



COM Express® Type 7 + GPU Embedded System

The **COM Express Type 7 + GPU Embedded System** from Connect Tech combines Intel® Xeon® D (Server Class) x86 processors with high-end NVIDIA® Quadro® and Tesla® Graphics Processing Units (GPU) all into a small form factor embedded system. Choose from highest-end, highest-performance models or from low-powered models all ideal for high-end encode/decode video applications or GPGPU CUDA® processing, Deep Learning and Artificial Intelligence applications.

This embedded system exposes all of the latest generation interconnect including: 10GbE and Gigabit Ethernet, USB 3.0 and 2.0, HDMI, SATA III, GPIO, I2C, M.2, miniPCIe. This embedded system uses PC-style connectors for ease of cabling and packaging.



Product Name:
COM Express® Type 7 + GPU Embedded System
Part Numbers: V7G001, V7G002, V7G003, V7G004, V7G005, V7G006, D7G001, D7G002, D7G003, D7G004, D7G005, D7G006

Specifications	
COM Express CPU Module Options	<ul style="list-style-type: none"> Intel® Xeon® D1577 (16 x 1.3 / 2.1 GHz, 24MB cache, 45 W) Intel® Xeon® D1559 (12 x 1.5 / 2.1 GHz, 18MB cache, 45 W) Memory: 48GB DDR4 2400 MT/s ECC
GPU Module Options	<ul style="list-style-type: none"> NVIDIA® Quadro® P5000 – (Pascal, 2048 CUDA Cores, 100W) NVIDIA® Quadro® P3000 – (Pascal, 1280 CUDA Cores, 75W) NVIDIA® Tesla® P6 – (Pascal, 2048 CUDA Cores, 90W, ECC)
COM Express Compatibility	COM Express® Type 7 (PICMG COM Express® COM.0 R3.0)
MXM Module Compatibility	MXM Specification 3.1 Type-B and Type-A Form Factors
1 Gigabit Ethernet	4x 1000BASE-T GbE Ports (RJ-45)
10 Gigabit Ethernet	2x 10GBASE-SR/LR From Dual Inphi CS4223E (Quad SFP+) Future path to 4x 10GBASE-SR/LR From Dual Inphi CS4223E (Quad SFP+)
Display Output	4x HDMI Type-A
Storage	2x SATA (7-pin Standard) 2x M.2 M-KEY 2280 NVMe
USB	4x USB 3.0 Ports (Type-A) 4x USB 2.0 Ports (20-pin T1M header)
Expansion	2x mini PCIe Slot (USB + PCIe) 2x M.2 2280 Slots (PCIe x4 Gen3)
Serial Interfaces	CPU Console via FTDI USB UART (USB Micro B)
GPIO	4 inputs (3.3V/5V selectable) 4 outputs (3.3V/5V selectable) (20-pin T1M header)
Misc / System IO	1 x I2C, 1 x SMBus, Power Control Signals S3, S5 Reset/Power Button, Hard Drive / Power Status LEDs 5V output, 12V output, GND, BATLOW (20-pin T1M header)
Input Power	+12V Input Only
Fans	4x FAN Connections
Dimensions	216mm x 164mm (8.500" x 6.450")

FEATURES

- ✓ *Combines High-End GPUs with COM Express Type 7 Server Class x86 Processors*
- ✓ *GPUs can be targeted for 4 independent display outputs OR for a headless GPGPU processing system using CUDA cores*
- ✓ *System uses a building block approach: Mix and match Intel® CPUs with NVIDIA® GPUs*

