



COMPRAS UFDPar - UFPI <compras.ufdpar@ufpi.edu.br>

RES: SOLIC. ELET. Nº 32/2022 - ADESÃO AOS ITEM 02 DA ARP DO PREGÃO ELETRÔNICO Nº 138/2021 UASG: 153164 - Universidade Federal de Santa Maria - 326139

5 mensagens

Jardel Rosa <jardel.rosa@htsolutions.com.br>Para: "Maurílio Jr. UFPI" <mauriliojr21@ufpi.edu.br>, COMPRAS UFDPar - UFPI <compras.ufdpar@ufpi.edu.br>, Jardel Rosa da Silva
Cc: Campus Ministro Reis Veloso NTI-UFPI <cmrv.nti@ufpi.edu.br>

Boa tarde!

Muito obrigado pelo retorno, segue o aceite em anexo.

Atenciosamente,

**Jardel Rosa**

Vendas Governo

jardel.rosa@htsolutions.com.br

54 3419 5162 R1005 / 9 9118 4442

54 9 9130 1019 [WhatsApp](#)Conheça todas as
nossas soluções
corporativas:**De:** Maurílio Jr. UFPI <mauriliojr21@ufpi.edu.br>**Enviada em:** sexta-feira, 26 de agosto de 2022 14:25**Para:** COMPRAS UFDPar - UFPI <compras.ufdpar@ufpi.edu.br>; Jardel Rosa <jardel.rosa@htsolutions.com.br>; Jardel Rosa da Sil**Cc:** Campus Ministro Reis Veloso NTI-UFPI <cmrv.nti@ufpi.edu.br>**Assunto:** Re: SOLIC. ELET. Nº 32/2022 - ADESÃO AOS ITEM 02 DA ARP DO PREGÃO ELETRÔNICO Nº 138/2021 UASG: 153164
Maria

Boa tarde.

Seguem as respostas aos questionamentos realizados pelo Fornecedor em outra corrente de email:

1) Qual o destino final em que o produto deverá ser utilizado?

O produto será utilizado para atender as demandas da UFDPar referente a atividades administrativas e acadêmicas, em todas as unidades localizadas na cidade de Parnaíba.

2) Quem vai utilizar o produto (usuário)?

Discentes, Servidores, e colaboradores em geral (bolsistas, estagiários, terceirizados etc)

3) Qual vai ser o uso do produto?

O produto será utilizado para atender as demandas da UFDPar referente a atividades administrativas e acadêmicas, em todas as unidades localizadas na cidade de Parnaíba.

4) Qual o produto/objeto?

Empresa	Código	Pregão	UASG	Órgão	Produto	Valor	R
GLOBAL ES	945204	138/2021	153164	Universidade Federal de Santa Maria	Computador Desktop HP EliteDesk 805 G6 SFF, com monitor de 23.8 polegadas e placa de vídeo dedicada 4GB, AMD Ryzen7 PRO 4750G 3.60G 8 cores 65W, Memória de 16GB DDR4 3200Mhz, SSD de 256GB PCIe NVMe M.2 + HD 1TB SATA 7200RPM, AMD Radeon RX 550X 4GB LP DP+HDMI PCIe x16, DVD-RW, Placa de rede Intel® Wireless AX200 (Wi-Fi 6 802.11ax, 2x2) + Bluetooth 5, Rede 10/100/100, Auto falante interno, Teclado e Mouse com fio, Windows 10 Professional 64. Garantia de 3 anos On-site. Acompanha Monitor de 23.8 Polegadas LED IPS com Ajuste de Altura, Rotação, HP P24a .	R\$ 8.500,00	2

5) Qual o CNPJ que vai aderir?
33.519.114/0001-00

6) Haverá contrato ou apenas empenho?
Empenho

7) O Descritivo Técnico do Edital de origem à ata em questão prevê que os notebooks e Desktops do tipo Mini devem sem entregues gerenciador(UFSM)gravado em seu chassi. Considerando que sua entidade não é o gerenciador, entendemos que os equipamentos gravação do logotipo da UFSM nos seus equipamentos, correto?
SEM a gravação de logotipo.

8) O Pedido será emitido em lote único ou fracionado?
Lote Único

9) Qual a previsão de envio do pedido (em número de dias a partir da emissão da anuência)?
Acredito que esta questão precisa ser respondida pelo fornecedor. Pelo lado da UFDPar, aguardamos a entrega no prazo pre

10) Os equipamentos deverão ser entregues em um único endereço?
Sim. No Campus Sede, localizado no endereço: [Av. São Sebastião, nº 2819 - Nossa Sra. de Fátima, Parnaíba - PI, 64202-020](#)

11) Caso a resposta ao item 10 seja NÃO, listar os endereços/Cidades/Estados onde os equipamentos deverão ser entregues:
[Av. São Sebastião, nº 2819 - Nossa Sra. de Fátima, Parnaíba - PI, 64202-020](#)

12) Ciente de que a previsão de faturamento dos fabricantes, estão em média 90(noventa) dias, devido à falta de insumos mundial, c
Sim.

Att,

Em sex., 26 de ago. de 2022 às 08:49, COMPRAS UFDPar - UFPI <compras.ufdpar@ufpi.edu.br> escreveu:

Atenciosamente,

Roberta Freitas
Assistente em Administração
Coordenadoria de Compras/DLS/PRAD/UFDPar
Parnaíba-PI

UNIVERSIDADE FEDERAL DO DELTA DO PARNAÍBA (CNPJ Nº 33.519.114/0001-00)
Coordenadoria de Compras

Diretoria de Logística e Serviços/PRAD/UFDPar

Av. São Sebastião, 2819, Bairro de Fátima, Parnaíba-PI, CEP 64.202-020

e-mail: compras.ufdpar@ufpi.edu.br

À

GLOBAL DISTRIBUIÇÃO DE BENS DE CONSUMO LTDA.

CNPJ: 89.237.911/0289-08

Assunto: Fornecimento de produtos do Pregão 138/2021

1. A Universidade Federal do Delta do Parnaíba - UFDPar, inscrita no CNPJ sob o nº 33.519.114/0001-00, estabelecida no endereço: Av. São Sebastião - PI, 64202-020, solicita, nos termos do Decreto nº 7.892/2013, que regulamenta o Sistema de Registro de Preços, verificar **seu interesse** produtos referentes ao Pregão nº 138/2021, realizado e gerenciado pela UNIVERSIDADE FEDERAL DE SANTA MARIA- UASG: 153164 da qual sua empresa é inscrita no Registro de Preços. Abaixo, segue relação dos itens de interesse:

Itens	Descrição	Qtde.	Unidade de Fornecimento	Valor Unitário	Valor Global
02	Marca: HP Fabricante: HP Inc Modelo / Versão: EliteDesk 805 G6 SFF Descrição Detalhada do Objeto Ofertado: Estação de trabalho corporativa Avançada II 1. Gabinete: 2. Tipo reduzido, padrão Small Form Factor (SFF) podendo ser usado na posição vertical ou horizontal, sem comprometer o funcionamento dos componentes.	47	UNIDADE	R\$ 8.500,00	R\$399.500,00
Valor total				R\$399.500,00	

2. Desta maneira, **requer breve e formal retorno para que se manifeste, quanto à aceitação, ou não, ao fornecimento do quantitativo acima requer** respectiva ata e no local de entrega abaixo, bem como o **encaminhamento da Ata de Registro de Preços assinada pelo fornecedor e órgão gerencia** desejamos aderir, para fins de instrução do processo de adesão, para o endereço de e-mail: compras.ufdpar@ufpi.edu.br.

3. LOCAL DE ENTREGA: **Av. São Sebastião, nº 2819 - Nossa Sra. de Fátima, Parnaíba - PI, 64202-020.**

4. Para o prosseguimento do feito solicitamos os documentos abaixo:

- * Ata de Registro de Preço assinada pelo Órgão e o fornecedor;
- * Proposta Comercial com validade de 90 (noventa) dias;
- * Catálogo do produto.

Atenciosamente,

Roberta Freitas

Assistente de Administração

Coordenadoria de Compras/DLS/PRAD/UFDPAR

Parnaíba-PI

UNIVERSIDADE FEDERAL DO DELTA DO PARNAÍBA (CNPJ Nº 33.519.114/0001-00)

Coordenadoria de Compras

Diretoria de Logística e Serviços/PRAD/UFDPar

Av. São Sebastião, 2819, Bairro de Fátima, Parnaíba-PI, CEP 64.202-020

e-mail: compras.ufdpar@ufpi.edu.br

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Maurílio Lacerda Leonel Júnior

Analista de Tecnologia da Informação

Superintendente da Tecnologia da Informação - STI / UFDPAR

 326139_Proposta_de_Adesao.doc.pdf
176K

COMPRAS UFDPAR - UFPI <compras.ufdpar@ufpi.edu.br>
Para: mauriliojr21 mauriliojr21 <mauriliojr21@ufpi.edu.br>

26 de agosto de 2022 15:43

Favor acusar recebimento deste email.

Atenciosamente,

roberta Freitas

Assistente em Administração

Coordenadoria de Compras/DLS/PRAD/UFDPAR
Parnaíba-PI

UNIVERSIDADE FEDERAL DO DELTA DO PARNAÍBA (CNPJ Nº 33.519.114/0001-00)

Coordenadoria de Compras

Diretoria de Logística e Serviços/PRAD/UFDPAR

Av. São Sebastião, 2819, Bairro de Fátima, Parnaíba-PI, CEP 64.202-020

e-mail: compras.ufdpar@ufpi.edu.br

[Texto das mensagens anteriores oculto]

 326139_Proposta_de_Adesao.doc.pdf
176K

Maurílio Jr. UFPI <mauriliojr21@ufpi.edu.br>

30 de agosto de 2022 16:08

Para: Jardel Rosa <jardel.rosa@htsolutions.com.br>

Cc: COMPRAS UFDPAR - UFPI <compras.ufdpar@ufpi.edu.br>, Jardel Rosa da Silva <jardel.rosa@lfcgoverno.com.br>, Campus Ministro Reis Veloso NTI-UFPI <cmrv.nti@ufpi.edu.br>

Prezado Jardel,

Em virtude da redução do orçamento disponível, estornamos parte dos itens junto ao órgão gerenciador e só será possível aderir a 23 unidades, ao invés das 47 unidades solicitadas anteriormente. Deste modo, solicito novo 'aceite' com a proposta ajustada ao novo quantitativo.

Att,

[Texto das mensagens anteriores oculto]

Jardel Rosa <jardel.rosa@htsolutions.com.br>

30 de agosto de 2022 16:59

Para: "Maurílio Jr. UFPI" <mauriliojr21@ufpi.edu.br>

Cc: COMPRAS UFDPAR - UFPI <compras.ufdpar@ufpi.edu.br>, Campus Ministro Reis Veloso NTI-UFPI <cmrv.nti@ufpi.edu.br>

Boa tarde,

Segue em anexo.

[Texto das mensagens anteriores oculto]

 326139_Proposta_de_Adesao.doc.pdf
176K

Jardel Rosa <jardel.rosa@htsolutions.com.br>

30 de agosto de 2022 17:29

Para: "Maurílio Jr. UFPI" <mauriliojr21@ufpi.edu.br>

Cc: COMPRAS UFDPAR - UFPI <compras.ufdpar@ufpi.edu.br>, Campus Ministro Reis Veloso NTI-UFPI <cmrv.nti@ufpi.edu.br>

Segue a documentação do pregão.

[Texto das mensagens anteriores oculto]

2 anexos



138.2021 - Universidade Federal de Santa Maria.zip
1611K



Documentos Técnicos itens 01 e 02.zip
9835K

Anexo 01

Termo de Registro de Preços

Pelo presente a Empresa Global Distribuição de Bens de Consumo Ltda., CNPJ 89.237.911/0289-08, estabelecida à Rod. Governador Mário Covas, nº 10600, Serra do Anil, Galpão 03, Meltex, KM 290, CEP 29147-030, em Cariacica/ES, concorda plenamente com o Edital e os termos da Ata de Realização do Pregão Eletrônico constante no sítio do comprasgovernamentais.gov.br, referente ao Pregão Eletrônico nº 138/2021, Processo nº 23081.076007/2021-88/UFSM, como se aqui estivesse transcrito.

Cariacica/ES, 09 de novembro de 2021.



Vinicius da Silva
RG: 8099503578
CPF: 839.250.900-53

TERMO DE ACEITE DE FORNECIMENTO

A(o) **Universidade Federal do Delta do Parnaíba - UFDPAR**Referente a solicitação de adesão a ATA DE REGISTRO DE PREÇO do Pregão: **138/2021 UASG: 153164 - Universidade Federal de Santa Maria.**

Prezados,

A empresa GLOBAL DISTRIBUIÇÃO DE BENS DE CONSUMO LTDA, inscrita no CNPJ sob nº 89.237.911/0289-08 com sede à Rod. Governador Mario Covas, nº 10600, Galpão 03, Meltex KM 290, Serra do Anil, Cariacica/ES, Cep: 29147-030, declara, sob as penalidades legais, que aceita fornecer os materiais e/ ou serviço, a(o) **Universidade Federal do Delta do Parnaíba - UFDPAR**, nos mesmos termos da ATA DE REGISTRO DE PREÇO do Pregão: **138/2021 UASG: 153164 - Universidade Federal de Santa Maria.**

Item do pregão	Especificação do objeto e/ou serviço detalhado	Un	Qtde	Valor Unitário	Valor Total
2	Computador Desktop HP EliteDesk 805 G6 SFF, com monitor de 23.8 polegadas e placa de video dedicada 4GB, AMD Ryzen7 PRO 4750G 3.60G 8 cores 65W, Memória de 16GB DDR4 3200Mhz, SSD de 256GB PCIe NVMe M.2 + HD 1TB SATA 7200RPM, AMD Radeon RX 550X 4GB LP DP+HDMI PCIe x16, DVD-RW, Placa de rede Intel® Wireless AX200 (Wi-Fi 6 802.11ax, 2x2) + Bluetooth 5, Rede 10/100/100, Auto falante interno, Teclado e Mouse com fio, Windows 10 Professional 64. Garantia de 3 anos On-site. Acompanha Monitor de 23.8 Polegadas LED IPS com Ajuste de Altura, Rotação, HP P24a .	UN	23	R\$ 8.500,00	R\$ 195.500,00

Cariacica/ES, 30 de agosto de 2022.

**Vinicius da Silva****PROCURADOR**
GLOBAL DISTRIBUIÇÃO DE BENS DE CONSUMO LTDA



HP Secure Erase for SSDs & HDDs

Safely and effectively erase sensitive data from solid state and hard drives

HP Secure Erase¹ is a critical resource for IT administrators tasked with protecting sensitive data, and a key component of HP system security. HP Secure Erase makes it easy to sanitize local magnetic hard disk drives (HDD) or solid-state drives (SSDs) to industry standards before disposal or recycling.

Local storage sanitation—an important last step in the PC lifecycle

In an environment where sensitive user information is under attack at every stage of the system lifecycle, ensuring that data can be securely erased from a data storage device is paramount. Information can be vulnerable if left on a storage drive when a system is recycled, disposed of, or re-provisioned for another user. Properly sanitizing storage drives according to industry standards is a critical step in the PC lifecycle.

In addition to meeting industry standards for data erasure in standard magnetic hard disk drives (HDDs), HP has taken the additional step of extending HP Secure Erase to also support industry-standard solid state drives (SSDs). HP Secure Erase is a standard feature in all HP business notebooks, supporting the methods outlined in the National Institute of Standards and Technology Special Publication 800-88. Manufacturers of industry-standard SSDs approved for use in HP business notebook products have verified that running HP Secure Erase on their SSDs fully removes all user data so that it cannot be recovered.

Erasing SSDs vs. HDDs

Using HP Secure Erase on standard HDDs, data is overwritten using a data-removal algorithm that writes multiple patterns on every sector, cluster, and bit of the hard drive. This process is documented in the Department of Defense (DOD) 5220.22-M Chapter 8 specification.² This overwrite-based process is only effective on standard HDDs. Writing a predetermined data pattern to a NAND flash-based SSD does not result in an empty drive. Instead it results in a drive full of data that must be erased before new user data can be written, which massively shortens the service life.

Industry-standard disk sanitation

To securely erase all user data from an SSD and restore the drive to a fresh-out-of-box (FOB) performance state, the National Institute of Standards Technology (NIST) supports the following commands that meets the minimum guideline for media sanitization of SSDs (NIST SP800- 88 Rev. 1).

Block Erase is a function enabled only in SATA SSDs. Using the ATA command BLOCK ERASE EXT, Block Erase will instruct the SSDs controller to apply an erase voltage to all NAND cells of the device (including any cells which form blocks that have been retired, re-allocated, involved in garbage collection or over-provisioning or are part of a reserved pool of spare blocks). This functionality provides a very fast, complete and robust erasure of the SSD.

Crypto Erase is a function enabled only in SATA SED SSDs. Using the ATA command CRYPTO SCRAMBLE EXT, this function removes the encryption key effectively making it impossible to reconstruct any of the data on the storage device. Crypto Scramble is implemented on both HDD and SSD SED devices.

¹ For the methods outlined in the National Institute of Standards and Technology Special Publication 800-88 "Clear" sanitation method. Secure Erase does not support platforms with Intel® Optane™. HP Secure Erase does not support platforms with Intel® Optane.

² Specification 5220.22-M no longer exists. The DoD has subsequently decided that secure information must be destroyed to remain secure. The NIST guidelines restate in clear terms that a two-person rule (read human verification) shall be implemented but did not establish guidelines on the method of sanitization (it could be a single wipe with dual human verification, or a single destruction with the same).

Block Erase and Crypto Erase Sanitize Operation is a function enabled only in PCIe NVMe SSDs. NVMe does not follow conventional ATA feature sets. Instead, NVMe devices support a sanitization function, inside their FORMAT NVM command structure that includes BLOCK ERASE SANITIZE and CRYPTO ERASE SANITIZE operation. So, by setting some specific bits in this command structure, a function similar to Secure Erase can be carried out.

What data is not erased?

After deploying HP Secure Erase on an SSD, all data in the user space is completely and irretrievably erased, and every block in the user space is ready to accept new host-written data, which moves the drive to its highest performance state (FOB). However, some data must be left in place, including data required for normal drive operation: SSD firmware copies that reside in the NAND, all SMART data, and retired NAND block mapping tables.

Conclusion

Writing or overwriting data to drive is the accepted practice of securely eliminating data from an HDD. However, in the case of NAND flash-based SSDs, overwriting is redundant, unnecessary, and a potentially insecure method of eliminating data. By using HP Secure Erase, users can ensure that SSD drives are completely sanitized and meet the minimum industry standards HP Secure Erase is easily enabled through the standard F10 BIOS setup process on most HP business PCs.

Learn more

hp.com/go/computersecurity

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HP BIOSphere Gen4



keep reinventing

Our industry leading firmware ecosystem automates the protection of the BIOS and enables robust manageability of your PC.

A Growing Threat

The BIOS is the first million lines of code run by your PC when you turn it on. It plays a critical role, communicating between your PC's hardware and your Operating System, which makes BIOS security and manageability increasingly important in the face of modern security threats.

Building on over a decade of BIOS security leadership, HP BIOSphere Gen 4¹ offers an ecosystem of protections to help defend your PC, including automated protections, customizable safeguards, and easy manageability to protect against attacks without interrupting employee productivity.

Protection Starts in the BIOS

HP BIOSphere Gen4 provides enhanced firmware protection, guarding against malicious attacks and accidental errors that can compromise the BIOS:

- **Hardware root of trust**—HP Pro and HP Elite PCs ensure you start up with an authentic BIOS, every time. (In PCs that also include HP Sure Start², corrupted BIOS' self-heal automatically).
- Enables protection of critical firmware elements, including the **Master Boot Record (MBR)** and **GUID Partition Table (GPT)**, against corruption or deletion that could render the PC unable to boot.
- HP BIOSphere Gen4 conforms to **NIST 800-147** and **ISO/IEC 19678:2015** to make sure that your BIOS only gets authentic updates from HP.
- Make BIOS updates as easy as a standard driver update—HP BIOSphere Gen4 can receive BIOS and Intel® ME updates deployed via Windows Update³.

Guard Against Physical Attacks

Modern workstyles increasingly take PCs out of the office and into cafes, airports, and shared spaces where physical attacks become a greater risk.

HP BIOSphere Gen4 includes powerful protections against physical attacks that are simple to set up and customize, helping businesses of all sizes safeguard their PCs and protect sensitive information.

- Prevent unauthorized users from accessing your devices with pre-boot security features like **Power-on Authentication** and **HP DriveLock**.
- Protect your ports against malicious USB drives or attempts to steal data with **port controls**—with HP BIOSphere Gen4 you can enable/disable individual ports and block the ability to boot from USB.
- **Secure Erase4**—Permanently erase data from hard disk drives or solid state drives (SSD) to prevent data theft after you dispose of or repurpose old devices.

Advanced Manageability

HP BIOSphere allows IT teams to centrally configure and update BIOS settings across a PC fleet in just minutes—saving time and effort for IT administrators with straightforward configuration and management.

HP BIOS Configuration Utility⁵ is a script driven tool that provides the ability to manage BIOS settings on PC's remotely. In addition, HP Manageability Integration Kit plug-in for Microsoft® System Center Configuration Manager can remotely manage HP BIOSphere settings and passwords.

Additional Features and Specifications

Standards and Protections

Conforms to ISO/IEC 19678:2015 (NIST 800-147) and NIST 800-155	HP BIOSphere Gen4 conforms to ISO/IEC 19678:2015 (NIST 800-147) to make sure that your BIOS only gets authentic, digitally signed updates from HP. It is further strengthened beyond these requirements by including hardware enforcement. Also supports BIOS integrity measurements as specified by NIST 800-155 .
Master Boot Record (MBR) / GUID Partition Table (GPT) Protection & Recovery	Enables protection of the Master Boot Record (MBR) and GUID Partition Table (GPT) against corruption or deletion that could render the PC unable to boot. HP BIOSphere Gen4 can also backup and restore your MBR or GPT should it become corrupted or deleted. Users can also lock the Master Boot record to prevent it from being altered. These features can be enabled in the BIOS settings.
Hardware-based root of trust	Hardware-enforced assurance that an authentic BIOS is present before the CPU starts executing code to boot.
Secure Boot	Validates integrity and authenticity of the Operating System before allowing it to start.

Configurable Protections

Power-On Authentication⁶	Ensures that only authorized users can start up the PC or access the BIOS by requiring user authentication prior to system start-up. Power-On Authentication supports passwords or fingerprint identification ⁶ .
HP DriveLock & HP Automatic DriveLock	Prevents notebook hard drives from running without authorization by requiring the BIOS to authenticate the user before the drive is unlocked. For convenience, if the user is already using Power-On Authentication, HP Automatic DriveLock can ensure fast, secure access without entering additional passwords.
HP One Step Logon	Simplifies your log-in process with Power-On Authentication using your Windows Credentials. Single Sign On gives you the protection of Power-On Authentication, without making you re-enter your credentials at the Windows login screen. Must be enabled using HP Client Security Manager Gen4.
Port Controls	New in Gen4! Protects against unwanted access with the ability to enable or disable individual USB ports and devices. Many devices now use USB-C™ to charge: if disabled, USB-C™ will still charge user devices and can be used to power the PC (available on select HP PCs).
Device Control	Allows administrators the option to individually disable integrated devices such as cameras, microphones, or Bluetooth as needed in their environment.
HP Secure Erase	Permanently erases data on hard drives to prepare a system for disposal or redeployment.

BIOS Updates via Windows Update	New in Gen4! Updates the BIOS and Intel® ME through Windows Update or device manager, as easy as a standard driver update.
Automatic BIOS updates via network	Allows you to schedule automatic BIOS updates via the network. Dates and times are customizable in the F10 setup menu.
HP LAN-WLAN Protection	Protects enterprise LAN from unauthorized wireless bridging access by turning off wireless LAN on LAN insertion.
Power Management control	Allows for customization of power management and charging behavior.
Peak Shift	Reduces power consumption by auto-switching the system to battery power during preset peak hours of the day. Must be enabled via HP Power Manager or remotely via the HP Manageability Integration Kit.

Enterprise and Manageability Features

Replicated Setup	Enables you to easily save BIOS settings to a file—such as a USB key—and use them to clone configurations to other machines.
Device Guard Enablement (for Windows Enterprise users only)	Enhances system security by supporting the latest anti-malware protection features of Windows® 10, including Device Guard, which provides advanced malware protection by blocking anything other than trusted apps from running. Optimized for easy deployment locally or remotely via the MIK plugin.
HP MAC Address Manager	Allows unique network controller address associated with the platform itself to be used for cabled docks & network adapters, regardless of the power state of the platform which is critically important to many IT existing image deployment and remote management workflows. New in Gen4: Includes host based MAC address over USB-C™. Works regardless of what power state the notebook is in when the dock is attached. Use the system's MAC address when docked, rather than the dock's address—helps administrators to identify systems, regardless of where they are docked. Dock must support host-based MAC address.
HP Wireless Wakeup	Allows magic packet configuration to wake up system from sleep standby through WLAN adaptors.
Remote Diagnostics	Ability to remotely run and get advanced diagnostics log on a system, even if diagnostics are not installed or there is no image on the drive.

Frequently asked questions:

Q: I have a growing business but no IT department. Can I still benefit from HP BIOSphere Gen4?

A: Absolutely. HP BIOSphere Gen4 includes protections that are enabled by default, as well as capabilities like Power-On Authentication and port controls that can easily be set up on each PC by pressing F10 on start-up to enter the BIOS.

Q: What platforms have HP BIOSphere Gen4?

A: HP BIOSphere Gen4 is available on HP Pro and HP Elite PCs (with 8th Gen processors). Features vary by platform and configuration.

Q: What kind of attacks does HP BIOSphere Gen4 protect against?

A: HP BIOSphere Gen4 can help protect against a variety of attacks or corruption, including attacks that target the MBR or GPT; attacks that attempt to enter through unauthorized wireless bridging; and more, including new types of malware that may be created to target the BIOS in the future.

It can also help protect against physical attacks on the device, with features like BIOS passwords, port controls, and HP Secure Erase.

Q: What happens when I need to update the BIOS?

A: HP supports updating the BIOS through multiple methods, including Windows Update, HP Support Assistant, and with the ability to configure scheduled automatic BIOS updates.

Q: I'm an IT manager and need to configure BIOS settings on multiple PCs. Can HP BIOSphere Gen4 help with this?

A: Yes. For small businesses, **Replicated Setup** enables you to easily save BIOS settings to a file—such as a USB key—and use them to clone configurations to other machines.

Companies with managed IT can also set up a standardized BIOS configuration on all new PCs from one central location, using the **HP BIOS Configuration Utility**. This automated process takes just minutes, resulting in lower IT costs and greater productivity.

Companies using Microsoft® System Center Configuration Manager to manage their fleet can also configure BIOS settings remotely with the HP Manageability Integration Kit Gen2⁷.

Learn more at www.hp.com/go/computersecurity

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1. HP BIOSphere Gen4 is available on HP Elite and Pro platforms with 8th Gen Intel or AMD processors. Features may vary by platform and configuration.
2. HP Sure Start Gen4 is available on HP Elite and HP Pro 600 products equipped with Intel® 8th generation processors.
3. BIOS updates via Windows Update are available on all HP Elite and HP Pro PCs with Intel or AMD 6th gen or higher processors. Intel ME updates via Windows Update are available on HP Elite and HP Pro PCs with Intel 8th gen processors.
4. HP Secure Erase—For the methods outlined in the National Institute of Standards and Technology Special Publication 800-88 “Clear” sanitation method.
5. The HP BIOS Configuration Utility can be downloaded at <http://www.hp.com/go/clientmanagement>.
6. Desktop PCs only support password authentication.
7. HP Manageability Integration Kit can be downloaded from <http://www.hp.com/go/clientmanagement>.



80 PLUS Verification and Testing Report

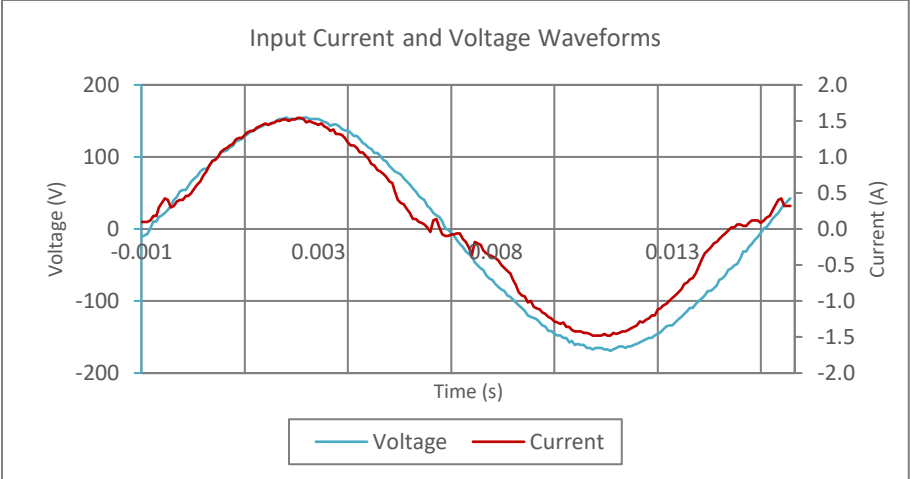
TYPICAL EFFICIENCY (50% Load):	93.05%
AVERAGE EFFICIENCY :	91.68%
80 PLUS COMPLIANT:	YES



ID Number	5859
Manufacturer	HP, Inc.
Model Number	D19-210P1A
Serial Number	N/A
Year	2019
Type	CUSTOM
Test Date	1/13/20

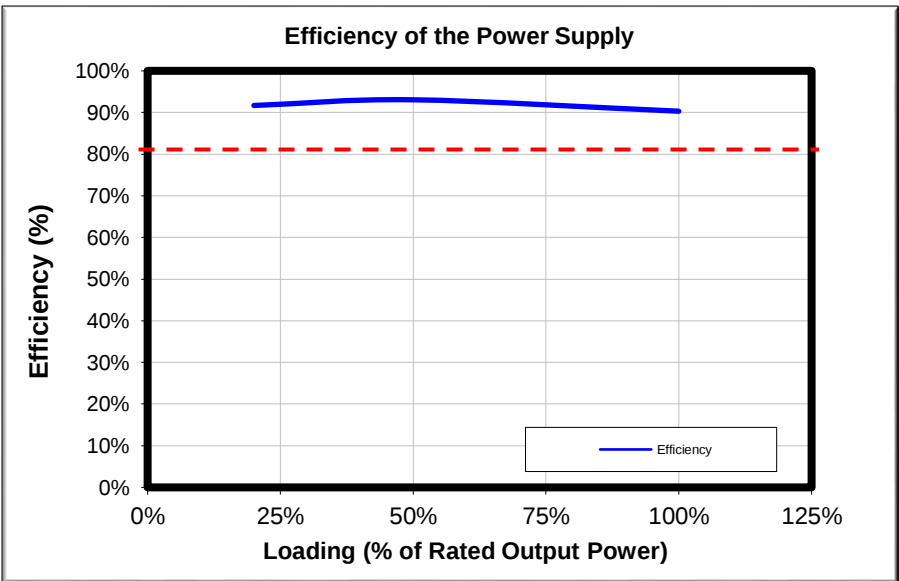
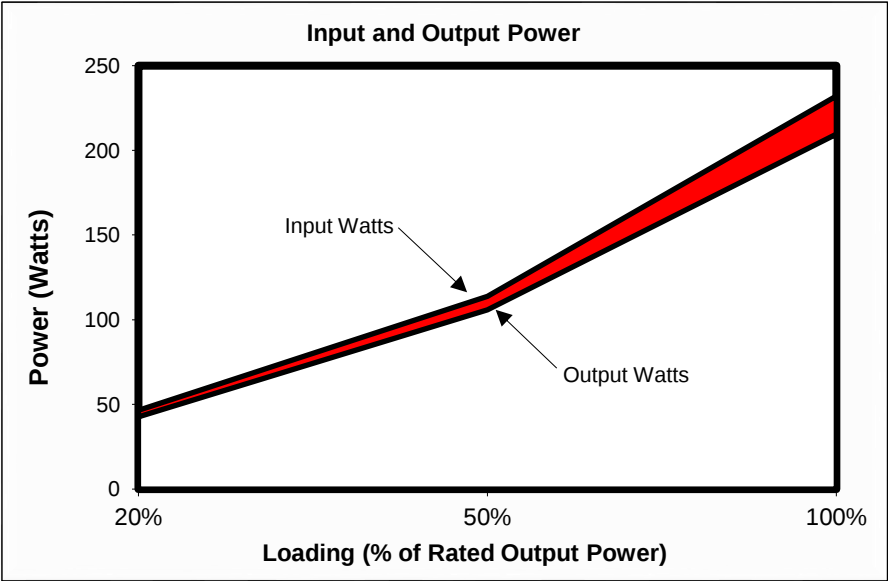
Rated Specifications	Value	Units
Input Voltage	100-240	Volts
Input Current	2.5	Amps
Input Frequency	50-60	Hz
Rated Output Power	210	Watts

Note: All measurements were taken with input voltage at 115 V nominal at 60 Hz.



Input AC Current Waveform (ITHD = 14.2%, 50% Load)

I _{RMS}	PF	I _{THD}	Load	Input Watts	DC Terminal Voltage (V)/ DC Load Current (A)	Output Watts	Efficiency
					12.1V (cumulative of 12V1, 12V2, etc.)		
0.23	0.93	22.26%	10%	24.06	12.23/1.74	21.33	88.64%
0.42	0.96	24.11%	20%	46.46	12.2/3.49	42.59	91.68%
1.00	0.99	14.20%	50%	113.86	12.14/8.73	105.94	93.05%
2.04	0.99	6.71%	100%	232.05	12.01/17.44	209.56	90.31%



These tests were conducted by a third party independent testing firm on behalf of the 80 PLUS Program. 80 PLUS is a certification program to promote highly-efficient power supplies (greater than 80% efficiency in the active mode) in technology applications. <http://www.80plus.org/>



Overview

HP WIRED DESKTOP 320K KEYBOARD



Part number

95R37AA

Designed to be wiped down using commonly available household disinfecting and cleaning wipes using the HP cleaning guidelines*

***NOTE:** Select household wipes can be safely used to clean HP Elite Presenter Mouse, HP Premium keyboard (wireless and USB) and HP desktop wired 320 KB/Mouse up to 1,000 wipes: See wipe manufacturer's instructions for disinfecting and the HP cleaning guide for HP tested wipe solutions at: <https://www8.hp.com/h20195/v2/getpdf.aspx/4AA6-0823ENW.pdf>

Service and support

Your Option Limited Warranty is a one (1) year (HP Option Limited Warranty Period) parts replacement warranty on any HP-branded or Compaq-branded options (HP Options). If your HP Option is installed in an HP Hardware Product, HP may provide warranty service either for the HP Option Limited Warranty Period or the remaining Limited Warranty Period of the HP Hardware Product in which the HP Option is being installed, whichever period is the longer but not to exceed three (3) years from the date you purchased the HP Option.

Technical Specifications

TECHNICAL SPECIFICATIONS

Dimensions (H x L x W)	16.77 x 4.36 x 0.65 in (426.2 x 110.9 x 16.7 mm)
Weight	14.57 oz (413g)
Cable length	1800 mm
Keys	104, 105, 107, 109 layout (depending on country)
Operating voltage	5V
Power consumption	50mA - 100 mA
Interface	USB
Switch life	10M
Switch type	Plunger
Operating temperature	10°C to 50°C
Non-operating temperature	30°C to 65°C
Operating humidity	10°C to 90°C
Non-operating humidity	0°C to 90°C
Sustainability	Greater than 50% post-consumer recycled plastic content and low halogen PCBA
System required	Windows 10 (64 and 32 bit), (UWP) RS4 and above
Approvals	FCC ICES CULus CE GS EAC Ukraine India BIS KCC RCM BSMI VCCI
Kit contents	Keyboard, QSP, Warranty Card, Product Notice

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Change Log

Date of change:	Version History:		Description of change:
	From v1 to v2		
	From v2 to v3		
	From v3 to v4		

HP Wired Desktop 320M Mouse



Pro-class productivity for your workspace

Work efficiently and enhance your everyday productivity with the comfortable, reliable HP Wired Desktop 320M Mouse.

Designed for your comfort

Navigate your documents comfortably with a contoured mouse that fits either hand.

Easy to connect and use

Get plug and play simplicity and essential design features. Connect the mouse to any available USB port on your laptop. The mouse wheel doubles as a third function button.

Safe to clean

Feel good knowing you can safely clean your mouse with everyday disinfecting wipes as HP mice have been tested up to 1,000 wipes.²

Designed with the environment in mind

Make a purchase you can feel good about with printed circuit boards that are low halogen.¹

1. External power supplies, power cords, cables and peripherals are not Low Halogen. Service parts obtained after purchase may not be Low Halogen.

2. Select household wipes can be safely used to clean HP Elite Presenter Mouse, HP Premium keyboard (wireless and USB) and HP desktop wired 320 KB/Mouse up to 1,000 wipes: See wipe manufacturer's instructions for disinfecting and the HP cleaning guide for HP tested wipe solutions at How to Sanitize Your HP Device Whitepaper.

Specifications



HP Wired Desktop 320M Mouse

Part number	9VA80AA
Dimensions (L x W x H)	4.08 x 2.49 x 1.39 in (103.8 x 63.4 x 35.5 mm)
Weight	2.67 oz (75.8 g)
Dots per inch (DPI)	1000
Tracking type	Optical Red Sensor
Connectivity	USB
Cable length	1800 mm
System requirements	Windows 10 (64 bit and 32 bit) (UWP) RS4 and above
Approvals	FCC ICES CULus CE GS EAC Ukraine India BIS KCC RCM BSMI VCCI
Sustainability	Low halogen PCBA.
What's in the box	Mouse, QSP, Warranty Card, Product Notice

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Produtos e modelos habilitados à fruição dos benefícios fiscais da Lei de Informática

Nome Fantasia:	FLEXTRONICS TECNOLOGIA
Razão Social:	FLEXTRONICS INTERNATIONAL TECNOLOGIA LTDA
CNPJ:	74.404.229/0005-51
Endereço:	Av. Liberdade, 6315 Iporanga Sorocaba / SP - 18087170
Contato:	Jorge Funaro jorge.funaro@flextronics.com (15) 4009-6330 www.flextronics.com
Produto:	Terminal para pagamento eletrônico por meio de cartão de crédito ou débito
Processo MCT/Data:	01200.006146/2002-45 de 04/11/2002
CNPJ da Incentivada:	74404229000551
Portaria MCT/MDIC/MF:	113, de 24/03/2003 DOU 26/03/2003 ()
Modelos:	NS7SC; T7P; T7PLUS; S7S; MAGIC 5100; OMER0 X; I 5100; FLXPOS01; FLXPOS02; FLXPOS03; FLXPOS04; MAGIC1800(15-10-10: VX 810) (15-10-10: VX 670 GPRS) (15-10-10: VX 810 GPRS) (15-10-10: VX 520) (15-10-10: VX 520 GPRS) (15-10-10: VX 670) (15-10-10: VX 680 GPRS) (27-05-11: VX680 GPRS CTLS) (17-02-12: VX520 CTLS) (17-02-12: VX820 CTLS)(12-08-14: VX685 GPRS CTLS AZUL) (12-08-14: VX685 GPRS CTLS CINZA)(24-12-14: VX685 GPRS CTLS) (24-12-14: VX685 GPRS CTLS CIELO) (24-12-14: VX685 GPRS CTLS REDE) (07-07-15: VX520 CTLS COLOR) (12-11-15: E105) (23-12-15: E265 GPRS) (14-03-16: VX690 CTLS 3G WIFI/BT) (14-03-16: VX690 CTLS 3G WIFI/BT CIELO) (14-03-16: VX690 CTLS 3G WIFI/BT REDE) (14-03-16: VX690 CTLS 3G WIFI/BT GETNET) (10-08-16: E275 GPRS WIFI/BT) (10-08-16: E275 GPRS WIFI/BT UOL) (10-08-16: P200 CTLS) (10-08-16: P200 CTLS CIELO) (10-08-16: P400 CTLS) (10-08-16: P400 CTLS CIELO) (10-08-16: V200C CTLS D/E) (10-08-16: V200C CTLS D/E CIELO) (07-10-16: E265 GPRS) (07-10-16: E265 GPRS GETNET) (03-03-17: V200C CTLS) (03-03-17: V200C CTLS CIELO) (03-03-17: V200C CTLS REDE) (03-03-17: V200C CTLS GETNET) (03-03-17: P200 CTLS REDE) (03-03-17: P200 CTLS GETNET) (03-03-17: C680 CTLS 3G/WIFI/BT) (03-03-17: C680 CTLS 3G/WIFI/BT CIELO) (03-03-17: C680 CTLS 3G/WIFI/BT REDE) (03-03-17: C680 CTLS 3G/WIFI/BT GETNET) (03-03-17: VX685 CTLS GPRS GETNET) (11-12-17: V205C CTLS) (11-12-17: V205C CTLS CIELO) (11-12-17: V205C CTLS REDE) (11-12-17: V205C CTLS GETNET) (11-12-17: V240M 3G/WIFI/BT) (11-12-17: V240M 3G/WIFI/BT CIELO) (11-12-17: V240M 3G/WIFI/BT REDE) (11-12-17: V240M 3G/WIFI/BT GETNET) (02-05-19: X990 4G/BT/WI-FI) (02-05-19: X990 4G/BT/WI-FI CIELO) (02-05-19: X990 4G/BT/WI-FI GETNET) (02-05-19: X990 4G/BT/WI-FI REDE) (11-03-20: VERIFONE V200T)
Produto:	Terminal portátil de telefonia celular
Processo MCT/Data:	01200.003718/2001-53 de 23/07/2001
CNPJ da Incentivada:	74404229000551
Portaria MCT/MDIC/MF:	073, de 30/01/2002 DOU 04/02/2002 ()
Modelos:	A1228C; A1228DI; A1228DSI; R278D; R300D; T18DI; T18DSI; T60C; T60D; T100; T200; PHONE 4; KYOCERA K112; MOTOROLA C 130; MOTOROLA C 131; MOTOROLA C 132; COMPAL; SONY ERICSSON; LUCENT; ZTE C131; ZTE C132; ZTE C133; T237; T230; T290A; T290C; T290I; K300I; Z5; W200 PRETO,W200 CREME; OT-E801A; OT-E801X; W580I; S500I; CB722A; OT-C701A; OT-C701X E C208S; LENA-W380A (30/11/2007); LENA-W380I (30/11/2007),(23-01-08: MAGDALENA - Z555A)(23-01-08: MAGDALENA - Z555I)(01-02-08: JOHANNA - W350A)(01-02-08: JOHANNA - W350I)(29-02-08: DEENA - W760I)(23-06-08: W302)(23-06-08: ETS8551 CORDLESS PHONE)(23-06-08: C209S)(14-07-08: U5707)(06-08-08: W595A) (06-08-08: W595)(11-02-09: W705)(11-02-09: W200)(17-04-09: W200A)(17-04-09: W200I)(19-05-09: C903)(27-05-11: U8150-B) (14-09-11: U6150) (06-12-11: CURVE 8520) (13-12-11: TORCH 9800) (13-12-11: BOLD 9700) (13-12-11: BOLD 9780) (13-12-11: CURVE 3G 9300)
Produto:	Traçador gráfico ("plotter")
Processo MCT/Data:	01200.003114/2013-41 de 22/07/2013
CNPJ da Incentivada:	74404229000551
Portaria MCT/MDIC/MF:	531, de 20/05/2014 DOU 21/05/2014 ()
Modelos:	

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Produto:	Unidade de processamento digital, de grande capacidade, baseada em microprocessadores
Processo MCT/Data:	01200.006627/2007-65 de 22/11/2007
CNPJ da Incentivada:	74404229000551
Portaria MCT/MDIC/MF:	719, de 02/10/2008 DOU 06/10/2008 ()
Modelos:	IBM 9117 570(05-01-09: IBM 9117-MMA)(13-05-09: IBM 8234 EMA - UNIDADE DIGITAL DE PROCESSAMENTO DE GRANDE CAPACIDADE)(15-03-10: IBM 9117 MMB - UNIDADE DIGITAL DE PROCESSAMENTO DE GRANDE CAPACIDADE)(15-03-10: IBM 9179 MHB - UNIDADE DIGITAL DE PROCESSAMENTO DE GRANDE CAPACIDADE)(15-03-10: IBM 8233 E8B - UNIDADE DIGITAL DE PROCESSAMENTO DE GRANDE CAPACIDADE)(06-12-11: IBM 9117 MMC GRANDE CAPACIDADE)(06-12-11: IBM 9179 MHC GRANDE CAPACIDADE)(13-09-12: IBM 9117 MMD - UNIDADE DIGITAL DE PROCESSAMENTO DE GRANDE CAPACIDADE) (13-09-12: IBM 9179 MHD - UNIDADE DIGITAL DE PROCESSAMENTO DE GRANDE CAPACIDADE) (08-11-12: IBM X3850 X5 - UNIDADE DIGITAL DE PROCESSAMENTO DE GRANDE CAPACIDADE) (08-11-12: IBM X3950 X5 - UNIDADE DIGITAL DE PROCESSAMENTO DE GRANDE CAPACIDADE) (27-02-13: IBM 8408 E8D - UNIDADE DIGITAL DE PROCESSAMENTO DE GRANDE CAPACIDADE) (27-02-13: IBM 9109 RMD - UNIDADE DIGITAL DE PROCESSAMENTO DE GRANDE CAPACIDADE)(19-02-14: IBM X3850 X6) (14-03-14: UCSB - B200 M3) (14-03-14: UCSB - B420 M3) (14-03-14: UCSC - C220 M3) (14-03-14: UCSC - C240 M3) (14-03-14: N20 - C6508) (15-09-14: IBM 2828 H06) (15-09-14: IBM 2828 H13) (24-10-14: IBM 9119 MME) (24-10-14: IBM 9119 MHE) (24-12-14: UCSB-5108-AC2-U-BR) (25-03-15: UCSC- C240 M4) (25-03-15: UCSC- C220 M4) (25-03-15: UCSB- B200 M4) (25-03-15: UCSC- C240 M4) (25-03-15: UCSC- C220 M4) (25-03-15: UCSB- B200 M4) (25-05-15: IBM 8408 E8E) (14-09-15: UCSB- B420 M4)(14-03-16: IBM 2965 N10) (14-03-16: IBM 2965 N20) (14-03-16: IBM 2965 L10) (14-03-16: IBM 2965 L20) (16-09-16: IBM 9080 MME) (16-09-16: IBM 9080 MHE) (07-10-16: IBM 8408 44E) (17-10-16: UCS-BR-C240M4-E1) (17-10-16: UCS-BR-C240M4-E2) (17-10-16: UCS-BR-C240M4-V1) (17-10-16: UCS-BR-C240M4-V2) (17-10-16: UCS-BR-C240M4-P1) (18-10-16: HX240C-M4SX-BR) (18-10-16: HX220C-M4S-BR) (27-07-17: HXAF240C-M4SX-BR) (27-07-17: HXAF220C-M4S-BR) (03-11-17: FUSIONCUBE 2000) (29-11-17: UCSB-B200-M5-U-BR) (06-04-18: UCSC-C240-M5) (06-04-18: UCSC-C220-M5) (10-05-18: IBM 3907 ZR1) (10-05-18: IBM 3907 LR1) (31-07-18: GRD DL360) (31-07-18: GRD DL580) (31-07-18: GRD SIMPLIVITY 380) (31-07-18: GRD DL380) (31-07-18: GRD DL560) (31-07-18: GRD CS500) (17-08-18: UCSC-C240-M5L-BR) (17-08-18: UCSC-C220-M5L-BR) (30-08-18: IBM 9080 M9S) (30-08-18: IBM 9222 80H) (30-08-18: IBM 9040 MR9) (30-08-18: IBM 9225 50H) (19-09-18: C240 M5) (19-09-18: C220 M5) (28-08-19: HX-B200-M5-U-BR) (28-08-19: HX-C220-M5SX-BR) (29-08-19: GRD SY660) (29-08-19: GRD SY480) (19-09-19: HX-E-220M5SX-BR) (30-09-19: IBM 9009-42A) (30-10-19: GRD DX360) (30-10-19: GRD DX380) (30-10-19: GRD DX560) (26-12-19: HX-C240-M5SX-BR) (26-12-19: HX-C240-M5L-BR) (26-12-19: HX-C220-M5L-BR) (15-04-20: HX240C-M5L-BR) (01-06-20: IBM 8562 T02) (01-06-20: IBM 8562 LT2) (01-06-20: IBM 8562 GT2)

Produto:	Unidade de processamento digital, de média capacidade, baseada em microprocessadores
Processo MCT/Data:	01200.006627/2007-65 de 22/11/2007
CNPJ da Incentivada:	74404229000551
Portaria MCT/MDIC/MF:	719, de 02/10/2008 DOU 06/10/2008 ()

Modelos:	IBM 9117 570; (05-01-09: IBM X3950)(05-01-09: IBM 9117-MMA)(08-01-09: IBM X3950 M2 - UNIDADE DE PROCESSAMENTO DIGITAL, DE MÉDIA CAPACIDADE, BASEADA EM MICROPROCESSADOR)(08-01-09: IBM X3850 M2 - UNIDADE DE PROCESSAMENTO DIGITAL, DE MÉDIA CAPACIDADE, BASEADA EM MICROPROCESSADOR)(13-05-09: IBM 8234 EMA - UNIDADE DIGITAL DE PROCESSAMENTO DE MÉDIA CAPACIDADE)(15-03-10: IBM 9117 MMB - UNIDADE DIGITAL DE PROCESSAMENTO DE MÉDIA CAPACIDADE)(15-03-10: IBM 9179 MHB - UNIDADE DIGITAL DE PROCESSAMENTO DE MÉDIA CAPACIDADE)(15-03-10: IBM 8233 E8B - UNIDADE DIGITAL DE PROCESSAMENTO DE MÉDIA CAPACIDADE)(20-04-10: IBM X3850 X5 - UNIDADE DIGITAL DE PROCESSAMENTO DE MÉDIA CAPACIDADE)(20-04-10: IBM X3950 X5 - UNIDADE DIGITAL DE PROCESSAMENTO DE MÉDIA CAPACIDADE)(28-10-11: IBM 9117 MMC) (28-10-11: IBM 9179 MHC) (13-09-12: IBM 9117 MMD - UNIDADE DIGITAL DE PROCESSAMENTO DE MÉDIA CAPACIDADE) (13-09-12: IBM 9179 MHD - UNIDADE DIGITAL DE PROCESSAMENTO DE MÉDIA CAPACIDADE) (13-09-12: IBM X3750 M4 - UNIDADE DE PROCESSAMENTO DIGITAL, DE MÉDIA CAPACIDADE, BASEADA EM MICROPROCESSADORES) (13-09-12: IBM FLEX SYSTEM X440 - UNIDADE DE PROCESSAMENTO DIGITAL, DE MÉDIA CAPACIDADE, BASEADA EM MICROPROCESSADORES) (26-02-13: IBM FLEX SYSTEM X240) (26-02-13: IBM FLEX SYSTEM X220) (27-02-13: IBM 9109 RMD - UNIDADE DIGITAL DE PROCESSAMENTO DE MÉDIA CAPACIDADE) (27-02-13: IBM 8408 E8D - UNIDADE DIGITAL DE PROCESSAMENTO DE MÉDIA CAPACIDADE)(17-02-14: IBM X3650 M4 BD) (19-02-14: IBM X3850 X6) (12-03-14: IBM BLADE HX5) (14-03-14: UCSB -B200 M3) (14-03-14: UCSB - B420 M3) (14-03-14: UCSC - C220 M3) (14-03-14: UCSC - C240 M3) (14-03-14: N20 -C6508) (16-03-14: HP Z230 WORKSTATION) (16-03-14: HP Z420 WORKSTATION) (16-03-14: HP Z620 WORKSTATION) (16-03-14: HP Z820 WORKSTATION) (16-03-14: HP Z230 WORKSTATION) (16-03-14: HP Z420 WORKSTATION) (16-03-14: HP Z620 WORKSTATION) (16-03-14: HP Z820 WORKSTATION) (16-03-14: HP Z230 WORKSTATION) (16-03-14: HP Z420 WORKSTATION) (16-03-14: HP Z620 WORKSTATION) (16-03-14: HP Z820 WORKSTATION)(15-10-14: HP Z440 WORKSTATION) (15-10-14: HP Z640 WORKSTATION) (15-10-14: HP Z840 WORKSTATION)(24-10-14: IBM 9119 MME) (24-10-14: IBM 9119 MHE) (24-12-14: UCSB-5108-AC2-U-BR) (25-03-15: UCSC- C240 M4) (25-03-15: UCSB- B200 M4) (25-03-15: UCSC- C220 M4) (25-03-15: UCSC- C240 M4) (25-03-15: UCSB- B200 M4) (25-03-15: UCSC- C220 M4) (25-05-15: IBM 8408 E8E) (14-09-15: UCSB- B420 M4)(16-09-16: IBM 9080 MME) (16-09-16: IBM 9080 MHE) (07-10-16: IBM 8408 44E) (17-10-16: UCS-BR-C240M4-V2) (17-10-16: UCS-BR-C240M4-E1) (17-10-16: UCS-BR-C240M4-E2) (17-10-16: UCS-BR-C240M4-V1) (17-10-16: UCS-BR-C240M4-P1) (18-10-16: HX220C-M4S-BR) (18-10-16: HX240C-M4SX-BR) (04-01-17: IXION FLASH RACK) (04-01-17: IXION EXTENDED) (04-01-17: IXION RACK) (30-05-17: RH2288H V3) (30-06-17: INDUS FLASH RACK) (30-06-17: PDBB EXTENDED) (30-06-17: INDUS EXTENDED) (30-06-17: INDUS SKYLAKE) (27-07-17: HXAF220C-M4S-BR) (27-07-17: HXAF240C-M4SX-BR) (30-08-17: FUSIONCUBE 2000) (29-11-17: UCSB-B200-M5-U-BR) (22-02-18: RH2288H V5) (06-04-18: UCSC-C220-M5) (06-04-18: UCSC-C240-M5) (31-07-18: MED DL560) (31-07-18: MED BL460C) (31-07-18: MED CS500) (31-07-18: MED DL360) (31-07-18: MED DL380) (31-07-18: MED DL580) (31-07-18: MED ML350) (31-07-18: MED SY480) (31-07-18: MED SY660) (31-07-18: MED SIMPLIVITY 380) (17-08-18: UCSC-C220-M5L-BR) (17-08-18: UCSC-C240-M5L-BR) (30-08-18: IBM 9080 M9S) (30-08-18: IBM 9225 50H) (30-08-18: IBM 9040 MR9) (30-08-18: IBM 9222 80H) (19-09-18: C220 M5) (19-09-18: C240 M5) (08-02-19: INDUS FLASH RACK II) (08-02-19: INDUS FLASH EXTENDED I) (08-02-19: INDUS FLASH EXTENDED II) (08-02-19: INDUS FLASH EXTENDED III) (28-08-19: HP Z8 G4) (28-08-19: HX-B200-M5-U-BR) (28-08-19: HX-C220-M5SX-BR) (19-09-19: HX-E-220M5SX-BR) (30-09-19: IBM 9009-42A) (30-10-19: MED DX360) (30-10-19: MED DX380) (30-10-19: MED DX560) (26-12-19: HX-C240-M5SX-BR) (26-12-19: HX-C240-M5L-BR) (15-04-20: HX240C-M5L-BR) (07-07-20: MED DL20) (07-12-20: UCSC-C240-M5SN-BR (5020))
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Produto:	Unidade de processamento digital, de muito grande capacidade, baseada em microprocessadores
Processo MCT/Data:	01200.006627/2007-65 de 22/11/2007
CNPJ da Incentivada:	74404229000551
Portaria MCT/MDIC/MF:	719, de 02/10/2008 DOU 06/10/2008 ()

