

RADX® Orca-C2X™ COTS PXIe eGPUs & PCIe-to-PXIe Subsystem Kits

Enables Extreme Performance NVIDIA GPUs and FHFL, 1- or 2-Slot, PCIe Add-In-Cards (AICs) to Operate Seamlessly & Transparently in PXIe Systems with Full (Unshared) PXIe BW (up to 16 GB/Sec)

- **Full (Unshared) PXIe Bandwidth to PCIe Devices** – Unlike Remote Control (MXIe) Systems, where PXIe Devices Share 4, 8 or 16 Lanes to the External Host PC, Orca-C2x provides up to 8 Dedicated PCIe G3/G4 Lanes between the PCIe AIC and the PXIe Backplane / Embedded Controller. **In G3 x8 PXIe Systems (e.g., NI PXIe-1092 & PXIe-8881), Orca-C2X supports > 7.5 GB/Sec, Full Duplex.**
- **Thunderbolt Not Required** – With Orca-C2X, add ANY PCIe device to virtually ANY PXIe System, eliminating the need for Embedded Controllers with Thunderbolt. Plus, with its PCIe G3/G4 x8 I/F and up to 8/16 GB/Sec, Orca-C2X delivers 3x to 6x the Thunderbolt 3 Bandwidth (~2.5 GB/Sec).
- **Low-Latency** – With its Re-Driver technology, Orca-C2X latency is typically less than 200 picoseconds for Host and Target Adapters (combined) and ~5 ns for a 1m cable (one-way).
- **Seamless and Transparent Operation** – With Orca-C2X, PCIe Add-In-Cards operate as if they are directly on the Host PXIe System Backplane in the, so operation is transparent and seamless under Windows or Linux Operating Systems - without Impact to Device Drivers or Application Software.
- **Engineered for PCIe, OS & App Compatibility** – Orca-C2X features Advanced PCIe Re-drivers with Linear Equalization for optimal PCIe compatibility with a wide range of PCIe devices.
- **Futureproof** – Orca-C2X supports PCIe G4 x8 to for upgrades to 16 GB/Sec Full Duplex when deployed in PXIe Systems with PCIe G4/G5 Backplanes and Embedded Controllers.
- **Flexible** – Orca-C2X supports **Unmodified** Customer Provided and Integrated (or Consigned and RADX Integrated) PCIe Add-In-Cards:
 - Full Height, Full Length (FHFL) and Single-Slot or Dual-Slot PCIe G3/G4 x1, x2, x4, x8 or x16
 - Up to ~500W via PCIe Bus Power and DC Connectors
- **PXIe-C2X-G3/G4x8-500W-eGPU-AdaRTX6000** with Integrated NVIDIA Ada RTX 6000 (48 GB GDDR6, 91.1 FP32 TFLOPS, 300W) - see <https://tinyurl.com/y3npf4fw>
- **PXIe-C2X-G3/G4x8-500W-ePCIe-SK PXIe-to-PCIe Subsystem Kit for 3rd Party Integration**
 - 1 x **PCIe-C2X-G3/G4x16-E1-500W Enclosure** with PCIe G3/G4 x16 Backplane for Target Adapter and 2-Slot, FHFL, ≤ 500W PCIe Add-In-Card, 600W PSU & Cooling, and Power Cable
 - 1 x **PCIe-C2X-G4x8-TA Target Adapter** – Integrated in C2X E1-500W Enclosure.
 - 1 x **PXIe-C2X-G4x8-HA Host Adapter** – for Integration in Customer's PXIe System.
 - 1 x **PXIe-C2X-G4x8-CK-X PCIe G4 x8 Cable Kit** with 2 x SFF-8674 2x1 Cables (1m Std).
 - **Optional First Article & Recurring RADX Integration** of Customer Consigned PCIe AICs



"Orca-C2X... for when you need a bigger boat."



RADX Orca-C2X PXIe-eGPUs Include Integrated NVIDIA RTX Pro GPUs (e.g., Ada RTX 6000, 300W, 48GB GDDR6, 91.1 FP32 TFLOPs) for ML/DL/LLM Training, Inference and Other Extremely Compute Intensive Applications:

RADX Catalyst PXIe-C2X-G3/G4x8-HA Host Adapter
Included for Customer Integration into Customer's PXIe Chassis)

Customer Provided and Integrated Add-In-Card or GPU (or RADX Integrated) FHFL PCIe G3/G4 x4/x8/x16, ≤ 500W, 1- or 2-Slot (Not Included)

RADX Integrated NVIDIA Ada RTX 6000, or Other GPUs



RADX US Patent No. 12,284,547

NI PXIe-1092 Chassis and PXIe-8880 or Similar PXIe Chassis and Embedded Controller Host (Not Included)