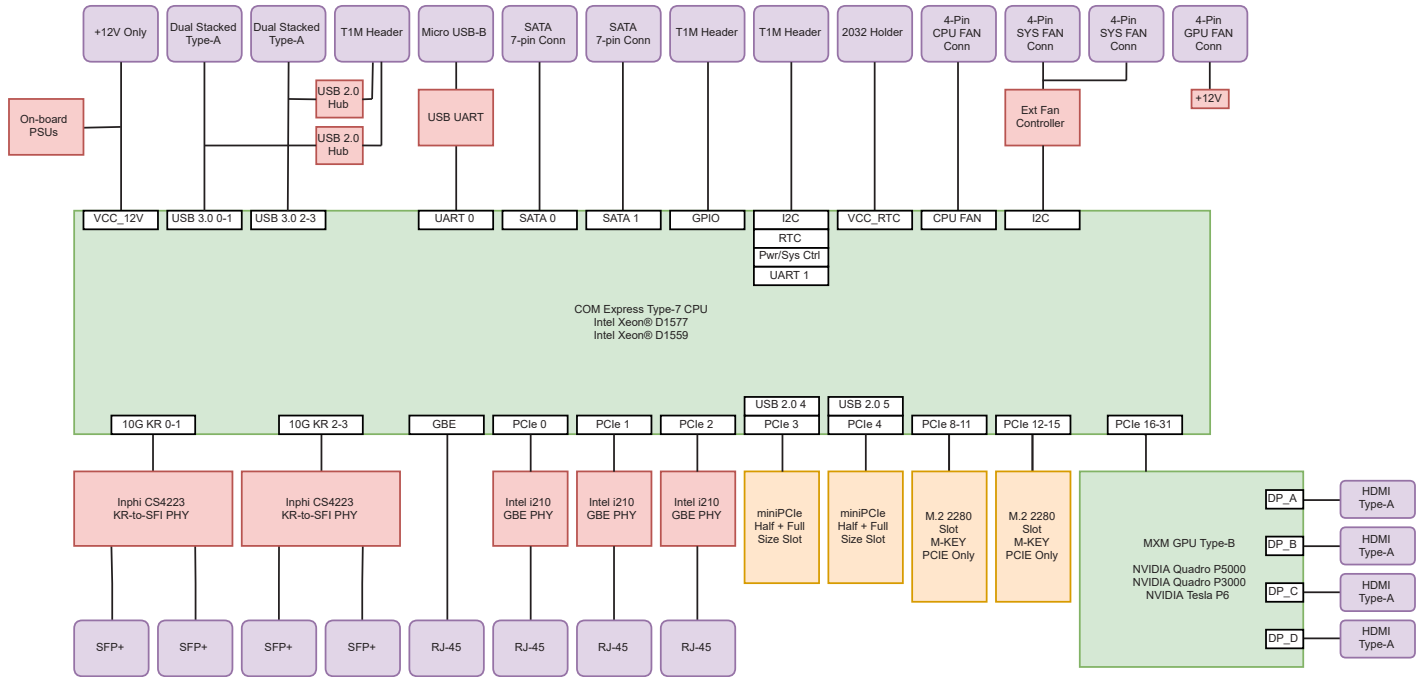
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Block Diagram



Ordering Information

Part Number	CPU	GPU	Thermal Solution	Display Output
V7G001	Intel® Xeon® D1577	NVIDIA® Quadro® P5000	With Passive Heat Spreaders (Customer Designed End Thermal Solution) 	4x HDMI Variant
V7G002	Intel® Xeon® D1577	NVIDIA® Quadro® P3000		4x HDMI Variant
V7G003	Intel® Xeon® D1577	NVIDIA® Tesla® P6		No Display Output Variant
V7G004	Intel® Xeon® D1559	NVIDIA® Quadro® P5000		4x HDMI Variant
V7G005	Intel® Xeon® D1559	NVIDIA® Quadro® P3000		4x HDMI Variant
V7G006	Intel® Xeon® D1559	NVIDIA® Tesla® P6		No Display Output Variant
D7G001	Intel® Xeon® D1577	NVIDIA® Quadro® P5000	With Active Cooling Solution 	4x HDMI Variant
D7G002	Intel® Xeon® D1577	NVIDIA® Quadro® P3000		4x HDMI Variant
D7G003	Intel® Xeon® D1577	NVIDIA® Tesla® P6		No Display Output Variant
D7G004	Intel® Xeon® D1559	NVIDIA® Quadro® P5000		4x HDMI Variant
D7G005	Intel® Xeon® D1559	NVIDIA® Quadro® P3000		4x HDMI Variant
D7G006	Intel® Xeon® D1559	NVIDIA® Tesla® P6		No Display Output Variant

Note: Other CPU and memory options available upon request

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