Modelos:	IBM 9117 570(22-12-08: IBM 9119-FHA)(22-12-08: IBM 9117-MMA)(05-01-09: IBM 2094 S08)(05-01-09: IBM 2094 S18) (05-01-09: IBM 9119 595)(05-01-09: IBM 2094 S28)(05-01-09: IBM 2094 S38)(05-01-09: IBM 2094 S54)(05-01-09: IBM 2096 S07)(05-01-09: IBM 2096 R07)(05-01-09: IBM 9119 590)(05-01-09: IBM 2098 E10 - UNIDADE DIGITAL DE PROCESSAMENTO DE MUITO GRANDE CAPACIDADE)(05-01-09: IBM 2097-EXX (E12/E26/E40/E56/E64))(13-05-09: IBM 8234 EMA - UNIDADE DIGITAL DE PROCESSAMENTO DE MUITO GRANDE CAPACIDADE)(15-03-10: IBM 9117 MMB - UNIDADE DIGITAL DE PROCESSAMENTO DE MUITO GRANDE CAPACIDADE)(15-03-10: IBM 9179 MHB - UNIDADE DIGITAL DE PROCESSAMENTO DE MUITO GRANDE CAPACIDADE)(15-03-10: IBM 8233 E8B - UNIDADE DIGITAL DE PROCESSAMENTO DE MUITO GRANDE CAPACIDADE)(28-07-10: IBM 2817 - UNIDADE DIGITAL DE PROCESSAMENTO DE MUITO GRANDE CAPACIDADE)(31-08-10: IBM 9119 FHB - UNIDADE DIGITAL DE PROCESSAMENTO DE MUITO GRANDE CAPACIDADE) (28-10-10: IBM 2817 M15) (28-10-10: IBM 2817 M32) (28-10-10: IBM 2817 M49) (28-10-10: IBM 2817 M66) (28-10-10: IBM 2817 M80) (22-07-11: IBM 2818 M05- UNIDADE DIGITAL DE PROCESSAMENTO DE MUITO GRANDE CAPACIDADE) (22-07-11: IBM 2818 M10- UNIDADE DIGITAL DE PROCESSAMENTO DE MUITO GRANDE CAPACIDADE) (06-12-11: IBM 9179 MHC MUITO GRANDE CAPACIDADE) (06-12-11: IBM 9117 MMC MUITO GRANDE CAPACIDADE) (26-08-12: IBM 2827 H43 - UNIDADE DIGITAL DE PROCESSAMENTO DE MUITO GRANDE CAPACIDADE) (26-08-12: IBM 2827 H20 - UNIDADE DIGITAL DE PROCESSAMENTO DE MUITO GRANDE CAPACIDADE) (26-08-12: IBM 2827 H66- UNIDADE DIGITAL DE PROCESSAMENTO DE MUITO GRANDE CAPACIDADE) (26-08-12: IBM 2827 H89- UNIDADE DIGITAL DE PROCESSAMENTO DE MUITO GRANDE CAPACIDADE) (26-08-12: IBM 2827 HA1- UNIDADE DIGITAL DE PROCESSAMENTO DE MUITO GRANDE CAPACIDADE)(13-09-12: IBM 9117 MMD - UNIDADE DIGITAL DE PROCESSAMENTO DE MUITO GRANDE CAPACIDADE) (13-09-12: IBM 9179 MHD - UNIDADE DIGITAL DE PROCESSAMENTO DE MUITO GRANDE CAPACIDADE) (27-02-13: IBM 8408 E8D - UNIDADE DIGITAL DE PROCESSAMENTO DE MUITO GRANDE CAPACIDADE) (27-02-13: IBM 9109 RMD - UNIDADE DIGITAL DE PROCESSAMENTO DE MUITO GRANDE CAPACIDADE) (09-08-13: IBM 2828 H06 - UNIDADE DIGITAL DE PROCESSAMENTO DE MUITO GRANDE CAPACIDADE) (09-08-13: IBM 2828 H13 - UNIDADE DIGITAL DE PROCESSAMENTO DE MUITO GRANDE CAPACIDADE)(14-03-14: UCSB-B200 M3) (14-03-14: UCSB-B420 M3) (14-03-14: UCSC-C220 M3) (14-03-14: UCSC-C240 M3) (14-03-14: N20 -C6508) (24-10-14: IBM 9119 MME) (24-10-14: IBM 9119 MHE) (24-12-14: UCSB-5108-AC2-U-BR) (28-01-15: IBM 2964 N30) (28-01-15: IBM 2964 N63) (28-01-15: IBM 2964 N96) (28-01-15: IBM 2964 NC9) (28-01-15: IBM 2964 NE1) (25-03-15: UCSC- C240 M4) (25-03-15: UCSB- B200 M4) (25-03-15: UCSC- C220 M4) (25-03-15: UCSC- C240 M4) (25-03-15: UCSB- B200 M4) (25-03-15: UCSC- C220 M4) (25-05-15: IBM 8408 E8E) (14-09-15: UCSB- B420 M4)(29-02-16: IBM 2964 L30) (29-02-16: IBM 2964 L63) (29-02-16: IBM 2964 L96) (29-02-16: IBM 2964 LC9) (29-02-16: IBM 2964 LE1) (14-03-16: IBM 2965 N10) (14-03-16: IBM 2965 N20) (14-03-16: IBM 2965 L10) (14-03-16: IBM 2965 L20) (16-09-16: IBM 9080 MME) (16-09-16: IBM 9080 MME) (16-09-16: IBM 9080 MHE) (07-10-16: IBM 8408 44E) (17-10-16: UCS-BR-C240M4-P1) (17-10-16: UCS-BR-C240M4-V1) (17-10-16: UCS-BR-C240M4-E2) (17-10-16: UCS-BR-C240M4-V2) (17-10-16: UCS-BR-C240M4-E1) (18-10-16: HX240C-M4SX-BR) (18-10-16: HX220C-M4S-BR) (27-07-17: HXAF240C-M4SX-BR) (27-07-17: HXAF220C-M4S-BR) (02-08-17: IBM 3906 M01) (02-08-17: IBM 3906 M02) (02-08-17: IBM 3906 M03) (02-08-17: IBM 3906 M04) (02-08-17: IBM 3906 M05) (02-08-17: IBM 3906 LM1) (02-08-17: IBM 3906 LM2) (02-08-17: IBM 3906 LM3) (02-08-17: IBM 3906 LM4) (02-08-17: IBM 3906 LM5) (29-11-17: UCSB-B200-M5-U-BR) (20-12-17: FUSIONCUBE 2000) (06-04-18: UCSC-C240-M5) (06-04-18: UCSC-C220-M5) (10-05-18: IBM 3907 ZR1) (10-05-18: IBM 3907 LR1) (17-08-18: UCSC-C240-M5L-BR) (17-08-18: UCSC-C220-M5L-BR) (17-08-18: IBM 3907 ZR1) (17-08-18: IBM 3907 LR1) (30-08-18: IBM 9040 MR9) (30-08-18: IBM 9225 50H) (30-08-18: IBM 9080 M9S) (30-08-18: IBM 9222 80H) (19-09-18: C240 M5) (19-09-18: C220 M5) (23-04-19: MGD DL560) (23-04-19: MGD DL380) (26-08-19: MGD DL580) (28-08-19: HX-C220-M5SX-BR) (28-08-19: HX-B200-M5-U-BR) (19-09-19: HX-E-220M5SX-BR) (30-09-19: IBM 8561 LT1) (30-09-19: IBM 9009-42A) (30-09-19: IBM 8561 T01) (26-12-19: HX-C240-M5SX-BR) (26-12-19: HX-C220-M5L-BR) (26-12-19: HX-C240-M5L-BR) (26-12-19: HX240C-M5L-BR) (01-06-20: IBM 8562 T02) (01-06-20: IBM 8562 LT2) (01-06-20: IBM 8562 GT2)
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Produto:	Unidade de processamento digital, de pequena capacidade, baseada em microprocessador, com unidade de saída por vídeo e de entrada por painel sensível ao toque
Processo MCT/Data:	01200.000847/2014-12 de 25/02/2014
CNPJ da Incentivada:	74404229000551
Portaria MCT/MDIC/MF:	620, de 13/06/2014 DOU 16/06/2014 ()
Modelos:	(01-07-14: HP ENVY TS 23-K000BR AIO PC BRZL) (01-07-14: HP PAVILION TS 23-H000BR AIO PC BRZL) (15-09-14: HP ENVY TS 23-K300BR AIO PC BRZL) (15-09-14: HP ENVY TS 23-K301BR AIO PC BRZL) (15-09-14: HP PAVILION 23-P100BR ALL-IN-ONE PC BRZL)

Produto:	Unidade de processamento digital, de pequena capacidade, baseada em microprocessador, com unidade de saída por vídeo incorporada
Processo MCT/Data:	01200.003872/2009-82 de 21/10/2009
CNPJ da Incentivada:	74404229000551
Portaria MCT/MDIC/MF:	714, de 14/09/2010 DOU 16/09/2010 ()
Modelos:	LENOVO ALL-IN-ONE IDEACENTRE A300 (SAMUI)(11-02-11: THINKCENTRE A70Z) (07-12-11: THINKCENTRE EDGE 71Z) (22-08-12: TC EDGE 72Z)(22-11-13: HP ELITEONE 800 G1 AIO BUSINESS PC) (17-12-13: HP COMPAQ PRO 4300 AIO BUSINESS PC) (11-03-14: HP 18-5000BR AIO PC BRZL) (11-03-14: HP PAVILION 20-B410BR AIO PC BRZL) (11-03-14: HP PAVILION 23-G000BR ALL-IN-ONE PC BRZL) (11-03-14: HP PAVILION 23-G005BR ALL-IN-ONE PC BRZ) (11-03-14: HP 205 G1 AIO) (11-03-14: HP PROONE 400 G1 AIO) (12-03-14: HP PAVILION 23-G005BR ALL-IN-ONE PC BRZL) (12-03-14: HP PAVILION 23 ALL-IN-ONE PC) (12-03-14: HP PAVILION 20 ALL-IN-ONE PC) (12-03-14: HP 18 ALL-IN-ONE PC) (25-06-14: HP PAVILION 23-G001BR ALL-IN-ONE PC BRZL) (15-09-14: HP 18-5200BR AIO PC BRZL) (05-11-14: HP 19-2200BR ALL-IN-ONE PC BRZL) (05-11-14: HP PAVILION 23-G200BR AIO PC BRZL) (05-11-14: HP PAVILION 23-G205BR AIO PC BRZL) (30-06-15: HP 18-5600BR AIO PC BRZL) (08-09-15: HP 23-R100BR AIO PC BRZL) (08-09-15: HP 23-R101BR AIO PC BRZL) (08-09-15: HP 22-3100BR AIO PC BRZL) (08-09-15: HP 22-3101BR AIO PC BRZL) (01-10-2015 MODELO: HP 20-E001BR AIO PC BRZL) (01-10-15 HP 20-E002BR AIO PC BRZL)(22-10-15: HP 20-E003BR AIO PC BRZL)(11-02-16: HP 22-3104BR AIO PC BRZL) (01-11-19: ALL IN ONE PRESARIO CQ-A1)

Produto:	Unidade de processamento digital, de pequena capacidade, baseada em microprocessadores
Processo MCT/Data:	01200.000731/2003-12 de 19/03/2003
CNPJ da Incentivada:	74404229000551
Portaria MCT/MDIC/MF:	279, de 26/05/2003 DOU 28/05/2003 ()
Modelos:	FLX-111; FLX-121; FLX-122; FLX-123; FLX-124; FLX-125; FLX-126; FLX-127; FLX-211; FLX-212; FLX-213; FLX-221; FLX-222; FLX-223; TERMINAL TLX 400 ? WEB; TERMINAL TLX 401 ? WEB; TERMINAL TLX 402 ? WEB; TERMINAL TLX 403 ? WEB; FLX-300; FLX-301; FLX-302; FLX-303; FLX-304; FLX-305; FLX-306; FLX-307; FLX-308.(23-06-08: L3K E100)(10-09-08: IBM X3550 M2)(10-09-08: IBM X3650 M2)(02-10-08: UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR TC A62)(05-01-09: TC M58P)(05-01-09: IBM X3400 M2 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR)(05-01-09: UNIDADES DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR 5632)(05-01-09: IBM X3800 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR)(05-01-09: IBM X3850 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR) (05-01-09: IBM X3500)(05-01-09: IBM X3550)(05-01-09: IBM X3400)(05-01-09: IBM X3650)(05-01-09: UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR TC A61)(05-01-09: UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR L3K J200)(05-01-09: TC M57E)(05-01-09: TC A57)(05-01-09: IBM BLADE HS12)(05-01-09: TC M58)(05-01-09: IBM X3500 M2 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR)(08-01-09: IBM X3655 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR) (08-01-09: IBM X3455 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR)(08-01-09: UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR TC A55)(08-01-09: IBM X3950 M2 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR)(08-01-09: IBM X3755 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR)(08-01-09: UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR TC M55E)(08-01-09: IBM BLADE LS41 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR)(08-01-09: IBM BLADE HS - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR)(08-01-09: IBM X3850 M2 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR)(08-01-09: IBM X3200 M2 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR)(08-01-09: IBM BLADE LS21 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR)(12-01-09: TC M57)(12-01-09: TC M57P)(14-05-09: LENOVO E200)(14-05-09: IBM BLADE LS)(24-06-09: TC M58E)(09-12-09: IBM X3200 M3)(23-02-10: UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR TC M90)(15-03-10: UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR TC M90P)(09-04-10: IBM X3550 M3 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR)(09-04-10: IBM X3650 M3 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR)(09-04-10: IBM X3400 M3 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR)(09-04-10: IBM X3500 M3 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR)(09-04-10: IBM X3950 X5 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR)(09-04-10: IBM X3850 X5 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR)(06-05-10: IBM BLADE H5X - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR)(06-05-10: IBM X3690 X5 - UNIDADE DIGITAL DE PROCESSAMENTO DE MÉDIA CAPACIDADE) (28-05-10: IBM BLADE HX5 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR)(28-05-10: UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR TC A63)(22-07-10: UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR TC A70)(23-08-10: UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR TC M70E) (22-09-10: UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR TC M75) (15-10-10: UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR TC M75E) (24-03-11: TC M91P) (24-03-11: TC M91) (26-04-11: TC M76) (06-05-11: UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR TC M81) (08-07-11: UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR LENOVO H420) (08-07-11: UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR TC EDGE71) (28-10-11: IBM X3100 M4) (28-10-11: THINKCENTRE EGDE 91) (30-03-12: IBM X3500 M4 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR) (30-03-12: IBM X3650 M4 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR) (30-03-12: IBM X3550 M4 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR) (18-05-12: UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR TC M92) (18-05-12: UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR TC M92P) (11-06-12: IBM X3630 M4 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR) (11-06-12: IBM X3530 M4 - UNIDADE DIGITAL

DE PROCESSAMENTO PARA MICROCOMPUTADOR) (12-06-12: IBM BLADE HS23E - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR) (12-06-12: UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR THINKCENTRE EDGE 92) (25-06-12: IBM X3750 M4 - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR) (02-08-12: MICROCOMPUTADOR THINKCENTRE M92P) (06-08-12: THINKCENTRE EDGE72) (30-08-12: IBM FLEX SYSTEM X440 - UNIDADE DIGITAL DE PROCESSAMENTO) (30-08-12: IBM FLEX SYSTEM X240 - UNIDADE DIGITAL DE PROCESSAMENTO) (30-08-12: IBM FLEX SYSTEM X220 - UNIDADE DIGITAL DE PROCESSAMENTO) (09-08-13: IBM FLEX SYSTEM X222 - UNIDADE DIGITAL DE PROCESSAMENTO)(30-09-13: IBM X3650 M4 HD - UNIDADE DIGITAL DE PROCESSAMENTO PARA MICROCOMPUTADOR) (22-11-13: HP Z420 WORKSTATION) (22-11-13: HP Z620 WORKSTATION) (22-11-13: HP Z820 WORKSTATION) (22-11-13: HP Z230 WORKSTATION) (22-11-13: HP PRODESK 600 G1 SFF BUSINESS PC) (22-11-13: HP ELITEDESK 800 G1 SFF BUSINESS PC) (17-12-13: HP COMPAQ PRO 4300 SFF BUSINESS PC) (17-12-13: HP COMPAQ PRO 6300 MT BUSINESS PC) (17-12-13: HP COMPAQ PRO 6305 MT BUSINESS PC) (17-12-13: HP COMPAQ PRO 6305 SFF BUSINESS PC) (17-12-13: HP COMPAQ ELITE 8300 SFF BUSINESS PC) (03-02-14: IBM NEXTSCALE NX360 M4) (03-02-14: IBM X3650 M4 BD) (19-02-14: IBM X3850 X6) (12-03-14: HP 402 G1 SFF BUSINESS PC) (14-03-14: UCSB- B200 M3) (14-03-14: UCSB- B420 M3) (14-03-14: UCSC- C220 M3) (14-03-14: UCSC- C240 M3) (14-03-14: N20-C6508) (28-05-14: HP ELITEDESK 800 G1 DM) (28-05-14: HP PRODESK 600 G1 DM)(11-09-14: HP ELITEDESK 700 G1 SFF BUSINESS PC)(13-10-14: HP ELITEDESK 705 G1 SFF BUSINESS PC) (15-10-14: HP Z440 WORKSTATION) (15-10-14: HP Z640 WORKSTATION) (15-10-14: HP Z840 WORKSTATION) (24-12-14: HP ELITEDESK 705 G1 DM) (24-12-14: UCSB-5108-AC2-U-BR) (25-03-15: UCSC- C220 M4) (25-03-15: UCSB- B200 M4) (25-03-15: UCSC- C240 M4) (25-03-15: UCSC- C220 M4) (25-03-15: UCSB- B200 M4) (25-03-15: UCSC- C240 M4) (01-04-15: HP 260 G1 DM) (14-09-15: UCSB- B420 M4) (01-10-15: HP 200 G1 SLIM TOWER BUSINESS PC)(12-11-15: HP PRODESK 600 G2 SFF) (12-11-15: HP ELITEDESK 800 G2 SFF)(23-12-15: HP ELITEDESK 800 G2 DM 65W) (23-12-15: HP ELITEDESK 800 G2 DM 35W) (11-01-16: HP ELITEDESK 705 G2 SFF) (22-01-16: HP ELITEDESK 705 G2 DM) (22-01-16: HP PRODESK 400 G3 SFF) (18-02-16: HP PRODESK 400 G2 DM) (18-03-16: HP WORKSTATION Z240 TOWER BRZL) (10-08-16: HP 260 G1 DM) (11-08-16: HP ELITEDESK 705 G2 DM) (11-08-16: HP ELITEDESK 800 G2 DM 35W) (11-08-16: HP ELITEDESK 800 G2 DM 65W) (24-08-16: HP PRODESK 400 G2 DM) (24-08-16: COMPAQ PRESARIO CQ-14) (17-10-16: UCS-BR-C240M4-P1) (17-10-16: UCS-BR-C240M4-V2) (17-10-16: UCS-BR-C240M4-V1) (17-10-16: UCS-BR-C240M4-E2) (17-10-16: UCS-BR-C240M4-E1) (18-10-16: HX240C-M4SX-BR) (18-10-16: HX220C-M4S-BR) (27-10-16: HP WORKSTATION Z240 TOWER BRZL) (27-10-16: HP Z440 WORKSTATION) (11-11-16: HP ELITEDESK 705 G3 DM) (11-11-16: HP ELITEDESK 705 G3 SFF) (17-02-17: HP PRODESK 400 G4 SFF) (03-03-17: HP ELITEDESK 800 G3 SFF) (27-04-17: HP ELITEDESK 800 G3 DM) (27-04-17: HP PRODESK 400 G3 DM) (30-05-17: RH2288H V3) (27-07-17: HXAF240C-M4SX-BR) (27-07-17: HXAF220C-M4S-BR) (02-08-17: COMPAQ PRESARIO CQ-14) (30-08-17: FUSIONCUBE 2000) (20-10-17: HP ELITEDESK 705 G3 SFF) (29-11-17: UCSB-B200-M5-U-BR) (08-02-18: HP Z4 G4 WORKSTATION)(22-02-18: RH2288H V5) (06-04-18: UCSC-C240-M5) (06-04-18: UCSC-C220-M5) (05-07-18: HP PRODESK 285 G3 MT) (31-07-18: HP DESKTOP PRO A MT) (31-07-18: PEQ SY660) (31-07-18: PEQ SY480) (31-07-18: PEQ BL460C) (31-07-18: PEQ DL560) (31-07-18: PEQ DL360) (31-07-18: PEQ DL380) (31-07-18: PEQ ML350) (17-08-18: UCSC-C240-M5L-BR) (17-08-18: UCSC-C220-M5L-BR) (17-08-18: HP ELITEDESK 800 G4 SFF) (17-08-18: HP PRODESK 400 G5 SFF) (17-08-18: HP ELITEDESK 800 G4 DM) (10-09-18: HP PRODESK 400 G4 DM) (10-09-18: HP WORKSTATION Z2G4 TOWER BRZL) (10-09-18: HP ELITEDESK 705 G4 DM) (10-09-18: HP ELITEDESK 705 G4 SFF) (19-09-18: C240 M5) (19-09-18: C220 M5) (26-11-18: PEQ SIMPLIVITY 380) (22-01-19: HP DESKTOP PRO G2) (28-08-19: HP Z8 G4) (28-08-19: ELITEDESK 800 G5 DM) (28-08-19: PRODESK 400 G6 SFF) (28-08-19: HX-B200-M5-U-BR) (28-08-19: HX-C220-M5SX-BR) (05-09-19: ELITEDESK 800 G5 SFF) (05-09-19: PRODESK 400 G5 DM) (19-09-19: HX-E-220M5SX-BR) (15-10-19: HX240C-M5L-BR) (16-10-19: PRODESK 600 G5 SFF) (28-10-19: HP Z8 G4) (30-10-19: PEQ DX380) (30-10-19: PEQ DX560) (30-10-19: PEQ DX360) (08-11-19: HX-C220-M5L-BR) (08-11-19: HX-C240-M5L-BR) (29-11-19: HP DESKTOP PRO A G3) (29-11-19: HP DESKTOP PRO G3) (23-12-19: COMPAQ PRESARIO CQ-11) (26-12-19: HX-C240-M5SX-BR) (07-07-20: PEQ DL20) (13-07-20: HP PRODESK 600 G6 SFF) (13-07-20: HP PRODESK 600 G6 SFF) (06-08-20: HP PRODESK 400 G7 SFF) (10-08-20: HP ELITEDESK 800 G6 DM) (26-08-20: HP PRODESK 400 G6 DM) (09-10-20: HP Z2 TWR G5) (13-11-20: HP ELITEDESK 805 G6 SFF) (20-11-20: HP PRODESK 405 G6 DM) (11-12-20: HP ELITEDESK 800 G6 SFF)	
Produto:	Unidade de saída por vídeo (Monitor de vídeo a LCD)
Processo MCT/Data:	01250.005332/2018-39 de 31/01/2018
CNPJ da Incentivada:	74404229000551
Portaria MCT/MDIC/MF:	4000, de 02/08/2018 DOU 31/08/2018 - Produto Transferido da Portaria: 760, de 13/12/2001 DOU 14/12/2001 (http://pesquisa.in.gov.br/imprensa/jsp/visualiza/index.jsp?jornal=515&pagina=15&data=31/08/2018)
Modelos:	7VLR; 5E; 4VN; 7VLR(11-12-17: MONITOR HP V19B) (24-01-18: MONITOR HP V22B) (24-01-18: MONITOR HP V22H) (24-01-18: MONITOR 21,5") (24-01-18: MONITOR 22") (24-01-18: MONITOR HP V24B) (24-01-18: MONITOR HP V24H) (24-01-18: MONITOR 23,6") (24-01-18: MONITOR 24")
Produto:	Unidade de saída por vídeo (monitor), com tubo de raios catódicos, policromática
Processo MCT/Data:	01200.005251/2003-48 de 25/11/2003
CNPJ da Incentivada:	74404229000551
Portaria MCT/MDIC/MF:	215, de 11/04/2005 DOU 12/04/2005 ()
Modelos:	P77; EXCAL; MON FLX 01; MON FLX 02

Produto:	Unidade digital de armazenamento de dados em meio magnético
Processo MCT/Data:	01200.006626/2007-11 de 22/11/2007
CNPJ da Incentivada:	74404229000551
Portaria MCT/MDIC/MF:	890, de 01/12/2008 DOU 03/12/2008 ()
Modelos:	IBM 2421 931; IBM 2421 932; IBM 2421 9B2; IBM 2421 92E; IBM2421 9AE;IBM 2422 931; IBM2422 932; IBM 2422 92E; IBM2422 9AE; IBM 24230931; IBM2423 932; IBM2423 92B2;IBM2423 92E; IBM2424 931; IBM2424 932; IBM 2424 9B2;IBM2424 92E; IBM2424 9AE(05-01-09: 1812-81A)(05-01-09: 1814-72A)(05-01-09: 1814-70A)(08-01-09: IBM 2422 9B2 - OUTRAS UNIDADES DE DISCOS MAGNÉTICOS)(08-01-09: IBM 2423 9B2 - OUTRAS UNIDADES DE DISCOS MAGNÉTICOS)(08-01-09: IBM 2423 9AE - OUTRAS UNIDADES DE DISCOS MAGNÉTICOS)(22-10-10: IBM 2421 951) (22-10-10: IBM 2422 951) (22-10-10: IBM 2423 951) (22-10-10: IBM 2424 951 -) (22-10-10: IBM 2421 95E) (22-10-10: IBM 2422 95E) (22-10-10: IBM 2423 95E) (22-10-10: IBM 2424 95E) (08-04-11: X SERIES) (08-04-11: NL SERIES) (13-09-12: IBM 2421 961) (13-09-12: IBM 2424 961) (13-09-12: IBM 2424 96E) (13-09-12: IBM 2421 96E) (13-09-12: IBM 2422 961) (13-09-12: IBM 2422 96E) (13-09-12: IBM 2423 961) (13-09-12: IBM 2423 96E)(22-10-15: IBM 2831 980) (22-10-15: IBM 2831 981) (22-10-15: IBM 2831 982) (22-10-15: IBM 2831 98B) (22-10-15: IBM 2831 98E) (22-10-15: IBM 2831 98F) (22-10-15: IBM 2832 980) (22-10-15: IBM 2832 981) (22-10-15: IBM 2832 982) (22-10-15: IBM 2832 98B) (22-10-15: IBM 2832 98E) (22-10-15: IBM 2832 98F) (22-10-15: IBM 2833 980) (22-10-15: IBM 2833 981) (22-10-15: IBM 2833 982) (22-10-15: IBM 2833 98B) (22-10-15: IBM 2833 98E) (22-10-15: IBM 2833 98F) (22-10-15: IBM 2834 980) (22-10-15: IBM 2834 981) (22-10-15: IBM 2834 982) (22-10-15: IBM 2834 98B) (22-10-15: IBM 2834 98B) (22-10-15: IBM 2834 98E) (22-10-15: IBM 2834 98F)(17-06-16: IBM 2076 524) (17-06-16: IBM 2076 624) (17-06-16: IBM 2076 12F) (17-06-16: IBM 2076 24F) (17-06-16: IBM 2073 720) (11-11-16: IBM 2831 984) (11-11-16: IBM 2831 84E) (11-11-16: IBM 2831 985) (11-11-16: IBM 2831 85B) (11-11-16: IBM 2831 986) (11-11-16: IBM 2831 86E) (11-11-16: IBM 2832 984) (11-11-16: IBM 2832 84E) (11-11-16: IBM 2832 985) (11-11-16: IBM 2832 85B) (11-11-16: IBM 2832 986) (11-11-16: IBM 2832 86E) (11-11-16: IBM 2833 984) (11-11-16: IBM 2833 84E) (11-11-16: IBM 2833 985) (11-11-16: IBM 2833 85B) (11-11-16: IBM 2833 986) (11-11-16: IBM 2833 86E) (11-11-16: IBM 2834 984) (11-11-16: IBM 2834 84E) (11-11-16: IBM 2834 985) (11-11-16: IBM 2834 85B) (11-11-16: IBM 2834 986) (11-11-16: IBM 2834 86E) (19-01-17: IBM 2831 85E) (19-01-17: IBM 2832 85E) (19-01-17: IBM 2833 85E) (19-01-17: IBM 2834 85E) (25-09-17: IBM 2076 92F) (25-09-17: IBM 2077 124) (25-09-17: IBM 2077 212) (25-09-17: IBM 2077 224) (25-09-17: IBM 2077 312) (25-09-17: IBM 2077 324) (25-09-17: IBM 2077 12E) (25-09-17: IBM 2077 12F) (25-09-17: IBM 2077 92F) (25-09-17: IBM 2077 A9F) (25-09-17: IBM 2077 AF3) (25-09-17: IBM 2077 AFF) (25-09-17: IBM 2077 24E) (25-09-17: IBM 2077 24F) (25-09-17: IBM 2076 A9F) (25-09-17: IBM 2076 AFF) (25-09-17: IBM 2076 A9F) (25-09-17: IBM 2077 112) (02-10-17: IBM 2145 12F) (02-10-17: IBM 2145 92F) (02-10-17: IBM 2145 SV1) (02-10-17: IBM 2145 24F) (02-10-17: IBM 2147 12F) (02-10-17: IBM 2147 92F) (02-10-17: IBM 2147 SV1) (02-10-17: IBM 2147 24F)



HP - HP EliteDesk 805 G6 Small Form Factor PC (ENERGY STAR) : EliteDesk 805 G6 Small Form Factor PC

Specifications

Brand Name:	HP
Model Name:	HP EliteDesk 805 G6 Small Form Factor PC (ENERGY STAR)
Model Number:	EliteDesk 805 G6 Small Form Factor PC
Type:	Desktop
Notebooks, Desktops, Integrated Computers, Slate/Tablets, Two-in-one Notebooks, and Portable All-in-ones Category for TEC (Typical Energy Consumption) Criteria:	Desktop D2, Desktop I2 or Integrated Desktop 2
Category I2: Processor Brand:	AMD
Category I2: Processor Name:	Ryzen 7
Category I2: Operating System Name:	Windows 10
Category I2: Physical CPU Cores (count):	8
Category I2: Base Processor Speed Per Core (GHz):	3.6
Category I2: System Memory (GB):	128
Category I2: Default Low-power Mode:	Sleep Mode
Category I2: Long Idle Power Used for Sleep Mode:	No
Category I2: Off Mode (watts):	0.7
Category I2: Sleep Mode (watts):	2.0
Category I2: Long Idle (watts):	19.1
Category I2: Short Idle (watts):	19.6
Category I2: Base TEC Allowance (kWh):	46
Category I2: Functional Adder Allowances (kWh):	48.9
Category I2: TEC of Model (kWh):	76.9
Category D2: Processor Brand:	AMD
Category D2: Processor Name:	Ryzen 7
Category D2: Operating System Name:	Windows 10
Category D2: Physical CPU Cores (count):	8
Category D2: Base Processor Speed Per Core (GHz):	3.6

Category D2: System Memory (GB):	128
Category D2: Default Low-power Mode:	Sleep Mode
Category D2: Long Idle Power Used for Sleep Mode:	No
Category D2: Off Mode (watts):	1.1
Category D2: Sleep Mode (watts):	2.4
Category D2: Long Idle (watts):	21.6
Category D2: Short Idle (watts):	24.3
Category D2: Base TEC Allowance (kWh):	45
Category D2: Functional Adder Allowances (kWh):	83.2
Category D2: TEC of Model (kWh):	93.6
Sleep Mode Default Time Upon Shipment (min.):	20
Display Sleep Mode Default Time Upon Shipment (min.):	10
WOL (Wake on LAN) From Sleep:	Shipped Enabled Under All Conditions
Will the Speed of Any Active 1 GB/s or Higher Ethernet Network Links be Reduced to Less Than 1 GB/s When Transitioning to Sleep or Off Mode?:	Yes
WLAN Capability:	Yes
Ethernet Capability:	Yes
Bluetooth Capability:	Yes
Touch Screen:	No
Date Available On Market:	2020-10-12
Date Certified:	2020-10-16
Markets:	United States, Switzerland, Taiwan, Japan, Canada
ENERGY STAR Certified:	Yes

Additional Model Information

Captured On:
03/10/2021

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HP EliteDesk 805 G6 Small Form Factor PC

ENERGY STAR

Product Summary:

Product Type: **Desktop**

Registered In: **Brazil**

Manufacturer: **HP**

EPEAT Tier: **Gold**

Registration Date: **2020-10-14**

Product Status: **Active**

Exceptions: **Configurations that are not ENERGY STAR qualified do not meet required criterion 4.5.1.1. Configurations that include the HP Healthcare Wired Keyboard and Mouse or the HP USB Keyboard and Mouse Healthcare Edition do not meet optional criterion 4.1.4.1**

EPEAT Tier Score Detail

For a product to be listed on the EPEAT Registry, it must, at a minimum, meet the applicable “required” criteria. [Click here](#) to see a list of the required criteria for this product category.

This product has met the necessary **required criteria**.

Along with required criteria, products can also meet optional criteria and score optional points. It is not required for a product to achieve any optional points.

Products that meet all required criteria and achieve **less than 50%** of the optional points are rated at

EPEAT Bronze

Products that meet all required criteria and achieve **50 - 74%** of the optional points are rated at

EPEAT Silver

Products that meet all required criteria and achieve **75 - 100%** of the optional points are rated at

EPEAT Gold

The optional criteria for this product category and optional points achieved by this product are listed below.

Optional Criteria	Scores
4.1 Substance Management	13 / 16
4.2 Materials Selection	3 / 3
4.4 Product longevity/life-cycle extension	1 / 2
4.5 Energy Conservation	3 / 4
4.7 Packaging	2 / 2

4.8 Life cycle assessment and carbon footprint	5 / 6
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4.9 Corporate Environmental Performance	9 / 9
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4.10 Corporate social responsibility	3 / 6
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TOTAL OPTIONAL CRITERIA SCORE:	39 / 48
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Please note that it is not required for a product to achieve any optional points.

Some optional criteria may not be applicable to a product. Optional criteria that are not applicable (N/A) to the product are not included in the Total Optional Criteria Score, and are not reflected above.

For any questions, comments, or feedback regarding the EPEAT Registry, please [contact us](#).

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PC de Formato Compacto HP EliteDesk 805 G6



Potência para os seus colaboradores

Utilizadores de escritórios modernos pretendem PCs de formato compacto que sejam capazes de suportar cargas de trabalho pesadas. O HP EliteDesk 805 é um PC de formato compacto altamente seguro que foi redesenhado para oferecer potência robusta e capacidade de expansão.



A HP recomenda o Windows 10 Pro para empresas

- A HP recomenda o Windows 10 Pro¹ para empresas
- Processador AMD Ryzen™ PRO série 4000²

Potente e equipado para o trabalho

- Processe facilmente cargas de trabalho complexas com um processador AMD Ryzen™ PRO série 4000² de 8 núcleos³ usando a Tecnologia core Zen 2 de 7 nm e uma memória com velocidades até 3200 MT/s. Uma placa gráfica NVIDIA® Quadro P400³ opcional permite-lhe executar várias tarefas em simultâneo em até 6 monitores.³

Personalize para se adaptar às suas necessidades

- O PC de Formato Compacto HP EliteDesk 805 tem uma enorme capacidade de expansão com dois compartimentos e duas ranhuras half-height. Além disso, tem 3 ranhuras M.2, 11 portas USB e várias opções de portas configuráveis.³

Trabalhe com segurança e tranquilidade

- As funcionalidades de segurança da HP e as funcionalidades de gestão da AMD criam uma defesa resiliente sempre ligada e sempre a funcionar que é fácil de gerir. Simplifique a gestão de dispositivos com o AMD DASH e suporte para o hardware KVM com todas as funcionalidades.

Criado para um espaço de trabalho em mudança

- O HP EliteDesk 805, um PC de formato compacto redesenhado com elegância, é ideal para os espaços de trabalho mais pequenos de hoje em dia, com o HP Run Quiet Design e opções como a funcionalidade HP Extended Range Wireless LAN.⁴
- Personalize a ligação do seu monitor com uma porta de E/S (entrada/saída) traseira podendo escolher entre VGA, DisplayPort™, HDMI ou USB-Type C® com DisplayPort™.³
- Melhore a conectividade enquanto utiliza Wi-Fi® com a Tecnologia HP Extended Range Wireless LAN, que possibilita uma maior distância desde o ponto de transmissão e um débito de dados rápido em intervalos mais curtos.⁴
- O HP Sure Admin, uma ferramenta de gestão do BIOS moderna, elimina a necessidade de uma palavra passe, ou do utilitário de configuração do BIOS no sistema operativo, ao criar uma assinatura digital que permite aos administradores de TI gerir com segurança as definições do BIOS sobre a rede.⁵
- Os ataques ao firmware podem destruir completamente o seu PC. Mantenha-se protegido com o HP Sure Start Gen 6, o BIOS que recupera automaticamente de ataques ou danos.⁶
- Impeça alterações indesejadas às definições de segurança e ajude a limitar a propagação do malware com o HP Sure Run Gen 3.⁷
- Proteja o seu PC de websites e anexos infetados com malware, ransomware ou vírus, com a segurança imposta por hardware do HP Sure Click.⁸
- O HP Sure Recover Gen 3 assegura uma recuperação rápida, segura e automatizada que pode ser colocada em pausa ou repetida através de uma ligação de rede LAN ou Wi-Fi®.⁹
- O malware está a evoluir rapidamente, e os antivírus tradicionais nem sempre são capazes de reconhecer novos ataques. Proteja o seu PC de ataques novos com HP Sure Sense, que utiliza inteligência artificial de aprendizagem profunda para oferecer uma prote¹⁰

PC de Formato Compacto HP EliteDesk 805 G6 Tabela de especificações



Sistemas operativos disponíveis	Windows 10 Pro (64 bits) – a HP recomenda o Windows 10 Pro para empresas ¹ Windows 10 Home 64 ¹ Windows 10 Home Single Language (64 bits) ¹ FreeDOS
Família de processadores ³	Processador AMD Ryzen™ 3 PRO; Processador AMD Ryzen™ 5 PRO; Processador AMD Ryzen™ 7 PRO
Processadores disponíveis ^{3,35}	AMD Ryzen™ 7 PRO 4750G com Radeon™ Graphics (3,6 GHz de frequência base, até 4,4 GHz de frequência Max Boost Clock, 8 MB de cache L3, 8 núcleos); AMD Ryzen™ 5 PRO 4650G com Radeon™ Graphics (3,7 GHz de frequência base, até 4,2 GHz de frequência Max Boost Clock, 8 MB de cache L3, 6 núcleos); AMD Ryzen™ 3 PRO 4350G com Radeon™ Graphics (3,8 GHz de frequência base, até 4 GHz de frequência Max Boost Clock, 4 MB de cache L3, 4 núcleos)
Chipset	AMD PRO 565
Factor de forma	Factor de forma reduzido
Memória máxima	SDRAM DDR4-3200 de 128 GB ⁴ Velocidades de transferência até 3200 MT/s.
Slots de memória	4 DIMM
Armazenamento interno	500 GB até 2 TB SATA (7200 rpm) ⁵ até 2 TB SATA (5400 rpm) ⁵ até 500 GB HDD SATA SED Opal 2 ⁵ até 500 GB SED SATA com FIPS (7200 rpm) ⁵ 256 GB até 512 GB SSD NVMe™ PCIe® M.2 ⁵ 128 GB até 2 TB SSD NVMe™ PCIe® TLC M.2 ⁵ 256 GB até 512 GB SSD SED NVMe™ PCIe® TLC M.2 Opal 2 ⁵
Unidade óptica	Gravador de DVD HP fino de 9,5 mm; DVD-ROM HP fino de 9,5 mm ¹⁰
Placa gráfica disponível	Integrada: Placa gráfica AMD Radeon™ Discreta: Placa gráfica AMD Radeon™ R7 430 (2 GB de memória GDDR5 dedicada); Placa gráfica AMD Radeon™ RX 550X (4 GB de memória GDDR5 dedicada) ^{9,12}
Áudio	Codec Conexant CX20632, tomada de áudio universal com suporte para auscultadores CTIA e OMTP, portas de saída de áudio traseiras (3,5 mm), capacidade multi-streaming
Slots de expansão	1 M.2 2230; 1 PCIe x16; 2 M.2 2280; 1 PCIe x4 (1 ranhura M.2 2230 para WLAN e 2 ranhuras M.2 2280 para armazenamento)
Portas e Ligações	Parte frontal: 1 Porta SuperSpeed USB Type-C® (débito binário de 10 Gbps); 2 Portas SuperSpeed USB Type-A (débito binário de 10 Gbps); 2 Portas SuperSpeed USB Type-A (débito binário de 5 Gbps) (1 para carregamento rápido) Traseira: 1 Saída de áudio (audio-out); 1 Conector para alimentação; 1 Porta RJ-45; 3 Portas SuperSpeed USB Type-A (débito binário de 5 Gbps); 2 Portas SuperSpeed USB Type-A (débito binário de 480 Mbps); 2 Portas DisplayPort™ 1.4 ³⁶ Portas opcionais: Placa suplementar: Combinação de portas série e PS/2; 1 Leitor de cartões SD 5 em 1; Porta adicional: 1 Porta série; Porta de E/S HP Flex – escolha uma das seguintes opções: porta DisplayPort™ 1.4, porta HDMI 2.0, porta VGA, 1 porta série, 2 portas SuperSpeed USB Type-A (débito binário de 5 Gbps), 1 porta SuperSpeed USB Type-C® (débito binário de 10 Gbps) (saída de 15 W, DisplayPort™ 1.2) ^{6,9}
Dispositivos de Entrada	Teclado com fio HP Desktop 320K; Teclado fino HP Business com PS/2; Conjunto de teclado fino e rato sem fios HP Business; Teclado USB fino HP Business com leitor de smart card (CCID) ^{17,22} ; Rato USB HP com Leitor de impressões digitais; Rato HP com PS/2; Rato Ótico USB HP; Rato com Fios Desktop HP 320M ^{17,22} ;
Comunicações	LAN: Realtek RTL8111FP ¹⁵ ; WLAN: Adaptador combinado Intel® AX200 com Wi-Fi 6 e Bluetooth® 5 (sem vPro™) ^{8,9,11,16} ;
Baixas de Unidade	1 ODD Slim; 1 Unidade de disco rígido (3,5 pol.) convertível para 2 unidades de disco rígido (2,5 pol.) ⁴⁰
Meio ambiente	Temperatura para funcionamento: 10 a 35°C; Humidade para funcionamento: 10 a 90% HR;
Software	Software HP Noise Cancellation; HP Support Assistant; Comprar o Office (vendido em separado); HP Privacy Settings; HP Desktop Support Utilities; HP QuickDrop ^{18,19}
Gestão de segurança	HP Power-On Password (através do BIOS); Desativação de porta SATA (através do BIOS); HP Setup Password (através do BIOS); Suporte para cadeados de chassis e cabos antirroubo; Chip de segurança incorporado Trusted Platform Module (TPM) 2.0 (SLB9670 – Certificação Common Criteria EAL4+); Ativação/desativação de porta série (através do BIOS); HP Secure Erase; HP Sure Click; HP Sure Sense; HP DriveLock e HP Automatic DriveLock; HP Client Manager Gen 6; HP Sure Recover Gen 3; HP Sure Run Gen 3; HP Sure Start Gen 6; HP BIOSphere Gen 6 ^{7,24,25,26,27,28,29,30}
Funcionalidades de gestão	HP BIOS Configuration Utility (transferência); HP Client Catalog (transferência); HP Driver Packs (transferência); HP System Software Manager (transferência); HP Management Integration Kit para Microsoft System Center Configuration Management Gen 3; HP Cloud Recovery; HP Image Assistant Gen 4; AMD DASH ^{20,21,23,37}
Energia/Alimentação	Fonte de alimentação interna (180 W), até 90% de eficiência, correção do fator de potência (PFC) ativa; Fonte de alimentação interna (210 W), até 92% de eficiência, correção do fator de potência (PFC) ativa ³¹
Dimensões	9,5 x 27 x 30,3 cm
Peso	4,89 kg (O peso exato depende da configuração.)
Conformidade com standards de eficiência energética	Certificação ENERGY STAR®; Registo EPEAT® 2019, se aplicável ³²
Especificações de impacto sustentável	Plástico em risco de entrar nos oceanos na caixa dos altifalantes; A caixa exterior e os enchimentos canelados são recicláveis e de origem 100% sustentável; O enchimento de pasta de papel moldada no interior da caixa é reciclável e de origem 100% sustentável; 40% de plástico reciclado pós-consumidor; Enchimentos de plástico reciclado; Baixo halogéneo; Disponíveis fontes de alimentação com certificação 80 Plus® Platinum ^{33,34,38,39,41,42}
Garantia	A oferta de garantia limitada e assistência de 3 anos (3–3–3) inclui 3 anos de peças, mão de obra e reparação no local. Os termos e condições variam consoante o país. São aplicáveis determinadas restrições e exclusões.

PC de Formato Compacto HP EliteDesk 805 G6

Acessórios e serviços (não incluídos)

HP EliteDisplay E243 60.45 cm (23.8") Monitor



O estilo funde-se com a essência num monitor profissional incrivelmente moderno concebido para uma experiência de visualização, produtividade e ergonomia perfeitas. O Monitor HP EliteDisplay E243 de 60,45 cm (23,8 pol.) incorpora uma moldura de margens reduzidas em 3 lados para uma ligação perfeita de vários monitores e 4 modos de ajustabilidade para que possa encarar, com todo o conforto, o seu dia.
Número do produto: 1FH47AA

Suporte para hardware HP, 5 anos, no dia útil seguinte no local para computadores de secretária



Obtenha 5 anos de suporte de hardware para o seu dispositivo informático no local e no dia útil seguinte, prestado por um técnico qualificado da HP, caso não seja possível resolver o problema de forma remota.
Número do produto: U7899E

PC de Formato Compacto HP EliteDesk 805 G6

Rodapés com mensagens

- ¹ Nem todas as funcionalidades estão disponíveis em todas as edições ou versões do Windows. Os sistemas poderão necessitar de hardware, controladores e software atualizados e/ou adquiridos em separado ou da atualização do BIOS para tirar o máximo partido.
- ² A tecnologia multinúcleo foi concebida para melhorar o desempenho de determinados produtos de software. Nem todos os clientes ou aplicações de software irão necessariamente beneficiar da utilização desta tecnologia. O desempenho e a frequência do relógio
- ³ Vendido separadamente ou adquirido como função opcional.
- ⁴ Com base em testes internos. Em comparação com o produto da geração anterior com o módulo de LAN sem fios 802.11ac.
- ⁵ Para usufruir do HP Sure Admin, é necessário Windows 10 e HP BIOS.
- ⁶ O HP Sure Start Gen 6 está disponível em determinados PCs da HP.
- ⁷ O HP Sure Run de 3.ª geração está disponível em determinados PC HP Pro, Elite e Workstations com Windows 10 e em determinados processadores Intel® ou AMD.
- ⁸ Para usufruir do HP Sure Click, é necessário Windows 10 Pro ou Enterprise. Aceda a https://bit.ly/2PrLT6A_SureClick para consultar todos os detalhes.
- ⁹ Para usufruir do HP Sure Recover Gen 3 (disponível em determinados PCs da HP), é necessária uma ligação de rede aberta. Não está disponível em plataformas com várias unidades de armazenamento interno. Para evitar a perda de dados, terá de efetuar uma cópia de segurança dos ficheiros, dados, fotografias, vídeos, etc. antes de utilizar o HP Sure Recover. A recuperação através da rede usando Wi-Fi só está disponível em PCs com o Módulo de Wi-Fi da Intel.
- ¹⁰ Para usufruir do HP Sure Sense, é necessário Windows 10.

