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Procelerant CEZ5XL

Industrial & Commercial Temp Intel® ATOM™ COM Express Module

The RadiSys Procelerant® CEZ5XL is the industry's first IA-based COM Express module that can operate in industrial temperature range of -40°C to $+85^{\circ}\text{C}$. The module also features enhanced I/O made possible through PCIe-based interfaces to the COM Express board-to-board interconnectors. Additionally, the module includes a SATA controller or alternatively, an optional board PATA SSD.

About Procelerant® COM Express

RadiSys® Procelerant® COM Express products help equipment manufacturers shorten their time to market and reduce development costs. By removing the processor, chipset, and memory from the rest of the design, manufacturers can focus engineering resources on developing differentiating features and avoid the design churn that comes with implementing new processor generations. RadiSys also provides a wide range of COM Express custom services that further accelerate customer time-to-market by supplying carrier concept definition and design, carrier schematic reviews, BIOS customization, and thermal design.

KICKSTART YOUR APPLICATION DEVELOPMENT WITH COM EXPRESS STARTER KITS

Accelerate a product's development, improve its time to market and reduce overall pre-market cost by minimizing the design team's installation requirements and maximizing their efficiency. Procelerant® COM Express Starter Kits arrive integrated onto a CR202 development carrier board with a heatsink, hard drive, DVD drive, and power supply all using only a single order code.

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Procelerant CEZ5XL Specifications

CEZ5XL-Z52PT-1GB MODULE SPECIFICATION:

FEATURE	FUNCTION	DESCRIPTION
PIN-OUT		Type 2
PROCESSOR	Z520PT	1.33GHz, industrial temperature Intel® ATOM™ processor Z520PT
	Z530P	1.6GHz, commercial temperature Intel® ATOM™ processor Z530P
CHIPSET	US15WPT	Intel® System Controller Hub US15WPT, industrial temperature
MEMORY	Type	Eight (8) 400/533 DDR2 memory devices
	Capacity	Up to 2GB memorydown
FLASH	4MB SPI flash ROM (3MB reserved)	
VIDEO	US15WPT Integrated Graphics	Single channel LVDS interface with 18bit or 24-bit format Support resolutions up to 1366x768 pixels at 85Hz Integrated PWM interface for LCD backlight inverter control
		One SDVO interface, support resolutions up to 1280x1024 pixels at 85Hz
NETWORKING	One 10/100/1000BaseT	
AUDIO	High Definition Audio Speaker Out	
STORAGE	SATA	One SATA interface Capable of supporting both 1.5 and 3.0 Gbps operation
	PATA	One IDE interface (configurable option) capable of supporting two UltraATA/100 devices
	SDIO	On-board microSD socket
PCI EXPRESS	Five x1 PCI Express link expansion ports	
PCI	One PCI 2.3 compliant 32bit, 33MHz bus, supports up to 4 external PCI devices	
USB	Eight USB 2.0 expansion ports, capable of supporting USB Client mode on port 2	
LPC	One LPC interface	
POWER	+12 power rail, validated over 9V to 16.8V range	
POWER MANAGEMENT	ACPI 3.0 supporting states S0, S3, S4, S5, G3, and C0, C1, C2, C3, C4/C4E	
MISCELLANEOUS	One SMBus interface One I2C interface Eight GPIO (four GPI and four GPO)	
BIOS	Phoenix® EmbeddedBIOS® with StrongFrame® Technology	
OS	Windows XP® Embedded Windows XP® Professional Windows CE® Windows Vista® Ultimate Edition Red Hat® Embedded Linux RadiSys® Microware® OS-9	

