Connect Tech
A HEICO COMPANY

NVIDIA | Elite Partner

PRODUCT GUIDE

Years of
Forward
Thinking

QUALITY& STANDARDS

ESTABLISHED 1985
GUELPH, ONTARIO, CANADA

- ▶ ISO 9001:2015 CERTIFIED
- ▶ CANADIAN CONTROLLED GOODS
- ▶ ITAR CERTIFIED, US JOINT CERTIFICATION
- ▶ MIL-STD-810H, DO-160G FOR SHOCK & VIBRATION
- ▶ INGRESS PROTECTION

NDAA COMPLIANT

ITAR — REGISTERED WITH INTERNATIONAL TRAFFIC IN ARMS REGULATIONS

CGP — REGISTERED WITH CANADA'S CONTROLLED GOODS PROGRAM

MIL-STD 810H Certified

IP67

ISO 9001:2015

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NVIDIA | Elite Partner

Elite NVIDIA Jetson Hardware Partner

intel partner

MADE IN NORTH AMERICA

NOTE: Specifications found in this guide are subject to change without notice.

NVIDIA | Elite Partner

JETSON STARTS HERE

- **15 years of innovative partnership with the NVIDIA Jetson Platform**
- **Expert Jetson infrastructure, hardware, BSP, sensor integration and AI**
- **Customers benefit from Accelerated Time to Market & direct collaboration**

Connect Tech
A HEICO COMPANY

Elite Partner

Preferred Partner

Registered Partner

Deepest level of partnership with NVIDIA, the highest level of commitment

Deep level of partnership with NVIDIA

Entry point to partnership with NVIDIA

Connect Tech's Gauntlet Meets NVIDIA Jetson Thor:
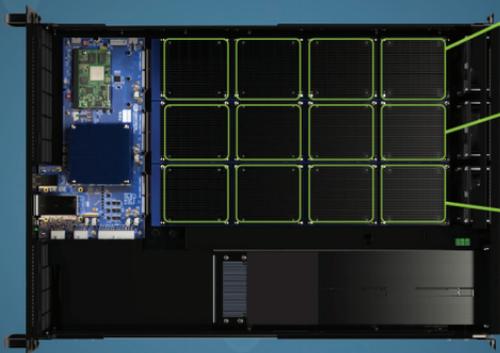## A Game-Changer for Edge AI and Robotics

AI **Power, Scaled for Autonomy**

High-Efficiency Inference for Edge, Robotics, and Uncrewed Systems

Connect Tech's
Inference Server

UAGX2U

EMBEDDED SYSTEMS

Sentry-X2

Designed for mission critical applications in harsh environments, the Sentry-X2 is a MIL-SPEC certified AI system for computing at the tactical edge.

• Pre-integrated with NVIDIA® Jetson AGX Orin™ Industrial
• Tested to IP67, MIL-STD 810H
• 2x 3G-SDI/HD-SDI/SDI Inputs
• 2x 3G-SDI/HD-SDI/SDI Outputs
• 1x 2TB NVMe Storage
• 2x Ethernet Ports: 10GbE, 2.5GbE

ESG630

Anvil-RX

Anvil-RX is a Rugged Edge Device powered by the NVIDIA® Jetson AGX Orin™. Fully IP67 rated, Anvil-RX can be deployed for mission critical applications in harsh environments.

• 8x GMSL2 Camera Inputs
• Rugged M12 Connectors
• 1x 4TB NVMe
• 2x 10GBASE-T Ethernet
• 2x 1000BASE-T Ethernet
• 2x 2.5 Gbe
• Multiple storage options
• Operating Temperature: -40°c to +65 °c

ESG635

AGX Orin™ Inference Server

The AGX Orin™ Inference Server is a high performance AI workstation powered by 12x NVIDIA® Jetson AGX Orin™ Modules. Ready to run NVIDIA's most powerful deep-learning software.

• 12x 275 TOPS, 2048-Core Ampere GPU and 64 Tensor Cores
• 4x 10G SFP+ uplink capability
• Up to 2TB of NVMe Storage per module
• 2U ATX style redundant PSU

UAGX2U

Anvil for AGX Orin™

Ready to withstand the most compute intensive AI applications with its power-efficient and feature rich design. Seamlessly deploy your next generation autonomous vehicle, smart city application, or vision solution.

• 2x10G Ethernet
• 8x GMSL2, FPD-Link III or HD-SDI camera inputs (optional)
• 2x NVMe M.2 M-Key, 1x B-Key, 1x E-Key
• USB 3.2, External PCIe
• Wide Input Power Range +10 to +36V

ESG620/ESG621

NVIDIA® Jetson AGX Orin™

CARRIER BOARDS

Gauntlet for Thor™

Purpose-built for the NVIDIA® Jetson Thor™, Connect Tech's Gauntlet delivers industrial-grade performance, ultra-fast networking, and advanced sensor integration—engineered to accelerate the next generation of robotics, autonomy, and AI at the Edge.

• 2x 10G and 2x 1G Ethernet
• Up to 16 lanes MIPI CSI
• 1x USB 3.2 Ports (Type-C – OTG Capable), 1x USB 3.2 Ports (Type-C)
• Wide Input Power Range: +30V to +60V DC

AGX301

Forge

Full-featured Carrier Board for the NVIDIA® Jetson AGX Orin™. This carrier board is specifically designed for commercially deployable platforms.

• 2x 10G Ethernet
• Up to 16 lanes MIPI CSI
• 2x NVMe M.2 M-Key, 1x M.2 B-Key, and 1x M.2 E-Key
• USB 3.2, PCIe x4 OCuLink connector
• Wide Input Power Range: 10V-36V DC

AGX201

Rogue for AGX Orin™

Small Form Factor Carrier Board for the NVIDIA® Jetson AGX Orin™. Rogue for Orin is specifically designed for commercially deployable platforms, and has an extremely small footprint of 92 x 107mm.

• 2x 10G Ethernet
• Extremely small form-factor (Same size as AGX Orin module)
• 2x NVMe M.2 Key Slots
• 3x USB 3.2

AGX202

Rogue-RX for AGX Orin™

Rogue-RX is a full featured carrier board specifically designed for rugged and harsh environments. Provides rugged positive locking high-speed connectors.

