

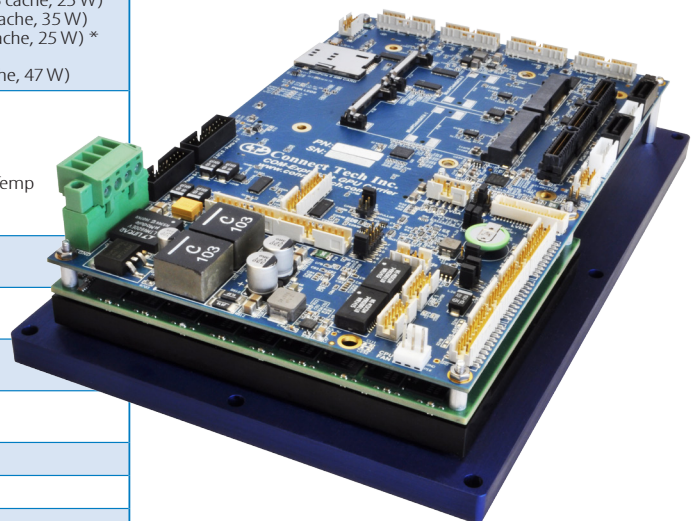
# COM Express® + GPU Embedded System

The **COM Express + GPU Embedded System** from Connect Tech combines Intel® Skylake and Kaby Lake x86 processors with high-end NVIDIA® Pascal™ or Maxwell™ Graphics Processing Units (GPU) 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 and eases the challenge of cooling multiple processors with the use of our Unified Thermal Extraction Baseplate which can be mounted directly into an enclosure or chassis for further thermal dissipation.

Specifications	
<b>COM Express CPU Module Options</b>	<ul style="list-style-type: none"> <li>Intel® Xeon® E3-1505M V6 ("Kaby Lake" 7th Gen, 4 x 3.0 / 4.0 GHz, 8MB cache, 45 W)</li> <li>Intel® Xeon™ E3-1505L V6 ("Kaby Lake" 7th Gen, 4 x 2.2 / 3.0 GHz, 8MB cache, 25 W)</li> <li>Intel® Xeon® E3-1515M V5 ("Skylake" 6th Gen, 4 x 2.8 / 3.7 GHz, 8MB cache, 35 W)</li> <li>Intel® Xeon™ E3-1505L V5 ("Skylake" 6th Gen, 4 x 2.0 / 2.8 GHz, 8MB cache, 25 W) * Ext Temp</li> <li>Intel® Core™ i7-4700EQ ("Haswell" 4th Gen, 4 x 2.4 / 3.4 GHz, 6 MB cache, 47 W)</li> </ul>
<b>GPU Module Options</b>	<ul style="list-style-type: none"> <li>NVIDIA® Quadro® P5000 – (Pascal, 2048 CUDA Cores, 100W)</li> <li>NVIDIA® Quadro® P3000 – (Pascal, 1280 CUDA Cores, 75W)</li> <li>NVIDIA® Tesla® M6 – (Pascal, 1536 CUDA Cores, 100W)</li> <li>NVIDIA® GeForce™ GTX 1080 – (Pascal, 2560 CUDA Cores, 150W)</li> <li>NVIDIA® GeForce™ GTX 1050Ti – (Pascal, 768 CUDA Cores, 60W) * Ext Temp</li> <li>NVIDIA® GeForce™ GTX 970 – (Maxwell, 1280 CUDA Cores, 80W)</li> <li>NVIDIA® GeForce™ GTX 950 – (Maxwell, 640 CUDA Cores, 55W)</li> </ul>
<b>COM Express Compatibility</b>	COM Express® Type 6 (PICMG COM Express® COM.0 R2.1)
<b>MiniPCIe Expansion</b>	2 slots (with PCIe, USB and SATA connections)
<b>PCIe/104 Expansion</b>	4 x PCIe x1 lanes 2 x SATA III (on PCIe/104 Type-2 Pins)
<b>DisplayPort/HDMI/DVI</b>	6 total - 2 outputs from COM Express, 4 outputs from GPU (On-board Circuitry enables DisplayPort or HDMI or DVI)
<b>VGA Video</b>	1 Analog CRT VGA Port
<b>LVDS Video</b>	18-24-bit LVDS
<b>Gigabit Ethernet</b>	2 x 10/100/1000 Ethernet Ports
<b>USB 2.0</b>	6 USB 2.0 Ports
<b>USB 3.0</b>	4 USB 3.0 Ports
<b>HD Audio</b>	1 stereo input, 1 stereo output
<b>RS-232</b>	3 total - 2 from PCIe UART, 1 to COM Express console port
<b>RS-485</b>	2 Ports
<b>GPIO</b>	8 -bits (Buffered 4in/4out, +3.3V or +5V selectable)
<b>Ext SATA</b>	2 external SATA connectors (capable of SATA III)
<b>mSATA</b>	2 mSATA slots (capable of SATA III)
<b>SD Card</b>	1 micro SD Card slot (from USB Host controller, with bootable option)
<b>System Interfaces</b>	I2C, SMBus, S3 Power Level Output, Reset Output
<b>I/O Connector Type</b>	Rugged Locking Positive Latching 2mm Pitch Connectors
<b>Input Power</b>	Single wide input range +12V to +48V DC
<b>Power Consumption</b>	Varies per VXG SKU with different CPU and GPU models
<b>Dimensions</b>	219mm x 144.5mm x 45.5mm (Entire Assembly: Carrier + COMe Module + GPU + Thermal Plate)
<b>Weight</b>	1455g (Entire Assembly: Carrier + COMe Module + GPU + Thermal Plate)
<b>Thermals</b>	Unified Thermal Extraction Baseplate - 9.525mm thick Anodized Aluminum Plate
<b>Operating Temperature Range</b>	0°C to +55°C, 0°C to +60°C and -40°C to +85°C options available