Rodapés com especificações técnicas

- ¹ Nem todas as funcionalidades estão disponíveis em todas as edições ou versões do Windows. Os sistemas poderão necessitar de hardware, controladores e software atualizados e/ou adquiridos separadamente ou de atualização do BIOS para tirar todo o partido.
- ³ A tecnologia multinúcleo foi concebida para melhorar o desempenho de determinados produtos de software. Nem todos os clientes ou aplicações de software irão necessariamente beneficiar da utilização desta tecnologia. O desempenho e a frequência do relógio variam consoante o volume de trabalho das aplicações e as configurações de hardware e software. A numeração da AMD não é uma medição de velocidade de relógio.
- ⁴ A velocidade real de transferência varia e é determinada pelo processador configurado do sistema. Consulte as especificações do processador para saber a velocidade de transferência de dados de memória suportada. Todas as ranhuras de memória são acessíveis.
- ⁵ Para discos rígidos (HDD) e unidades de estado sólido (SSD), 1 GB = mil milhões de bytes. 1 TB = 1 bilhão de bytes. A capacidade formatada real é inferior. Até 36 GB (para Windows 10) de espaço em disco estão reservados para software de recuperação do
- ⁶ Só pode ser configurada uma opção de placa de cada vez.
- ⁷ Para usufruir do HP Sure Sense, é necessário Windows 10 Pro ou Enterprise. Suporta Microsoft Internet Explorer, Google Chrome™ e Chromium™. Os anexos suportados incluem ficheiros do Microsoft Office (Word, Excel e PowerPoint) e ficheiros PDF no modo só de leitura, quando o Microsoft Office ou o Adobe Acrobat estão instalados.
- ⁸ É necessário um ponto de acesso sem fios e serviço de Internet, vendido em separado. A disponibilidade de pontos de acesso públicos sem fios é limitada. O Wi-Fi 6 é retrocompatível com as especificações 802.11ac anteriores. As especificações para Wi-Fi
- ⁹ Vendido separadamente ou como funcionalidade opcional.
- ¹⁰ Os discos DVD HD não podem ser reproduzidos na unidade de DVD-ROM. Sem suporte para DVD-RAM. As velocidades reais podem variar. Não copie materiais protegidos por direitos de autor. Os discos de duas camadas permitem armazenar mais dados do que os discos de uma camada. Os discos gravados com esta unidade poderão não ser compatíveis com muitas unidades e leitores DVD de uma camada.
- ¹¹ É necessário um ponto de acesso sem fios e serviço de Internet, vendido em separado. A disponibilidade de pontos de acesso públicos sem fios é limitada. O Wi-Fi 5 (802.11ac) é retrocompatível com as especificações do anterior 802.11.
- ¹² Placa gráfica AMD Radeon™ R7 430 (2 GB de memória GDDR5 dedicada): não está disponível em todas as regiões.
- ¹⁵ Integrado de série.
- ¹⁶ Adaptador combinado Intel® AX200 com Wi-Fi 6 e Bluetooth® 5: não disponível em todas as regiões.
- ¹⁷ O Teclado USB Antimicrobiano Fino HP Business e o Rato USB Antimicrobiano não estão disponíveis na China.
- ¹⁸ Módulo Absolute Persistence: O agente Absolute é fornecido desativado e será ativado quando os clientes ativarem uma subscrição adquirida. As subscrições podem ser adquiridas para períodos que abrangem vários anos. O serviço é limitado, verifique com
- ¹⁹ HP Support Assistant: requer Windows e acesso à Internet.
- ²⁰ Ivanti Management Suite: É necessária uma subscrição.
- ²¹ O HP Manageability Integration Kit pode ser transferido em <http://www8.hp.com/us/en/ads/clientmanagement/overview.html>.
- ²² Rato USB Robusto HP, Rato HP com PS/2, Rato USB HP Lavável com PS/2: não estão disponíveis em todas as regiões.
- ²³ Suporte AMD DASH com KVM (apenas ao nível do BIOS).
- ²⁴ O HP BIOSphere Gen 6 está disponível em determinados PCs HP Pro e HP Elite. Consulte as especificações do produto para mais detalhes. As funcionalidades poderão variar em função da plataforma e das configurações.
- ²⁵ Para usufruir do HP Client Security Manager Gen 5, é necessário Windows. Está disponível em determinados PCs HP Pro e HP Elite. Consulte as especificações do produto para saber mais detalhes.
- ²⁶ O HP Sure Start para AMD está disponível em determinados PCs HP com processadores AMD. Consulte as especificações do produto para verificar a disponibilidade.
- ²⁷ HP Sure Recover Gen 2: Consulte as especificações do produto para verificar a disponibilidade. É necessária uma ligação de rede com fios aberta. Para evitar a perda de dados, terá de efetuar uma cópia de segurança dos ficheiros, dados, fotografias, vídeos, etc. antes de utilizar o HP Sure Recover.
- ²⁸ Para usufruir do HP Sure Click, é necessário Windows 10 Pro ou Enterprise. Aceda a https://bit.ly/2PrLT6A_SureClick para consultar todos os detalhes.
- ²⁹ O HP Drive Lock não é suportado em unidades NVMe.
- ³⁰ Chip de segurança incorporado Trusted Platform Module (TPM) 2.0 incluído com o Windows 10 (Certificação Common Criteria EAL4+) (Certificação FIPS 140-2 de nível 2): O TPM do firmware é a versão 2.0. O TPM do hardware é a versão v1.2, que é um subconjunto
- ³¹ Adaptador de alimentação externo (150 W), até 89% de eficiência, correção do fator de potência (PFC) ativa: quando encomendado com uma placa gráfica dedicada.
- ³² Com base no registo EPEAT® dos E.U.A., de acordo com a norma EPEAT® IEEE 1680.1-2018. O estado varia consoante o país. Para mais informações, visite www.epeat.net.
- ³³ Fontes de alimentação externas, módulos WWAN, cabos de alimentação, cabos e periféricos excluídos. As peças de manutenção obtidas após a compra poderão não conter baixo halogéneo.
- ³⁴ A percentagem de plástico em risco de entrar nos oceanos presente em cada componente varia de acordo com o produto.
- ³⁵ O desempenho da frequência boost clock máxima varia em função do hardware, software e configuração geral do sistema.
- ³⁶ Uma porta SuperSpeed USB Type-A (5 Gbps) com reativação a partir do teclado.
- ³⁷ O HP Sure Recover encontra-se disponível para PC desktop e portáteis HP Elite e Pro com processadores Intel® ou AMD, sendo necessária uma ligação de rede com fios aberta. Nota: É necessário efetuar uma cópia de segurança de ficheiros, dados, fotografias
- ³⁸ 100% da caixa exterior e dos enchimentos cancelados é produzido com fibras recicladas e certificadas de origem sustentável.
- ³⁹ Os enchimentos de plástico são produzidos com >90% de plástico reciclado.
- ⁴⁰ A unidade de disco rígido de 2,5 polegadas requer o adaptador fornecido apenas de fábrica.
- ⁴¹ A percentagem de plástico reciclado baseia-se na definição constante da norma IEEE 1680.1-2018.
- ⁴² Os enchimentos em fibra são produzidos com fibra de madeira 100% reciclada e materiais orgânicos.

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Março 2021

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Microsoft

Hardware certification report **Approved**

Private product ID: **14515499166336921**

Shared product ID: **400134086**

Submission ID: **1152921505691048713**

Submission date: **8/14/2020**

Completion date: **8/14/2020**

Company: **HP Inc.**

Product name: **HP EliteDesk 805 G6 SFF (872B)**

Category: **Device**

Product type: **Other Device**

Qualification level: **Certified for Microsoft Windows 10 Client family version 2004, x64**
Certified as Declarative INF

Marketing name: **HP EliteDesk 805 G6 SFF**

Annex B2 - Product environmental attributes Computers and computer monitors

The declaration may be published only when all rows and/or fields marked with * are filled-in (n.a. for not applicable). Additional information regarding each item may be found under P15.

Brand *	HP	Logo 
Company name *	HP	
Contact information *	HP Sustainability and Compliance Center	
e-mail address	sustainability@hp.com	
Internet site *	http://www.hp.com/hpinfo/globalcitizenship/environment/	
Additional information		

The company declares (based on product specification or test results based obtained from sample testing), that the product conforms to the statements given in this declaration.	
Type of product *	Desktop
Commercial name *	HP EliteDesk 805 G6 Small Form Factor PC
Model number *	805 G6 SFF
Issue date *	10/12/2020
Intended market *	☒ Global ☐ Europe ☐ Asia, Pacific & Japan ☐ Americas ☐ Other
Additional information	

This is an uncontrolled copy when in printed form. Please refer to the contact information for the latest version.

About Annex B2

Annex B2 reflects Product environmental attributes relevant for Computers and Computer Monitors. The following items from the ECMA-370 Main body are not shown in the template:

P4.1 – P4.3 Consumable materials

P9.1 TEC and Print speed

P10.2 - P10.3 Chemical emissions from printing products

P11.1 - P11.3 Consumable materials for printing products.

Model number *	805 G6 SFF	Logo	
Issue date *	10/12/2020		

Product environmental attributes - Legal requirements		Requirement met		
Item		Yes	No	n.a.
P1	Hazardous substances and preparations			
P1.1*	Products do comply with current European RoHS Directive. (See legal reference and NOTE B1)	☒	☐	
P1.2*	Products do not contain Asbestos (see legal reference). Comment: Legal reference has no maximum concentration value.	☒	☐	
P1.3*	Products do not contain Ozone Depleting Substances: Chlorofluorocarbons (CFC), hydrobromofluorocarbons (HBFC), hydrochlorofluorocarbons (HCFC), Halons, carbontetrachloride, 1,1,1-trichloroethane, methyl bromide (see legal reference). Comment: Legal reference has no maximum concentration values.	☒	☐	
P1.4*	Products do not contain more than; 0,005% polychlorinated biphenyl (PCB), 0,005% polychlorinated terphenyl (PCT) in preparations (see legal reference).	☒	☐	
P1.5*	Products do not contain more than 0,1% short chain chloroparaffins (SCCP) with 10-13 carbon atoms in the chain containing at least 48% per mass of chlorine in the SCCP (see legal reference).	☒	☐	
P1.6*	Parts with direct and prolonged skin contact do not release nickel in concentrations above 0,5 µg/cm ² /week (see legal reference). Comment: Max limit in legal reference when tested according to EN1811:2011-5.	☒	☐	☐
P1.7*	REACH Article 33 information about substances in articles is available at (add URL or mail contact): http://www.hp.com/hpinfo/globalcitizenship/environment/productdata/reachdesktop-pcs.html	☒	☐	☐
P2	Batteries			
P2.1*	If the product contains a battery or an accumulator, the battery/accumulator is labeled with the disposal symbol. Information on proper disposal is provided in user manual. (See legal reference)	☒	☐	☐
P2.2*	Batteries or accumulators do not contain more than 0,0005% of mercury or 0,002% of cadmium. (See legal reference)	☒	☐	☐
P2.3*	Batteries and accumulators are readily removable. (See legal reference)	☐	☐	☒
P3	Conformity verification & Eco design (ErP)			
P3.1*	The product is CE-marked to show conformance with applicable legal requirements (see legal reference). The Declaration of Conformity can be requested at (add link or e-mail address): http://www8.hp.com/uk/en/certifications/technical/regulations-certificates.html sustainability@hp.com	☒	☐	☐
P3.2*	The product complies with the Eco design requirements for energy-related products, (see legal reference). Required information is; ☐ given in item P15 or added to this document, ☒ available at (add URL): http://h22235.www2.hp.com/hpinfo/globalcitizenship/environment/productdata/europeErPLot3deskt op-pc.html	☒	☐	☐
P5	Product packaging			
P5.1*	Packaging and packaging components do not contain more than 0,01% lead, mercury, cadmium and hexavalent chromium by weight of these together.	☒	☐	
P5.2*	The packaging materials are marked with abbreviations and numbers indicating the nature of the material(s) used (see legal reference).	☒	☐	☐
P5.3*	The product packaging material is free from ozone depleting substances as specified in the Montreal Protocol (see legal reference). Comment: Legal reference has no maximum concentration values.	☒	☐	☐
P6	Treatment information			
P6.1*	Information for recyclers/treatment facilities is available (see legal reference).	☒	☐	☐

NOTE B1 Restriction applies to the homogeneous material, unless other specified and expressed in weight %. Stating "Yes" means that the product is compliant with the mandatory requirements.

Model number *	805 G6 SFF	Logo	
Issue date *	10/12/2020		

Product environmental attributes - Market requirements (See General NOTE GN below)		Requirement met		
- Environmental conscious design		Yes	No	n.a.
Item	*=mandatory to fill in. Additional information regarding each item may be found under P14.			
P7	Design			
	Disassembly, recycling			
P7.1*	Parts that have to be treated separately are easily separable	☒	☐	☐
P7.2*	Plastic materials in covers/housing have no surface coating.	☒	☐	☐
P7.3*	Plastic parts > 100 g consist of one material or of easily separable materials.	☒	☐	☐
P7.4*	Plastic parts > 25 g have material codes according to ISO 11469 referring ISO 1043-4.	☒	☐	☐
P7.5	Plastic parts are free from metal inlays or have inlays that can be removed with commonly available tools.	☒	☐	☐
P7.6*	Labels are easily separable. (This requirement does not apply to safety/regulatory labels).	☒	☐	☐
	Product lifetime			
P7.7*	Upgrading can be done e.g. with processor, memory, cards or drives	☒	☐	☐
P7.8*	Upgrading can be done using commonly available tools	☒	☐	☐
P7.9	Spare parts are available after end of production for: 5 years			☐
P7.10	Service is available after end of production for: 5 years			☐
	Material and substance requirements			
P7.11*	Product cover/housing material type (e.g. plastics, metal, aluminum): Material type: PC+ABS Material type: ABS Material type: PC			
P7.12	Insulation materials of external electrical cables are PVC free.	☐	☒	☐
P7.13	Insulation materials of internal electrical cables are PVC free.	☒	☐	☐
P7.14	External plastic casing/cover parts > 25 g contain no more than 0,1% weight (1000 ppm) bromine and 0,1% weight (1000 ppm) chlorine attributable to brominated flame retardants, chlorinated flame retardants, and polyvinyl chloride or 0,3% weight (3000 ppm) bromine and 0,3% weight (3000 ppm) chlorine in parts containing more than 25% post-consumer recycled content.	☒	☐	☐
P7.15	Printed circuit boards, PCBs (without components) are low halogen: all ☐ PCBs > 25 g ☒ are low halogen as defined in IEC 61249-2-21. (See 1NOTE B2)	☒	☐	☐
P7.16	Flame retarded plastic parts > 25 g in covers / housings are marked according ISO 1043-4: Marking: >PC+ABS-FR(40)<	☐	☐	☐
P7.17	Alt. 1: Chemical specifications of flame retardants in printed circuit boards > 25 g (without components): TBBPA (additive) ☐ , TBBPA (reactive) ☐ (See NOTE B3), Other; chemical name: , CAS #: Alt. 2: Chemical specifications of flame retardants in printed circuit boards (without components) > 25 g according ISO 1043-4: FR(40)	☐	☐	☐
P7.18	Alt. 1: Flame retarded plastic parts > 25 g contain the following flame retardant substances/preparations in concentrations above 0,1%: 1. Chemical name: , CAS #: (See NOTE B4) 2. Chemical name: , CAS #: " 3. Chemical name: , CAS #: " Alt. 2: Chemical specifications of flame retardants in plastic parts > 25 g according ISO 1043-4: >PC+ABS-FR(40)<	☐	☐	☐
P7.19	In plastic parts > 25 g, flame retardant substances/preparations above 0,1% are used which have been assigned the following Risk phrases; R53 and Hazard statements: H413 May cause long lasting harmful effects to aquatic life The source(s) for these classifications is/are found at (add URL(s)): http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database (See note B5)	☒	☐	☐
P7.20*	Postconsumer recycled plastic material content is used in the product (See Note B6 and B7): If YES; at least one of the two alternatives below shall be answered;	☒	☐	☐

GENERAL NOTE Standard references should direct to the latest version of a standard. If an older version of a standard is used, section P15 shall be used for explanation.

NOTE B2: IEC 61249-2-21 defines maximum limits of 900 ppm for each of the substances chlorine and bromine and a maximum limit of 1500ppm of these substances combined. The standard does not address fluorine, iodine and astatine which are included in the group of halogens.

NOTE B3 and B4 A Guidance document on Chemical substances is available; see <http://www.ecma-international.org/publications/standards/Ecma-370.htm>

NOTE B5: If a certain substance has been assigned a certain risk phrases / hazard statement in the referenced source, this does not necessarily mean the substance has been tested for all of the hazards referred to by a certain customer.

NOTE B6: Applies to a product containing plastic parts whose combined weight exceeds 100 g with the exception of printed circuit boards, cables, connectors and electronic components and bio-based plastic material.

NOTE B7: Recycled plastic content percentage is based on the definition set in the IEEE 1680.1-2018 standard, criterion 4.2.1

a)	Of total plastic parts' weight > 25 g, the postconsumer recycled plastic material content (calculated as a percentage of total plastic by weight) is 42.17% .
or	
b)	The weight of recycled material is g.

Model number *	805 G6 SFF	Logo	
Issue date *	10/12/2020		

Product environmental attributes - Market requirements (continued)		Requirement met		
Item		Yes	No	n.a.

Material and substance requirements (continued)				
P7.21*	Biobased plastic material content is used in the product (See NOTE B7):			☐ ☒ ☐
	If YES; at least one of the two alternatives below shall be answered;			
a)	Of total plastic parts' weight > 25 g, the biobased plastic material content (calculated as a percentage of total plastic by weight) is %.			
or				
b)	The weight of the biobased plastic material is g.			
P7.22*	Light sources are free from mercury, i.e. less than 0,1 mg/lamp.			☒ ☐ ☐
	If mercury is used specify: Number of lamps: and maximum mercury content per lamp: mg			
P8	Batteries			
P8.1*	Battery chemical composition:			☒
P9	Energy consumption (See NOTE B8)			
P9.1	For the product the following power levels or energy consumptions are reported:			
Energy mode *	Power level at 100 V AC	Power level at 115 V AC	Power level at 230 V AC	Reference/Standard for energy modes and test method *
EPS No-load (External power supply / charger plugged in the wall outlet but disconnected from the product.)	W	W	W	EPS Energy Report Data ☒
PTEC * Typical Energy Consumption	W	W	W	ENERGY STAR® Program Requirements for Computers ☒
ETEC * Annual Energy Consumption	64.88 kWh/year	65.47 kWh/year	65.94 kWh/year	ENERGY STAR® Program Requirements for Computers ☐
External Power Supply Efficiency Level (International Efficiency Marking Protocol) * : VI				ENERGY STAR® Program Requirements for Computers ☐
Display resolution * : megapixels				ENERGY STAR® Program Requirements for Computers ☒
Default time to enter energy save mode: minutes				ENERGY STAR® Program Requirements for Computers ☒
P9.2*	Information about the energy save function is provided with the product.			☒ ☐ ☐
P9.3	Energy efficiency class (monitors only):			☒
P10	Emissions			
	Noise emission – Declared according to ISO 9296 (See NOTE B9)			
P10.1	Mode	Mode description	Statistical upper limit A-weighted sound power level, $L_{WA,C}$ (B)	
	Idle	* Fans on, HDD spinning (if applicable)	* 3.3	☐
	Operation	* Fans on, HDD spinning	* 3.5	☐
	Other mode			

NOTE B7 The following is to be excluded from the calculation of percentage: printed circuit boards, labels, cables, connectors and electronic components and postconsumer recycled plastic

NOTE B8 A Guidance document on Energy Efficiency is available;
see <http://www.ecma-international.org/publications/standards/Ecma-370.htm>

NOTE B9 A Guidance document on Acoustic Noise is available;
see <http://www.ecma-international.org/publications/standards/Ecma-370.htm>

Model number *	805 G6 SFF		Logo	
Issue date *	10/12/2020			

Product environmental attributes - Market requirements (continued)		Requirement met		
Item		Yes	No	n.a.
Electromagnetic emissions				
P10.4	Computer display meets the requirement for low frequency electromagnetic fields of the following voluntary program(s):	☐	☐	☐
P12 Ergonomics for computing products				
P12.1*	The display meets the ergonomic requirements of ISO 9241-307 for visual display technologies.	☐	☐	☒
P12.2*	The physical input device meets the requirements of ISO 9995 and ISO 9241-410.	☒	☐	☐
P13 Packaging and documentation				
P13.1*	Product packaging material type(s): PAPER/Paper weight (kg): 1.019 Product packaging material type(s): PAPER/Molded Pulp weight (kg): 0.414 Product packaging material type(s): PLASTIC/Polyethylene low density - LDPE weight (kg): 0.029			
P13.2*	Product plastic primary packaging is free from PVC.	☒	☐	☐
P13.3*	For product primary corrugated fiberboard packaging, specify the contained percentage of minimum post-consumer recovered fiber content: 90 %			☐
P13.4*	Specify media for user and product documentation (tick box): Electronic ☐ , Paper ☒ , Other ☒ 'available on hp.com'			☐
P13.5	(Please only complete this item if paper documentation used) User and product documentation on paper media is chlorine-free: If Yes, please specify: Totally chlorine-free Elemental chlorine-free Processed chlorine-free	☒	☐	
P14 Voluntary programs				
P14.1	The product meets the requirements of the following voluntary program(s): ENERGY STAR® Criteria version: 8.0 Date: 10/12/2020 Product category: Commercial Desktop Eco-label: EPEAT Criteria version: IEEE 1680.1 Date: 10/12/2020 Product category: Commercial Desktop Eco-label: Criteria version: Date: Product category:			
P15 Additional information (See NOTE B10)				
All Sections	1. Product environmental information contained in this declaration is valid as of the date the declaration is published. Changes to external standards referenced in the IT Eco-Declaration may invalidate some information contained in this declaration over			
P1	1. This product does not include DEHP, BBP, DIBP, or DBP.			

NOTE B10 Additional lines may be inserted to declare further items, by positioning the cursor at the far right of the row and hitting the <Enter> key.

P7

Product Upgradability and Reparability

The following table is provided in accordance with IEEE 1680.1-2018⁶ criterion 4.4.2.5.

feature	Available [1]	Repairable [2]	Replaceable [3]	Upgradeable [4]
processor	Y	Y	Y	Y
main memory	Y	Y	Y	Y
mass storage (internal)	Y	Y	Y	Y
wireless networking	Y*	Y	Y	Y
integrated graphics	Y	Y	Y*	Y
discrete graphics	Y*	Y	Y	Y
display panel	N	N/A	N/A	N/A
integrated keyboard	N	N/A	N/A	N/A
batteries	Y	Y	Y	Y
power supply	Y	Y	Y	Y
fan assemblies	N	N/A	N/A	N/A
speaker(s) (internal)	N	N/A	N/A	N/A
camera	N	N/A	N/A	N/A
touchpad	N	N/A	N/A	N/A
I/O connectors and external power connector	N	N/A	N/A	N/A
readers [5]	N	N/A	N/A	N/A

Table notes:

[1] Y* = feature is available, but may not be included in every configuration

[2] Product can be repaired (returned to fully functional state) if feature fails.

[3] Feature can be replaced using only commonly available tools without soldering or de-soldering. Y* = replacement may require replacing an assembly to which the feature is attached.

[4] Base feature may be upgraded by replacing it with a higher performance module or by expanding capacity through use of expansion slots. NOTE: This evaluation does not account for situations in which the initial configuration purchased is already maximized. Contact HP Sales or an HP authorized reseller to determine the availability of upgrade parts and method to obtain them in your geography.

[5] This feature category includes readers such as fingerprint readers, smart card readers, and other read-only devices, but excludes read/write devices.

P9

Energy consumption of computer products; description of the tested product configuration:

P9

1. European Union Commission Regulation 1275/2008- Energy Efficiency Information:

Mode / Condition	Power Consumption in Watts at 230 VAC Input Voltage	Default Time to Mode / Condition (if applicable)
Off Mode (if applicable)		Not Applicable
Standby Mode (if applicable)	Not Applicable	Not Applicable
Network Standby / Sleep / Long Idle Mode if all wired network ports are connected and all wireless network ports are activated (if applicable)		
Network Standby / Sleep / Long Idle Mode (if applicable)		

2. European Union Commission Regulation 1275/2008- Wireless Network Instructions:

Where applicable, activate and deactivate a wireless network using the instructions provided in the product user guide or the operating system. Information is also available at www.hp.com/support.

P10

Sound Pressure Level

Noise emission – Declared according to ISO 9296 (See NOTE B9)

P10.1	Mode	Mode description	Statistical upper limit A-weighted sound pressure level, $L_{pA,m}$ (dB)
-------	------	------------------	--

Idle	* <i>Fans on, HDD spinning (if applicable)</i>	* 24	☐
Operation	* <i>Fans on, HDD spinning</i>	* 29	☐
Other mode			
Measured according to: ☒ ISO 7779 ☒ ECMA-74 ☐ Other (only if not covered by ECMA-74)			

Legal references Europe Annex B2

Reference	Declaration item
Directive 2011/65/EU (RoHS Directive) * * Specific exemptions apply for certain products and applications.	P1.1
Regulation (EC) 1907/2006 (REACH, Annex XVII)	P1.2, P1.4, P1.6, P1.7
Regulation (EC) 2037/2000, 2038/2000, 2039/2000 (Marketing and use of Ozone layer depleting substances)	P1.3, P5.3
Norwegian regulation relating to restrictions on the use of certain dangerous chemicals 20.12.2002	P1.5
Directive 2013/56/EC (Battery and accumulators Directive) * * These provisions shall not apply where, for safety, performance, medical or data integrity reasons, continuity of power supply is necessary and requires a permanent connection between the appliance and the battery or accumulator.	P2.1, P2.2, P2.3, P8.1
Directive 2006/95/EC (Low Voltage Directive)	P3.1
Directive 2004/108/EC (EMC Directive)	P3.1
Directive 1999/5/EC (R&TTE Directive)	P3.1
Regulation (EC) 801/2013 amending Regulation (EC) No 1275/2008 with regard to ecodesign requirements for standby, off mode electric power consumption of electrical and electronic household and office equipment, and amending Regulation (EC) No 642/2009 with regard to ecodesign requirements for televisions	P3.1, P3.2
Regulation (EC) No 1272/2008 (CLP Regulation)	P7.19
Directive 2004/12/EC (Packaging Directive)	P5.1
Decision 97/129/EC (Secondary packaging legislation)	P5.2
Directive 2012/19/EU (WEEE directive)	P6.1

Company environmental profile - THE ECO DECLARATION

Brand	HP	
Company name *	HP	
Contact information *	HP Sustainability and Compliance Center (SCC) sustainability@hp.com	
Internet site *	www.hp.com/hpinfo/globalcitizenship/environment/index.html	
Issue date *	2014-06-01	
Intended market *	☒ Global ☐ Europe ☐ Asia, Pacific & Japan ☐ Americas ☐ Other	
Additional information		

This is an uncontrolled copy when in printed form. Please refer to the contact information for the latest version.

The declaration may be published only when all rows and/or fields marked with an * are filled-in (n.a. for not applicable). Additional information regarding each item may be found under C7.

Company environmental profile - Legal requirements		Requirement met		
Item		Yes	No	n.a.
C1	Product recycling			
C1.1*	The company participates in a system or has its own system for collection and recycling of end of life products in countries where the company puts them on the market and where required (see legal reference)	☒	☐	
C2	Battery recycling			
C2.1*	The company participates in a system or has its own system for collection and recycling of batteries in countries where the company puts products on the market (see legal reference) or pays eco tax / fee where required.	☒	☐	
C3	Packaging recycling			
C3.1*	The company participates in a system or has its own system for collection and recycling of packaging material in countries where the company puts products on the market and where required (see legal reference)	☒	☐	

Company environmental profile - Market requirements		Requirement met		
Item		Yes	No	n.a.
C4	Environmental policy and environmental management			
C4.1*	The company has a documented environmental policy approved by the management.	☒	☐	
C4.2*	The company has an environmental management system covering: Product development Manufacturing If so certified according to: ☒ ISO 14001 ☒ Other as specified in C7	☒ ☒ ☒	☐ ☐ ☐	
C4.3	The company regularly publishes an environmental report. If so, it meets the recommendations of ☒ ISO 26001 ☐ 7	☒	☐	☐
C5	Recycling			
C5.1*	Information about the product, battery & packaging take back system (C1, C2 and C3) is available in printed or electronic format.	☒	☐	
C6	Voluntary programs			
C6.1	The company meets the requirements of the following voluntary program/s: Voluntary Agreement: Criteria version: Date: Product category: Voluntary Agreement: Criteria version: Date: Product category:			
C7	Additional information			
	HP has received ISO 14001 certification for its manufacturing operations (Worldwide Manufacturing of Computing and Imaging Products and Related Operations) and for product design for its Personal Systems Products and LaserJet and Enterprise Printing Products. The product design certifications include HP-wide product environmental design processes (such as HP's General Specification for the Environment) that cover all HP products. HP is committed to responsible business practices and transparency in its global citizenship policies and performance. We have a long history of working with suppliers to monitor and improve their social and environmental responsibility (SER) performance when required, as well as improving standards in the industry. HP endorses the EICC Code of Conduct in its entirety, and we have supplemented it with additional requirements specific to freedom of association as well as HP's Student and Dispatch Worker Guidance Standard for Supplier Facilities in the People's Republic of China (PRC). HP also has a strong Global Human Rights Policy in place. HP expects its suppliers to establish policies and processes regarding conflict minerals. HP conducts due diligence on its supply chain annually including requesting information about our suppliers' own due diligence and the smelters and refiners used. HP was the first IT company to			

publish its supply chain smelter list. HP follows the Global Reporting Initiative (GRI) guidelines as a basis for reporting. The GRI index provides easy reference to HP's Living Progress Report (LPR) content. HP offers take back services of products and printing suppliers in some 70 countries. Please refer to HP's Living Progress Report for more details on our global efforts.

Legal references Europe Annex A

Reference	Declaration item
Directive 2012/19/EU (WEEE directive)	C1.1
Directive 2006/66/EC (Battery and accumulators Directive) * * These provisions shall not apply where, for safety, performance, medical or data integrity reasons, continuity of power supply is necessary and requires a permanent connection between the appliance and the battery or accumulator.	C2.1
Directive 2004/12/EC (Packaging Directive)	C3.1
Decision 97/129/EC (Secondary packaging legislation)	C3.1

Reduce your downtime with HP PC Hardware Diagnostics



Check your HP PC for hardware failures using these comprehensive tests



Diagnose hardware problems

Determine if your HP hardware is defective with HP PC Hardware Diagnostics – a proprietary tool that helps diagnose problems. The tool is built using the Unified Extensible Firmware Interface (UEFI) specification, and is non-Windows based. That means you can use HP PC Hardware Diagnostics even if a computer doesn't open to Windows.

HP PC Hardware Diagnostics comes preinstalled on all HP notebooks, desktops and workstations built on ARM, Intel and AMD platforms, but not on Android™ or Chrome™ devices.

Save time by testing your hardware

Running these diagnostics tests allows you to:

- Quickly know if you have a hardware failure
- Simplify troubleshooting to streamline support calls to HP
- Avoid returns of working components

Get the tools you need

If you are having issues with a system or suspect a component is failing, running HP's Diagnostics will provide you with tools that can help pinpoint the problem. Within moments, you can be testing a specific component – or multiple components.

- Products with a UEFI BIOS include the diagnostics within the BIOS
- The latest diagnostics can be quickly downloaded online
- The diagnostics can be accessed immediately on your hard drive

Choose which tests to run

The menu-driven interface provides easy access to the hardware test of your choice, and running each hardware test is a simple one-click operation. You can also choose quick or extensive tests. Here's a partial list of hardware you can test:

- Processors
- Batteries (notebooks)
- Hard drives
- Optical drives
- Memory
- Video components
- System boards
- I/O devices

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4AA5-3192ENW, June 2014



HP PC Hardware Diagnostics UEFI

Please select a Language.

English

العربية

български

简体中文

Čeština

Dansk

Deutsch

Nederlands

Español

eesti keel

Suomi

Français

ελληνικά

עברית

Hrvatski

Magyar

Italiano





HP PC Hardware Diagnostics UEFI

Please select a Language.

Hrvatski



Magyar

Italiano

日本語

한국어

Latviešu valoda

Lietuvių kalba

Norsk

Polski

Português (Portugal)

Português (Brasil)

Română

Русский язык

Slovenčina

Slovenščina

српски

Svenska





HP PC Hardware Diagnostics UEFI

Versão 6.0.0.0

Para obter mais informações e atualizações, acesse www.hp.com/go/techcenter/PCDiags.

Informações do sistema

Testes do sistema

Testes de componentes

Registros dos testes

Idioma

Sair



Testes do sistema

O teste do sistema verificará os subsistemas para garantir que estejam funcionando corretamente. Selecione o Teste rapidíssimo para executar uma verificação rápida do hardware. Selecione o Teste rápido para executar uma verificação rápida do hardware. Selecione o teste extenso para executar uma verificação completa de hardware. O teste extenso pode demorar duas ou mais horas para ser concluído.

Teste rapidíssimo

Teste rápido

Teste extenso

Menu principal



Testes de componentes

Selecione um dos seguintes testes para verificar o subsistema associado.

Processador

Memória

Unidade de disco

Áudio

Teclado

Mouse

Rede

Unidade óptica

Placa de sistema

Porta USB

Vídeo

Módulo sem fio

Menu principal

Overview

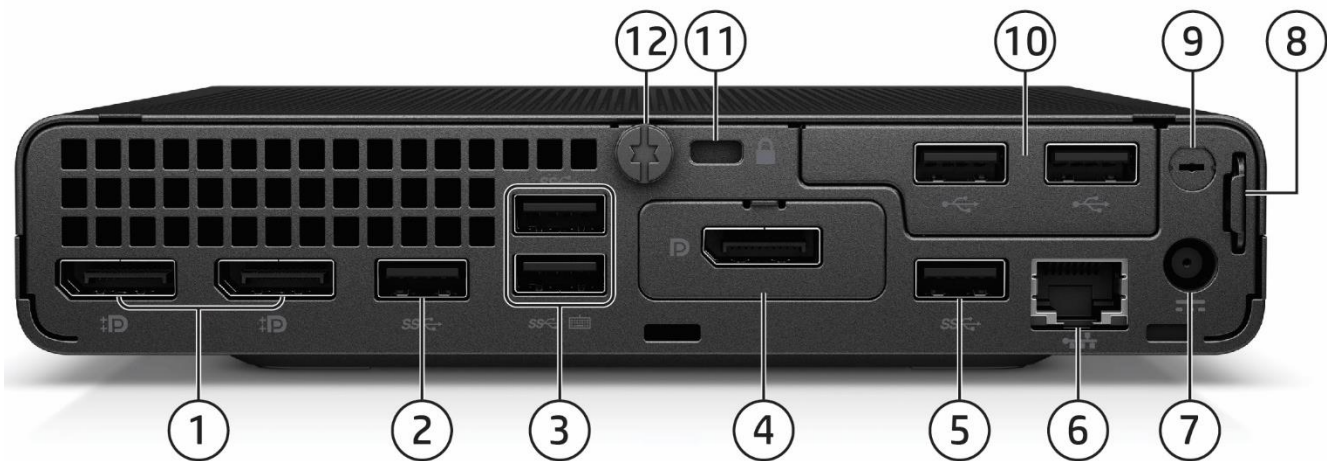
HP EliteDesk 805 G6 Desktop Mini Business PC



- | | |
|--|---|
| 1. Type-C™ SuperSpeed USB 10Gbps signaling rate (charge support up to 5V/3A) | 4. Universal Audio Jack with CTIA headset support |
| 2. Type-A SuperSpeed USB 10 Gbps signaling rate | 5. Dual-state power button |
| 3. Type-A SuperSpeed USB 10 Gbps signaling rate (charge support up to 5V/3A) | 6. Hard Drive activity light |

Overview

HP EliteDesk 805 G6 Desktop Mini Business PC



1. (2) DisplayPort™ 14

2. Type-A SuperSpeed USB 10Gbps signaling rate

3. 2x Type-A SuperSpeed USB 5Gbps signaling rate (Supporting wake from S4 with keyboard/mouse connected and enabled in BIOS)

4. (1) Flex Port 1*, choice of:
 - DisplayPort™ 1.4 (shown here installed)
 - HDMI 2.0a
 - VGA
 - 2.5 GbE Ethernet NIC
 - (2) Type A SuperSpeed USB 5Gbps signaling rate
 - Type-C® SuperSpeed USB 10Gbps signaling rate port w/Alt Mode DisplayPort™
 - Fiber NIC (1Gbps or 100 MBps)

5. Type-A SuperSpeed USB 10Gbps signaling rate
6. RJ-45 Network Adapter

7. Power connector

8. Retractable Padlock Loop

9. External WLAN antenna opening

10. (1) Flex Port 2, choice of:
 - VR Ready NVIDIA GTX 1660 Ti discrete GPU
 - (2) Type-A Hi-Speed USB 480Mbps signaling rate port (shown here installed)
 - Serial

11. Standard cable lock slot (10mm)

12. Cover release thumbscrew

Not Shown		
Slots	(1) internal M.2 WLAN (2230 connector) (2) internal M.2 SSD storage (2280 connector)	Mounting VESA 100 mounting system integrated on bottom of PC chassis Support for: - VESA Sleeve standalone - Quick Release Bracket - B300/B500 Mounting bracket - Integrated Work Center Stand
Bays	(1) 2.5- inch SATA drive Bay	

*NOTE: Availability depends on model

Overview

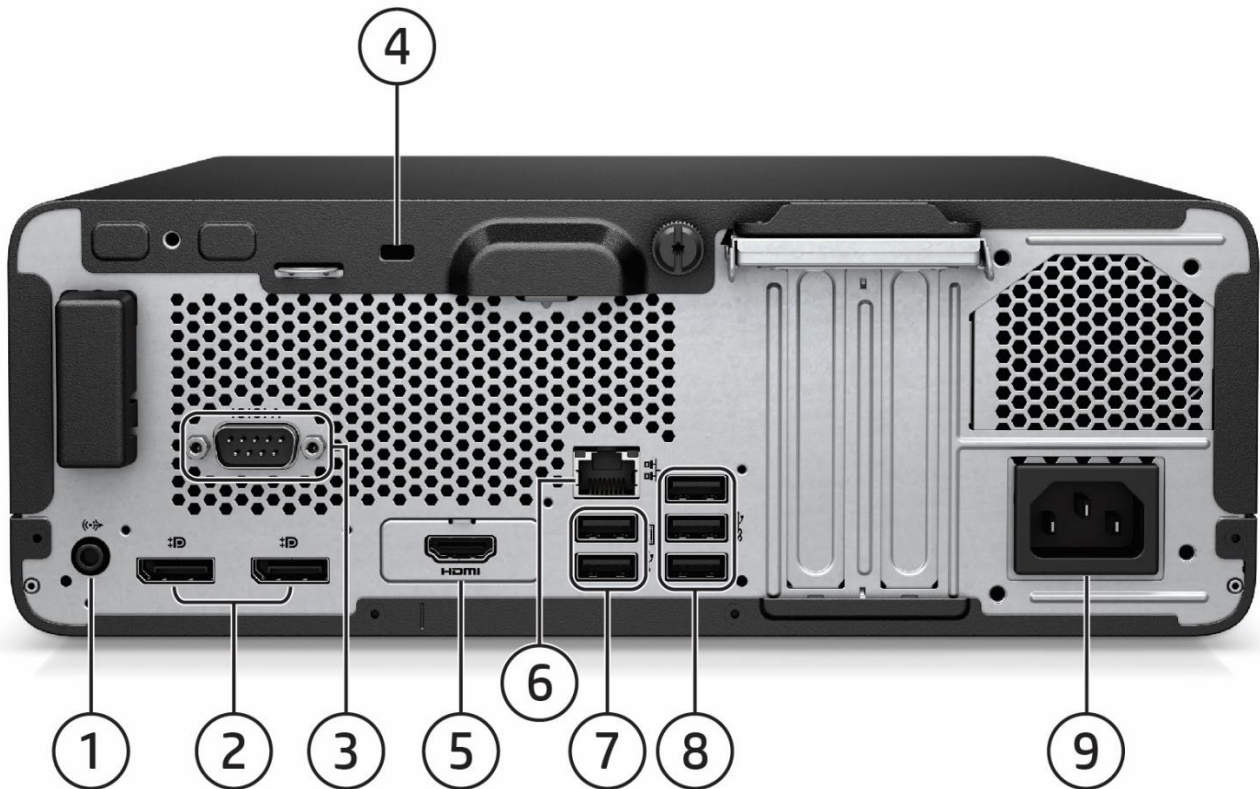
HP EliteDesk 805 G6 Small Form Factor Business PC



- | | |
|---|---|
| 1. 9.5mm slim optical drive (optional) | 5. (2) Type A SuperSpeed USB 5Gbps signaling rate (fast charging) |
| 2. SD 4 media card reader (optional) | 6. Universal Audio Jack with CTIA headset support |
| 3. USB-C® SuperSpeed USB 10Gbps signaling rate (charge support up to 5V/3A) | 7. Dual-state power button |
| 4. (2) Type A SuperSpeed USB 10Gbps signaling rate | 8. Hard Drive activity light |

Overview

HP EliteDesk 805 G6 Small Form Factor Business PC



- | | |
|---|---|
| 1. Audio line-out connector | 6. RJ-45 Network Adapter |
| 2. (2) DisplayPort™ 1.4 | 7. 2x Type A Hi-Speed USB 480Mbps signaling rate (one with wake from keyboard) |
| 3. Optional serial port (shown here installed) | 8. 3x Type A SuperSpeed USB 5Gbps signaling rate |
| 4. Standard lock slot | 9. Power connector |
| 5. Optional Flex Port, choice of: | |
| <ul style="list-style-type: none"> • DisplayPort™ 1.4 • HDMI 2.0a (shown here installed) • VGA • Serial | <ul style="list-style-type: none"> • (2) Type A SuperSpeed USB 5Gbps signaling rate • Type-C® SuperSpeed USB 10Gbps signaling rate port w/Alt Mode DisplayPort™ |

Slots

- (1) PCI Express x16 graphics connectors
- (1) PCI Express x4
- (1) internal M.2 WLAN (2230 connector)
- (2) internal M.2 SSD storage (2280 connector)

Bays

- (1) 3.5" internal storage drive bay (convertible to two 2.5", requiring adapter supplied from factory only)
- (1) 9.5mm slim optical drive bay

Standard Features and Configurable Components (availability may vary by country)

AT A GLANCE

- Choice of two form factors: Small Form Factor and Desktop Mini
- HP developed and engineered UEFI V2.7 BIOS supporting security, manageability and software image stability
- AMD® Ryzen™ PRO 4000 series processors with Radeon™ Vega Graphics¹
- Support for up to 7 monitors on DM² and 6 monitors on SFF via two standard DisplayPort™ 1.2, a configurable flex port for video and a discrete graphics card.⁷
- Configurable flex port provides the following choices: HDMI 2.0a, VGA, DisplayPort™ 1.4, USB Type-C™ with DisplayPort™ 1.2 for all platforms; 2nd serial or dual USB Type-A for SFF, USB Type-C™ with DisplayPort™ 1.2 with 100W Power Delivery for DM and discrete graphics with Display Port™ 1.4 for DM with 35W (see Ports section for port availability by platform).
- 2nd flex port available for DMs with the choice of Serial and dual USB Type-A.
- Intel® Wi-Fi® 6 + BT5 (802.11AX 2x2)³
- DDR4 Synchronous Dynamic Random Access Memory (SDRAM) (Transfer rates up to 3200 MT/s)⁶
- Compatibility with HP Mini-In-One 24 Display⁴ (DM)
- Configurable NVIDIA® GeForce®VR ready discrete graphics card with (3) Mini DisplayPort™ and (1) micro-HDMI video port for DM to support up to (7) monitors with minimum 4K resolution.⁷
- Configurable NVIDIA® Quadro® discrete graphics card with (3) Mini DisplayPort™ for SFF to support up to (6) monitors with minimum 4K resolution.^{2, 7}
- Compatible with HP Reverb VR Headset (DM)
- Models can be configured with multiple data drives in a RAID array and support RAID 1 configured from factory.
- Industry-standard AMD® DASH manageability with full featured KVM
- Enhanced security with HP Security Suite (Refer to Security Section for details)
- ENERGY STAR® certified. EPEAT® 2019 registered where applicable. EPEAT® registration varies by country. See <http://www.epeat.net> for registration status by country. According to IEEE 1680.1-2018.
- CCC, CECP and SEPA Certified
- TCO certified
- PC chassis and all internal components and modules are manufactured with low halogen content⁵
- Dust filter available (SFF and DM 35W)
- Protected by HP Services, including limited warranties up to 3-3-3 (terms and conditions vary by country; certain restrictions and exclusions apply); Care Packs available with up to 5 years Next Business Day Onsite Hardware Support
- Compliance with CE (Class B) / FCC (Class B) / UL (UL60950-1/UL62368-1) / CSA (CSA C22.2 No.62368-1-14) / ICES-003 / CCC / VCCI (Class B) / KCC (Class B)
- Fiber NIC (100Mbps and 1Gbps) cards would not be available in some selected European countries and Korea.

1. Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. AMD's numbering is not a measurement of clock speed.

2. Only available on Desktop Minis with 35W processor.

3. Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi® 6 is backwards compatible with prior 802.11 specs. The specifications for Wi-Fi® 6 (802.11ax) may affect the ability of the PC to communicate with other 802.11ax devices.

4. HP Mini-in-One 24 Display sold separately. PC must be configured with optional USB Type-C™ with DisplayPort™ 1.2 with 100W Power Delivery

5. External power supplies, power cords, cables and peripherals are not Low Halogen. Service parts obtained after purchase may not be low halogen.

6. Transfer rates determined by processor and memory configuration

7. Configurable VGA port does not support 4K resolution.

NOTE: See important legal disclosures for all listed specs in their respective features sections.

Standard Features and Configurable Components (availability may vary by country)

PRODUCT NAME

HP EliteDesk 805 G6 Desktop Mini Business PC
HP EliteDesk 805 G6 Small Form Factor Business PC

OPERATING SYSTEM

Preinstalled

Windows® 10 Pro 64¹ - HP recommends Windows 10 Pro¹
Windows® 10 Pro 64 (National Academic License)²
Windows® 10 Home 64¹
Windows® 10 Home Single Language 64¹
Windows® 10 Enterprise 64 (Web support)¹
FreeDos

1. Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows functionality. Windows 10 is automatically updated, which is always enabled. ISP fees may apply and additional requirements may apply over time for updates. See <http://www.windows.com/>.

2. Some devices for academic use will automatically be updated to Windows 10 Pro Education with the Windows 10 Anniversary Update. Features vary; see <https://aka.ms/ProEducation> for Windows 10 Pro Education feature information.

SUPPORTED VERSIONS

HP tested Windows 10, version 1809 on this platform. For testing information on newer versions of Windows 10, please see <https://support.hp.com/document/c05195282>

CHIPSET

	DM	SFF
AMD® PRO 565	X	X

Standard Features and Configurable Components (availability may vary by country)

PROCESSORS¹

AMD® Ryzen™ 4000 series Desktop Processors with PRO technologies and integrated AMD® Radeon™ Graphics

	<u>DM</u>	<u>SFF</u>
AMD Ryzen™ 7 PRO 4750G Processor (8C/16T, 12 MB cache, 4.4GHz Boost) 65W	X	X
AMD Ryzen™ 7 PRO 4750GE Processor (8C/16T, 12MB cache, 4.3GHz Boost) 35W	X	
AMD Ryzen™ 5 PRO 4650G Processor (6C/12T, 11MB cache, 4.2GHz Boost) 65W	X	X
AMD Ryzen™ 5 PRO 4650GE Processor (6C/12T, 11MB cache, 4.2GHz Boost) 35W	X	
AMD Ryzen™ 3 PRO 4350G Processor (4C/8T, 6MB cache, 4.0GHz Boost) 65W	X	X
AMD Ryzen™ 3 PRO 4350GE Processor (4C/8T, 6MB cache, 4.0GHz Boost) 35W	X	

1. Multi-core is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. AMD's numbering is not a measurement of clock speed.

Standard Features and Configurable Components (availability may vary by country)

GRAPHICS

System Integrated Graphics

	DM	SFF
AMD® Radeon™ Graphics	X	X

Optional Discrete Graphics Solutions

	DM	SFF
AMD® Radeon™ RX 550X 4GB 1DP 1 HDMI Graphics Card		X
AMD® Radeon™ R7 430 2GB GDDR5 64bit DP+VGA ¹		X
AMD® Radeon™ R7 430 2GB GDDR5 64bit 2DP		X
NVIDIA® Quadro® P400 2GB mdp to DVI GFX		X
NVIDIA® Quadro® P400 2GB mdp to DP GFX		X
NVIDIA® GeForce® GT1660Ti 6GB 3mDP Micro HDMI ²	X	

1. Not available in all regions.

2. Only available on the Desktop Mini with 35W Processor

Adapters and Cables

	DM	SFF
HP DisplayPort™ Cable	X	X
HP DisplayPort™ to DVI-D Adapter	X	X
HP DisplayPort™ to HDMI 4K Adapter	X	X
HP DisplayPort™ to VGA Adapter	X	X
HP USB to Serial Port Adapter	X	X
HP USB-C® to HDMI 4K Adapter	X	X
HP USB-C® to DisplayPort Adapter	X	X
HP DVI Cable	X	X
Micro HDMI to HDMI Adapter	X	
Mini DisplayPort to DisplayPort Adapter	X	

STORAGE

3.5 inch SATA Hard Disk Drives (HDD)

	DM	SFF
HDD 500GB 7200RPM 3.5in		X
HDD 1TB 7200RPM SATA-3 3.5in		X
HDD 2TB 7200RPM SATA-3 3.5in		X

2.5 inch SATA Hard Disk Drives (HDD)

	DM	SFF
HDD 1TB 5400RPM 2.5in	X	X
HDD 2TB 5400RPM 2.5in	X	X
HDD 500GB 7200RPM 2.5in	X	X
HDD 1TB 7200RPM 2.5in	X	X
HDD 500GB 7200RPM 2.5in Self Encrypted Drive OPAL2	X	X
HDD 500GB 7200RPM 2.5in Federal Information Processing Standard	X	X

Standard Features and Configurable Components (availability may vary by country)

M.2 PCIe NVMe Solid State Drives (SSD)

	<u>DM</u>	<u>SFF</u>
256GB M.2 2280 PCIe NVMe SSD	X	X
512GB M.2 2280 PCIe NVMe SSD	X	X
128GB M.2 2280 PCIe NVMe Three Layer Cell SSD	X	X
256GB M.2 2280 PCIe NVMe Three Layer Cell SSD	X	X
512GB M.2 2280 PCIe NVMe Three Layer Cell SSD	X	X
1TB M.2 2280 PCIe NVMe Three Layer Cell SSD	X	X
2TB M.2 2280 PCIe NVMe Three Layer Cell SSD	X	X
256GB M.2 2280 PCIe NVMe Self Encrypted OPAL2 Three Layer Cell SSD	X	X
512GB M.2 2280 PCIe NVMe Self Encrypted OPAL2 Three Layer Cell SSD	X	X

Optical Disc Drives

	<u>DM</u>	<u>SFF</u>
HP 9.5mm Slim DVD-ROM Drive		X
HP 9.5mm Slim DVD Writer Drive		X
HP 9.5mm Slim Blu-Ray Writer Drive		X

Media Card Reader

	<u>DM</u>	<u>SFF</u>
SD 4.0 with 5-in-1 Interface (Supports SD, SDXC, SDHC, UHS-I, UHS-II)		X

NOTE: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows 10) of system disk is reserved for the system recovery software.

MEMORY^{1,2}

Max Memory Configuration

	<u>DM</u>	<u>SFF</u>
DDR4-3200 (Transfer rates up to 3200 MT/s), 64 GB, 2 SODIMM	X	
DDR4-3200 (Transfer rates up to 3200 MT/s), 128 GB, 4 DIMM		X

1. All memory slots are customer accessible/upgradeable.

2. Actual transfer rate will vary and is determined by the system's configured processor. See processor specifications for supported memory data rate.

Memory Configuration

	<u>DM</u>	<u>SFF</u>
4 GB (1 x 4 GB)	X	X
8 GB (2 x 4 GB)	X	X
8 GB (1 x 8 GB)	X	X
16 GB (2 x 8 GB)	X	X
16 GB (1 x 16 GB)	X	X
32 GB (2 x 16 GB)	X	X
32 GB (4 x 8 GB)		X
32 GB (1 x 32 GB)	X	X
64 GB (4 x 16 GB)		X
64 GB (2 x 32 GB)	X	X
128 GB (4 x 32 GB)		X



Standard Features and Configurable Components (availability may vary by country)

NETWORKING/COMMUNICATIONS

Ethernet (RJ-45)

	DM	SFF
Realtek® RTL8111FP (standard) ¹	X	X
Intel® I210-T1 PCIe x1 Gigabit Network Interface Card (optional)		X

1. Supports full-featured AMD DASH and hardware enforced KVM

Wireless¹

	DM	SFF
Realtek 8852AE Wi-Fi 6 and Bluetooth® M.2 Combo Card ²	X	
Realtek RTL8822CE Wi-Fi 5 (2x2) and Bluetooth® 5 Combo	X	X
Realtek RTL8822CE Wi-Fi 5 (2x2) and Bluetooth® 5 Combo with external antenna	X	

1. Wireless access point and internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 5 (802.11 ac) is backwards compatible with prior 802.11 specs.

2. Wi-Fi 6 is backwards compatible with prior 802.11 specs. The specifications for Wi-Fi® 6 (802.11ax) are draft and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the notebook to communicate with other 802.11ax devices. Only available in countries where 802.11ax is supported.

KEYBOARDS AND POINTING DEVICES

Keyboards

	DM	SFF
HP Wired Desktop 320K Keyboard	X	X
HP USB Premium Keyboard	X	X
HP USB and PS/2 Washable Keyboard	X	X
HP USB Smart Card (CCID) Keyboard	X	X
HP USB Keyboard	X	X
HP PS/2 Business Slim Keyboard		X
HP Wireless Business Slim Keyboard and Mouse	X	X
HP USB Business Slim Antimicrobial Keyboard ¹	X	X
HP Wireless Premium Keyboard and Mouse	X	X
HP USB Keyboard and Mouse Healthcare Edition	X	X
HP Wireless Premium Keyboard	X	X

1. China only

Mouse

	DM	SFF
HP Wired Desktop 320M Mouse	X	X
HP PS/2 Mouse		X
HP USB Optical Wired Mouse	X	X
HP USB Premium Mouse	X	X
HP 1000dpi Laser Mouse USB	X	X
HP USB and PS/2 Washable Mouse	X	X
Antimicrobial USB Mouse ¹	X	X
HP Hardened Optical USB Mouse ¹	X	X
HP USB Fingerprint Reader Mouse	X	X



Standard Features and Configurable Components (availability may vary by country)

1. China only

SECURITY

	DM	SFF
TPM 2.0 (FW: 7.85) endpoint security controller (Infineon SLB9670) shipped with Windows 10. Common Criteria EAL4+ Certified. FIPS 140-2 Level 2 Certified.	X	X
Intrusion Sensor (Optional)		X
Intrusion Sensor (integrated in the system board, can be enabled/disabled through BIOS)	X	
Support for chassis cable lock devices	X (10 mm barrel or smaller)	X
Support for chassis padlocks devices	X	X
SATA port disablement (via BIOS)	X	X
Serial, USB enable/disable (via BIOS)	X	X
Removable media write/boot control	X	X
Power-on password (via BIOS)	X	X
Setup password (via BIOS)	X	X

PORTS

I/O Ports – Internal Ports

	DM	SFF
Internal SATA storage connector(s)	N/A	(3)
Internal SATA storage connector (Data and Power)	(1)	N/A

NOTE: For Desktop Mini with M.2 Storage config, there will be no SATA drive bracket. If you plan to use or upgrade the storage with any 2.5" SATA drive, please select a DM SATA Drive Bracket (available as both factory configured and after market option). (Not applicable to all regions.)

