

Intel® Desktop Board DG41CN Technical Product Specification

January 2010

Order Number: E81345-001US

The Intel® Desktop Board DG41CN may contain design defects or errors known as errata that may cause the product to deviate from published specifications. Current characterized errata are documented in the Intel Desktop Board DG41CN Specification Update.

Revision History

Revision	Revision History	Date
-001	Intel® Desktop Board DG41CN Technical Product Specification	January 2010

This product specification applies to only the standard Intel® Desktop Board DG41CN with BIOS identifier CNG4110H.86A

Changes to this specification will be published in the Intel Desktop Board DG41CN Specification Update before being incorporated into a revision of this document.

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Preface

This Technical Product Specification (TPS) specifies the board layout, components, connectors, and power and environmental requirements for Intel® Desktop Board DG41CN. It describes the standard product and available manufacturing options.

Intended Audience

The TPS is intended to provide detailed, technical information about the Intel Desktop Board DG41CN and its components to the vendors, system integrators, and other engineers and technicians who need this level of information. It is specifically *not* intended for general audiences.

What This Document Contains

Chapter	Description
1	A description of the hardware used on the board
2	Technical reference for the board
3	Regulatory compliance and battery disposal information

Typographical Conventions

This section contains information about the conventions used in this specification. Not all of these symbols and abbreviations appear in all specifications of this type.

Notes, Cautions, and Warnings



NOTE

Notes call attention to important information.



INTEGRATOR'S NOTES

Integrator's notes are used to call attention to information that may be useful to system integrators.



CAUTION

Cautions are included to help you avoid damaging hardware or losing data.

Other Common Notation

#	Used after a signal name to identify an active-low signal (such as USBP0#)
GB	Gigabyte (1,073,741,824 bytes)
GB/s	Gigabytes per second
Gbit	Gigabit (1,073,741,824 bits)
KB	Kilobyte (1024 bytes)
Kbit	Kilobit (1024 bits)
kbits/s	1000 bits per second
MB	Megabyte (1,048,576 bytes)
MB/s	Megabytes per second
Mbit	Megabit (1,048,576 bits)
Mbit/s	Megabits per second
xxh	An address or data value ending with a lowercase h indicates a hexadecimal value.
x.x V	Volts. Voltages are DC unless otherwise specified.
*	This symbol is used to indicate third-party brands and names that are the property of their respective owners.

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1 Product Description

1.1 Overview

1.1.1 Feature Summary

Table 1 summarizes the major features of the Intel Desktop Board DG41CN.

Table 1. Feature Summary

Form Factor	MicroATX (9.60 inches by 7.80 inches [243.84 millimeters by 198.12 millimeters])
Processor	Support for the following: <ul style="list-style-type: none">• Intel® Core™2 Quad processor in an LGA775 socket• Intel® Core™2 Duo processor in an LGA775 socket• Intel® Pentium® Dual-Core processor in an LGA775 socket• Intel® Celeron® processor Sequence 400 in an LGA775 socket
Memory	<ul style="list-style-type: none">• Two 240-pin DDR2 SDRAM Dual Inline Memory Module (DIMM) sockets• Support for DDR2 667 MHz or DDR2 800 MHz DIMMs• Support for up to 8 GB of system memory
Chipset	Intel® G41 Express Chipset, consisting of: <ul style="list-style-type: none">• Intel® 82G41 Graphics and Memory Controller Hub (GMCH)• Intel® 82801GB I/O Controller Hub (ICH7)
Video	Intel® Graphics Media Accelerator X4500 (Intel® GMA X4500) onboard graphics subsystem with VGA output
Audio	Six (5.1)-channel audio subsystem using the Realtek* ALC662 audio codec, including: <ul style="list-style-type: none">• Back panel audio jacks• Front panel audio header• S/PDIF out header• CD audio in connector
Legacy I/O Control	Legacy I/O controller (Winbond* W83627DHG-A) for serial, parallel, flexible diskette drive, and PS/2* ports
Peripheral Interfaces	<ul style="list-style-type: none">• Eight USB 2.0 ports (four back panel connectors and two front panel headers each providing two USB ports)• Four Serial ATA (SATA) interfaces• One flexible diskette drive interface• PS/2 keyboard and mouse ports• One parallel port back panel connector• One on-board serial port connector and one back panel serial port connector
LAN Support	10/100/1000 Mbps LAN subsystem using a Realtek RTL8111C Gigabit Ethernet Controller
BIOS	Intel® BIOS in a 16 Mb SPI device

continued

Table 1. Feature Summary (continued)

Instantly Available PC Technology	<ul style="list-style-type: none"> • Support for PCI* Local Bus Specification, Revision 2.3 • Support for PCI Express* Revision 1.1 • Suspend to RAM support • Wake on PCI, serial port, front panel, PS/2 devices, PCI Express, LAN, and USB ports
Expansion Capabilities	<ul style="list-style-type: none"> • One PCI Express x16 bus add-in card connector • One PCI Express x1 add-in card connector • Two Conventional PCI bus connectors
Hardware Monitor Subsystem	<ul style="list-style-type: none"> • Voltage sense to detect out of range power supply voltages • Thermal sense to detect out of range thermal values • Two fan headers • Two fan sense inputs used to monitor fan activity

1.1.2 Board Layout

Figure 1 shows the location of the major components of Intel Desktop DG41CN.