**Product Name:**  
COM Express® + GPU Embedded System  
**Part Number:** VXG###



## FEATURES

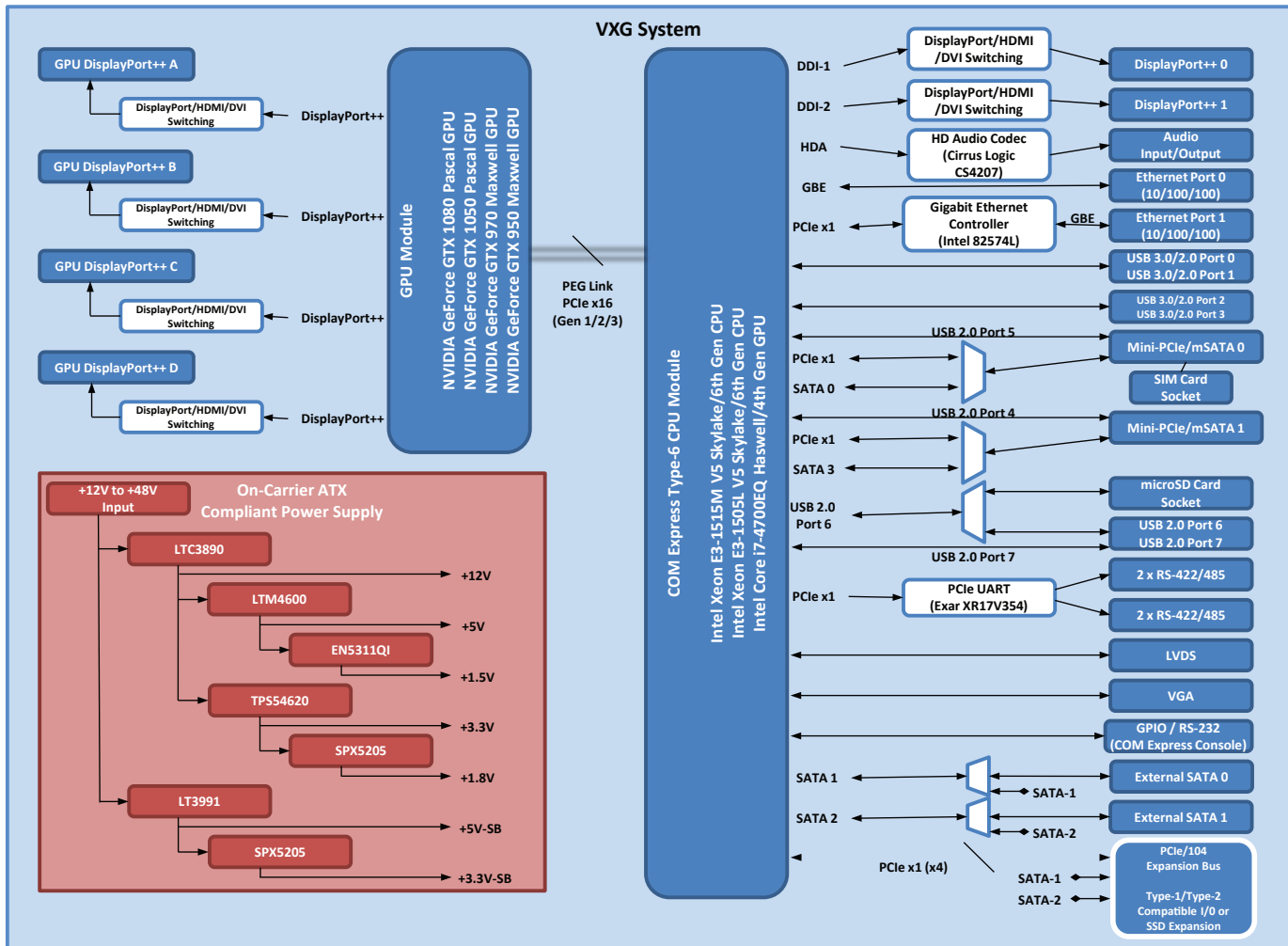
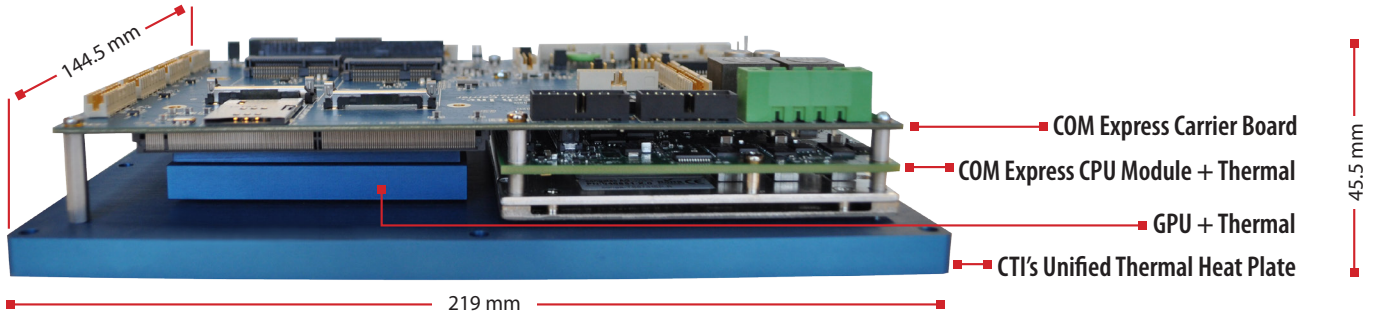
✓ *Combines High-End GPUs with Latest Generation x86 Processors in a ruggedized small form factor*

