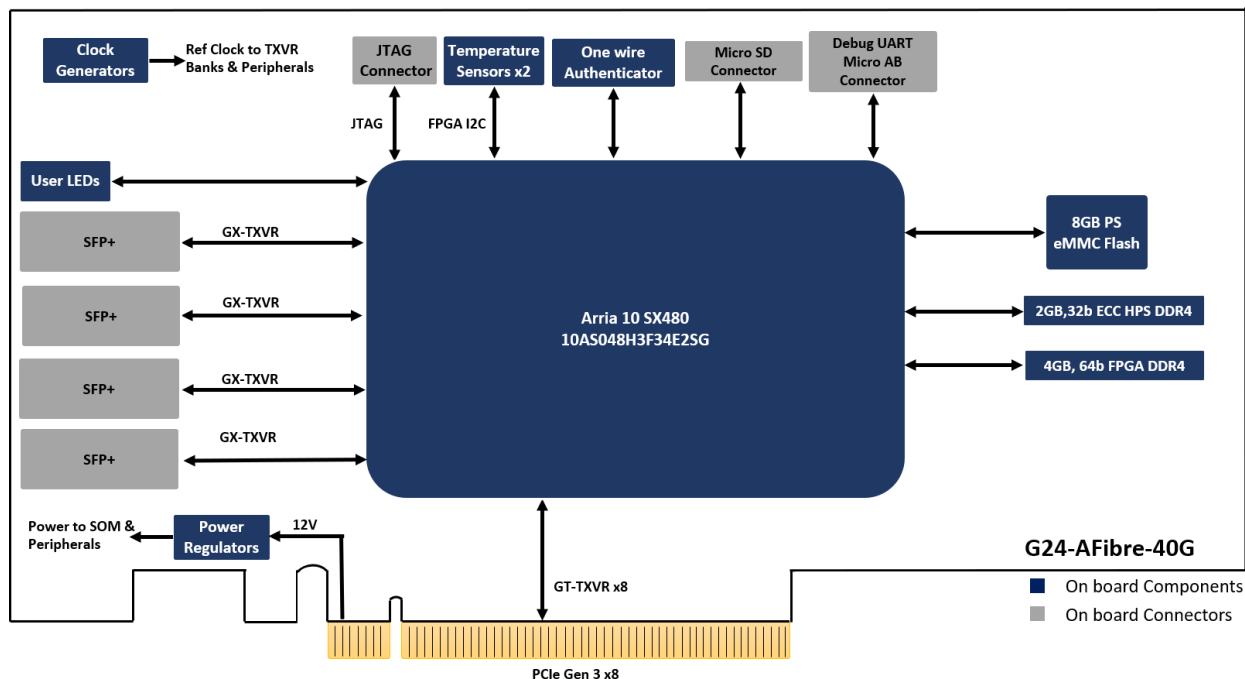
More than a NIC, the G24-AFibre is a scalable SmartNIC platform that drives efficiency, security, and control at the core of modern networks.



Highlights

- ❖ PCIe Gen3 x8 Host Interface
- ❖ Full Height, 1/2 Length, Single Slot with Active Cooling
- ❖ 4x 10GbE SFP+ Cages
- ❖ FPGA – 64 bit, 4GB DDR4 —expandable up to 8GB
- ❖ HPS - 32b + 8b ECC, 2GB DDR4 with expandable up to 4GB
- ❖ 8GB eMMC FPGA Flash + microSD Expansion Slot
- ❖ Micro-USB (UART) and JTAG Debug Interface
- ❖ Dual onboard Temperature sensors
- ❖ One wire Authenticator

Block Diagram



Technical Specifications

FPGA	- Arria 10 SX480 24 GT Transceivers up to 17.4 Gbps 480K Logic Elements 51904 Adaptive Logic Modules (ALM) 85651 Registers 3.75 Mb Embedded Memory 37 Fabric and I/O Phase Locked Loops (PLLs)	Processor System	Dual ARM Cortex-A9 @1.5GHz
Memory	- FPGA: 1x4GB x64 DDR4 - expandable up to 8GB @ 1067 MHz - HPS: 1x 2GBx 32 DDR with ECC - expandable up to 4GB@ 1067 MHz	Storage Media	1 x 8GB eMMC- expandable up to 128GB
PCIe Host Interface	Gen3 x8	Host Software	- Linux OS - DPDK
PCIe Bracket Connectors	4 x 10GbE SFP+ - User LEDs	PS Operating System	Linux
Network Interfaces	4 x 10GbE SFP+	Operating Temperature	0°C to 45°C
Line rates (Ethernet)	1 x 40G, 1 x 10G, 4 x 10G	Power Input	75W max from PCIe finger
		Cooling	Active cooling
		Form Factor	Full Height, Half Length Single Slot PCIe Card
		Enclosure	Aluminium alloy 5052- H32
		Compliance	- REACH & RoHS Compliant * - CE*

Product accessories

Thermal Solutions

For any highly integrated SmartNIC product, thermal design is a very important factor. iWave supports Heat/Fan Sink for Card

PCIe Bracket

Facilitates secure SmartNIC installation, ensures compatibility with standard chassis, and withstands mechanical stress.

Card Backplate

To support secure installation and mechanical stability of the SmartNIC, a Card Backplate is provided.

Applications

Traffic Generator

Deliver high-speed, line-rate traffic to stress test networks, validate infrastructure, and benchmark performance under real-world conditions.

Network Security

Fortify network defenses while ensuring integrity, confidentiality, and availability of mission-critical data.

Cloud and Data Center

Accelerate cloud and data center workloads with programmable, low-latency packet processing and seamless traffic management.

Packet Forward

Enable intelligent traffic steering, dynamic load balancing, and precision filtering to optimize network efficiency.

Additional Services

Custom hardware integration

Expanded specs and add-ons designed to meet your needs

Preloaded Servers

Ready-to-deploy in servers with flexible configurations

IP and Solutions

We reduce risk in both development and deployment with proven IP and solutions

Service

Documentation and issue tracking made easy at the iWave Support Center

A Global Leader in Embedded Systems Engineering and Solutions

Since 1999, we have pioneered leadership in embedded systems technology, establishing ourselves as a strategic embedded technology partner for advanced solutions. Our comprehensive portfolio encompasses ARM and FPGA System on Modules, COTS FPGA solutions, and ODM solutions which include Telematics, Gateways & HMI Solutions.

Beyond our robust product ecosystem, we provide comprehensive ODM support with specialized custom design and manufacturing capabilities, enabling customers to accelerate and optimize their product development roadmaps. With a strategic focus on industrial, automotive, medical, and avionics markets, we deliver innovative technology solutions to global clients.

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