• Rugged positive locking connectors
• 2x 10G Ethernet
• Extremely small form-factor (Same size as AGX Orin module)
• 2x NVMe M.2 Key Slots
• 3x USB 3.2

AGX203

CARRIER BOARD COMPARISON CHART

	Gauntlet for Thor	Forge	Rogue for AGX Orin	Rogue-RX for AGX Orin
Part Number	AGX301	AGX201	AGX202	AGX203
Size	155mm x 126mm (6.10" x 4.96")		92mm x 107mm	92mm x 108.2mm
Compatibility	NVIDIA® Jetson Thor™	NVIDIA® Jetson AGX Orin™ 32GB, 64GB and Industrial	NVIDIA® Jetson AGX Orin™ 32GB, 64GB and Industrial	NVIDIA® Jetson AGX Orin™ 32GB, 64GB and Industrial
Ethernet	2x 10GBASE-T (10G Ethernet)			
	2x 1000BASE-T (1G Ethernet)	2x 1000BASE-T (1G Ethernet)	--	ix Industrial™ Rugged Postive Latching connectors
USB	1x USB 3.2 Ports (Type-C) 1x USB 3.2 Ports (Type-C - OTG Capable)	1x USB 3.2 Ports (Type-C) 1x USB 3.2 Ports (Type-C - OTG Capable)	1x USB 3.2 Ports (Type-C – OTG Capable), 2x USB 3.2 Ports (Type-C)	2x USB 3.2 Gen2 10Gbps with Samtec AcceleRate® Rugged Positive Locking Connectors 1x USB 3.2 Gen2 10Gbps (OTG Capable) Type-C
Camera Inputs	1x 16-Lane MIPI Expansion Connector		1x 16-Lane MIPI Expansion Connector	1x 16-Lane MIPI Expansion Connector
	Add-on expansion boards are available for: 3G-SDI/HD-SDI, GMSL, FPD-Link III, HDMI Input and direct MIPI Input	Add-on expansion boards are available for: 3G-SDI/HD-SDI, GMSL, FPD-Link III, HDMI Input and direct MIPI Input	Add-on expansion boards are available for: 3G-SDI/HD-SDI, GMSL, FPD-Link III, HDMI Input and direct MIPI Input	Add-on expansion boards are available for: 3G-SDI/HD-SDI, GMSL, FPD-Link III, HDMI Input and direct MIPI Input
Storage	2x M.2 Key M 2280 NVMe		1x Micro SD, 2x NVMe	2x M.2 Key M 2280 NVMe
Misc Interfaces	2x RS232/422/485	UART2 1x RS-232/485 UARTs	2x @3.3V Levels UART0 and UART1	2x @3.3V Levels UART0
	2x @3.3V levels UART		Micro USB Debug UART	Micro USB Debug UART
Power	+30V to +60V DC Wide Input Power	+10 to 36V DC Wide Input Power D23	+12VDC Input Only	+12VDC Input Only
	(6-Pin Mini-Fit Jr. Connector)		(Positive Locking Molex Mini-Fit Jr Header)	(Positive Locking Molex Mini-Fit Jr Header)
CAN	4x CAN 2.0b Non-Isolated Ports	2x CAN 2.0b Non-Isolated Port	2x CAN 2.0b Non-Isolated Port	2x CAN 2.0b Non-Isolated Port
GPIO	4x 3.3V GPI Inputs		4x 3.3V GPIO (1x PWM capable)	4x 3.3V GPIO (1x PWM capable)
	6x 3.3V GPO Outputs (2x PWM Capable)		1x 3.3V Power Pin at 1A	1x 3.3V Power Pin at 1A
	1x 3.3V Power Pin at 1A		--	--
Operating Temperature	-40°C to +85°C (-40°F to +185°F)			

VPX

Graphite VPX

Graphite VPX is a 3U peripheral card that brings the NVIDIA® Jetson AGX Orin™ to the highly rugged embedded VPX marketplace. The Graphite VPX features USB 3.2, DisplayPort, and an internal NVMe.

- **3U VPX SOSA Aligned**
- **NVIDIA® Jetson AGX Orin™ Industrial**
- **PCIe x8 Gen4 (Endpoint or Host)**
- **2x 10GBASE-KR Ethernet**
- **Complete IPMI Support**
- **Industrial NVMe 1TB/2TB**
- **USB 3.2, DisplayPort, 1GBASE-T, GPIO, UART, Debug, OTG Flashing via front panel**
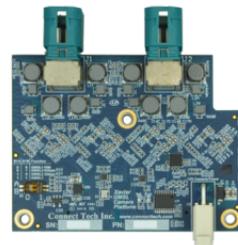
VPG004

CAMERA BOARDS

GMSL3 Camera Platform

This expansion board supports up to 8 GMSL3 cameras connected to the Jetson AGX Orin™ module.

- **GMSL3 or GMSL2 protocols**
- **Internal or External Camera power**
- **Allows longer length cabling with a direct path to the Jetson AGX Orin ISP**
- **Power over Coax, 4x mini coax connector**

JCB009

GMSL Camera Platform

This expansion board supports up to 8x GMSL1 or GMSL2 cameras to be connected to all AGX Xavier™ and AGX Orin™ Carrier Boards.

- **GMSL1 or GMSL2 protocols**
- **Internal or External Camera power**
- **Allows longer length cabling with a direct path to the Jetson AGX ISPs**
- **Power over Coax; 4x mini coax connector**

JCB002

SDI Vision Platform

Ultra-low latency SDI-to-MIPI CSI-2 conversion enables direct ISP ingest to NVIDIA® Jetson™ GPU compute—bypassing frame grabbers, USB, and Ethernet overhead.

• 2x 3G-SDI/HD-SDI/SDI (via 2x HD-BNC Connectors) SDI Video Inputs

• 1x 3G-SDI/HD-SDI/SDI (via 1x HD-BNC Connector) SDI Video Outputs

• PCBA Dimensions: 67mm x 75mm PCBA, Height with Integrated passive heatsink: 17mm

JCB003
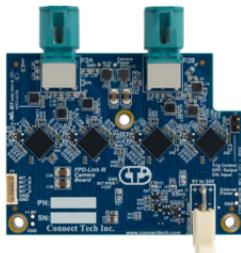
FPD-Link III Camera Platform

This expansion board allows for the connection of FPD-Link III Deserializers to be connected to Jetson AGX Xavier™ and AGX Orin™ Carrier Boards.

• 8x FPD-Link III camera inputs, 2x per deserializer

• 16-lane MIPI output; single 4-lane MIPI CSI-2 per deserializer

• Power over Coax

• Internal or External Camera power

JCB006

Allied Vision MIPI Camera Platform

This Camera Board allows for direct connectivity for up to six MIPI sensors without the need of additional hardware components.

• Simple integration of Allied Vision MIPI CSI-2 sensors to the Jetson AGX Xavier™ and AGX Orin™ platforms.

• Connect up to 6x 2-lane or 4x 4-lane MIPI Cameras

• Seamless integration to Jetson AGX Xavier™ and AGX Orin™ Carrier Boards

JCB005

HDMI Camera Platform

The HDMI Camera platform allows for direct HDMI video input, converting to MIPI CSI-2 for input to the NVIDIA® Jetson.

