The **COM Express® Type 6 + GPU Embedded System** from Connect Tech combines Intel® Skylake and Kaby Lake x86 processors with high-end NVIDIA® Quadro®, Tesla® and GeForce® GPUs all into a ruggedized small form factor embedded system. Choose from highest-end, highest-performance models or from low-powered extended temperature models all ideal for high-end encode/decode video applications or GPGPU CUDA® processing applications.

This embedded system exposes all of the latest generation interconnect including: Gigabit Ethernet, USB 3.0 and 2.0, DisplayPort++, VGA, LVDS, SATA III, GPIO, I2C, mSATA, miniPCIe, PCIe/104 and SD Card Expansion. This embedded system uses all locking ruggedized positive latching connectors.

VXG part numbers have Passive Heat Spreaders that are to be installed into a Customer Designed End Thermal Solution. DXG part numbers have an Active Cooling Solution with Integrated Support Frame.

### Specifications

| COM Express CPU Module Options | • Intel® Xeon® E3-1505M V6 (“Kaby Lake” 7th Gen, 4 x 3.0 / 4.0 GHz, 8MB cache, 45 W)  
| | • Intel® Xeon® E3-1505L V6 (“Kaby Lake” 7th Gen, 4 x 2.2 / 3.0 GHz, 8MB cache, 25 W)  
| | • Intel® Xeon® E3-1515M V5 (“Skylake” 6th Gen, 4 x 2.8 / 3.7 GHz, 8MB cache, 35 W)  
| | • Intel® Xeon™ E3-1505L V5 (“Skylake” 6th Gen, 4 x 2.0 / 2.8 GHz, 8MB cache, 25 W)  
| GPU Module Options | • NVIDIA® Quadro® P5000 – (Pascal, 2048 CUDA Cores, 100W)  
| | • NVIDIA® Quadro® P3000 – (Pascal, 1280 CUDA Cores, 75W)  
| | • NVIDIA® Quadro® M5000 SE – (Maxwell, 2048 CUDA Cores, 150W)  
| | • NVIDIA® Quadro® M10000 SE – (Maxwell, 1024 CUDA Cores, 75W)  
| | • NVIDIA® Tesla® M6 – (Pascal, 1536 CUDA Cores, 100W)  
| | • NVIDIA® GeForce® GTX 1080 – (Pascal, 2560 CUDA Cores, 150W)  
| | • NVIDIA® GeForce® GTX 1050TI – (Pascal, 768 CUDA Cores, 60W)  
| COM Express Compatibility | COM Express® Type 6 (PICMG COM Express® COM.0 R2.1)  
| MiniPCIe Expansion | 2 slots (with PCIe, USB and SATA connections)  
| PCIe/104 Expansion | 4 x PCIe x1 lanes  
| | 2 x SATA III (on PCIe/104 Type-2 Pins)  
| DisplayPort/HDMI/DVI | 6 total – 2 outputs from COM Express, 4 outputs from GPU  
| | (On-board Circuitry enables DisplayPort or HDMI or DVI)  
| VGA Video | 1 Analog CRT VGA Port  
| LVDS Video | 18-24-bit LVDS  
| Gigabit Ethernet | 2 x 10/100/1000 Ethernet Ports  
| USB 2.0 | 6 USB 2.0 Ports  
| USB 3.0 | 4 USB 3.0 Ports  
| HD Audio | 1 stereo input, 1 stereo output  
| RS-232 | 3 total – 2 from PCIe UART, 1 to COM Express console port  
| RS-485 | 2 Ports  
| GPIO | 8-bits (Buffered 4in/4out, +3.3V or +5V selectable)  
| Ext SATA | 2 external SATA connectors (capable of SATA III)  
| mSATA | 2 mSATA slots (capable of SATA III)  
| SD Card | 1 micro SD Card slot (from USB Host controller, with bootable option)  
| System Interfaces | I2C, SMBus, S3 Power Level Output, Reset Output  
| I/O Connector Type | Rugged Locking Positive Latching 2mm Pitch Connectors  
| Input Power | Single wide input range +16V to -48V DC**  
| Power Consumption | Varies per VXG/DXG SKU with different CPU and GPU models  
| Dimensions | See online 3D Models  
| Operating Temperature Range | 0°C to +55°C and -40°C to +85°C options available  

** +12V DC input supported in some applications

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**FEATURES**

- Combines High-End GPUs with Latest Generation x86 Processors in a ruggedized small form factor
- GPUs can be targeted for 4 independent display outputs OR for a headless GPU processing system utilizing CUDA cores
- System uses a building block approach: Mix and match Intel® CPUs with NVIDIA® GPUs
- Choose from:
  - VXG part number with Passive Heat Spreaders to install into a Customer Designed End Thermal Solution
  - DXG part number with an Active Cooling Solution with Integrated Support Frame

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RoHS

Specifications subject to change without notice.

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### Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>CPU</th>
<th>GPU</th>
<th>Temperature Range</th>
<th>Thermal/Mounting Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>VXG101</td>
<td>Intel® Xeon® E3-1505L V5, 32GB DDR4</td>
<td>NVIDIA® GeForce® GTX 1050Ti</td>
<td>-40°C to +85°C (-40°F to +185°F)</td>
<td>Passive Heat Spreaders (Customer Designed End Thermal Solution)</td>
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<tr>
<td>VXG102</td>
<td>Intel® Xeon® E3-1515M V5, 32GB DDR4</td>
<td>NVIDIA® GeForce® GTX 1080</td>
<td>0°C to +55°C (+32°F to +131°F)</td>
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<tr>
<td>VXG201</td>
<td>Intel® Xeon® E3-1505L V5, 32GB DDR4</td>
<td>NVIDIA® Quadro® P5000</td>
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<tr>
<td>VXG202</td>
<td>Intel® Xeon® E3-1505L V5, 32GB DDR4</td>
<td>NVIDIA® Quadro® P3000</td>
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<td>NVIDIA® Quadro® M5000 SE</td>
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<td>VXG302</td>
<td>Intel® Xeon® E3-1505L V6, 32GB DDR4</td>
<td>NVIDIA® Tesla® M6</td>
<td>0°C to +55°C (+32°F to +131°F)</td>
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<tr>
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Note: Other CPU and memory options available upon request.

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