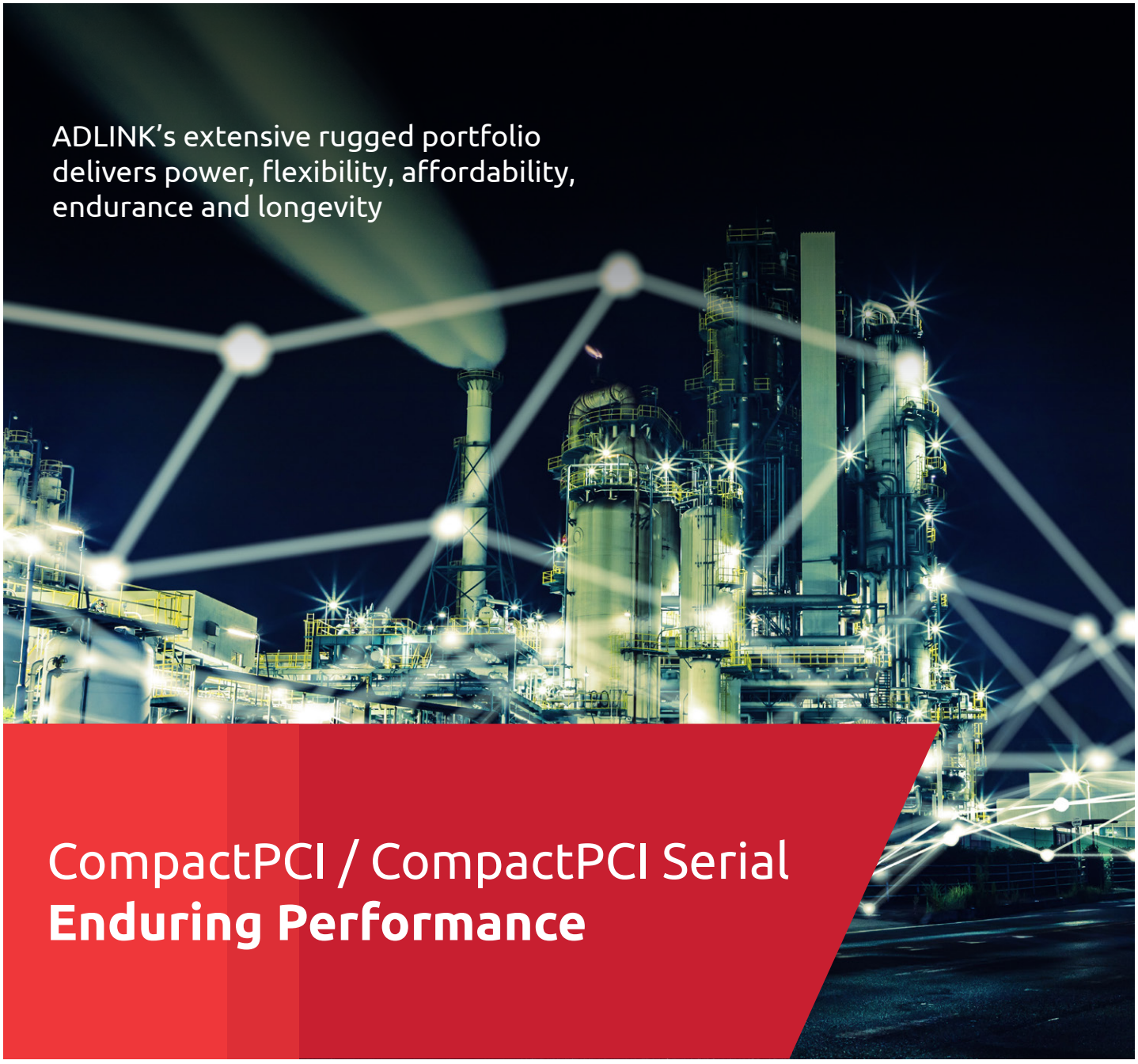
ADLINK
LEADING EDGE COMPUTING



CompactPCI / CompactPCI Serial
Enduring Performance

CompactPCI®

CompactPCI® Serial

Product Brochure

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CompactPCI/ CompactPCI Serial Ecosystem: Diverse Solutions for Diverse Applications

CompactPCI is a capable architecture that can be the foundation of powerful, ruggedized systems in a wide range of challenging applications. Over the years, CompactPCI has evolved to include an array of different components. ADLINK is a market leader in producing many of these components in commercial off-the-shelf (COTS) packages.

3U/6U CompactPCI 2.0 Blades

Designed as the heart of a CompactPCI system, 3U and 6U CompactPCI processor blades are single-board computers that contain a processor, chipset, memory, I/O, and other essentials. ADLINK 3U/6U blades feature many of the latest Intel's® Core™ and Xeon® processors. ADLINK's new cPCI-6636 processor blade boasts an Intel® Xeon® E3-1505M v5 processor (Core™ i7 and Core™ i3 options are also available), up to 32GB DDR4-2133, XMC support, and up to eight USB 3.0 and four GbE ports.

The 3U cPCI-3630 highlights ADLINK's commitment to low-power CompactPCI blades. It's based on an Intel Atom® x7-E3950 processor, comes in single-slot to multi-slot (4HP/8HP/12HP) form factors, and can utilize an assortment of daughter boards for a broad range of I/O functionality. The new cPCI-3640 takes the 3U form factor a step further with integration of Intel's Atom® x6000FE Series industrial processor, which delivers 50% more muti-thread performance and Intel® UHD Graphics. In the 6U category, ADLINK's new cPCI-6636 processor blade boasts an Intel® Xeon® E3-1505M v5 processor (Core™ i7 and Core™ i3 options are also available), up to 32GB DDR4-2133, XMC support, and up to eight USB 3.0 and four GbE ports. Most recently, ADLINK added the cPCI-6646, -6656, and -6660 models in its 6U lineup. These bring support for new Intel Atom x7 and 12th Gen Core processors. ADLINK optionally also offers conduction-cooled versions of select models, such as the CT-6540 variant of the cPCI-6540, an extended-temperature processor blade with 9th Gen Intel Core and Xeon processor options as well as dual PMC/XMC connectivity. For similar specs in a 3U configuration, ADLINK offers the cPCI-3520 series.

3U CompactPCI Serial (CPCI-S.0) Blades

Decades of development have proven the superior performance and reliability of serial interconnects. With CPCI-S.0, CompactPCI gains the ability to support more modern technologies, including USB, SATA/SAS, PCI Express, and Ethernet. Most configurations involve one system slot and up to eight peripheral slots, with hot-swap support and up to 12 Gbit/sec transmission bandwidth. Better yet, multiple system boards can operate in peripheral slots, allowing high



multiprocessor density for demanding applications, and full-mesh Ethernet can provide deployment resiliency with up to 10GbaseT copper connections. ADLINK brings these features and much more to its new family of 3U blades, including the cPCI-A3525, which backs 9th Gen Intel Xeon/ Core i7 performance with extensive USB, SATA, and PCI Express expandability. Even greater throughput arrives in the cPCI-A3535, based on Intel's 11th Gen architecture and M12 connectivity — a key attribute for railway systems. The cPCI-A3535 integrates seamlessly with 3U peripheral boards, such as the cPCI-A3W20 (5G wireless), cPCI-A3E20 (Ethernet), and cPCI-A3MXM (GPGPU card). ADLINK even offers the ARM-based cPCI-A2ARM processor blade, with EN 50155 compliance and and optional M12 connectivity, specifically for rail platforms.

3U/6U Enclosures & Systems

In order to speed up time to market (TTM) and/or deployment, CompactPCI products regularly come prepackaged within a chassis for effortless rackmount installation. Prebuilt CompactPCI systems include processor blades and often feature complementary compenents, such as peripheral blades, power supplies, cooling, etc., providing customers with confidence that their systems are ready for immediate field action. ADLINK's 3U and 6U CompactPCI enclosure families represent unprecedented choice for end users and system integrators. Our enclosures for 3U blades are available in 3U or 4U height, while 6U blade enclosures span 1U to 9U height.