I/O Ports – Standard

	DM	SFF
Hi-Speed USB 480Mbps signaling rate port		2 rear
Type-A SuperSpeed USB 5 Gbps signaling rate port	(2) (rear)	(2) (front);3 (rear)
Type-A SuperSpeed USB 10 Gbps signaling rate port	(2) (front);2 (rear)	(2) (front)
Type-C® SuperSpeed USB 10 Gbps signaling rate port (15W)	(1)(front)	(1) (front)
Video	(2) DisplayPort™ 1.4 (rear)	(2) DisplayPort™ 1.4 (rear)
Audio	(1) Universal Audio Jack with CTIA headset support (front)	(1) Universal Audio Jack with CTIA headset support (front); (1) Audio-out (rear)
Network Interface	RJ45	RJ45

Standard Features and Configurable Components (availability may vary by country)

I/O Ports – Optional

	DM	SFF
Serial (RS-232)	N/A	1 (rear)
Serial (RS-232) and PS/2 combination	N/A	1 (rear) ¹

1. Occupies PCIe slot

(1) Flexible Port 1 – Optional (rear), choice of one of the following...

	DM	SFF
Type-A SuperSpeed USB 5 Gbps signaling rate port	2	2
Type-C® SuperSpeed USB 10Gbps signaling rate port	(1) w/DisplayPort™ 1.2 Alt Mode and power intake via USB Type-C® Power Delivery up to 100W	(1) w/ DisplayPort™ 1.2 Alt Mode
Video	(1) DisplayPort™ 1.4 <u>or</u> HDMI 2.0 <u>or</u> VGA	(1) DisplayPort™ 1.4 <u>or</u> HDMI 2.0 <u>or</u> VGA
Serial (RS-232)	N/A	(1)
Fiber NIC	(1) 100Mbps NIC (1) 1 Gbps NIC	N/A
RJ-45 Ethernet NIC	(1) 2.5Gbps	N/A

(1) Flexible Port 2 – Optional (rear), choice of one of the following:

	DM	SFF
Type-A Hi-Speed USB 480Mbps signaling rate port	(2)	N/A
Serial (RS-232)	(1)	N/A
Discrete Graphics ¹	(1)	N/A

1. Only available on the Desktop Mini with 35W Processor

Slots

	DM	SFF
M.2 PCIe	(1) M.2 PCIe x1 2230 (for WLAN) (2) M.2 PCIe x4 2280 (for storage)	(1) M.2 PCIe x1 2230 (for WLAN) (2) M.2 PCIe x4 2280 (for storage)
PCI Express v3.0 x4	N/A	1
PCI Express v3.0 x16	N/A	1

Bays

	DM	SFF
9.5mm Slim ODD	N/A	1
Secure Digital (SD) Reader	N/A	1
2.5" internal storage drive	1 (optional)	2 ¹
3.5" internal storage drive	N/A	1

1. SFF can be configured with either (1) 3.5" or (2) 2.5" internal storage drive (2.5" requiring adapter supplied from factory only)
SATA 2.5" internal storage drive cannot be selected if 2nd M.2 SSD or discrete graphic card, or 95W processor is selected

Standard Features and Configurable Components (availability may vary by country)

USB SPECIFICATION AND MARKETING NAME MAPPING TABLE

Marketing Name	Technical Terminology
Hi-Speed USB 480Mbps signaling rate	USB 2.0
SuperSpeed USB 5Gbps signaling rate	USB 3.2 Gen 1
SuperSpeed USB 10Gbps signaling rate	USB 3.2 Gen 2
SuperSpeed USB 20Gbps signaling rate	USB 3.2 Gen 2x2

Standard Features and Configurable Components (availability may vary by country)

SOFTWARE COMPONENTS AND APPLICATIONS WITH WINDOWS

BIOS

HP BIOSphere Gen6¹
HP DriveLock & Automatic DriveLock
BIOS Update via Network
Power On Authentication
HP Secure Erase²
Absolute Persistence Module³
Pre-boot Authentication
HP Wake on WLAN

Software

HP Smart Support⁴

myHP

HP Support Assistant⁵
HP Noise Cancellation Software
HP Privacy Settings
HP Setup Integrated OOBE
HP PC Hardware Diagnostics Windows

Manageability Features

HP Driver Packs (download)⁶
HP System Software Manager (SSM) (download)
HP BIOS Config Utility (BCU) (download)
HP Client Catalog (download)
HP Manageability Integration Kit Gen4 (download)⁷
Ivanti Management Suite (download)⁸
HP Client Management Script Library (download)
HP Image Assistant Gen5 (download)

Client Security Software

HP Client Security Manager Gen6⁹
HP Power On Authentication
Windows Defender¹⁰

Security Management

Trusted Platform Module TPM 2.0 Embedded Security Chip shipped with Windows 10. Common Criteria EAL4+ Certified. SATA 0,1 port disablement (via BIOS)
Serial, USB enable/disable (via BIOS)
Power-on password (via BIOS)
Setup password (via BIOS)
Support for chassis padlocks and cable lock devices
HP Sure Start Gen6¹¹
HP Sure Click¹²
HP Sure Run Gen3¹³
HP Sure Recover Gen3¹⁴
HP Sure Sense¹⁵

1. HP BIOSphere Gen6 is available on select HP Pro and Elite PCs. See product specifications for details. Features may vary depending on the platform and configurations.

2. Secure Erase for the methods outlined in the National Institute of Standards and Technology Special Publication 800-88. "Clear" sanitation method. HP Secure Erase does not support platforms with Intel® Optane™

Standard Features and Configurable Components (availability may vary by country)

3. Absolute agent is shipped turned off and will be activated when customers activate a purchased subscription. Subscriptions can be purchased for terms ranging multiple years. Service is limited, check with Absolute for availability outside the U.S. The Absolute Recovery Guarantee is a limited warranty. Certain conditions apply. For full details visit: <http://www.absolute.com/company/legal/agreements/computrace-agreement>. Data Delete is an optional service provided by Absolute Software. If utilized, the Recovery Guarantee is null and void. In order to use the Data Delete service, customers must first sign a Pre-Authorization Agreement and either obtain a PIN or purchase one or more RSA SecurID tokens from Absolute Software.
4. HP Smart Support is available to commercial customers through your HP Service Representative and HP Factory Configuration Services; or it can be downloaded at: <http://www.hp.com/smart-support>. HP Smart Support automatically collects the telemetry necessary upon initial boot of the product to deliver device-level configuration data and health insights.
5. HP Support Assistant requires Windows and Internet access.
6. HP Driver Packs not preinstalled, however available for download at <http://www.hp.com/go/clientmanagement>.
7. HP Manageability Integration Kit can be downloaded from <http://www8.hp.com/us/en/ads/clientmanagement/overview.html>.
8. Ivanti Management Suite subscription required.
- 9 HP Client Security Manager Gen6 requires Windows and is available on the select HP Pro and Elite PCs.
10. Windows Defender Opt in and internet connection required for updates.
11. HP Sure Start Gen6 is available on select HP PCs with Intel processors
12. HP Sure Click requires Windows 10 Pro or Enterprise. See https://bit.ly/2PrLT6A_SureClick for complete details.
13. HP Sure Run Gen3 is available on select Windows 10 based HP Pro, Elite and Workstation PCs with select Intel® or AMD processors.
14. HP Sure Recover Gen3 is available on select HP PCs and requires an open network connection. You must back up important files, data, photos, videos, etc. before using HP Sure Recover to avoid loss of data.
15. HP Sure Sense requires Windows 10 Pro or Enterprise.

Standard Features and Configurable Components (availability may vary by country)

ENVIRONMENTAL & INDUSTRY

ENERGY STAR® certified models available

ENERGY STAR® certified. EPEAT® 2019 registered where applicable. EPEAT® registration varies by country. See <http://www.epeat.net> for registration status by country. According to IEEE 1680.1-2018.

Low halogen (chassis, all internal components and modules)²
TAA compliant models available

1. External power supplies, power cords, cables and peripherals are not Low Halogen. Service parts obtained after purchase may not be Low Halogen.

UNIT ENVIRONMENT AND OPERATING CONDITIONS

General Unit Operating Guidelines

- Keep the computer away from excessive moisture, direct moisture and the extremes of heat and cold, to ensure that unit is operated within the specified operating range.
- Leave a 10.2 cm (4 in) clearance on all vented sides of the computer to permit the required airflow.
- Never restrict airflow into the computer by blocking any vents or air intakes.
- Do not stack computers on top of each other or place computers so near each other that they are subject to each other's re-circulated or preheated air.
- Occasionally clean the air vents on the front, back, and any other vented side of the computer. Lint, dust and other foreign matter can block the vents and limit the airflow.
- If the computer is to be operated within a separate enclosure, intake and exhaust ventilation must be provided on the enclosure, and the same operating guidelines listed above will still apply.

Temperature Range	Operating: 50° to 95° F (10° to 35° C) ¹ Non-operating: -22° to 140° F (-30° to 60° C)
Relative Humidity	Operating: 10% to 90% (non-condensing at ambient) Non-operating: 5% to 95% (non-condensing at ambient)
Maximum Altitude (unpressurized)	Operating: 5000m Non-operating: 50000ft (15240 m)

1. Operating temperature is de-rated 1.0 deg C per 300 m (1000 ft) to 3000 m (10,000 ft) above sea level, no direct sustained sunlight. Maximum rate of change is 10 deg C/Hr. The upper limit may be limited by the type and number of options installed.

HP EliteDesk 805 Desktop Mini G6 Business PC

Eco-Label Certifications & declarations	This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks: • IT ECO declaration • US ENERGY STAR® • EPEAT® Gold registered in the United States. See http://www.epeat.net for registration status in your country. • TCO Certified 8.0 *Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. Status varies by country. Visit http://www.epeat.net for more information.
Sustainable Impact Specifications	• Low halogen¹ • Ocean-Bound Plastic in speaker enclosure² • Outside Box and corrugated cushions are 100% sustainably sourced and recyclable³ • 75% post-consumer recycled plastic⁴ • Molded Paper Pulp Cushion inside box is 100% sustainably sourced and recyclable⁵

Standard Features and Configurable Components (availability may vary by country)

	1. External power supplies, WWAN modules, power cords, cables and peripherals excluded. Service parts obtained after purchase may not be Low Halogen. 2. Percentage of ocean-bound plastic contained in each component varies by product 3. 100% outer box packaging and corrugated cushions made from sustainably sourced certified and recycled fibers. 4. Recycled plastic content percentage is based on the definition set in the IEEE 1680.1-2018 standard. 5. Molded pulp cushions are made from 100% recycled wood fiber and organic materials.		
System Configuration	The configuration used for the Energy Consumption and Declared Noise Emissions data for the Desktop model is based on a “Typically Configured Desktop”.		
Energy Consumption (in accordance with US ENERGY STAR® test method)	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz
Normal Operation (Short idle)	9.9 W	10 W	9.6 W
Normal Operation (Long idle)	9.1 W	9.2 W	9 W
Sleep	0.8 W	0.8 W	0.8 W
Off	0.7 W	0.7 W	0.7 W
	NOTE: Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system.		
Heat Dissipation*	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz
Normal Operation (Short idle)	33.63 BTU/hr	33.93 BTU/hr	32.88 BTU/hr
Normal Operation (Long idle)	31.17 BTU/hr	31.5 BTU/hr	30.54 BTU/hr
Sleep	2.7 BTU/hr	2.7 BTU/hr	2.6 BTU/hr
Off	2.31 BTU/hr	2.4 BTU/hr	2.23 BTU/hr
	NOTE: Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.		
Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)	Sound Power (L _{WAd} , bels)	Sound Pressure (L _{pAm} , decibels)	
Typically Configured – Idle	3.1	19	
Fixed Disk – Random writes	2.9	20	
Longevity and Upgrading	This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the product may include: Spare parts are available throughout the warranty period and or for up to “5” years after the end of production.		
Batteries	his battery(s) in this product comply with EU Directive 2006/66/EC Batteries used in the product do not contain: Mercury greater the 1ppm by weight Cadmium greater than 20ppm by weight		

Standard Features and Configurable Components (availability may vary by country)

	Battery size: Not Applilcable Battery type: Not Applilcable		
Additional Information	• This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC. • This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC. • This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986). • This product is in compliance with the IEEE 1680.1 (EPEAT) standard at the <Gold> level, see www.epeat.net • Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043. • This product contains 35.2% post-consumer recycled plastic (by wt.) • This product is 92.8% recycle-able when properly disposed of at end of life.		
Packaging Materials	External:	PAPER/Corrugated	450 g
	Internal:	PAPER/Molded Pulp	74 g
		PLASTIC/Polyethylene low density - LDPE	5 g
Material Usage	This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf): • Asbestos • Certain Azo Colorants • Certain Brominated Flame Retardants – may not be used as flame retardants in plastics • Cadmium • Chlorinated Hydrocarbons • Chlorinated Paraffins • Formaldehyde • Halogenated Diphenyl Methanes • Lead carbonates and sulfates • Lead and Lead compounds • Mercuric Oxide Batteries • Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user. • Ozone Depleting Substances • Polybrominated Biphenyls (PBBs) • Polybrominated Biphenyl Ethers (PBBEs) • Polybrominated Biphenyl Oxides (PBBOs) • Polychlorinated Biphenyl (PCB) • Polychlorinated Terphenyls (PCT) • Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications. • Radioactive Substances • Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)		
Packaging Usage	HP follows these guidelines to decrease the environmental impact of product packaging: • Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials. • Eliminate the use of ozone-depleting substances (ODS) in packaging materials. • Design packaging materials for ease of disassembly. • Maximize the use of post-consumer recycled content materials in packaging materials. • Use readily recyclable packaging materials such as paper and corrugated materials. • Reduce size and weight of packages to improve transportation fuel efficiency. • Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.		

Standard Features and Configurable Components (availability may vary by country)

End-of-life Management and Recycling	HP Inc. offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: http://www.hp.com/go/reuse-recycle or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/recyclers. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.
HP Inc. Corporate Environmental Information	For more information about HP's commitment to the environment: Global Citizenship Report http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html Eco-label certifications http://www8.hp.com/us/en/hp-information/environment/ecolabels.html ISO 14001 certificates: http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/PC_GBU_Product_Design_ISO_14K_Certificate.pdf and http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf

HP EliteDesk 805 Small Form Factor G6 Business PC

Eco-Label Certifications & declarations	This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks: • IT ECO declaration • US ENERGY STAR® • EPEAT® Gold registered in the United States. See http://www.epeat.net for registration status in your country. • TCO Certified 8.0 *Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. Status varies by country. Visit http://www.epeat.net for more information.		
Sustainable Impact Specifications	• 80 Plus® Platinum power supplies available • External Power Supply 90% Efficiency • Low halogen¹ • Ocean-Bound Plastic in speaker enclosure² • Outside Box and corrugated cushions are 100% sustainably sourced and recyclable³ • Recycled Plastic cushions⁴ • 40% post-consumer recycled plastic⁵ • Molded Paper Pulp Cushion inside box is 100% sustainably sourced and recyclable⁶ 1. External power supplies, WWAN modules, power cords, cables and peripherals excluded. Service parts obtained after purchase may not be Low Halogen. 2. Percentage of ocean-bound plastic contained in each component varies by product 3. 100% outer box packaging and corrugated cushions made from sustainably sourced certified and recycled fibers. 4. Plastic cushions are made from >90% recycled plastic. 5. Recycled plastic content percentage is based on the definition set in the IEEE 1680.1-2018 standard. 6. Molded pulp cushions are made from 100% recycled wood fiber and organic materials.		
System Configuration	The configuration used for the Energy Consumption and Declared Noise Emissions data for the Desktop model is based on a “Typically Configured Desktop”.		
Energy Consumption (in accordance with US	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz



Standard Features and Configurable Components (availability may vary by country)

ENERGY STAR® test method)			
Normal Operation (Short idle)	14.5 W	14.6 W	14.5 W
Normal Operation (Long idle)	13.5 W	13.6 W	13.1 W
Sleep	0.8 W	0.8 W	0.8 W
Off	0.7 W	0.7 W	0.7 W
	NOTE: Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system.		
Heat Dissipation*	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz
Normal Operation (Short idle)	49.6 BTU/hr	49.9 BTU/hr	49.6 BTU/hr
Normal Operation (Long idle)	46.2 BTU/hr	46.5 BTU/hr	44.8 BTU/hr
Sleep	2.7 BTU/hr	2.7 BTU/hr	2.7 BTU/hr
Off	2.4 BTU/hr	2.4 BTU/hr	2.4 BTU/hr
	NOTE: Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.		
Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)	Sound Power (L _{WAd} , bels)	Sound Pressure (L _{pAm} , decibels)	
Typically Configured – Idle	3.3	24	
Fixed Disk – Random writes	3.3	25	
Longevity and Upgrading	This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the product may include: Spare parts are available throughout the warranty period and or for up to “5” years after the end of production.		
Batteries	This battery(s) in this product comply with EU Directive 2006/66/EC Batteries used in the product do not contain: Mercury greater the1ppm by weight Cadmium greater than 20ppm by weight Battery size: CR2032 (coin cell) Battery type: Lithium		
Additional Information	This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC. • This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC. • This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986). • This product is in compliance with the IEEE 1680.1 (EPEAT) standard at the <Gold> level, see www.epeat.net • Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043. • This product contains 42.2% post-consumer recycled plastic (by wt.)		



Standard Features and Configurable Components (availability may vary by country)

	This product is 94.0% recycle-able when properly disposed of at end of life.		
Packaging Materials	External:	PAPER/Paper	1019 g
		PAPER/Molded Pulp	414 g
	Internal:	PLASTIC/Polyethylene low density - LDPE	29 g
Material Usage	This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf): - Asbestos - Certain Azo Colorants - Certain Brominated Flame Retardants – may not be used as flame retardants in plastics - Cadmium - Chlorinated Hydrocarbons - Chlorinated Paraffins - Formaldehyde - Halogenated Diphenyl Methanes - Lead carbonates and sulfates - Lead and Lead compounds - Mercuric Oxide Batteries - Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user. - Ozone Depleting Substances - Polybrominated Biphenyls (PBBs) - Polybrominated Biphenyl Ethers (PBBEs) - Polybrominated Biphenyl Oxides (PBBOs) - Polychlorinated Biphenyl (PCB) - Polychlorinated Terphenyls (PCT) - Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications. - Radioactive Substances - Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)		
Packaging Usage	HP follows these guidelines to decrease the environmental impact of product packaging: - Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials. - Eliminate the use of ozone-depleting substances (ODS) in packaging materials. - Design packaging materials for ease of disassembly. - Maximize the use of post-consumer recycled content materials in packaging materials. - Use readily recyclable packaging materials such as paper and corrugated materials. - Reduce size and weight of packages to improve transportation fuel efficiency. - Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.		

Standard Features and Configurable Components (availability may vary by country)

End-of-life Management and Recycling	HP Inc. offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: http://www.hp.com/go/reuse-recycle or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/recyclers. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment. Global Citizenship Report http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html Eco-label certifications http://www8.hp.com/us/en/hp-information/environment/ecolabels.html ISO 14001 certificates: http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/PC_GBU_Product_Design_ISO_14K_Certificate.pdf and http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf
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Standard Features and Configurable Components (availability may vary by country)

SERVICE AND SUPPORT

On-site Warranty¹⁵: Three-year (3-3-3) limited warranty delivers three years of on-site, next business day¹⁶ service for parts and labor and includes free support 24 x 7¹⁷. Three-year onsite and labor are not available in all countries. Service offers terms up to 5 years by choosing an optional HP Care Pack. To choose the right level of service for your HP product, visit HP Care Pack Central: <http://www.hp.com/go/cpc>.¹⁸

15. Terms and conditions may vary by country. Certain restrictions and exclusions apply. Other warranty variations may be offered in your region.

16. On-site service may be provided pursuant to a service contract between HP and an authorized HP third-party provider, and is not available in certain countries. Global service response times are based on commercially reasonable best effort and may vary by country.

17. Technical telephone support applies only to HP-configured and third-party HP qualified hardware and software. Toll-free calling and 24 x 7 support may not be available in some countries.

18. Service levels and response times for HP Care Packs may vary depending on your geographic location. Service starts on date of hardware purchase. Restrictions and limitations apply. For details, visit www.hp.com/go/cpc. HP services are governed by the applicable HP terms and conditions of service provided or indicated to Customer at the time of purchase. Customer may have additional statutory rights according to applicable local laws, and such rights are not in any way affected by the HP terms and conditions of service or the HP Limited Warranty provided with your HP Product.

CERTIFICATION AND COMPLIANCE

Energy Efficiency Compliance

ENERGY STAR® certified. EPEAT® 2019 registered where applicable. EPEAT® registration varies by country. See <http://www.epeat.net> for registration status by country. According to IEEE 1680.1-2018.

Technical Specifications – Processors

PROCESSORS

AMD® Ryzen™ 4000 Series Processors

All HP EliteDesk 805 G6 Business PC are designed to ensure stability.

Architecture: “Zen 2”

Process Node: 7nm

AMD® PRO Technologies

AMD® Memory Guard – Helps defend against cold boot attacks with real time encryption of memory

AMD® PRO manageability – DASH including KVM Redirection Profile with hardware enforcement

Technical Specifications – Processors

GRAPHICS

AMD Radeon™ Vega 7 Graphics

Multi Display Support	Maximum of 3 displays supported by the integrated graphics
DisplayPort	Two DisplayPort outputs are standard. One DisplayPort output is optional. AMD® PRO APU and AMD® Ryzen™ APUs support DP1.4 features including DP++, Audio, MST, HBR2, HDCP2.3 and a maximum resolution of 5128x3880@30Hz or 3840x2160@60Hz.
VGA Port (Optional)	Maximum Resolution of 2048x1536 at 60Hz
HDMI (Optional)	AMD® PRO APU support HDMI 2.0 features and AMD® Ryzen™ APUs support HDMI 2.0a features. All support HDCP2.3, audio and a maximum resolution of 4096x2160@60Hz
USB-C (Optional)	Supports DisplayPort Alt Mode
Memory	512MB when less than 8GB of system memory is installed 1GB when 8GB or more of system memory is installed
Maximum Color Depth	up to 10 bits
Graphics/Video API Support	AMD® PRO APU: DirectX 12 OpenCL 1.2 OpenGL 4.1 Dedicated decoding of the H.264 format at up to 4K and 60Hz. Encoding H.264 video supported at 1080p120, 1440p60, and 2160p60 AMD® Ryzen™ APUs: DirectX 12 Vulkan 1.0 OpenCL 2.0 OpenGL 4.5 Hardware-based decode of HEVC/H.265 main10 profile videos at resolutions up to 3840x2160 at 60Hz with 10-bit color for HDR content. Dedicated decoding of the H.264 format at up to 4K and 60Hz. Decoding the VP9 format at resolutions up to 3840x2160 using a hybrid approach where the video and shader engines collaborate to offload work from the CPU. Encode HEVC/H.265 at 1080p240, 1440p120, and 2160p60. Encoding H.264 video is also supported at 1080p120, 1440p60, and 2160p60

Technical Specifications – Processors

AMD® Radeon™ RX 550X 4GB PCIe x16

Engine Clock	1183MHz
Memory Clock	6 Gbps
Memory Size(width)	4 GB(128-bit)
Memory Type	GDDR5
Max. Resolution(HDMI)	4096x2160 @ 60Hz
Max. Resolution(DP)	5120x2880 @ 60Hz
Multi Display Support	2 displays
HDCP Compliance	Yes
Rear I/O connectors(bracket)	HDMI, DP
Cooling(active/passive)	Active fan-sink (Active cooling with dynamic speed)
Total power consumption(W)	<50W
PCB form-factor with bracket	LP (low profile) PCB with FH/LP bracket

AMD® Radeon™ R7 430 2GB GDDR5 DP+VGA Graphics Card

Engine Clock	780 MHz
Memory Clock	1100 MHz
Memory Size(width)	2 GB (64-bit)
Memory Type	256M x 32 GDDR5
Max. Resolution(VGA)	2048x1536
Max. Resolution(DP)	4096x2160@60Hz
Multi Display Support	2 displays
HDCP Compliance	Yes
Rear I/O connectors(bracket)	DP+VGA
Cooling(active/passive)	Active fan-sink (Active cooling with dynamic speed)
Total power consumption(W)	<50W
PCB form-factor with bracket	LP PCB with FH/LP bracket

AMD® Radeon™ R7 430 2GB 2DP Graphics Card

Engine Clock	780 MHz
Memory Clock	1100 MHz
Memory Size(width)	2 GB(64-bit)
Memory Type	256M x 32 GDDR5
Max. Resolution(DP)	4096x2160@60Hz
Multi Display Support	2 displays
HDCP Compliance	Yes
Rear I/O connectors(bracket)	DPx2
Cooling(active/passive)	Active fan-sink (Active cooling with dynamic speed)
Total power consumption(W)	<50W
PCB form-factor with bracket	LP PCB with FH/LP bracket
Engine Clock	780 MHz

Technical Specifications – Processors

GFX Nvd GeF GTX1660Ti 6GB Graphics Card

Engine Clock	1140 MHz
Memory Clock	6001 MHz
Memory Size(width)	6GB (192-bit)
Memory Type	2CH x 256M x 16 GDDR6
Max. Resolution(DP)	5120 x 3200 @60Hz
Multi Display Support	4 displays
HDCP Compliance	Yes
Rear I/O connectors(bracket)	mDPx3 + Micro HDMIx1
Cooling(active/passive)	Active
Total power consumption(W)	<60W
PCB form-factor with bracket	Customized

Nvidia® GeForce® GTX1660 Ti

Architecture	Discrete GPU Nvidia® GPU drives the integrated panel and all of the graphics output ports
DisplayPort	Maximum pixel clock :1.3 GHz pixels per second Maximum bandwidth :25.92 Gbps per connector (FEC Disable)
HDMI	Supports HDMI 2.0 features Supports HDCP 2.2, HDR
Memory	6GByte, 192bit wide GDDR6
Maximum Color Depth	up to 12 bits/color
Graphics/Video API Support	DirectX 12 OpenGL 4.6
Display Port	Support DP1.4(DSC1.2a) Maximum pixel clock :1.3 GHz pixels per second Maximum bandwidth :25.92 Gbps per connector (FEC Disable)
Max. Resolution (HDMI)	4096 x 2160@60Hz
Max. Resolution (DP)	5120 x 3200@60Hz Example of maximum resolutions with CVT-RB timings
Port Availability	(3) Mini DP 1.4 ports and (1) Micro HDMI 2.0 port

NVIDIA® Quadro P400 2GB Graphics Card

Engine Clock	1252 MHz
Memory Clock	2000 MHz
Memory Size(width)	2GB (64-bit)
Memory Type	256M x 32 GDDR5
Max. Resolution(DP)	3 displays
Multi Display Support	Yes
HDCP Compliance	mDPx3
Rear I/O connectors(bracket)	Active fan-sink (Active cooling with dynamic speed)
Cooling(active/passive)	<30W
Total power consumption(W)	LP PCB with LP bracket
PCB form-factor with bracket	1252 MHz

Technical Specifications – Storage

STORAGE

3.5 inch SATA HARD DISC DRIVES (HDD)

500GB 7200RPM 3.5in SATA HDD

Capacity	500GB
Rotational Speed	7,200 rpm
Interface	SATA 6.0 Gb/s
Buffer Size	32MB
Logical Blocks	976,773,168
Seek Time	11 ms (Average)
Height	1 in/2.54cm
Width	Media diameter: 3.5 in/8.89 cm Physical size: 4 in/10.2 cm
Operating Temperature	41° to 131° F (5° to 55° C)

NOTE: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows 10) of system disk is reserved for the system recovery software.

1TB 7200RPM 3.5in SATA HDD

Capacity	1TB
Rotational Speed	7,200 rpm
Interface	SATA 6 Gb/s
Buffer Size	64MB
Logical Blocks	1,953,525,168
Seek Time	11 ms (Average)
Height	1 in/2.54cm
Width	Media diameter: 3.5 in/8.89 cm Physical size: 4 in/10.2 cm
Operating Temperature	41° to 131° F (5° to 55° C)

NOTE: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows 10) of system disk is reserved for the system recovery software.

2TB 7200RPM 3.5in SATA HDD

Capacity	2TB
Rotational Speed	7,200 rpm
Interface	SATA 6 Gb/s
Buffer Size	64MB
Logical Blocks	1,953,525,168
Seek Time	11 ms (Average)
Height	1.028in/26.11mm
Width (nominal)	4.0in/101.6mm
Operating Temperature	41° to 131° F (5° to 55° C)

Technical Specifications – Storage

NOTE: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows 10) of system disk is reserved for the system recovery software.

2.5 inch SATA HARD DISC DRIVES (HDD)**1TB 5400RPM 2.5in SATA HDD**

Capacity	1TB
Rotational Speed	5,400 rpm
Interface	SATA 6 Gb/s
Buffer Size	Up to 128MB
Logical Blocks	1,953,525,168
Seek Time	12ms (Average)
Height	0.283in/7.2mm (Max.)
Width (nominal)	2.75in/70mm (nominal)
Operating Temperature	41° to 131° F (5° to 55° C)

NOTE: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows 10) of system disk is reserved for the system recovery software.

2TB 5400RPM 2.5in SATA HDD

Capacity	2TB
Rotational Speed	5,400 rpm
Interface	SATA 6 Gb/s
Buffer Size	128MB
Logical Blocks	3,907,050,336
Seek Time	12 ms (Average)
Height	0.374in/9.5mm (nominal)
Width (nominal)	2.75in/70mm (nominal)
Operating Temperature	41° to 131° F (5° to 55° C)

NOTE: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows 10) of system disk is reserved for the system recovery software.

500GB 7200RPM 2.5in SATA HDD

Capacity	500GB
Rotational Speed	7,200 rpm
Interface	SATA 6 Gb/s
Buffer Size	16MB
Logical Blocks	976,773,168
Seek Time	12 ms (Average)
Height	0.267in/7.2mm (Maximum)
Width	2.75in/70mm (nominal)
Operating Temperature	41° to 131° F (5° to 55° C)

NOTE: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows 10) of system disk is reserved for the system recovery software.



Technical Specifications – Storage

1TB 7200RPM 2.5in SATA HDD

Capacity	1TB
Rotational Speed	7,200 rpm
Interface	SATA 6 Gb/s
Buffer Size	128MB
Logical Blocks	1,953,525,168
Seek Time	12 ms (Average)
Height	0.283in/7.2 mm (Max)
Width	2.75in/70mm (nominal)
Operating Temperature	41° to 131° F (5° to 55° C)

NOTE: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows 10) of system disk is reserved for the system recovery software.

500GB 7200RPM 2.5in Self Encrypted OPAL2 SATA HDD

Capacity	500GB
Architecture	Self-Encrypting (SED) Solid State Drive with SATA interface
Interface	SATA 6 Gb/s
Buffer Size	128MB
Logical Blocks	976,773,168
Seek Time	12 ms (Average)
Height	0.283 in/7.2 mm (Max)
Width	2.75in/70mm (nominal)
Operating Temperature	41° to 131° F (5° to 55° C)

NOTE: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows 10) of system disk is reserved for the system recovery software.

500GB 7200RPM 2.5in Self Encrypted Federal Information Processing Standard SATA HDD

Capacity	500GB
Architecture	Self-Encrypting (SED) Solid State Drive with SATA interface
Interface	SATA 6 Gb/s
Buffer size	128MB
Logical blocks	976,773,168
Seek time	12 ms (Average)
Height	0.283in/7.2mm (max.)
Width	2.75in/70mm (nominal)
Operating Temperature	41° to 131° F (5° to 55° C)

NOTE: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows 10) of system disk is reserved for the system recovery software.

Technical Specifications – Storage

M.2 PCIe NVMe SOLID STATE DRIVES (SSD)**256GB M.2 2280 PCIe NVMe SSD**

Drive Weight	< 10g
Capacity	256GB
Height	2.38mm
Length	80mm
Width	22mm
Interface	PCIe Gen3
Maximum Sequential Read	Up to 1600MB/s
Maximum Sequential Write	Up to 780MB/s
Logical Blocks	500,118,192
Operating Temperature	0° to 70°C (32° to 158°F) [ambient temp]
Features	APST; ASPM L1.2; NVMe spec 1.2

NOTE: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows 10) of system disk is reserved for the system recovery software.

512GB M.2 2280 PCIe NVMe SSD

Drive Weight	< 10g
Capacity	512GB
Height	2.38mm
Length	80mm
Width	22mm
Interface	PCIe Gen3
Maximum Sequential Read	Up to 1600MB/s
Maximum Sequential Write	Up to 860MB/s
Logical Blocks	1,000,215,216
Operating Temperature	0° to 70°C (32° to 158°F) [ambient temp]
Features	APST; ASPM L1.2; NVMe spec 1.2

NOTE: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows 10) of system disk is reserved for the system recovery software.

128GB M.2 2280 PCIe NVMe Three Layer Cell SSD

Drive Weight	< 10g
Capacity	128GB
Height	2.38mm
Length	80mm
Width	22mm
Interface	PCIe Gen3
Maximum Sequential Read	Up to 2800MB/s
Maximum Sequential Write	Up to 600MB/s
Logical Blocks	250,069,680
Operating Temperature	0° to 70°C (32° to 158°F) [ambient temp]

Technical Specifications – Storage

Features APST; ASPM L1.2; NVME spec 1.2

NOTE: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows 10) of system disk is reserved for the system recovery software.

256GB M.2 2280 PCIe NVMe Three Layer Cell SSD

Drive Weight	< 10g
Capacity	256GB
Height	2.38mm
Length	80mm
Width	22mm
Interface	PCIe Gen3
Maximum Sequential Read	Up to 2700MB/s
Maximum Sequential Write	Up to 1000MB/s
Logical Blocks	500,118,192
Operating Temperature	0° to 70°C (32° to 158°F) [ambient temp]
Features	APST; ASPM L1.2; NVME spec 1.2

NOTE: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows 10) of system disk is reserved for the system recovery software.

512GB M.2 2280 PCIe NVMe Three Layer Cell SSD

Drive Weight	< 10g
Capacity	512GB
Height	2.38mm
Length	80mm
Width	22mm
Interface	PCIe Gen3
Maximum Sequential Read	Up to 2900MB/s
Maximum Sequential Write	Up to 1100MB/s
Logical Blocks	1,000,215,216
Operating Temperature	0° to 70°C (32° to 158°F) [ambient temp]
Features	APST; ASPM L1.2; NVME spec 1.2

NOTE: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows 10) of system disk is reserved for the system recovery software.

1TB M.2 2280 PCIe NVMe Three Layer Cell SSD

Drive Weight	< 10g
Capacity	1TB
Height	2.38mm
Length	80mm
Width	22mm
Interface	PCIe Gen3
Maximum Sequential Read	Up to 3480MB/s
Maximum Sequential Write	Up to 3037MB/s



Technical Specifications – Storage

Logical Blocks	2,000,409,264
Operating Temperature	0° to 70°C (32° to 158°F) [ambient temp]
Features	TRIM; ASPM L1.2

NOTE: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows 10) of system disk is reserved for the system recovery software.

2TB M.2 2280 PCIe NVMe Three Layer Cell SSD

Drive Weight	< 10g
Capacity	2TB
Height	2.38mm
Length	80mm
Width	22mm
Interface	PCIe Gen3
Maximum Sequential Read	Up to 3000MB/s
Maximum Sequential Write	Up to 2900MB/s
Logical Blocks	3,907,029,168
Operating Temperature	0° to 70°C (32° to 158°F) [ambient temp]
Features	TRIM; ASPM L1.2

NOTE: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows 10) of system disk is reserved for the system recovery software.

256GB M.2 2280 PCIe NVMe Self Encrypted OPAL2 Three Layer Cell SSD

Drive Weight	< 10g
Capacity	256GB
Height	2.38mm
Length	80mm
Width	22mm
Interface	PCIe Gen3
Maximum Sequential Read	Up to 2700MB/s
Maximum Sequential Write	Up to 1000MB/s
Logical Blocks	500,118,192
Operating Temperature	0° to 70°C (32° to 158°F) [ambient temp]
Features	APST; ASPM L1.2; NVME spec 1.2; TCG-OPAL2 security

NOTE: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows 10) of system disk is reserved for the system recovery software.

512GB M.2 2280 PCIe NVMe Self Encrypted OPAL2 Three Layer Cell SSD

Drive Weight	< 10g
Capacity	512GB
Height	2.38mm
Length	80mm
Width	22mm
Interface	PCIe Gen3



Technical Specifications – Storage

Maximum Sequential Read	Up to 2900MB/s
Maximum Sequential Write	Up to 1100MB/s
Logical Blocks	1,000,215,216
Operating Temperature	0° to 70°C (32° to 158°F) [ambient temp]
Features	APST; ASPM L1.2; NVME spec 1.2; TCG-OPAL2 security

NOTE: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows 10) of system disk is reserved for the system recovery software.

OPTICAL DISC DRIVES

HP 9.5mm Slim DVD-ROM Drive

Height	9.5 mm height
Orientation	Either horizontal or vertical
Interface type	SATA/ATAPI
Dimensions (W x H x D)	5.04 x 0.37 x 5.0 in (128 x 9.5 x 127 mm) without bezel
Weight (max)	Up to 0.31 lb (140g) without bezel
Read Speeds	DVD+R/-R/+RW/ -RW/+R DL /-R DL Up to 8X DVD-ROM Up to 8X CD-ROM, CD-R Up to 24X CD-RW Up to 24X
Access time (typical reads, including settling)	Random: DVD-ROM: 170 ms (typical), CD-ROM: 170 ms (typical) Full stroke: DVD-ROM: 320 ms (typical), CD-ROM: 320 ms (typical)
Power	Source Slimline SATA DC power receptacle DC Power Requirement 5 VDC ± 5%-100 mV ripple p-p DC Current 5 VDC (< 1000 mA typical, 1600 mA maximum)
Environmental conditions (operating - non- condensing)	Temperature 41° to 122° F (5° to 50° C) Relative Humidity 10% to 80% Maximum Wet Bulb Temperature 84° F (29° C)

HP 9.5mm Slim DVD Writer Drive

Height	9.5 mm height
Orientation	Either horizontal or vertical
Interface type	SATA/ATAPI
Disc recording capacity	Up to 8.5 GB DL or 4.7 GB standard
Dimensions (W x H x D)	5.04 x 0.37 x 5.0 in (128 x 9.5 x 127 mm) without bezel
Weight (max)	0.31 lb (140 g)
Write Speeds	DVD-R DL - Up to 6X DVD+R - Up to 8X DVD+RW - Up to 8X DVD+R DL - Up to 6X DVD-R - Up to 8X DVD-RW - Up to 6X CD-R - Up to 24X CD-RW - Up to 10X
Read Speeds	DVD-RW, DVD+RW - Up to 8X

Technical Specifications – Storage

	DVD-R DL, DVD+R DL - Up to 8X
	DVD+R, DVD-R - Up to 8X
	DVD-ROM DL, DVD-ROM - Up to 8X
	CD-ROM, CD-R - Up to 24X
	CD-RW - Up to 24X
Access time	Random DVD-ROM: 170 ms (typical), CD-ROM: 170 ms (typical)
(typical reads, including settling)	Full Stroke DVD-ROM: 320 ms (typical), CD-ROM: 320 ms (typical)
Power	Stop Time 6 seconds (typical)
	Source Slimline SATA DC power receptacle
	DC Power Requirement 5 VDC $\pm$ 5%-100 mV ripple p-p
	DC Current 5 VDC (< 1000 mA typical, 1600 mA maximum)
Environmental conditions	Temperature 41° to 122° F (5° to 50° C)
(operating - non-condensing)	Relative Humidity 10% to 80%
	Maximum Wet Bulb Temperature 84° F (29° C)

HP 9.5mm Slim Blu-Ray Writer Drive

Height	9.5 mm height
Orientation	Either horizontal or vertical
Interface type	SATA/ATAPI
Disc recording capacity	Up to 128 GB QL, 100 GB TL, 50 GB DL or 25 GB standard SL
Dimensions (W x H x D)	5.04 x 0.37 x 5.0 in (128 x 9.5 x 127 mm) without bezel
Weight (max)	0.29 lb (132 g)
Write Speeds	BD-R SL/DL Up to 6X
	BD-R TL/QL Up to 4X
	BD-RE Up to 2X
	DVD-R Up to 8X
	DVD-R DL - Up to 6X
	DVD-RW Up to 6X
	DVD+R Up to 8X
	DVD+R DL - Up to 6X
	DVD+RW Up to 8X
	DVD-RAM Up to 5X
	CD-R Up to 24X
	CD-RW Up to 10X
Read Speeds	BD-ROM Up to 6X
	BD-R Up to 6X
	BD-RE SL/DL Up to 6X
	BD-RE TL Up to 4X
	DVD-ROM Up to 8X
	DVD-R SL/DL Up to 8X
	DVD-R Up to 8X
	DVD-RW Up to 8X
	DVD+R SL/DL Up to 8X
	DVD+R Up to 8X
	DVD+RW Up to 8X
	BDMV (AACs Compliant Disc)
	Up to 6x/2x (Read/Play)
	DVD-RAM Up to 5x
	DVD-Video (CSS Compliant Disc)
	Up to 8x/4x (Read/Play)
	CD-R/RW/ROM Up to 24x
	CD-DA (DAE) Up to 24X/10X (Read/Play)

Technical Specifications – Storage

Access time (typical reads, including settling)	Random BD-ROM: 205 ms (typical), DVD-ROM: 185 ms (typical), CD-ROM: 165 ms (typical) Full Stroke BD-ROM: 350 ms (typical), DVD-ROM: 345 ms (typical), CD-ROM: 340 ms (typical)
Power	Source Slimline SATA DC power receptacle DC Power Requirement 5 VDC ± 5%-100 mV ripple p-p DC Current 5 VDC -1200 mA typical, 2000 mA maximum
Environmental conditions (operating - non- condensing)	Temperature 41° to 122° F (5° to 50° C) Relative Humidity 10% to 80% Maximum Wet Bulb Temperature 84° F (29° C)

Technical Specifications – Networking and Communications

NETWORKING AND COMMUNICATIONS

Realtek RTK8111FP 10/100/1000 Integrated NIC	
Connector	RJ-45
System Interface	PCIe + SMBus
Data rates supported	10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14) 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30) 1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 8023 clauses 40) Auto-Negotiation (Automatic Speed Selection) Full Duplex Operation at all Speeds, Half Duplex operation at 10 and 100 Mbit/s
IEEE Compliance	IEEE 802.1p QoS (Quality of Service) Support IEEE 802.1q VLAN support IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable) IEEE 802.3az EEE (Energy Efficient Ethernet)
Performance	TCP/IP/UDP Checksum Offload (configurable) Protocol Offload (ARP & NS) Large send offload and Giant send offload Receiving Side Scaling Jumbo Frame 9K
Power consumption	Cable Disconnection: 25mW 100Mbps Full Run: 450mW 1000bp Full Run: 1000mW WoL Enable(S3/S4/S5): 50mW WoL Disable(S3/S4/S5): 25mW
Power Management	ACPI compliant – multiple power modes Situation-sensitive features reduce power consumption Advanced link down power saving for reducing link down power consumption
Management Interface	Auto MDI/MDIX Crossover cable detection
IT Manageability	Wake-on-LAN from standby and hibernation (Magic Packet and Microsoft Wake-Up Frame); Wake-on-LAN from off (Magic Packet only) PXE 2.1 Remote Boot Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30) Comprehensive diagnostic and configuration software suite Virtual Cable Doctor for Ethernet cable status
Security & Manageability	Support DASH 1.2 compliant

Realtek RTL8852AE 802.11ax 2x2 Wi-Fi® + BT5.2 (802.11ax 2x2, supporting gigabit data rate)

NOTE: Wi-Fi 5 or 6 is designed to support gigabit data rate when transferring files between two devices connected to the same router. Requires a wireless router, sold separately, that supports 80MHz and higher channels.

Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac IEEE 802.11ax IEEE 802.11d IEEE 802.11e IEEE 802.11h IEEE 802.11i IEEE 802.11k IEEE 802.11r IEEE 802.11v
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Technical Specifications – Networking and Communications

Interoperability	Wi-Fi CERTIFIED™ modules
Frequency Band	802.11b/g/n/ax • 2.402 – 2.482 GHz 802.11a/n/ac/ax • 4.9 – 4.95 GHz (Japan) • 5.15 – 5.25 GHz • 5.25 – 5.35 GHz • 5.47 – 5.725 GHz • 5.825 – 5.850 GHz
Data Rates	• 802.11b: 1, 2, 5.5, 11 Mbps • 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps • 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps • 802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz) • 802.11ac: MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz & 80MHz) • 802.11ax: MCS0 ~ MCS11, (1SS and 2SS) (20MHz, 40MHz, ,80MHz)
Modulation	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM
Security³	• IEEE and Wi-Fi CERTIFIED™ 64 / 128 bit WEP encryption for a/b/g mode only • AES-CCMP: 128 bit in hardware • 802.1x authentication • WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. • WPA2 certification • WPA3 certification • IEEE 802.11i • WAPI
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power²	• 802.11b: +18.5dBm minimum • 802.11g: +17.5dBm minimum • 802.11a: +18.5dBm minimum • 802.11n HT20(2.4GHz): +15.5dBm minimum • 802.11n HT40(2.4GHz): +14.5dBm minimum • 802.11n HT20(5GHz): +15.5dBm minimum • 802.11n HT40(5GHz): +14.5dBm minimum • 802.11ac VHT80(5GHz): +11.5dBm minimum • 802.11ax HT40(2.4GHz): +10dBm minimum • 802.11ax VHT160(5GHz): +10dBm minimum
Power Consumption	• Transmit mode: 2.5 W • Receive mode: 2 W • Idle mode: (PSP) 180 mW (WLAN Associated) • Idle mode: 50 mW (WLAN unassociated) • Connected Standby/Modern Standby: 10mW • Radio disabled: 8 mW
Power Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
Receiver Sensitivity³	802.11b, 1Mbps: -93.5dBm maximum 802.11b, 11Mbps: -84dBm maximum 802.11a/g, 6Mbps: -86dBm maximum 802.11a/g, 54Mbps: -72dBm maximum 802.11n, MCS07: -67dBm maximum

Technical Specifications – Networking and Communications

	802.11n, MCS15: -64dBm maximum 802.11ac, MCS0: -84dBm maximum 802.11ac, MCS9: -59dBm maximum 802.11ax, MCS11(HE40): -57dBm maximum 802.11ax, MCS11(HE80): -54dBm maximum	
Antenna type	High efficiency antenna with spatial diversity, mounted in the display enclosure Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications	
Form Factor	PCI-Express M.2 MiniCard	
Dimensions	1. Type 2230: 2.3 x 22.0 x 30.0 mm 2. Type 1216: 1.67 x 12.0 x 16.0 mm	
Weight	1. Type 2230: 2.8g 2. Type 126: 1.3g	
Operating Voltage	3.3v +/- 9%	
Temperature	Operating Non-operating	14° to 158° F (–10° to 70° C) –40° to 176° F (–40° to 80° C)
Humidity	Operating Non-operating	10% to 90% (non-condensing) 5% to 95% (non-condensing)
Altitude	Operating Non-operating	0 to 10,000 ft (3,048 m) 0 to 50,000 ft (15,240 m)
LED Activity	LED Amber – Radio OFF; LED Off – Radio ON	
HP Integrated Module with Bluetooth 4.0/4.1/4.2/5.0 Wireless Technology		
Bluetooth® Specification	4.0/4.1/4.2/5.0 Compliant	
Frequency Band	2402 to 2480 MHz	
Number of Available Channels	Legacy: 0~79 (1 MHz/CH) BLE: 0~39 (2 MHz/CH)	
Data Rates and Throughput	Legacy: 3 Mbps data rate; throughput up to 2.17 Mbps BLE: 1 Mbps data rate; throughput up to 0.2 Mbps Legacy: Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Legacy: Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)	
Transmit Power	The Bluetooth® component shall operate as a Class II Bluetooth device with a maximum transmit power of + 9.5 dBm for BR and EDR.	
Power Consumption	Peak (Tx) 330 mW Peak (Rx) 230 mW Selective Suspend 17 mW	
Bluetooth® Software Supported Link Topology	Microsoft Windows Bluetooth® Software	
Power Management	Microsoft Windows ACPI, and USB Bus Support	
Certifications	FCC (47 CFR) Part 15C, Section 15.247 & 15.249	
Power Management	ETS 300 328, ETS 300 826	
Certifications	Low Voltage Directive IEC950 UL, CSA, and CE Mark	
Bluetooth Profiles Supported	BT4.1-ESR 5/6/7 Compliance LE Link Layer Ping LE Dual Mode LE Link Layer LE Low Duty Cycle Directed Advertising LE L2CAP Connection Oriented Channels	



Technical Specifications – Networking and Communications

	Train Nudging & Interlaced Scan BT4.2 ESR08 Compliance LE Secure Connection- Basic/Full LE Privacy 1.2 –Link Layer Privacy LE Privacy 1.2 –Extended Scanner Filter Policies LE Data Packet Length Extension FAX Profile (FAX) Basic Imaging Profile (BIP)2 Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP) BT5.1 ESR9/10 Compliance LE Advertisement Extensions Channel Selection Algo Limited High Duty Cycle Non-Connectable Advertising 2Mbps LE LE Long Range
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Realtek RTL8822CE 802.11ac 2x2 Wi-Fi + BT5	
Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac IEEE 802.11d IEEE 802.11e IEEE 802.11h IEEE 802.11i IEEE 802.11k IEEE 802.11r IEEE 802.11v
Interoperability	Wi-Fi® CERTIFIED™
Frequency Band	802.11b/g/n • 2.402 – 2.482 GHz 802.11a/n/ac • 4.9 – 4.95 GHz (Japan) • 5.15 – 5.25 GHz • 5.25 – 5.35 GHz • 5.47 – 5.725 GHz • 5.825 – 5.850 GHz
Data Rates	• 802.11b: 1, 2, 5.5, 11 Mbps • 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps • 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps • 802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz) • 802.11ac : MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz, and 80MHz)
Modulation	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM
Security³	• IEEE and WiFi compliant 64 / 128 bit WEP encryption for a/b/g mode only • AES-CCMP: 128 bit in hardware • 802.1x authentication • WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. • WPA2 certification • IEEE 802.11i



Technical Specifications – Networking and Communications

	• WAPI	
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)	
Roaming	IEEE 802.11 compliant roaming between access points	
Output Power ²	• 802.11b : +14dBm minimum • 802.11g : +12dBm minimum • 802.11a : +12dBm minimum • 802.11n HT20(2.4GHz) : +12dBm minimum • 802.11n HT40(2.4GHz) : +12dBm minimum • 802.11n HT20(5GHz) : +10dBm minimum • 802.11n HT40(5GHz) : +10dBm minimum • 802.11ac VHT80(5GHz) : +10dBm minimum	
Power Consumption	• Transmit mode 2.0 W • Receive mode 1.6 W • Idle mode (PSP) 180 mW (WLAN Associated) • Idle mode 50 mW (WLAN unassociated) • Connected Standby 10mW • Radio disabled 8 mW	
Power Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode	
Receiver Sensitivity ³	802.11b, 1Mbps: -93.5dBm maximum 802.11b, 11Mbps: -84dBm maximum 802.11a/g, 6Mbps: -86dBm maximum 802.11a/g, 54Mbps: -72dBm maximum 802.11n, MCS07: -67dBm maximum 802.11n, MCS15: -64dBm maximum 802.11ac, MCS0: -84dBm maximum 802.11ac, MCS9: -59dBm maximum	
Antenna type	High efficiency antenna with spatial diversity, mounted in the display enclosure Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications	
Form Factor	PCI-Express M.2 MiniCard with CNVi Interface	
Dimensions	1. Type 2230 : 2.3 x 22.0 x 30.0 mm 2. Type 1216: 1.67 x 12.0 x 16.0 mm	
Weight	1. Type 2230 : 2.8g 2. Type 126: 1.3g	
Operating Voltage	3.3v +/- 9%	
Temperature	Operating Non-operating	14° to 158° F (–10° to 70° C) –40° to 176° F (–40° to 80° C)
Humidity	Operating Non-operating	10% to 90% (non-condensing) 5% to 95% (non-condensing)
Altitude	Operating Non-operating	0 to 10,000 ft (3,048 m) 0 to 50,000 ft (15,240 m)
LED Activity	LED Amber – Radio OFF; LED Off – Radio ON	
HP Integrated Module with Bluetooth 4.0/4.1/4.2/5.0 Wireless Technology		
Bluetooth® Specification	4.0/4.1/4.2/5.0 Compliant	
Frequency Band	2402 to 2480 MHz	
Number of Available Channels	Legacy: 0~79 (1 MHz/CH) BLE: 0~39 (2 MHz/CH)	
Data Rates and Throughput	Legacy: 3 Mbps data rate; throughput up to 2.17 Mbps	



Technical Specifications – Networking and Communications

	BLE: 1 Mbps data rate; throughput up to 0.2 Mbps Legacy: Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Legacy: Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
Transmit Power	The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of + 4 dBm for BR and EDR.
Power Consumption	Peak (Tx) 330 mW Peak (Rx) 230 mW Selective Suspend 17 mW
Bluetooth® Software Supported Link Topology	Microsoft Windows Bluetooth® Software
Power Management	ETS 300 328, ETS 300 826
Certifications	FCC (47 CFR) Part 15C, Section 15.247 & 15.249
Power Management	ETS 300 328, ETS 300 826
Certifications	Low Voltage Directive IEC950 UL, CSA, and CE Mark
Bluetooth Profiles Supported	BT4.1-ESR 5/6/7 Compliance LE Link Layer Ping LE Dual Mode LE Link Layer LE Low Duty Cycle Directed Advertising LE L2CAP Connection Oriented Channels Train Nudging & Interlaced Scan BT4.2 ESR08 Compliance LE Secure Connection- Basic/Full LE Privacy 1.2 –Link Layer Privacy LE Privacy 1.2 –Extended Scanner Filter Policies LE Data Packet Length Extension FAX Profile (FAX) Basic Imaging Profile (BIP)2 Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP)