PHYSICAL SPECIFICATIONS

PHYSICAL	Dimensions	95mm x 125mm
	Compliance	PICMG COM Express R1.0 Basic Form Factor
	Optional Conformal Coating	Humiseal 1B31
ENVIRONMENT	Temperature	Operating: -40°C to $+85^{\circ}\text{C}$, derated 1.1°C per 305mm over 2300m Non-operating: -40°C to 85°C
	Relative Humidity	Operating: 5% to 95% non-condensing, 95% RH@30°C, linear derating to 25% RH@85°C Non-operating: 5% to 95% non-condensing
	Altitude	Operating: To 15,000ft (4570m) Non-operating: To 40,000ft (12000m)
	Shock	Operating: 40G, half sine shock pulse, 11ms duration, 3 times per face Non-Operating/Unpacked: 50G, half sine shock pulse, 11ms duration, 3 times per face Transportation/Packaged: Drop test, 10-up bulk packaging, 30in free-fall, one drop on each of six faces
	Vibration	Operating: 5-40Hz: 0.04 g2/Hz 40-100Hz: 0.04g2/Hz ramping up to 0.1g2/Hz (3dB/oct) 100Hz-1000Hz: 0.1g2/Hz 1000Hz- 2000Hz: 0.1g2/Hz ramping down to 0.025g2/Hz (6dB/oct) Non-Operating (Packaged): 5-40Hz: 0.04 g2/Hz 40-100Hz: 0.04g2/Hz ramping up to 0.1g2/Hz (3dB/oct) 100Hz-1000Hz: 0.1g2/Hz 1000Hz- 2000Hz: 0.1g2/Hz ramping down to 0.025g2/Hz (6dB/oct)
REGULATORY	Safety	UL60950-1, EN60950-1, IEC60950-1
		Shall meet RoHS at time of production
	EMC	EN55024, and FCC Part 15, Subpart B, Class B
WARRANTY	Standard	Two years, parts only

CEZ5XL-Z53P-1GB MODULE SPECIFICATION:

FEATURE	FUNCTION	DESCRIPTION
PIN-OUT		Type 2
PROCESSOR	Z530P	1.6GHz, commercial temperature Intel® Atom™ processor Z530P
CHIPSET	US15WP	Intel® System Controller Hub US15WP, commercial temperature
MEMORY	Type	Eight (8) 400/533 DDR2 memory devices
	Capacity	Up to 2GB memorydown
FLASH	4MB SPI flash ROM (3MB reserved)	
VIDEO	US15WPT	Single channel LVDS interface with 18bit or 24-bit format Integrated Graphicsformat, support resolutions up to 1366x768 pixels at 85Hz Integrated PWM interface for LCD backlight inverter control One SDVO interface, support resolutions up to 1280x1024 pixels at 85Hz
NETWORKING	One 10/100/1000BaseT	
AUDIO	High Definition Audio Speaker Out	
STORAGE	SATA	One SATA interface Capable of supporting both 1.5 and 3.0 Gbps operation
	IDE	One IDE interface (configurable option) capable of supporting two UltraATA/100 devices
	SDIO	On-board microSD socket
	Five x1 PCI Express link expansion ports	
PCI	One PCI 2.3 compliant 32bit, 33MHz bus, supports up to 4 external PCI devices	
USB	Eight USB 2.0 expansion ports, capable of supporting USB Client mode on port 2	
LPC	One LPC interface	
POWER	+12 power rail, validated over 9V to 16.8V range	
POWER MANAGEMENT	ACPI 3.0 supporting states S0, S3, S4, S5, G3, and C0, C1, C2, C3, C4/C4E	
MISCELLANEOUS	One SMBus interface One I2C interface Eight GPIO (four GPI and four GPO)	
BIOS	Phoenix® EmbeddedBIOS® with StrongFrame® Technology	
OS	Windows XP® Embedded Windows XP® Professional Windows CE® Windows Vista® Ultimate Edition Red Hat® Embedded Linux RadiSys® Microware® OS-9	