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Backplanes

Backplanes are an integral part of the CompactPCI architecture. Like blades themselves, CompactPCI backplanes come in 3U and 6U form factors and are the the key to CompactPCI's exceptional bandwidth that meet many industries' needs. ADLINK showcases its comprehensive support of CompactPCI with a full range of 3U/6U backplanes. Depending on the model, backplanes use the 32-bit/33MHz or 64-bit/66MHz CompactPCI bus, can support rear I/O, and have user-selectable voltage.

Power Supplies

Mission-critical operations cannot tolerate downtime or failure, making power supply dependability crucial piece to any CompactPCI system. ADLINK maintains an impressive array of 3U and 6U power supplies that conform to the PICMG 2.11 standard. Almost all ADLINK's power supplies are hot-swappable to ensure peak performance and high uptime. Output wattage peaks at 400W for our 6U PSUs and 250W for our 3U units. The cPS-H325/WDC is a specialty power module for railway systems that is available in 120W (fanless) or 300W (forced air) configurations.

Peripheral Cards

Scalability is one of the key advantages CompactPCI offers, as systems integrators can tap into an architecture that gives them clear upgrade paths as situations change over time. ADLINK recognizes that CompactPCI peripheral cards help customers maximize their systems' functionality, potentially extending life cycles and eliminating the need for more expensive hardware changes. We provide a wide range of cards, including carrier boards, Ethernet cards, module and storage carriers, XMC/PMC modules, DIO modules, and more.



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CompactPCI Serial Processor Blades / Peripheral Cards





Model Name		3U Air-Cooled Processor Blades		
		cPCI-A3535		cPCI-A3525
		cPCI-A3535	cPCI-A3535D	
CPU and Core Logic	CPU	Intel® Xeon® W-11155MLE (formerly Tiger Lake)	Intel® Xeon® W-11155MRE (formerly Tiger Lake)	Intel® Xeon® E, 9th Gen Intel® Core™ (formerly Coffee Lake Refresh)
	CPU Speed (max.)	3.1 GHz	4.4 GHz	4.2 GHz
	Chipset	RM590E		CM246
Form Factor & Bus	PICMG Spec.	S.0 (R2.0)		S.0 (R2.0)
	Slot width	1	2	1
Memory	DIMM Type	DDR4-3200 SODIMM		DDR4-2666 SODIMM
	Max. Capacity	64GB		64GB
	ECC Support	Yes (optional)		Yes (optional)
Storage	NAND Flash	80GB onboard		32GB/128GB onboard
Front I/O	Ethernet	1x 2.5GbE 2x M12 2.5GbE	1x 2.5GbE 2x M12 10GbE	2x GbE
	USB	1x Type A USB 3.2 Gen 1 1x Type C USB 3.2 Gen 1		2x USB 3.0
	No. of Displays Support	1x USB Type C (DP, HDMI)		2x DP
Rear I/O	Ethernet	2x GbE	4x GbE	2x GbE
	USB 2.0	8		8
	USB 3.0	2		2
	PCI Express	2x PCIe Gen 3 x8 3x PCIe Gen 3 x4 2x PCIe Gen 3 x1		2x PCIe Gen 3 x8 2x PCIe Gen 2 x4 1x PCIe Gen 2 x1
	Serial ATA	5		7
	RAID	Yes		No
TPM		2.0		-

cPCI-A3H10



3U CompactPCI Serial 2.5" SATA Storage Carrier

- One 2.5" SATA 6Gb/s drive slot
- Status LEDs on faceplate: drive activity, hot-swap status, user-configurable
- Hot swap support
- Operating temperature: -40°C to 85°C with qualified components

Ordering Information

- cPCI-A3H10: 3U CompactPCI Serial 2.5" SATA storage carrier with hot-swap support, anti-shock and anti-vibration storage kit

cPCI-A3X10



3U CompactPCI Serial XMC Module Carrier

- One XMC slot
- Operating temperature: -40°C to 85°C with qualified components

Ordering Information

- cPCI-A3X10: 3U CompactPCI Serial XMC module carrier

cPCI-A3H20



3U CompactPCI Serial NVMe/SATA Storage Carrier

- One NVMe M.2 and one NVMe U.2 drive slot
- One optional SATA 6Gb/s M.2 drive slot shared space with NVMe U.2
- Status LEDs on faceplate: drive activity, hot-swap status, user-configurable
- Operating temperature: -40°C to +85°C with qualified modules
- EN50155 compliance

cPCI-A3RF



3U CompactPCI Serial Wireless Carrier Card

- Support one M.2 and one Mini PCIe slot for 5G or Wi-Fi module
- Up to 6 SMA antenna connectors on front panel
- Operating temperature: -40°C to +85°C with qualified modules
- EN50155 compliance

cPCI-A3MXM/A4500

3U CompactPCI Serial MXM Carrier Card

- NVIDIA RTX™ A4500 with 5888 CUDA® cores, 46 RT Cores, and 184 Tensor Cores
- 17.66 TFLOPS peak FP32 performance
- Operating temperature: -20°C to +60°C
- EN50155 compliance

cPCI-A3USB

3U CompactPCI Serial 8-Port USB 3.2/USB 3.0 Card

- Four USB 3.2 Gen 1 ports
- Four USB 3.0 ports by hub
- Operating temperature: -40°C to +85°C
- EN50155 compliance

cPCI-A3COM

4-Port RS-232/422/485 COM Card

- Four asynchronous communications ports with intelligent buffer
- Four RS-232/422/485 ports
- 2500 VDC signal to ground isolation voltage
- Auto-flow control
- Surge protectors
- EN50155 compliance

cPCI-A3MPCIe

3U CompactPCI Serial Mini PCIe Carrier Card

- Two Mini PCIe slots
- Operating temperature: -40°C to +85°C
- EN50155 compliance

cPCI-A3ETH

3U CompactPCI Serial Ethernet Card

- Four RJ-45 ports supports up to 2.5G
- Four independent Intel® i225 Ethernet controllers
- Operating temperature: -40°C to +85°C
- EN50155 compliance

