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Procelerant CEZ5XL

Industrial & Commercial Temp Intel® ATOM™ COM Express Module

FEATURE SUMMARY

- Intel® Atom™ processor options:
 - 1.33GHz, industrial temperature Intel® Atom™ processor Z520PT
 - 1.6GHz, commercial temperature Intel® Atom™ processor Z530P
- Chipset Options:
 - Intel® System Controller Hub US15WPT, industrial temperature
 - Intel® System Controller Hub US15WP, commercial temperature
- Up to 2GB memory down
- Configurable PATA and SATA support

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°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 on-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.

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 memory-down
FLASH	4MB SPI flash ROM (3MB reserved)	
VIDEO	US15WPT Integrated Graphics	Single channel LVDS interface with 18-bit 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 32-bit, 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°C, derated 1.1°C per 305m over 2300m

Non-operating -40°C to 85°C

Relative Humidity Operating 5% to 95% non-condensing. 95% RH@30C, linear derating to 25% RH@85C

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 g ² /Hz 40-100Hz: 0.04g ² /Hz ramping up to 0.1g ² /Hz (3dB/oct) 100Hz-1000Hz: 0.1g ² /Hz 1000Hz- 2000Hz: 0.1g ² /Hz ramping down to 0.025g ² /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 memory-down
FLASH	4MB SPI flash ROM (3MB reserved)	
VIDEO	US15WPT Integrated Graphics	Single channel LVDS interface with 18-bit 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
	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 32-bit, 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, C6
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	
ENVIRONMENT	Temperature	Operating	0° C to +60° C, derated -1.1°C per 305m over 2300m
		Non-operating	-40°C to 85°C, up to 12000m
	Relative Humidity	Operating	5% to 95% non-condensing. 95% RH@30C, linear derating to 25% RH@60C"
		Non-operating	5% to 95% non-condensing
	Altitude	Operating	To 15,000ft (4570m) Up to 2300m (7500 ft), 0 to 60C Derated -1.1 C per 305 m (1000 ft) above 2300 m (7500 ft)
		Non-operating	To 40,000ft (12000m)
	Shock	Operating	30G, half sine shock pulse, 11ms duration, 3 times per face1
		Non-Operating/Unpacked	40G, half sine shock pulse, 11ms duration, 3 times per face (unpackaged)

		Transportation/Packaged	Drop test, 10-up bulk packaging, 30in free-fall, one drop on each of six faces
	Vibration	Operating	Random 5Hz to 2KHz, 7.7 grms, 10min in each of 3 axes 5Hz - 20Hz: 0.004g ² /Hz ramping up to 0.04g ² /Hz 20Hz to 1000Hz: 0.04g ² /Hz 1000Hz to 2000Hz: 0.04g ² /Hz ramping down to 0.01g ² /Hz
		Non-Operating (Packaged)	Random 5Hz to 2KHz, 9.7 grms, 10min in each of 3 axes 5Hz - 20Hz: 0.006g ² /Hz ramping up to 0.06g ² /Hz 20Hz to 1000Hz: 0.06g ² /Hz 1000Hz to 2000Hz: 0.06g ² /Hz ramping down to 0.02g ² /Hz
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	

Ordering Information

Module Order Codes:

CEZ5XL-Z52PT-1GB: Type 2, -40 to +85C, 1.33GHz Atom Z520PT, 1GB, computer
CEZ5XL-Z53P-1GB: Type 2, 0 to 60C, 1.6GHz Atom Z530P, 1GB, computer

Supporting Products:

CEZ5XL-PHS: CEZ5XL Passive Heatsink Assembly
CR202-PCIE16: Type 2, ATX Development Carrier, PCI Express x16

Starter Kits:

All starter kits include the following:

- 100V - 220V input voltage, 350W, ATX-compliant power supply
- 3.5" 160GB IDE hard disk drive
- 5.25" 9GB 20X IDE DVD+RW combination drive
- Dual-DVI Mec card
- 40-pin IDE cable
- Two power cords for use in North America and Europe
- CEZ5XL-PHS passive heatsink
- Microware Hypervisor Product CD for Intel x86 Multi-core processors. Please contact RadiSys for a 30-day trial license key and passwords for your preferred operating systems.

S-CEZ5XL-Z53P-KIT

- CEZ5XL-Z53P-1GB
- CR202-PCIE16 carrier board

S-CEZ5XL-Z52PT-KIT

- CEZ5XL-Z52PT-1GB
- CR202-PCIE16 carrier board



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