RADX Orca-C2X PCIe-G3/G4x16-E1-500W Enclosure including PCIe-C2X-G3/G4x8-TA (Target Adapter), 2-Slot PCIe G3/G4 x16 Backplane, 600W Power Supply & Cooling and PXIe-C2X-G3/G4x8-CK-Xm PCIe G3/G4 x8 SFF-8674-SB Cable Kit



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Available Soon on GSA via: gsa.gov
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<https://tinyurl.com/muk72cix>

RADX® Orca-C2X™ COTS eGPU & PCIe-to-PXle Subsystem Kit Specifications

(Specifications Current as of 03MAY2026 - Subject to Change Without Notice)

Orca-C2X ORDERING INFO	COO / ECCN	C2X-PCIe-G3/G4x16-E1-X	C2X-PXle-G3/G4x8-HA	NVIDIA Ada RTX GPU	Opt'l Consigned PCIe AIC Integration Fee		Q226 FOB MSRP Excluding US Import Tariffs
					1st Article	Recurring	
PXle-C2X-G3/G4x8-500W-ePCIe (For 3rd Party Integ)	US / 4A994	-500W	Incl.	N/A	RFQ	\$1,250	\$9,999
PXle-C2X-G3/G4x8-500W-eGPU-RTX6000	US / 4A090.a	-500W	Incl.	Ada RTX 6000	N/A	N/A	\$24,999

Orca-C2X PXle-C2X-G3/G4x8-HA PXle Host Adapter Specs IDENTICAL TO PCIe-C2X-G3/G4x8-TA EXCEPT AS INDICATED BELOW (Included in PXle-C2X-G3/G4x8-500W-ePCIe and PXle-C2X-G3/G4x16-eGPU-AdaRTX6000-48GB Kits)		
NO.	PARAMETER	VALUE
1.	RADX P/N:	PXle-C2X-G3/G4x8-HA – included in Subsystem & eGPU Kits
2.	PXle/PCIe I/F & BW:	PXle XJ3 & XJ4 (PCIe G3 x8) Connectors for Up to 8GB/Sec
3 – 9 & 12.	Various:	Identical to C2X-PCIe-G3/G4x8-TA
10.	Certs & Export Comp.:	RoHS, CE, UKCA, FCC-A, VCCI, RCM; COO: US, EAR99 NLR
11.	Dimensions:	100 mm (H) x 160 mm (L) x 1-Slot; ~100g Net Weight; ~ 5 W TDP

Orca-C2X PCIe-C2X-G3/G4x8-TA PCIe Target Adapter Specs (Included in PXle-C2X-G3/G4x8-ePCIe-500 and PXle-C2X-G3/G4x8-eGPU-AdaRTX6000-48GB eGPUs)

NO.	PARAMETER	VALUE												
1.	RADX P/N:	PCIe-C2X-G3/G4x8-TA – included in Subsystem & eGPU Kits												
2.	PCIe Interface & Bandwidth:	PCIe G3/G4 x8 Connector for Up to 8 GB/Sec (G3) or 16 GB/Sec (G4)												
3.	Front Panel I/O:	2 x SFF-8644-SB 1x2 Connectors for PCIe G3/G4 x8												
4.	Re-Driver Technology:	<ul style="list-style-type: none"> 4 x 4-CH PCIe 4.0 Linear Re-Drivers Support PCIe Gen 1.0/2.0/3.0/4.0 at up to 16Gbps per Lane. Continuous Time Linear Equalization (CTLE) Boosts up to 18 dB at 8 GHz to Extend Channel Reach Automatic Receiver Detection for PCIe Compatibility Protocol Agnostic Linear Re-Driver for Seamless PCIe Link Training Ultra-low Latency of 70 Picoseconds (typical) Low Additive Random Jitter of 60 fs (typical) with PRBS Data Single 3.3V Supply - Low Active Power of 124 mW/CH (5W TDP) Supports Pin-Strap or SMBus Programming 												
5.	Receiver Equalization (Typically Set by RADX for Most Applications):	<ul style="list-style-type: none"> Default DC Gain Setting of 0 dB (sufficient for most PCIe systems) Equalization SW1: PCIe Tx 0 to 7 Equalization Setting from PCIe Edge Connector (Side B) to Re-Drivers (U1 & U2) Equalization SW2: PCIe Rx 0 to 7 Equalization Setting from SFF-8644 (CON1) to Re-Drivers (U3&U4) 												
6.	Host / Target Mode Selection (SW5-1 & SW5-2):	<table border="1"> <tr> <td>MODE</td> <td>SW5-1</td> <td>SW5-2</td> <td>MODE</td> <td>SW5-1</td> <td>SW5-2</td> </tr> <tr> <td>HOST</td> <td>ON</td> <td>OFF</td> <td>TARGET</td> <td>OFF</td> <td>ON</td> </tr> </table>	MODE	SW5-1	SW5-2	MODE	SW5-1	SW5-2	HOST	ON	OFF	TARGET	OFF	ON
MODE	SW5-1	SW5-2	MODE	SW5-1	SW5-2									
HOST	ON	OFF	TARGET	OFF	ON									
7.	Reference Clock & Re-Drivers Settings (Typically Set by RADX for Most Applications):	<table border="1"> <tr> <td>REFCLK&ReDrivers (Lane 0-3)</td> <td>SW5-3</td> <td>ReDrivers (Lane 4-7)</td> <td>SW5-4</td> </tr> <tr> <td>Auto</td> <td>OFF*</td> <td>Auto</td> <td>OFF*</td> </tr> <tr> <td>Enable</td> <td>ON</td> <td>Enable</td> <td>ON</td> </tr> </table> <p>Auto: Lane 0-3 Enable by CON1A Pin B2 (CPRSNTA#) Auto: Lane 4-7 Enable by CON1B Pin B2 (CPRSNTB#)</p> <p>If PCIe Rx Detection State Machine is Enabled. Rx Detection is asserted after 1x valid detection. Pre-Detect: Hi-Z, Post Detect: 50Ω</p>	REFCLK&ReDrivers (Lane 0-3)	SW5-3	ReDrivers (Lane 4-7)	SW5-4	Auto	OFF*	Auto	OFF*	Enable	ON	Enable	ON
REFCLK&ReDrivers (Lane 0-3)	SW5-3	ReDrivers (Lane 4-7)	SW5-4											
Auto	OFF*	Auto	OFF*											
Enable	ON	Enable	ON											
8.	Operating Temp Range:	Op Temp: 0°C to 50°C, 90% RH Non-Condensing												
9.	Software:	N/A – Transparent Operation, No Software Required												
10.	Certifications & Export Comp.:	RoHS, CE, UKCA, FCC-A, VCCI, RCM; COO: TW, EAR99 NLR												
11.	Dimensions:	H: 64.4 mm x D: 96.3 mm x W: 1-Slot; ~60g Net Weight; ~ 5 W TDP												
12.	Warranty:	1 Year RTF												