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6U CompactPCI Blades









Model Name		6U Air-Cooled Processor Blades							
		cPCI-6540		cPCI-6640	cPCI-6660	cPCI-6636		
		cPCI-6540	cPCI-6540V			cPCI-6636	cPCI-6636D	cPCI-6636DZ
CPU and Core Logic	CPU	Intel® Xeon® E-2276ML, 9th Gen Intel® Core™ i7/i3		Intel® Xeon® E-2276ML, 8th/9th Gen Intel® Core™ i	Intel Atom® x6413E (formerly Elkhart Lake)	Intel® Xeon® E3, 6th/7th Gen Intel® Core™ i7/i3		
	CPU Speed (max.)	4.5 GHz		4.4 GHz	3.0 GHz	3.7 GHz		
	Chipset	CM246		CM246	-	CM236		HM170
Form Factor & Bus	PICMG Spec.	2.0 (R3.0), 2.1 (R2.0), 2.9 (R1.0), 2.16 (R1.0)		2.0 (R3.0)	2.0 (R3.0), 2.1 (R2.0), 2.16 (R1.0)	2.0 (R3.0), 2.1 (R2.0), 2.16 (R1.0)		2.0 (R3.0), 2.1 (R2.0)
	Slot Width	1		2	1	1	2	2
	Host/Peripheral	Host/Statellite		Host	Host/Statellite	Host/Universal		Host
	PCI Bandwidth (max.)	64-bit/33, 66MHz		64-bit/66MHz	32-bit/33MHz	64-bit/66MHz		
	PMC	1 (64-bit)	2 (64-bit)	1 (32-bit)	1 (PCIe x4)	-		
	XMC	1 (PCIe x8)	2 (PCIe x8)	-	-	-	1	1
Memory	Type	DDR4-2666		DDR4-3200	DDR4-3200	DDR4-2133		
	Max. Capacity	32GB soldered + 32GB SODIMM		32GB SODIMM	32GB SODIMM	16GB soldered + 16GB SODIMM		
	ECC Support	Yes		Yes	Yes	Yes		No
Display	Graphics Controller	Integrated in processor		Integrated in processor	Integrated in processor	Integrated in processor		
	Interface	DisplayPort, VGA		DVI-I, VGA	VGA pin header	DVI-I, VGA		VGA
Ethernet	GbE port	4 (2F+2R)		8F	4F or 2F+2R	4 (2F+2R)	4 (2F+2R)	2F
Storage	M.2 NVMe	2242		-	-	-		
	Serial ATA	4R	-	2F	1F (or mSATA)	2F+3R	2F+3R	3F
	CompactFlash	-	-	-	-	-		
	CFast	-	-	1F (optional)	-		-	-
	Onboard Flash	-	-	-	Onboard SSD (convertable to J3)	-	-	-
I/O Ports	USB 2.0	6R	6R	-	-	6R	6R	-
	USB 3.0	2F	1F	6F	1F		3F	8F
	COM	1F+1R	1R	2F	1F	1F+2R	1F+2R	6F
	PS/2 KB/MS	1R	1R	-	-	1R	1R	-
	Rear I/O	Yes		No	USB, HDA, PS/2, COM	Yes		No

Note: F = Blade; R = Rear Transition Module

Chassis Compatibility

Chassis Model	cPCI Bus	cPCI-6540		cPCI-6640		cPCI-6660		cPCI-6636	
		Host	Peripheral	Host	Peripheral	Host	Peripheral	Host	Peripheral
cPCIS-3300BLS	N/A	✔	✔	✔	✘	✔	✔	✔	✔
cPCIS-3330	32-bit/33MHz	✔	△	✔	✘	✔	✘	✔	✔
cPCIS-3330/64	64-bit/66MHz	✔	△	✔	✘	✔	✘	✔	✔
cPCIS-3320	64-bit/66MHz	✔	△	✔	✘	✔	✘	✔	✔
cPCIS-6130R	64-bit/66MHz	✔	△	✔	✘	✔	✘	✔	✔
cPCIS-6400U	64-bit/66MHz	✔	△	✔	✘	✔	✘	✔	✔
cPCIS-6400U/32	32-bit/33MHz	✔	△	✔	✘	✔	✔	✔	✔
cPCIS-6400X	64-bit/66MHz	✔	△	✔	✘	✔	✘	✔	✔
cPCIS-6400X/32	32-bit/33MHz	✔	△	✔	✘	✔	✔	✔	✔
cPCIS-6230R/6240R	32-bit/33MHz	✔	△	✔	✘	✔	✔	✔	✔
cPCIS-6418U	64-bit/66MHz	✔	△	✔	✘	✔	✘	✔	✔
cPCIS-6230R/64	64-bit/66MHz	✔	△	✔	✘	✔	✘	✔	✔
cPCIS-6230R/64/N110	64-bit/66MHz	✔	✔	✔	✘	✔	✘	✔	✔
cPCIS-6235R	32-bit/33MHz	✔	△	✔	✘	✔	✔	✔	✔
cPCIS-6235R/64	64-bit/66MHz	✔	△	✔	✘	✔	✘	✔	✔

✔: Compatible, ✘: Not Supported, △: Limitation - PIM is not functional in peripheral slot with H.110



6U Rugged Conduction Cooled Blade		
Model Name		CT-6540
CPU and Core Logic	CPU	Intel® Core™ i7/i5
	CPU Speed (max.)	4.1GHz
	Chipset	CM246
Form Factor & Bus	PICMG Spec.	2.0 (R3.0), 2.1 (R2.0), 2.9 (R1.0), 2.16 (R1.0)
	Slot Width	1
	Host/Peripheral	Host/Universal
	PCI Bandwidth (max.)	64-bit/33, 66MHz
	PMC	1 (64-bit)
	XMC	1 (PCIe x8)
Memory	Type	DDR4-2666
	Max. Capacity	32GB soldered
	ECC Support	Yes
Display	Graphics Controller	Integrated in processor
	Interface	DisplayPort, VGA
Ethernet	Gigabit Ethernet	2R
Storage	SATA	3R
	CompactFlash	-
	CFast	-
	NAND	-
I/O	USB 2.0	6R
	USB 3.0	-
	Serial	2R
	PA/2 KB/MS	2R
Other	Rear I/O	Yes
	PCI Express	1R, x4
	Audio	High Def.
	GPIO	16R
	TMDS	Yes
	RGB	1R
	PIM	2R
Operating Temp.		-40°C to +85°C (selected CPUs)
Vibration		5-500 Hz, 2g (random), operating
Shock		20g/11ms half sine, operating

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6U CompactPCI Rear Transition Modules









6U RTMs														
Model Name	cPCI-R6000 Series				cPCI-R6210		cPCI-R6100 Series						cPCI-R6500	
	cPCI-R6002		cPCI-R6002D				cPCI-R6100		cPCI-R6110		cPCI-R6120			
	Faceplate	Onboard	Faceplate	Onboard	Faceplate	Onboard	Faceplate	Onboard	Faceplate	Onboard	Faceplate	Onboard	Faceplate	Onboard
GbE	2		2				4[4]		2		2		2	
USB 2.0	2	1 (5-pin)	4	1 (5-pin)	1	1 (5-pin)	4		4		4		1	
USB 3.0														
COM	1(DB-9)	1 (10-pin) (TX/RX)	1(DB-9)	1 (10-pin) (TX/RX)		1 (10-pin) (TX/RX)	1 (RJ-45)						1	1 (Tx/Rx)
DVI	1 (DVI-I)[1]		1 (DVI-I)		1 (DVI-I)		1						2[5] (DVI-I, DVI-D)	
VGA							1		1		1			
PMC						2 (PIM)								
SATA		2 (7-pin)		3[1]		2 (7-pin)		2 (7-pin)		3[1][4]		2		3 (7-pin)
CF		1[1] (optional)		1[1] (optional)				1[2]		1[2]				
Mic-in			1											1 (10-pin)
Line-out			1											
PS/2 KB/MS			1				1		1		1		1	
SD								1		1				

(1) Two 7-pin signal connectors onboard for external drives and one direct connector for onboard 2.5" SATA drive. Optional CompactFlash slot is supported when SATA connector adapter is replaced by CompactFlash adapter. SATA drive and CF not supported simultaneously.
(2) Converted from USB which unable to support Windows OS installation.
(3) Two GbE ports are from independent Intel® I350-AM2 Gigabit Ethernet controller on RTM
(4) Space is reserved onboard for one 2.5" SATA drive
(5) One DVI-I (digital + analog), one DVI-D (digital only) are from graphic chip on MXM module assembled on RTM

6U Processor Blade Compatibility

Model Name	cPCI-R6000 Series		cPCI-R6210	cPCI-R6100 Series			cPCI-R6500
	cPCI-R6002	cPCI-R6002D		cPCI-R6100	cPCI-R6110	cPCI-R6120	
Slot width	4HP	8HP	4HP	4HP	4HP	8HP	8HP
cPCI-6540	✔	✔		✔	✔	✔	✔
CT-6540	✔	✔		✔	✔	✔	✔
cPCI-6660	✔		✔				✔
cPCI-6636(D)	✔	✔		✔	✔	✔	✔

✔: Compatible

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3U CompactPCI Processor Blades











