

# CERTIFICADO DE CONFORMIDADE

## CERTIFICATE OF CONFORMITY

Certificado No. / Certificate No. **UL-BR 15.0651**

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**Certificado de conformidade válido somente acompanhado das páginas de 1 até 29**  
*Certificate of conformity valid with pages from 1 to 29*

**Fornecedor / Supplier**  
(100120-728)

**DELL COMPUTADORES DO BRASIL LTDA**  
Av. Emancipação, 5000  
13184-654 – Hortolândia – SP – Brasil  
CNPJ: 72.381.189/0006-25

**Produto Certificado / Certified Product**

COMPUTADOR PORTÁTIL / PORTABLE COMPUTER

**Família de Produto / Product's Family**

N/A

**Modelo - Tipo / Model - Type**

Modelo(s)/Model(s): P63G, P65G, P67G, P76G, P73G, P28S, P72G, P27S, P79G, P50F, P63G, P88G(refer to appendix A), **P89G(refer to appendix B)**  
Tipo(s)/Type(s): P63G..., P65G..., P67G..., P76G..., P73G..., P28S..., P72G..., P27S..., P79G..., P50F..., P63G..., P88G...(refer to appendix A), **P89G... (refer to appendix B)**

(The "." in the model name can be 0 to 9, A to Z, a to z, - or blank for marketing use)

**Marca Comercial / Trademark**

DELL

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

N/A

**Normas Aplicáveis / Applicable standards**

IEC 60950-1:2005 + A1:2009, CISPR 22:2008, CISPR 24:2010, IEC 61000-3-2:2005 + A1:2008 + A2:2009, 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 61000-4-5:2005, IEC 61000-4-6:2008, IEC 61000-4-8:2009, IEC 61000-4-11:2004 e Anexo E da Portaria no. 170/2012

**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

**Relatório de Avaliação e Ensaios / Assessment and Test Report #**

BR2263; Vol. 1, Sec. 68; Sec 78; Sec 83; Sec 87; Sec 93; Sec 92; Sec 91; Sec 90; Sec 94; Sec 98; Sec 99; Sec 105; **Sec 107**

**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.*

**Emissão / Date of issue**

11 de Agosto de 2015 / August 11, 2015

**Revisão / Revision date**

12 de dezembro de 2017 / December 12, 2017

**Validade / Expire date**

07 de Julho de 2020 / July 07, 2020

**Emerson Luiz Baroni**  
Gerente de Certificações /  
Certification Manager

**UL do Brasil Certificações, organismo acreditado pela Coordenação Geral de Acreditação do INMETRO – CGCRE, segundo o registro Nº 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.*



**Organismo de Certificação / Certification Body**

**UL do Brasil Certificações**

Av. Engenheiro Luís Carlos Berrini, 105 – 24º Andar  
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**Solicitante / Applicant**  
(654965-006)

**Dell Inc.**  
One Dell Way  
Mail Stop PS4-30  
Round Rock, TX 78682-0001

**Fabricante / Manufacture**  
(100120-728)

**DELL COMPUTADORES DO BRASIL LTDA**  
AV. EMANCIPAÇÃO, 5000  
13184-654 – HORTOLÂNDIA – SP – BRASIL

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

**CARACTERÍSTICAS NOMINAIS / RATINGS:**

19.5 Vdc, 2.31A, 3.34 A or 4.62 A; Class III; IP20

I/P: 20 Vdc, 2.25 A; Class III; IP20

I/P: 3.34A or 4.62A, 19.5Vdc, Class III

**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:**

Componente/ Component	Fabricante/ Manufacturer	Tipo/Modelo Type/Model	Características técnicas/ Technical data	Norma/ Standard	Marca de conformidade/ Mark(s) of conformity
AC/DC Adapter	Chicony Power Technology Co., Ltd. (DELL)	HA65NS5-00 HA45NM14Z HA65NM13Z (The Z in model name can be 0 to 9, for marketing purpose.)	I/P: 1.7A, 100-240V, 50-60Hz, Cl. I, O/P: 3.34A, 19.5Vdc	IEC 60950-1 (ed.2); am1, UL 60950-1	CB by Nemko, UL
	Lite-On Technology Corporation (DELL)	LA65NS2-.. (The dots "." in model name can be any alphanumeric character or blank, for marketing use only)	I/P: 1.6A, 100-240V, 50-60Hz, Cl. I O/P: 3.34A, 19.5Vdc	IEC 60950-1 (ed.2); am1, UL 60950-1	CB by Nemko, UL
	Delta Electronics Inc (DELL)	DA65NM111-00 DA45NM14Z DA65NM13Z (Z=0-9 for marking purpose and no impact safety related critical components and construction)	I/P: 1.6A, 1.3A, 100-240V, 50-60Hz O/P: 2.31A, 3.34A, 19.5Vdc	IEC 60950-1 (ed.2); am1, UL 60950-1 EN 60950-1: 2006+A11+A1+A12+A2, UL 60950-1	CB by UL, UL
	Acbel Polytech Inc. (DELL)	AA65NM121 AA45NM150	I/P: 1.7A, 100-240V, 50-60Hz, Cl. I with Class II construction throughout O/P: 3.34A, 19.5Vdc	IEC 60950-1 (ed.2); am1, UL 60950-1	CB by N, N, UL Nemko, UL
	Lite-On Technology Corporation (DELL)	LA65NM13Z LA45NM14Z LA45NM150 (The "Z" in model name can be 0 to 9, for marketing purpose only.)	I/P: 1.7A, 100-240V, 50-60Hz, Cl. I O/P: 2.31A, 3.34A, 19.5Vdc	IEC 60950-1 (ed.2); am1, UL 60950-1	CB by Nemko, UL

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	Flextronics Sales & Marketing (A-P) Ltd. (DELL)	FA45NM16Z FA90PM13Z (The "Z" in model name can be 0-9, for Marketing purpose.)	I/P: 1.3A, 100- 240V, 50-60Hz, Cl. I O/P: 2.31A, 19.5Vdc	IEC 60950- 1(ed.2); am1; am2 UL 60950 1	CB by Nemko, UL
	Lite-On Technology Corporation (DELL)	LA65NS2-.. (The dots "." in model name can be any alphanumeric character including blank or "-", for marketing use only.)	I/P: 1.6A, 100- 240Vac, 50-60Hz, Cl. I O/P: 3.34A, 19.5Vdc (altitude: 5000m)	IEC 60950-1 (ed.2); am1; am2, EN 60950-1: 2006+A11+A1+A12+A2,UL 60950-1	CB by N, N, UL
	Delta Electronics Inc (DELL)	DA90PM111 DA90PM13Z (Z=0-9 for marketing purpose and no impact safety related critical components and constructions)	I/P: 1.5A, 100-240V, 50-60Hz, Cl. I O/P: 4.62A, 19.5Vdc	IEC 60950-1 (ed.2); am1, UL 60950-1	CB by UL, UL
	Acbel Polytech Inc. (DELL)	AA90PM111	I/P: 1.5A or 1.6A, 100-240V, 50-60Hz, Cl. I O/P: 4.62A, 19.5Vdc	IEC 60950-1 (ed.2); am1, UL 60950-1	CB by TUV, UL
	Lite-On Technology Corporation (DELL)	LA90PM111	I/P: 1.5A or 2.5A, 100-240V, 50-60Hz, Cl. I O/P: 4.62A, 19.5Vdc	IEC 60950-1 (ed.2); am1, UL 60950-1	CB by Nemko, UL
	Lite-On Technology Corporation	LA90PM13Z (The "Z" in model name can be 0 to 9, for marketing purpose only.)	I/P: 1.5A, 100-240V, 50-60Hz, Cl. I O/P: 4.62A, 19.5Vdc	IEC 60950-1 (ed.2); am1, UL 60950-1	CB by Nemko, UL
	Shenzhen Huntkey Electric Co., Ltd. (DELL)	HK45NM14Z (The "Z" meaning various number which maybe 0-9, for market only.)	I/P: 1.3A, 100- 240Vac, 50-60Hz, Cl. I O/P: 2.31A, 19.5Vdc (altitude: 5000m)	IEC 60950-1 (ed.2); am1; am2, EN 60950-1: 2006+A11+A1+A12+A2, UL 60950-1	CB by N, UL
	Bestec (DELL)	BT90PM13Z (The "Z" in the model name can be 0 to 9, for marketing purpose only)	I/P: 1.5A, 100-240V~, 50-60Hz,Cl.I O/P: 4.62A 19.5Vdc 90W (altitude: 5000m)	IEC 60950-1 (ed.2); am1; am2, EN 60950-1: 2006+A11+A1+A12+A2, UL 60950-1	CB by N (NO86175), UL
LCD Cover	Mitsubishi Engineering-plastics Corp.	TMB1615+ + - Suffix optional, exceptions: The following cannot be used as optional suffixes: "T" for grade 2030, "A" for 1501, 1502, 1511, 1521 & 2502, "N" for NXG5050, NXG5030, NXG5501, & CGF-(v)(u), "S1" for F20-54.	V-0, min. 1.0mm, 60°C	UL 94	UL
	Sabic Japan L L C	C7230P (X) (X) - All colors except natural.	V-0, min. 1.2mm, 85°C	UL 94	UL
	Sabic Japan L L C	BM5225X	V-0, min. 1.2mm, 80°C	UL 94	UL