Technical Specifications – Input/Output Devices

I/O DEVICES

HP USB Premium Keyboard

	Keys	104, 105 layout (depending upon country)
Physical Characteristics	Dimensions (L x W x H)	17.04 x 5.55 x 0.52 in (433 x 141 x 13.2 mm)
	Weight	1.54 lb (698g)
	Operating voltage	5 VDC, +/-5%
	Power consumption	35mA (All LED on)
Electrical	System interface	USB Type A plug connector
	ESD	Contact Discharge: 8 KV Air Discharge: 15 KV
	EMI - RFI	Conforms to FCC rules for a Class B computing device
	Keycaps	Low-profile design
Mechanical	Switch actuation	60±10g nominal peak force with tactile feedback
	Switch life	10 million keystrokes (Life tester)
	Switch type	Contamination-resistant switch membrane
	Key-leveling mechanisms	For all double-wide and greater-length keys
	Cable length	6 ft (1.8 m)
	Acoustics	43-dBA maximum sound pressure level
	Operating temperature	50° to 122° F (10° to 50° C)
	Non-operating temperature	-22° to 140° F (-30° to 60° C)
	Operating humidity	10% to 90% (non-condensing at ambient)
	Non-operating humidity	20% to 80% (non-condensing at ambient)
Environmental	Operating shock	40 g, six surfaces
	Non-operating shock	80 g, six surfaces
	Operating vibration	2-g peak acceleration
	Non-operating vibration	4-g peak acceleration
	Drop (out of box)	26 in (66 cm) on carpet, six-drop sequence
	Drop (in box)	30 in (76.2 cm) on concrete, 16-drop sequence
Approvals	UL, FCC, CE Mark, TUV GS, VCCI, BSMI, C-Tick, KC	
Ergonomic Compliance	TUVGS	
Kit Contents	Keyboard, QSP	
Warranty Card	Product Notice	

Technical Specifications – Input/Output Devices

HP USB Premium Mouse

Dimensions (H x L x W)	4.21 x 2.64 x 1.52 in (107 x 67 x 38.7 mm)		
	Weight		
Environmental	Operating temperature	50° to 122°F (10° to 50° C)	
	Non-operating temperature	-22° to 140°F (-30° to 60° C)	
	Operating humidity	10% to 90% (non-condensing at ambient)	
	Non-operating humidity	20% to 80% (non condensing at ambient)	
	Operating shock	50 g, 6 surfaces	
	Non-operating shock	80 g, 6 surfaces	
	Operating vibration	2 g peak acceleration	
	Non-operating vibration	4 g peak acceleration	
	Electrical	Operating voltage	5 VDC, +/-5%
		Power consumption	12mA
Connector		USB 2.0	
Mechanical	Type	3D mouse (3 keys and wheel)	
	Resolution	800, 1200, 1600 DPI	
	Sensor	Pixart PAN3606DL	
	Tracking acceleration	8G(max), 1G=9.8m/s2	
Tracking speed	Cable length	6 ft (1.8 m)	
	Color	Jack Black	
Regulatory approvals	Compliant	UL, FCC, CE Mark, TUV GS, VCCI, BSMI, C-Tick, KC	

HP Wired Desktop 320M Mouse

Dimensions (H x L x W)	35.5mm x 103.8mm x 63.4mm	
Weight	75.8 +/- 10 g	
Color	Black	
Connector	USB	
Cable Length	1800mm	
Sustainability	Low halogen PCBA	
Mechanical	Resolution	1000 DPI sensitivity
	Buttons	Two primary buttons and clickable scroll wheel

HP Wired Desktop 320K Keyboard

Dimensions (H x L x W)	16.7mm x 426.2mm x 110.9mm
Weight	413 +/- 30 g
Color	Black
Connector	USB
Cable Length	1800mm



Technical Specifications – Input/Output Devices

Keys	104, 105, 107, 109	
Operating Voltage	5V	
Power Consumption	50mA – 100mA	
Switch Life	10M	
Switch Type	Plunger	
Operating Temperature	10°C to 50°C	
Non- Operating Temperature	30°C to 65°C	
Operating Humidity	10% to 90%	
Non- Operating Humidity	0% to 90%	
Sustainability	Greater than 50% post-consumer recycled plastic content and low halogen PCBA	
HP USB Mouse		
Dimensions (H x L x W)	37mm*115mm*62.9mm	
Weight	90 +10g/- 5 g	
Color	Black	
Connector	USB	
Mechanical	Resolution	800 DPI sensitivity
	Buttons	Two primary buttons and clickable scroll wheel

Technical Specifications – Audio/Multimedia

AUDIO/MULTIMEDIA

HP EliteDesk 805 G6 Small Form Factor Business PC

Type	Integrated
HD Stereo Codec	Conexant Zuma CX20632 / Realtek ALC 3867
Audio I/O Ports	Front: 1 - Headset connector supports a CTIA style headset and is re-taskable as a Line-in, Line-out, Microphone-in or Headphone-out port 1 - Headphone port Rear: Line-out Line-in which is retaskable as a Microphone Input All ports are 3.5mm and support stereo
Internal Speaker Amplifier	2W class D mono amplifier for the internal speaker only. External speakers must be powered externally
Multi-streaming Capable	Playback multi-streaming allows for independent audio streams to be sent to/from the front and rear jacks or integrated speaker
Sampling	Independent sampling rates for DAC's and ADC's; supports resolutions from 16 to 24-bit; 44.1 kHz to 192 kHz for DAC and 44.1 kHz to 96 kHz for ADC
Wavetable Synthesis	Yes - Uses OS soft wavetable
Analog Audio	Yes
# of Channels on Line-Out	Stereo (Left & Right channels)
Internal Speaker	Yes

HP EliteDesk 805 G6 Desktop Mini Business PC

Type	Integrated
HD Stereo Codec	Conexant Zuma ALC3205 / Realtek ALC 3867
Audio I/O Ports	Front: 1 - Headset connector supports a CTIA style headset and is re-taskable as a Line-in, Line-out, Microphone-in or Headphone-out port 1 - Headphone port All ports are 3.5mm and support stereo
Internal Speaker Amplifier	2W class D mono amplifier for the internal speaker only. External speakers must be powered externally
Multi-streaming Capable	Playback multi-streaming allows for independent audio streams to be sent to/from the front and rear jacks or integrated speaker
Sampling	Independent sampling rates for DAC's and ADC's; supports resolutions from 16 to 24-bit; 44.1 kHz to 192 kHz for DAC and 44.1 kHz to 96 kHz for ADC
Wavetable Synthesis	Yes - Uses OS soft wavetable
Analog Audio	Yes
# of Channels on Line-Out	Stereo (Left & Right channels)
Internal Speaker	Yes

Technical Specifications – Power

POWER

HP EliteDesk 805 G6 Small Form Factor Business PC

UNIT ENVIRONMENT AND OPERATING CONDITIONS

Temperature Range	Operating: 5°C ~50°C Non-Operating: -40°C ~66°C
Relative Humidity	Operating 5% to 90% relative humidity at max inlet temperature Non-Operating 5% to 90% relative humidity at max inlet temperature
Maximum Altitude (unpressurized)	Operating: 5000m Non-operating: 50,000 ft (15240 m)

HP EliteDesk 805 G6 Desktop Mini Business PC

UNIT ENVIRONMENT AND OPERATING CONDITIONS

Temperature Range	Operating: 5°C ~35°C Non-Operating: -40°C ~66°C
Relative Humidity	Operating 5% to 90% relative humidity at max inlet temperature Non-Operating 5% to 90% relative humidity at max inlet temperature
Maximum Altitude (unpressurized)	Operating: 5000m Non-operating: 50,000 ft (15240 m)

	DM	SFF
80 PLUS Platinum		180W active PFC 87/90/87% efficient at 20/50/100% load (115V) 90/92/89% efficient at 20/50/100% load (230V) 210W active PFC 90/92/89% efficient at 20/50/100% load(115V) 91/93/90% efficient at 20/50/100% load(230V)
External Power Adapter	External power supply 65W EPS, 88% average efficiency at 115V & 89% at 230Vac 90W EPS, 88% average efficiency at 115V & 89% at 230Vac 150W EPS, 88% average efficiency at 115V & 89% at 230Vac	Internal power supply
Operating Voltage Range	90Vac~264Vac	90Vac~264Vac
Rated Voltage Range	100Vac~240Vac	100Vac~240Vac
Rated Line Frequency	50HZ~60HZ	50HZ~60HZ
Operating Line Frequency	47HZ~63HZ	47HZ~63HZ
Rated Input Current with Energy Efficient* Power Supply	65W ≤1.6A 90W ≤1.7A 150WW ≤2.5A	180W ≤2.3A 210W ≤2.5A



Technical Specifications – Power

DC Output	+19.5V	+12V
Current Leakage (NFPA 99: 2012)	Less than 500 microamps of leakage current at 120 Vac with the ground wire disconnected, as required for Non-patient Electrical Appliances and Equipment used in a patient care facility or that contact patients in normal use. Per section 10.3.5.1. Less than 100 microamps of leakage current at 120 Vac with the ground wire intact with normal polarity, as required for Non-patient Electrical Appliances and Equipment used in a patient care facility or that contact patients in normal use. Per section 10.3.5.1.	Less than 500 microamps of leakage current at 120 Vac with the ground wire disconnected, as required for Non-patient Electrical Appliances and Equipment used in a patient care facility or that contact patients in normal use. Per section 10.3.5.1. Less than 100 microamps of leakage current at 120 Vac with the ground wire intact with normal polarity, as required for Non-patient Electrical Appliances and Equipment used in a patient care facility or that contact patients in normal use. Per section 10.3.5.1.
Power Supply Fan	N/A	50mm variable speed
Power cord length	6.0 ft. (1.83 m)	6.0 ft. (1.83 m)
Dimensions	65W: 90 x 51 x 28.5mm & 102 x 55 x 30mm 90W: 126 x 50 x 30mm 150W: 148 x 75.5 x 25.4mm	200mm x 85mm x 53mm

The harmonic input current requirements must be met under the following operating conditions:

Load Requirements: 50% and 100%

Input Voltage: 230Vac/50Hz.

For active power factor correction the power factor at 50% & 100% loads shall be greater than 0.9 over the entire nominal input voltage range (100-127VAC and 200-240VAC).

Condition	Standard Efficiency	82/85/82%	85/88/85%	87/90/87%	90/92/89%	Input Voltage
10% of Rated Load	-	75%	81%	84%	86%	115Vac/60HZ
20% of Rated Load	-	82%	85%	87%	90%	115Vac/60HZ
50% of Rated Load	-	85%	88%	90%	92%	115Vac/60HZ
	PF>0.9	PF>0.9	PF>0.9	PF>0.9	PF>0.95	
100% of Rated Load	70%	82%	85%	87%	89%	115Vac/60HZ
	PF>0.9	PF>0.9	PF>0.9	PF>0.9	PF>0.9	230Vac/50HZ

Technical Specifications – Weights and Dimensions

WEIGHTS & DIMENSIONS

	DM	SFF
Chassis (W x D x H) Not including bezel	6.97 x 6.89 x 1.35 in 177 x 175 x 34.2 mm	3.84 x 10.63 x 11.93 in 97.5 x 270 x 303 mm
System Volume	64 cu in 1.05 L	747cu in 7.8L
Max System Weight	1.45kg	4.89KG
Max Supported Weight (desktop orientation)	0	77 lb 35kg
Stand Dimensions	160x117x18.5mm	200 x 152 x 372 mm
Packaging (W x D x H)	19.57 x 5.04 x 8.78 in 497 x 128 x 223 mm	15.71 x 9.06 x 19.65 in 399 x 230 x 499 mm
Shipping Weight	2.95 kg 6.49 lb	16.12 lb. 7.32 kg
Shipping Weight (Molded Pulp)	3.05 kg 6.72 lb	16.62 lb 7.54kg
Multipack Packaging (10 units)	20.28x16.54x25 in 515x420x636 mm	
Palletization Profile	10-units per layer 11, 15, or 18 layers max depending on details of freight 110 units per air freight pallet 46.26 x 39.21 x 62.87 in 1175 x 996 x 1597 mm (include pallet), or 150 units per standard ground or sea freight pallet 46.26 x 39.21 x 83.86 in 1175 x 996 x 2130 mm (include pallet), or 180 units per ground freight or high-cube sea pallet 46.26 x 39.21 x 99.45 in 1175 x 996 x 2526 mm (include pallet)	6-units per layer 60 per pallet 47.24 x 39.37 x 94.49 in (including pallet) 10 layer max

Technical Specifications – Miscellaneous Features

MISCELLANEOUS FEATURES

Management Features

- Advanced Configuration and Power Management Interface (ACPI). Allows the system to wake from a low power mode. Controls system power consumption, making it possible to place individual cards and peripherals in a low-power or powered-off state without affecting other elements of the system.
- Dual State Power Button; acts as both an on/off button and a suspend-to-sleep button

Serviceability Features

- Dual colored power LED on front of computer to indicate either normal or fault condition
- System/Private ROM
- Flash ROM
- CMOS Battery Holder for easy replacement
- 1 Aux Power LED on System PCA
- Processor ZIF Socket for easy Upgrade
- Over-Temp Warning on Screen (Requires IM Agents)
- DIMM Connectors for easy Upgrade
- NIC LEDs (integrated) (Green & Amber)
- HD LED - To Indicate Normal Operations
- Color coordinated cables and connectors
- Tool-less Hood Removal
- Front power switch
- System memory can be upgraded without removing the system board
- Tool-less Hard drive & DVD drive Removal
- Green Pull Tabs, and Quick Release Latches for easy Identification

Technical Specifications – Miscellaneous Features

Additional Features

Tower Orientation

Description

Product can be oriented as either a desktop (horizontal) or a tower (vertical) for MT, and DM only. DM requires optional stand.

Drive Lock

Implementation of the industry standard ATA Security feature set. When enabled, it prevents software access to user data on the drive until one or two user-defined passwords are provided.

Boot Sectors Protection

MBR and GPT sectors of the hard drive are critical to booting the operating system. By saving the MBR or GPT data (depending on the how the OS was installed), the BIOS will be able to monitor for changes and allow the user to override them with the backup copy at boot-up.

Drive Protection System

DPS Access through F10 Setup during Boot (for SATA hard drive only)

A diagnostic hard drive self- test. It scans critical physical components and every sector of the hard drive for physical faults and then reports any faults to the user

Running independently of the operating system, it can be accessed through a Windows-based diagnostics utility or through the computer's setup procedure. It produces an evaluation on whether the hard drive is the source of the problem and needs to be replaced

The system expands on the Self-Monitoring, Analysis, and Reporting Technology (SMART), a continuously running systems diagnostic that alerts the user to certain types of failures

SMART Technology (Self-Monitoring, Analysis and Reporting Technology)

Allows hard drives to monitor their own health and to raise flags if imminent failures were predicted

SMART I - Drive Failure Prediction

Predicts failures before they occur. Tracks fault prediction and failure indication parameters such as re-allocated sector count, spin retry count, calibration retry count

SMART II - Off-Line Data Collection

By avoiding actual hard drive failures, SMART hard drives act as "insurance" against unplanned user downtime and potential data loss from hard drive failure

SMART III - Off-Line Read Scanning with Defect Reallocation

IOEDC: I/O Error Detection Circuitry

SMART IV - End-to-End CRC for hard drives

Detects errors in Read/Write buffers on HDD cache RAM

NOTE: Storage Drive lock does not work with Self Encrypting storage

After Market Options

AFTER MARKET OPTIONS

Graphics Solutions	DM	SFF	Part Number
AMD® Radeon™ R7 430 2GB 2 DisplayPort™ 64bit Card		X	5LH79AA
AMD® Radeon™ R7 430 2GB DisplayPort™ VGA 64bit Card ¹		X	5JW81AA
AMD® Radeon™ RX550X 4GB DisplayPort™ Card		X	5LH79AA

[1. Not available in all regions](#)

Desktop Mini Accessories	DM	SFF	Part Number
HP Desktop Mini Port Cover v3	X (discrete GPU not supported)		13L69AA
HP Desktop Mini 2.5" SATA Drive Bay kit v2	X (discrete GPU not supported)		13L70AA
HP Desktop Mini 65W Power Supply Kit	X		L2X04AA
HP Desktop Mini 90W Power Supply Kit	X		L4R65AA
HP Desktop Mini LockBox V2 ¹	X (discrete GPU not supported)		3EJ57AA
HP Desktop Mini DVD-Writer ODD Expansion Module	X		K9Q83AA
HP Desktop Mini I/O Expansion Module	X		K9Q84AA
HP Desktop Mini Security/Dual VESA Sleeve v3 ¹	X (discrete GPU not supported)		13L67AA
HP Desktop Mini Security/Dual VESA Sleeve v3 with Power Supply Holder ¹	X (discrete GPU not supported)		13L68AA
HP B250 PC Mounting Bracket	X		8RA46AA
HP B300 PC Mounting Bracket	X		2DW53AA
HP B300 PC Mounting Bracket with Power Supply Holder	X		7DB37AA
HP B500 PC Mounting Bracket	X		2DW52AA
HP Desktop Mini Vertical Chassis Stand	X		G1K23AA
HP DM VESA Power Supply Holder Kit v2	X (discrete GPU not supported)		7DB38AA
HP Quick Release Bracket 2	X		6KD15AA

[1. Not available in all regions](#)

Data Storage Drives	DM	SFF	Part Number
HP PCIe NVME TLC 256GB SSD M.2 Drive	X	X	1CA51AA
HP PCIe NVME TLC 512GB SSD M.2 Drive	X	X	X8U75AA
HP 500GB 7200PRM SATA 6.0Gb/s 3.5" Hard Drive		X	QK554AA
HP 1TB 7200rpm SATA 6Gb/s 3.5" Hard Drive		X	QK555AA
HP 9.5mm DVD Writer		X	1CA53AA



After Market Options

Input Devices	DM	SFF	Part Number
HP Desktop Wired 320K Keyboard	X	X	9SR37AA
HP Desktop Wired 320MK Mouse and Keyboard	X	X	9SR36AA
HP Wireless Business Slim Keyboard and Mouse	X	X	N3R88AA
HP USB Business Slim CCID SmartCard Keyboard	X	X	Z9H48AA
HP USB Keyboard	X	X	QY776AA
HP USB Keyboard and Mouse Healthcare Edition	X	X	1VD81AA
HP USB Premium Keyboard	X	X	Z9N40AA
HP USB PS/2 Washable Keyboard & Mouse	X	X	BU207AA
HP Wireless Premium Keyboard	X	X	Z9N41AA
HP PS/2 Business Slim Keyboard		X	N3R86AA
HP Desktop Wired 320M Mouse	X	X	9VA80AA
HP USB Fingerprint Mouse	X	X	4TS44AA
HP USB Premium Mouse	X	X	1JR32AA
HP PS/2 Mouse		X	QY775AA
HP Wireless Premium Mouse	X	X	1JR31AA
HP USB 1000dpi Laser Mouse	X	X	QY778AA
HP USB Optical Mouse	X	X	QY777AA

System Memory	DM	SFF	Part Number
HP 4GB DDR4-3200 DIMM		X	13L78AA
HP 8GB DDR4-3200 DIMM		X	13L76AA
HP 16GB DDR4-3200 DIMM		X	13L74AA
HP 32GB DDR4-3200 DIMM		X	13L72AA
HP 4GB DDR4-3200 SODIMM	X		13L79AA
HP 8GB DDR4-3200 SODIMM	X		13L77AA
HP 16GB DDR4-3200 SODIMM	X		13L75AA
HP 32GB DDR4-3200 SODIMM	X		13L73AA

Multimedia Devices	DM	SFF	Part Number
HP Business Headset v2	X	X	T4E61AA
HP S101 Speaker Bar	X	X	5UU40AA
HP UC Speaker Phone v2	X		4VW02AA

After Market Options

Security Devices	DM	SFF	Part Number
HP Business PC Security Lock v3 Kit		X	3XJ17AA
HP Dual Head Keyed Cable Lock		X	T1A64AA
HP Keyed Cable Lock 10mm	X	X	T1A62AA
HP Master Keyed Cable Lock 10mm	X	X	T1A63AA
HP Sure Key Cable lock	X		6UW42AA

I/O Devices	DM	SFF	Part Number
HP DisplayPort Port Flex IO v2	X (discrete GPU not supported)	X	13L54AA
HP HDMI Port Flex IO v2	X (discrete GPU not supported)	X	13L55AA
HP Type-C USB 3.1 Gen2 Port Flex IO v2	X	X	13L59AA
HP Type-C USB 3.1 Gen2 Port with PD Flex IO v2	X (discrete GPU not supported)		13L60AA
HP VGA Port Flex IO v2	X (discrete GPU not supported)	X	13L53AA
HP USB 3.1 Gen1 x2 Module Flex IO v2	X (discrete GPU not supported)		13L58AA
HP Serial Port Flex IO v2	X (discrete GPU not supported)	X	3TK76AA
HP Serial Port Flex IO 2 v2	X (discrete GPU not supported)		13L57AA
HP USB to Serial Port Adapter		X	J7B60AA
HP USB-C to Display Port Adapter		X	N9K78AA
HP DisplayPort To HDMI True 4k Adapter	X	X	2JA63AA
HP DVI Cable Kit		X	DC198A
HP HDMI Standard Cable Kit	X	X	T6F94AA
HP DisplayPort Cable Kit	X	X	VN567AA
HP DisplayPort To DVI-D Adapter	X	X	FH973AA
HP DisplayPort To VGA Adapter	X	X	AS615AA

NOTE: For more detail on HP I/O Devices please refer to the [HP FLEX IO Option Cards QuickSpecs](http://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c06042607). URL is: <http://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c06042607>

Change Log

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HP EliteDesk 805 G6 Small Form Factor PC (AMD Ryzen 5 PRO 4650G)

Desktop system certified with Ubuntu

Release

- **Ubuntu 20.04 LTS 64 Bit**

Pre-installed in some regions with a custom Ubuntu image that takes advantage of the system's hardware features and may include additional software. Standard images of Ubuntu may not work well, or at all.

Kernel

This system was tested with 20.04 LTS, running the 5.10.0-1032-oem kernel.

BIOS

HP: S09 Ver. 02.04.00 (UEFI)

Hardware

Network	Realtek Semiconductor Co., Ltd. RTL8111/8168/8411 PCI Express Gigabit Ethernet Controller pci (10ec:8168)
	Intel Corp. I210 Gigabit Network Connection Ethernet Server Adapter I210-T1 pci (8086:1533)
Processor	Advanced Micro Devices, Inc. AMD Ryzen 5 PRO 4650G with Radeon Graphics

Video	Advanced Micro Devices, Inc. [AMD/ATI] Renoir pci (1002:1636)
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[Hardware details >](#)

Components certified with this system

Component	14.04 ESM	16.04 LTS	18.04 LTS	20.04 LTS	Comments
Hewlett Packard Internal Serial Port (405/600/805/800) (chassis port) / VGA Port v2					Supported
HP Quadro P400 2048 MB					

- Supported
- ³ May require 3rd-party driver
- In progress

Issues? Let us know

If there is an issue with the information for this system, [please let us know <https://answers.launchpad.net/ubuntu-certification/+addquestion?field.title=Feedback on the HP EliteDesk 805 G6 Small Form Factor PC \(AMD Ryzen 5 PRO 4650G\) \(202107-29247\)>](https://answers.launchpad.net/ubuntu-certification/+addquestion?field.title=Feedback+on+the+HP+EliteDesk+805+G6+Small+Form+Factor+PC+(AMD+Ryzen+5+PRO+4650G)+(202107-29247)>).



[_ \(https://dmtf.org\)](https://dmtf.org)

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HP EliteDesk 805 G6 SFF

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Desktop

Qualification	Tested Product
Certification Record	HP EliteDesk 805 G6 SFF (/certifications/hp-elitedesk-805-g6-sff)
Model Number	HP EliteDesk 805 G6 SFF
Family Name	HP EliteDesk 805 G6 SFF
Standard:	DASH 1.2
Test Suite/Version:	DASH CTS 2018
Protocol:	WS-MAN
Mandatory Profiles Tested: N/A	
Optional Profiles Tested:	Base Desktop and Mobile Profile v1.0.1 (/info/profile_description/Base%2BDesktop%2Band%2BMobile%2BProfile%2Bv1.0.1)
	Battery v1.0 (/info/profile_description/Battery%2Bv1.0)
	BIOS Management v1.0.1 (/info/profile_description/BIOS%2BManagement%2Bv1.0.1)

[Boot Control Profile v1.0.2 \(/info/profile_description/Boot%2BControl%2BProfile%2Bv1.0.2\)](#)

[CPU Profile v1.0.1 \(/info/profile_description/CPU%2BProfile%2Bv1.0.1\)](#)

[DHCP Client Profile v1.0.3 \(/info/profile_description/DHCP%2BClient%2BProfile%2Bv1.0.3\)](#)

[DNS Client Profile v1.0.3 \(/info/profile_description/DNS%2BClient%2BProfile%2Bv1.0.3\)](#)

[Ethernet Port Profile v1.0.1 \(/info/profile_description/Ethernet%2BPort%2BProfile%2Bv1.0.1\)](#)

[Fan Profile v1.0.1 \(/info/profile_description/Fan%2BProfile%2Bv1.0.1\)](#)

[Host LAN Network Port v1.0.2 \(/info/profile_description/Host%2BLAN%2BNetwork%2BPort%2Bv1.0.2\)](#)

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[Indicator LED v1.0.0 \(/info/profile_description/Indicator%2BLED%2Bv1.0.0\)](#)

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[Media Redirection v1.0.0 \(/info/profile_description/Media%2BRedirection%2Bv1.0.0\)](#)

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[Telnet Service Profile v1.0 \(/info/profile_description/Telnet%2BService%2BProfile%2Bv1.0\)](#)

[Text Console Redirection Profile v1.0.2 \(/info/profile_description/Text%2BConsole%2BRedirection%2BProfile%2Bv1.0.2\)](#)

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[Watchdog v1.0 \(/info/profile_description/Watchdog%2Bv1.0\)](/info/profile_description/Watchdog%2Bv1.0)

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Wi-Fi CERTIFIED™ Certificate

This certificate lists the features that have successfully completed Wi-Fi Alliance interoperability testing. Learn more: www.wi-fi.org/certification/programs



Certification ID: WFA82565

Product Info

Date of Certification	October 30, 2020
Company	Intel
Product Name	Intel(R) Wi-Fi 6 AX200 160MHz
Product Model Variant	2020-10-30 (WFA82565 - 11639337)
Model Number	AX200
Category	Computers & Accessories
Sub-category	Internal Adapter

Summary of Certifications

CLASSIFICATION	CERTIFICATION
Access	Wi-Fi Protected Setup™
Applications & Services	Wi-Fi Direct®
Connectivity	2.4 GHz Spectrum Capabilities 5 GHz Spectrum Capabilities Wi-Fi CERTIFIED 6™ Wi-Fi CERTIFIED™ a Wi-Fi CERTIFIED™ ac Wi-Fi CERTIFIED™ b Wi-Fi CERTIFIED™ g Wi-Fi CERTIFIED™ n Wi-Fi Enhanced Open™ 2018-04
Optimization	WMM® WMM®-Power Save Wi-Fi Agile Multiband™
Security	Protected Management Frames WPA2™-Enterprise 2018-04 WPA2™-Personal 2018-04 WPA3™-Enterprise 2020-02 WPA3™-Personal 2020-02



Wi-Fi CERTIFIED™ Certificate

Certification ID: WFA82565



Summary of Certifications (continued)

Page 2 of 4

CLASSIFICATION

CERTIFICATION

Security

WPA™-Enterprise
WPA™-Personal

Spectrum & Regulatory Features

Spectrum & Regulatory



Wi-Fi CERTIFIED™ Certificate

Certification ID: WFA82565



Role: Station

Page 3 of 4

Wi-Fi Components

Wi-Fi Component Operating System

Windows 10, version:2004

Wi-Fi Component Firmware

22.00

RF Architecture

Bands Supported	Transmit (Tx)	Receive (Rx)
2.4 GHz	2	2
5 GHz	2	2

Certifications

2.4 GHz Spectrum Capabilities

20 MHz Channel Width
40 MHz Channel Width

5 GHz Spectrum Capabilities

20 MHz Channel Width
40 MHz Channel Width
80 MHz Channel Width
160 MHz Channel Width

Protected Management Frames

Spectrum & Regulatory

802.11h

WMM®

WMM®-Power Save

Legacy Power Save
Unschedule auto PS

WPA2™-Enterprise 2018-04

EAP methods
EAP TLS
EAP TTLS
PEAPv0

WPA2™-Personal 2018-04

WPA3™-Enterprise 2020-02

EAP methods
EAP TLS
EAP TTLS
PEAPv0
192-bit security
192-bit security RSA 3K with the
TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384
cipher suite
Server Certificate Validation

WPA3™-Personal 2020-02

WPA™-Enterprise

WPA™-Personal



Wi-Fi CERTIFIED™ Certificate

Certification ID: WFA82565



Role: Station

Page 4 of 4

Wi-Fi Agile Multiband™

Beacon Report Measurement Active Mode
Beacon Report Measurement Passive Mode

Wi-Fi CERTIFIED 6™

A-MPDU with A-MSDU
Announce of Unannounce TWT
BSRP Trigger frame
Compressed BlockACK Rx
DL Mu PPDU multi-tone
DL MU-MIMO
HE NDP
iTWT
LDPC Rx
LDPC Tx
MCS 8-9 Rx
MCS 8-9 Tx
MCS 10-11 Rx
MCS 10-11 Tx
MU EDCA Parameter Set element
MU-BAR Trigger frame
MU-RTS Trigger frame
OM Control field Tx
OM subfield in A-Control field
SU beamformee
UL OFDMA
UL TB PPDU multi-tone

Wi-Fi CERTIFIED™ a

Wi-Fi CERTIFIED™ ac

Extended 5 GHz Channel Support
A-MPDU with A-MSDU
DL MU-MIMO

Wi-Fi CERTIFIED™ ac (continued)

LDPC Rx
MCS 8-9 Rx
Short Guard Interval
STBC
LDPC Tx
SU beamformee

Wi-Fi CERTIFIED™ b

Wi-Fi CERTIFIED™ g

Wi-Fi CERTIFIED™ n

STBC
A-MPDU Tx
OBSS on Extension Channel
Power Management
Short Guard Interval

Wi-Fi Direct®

Wi-Fi Enhanced Open™ 2018-04

Wi-Fi Protected Setup™

PIN
Pushbutton

CERTIFICADO DE CONFORMIDADE

CERTIFICATE OF CONFORMITY

Certificado No. / Certificate No. **UL-BR 21.0865**

Data de Emissão / Date of issue **15 de Abril de 2021 / April 15, 2021**

Página / Page **1/47**

Certificado de conformidade válido somente acompanhado das páginas de 1 até 47
Certificate of conformity valid with pages from 1 to 47

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BARUERI, SP. CEP: 06455-030
CNPJ: 22.086.683/0001-84

Produto Certificado / Certified Product **COMPUTADOR DE MESA / DESKTOP**

Família de Produto / Product's Family
HP PRODESK 600 G6 SMALL FORM FACTOR PC, HP PRODESK 400 G7 SMALL FORM FACTOR PC, HP PRODESK 600 G8 SMALL FORM FACTOR PC, HP ELITEDESK 800 G6 DESKTOP MINI PC, HP PRODESK 600 G6 DESKTOP MINI PC, HP PRODESK 400 G6 DESKTOP MINI PC, HP ELITEDESK 800 G8 DESKTOP MINI PC, HP PRODESK 600 G8 DESKTOP MINI PC, HP COLLABORATION G6 PC WITH ZOOM ROOMS, HP SLIM DESKTOP PC, HP 280 G4 SFF BUSINESS PC, HP 280 PRO G4 SFF BUSINESS PC, HP 290 G2 SFF BUSINESS PC, HP 280 G5 SFF BUSINESS PC, HP 280 PRO G5 SFF BUSINESS PC, HP 290 G3 SFF BUSINESS PC, HP 280 G5 SMALL FORM FACTOR PC, HP 280 PRO G5 SMALL FORM FACTOR PC, HP 290 G3 SMALL FORM FACTOR PC, HP ELITEDESK 805 G6 DESKTOP MINI PC, HP ELITEDESK 800 G6 SMALL FORM FACTOR PC, HP ELITEDESK 805 G8 DESKTOP MINI PC, HP PRODESK 405 G6 DESKTOP MINI PC, HP PRODESK 405 G8 DESKTOP MINI PC, HP ELITEDESK 805 G6 SMALL FORM FACTOR PC, HP PRODESK 405 G6 SMALL FORM FACTOR PC, HP PRODESK 405 G8 SMALL FORM FACTOR PC, HP ELITEDESK 805 G8 SMALL FORM FACTOR PC

Modelo - Tipo / Model - Type **TPC-P069-SF, TPC-Q072-DM, TPC-F125-SF, TPC-F131-SF, TPC-Q076-DM, TPC-P072-SF**

Descrição (Nome comercial) / Description (Brand Name) **HP**

Lote ou No. de Série / Lot or Serial Number **N/A**

Normas Aplicáveis / Applicable standards
IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013, CISPR 22:2008, CISPR 32:2012, CISPR 32:2015/COR:2016, CISPR 24:2010+A1:2015, IEC 61000-3-2:2014, IEC 61000-3-3:2013, IEC 61000-4-2:2008, IEC 61000-4-3:2006 +A1:2007 +A2:2010, IEC 61000-4-4:2012, IEC 61000-4-5:2014, IEC 61000-4-6:2013, IEC 61000-4-8:2009, IEC 61000-4-11:2004

Programa de Certificação ou Portaria / Certification Program or Decree
PORTARIA NO. 170/2012 / DECREE NO. 170/2012
PORTARIA NO. 407/2015 / DECREE NO. 407/2015
PORTARIA NO. 48/2017 / DECREE NO. 48/2017

Relatório de Avaliação e Ensaios / Assessment and Test Report #
BR2357, Vol. 8, Sec. 42, 45, 47, 43, 44

Concessão Para / Concession for
Ostentar o Selo de Identificação da Conformidade do Sistema Brasileiro de Avaliação da Conformidade (SBAC) sobre o(s) produto(s) relacionado(s) neste certificado.
Bearing the Conformity Identification Seal of the Brazilian System of Evaluation of Conformity (SBAC) on the product covered by this certificate.

Revisão / Revision date **28 de julho de 2021 / July 28, 2021**
Validade / Expire date **14 de Abril de 2024 / April 14, 2024**

Organismo de Certificação / Certification Body **UL do Brasil Certificações**
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Pedro Mottola
Program Owner

UL do Brasil Certificações, organismo acreditado pela Coordenação Geral de Acreditação do INMETRO – CGCRE, segundo o registro N° OCP-0029 confirma que o produto está em conformidade com a(s) Norma(s) e programas ou Portarias acima descritas.

UL do Brasil Certificações, Certification Body accredited by Coordenação Geral de Acreditação do INMETRO - CGCRE according to the register Nr OCP-0029 confirms that the product is in compliance with the standards and certification Programs or Decrees above mentioned.



Solicitante / Applicant
(100039522)

HP BRASIL INDÚSTRIA E COMÉRCIO DE EQUIPAMENTO ELETRÔNICOS LTDA

ALAMEDA XINGU, 350, ANDAR 8 CONJ. 801 – ALPHAVILLE, BARUERI, SP. CEP: 06455-030
CNPJ: 22.086.683/0001-84

Fábrica/ factory
(100500-147)

FLEXTRONICS INTERNATIONAL TECNOLOGIA LTDA

AVENIDA LIBERDADE, 6315
18087-170 – SOROCABA – SP – BRASIL

MARCAÇÃO / MARKING: Marca do fabricante, modelo e características elétricas.

CARACTERÍSTICAS NOMINAIS / RATINGS:

100-240V~, 50-60Hz, 2.3A

19.5 Vdc, 3.33A or 4.62A, 6.15A, 7.69A, 7.7A or 9.23A – 20Vdc, 5A

LISTA DE ACESSÓRIOS / LIST OF ACCESSORIES: N/A

MODELO DE CERTIFICAÇÃO / CERTIFICATION MODEL: 5

VERSÃO DO PROJETO DO PRODUTO / PRODUCT DESIGN VERSION: N/A

LISTA DE COMPONENTES CRÍTICOS / LIST OF CRITICAL COMPONENTS:

Para o modelo TPC-P069-SF ver Anexo 1 - Para o modelo TPC-Q072-DM ver Anexo 2
Para o modelo TPC-F125-SF ver Anexo 3 - Para o modelo TPC-F131-SF ver Anexo 4
Para o modelo TPC-Q076-DM ver Anexo 5 - Para o modelo TPC-P072-SF ver Anexo 6

DOCUMENTOS

/

DOCUMENTS:

Título / Title	Número / Number	Revisão / Revision	Data emissão / Issue Date	Data de Realização / Performance Date
Dados da Auditoria / Audit data Factory: Flextronics International Tecnologia Ltda.	BR2357	0	2021-05-24	N/A
Dados da Rep Legal / Legal Rep data HP Brasil Indústria e comércio de Equipamentos Eletrônicos Ltda.	BR2357	0	2021-02-04	N/A
Relatório de ensaio emitido por / Test report issued by Universal Standard Service, Inc.	ASL20020312	0	2020-03-27	N/A

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Relatório de ensaio emitido por / Test report issued by Universal Standard Service, Inc.	ASL20020312-001	0	2020-11-19	N/A
Relatório de ensaio emitido por / Test report issued by Bureau Veritas Consumer Products Services (H.K.) Ltd.	CEBDTL-WTW- P20090687	0	2020-10-22	N/A
Relatório de ensaio emitido por / Test report issued by FIT – Flextronics Instituto de Tecnologia	V20-063-SERV-07	0	2021-03-31	N/A
Relatório de ensaio emitido por / Test report issued by FIT – Flextronics Instituto de Tecnologia	V20-063-SERV-08	0	2021-03-31	N/A
Relatório de ensaio emitido por / Test report issued by Underwriters Laboratories Taiwan Co., Ltd	E142692- 4789844255-1	0	2021-04-28	N/A
Relatório de ensaio emitido por / Test report issued by SGS Taiwan Ltd.	MH/2020/10105	0	2020-03-24	N/A
Relatório de ensaio emitido por / Test report issued by FIT – Flextronics Instituto de Tecnologia	V20-063-SERV-01	0	2021-03-31	N/A
Relatório de ensaio emitido por / Test report issued by FIT – Flextronics Instituto de Tecnologia	V20-063-SERV-02	0	2021-03-31	N/A
Relatório de ensaio emitido por / Test report issued by Audix Technology (Shenzhen) Co. Ltd.	ACSCBIT19011	0	2019-05-28	N/A
Relatório de ensaio emitido por / Test report issued by Audix Technology (Shenzhen) Co. Ltd.	ACSCBIT19011-01	0	2019-07-19	N/A
Relatório de ensaio emitido por / Test report issued by Audix Technology (Shenzhen) Co. Ltd.	ACSCBIT19011-02	0	2020-01-17	N/A
Relatório de ensaio emitido por / Test report issued by Audix Technology (Shenzhen) Co. Ltd.	ACSCBIT19011-03	0	2021-04-16	N/A
Relatório de ensaio emitido por / Test report issued by Audix Technology (Shenzhen) Co. Ltd.	ACS-E19122-4	0	2021-04-29	N/A
Relatório de ensaio emitido por / Test report issued by FIT – Flextronics Instituto de Tecnologia	V20-063-SERV-11	0	2021-07-26	N/A
Relatório de ensaio emitido por / Test report issued by FIT – Flextronics Instituto de Tecnologia	V20-063-SERV-12	0	2021-07-26	N/A
Relatório de ensaio emitido por / Test report issued by Audix Technology (Shenzhen) Co. Ltd.	ACSCBIT20007	0	2020-06-08	N/A
Relatório de ensaio emitido por / Test report issued by Audix Technology (Shenzhen) Co. Ltd.	ACWE-E2006001	0	2020-06-01	N/A
Relatório de ensaio emitido por / Test report issued by FIT – Flextronics Instituto de Tecnologia	V20-063-SERV-03	0	2021-07-26	N/A
Relatório de ensaio emitido por / Test report issued by FIT – Flextronics Instituto de Tecnologia	V20-063-SERV-04	0	2021-07-26	N/A
Relatório de ensaio emitido por / Test report issued by Underwriters Laboratories Taiwan	E142692- 4789898331-1	0	2021-05-03	N/A
Relatório de ensaio emitido por / Test report issued by SGS Taiwan Ltd.	MH/2020/50128	0	2020-06-24	N/A
Relatório de ensaio emitido por / Test report issued by FIT – Flextronics Instituto de Tecnologia	V20-063-SERV-09	0	2021-07-26	N/A
Relatório de ensaio emitido por / Test report issued by FIT – Flextronics Instituto de Tecnologia	V20-063-SERV-10	0	2021-07-26	N/A
Relatório de ensaio emitido por / Test report issued by Universal Standard Service Inc.	ASL20052817	0	2020-07-01	N/A
Relatório de ensaio emitido por / Test report issued by Bureau Veritas Consumer Products Services (H.K.)	CEBDTL-WTW- P20060009	0	2020-06-06	N/A
Relatório de ensaio emitido por / Test report issued by	V20-063-SERV-05	0	2021-07-26	N/A

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FIT – Flextronics Instituto de Tecnologia				
Relatório de ensaio emitido por / Test report issued by FIT – Flextronics Instituto de Tecnologia	V20-063-SERV-06	0	2021-07-26	N/A

OBSERVAÇÕES / OBSERVATIONS:

1. A validade deste Certificado está condicionada à realização das avaliações de manutenção e tratamento de possíveis não conformidades de acordo com as orientações da UL do Brasil Certificações e previstas nos procedimentos específicos.

The validation of this certificate depends on the surveillance inspections performing and Non conformity treatments, according to UL do Brasil Certificações procedures.

2. Este certificado aplica-se aos equipamentos (produtos) idênticos ao protótipo avaliado e certificado, manufaturados na(s) unidade (s) fabril (is) mencionada (S) acima.

This certificate applies to the products that are identical to the prototype investigated, certified and manufactured at the production site mentioned in this certificate.

3. Qualquer alteração no produto, incluindo a marcação, invalidará o presente certificado, salvo se o solicitante informar por escrito à UL do Brasil Certificações sobre esta modificação, a qual procederá à avaliação e decidirá quanto à continuidade da validade do certificado.

Any non-authorized changes performed in the product, including marking, will invalidate this certificate. UL do Brasil Certificações must be notified about any desired change. This notification will be analyzed by UL do Brasil Certificações that will decide about certificate force.

Histórico de Revisões / Revisions Description:

28 de julho de 2021 / July 28, 2021	Rev 2: Inclusão dos modelos TPC-F125-SF, TPC-F131-SF, TPC-Q076-DM, TPC-P072-SF / Rev 1: TPC-F125-SF, TPC-F131-SF, TPC-Q076-DM, TPC-P072-SF model inclusion
17 de Maio de 2021 / May 17, 2021	Rev 1: Inclusão do modelo TPC-Q072-DM / Rev 1: TPC-Q072-DM model inclusion
15 de Abril de 2021 / April 15, 2021	Emissão inicial / Initial Issue
A última revisão substitui e cancela as anteriores <i>The last review replaces and cancels the previous ones</i>	

Anexo 1 – Lista de componentes

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹
Enclosure Material	Interchangeable	Interchangeable	Metal thickness 0.6mm min.	--	--
Front Enclosure Material (for decorative part)	Interchangeable	Interchangeable	HB min. or better.	UL 94	UL

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Power Supply	Lite-On Technology Corporation	PA-1181-3HK	I/P: 100-240Vac, 50-60Hz, 2.3A O/P: 12.1Vdc, 14.88 max., Max. continuous total DC output Power 180W. Class I, Tma: 50oC, Altitude: 5000m	UL 62368-1 2nd, IEC 60950 1: 2005+A1+A2, EN 60950-1:2006 +A11:2009+A1: 2010+A12:2011+ A2:2013, IEC 62368-1:2014, EN 62368-1: 2014+A11:2017	UL, CB by TUVRh (Certificate No.:JPTUV -096977-M1),(JPTU V-083868-A1/M3
Power Supply (Alternate)	Chicony Power Technology Co., Ltd.	D19-180P2A	I/P:100-240Vac, 50-60Hz, 2.3A O/P:12.1Vdc, 14.88A,+12.1V shall not exceed 180W, Maximum power shall not exceed 180W. Class I, Tma: 50oC, Altitude: 5000m	UL 62368-1 2nd , IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11:2009+ A1:2010+A12: 2011+A2:2013, IEC 62368-1: 2014, EN 62368-1: 2014+A11	UL, CB by TUVRh (Certificate No.: JPTUV-100744), (JPTUV-100829)
Power Supply (Alternate)	Delta Electronics, Inc.	DPS-180AB-30 XX (1st X= 0-9, B-Z or blank, except for A; 2nd X= 0-9, A-Z or blank)	I/P:100-240Vac, 50-60Hz, 2.3A O/P: 12.1Vdc/ 14.88A, Max. Power 180W. Class I, Tma: 50oC, Altitude: 5000m	UL 62368-1 2nd ,IEC 60950-1:2005+A1+A2, EN 60950-1: 2006+A11:2009+A 1:2010+A12: 2011+A2:2013, IEC 62368-1: 2014, EN 62368-1: 2014+A11	UL, CB by TUVRh (Certificate No.:JPTUV - 100619), (JPTUV-100615)
Power Supply (Alternate)	Acbel Polytech Inc.	PCK016	I/P: 100-240V, 50-60 Hz, 2.3A O/P: +12.1Vdc /14.88A Class I, Tma: 50oC, Altitude: 5000m	UL 60950-1, 2nd, IEC 60950-1:2005+A1+A2, EN 60950-1: 2006+A11:2009+ A1:2010+A12: 2011+A2:2013, UL 62368-1 2nd IEC 62368-1: 2014, EN 62368-1: 2014+A11	UL, CB by TUVRh (Certificate No.:JPTUV - 099953), (JPTUV-099952)

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41-IC-F0033 rev 12.0

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Power Supply (Alternate)	Chicony Power Technology Co., Ltd.	D19-210P1A	I/P: 100-240Vac, 50-60Hz, 2.5A O/P: 12.1Vdc, 17.36A, +12.1V shall not exceed 210W, Maximum power shall not exceed 210W. Class I, Tma: 50oC, Altitude: 5000m	UL 62368-1 2nd , IEC 60950-1: 2005+A1+A2, EN 60950-1:2006 +A11:2009+A1: 2010+A12: 2011+A2:2013, IEC 62368-1:2014, EN 62368-1:2014+A11	UL, CB by TUVRh (Certificate No.:JPTUV -104367), (JPTUV- 104677)
Power Supply (Alternate)	Acbel Polytech Inc.	PCK015	I/P: 100-240V, 50-60Hz, 2.5A O/P: +12.1Vdc, 17.36A Class I, Tma: 50oC, Altitude: 5000m	UL 60950-1, 2nd, IEC 60950- 1:2005+A1+A2, EN 60950-1: 2006+A11:2009+ A1:2010+A12: 2011+A2:2013, UL 62368-1 2nd IEC 62368-1: 2014, EN 62368- 1:2014+A11	UL, CB by TUVRh (Certificate No.: JPTUV- 104523), (JPTUV- 104524)
HDD (Optional)	HGST Japan, Ltd.	HDS7225nnVLATn n - n= 0-9	5 Vdc, 1.5A or 12Vdc, 2.0 A max.	UL 60950-1, 2nd, EN 60950- 1:2006+A11+A1 +A12+A2	TUV
HDD (Optional) (Alternate)	Interchangeable	Interchangeable	5 Vdc, 1.5A or 12Vdc, 2.0 A max.	UL 60950-1, 2nd, EN 60950-1 :2006+A11 :009+ A1 :2010+A12 :2 011+A2:2013, IEC 60950-1 :2005 (2 nd editon)+Am1 :2009 +Am2:2013, IEC 62368-1:2014, EN 62368-1:2014	UL, TUV, NEMKO, VDE
SSD (Optional) (Alternate)	Lite-On Technology Corporation	CF1-CPxxxxxxx	5 Vdc, 2.0 A max.	UL 60950-1, 2nd, EN 60950-1 :2006+A11:00 9+A1 :2010+A12 :2011+A2:2013, IEC 60950-1 :2005 (2 nd editon) +Am1 :2009+Am2:2013	UL, TUV, VDE, Nemko

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SSD (Optional) (Alternate)	Interchangeable	Interchangeable	5 Vdc, 2.0 A max.	UL 60950-1, 2nd, EN 60950-1 :2006+A11:009+A1 :2010+A12 :2011+A2:2013, IEC 60950-1 : 2005 (2 nd edition) +Am1 :2009 +Am2: 2013, IEC 62368-1:2014, EN 62368-1: 2014	UL, TUV, VDE, Nemko
Optical Disk Device (Optional)	Hitachi-LG Data Storage Inc.	GHBzt, GHCzt, GHDzt Where z can be any number 0 TO 9, t can be any alphanumeric, denoting non safety related differences.	5Vdc, 2.0A max.; 12Vdc, 2.5A max. Laser Class I.	UL 60950-1, 2 nd Edition, 2014-10-14, IEC 60950-1:2005+A1+A2, EN 60950-1:2006+A11+A1+A12+A2, EN/IEC 60825-1:2007	UL, TUV
Optical Disk Device (Optional) (Alternate)	Interchangeable	Interchangeable	5Vdc, 2.0A max.; 12Vdc, 2.5A max. Laser Class I.	UL 60950-1, 2 nd Edition, 2014-10-14, IEC 60950-1:2005+A1+A2, EN 60950-1: 2006+A11+A1+A12+A2, EN/IEC 60825-1:2007, IEC 62368-1: 2014, EN 62368-1:2014	UL, TUV, VDE, Nemko
CPU Fan	Asia Vital Components Co., Ltd.	DS08025R12UP239	12Vdc, 0.7A max., 60.10 CFM min.	UL 507, IEC 60950-1:2005 +A1+A2, EN60950-1:2006+A11+A1+A12+A2 EN 62368-1: 2014/A11: 2017	UL, TUVrh, TUVSUD
CPU Fan (Alternate)	Delta Electronics, Inc.	AUB0812VJ-00XXXXXX (X stands for A-Z, 0-9, - or blank for marketing purpose only)	12Vdc, 0.5A max., 53.05 CFM min.	UL 507, IEC 60950-1:2005 +A1+A2, EN 60950-1:2006 +A11+A1 +A12+A2, IEC 62368-1: 2014, EN 62368-1:2014	UL, TUVRH

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CPU Fan (Alternate)	Foxconn Technology Co., Ltd.	PVA080G12Q	12Vdc, 0.65A max, 60 CFM min.	UL 507, EN 60950- 1:2006 +A11+A1+A12+A2, EN 62368-1:2014	UL, TUVRH
Motherboard	Interchangeable	Tommen/Tyrion	See below.	--	--
- RTC Battery	VIC-DAWN ENTERPRISE CO LTD / KTS	CR2032	3Vdc, max. abnormal charging current 10mA	UL 1642	UL (MH20550)
- RTC Battery (Alternate)	JHIH HONG TECHNOLOGY CO LTD	CR2032	3Vdc, max. abnormal charging current 10mA	UL 1642	UL (MH48406)
- RTC Battery (Alternate)	DOUBLE BEST CO LTD	CR2032 (j)(k) (j) - These cells may have various insulating tube, ring, or tape (k) - These cells and batteries may come with an optional single or multiple alphanumeric suffix denoting various pin, tab, cap or wire termination types	3Vdc, max. abnormal charging current 10mA	UL 1642	UL (MH46388)
- RTC Battery (Alternate)	Interchangeable	Interchangeable	3V, maximum abnormal charging current 5mA min, against charging current by multiple components D20 and R17 rated 1Kohm min.	UL 1642	UL
- Polyswitch (M1F5) provided for HDMI port and (M1F3, M1F4) provided for Display ports use (M1F5 and M1F4 are optional)	Littelfuse Inc.	0805L110ULXXYY YYY (X, Y stands for A to Z, 0 to 9 or blank)	6Vdc, 1.1A	UL 1434, IEC/EN 60738- 1:2006, IEC/EN 60738-1-1:2008, IEC 60730-1: 1999+ A1, EN 60730-1: 2000+A1+A12+A13+A14	UL, TUV