Figure 1. Major Board Components

Table 2 lists the components identified in Figure 1.

Table 2. Board Components Shown in Figure 1

Item/callout from Figure 1	Description
A	Conventional PCI bus add-in card connector
B	Conventional PCI bus add-in card connector
C	PCI Express x16 connector
D	Chassis fan header
E	PCI Express x1 connector
F	Back panel connectors
G	Keyboard power jumper block
H	Processor core power connector (2 X 2)
I	Intel 82G41 GMCH
J	LGA775 processor socket
K	Processor fan header
L	DIMM 0 Channel A socket
M	DIMM 0 Channel B socket
N	Serial port B connector
O	Floppy disk drive connector
P	Main Power connector (2 X 12)
Q	Battery
R	Intel 82801GB I/O Controller Hub (ICH7)
S	Serial ATA connectors
T	Clear CMOS jumper block
U	Intruder alert header
V	Front panel header
W	Front panel USB header
X	USB power jumper block
Y	Front panel USB header
Z	Piezoelectric speaker
AA	CD audio in connector
BB	S/PDIF header
CC	Front panel audio header

1.2 Online Support/Information

To find information about...	Visit this World Wide Web site:
Intel Desktop Board DG41CN	http://www.intel.com/products/motherboard/DG41CN/index.htm
Desktop Board Support	http://www.intel.com/support/motherboards/desktop
Available configurations for the Intel Desktop Board DG41CN	http://www.intel.com/products/motherboard/DG41CN/index.htm
Supported processors	http://processormatch.intel.com
Chipset information	http://www.intel.com/products/desktop/chipsets/index.htm
BIOS and driver updates	http://downloadcenter.intel.com
Tested Memory	http://support.intel.com/support/motherboards/desktop/sb/CS-025414.htm

2 Technical Reference

2.1 Connectors, Headers, and Jumpers

This section describes the board's connectors, headers, and jumpers.

2.1.1 Component-side Headers and Connectors

Figure 2 shows the location of the component-side headers and connectors.

Figure 2. Component-side Connectors and Headers

Table 3 lists the connectors and headers identified in Figure 2.

Table 3. Connectors and Headers Shown in Figure 2

Item/callout in Figure 2	Description
A	Conventional PCI bus add-in card connector
B	Conventional PCI bus add-in card connector
C	PCI Express x16 connector
D	Chassis fan header
E	PCI Express x1 connector
F	Processor core power connector (2 X 2)
G	Processor fan header
H	Serial port B connector
I	Floppy disk drive connector
J	Main power connector (2 X 12)
K	Serial ATA connectors
L	Intruder alert header
M	Front panel header
N	Front panel USB header
O	Front panel USB header
P	CD audio in header
Q	S/PDIF header
R	Front panel audio header

Table 4 through Table 14 list the signal names for the component-side connectors and headers.

Table 4. Serial ATA Connectors

Pin	Signal Name
1	Ground
2	TXP
3	TXN
4	Ground
5	RXN
6	RXP
7	Ground

Table 5. Serial Port B Connector

Pin	Signal Name	Pin	Signal Name
1	DDCD2#	2	RRXD2
3	TTXD2	4	DDTR2#
5	Ground	6	DDSR2#
7	RRTS2#	8	CCTS2#
9	RRI2#	10	Key (no pin)

Table 6. Chassis Fan Header

Pin	Signal Name
1	Sense
2	+12 V
3	Ground

Table 7. Processor Fan Header

Pin	Signal Name
1	Ground
2	+12 V
3	CFAN_D
4	CPUFAN_PWM_C

Table 8. Front Panel Audio Header

Pin	Signal Name	Pin	Signal Name
1	MIC2_L	2	AGND
3	MIC2_R	4	F_AUDIO_DET#
5	LIN2_R	6	MIC_JD
7	AGND	8	KEY (no pin)
9	LIN2_L	10	LIN_JD

Table 9. S/PDIF Out Header

Pin	Signal Name
1	+5V
2	Key (no pin)
3	SPDIFO
4	Ground

Table 10. Front Panel Header

Pin	Signal Name	Pin	Signal Name
1	HDLED+	2	FP_LED+
3	HDLED-	4	FP_LED-
5	Ground	6	FP_PWRBTN#
7	FP_SYS_RST#	8	Ground
9	FPA_DET#	10	Key (no pin)

