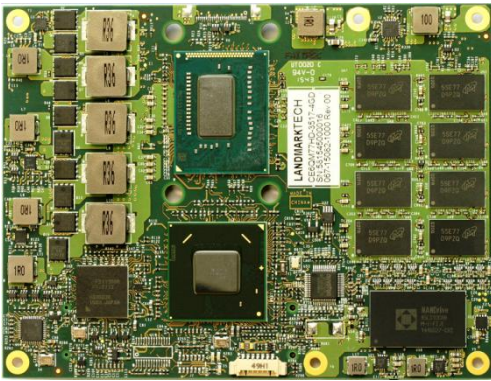


## CE6QM77MD COM Express Module



蓝玛科技 CE6QM77MD COM Express 模块，使用英特尔第三代 Core™i7/i5/i3 系列 (Ivy Bridge) 处理器，板型尺寸为 125mm x 95mm，符合 PICMG COM Express R2.1 Type 6 标准定义。模块能耗在 20-60 瓦特之间，采用双通道 DDR3 表贴内存芯片，支持 2GB、4GB 和 8GB 内存配置，千兆网卡，支持 PEG3.0、3 路 DDI、VGA 和 LVDS 显示输出。CE6QM77MD COM Express 模块可作为高可靠性、高密度计算，如加固型计算机、机器人、工业自动化、测试/测量、医学影像、通信等应用，是高计算性能的理想解决方案。

### Highlight

- 符合 COM Express R2.1 Type 6 标准的模块
- 高可靠性:表贴内存，加强的焊接设计，三防处理
- 板载表贴 MLC 或 SLC 固态硬盘，容量高达 64GB
- 支持扩展温度：最高宽达 -40 °C to +85 °C
- 基于成熟的 LMT CE6QM77 改版，可以共用 CE6QM77 散热器
- 长生命周期 : 7 年

### Basic Module Form Factor

CE6QM77MD 基于 125mm x 95mm 的基本型尺寸，支持双通道，高达 8G DDR3 表贴内存芯片，能够结合英特尔第三代 Core™i7/i5/i3 系列处理器一起发挥最高的计算和图形处理性能。COM Express(类型六)的板级连接器能够支持 PCI-E、SATA、USB3.0/USB2.0、DDI，LVDS 等高速串行差分信号连接。

CE6QM77MD COM-E 模块从蓝玛科技 CE6QM77 改版而来，CE6QM77 自英特尔 Ivy Bridge 系列 CPU 正式发布时开始设计，CE6QM77MD 和 CE6QM77 都经过了严格的长时间测试验证，具有极高的稳定性。因此，原始设备制造商可以专注于核心能力譬如软件和应用开发而不是高速电路设计。原始设备制造商对功能修改、需求变更、性能升级等问题能够轻而易举的实现而无需重新设计产品。

### 设计服务

基于蓝玛科技 CE6QM77MD COM Express 模块，原始设备制造商在设计自己的载板，能够得到蓝玛科技的全程服务，如原理图检查和建议、调试协助、Gerber 文件参考、BIOS 客制化等等。蓝玛科技支持原始设备制造商在开发产品任何阶段的载板设计咨询和调试服务。想获得更多信息，请咨询你的 LandmarkTech 销售经理或邮件：[LMT@landmark-tech.com](mailto:LMT@landmark-tech.com)。

## 订单信息

类别	型号	描述
CE6QM77MD 模块	CE6QM77EX-3612-8GD	COM-E Rev 2.1, Type 6 Module with Intel i7 3612QE/ 2.1GHz /TDP-35W/ 4 Core / 6MB Cache, 8GB on Board Memory, extended Temperature
	CE6QM77HD-3555-8GD	COM-E Rev 2.1, Type 6 Module with Intel i7 3555LE / 2.5GHz /TDP-25W/ 2 Core / 4MB Cache, 8GB on Board Memory, Industrial Temperature
	CE6QM77HD-3555-4GD	COM-E Rev 2.1, Type 6 Module with Intel i7 3555LE / 2.5GHz /TDP-25W/ 2 Core / 4MB Cache, 4GB on Board Memory, Industrial Temperature
	CE6QM77HD-3517-4GD	COM-E Rev 2.1, Type 6 Module with Intel i7 3517UE / 1.7GHz/TDP-17W / 2 Core / 4MB Cache, 4GB on Board Memory, Industrial Temperature
散热器	CE6QM77MD-AHS-0	CE6QM77MD COM-E MODULE, High Performance Active Heat sink
	CE6QM77MD-PHS-0	CE6QM77MD COM-E MODULE, High Performance Passive Heat sink
	CE6QM77MD-HSP-0	CE6QM77MD COM-E MODULE, Heat Spreader
	CE6QM77-AHS-0	CE6QM77 COM-E MODULE, Common Active Heat sink(Shared CE6QM77 Common AHS)
	CE6QM77-PHS-0	CE6QM77 COM-E MODULE, Common Passive Heat sink(Shared CE6QM77 Common PHS)