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	Bayer Materialscience Ag	FR3021 + (z)  (z) - Material designation and color code may be followed by up to three letters and/or three numbers (does not include grades which are separately recognized with above material designation and suffix) + - Material designations may be followed by a six digit numerical code denoting color.	V-0, min. 1.5mm, 85°C	UL 94	UL
LCD Bezel	Mitsubishi Engineering-plastics Corp.	MB1700+ + - Suffix optional, exceptions: The following cannot be used as optional suffixes: "T" for grade 2030, "A" for 1501, 1502, 1511, 1521 & 2502, "N" for NXG5050, NXG5030, NXG5501, & CGF-(v)(u), "S1" for F20-54.	V-0, min. 0.75mm, 60°C	UL 94	UL
	Sabic Japan L L C / Sabic Innovative Plastics B V	CM6140(X) (X) - All colors except natural.	V-0, min. 0.8mm, 85°C	UL 94	UL
Internal plastic barrier for bottom openings	Sichuan Dongfang Insulating Material Co Ltd	DFR117, DFR117EEOA, DFR117ECOB, DFR117ECOC	VTM-0, min. 0.05-0.23mm, 80°C	UL 94	UL
Upper Case / Palm-rest / L Case / Base Case / Bottom Door	Mitsubishi Engineering-plastics Corp.	TMB1615+  + - Suffix optional, exceptions: The following cannot be used as optional suffixes: "T" for grade 2030, "A" for 1501, 1502, 1511, 1521 & 2502, "N" for NXG5050, NXG5030, NXG5501, & CGF-(v)(u), "S1" for F20-54.	V-0, min. 1.0mm, 60°C	UL 94	UL
	Sabic Japan L L C	C7230P (X) (X) - All colors except natural.	V-0, min. 1.2mm, 85°C	UL 94	UL

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14" LCD Panel	SAMSUNG ELECTRONICS CO., LTD.	LTx14srz (x may be from A to Z, denoting for final application type. s may be from 0 to 1, denots for panel size. r may be from A to Z, denoting for the pixel number of TFT LCD product. z denotes for minor difference of interface method, revision number or customer spec with/without hyphen and may comprise of 0 to 9 or A to Z or blank and it can be made up by a maximum length of four alphanumeric characters)	14.0", Glass type, LED backlight	IEC 60950-1: 2005+A1, UL 60950-1	CB by TUV SUD, UL
	AU OPTRONICS CORP	B140XTNZZZZ (Z = any alphanumeric character or blank)	14.0", Glass type, LED backlight	IEC 60950-1	Test within equipment
	LG Display Co., Ltd.	LP140WHU LP140QH1-SPH1	14.0", Glass type, LED backlight	IEC 60950-1	Test within equipment
	Chongqing Boe Optoelectronics Technology Co Ltd	**140***-*** where "***" could be any letter of "0" to "9" or "A" to "Z" or blank, denotes only non-safety related parts or name difference	14.0", Glass type, LED backlight	IEC 60950-1	Test within equipment
	BOE	NV125FHM-N51	12.5" TFT, glass type, min. 0.34 mm thick (with LED back-light module)	IEC 60950-1	Test in the equip. (See annex A.2)
	BOE	B133HAN04.6	13.3" TFT, glass type, min. 0.34 mm thick (with LED back-light module)	IEC 60950-1	Test in the equip. (See annex A.2)
	BOE	N140BGA-EXX, N140BGE-EXX, N140BGE-LXX, N140BGK-EXX, N140BGK-LXX, N140BGN-EXX, N140FGE-LXX, N140FGE-EXX, N140HGE-EXX, N140HCE-EXX, N140HCA-EXX, N140HCN-EXX (X=0-9, A-Z or blank, X for marketing purpose and no impact safety related critical components and constructions)	14.0", Glass type, LED backlight	IEC 60950-1(ed.2);am1 UL 60950-1	CB by UL, UL
	LG Display Co., Ltd.	LP140WHU	14.0", Glass type, LED backlight	IEC 60950-1/A1:2009, UL 60950-1	CB by TUV- SUD, UL
	Interchangeable	Interchangeable	14.0", Glass type, LED backlight	--	Test within equipment

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15.6" LCD Panel	AU OPTRONICS CORP	B156HTNZZZZ B156XTNZZZZ (Z may be any alphanumeric character or blank) (for marketing purpose only, and no impact safety related constructions and critical components)	15.6", Glass type, LED backlight	IEC 60950-1, UL 60950-1	Test within equipment
	Hefei Fuying Optoelectronic Co Ltd	**156***-*** where "***" could be any letter of "0" to "9" or "A" to "Z" or blank, denotes only non-safety related parts or name difference.	15.6", Glass type, LED backlight	IEC 60950-1, UL 60950-1	Test within equipment
	Innolux Corp	N156B6-LXX, N156BHF-LXX, N156BGE-LXX, N156BGE-EXX, N156HGE-LXX, N156BGG-LBX, NC156GGL01, N156BGE-P1X, N156HGE-EXX, N156BGK-EXX, N156HG1-EXX, N156BGN-EXX, N156BGA-EXX; N156HCA-EXX; N156HCE-EXX; N156HGA-EXX (X=0-9, A-Z or blank, X for marketing purpose and no impact safety related critical components and constructions)	15.6", Glass type, LED backlight	IEC 60950-1, UL 60950-1	Test within equipment
	LG Display Co., Ltd.	LP156WHU	15.6", Glass type, LED backlight	IEC 60950-1, UL 60950-1	Test within equipment
	SAMSUNG ELECTRONICS CO., LTD.	LTx15srz (x may be from A to Z, denoting for final application type; s may be from 0 to 6, denoting for panel size (15.6 inch panel); r may be from A to Z, denoting for pixel number of TFT LCD product; z denotes the minor difference of interface method, revision number or customer spec with/without hyphen and may comprise of 0 to 9 or A to Z and it can be made up by a maximum length of four alphanumeric characters)	15.6", Glass type, LED backlight	IEC 60950-1: 2005+A1, UL 60950-1	CB by TUV-SUD, UL
	Interchangeable	Interchangeable	15.6", Glass type, LED backlight	IEC 60950-1, UL 60950-1	Test within equipment
Li-ion Battery Pack	LG CHEM, LTD (trade mark: DELL)	M5Y1K P63NY	14.8Vdc, 40Wh 7.6Vdc, 43Wh	EN 60950-1: 2006+A11+A1+A12, IEC 60950-1 (ed.2); am1, UL 60950-1	TUV/RH, CB by UL (DK-41451-UL), UL
	Simplo Technology Co., Ltd. (trade mark: DELL)	M5Y1K P63NY	14.8Vdc or 14.88Vdc or 15Vdc, 40 Wh 7.6Vdc, 43Wh	EN 60950-1: 2006+A11+A1+A12, IEC 60950-1 (ed.2); am1, UL 60950-1	TUV/RH, CB by UL (DK-41394-UL), UL

