



Features

Industrial COM Express Module

- Form Factor: COM Express Type 6 Compact
3.75 in x 3.75 in (95 mm x 95 mm)
- Made in the USA
- 11th Gen Intel Core i3/i5/i7 Processor, formerly Tiger Lake-UP3
- -40°C to +85°C Operating Temperature Range
- Up to 32GB LPDDR4 4266 MT/s System Memory, supporting IB ECC
- Standard 12 VDC Input, +/- 10%

Security

- On-board Discrete TPM 2.0 Hardware Security

Display and Graphics

- Intel Gen12 Graphics Engine, with up to 96 EUs
- Up to 4 simultaneous and independent displays
- 3x Digital Display Interface (DDI) to DisplayPort++ / HDMI / DVI
- 1x eDP (optional dual channel LVDS)
- 1x VGA (optional)

Network

- 1x 2.5G Network via Intel i226 Controller
- vPro support on i5 and i7 CPUs
- TSN support

Storage

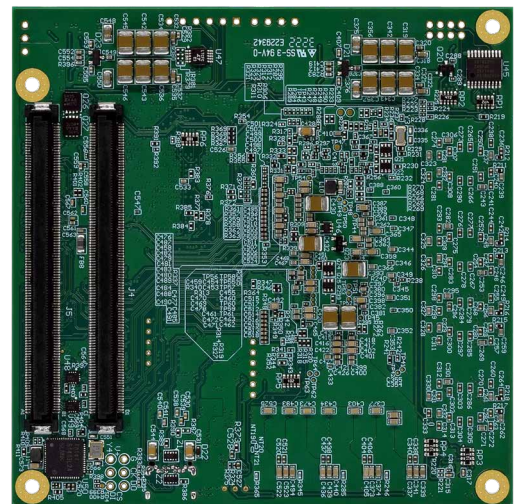
- 2x SATA III (6Gb/s) Interfaces to Carrier

Connectivity and I/O

- 4x PCIe lanes configurable as 4x1 (Default), 2x1 + 1x2, or 1x4
- 4x USB 3.2 Gen 1, 8x USB 2.0
- HD Audio
- 2x UART
- 4x GPI, 4x GPO

Software

- Windows10, Ubuntu, Red Hat
- Custom configurable UEFI based AMI BIOS
- System Management Libraries and Tools
- EAPI v1.1 support for System Info, WDT, I2C, Brightness, GPIO, and User Storage Area