• 2x 30pin coax (Sony FCB compliant), Dual Micro HDMI

• HDMI to CSI-2 conversion for vision processing

• Support for up to 4 HDMI Inputs

• Directly powered from Camera Expansion Header

JCB010

CAMERA BOARD COMPARISON CHART

	GMSL3 Camera Platform	GMSL2 Camera Platform	Jetson SDI Vision Platform	FPD-Link III Camera Platform	Allied Vision MIPI Camera Platform	HDMI Camera Platform
Part Number	JCB009	JCB002	JCB003	JCB006	JCB005	JCB010
Size	75mm x 57mm (2.95" x 2.24")	75mm x 57mm (2.95" x 2.24")	75mm x 57mm (2.95" x 2.24")	75mm x 57mm (2.95" x 2.24")	75mm x 40.2mm (2.95" x 1.58")	75 mm x 52 mm (2.95"x2.05")
Weight	45g	50g	53g	37g	19g	23g
Connector	1x High Density Connector Camera Board will mate to the Camera Expansion Header on the Rogue, Rogue-X, Forge and Rogue for Orin, and Rogue-RX Carrier Boards					
Camera Inputs	8x Total (GMSL3/GMSL2)	8x Total (GMSL2/GMSL1)	2x 3G-SDI Inputs (HD-BNC)	8x Total	Up to 6x MIPI CSI-2 (4x 4-lane or 6x 2-lane)	4x HDMI Inputs
Deserializer	Maxim MAX96792A	Maxim MAX9296A	N/A	Texas Instruments DS90UB954	N/A	N/A
MIPI Output	2x 4-lane MIPI CSI-2 v1.3 output fromeach Deserializer (32-lanes total)	A single 4-lane MIPI CSI-2 v1.3 output from each Deserializer (16-lanes total)	4-lane MIPI CSI-2 v1.3 output per SDI Input (8-lanes total)	A single 4-lane MIPI CSI-2 v1.3 output from each Deserializer (16-lanes total)	4x 4-lane, or 6X 2-lane MIPI CSI-2	A single 4-lane MIPI CSI-2 v1.01 output from each Bridge (16-lanes total)
Camera Input Connectors	2x MATE-AX Quad Coax Connectors Breakout cables to FAKRA available	2x MATE-AX Quad Coax Connectors Breakout cables to FAKRA available	2x Right Angle HD-BNC Connectors	2x MATE-AX Quad Coax Connectors Breakout cables to FAKRA available	6x MIPI CSI-2 connectors to interface to Allied Vision Alvium cameras	2x KEL USL00-30L 2x HDMI Type D (Micro HDMI)
Power	All 8 cameras will be sourced Power-Over-COAX from JCB009	All 8 cameras will be sourced Power-Over-COAX from JCB002	+12V is available from Camera Expansion Header as external connector if more power is required	All 8 cameras will be sourced Power-Over-COAX from JCB006	Directly powered from Camera Expansion Header	Directly powered from Camera Expansion Header
Operating Temperature	-40°C to +85°C (-40°F to +185°F)				-30°C to +70°C (-22°F to +158°F)	

HADRON CARRIER BOARDS

Hadron GMSL

Boasting dual GMSL2 camera inputs. Hadron GMSL ensures high-speed, dependable data communication, crucial for autonomous applications.

• 2x USB3.1, 1x GbE, 2x GMSL Coax Ports
• 1x NVMe M-Key, 1x M.2 E-Key
• 1x 1000BASE-T with Rugged Positive Locking Pin Headers

NGX018

Hadron Dual MIPI

A compact solution for vision applications and unmanned payloads. With rugged latching connectors, it ensures secure connectivity in any environment.

• 2x USB 3.1, 1x GbE, 1x 2242/2230 NVMe, 1x M.2 E-Key (WiFi/BT)
• GPIO, PWM, I2C, RS-232, 3.3V UART, SPI
• Wide Input Range: +9V to +60V

NGX024

Super Hadron-DM

The Super Hadron-DM Carrier Board for Jetson Orin™ NX is an ultra small, rugged and feature rich carrier for AI Computing at the Edge.

• Supports Super Mode
• 2x USB3.1, 1x GbE, 1x 2242 NVMe, M.2 (M-Key)
• Dual 4-Lane MIPI CSI-2 22-Pin Connectors
• Wide Power Input: +10V to +60V DC

NGX027

	Hadron GMSL	Hadron DM	Super Hadron-DM
Part Number	NGX018	NGX024	NGX027
Size	82.7mm x 68.8mm (3.25" x 2.71")	82.6mm x 58.8 mm (3.25" x 2.22")	87.6mm x 58.8mm (3.45" x 2.31")
Ethernet	1x 1000BASE-T with Rugged Positive Locking Pin Headers		
USB	2x USB 3.2 Gen 1x1 (5 Gbps) with Rugged Positive Locking Pin Header	2x USB 3.1 Gen 1x1	2 x USB 3.1 (Gen 1) 1x USB 2.0 Programming Port (HD pin headers)
Camera Inputs	2x GMSL2 Camera inputs w/ PoC	2x 4-lane MIPI CSI-2 (22-pin connector)	2x 4-lane MIPI CSI-2 – 22-pin FPC Connector
Storage	1x 2242 NVMe (M-Key)	1x 2242/2230 NVMe (M-Key)	1x 2242/2230 NVMe (M-Key)
Misc Interfaces	1x CAN 2.0b 1x 3.3VTTL UART (CONSOLE) 2x RS-232 Serial Ports 4x PWM capable GPIO 1x 3.3V I2C	1x 3.3VTTL UART (CONSOLE) 2x RS-232 Serial Ports 4x PWM capable GPIO 1x 3.3V I2C, 1x 3.3V SPI	1x 3.3VTTL UART (CONSOLE) 2x RS-232 Serial Ports 4x GPIO (I/O Header), 2x PWM Capable 1x 3.3V I2C 1x 3.3V SPI Power Output 3.3V, 5V (Max 500mA Each)
Power	+9V to +60V DC (+12V to +48V DC Nom.)		+10V to +60V DC (+12V to +48V DC Nom.)
Weight	58g	49g	45g
Temperature	-25°C to +85°C (-13°F to 185°F)		

BOSON CARRIER BOARDS

	Boson for Orin	Boson-22
Part Number	NGX020	NGX021
Display	1x HDMI 2.0	
Storage	1x M.2 M-Key (2280) NVMe PCIe x4 (Gen 3)	
Expansion	1x 2230 E-Key Expansion for WiFi/Bluetooth 1x PCIe x1 + USB 2.0	
Vision	MIPI CSI x4 Connectors	22 Pin MIPI CSI x4 Connectors
USB	1x USB 3.1 Gen 2 w/ OTG capability (Type C) 1x USB 2.0 (Type A)	
Power	+9V to +36V Input Voltage Range	
Misc. Interfaces	3x 3.3V TTL UARTs (1x CONSOLE) 8 GPIOs 3.3V TTL (2x PWM Capable) 2x I2C 3.3V, 1x CAN 2.0b, 2x SPI, 2x 3.3V, 2x 5V, 8x GND	
Operating Temperature	-40°C to +85°C (-40°F to +185°F)	
Weight	80g (2.82oz)	
Dimensions	90mm x 75mm (3.54" x 2.95")	

Boson For Orin

Boson integrates up to four MIPI cameras within an extremely small footprint. Boson maximizes sensor inputs and storage solutions for
high-end vision applications.