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	SAMSUNG SDI Co.,LTD. (trade mark: DELL)	M5Y1K	14.8Vdc, 40Wh	EN 60950-1: 2006+A11+A1+A12, IEC 60950-1 (ed2);am1;am2, UL 60950-1	TUV/RH, CB by DEKRA (NL-32924), UL
	Sanyo Energy (Taiwan) Co., Ltd. (trade mark: DELL)	M5Y1K	14.8Vdc, 40Wh	EN 60950-1: 2006+A11+A1+ A12+A2; IEC 62133 (ed.2); UL 60950-1	TUV/RH, CB by UL (DK- 41306-UL), UL
	SAMSUNG SDI Co., LTD. (trade mark: DELL)	1KFH3	11.1Vdc, 66Wh	EN 60950-1: 2006+A11+A1+A12+A2; IEC 60950-1 (ed2);am1;am2; UL 60950-1	TUV/RH, CB by DEKRA (NL-35383), UL
	SAMSUNG SDI Co., LTD. (trade mark: DELL)	VVKCY	11.1Vdc, 66Wh	EN 60950-1: 2006+A11+A1+A12+A2; IEC 60950-1 (ed2);am1;am2; UL 60950-1	TUV/RH, CB by DEKRA (NL-35485), UL
	Sanyo Energy (Taiwan) Co., Ltd. (trade mark: DELL)	1KFH3, VVKCY	11.1Vdc, 66Wh	EN 60950-1: 2006+A11+A1+A12+A2, IEC 62133(ed.2), UL 60950-1	TUV Bauart, CB by UL (DK- 44402-UL), UL
	SAMSUNG SDI CO LTD / DELL	XCNR3	7.6Vdc, 34Wh	IEC 62133 (ed.2), IEC 60950-1 (ed.2);am1; am2, UL 60950-1	CB (issued by UL/Demko) CB (issued by DEKRA) UL
	LG CHEM, LTD (DELL)	WDX0R	11.4Vdc, 42Wh	IEC 60950- 1(ed.2);am1;am2, IEC 62133(ed.2), UL 60950-1	CB by UL, UL
	SAMSUNG SDI Co.,LTD. (DELL)	WDX0R	11.4Vdc, 42Wh	IEC 60950- 1(ed.2);am1;am2, IEC 62133(ed.2), UL 60950-1	CB by UL, UL
	Simplo Technology Co., Ltd. (DELL)	WDX0R	11.4Vdc, 42Wh	IEC 60950- 1(ed.2);am1;am2, IEC 62133(ed.2), UL 60950-1	CB by UL, UL
	BYD Lithium Battery Co., Ltd. (DELL)	WDX0R	11.4Vdc, 3500mAh	IEC 60950- 1:2005+A1+A2, IEC 62133:2012, UL 60950-1	CB by TUV/Rh, UL
LCD panel (For models: P72G)	BOE	NV140FHM-N46	14.0" TFT, glass type, min. 0.34 mm thick (with LED back-light module)	IEC 60950-1	See annex A.2
Wireless LAN/WAN Module (Optional)	Interchangeable	Interchangeable	3.3Vdc, PCB V-1 or better, 105°C min.	--	Test within equipment
Bluetooth Module (Optional)	Interchangeable	Interchangeable	3.3Vdc, PCB V-1 or better, 105°C min.	--	Test within equipment
CPU DC Fan	Asia Vital Components Co Ltd	BAZA0707R5H(V) (where (V) may be XXXX, where X may be A through Z, 0 through 9 or "-".)	5Vdc, 0.5A max., 4.32 CFM min.	EN 60950- 1:2006+A11+A1+A12+A 2 UL 507	TUV, UL

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	Delta Electronics Inc.	NS85A00(Y11) (the number after Y represents digit, each digit may be A through Z, 0 through 9, "-" or blank.)	5Vdc, 0.5A max., 4.33 CFM min.	EN 60950-1:2006+A11+A1+A12+A2 2 UL 507	TUV, UL
		NS85A00-14K17XXXXX (X stands for A-Z, 0-9, - or blank)	5Vdc, 0.5A, min. 0.85CFM (sys.)	EN 60950-1:2006+A11+A1+A12+A2, UL 507	TUV/RH, UL
		KSB05105HAA 01XXXXX (X can be 0-9, A-Z, - or blank)	5Vdc, 0.6A max., 3.9 CFM min.	IEC/EN 60950-1 (ed.2), UL 507	TUV, UL
		KSB0605HCXXXXX (X stands for 0-9, A-Z, - or blank, for marketing purpose only)	5Vdc, 0.45A max., min. 0.3CFM (sys.)	EN 60950-1:2006+A11+A1+A12+A2:2013, IEC 60950-1 (ed.2);am1; am2, UL 507	VDE, UL
		KDB0705HCA01XXXXX (X can be 0-9, A-Z, - or blank for marketing purpose only)	5Vdc, 0.5A max., min. 0.4CFM (sys.)	EN 60950-1:2006+A11+A1+A12+A2:2013, UL 507	TUV/Rh, UL
	Sunon	EF50060S1-C38Z EF50060S1-C37Z EG50040S1-C92Z (Z stands for 30 characters. Each character stands for one of the following signs: 0-9, A-Z, (, ), ., /, - or blank)	5Vdc, 0.4A max., min. 0.8CFM (sys.)	EN 60950-1:2006+A11+A1+A12, UL 507	TUV/RH, UL
	Forcecon Tech Co Ltd	DF(B)541105(D)C0T (where (B) may be B, C or S, (D) may be F or V)	5Vdc, 0.5A max., 5.2 CFM min.	EN 60950-1:2006+A11+A1+A12+A2 2 UL 507	TUV, UL
		DFX1541105X2C 0T (X1 stands for B, C or S) (X2 stands for F or V)	5Vdc, 0.5A max., min. 1.4CFM (sys.)	EN 60950-1:2006+A11+A1+A12, UL 507	TUV/RH, UL
		DF(X)170005(X) X)0T, (X) can be B,C or S, (XX) can be 00-99 or 0A-ZZ	5Vdc, 0.5A max., 1.2 CFM min.	IEC/EN 60950-1 (ed.2), UL 507	TUV, UL
		DFS531005PL0T	5Vdc, 0.5A max., min. 0.5CFM (sys.)	EN 60950-1:2006+A11+A1+A12+A2, UL 507	TUV/Rh, UL
	Or equivalent	Or equivalent	5Vdc, max. 0.5A, min. 4.32 CFM 0.8CFM	EN 60950 1:2006+A11+A1+A12 UL 507	Verified by Nemko or other cert. Body, UL
DC fan (For model: P72G)	Sunonwealth	EG50050S1-CBZ EG50060S1-C32Z EG50060S1-C34Z (Z stands for 30 characters. Each character stands for one of the following signs: 0-9, A-Z, (, ), ., /, - or blank for marketing purpose only)	5Vdc, 0.4A max., min. 0.4CFM (sys.)	EN 60950-1:2006+A11+A1+A12+A2, UL 507	TUV, UL

