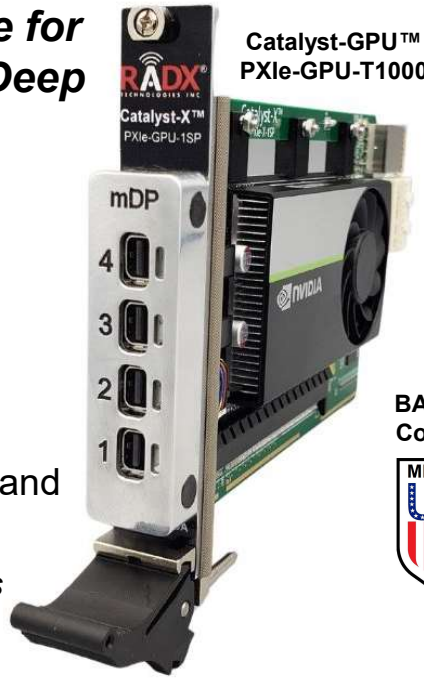
RADX® Catalyst-GPU™ COTS PXIe/CPCIe GPU Modules

Brings the Power of Easy-to-Program NVIDIA® Quadro® GPUs to PXIe/CPCIe for Advanced Graphics and GPU-Accelerated Signal Processing and Machine/Deep Learning AI Inference Applications



Catalyst-GPU™
PXIe-GPU-T1000

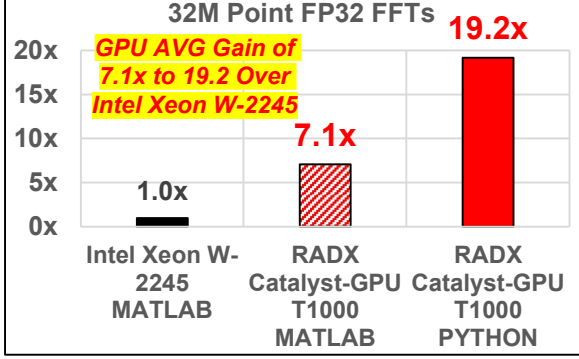
- **Easy to Program Using MATLAB, Python and C/C++**
- Enables Seamless LabVIEW Integration with NVIDIA CUDA-Accelerated Signal Processing, Machine and Deep Learning Applications in PXIe/CPCIe Systems
- Supports Popular DSP, Compute & ML/DL Frameworks: TensorFlow PyTorch
  MathWorks® RAPIDS AI & cuSignal
- Available with **NVIDIA Quadro T600 and T1000 GPUs** for Scalable PXIe/CPCIe Graphics and Application Performance in NI 38W/Slot & 58W/Slot PXIe/CPCIe Chassis
  - ***2D/3D Graphics**: Multi-Monitor with up to ~100x Faster Performance than Embedded Controller GPUs*
  - ***Signal Processing**: 1.7 to 2.5 FP32 TFLOPS for Up To ~6x Higher DSP Perf Versus Xilinx KU060 FPGAs (410 GOPS) and Up to 100x Versus Embedded Controllers*
  - ***MATLAB**: Accelerate MATLAB DSP and ML/DL Inference Apps by Up to 30x vs. Embedded Controller CPUs (MATLAB Support for FPGAs is Not Available)*
  - ***ML/DL Inference**: Accelerate Python and C/C++ ML/DL Inference Apps to Achieve ~10x to ~100x Higher Performance vs. Embedded Controller CPUs*

