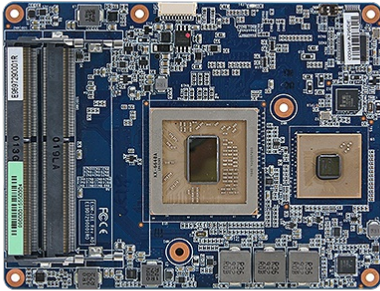




## ESM-ZXE

PICMG COM R3.0 Type 6 module with Zhaoxin E KX-6000 series 4 core BGA CPU



- > Zhaoxin E KX-6000 series 4 core BGA CPU Up to 35W Max
- > Two 260-pin SODIMM DDR4 2666 SDRAM slot up to 32GB
- > Support Dual Channel LVDS, Display Port, HDMI, VGA
- > Flexible I/O up to 4 SATAIII (6.0GB/s), 4 USB 3.0, 8 USB 2.0, 8-bit GPIO, 5 PCIe x1, 1 PCIe x8
- > HD Audio Interface
- > 9~19V Wide Range Power Input
- > Intel 210AT Gigabit Ethernet
- > Type 6 Rev 3.0 Pin-out
- > Support TCM (Optional)

### + Spec

#### -System Information-

<b>Processor</b>	Zhaoxin E KX-6000 series KX- 6640A 4core 2.6 GHz BGA CPU TDP 35W KX- 6640MA 4core 2.2 GHz BGA CPU TDP 25W
<b>System Memory</b>	2 x 260-Pin DDR4 2666MHz SO-DIMM, supports 8G/16G & up to 32GB (Non-ECC)
<b>I/O Chipset</b>	I/O extended IC ZX-200 (optional)
<b>BIOS Information</b>	AMI BIOS, 64 Mbit SPI Flash ROM (Not support BIOS Boot Selection (BIOS_DIS0#, BIOS_DIS1#))
<b>Watchdog Timer</b>	H/W Reset, 1sec. ~ 65535sec. and 1sec./step
<b>H/W Status Monitor</b>	Monitoring System Temperature, Voltage and FAN Status with Auto Throttling Control
<b>TPM</b>	TCM (Nations IC-Z32H330TC-SQN-611) Optional, support under Linux and from Windows 10 RS3 version

#### I/O

<b>USB Port</b>	Max. 6 x USB 2.0 (*Up to Max. 8 x USB 2.0 only on models KX- 6640A & KX- 6640MA with ZX-200) Max. 2 x USB3.0 (*Up to Max. 4 x USB3.0 Gen.1 (5 Gbps) only on models KX- 6640A & KX- 6640MA with ZX-200)
<b>SMBus</b>	SMBus
<b>SATA</b>	Max.2x SATAIII 6.0Gb/s (*Max. 4 x SATAIII 6.0Gb/s (when KX- 6640A+ ZX-200 & KX- 6640MA+ ZX-200)
<b>DIO</b>	8bit GPIO, WDG/HW monitor/FAN
<b>UART</b>	2 x UART(2-wire)
<b>PCIe</b>	KX- 6640A Configuration1 : 5PCIEX1+1PCIEX8 (default) Configuration2 : 5PCIEX1+2PCIEX4 Configuration3 : 1PCIEX1+1PCIEX4+1PCIEX8 Configuration4 : 1PCIEX1+3PCIEX4 Configuration5 : 3PCIEX1+1PCIEX2+1PCIEX8 KX- 6640MA (CPU TDP will change from 25W to 26W when use PCIe x8) Configuration1 : 5PCIEX1+1PCIEX4 (default) Configuration2 : 1PCIEX1+1PCIEX4+2PCIEX4 Configuration3 : 3PCIEX1+1PCIEX2+1PCIEX4 KX- 6640A+ZX200 Configuration1 : 4PCIEX1(Gen2) (default) Configuration2 : 1PCIEX4 (Gen2) KX- 6640MA+ZX200 Configuration1 : 4PCIEX1(Gen2) (default) Configuration2 : 1PCIEX4 (Gen2)
<b>Other</b>	LPC, I2C

#### Display

<b>Graphic Chipset</b>	N/A
<b>Spec. &amp; Resolution</b>	HDMI 2.0: 4096 x 2160 @ 60Hz (only 3840x2160@60Hz is tested, 4096 x 2160 @ 60Hz needs to be further validated when device is available) DP 1.2a: 4096 x 2304 @60Hz, (only 3840 x 2160@60Hz is tested, 4096 x 2160 @ 60Hz needs to be further validated when device is available) LVDS (via eDP-to-LVDS 7511 IC): 1920x1080 @60Hz, Dual-channel 18/24-bit VGA: 1920x1080 @60Hz
<b>Multiple Display</b>	Supporting 3 display (2 display with clone mode, 1 display with extend mode) LVDS (HDMI or DP) + VGA + DDI (HDMI or DP)
<b>Digital Display Interface</b>	HDMI/DP

#### Audio

<b>Audio Codec</b>	Zhaoxin HD audio I/F
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#### Ethernet

<b>LAN Chipset</b>	1xIntel 210AT Gigabit Ethernet
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#### Mechanical & Environmental



<b>Operating Temperature</b>	0 ~ 60 °C (32 ~ 140 °F), with airflow 0.5m/s
<b>Storage Temperature</b>	-40°C ~ 75°C (-40°F ~ 167°F)
<b>Operating Humidity</b>	40°C @ 95% Relative Humidity, Non-condensing
<b>Weight</b>	0.44lbs (0.2kg)
<b>Power Requirement</b>	+9~ +19V
<b>ACPI</b>	Single power ATX Support S0, S3, S5 ACPI 5.0 Compliant
<b>Power Mode</b>	AT/ATX
<b>Dimension (L x W)</b>	125 x 95 mm (3.74" x 4.92")
<b>Software Support</b>	
<b>OS Information</b>	Microsoft® Windows 10 64-bit/Windows 7 Linux (NeoKylin DT V7.0), Ubuntu 16.04.5
<b>Ordering Information</b>	
<b>Ordering Information</b>	<p>ESM-ZXE-6640A-A1R Zhaoxin COMExpress Module Type 6 on board KX-6640A CPU (0~+60 degrees), without TCM</p> <p>ESM-ZXE-6640MA-A1R Zhaoxin COMExpress Module Type 6 on board KX-6640MA CPU (0~+60 degrees),without TCM</p> <p>ESM-ZXE-40AZ-A1R Zhaoxin COMExpress Module Type 6 on board KX-6640A CPU+ZX-200 (0~+60 degrees),without TCM</p> <p>ESM-ZXE-40MAZ-A1R Zhaoxin COMExpress Module Type 6 on board KX-6640MA CPU+ZX-200 (0~+60 degrees),without TCM</p> <p>EEV-EX16-A1R mATX Ev. Board for COMe Type 6 A1</p> <p>ACC-ESM-ZXE-CL-1R Cooler for ESM-ZXE W/FAN H=61mm</p> <p>ACC-ESM-ZXE-CL-2R Cooler for ESM-ZXE W/FAN H=61mm with pad for board with ZX-200</p> <p>ACC-ESM-ZXE-SD-1R Heatspreader for ESM-ZXE H=8 mm</p> <p>ACC-ESM-ZXE-SD-2R Heatspreader for ESM-ZXE H=8 mm with pad for board with ZX-200</p>