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- Polyswitch (M1F5) provided for HDMI port and (M1F3, M1F4) provided for Display ports use (M1F5 and M1F4 are optional) (Alternate)	Polytronics Technology Corp.	SPR-P110	6Vdc, 1.1A	IEC/EN 60738-1:2006, IEC /EN 60738-1-1:2008, IEC 60730-1:1999+A1, EN 60730-1:2000 +A1+A12+A13+A14	TUV
- Protective IC (U53, U54) provided for front USB ports, (U52) provided for rear USB port use.	Richtek Technology Corp.	RT9742..G. The first dot "." can be A to Z represent output current/ enable function. The second dot "." can be N or blank represent discharge function. The third dot "." can be J5F/ J5/ V represent package type.	2.7V to 6V , 3A/2A/1.5A/1A, 70mohm/55moh m (typ.) N- MOSFET Switch	UL 2367, IEC 60950-1:2005 +A1+A2, EN 60950-1:2006 + A11:2009 + A1:2010+A12:2011+A2:2013, IEC 62368-1:2014, EN 62368-1:2014/A11:2017	UL, CB by Nemko (Cert. No.: NO87949), (NO10977)
- Protective IC (U53, U54) provided for front USB ports, (U52) provided for rear USB port use (Alternate)	ANPEC ELECTRONICS CORP	APL3553 followed by A, B, C, D, E, F, G, H, I or J followed by B, C or X, followed by I, followed by -, followed by TR, followed by G	2.7 to 5.5V , Output Continuous Rating: 2.0 A, Current Limit Rating: 2.9A	UL 2367, IEC 60950-1(ed.2); am2, EN 60950-1:2006/A11:2009 /A1: 2010 /A12: 2011/ A2:2013, IEC 62368-1: 2014, EN 62368-1: 2014/A11 :2017	UL, CB by Demko (Cert. No.: DK-59231-A2-UL), (DK-87208-UL)
- Protective IC (U53, U54) provided for front USB ports, (U52) provided for rear USB port use (Alternate)	DIODES INC	AP22811AW5-7, AP22811BW5-7, AP22811AM8-13, AP22811BM8-13:	2.7-5.5Vdc, Output Continuous Rating: 2.0 A Output Current Limit: 3.2 A	UL 2367, IEC 60950-1: 2005 +A1+A2, EN 60950-1:2006 + A11 :2009 + A1:2010+A12:2011+A2:2013, IEC 62368-1:2014, EN 62368-1: 2014/A11:2017	UL, CB by UL (US) (Cert. No.: US-26790-A1-UL), (US-34018-UL)
- Protective IC (U55) provided for rear USB port use	Richtek Technology Corp.	RT9742..G. The first dot "." can be A to Z represent output current/ enable function. The second dot "." can be N or blank represent discharge function.	2.7V to 6V , 3A/2A /1.5A/1A, 70mohm/55moh m (typ.) N- MOSFET Switch	UL 2367, IEC 60950- 1:2005 +A1+A2, EN 60950-1:2006 + A11:2009 + A1:2010+A12:2011+A2:2013, IEC 62368-1:2014, EN 62368-1:	UL, CB by Nemko (Cert. No.: NO87949), (NO10977)

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		The third dot "." can be J5F/ J5/ V represent package type.		2014/A11:2017	
-Protective IC (U55) provided for rear USB port use (Alternate)	GLOBAL MIXED-MODE TECHNOLOGY INC	G517GX1X2X3X4, X1=1, 2, 3 or 4, X2= T1, TB, TO, TP or P8, X3= 1, 2 or 3, X4= U or D	2.7-5.5Vdc, Operational Current Rating: 3.0A at TA= 25oC, 2.5A at TA= 75oC, Overcurrent Protection Current Rating: 3.1A-4.1A, 2.6A-4.0A	UL 2367 IEC 60950-1:2005+ A1+A2, EN 60950-1:2006 +A11:2009+A1: 2010+A12:2011+ A2:2013, IEC 62368-1: 2014, EN 62368-1: 2014+A11	UL, CB by TUVRh (Certificate No.: JPTUV-080887), (JPTUV-099276)
All PCBs	Interchangeable	Interchangeable	V-1 min, 105 oC min.	UL 796	UL
Accessory - Graphics Card (Optional)	Micro-Star International Co Ltd	TPC-M003G	N/A	UL 60950-1, IEC 60950-1:2005 /AMD2:2013, EN 60950-12006 /A11:2009/A1:2010/A12:2011/A2: 2013	UL, CB
Graphic card (Optional) (Alternate)	PEGATRON CORP	TPC-P002G	See below.	--	--
- DC Fan	FirstDo Investment Enterprise Co., Ltd.	FD5010U12S	12Vdc, 0.22A, 11.87 CFM	UL 507, EN 60950-1:2006/A2:2013	UL, TUVSUD
- Protective IC (U503) provided for Display port use	ANPEC Electronics Corporation	APL3510..I-TRG The first dot "." in the model name APL3510..I-TRG can be A, B, C, D, E or F to represent output current/ enable function, the second dot can be K, X or B to represent package code.	0.3-2.0A, 2.7-5.5Vdc per output channel. SELV, Class III	UL 2367, IEC 60950-1:2005 +A1+A2, EN 60950 1: 2006 + A11: 2009 + A1: 2010+A12:2011+ A2:2013	UL, CB by Nemko (Cert. No.: NO85153)

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Graphic card (Optional) (Alternate)	PEGATRON CORP	TPC-P007G	N/A	UL 60950-1, IEC 60950-1:2005 /AMD2:2013, EN 60950-12006/ A11:2009/ A1: 2010/A12:2011/ A2:2013, IEC 62368-1: 2014, EN 62368- 1: 2014/A11:2017	UL, CB
Graphic card (Optional) (Alternate)	Interchangeable	Interchangeable	All output connector comply with limited power source (LPS). No Fan, Heatsink, Battery, Super Cap, Water cooling system, Optical fiber.	UL 60950-1, IEC 60950-1, IEC 62368-1	UL, CB
I/O board (Optional) (Alternate)	Interchangeable	Davos (TPC- Q011AO)	--	--	--
- Polyswitch (F4) provided for Display port use	Polytronics Technology Corp.	SPR-P110	6Vdc, 1.1A	UL 1434, IEC/EN 60738-1:2006 ,IEC/ EN 60738- 1-1:2008, IEC 60730-1: 1999+ A1, EN 60730-1: 2000+A1+A12+A 13+A14	UL, TUV
- Polyswitch (F4) provided for Display port use (Alternate)	CYG Wayon Circuit Protection Co., Ltd.	LP-ISML110abcd a=C, U, Blank b=S, Z, Blank c= H, Blank d= F, Blank	6Vdc, 1.1A	UL 1434, EN 62319-1:2005, EN 62319-1- 1:2005, IEC 60730-1:2013	UL, TUV
I/O board (Optional) (Alternate)	Interchangeable	Craster (TPC- F009AO)	--	--	--
-Protective IC (U54) provided for USB Type C port use	NXP Semiconductor Taiwan Ltd.	NX5P3290UK/S90 0, NX5P3290UK	4.0 Vdc to 5.5Vdc, Current Limit Rating: 3.3 A	UL 62368-1 2nd IEC 62368- 1 (ed.2), EN 62368-1:2014	UL, CB by Demko (DK-57975- A1-UL)
I/O board (Optional) (Alternate)	Interchangeable	Hodor (TPC- Q012AO)	--	--	--

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- Polyswitch (F4) provided for HDMI port use	Polytronics Technology Corp.	SPR-P110	6Vdc, 1.1A	UL 1434, IEC/EN 60738-1:2006, IEC/EN 60738-1:2008, IEC 60730-1: 1999 +A1, EN 60730-1:2000+A1+A12 +A13+A14	UL, TUV
- Polyswitch (F4) provided for HDMI port use (Alternate)	CYG Wayon Circuit Protection Co., Ltd.	LP-ISML110abcd a=C, U, Blank b=S, Z, Blank c= H, Blank d= F, Blank	6Vdc, 1.1A	UL 1434, EN 62319-1:2005, EN 62319-1-1: 2005, IEC60730-1:2013	UL, TUV
I/O board (Optional) (Alternate)	Interchangeable	Unella (TPC-F010AO)	--	--	--
-Protective IC (U1) provided for USB ports use	DIODES INC	AP22811AW5-7, AP22811BW5-7, AP22811AM8-13, AP22811BM8-13:	2.7-5.5Vdc, Output Continuous Rating: 2.0 A Output Current Limit: 3.2 A	UL 2367, IEC 60950-1:2005+ A1+A2, EN60950-1: 2006 + A11:2009 + A1:2010 +A12 :2011+A2:2013, IEC 62368-1:2014, EN 62368-1: 2014/ A11:2017	UL, CB by UL (US) (Cert. No.: US-26790-A1-UL), (US-34018-UL)
-Protective IC (U1) provided for USB ports use (Alternate)	SILERGY TECHNOLOGY (TAIWAN) INC	SY6288C20AAC and SY6288D20AAC	2.5 to 5.5 Vdc Output Continuous Rating: Max. 2.0 A Current Limit Rating: 3.5 A	UL 2367, IEC 62368-1: 2014, EN 62368-1: 2014/A11:2017	UL, CB by Demko (Cert. No.:), (DK-86482-UL)
I/O board (Optional) (Alternate)	Interchangeable	Varys (TPC-Q010AO)	--	--	--
- Polyswitch (F6) provided for VGA port use	Polytronics Technology Corp	SMD1206P110 TFT	8Vdc, 1.1A	UL 1434, IEC 60738-1:1998, EN 60738-1: 1999, IEC60738-1-1:1998, EN 60738-1-1:1999, IEC 60730-1: 1999, EN 60730-1:2000+A1+A12 +A13+A14	UL, TUV

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- Polyswitch (F6) provided for VGA port use (Alternate)	LITTELFUSE INC	1206L110THXXYY YYY	8Vdc, 1.1A	UL 1434, IEC/EN 60738-1:2006, IEC/EN 60738-1:2008, IEC 60730-1: 1999+ A1, EN 60730-1: 2000+A1+A12+ A13+A14	UL, TUV
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Anexo 2 – Lista de componentes:

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)
AC Adapter	Chicony Power Technology Co., Ltd.	TPC-CA58	I/P: 100-240Vac, 50-60Hz, 1.6A O/P: 19.5Vdc, 3.33A, 65W, Class I, 35°C, Altitude 5000m	IEC 60950-1: 2005 (2 nd Edition); Am 1: 2009+ Am2:2013 IEC 62368-1:2014	CB by TUV (JPTUV-060305, JPTUV-097909)
(Alternate)	Lite-On Technology Corp	TPC-LA58	I/P: 100-240Vac, 50-60Hz, 1.6A O/P: 19.5Vdc, 3.33A, Class I, 35°C, Altitude 5000m	IEC 60950-1: 2005 (2 nd Edition); Am 1:2009+ Am2:2013 IEC 62368-1: 2014	CB by TUV (JPTUV-092070, JPTUV-098104)
(Alternate)	Delta Electronics Inc	TPC-DA58	I/P: 100-240Vac, 50-60Hz, 1.6A O/P: 19.5Vdc, 3.33A, Class I, 35°C, Altitude 5000m	IEC 62368-1: 2014	CB by TUV (JPTUV-088801)
(Alternate)	Lite-On Technology Corp	Series TPC- LA57	I/P: 100-240Vac, 50-60Hz, 1.4A O/P: 19.5Vdc, 4.62A, Class I, 35°C, Altitude 5000m	IEC 60950-1: 2005 (2 nd Edition); Am 1: 2009+ Am2:2013 IEC 62368-1:2014	CB by TUV (JPTUV-091024, JPTUV-078815)
(Alternate)	Delta Electronics Inc	TPC-DA57	I/P: 100-240Vac, 50-60Hz, 1.4A O/P: 19.5Vdc, 4.62A, Class I, 40°C, Altitude 5000m	IEC 62368-1: 2014	CB by UL (DK-62748-UL)
(Alternate)	Chicony Power Technology Co., Ltd.	TPC-CA57	I/P: 100-240Vac, 50-60Hz, 1.4A O/P: 19.5Vdc, 4.62A; 90W, Class I, 35°C, Altitude 5000m	IEC 62368-1: 2014	CB by TUV (JPTUV-078180)

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(Alternate)	Acbel Polytech Inc	TPN-AA06	I/P: 100-240Vac, 50-60Hz, 1.7A; O/P: 19.5Vdc, 3.33 A, Class I, 35oC, Altitude 5000m	IEC 60950-1:2005 (2 nd Edition); Am 1: 2009+Am2:2013 IEC 62368-1: 2014	CB by TUV (JPTUV-088775-A1, JPTUV-088609-A1)
(Alternate)	Chicony Power Technology Co., Ltd	TPN-CA16	I/P: 100-240Vac, 50-60Hz, 1.7A; O/P: 19.5Vdc, 3.33A, Class I, 35oC, Altitude 5000m	IEC 60950-1:2005 (2 nd Edition); Am 1: 2009+Am2:2013 IEC 62368-1:2014	CB by TUV (JPTUV-088506, JPTUV-088457)
(Alternate)	Delta Electronics Inc	TPN-DA17	I/P: 100-240Vac, 50-60Hz, 1.7A; O/P: 19.5Vdc, 3.33A, Class II, 35oC, Altitude 5000m	IEC 60950-1:2005 (2 nd Edition); Am 1: 2009+Am2:2013 IEC 62368-1:2014	CB by TUV (JPTUV-088512, JPTUV-088994)
(Alternate)	Lite-On Technology Corp	TPN-LA16	I/P: 100-240Vac, 50-60Hz, 1.7A; O/P: 19.5Vdc, 3.33A, Class I, 35oC, Altitud 5000m	IEC 60950-1:2005 (2 nd Edition); Am 1: 2009+Am2:2013 IEC 62368-1:2014	CB by UL (DK-73721-UL, DK-73717-UL)
(Alternate)	Chicony Power Technology Co., Ltd	TPN-CA17	I/P: 100-240Vac, 50-60Hz, 1.7A; O/P: 19.5Vdc, 3.33A, Class I, 35oC, Altitude 5000m	IEC 60950-1:2005 (2 nd Edition); Am 1: 2009+Am2: 2013 IEC 62368-1:2014	CB by TUV (JPTUV-088508, JPTUV-088468)
(Alternate)	Chicony Power Technology Co., Ltd	TPN-CA18	I/P: 100-240Vac, 50- 60Hz, 1.7A; O/P: 19.5Vdc, 4.62A, Class I, 35oC, Altitude 5000m	IEC 60950-1:2005 (2nd Edition); Am 1: 2009+Am2: 2013 IEC 62368-1: 2014	CB by TUV (JPTUV-088508, JPTUV-088468)
(Alternate)	Lite-On Technology Corp	TPN-LA17	I/P: 100-240Vac, 50-60Hz, 1.7A; O/P: 19.5Vdc, 3.33A, Class I, 35oC, Altitude 5000m	IEC 60950-1:2005 (2 nd Edition); Am 1: 2009+Am2: 2013 IEC 62368-1:2014	CB by UL (DK-73957-UL, DK-73710-UL)

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(Alternate)	Delta Electronics Inc	TPN-DA18	I/P: 100-240Vac, 50-60Hz, 1.7A; O/P: 19.5Vdc, 4.62A, Class II, 350C, Altitude 5000m	IEC 60950-1:2005 (2 nd Edition); Am 1: 2009+Am2: 2013 IEC 62368-1: 2014	CB by TU (JPTUV-090651-M2, JPTUV-090588-M2)
(Alternate)	Delta Electronics Inc	TPC-DA52	Input: 100-240Vac, 2.0A, 50-60Hz, Class I Output: 19.5Vdc, 7.69A, 150W, Altitude 5000m	IEC 60950-1:2005 (2 nd Edition); Am 1: 2009+Am2: 2013 IEC 62368-1: 2014	CB by UL (DK-6262-UL, DK-42591-UL)
(Alternate)	Chicony Power Technology Co., Ltd	TPC-CA52	Input : 100-240Vac, 2.0A, 50-60Hz Output: 19.5Vdc, 7.69A, 150W Altitude 5000m	IEC 60950-1:2005 (2 nd Edition); Am 1: 2009+Am2: 2013 IEC 62368-1: 2014	CB by TUV (JPTUV- 078201, JPTUV-061032)
(Alternate)	Chicony Power Technology Co., Ltd	TPN-CA22	I/P: 100-240V~, 50-60Hz, 2.5A O/P: DC19.5V, 7.7A 150W, altitude 5000m.	IEC 60950-1:2005 (2 nd Edition); Am 1: 2009+Am2: 2013 IEC 62368-1: 2014	CB by TUV (JPTUV-102148-A1, JPTUV-101946)
(Alternate)	Lite-On Technology Corp	TPN-LA20	I/P: 100-240V~, 50-60Hz, 2.5A O/P: DC19.5V, 7.7A, 150W, altitude 5000m.	IEC 60950-1:2005 (2 nd Edition); Am 1: 2009+Am2: 2013 IEC 62368-1: 2014	CB by TUV (JPTUV- 101694, JPTUV- 101441)
(Alternate)	Chicony Power Technology Co., Ltd (HP)	TPN-CA19	I/P: 100-240Vac, 50-60Hz, 1.7A O/P: 19.5 Vdc, 6.15A, 120W, Class I. 40°C. Altitude 5000m	IEC 60950-1:2005 (2 nd Edition); Am 1: 2009+Am2: 2013 IEC 62368-1:2014	UL, CB by TUV/RH (JPTUV-094252, JPTUV-094190)
(Alternate)	Lite-On Technology Corp (HP)	TPN-LA18	I/P: 100-240Vac, 50-60Hz, 1.6A O/P: 19.5 Vdc, 3.33A, Class I. 35°C. Altitude 5000m	IEC 60950-1:2005 (2 nd Edition); Am 1: 2009+Am2: 2013 IEC 62368-1: 2014	UL, CB by TUV/RH (JPTUV-094301, JPTUV-094254)
(Alternate)	Delta Electronics Inc (HP)	TPN-DA19	I/P: 100-240Vac, 50-60Hz, Class I, 2.5A O/P: 19.5 Vdc, 6.15A, 120W, 350C, Altitude 5000m	IEC 60950-1: 2005 (2 nd Edition); Am 1:2009+Am2: 2013 IEC 62368-1: 2014	UL, CB by TUV/RH (JPTUV-093604, JPTUV-093602)

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(Alternate)	Acbel Polytech Inc (HP)	TPC-AA62	I/P: 100- 240V~, 1.7A, 50-60Hz O/P: 19.5Vdc, 9.23A, 35°C, altitude 5000m.	IEC 60950-1:2005 (2 nd Edition); Am 1: 2009+Am2: 2013 IEC 62368-1:2014	UL, CB by TUV/RH (JPTUV-097672, JPTUV-097739)
(Alternate)	Interchangeable	Interchangeable	O/P: 19.5Vdc, 3.33A, 4.62A, 7.69A, 7.7A, 9.23A min., 35°C, altitude 5000m.	IEC 60950-1:2005 (2 nd Edition); Am 1: 2009+Am2: 2013 IEC 62368-1:2014	UL, Nemko, TUV, VDE or other certificate body
Metal enclosure	Interchangeable	Interchangeable	Metal, 0.76mm min thickness.	Applicable parts of IEC 60950-1	Tested in appliance
Plastic enclosure – front I/O cover	TEIJIN CHEMICALS PLASTIC COMPOUNDS SHANGHAI LTD or TEIJIN LIMITED RESIN AND PLASTIC	TN-3713B(#), (#) - Suffix optional	V-0, 1.5mm min thickness, 60oC.	UL 94 6th edition UL 746C 7 th edition	UL
(Alternate)	GUO HENG (DONGGU AN) PLASTIC TECHNOLOGY CO LTD	YOUHE26(##), (#) - Will be replaced by two digits from 00~99 to denote to serial number.	V-1, 1.5mm min thickness, 60oC.	UL 94 6th edition UL 746C 7 th edition	UL
(Alternate)	GUO HENG (DONGGU AN) PLASTIC TECHNOLOGY CO LTD	YOUHO(#####)(Y), (##) - Will be replaced by two digits from 00~99 to denote to serial number; (Y) - Will be replaced by one letter from A~Z to denote to color information.	HB, 1.5 min. thickness, 60oC	UL 94 6th edition UL 746C 7 th edition	UL

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Power button	TEIJIN LIMITED RESIN AND PLASTIC	L-1225(###)(f2), (###) - May be suffixed with any one letter or two letters, except for following one letter "U,V or Z", or two letters "LD, LL, LM, JM, ZL, ZE, or LS", or two letters started with "U, V or Z"; (f2) - Subjected to one or more of the following tests: Ultraviolet Light, Water Exposure or Immersion in accordance with UL 746C, where the acceptability for outdoor use is to be determined by UL.	V-2, 0.4mm min thickness, 80oC.	UL 94 6th edition UL 746C 7th edition	UL
Speaker housing	STAR PLASTICS INC	PCABSFR(J), PCABSFR755e	V-0, 0.8mm min. thickness, 60oC.	UL 94 6th edition UL 746C 7th edition	UL
Speaker	Interchangeable	Interchangeable	4 ohm max., 2W max	Applicable parts of IEC 60950-1	Tested in appliance
Metal mesh (top cover with opening) (optional)	SICHUAN DONGFANG INSULATING MATERIAL CO LTD	DFR117, DFR117ECO, DFR117ECOB, DFR117ECOC	V-0, 0.25mm min. thickness, 80oC.	UL 94 6th edition UL 746C 7th edition	UL
System DC fan	Suzhou Forcecon Electric Co., Ltd.	0FMC10000H	12 Vdc, 1A, 11.20 CFM min.	Applicable parts of IEC 60950-1	Tested in appliance
(Alternate)	Suzhou Forcecon Electric Co., Ltd.	0FM6J0000H	12 Vdc, 1A, 13.16 CFM min.	Applicable parts of IEC 60950-1	Tested in appliance
(Alternate)	Asia Vital Components Co., Ltd	BAZB0813R2U P003	12 Vdc, 0.6A, max., 14.7 CFM	Applicable parts of IEC 60950-1	Tested in appliance

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(Alternate)	Asia Vital Components Co., Ltd	BAZB0712R2U P013	12 Vdc, 0.8A max., 14.3 CFM	EN 62368- 1: 2014/A11:2017 UL 507 10th edition	CB by TUV (B 025730 0894 Rev. 04)
(Alternate)	Sunonwealth Electric Machine Industry Co., Ltd	MG75091V1-C060-S9A, MG75091V1-C061-S9A	12 Vdc, 0.5A max., 13.5 CFM min., see enclosure ID 4-12, 4-13 for detail	Tested in appliance	Tested in appliance
dGPU fan	Suzhou Forcecon Electric Co., Ltd..	0FM6H0000H	5Vdc, 0.5A, 4.97 CFM min.	Applicable parts of IEC 60950-1	Tested in appliance
(Alternate)	Asia Vital Components Co., Ltd	BAZA0709R5U P002	5Vdc, 0.7A max, 6.6 CFM.	Applicable parts of IEC 60950-1	Tested in appliance
HDD fan	Suzhou Forcecon Electric Co., Ltd..	0FMK20000H	5Vdc, 0.5A, 2.23 CFM	Applicable parts of IEC 60950-1	Tested in appliance
(Alternate)	Asia Vital Components Co., Ltd	BAZB0605R5U P005	5Vdc, 0.5A max, 2.4 CFM	Applicable parts of IEC 60950-1	Tested in appliance
(Alternate)	Interchangeable	Interchangeable	12 Vdc, 1A, 11.20 CFM min for system fan; 5 Vdc, 0.5A, 4.97 CFM min for dGPU fan; 5 Vdc 0.5A, 2.23 CFM min for HDD fan.	Applicable parts of IEC 60950-1	Tested in appliance
RTC battery	VIC-DAWN ENTERPRISE CO LTD	CR2032	Non-Rechargeable. Rated 3 Vdc, min. maximum abnormal charging current 10mA. Protect by diode (D34) and 1k Ω (R430) resistor.	UL 1642 5th edition	UL
(Alternate)	DOUBLE BEST CO LTD	CR2032	Non- Rechargeable. Rated 3 Vdc, min. maximum abnormal charging current 10mA. Protect by diode (D34) and 1k Ω (R430) resistor.	UL 1642 5th edition	UL
(Alternate)	JHIH HONG TECHNOLOGY CO LTD	CR2032	Non- Rechargeable. Rated 3 Vdc, min. maximum abnormal charging current 10mA. Protect by diode (D34) and 1k Ω (R430) resistor.	UL 1642 5th edition	UL

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(Alternate)	Interchangeable.	CR2032	Non- Rechargeable. Rated 3 Vdc, min. maximum abnormal charging current 10mA. Protect by diode (D34) and 1k Ω (R430)resistor.	UL 1642 5th edition	UL
Label	Interchangeable	Interchangeable	60oC if max. surface temperature not specified.	UL969 5th Edition	UL
(Alternate)	Interchangeable	Interchangeable	Molded as part of enclosure or label, Hot stamping, laser etching or silk screened	Applicable parts of IEC 60950-1	Tested in appliance
PTC for Display port	(TUV) Wayon Circuit Protection (UL) CYG Wayon Circuit Protection	LP-ISML110	6Vdc, Ihold: 1.1A, Itrip: 2.2A, CA3	EN 62319-1-1: 2005 EN 62319- 1:2005 UL1434 1st edition	UL, TUV (R 50318402)
(Alternate)	Polytronics Technology Corp	SPR-P110	6Vdc, Ihold: 1.1A, Itrip: 1.8A, CA3	EN 60738-1:1999 EN 60738-1-1:1999 IEC 60730-1: 1999 +A1 EN 60730-1: 2000+A1+A12+A13 +A14 IEC 60738-1: 1998 IEC 60738-1- 1:1998 UL1434 1st edition	UL, TUV (R 50099121)
IC current limiter for USB2.0/3.0 and USB type C port	TEXAS INSTRUMENTS INC	TPS2546, TPS2547, may be followed by additional characters that do not impact the safety features of the device	Input Voltage: 4.5Vdc to 5.5Vdc, Continuous current: 2.5A, Current limit: 3.1A	IEC 60950-1:2005 (2 nd Edition); Am1: 2009+Am2: 2013 IEC 62368-1:2014	CB by UL (US- 29689-M1-UL, US- 35117-UL)
(Alternate)	Cypress Semiconductor Corp	CYAC1126- 40LQXI ACG1F	Input: 2.7-5.5VDC; 4.85-5.5VDC (VCONN) Output: 5VDC, 3A, 15W (VBUS)5VDC, 200mA, 1W (VCONN)	IEC 62368-1: 2014	CB by UL (US- 97135-UL)
(Alternate)	DIODES Inc	AP2171DWG-7	2.7-5.5Vdc, per continuous current 1.0A, per protective current 19A.	IEC 60950-1: 2005 (2nd Edition)	CB by Nemko (NO54313)

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(Alternate)	Global Mixed-mode Technology Inc.	G524D1T11U	2.7-5.5 Vdc, per continuous current 1.1A, per protective current 1.2- 1.8A.	IEC 60950-1: 2005 (2nd Edition); Am1: 2009	CB by TUV (JPTUV- 046404)
(Alternate)	Global Mixed-mode Technology Inc.	G524B1T11U	2.7-5.5 Vdc, per continuous current 2.1A, per protective current 2.2- 2.8A.	IEC 60950-1: 2005 (2nd Edition); Am1: 2009	CB by TUV (JPTUV- 046404)
(Alternate)	ANPEC ELECTRONICS CORP	APL3553- followed by A, B, C, D, E, F, G, H, I or J followed by B, C or X, followed by I, followed by -, followed by TR, followed by G	Input Voltage: 2.7 to 5.5 Vdc Output Continuous Rating: 2.0 A for Models APL3555 followed by A or B, followed by B, followed	IEC 60950-1: 2005 (2nd Edition); Am1: 2009+Am2: 2013 UL2367 1st edition IEC 62368-1: 2014	CB by UL (DK-59231-A2-UL, DK-87208-M2)
		APL3555-followed by A, B, C or D, followed by B, followed by I, followed by -, followed by TR, followed by G	by I, followed by -, followed by TR, followed by G Models APL3553 followed by A, B, E, F, I or J, followed by B, C or X, followed by I, followed by -, followed by TR, followed by G Models APL3553 followed by C, D, G or H, followed by B, C or X, followed by I, followed by -, followed by TR, followed by G		
(Alternate)	EUTECH MICROELECTRONICS INC	EUP3550A1-25VIR1	Input voltage: 2.7-5.5 Vdc, per continuous current 2.0 A, per protective current 3.0 A.	IEC 62368-1: 2014	CB by UL (DK-89459-UL)

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(Alternate)	DIODES INC	AP2822GxyTR-G1 AP2822- followed by A - H, followed by N or Blank, followed by K, KA, KB or KE, followed by TR-G1	Input voltage: 2.7-5.5 Vdc, per continuous current 0.5 to 2.0 A, per protective current 1.4 to 3.2 A.	IEC 60950-1: 2005 (2nd Edition); Am1: 2009+Am2: 2013	CB by UL (US-35275-UL)
Sub-board Thunder bolt type C port	Quanta Computer inc	TPC-Q009AO	N/A	IEC 62368-1:2014	CB by UL (DK-96530-UL)
Sub-board fiber adapter cards	ALLIED TELESIS INC	27M2/##-zzzz-zzzz, and 29M2/##-zzzz-zzzz, where X is A-Z, 0-9, "/", "-", "+" or blank, where Y is A or E, where ## is A-Z, where z is A-Z, 0-9, "/", "-", "+" or blank. All models may have prefix "AT", "CentreCom", Corega, COR, and/or "K"	3.3 Vdc, 1.0 A.	UL 60950-1 2nd edition	UL
Sub-boards, IC current limiter for HDMI, VGA, Display ports	Diodes	AP22804AW5-7	Input Voltage: 2.7-5.5Vdc Output Continuous Rating: 2.5 A Output Current Limit: 3.3 A	IEC 60950-1:2005 (2nd Edition);Am1: 2009+Am2: 2013	CB by UL (US-26790-A1-UL)
Sub-boards, PTC for HDMI, VGA, Display ports	Littelfuse Inc	0805L 110UL	6Vdc, Ihold: 1.1A, Itrip: 1.8A, CA3	EN 60738-1:1999 EN 60738-1-1:1999 IEC 60730-1: 1999 +A1 EN 60730-1:2000+A1+A12+A13+A14 IEC 60738-1:1998 IEC 60738-1-1: 1998 UL1434 1st edition	UL, TUV (R 50119118)
(Alternate)	(TUV) Wayon Circuit Protection (UL) CYG Wayon Circuit Protection	LP-ISML110	6Vdc, Ihold: 1.1A, Itrip: 2.2A, CA3	EN 62319-1-1: 2005 EN 62319-1:2005 UL1434 1st edition	UL, TUV (R 50318402)

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Sub-boards, IC current limiter for USB 2.0 type A and USB type C port	TEXAS INSTRUMENTS INC	TPS2546, TPS2547, may be followed by additional characters that do not impact the safety features of the device	Input Voltage: 4.5 Vdc to 5.5 Vdc, Continuous current: 2.5A, Current limit: 3.1A	IEC 60950-1: 2005 (2nd Edition); Am1: 2009+Am2: 2013 IEC 62368-1: 2014	CB by UL (US-29689-M1-UL, US-35117-UL)
(Alternate)	JOULWATT TECHNOLOGY CO LIMITED	JW7115SA-2.5SOTA#TRPB F, JW7115SA-2.5TSOTA#TRP BF	Vin: 2.7Vdc- 5.5Vdc, Vout: 2.7- 5.5Vdc, Iout: 2.6-3.1A	IEC 60950-1: 2005 (2nd Edition); Am1: 2009+Am2: 2013 IEC 62368-1: 2014	CB by UL (DK-94506-UL, DK-92033-UL)
(Alternate)	Will Semiconductor	WS4612EDx-5/TR, (x can be A, B, C or D, A for EN high enable & Discharge, B for EN low enable & Discharge, C for EN high enable & no Discharge, D for EN low enable & no Discharge.)	Input Voltage Range: 2.5 - 5.5Vdc Current Limit Rating: 2.1-2.7A	IEC 60950-1: 2005 (2nd Edition); Am1: 2009+Am2: 2013 IEC 62368-1: 2014	CB by UL (DK-93687-UL, DK-88459-M1-UL)
(Alternate)	Silergy Technology (Taiwan) Inc	SY6288C20AA C	Input Voltage Range: 2.5 - 5.5Vdc O/P: 5.5Vdc max., 3.7A max	IEC 60950-1:2005 (2nd Edition);Am1: 2009+Am2:2013	CB by TUV (JPTUV- 058243-M1)
Thermal module	Interchangeable	Interchangeable	See Diagrams 4-02, 4-03 for detail.	Applicable parts of IEC 60950-1	Tested in appliance
Sub-board USB3.1 type C ports (optional)	Foxconn	TPC-F009AO	N/A	Applicable parts of IEC 60950-1	Tested in appliance
IC current limiter for TPC- F009AO	NXP Semiconductor Taiwan Ltd.	NX5P3290UK/S9 00	Input Voltage: 4Vdc-5.5Vdc Output Current Limit: 3.3 A	IEC 62368-1: 2014	CB by UL (DK-57975-A1-UL)
LCD Monitor (Optional)	HONGFUJIN Precision Electronics (Chong Qing) Co., Ltd.	TPC-F122-D23	19.5Vdc, 6.15A	IEC 60950-1:2005 (2nd Edition); Am1: 2009+Am2: 2013 IEC 62368-1:2014	CB by UL (DK-86630-A2-UL, DK-86610-A2- UL)
Sub-boards, IC current limiter for USB2.0/3.0 and USB type C port	DIODES INCORPORATE D	PI5USB25wwxy yEz Series, where ww is 44 or 46; x is blank, A or H;	Input Voltage: 4.5 - 5.5 Vdc Continuous Rating: 30 mA to 2.5A	IEC 62368-1: 2014	CB by UL (US-37272-UL)

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		yyy is ZH or ZHD for the packaging type; E is Pb-free; and z is blank or X	Current Limit: 100 mA to 3.18A		
(Alternative)	TEXAS INSTRUMENTS INC	TPS2546, TPS2547, may be followed by additional characters that do not impact the safety features of the device	Input Voltage: 4.5Vdc to 5.5Vdc, Continuous current: 2.5A, Current limit: 3.1A	IEC 60950-1:2005 (2 nd Edition); Am1: 2009+Am2: 2013 IEC 62368-1: 2014	CB by UL (US-29689-M1-UL, US-35117-UL)
Hub (optional)	HP	HP Engage One Pro AiO Advanced Fanless Hub, TPC-I049-D	19.5Vdc, 14.36A	IEC 60950-1:2005 (2 nd Edition);Am1: 2009+Am2: 2013 IEC 62368-1:2014	CB by UL (DK-104238-UL, DK-105808-UL)

Anexo 3 – Lista de componentes:

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)
Metal Enclosure	--	--	Minimum 0.6 mm thickness	--	--
Plastic Front Panel (decorate part)	Interchangeable	Interchangeable	Minimum HB.	UL94, UL 746C	UL
Internal Plastic Parts	Interchangeable	Interchangeable	Min. V-2 or HF-2	UL 94, UL 746C	UL
Switching Power Supply	CHICONY POWER TECHNOLOGY CO LTD	D18-180P2A	I/P: 100-240V~/2.3A, 50-60Hz; O/P: +12.1VDC/ 14.88A, Max. continuous total DC output power 180W, Altitude during operation 5000m, maximum ambient temperature (Tma): 50 degree C.	IEC 60950-1: 2005 (Second Edition) + Am 1:2009 + Am 2:2013 EN 60950-1:2006 +A11:2009 + A1:2010 + A12:2011 + A2:2013 IEC 62368-1:2014(Second Edition) UL 62368-1 UL 60950-1	CB by TUV Rheinland, (Cert. No. JPTUV-092342. Report No. 50198668001) CB by TUV Rheinland (Cert. No. JPTUV-092381. Report No. 50199156 01) UL (E143709)

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Alternate	DELTA ELECTRONICS INC	DPS-180AB-30 XX (X can be 0-9, A-Z or blank)	I/P: 100-240V~/ 2.3A, 50-60Hz; O/P: +12.1VDC/ 14.88A, Max. Power 180W. Altitude during operation 5000m, maximum ambient temperature (Tma): 50 degree C.	IEC 60950- 1:2005 (Second Edition) + Am 1:2009 + Am 2:2013 EN 60950- 1:2006+A11:2009 +A1:2010 + A12:2011 + A2:2013 UL 60950-1	CB by TUV Rheinland, (Cert. No. JPTUV- 075247-M3. Report No. 16078665 004) UL (E131881)
Alternate	ACBEL POLYTECH INC	PCH019	I/P: 100-240V~, 50-60Hz, 2.3A; O/P: +12.1VDC, 14.88A, Total power: 180W max. Altitude during operation 5000m, maximum ambient temperature (Tma): 50 degree C.	IEC 60950- 1:2005 (Second Edition) + Am 1:2009 + Am2:2013 EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 UL 60950-1	CB by TUV Rheinland, (Cert. No. JPTUV-074970- A1/M1. Report No. 11047678 003) UL (E131875)
Alternate	LITE-ON TECHNOLOGY CORPORATIO N	PA-1181-3YX (where Y = A-Z , Blank or "-"; X = A- Z, 0-9, blank or "-")	I/P: 100-240V~, 50- 60Hz, 2.3A; O/P: +12.1VDC, 14.88A, Total power: 180W max. Altitude during operation 5000m, maximum ambient temperature (Tma): 50 degree C.	IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013 EN 60950- 1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 IEC 62368-1:2014 UL 62368-1 UL 60950- 1	CB by TUV Rheinland, (Cert. No. JPTUV- 075079-A1/M3. Report No. 11047735 005) CB by TUV Rheinland, (Cert. No. JPTUV- 083868- M1. Report No. 50105880 002) UL (E132068)
H.D.D. (Optional)	Seagate Technology Inc	ST with additional suffixes (suffixes are not safety related and it could be any alpha numeric characters)	5 Vdc/1.5 A max, 12 Vdc/ 1.5 A max	IEC 60950-1 EN 60950-1 UL60950-1	CB TUV UL
Alternate	Interchangeable	Interchangeable	5Vdc / 2.0 A Max, 12Vdc / 2.5 A Max or 5Vdc / 2.5A Max.	IEC 60950-1, EN 60950-1, UL 60950-1	VDE, TUV, UL or others certificate body

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S.S.D. (Optional)	Interchangeable	Interchangeable	5/12V, 2.0A Max.	IEC 60950-1, EN 60950-1, UL 60950-1	VDE, TUV, UL or others Certificate body
SSHD (optional)	Interchangeable	Interchangeable	5Vdc / 2.0 A Max, 12Vdc / 2.5 A Max or 5Vdc / 2.5A Max.	IEC 60950-1, EN 60950-1, UL 60950-1	VDE, TUV, UL or others certificate body
Optical Disk Drive (Optional)	Interchangeable	Interchangeable	5Vdc / 2.5A Max.; 12Vdc / 3.0A Max. Or 5Vdc / 2.5A Max. Laser Class 1. Recognized at least UL60950- 1+A1.	IEC/EN/UL 60950- 1	VDE, TUV, UL or others certificate body
Alternate	Interchangeable	Interchangeable	5Vdc / 2.5A Max.; 12Vdc / 3.0A Max. Or 5Vdc / 2.5A Max. Laser Class 1. Speed<8000r/min	IEC/EN/UL 60950- 1	VDE, TUV, UL or others certificate body
DC FAN (CPU cooler fan)	FOXCONN TECHNOLOGY CO LTD	PVA080G12Q- (X)yy-yy series(where (X) may be F, R or x, x may be from 0 to 9, from A to Z or blank; y may be from 0 to 9, from A to Z or blank.)	DC 12V, 0.65A Max, 60 CFM min	EN60950-1 UL 507	TUV UL
Alternate	HUIZHOU CITY XUNSHUO TECHNOLOGY CO LTD	DF0702512(X)(Y2) N, DF1802512(X)(Y1) N , (where (X) may be SE, B1, B2, RF, FD, PO. (Y2) may be U, H, M, L. (Y1) may be H, M, L.)	DC 12V, 0.60A Max, 71.1 CFM min	EN60950-1 UL 507	TUV UL
Alternate	Interchangeable	Interchangeable	DC 12V, 0.65A Max, 60 CFM min	EN62368-1 EN60950-1 UL 507	VDE TUV or UL
GPU card (Optional)	NVIDA	Geforce GT730	Max. 150W, complied with SELV and LPS requirement	--	--
Alternate	Interchangeable	Interchangeable	Max. 150W, complied with SELV and LPS requirement	--	--
General Accessory Card (Optional)	Interchangeable	Interchangeable	No laser, fans, liquid cooling, TV/cable tuners, batteries or TNV employed or	--	--

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			Complied with ES1 and LPS requirement.		
Mother board	Interchangeable	EDINBURGH	All output connector comply with limited power source (LPS)	--	--
- Poly Switch(HF1 for HDMI port (HJ206), VF5 for VGA port (VJ69)), KF1 for SD card port (KJ166)	POLYTRONICS TECHNOLOGY CORP	SMD1210P110TFT	I _{max} =100A Min. V _{max} =8Vdc Min., I _h =1.10A Max. I _t =2.20A Max. CA1 (109 degree C Max.), CA 2, CA 3, CA 4, T _{moa} =85 degree C Min.	IEC 60730-1 EN 60730-1 UL 1434	TUV UL
Alternate	LITTELFUSE INC	1206L110THYR	I _{max} = 40A Min, V _{max} = 8Vdc Min, I _h = 1.10A Max, I _t = 2.20A Max. CA1 (125 degree C Max), CA 2, CA 3, CA 4, T _{moa} = 85 degree C Min.	IEC 60730-1 EN 60730-1 UL 1434	TUV UL
Alternate	LITTELFUSE INC	TUV: microSMD110xxxxxxx xxxxxxxxxxxxx(x=0-9, A-Z, ".", "-", blank) UL: microSMD110 (11) (The alphanumeric character(s) in parenthesis () following a model number is the individual part identification mark. All model may be followed by a hyphen, and any alphanumeric character or blank to denote a different lead configuration, different lead length, different shipping packaging method, different resistance range, different resistance matching and/or Lead-free Solder.)	I _{max} =40A Min. V _{max} =6Vdc Min., I _h =1.10A Max. I _t =2.20A Max. CA1 (125 degree C Max.), CA 2, CA 3, CA 4, T _{moa} =85 degree C Min.	IEC 60730-1 EN 60730-1 UL 1434	TUV UL
Alternate	BOURNS ELECTRONICS (TAIWAN) LTD	MF-NSMF110	I _{max} =100A Min. V _{max} =6Vdc Min., I _h =1.10A Max. I _t =2.20A Max. CA1	IEC 60730-1 EN 60730-1 UL 1434	TUV UL

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			(88 degree C Max.), CA 2, CA 3, CA 4, Tmoa=85 degree C Min.		
Alternate	Interchangeable	Interchangeable	I _{max} =40A Min. V _{max} =6Vdc Min., I _h =1.10A Max. I _t =2.20A Max. CA1 (125 degree C Max.), CA 2, CA 3, CA 4, Tmoa=85 degree C Min.	IEC 60730-1 EN 60730-1 UL 1434	VDE, TUV, UL or other certificate body
- IC Current Limiter (U22 for LAN + USB2.0 x 2 (LJ9))	TEXAS INSTRUMENT S INC	CB: TPS2061C, Followed by DBV, DGK, or DGN may be followed by additional letters and number UL: TPS2061. Maybe followed by other characters that do not impact the safety feature of the device.	Volts: 4.5-5.5V, Cont. Current: 1.0 A, Prot. Current: 1.9A, CB: Temp Range: -40 to 85 degree C UL: Temp Range: -30 to 70 degree C	IEC 60950-1: 2005 + A1 +A2 UL2367	CB UL
Alternate	GLOBAL MIXED-MODE TECHNOLOGY INC	CB: G524DX1X2X3X4(X1 =1, 2, 3, or 4, X2=TP, P8, F5 or T1, X3=1, X4=U) UL: G524D, followed by 1, 2, 3, or 4, followed by T1, TP, P8, or F5, followed by 1, followed by U	CB: Operational Current Rating per output(A):1.1A, Overcurrent protection Current Rating per output:1.2 to 1.8A, Maximum ambient temperature: -30 to 70 degree C UL: Volts: 2.7-5.5V, Cont. Current: 1.1 to 2.1A, Prot. Current: 1.8 to 2.8A, Temp Range: -30 to 70 degree C	IEC 60950-1: 2005 + A1 +A2 UL2367	CB UL
Alternate	JOULWATT TECHNOLOGY CO LIMITED	JW7115A- 1SOTA#TRPBF	Vin: 2.7 - 5.5 Vdc.; Vout: 2.7 -5.5Vdc; Iout: 1.1 – 1.5A	IEC 62368-1 UL2367	CB UL
- IC Current Limiter (U53 for front USB3.0 (J70/ J71), U56 for front USB3.0 (J90/ J91))	DIODES INC	AP22811BW5-7	Volts: 2.7-5.5V,Cont. Current: 2.0A, Prot. Current: 3.2A, Temp CB: Temp Range: -40 to 85 degree C UL: Temp Range: -30 to 70 degree C	IEC 60950-1: 2005 + A1 +A2 UL2367	CB UL

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Alternate	SILERGY TECHNOLOGY	CB: SY6288xyyyy (x=A, B, C, D or E, yyyy=0-9, A-Z or blank) UL: SY6288DAAC	CB: I/P: 2.5Vdc to 5.5Vdc O/P: 5.5Vdc max, 4.4A max UL: Volts: 2.5-5.5V, Cont. Current: 2.0 A, Prot. Current: 3.7A, Temp Range: -30 to 70 degree C	IEC 60950-1: 2005 + A1 +A2 UL2367	CB UL
RTC Battery for all mother board	SHUN WO NEW POWER BATTERY TECHNOLOGY LTD	CR2032*, * - Cell model numbers may be followed by an optional slash (/) and single or multiple alphanumeric characters which denote optional features such as various mounting tabs, connecting leads or plugs, packaging etc	Rated 3.0V, maximum abnormal charging current: 10mA.	UL1642	UL
Alternate	JHIH HONG TECHNOLOGY CO LTD	CR2032	Rated 3.0V, maximum abnormal charging current: 10mA.	UL1642	UL
Alternate	MITSUBISHI ELECTRIC HOME APPLIANCE CO LTD	CR2032	Rated 3.0V, maximum abnormal charging current: 10mA.	UL1642	UL
Alternate	PANASONIC CORPORATIO N, PANASONIC CORPORATIO N OF NORTH AMERICA	CR2032*, * - Cell model numbers may be followed by an optional slash (/) and single or multiple alphanumeric characters (i.e. letters and/or numbers), which denote optional features such as various mounting tabs, connecting leads or plugs, packaging, etc.	Rated 3.0V, maximum abnormal charging current: 10mA.	UL1642	UL
Alternate	Interchangeable	CR2032	Rated 3.0V, maximum abnormal charging current: 10mA.	UL1642	UL

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Alternate	Interchangeable	CR2032*, * - Cell model numbers may be followed by an optional slash (/) and single or multiple alphanumeric characters which denote optional features such as various mounting tabs, connecting leads or plugs, packaging etc	Rated 3.0V, maximum abnormal charging current: 10mA.	UL1642	UL
PWB for all mother board	Interchangeable	Interchangeable	V-1 or better, 105 degree C min.	UL796	UL

Anexo 4 – Lista de componentes:

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)
Metal Enclosure	--	--	Min. 0.8 mm thickness	--	--
Plastic Front Panel (decorate part)	Interchangeable	Interchangeable	Min. HB	UL94 UL 746C	UL
Plastic base (Optional)	Interchangeable	Interchangeable	Minimum HB.	UL 94, UL 746C	UL
Internal Plastic Parts	Interchangeable	Interchangeable	Min. V-2 or HF-2	UL 94, UL 746C	UL
Plastic air duct	Interchangeable	Interchangeable	Min. V-2	UL 94, UL 746C	UL
Internal speaker	Interchangeable	Interchangeable	4 ohm, Max. 3W	--	--
All PWB	Interchangeable	Interchangeable	V-1 or better, Minimum 105 °C	UL796	UL
Switching Power Supply	Delta Electronics Inc	DPS-350AB-38 XX (X= 0-9, A-Z or blank)	AC Input: 100-240 V, 50-60 Hz, 4.0 A. DC Output: +12.1 VMAIN, 18 A, +12.1 VCPU, 18 A, +12.1 VCPU2, 18 A. MAX POWER 350 W. 50 °C. Altitude during operation 5000 m.	IEC 62368-1: 2014, EN 62368-1:2014+A11, IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11+A1+A12+A2, UL 62368-1 ed.2, UL 60950-1 ed.2	CB by TUV Rh, UL (E131881)

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Alternate	Acbel Polytech Inc	PCK002	AC Input: 100-240 V, 50-60 Hz, 4 A. DC Output: +12.1 VMAIN, 18 A, +12.1 VCPU1, 18 A, +12.1 VCPU2, 18 A. MAXIMUM POWER SHALL NOT EXCEED 350 W. 45 °C (50 °C for UL) Altitude during operation 5000 m.	IEC 62368-1: 2014, EN 62368-1: 2014+A11, IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11+A1+A12+A2, UL 62368-1 ed.2	CB by TUV Rh, UL (E131875)
Alternate	Acbel Polytech Inc.	PCK018	I/P: 100-240V~, 50-60Hz, 3.1A O/P: +12.1Vmain/18.0A, +12.1Vcpu/18.0A +12.1Vmain and +12.1Vcpu TOTAL 260W MAX. MAXIMUM POWER SHALL NOT EXCEED 260W. 45 °C. Altitude during operation 5000 m.	IEC 62368-1: 2014, EN 62368-1: 2014+A11, IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11+A1+A12+A2, UL 62368-1ed.2	CB by TUV Rh, UL (E131875)
Alternate	Chicony Power Technology Co., Ltd	D19-260P1A	i/p: 100-240Vac, 3.1A, 50-60Hz o/p: DC 18° +12.1Vmain, 18A +12.1Vcpu +12.1Vmain & +12.1Vcpu shall not exceed 260W, Maximum power shall not exceed 260W, 45 °C. Altitude during operation 5000 m.	IEC 62368-1: 2014, EN 62368-1:2014+A11, IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11+A1+A12+A2, UL 62368-1 ed.2	CB by TUV Rh, UL (E143709)

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Alternate	Lite-On Technology Corporation	PA-2251-5HK-HPF	AC Input: 100-240V~, 50-60Hz, 3.1A DC Output: +12.1VMAIN / 18A., +12.1VCPU / 18A +12.1VMAIN & +12.1VCPU total power can't exceed 260W. 45 °C. Altitude during operation 5000 m.	IEC 62368-1: 2014, EN 62368-1: 2014+A11, IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11+A1+ A12+A2, UL 62368-1ed.2	CB by TUV Rh, UL (E132068)
Hard Disk Drive (HDD) (optional)	Toshiba Electronic Devices & Storage Corporation	HDWL1yy (y= 11-99)	1.0 A, 3.3 Vdc, 1.0 A, 5.0 Vdc.	IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11+A1+ A12+A2, UL 62368-1 ed.2, UL 60950-1ed.2	CB by CSA, TUV, UL (E145163)
Alternate	HGST Japan Ltd	H series	1.5 A max., 5.0 Vdc, 2.0 A max., 12 Vdc.	IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11+A1+ A12+A2, UL 60950-1 ed.2	CB by TUV Rh, UL (E182115)
Alternate	Western Digital Technologies Inc	WDUUUUZVTX-YYXXYY series, where WD is Western Digital. May or may not be present; where UUUU may be any number or blank indicating memory capacity; Z maybe any alpha character indicating memory capacity multiplier and physical for factor; VTX maybe any alphanumeric character indicating business unit,	Class III supplied by SELV. Ratings are not required and are provided for reference only. 1.5 A max., 5.0 Vdc or 1.5 A max., 5.0 Vdc, 1.0 A max., 12 Vdc.	IEC 62368: 2014, IEC 60950-1:2005+A1+A2, EN 60950-1: 2006+A11+A1+ A12+A2, UL 62368-1 ed.2, UL 60950-1 ed.2	CB by UL (US), UL (E101559)

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		RPM/buffer and interface; YYXXYY may be any alphanumeric character or blank indicating SELV logic/configuration, firmware, etc. Can be 3 to 7 alphanumeric characters.			
Alternate	or equivalent	or equivalent	Ratings are not required and provided for reference only: 1.0 A max., 3.3 Vdc, 1.0 A max., 5.0 Vdc or 1.5 A max., 5.0 Vdc, 2.0 A max., 12 Vdc or 1.5 A max., 5.0 Vdc.	IEC 62368-1: 2014, EN 62368-1: 2014+A11, IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11+A1+A12+A2, UL 62368-1 ed.2, UL 60950-1 ed.2	Verify by other cert. body, UL
Solid State Drive (SSD) (optional)	Samsung Electronics Co Ltd	MZ-K***** (* can be 0-9, A-Z, blank, slash or dash)	4.8 A, 3.3 Vdc.	IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11+A1+A12+A2, UL 62368-1 ed.2, UL 60950-1 ed.2	CB by TUV Rh, UL (E149091)
Alternate	Lite-On Technology Corporation	CA1-GDxxxxxx (where "x" can be any alphanumeric or blank)	3.5 A, 3.3 Vdc (optional)	IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11+A1+A12+A2, UL 60950-1 ed.2	CB by TUV Rh, UL (E205203)
Alternate	Kingston Digital International Ltd Taiwan Branch	*****SA1000*** ***** (the "*" Maybe alphanumeric, capacity, character, "-" or blank)	3.0 A, 3.3 Vdc (optional)	IEC 62368-1: 2014, EN 62368-1:2014+A11, UL 62368-1 ed.2, UL 60950-1 ed.2	CB by UL (DEMKO), UL (E333487)