Table 11. Front Panel USB1/USB2 Header

Pin	Signal Name	Pin	Signal Name
1	+5V_Dual	2	+5V_Dual
3	D1-	4	D2-
5	D1+	6	D2+
7	Ground	8	Ground
9	Key (no pin)	10	No connect

Table 12. Processor Core Power Connector

Pin	Signal Name	Pin	Signal Name
1	Ground	2	Ground
3	+12 V	4	+12 V

Table 13. Main Power Connector

Pin	Signal Name	Pin	Signal Name
1	+3.3 V	13	+3.3 V
2	+3.3 V	14	-12 V
3	Ground	15	Ground
4	+5 V	16	PS-ON# (power supply remote on/off)
5	Ground	17	Ground
6	+5 V	18	Ground
7	Ground	19	Ground
8	PWRGD (Power Good)	20	No connect
9	+5 V (Standby)	21	+5 V
10	+12 V	22	+5 V
11	+12 V	23	+5 V
12	+3.3 V	24	Ground

Table 14. Intruder Alert Header

Pin	Signal Name
1	Intruder#
2	Ground

2.1.2 Jumpers

Figure 3 shows the location of the board’s jumper blocks.

Figure 3. Jumpers

Table 15 lists the jumper blocks identified in Figure 3.

Table 15. Jumpers Shown in Figure 3

Item/callout in Figure 3	Description
A	Keyboard power jumper block
B	Clear CMOS jumper block
C	USB power jumper block

Table 16 through Table 18 list the settings for the jumper blocks.

Table 16. Clear CMOS Jumper Settings

Function/Mode	Jumper Setting	Description
Normal	1-2	The BIOS uses current configuration information and passwords for booting.
Clear CMOS	2-3	<p>Clears the time, date, and BIOS password.</p> <p><i>Note: You can clear these settings by turning off the system power and moving the jumper to pins 2 and 3. After 10 seconds, move the jumper back to pins 1 and 2 and power on the system.</i></p> <p><i>Do not leave the jumper on pins 2 and 3 while the system is powered on or the desktop board may be damaged.</i></p>

Table 17. Keyboard Power Jumper Settings

Function/Mode	Jumper Setting	Configuration
Disable	1-2	Disables the keyboard wake-up feature
Enable	2-3	Enables the keyboard wake-up feature (default)

Table 18. USB Power Jumper Settings

Function/Mode	Jumper Setting	Configuration
Enable	1-2	Enables the USB wake-up feature (default)
Disable	2-3	Disables the USB wake-up feature

2.1.3 Back Panel Connectors

Figure 4 shows the locations of the back panel connectors.

Item	Description
A	PS/2 mouse
B	PS/2 keyboard
C	Serial A
D	Parallel
E	VGA
F	USB 2.0 (2)
G	LAN
H	USB 2.0 (2)
I	Line in
J	Line out
K	Mic

Figure 4. Back Panel Connectors

2.2 Mechanical Considerations

2.2.1 Form Factor

The board is designed to fit into a microATX-form-factor chassis. Figure 5 illustrates the mechanical form factor of the board. Dimensions are given in inches [millimeters]. The outer dimensions are 9.60 inches by 7.80 inches [243.84 millimeters by 198.12 millimeters]. The locations of the I/O connectors and mounting holes are in compliance with the ATX specification.

Figure 5. Board Dimensions

2.3 Electrical Considerations

2.3.1 Power Supply Considerations



CAUTION

The +5 V standby line from the power supply must be capable of providing adequate +5 V standby current. Failure to do so can damage the power supply. The total amount of standby current required depends on the wake devices supported and manufacturing options.

Additional power required will depend on configurations chosen by the integrator.

The power supply must comply with the indicated parameters of the ATX form factor specification.

- The potential relation between 3.3 VDC and +5 VDC power rails
- The current capability of the +5 VSB line
- All timing parameters
- All voltage tolerances

For example, for a system consisting of a supported 65 W processor, 1 GB DDR2 RAM, one hard disk drive, one optical drive, and all board peripherals enabled, the minimum recommended power supply is 300 W. Table 19 lists the recommended power supply current values.

Table 19. Recommended Power Supply Current Values

Output Voltage	3.3 V	5 V	12 V1	12 V2	-12 V	5 VSB
Current	15 A	15 A	10 A	10 A	0.3 A	3.0 A

2.4 Thermal Considerations



CAUTION

All responsibility for determining the adequacy of any thermal or system design remains solely with the reader. Intel makes no warranties or representations that merely following the instructions presented in this document will result in a system with adequate thermal performance.