NVIDIA
NVIDIA CUDA

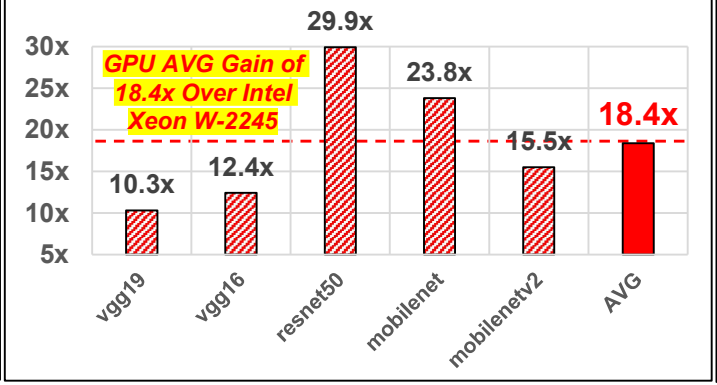
BAA / TAA Compliant

MFG IN THE USA

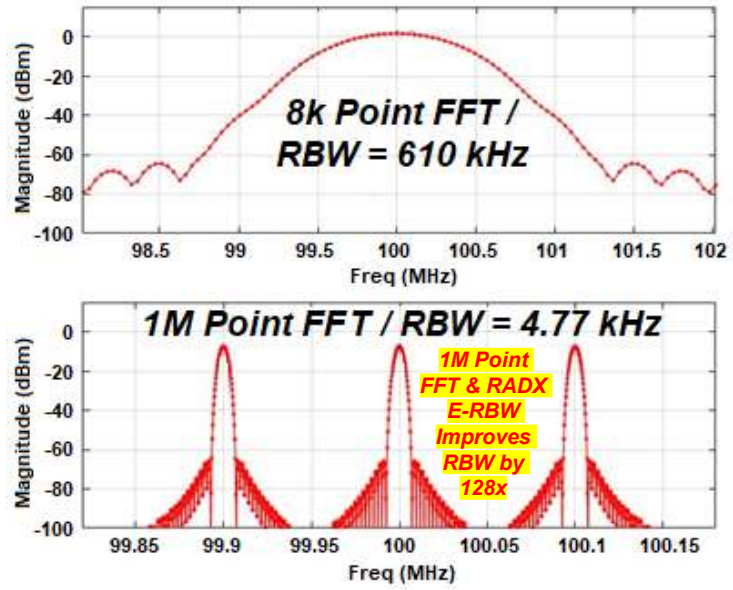
RADX Catalyst-GPU T1000 AVG Perf Gains vs. Intel Xeon W-2245 8C/16T 3.9 GHz EC Windows 10, MATLAB & Python on 1k to 32M Point FP32 FFTs



MATLAB FP32 Win10 DL Inference Benchmarks Intel Xeon W-2245 vs. Catalyst-GPU-T1000



Catalyst-GPU Supports Arbitrary Length FFTs to Enhance LPI Signal Detection, Analysis & Classification



RADX® TECHNOLOGIES, INC.

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Available on GSA From: gsamart testmart

RADX® Catalyst-GPU™ COTS CPCIe/PXIe GPU Module Specifications

(Subject to Change Without Notice)