✓ *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 CPUs with NVIDIA® Quadro®, Tesla® or GeForce™ GPUs*

# COM Express + GPU

**Product Name:** COM Express® + GPU Embedded System  
**Part Number:** VXG###



## Ordering Information

Part Number	CPU	GPU	Temperature Range
VXG102	Intel® Xeon® E3-1515M V5, 32GB DDR4	NVIDIA® GeForce™ GTX 1080	0°C to +60°C (+32°F to +140°F)
VXG101	Intel® Xeon® E3-1505L V5, 32GB DDR4	NVIDIA® GeForce™ GTX 1050Ti	-40°C to +85°C (-40°F to +185°F)
VXG017	Intel® Core™ i7-4700EQ, 8GB DDR3	NVIDIA® GeForce™ GTX 970	0°C to +60°C (+32°F to +140°F)
VXG016	Intel® Core™ i7-4700EQ, 8GB DDR3	NVIDIA® GeForce™ GTX 950	0°C to +60°C (+32°F to +140°F)
VXG201	Intel® Xeon® E3-1505M V6, 32GB DDR4	NVIDIA® Quadro® P5000	0°C to +55°C (+32°F to +131°F)
VXG202	Intel® Xeon® E3-1505L V6, 32GB DDR4	NVIDIA® Quadro® P3000	0°C to +55°C (+32°F to +131°F)
VXG203	Intel® Xeon® E3-1515M V5, 32GB DDR4	NVIDIA® Quadro® P5000	0°C to +55°C (+32°F to +131°F)
VXG204	Intel® Xeon® E3-1505L V5, 32GB DDR4	NVIDIA® Quadro® P3000	0°C to +55°C (+32°F to +131°F)
VXG301	Intel® Xeon® E3-1505M V6, 32GB DDR4	NVIDIA® Tesla® M6	0°C to +55°C (+32°F to +131°F)
VXG302	Intel® Xeon® E3-1515M V5, 32GB DDR4	NVIDIA® Tesla® M6	0°C to +55°C (+32°F to +131°F)

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Note: Other CPU and memory options available upon request

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