CAUTION

Ensure that proper airflow is maintained in the processor voltage regulator circuit. Failure to do so may result in damage to the voltage regulator circuit. The processor voltage regulator area can reach a temperature of up to 95 °C in an open chassis.

Table 20 provides maximum case temperatures for the board components that are sensitive to thermal changes. The operating temperature, current load, or operating frequency could affect case temperatures. Maximum case temperatures are important when considering proper airflow to cool the board.

Table 20. Thermal Considerations for Components

Component	Maximum Case Temperature
Processor	For processor case temperature, see processor datasheets and processor specification updates
Intel 82G41 GMCH	102 °C (under bias)
Intel 82801GB (ICH7)	108 °C (under bias)

2.5 Reliability

The Mean Time Between Failures (MTBF) prediction is calculated using component and subassembly random failure rates. The calculation is based on the Bellcore Reliability Prediction Procedure, TR-NWT-000332, Issue 4, September 1991. The MTBF prediction is used to estimate repair rates and spare parts requirements.

The MTBF data is calculated from predicted data at 55 °C. The Intel Desktop Board DG41CN MTBF is 237,188 hours.

2.6 ACPI Wake-up Devices and Events

Table 21 lists the devices or specific events that can wake the computer from specific states.

Table 21. Wake-up Devices and Events

These devices/events can wake up the computer...	...from this state
LAN	S1, S3, S4, and S5
PME# signal	S1, S3, S4, and S5
Power switch	S1, S3, S4, and S5
RTC alarm	S3, S4, and S5
PS/2	S1, S3, and S5
USB	S3
WAKE# signal	S1, S3, S4, and S5

3 Regulatory Compliance and Battery Disposal Information

3.1 Regulatory Compliance

This section contains the following regulatory compliance information for Intel Desktop Board DG41CN:

- Safety standards
- European Union Declaration of Conformity statement
- Product Ecology statements
- Electromagnetic Compatibility (EMC) standards
- Product certification markings

3.1.1 Safety Standards

The Intel Desktop Board DG41CN complies with the safety standards stated in Table 22 when correctly installed in a compatible host system.

Table 22. Safety Standards

Standard	Title
CSA/UL 60950-1	Information Technology Equipment – Safety - Part 1: General Requirements (USA and Canada)
EN 60950-1	Information Technology Equipment – Safety - Part 1: General Requirements (European Union)
IEC 60950-1	Information Technology Equipment – Safety - Part 1: General Requirements (International)

3.1.2 European Union Declaration of Conformity Statement

We, Intel Corporation, declare under our sole responsibility that the product Intel® Desktop Board DG41CN is in conformity with all applicable essential requirements necessary for CE marking, following the provisions of the European Council Directive 2004/108/EC (EMC Directive), 2006/95/EC (Low Voltage Directive), and 2002/95/EC (ROHS Directive).

The product is properly CE marked demonstrating this conformity and is for distribution within all member states of the EU with no restrictions.

This product follows the provisions of the European Directives 2004/108/EC, 2006/95/EC, and 2002/95/EC.

Čeština Tento výrobek odpovídá požadavkům evropských směrnic 2004/108/EC, 2006/95/EC a 2002/95/EC.

Dansk Dette produkt er i overensstemmelse med det europæiske direktiv 2004/108/EC, 2006/95/EC & 2002/95/EC.

Dutch Dit product is in navolging van de bepalingen van Europees Directief 2004/108/EC, 2006/95/EC & 2002/95/EC.

Eesti Antud toode vastab Euroopa direktiivides 2004/108/EC, 2006/95/EC ja 2002/95/EC kehtestatud nõuetele.

Suomi Tämä tuote noudattaa EU-direktiivin 2004/108/EC, 2006/95/EC & 2002/95/EC määräyksiä.

Français Ce produit est conforme aux exigences de la Directive Européenne 2004/108/EC, 2006/95/EC & 2002/95/EC.

Deutsch Dieses Produkt entspricht den Bestimmungen der Europäischen Richtlinie 2004/108/EC, 2006/95/EC & 2002/95/EC.

Ελληνικά Το παρόν προϊόν ακολουθεί τις διατάξεις των Ευρωπαϊκών Οδηγιών 2004/108/EC, 2006/95/EC και 2002/95/EC.

Magyar E termék megfelel a 2004/108/EC, 2006/95/EC és 2002/95/EC Európai Irányelv előírásainak.

Icelandic Þessi vara stenst reglugerð Evrópska Efnahags Bandalagsins númer 2004/108/EC, 2006/95/EC, & 2002/95/EC.

Italiano Questo prodotto è conforme alla Direttiva Europea 2004/108/EC, 2006/95/EC & 2002/95/EC.