Model Name		3U Air-Cooled Processor Blades																					
		cPCI-3640					cPCI-3630						cPCI-3620					cPCI-3520					
		cPCI-3640	cPCI-3640D	cPCI-3640T	cPCI-3640S	cPCI-3640TR	cPCI-3630	cPCI-3630D	cPCI-3630T	cPCI-3630N	cPCI-3630S	cPCI-3630TR	cPCI-3620	cPCI-3620D	cPCI-3620T	cPCI-3620N	cPCI-3620S	cPCI-3520	cPCI-3520D	cPCI-3520G	cPCI-3520L	cPCI-3520S	cPCI-3520T
CPU and Core Logic	CPU	Intel Atom® x6413E					Intel Atom® x7-E3950, x5-E3930						Intel Atom® E3845					Intel® Xeon® E, 9th/8th Gen Intel® Core™					
	CPU Speed (max.)	3.0 GHz					2.0 GHz						1.91 GHz					4.5 GHz					
	Chipset	-					-						-					CM246					
Form Factor & Bus	PICMG Spec.	2.0 (R3.0), 2.1 (R2.0)					2.0 (R3.0), 2.1 (R2.0)						2.0 (R3.0), 2.1 (R2.0)					2.0 (R3.0), 2.9 (R1.0)					
	Slot width	1	2	2	2	2	1	2	2	1	2	2	1	2	2	1	2	1	2	2	2	2	2
	Host/Peripheral	Host/Satellite					Host/Satellite						Host/Satellite					Host/Satellite					
	PCI Bandwidth (max.)	32-bit/33MHz					32-bit/33, 66MHz						32-bit/33,66MHz					32-bit/33,66MHz					
Memory	Type	DDR4-3200M					DDR3L-1600						DDR3L-1333					DDR4-2666					
	Max. Capacity	32GB soldered					Max. 8GB soldered						Max. 4GB soldered					32GB soldered					
	ECC Support	Yes					Yes						Yes					Yes					
Display	Graphics Controller	Intel Atom®					Intel Atom®						Intel Atom®					Integrated in processor					
	Interface	VGA	VGA	VGA	VGA	VGA	VGA	VGA	VGA	-	VGA	VGA	VGA	VGA	VGA	-	VGA	DVI-I	DVI-I	DVI-I + 2x DP	DVI-I	DVI-I	DVI-I
Ethernet	Gigabit Ethernet	2F (2.5GbE)	2F (2.5GbE)	4F (2x 2.5GbE, 2xM12 GbE)	2F (2.5GbE)	4F (2x 2.5GbE, 2x GbE)	2F	2F	4F (2xRJ-45, 2xM12)	-	2F	4F	2F+2R	2F+2R	4F (2xRJ-45, 2xM12)+2R	2R	2F+2R	2F+2R	2F+2R	2F+2R	4F+2R	2R	4F (2xRJ-45, 2xM12)+2R
Storage	Serial ATA	-	1F	1F	-	1F	-	1F	1R	1R	-	1R	1R	1F	1F	-	1F	3R	1F+3R	1F+3R	1F+3R	3R	1F+3R
	mSATA	1 (optional)					1 (optional)						1 (optional)					1 (optional)					
	CFast	1 (optional)					1 (optional)						-					1	1	1	1	1	1
	NAND Flash	40GB (optional)					32GB (optional)						1	1 (optional)	1 (optional)	1	1 (optional)	1 (optional)	1 (optional)	1 (optional)	1 (optional)	1 (optional)	1 (optional)
I/O	I/O USB 2.0	-	2F	-	-	-	-	2F	-	-	-	-	-	2F	-	-	-	3R	2F+3R	1F+3R	1F+3R	2F+3R	3R
	I/O USB 3.0	1F	1F	1F	1F	1F	1F	1F	1F	-	1F	1F	1F	1F	1F	-	1F	1F	1F	1F	1F	1F	1F
	Serial	2R	1F+1R	1F+1R	2R	1F+1R	2R	1F+1R	1F+1R	2R	2R	1F+1R	2R	1F+1R	1F+1R	2R	2R	1R	1F(DB9)+1R	1F+1(10-pin)+1R	1F(DB9)+1R	1R	1F(DB9)+1R
	PS/2 KB/MS	-	1F	-	-	-	-	1F	-	-	-	-	-	1	-	-	-	-	1	1	-	-	-
	Audio	-	Line-in, Line-out	-	-	-	-	Line-in, Line-out	-	-	-	-	-	Line-in, Line-out	-	-	-	-	Line-in, Line-out	-	-	-	-
Compatible RTM		cPCI-R3610 (50mm), cPCI-R3610T (80mm)					cPCI-R3610 (50mm), cPCI-R3610T (80mm)						cPCI-R3610 (50mm), cPCI-R3610T (80mm)					cPCI-R3P00 (50mm), cPCI-R3P00T (80mm)					

Note: F = Blade; R = Rear Transition Module

3U Rugged Conduction Cooled Blades		
Model Name		CT-3620
CPU and Core Logic	CPU	Intel Atom® E3845
	CPU Speed (max.)	1.9GHz
	Chipset	-
Form Factor & Bus	PICMG Spec.	2.0 (R3.0), 2.1 (R2.0)
	Form Factor	3U
	Slot width	1
	Host/ Peripheral	Host/Satellite
	PCI Bandwidth (max.)	32-bit/33, 66MHz
Memory	Type	DDR3L-1333
	Max. Capacity	4GB
	ECC Support	Yes
Display	Graphics Controller	Integrated in processor
	Interface	VGA (rear I/O)
Ethernet	Gigabit Ethernet	2R
Storage	SATA	1R
	CompactFlash	-
	CFast	-
	NAND Flash	32GB
I/O	USB 2.0	1R
	Serial	2R
	PS/2 KB/MS	-
Other	PCI Express	PCIe x1, 1R
	Audio	-
	GPIO	-
Operating Temp.		-40°C to +85°C
Vibration		5-2000Hz, 12g rms, operating
Shock		40g/11ms half sine, operating
RTM		cPCI-R3610 (50mm), cPCI-R3610T (80mm)

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6U CompactPCI Chassis



6U CompactPCI Chassis					
Model Name		cPCIS-6130R Series	cPCIS-6235R Series	cPCIS-6230R/6240R Series	cPCIS-6418U Series
Form Factor	19" Rackmount	Yes	Yes	Yes	Yes
	Mounting	Rackmount	Rackmount	Rackmount	Rackmount
	Height	1U	2U	2U	4U
	Board Orientation	Horizontal	Horizontal	Horizontal	Horizontal
Backplane	Total Slots	2	3/4	3/4	8
	Total Segment	1	1	1	1
	System Slot	1	1	1	1
	Peripheral Slot	1	2	2/3	7
	Fabric Slot	--	--	--	--
	32-bit/64-bit PCI Bus	64	32/64	32/64	64
	CMM Slots	--	--	--	--
	Additional Feature	H.110/Non H.110	H.110/Non H.110	H.110/Non H.110	H.110/Non H.110
Power Supply	Redundant PSU	--	ATX 300W x 2	--	cPCI 250W x 3
	Non-redundant PSU	ATX 200W	--	ATX 300W	--
Alarms	Fan Status	--	Yes	--	Yes
	Over Temperature	--	Yes	--	Yes
	Voltages Status	--	Yes	--	Yes
	Web Access Module	--	--	--	Optional
Others	SLIM TYPE SATA DVD ROM	--	--	--	Yes
	SATA Drive Bays	--	--	3.5"/2.5"	--
	Operating Temperature	0°C to 55°C	0°C to 55°C	0°C to 55°C	0°C to 55°C