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	Forcecon Tech. Co., Ltd.	DF(X1)501105(Y1)Q0T (X1 stands for B, C or S); Y1 stands for P, F or V)	5Vdc, 0.5A, min. 0.4CFM (sys.)	EN 60950-1: 2006+A11+A1+A12+A2, UL 507	TUV/Rh, UL
DC fans (For model: P27S)	Delta	NS55C03XXXX XXXXXX (X stands for 0-9, A-Z, - or blank)	5Vdc, 0.5A max., min. 1.5CFM (sys.)	EN 60950-1: 2006+A11+A1+A12+A2, UL 507	TUV, UL
	Sunonwealth	EG50050S1-CA7Z (Z stands for 30 characters. Each character stands for one of the following signs: 0-9, A-Z, (, ) , . /, - or blank for marketing purpose only)	5Vdc, 350mA max., min. 0.5CFM (sys.)	EN 60950-1: 2006+A11+A1+A12+A2, UL 507	TUV, UL
RTC battery	Jhih Hong Technology Co Ltd	CR2032	3Vdc, min. Abnormal charging current 10mA. Protected by one diode and one 1kΩ resistor	UL 1642	UL (MH45591)
	Double best	CR2032	3Vdc, min. Abnormal charging current 10mA. Protected by one diode and one 1kΩ resistor	UL 1642	UL (MH46388)
	Vic-Dawn	CR2032	3Vdc, no min. Abnormal charging current. Protected by one diode and one 1kΩ resistor	UL 1642	UL (MH20550)
	Panasonic Corporation, Panasonic Corporation of North America	CR2032	3Vdc, min. Abnormal charging current 10mA. Protected by one diode and one 1kΩ resistor.	UL 1642	UL (MH12210)
	Hitachi Maxell Ltd.	CR2032	3Vdc, min. Abnormal charging current 5mA or 10mA. Protected by one diode and one 1kΩ resistor	UL 1642	UL (MH47406)
	Mitsubishi Electric Corp.	CR2032	3Vdc, min. Abnormal charging current 5mA or 10mA. Protected by one diode and one 1kΩ resistor	UL 1642	UL (MH15370)
	Mitsubishi Electric Home Appliance Co Ltd.	CR2032	3Vdc, min. Abnormal charging current 5mA or 10mA. Protected by one diode and one 1kΩ resistor	UL 1642	UL (MH21249)
	FDK Corp	CR2032	3Vdc, max. abnormal charging current 10mA	UL 1642	UL
	Varta Microbattery GmbH	CR2032	3Vdc, max. abnormal charging current 5mA	UL 1642	UL
	TOSHIBA HOME APPLIANCES CORP	CR2032	3Vdc, max. abnormal charging current 10mA	UL 1642	UL
	EVE ENERGY CO LTD	CR2032	3Vdc, max. abnormal charging current 10mA	UL 1642	UL
	GUANGDONG TIANQIU ELECTRONICS TECHNOLOGY CO LTD	CR2032	3Vdc, max. abnormal charging current 10mA	UL 1642	UL (MH48705)
Li-ion battery pack	LG CHEM, LTD. (Dell)	M5Y1K	14.8Vdc, 40Wh	IEC 60950-1 (ed.2); am1, UL 60950-1, UL 2054	CB by UL/Demko, UL

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	SANYO ENERGY (TAIWAN) CO LTD (DELL)	M5Y1K	14.8Vdc, 40Wh	EN 60950-1: 2006+A11+A12+A2, IEC 62133 (ed.2), UL 60950-1, UL 2054	TUV/RH, CB by UL/Demko, UL
	SAMSUNG SDI Co., LTD. (DELL)	M5Y1K	14.8Vdc, 40Wh	IEC 60950-1 (ed.2); am1; am2, IEC 62133 (ed.2), UL 60950-1, UL 2054	CB by Dekra, UL
	SIMPLO TECHNOLOGY CO LTD (DELL)	M5Y1K	14.8Vdc or 14.88Vdc or 15Vdc, 40Wh	IEC 60950-1 (ed.2); am1, UL 60950-1, UL 2054	CB by UL/Demko, UL
	Samsung SDI (DELL)	3DDDG	11.4Vdc, 42Wh	IEC 60950-1 (ed.2); am1; am2, IEC 62133 (ed.2), UL 60950-1	CB by DEKRA
	LG CHEM, LTD. (DELL)	3DDDG	11.4Vdc, 42Wh	IEC 60950-1 (ed.2); am1; am2, IEC 62133 (ed.2), UL 60950-1	CB by UL/Demko,
	LG CHEM, LTD. (DELL)	DJ1J0	11.4Vdc, 42Wh	IEC 60950-1 (ed.2); am1; am2, IEC 62133 (ed.2), UL 60950-1, UL 2054	CB by UL/Demko
	BYD (DELL) LG CHEM, LTD. (DELL) Simplo Technology (DELL)	93FTF	11.4Vdc, 4254mAh	IEC 60950-1 (ed.2); am1; am2, IEC 62133 (ed.2)	CB by TUV/Rh
Alt. Li-ion battery pack	LG CHEM, LTD. (DELL)	K185W	14.8Vdc, 47Wh	IEC 60950-1 (ed.2); am1, UL 60950-1, UL 2054	CB by UL/Demko, UL
	SANYO ENERGY (TAIWAN) CO LTD (DELL)	K185W	14.8Vdc, 47Wh	EN 60950-1: 2006+A11+A12+A2, IEC 62133 (ed.2), UL 60950-1, UL 2054	TUV/RH, CB by UL/Demko, UL
	SIMPLO TECHNOLOGY CO LTD (DELL)	K185W	14.8Vdc or 15Vdc, 47Wh	IEC 60950-1 (ed.2); am1, UL 60950-1, UL 2054	CB by UL/Demko, UL
	Simplo Technology (DELL)	F3YGT	7.6Vdc, 60Wh	IEC 60950-1 (ed.2); am1; am2, IEC 62133 (ed.2), UL 60950-1, UL 2054	CB by UL/Demko, UL
	Samsung SDI (DELL)	F3YGT	7.6Vdc, 60Wh	IEC 60950-1 (ed.2); am1; am2, IEC 62133 (ed.2), UL 60950-1, UL 2054	CB by UL/Demko, UL
PCB	Interchangeable	Interchangeable	V-1 min., 105°C min.	UL 796	UL
HDD (optional)	Seagate Technology Inc.	ST9 or 2.5 Series or ST with additional suffixes	1.5A max., 5Vdc	IEC 60950-1 (2ed.) UL 60950-1	CB by UL, UL
	Sony Optiarc Inc.	BC-5540Hxxx, BC-5541Hxxx (x=blank, -, A-Z or 0-9)	5V DC, 2.0A Laser Cl. 1, Bezel: plastic V-1 min.	IEC 60950-1, IEC 60825-1, UL 60950-1	CB by TUV-Rh, UL
	Toshiba	HDD1Fxxx	5Vdc or 3.3Vdc, 0.5A max.		TUV RH, UL
	or equivalent	or equivalent	5Vdc max., 1.5A max. or 5Vdc or 3.3Vdc, 0.5A max.		Verified by Nemko or other certificate body, UL