## CE6QM77MD Module Specifications

Feature	Function	Description
<b>Form Factor</b>	Type	Type 6, 125mm x95mm
	Compliance	PICMG COM Express R2.1 Basic Form Factor
<b>Processor</b>	3612QE	Core™ i7 3612QE/ 2.1GHz /TDP-35W/ 4 Core / 6MB Cache
	3555LE	Core™ i7 3555LE / 2.5GHz /TDP-25W/ 2 Core / 4MB Cache
	3517UE	Core™ i7 3517UE / 1.7GHz/TDP-17W / 2 Core / 4MB Cache
<b>Chipset</b>	Embedded Intel® QM77 Express chipset	
<b>Memory</b>	Type	Memory Solder Down, 2 x DDR3 Memory chips, Up to 1600 MT/s
	Capacity	8GB maximum, Up to 4GB per channel
<b>Flash</b>	16MB SPI flash	2 x 16MB SPI flash for BIOS storage
<b>Video</b>	Intel® Gen 7 integrated graphics engine	LVDS: 18 bit or 24 bit single/dual channel panel with resolutions up to 1920×1200 pixels at 60 Hz
		VGA: resolutions up to 2048×1536 pixels at 75Hz
	DDI	DDI 1 (PCH Port B) supports DisplayPort, HDMI or SDVO. DDI 2 (PCH Port C) supports DisplayPort or HDMI. DDI 3 (PCH Port D) supports DisplayPort or HDMI
	External	One x16 PCI Express interface for external PEG3.0 Graphics Card
<b>Networking</b>	Single LAN	One 10/100/1000Base-T
<b>Audio</b>		High Definition Audio
		Speaker Out
<b>Storage</b>	SATA	4 SATA ports supporting both 1.5 and 3.0 Gbps operation
		Supports RAID 0, 1, 5 and 10
		The first two ports supporting 6Gbps transfer rate
	SSD	On Board SLC/MLC SSD 64GB maximum
<b>PCI Express</b>	PCI Express x1	Seven PCI Express x1 interface
		Ports 0–3 configurable as one x4; or two x2; or one x2 and two x1; or four x1 port
		Ports 4-5 can be configured as two x1 or one x2
		Ports 6 can be configured as x1
	PCI Express x16	One PCI Express x16 Graphics Expansion Port, supported

		PEG3.0
		Configurable as two x8 or one x8 and two x4 ports
<b>USB</b>		Eight USB 2.0 expansion ports Four USB 3.0 expansion ports
<b>LPC</b>		One LPC interface
<b>TPM</b>		ATMEL AT97SC3204 compliant with TPM1.2(Build option)
<b>Power</b>		AT: +12 power rail, primary input, supports 9.0V–16.8V power supply
		ATX: +5V Standby and +12 power rail input, +12 supports 9.0V–16.8V power supply
<b>Power Management</b>		ACPI 4.0 supporting states S0, S3, S4, S5 G3 and C0, C1, C3, C6, C7
		AMT support Intel ME Power States M0, M3, Mox
<b>Miscellaneous</b>		One 100KHz SMBus from PCH
		One 100KHz I2C bus from MCU
		One TTL UART from MCU or Two TTL UART Bus from LPC-UART Bridge
		Eight GPIO (four GPI and four GPO)
		Watchdog timer
<b>BIOS</b>		UEFI Firmware
<b>OS</b>	Windows XP	Embedded
		Professional 32bit
		Professional 64bit
	Windows 7	32bit
		64bit
	RedHat Enterprise Linux	32bit
		64bit
	Wind River	VxWorks

## Physical Specifications

<b>Physical</b>	Dimensions	125mm x 95mm	
	Compliance	PICMG COM Express R2.1 Basic Form Factor, Type 6	
<b>Environment</b>	Cooling	Forced air	Class EAC1 as defined in the ANSI/VITA 47-2005
		Conduction	Class ECC1 as defined in the ANSI/VITA 47-2005
	Temperature	Operating	Up to 2300m (7500 ft), 0 to 60 °C and -20 to 70 °C; (Up to 2300m (7500 ft), -40 to 85 °C for HD SKUs)
			Derated -1.1 C per 305 m (1000 ft) above 2300 m (7500 ft)
	Shock	Non-operating	-40 to +85 °C
		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 (unpackaged)
	Vibration (random)	Transportation/ Packaged	Fixture assembly: 50G, 17.4ms trapezoidal pulse
			Drop test, 10-up bulk packaging, 30in free-fall, one drop on each of six faces
		Operating	Random 5Hz to 2KHz, 7.7
			grms, 10min in each of 3 axes
			5Hz – 20Hz: 0.004g <sup>2</sup> /Hz ramping up to 0.04g <sup>2</sup> /Hz
			20Hz to 1000Hz: 0.04g <sup>2</sup> /Hz
		Non-Operating/ Storage	1000Hz to 2000Hz: 0.04g <sup>2</sup> /Hz ramping down to 0.01g <sup>2</sup> /Hz
			Random 5Hz to 2KHz, 9.7
grms, 10min in each of 3 axes			
5Hz – 20Hz: 0.006g <sup>2</sup> /Hz ramping up to 0.06g <sup>2</sup> /Hz			
Humidity	Operating	20Hz to 1000Hz: 0.06g <sup>2</sup> /Hz	
		1000Hz to 2000Hz: 0.06g <sup>2</sup> /Hz ramping down to 0.02g <sup>2</sup> /Hz	
Non-Operating/ Storage	5% to 95% non-condensing. 95%RH@30C, linear Derated to 25%RH@60C;		
	5% to 95% non-condensing. 95%RH@30C, linear Derated to 25%RH@85C for HD SKUs;		
Non-Operating/ Storage	5% to 95% non-condensing		

	Altitude	Operating	To 15,000ft (4570m)
		Non-Operating/ Storage	To 40,000ft (12000m)
Regulatory	Safety	UL60950-1, EN60950-1, IEC60950-1	
	RoHS	RoHS compliant	
	EMC	EN55024, EN55022, and FCC Part 15, Subpart B, Class B	