Model Name		cPCIS-6400X Series	cPCIS-6400U Series	cPCIS-3320 Series	cPCIS-3330 Series	cPCIS-3300BLS Series
Form Factor	19" Rackmount	Yes	Yes	Yes	Yes	Yes
	Mounting	Rackmount	Rackmount	Rackmount	Rackmount	Rackmount
	Height	4U	4U	9U	9U	9U
	Board Orientation	Horizontal	Horizontal	Vertical	Vertical	Vertical
Backplane	Total Slots	5	5	13	8	14
	Total Segment	1	1	2	1	1
	System Slot	1	1	2	1	12
	Peripheral Slot	4	4	11	7	--
	Fabric Slot	--	--	--	--	2
	32-bit/64-bit PCI Bus	32/64	32/64	64	32/64	--
	CMM Slots	--	--	Optional	--	Optional
	Additional Feature	H.110	H.110	H.110	H.110	2.16
Power supply	Redundant PSU	--	cPCI 250W x 3	cPCI 250W x 4	cPCI 250W x 4	cPCI 400W x 3
	Non-redundant PSU	ATX 400W	--	--	--	--
Alarms	Fan Status	Yes	Yes	Yes	Yes	Yes
	Over Temperature	Yes	Yes	Yes	Yes	Yes
	Voltages Status	Yes	Yes	Yes	Yes	Yes
	Web Access Module	--	Optional	--	--	--
Others	SLIM TYPE SATA DVD ROM	Yes	Yes	--	Yes	--
	SATA Drive Bay	3.5"	3.5"	3.5"	3.5"	--
	Operating Temperature	0°C to 55°C	0°C to 55°C	0°C to 55°C	0°C to 55°C	0°C to 55°C

3U CompactPCI/Serial Chassis



3U CompactPCI Chassis							
Model Name		cPCIS-2630/2830	cPCIS-(ET)2632/2832	cPCIS-2633/2833	cPCIS-2642/2842	cPCIS-ET1100/1100A	cPCIS-ET1102/ ET1102R/1102
Form Factor	CPCI-S.0	-	-	-	-	-	-
	Width	19", 84HP	19", 84HP	19", 84HP	19", 84HP	19", 84HP	19", 84HP
	Desktop	Y	Y	Y	Y	Y	Y
	Rackmount	Y	Y	Y	Y	Y	Y
	Height	4U	4U	4U	4U	3U	3U
Backplane	Total System	1	1	1	2	1	1
	Total Slot	8	8	13	12	8	8
	System Slot	1	1	1	x2	1	1
	Peripheral Slot	7	7	12	5 x2	7	7
	PCI Bus	32bit/33MHz	32bit/33MHz	32bit/33MHz	32bit/33MHz	32bit/33MHz	32bit/33MHz
Power Supply	Redundant PSU	-	250 W x 2[1][2]	250 W x3 [1]	-	-	250 W x2 [1, 2]
	Non-redundant PSU	400 W (ATX)	-	-	250 W x 2[1]	400 W (ATX)	-
Alarms	Fan Status	Y	Y	Y	Y	-	-
	Over Temp.	Y	Y	Y	Y	-	-
Rear I/O	Depth	50 mm/80 mm	50 mm[3]	50 mm/80 mm	50 mm/80 mm	50 mm [3]	50 mm [3]
	Implementation	Optional	Optional	Optional	Optional	Optional	Optional
Operating Temperature		0°C to 60°C	-20°C to 70°C	0°C to 60°C	0°C to 60°C	-20°C to 70°C	-20°C to 70°C



Model Name		cPCIS-3048	cPCIS-1202/1202R	cPCIS-2501	cPCIS-A3091(R)	cPCIS-A3092(R)
Form Factor	CPCI-S.0	-	-	-	Y	Y
	Width	48HP	19", 84HP	40HP	19", 84HP	19", 84HP
	Desktop	Y	Y	Y	Y	Y
	Rackmount	-	Y	-	Y	Y
	Height	3U	3U	4U	4U	4U
Backplane	Total System	1	2	1	1	1
	Total Slot	7	12	6	9	9
	System Slot	1	1 x2	1	1	1
	Peripheral Slot	5	5 x2	5	8	8
	PCI Bus	32bit/33MHz	32bit/33MHz	32bit/33MHz	-	-
Power Supply	Redundant PSU	250 W x2	-	-	-	-
	Non-redundant PSU	-	250 W x2[1]	250 W[1]	300 W[1]	300 W x 2[1]
Alarms	Fan Status	-	-	Y	Y	Y
	Over Temp.	-	-	-	Y	Y
Rear I/O	Depth	50 mm [3]	50 mm [3]	-	Y	Y
	Implementation	Optional	Optional	-	Optional	Optional
Operating Temperature		0°C to 60°C	0°C to 60°C	0°C to 60°C	-20°C to 70°C	-20°C to 70°C

(1) PICMG 2.11 compliant CompactPCI power supply.
(2) Supports -20°C to +70°C with at least 400LFM (2 m/s) cooling fans(-20°C to +50°C at full load with 400LFM air flow and power efficiency will be derated linearly to 50% at +70°C).
(3) 80 mm depth RTM can be supported upon request.

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CompactPCI Peripheral Cards

cPCI-3E20



3U CompactPCI 4-Port M12 Gigabit Ethernet Card

- PICMG 2.0 R3.0 compliant
- Supports 32bit/33MHz CompactPCI bus
- Four M12 10/100/1000BASE-T ports on faceplate with isolation 1500V AC
- Four independent Intel® i210IT Gigabit Ethernet controllers
- Operating temperature: -40°C ~ +85°C
- OS support: Windows®10
- EN50155 compliance
- Safety: UL 94V-0 and EN45545

Ordering Information

- cPCI-3E20: 3U cPCI four port M12 LAN card, two ports switchable to rear, EN 50155 Compliance

cPCI-3E10/3E12



3U CompactPCI 2/4-Port Gigabit Ethernet Card

- PICMG 2.0 R3.0 compliant
- Supports 32bit/33MHz, 66bit/64MHz CompactPCI bus
- 3U 4HP form factor, 100mmx160mm (LxW)
- Two or four RJ-45 10/100/1000BASE-T ports on front panel
- Intel i210 Gigabit Ethernet controllers
- Two LAN ports switchable to rear (cPCI-3E10 only)
- OS support: Windows 10

Ordering Information

- cPCI-3E10: 3U cPCI four port RJ-45 LAN card, two ports switchable to rear, EN 50155 Compliance
- cPCI-3E12: 3U cPCI two port RJ-45 LAN card
- cPCI-R3E10: RTM for cPCI-3E10 with two RJ-45 LAN ports in 50mm depth
- cPCI-R3E10T: RTM for cPCI-3E10 with two RJ-45 LAN ports in 80mm depth

cPCI-3W20-HW



3U CompactPCI Mini PCIe Carrier Card

- PICMG 2.0 R3.0 compliant
- Supports 32bit/33MHz CompactPCI bus
- Support one Mini-PCIe slot for LTE module (HUAWEI LTE module)
- Two SMA antenna connectors on front panel
- One DB-9 connector on front panel for PA control
- Operating Temperature: -40°C ~ +85°C
- EN50155 compliance

Ordering Information

- cPCI-3W20-HW: 3U CompactPCI Mini PCIe carrier board

cPCI-3C10-MVB



3U CompactPCI Mini PCIe Carrier Card for MVB

- PICMG 2.0 R3.0 compliant
- Supports 32bit/33MHz CompactPCI bus
- Support one Mini PCIe slot for Duagan MVB module D017M
- Two DB-9 connectors on front panel.
- Operating Temperature: -40°C ~ +85°C
- EMC: EN55022, IEC1000-4-2, IEC1000-4-4

