

## HyperX™ Hardware Development Reference System

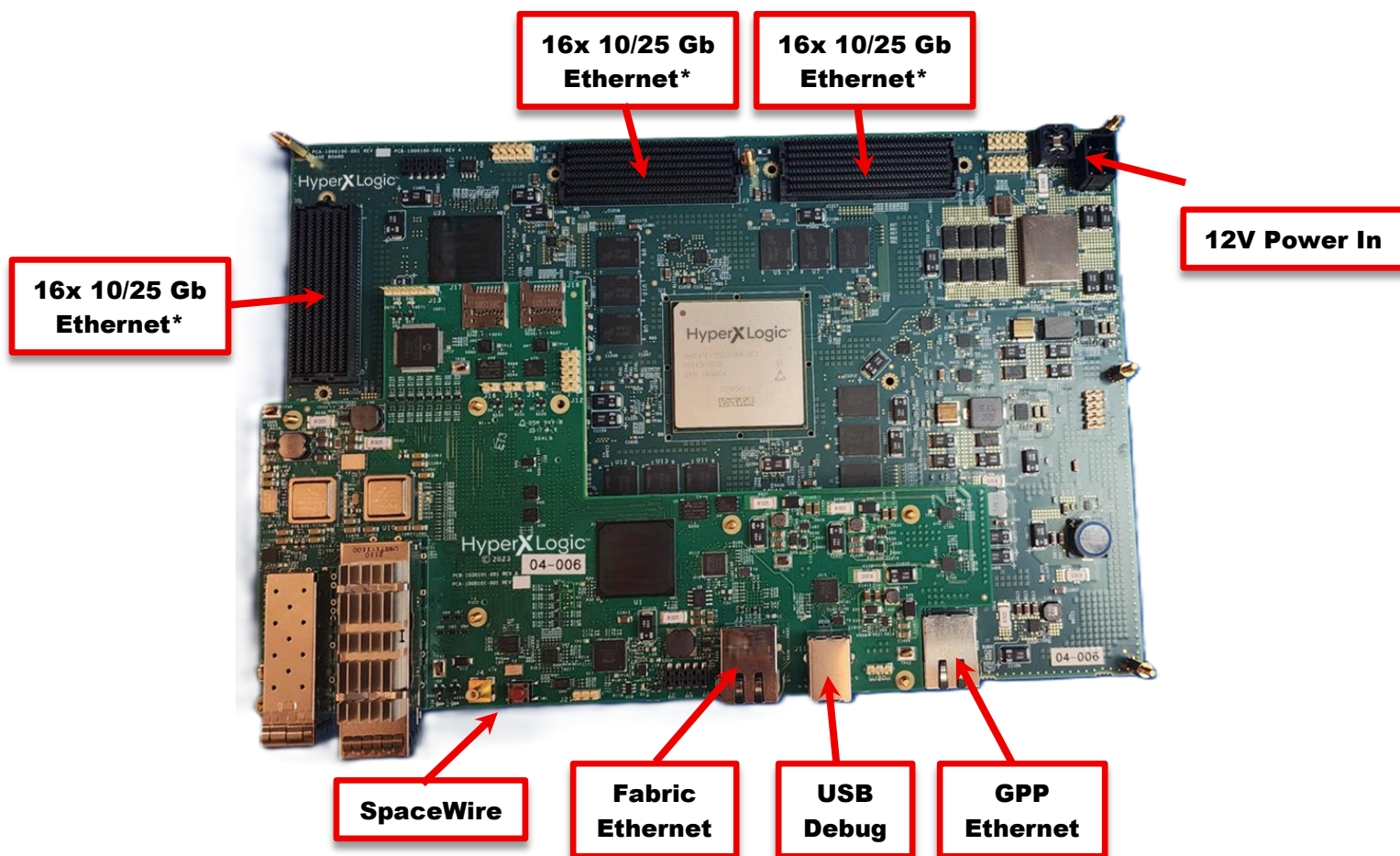
### Description

The HyperX® Hardware Development Reference System is the development board designed for the HyperX Midnight Software-Defined System-on-a-Chip (hxSoC™) Family.

This fully integrated, modular environment supports multi-chip systems and a wide variety of interface standards. It allows you to test, deploy, and run

applications built on a HyperX Midnight SoC in real-time, utilizing multiple configurations across a range of performance and power profiles.

The power of the Hardware Development Reference System with the HyperX Midnight hxSoC allows compute-intensive applications like SDR, DSP, AI/ML and image processing to run with ease.



### Highlights

- HyperX Hardware Development Reference System is equipped with a Midnight Processor
- Supports up to 48 channels of 10Gb or 36 channels of 25Gb ethernet communications\*
- Multi-chip connectivity for compute fabric extension
- High-performance General Purpose Processor for control functionality and Linux OS operation
- Pre-built and customizable reference designs for rapid prototyping and fast design starts
- Fully supported by HyperX Studio Integrated Development Environment for C source design, debugging and source-level simulation and debug

\* 10/25 Gb Ethernet operation requires purchase of networking interface adapter board:  
(e.g., <https://www.hitechglobal.com/FMCModules/x6QSFP28.htm>)



## Board Specifications

### I/O interfaces

- 48x 10Gb Ethernet ports or 36x 25Gb Ethernet ports
- USB Debug
  - Debug Access Port (DAP)
  - BIOS
  - JTAG Debugger
  - GPP Root Console
- 2x 1GB Ethernet ports (GPP & Fabric)
- 3x SpaceWire ports

### Memory

- 4-ports @ 4GB DDR4-3200 with ECC
  - Port 2 shared with GPP
- 16MB NOR Flash

### Power

- 12V 5A power required

## Target Applications

- Enterprise Networking
- Satellite communications and networking
- Analysis and refinement of data-in-motion
- Autonomous decisioning at the edge
- Novel signal detection; AI data analysis
- Multi and Hyperspectral data capture and analysis
- Synthetic Aperture Radar
- 5G to Satellite
- MIMO
- Cyber security and Cyber networking
- Post Quantum Cryptography

## Kit Contents



- 01** HyperX Midnight Hardware Development Board
- 02** USB Debug Cable
- 03** Ethernet Cable (CMOS Ethernet Debug)
- 04** Ethernet Cable (GPP Ethernet)
- 05** 12 Volt Power Brick

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Website: <https://www.HyperXLogic.com>

LinkedIn: <https://www.linkedin.com/company/hyperx-logic>

Contact: [sales@HyperXLogic.com](mailto:sales@HyperXLogic.com)

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