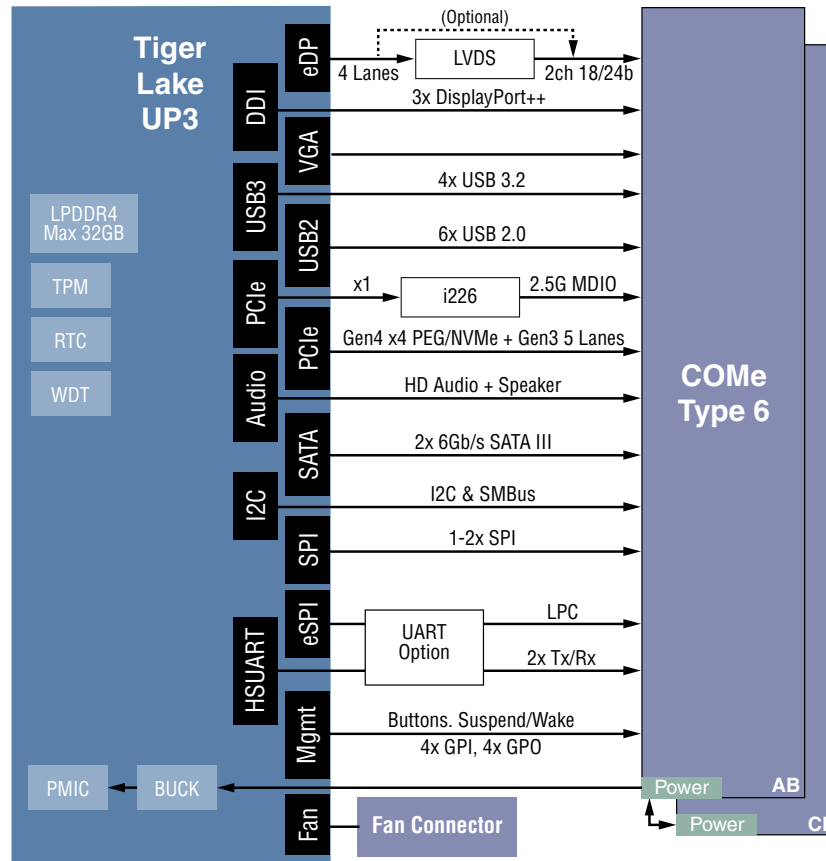


Product Description

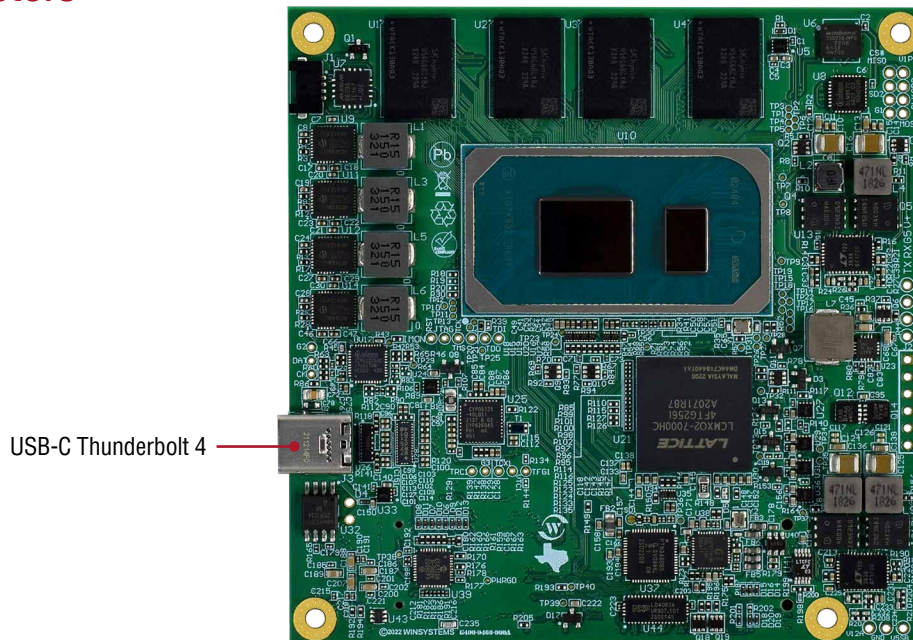
The COMeT6-1100 is an industrial COM Express® Type 6 Compact module with an Intel® 11th Gen Intel Core™ i3/i5/i7 Processor. This industrial module is designed and manufactured in the USA. The small form factor module is designed as a processor mezzanine that can be plugged onto a carrier board that contains user specific I/O requirements.

COM Express modules allow users to retain the same carrier board design across scalable CPU series and over multiple generations of COM Express modules providing a long project lifetime. Updating a COM Express module to improve performance or replace an end of life processor drastically improves your time to market when revising existing projects. Users have the option to choose the default BIOS settings and layout, or request a custom branded configurable BIOS to support specific project requirements.