Ordering Information

- cPCI-3C10-MVB: 3U CompactPCI Mini PCIe carrier board

cPCI-3548



3U CompactPCI 8 ports Serial Communication Card

- PICMG 2.0 R3.0 compliant
- Supports 32bit/33MHz CompactPCI bus
- 16C550A compatible serial communication controller
- Eight asynchronous communications ports with intelligent buffer
- Eight RS-232/422/485 ports
- 2500 VDC signal to ground isolation voltage
- Auto-flow control
- Change mode by dip switch
- Plug-and-play, IRQ & I/O address automatically assigned by PCI BIOS, shared IRQ
- Surge protectors
- Rugged DB37 connector

Ordering Information

- cPCI-3548: Isolated 8-port RS-422/RS-485 serial communications module, EN 50155 Compliance

cPCI-3W10



3U CompactPCI Mini PCI, Mini PCIe Carrier Board

- Supports 32-bit, 33/66MHz CompactPCI bus
- One Mini PCI and one Mini PCIe socket
- One SIM card socket

Ordering Information

- cPCI-3W10: 3U CompactPCI Mini PCI, Mini PCIe Carrier Board

cPCI-7300



32-CH 80 MB/s High-Speed Digital I/O Module

- Multiple I/O port configurations: 16-CH DI & 16-CH DO, 32-CH DI, or 32-CH DO
- Up to 80MB/s transfer rate
- Scatter-gather DMA
- On-board 32k words FIFO

Ordering Information

- cPCI-7300: 32-CH 80 MB/s High-Speed Digital I/O Module

cPCI-7432/7433/7434



64-CH Isolated Digital I/O Modules

- 5000VRMS
- Sink current up to 500mA on each isolated output
- Rear I/O available on cPCI-7432R, 7433R, 7434R

Ordering Information

- cPCI-7432: 32-CH isolated DI & 32-CH isolated DO card
- cPCI-7433: 64-CH isolated DI card
- cPCI-7434: 64-CH isolated DO card
- cPCI-7434P: 64-CH isolated DO card with source current transistor

cPCI-9116



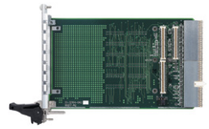
64-CH 16-bit 250kS/s Multi-Function DAQ Card

- 16-bit A/D and sampling rate up to 250kS/s
- On-board 1k-sample A/D FIFO
- Programmable gains of x1, x2, x4, x8
- 512-configuration channel-gain queue

Ordering Information

- cPCI-9116: 64-CH 16-bit 250kS/s multi-function DAQ card

cPCI-8301



3U CompactPCI Single 64-bit PMC Carrier Board

- PICMG 2.0 32,64-bit/33,66 MHz cPCI bus
- Supports one single-size 32,64-bit/33,66 MHz PMC site in 4HP width
- Universal V(I/O) decided by backplane
- Comprehensive EMC shielding

Ordering Information

- cPCI-8301: 3U cPCI single PMC slot carrier board
- cPCI-8301/6U: 6U cPCI single PMC slot carrier board

cPCI-7841



Dual-port Isolated CAN Interface Cards

- PICMG 2.0 Rev 2.1
- Dual-independent CAN network operation
- Up to 1 Mbps programmable transfer rate
- 16 MHz CAN controller frequency
- 2500 VRMS optical isolation
- Direct memory mapping to the CAN controllers
- Powerful master interface for CAN bus protocols
- Rear I/O available on cPCI-7841R

Ordering Information

- cPCI-7841: Dual-port isolated CAN interface card
- cPCI-7841R: Dual-port isolated CAN interface card with rear I/O support

cPCI-6208/6216



8/16-CH 16-bit Analog Output Modules

- Bipolar analog output range
- 4-CH TTL DI and 4-CH TTL DO
- Rear I/O available

Ordering Information

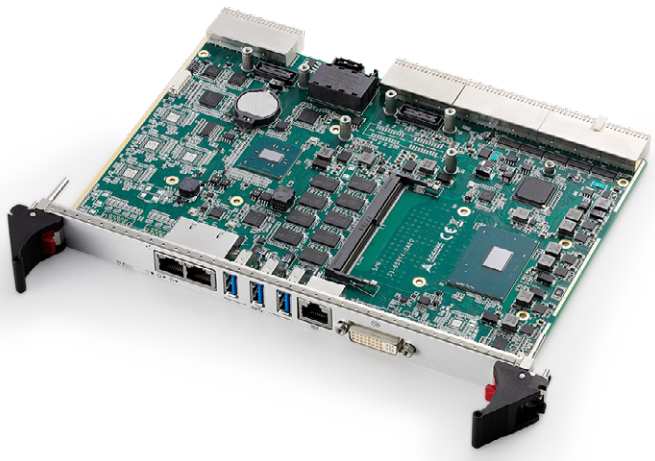
- cPCI-6208V-GL: 8-CH 16-bit voltage output module
- cPCI-6216V-GL: 16-CH 16-bit voltage output module

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Benefitting from decades of research and development, CompactPCI has emerged as an outstanding platform across a range of industries. The CompactPCI architecture perfectly suits mission-critical situations that demand resilience and high performance. ADLINK is dedicated to offering a robust portfolio of cost-effective, cutting-edge CompactPCI solutions for today's applications and years into the future.

In the most severe environments, CompactPCI shines brightest. Standard hardware is typically designed for home or office use, which means climate-controlled spaces and narrow operating temperature ranges. Outside of these parameters, failure can quickly go from possibility to reality. From the hottest places on Earth to the bleak expanse of outer space, CompactPCI endures where other solutions falter.



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At ADLINK, we strive to be at the forefront of innovation. Our commitment to building best-of-breed products for many demanding verticals makes us an industry leader. When we support a particular technology, we are fully committed investing resources and joining relevant industry consortia.

As such, ADLINK is an executive member of the PCI Industrial Computer Manufacturers Group (PICMG) consortium, which initially introduced CompactPCI in 1999. By participating in PICMG, we are able to contribute expertise that guides future CompactPCI development and helps us position the architecture as a top choice in extreme rugged environments. ADLINK envisions CompactPCI as a viable technology for another decade or longer.

ADLINK puts its CompactPCI vision Into action by sourcing only the highest caliber components thanks to partnerships with other industry leaders, including Intel. Our alliance with Intel means that ADLINK CompactPCI products have access to the most advanced processor technologies, including Intel® Core™, Xeon®, and Atom® processors. ADLINK also owns and has full control of its manufacturing facilities, based in our Asia headquarters. Incorporating top-tier hardware into our own manufacturing capabilities lets ADLINK create products with exceptional life spans.

In addition to developing a selection of best-in-class CompactPCI solutions, ADLINK also focuses on affordability. We are determined to meet customers' needs while minimizing costs. Our team rapidly responds to technical support requests, and our eRMA service issues fast replacements that minimize downtime. ADLINK presents a flexible upgrade paths and long life cycles across our entire CompactPCI line.



The CompactPCI Advantage

CompactPCI meets application demands spanning many vertical markets, including industrial, military, aerospace, transportation, and communications. The CompactPCI architecture shares its DNA with the parallel PCI bus, which for many years was the main data bus for computers across all sectors. Peripheral Component Interconnect (PCI) boasts compatibility with hundreds of processor, chipsets and thousands of peripheral chips. CompactPCI, in turn, can take advantage of affordable silicon, a rich software ecosystem, and an open architecture that encourages innovation.

There are distinct benefits that distinguish CompactPCI from other architectures. First, CompactPCI is available in dual form factors — 3U and 6U Eurocard — giving it broad plug-and-play compatibility with other devices. Further, CompactPCI's 3U/6U flexibility give users and integrators the freedom to combine select CompactPCI components with complementary off-the-shelf hardware. The CompactPCI standard reserves pins to allow for the addition of rear I/O to adapt to the requirements of the intended application.

Hot swap capability is another hallmark feature of CompactPCI. Boards can be swapped into and out of systems without turning off power. This is especially advantageous in military, aerospace, and transportation applications where downtime cannot be tolerated.