• Compatible with the NVIDIA® Jetson Orin™ NX, and Orin™ Nano

• Integrate up to 4x 2-lane or 2x 4-lane MIPI FRAMOS Sensor Modules

• Dual Gigabit Ethernet and Dual USB

• NVMe for additional storage

NGX020

Boson-22

A small, but powerful vision-focused board for Jetson Orin™ NX. Packed with 4x 22-Pin MIPI camera inputs, dual Gigabit Ethernet, USB C, and USB 3.0, all in a rugged and compact package.

• 2x 4-lane MIPI Modules, or 4x 2-lane MIPI Modules

• Dual Gigabit Ethernet, USB C, USB3.0

• NVMe for additional storage; WiFi and Bluetooth expansion options

• +9V to +36V wide input voltage range

NGX021

EMBEDDED SYSTEMS

Orin™ NX Inference Server

The Jetson Orin™ NX Inference Server is a low wattage, high-performance deep learning inference server powered by the NVIDIA® Jetson Orin™ NX 16GB module.

• 24x 100 TOPS, 1024 GPU CUDA cores with NVIDIA® Ampere™ architecture
• 4x 10G SFP+ uplink capability
• 0°C to +50°C Operating Temperature Range

UNGX2U

Polaris

Harnessing the Jetson Orin™ NX and built for robotics, smart city and autonomous machines, the rugged Polaris system provides a wide range of I/O in an IP67 rated rugged package.

• IP67 Rated, Actively or Passively Cooled
• Rugged M12: 2x GbE, 2x CAN, GPIO, Wide range isolated power input (+18V to +48V)
• 2x USB3.1, 4x GMSL2 via sealed FAKRA, 4G/5G/LTE, WiFi/BT, GNSS, M.2 2280 NVME M-Key

ESG604/ESG608

Essential EdgeAI

Low-Cost Network Node, Powered by the NVIDIA® Jetson™ Platform, for Large-Scale AI Deployments.

Essential EdgeAI systems are optimized for generative AI and AI-enabled video analytics at scale.

• Boost performance with Orin NX & Nano Super Mode
• Active or passive cooling options
• USB 3.2, GbE & UART connectivity
• Scalable AI Solution
• Compact design

CORE01-07,03
CORE3-05

Rudi-NX FPD-Link III

Rudi-NX FPD-Link III serves as the ultimate computing solution for cutting-edge, compute-intensive applications at the edge, and features 4x FPD-Link III cameras.

• Extremely small footprint: 135mm x 50mm x 109mm
• I/O: 4x FPD-Link III, USB3.0, USB 2.0, CAN 2.0b, USB OTG Type C, RS-485, I2C, GPIO, SPI, PWM
• 1x NVMe (PCIe x4, 2280)
• -20°C to +80°C Operating Temperature Range

ESG606
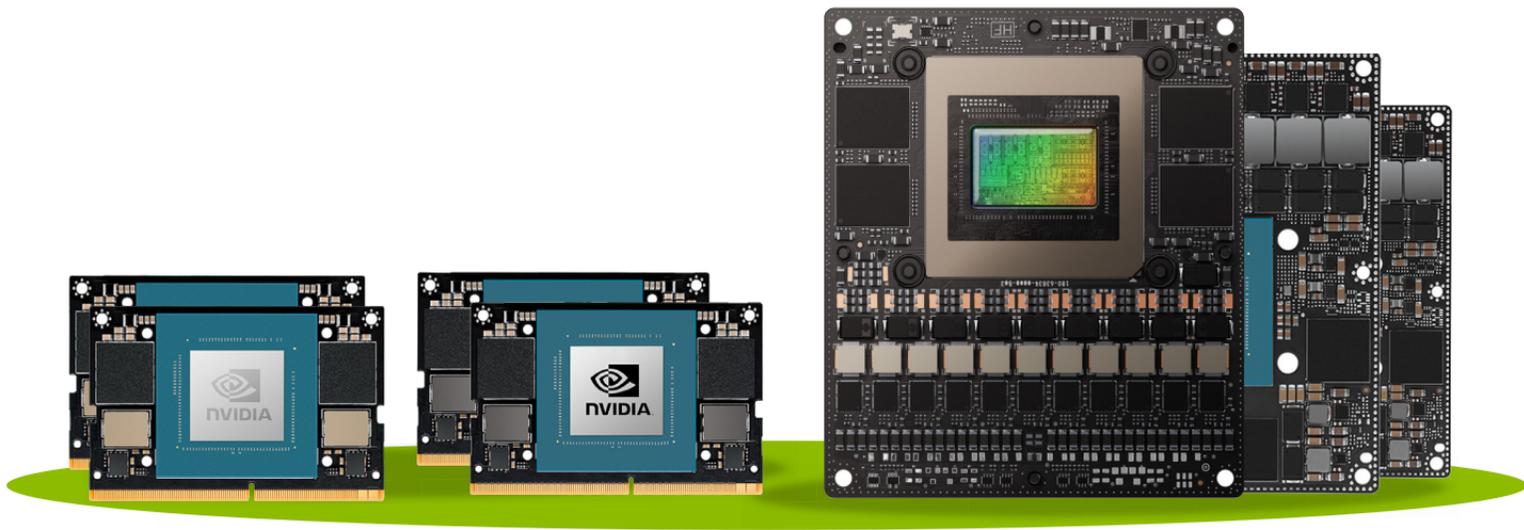
NVIDIA® JETSON PRODUCT LIFECYCLE

| Jetson Module	Available Through	Jetson Module	Available Through
Jetson T5000	TBD	Jetson AGX Xavier (32GB)	January 2028
Jetson AGX Orin 64GB	January 2032	Jetson AGX Xavier Industrial	July 2031
Jetson AGX Orin 32GB	January 2032	Jetson Xavier NX 16GB	January 2028
Jetson AGX Orin Industrial	July 2033	Jetson Xavier NX (8GB)	January 2028
Jetson Orin NX 16GB	January 2032	Jetson TX2 NX	February 2028
Jetson Orin NX 8GB	January 2032	Jetson TX2i	April 2028
Jetson Orin Nano 8GB	January 2032	Jetson Nano	January 2027
Jetson Orin Nano 4GB	January 2032		

Product Change Notifications

Hardware component changes with possible corresponding software changes may occur during the product lifecycle (e.g. memory component updates). Scan the QR Code below to stay up-to-date with Connect Tech Product Change Notifications.
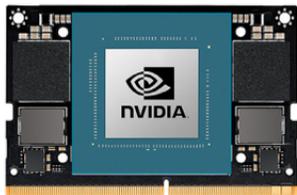
End of Life Notifications

