



## Type 2, 95x125mm COM, Intel Core Duo Processor

Based on the open PICMG standard, the Radisys CE945GME COM Express basic size (95mm x 125mm) modules combine Intel® Core™ Duo Pentium M and single core Celeron M performance with dual channel memory that's vital for today's embedded applications. Paired with a RadiSys carrier board, RadiSys COM Express modules provide a ready-to-use development platform



### PICMG Standard

COM Express is the PICMG standard for a Computer-On-Module (COM) based on high speed serial differential signaling technologies such as PCI Express, Serial ATA, USB 2.0, LVDS, and Serial DVO while retaining legacy PCI bus support to ease migration from existing modular designs. COM Express enables OEMs to reduce time to market by reducing the time spent on processor design and enabling focus on core competencies and product differentiation. Planned feature changes, demand fluctuations and performance upgrades can be handled without product re-designs. COM Express modules can reduce service repair inventories, and simplify upgrades, contributing to the success of the product over its lifetime.

### Applications

Core 2 Duo processing power combined with dual channel memory on a basic (95 x 125mm) size module brings unprecedented processing power to the mighty but small CE945GME computer-on-module. Dual channel memory via 2 SODIMM sockets provides up to 67% performance increase over single channel memory solutions, making the CE945GME an ideal choice for processing intensive applications such as medical and machine imaging. OEMs can build imaging systems with performance levels that span years into the future by using one or more CE945GMEs on their carrier and planning modular hardware and software upgrades in the future.

### Carrier Designs Supported by Radisys

OEMs can depend on Radisys to support their design at every stage, whether designing their own carrier board or utilizing Radisys Design Services. Design tools such as the Carrier Design Guide, Thermal Design Guide, as well as schematics and Gerber files are available for customers committed to using Radisys Procelerant CE processor modules. Ask your Radisys

Sales Manager for more information.

## FEATURES

- Core Duo and Celeron processor options
- Type 2 COM Express Pin-out
- Dual-channel DDR2, up to 4GB memory

## SPECIFICATIONS

Feature	Function	Description
<b>Physical</b>	Dimensions	95mm x 125mm – COM Express Basic Form Factor
	Compliance	PICMG COM Express R1.0 Basic Form Factor, Type 2
<b>Processor</b>	Options	Intel Core Duo T2500 Intel Core Duo L7400 Intel Celeron-M 440
	Clock Speed/ FSB / Cache	T2500: 2GHz / 667MHz FSB / 2MB L7400: 1.5GHz / 667MHz FSB / 4MB 440: 1.86GHz / 533MHz / FSB / 1MB
	Package	BGA
	Power (Processor TDP)	T2500-31W / L74-17W / 440-27W
<b>Chipset</b>	Supplier	Intel 945GME and ICH7M Digital Home Controller Hub
	Features	Integrated video, PCI, IDE, PCI-Express, SATA, USB, LPC, GPIO
<b>Memory</b>	Type	Dual 200-pin SODIMM sockets, supports 533, and 667MHz Memory
	Capacity	Up to 2GB DDR2 per channel
<b>BIOS</b>	Type	1MB, Phoenix Technologies
<b>Audio</b>	Compliance	AC'97 or Intel High Definition Audio via ICH7M Digital

<b>Video</b>	Features	Dual SDVO, LVDS 18-bit dual channel, Analog VGA, TV Out
	External	PCI-Express x16 Graphics Port, Multi-plexed on SDVO interface pins
<b>Networking</b>	Supplier/Type	Broadcom BCM5789, IEEE 802.3 10/100/1000BaseT Utilizes (1) PCI-Express x1 interface
<b>I/O</b>	USB	Eight USB 2.0 / 1.1 Ports
	SATA	Two SATA 150 Ports, Supports Raid 0 and Raid 1
	IDE	One Ultra ATA 100/66/33 Ports
	Other	LPC, Smbus/I2C Bus,
<b>Super I/O</b>	BIOS Support	National Semiconductor PC8374
<b>Expansion</b>	PCI Express	5*PCI-Express x1 or 1*PCI-Express x4 plus 1* x1 and 1*PCI-Express x16
	PCI	PCI 2.3 32-bit 33MHz, four logical devices
<b>Connectors</b>	COM Express	(2) 220 pin COM Express standard connectors
<b>Power</b>	Input	12V only -or- 12V and 5V Standby
	Dissipation	L7400-46W / T2500-63.5W / L2400 -43.5W / 440-58W

## Physical Specifications

<b>Environment</b>	Temperature	Operating	0° – 60°C
		Non-Operating	-40° – 85°C
	Humidity	Operating	0%-95% RH non-condensing
		Non-Operating	0% – 90% RH non-condensing at

40C°

Shock	Operating	20g, 11ms, half sine
	Non-Operating (unpackaged)	40g, 11ms, half sine
Vibration	Operating	5-100Hz, 0.04 g <sup>2</sup> /Hz 100-350Hz 0.0002 g <sup>2</sup> /Hz 500Hz 0.00014 g <sup>2</sup> /Hz 3dB per octave slope between 350—500Hz
	Non-Operating (unpackaged)	5-100Hz, 0.04 g <sup>2</sup> /Hz 200-350Hz 0.0100 g <sup>2</sup> /Hz 500Hz 0.0007 g <sup>2</sup> /Hz 3dB per octave slope between 100-200 and 350—500Hz

<b>Regulatory</b>	Safety	UL60950-1, EN60950-1, IEC60950-1
	EMC	EN55022, EN55024, and FCC Part 15, Subpart B, Class B
	ROHS	ROHS Compliant
<b>Warranty</b>	Standard	Two years, parts only

MORE DETAILS

## Module Order Codes

CE945GM2B-T25-0: 2GHz Core Duo T2500

CE945GM2B-L74-0: 1.5GHz Core Duo L7400

CE945GM2B-440-0 1.86GHz Celeron-M

## Supporting Products

CE945GM2-AHSL: 26mm active heatsink assembly

SUPPORT DOWNLOADS