Block Diagram



Connectors



Technical Specifications

PROCESSOR OPTIONS	Processor	Core Speed	Cache	Power
	Intel® Core™ i7-1185G7E	2.8(4.4) GHz	12 MB	15-28W (4C/Iris Xe)
	Intel® Core™ i5-1145G7E	2.6 (4.1) GHz	8 MB	15-28W (4C/Iris Xe)
	Intel® Core™ i3-1115G4E	3.0(3.9) GHz	6 MB	15-28W (2C/UHD)
	Intel® Celeron® 6305E*	1.8 GHz	4 MB	15W (2C/UHD)
	Intel® Core™ i7-1185GRE*	2.8 (4.4) GHz	12 MB	15-28W (4C/Iris Xe)
	Intel® Core™ i5-1145GRE*	2.6 (4.1) GHz	8 MB	15-28W (4C/Iris Xe)
	Intel® Core™ i3-1115GRE*	3.0 (3.9) GHz	6 MB	15-28W (2C/UHD)
	Supports: Intel® VT, Intel® VT-d, Intel® TXT, Intel® SSE4.2, Intel® HT Technology, Intel® 64 Architecture, Execute Disable Bit, Intel® Turbo Boost Technology 2.0, Intel® AVX-512, Intel® AVX2, Intel® AES-NI, PCLMULQDQ Instruction, Intel® Secure Key and Intel® TSX-NI. *Special Order Note: Availability of features may vary between processor SKUs.			
BIOS	• AMI UEFI in Quad-SPI Flash with Intel® AMT support			
MEMORY	• Up to 32GB LPDDR4 4266 MT/s (2133MHz) System Memory • Commercial and Industrial memory options available (see ENVIRONMENTAL specifications below)			
STORAGE	• 2x SATA III (6 Gb/s)			
DISPLAY	• Four independent video outputs – 3x Digital Display Interface (DDI) to DisplayPort++ / HDMI / DVI – 1x eDP (optional LVDS) – 1x VGA			
EXPANSION	• 5x PCIe lanes configurable to 4 x1, 2 x2, 1 x4, 2 x1 + 1 x2, 1 x2 + 2 x1) and Lane 4 (x1 only) • 4x USB 3.2 Gen 1, 8x USB 2.0 • 1x i226 2.5 Gb/s Ethernet RGMII • Intel HD Audio • 2x UART with console redirection • 4x GPI, 4x GPO (SDIO option for MicroSD socket)			
POWER	• Standard 12V Input, +/- 10%. CPU TDP = 28W max, software controllable to reduce to 15W or 12W TDP			
SOFTWARE	• Broad OS Support, including Windows10, Ubuntu, Red Hat • Custom configurable UEFI based AMI BIOS • System Management Libraries and Tools			
ENVIRONMENTAL	• Commercial Temperature: 0°C to +60°C (32 to +140°F)¹ • Industrial Temperature: -40°C to +85°C (-40 to +185°F)¹ • CE Compliant ¹ Requires thermal solution via heatspreader/heatsink and/or airflow			
MECHANICAL	• Dimensions - 3.75 in x 3.75 in (95 mm x 95 mm) • Weight - 2.75 oz (78 g) • PC Board thickness 0.078 inches (2 mm)			

Order Information

PART NUMBER	COMET6-CCCCCCC-RRTV -1185GRE -32 -I -L	= CPU Designator (1185GRE, 1145GRE, 1115GRE) = RAM Size (8, 16, 32) = RAM Temp (C=Comm, I=Ind, A=Auto) = Video Option (E=eDP, L=LVDS)
THERMAL SOLUTION	• COMeT6-460-SPRD-0 Spreader through-hole • COMeT6-460-SPRD-1 Spreader threaded • COMeT6-460-HTSK-0 Heat sink through-hole • COMeT6-460-HTSK-1 Heat sink threaded	
COMeT6 EVALUATION CARRIER	• ATX-M-CC462-T6	

Customization Options

WINSYSTEMS provides customization options for OEMs with minimum order quantities. Please contact an Application Engineer for details. Additional cables, expansion cards, power supplies, and solid-state drives to complete your embedded computing solution including data acquisition, communications, location, and other features are available via PCIe/104 and M.2 interfaces. Our Application Engineers are available to guide you through product selection and customized options.

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