Official End of Life notice will be sent a minimum of 8 months prior to the last shipment. Check EOL Notifications by scanning the QR code below.
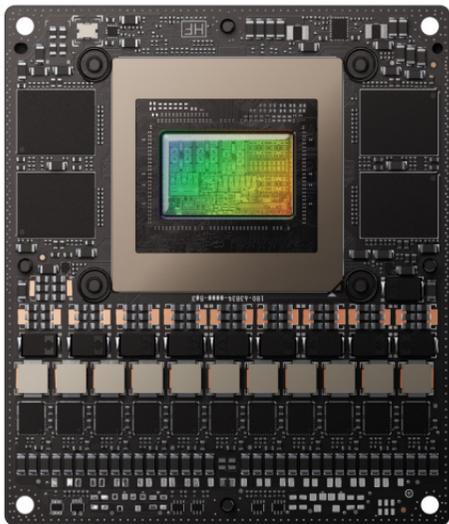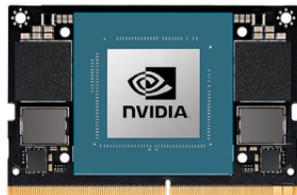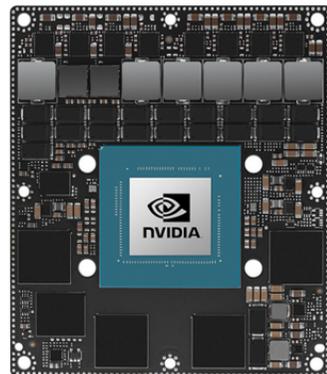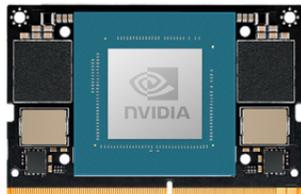
Jetson Thor™

Jetson Orin™ NX 16GB
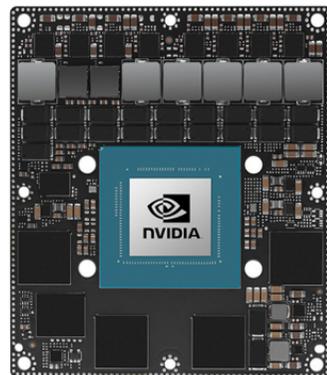
Jetson Orin™ NX 8GB

Jetson AGX Orin™ 32GB/64GB

Jetson Orin™ Nano 4GB

Jetson Orin™ Nano 8GB

Jetson AGX Orin™ Industrial

JETSON ORIN/ THOR COMPARISON CHART

	Orin Nano 4GB	Orin Nano 8GB	Orin NX 8GB	Orin NX 16GB	AGX Orin 32GB	AGX Orin 64GB	AGX Orin Industrial	Jetson T5000
AI Performance	20 TOPS	40 TOPS	70 TOPS	100 TOPS	200 TOPS	275 TOPS	248 TOPS	2070 TFLOPS (FP4—Sparse)
GPU	512-core NVIDIA Ampere w/ 16 Tensor Cores	1024-core NVIDIA Ampere w/ 32 Tensor Cores			1792-core NVIDIA Ampere w/ 56 Tensor Cores	2048-core NVIDIA Ampere w/ 64 Tensor Cores		2560-core NVIDIA Blackwell w/ 96 5th gen Tensor Cores; MIG w/ 10 TPCs
CPU	6-core Arm® Cortex®-A78AE v8.2 64-bit CPU	6-core Arm® Cortex®-A78AE v8.2 64-bit CPU	8-Core Arm® Cortex®-A78AE v8.2 64-Bit CPU		8-core Arm® Cortex®-A78AE v8.2 64-bit CPU	12-core Arm® Cortex® A78AE v8.2 64-bit CPU		14 core Arm® Neoverse V3AE 64 bit CPU
Memory	4GB 64-bit LPDDR5 34 GB/s	8GB 128-bit LPDDR5 68 GB/s	8GB 128-bit LPDDR5 102.4GB/s	16GB 128-bit LPDDR5 102.4GB/s	32GB 256-bit LPDDR5 204.8 GB/s	64GB 256-bit LPDDR5 204.8 GB/s	64GB 256-bit LPDDR5 (+ECC) 204.8 GB/s	128 GB 256 bit LPDDR5X 273 GB/s
Storage	Supports External NVMe				64GB eMMC 5.1			(Supports external NVMe)
Power	5W - 10W	7W - 15W	10W / 15W / 20W	10W / 15W / 25W	15W - 40W	15W - 60W	15W - 75W	40–130 W
PCIe	1 x4 + 3 x1 PCIe Gen3		3 x1 + 1 x4 PCIe Gen4		Up to 2 x8, 1 x4, 2 x1 (PCIe Gen4, Root Port & Endpoint)			Up to 8 lanes – Gen5
CSI Camera	Up to 4 cameras (8 via virtual channels)				Up to 6 cameras (16 via virtual channels)			Up to 6 cams through 16x lanes MIPI CSI-2 Up to 32 cams using Virtual Channels
DL Accelerator	---		1x NVDLA v2.0		2x NVDLA v2.0			---
Vision Accelerator	---		1x PVA v2.0					1x PVA v3
Networking	1x GbE	1x GbE	1x GbE		1x GbE │ 2x 10GbE			4x 25 GbE
Mechanical	69.6mm x 45mm 260-pin SO-DIMM connector			100 mm x 87 mm, 699-pin Molex Mirror Mezz Connector				

ESSENTIAL EDGEAI

Low-Cost Network Node, Powered by the NVIDIA Jetson Platform, for Large-Scale AI Development

- Designed for high-performance applications, Essential EdgeAI sets a new standard in scalability, delivering value for high-volume deployments. When harnessing the power of generative AI or next-gen AI-enabled video analytics, this platform is a versatile solution for AI-powered projects.

- Essential EdgeAI systems are optimized for generative, physical, and agentic AI at scale. Run advanced visual AI agents using VLMs, LLMs, and RAG for fast time-to-market, clear ROI, and reliable performance in Smart City, Security, retail, and robotics. Choose between pre-integrated NVIDIA Jetson Orin Nano, Jetson Orin NX, or Jetson AGX Orin options.