Additional CompactPCI benefits include extreme scalability, ruggedization, and longevity. CompactPCI systems can consist of a single board or an elaborate redundant configuration with multiple peripheral boards. They also consume less power than comparable alternatives, and by using a simpler interconnect (bussed vs. point to point) deployment, maintenance and support can be significantly faster.

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CompactPCI / Compact Serial: Facts in Brief

Rather than being a consumer solution adapted for industrial and other rugged use-case scenarios, CompactPCI originated as an architecture developed specifically for demanding applications. It brings together PCI signaling and protocols with a Eurocard-type connector. Standard CompactPCI boards (often referred to as "blades") are available in 3U or 6U form factors and utilize a passive backplane for interconnections. CompactPCI uses high-density 2mm pin-and-socket connectors. Manufacturers can design backplanes for 3.3V or 5V VIO operation.

As defined by PICMG, 3U CompactPCI processor blades have a 220-pins on two connectors for all power, ground, and 32/64-bit PCI signaling. A key benefit of 3U CompactPCI is that 32-bit and 64-bit blades can be plugged in together on a single 64-bit backplane.

The larger 6U specification puts even greater capabilities at customers' fingertips. A 6U CompactPCI blade can have up to three additional connectors with a total of 315 pins to handle diverse needs. Hybrid backplanes allow a 6U CompactPCI blade to bridge to other buses, such as VME or ISA. A hybrid backplane relies on a CompactPCI processor and high-speed peripheral section and can expand I/O via the other buses. To achieve greater interoperability, the PICMG introduced subsidiary specifications with pinouts to bridge to VME-64, SCSA, and HMVIP.

PCI-to-PCI bridge chips unlock CompactPCI's full potential by extending the bus in 8-slot increments. When necessary, system integrators can build CompactPCI systems with 16, 24, or 32 slots.

CompactPCI Serial (CPCI-S.0) keeps evolving to accommodate new technologies and market needs. For example, uses including machine vision analysis, real-time signal processing, and artificial analysis/machine learning (AI/ML) algorithms now involve large, highly parellized workloads that benefit greatly from general-purpose GPU (GPGPU) acceleration. CPCI-S.0 can enables such tasks with a serial carrier board, MXM GPGPU module, and a serial processor board like ADLINK's cPCI-A3525 (see below). CompactPCI remains tough enough for any environment, but that doesn't hold the standard back from meeting today's most demanding requirements.

CompactPCI Milestones

PICMG#	Name	Date
PICMG 2.0	CompactPCI Base Specification	10/1/1999
PICMG 2.1	CompactPCI Hot Swap	1/17/2001
PICMG 2.2	VME64x on CompactPCI	8/7/1998
PICMG 2.3	PMC Module on CompactPCI	8/7/1998
PICMG 2.4	IP Module on CompactPCI	8/7/1998
PICMG 2.5	CompactPCI Computer Telephony Specification	4/3/1998
PICMG 2.7	6U CompactPCI Dual System Slot	3/23/2001
PICMG 2.9	CompactPCI System Management	2/2/2000
PICMG 2.10	CompactPCI Mechanical Keying – Boards & Backplanes	10/1/1999
PICMG 2.11	CompactPCI Power Interface	10/1/1999
PICMG 2.12	Hot Swap Infrastructure Interface	5/23/2000
PICMG 2.14	CompactPCI Multicomputing	9/16/2000
PICMG 2.15	PCI Telecom Mezzanine for CompactPCI	4/11/2001
PICMG 2.16	CompactPCI Packet Switching Interconnect	9/5/2001
PICMG 2.17	CompactPCI Starfabric Interconnect	5/20/2002
PICMG 2.18	CompactPCI Serial Rapid I/O Interconnect	6/18/2004
PICMG 2.20	CompactPCI Serial Mesh Interconnect	10/21/2002
PICMG 2.30	CompactPCI Plus IO	11/11/2009
PICMG CPCI-S	CompactPCI Serial	3/2/2011
PICMG EXP.0	CompactPCI Express	3/22/2013

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Rugged Products with the Long Life Cycles Key Markets Need

Requirements for cutting-edge computing, ample bandwidth, and outstanding durability in the harshest environments has only increased. To meet these needs, manufacturers like ADLINK, experienced in ruggedized embedded solutions, can be trusted to deliver optimized solutions for defense, energy, transportation, industrial, and many other sectors. A long lifecycle (even up to 10 to 15 years) is desirable and often essential in these markets. ADLINK possesses the know-how to manage product lifecycles with best practices in supply chain management, including component sourcing and inventory management.

Factory Automation

Overview

Factories and manufacturing plants must also face the realities of an increasingly interconnected and fast-paced global economy. Those that don't adapt and fall behind the technology curve risk decreased profits, dwindling market share, and unsatisfied customers. As a result, the Internet of Things-fueled transition to "Industry 4.0" continues at a breakneck pace as manufacturers deploy efficiency-boosting artificial intelligence algorithms and robotics throughout their systems and applications. Machine vision (MV), which often employs cameras and recognition systems for manufacturing quality control purposes, is an increasingly common use for these technologies.

ADLINK positions its industrial products to meet manufacturers' unique computing needs. We understand the extreme operating conditions many industries face on the factory floor and have tailored our roster of systems, platforms, and components to match. As a prominent supplier of open platform-based automation equipment, ADLINK's 3U and 6U CompactPCI plug-in blades are high-performance and cost-effective for industrial automation requirements. Our blades deliver scalable processing, easy expandability, and extensive software support. The ease with which CompactPCI can accommodate multiprocessing and GPGPU acceleration makes this standard particularly appropriate for Industry 4.0 needs.

In the Field

A large bottler approached ADLINK with a need for an update to the existing CompactPCI-based bottling solution it had on its production floor. Bottling environments tend to exhibit high vibration and ambient temperatures, so the client wanted to retain the reliability of CompactPCI and improve it with ADLINK's Extreme Rugged engineering. The bottler wanted to migrate to CompactPCI Serial to take advantage of faster interconnects and higher scalability.

Both companies decided that a 3U solution built around ADLINK's cPCI-A3525 processor blade equipped with Intel's Xeon® E-2276ML and 32GB of DDR4 memory would be an ideal fit for the bottler's MV application. The blade's two PCIe x8 Gen 3 and two PCIe x4 Gen 3 connections would enable all the high-performance expansion in storage and AI acceleration needed for years to come. The solution also incorporated a 24V power supply module with an EtherCAT slave connection, a 5-port switch blade with a hot spare, and up to two 4-port frame grabbers capable of supporting up to eight GigE cameras from each processor blade. ADLINK used its ODM capabilities to modify front-panel indicators and internal BIOS functionality specifically for the bottler's application while also extending operating temperature support up to 85°C. The bottler deployed ADLINK's cPCI-S.0 solution on schedule, within budget, and with full MV functionality as well as access to ADLINK's extended lifecycle support.

Power & Energy

Overview

In the Alaskan wilderness, some oil pipeline infrastructure may be accessible for only one or two months out of the year. Nevertheless, brutal conditions with high winds and deeply frigid temperatures, possibly interspersed with earthquakes and other natural events, strain pipeline equipment 24/7 throughout the year. In this environment, computing equipment needs to monitor and log operations without fail. Some amount of computation and analysis may be required at this extreme edge of the network, but priorities tend to focus on absolute dependability.

Similarly demanding conditions might be found in the damp jungle around a geothermal vent, in the scorching heat of a desert solar farm, or in the wind- and rain-buffeted isolation of an offshore rig. Around the world, power and energy infrastructure requires compact, efficient computing solutions that are easy to service and able to run reliably for years at a time. Any interruption to logging and communication could cascade into broader failure that impacts the facility's production.