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Alt. HDD (optional)	Interchangeable	Interchangeable	1.5A max., 5Vdc	IEC/EN 60950-1 (ed.2) UL 60950-1	Verified by Nemko or other cert. Body, UL
Speaker set (one provided)	Interchangeable	Interchangeable	9.2Ω max., 2.5W max. for each channel	--	Test within equipment
Polyswitch (For HDMI and VGA port)	Polytronics Technology Corp.	SPR-P110(\$) ((\$) and (&) may be followed by symbol "-" and up to two alphanumeric characters denoting a resistance range or customer code)	6Vdc, 1.8A max	EN 60738-1, EN 60738-1-1, UL 1434	TUV-Rh, UL
	Littlefuse Inc.	0805L110UL, 0805L110UL##, 0805L110UL##(@)*****(\$) (# Unique conditions of acceptability. (@) where ## is Up to two alphanumeric characters denoting packing quantity and packing method, (\$) where ***** is Up to five alphanumeric characters denoting a product lead type and customer code)	6Vdc, 1.8A max	EN 60738-1, EN 60738-1-1, IEC 60730-1, UL 1434	TUV-Rh, UL
	Bourns Inc.	MF-PSMF110X	6Vdc, 2.2A max	IEC 60730-1, EN 60730-1, UL 1434	TUV, UL
	CYG Wayon Circuit Protection Co Ltd	LP-ISML110* (* May be followed by H or F. (where "H" is Halogen free and "F" is Lead free))	8Vdc, 2.2A max	IEC 60730-1, EN 60730-1, UL 1434	TUV, UL
Power Distribution Switch (for USB ports)	Texas Instruments Inc	TPS2543, TPS2544, TPS2545, 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)	Input Voltage: 4.5 to 5.5 Vdc Output Continuous Rating: TPS2543, TPS2544, TPS2545, TPS2546 = 2.5 A Output Current Limit: TPS2543, TPS2544, TPS2545, TPS2546 = 3.1 A	IEC 60950-1 (ed.2); am1 complied with test program 2 of Annex CC UL Subject 2367	CB by UL, UL
Power distribution switch (USB port protector)	Texas Instruments, Inc.	TPS2560, TPS2561	Dual channel: 2.5A per channel, 2.5- 6.5V DC, SELV Cl. III	IEC 60950-1 (ed.2), UL Subject 2367	CB by N UL
		TPS2552.....; TPS2553..... (The dots "....." noted in the model number represents any alphanumeric character identifying minor differences in nonsafety affecting operation and configuration differences.)	1.5A, 2.5-6.5Vdc, SELV, Cl. III	IEC 60950-1 (ed.2); am1	CB by Nemko

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	Texas Instruments	TPS206". (The dot "." in the model name represents a single digit numeric character 1, 2, 3, 5, 6 or 7. Additional alphabetic characters representing device package options may follow the model number)	1A per output channel 2.7-5.5Vdc SELV, Cl. III	IEC 60950-1 (ed.2);am1 UL 2367	CB by N UL
Alt. Power Distribution switch (USB port protector)	Texas Instruments	TPS2540RTE. TPS2540ARTE TPS2541ARTE TPS2554DRCx TPS2555DRCx (The "." and "x" indicated in the model designation represents any alphanumeric character identifying minor differences in nonsafety affecting operation and configuration differences)	2.7A max. 4.5- 5.5Vdc, Cl. III, SELV	IEC 60950-1 (ed.2); am1	CB by N
		TPS2051C,TPS2065CTP S2001C,TPS2000CTPS2 069C	I/P: 4.5Vdc to 5.5Vdc O/P: 0.5A to 2.0A	IEC 60950-1 (ed.2);am1, UL 2367	CB by UL/Demko, UL
		TPS2002C, TPS2003C, TPS2060C, TPS2062C, TPS2064C, TPS2066C (Maybe followed by suffixes of numbers or letters, which denote the features that are not affecting the functionality and safety of the device)	Input Voltage: 4.5-5.5Vdc Number of Outputs: 2 Ambient: -40 to 85°C Output Continuous Rating per output: TPS2002C - 2A, TPS2003C - 2A, TPS2060C - 1.5A, TPS2062C - 1A, TPS2064C - 1.5A, TPS2066C - 1A Output Current Limit per output: TPS2002C - 3.7A, TPS2003C - 3.7A, TPS2060C - 2.86A, TPS2062C - 1.85A, TPS2064C - 2.86A, TPS2066C - 1.85A Packages: TPS2002C - SON-10 (DRC) TPS2003C - SON-10 (DRC) TPS2060C - MSOP-8 (DGN) TPS2064C - MSOP-8 (DGN) TPS2062C - MSOP-8 (DGN) and SOIC-8(D) TPS2066C - MSOP-8 (DGN) and SOIC-8(D)	IEC 60950-1 (ed.2);am1, UL 2367	CB by UL, UL
	Dongguan Cellwise Microelectronics Co Ltd	CW3042AAAD, CW3042AAAE, CW3046AAAQ	Input Voltage: 2.7-5.25Vdc Output Continuous Rating: Maximum 2.8 A for Models CW3042AAAD, CW3042AAAE, and CW3046AAAQ	IEC 60950-1; 2005+ A1+A2	CB by Nemko

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Alt. Power Distribution switch (USB port protector)	ROHM Co., Ltd	BD8012FVJ., BD8013FVJ., BD8014FVJ., BD8015FVJ., BD8010FVJ., BD8011FVJ., (The dot "." in the model name can be either blank or any combination of alphanumeric characters to represent taping code)	1.0A, 2.7-5.5Vdc per output channel, Cl. III. SELV	IEC 60950-1 (ed.2); am1, UL 2367	CB by N, UL
	ANPEC Electronics	APL3510..I-TRG; APL3511.BI-TRG APL3517..I-TRG (The first dot "." in the model name APL3510..I-TRG can be A, B, C, D, E or F, represent output current/enable function. The second dot can be K, X or B to represent package code. The dot "." in the model name APLAPL3511.BITRG can be A, B, C or D to represent output current/enable function.)	0.3-2.0A, 2.7-5.5Vdc per output channel, Cl. III. SELV  0.1A 2.7-5.25Vdc per output channel, Cl. III, SELV	IEC 60950-1 (ed.2);am1, UL 2367	CB by N, UL
	Diodes, Inc.	AP21xyz The "x" in the model name can be any number from 4 to 9 (denoting active low or active high enable pin). "y" can be 1, 2, 5 or 6 (denoting channel switch type). "z" can be single or multiple alphanumeric characters, not affecting safety.	2.7-5.5V DC Cl. III	IEC 60950-1 (ed.2); am1 UL 2367	CB by N UL
	Diodes, Inc.	AP2... The symbols "... " in the model number represents alphanumeric characters (up to six alphanumeric characters) that may indicate device package options and minor non-safety critical variations of the device. Additional Alphanumeric characters representing device package options may follow model number also representing minor non-safety critical variations in the device.	2.0A 2.7-5.5V DC, SELV Cl. III	IEC 60950-1 (ed.2); am1, UL 2367	CB by Nemko, UL

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	Diodes, Inc.	AP2301, AP2301A, AP2311, AP2311A and AP2337SA-7 followed by FGE, M8, MP, S or SN 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.	Input Voltage: 2.7 - 5.5Vdc Outputs: Output Continuous Rating: 2.0A Output Current Limit: 2.85A Ambient: -40 to 85°C	IEC 60950-1: 2005+A1+A2	CB by UL (US)
	Texas Instruments	TPS2062A, TPS2066A	2.7-5.5Vdc, SELV, Cl. III	IEC 60950-1 (ed.2) UL 2367	CB by N UL
	Texas Instruments Incorporated	SN1507044RVC and TPS25810 , 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. Device will be marked P25810 representing models SN1507044RVC and TPS25810.	Input Voltage: IN1 - 4.5 Vdc to 6.5Vdc IN2 - 5.5 Vdc to 6.5 Vdc Output Continuous Rating: OUT - 1.5 A to 3.0A CC1 – 250 mA CC2 - 250 mA Output Current Limit: OUT - 1.82 A to 3.64 A CC1 - 410 mA CC2 – 410mA Ambient: -40 to 25°C	IEC 60950-1: 2005+A1+A2	CB by UL
	EXCELLIANCE MOS CORPORATION	EM5203AJ-20, EM5203AN-20, EM5203J-20, and EM5203N-20	Input Voltage: 2.5 to 5.5 Vdc Output Continuous Rating: 2A Output Current Limit: 4.0A Ambient: -40 to 85°C	IEC 60950-1: 2005+A1+A2	CB by UL
Alt. Power protection IC (protector for USB type A and Micro HDMI ports)	Texas Instruments	TPS2002C,TPS2003CTP S2060C,TPS2062 TPS2064C,TPS2066C Many be followed be suffixes of numbers or letters, which denote the features that are not affecting the functionality and safety of the device.	Input Voltage: 4.5-5.5Vdc Number of outputs: 2 Ambient: -40 to 85oC Output Continuous Rating per output: TPS2002C - 2A, TPS2003C - 2A, TPS2060C - 1.5A, TPS2062C - 1A, TPS2064C - 1.5A, TPS2066C - 1A, Output Current Limit per output: TPS2002C - 3.7A, TPS2003C - 3.7A, TPS2060C - 2.86A, TPS2062C - 1.85A, TPS2064C - 2.86A, TPS2066C - 1.85A	IEC 60950-1 (ed.2); am1, UL 2367	CB (issued by UL), UL
	Texas Instruments	PS2066A	2.7-5.5Vdc, SELV, Cl. III	IEC 60950-1 (ed.2) UL 2367	CB by N UL