Essential EdgeAI systems are optimized for generative AI and AI-enabled video analytics at scale. Each system offers options for active or passive thermal management and includes USB 3.2, gigabit ethernet, an NVMe M.2 M-Key 2280 storage, and a wide input power range. While the Essential EdgeAI network nodes are an affordable solution, they come with the added value of Connect Tech Board Support Package (BSP) support, ensuring the success of large-scale deployments from start to finish.
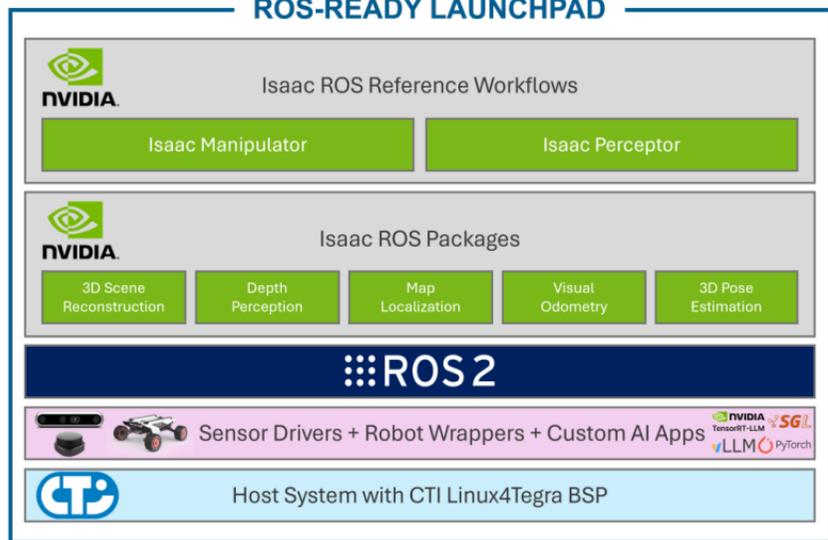
ROS-READY LAUNCHPAD
Accelerate Robotics Development

Experience seamless robotics development with Connect Tech's ROS-Ready Launchpad – a production-ready, containerization-free solution that combines ROS2 and NVIDIA® Isaac™ ROS capabilities.

Built on our optimized Board Support Package, this comprehensive system image eliminates the traditional complexities of containerization while delivering enterprise-grade reliability.

The Connect Tech ROS-Ready Launchpad System Image provides a thoroughly tested, production-ready environment with:

- Complete ROS2 stack installation directly on the host system
- Fully integrated NVIDIA® Isaac™ ROS framework
- Pre-configured NVIDIA® SDK and libraries
- Optimized sensor drivers and ROS wrappers
- Verified package compatibility and dependency management
- Regular security and performance updates.

ROS-READY LAUNCHPAD

NVIDIA.	Isaac ROS Reference Workflows	
	Isaac Manipulator	Isaac Perceptor

NVIDIA.	Isaac ROS Packages				
	3D Scene Reconstruction	Depth Perception	Map Localization	Visual Odometry	3D Pose Estimation

ROS 2

Sensor Drivers + Robot Wrappers + Custom AI Apps
NVIDIA TensorRT-LLM · SGL · vLLM · PyTorch

CTI — Host System with CTI Linux4Tegra BSP

THERMAL SOLUTIONS

ACTIVE HEAT SINKS

Jetson Orin NX/Nano XHG325

Jetson Xavier NX & Nano
XHG312, XHG314, XHG309

Jetson TX2-NX
XHG318

PASSIVE HEAT SINKS

Jetson Orin NX/Nano
XHG324

Jetson Xavier NX & Nano
XHG311, XHG308

Jetson TX2 NX - XHG317

THERMAL PLATES

Jetson Orin NX/Nano
XHG323

Jetson Xavier NX & Nano
XHG313, XHG310

Jetson TX2 NX - XHG316

Jetson Accessories:
Connect Tech carrier boards and system level solutions offer a wide variety of expansion options and accessories.

Accessories include:
Cables, antennas, power supplies, camera adapters, camera expansions, enclosures, thermals, WiFi modules, 5G & LTE Modules, frame grabbers, storage, bluetooth modules, and more.

ACCESSORIES

Active Heat Sink

This active heat sink features a built-in fan for enhanced cooling, ensuring optimal performance and longevity of your NVIDIA® Jetson™ AGX module.

- Specifically designed to fit the NVIDIA® AGX Orin™. Also compatible with Jetson AGX Xavier™ modules
- Dissipates the heat produced by the module through a fan
- Dimensions: 100mm x 87mm x 54.5mm

XHG319

Passive Heat Sink

Efficiently dissipates heat from your NVIDIA® Jetson AGX Orin™ and AGX Xavier™ modules, ensuring optimal performance and longevity.

- Specifically designed to fit the NVIDIA® AGX Orin. Also compatible with Jetson AGX Xavier™ modules
- Dissipates the heat produced by the module through convection
- Dimensions: 100mm x 87mm x 33.5mm

XHG320

Liquid Cooling Block

Superior thermal management, keeping your NVIDIA® Jetson™ AGX module cool under heavy loads for maximum performance.

- Industrial grade Liquid Cooling solution
- Ideal for space constrained or limited airflow applications
- 8 customizable side ports where inlet/outlet flow can be directed
- Incredibly quiet, high-performance heat dissipation solution

XHG307

Global-ready AC/DC power options

- 120 - 265 VAC Global compatiblity
- 40W to 250W options
- Product specific power output connector
- Commercial grade

MSG - Various

COM Express + Embedded GPU Solutions

COM Express Type 6 + GPU Embedded System

The COM Express® Type 6 + GPU Embedded System combines High-End NVIDIA GPUs with latest generation x86 processors into a ruggedized small form factor embedded system.

- GPUs can be targeted for independent display outputs OR for a headless GPU processing system utilizing CUDA® cores
- CPU: Intel Raptor Lake (13th Gen), Alder Lake (12th Gen) and Tiger Lake (11th Gen) options available
- GPU: NVIDIA RTX A4500. A2000, A1000 & A500 (Ampere) & RTX 5000, RTX 3000 and T1000 (Turing) Options Available

VXG SERIES

COM Express Type 7 + GPU Embedded System

The COM Express Type 7 + GPU Embedded System combines 2x 10 GbE with Intel Xeon® D (Server Class) processors with high-end NVIDIA GPUs all into a small form factor embedded system.

- GPUs can be targeted for independent display outputs OR for a headless GPGPU processing system using CUDA® cores
- CPU: Intel Ice Lake D
- GPU: RTX3500 ADA , RTX5000 ADA, RTX2000 ADA

V7G SERIES

V7G GPU System

The V7G GPU System combines Intel Xeon D (Server Class) a with high-end NVIDIAGPUs in a black aluminum enclosure.

Half-rack rail mount or Standalone mounting brackets available.

- Ideal for highend encode/decode video applications or GPGPU CUDA processing, Deep Learning and AI applications.
- CPU: Intel Ice Lake D, Broadwell D and Denverton Server Class Options Available
- GPU: RTX3500 ADA , RTX5000 ADA, RTX2000 ADA

ESG7 SERIES

Connect Tech is a leader in high-end compute platforms for the embedded market. Choose from the latest NVIDIA GPUs paired with Xeon D (Server Class) x86 processors in a compact system designed to be highly portable. Available in a fully enclosed system as well as a non-enclosed version for customer designed thermal solutions.