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Desirable attributes in a power and energy edge computing solution include:

- Extended product lifecycles
- Resistance to malfunction caused by power anomalies
- Security against unauthorized data or communication access
- Tolerance for extreme temperatures (and possibly humidity and dust)
- Tolerance for shock and vibration

Solutions based on solid state componentry, with engineering and validation for extreme ruggedness, can supply these qualities. Moreover, no system design standard has a longer or better history of delivering these attributes in ways that address modern applications than CompactPCI.

In the Field

Power and energy computing solutions can overlap considerably with similar products in the defense sector. For example, it's not unusual to find energy computing platforms derived from COTS air transport rack (ATR, commonly known as "black box") solutions deployed in military aircraft. Such designs are purpose-built to withstand environmental extremes while maintaining constant computing functionality.

CompactPCI-based ATR implementations can provide both convection and conduction cooling. This helps lower power requirements while increasing solid-state reliability. At the same time, cPCI solutions allow power and energy systems to integrate multiprocessing and GPGPU acceleration, so users can deploy multiple applications, if needed, and perform advanced computing at the edge. This can be particularly beneficial if communications are sporadic or unpredictable.

Railway Transportation

Overview

The nature of mass transit, particularly railways, puts a tremendous strain on computer systems and can be a vexing challenge for embedded designers. Continuous operation for up to 100,000 hours, use in often unforgiving environmental conditions, and extreme vibration are just some of the issues with which technology in the transportation industry must contend. Regulatory requirements constrain system design further, and passenger comfort and safety are also important.

ADLINK's CompactPCI rugged transportation solutions tackle all of these challenges. Our railway systems are EN 50155 compliant and meet global railway industry requirements for onboard train management and wayside control systems, remote video surveillance and monitoring, broadband Internet access systems, and a broad range of passenger information and entertainment systems. Our support for COTS and open systems is evident in our CompactPCI systems for railways and transportation, as ADLINK maintains an extensive selection of high-speed, scalable, and low-cost products.

In the Field

As an example of ADLINK's formidable expertise in rail and transportation, consider the automatic train operation (ATO) solution the company provided for one state-owned Asian organization focused on innovative railway technology research and development. As an ATO, the system was subject to round-the-clock vibration, which in turn required ruggedized design from the CPU board to device connections to mechanical fixtures that would keep add-on modules secure.

ADLINK built the 19" rackmount solution around its 3U cPCI-3615D processor board, which uses a fanless dual-core Intel Atom processor. The blade mounts within ADLINK's cPCIS-2642 dual 3U enclosure with two 6-slot backplanes, two cPS-H325/AC power modules, and the cPCI-3E10 quad-port Gigabit Ethernet card. The dual subsystem design provides redundant, fail-safe design. ADLINK added more value through its ODM capabilities when it modified its COTS blades to customize I/O ports specifically for this customer's mission-critical application requirements. These factors, combined with the client's longstanding prior successes with ADLINK, explain why the organization selected ADLINK for its next-generation railway solution platform.

Defense

Overview

Armed forces regularly operate in environments hostile to electronics, as well as harsh weather conditions. Defense groups require computer systems that can withstand more punishment than typical home or office settings. Further, combat situations demand precision and cannot tolerate system failures. CompactPCI plays a role in many military systems, especially avionics. For example, the U.S. Army Common Avionics Architecture System (CAAS) relies on CompactPCI for its Chinook and Black Hawk helicopters avionics systems. Elsewhere, CompactPCI has been adopted in the field in submarines, battleships, unmanned ground vehicles (UGV) and unmanned aerial vehicles (UAV), and radar.

The 3U CPCI form factor is ideal for defense systems that require smaller footprints while maintaining performance. CompactPCI's modular architecture and support for redundant designs gives system integrators the flexibility to optimize and give systems the reliability that competing platforms may lack. Developers regularly cite CompactPCI's low cost and low power use as key motivators for implementing CompactPCI-based solutions, and and the PICMG standard (created in part with ADLINK's support and input) includes IPMI-based system management that allows issues to be identified and addressed without compromising overall system stability.

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In the Field

Maintaining command and control on a battlefield often relies on the many high-performance elements within a Ground Theater Air Control System (GTACS). Modern GTACS solutions must accommodate encryption, real-time signal analysis, and the potentially extreme temperature, shock, and vibration conditions of field deployment. When a United States defense agency needed a capable GTACS as performant as it was dependable, it turned to cPCI standard-based components in a rugged 3U ADLINK enclosure.

ADLINK's cPCIS-2633/R chassis provided the defense group with exactly the needed mix of durability, support, field serviceability, and value. The 3U enclosure supported a system slot and 12 peripheral card slots, accompanied by a 2+1 hot-swappable 500W+250W CompactPCI power supply configuration. The cPCIS-2633/R uses a filtered, forced-air cooling design and hot-swappable fan support for quick field maintenance. The defense group also selected ADLINK's quad-core cPCI-3510BL processor blade as well as ADLINK SSD and CompactPCI rear transition module (RTM) components. As a complete solution, the defense agency's new ADLINK-based GTACS provided the speed, reliability, extended lifecycle, and global support its application required.

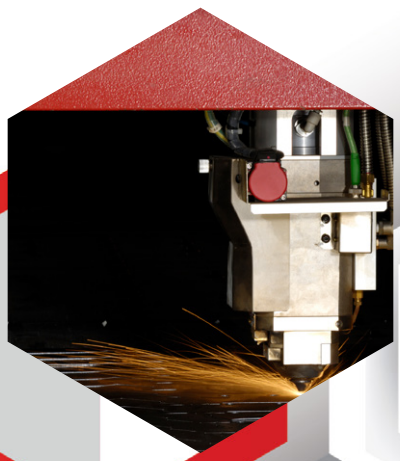


















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ADLINK & CompactPCI: Consistent, Relentless Leadership

As CompactPCI remains positioned to be one of the premiere technologies throughout vertical industries for years to come, ADLINK has worked with determination not only to manufacture exceptional CompactPCI solutions but also steer the architecture itself toward a long-lasting future in the industry. To that end, ADLINK is an executive member of the PICMG consortium, which is responsible for maintaining and advancing the CompactPCI standard. ADLINK also leads the field with the integration of computing, ruggedized designs, and industrial I/O.

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ADLINK CompactPCI Innovation

In our mission to be the top CompactPCI supplier, ADLINK has leveraged our in-house engineering and design, as well as our wholly owned manufacturing facilities. We have strict control over production, system integration, and field support, giving customers an unparalleled experience throughout their CompactPCI solution's life cycle. We also endeavor to keep costs low while presenting customization options and system integration services

ADLINK's comprehensive CompactPCI strategy encompasses an exceptional set of value-added benefits, including:

Open Industrial Standard & Architecture
- Multiple vendors for vertical solutions
- Mix and Match, Plug and Play with more than 30 CompactPCI data acquisition and add-on cards
- Extensive OS & software support including Linux, QNX, VxWorks and Windows for system development
- PCI software transparent

Flexible Configuration
- Multiple system configurations
- 19" rack mount, benchtop, and portable models available
- Backward compatibility ensures easy and seamless upgrades

High Availability
- Mission critical applications
- Fault resilient & hot swappable modules

Easy I/O Access
- Front and rear I/O options
- Broad I/O options via a wide range of daughter boards and rear transition modules (RTMs)
- Easy maintenance
- Lower Mean Time To Repair (MTTR)

Ruggedized & Modular
- Eurocard form factor
- Excellent shock and vibration characteristics
- Smart cooling system, allows operating temperature range as wide as -40°C to 85°C
- Optional in-house conformal coating
- 4-way positive retention

Longevity
- Minimum 7-year life cycle
- Extended life cycle service to enable long life cycle customer programs

Ease of Doing Business
- Local sales and technical support
- Fast and flexible customization service
- Superior ODM capability enables complex projects

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