Latviešu Šis produkts atbilst Eiropas Direktīvu 2004/108/EC, 2006/95/EC un 2002/95/EC noteikumiem.

Lietuvių Šis produktas atitinka Europos direktyvų 2004/108/EC, 2006/95/EC, ir 2002/95/EC nuostatas.

Malti Dan il-prodott hu konformi mal-provvedimenti tad-Direttivi Ewropej 2004/108/EC, 2006/95/EC u 2002/95/EC.

Norsk Dette produktet er i henhold til bestemmelsene i det europeiske direktivet 2004/108/EC, 2006/95/EC & 2002/95/EC.

Polski Niniejszy produkt jest zgodny z postanowieniami Dyrektyw Unii Europejskiej 2004/108/EC, 206/95/EC i 2002/95/EC.

Portuguese Este produto cumpre com as normas da Diretiva Europeia 2004/108/EC, 2006/95/EC & 2002/95/EC.

Español Este producto cumple con las normas del Directivo Europeo 2004/108/EC, 2006/95/EC & 2002/95/EC.

Slovensky Tento produkt je v súlade s ustanoveniami európskych direktív 2004/108/EC, 2006/95/EC a 2002/95/EC.

Slovenščina Izdelek je skladen z določbami evropskih direktiv 2004/108/EC, 2006/95/EC in 2002/95/EC.

Svenska Denna produkt har tillverkats i enlighet med EG-direktiv 2004/108/EC, 2006/95/EC & 2002/95/EC.

Türkçe Bu ürün, Avrupa Birliği'nin 2004/108/EC, 2006/95/EC ve 2002/95/EC yönergelerine uyar.

3.1.3 Product Ecology Statements

The following information is provided to address worldwide product ecology concerns and regulations.

3.1.3.1 Disposal Considerations

This product contains the following materials that may be regulated upon disposal: lead solder on the printed wiring board assembly.

3.1.3.2 Recycling Considerations

As part of its commitment to environmental responsibility, Intel has implemented the Intel Product Recycling Program to allow retail consumers of Intel's branded products to return used products to selected locations for proper recycling.

Please consult the http://www.intel.com/intel/other/ehs/product_ecology for the details of this program, including the scope of covered products, available locations, shipping instructions, terms and conditions, etc.

中文

作为其对环境责任之承诺的部分，英特尔已实施 Intel Product Recycling Program（英特尔产品回收计划），以允许英特尔品牌产品的零售消费者将使用过的产品退还至指定地点作恰当的重复使用处理。

请参考http://www.intel.com/intel/other/ehs/product_ecology

了解此计划的详情，包括涉及产品之范围、回收地点、运送指导、条款和条件等。

Deutsch

Als Teil von Intels Engagement für den Umweltschutz hat das Unternehmen das Intel Produkt-Recyclingprogramm implementiert, das Einzelhandelskunden von Intel Markenprodukten ermöglicht, gebrauchte Produkte an ausgewählte Standorte für ordnungsgemäßes Recycling zurückzugeben.

Details zu diesem Programm, einschließlich der darin eingeschlossenen Produkte, verfügbaren Standorte, Versandanweisungen, Bedingungen usw., finden Sie auf der http://www.intel.com/intel/other/ehs/product_ecology

Español

Como parte de su compromiso de responsabilidad medioambiental, Intel ha implantado el programa de reciclaje de productos Intel, que permite que los consumidores al detalle de los productos Intel devuelvan los productos usados en los lugares seleccionados para su correspondiente reciclado.

Consulte la http://www.intel.com/intel/other/ehs/product_ecology para ver los detalles del programa, que incluye los productos que abarca, los lugares disponibles, instrucciones de envío, términos y condiciones, etc.

Français

Dans le cadre de son engagement pour la protection de l'environnement, Intel a mis en œuvre le programme Intel Product Recycling Program (Programme de recyclage des produits Intel) pour permettre aux consommateurs de produits Intel de recycler les produits usés en les retournant à des adresses spécifiées.

Visitez la page Web http://www.intel.com/intel/other/ehs/product_ecology pour en savoir plus sur ce programme, à savoir les produits concernés, les adresses disponibles, les instructions d'expédition, les conditions générales, etc.

日本語

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対象製品、返送先、返送方法、ご利用規約など、このプログラムの詳細情報は、http://www.intel.com/intel/other/ehs/product_ecology (英語)をご覧ください。

Malay

Sebagai sebahagian daripada komitmennya terhadap tanggungjawab persekitaran, Intel telah melaksanakan Program Kitar Semula Produk untuk membenarkan pengguna-pengguna runcit produk jenama Intel memulangkan produk terguna ke lokasi-lokasi terpilih untuk dikitarkan semula dengan betul.