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Alternate	Lite-On Technology Corporation	K2-L1xxxxxxxx ("x" can be any alphanumeric character or blank)	2.5 A, 5.0 Vdc.	IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11+A1+A12+A2, UL 60950-1 ed.2	CB by TUV Rh, UL (E205203)
Alternate	Western Digital Technologies Inc	GRxxxyy-x (where x and y are any alphanumeric character, or blank representing non-safety critical features such as memory size)	Class III supplied by SELV. Ratings are not required and provided for reference only: 1.8 A max., 5.0 Vdc, 1.8 A max., 12 Vdc.	IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11+A1+A12+A2, UL 62368-1 ed.2, UL 60950-1 ed.2	CB by UL (US), UL (E332258)
Alternate	Intel Corp	SSD* (where * can be optional letters or numbers used to identify features such as memory type, size (thickness, width) and identify details not critical to the compliance of the drive)	3.3 Vdc, 5.0 Vdc and/ or 12 Vdc. (for reference only)	IEC 62368-1: 2014, IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11+A1+A12+A2, UL 62368-1 ed.2, UL 60950-1 ed.2	CB by UL (US), UL (E139761)
Alternate	or equivalent	or equivalent	Ratings are not required and provided for reference only: 4.8 A max., 3.3 Vdc or 2.5 A max, 5.0 Vdc or 1.8 A max., 5.0 Vdc, 1.8 A max., 12 Vdc or 3.3 Vdc, 5.0 Vdc and/ or 12 Vdc.	IEC 62368-1: 2014, EN 62368-1:2014+A11, IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11+A1+A12+A2, UL 62368-1 ed.2, UL 60950-1ed.2	Verify by other cert. body, UL

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Optical Disk Drive (ODD) (optional)	Hitachi-LG Data Storage Inc	U9** (where first "*" can be any number 0-9 and second "*" can be any alphanumeric character, denoting board name or the change of shape not related with safety)	1.8 A, 5.0 Vdc. Laser Class 1.	IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11+A1+A12+A2, IEC 60825-1: 2007, UL 60950-1 ed.2	CB by Intertek, UL (E119002)
Alternate	Philips & Lite- On Digital Solutions Corporation	DG-xx3Sxxxxx (x can be any alphanumeric character or blank)	2.0 A, 5.0 Vdc, 1.25 A, 12 Vdc. (optional) Laser Class 1.	IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11+A1+A12+A2, IEC 60825-1: 2007, UL 60950-1 ed.2	CB by TUV Rh, UL (E306430)
Alternate	or equivalent	or equivalent	Ratings are not required and provided for reference only: 1.8 A max., 5.0 Vdc or 2.0 A max., 5.0 Vdc, 1.25 A max., 12 Vdc. Laser Class 1.	IEC 62368-1: 2014, EN 62368-1: 2014+A11, IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11+A1+A12+A2, IEC 60825-1: 2007, IEC 60825-1: 2014, UL 62368-1 ed.2, UL 60950-1 ed.2	Verify by other cert. body, UL
Heat sink for CPU	Interchangeable	Interchangeable	Aluminium.	--	--
CPU FAN (for Heat sink CPU type A)	HUIZHOU CITY XUNSHUO TECHNOLOGY CO LTD	DF0802512(X)U N, ((X) can be SE, B1, B2, RF, FD, PO)	DC 12V, Max. 0.60A, Min. 51.2CFM	EN62368-1 UL 507	TUV, UL (E339750)
Alternate	FOXCONN TECHNOLOGY CO LTD	PVA080G12Q	DC 12V, Max. 0.65A, Min. 60 CFM.	EN60950-1 UL 507	TUV, UL (E231557)

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Alternate	Sunonwealth Electric Machine Industry Co Ltd	EF80251S2-QZ, Z stands for 30 characters. Each character stands for one of the following signs): 0-9, A-Z, (,), ., /, - or blank for marketing purpose only.	DC 12V, Max. 0.37A, Min. 51.5 CFM	EN62368-1 UL 507	TUV, UL (E77551)
Alternate	Interchangeable	Interchangeable	DC 12V, Max. 0.65A, Min. 51.2 CFM	EN60950-1 EN62368-1 UL 507	Verify by other cert. body, UL
Motherboard	FOXCONN TECHNOLOGY CO LTD	FMB-2003	Motherboard UL approval covers the PWB material, lithium battery, lithium battery protect circuit, connector plastics, and any other plastics, and foam materials used, and the operator accessible connector over current protection	UL 62368-1	UL
-PWB	Interchangeable	Interchangeable	V-1 or better, Minimum 105 °C	UL796	UL
-RTC Battery	SHUN WO NEW POWER BATTERY TECHNOLOGY LTD	CR2032*, * - Cell model numbers may be followed by an optional slash (/) and single or multiple alphanumeric characters which denote optional features such as various mounting tabs, connecting leads or plugs, packaging etc	Rated 3.0V, maximum abnormal charging current: 10mA.	UL1642	UL (MH25881)
Alternate	JHIH HONG TECHNOLOGY CO LTD	CR2032	Rated 3.0V, maximum abnormal charging current: 10mA.	UL1642	UL (MH48406)
Alternate	MITSUBISHI ELECTRIC HOME	CR2032	Rated 3.0V, maximum abnormal charging	UL1642	UL (MH21249)

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	APPLIANCE CO LTD		current: 10mA.		
Alternate	Interchangeable	CR2032	Rated 3.0V, maximum abnormal charging current: 10mA.	UL1642	UL
- Poly Switch (VF1 for display port (J63), VF100 for display port (J64))	Littelfuse Inc	0805L110ULXX YYYYY (X, Y stands for A to Z, 0 to 9 or blank)	1.1 A, 6 V min.	EN 60730-1 UL 1434	TUV Rheinland, UL (E183209)
Alternate	Polytronics Technology Corp	SPR-P110	1.1 A, 6 V min.	EN 60730-1 UL 1434	TUV Rheinland, UL (E201431)
Alternate	Interchangeable	Interchangeable	1.1 A, 6 V min.	EN 60730-1 UL 1434	TUV Rheinland, UL
- IC Current Limiter (U51, U53, U55, U57 for USB 3.0 and U52 for USB 2.0)	DIODES INC	AP22811AW5-7	Input Voltage: 2.7-5.5Vdc Output Continuous Rating: 2.0 A Output Current Limit: 3.2 A Operating Temperature: -40°C~+85°C	IEC 60950-1 UL2367	CB by UL (US), UL (E322375)
Alternate	JOULWATT TECHNOLOGY CO LIMITED	JW7115S-2SOTA#TRPBF	Vin: 2.7-5.5Vdc, Vout: 2.7-5.5Vdc, Iout: 2.05-2.35A	IEC 62368-1 UL62368-1	CB by UL (DEMKO), UL (E497605)
Alternate	WILL SEMICONDUCTOR	WS4612EDx-5/TR (x can be A, B, C or D, A for EN high enable & Discharge, B for EN low enable & Discharge, C for EN high enable & no Discharge, D for EN low enable & no Discharge.)	Ratings: (Optional) Input Voltage Range= 2.5 to 5.5 Vdc. Current Limit Rating= 2.1 to 2.7 A.	IEC 62368-1 IEC 60950-1 UL62368-1	CB by UL (DEMKO), UL (E486497)
Alternate	SILERGY TECHNOLOGY (TAIWAN) INC	SY6288xyyyy (x=A, B, C, D or E, yyy=0-9, A- Z or blank)	I/P= 2.5 to 5.5 Vdc. O/P= 5.5 Vdc max, 1.6 to 4.43 A max.	IEC 60950-1 UL2367	CB by TUV Rh, UL (E491480)
Alternate	DIODES INC	AP22814AW5-7	Input Voltage: 2.7-5.5Vdc Output Continuous Rating: 3.0 A Output Current Limit: 3.8 A Operating	IEC 60950-1 UL2367	CB by UL (US), UL (E322375)

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			Temperature: -40°C~ + 85°C		
Alternate	JOULWATT TECHNOLOGY CO LIMITED	JW7115SASOT A#TRPBF	Vin: 2.7-5.5Vdc, Vout: 2.7-5.5Vdc, Iout: 3.05-3.6A	IEC60950-1 IEC 62368-1 UL62368-1	CB by UL (DEMKO), UL (E497605)
- IC Current Limiter (U63 for USB 3.0)	TEXAS INSTRUMENTS INCORPORATE D	TPS2546. Additional suffixes after the model number designate the type of integrated circuit package, integrated circuit lead types or other features that are considered not to affect the functionality of the device	Ratings: (Electrical ratings is optional) Input Voltage= 4.5 to 5.5 Vdc. Output Continuous Rating= 2.5 A. Output Current Limit = 3.1 A. Ambient = -40 to 85 °C.	IEC 60950-1 UL2367	CB by UL (US), UL (E169910)
- IC Current Limiter (U7 for Type-C port)	Cypress Semiconductor Corp.	CYAC1126- 40LQXI ACG1F	(Optional) Input: 2.7-5.5Vdc; 4.85- 5.5Vdc (VCONN) Output: 5Vdc, 3A, 15W (VBUS); 5Vdc, 200mA, 1W (VCONN) (Protective Current 4.2A, include drift)	IEC 62368-1 UL62368-1	CB by UL (DEMKO), UL (E331901)

Anexo 5 – Lista de componentes:

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)
AC Adapter (optional)	Chicony Power Technology Co., Ltd.	TPC-CA58	I/P: 100-240 Vac, 50-60 Hz, 1.6 A O/P: 19.5 Vdc, 3.33 A, 65 W, Class I, 35°C, Altitude 5000m	IEC 60950-1: 2005 (2nd Edition); Am 1: 2009+Am2: 2013	CB by TUV (JPTUV- 060305)
(Alternate)	Lite-On Technology Corp	TPC-LA58	I/P: 100-240 Vac, 50-60 Hz, 1.6 A O/P: 19.5 Vdc, 3.33 A, Class I, 35°C, Altitude 5000m	IEC 60950-1: 2005 (2nd Edition); Am 1: 2009+Am2: 2013	CB by TUV (JPTUV- 092070)

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(Alternate)	Delta Electronics Inc	TPC-DA58	I/P: 100-240 Vac, 50-60 Hz, 1.6 A O/P: 19.5 Vdc, 3.33 A, Class I, 35°C, Altitude 5000m	IEC 62368-1: 2014	CB by TUV (JPTUV- 088801)
(Alternate)	Acbel Polytech Inc	TPN-AA06	I/P: 100-240Vac, 50-60 Hz, 1.7 A O/P: 19.5 Vdc, 3.33 A, Max. Class I. 35°C . Altitude 5000m	IEC 60950-1: 2005 (Second Edition); Am1: 2009 + Am2: 2013, IEC 62368-1: 2014	CB by TUV (JPTUV- 088775-A1, JPTUV- 088609-A1)
(Alternate)	Chicony Power Technology Co., Ltd	TPN-CA16	I/P: 100-240 Vac, 50-60 Hz, 1.7 A O/P: 19.5 Vdc, 3.33 A, Max. Class I. 35°C . Altitude 5000m	IEC 60950-1: 2005 (Second Edition); Am1: 2009 + Am2: 2013 IEC 62368-1: 2014	CB by TUV (JPTUV- 088506, JPTUV- 088457)
(Alternate)	Delta Electronics Inc	TPN-DA17	I/P: 100-240 Vac, 50-60 Hz, 1.7 A O/P: 19.5 Vdc, 3.33 A, Max. Class II. 35°C . Altitude 5000m	IEC 60950-1: 2005 (Second Edition); Am1: 2009 + Am2: 2013 IEC 62368-1: 2014	CB by TUV (JPTUV- 088512, JPTUV- 088994)
(Alternate)	Lite-On Technology Corp	TPN-LA16	I/P: 100-240 Vac, 50-60 Hz, 1.7 A O/P: 19.5 Vdc, 3.33 A, Max. Class I. 35°C . Altitude 5000m	IEC 60950-1: 2005 (Second Edition); Am1: 2009 + Am2: 2013 IEC 62368-1: 2014	CB by UL (DK- 73721-UL, DK- 73717-UL)
(Alternate)	Chicony Power Technology Co., Ltd	TPN-CA17	I/P: 100-240Vac, 50-60 Hz, 1.7 A O/P: 19.5 Vdc, 3.33 A, Max. Class I. 35°C . Altitude 5000m	IEC 60950-1: 2005 (Second Edition); Am1: 2009 + Am2: 2013 IEC 62368-1: 2014	CB by TUV (JPTUV- 088508, JPTUV- 088468)
(Alternate)	Lite-On Technology Corp	TPN-LA17	I/P: 100-240 Vac, 50-60 Hz, 1.7 A O/P: 19.5 Vdc, 3.33 A, Max. Class I. 35°C . Altitude 5000m	IEC 60950-1: 2005 (Second Edition); Am1: 2009 + Am2: 2013 IEC 62368-1: 2014	CB by UL (DK- 73957-UL, DK- 73710-UL)

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(Alternate)	Chicony Power Technology Co., Ltd	TPN-CA18	I/P: 100-240 Vac, 50-60 Hz, 1.7 A O/P: 19.5 Vdc, 4.62 A, Max. Class I, 35°C . Altitude 5000m	IEC 60950-1: 2005 (Second Edition); Am1: 2009 + Am2: 2013 IEC 62368-1:2014	CB by TUV (JPTUV- 088508, JPTUV- 088468)
(Alternate)	Delta Electronics Inc	TPN-DA18	I/P: 100-240 Vac, 50-60 Hz, 1.7 A O/P: 19.5 Vdc, 4.62 A, Max. Class II, 35°C . Altitude 5000m	IEC 60950-1: 2005 (Second Edition); Am1: 2009 + Am2:2013 IEC 62368-1:2014	CB by TUV (JPTUV- 090651-M2, JPTUV- 090588-M2)
(Alternate)	Lite-On Technology Corp	Series TPC- LA57	I/P: 100-240Vac, 50-60 Hz, 1.4 ^a O/P: 19.5Vdc, 4.62A, Class I, 35°C, Altitude 5000m	IEC 60950-1: 2005 (Second Edition); Am1: 2009 + Am2:2013 IEC 62368-1:2014	CB by TUV (JPTUV- 091024)
(Alternate)	Delta Electronics Inc	TPC-DA57	I/P: 100-240 Vac, 50-60 Hz, 1.4 ^a O/P: 19.5 Vdc, 4.62 A, Class I, 40°C, Altitude 5000m	IEC 62368-1:2014	CB by UL (DK- 62748-UL)
(Alternate)	Chicony Power Technology Co., Ltd.	TPC-CA57	I/P: 100-240Vac, 50-60 Hz, 1.4 ^a O/P: 19.5 Vdc, 4.62 A; 90 W, Class I, 35°C, Altitude 5000m	IEC 62368-1:2014	CB by TUV (JPTUV- 078180)
(Alternate)	Delta Electronics Inc	TPC-DA52	I/P: 100-240 Vac, 50-60 Hz, 2.0 A, Class I O/P: 19.5Vdc, 7.69 A, Altitude 5000m, 150W	IEC 62368-1: 2014 IEC 60950-1: 2005 (Second Edition); Am1: 2009 + Am2:2013	CB by UL (DK- 62622-UL) (DK- 42591-UL)
(Alternate)	Chicony Power Technology Co., Ltd	TPC-CA52	I/P: 100-240Vac, 50-60 Hz, 2.0 A; Class I, O/P: 19.5 Vdc, 7.69A, 150W max. , Altitude 5000m	IEC 62368-1: 2014 IEC 60950-1: 2005 (Secon Edition); Am1: 2009 + Am2: 2013	CB by TUV (JPTUV- 078201) (JPTUV- 061032)
(Alternate)	Chicony Power Technology Co., Ltd	TPN-CA22	I/P: 100-240 Vac, 50-60 Hz, 2.5A O/P: DC 19.5V, 7.7A 150W, altitude 5000m.	IEC 60950-1:2005 (Second Edition); Am1: 2009 + Am2: 2013 IEC 62368-1: 2014	CB by TUV (JPTUV- 102148-A1, JPTUV- 101946)

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(Alternate)	Lite-On Technology Corp	TPN-LA20	I/P: 100-240 Vac, 50-60Hz, 2.5A O/P: DC 19.5V, 7.7A 150W, altitude 5000m.	IEC 60950-1: 2005 (Second Edition); Am1: 2009 + Am2:2013 IEC 62368-1:2014	CB by TUV (JPTUV- 101694, JPTUV- 101441)
(Alternate)	Delta Electronics Inc	TPC-DA52	I/P: 100-240Vac, 50-60 Hz,2.0 A; O/P: 19.5 Vdc, 7.69 A, Max. Class I. 35 °C. Altitude, 5000m	IEC 60950-1: 2005 (Second Edition); Am1: 2009 + Am2: 2013 IEC 62368-1:2014	CB by UL (DK-42591-UL, DK-62622-UL)
(Alternate)	Chicony Power Technology Co., Ltd	TPC-CA52	I/P: 100-240 Vac, 50-60 Hz, 2.0 A; O/P: 19.5 Vdc, 7.69 A, Max. Class I, 35 °C . Altitude, 5000m	IEC 60950-1: 2005 (Second Edition); Am1: 2009 + Am2:2013 IEC 62368-1:2014	CB by TUV (JPTUV- 061032, JPTUV- 078201)
(Alternate)	Interchangeable	Interchangeable	Output: 19.5 Vdc, 3.33 A or 4.62 A or 7.69A or 7.7 A, min., 35 °C, altitude 5000m.	IEC 60950-1: 2005 (Second Edition); Am1: 2009 + Am2:2013 IEC 62368-1:2014	UL, Nemko, TUV, VDE or others certificate body
Metal enclosure	Interchangeable	Interchangeable	Metal, 0.76mm min thickness.	Applicable parts of IEC 60950-1	Tested in appliance
Plastic enclosure – front I/O cover	TEIJIN CHEMICALS PLASTIC COMPOUNDS SHANGHAI LTD or TEIJIN LIMITED RESIN AND PLASTIC	TN-3713B(#), (#) - Suffix optional	V-0, 1.5mm min thickness, 60°C.	UL 94 6th edition UL 746C 7th edition	UL
(Alternate)	GUO HENG(DONGGU AN) PLASTIC TECHNOLOGY CO LTD	YOUHE26(##), YOUHE26(##)G Y, (##) - Will be replaced by two digits from 00~99 to denote to serial number.	V-0, 1.5 min. thickness 60 degree C	UL 94 6th edition UL 746C 7th edition	UL
(Alternate)	GUO HENG(DONGGU AN) PLASTIC TECHNOLOGY CO LTD	YOUHO(####)(Y), (##) - Will be replaced by two digits from 00~99 to denote to serial number; (Y) - Will be replaced by one letter from A~Z to	HB, 1.5 min. thickness, 60°C	UL 94 6th edition UL 746C 7th edition	UL

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		denote to color information.			
Power button	TEIJIN LIMITED RESIN AND PLASTIC	L-1225(###)(f2), (###) - May be suffixed with any one letter or two letters, except for following one letter "U,V or Z", or two letters "LD, LL, LM, JM, ZL, ZE, or LS", or two letters started with "U, V or Z";(f2)Subjected to one or more of the following tests: Ultraviolet Light, Water Exposure or Immersion in accordance with UL 746C, where the acceptability for outdoor use is to be determined by UL.	V-2, 0.4mm min thickness, 80°C.	UL 94 6th edition UL 746C 7th edition	UL
dGPU fan	Suzhou Forcecon Electric Co., Ltd..	0FM6H0000H	5Vdc, 0.5A, 4.97 CFM min.	Applicable parts of IEC 60950-1	Tested in appliance
(Alternate)	Asia Vital Components Co.Ltd	BAZA0709R5U P002	5Vdc, 0.7A max, 6.6 CFM.	Applicable parts of IEC 60950-1	CB by TUV (025730 0894)
System DC fan	Suzhou Forcecon Electric Co., Ltd.	0FMC10000H	12 Vdc, 1A, 11.20 CFM min.	Applicable parts of IEC 60950-1	Tested in appliance
(Alternate)	Suzhou Forcecon Electric Co., Ltd.	0FM6J0000H	12 Vdc, 1A, 13.16 CFM min	Applicable parts of IEC 60950-1	Tested in appliance
(Alternate)	Asia Vital Components Co., Ltd	BAZB0813R2U P003	12 Vdc, 0.6A max, 14.7 CFM	Applicable parts of IEC 60950-1	Tested in appliance
(Alternate)	Asia Vital Components Co., Ltd	BAZB0712R2U P013	12 Vdc, 0.8A max , 14.3 CFM	EN 62368-1: 2014/ A11: 2017, UL 507 10 th edition	CB by TUV (B 025730 0894 Rev. 04)
(Alternate)	Sunon	MG75091V1- C060-S9A, MG75091 V1- C060-S9A	12 Vdc, 0.5A max., 13.5 CFM min., se enclosure ID 4-10 for detail	Applicable parts of IEC 60950-1	Tested in appliance
(Alternate)	Suzhou Forcecon Electric Co., Ltd.	0FM6J0000H	12 Vdc, 1 A, 14.16 CFM	Applicable parts of IEC 60950-1	Tested in appliance

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(Alternate)	Interchangeable	Interchangeable	12 Vdc, 1A, 11.20 CFM min for system fan ; 5 Vdc, 0.5A, 4.97 CFM min for dGPU fan	Applicable parts of IEC 60950-1	Tested in appliance
RTC battery	VIC-DAWN ENTERPRISE CO LTD	CR2032	Non- Rechargeable. Rated 3 Vdc, min. maximum abnormal charging current 10 mA. Protect by diode (D52) and 1K ohm (R745) resistor.	UL 1642 5th edition	UL
(Alternate)	DOUBLE BEST CO LTD	CR2032	Non- Rechargeable. Rated 3 Vdc, min. maximum abnormal charging current 10 mA. Protect by diode (D52) and 1K ohm (R745) resistor.	UL 1642 5th edition	UL
(Alternate)	JHIH HONG TECHNOLOGY CO LTD	CR2032	Non- Rechargeable. Rated 3 Vdc, min. maximum abnormal charging current 10 mA. Protect by diode (D52) and 1K ohm (R745)resistor.	UL 1642 5th edition	UL
(Alternate)	Interchangeable.	CR2032	Non- Rechargeable. Rated 3 Vdc, min. maximum abnormal charging current 10 mA. Protect by diode (D52) and 1K ohm (R745) resistor.	UL 1642 5th edition	UL
LCD Monitor (optional)	HONGFUJIN Precision Electronics (Chong Qing) Co., Ltd.	TPC-F122-D23	19.5Vdc, 6.15A	IEC 60950-1: 2005/ AMD1:2009, IEC 60950-1: 2005/ AMD2: 2013, IEC 62368-1: 2014	CB by UL (DK- 86610-A2-UL) (DK-86630-A2- UL)
Sub-board USB type C port (optional)	Quanta Computer inc	HSC-Q001O	N/A	Applicable parts of IEC 60950-1	Tested in appliance

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IC Current Limiter (Type C port)	Cypress	CYPD6127-48LQXI CCG6SF, CYPD6227-96BZXI CCG6DF	Input: 2.7-5.5Vdc (VSYS); 4- 21.5 Vdc (VBUS) Output: 5Vdc, 3A (VBUS); 5Vdc, 215mA (VCONN) (Protective Current 4.2A, include drift)	IEC 60950-1 (ed.2), IEC 60950-1(ed.2); am1, UL 2367	CB by UL; UL (E331901) (DK-98487-UL)
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Anexo 6 – Lista de componentes:

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)
Enclosure Material	Interchangeable	Interchangeable	Metal thickness 0.6mm min.	--	--
Front Enclosure Material (for decorative part)	Interchangeable	Interchangeable	HB min. or better.	UL 94	UL
Power Supply	Lite-On Technology Corporation	PA-1181-3HK	I/P:100-240Vac, 50-60Hz, 2.3A O/P: 12.1Vdc, 14.88 max., Max. continuous total DC output Power 180W. Class I, Tma: 50oC, Altitude: 5000m	UL 62368-1 2nd, IEC 60950- 1:2005+A1+A2, EN 60950-1:2006 +A11:2009+A1:201 0+A12:2011+A2:20 13, IEC 62368-1: 2014, EN 62368-1: 2014+A11:2017	UL, CB by TUVRh
Power Supply (Alternate)	Chicony Power Technology Co., Ltd.	D19-180P2A	I/P: 100-240Vac, 50-60Hz, 2.3A O/P: 12.1Vdc, 14.88A, +12.1V shall not exceed 180W, Maximum power shall not exceed 180W. Class I, Tma: 50oC, Altitude: 5000m	UL 62368-1 2nd , IEC 60950- 1:2005+A1+A2, EN 60950- 1:2006+A11:200 9+A1:2010+A12: 2011+A2:2013, IEC 62368-1:2014, EN 62368-1: 2014+A11	UL, CB by TUVRh

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Power Supply (Alternate)	Delta Electronics, Inc.	DPS-180AB-30 XX (1st X= 0-9, B-Z or blank, except for A; 2nd X= 0-9, A-Z or blank)	I/P:100-240Vac, 50-60Hz, 2.3A O/P: 12.1Vdc/14.88A, Max. Power 180W. Class I, Tma: 50oC, Altitude: 5000m	UL 62368-1 2nd , IEC 60950- 1:2005+A1+A2, EN 60950- 1:2006+A11:200 9+A1:2010+A12: 2011+A2:2013, IEC 62368-1:2014, EN 62368-1: 2014+A11	UL, CB by TUVRh
Power Supply (Alternate)	Acbel Polytech Inc.	PCK016	I/P: 100-240V, 50- 60 Hz, 2.3A O/P: +12.1Vdc/14.88A Class I, Tma: 50oC, Altitude: 5000m	UL 60950-1, 2nd, IEC 60950- 1:2005+A1+A2, EN 60950-1: 2006+A11:2009+A 1:2010+A12:2011+ A2:2013, UL 62368-1 2nd IEC 62368-1:2014, EN 62368-1: 2014+A11	UL, CB by TUVRh
Power Supply (Alternate)	Chicony Power Technology Co., Ltd.	D19-210P1A	I/P: 100-240Vac, 50-60Hz, 2.5A O/P: 12.1Vdc, 17.36A,+12.1V shall not exceed 210W, Maximum power shall not exceed 210W. Class I, Tma: 50oC, Altitude: 5000m	UL 62368-1 2nd , IEC 60950- 1:2005+A1+A2, EN 60950- 1:2006 +A11:2009+A1:201 0+A12: 2011+A2:2013, IEC 62368-1:2014, EN 62368-1: 2014+A11	UL, CB by TUVRh
Power Supply (Alternate)	Acbel Polytech Inc.	PCK015	I/P:100-240V, 50-60 Hz, 2.5A O/P: +12.1Vdc, 17.36A Class I, Tma: 50oC, Altitude: 5000m	UL 60950-1, 2nd, IEC 60950-1: 2005+A1+A2,EN 60950- 1:2006+A11:2009+ A1:2010+A12:2011 +A2:2013, UL 62368-1 2nd IEC 62368-1:2014,EN 62368-1: 2014+A11	UL, CB by TUVRh
HDD (Optional)	HGST Japan, Ltd.	HDS7225nnVLATn n n= 0-9	5 Vdc, 1.5A or 12Vdc, 2.0 A max.	UL 60950-1, 2nd, EN 60950-1: 2006+A11+A1+A 12+A2	TUV

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HDD (Optional) (Alternate)	Western Digital Technologies Inc.	WYYXXXXXYYYY- YYXXXXYY	5 Vdc, 1.5A or 12Vdc, 1.0 A max.	UL 62368-1 (ed.2); EN 62368- 1:2014	UL, TUV
HDD (Optional) (Alternate)	Interchangeable	Interchangeable	5 Vdc, 1.5A or 12Vdc, 2.0 A max.	UL 60950-1, 2nd, EN 60950-1 : 2006+A11 :009+A1 :2010+A12 :2011 +A2:2013, IEC 60950-1 :2005 (2nd edition) +Am1 :2009 +Am2:2013, IEC 62368-1:2014, EN 62368-1:2014	UL, TUV, NEMKO, VDE
SSD (Optional) (Alternate)	Lite-On Technology Corporation	CF1-CPxxxxxxxx	5 Vdc, 2.0 A max.	UL 60950-1, 2nd, EN 60950-1 :2006+A11 :2009+A1 :2010 +A12:2011+A2:201 3, IEC 60950-1 :2005 (2nd edition) +Am1 :2009 +Am2:2013	UL, TUV, VDE, Nemko
SSD (Optional) (Alternate)	Western Digital Technologies Inc.	Wyyxxxxxyxyx- xyyyxx	5Vdc, max. 1.8A or, 3.3Vdc, max. 3.0A or, 5Vdc, max. 1.8A, 12Vdc, max. 1.8A	UL 62368-1 (ed.2); IEC 62368- 1:2014	UL, TUV
SSD (Optional) (Alternate)	Interchangeable	Interchangeable	5 Vdc, 2.0 A max.	UL 60950-1, 2nd, EN 60950-1 :2006 +A11 :009+A1 :2010+A12:2011+A 2:2013, IEC 60950- 1 :2005 (2nd edition) +Am1 :2009 +Am2:2013, IEC 62368-1: 2014, EN 62368-1:2014	UL, TUV, VDE, Nemko
Optical Disk Device (Optional)	Hitachi-LG Data Storage Inc.	GHBzt, GHCzt, GHDzt Where z can be any number 0 TO 9, t can be any alphanumeric, denoting non safety related differences.	5Vdc, 2.0A max.; 12Vdc, 2.5A max. Laser Class I.	UL 60950-1, 2nd Edition, 2014-10- 14, IEC 60950- 1:2005+A1+A2, EN 60950- 1:2006 +A11+A1+A12+A2, EN/IEC 60825- 1:2007	UL, TUV

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Optical Disk Device (Optional) (Alternate)	Hitachi-LG Data Storage Inc.	GH***SB*	5Vdc/12Vdc, 2.0A/2.5A or 1.5A/2.0A max. Laser Class I.	UL 62368-1, 3rd; IEC 62368-1:2018; EN 62368-1:2014 + A11:2017	UL, CB by Intertek
Optical Disk Device (Optional) (Alternate)	Interchangeable	Interchangeable	5Vdc, 2.0A max.; 12Vdc, 2.5A max. Laser Class I.	UL 60950-1, 2nd Edition, 2014-10-14, IEC 60950-1:2005+A1+A2, EN 60950-1:2006+A11+A1+A12+A2, EN/IEC 60825-1:2007, IEC 62368-1:2014, EN 62368-1:2014	UL, TUV, VDE, Nemko
CPU Fan	Asia Vital Components Co., Ltd.	DS08025R12UP23 9	12Vdc, 0.7A max., 60.10 CFM min.	UL 507, IEC 60950-1:2005+A1+A2, EN 60950-1:2006+A11+A1+A12+A2 EN 62368-1:2014/A11: 2017	UL, TUVRh, TUVSUD
CPU Fan (Alternate)	Delta Electronics, Inc.	AUB0812VJ-00XXXXXX (X stands for A-Z, 0-9, - or blank for marketing purpose only)	12Vdc, 0.5A max., 53.05 CFM min.	UL 507, IEC 60950-1:2005 +A1+A2, EN 60950-1:2006 +A11+A1+A12+A2, IEC 62368-1:2014, EN 62368-1:2014	UL, TUVRH
CPU Fan (Alternate)	Foxconn Technology Co., Ltd.	PVA080G12Q	12Vdc, 0.65A max, 60 CFM min.	UL 507, EN 60950-1:2006+A11+A1+A12+A2, EN 62368-1:2014	UL, TUVRH
Motherboard	Interchangeable	Decaf, Cortado	See below.	--	--
- RTC Battery	VIC-DAWN ENTERPRISE CO LTD / KTS	CR2032	3Vdc, max. abnormal charging current 10mA	UL 1642	UL (MH20550)
- RTC Battery (Alternate)	JHIH HONG TECHNOLOGY CO LTD	CR2032	3Vdc, max. abnormal charging current 10mA	UL 1642	UL (MH48406)
- RTC Battery (Alternate)	DOUBLE BEST CO LTD	CR2032 (j)(k) (j) - These cells may have various insulating tube, ring, or tape	3Vdc, max. abnormal charging current 10mA	UL 1642	UL (MH46388)

Organismo de Certificação / Certification Body

UL do Brasil Certificações

Av. Engenheiro Luís Carlos Berrini, 105 – 24º Andar
São Paulo – SP – Brasil - 04571-010
T: 55.11.3049.8300 / W: brazil.ul.com

CERTIFICADO DE CONFORMIDADE

CERTIFICATE OF CONFORMITY

Certificado No. / Certificate No. **UL-BR 21.0865**

Data de Emissão / Date of issue **15 de Abril de 2021 / April 15, 2021**

Página / Page **47/47**

Certificado de conformidade válido somente acompanhado das páginas de 1 até 47

Certificate of conformity valid with pages from 1 to 47

		(k) - These cells and batteries may come with an optional single or multiple alphanumeric suffix denoting various pin, tab, cap or wire termination types			
- RTC Battery (Alternate)	Interchangeable	CR2032, CR2032 (j)(k)	3V, maximum abnormal charging current 5mA min, against charging current by multiple components D1 and R23 rated 1Kohm min.	UL 1642	UL
- DC Fan	FirstDo Investment Enterprise Co., Ltd.	FD5010U12S	12Vdc, 0.22A, 11.87 CFM	UL 507, EN 60950-1:2006/A2:2013	UL, TUVSUD

**Organismo de Certificação /
Certification Body**

UL do Brasil Certificações

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HP P24a G4 FHD Monitor

Product Summary:

Product Type:	Monitors
---------------	----------

Registered In:	Brazil
----------------	--------

Manufacturer:	HP
---------------	----

EPEAT Tier:	Gold
-------------	------

Registration Date:	2021-08-18
--------------------	------------

Product Status:	Active
-----------------	--------

COMPUTERS &
DISPLAYS

EPEAT Tier Score Detail

For a product to be listed on the EPEAT Registry, it must, at a minimum, meet the applicable “required” criteria. [Click here](#) to see a list of the required criteria for this product category.

This product has met the necessary **required criteria**.

Along with required criteria, products can also meet optional criteria and score optional points. It is not required for a product to achieve any optional points.

Products that meet all required criteria and achieve less than 50% of the optional points are rated at EPEAT Bronze	Products that meet all required criteria and achieve 50 - 74% of the optional points are rated at EPEAT Silver	Products that meet all required criteria and achieve 75 - 100% of the optional points are rated at EPEAT Gold
--	---	--

The optional criteria for this product category and optional points achieved by this product are listed below.

Optional Criteria	Scores
4.1 Substance Management	13 / 16

(4.1.2.1) Restrictions of the use of cadmium	1
(4.1.4.1) Restriction of the use of beryllium	1
(4.1.5.2) Further reduction of bromine and chlorine content of plastic materials	1
(4.1.6.1) Avoidance or elimination of substances on EU REACH Annex XIV (authorization list)	1
(4.1.6.2) Reduction of substances on the EU REACH Candidate List of SVHCs	0
(4.1.8.1) Chemical assessment and selection	1
(4.1.9.1) IEC 62474 declarable substances	1
(4.1.9.2) Requesting substance inventory	1
(4.1.9.3) Acquiring substance inventory	2
(4.1.10.1) Reduce fluorinated gas emissions from flat panel display manufacturing	2
(4.1.10.2) Reduce fluorinated greenhouse emissions from semiconductor production	2
4.2 Materials Selection	3 / 3

(4.2.1.2) Higher post-consumer recycled, ITE-derived post-consumer recycled plastic, or bio-based content	2
(4.2.1.3) Post-consumer recycled, ITE-derived post-consumer recycled plastic	1
4.4 Product longevity/life-cycle extension	1 / 2
(4.4.2.2) Publicly available service information	0
(4.4.2.5) Product upgradeability and repairability	1
4.5 Energy Conservation	0 / 2
(4.5.1.5) Product energy consumption less than the ENERGY STAR Maximum Energy Limit	0
4.7 Packaging	0 / 2
(4.7.3.2) Packaging composed of recycled, and/or biobased, and/or sustainably forested content	0
(4.7.4.1) Offering of a bulk packaging option	0
4.8 Life cycle assessment and carbon footprint	6 / 6

(4.8.1.1) Product life cycle assessment and public disclosure of analyses	2
(4.8.1.2) Product specific greenhouse gas emissions—product carbon footprint	2
(4.8.2.1) Corporate carbon footprint	1
(4.8.2.2) Greenhouse gas emissions from product transport	1
4.9 Corporate Environmental Performance	9 / 9
(4.9.1.2) Third party certified environmental management system (EMS) for supplier manufacturing facilities	1
(4.9.2.2) Corporate environmental performance reporting by suppliers	1
(4.9.3.1) Energy management system/energy performance improvement –manufacturers	1
(4.9.3.2) Energy management system/energy performance improvement for suppliers	2
(4.9.4.1) Renewable energy use by manufacturer	2
(4.9.4.2) Renewable energy use by manufacturer suppliers	2
4.10 Corporate social responsibility	4 / 6

(4.10.1.1) Socially responsible manufacturing: Labor	1
(4.10.1.2) Socially responsible manufacturing: OHS	1
(4.10.2.2) Participation in an in-region program that advances responsible sourcing of conflict minerals	1
(4.10.2.3) Smelter and refiner participation in OECD-aligned third party mechanisms	1

TOTAL OPTIONAL CRITERIA SCORE:

36 / 46

Please note that it is not required for a product to achieve any optional points.

Some optional criteria may not be applicable to a product. Optional criteria that are not applicable (N/A) to the product are not included in the Total Optional Criteria Score, and are not reflected above.

For any questions, comments, or feedback regarding the EPEAT Registry, please [contact us](#).

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Technical Specifications

HP P24a G4 FHD Monitor



Front

- 1. OSD Buttons
- 2. Power Button
- 3. Power LED

Technical Specifications

HP P24a G4 FHD Monitor



- 1. Power Connector
- 2. DisplayPort™ Connector
- 3. HDMI Port
- 4. VGA Port

Back

- 5. USB-B Port
- 6. USB-A Ports (2)
- 7. USB-A Ports (2)
- 8. Security Cable Slot

Technical Specifications

Models: 3Y0Q4AA

Panel Specifications	Display Size (Diagonal)	23.8"
	Panel Technology	IPS
	Max Refresh Rate	75
	Native Resolution	1920 x 1080
	Panel Bit Depth	8 bit (6bit + FRC)
	Aspect Ratio	16:9
	Brightness (Typical)	250 nits
	Contrast Ratio (Static)	1000:1
	Dynamic Contrast Ratio	10,000,000:1
	Flicker Free	Yes
	Pixel Pitch	0.275 mm x 0.275 (mm)
	Pixels Per Inch (PPI)	93
	Backlight Lamp Life Minimum (To Half Brightness - In Hours)	30000
	Backlight Type	Edge-lit
	Screen Treatment	Anti-glare
	Hardness	3H
	Haze	25%
	Response Time (Typical)	5ms GtG (with overdrive)
	Horizontal Viewing Angle (Typical Cr>10)	178
	Vertical Viewing Angle (Typical Cr>10)	178
	Panel Active Area Metric (W x H)	52.704 x 29.646
	Panel Active Area Imperial (W x H)	20.75x 11.67
NOTE: Performance specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.		
Color Gamut Coverage	NTSC	0.72
	sRGB	95.8% (@ CIE 1931)
Color Management	Factory Color Calibrated	Yes
	Color Space/ Subsampling Support	RGB 4:4:4, YCBCR 4:4:4, YCBCR 4:2:2
	RGB Channel Adjust	Yes, Gain
	Default Color Temperature	Neutral (6500K)
Monitor Specifications	Bezel Type	3-sided Micro Edge
	Color Of Stand	Black
	Color Of Head	Black
	Tilt	from -5 to +23°
	Pivot	±90°
	Slide	Yes
	Height Adjust Range	100 mm
	VESA Mounting	100 mm x 100 mm
	Security Lock	Standard Security Lock Slot
	Detachable Stand	Yes
	Warranty	3-3-0
	NOTE: Different by regions.	
	Low Blue Light	Yes (TÜV certified)
Multimedia	Display Software	HP Display Center

Technical Specifications

On Screen Display (OSD)	Native Resolution	Full HD (1920 x 1080)
	Maximum Resolution	NOTE: DisplayPort 1.2 or HDMI 1.4 required to drive panel at its native resolution. The video card of the connected PC must be capable of supporting 1920 x 1080 at 60 Hz and include 1 HDMI or 1 VGA outputs to drive the monitor at the Preferred Mode 1920X1080@60Hz
	Preset Graphic Modes/Supported Resolutions	720 x 400 @ 70Hz 640 x 480 @ 60Hz 800 x 600 @ 60Hz 1024 x 768 @ 60Hz 1280 x 720 @ 60 Hz 1280 x 800 @ 60 Hz 1280 x 1024 @ 60 Hz 1440 x 900 @ 60 Hz 1600 x 900 @ 60 Hz 1680 x 1050 @ 60 Hz 1920 x 1080 @ 60 Hz
	Minimum Vertical Scan Rate	50 Hz
	Maximum Vertical Scan Rate	60 Hz
	Minimum Horizontal Scan Rate	30 kHz
	Maximum Horizontal Scan Rate	80 kHz
	Maximum Pixel Clock	170 MHz
	User Programmable Modes	Yes, 10
	User-Assignable Function Buttons	Yes, 3 (6 options)
	Languages	10 (English, Spanish, German, French, Italian, Netherlands, Portuguese, Japanese, T-Chinese and S-Chinese)
	Connector Types	
	DisplayPort™	1 DisplayPort™ 1.2
	HDMI	1 HDMI 1.4
	HDCP	Yes, HDMI and DisplayPort™
	USB- A	4 USB-A 3.2 Gen 1
	USB-B (Hub enablement)	1 USB-B
	VGA	1 VGA
Special Features	SWITCH	Menu/OK, Minus ("-")/Brightness, Plus ("+")/Color/Auto-Adjustment, Next Active Input, Power
	User Presets	10

Technical Specifications

Power & Operating Specs	Power Supply	Internal
	Power Source	100~240 VAC 50/60 Hz
	Power Consumption- Max	16 W
	Energy Saving/Stand By Mode	0.5 W
Energy Star Data	Power Consumption- Typical	54 W
	Operational Mode at 100 VAC	14.5 W
	Operational Mode at 115 VAC	14.3 W
	Operational Mode at 230 VAC	14.5W
EU Energy Efficiency Class (ErP LOT5)	On-mode Power Consumption for Standard Dynamic Range (SDR)	17 W
	Energy Efficiency Class in SDR	
Operating Conditions	Operating Temperature - Celsius	5° – 35°C
	Operating Temperature - Fahrenheit	41° – 95°F
	Non-operating Temperature - Celsius	–34° – 60°C
	Non-operating Temperature - Fahrenheit	–29° – 140°C
	Operating Humidity	20 – 80%
	Non-operating Humidity	5 – 95%
	Operating Altitude	0 – 5,000 m (16,400 ft.)
Environmental Features and Certifications	Non-operating Altitude	0 – 12,192 m (40,000 ft.)
	Arsenic-Free Display Glass	Yes
	Low Halogen	Yes GSE HP-00011-01B, table 2 defines low-halogen (BFR, CFR, PVC) NOTE: External power supplies, power cords, cables and peripherals are not Low Halogen. Service parts obtained after purchase may not be Low Halogen.
	Agency Approvals and Certifications	CB/ TCO 8.0/CE/FCC/IC/ Eup Lot 5/TUV Low blue light/Mexico Energy/Brazil INMETRO/Argentina S-mark/Mexico NOM/ India Win 10, Win 8, Win 7
	Microsoft WHQL Certification	Yes, ENERGY STAR® 8
	ENERGY STAR® Certified	Yes*
	EPEAT® Registered	*Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. Status varies by country. Visit http://www.epeat.net for more information.
	China Energy Label	CEL Grade 2
	TCO Certified	Yes
	Recycled Plastics	Contains Recycled Plastics
Recyclable Packaging (Box, packing materials)	Recyclable Packaging (Box, packing materials)	ABS 85% 90% fiber packaging, cardboard-WW EPS/Foam cushions -BZ

Technical Specifications

Unit Product/Package Specifications		<u>Metric</u>	<u>Imperial</u>
	Product Dimensions (Unpacked with stand) (W x D x H)	54 x 21.15 x 46.39 cm	21.26 x 8.33 x 18.26 in
	Product Dimensions (Packed) (W x D x H)	60 x 21.6 x 40 cm (WW and Brazil)	23.62 x 8.5 x 15.75 in (WW and Brazil)
	Display Head Dimensions (Unpacked without stand) (W x D x H)	54 x 6.02 x 32.33 cm	21.26 x 2.37 x 12.73 in
	Base Area Footprint (w x d mm)	214.5 x 211.5 mm	8.44 x 8.33 in
	Bezel Measurements	Bottom: 19.3 mm	Bottom: 0.76 in
	Product Weight (Unpacked with stand)	5.6 kg – Brazil/WW	12.32 lb – Brazil/WW
	Product Weight (Packed)	7.8 kg- (EPS), Brazil 8.9 kg- (Folded corrugate) WW	17.16 lb – (EPS), Brazil 19.58 lb – (Folded corrugate) WW
	Product Weight (Head Only)	3.4 kg	7.48 lb
	Pallet Information		
	Pallet Dimensions (L x W x H)	Slip Sheet: 1210 x 882 x 2020 mm (40' ft)-WW Pallet: 1210 x 882 x 2143 mm (40' ft)-WW	Slip Sheet: 47.63 x 34.72 x 79.53 inch (40' ft)-WW Pallet: 47.63 x 34.72 x 84.37 inch (40' ft)-WW
	Pallet Total Weight	374 kg	822.8 lb
	Pallet Layers	5 layers per pallet-WW	
	Pallet Product per Layer	8 per layer (slip sheet & pallet)-WW	
	Total Products per Pallet	40 sets (slip sheet & pallet)-WW	
	Container Load, 20-Foot	440 sets (slip sheet and pallet)-WW	
	Container Load, 40-Foot	920 sets (slip sheet and pallet)-WW	
	Container Load, 40-Foot HighQ	1104 sets (slip sheet and pallet)-WW	
	What's in the box?	AC power cord (1.9m) USB 3.1 cable (1.8m)-A to B DP Cable (1.8m) HDMI cable (1.8m) Doc kit	

Technical Specifications

User Guide and Warranty Languages	User Guide Languages	English, Arabic, S. Chinese, T. Chinese, Czech, Danish, Dutch, Finnish, French, German, Greek, Hungarian, Italian, Japanese, Kazakh, Korean, Norwegian, Polish, Brazilian Portuguese, Russian, Slovenian, Spanish, Swedish and Turkish.
	Warranty Languages	English, Arabic, S. Chinese, T. Chinese, Czech, Danish, Dutch, Finnish, French, German, Greek, Hungarian, Italian, Japanese, Kazakh, Korean, Norwegian, Polish, Brazilian Portuguese, Russian, Slovenian, Spanish, Swedish and Turkish.

Technical Specifications

ENVIRONMENTAL DATA

Eco-Label Certifications & declarations	This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks: • IT ECO declaration • US ENERGY STAR® • US Federal Energy Management Program (FEMP) • EPEAT[®] Gold. See http://www.epeat.net for registration status in your country. • TCO Certified • China Energy Conservation Program (CECP) • China State Environmental Protection Administration (SEPA) • Taiwan Green Mark • Korea Eco-label • Japan PC Green label*		
Sustainable Impact Specifications	• 80% post-consumer recycled plastic • Low halogen • Outside Box and corrugated cushions are 100% sustainably sourced and recyclable • Molded Paper Pulp Cushion inside box is 100% sustainably sourced and recyclable • Recycled Plastic cushions		
System Configuration	The configuration used for the Energy Consumption and Declared Noise Emissions data for the Notebook model is based on a “Typically Configured”.		
Energy Consumption (in accordance with US ENERGY STAR® test method)	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz
Normal Operation	14.03 W	14.31 W	14.13 W
Sleep	0.15 W	0.18 W	0.15 W
Off	0.12 W	0.15 W	0.11 W
	Note: Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system.		
Heat Dissipation*	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz
Normal Operation	48 BTU/hr	49 BTU/hr	48 BTU/hr
Sleep	1 BTU/hr	1 BTU/hr	1 BTU/hr
Off	0.4 BTU/hr	1 BTU/hr	0.3 BTU/hr
	*NOTE: Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.		

Technical Specifications

Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)	Sound Power (L _{WAd} , bels)	Sound Pressure (L _{pAm} , decibels)	
Typically Configured – Idle	NA	NA	
Fixed Disk – Random writes	NA	NA	
Optical Drive – Sequential reads	NA	NA	
Longevity and Upgrading	This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the		
	Spare parts are available throughout the warranty period and or for up to “5” years after the end of production.		
Additional Information	• This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC. • This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC. • This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986). • This product is in compliance with the IEEE 1680 .1(EPEAT) standard at the Gold level, see www.epeat.net • Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043. • This product is 98.4% recycle-able when properly disposed of at end of life.		
Packaging Materials	External:	PAPER/Corrugated	2472 g
	Internal:	PAPER/Paper	34 g
		PLASTIC/Polyethylene high density – HDPE	50 g
	The plastic packaging material contains at least 0% recycled content.		
	The corrugated paper packaging materials contains at least 90.11% recycled content.		
RoHS Compliance	HP Inc. complies fully with materials regulations. We were among the first companies to extend the restrictions in the European Union (EU) Restriction of Hazardous Substances (RoHS) Directive to our products worldwide through the HP GSE. HP has contributed to the development of related legislation in Europe, as well as China, India, and Vietnam. We believe the RoHS directive and similar laws play an important role in promoting industry-wide elimination of substances of concern. We have supported the inclusion of additional substances—including PVC, BFRs, and certain phthalates—in future RoHS legislation that pertains to electrical and electronics products. We met our voluntary objective to achieve worldwide compliance with the new EU RoHS requirements for virtually all relevant products by July 2013, and we will continue to extend the scope of the commitment to include further restricted substances as regulations continue to evolve. To obtain a copy of the HP RoHS Compliance Statement, see HP RoHS position statement.		
Material Usage	This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at		

Technical Specifications

	http://www.hp.com/hpinfo/globalcitizenship/environment/supplychain/gen_specifications.html): • Asbestos • Certain Azo Colorants • Certain Brominated Flame Retardants – may not be used as flame retardants in plastics • Cadmium • Chlorinated Hydrocarbons • Chlorinated Paraffins • Bis(2-Ethylhexyl) phthalate (DEHP) • Benzyl butyl phthalate (BBP) • Dibutyl phthalate (DBP) • Diisobutyl phthalate (DIBP) • Formaldehyde • Halogenated Diphenyl Methanes • Lead carbonates and sulfates • Lead and Lead compounds • Mercuric Oxide Batteries • Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user. • Ozone Depleting Substances • Polybrominated Biphenyls (PBBs) • Polybrominated Biphenyl Ethers (PBBEs) • Polybrominated Biphenyl Oxides (PBBOs) • Polychlorinated Biphenyl (PCB) • Polychlorinated Terphenyls (PCT) • Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications. • Radioactive Substances • Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)
Packaging Usage	HP follows these guidelines to decrease the environmental impact of product packaging: • Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials. • Eliminate the use of ozone-depleting substances (ODS) in packaging materials. • Design packaging materials for ease of disassembly. • Maximize the use of post-consumer recycled content materials in packaging materials. • Use readily recyclable packaging materials such as paper and corrugated materials. • Reduce size and weight of packages to improve transportation fuel efficiency. • Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.
End-of-life Management and Recycling	HP offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: http://www.hp.com/go/reuse-recycle or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/recyclers. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

Technical Specifications

HP, Inc. Corporate Environmental Information	For more information about HP's commitment to the environment: Global Citizenship Report http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html Eco-label certifications http://www8.hp.com/us/en/hp-information/environment/ecolabels.html ISO 14001 certificates: http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c04755842 and http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf
footnotes	• Percentage of ocean-bound plastic contained in each component varies by product • Recycled plastic content percentage is based on the definition set in the IEEE 1680.1-2018 standard. • External power supplies, WWAN modules, power cords, cables and peripherals excluded. • 100% outer box packaging and corrugated cushions made from sustainably sourced certified and recycled fibers. • Fiber cushions made from 100% recycled wood fiber and organic materials. • Plastic cushions are made from >90% recycled plastic.

Technical Specifications

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Summary

Change Log			
September 7, 2021	V1 to V2	Added	Environmental Data
	V2 to V3		



Annex B2 - Product environmental attributes Computers and computer monitors

The declaration may be published only when all rows and/or fields marked with * are filled-in (n.a. for not applicable). Additional information regarding each item may be found under P15.

Brand *	HP	
Company name *	HP	
Contact information *	HP Sustainability and Compliance Center	
e-mail address	sustainability@hp.com	
Internet site *	https://www8.hp.com/us/en/hp-information/sustainable-impact/planet-product-solutions.html	
Additional information		

The company declares (based on product specification or test results based obtained from sample testing), that the product conforms to the statements given in this declaration.	
Type of product *	Display
Commercial name *	HP P24a G4 FHD Monitor
Model number *	P24a G4
Issue date *	25-08-2021
Intended market *	☒ Global ☒ Europe ☐ Asia, Pacific & Japan ☐ Americas ☐ Other
Additional information	

This is an uncontrolled copy when in printed form. Please refer to the contact information for the latest version.