Orca-C2X PCIe-G3/G4x16-E1-500 Enclosure Preliminary Specs		
NO.	PARAMETER	VALUE
1.	RADX P/N:	C2X-PCIe-G3/G4x16-E1-500 – included in ePCIe & eGPU Kits
2.	Integrated Backplane:	2-Slot x PCIe G4 x16 Connectors and PCIe G4 x16 Support for 1 x PCIe G3/G4 x8/x16 Target Adapter and 1 x PCIe G3/G4 x8/x16 AIC
3.	PCIe Add-In-Card Support	1 x PCIe G2/G3/G4 x1 to x16, 1- or 2- Slot, up to 500W TDP
4.	Backplane PCIe Slot 1:	1 x PCIe G2/G3/G4 x1/x2/x4/x8/x16, FHFL, Single or Dual Slot, Up to 340 mm L x 135 mm H x 52 mm W and Up to 500W TDP
5.	Backplane PCIe Slot 2:	1 x PCIe G3/G4 x8/x16, FHFL, Single Slot for RADX Target Adapter
6.	Integrated 600W (-500) Power Supply:	600W: Silverstone FX600 Platinum (600W): +3.3V / 15A, +5V / 15A, +12V / 50A, +5VSB / 2.5A, -12V / 0.3A (https://tinyurl.com/yr6krv7c)
7.	Integrated Power Supply Input and AC Power Cords:	AC 115-230V, 50-60Hz, Up to 300W or 600W; NEMA 5-15 (NA Standard), 6 Ft. Other Int'l Power Cords Available by Request
8.	Power Switches and LEDs:	Power Switch (ON/OFF) and 1 x Power LED (Red)
9.	Integrated Cooling Fan:	8 cm x 8 cm, Front
10.	Operating Temp Range:	Op Temp: 0°C to 50°C, 90% RH Non-Condensing
11.	Software:	N/A – Transparent Operation, No Software Required
12.	Certifications & Exp Comp:	RoHS, CE; Designed to Meet FCC-A, UL ; COO: TW, EAR99
13.	Dimensions & Net Weight	4.84 in / 12.3 cm W x 14.3 in / 35.9 cm D x 7.95 in / 20.2 cm H; 7.92 lbs / 3.6 kg
15.	Warranty:	1 Year RTF

Orca-C2X PXle-C2X-G3/G4x8-CK-X Cable Kits (2 x SFF-8674-SB 1x2 Cables Included in PXle-C2X-G3/G4x16-E1-500 and -eGPU-AdaRTX6000 Kits)

NO.	PARAMETER	VALUE
1.	RADX P/N:	PXle-C2X-G3/G4x8-CK-Xm – included in ePCIe & eGPU Kits
2.	Physical I/F for Each Cable:	PCIe Gen 4 Ext'l Mini-SAS HD (SFF-8674-SB) 4i with Sideband
3.	Available Lengths :	0.5 m, 0.75 m, 1.0 m and 2 m (1 m Standard)
4.	Warranty:	1 Year RTF



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