Sila rujuk http://www.intel.com/intel/other/ehs/product_ecology untuk mendapatkan butir-butir program ini, termasuklah skop produk yang dirangkumi, lokasi-lokasi tersedia, arahan penghantaran, terma & syarat, dsb.

Portuguese

Como parte deste compromisso com o respeito ao ambiente, a Intel implementou o Programa de Reciclagem de Produtos para que os consumidores finais possam enviar produtos Intel usados para locais selecionados, onde esses produtos são reciclados de maneira adequada.

Consulte o site http://www.intel.com/intel/other/ehs/product_ecology (em Inglês) para obter os detalhes sobre este programa, inclusive o escopo dos produtos cobertos, os locais disponíveis, as instruções de envio, os termos e condições, etc.

Russian

В качестве части своих обязательств к окружающей среде, в Intel создана программа утилизации продукции Intel (Product Recycling Program) для предоставления конечным пользователям марок продукции Intel возможности возврата используемой продукции в специализированные пункты для должной утилизации.

Пожалуйста, обратитесь на веб-сайт

http://www.intel.com/intel/other/ehs/product_ecology за информацией об этой программе, принимаемых продуктах, местах приема, инструкциях об отправке, положениях и условиях и т.д.

Türkçe

Intel, çevre sorumluluğuna bağlılığının bir parçası olarak, perakende tüketicilerin Intel markalı kullanılmış ürünlerini belirlenmiş merkezlere iade edip uygun şekilde geri dönüştürmesini amaçlayan Intel Ürünleri Geri Dönüşüm Programı'nı uygulamaya koymuştur.

Bu programın ürün kapsamı, ürün iade merkezleri, nakliye talimatları, kayıtlar ve şartlar v.s dahil bütün ayrıntılarını öğrenmek için lütfen

http://www.intel.com/intel/other/ehs/product_ecology

Web sayfasına gidin.

3.1.4 EMC Regulations

The Intel Desktop Board DG41CN complies with the EMC regulations stated in Table 23 when correctly installed in a compatible host system.

Table 23. EMC Regulations

Regulation	Title
FCC 47 CFR Part 15, Subpart B	Title 47 of the Code of Federal Regulations, Part 15, Subpart B, Radio Frequency Devices. (USA)
ICES-003	Interference-Causing Equipment Standard, Digital Apparatus. (Canada)
EN55022	Limits and methods of measurement of Radio Interference Characteristics of Information Technology Equipment. (European Union)
EN55024	Information Technology Equipment – Immunity Characteristics Limits and methods of measurement. (European Union)
EN55022	Australian Communications Authority, Standard for Electromagnetic Compatibility. (Australia and New Zealand)
CISPR 22	Limits and methods of measurement of Radio Disturbance Characteristics of Information Technology Equipment. (International)
CISPR 24	Information Technology Equipment – Immunity Characteristics – Limits and Methods of Measurement. (International)
VCCI V-3, V-4	Voluntary Control for Interference by Information Technology Equipment. (Japan)
KN-22, KN-24	Korean Communications Commission – Framework Act on Telecommunications and Radio Waves Act (South Korea)
CNS 13438	Bureau of Standards, Metrology, and Inspection (Taiwan)

FCC Declaration of Conformity

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For questions related to the EMC performance of this product, contact:

Intel Corporation, 5200 N.E. Elam Young Parkway, Hillsboro, OR 97124
1-800-628-8686

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit other than the one to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications to the equipment not expressly approved by Intel Corporation could void the user's authority to operate the equipment.

Tested to comply with FCC standards for home or office use.

Canadian Department of Communications Compliance Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

Japan VCCI Statement

Japan VCCI Statement translation: This is a Class B product based on the standard of the Voluntary Control Council for Interference from Information Technology Equipment (VCCI). If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。

Korea Class B Statement




Korea Class B Statement translation: This equipment is for home use, and has acquired electromagnetic conformity registration, so it can be used not only in residential areas, but also other areas.

이 기기는 가정용(B급)으로 전자파적합등록을 한 기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다.

3.1.5 Product Certification Markings (Board Level)

Intel Desktop Board DG41CN has the product certification markings shown in Table 24.