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	Global Mixed- Mode Technology Inc (GMT)	G524AX1X2X3X4, G524BX1X2X3X4, G524CX1X2X3X4, G524DX1X2X3X4, G527X1X2X3X4, G3703R41U, G3704R41U, G5259X1X2X3X4, G547NX1X2X3X4, G525A1, G525A2, G526-1 (X1=1, 2, 3 or 4; X2=TP, P8, F5 or T1; X3=1; X4=U)	Input Voltage: 2.7 - 5.5 Vdc Output Continuous Rating: 2.1A max. Output Current Limit: 2.8 A max.	IEC 60950-1 (ed.2); am1 complied with test program 2 of Annex CC UL Subject 2367	CB by TUV-Rh, UL
	Global Mixedmode Technology	G525A1, G525A2, G526-1, G526-2, G528, G528A, G545A1, G545A2, G545B1, G545B2, G545C1, G545C2, G545D1, G545D2, G546A1, G546A2, G546A3, G546A4, G546B1, G546B2, G546B3, G546B4, G546C1, G546C2, for more models see test report	3.0-5.5Vdc per output channel, SELV, Cl. III	IEC 60950-1:2005 UL 2367	CB by TUV/RH UL
	Silergy Corp.	SY6288xyyyy (x = A, B, C, D, E; yyyyy = 0-9, A-Z or blank)	Input Voltage: 2.5 - 5.5 Vdc Output Rating: 5.5Vdc max., 1.6A max. (x = A, B); 5.5Vdc max., 3.7A max. (x = C, D, E)	IEC 60950-1 (ed.2);am1+am2 EN 60950-1:2006+A11+A1+A12 UL Subject 2367	CB by TUV-Rh, UL
	Silergy Corp.	SLG55544,SLG55546, SLGC55544,SLGC55544 B, SLGC55546 (maybe followed by V or VTR)	Input Voltage: 4.5Vdc to 5.5Vdc; Output Continuous Rating: 0.2A to 2.5A; Output Current Limit: 0.3A to 3.17A	IEC 60950-1 (ed.2);am1; am2, UL 2367	CB (issued by UL), UL
	Diodes Inc	AP22802, followed by A or B, followed by W5, followed by -7	Input Voltage: 2.7 - 5.5 Vdc Output Continuous Rating: 2.0 A max. Output Current Limit: 3.2 A max.	IEC 60950-1 (ed.2); am1 complied with test program 2 of Annex CC UL Subject 2367	CB by UL, UL
	Diodes Inc	AP2822, followed by G or H, followed by N or blank, followed by K, KA, KB or KE, followed by TR and followed by -G1	Input Voltage: 2.7 - 5.5 Vdc Output Continuous Rating: 2.0 A max. Output Current Limit: 3.2 A max.	IEC 60950-1 (ed.2); am1 complied with test program 2 of Annex CC UL Subject 2367	CB by UL, UL
	uPI Semiconductor	uP7534yWYZ-XX (y=A, B, C, D, P, Q, R or S; WYZ=RU8, RA8, SA8 or MA5; XX=06, 10, 15 or 20)	DC 2.7-5.5V; 1.0-1.5A max., (XX=06), 1.1-1.9A max. (XX=10), 2.5-3.8A max. (XX=15) or 3.3-5.0A max. (XX=20)	IEC 60950-1 (ed.2)+A1 UL 2367	CB by TUV/RH UL
	Monolithic Power	MP62160D. (The dot "." in the model name can be S, D or H to represent package code)	2.8A, 2.7-5.5V, Cl. III	IEC 60950-1 (ed.2), UL 2367	CB (issued by Nemko), UL

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# CERTIFICADO DE CONFORMIDADE

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	Richtek Technology	RT9712.G. (The first dot "." can be A, B, C or D represent output current / enable function. The second dot "." can be S or F represent package type)	1.0-1.5A, 2.7-5.5Vdc per output channel, Cl. III. SELV	IEC 60950-1 (ed.2) UL 2367	CB by N UL
	Richtek Technology	RT9715... RT9711..., RT9742..G (The first dot "." can be A, B, C, D, E, F, G or H represent output current/EN function. The second dot can be P or G represent manufacture process. The third dot can be B, BG, S, F, BR or QW represent package type)	0.7-2.0A, 2.7- 5.5Vdc per output channel, Cl. III. SELV	IEC 60950-1 (ed.2) UL 2367	CB by N UL
		RT9702, RT9702A, RT9701	1.1A, 2.2V~6Vdc per output channel, SELV Cl. III	IEC 60950-1 (ed.2), UL 2367	CB by N, UL
		RT9731. (The dots "." in the model name can Be 0 to 9, A to Z or blank for marketing purpose only.)	0.38-2.2A, 2.5-5.5Vdc per output channel, Cl.III, SELV	IEC 60950-1 (ed.2); am1, UL 2367	CB by N, UL
	On Semiconductor SCG Hong Kong SAR Limited	NCP382LD10xxxx, NCP382HD10xxxx, NCP382LD05xxxx, NCP382HD05xxxx (x can be any character)	I/P: DC 2.5-5.5V 2A max. O/P: DC 2.5-5.5 max., 1.0A max. (NCP382LD10xxxx ,NCP382HD10xxxx) DC 2.5-5.5 max., 0.5A max. (NCP382LD05xxxx ,NCP382HD05xxxx)	IEC 60950-1: 2005+A1	CB by TUV/RH
	On Semiconductor France SAS	NCP383xMUJ (where x is H or L)	I/P: 2.7-5.5Vdc O/P: 25°C: 2.5 A per Output (Maximum total not to exceed 4 A) 85°C: 2.0A per Output (Maximum total not to exceed 3 A) Output(s) Current Limit: 0.47 - 3.1 (adjustable)	IEC 60950-1 (ed.2);am1, UL 2367	CB by UL Demko, UL
	Pericom Semiconductor	PI5USB2541ZHE; PI5USB2543ZHE; PI5USB2557ZHE	Single Power Supply: 5Vdc +/- 10% Adjustable Current Limit: 250mA to 2.5A	IEC 60950-1: 2005 (2ed)+A1:2009	CB by LCIE
	Genesys Logic, Inc. (GENESYS)	GL887, GL887XY (X=A-Z, a-z, 0-9 or blank, Y=A-Z, a-z, 0-9 or blank)	2.8A, 4.5-5.5 VDC, SELV	IEC 60950-1: 2005 (2ed) +A1: 2009, UL 2367	CB by TUV/RH, UL