ESG701-01 - 2U Half-rack enclosure system

VPX Chassis
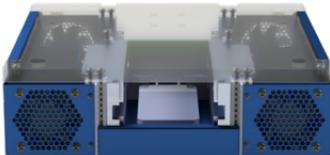
- 3U / 1-Slot SOSA Aligned VPX Chassis
- RTM for I/O included
- For rapid lab development
- Active cooling with variable fan control
- 110 - 265VAC PSU included

VDC001

AGX Orin

Graphite VPX

GraphiteVPX/AGX Orin™ is a 3U peripheral card that brings the NVIDIA® Jetson AGX Orin™ to the highly rugged embedded VPX marketplace. The GraphiteVPX/GPU Orin™ features USB 3.2, DisplayPort, and an internal NVMe.

- 3U VPX SOSA Aligned
- NVIDIA® Jetson AGX Orin™ Industrial
- PCIe x8 Gen4 (Endpoint or Host)
- 2x 10GBASE-KR Ethernet
- Complete IPMI Support
- Industrial NVMe 1TB/2TB
- USB 3.2, DisplayPort, 1GBASE-T, GPIO, UART, Debug, OTG Flashing via front panel

VPG004

GPU

COMING SOON

Graphite VPX/GPU

GraphiteVPX/GPU is a VITA 65 compliant 3U peripheral card that brings the NVIDIA® RTX A2000 ADA and RTX A1000 GPUs to the highly rugged embedded VPX marketplace. The GraphiteVPX/GPU provides up to four DisplayPort outputs or 2 DVI outputs.

- GPU Options:
  - NVIDIA® RTX A2000 ADA
  - NVIDIA® RTX A1000 ADA
- 3U VPX SOSA Aligned
- VITA 46, 48, and 65 compliant
- PCIe 3.0 (x8 or two x4) Data plane only

10GbE

Graphite VPX/10GbE

Excellent for demanding applications with rugged environments and extreme temperatures, the GraphiteVPX/10GbE Managed Ethernet Switch is also a highly reliable way to communicate with 10GbE in an embedded system.

- 3U VPX SOSA Aligned 10G/2.5G/1G Ethernet Switch
- 12x 10G SERDES Ports
- 10GBASE-KR/5GBASE KR/2.5GBASE-KX/1000BASE-KX
- 24x 2.5G/1G Copper Ports 2.5GBASE-T/1000BASE-T
- Fully-managed L2 and L3 multi-layer switching services
- -40°C to +85°C (-40°F to +185°F)

COM-HPC MINI

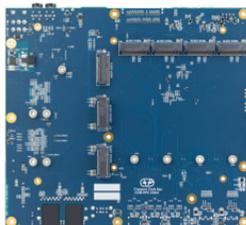### COM-HPC® Mini Carrier Board

Introducing our Carrier Board for the all-new COM-HPC® Mini specification. This carrier board features a wide range of connectivity, and a mix of high speed and ruggedized locking connectors.

- COM-HPC Mini Compliant
- 4x USB 3.2
- 4x 2.5 GbE
- 1x USB4/DisplayPort (Type C)
- 1x M-Key 2280 (NVMe)
- 2x RS232, GPIO, I2C, CAN, SPI
- Dimensions: 115mm x 70mm
- Extended Temperature Range:
  -40°C to +85°C

HPC002

COM-HPC

COM-HPC® Carrier Board

Our first Carrier Board for the new COM-HPC® platform. This carrier board features high-speed PC style connectors and locking pin header connectors.

- For COM-HPC Client
- 2 x 2.5-Gigabit Ethernet
- 3 x USB4 via USB type C
- 1 x 3042 M.2 B-Key, 1 x 2230 M.2 E-Key, 1 x 16-Lane PCIe Expansion
- Dimensions: 160mm x 120mm
- Extended Temperature Range
  -40°C to +85°C

HPC001

TYPE 7

Type 7 Carrier Board

This Type 7 Carrier Board is ideal for high-compute, enterprise level applications needing access to high-end Intel® Xeon® D class and Intel® Atom® C3000 processors.

- Dual 10-Gigabit Ethernet
- Ultra High Speed Storage with M.2 NVMe SSD support
- Extremely Small Form Factor:
  125mm x 95mm
- Extended Temperature Range
  -40°C to +85°C

CCG070

TYPE 10

Type 10 Mini Carrier Board

The Type 10 Mini Carrier Board is an extremely small carrier board featuring rugged, locking connectors and offers the ultimate in durability.

- Extremely small size:
  84mm x 55mm
- CCG010 supports USB2.0, CCG020 supports USB3.0
- 2 x mini PCIe, mSATA, SATA, 2 x GBE, 6 x USB, LVDS, DisplayPort HDMI/DVI/VGA, HD Audio, 2x RS 232/422/485

CCG020

Connect Tech

TYPE 6

Type 6 104e

This is a compact carrier board which matches the dimensions of a COM Express® Basic module and offers the ultimate durability with rugged, locking pin header connectors.

• 4x USB 3.0, 2x GbE, 2x RS-232/485, LVDS (2×24), VGA
• PCIe/104 Type 1 (CCG018) or PCIe/104 Type 2 (CCG017)
• On-Board DisplayPort/HDMI/DVI display switching
• Extended temperature range -40°C to +85°C

CCG017/CCG018

Type 6 Rugged Ultra Lite Carrier Board

The Type 6 Rugged Ultra Lite Carrier Board is compact. It offers the ultimate durability with locking, rugged pin headers. CCG011 supports only USB 2.0 and CCG012 supports USB 3.0.

• Mini-PCIe Expansion, USB 2.0, DisplayPort++
• Small size, 95mm x 125mm
• Supports latest Intel® processor sets
• Extended temperature range -40°C to +85°C

CCG011/CCG012

Type 6 Ultra Lite Carrier Board

The Type 6 Ultra Lite Carrier Board is a compact carrier board with standard PC connectors and is ideal for space constrained applications.

• COM Express® Type 6 Compatibility
• Mini-PCIe Expansion
• Supports latest Intel® processor sets
• Extended temperature range -40°C to +85°C

CCG008

SMARC

SMARC 2.0 Carrier

Connect Tech's SMARC 2.0 carrier is an extremely small SMARC carrier board ideal for low power IoT applications. Users can take advantage of the integrated on-board wireless capabilities.

• Feature Packed (HDMI, SATA, 2x MIPI CSI-2 Camera Interfaces)
• 2x USB 3.0, 2x USB 2.0, 2x USB 2.0 to miniPCIe
• Input Voltage +5V DC only
• Extended temperature range -40°C to +85°C

SRG004

Connect Tech

10GbE
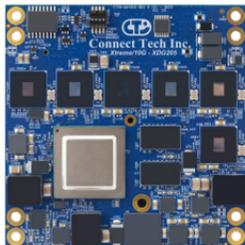
Xtreme/10G Managed Ethernet Switch /Router

Xtreme/10G Managed Ethernet Switch/ Router provides high density, high port count Layer 2 switching and Layer 3 routing with 10G uplinks. A total of 36 switchable ports, with 12x 10G/5G/2.5G and 24x 2.5G/1GbE copper ports in an extremely small form factor 85mm x 85mm (3.35" x 3.35").