Table 24. Product Certification Markings

Description	Mark
UL joint US/Canada Recognized Component mark. Includes adjacent UL file number for Intel Desktop Boards: E210882.	
FCC Declaration of Conformity logo mark for Class B equipment. Includes Intel name and DG41CN model designation.	
CE mark. Declaring compliance to the European Union (EU) EMC directive, Low Voltage directive, and RoHS directive.	
Australian Communications Authority (ACA) and New Zealand Radio Spectrum Management (NZ RSM) C-tick mark. Includes adjacent Intel supplier code number, N-232.	
Japan VCCI (Voluntary Control Council for Interference) mark.	
KCC (Korean Communications Commission) EMC certification mark. Includes adjacent KCC certification number: CPU-DG41CN (B).	
Taiwan BSMI (Bureau of Standards, Metrology and Inspections) mark. Includes adjacent Intel company number, D33025.	
Printed wiring board manufacturer's recognition mark. Consists of a unique UL recognized manufacturer's logo, along with a flammability rating (solder side).	V-0
China RoHS/Environmentally Friendly Use Period Logo: This is an example of the symbol used on Intel Desktop Boards and associated collateral. The color of the mark may vary depending upon the application. The Environmental Friendly Usage Period (EFUP) for Intel Desktop Boards has been determined to be 10 years.	

3.2 Battery Disposal Information

CAUTION

Risk of explosion if the battery is replaced with an incorrect type. Batteries should be recycled where possible. Disposal of used batteries must be in accordance with local environmental regulations.

PRÉCAUTION

Risque d'explosion si la pile usagée est remplacée par une pile de type incorrect. Les piles usagées doivent être recyclées dans la mesure du possible. La mise au rebut des piles usagées doit respecter les réglementations locales en vigueur en matière de protection de l'environnement.

FORHOLDSREGEL

Eksplodingsfare, hvis batteriet erstattes med et batteri af en forkert type. Batterier bør om muligt genbruges. Bortskaffelse af brugte batterier bør foregå i overensstemmelse med gældende miljølovgivning.

OBS!

Det kan oppstå eksplosjonsfare hvis batteriet skiftes ut med feil type. Brukte batterier bør kastes i henhold til gjeldende miljølovgivning.

VIKTIGT!

Risk för explosion om batteriet ersätts med felaktig batterityp. Batterier ska kasseras enligt de lokala miljövårdsbestämmelserna.

VARO

Räjähdyksvaara, jos pariston tyyppi on väärä. Paristot on kierrätettävä, jos se on mahdollista. Käytetyt paristot on hävitettävä paikallisten ympäristömääräysten mukaisesti.

VORSICHT

Bei falschem Einsetzen einer neuen Batterie besteht Explosionsgefahr. Die Batterie darf nur durch denselben oder einen entsprechenden, vom Hersteller empfohlenen Batterietyp ersetzt werden. Entsorgen Sie verbrauchte Batterien den Anweisungen des Herstellers entsprechend.

AVVERTIMENTO

Esiste il pericolo di un esplosione se la pila non viene sostituita in modo corretto. Utilizzare solo pile uguali o di tipo equivalente a quelle consigliate dal produttore. Per disfarsi delle pile usate, seguire le istruzioni del produttore.

PRECAUCIÓN

Existe peligro de explosión si la pila no se cambia de forma adecuada. Utilice solamente pilas iguales o del mismo tipo que las recomendadas por el fabricante del equipo. Para deshacerse de las pilas usadas, siga igualmente las instrucciones del fabricante.

WAARSCHUWING

Er bestaat ontploffingsgevaar als de batterij wordt vervangen door een onjuist type batterij. Batterijen moeten zoveel mogelijk worden gerecycled. Houd u bij het weggooien van gebruikte batterijen aan de plaatselijke milieuwetgeving.

ATENÇÃO

Haverá risco de explosão se a bateria for substituída por um tipo de bateria incorreto. As baterias devem ser recicladas nos locais apropriados. A eliminação de baterias usadas deve ser feita de acordo com as regulamentações ambientais da região.

AŚCIAROŻZNAŚĆ

Існуе рызыка выбуху, калі заменены акумулятар непраўльнага тыпу. Акумулятары павінны, па магчымасці, перепрацоўвацца. Пазбаўляцца ад старых акумулятараў патрэбна згодна з мясцовым заканадаўствам па экалогіі.

UPOZORNĚNÍ

V případě výměny baterie za nesprávný druh může dojít k výbuchu. Je-li to možné, baterie by měly být recyklovány. Baterie je třeba zlikvidovat v souladu s místními předpisy o životním prostředí.

Προσοχή

Υπάρχει κίνδυνος για έκρηξη σε περίπτωση που η μπαταρία αντικατασταθεί από μία λανθασμένου τύπου. Οι μπαταρίες θα πρέπει να ανακυκλώνονται όταν κάτι τέτοιο είναι δυνατό. Η απόρριψη των χρησιμοποιημένων μπαταριών πρέπει να γίνεται σύμφωνα με τους κατά τόπο περιβαλλοντικούς κανονισμούς.

VIGYÁZAT

Ha a telepet nem a megfelelő típusú telepre cseréli, az felrobbanhat. A telepeket lehetőség szerint újra kell hasznosítani. A használt telepeket a helyi környezetvédelmi előírásoknak megfelelően kell kiselejtezni.