#	Parameter	Catalyst-GPU™ P/N: PXIe-GPU-T600-4GB-1SP	Catalyst-GPU™ P/N: PXIe-GPU-T1000-8GB-1SP
1	NVIDIA GPU:	Quadro T600 (Turing Architecture)	Quadro T1000 (Turing Architecture)
2	FP32 Peak Performance:	1.7 FP32 TFLOPS *(4.2x Xilinx KU060 FPGA @ 410 GFLOPS)*	2.5 FP32 TFLOPS *(6.1x Xilinx KU060 FPGA @ 410 GFLOPS)*
3	Elapsed Time: 1M Sample FP32 FFT, PSD & COR (In Python)	PSD: 1.73 ms / FFT: 1.99 ms / Correlation: 2.66 ms *(NI PXIe-1092 with PXIe-8881, Win10, Python with GPU Send Time)*	PSD: 1.66 ms / FFT: 1.68 ms / Correlation: 2.33 ms *(NI PXIe-1092 with PXIe-8881, Win10, Python with GPU Send Time)*
4	GPU Cores:	640 CUDA	896 CUDA
5	On-Board Memory:	4 GB GDDR6 with 128-bit I/F *(1x KU060 @ 4 GB DDR3)*	8 GB GDDR6 with 128-bit I/F *(2x KU060 @ 4 GB DDR3)*
6	On-Board Memory BW:	160 GB/Sec *(9.4x Xilinx KU060 FPGA @ 17 GB/Sec)*	160 GB/Sec *(9.4x Xilinx KU060 FPGA @ 17 GB/Sec)*
7	Display I/F & Resolution:	4 x Mini Display Port 1.4a I/Fs (HDMI 2.1) with 4K Resolution @ 120Hz or 8K Resolution at 60Hz with 10-bit Color	
8	Total Graphics Power (W):	~38W TGP *(~38W per Slot)*	~50W *(~50W per Slot)*
9	Supported PXIe Chassis:	All NI & 3rd Party PXIe Chassis with 38W/Slot Support	NI 58W/Slot or 82W/Slot PXIe Chassis *(NI PXIe-1083, -1084, -1088, -1090, -1092, -1095)*
10	Thermal Solution:	Fan Sink < 15 LPM Slot Air Flow Required	
11	Module PCIe I/F:	Module: PCIe Gen 3 x8 / GPU: PCIe Gen 3 x16	
12	Module Form Factor:	Single (4HP), 3U PXIe Peripheral / 3U CPCIe Type 2 Slot with XJ3 and XJ4 Connectors	
13	Module Dimensions:	~0.4 kg *(0.9 lb)* / 100 mm H x 160 mm D x 20.32 mm W (4HP) *(3.94 in H x 6.3 in D x 0.8 in W [4HP])*	
14	Op & Storage Temps:	Op Temp: 0° to 55° C with Relative Humidity of 10% to 90%, Non-Condensing, Storage Temp: -40° to +85° C	
15	Regulatory Compliance:	GPU Certified to Meet FCC Part 15-B Class A / CE / RoHS Module Designed to Meet FCC Part 15-B Class A / CE / RoHS / EN55022 Class A / ENS55024 / EN300386-2 / MIL-PRF-28800F Class 3	
16	Operating System Support:	Microsoft Windows 7, Windows 10, Windows 11 and Linux (64-bit)	
17	Graphics APIs:	DirectX 12.074, Shader Model 5.174, OpenGL 4.685, Vulkan 1.25 (or Later)	
18	Compute APIs:	CUDA, DirectCompute, OpenCL™	
19	NVIDIA GPUDirect:	N/A *(Other Peer-to-Peer Support May be Available, Consult RADX for Details)*	
20	Framework Support:	NI LabVIEW, MathWorks MATLAB, Simulink, ML, DL and Parallel Toolboxes, RAPIDS cuSignal, RAPIDS AI, PyTorch, TensorFlow and Others	
21	RADX Example Software:	RADX Transform-DSP Library with RADX E-RBW™ Technology and Transform-AI Libraries and Examples for MATLAB & Python (C/C++ in Future)	
22	Standard Warranty:	1 Year Return to Factory Standard *(Extended Warranty and Tech Insertion Options Available – Consult RADX for Details)*	
23	COO / TAA / BAA / EC Info:	Country of Origin: US / TAA & BAA Compliant / ECCN: EAR99 / HSC: 84733092	
24	Availability:	General Availability in Q4 2022; Available on GSA via TestMart - Visit https://tinyurl.com/muk72crx	
25	QTY 1 MSRP:	$3,499 *(GSA Disc. Avail., FOB San Jose / RADX Ts & Cs Apply)*	$3,999 *(GSA Disc. Avail., FOB San Jose / RADX Ts & Cs Apply)*
26	Value: GFLOPS/$k:	567 GFLOPS/$k *(~29x Xilinx KU060 FPGA @ 20 GOPS/$k)*	714 GFLOPS/$k *(~36x Xilinx KU060 FPGA @ 20 GOPS/$k)*
27	Typical Leadtime:	After General Availability Date: ~30 Days for Small Volumes, 10 – 12 Weeks for Larger Volumes.	

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