XDG205 features TSN/1588 PTP support!

- Drop-in replacement to previous generation module (XDG201/XDG202)
- 36 switchable ports (12x10G/5G/2.5G; 24x 2.5G/1GbE)
- High-density board-to-board connector
- +4V to 14V input range
- Measurements: 85mm x 85mm (3.35" x 3.35")
- Extended Temperature Range -40°C to +85°C (-40°F to +185°F)

Software Packages for Managed Ethernet Switches

Connect Tech's software design team builds support for our line of managed ethernet switches using industry-leading firmware.

IStaX

XDG205

Breakout Board

Xtreme/10G Managed Ethernet Switch /Router Embedded Carrier

- PPS_IN and PPS_OUT IO support.
- Improved RJ-45 magnetics: supporting 24x 2.5G/1G Copper Ports
- 8x 10G SFP+ ports (compared to 4x 10G and 4x 1G on XBG301)
- Legacy support for XDG201
- Improved USB and Serial Connectors
- Improved 3.3V Power Supply to support higher power demand

XBG305

CONNECTTECH.COM/SUPPORT

We're proud to offer a convenient way for our customers to stay up-to-date with the latest BSP software updates. Our web page allows users to subscribe to updates for their purchased hardware, ensuring that they have access to the latest features and improvements. We've made it easy for our customers to receive them directly through their inbox.

Connect Tech

1GbE

Xtreme/GbE 24-Port Managed Carrier Ethernet Switch

Xtreme/GbE 24-Port Managed Carrier Ethernet Switch provides high density, high port count, Carrier Grade Ethernet switching capabilities in an extremely small embedded form factor. Excellent for any space constrained, mission-critical application needing an embedded high-density/high-port count managed Ethernet Switch.

The XDG025 is designed for standalone applications, with all thermal extraction on one layer and connector/ cabling on the opposite layer.
Where as the XDG024 is intended to stack directly into a PCIe/104 stack.

• 24 Port Gigabit Ethernet (10/100/1000 Mbps) Switch
• All 24 Port Magnetics Integrated on-board
• High-Density Ruggedized Board-to-Board/Board-to-Cable Port Breakout
• Extremely Small Footprint 90 × 96 mm (3.550 × 3.775 inches)
• Conduction cooled Heatplate or Air cooled Heatsink Options
• Extended Temperature Range -40°C to +85°C

XDG024/XDG025

LINQ/GbE

LINQ/GbE is a Rugged Managed Ethernet Switch Box. LINQ/GbE series of products offers 12 or 24 Ethernet ports of 10/100/1000 Mbps.

• 12 and 24 Port 10/100/1000 Mbps Managed Switch Box
• Ruggedized Sealed RJ-45 Acclimate Connector Series
• IP68 Dust and Waterproof Solid Aluminum Enclosure
• Layer 2+ Carrier Ethernet Management
• Low Power Passively Cooled Construction

ESG301/ESG302

Xtreme/GbE Managed Carrier Ethernet Switchs

This 8 or 12 port Ethernet Switch is available with either standard RJ45 or rugged latching connectors, conduction cooled heatplates, and PC/104, PCIe/104 or standalone options.
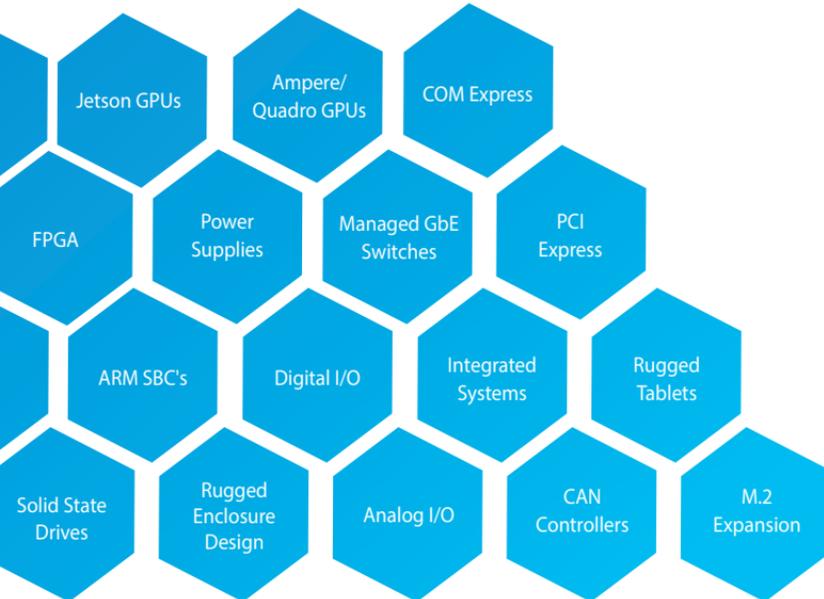
• Conduction cooled Heatplate or Air cooled
• 8 or 12 Port 10/100/1000 Mbps Switch
• Carrier Grade Ethernet Switching
• Available with RJ-45 or Rugged Locking connectors
• PC/104 Compliant: 4.550" x 4.393" (115.57mm x 111.58mm)
• Extended Temperature Range -40°C to +85°C (-40°F to +185°F)

ENGINEERING SERVICES
Custom Product Development

IP Pool for Custom Design

Jetson GPUs

Ampere/ Quadro GPUs

COM Express

FPGA

Power Supplies

Managed GbE Switches

PCI Express

ARM SBC's

Digital I/O

Integrated Systems

Rugged Tablets

Solid State Drives

Rugged Enclosure Design

Analog I/O

CAN Controllers

M.2 Expansion

MODIFIED OFF-THE-SHELF

CUSTOM DESIGN

Why choose CTI's engineering services?

- 50% of CTI's business is customized designs
- Well defined and polished custom design process
- Over 40 years of IP developing a breadth of hardware solutions
- Unprecedented Revision-A success rate
- Guaranteed functional prototypes in as little as 10-12 weeks

Connect Tech

Elite Partner

NVIDIA

Connect Tech Inc. is NVIDIA's largest global embedded hardware partner offering a wide array of NVIDIA® Jetson™ solutions, as well as embedded products for a variety of industry standards including COM Express, SMARC, and more. With in-house design and manufacturing services, Connect Tech can provide fast turn-around of custom design services, taking you from development to deployment in record time.

Connect Tech
A **HEICO** COMPANY

Connect Tech is a proud subsidiary of HEICO Corporation (NYSE: HEI), a globally recognized aerospace and electronics company known for its culture of innovation, operational excellence, and long-term growth. As part of the HEICO family, we benefit from the stability, resources, and strategic reach of a Fortune 1000 company, while maintaining the agility and customer focus of a specialized engineering firm.

**Serving customers
around the globe**

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connecttech.com**

Connect Tech Inc. - ISO 9001:2015 Certified

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