PHYSICAL	Dimensions	95mm x 125mm
	Compliance	PICMG COM Express R1.0 Basic Form Factor
	Temperature	Operating: -20°C to $+60^{\circ}\text{C}$, derated 1.1°C per 305mm over 2300m Non-operating: -40°C to 85°C , up to 1200m
	Relative Humidity	Operating: 5% to 95% non-condensing, 95% RH@30°C, linear derating to 25% RH@85°C Non-operating: 5% to 95% non-condensing
	Altitude	Operating: To 15,000ft (4570m) Non-operating: To 40,000ft (12000m)
	Shock	Operating: 30G, half sine shock pulse, 11ms duration, 3 times per face Non-Operating/Unpacked: 40G, half sine shock pulse, 11ms duration, 3 times per face Transportation/Packaged: Drop test, 10-up bulk packaging, 30in free-fall, one drop on each of six faces
	Vibration	Operating: 5-40Hz: 0.04 g2/Hz 40-100Hz: 0.04g2/Hz ramping up to 0.1g2/Hz (3dB/oct) 100Hz-1000Hz: 0.1g2/Hz 1000Hz- 2000Hz: 0.1g2/Hz ramping down to 0.025g2/Hz (6dB/oct) Non-Operating (Packaged): 5-40Hz: 0.04 g2/Hz 40-100Hz: 0.04g2/Hz ramping up to 0.1g2/Hz (3dB/oct) 100Hz-1000Hz: 0.1g2/Hz 1000Hz- 2000Hz: 0.1g2/Hz ramping down to 0.025g2/Hz (6dB/oct)
REGULATORY	Safety	UL60950-1, EN60950-1, IEC60950-1
		Shall meet RoHS at time of production
	EMC	EN55024, and FCC Part 15, Subpart B, Class B
WARRANTY	Standard	Two years, parts only

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Ordering Information

Module Order Codes:

CEZ5XL-Z52PT-1GB: Type 2, -40 to $+85^{\circ}\text{C}$, 1.33GHz Atom

CEZ5XL-Z52PT-1GB: Type 2, -40 to $+85^{\circ}\text{C}$, 1.33GHz Atom

1GB, computer

CEZ5XL-Z53P-1GB: Type 2, 0 to 60C, 1.6GHz Atom Z530P, 1GB, computer

CEZ5XL-Z53P-1GB: Type 2, 0 to 60C, 1.6GHz Atom Z530P, 1GB, computer

CEZ5XL-Z53P-1GB: Type 2, 0 to 60C, 1.6GHz Atom Z530P, 1GB, computer

CEZ5XL-Z53P-1GB: Type 2, 0 to 60C, 1.6GHz Atom Z530P, 1GB, computer

CEZ5XL-Z53P-1GB: Type 2, 0 to 60C, 1.6GHz Atom Z530P, 1GB, computer

CEZ5XL-Z53P-1GB: Type 2, 0 to 60C, 1.6GHz Atom Z530P, 1GB, computer

CEZ5XL-Z53P-1GB: Type 2, 0 to 60C, 1.6GHz Atom Z530P, 1GB, computer

CEZ5XL-Z53P-1GB: Type 2, 0 to 60C, 1.6GHz Atom Z530P, 1GB, computer

CEZ5XL-Z53P-1GB: Type 2, 0 to 60C, 1.6GHz Atom Z530P, 1GB, computer

CEZ5XL-Z53P-1GB: Type 2, 0 to 60C, 1.6GHz Atom Z530P, 1GB, computer

CEZ5XL-Z53P-1GB: Type 2, 0 to 60C, 1.6GHz Atom Z530P, 1GB, computer

CEZ5XL-Z53P-1GB: Type 2, 0 to 60C, 1.6GHz Atom Z530P, 1GB, computer

CEZ5XL-Z53P-1GB: Type 2, 0 to 60C, 1.6GHz Atom Z530P, 1GB, computer

CEZ5XL-Z53P-1GB: Type 2, 0 to 60C, 1.6GHz Atom Z530P, 1GB, computer

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CEZ5XL-Z53P-1GB: Type 2, 0 to 60C, 1.6GHz Atom Z530P, 1GB, computer

CEZ5XL-Z53P-1GB: Type 2, 0 to 60C, 1.6GHz Atom Z530P, 1GB, computer

CEZ5XL-Z53P-1GB: Type 2, 0 to 60C, 1.6GHz Atom