About Annex B2

Annex B2 reflects Product environmental attributes relevant for Computers and Computer Monitors. The following items from the ECMA-370 Main body are not shown in the template:

P4.1 – P4.3 Consumable materials

P9.1 TEC and Print speed

P10.2 - P10.3 Chemical emissions from printing products

P11.1 - P11.3 Consumable materials for printing products.

Model number *	P24a G4	Logo	
Issue date *	25-08-2021		

Product environmental attributes - Legal requirements		Requirement met		
Item		Yes	No	n.a.
P1	Hazardous substances and preparations			
P1.1*	Products do comply with current European RoHS Directive. (See legal reference and NOTE B1)	☒	☐	
P1.2*	Products do not contain Asbestos (see legal reference). Comment: Legal reference has no maximum concentration value.	☒	☐	
P1.3*	Products do not contain Ozone Depleting Substances: Chlorofluorocarbons (CFC), hydrobromofluorocarbons (HBFC), hydrochlorofluorocarbons (HCFC), Halons, carbontetrachloride, 1,1,1-trichloroethane, methyl bromide (see legal reference). Comment: Legal reference has no maximum concentration values.	☒	☐	
P1.4*	Products do not contain more than; 0,005% polychlorinated biphenyl (PCB), 0,005% polychlorinated terphenyl (PCT) in preparations (see legal reference).	☒	☐	
P1.5*	Products do not contain more than 0,1% short chain chloroparaffins (SCCP) with 10-13 carbon atoms in the chain containing at least 48% per mass of chlorine in the SCCP (see legal reference).	☒	☐	
P1.6*	Parts with direct and prolonged skin contact do not release nickel in concentrations above 0,5 µg/cm ² /week (see legal reference). Comment: Max limit in legal reference when tested according to EN1811:2011-5.	☒	☐	☐
P1.7*	REACH Article 33 information about substances in articles is available at (add URL or mail contact): sustainability@hp.com	☒	☐	☐
P2	Batteries			
P2.1*	If the product contains a battery or an accumulator, the battery/accumulator is labeled with the disposal symbol. Information on proper disposal is provided in user manual. (See legal reference)	☒	☐	☐
P2.2*	Batteries or accumulators do not contain more than 0,0005% of mercury or 0,002% of cadmium. (See legal reference)	☒	☐	☐
P2.3*	Batteries and accumulators are readily removable. (See legal reference)	☐	☒	☐
P2.4*	Documentation includes the number of cycles the (secondary) battery can withstand. (See legal reference)	☐	☐	☒
P2.5*	When internal batteries of a notebook computer cannot be "accessed and replaced by a nonprofessional user", the related text is present and legible on the external packaging (see legal reference)	☐	☐	☒
P3	Conformity verification & Eco design (ErP)			
P3.1*	The product is CE-marked to show conformance with applicable legal requirements (see legal reference). The Declaration of Conformity can be requested at (add link or e-mail address):	☒	☐	☐
P3.2*	The product complies with the applicable Eco design requirements for energy-related products, (see legal reference). Required information is; ☒ given in item P15 or added to this document, ☐ available at (add URL):	☒	☐	☐
P5	Product packaging			
P5.1*	Packaging and packaging components do not contain more than 0,01% lead, mercury, cadmium and hexavalent chromium by weight of these together.	☒	☐	
P5.2*	The packaging materials are marked with abbreviations and numbers indicating the nature of the material(s) used (see legal reference).	☒	☐	☐
P5.3*	The product packaging material is free from ozone depleting substances as specified in the Montreal Protocol (see legal reference). Comment: Legal reference has no maximum concentration values.	☒	☐	☐
P6	Treatment information			
P6.1*	Information for recyclers/treatment facilities is available (see legal reference).	☒	☐	☐

NOTE B1 Restriction applies to the homogeneous material, unless other specified and expressed in weight %. Stating "Yes" means that the product is compliant with the mandatory requirements.

Model number *	P24a G4	Logo	
Issue date *	25-08-2021		

Product environmental attributes - Market requirements (See General NOTE GN below)			
- Environmental conscious design		Requirement met	
Item	*=mandatory to fill in. Additional information regarding each item may be found under P14.	Yes	No n.a.
P7 Design			
Disassembly, recycling			
P7.1*	Parts that have to be treated separately are easily separable	☒	☐
P7.2*	Plastic materials in covers/housing have no surface coating.	☐	☒
P7.3*	Plastic parts > 100 g consist of one material or of easily separable materials.	☒	☐
P7.4*	Plastic parts > 25 g have material codes according to ISO 11469 referring ISO 1043-4.	☒	☐
P7.5	Plastic parts are free from metal inlays or have inlays that can be removed with commonly available tools.	☒	☐
P7.6*	Labels are easily separable. (This requirement does not apply to safety/regulatory labels).	☒	☐
Product lifetime			
P7.7*	Upgrading can be done e.g. with processor, memory, cards or drives	☐	☒
P7.8*	Upgrading can be done using commonly available tools	☐	☒
P7.9	Spare parts are available after end of production for: 5 years		☐
P7.10	Service is available after end of production for: 5 years		☐
Material and substance requirements			
P7.11*	Product cover/housing material type (e.g. plastics, metal, aluminum): Material type: ABS Material type: Steel Material type: Aluminium		
P7.12	Insulation materials of external electrical cables are PVC free.	☐	☒
P7.13	Insulation materials of internal electrical cables are PVC free.	☒	☐
P7.14	External plastic casing/cover parts > 25 g contain no more than 0,1% weight (1000 ppm) bromine and 0,1% weight (1000 ppm) chlorine attributable to brominated flame retardants, chlorinated flame retardants, and polyvinyl chloride or 0,3% weight (3000 ppm) bromine and 0,3% weight (3000 ppm) chlorine in parts containing more than 25% post-consumer recycled content.	☒	☐
P7.15	Printed circuit boards, PCBs (without components) are low halogen: all ☐ PCBs > 25 g ☒ are low halogen as defined in IEC 61249-2-21. (See ⁵ NOTE B2)	☒	☐
P7.16	Flame retarded plastic parts > 25 g in covers / housings are marked according ISO 1043-4: Marking:	☐	☒
P7.17	Alt. 1: Chemical specifications of flame retardants in printed circuit boards > 25 g (without components): TBBPA (additive) ☐ , TBBPA (reactive) ☐ (See NOTE B3), Other; chemical name: , CAS #: Alt. 2: Chemical specifications of flame retardants in printed circuit boards (without components) > 25 g according ISO 1043-4: FR(40)	☐	☒
P7.18	Alt. 1: Flame retarded plastic parts > 25 g contain the following flame retardant substances/preparations in concentrations above 0,1%: 1. Chemical name: , CAS #: (See NOTE B4) 2. Chemical name: , CAS #: " 3. Chemical name: , CAS #: " Alt. 2: Chemical specifications of flame retardants in plastic parts > 25 g according ISO 1043-4:	☐	☒
P7.19	In plastic parts > 25 g, flame retardant substances/preparations above 0,1% are used which have been assigned the following Risk phrases; and Hazard statements: The source(s) for these classifications is/are found at (add URL(s)): http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database (See NOTE B5)	☐	☒

GENERAL NOTE Standard references should direct to the latest version of a standard. If an older version of a standard is used, section P15 shall be used for explanation.

NOTE B2 IEC 61249-2-21 defines maximum limits of 900 ppm for each of the substances chlorine and bromine and a maximum limit of 1500ppm of these substances combined. The standard does not address fluorine, iodine and astatine which are included in the group of halogens.

NOTE B3 and B4 A Guidance document on Chemical substances is available; see <http://www.ecma-international.org/publications/standards/Ecma-370.htm>.

NOTE B5 If a certain substance has been assigned a certain risk phrases / hazard statement in the referenced source, this does not necessarily mean the substance has been tested for all of the hazards referred to by a certain customer.

Model number *	P24a G4	Logo	
Issue date *	25-08-2021		

Product environmental attributes - Market requirements (continued)					Requirement met		
Item					Yes	No	n.a.
Material and substance requirements (continued)							
P7.20*	Postconsumer recycled plastic material content is used in the product (See NOTE B6):				☒	☐	☐
	If YES; at least one of the two alternatives below shall be answered;						
	a) Of total plastic parts' weight > 25 g, the postconsumer recycled plastic material content (calculated as a percentage of total plastic by weight) is 83%.						
	or						
	b) The weight of recycled material is g.						
P7.21*	Biobased plastic material content is used in the product (See NOTE B7):				☐	☒	☐
	If YES; at least one of the two alternatives below shall be answered;						
	a) Of total plastic parts' weight > 25 g, the biobased plastic material content (calculated as a percentage of total plastic by weight) is %.						
	or						
	b) The weight of the biobased plastic material is g.						
P7.22*	Light sources are free from mercury, i.e. less than 0,1 mg/lamp.				☒	☐	☐
	If mercury is used specify: Number of lamps: and maximum mercury content per lamp: 0 mg						
P7.23*	If product includes an integral display, the total mercury content in the integrated display: 0 mg				☒	☐	☐
P8 Batteries							
P8.1*	Battery chemical composition:						☒
P9 Energy consumption (See NOTE B8)							
P9.1	For the product the following power levels or energy consumptions are reported:						
Energy mode *	Power level at 100 V AC	Power level at 115 V AC	Power level at 230 V AC	Reference/Standard for energy modes and test method *	☐		
EPS No-load (External power supply / charger plugged in the wall outlet but disconnected from the product.)				EPS Energy Report Data	☒		
PTEC * Typical Energy Consumption	N/A W	N/A W	N/A W	N/A	☒		
ETEC * Annual Energy Consumption	44.19 kWh/year	43.86 kWh/year	44.89 kWh/year	ENERGY STAR® Program Requirements for Computer Monitor	☐		
External Power Supply Efficiency Level (International Efficiency Marking Protocol) * :				ENERGY STAR® Program Requirements for Computer Monitor	☒		
Display resolution * : 1080*1920 megapixels				ENERGY STAR® Program Requirements for Computer Monitor	☐		
Default time to enter energy save mode: minutes				ENERGY STAR® Program Requirements for Computer Monitor	☒		
P9.2*	Information about the energy save function is provided with the product.				☒	☐	☐
P9.3	Energy efficiency class (monitors only):						☐

NOTE B6 Applies to a product containing plastic parts whose combined weight exceeds 100 g with the exception of printed circuit boards, cables, connectors and electronic components and bio-based plastic material.

NOTE B7 The following is to be excluded from the calculation of percentage: printed circuit boards, labels, cables, connectors and electronic components and postconsumer recycled plastic

NOTE B8 A Guidance document on Energy Efficiency is available;
see <http://www.ecma-international.org/publications/standards/Ecma-370.htm>.

Model number *	P24a G4	Logo	
Issue date *	25-08-2021		

Product environmental attributes - Market requirements (continued)				Requirement met		
Item				Yes	No	n.a.
P10 Emissions						
Noise emission – Declared according to ISO 9296 (See NOTE B9)						
P10.1	Mode	Mode description	Statistical upper limit A-weighted sound power level, $L_{WA,c}$ (B)			
	Idle	*	*		☒	
	Operation	*	*		☒	
	Other mode					
	Measured according to: ☐ ISO 7779 ☐ ECMA-74 ☐ Other (only if not covered by ECMA-74)					
Electromagnetic emissions						
P10.4	Computer display meets the requirement for low frequency electromagnetic fields of the following voluntary program(s):			☐	☐	☐
P12 Ergonomics for computing products						
P12.1*	The display meets the ergonomic requirements of ISO 9241-307 for visual display technologies.			☒	☐	☐
P12.2*	The physical input device meets the requirements of ISO 9995 and ISO 9241-410.			☒	☐	☐
P13 Packaging and documentation						
P13.1*	Product packaging material type(s): PAPER/Corrugated weight (kg): 2.472 Product packaging material type(s): PAPER/Paper weight (kg): 0.034 Product packaging material type(s): PLASTIC/Polyethylene high density – HDPE weight (kg): 0.05					
P13.2*	Product plastic primary packaging is free from PVC.			☒	☐	☐
P13.3*	For product primary corrugated fiberboard packaging, specify the contained percentage of minimum post-consumer recovered fiber content: 90 %					☐
P13.4*	Specify media for user and product documentation (tick box): Electronic ☐ , Paper ☐ , Other ☒ available on hp.com					☐
P13.5	(Please only complete this item if paper documentation used) User and product documentation on paper media is chlorine-free: If Yes, please specify: Totally chlorine-free Elemental chlorine-free Processed chlorine-free			☒	☐	
P14 Voluntary programs						
P14.1	The product meets the requirements of the following voluntary program(s): ENERGY STAR® Criteria version: 8.0 Date: 25-08-2021 Product category: Commercial Displays Eco-label: EPEAT Criteria version: IEEE 1680.1 Date: 25-08-2021 Product category: Commercial Displays Eco-label: TCO Criteria version: 8.0 Date: 25-08-2021 Product category: Commercial Displays					
P15 Additional information (See NOTE B10)						
All Sections	1. Product environmental information contained in this declaration is valid as of the date the declaration is published. Changes to external standards referenced in the IT Eco-Declaration may invalidate some information contained in this declaration over					
P1	1. This product does not include DEHP, BBP, DIBP, or DBP.					

NOTE B9 A Guidance document on Acoustic Noise is available;
see <http://www.ecma-international.org/publications/standards/Ecma-370.htm>.

NOTE B10 Additional lines may be inserted to declare further items, by positioning the cursor at the far right of the row and hitting the <Enter> key.

Product Upgradability and Reparability

The following table is provided in accordance with IEEE 1680.1-2018⁶ criterion 4.4.2.5.

feature	Available [1]	Repairable [2]	Replaceable [2]	Upgradeable [3]
processor	N	N/A	N/A	N/A
main memory	N	N/A	N/A	N/A
mass storage (internal)	N	N/A	N/A	N/A
wireless networking	N	N/A	N/A	N/A
integrated graphics	N	N/A	N/A	N/A
discrete graphics	N	N/A	N/A	N/A
display panel	Y	Y	Y	N
integrated keyboard	N	N/A	N/A	N/A
battery	N	N/A	N/A	N/A
power supply	Y	Y	Y	N
fan assemblies	N	N/A	N/A	N/A
speaker(s) (internal)	Y	Y	Y	N
camera	Y*	Y	Y	N
touchpad	N	N/A	N/A	N/A
I/O connectors and external power connector	N	N/A	N/A	N/A
readers [5]	N	N/A	N/A	N/A

Table notes:

[1] Y* = feature is available, but may not be included in every configuration

[2] Product can be repaired (returned to fully functional state) if feature fails.

[3] Feature can be replaced using only commonly available tools without soldering or de-soldering. Y* = replacement may require replacing an assembly to which the feature is attached.

[4] Base feature may be upgraded by replacing it with a higher performance module or by expanding capacity through use of expansion slots.

NOTE: This evaluation does not

account for situations in which the initial configuration purchased is already maximized. Contact HP Sales or an HP authorized reseller to determine the availability of upgrade parts and method to obtain them in your geography.

[5] This feature category includes readers such as fingerprint readers, smart card readers, and other read-only devices, but excludes read/write devices.

P9 **Energy consumption of computer products; description of the tested product configuration:**

The product complies with the applicable Eco design requirements for energy-related products, see P3.2.

Legal references Europe Annex B2

Reference	Declaration item
Directive 2011/65/EU (RoHS Directive)* * Specific exemptions apply for certain products and applications.	P1.1, P3.1
Regulation (EC) 1907/2006 (REACH Regulation), annex XVII	P1.2, P1.4, P1.6, P1.7
Regulation (EC) 2037/2000, 2038/2000, 2039/2000 (Marketing and use of Ozone layer depleting substances)	P1.3, P5.3
Norwegian regulation relating to restrictions on the use of certain dangerous chemicals 20.12.2002	P1.5
Directive 2006/66/EC (Battery and accumulators Directive), as amended.* * These provisions shall not apply where, for safety, performance, medical or data integrity reasons, continuity of power supply is necessary and requires a permanent connection between the appliance and the battery or accumulator.	P2.1, P2.2, P2.3, P8.1
Directive 2014/35/EU (Low Voltage Directive)	P3.1
Directive 2014/30/EU (EMC Directive)	P3.1
Directive 2014/53/EU (RE Directive)	P3.1
Regulation (EC) 801/2013 amending Regulation (EC) No 1275/2008 with regard to ecodesign requirements for standby, off mode electric power consumption of electrical and electronic household and office equipment, and amending Regulation (EC) No 642/2009 with regard to ecodesign requirements for televisions	P3.1, P3.2
Commission Regulation (EC) No 278/2009 of 6 April 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for no-load condition electric power demand and average active efficiency of external power supplies	P3.1, P3.2, P9.1
COMMISSION REGULATION (EU) No 617/2013 of 26 June 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for computers and computer servers	P2.4, P2.5, P3.1, P3.2, P7.23, P9.1
Regulation (EC) No 1272/2008 (CLP Regulation)	P7.19
Directive 2004/12/EC (Packaging Directive)	P5.1
Decision 97/129/EC (Secondary packaging legislation)	P5.2
Directive 2012/19/EU (WEEE directive) Implementing Regulation (EU) 2019/290 establishing the format for registration and reporting of producers of electrical and electronic equipment to the register. Commission Implementing Regulation 2017/699 establishing a common methodology for the calculation of the weight of electrical and electronic equipment (EEE) placed on the national market in each Member State and a common methodology for the calculation of the quantity of waste electrical and electronic equipment (WEEE) generated by weight in each Member State.	P6.1



Monitor HP P24a G4 FHD

Grandes recursos. Grandes vantagens.

Este monitor oferece produtividade e conforto avançados todos os dias. Da tela IPS diagonal nítida de 23,8 polegadas com design de microbordas de 3 lados até o ajuste de 3 vias, este monitor ajuda você a se movimentar confortavelmente durante o dia. Ele ajuda você a aproveitar ao máximo o espaço da sua mesa com o hub USB-A de 4 portas que permite a conexão com praticidade aos periféricos e dispositivos usados com mais frequência.



*A imagem do produto pode ser diferente do produto atual

Mais conforto. Mais produtividade.

- Encontre a melhor posição com ajustes de inclinação, rotação e 100 mm de altura para que você mantenha a produtividade ao longo do dia. Além disso, filtre as emissões de luz azul e mude as cores para um espectro mais quente para ter uma visualização mais confortável com o modo de luz azul baixa da HP.

Veja de qualquer ângulo.

- Expanda sua produtividade com visualizações praticamente ininterruptas de uma ou várias telas com uma moldura com microborda de 3 lados que oferece suporte a matrizes praticamente contínuas. Tenha visões nítidas de qualquer ângulo na tela IPS com resolução Full HD e 23,8 pol. na diagonal.

Praticidade plug-and-play

- Este monitor conta com 4 portas USB-A de fácil acesso que facilitam a conexão de vários dispositivos como mouse, teclado e webcam. Além disso, conecte-se rapidamente a dispositivos adicionais como um PC, fonte de vídeo ou até mesmo um segundo monitor usando as portas HDMI, DisplayPort™ e VGA¹.

Recursos

- Fique tranquilo com a garantia limitada de 3 anos.
- Certificação ENERGY STAR® e TCO, além do registro EPEAT®.²
- A embalagem contém materiais reciclados.³

Monitor HP P24a G4 FHD Tabela de especificações



*A imagem do produto pode ser diferente do produto atual

Tipo do visor	IPS
Área Ativa do Painel	20.75 x 11.67 in 52,7 x 29,65 cm
Tamanho da tela (diagonal)	23.8"
Brilho	250 nits ¹
Relação de contraste	1000:1 ¹
Taxa de resposta	GtG de 5 ms (com overdrive) ¹
Cor do produto	Preto
Relação largura-altura	16:9 ¹
Resolução nativa	FHD (1920 x 1080)
Resoluções admitidas	1024 x 768; 1280 x 1024; 1280 x 720; 1280 x 800; 1366 x 768; 1440 x 900; 1600 x 900; 1680 x 1050; 1920 x 1080; 640 x 480; 720 x 400; 800 x 600
Características do visor	Seleção de idioma; Controles na tela; Rotação em pivô; Modo de luz azul baixa; Altura ajustável; Botões de brilho
Controles do usuário	Saída; Informações; Gerenciamento; Controle de energia; Controle de entrada; Controle de menu; Brilho+; Imagem; Cor
Horizontal viewing angle	178°
Vertical viewing angle	178°
Height adjustment range	100 mm
Espaçamento de pixels	0,275 mm x 0,275 mm
Horizontal Display Scan Frequency	30 a 80 kHz
Vertical Display Scan Frequency	50 a 60 Hz
Tilt	-5 a +23°
VESA mounting	100 mm x 100 mm
Pivot	±90
Low blue light modes	Sim (Certificação TÜV)
Panel bit depth	8 bits (6 bits + FRC)
Integrated privacy filter	Não
Touch-enabled	Não habilitado para toque
Hardness	3H
Swivel	No swivel
Resolução recomendada	FHD (1920 x 1080 a 60 Hz)
Resolução máxima	FHD (1920 x 1080 a 60 Hz)
Pixels Per Inch	93 ppi
Bezel	Microborda de três lados
Screen treatment	Anti-reflexo
Slide	Sim
Curvature	Plana
Display Color Gamut	72% NTSC; 95.8% sRGB
Flicker-free	Sim
Dynamic Display Contrast Ratio	10000000:1
Detachable stand	Yes
Backlight type	Iluminação de borda
Portas e conectores	1 VGA Sim, DisplayPort™ e HDMI 1 HDMI 1.4 1 DisplayPort™ 1.2 4 SuperSpeed USB Type-A com taxa de sinalização de 5 Gbps 1 USB-B Não Não
Câmera	Nenhuma câmera integrada
Microfone	Não
Speakers	Não
Software de gestão	Centro de exibição HP
Ambiental	Temperatura de funcionamento: 5 a 35°C; Umidade de funcionamento: 20 a 80% sem condensação
Alimentação	100 - 240 VCA, 50/60 Hz
Consumo de energia	54 W (máximo), 16 W (típico), 0,5 W (estado de espera)
Dimensões	21.26 x 2.37 x 12.73 in; 54 x 6,02 x 32,33 cm (Sem suporte.)
Peso	12.32 lb; 5,6 kg (Com base.)
Funcionalidades de segurança física ³	Pronto para bloqueio de segurança
Conformidade com standards de eficiência energética	Registro EPEAT® ⁴ Certificado pela ENERGY STAR®
Certificação e conformidade	CB; CE; EUP; Lot-S; FCC; NOM (México); S-Mark da Argentina; Pouca luz azul; Relatório de energia do México
Sustainable impact specifications ²	Baixo teor de halogênio; Certificação TCO 8.0
Conteúdo da caixa	Monitor; Cabo DisplayPort™; Cabo HDMI; USB Type-A para cabo B; Kit de doc; Cabo de alimentação CA

Monitor HP P24a G4 FHD

Notas de rodapé de mensagens

¹ A caixa inclui cabos HDMI, DisplayPort™.

² Com base no registro EPEAT® dos EUA de acordo com o IEEE 1680.1-2018 EPEAT®. O status do EPEAT® varia conforme o país. Acesse www.epeat.net para obter mais informações.

³ A caixa externa e os protetores de papelão ondulado são produzidos com materiais 100% sustentáveis e recicláveis;

Notas de rodapé das especificações técnicas

¹ Todas as especificações representam as especificações típicas fornecidas pelos fabricantes dos componentes utilizados nos produtos HP; o desempenho real pode variar para mais ou para menos.

² Fontes de alimentação externas, cabos de alimentação, cabos e periféricos incluem quantidades maiores de halogênio. As peças de serviço obtidas após a compra podem incluir uma quantidade maior de halogênio.

³ Trava vendida separadamente.

⁴ EPEAT® 2019 registrado quando aplicável. O registro EPEAT® varia de acordo com o país. Acesse www.epeat.net para ver o status do registro por país.

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DisplayPort™ é uma marca comercial de propriedade da Video Electronics Standards Association (VESA®) nos Estados Unidos e em outros países. ENERGY STAR® é uma marca registrada de propriedade do governo norte-americano. EPEAT® é uma marca comercial registrada do GREEN ELECTRONICS COUNCIL. EyeSafe® é uma marca comercial registrada da EyeSafe, Inc.

2021 Setembro 28



CPU Benchmarks

Over 1,000,000 CPUs Benchmarked

AMD Ryzen 7 PRO 4750G

Price and performance details for the AMD Ryzen 7 PRO 4750G can be found below. This is made using thousands of [PerformanceTest](#) benchmark results and is updated daily.

- The first graph shows the relative performance of the CPU compared to the 10 other common (single) CPUs in terms of PassMark CPU Mark.
- The 2nd graph shows the value for money, in terms of the CPUMark per dollar.
- The pricing history data shows the price for a single Processor. For multiple Processors, multiply the price shown by the number of CPUs.

 CPUS

 High End

High Mid Range

Low Mid Range

Low End

 Best Value (On Market)

Best Value XY Scatter

Best Value (All time)

 New Desktop

New Laptop

 Single Thread

Systems with Multiple CPUs

Overclocked

Power Performance

CPU Mark by Socket Type

Cross-Platform CPU Performance

 CPU Mega List

Search Model

 Compare

0

AMD Ryzen 7 PRO 4750G

Description:

with Radeon Graphics

Class:

Desktop

Socket:

AM4

Clockspeed:

3.6 GHz

Turbo Speed:

4.4 GHz

Cores:

8

Threads:

16

Typical TDP:

65 W

Other names:

AMD Ryzen 7 PRO 4750G with Radeon Graphics

CPU First Seen on Charts:

Q2 2020

CPUmark/\$Price:

51.49

Overall Rank:

207

Last Price Change:

[\\$399.99 USD](#) (2021-05-11)

Average CPU Mark



20596

Single Thread Rating: 2703

Cross-Platform Rating: 29,081

Samples: 213*

*[Margin for error](#): Low

+ COMPARE

CPU Test Suite Average Results for AMD Ryzen 7 PRO 4750G

Integer Math

69,389 MOps/Sec

Floating Point Math

40,272 MOps/Sec

Find Prime Numbers

39 Million Primes/Sec

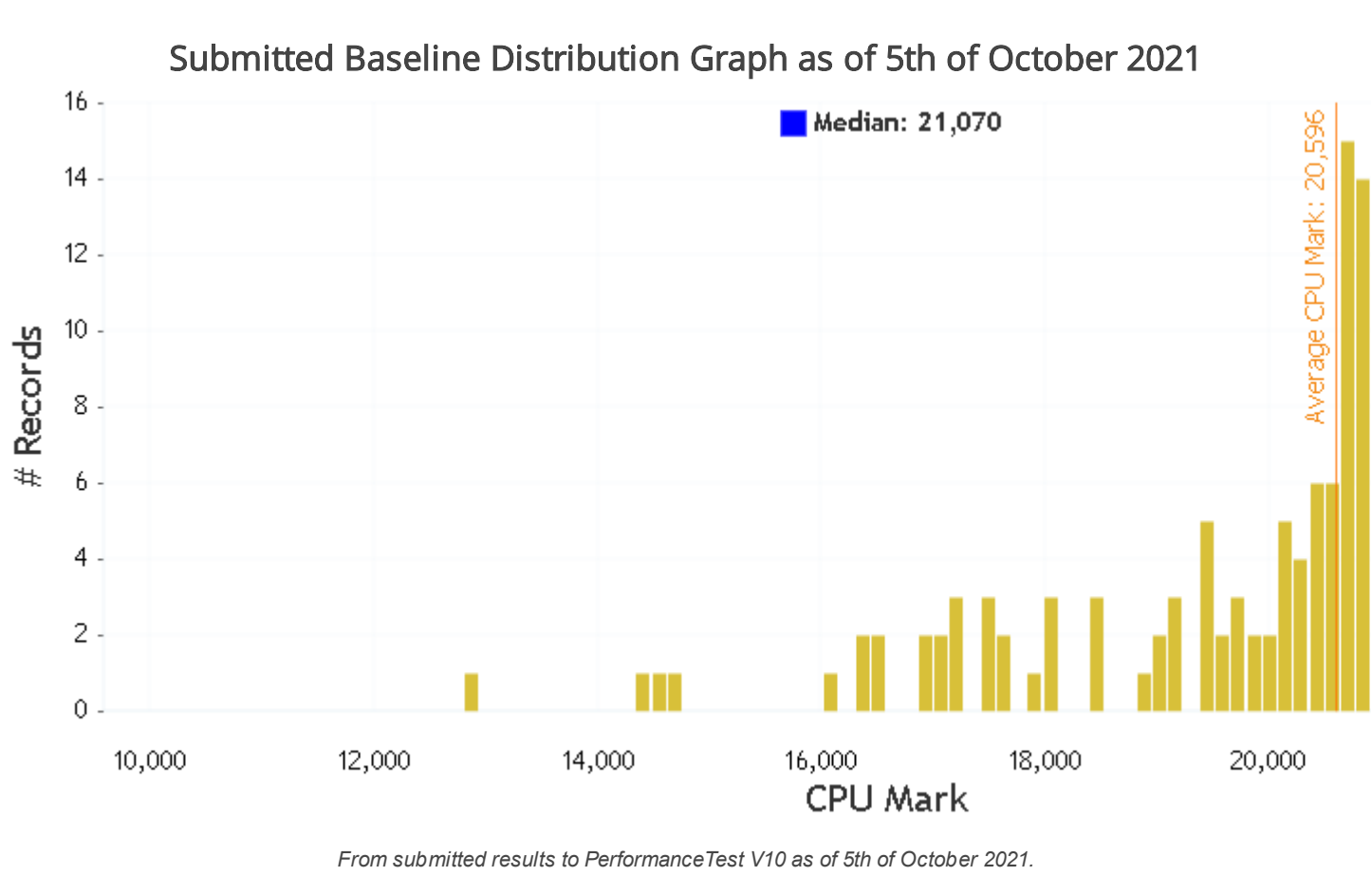
★ Common

🏠 CPU Benchmarks ▼

- 📈 AMD vs Intel Market Share
- 📊 Year on Year Performance

Random String Sorting	33 Thousand Strings/Sec
Data Compression	300.1 MBytes/Sec
Physics	861 Frames/Sec
Extended Instructions	19,906 Million Matrices/Sec
Single Thread	2,703 MOps/Sec
From submitted results to PerformanceTest V10 as of 11th of October 2021.	

CPU Mark Distribution for AMD Ryzen 7 PRO 4750G

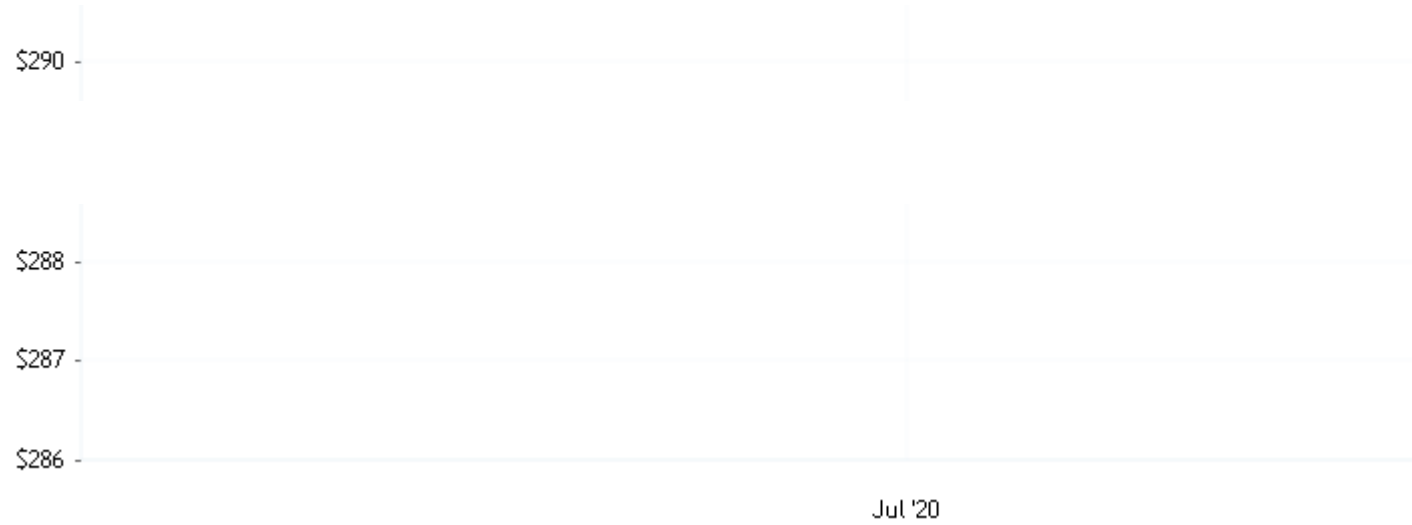


Search for **AMD Ryzen 7 PRO 4750G**
from the Featured Merchants below:

Note: PassMark Software may earn compensation for sales from links on this site through affiliate programs.

Pricing History





CPU Mark Relative to Top 10 Common Desktop CPUs

As of 11th of October 2021 - Higher results represent better performance

Processor	Average CPU Mark	
AMD Ryzen 9 3900X		32,845
AMD Ryzen 7 3700X		22,776
AMD Ryzen 7 PRO 4750G		20,596
Intel Core i7-10700K @ 3.80GHz		19,450
Intel Core i9-9900K @ 3.60GHz		18,820
AMD Ryzen 5 3600		17,852
Apple M1 8 Core 3200 MHz		15,148
Intel Core i7-9700K @ 3.60GHz		14,560
Intel Core i7-8700K @ 3.70GHz		13,895
Intel Core i7-3770 @ 3.40GHz		6,372
Athlon Dual Core 4050e		670

CPU Value (CPU Mark / \$Price)

As of 11th of October 2021 - Higher results represent better value

Processor	CPU Mark / \$Price	
AMD Ryzen 5 3600		107.55
AMD Ryzen 9 3900X		76.39
AMD Ryzen 7 3700X		69.39
Intel Core i7-10700K @ 3.80GHz		59.64
Intel Core i7-9700K @ 3.60GHz		52.00



Intel Core i9-9900K @ 3.60GHz		51.69
Intel Core i7-3770 @ 3.40GHz		44.89
Intel Core i7-8700K @ 3.70GHz		39.70
Apple M1 8 Core 3200 MHz		NA
Athlon Dual Core 4050e		NA

Single Thread Rating

As of 11th of October 2021 - Higher results represent better performance

Processor	Average Thread Rating	
Apple M1 8 Core 3200 MHz		3,779
Intel Core i7-10700K @ 3.80GHz		3,080
Intel Core i9-9900K @ 3.60GHz		2,970
Intel Core i7-9700K @ 3.60GHz		2,909
Intel Core i7-8700K @ 3.70GHz		2,775
AMD Ryzen 9 3900X		2,730
AMD Ryzen 7 PRO 4750G		2,703
AMD Ryzen 7 3700X		2,686
AMD Ryzen 5 3600		2,581
Intel Core i7-3770 @ 3.40GHz		2,073
Athlon Dual Core 4050e		744

Last 5 Baselines for AMD Ryzen 7 PRO 4750G

Most recent listed first

Baseline	CPU Mark	
BL1453870 - Oct 05 2021		19512
BL1453652 - Oct 04 2021		19288
BL1451736 - Sep 29 2021		16994
BL1450242 - Sep 23 2021		21220

Popular comparisons for AMD Ryzen 7 PRO 4750G

As of 11th of October 2021 - Higher results represent better performance

Processor	Average CPU Mark	
AMD Ryzen 7 PRO 4750G		20,596
Intel Core i7-10700K @ 3.80GHz		19,450
Intel Core i9-10900K @ 3.70GHz		23,971
Intel Core i7-11700K @ 3.60GHz		25,180
AMD Ryzen 7 3800X		23,305
AMD Ryzen 7 3700X		22,776
Intel Core i7-10700KF @ 3.80GHz		19,261
AMD Ryzen 7 3800XT		23,884
Intel Core i7-10700F @ 2.90GHz		17,030
Intel Core i7-10700 @ 2.90GHz		17,202
Intel Core i9-10850K @ 3.60GHz		23,352
Intel Core i9-10900F @ 2.80GHz		20,987
Intel Core i9-10900KF @ 3.70GHz		23,803

Software

- [BurnInTest](#)
- [PerformanceTest](#)
- [OSForensics](#)
- [MemTest86](#)
- [WirelessMon](#)
- [Zoom Search Engine](#)
- [Free Software](#)

Hardware

- [USB3.0 Loopback Plugs](#)
- [USB2.0 Loopback Plugs](#)
- [PCIe Test Cards](#)
- [USB Power Delivery Tester](#)
- [Serial and Parallel Loopback Plugs](#)
- [USB Short Circuit Testers](#)

Benchmarks

- [CPU Benchmarks](#)
- [Video Card Benchmarks](#)
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HP Brasil Indústria e Comércio de
Equipamentos Eletrônicos Ltda.
Alameda Xingu, n.º 350, 8º andar
Alphaville Industrial, Barueri/SP
CEP: 06455-030

declaração

Barueri, 8 de outubro de 2021

Ao/À
Universidade Federal de Santa Maria

Assunto:
PREGÃO /RFP Nº 1382021

BDI 17663

A **HP BRASIL INDÚSTRIA E COMÉRCIO DE EQUIPAMENTOS ELETRÔNICOS LTDA. (HP)**, em atendimento ao quanto solicitado pelo Parceiro **HP Global Distrib De Bens De Cons Ltda**, declara que:

A empresa **Global Distrib De Bens De Cons Ltda**, inscrita no CNPJ **89.237.911/0001-40** sediada na RUA ROD BR 116, 7350, Portal da Serra, Dois Irmãos, Rio Grande do Sul - CEP 93950-000, é um **PARCEIRO AUTORIZADO HP, PARA COMPRA DIRETA DE PRODUTOS DA HP**, estando apto a comercializar as linhas de produtos HP de nossa fabricação descritas abaixo.

Produtos:

1C7Z8AV#TMP - HP EliteDesk 805 G6 SFF - garantia padrão do Fabricante.
9AW68AV#TMP - HP Prodesk 600 G6 SFF - garantia padrão do Fabricante.
9AG49AV #TMP - HP Prodesk 400 G6 DM - garantia padrão do Fabricante.
239V8AV#TMP - HP Prodesk 405 G6 DM - garantia padrão do Fabricante.
48S30LS#AK4 - HP ProBook 445 G8 Notebook PC - garantia padrão do Fabricante.
54G96LA#AC4 - HP ProBook 640 G8 Notebook PC - garantia padrão do Fabricante.

Declaramos ainda que, o produto **1C7Z8AV#TMP** - HP EliteDesk 805 G6 SFF:

- Placa mãe e BIOS desenvolvidas pelo mesmo fabricante do equipamento especificamente para o modelo ofertado
- A BIOS possui o número de série do equipamento em campo editável que permite inserir identificação customizada podendo ser consultada por software de gerenciamento, como número de propriedade e de serviço. As atualizações, quando necessárias, estarão disponibilizadas no site do fabricante
- Será entregue solução que seja capaz de apagar os dados contidos nas unidades de armazenamento como HDD, SSD e SSHD em conformidade com a NIST SP800-88, acessível pela BIOS.
- BIOS em conformidade com a normativa NIST 800-147.
- Sistema de monitoramento de temperatura controlada pela BIOS, adequado ao processador, fonte e demais componentes internos ao gabinete. O fluxo do ar interno segue orientações do fabricante do microprocessador.
- Placa de vídeo integrada em fábrica.
- Declaramos que o equipamento ofertado, possui compatibilidade com o padrão Desktop and mobile Architecture for System Hardware (DASH) 1.2, protocolo WSMAN, estabelecido pela DMTF (Desktop Management Task Force).
- Possui Suporte RAID 0 e 1 nativo na controladora presente na placa mãe

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- Possui tecnologia S.M.A.R.T (Self- Monitoring, Analysis and Reporting Technology)
- Acabamento interno composto de superfícies não cortantes
- Os discos são fabricados em regime OEM com especificações conforme catálogo técnico do produto.
- Teclado no Padrão ABNT2, português Brasil.
- Declaramos que o equipamento é integrado em fábrica com todos os componentes homologados pelo fabricante.
- Declaramos que os equipamentos pertencem a linha corporativa do fabricante
- Declaramos que os equipamentos são novos e sem uso e não estão fora de linha de fabricação

Declaramos ainda que, o produto 9AW68AV#TMP - HP Prodesk 600 G6 SFF:

- Placa mãe e BIOS desenvolvidas pelo mesmo fabricante do equipamento especificamente para o modelo ofertado
- A BIOS possui o número de série do equipamento em campo editável que permite inserir identificação customizada podendo ser consultada por software de gerenciamento, como número de propriedade e de serviço. As atualizações, quando necessárias, estarão disponibilizadas no site do fabricante
- Será entregue solução que seja capaz de apagar os dados contidos nas unidades de armazenamento como HDD, SSD e SSHD em conformidade com a NIST SP800-88, acessível pela BIOS.
- BIOS em conformidade com a normativa NIST 800-147.
- Sistema de monitoramento de temperatura controlada pela BIOS, adequado ao processador, fonte e demais componentes internos ao gabinete. O fluxo do ar interno segue orientações do fabricante do microprocessador.
- Placa de vídeo integrada em fábrica.
- Declaramos que o equipamento ofertado, possui compatibilidade com o padrão Desktop and mobile Architecture for System Hardware (DASH) 1.2, protocolo WSMAN, estabelecido pela DMTF (Desktop Management Task Force).
- Possui Suporte RAID 0 e 1 nativo na controladora presente na placa mãe
- Possui tecnologia S.M.A.R.T (Self- Monitoring, Analysis and Reporting Technology)
- Acabamento interno composto de superfícies não cortantes
- Os discos são fabricados em regime OEM com especificações conforme catálogo técnico do produto.
- Teclado no Padrão ABNT2, português Brasil.
- Declaramos que o equipamento é integrado em fábrica com todos os componentes homologados pelo fabricante.
- Declaramos que os equipamentos pertencem a linha corporativa do fabricante
- Declaramos que os equipamentos são novos e sem uso e não estão fora de linha de fabricação

Declaramos ainda que, o produto 9AG49AV #TMP - HP Prodesk 400 G6 DM:

- Placa mãe e BIOS desenvolvidas pelo fabricante do equipamento especificamente para o modelo ofertado
- A BIOS possui o número de série do equipamento em campo editável que permite inserir identificação customizada podendo ser consultada por software de gerenciamento, como número de propriedade e de serviço. As atualizações, quando necessárias, estarão disponibilizadas no site do fabricante
- Botão liga/desliga e indicadores de atividade da unidade de disco rígido e do computador ligado (power-on) na parte frontal do gabinete;

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- Será entregue solução que seja capaz de apagar os dados contidos nas unidades de armazenamento como HDD, SSD e SSHD em conformidade com a NIST SP800-88, acessível pela BIOS.
- BIOS em conformidade com a normativa NIST 800-147.
- Sistema de monitoramento de temperatura controlada pela BIOS, adequado ao processador, fonte e demais componentes internos ao gabinete. O fluxo do ar interno segue orientações do fabricante do microprocessador.
- Possui tecnologia S.M.A.R.T (Self- Monitoring, Analysis and Reporting Technology)
- Acabamento interno composto de superfícies não cortantes
- Os discos são fabricados em regime OEM com especificações conforme catálogo técnico do produto.
- Declaramos que o equipamento possui compatibilidade, com gerenciamento in-band e funcionalidade WoL (Wake on Lan)
- Teclado no Padrão ABNT2, português Brasil.
- Declaramos que o equipamento é integrado em fábrica com todos os componentes homologados pelo fabricante.
- Declaramos que os equipamentos pertencem a linha corporativa do fabricante
- Declaramos que os equipamentos são novos e sem uso e não estão fora de linha de fabricação

Declaramos ainda que, o produto 239V8AV#TMP - HP Prodesk 405 G6 DM:

- Placa mãe e BIOS desenvolvidas pelo fabricante do equipamento especificamente para o modelo ofertado
- A BIOS possui o número de série do equipamento em campo editável que permite inserir identificação customizada podendo ser consultada por software de gerenciamento, como número de propriedade e de serviço. As atualizações, quando necessárias, estarão disponibilizadas no site do fabricante
- Botão liga/desliga e indicadores de atividade da unidade de disco rígido e do computador ligado (power-on) na parte frontal do gabinete;
- Será entregue solução que seja capaz de apagar os dados contidos nas unidades de armazenamento como HDD, SSD e SSHD em conformidade com a NIST SP800-88, acessível pela BIOS.
- BIOS em conformidade com a normativa NIST 800-147.
- Sistema de monitoramento de temperatura controlada pela BIOS, adequado ao processador, fonte e demais componentes internos ao gabinete. O fluxo do ar interno segue orientações do fabricante do microprocessador.
- Possui tecnologia S.M.A.R.T (Self- Monitoring, Analysis and Reporting Technology)
- Acabamento interno composto de superfícies não cortantes
- Os discos são fabricados em regime OEM com especificações conforme catálogo técnico do produto.
- Declaramos que o equipamento possui compatibilidade, com gerenciamento in-band e funcionalidade WoL (Wake on Lan)
- Declaramos que o equipamento possui compatibilidade com o Sistema operacional Linux Ubuntu
- Teclado no Padrão ABNT2, português Brasil.
- Declaramos que o equipamento é integrado em fábrica com todos os componentes homologados pelo fabricante.
- Declaramos que os equipamentos pertencem a linha corporativa do fabricante
- Declaramos que os equipamentos são novos e sem uso e não estão fora de linha de fabricação

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Declaramos ainda que, o produto 48S30LS#AK4 - HP ProBook 445 G8 Notebook PC:

- A placa mãe e Bios desenvolvidas por ele do fabricante do equipamento,
- Controle automático do nível de desempenho do processador, ajustando dinamicamente a frequência de acordo com a necessidade da atividade corrente, para economia de energia
- Possui senhas de Setup para Power On, Administrador e Disco rígido;
- Permite a inserção de código de identificação do equipamento dentro da própria BIOS (número do patrimônio e número de série).
- Será gravado em fábrica, o logo da instituição contratante na BIOS, ao invés do logo da fabricante. Também será gravado a laser na tampa do equipamento, o logo da instituição.
- Dispõe de ferramenta gráfica para diagnóstico de saúde do hardware, sendo acessado através das teclas de função F1 a F12, apresentando versão de BIOS, Número de Série do equipamento, realizar testes de Vídeo,
- Módulos de Memória RAM (teste básico ou estendido), Dispositivo de Armazenamento (HDD ou SSD), com execução de testes independente do estado/versão sistema operacional;
- Sistema de monitoramento de temperatura controlada pela BIOS, adequado ao processador, fonte e demais componentes internos ao gabinete. O fluxo do ar interno segue orientações do fabricante do microprocessador.
- Será entregue solução que seja capaz de apagar os dados contidos nas unidades de armazenamento como HDD, SSD e SSHD em conformidade com a NIST SP800-88, acessível pela BIOS.
- BIOS em conformidade com a normativa NIST 800-147.
- Controladora gráfica integrada ao processador
- Teclado padrão ABNT-2 com todos os caracteres da língua portuguesa, resistente a líquidos;
- Teclado com impressão sobre as teclas do tipo permanente, não apresentando desgaste por abrasão ou uso prolongado.
- Os discos são fabricados em regime OEM com especificações conforme catálogo técnico do produto.
- Desligamento por software ao manter-se pressionado o botão liga/desliga, com prevenção de desligamento acidental do computador;
- Declaramos que o equipamento é integrado em fábrica com todos os componentes homologados pelo fabricante.
- Declaramos que os equipamentos pertencem a linha corporativa do fabricante
- Declaramos que os equipamentos são novos e sem uso e não estão fora de linha de fabricação

Declaramos ainda que, o produto 54G96LA#AC4 - HP ProBook 640 G8 Notebook PC:

- A placa mãe e Bios desenvolvidas por ele do fabricante do equipamento,
- Controle automático do nível de desempenho do processador, ajustando dinamicamente a frequência de acordo com a necessidade da atividade corrente, para economia de energia
- Possui senhas de Setup para Power On, Administrador e Disco rígido;
- Permite a inserção de código de identificação do equipamento dentro da própria BIOS (número do patrimônio e número de série).
- Será gravado em fábrica, o logo da instituição contratante na BIOS, ao invés do logo da fabricante. Também será ser gravado a laser na tampa do equipamento, o logo da instituição.
- Dispõe de ferramenta gráfica para diagnóstico de saúde do hardware, sendo acessado através das teclas de função F1 a F12, apresentando versão de BIOS, Número de Série do equipamento, realizar testes de Vídeo,
- Módulos de Memória RAM (teste básico ou estendido), Dispositivo de Armazenamento (HDD ou SSD), com execução de testes independente do estado/versão sistema operacional;

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- Sistema de monitoramento de temperatura controlada pela BIOS, adequado ao processador, fonte e demais componentes internos ao gabinete. O fluxo do ar interno segue orientações do fabricante do microprocessador.
- Será entregue solução que seja capaz de apagar os dados contidos nas unidades de armazenamento como HDD, SSD e SSHD em conformidade com a NIST SP800-88, acessível pela BIOS.
- BIOS em conformidade com a normativa NIST 800-147.
- Controladora de vídeo dedicada de 2 GB GDDR5
- Teclado padrão ABNT-2 com todos os caracteres da língua portuguesa, resistente a líquidos;
- Teclado com impressão sobre as teclas do tipo permanente, não apresentando desgaste por abrasão ou uso prolongado.
- Os discos são fabricados em regime OEM com especificações conforme catálogo técnico do produto.
- Desligamento por software ao manter-se pressionado o botão liga/desliga, com prevenção de desligamento acidental do computador;
- Declaramos que o equipamento é integrado em fábrica com todos os componentes homologados pelo fabricante.
- Declaramos que os equipamentos pertencem a linha corporativa do fabricante
- Declaramos que os equipamentos são novos e sem uso e não estão fora de linha de fabricação

Durante o período de garantia do Produto HP, a Fabricante HP responsabiliza-se pela garantia no prazo e condições padrão HP, conforme especificado no termo de garantia que acompanha o Produto HP e no manual técnico do Produto HP.

Serviços adicionais ao especificado na garantia padrão da Fabricante HP poderá ser adquiridos pelo Parceiro HP, com prazos e condições customizados:

1C7Z8AV#TMP - HP EliteDesk 805 G6 SFF - Carepack Adicional - UD706E - HP Serviço de Suporte no Local para Desktop 3 anos - 48hs Call to Repair (9x5) - para eq 1/1/1.

9AW68AV#TMP - HP Prodesk 600 G6 SFF - Carepack Adicional - UD706E - HP Serviço de Suporte no Local para Desktop 3 anos - 48hs Call to Repair (9x5) - para eq 1/1/1.

9AG49AV#TMP - HP Prodesk 400 G6 DM - Carepack Adicional - U11BSE - HP Serviço de Suporte no Local para Desktop 3 anos - 48hs Call to Repair (9x5) - para eq 1/1/1

239V8AV#TMP - HP Prodesk 405 G6 DM - Carepack Adicional - U11BSE - HP Serviço de Suporte no Local para Desktop 3 anos - 48hs Call to Repair (9x5) - para eq 1/1/1.

48S30LS#AK4 - HP ProBook 445 G8 Notebook PC - Carepack Adicional - UX084E - HP Serviço de Suporte no Local para Notebook 3 anos - 48hs Call to Repair (9x5) - Tempo de Solução para eq 1/1/0.

54G96LA#AC4 - HP ProBook 640 G8 Notebook PC - Carepack Adicional - UB3K7E - CTR - Tempo de solução 48hs - Call to Repair - Atendimento no local (9x5) - 3 anosHP ProBook 6xx series 3/3/0.

Declaramos que os equipamentos fabricados pela HP são novos, que não foram submetidos a uso, nem recondicionamento, ressalvados os testes de fábrica.

Os Produtos da marca HP são de fabricação própria ou homologados por regime de O&M e estão em linha de produção atual.

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Declaramos, ainda, que a HP possui site na internet - www.hp.com.br - onde pode ser efetuado download de drivers para os Produtos HP e número de telefone para Grande

São Paulo – (011) 4004-7751 e demais regiões – 0800 709 77 51 - para informações e aberturas de chamados técnicos.

A Rede de Serviços Autorizados HP está distribuída em todo território nacional, ou conforme indicado a seguir, com uso de peças e componentes originais e com técnicos devidamente treinados pela HP:

14.	RIO GRANDE DO SUL
Nome:	UNISYS BRASIL LTDA
CPNJ:	33.426.420/0001-93
Endereço:	Rua Teixeira de Freitas, 31, Andar 10, Andar 12 - Centro
Cidade:	Rio de Janeiro - RJ - CEP: 20021-350
Contato:	
E-mail:	FESInnovationNFE@unisys.com
Telefone:	55 11 4680-6119

Esta declaração é válida por 30 (trinta) dias corridos, a contar da data de sua emissão.

Atenciosamente,

LUANA MELATTO VILAS Digitally signed by LUANA MELATTO
BOAS:28755606890 VILAS BOAS:28755606890
Date: 2021.10.11 10:37:25 -03'00'

Luana Melatto Vilas Boas
Representante Legal
HP Indústria e Comércio de Equipamentos Eletrônicos Ltda.