



http://www.intel.com/cd/channel/reseller/asmo-na/eng/tech_reference/box_desktop/int_inst_info/dsk_tested_source_lists/53211.htm

- ▶ [Intel® Reseller Center](#) ▶ [Technical Reference & Support](#)
- ▶ [Desktop Board Tested and Source Lists](#)

▶ **Tested List of Thermally Advantaged Chassis**

Intel recommends that you use a chassis that maintains an internal ambient temperature below 38°C to meet the thermal specifications for the Intel® Pentium® 4 processor and Intel® Celeron® D processor based on 90nm process technology. This chassis list has been provided to Intel dealers as an aid in the system integration process. Intel has determined these chassis meet MINIMUM electrical, thermal, mechanical fit and functional compatibility to properly support the Intel® Pentium® 4 processor and Intel® Celeron® D processor based on 90nm process technology. These chassis were tested in a thermal chamber set to 35°C with the following peripherals installed:

- Intel® Pentium® 4 processor operating at 3.2 GHz
- Boxed Intel® Desktop Board D865GLC
- 2 Infineon* 256 MB PC3200 DDR400 memory modules
- Nvidia* Geforce* 4 8X AGP Video Graphics Card
- Seagate* 7200RPM SATA-100 Hard Disk Drive
- Teac* 3.5" Floppy Disk Drive
- Hewlett Packard* CD-R/RW/DVD Disk Drive
- 2 PCI Resistive Load Cards

The chassis vendor remains solely responsible for the design, sale and functionality of its product, including any liability arising from product infringement or product warranty. CONTACT YOUR CHASSIS VENDOR FOR COMPATIBILITY INFORMATION REGARDING SPECIFIC MODELS.

Thermal Requirements

The Intel® Pentium® 4 processor and Intel Celeron D processors manufactured on 90nm process technology have an architectural change that enables higher frequencies and greater performance of the processor. This resulted in a change in the thermal specifications for the processors. A properly cooled system can help the processor run more reliably and minimize the acoustic noise levels generated from running the cooling fan at higher speeds. Intel

thermal specifications require the use of a Thermally Advantaged Chassis (TAC) version 1.1 for Pentium 4 processor based systems. Intel also recommends the use of a Thermally Advantaged Chassis (TAC) version 1.0 for Celeron D processor based systems.

Thermally Advantaged Chassis Version 1.0 and 1.1 Explained

Thermally Advantaged Chassis can be offered in many design styles and with an array of features. Many of the chassis do follow a similar design concept to achieve a high level of thermal performance. These design concepts help a chassis designer and engineer to produce a chassis capable of providing the best performance experience with Intel Pentium 4 and Intel Celeron D processor.

[Chassis Design Guide version 1.0 \[.pdf\]](#) is designed to provide 38°C by introducing an adjustable side-panel air duct with a diameter of ~60mm and using a 80mm rear fan exhausting the chassis. This design is found to be adequate for most low-end to mid-level systems built upon the Intel Celeron D processor. However, testing has shown that even greater thermal performance could be gained with some minor modifications to the version 1.0 design and [Chassis Design Guide version 1.1 \[.pdf\]](#) was created. This defines increasing the side-panel air duct to 80mm and the rear chassis fan to 92mm. The design also introduces a new side-panel vent opening above the graphics and add-in card slots. This is to provide additional cooling for high-end discrete graphics and peripherals.

Note:

A chassis may be considered a Thermally Advantaged Chassis although it may not follow the design concepts defined in the the Chassis Design Guide version 1.0 or 1.1. This is acceptable given that the chassis can maintain a 38°C temperature or less. The graphics card vent describes in chassis design guide version 1.1 may not be seen on all the chassis denoted as version 1.1 on the list below. Please consult with your chassis provider for the best chassis to fit your configuration needs.

Some of the thermally advantaged chassis listed below are based upon preexistant designs and may have very similar model numbers. W hen purchasing, it is best to specifically state that you want a thermally advantaged chassis to ensure you receive the correct model. The model numbers listed below were supplied by the manufacturer and may change at any time.

Tested List of Thermally Advantaged Chassis								
Brand	Model Number	Chassis Style	Chassis Form Factor	Power Supply Brand	Power Supply Model	Front Panel USB 2.0 Support ¹	Chassis Version ³	EMC Reports ²
Casetek	CK1020	Tower	micro-ATX	HighPower*	HPC-420-102DF	Yes	1.1	Not Available
Casetek	CK1026	Tower	micro-ATX	HighPower*	HPC-420-102DF	Yes	1.1	Not Available
Casetek	CK1009	Tower	micro-ATX	HighPower*	HPC-420-102DF	Yes	1.1	Not Available
Casetek	CK1016	Tower	ATX	HighPower*	HPC-420-102DF	Yes	1.1	Not Available
Casetek	CK1018	Tower	ATX	HighPower*	HPC-420-102DF	Yes	1.1	Not Available

¹ The front panel printed circuit card was **not** tested for support of USB 2.0 or USB1.1 data transfer rates. Support for 1.1 or 2.0 data transfer rates are based upon claims of the chassis supplier.

² EMC(Electromagnetic Compatibility) tests were conducted using a system configuration different than that used in thermal testing. Consult the EMC report for full details.

³Version indicates this chassis meets the design criteria in one of the following design guides: [Chassis Design Guide version 1.0](#) [pdf]

[Chassis Design Guide version 1.1](#) [pdf]

This tested list demonstrates only one possible configuration. These chassis may be available with other power supplies that can have effects on system performance. Please check with your preferred vendors for more chassis information.

The testing performed herein is a type test. A type test is defined as testing one sample to represent the typical performance of a system. These results do not take into account silicon variation, fan speed variation, measurement error, product assembly, etc.

Evaluations for any individual system configuration are considered the responsibility of the integrator and/or system OEM.

This document contains a list of chassis the hardware vendor has advertised as being specifically designed for boxed Intel®Pentium® 4 Processors.

This information is for PC integrators only and is provided solely as a convenience. Please check with the hardware vendor for compatibility information regarding specific models of these products.

Some of these chassis may not be available in your country due to regulatory restrictions or distribution limitations.

THIS INFORMATION IS PROVIDED "AS IS" WITH NO WARRANTIES WHATSOEVER, INCLUDING ANY WARRANTY OF MERCHANTABILITY, NONINFRINGEMENT FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY WARRANTY OTHERWISE ARISING OUT OF ANY PROPOSAL, SPECIFICATION OR SAMPLE.

Information in these materials is provided in connection with Intel products. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by the sale of Intel products. Except as provided in Intel's Terms and Conditions of Sale for such products, Intel assumes no liability whatsoever, and Intel disclaims any express or implied warranty, relating to sale and/or use of Intel products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright or other intellectual property right. Intel products are not intended for use in medical, life saving, or life sustaining applications.

Intel retains the right to make changes to these materials at any time, without notice. Intel assumes no responsibility for any errors which may appear in this document, nor does it make any commitment to update the information contained in it.

The hardware vendor remains solely responsible for the design, sale and functionality of its product, including, without limitation, any liability arising from product infringement or product warranty.