注意

異なる種類の電池を使用すると、爆発の危険があります。リサイクルが可能な地域であれば、電池をリサイクルしてください。使用後の電池を破棄する際には、地域の環境規制に従ってください。

AWAS

Risiko letupan wujud jika bateri digantikan dengan jenis yang tidak betul. Bateri sepatutnya dikitar semula jika boleh. Pelupusan bateri terpakai mestilah mematuhi peraturan alam sekitar tempatan.

OSTRZEŻENIE

Istnieje niebezpieczeństwo wybuchu w przypadku zastosowania niewłaściwego typu baterii. Zużyte baterie należy w miarę możliwości utylizować zgodnie z odpowiednimi przepisami ochrony środowiska.

PRECAUȚIE

Risc de explozie, dacă bateria este înlocuită cu un tip de baterie necorespunzător. Bateriile trebuie reciclate, dacă este posibil. Depozitarea bateriilor uzate trebuie să respecte reglementările locale privind protecția mediului.

ВНИМАНИЕ

При использовании батареи несоответствующего типа существует риск ее взрыва. Батареи должны быть утилизированы по возможности. Утилизация батарей должна проводиться по правилам, соответствующим местным требованиям.

UPOZORNENIE

Ak batériu vymeníte za nesprávny typ, hrozí nebezpečenstvo jej výbuchu. Batérie by sa mali podľa možnosti vždy recyklovať. Likvidácia použitých batérií sa musí vykonávať v súlade s miestnymi predpismi na ochranu životného prostredia.

POZOR

Zamenjava baterije z baterijo drugačnega tipa lahko povzroči eksplozijo. Če je mogoče, baterije reciklirajte. Rabljene baterije zavrzite v skladu z lokalnimi okoljevarstvenimi predpisi.

คำเตือน

ระวังการระเบิดที่เกิดจากเปลี่ยนแบตเตอรี่ผิดประเภท หากเป็นไปได้ ควรนำแบตเตอรี่ไปรีไซเคิล การทิ้งแบตเตอรี่ใช้แล้วต้องเป็นไปตามกฎข้อบังคับด้านสิ่งแวดล้อมของท้องถิ่น.

UYARI

Yanlış türde pil takıldığında patlama riski vardır. Piller mümkün olduğunda geri dönüştürülmelidir. Kullanılmış piller, yerel çevre yasalarına uygun olarak atılmalıdır.

ОСТОРОГА

Використовуйте батареї правильного типу, інакше існуватиме ризик вибуху. Якщо можливо, використані батареї слід утилізувати. Утилізація використаних батарей має бути виконана згідно місцевих норм, що регулюють охорону довкілля.

UPOZORNĚNÍ

V případě výměny baterie za nesprávný druh může dojít k výbuchu. Je-li to možné, baterie by měly být recyklovány. Baterie je třeba zlikvidovat v souladu s místními předpisy o životním prostředí.

ETTEVAATUST

Kui patarei asendatakse uue ebasobivat tüüpi patareiga, võib tekkida plahvatusoht. Tühjad patareid tuleb võimaluse korral viia vastavasse kogumispunkti. Tühjade patareide äraviskamisel tuleb järgida kohalikke keskkonnakaitse alaseid reegleid.

FIGYELMEZTETÉS

Ha az elemet nem a megfelelő típusúra cseréli, felrobbanhat. Az elemeket lehetőség szerint újra kell hasznosítani. A használt elemeket a helyi környezetvédelmi előírásoknak megfelelően kell kiselejtezni.

UZMANĪBU

Pastāv eksplozijas risks, ja baterijas tiek nomainītas ar nepareiza veida baterijām. Ja iespējams, baterijas vajadzētu nodot attiecīgos pieņemšanas punktus. Bateriju izmešanai atkritumos jānotiek saskaņā ar vietējiem vides aizsardzības noteikumiem.

DĒMESIO

Naudojant netinkamo tipo baterijas įrenginys gali sprogti. Kai tik įmanoma, baterijas reikia naudoti pakartotinai. Panaudotas baterijas išmesti būtina pagal vietinius aplinkos apsaugos nuostatus.

ATTENZJONI

Riskju ta' splużjoni jekk il-batterija tinbidel b'tip ta' batterija mhux korrett. Il-batteriji għandhom jiġu riċiklati fejn hu possibbli. Ir-rimi ta' batteriji użati għandu jsir skond ir-regolamenti ambjentali lokali.

OSTRZEŻENIE

Ryzyko wybuchu w przypadku wymiany na baterie niewłaściwego typu. W miarę możliwości baterie należy poddać recyklingowi. Zużytych baterii należy pozbywać się zgodnie z lokalnie obowiązującymi przepisami w zakresie ochrony środowiska.