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	BCD Semiconductor (Taiwan)	AP2815...-. AP2805...-. AP2820...-. (The first dot "." in the model name can be A, B, C or D. The second dot can be M or MM. The third dot can be TR or blank. The last dot can Be G1 or blank. All dots for marketing purpose)	1.65-2.8A, 2.7-6.0Vdc, Cl.III. SELV	IEC 60950-1 (ed.2);am1	CB by N
Alt. Power distribution switch (USB port protector)	STMICROELEC TRONICS (GRENOBLE 2) SAS	STCC2540	Input Voltage = 4.5Vdc to 5.5Vdc, Minimum Current Rating =Wit Rilim = 96kohms: Output Continuous Rating 350mA Output Current Limit: 650mA Maximum Current Rating =With Rilim = 19.2kohms: Output Continuous Rating: 2350mA Output Current Limit: 2650mA Ambient = -40 to 85°C	IEC 60950-1:2005 (2ed) +A1: 2009, UL 2367	CB by UL(US), UL
	uPI Semiconductor Corp.	uP7549xyyy-zz, uP9017abbb-zz, (x=P, Q, R, S, T, U; yyy=S8, M5, SA8, RA8, RU8, MA5, MC5, zz= 10, , 15, 20, 25) (a=P, Q; bbb=MA3, MA5, MT5; zz=10, 15, 20, 25)	Input Voltage: DC 2.7-5.5V; Output Current limit (A): refer to the test report; Class III	IEC 60950-1; 2005+ A1+A2	CB by TUV/RH
	PERICOM SEMICONDUCT OR CORP	PI5PD255xyZCEX where x is 6 or 7, y is blank or A, ZC is packaging type, E is Pb- free, and X is for tape/ reel or blank is for bulk packaging	Input Voltage: 2.5 - 5.5 Vdc Continuous Rating: 0.9 A to 3.6 A Current Limit: 1.5A to 5.0 A Ambient: -40 to 85°C	IEC 60950-1 (ed.2); am1 4)	CB by UL (US)
Cabo de alimentação/ Cord set	Interchangeable	Interchangeable	----	NBR 14136, NBR NM 60884-1	INMETRO
Enclosure (for all parts)	BAYER MATERIALSCI ENCE AG	FR3021 + (z) 3)	V-0, min. 1.2mm thick	UL 94	UL
	BAYER MATERIALSCI ENCE AG	FR3002 + (z) 3)	V-0, min. 1.0 mm thick	UL 94	UL
	SABIC INNOVATIVE PLASTICS B V	CM6140(X) (X)-All colors except NC	V-0, min. 0.8mm thick	UL 94	UL
	BAYER MATERIALSCI ENCE AG	FR3020 + (z) 3)	V-0 min. 0.75mm thick	UL 94	UL

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SAMSUNG SDI CO LTD	NH-1150(+) (+) - May be replaced by one, two, or three numbers and/or letter(s)	V-0, min. 1.2mm thick	UL 94	UL
SAMSUNG SDI CO LTD	NH-1021(+) (+) - May be replaced by one, two, or three numbers and/or letter(s)	V-0, min. 1.0mm thick	UL 94	UL
SABIC JAPAN L L C	DC0041PR (rc8) Material designation may be followed by a color omenclature consisting of ither an alpha/numeric or numeric/alph combination. rc8 - Contains a maximum of 30% PC post-consumer recycle material.	V-0, min. 0.8mm thickness	UL 94	UL
SABIC JAPAN L L C	RCM6224(rc9) Material designation may be followed by a color omenclature consisting of ither an alpha/numeric or numeric/alph combination. rc8 - Contains a maximum of 30% PC post- consumer recycle material.	V-0, min. 1.2mm thickness	UL 94	UL
SABIC JAPAN L L C	EXCY0296 (rc4), RCM6134 (rc4) (rc4) - Contains a maximum of 35% PC post-consumer recycle material - Material designation may be followed by a color nomenclature consisting of either an alpha/numeric or numeric/alpha combination.	7.6Vdc, 46Wh	UL 94	UL
Covestro Deutschland Ag	FR3040 ++ - Material designations may be followed by a six digit numerical code denoting color.	V-0, min. 0.75mm thickness	UL 94	UL

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SSD (optional)	INTEL CORP	SSDMA*, SSDMC*, SSDPE*, SSDPED*, SSDSA1*, SDSA2*, SSDSC1*, SSDSC2*, SSDSCI*, SSDSCJ*, SSDSCK*, SSDSCMMW* 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. or equivalent	3.3Vdc; 5Vdc; and/ or 12 Vdc (For reference Only)	IEC 60950-1 (ed.2);am1, UL 60950-1	CB by UL, UL
	or equivalent		3.3Vdc; 5Vdc; and/ or 12 Vdc	IEC 60950-1, EN 60950-1, UL 60950-1	Verified by Nemko or other certificate body, UL
ODD (optional)	Philips & Lite- On Digital Solutions Corporation	DU-xx5SHxxxx DU-xx5Lxxxxxx (x is any alphanumeric character or blank)	Generic, 5Vdc, 2.8A max.; V-1 min. for bezel; Laser Class I product	IEC 60950-1: 2005 +A1, IEC 60825-1, UL 60950-1	CB by TUV/Rh, UL
Alt. ODD (optional)	Hitachi-LG Data Storage, Inc.	GU9**, DU9**, GUB**, DUB** (Where first symbol "**" can be any number from 0-9 and the second symbol "**" can be any alphanumeric character, denoting non safety related differences)	Generic, 5Vdc, 1.8A max.; V-1 min. for bezel; Laser Class I Product	IEC 60950-1: 2005+A1, IEC 60825-1, UL 60950-1	CB by Intertek Semko AB, UL
	or equivalent	or equivalent	Generic, 5Vdc, 2.8A max. Laser Class I product	IEC 60950-1: 2005+A1, IEC 60825-1, UL 60950-1	Verified by Nemko or other certificate body, UL
	Philips & Lite- On Digital Solution Corporation	DUxx5SHxxxx, DUxx5HHxxxx, DAxx5SHxxxx, DU-xx5Lxxxxxx (x is any alphanumeric character or blank)	DC 5V; 1.5A (optional) Laser Cl. 1, Bezel: plastic V-1 min.	IEC 60950-1, IEC 60825-1, UL 60950-1	CB by TUV-Rh, UL
	Toshiba Samsung Storage Tech. Korea Corp.	TS-U633*, SU-208**, SU-108** (The symbol "**" can be an alphanumeric character or blank, not affecting safety)	1.2A, 1.3A or 1.5A; 5VDC Laser Cl. 1, Bezel: plastic V-1 min.	IEC 60950-1, IEC 60825-1, UL 60950-1	CB by Nemko, UL

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	Interchangeable	Interchangeable	DC 5V; 2.0A max Laser Cl. 1, Bezel: plastic V-1 min.	IEC/EN 60950-1, IEC 60825-1, UL 60950-1	Verified by Nemko, UL, or TUV
Enclosure (For LCD cover)	Interchangeable	Interchangeable	Aluminum, thickness min.0.8 mm	--	--
	Advanced International Multitech Co Ltd Kaohsiung Branch	16EDU	V-0, thickness min. 0.8mm	UL 94	UL
Enclosure (For LCD bezel)	Interchangeable	Interchangeable	Aluminum, thickness min.0.8 mm	--	--
Enclosure (For top side around Keyboard)	Waffer Catcher Foxconn JuRong Huaye (JY) Mitac CPM (Ka Shui Group) MG	AZ91D	Al-Mg alloy, thickness min.0.8 mm.	--	Test in the equip. (See annex A.2)
	TORAY INDUSTRIES INC	A305M(kk)	V-0, thickness min. 0.35mm	UL 94	UL
	SABIC JAPAN LLC	C7410	V-0, min. 0.8 mm thickness	UL 94	UL
	LANXESS AG	410fr-C221(2)-FG290(4)/48%+- Material designations may be followed by suffix numbers and/or letter(s) denoting color.	V-0, min. 1.35 mm thickness	UL 94	UL
	CATCHER TECHNOLOGY CO LTD	PCCGCFV1	V-1, min. 0.8 mm thickness	UL 94	UL
Enclosure (For bottom case)	SABIC JAPAN L L C	DF00A8P, EXTC8140, D551	V-0, thickness min. 1.0mm	UL 94	UL
		D551RC(rc1), EXTC8389(rc1) (rc1) - Grade with 30% of post-consumer recycle content by weight	V-0, min. 1.0mm thickness	UL 94	UL
	Advanced International Multitech Co Ltd Kaohsiung Branch	16EDU	V-0, thickness min. 0.8mm	UL 94	UL
Mesh	Interchangeable	Interchangeable	metal, thickness min.0.8 mm	--	--
TFT-LCD panel (LED backlight)	Interchangeable	Interchangeable	13.3", Glass is of min. 0.34 mm thickness.	--	Test in the equip. (See annex A.2)
Micro- controller Plus Port Power Path (protector for USB type C port)	Texas Instruments Incorporated	TPS65982	Inputs: VIN_3V3 = 3.3Vdc; PP_EXT = 4.5 - 22Vdc; PP_HV = 4.5 - 22Vdc; PP_5V0 = 4.75 - 5.5Vdc; PP_CC1 = 2.95 - 5.5Vdc; PP_CC2 = 2.95 - 5.5Vdc, Cl. III Outputs: PP_EXT = 4.5 - 22Vdc, 4.301A max; PP_HV = 4.5 - 22Vdc, 4.306A max; PP_5V0 = 4.75 - 5.5Vdc, 3.69A max; PP_CC1 = 2.95 - 5.5Vdc, 0.9A max; PP_CC2 = 2.95 - 5.5Vdc, 0.9A max	IEC 60950-1 (ed.2); am1; am2, UL 2367	CB (issued by Nemko), UL

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ODD bezel / ODD dummy (Optional) Alt.	Mitsubishi Engineeringplastics Corp	TMB1412+ + - Suffix optional, exceptions: The following cannot be used as optional suffixes: "T" for grade 2030, "A" for 1501, 1502, 1511, 1521 & 2502, "N" for NXG5050, NXG5030, NXG5501, & CGF- (v)(u), "S1" for F20-54, "R" for grade MB2211.	V-0, min. 1.0 mm, 60°C	UL 94	UL
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### DOCUMENTOS / DOCUMENTS:

Título / Title	Número / Number	Revisão / Revision	Data / Date
Relatório de ensaio emitido por / Test report issued by Nemko Taiwan	284288	0	2015-04-27
Relatório de ensaio emitido por / Test report issued by International Standards Laboratory, Lung-Tan LAB	ISL-15LE155CE	0	2015-05-05
Relatório de ensaio emitido por / Test report issued by International Standards Laboratory, Lung-Tan LAB	ISL-15LE155FB	0	2015-05-05
Relatório de ensaio emitido por / Test report issued by International Standards Laboratory, Lung-Tan LAB	ISL-15LS006OS	0	2015-06-01
Relatório de ensaio emitido por / Test report issued by Nemko Taiwan	290138	0	2015-07-15
Relatório de ensaio emitido por / Test report issued by Nemko Taiwan	288936	0	2015-06-24
Relatório de ensaio emitido por / Test report issued by Nemko Taiwan	278974	0	2015-03-11
Relatório de ensaio emitido por / Test report issued by Nemko Taiwan	276647	0	2015-01-21
Relatório de ensaio emitido por / Test report issued by A Test Lab Techno Corp.	1501CE45-02	0	2015-08-25
Relatório de ensaio emitido por / Test report issued by A Test Lab Techno Corp.	1506CE48-01	0	2015-08-25
Relatório de ensaio emitido por / Test report issued by A Test Lab Techno Corp.	1506FE17	0	2015-06-22
Relatório de ensaio emitido por / Test report issued by A Test Lab Techno Corp.	1502FE21	0	2015-02-26
Relatório de ensaio emitido por / Test report issued by Underwriters Laboratories Taiwan Co., Ltd.	4787095366	0	2015-10-06
Relatório de ensaio emitido por / Test report issued by Nemko Taiwan	297806	0	2015-11-12
Relatório de ensaio emitido por / Test report issued by Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch	CE151005D13	0	2015-10-27
Relatório de ensaio emitido por / Test report issued by Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch	FD151005D13	0	2015-10-27
Relatório de ensaio emitido por / Test report issued by Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch	CE151005D13 R1	0	2015-12-22
Relatório de ensaio emitido por / Test report issued by Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch	FD151005D13 R1	0	2015-12-22
Relatório de ensaio emitido por / Test report issued by Underwriters Laboratories Taiwan Co., Ltd.	4787279131	0	2015-12-28
Relatório de ensaio emitido por / Test report issued by Nemko Taiwan	311670	0	2016-06-29
Relatório de ensaio emitido por / Test report issued by International Standards Laboratory	ISL-16LE274CE	0	2016-06-28
Relatório de ensaio emitido por / Test report issued by International Standards Laboratory	ISL-16LE274FB	0	2016-06-28
Relatório de ensaio emitido por / Test report issued by International Standards Laboratory	ISL-16LS021OS	0	2016-07-14
Relatório de ensaio emitido por / Test report issued by Nemko Taiwan	314813	0	2016-09-19
Relatório de ensaio emitido por / Test report issued by Central Research Technology Co. EMC Test Laboratory	O22-C170-1607-188	0	2016-09-12
Relatório de ensaio emitido por / Test report issued by Central Research Technology Co. EMC Test Laboratory	F-C170-1607-188	0	2016-09-12
Relatório de ensaio emitido por / Test report issued by Universal Standard Service, Inc.	ASL16112120	0	2016-11-30
Relatório de ensaio emitido por / Test report issued by Nemko Taiwan	314813	0	2016-09-19
Relatório de ensaio emitido por / Test report issued by Nemko Taiwan	322032	0	2016-12-19
Relatório de ensaio emitido por / Test report issued by Nemko Taiwan	325211	0	2017-02-08
Relatório de ensaio emitido por / Test report issued by Nemko Taiwan	328118	0	2017-04-11

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Relatório de ensaio emitido por / Test report issued by Central Research Technology Co. EMC Test Laboratory	O22-C170-1607-189	0	2016-09-12
Relatório de ensaio emitido por / Test report issued by Central Research Technology Co. EMC Test Laboratory	F-C170-1607-189	0	2016-09-12
Relatório de ensaio emitido por / Test report issued by Central Research Technology Co. EMC Test Laboratory	S4O32-C170-1607-189	0	2017-05-11
Relatório de ensaio emitido por / Test report issued by Universal Standard Service, Inc.	ASL16112119	0	2016-11-30
Relatório de ensaio emitido por / Test report issued by Nemko Taiwan	316776	0	2016-10-11
Relatório de ensaio emitido por / Test report issued by Nemko Taiwan	318654	0	2016-10-25
Relatório de ensaio emitido por / Test report issued by Central Research Technology Co. EMC Test Laboratory	O22-C170-1607-222	0	2016-10-05
Relatório de ensaio emitido por / Test report issued by Central Research Technology Co. EMC Test Laboratory	F-C170-1607-222	0	2016-10-05
Relatório de ensaio emitido por / Test report issued by Universal Standard Service, Inc.	ASL16112122	0	2016-11-30
Relatório de ensaio emitido por / Test report issued by Nemko Taiwan	316776	0	2016-10-11
Relatório de ensaio emitido por / Test report issued by Nemko Taiwan	318654	0	2016-10-25
Relatório de ensaio emitido por / Test report issued by Central Research Technology Co. EMC Test Laboratory	O22-C170-1608-197	0	2016-10-12
Relatório de ensaio emitido por / Test report issued by Central Research Technology Co. EMC Test Laboratory	F-C170-1608-197	0	2016-10-12
Relatório de ensaio emitido por / Test report issued by Underwriters Laboratories Taiwan Co., Ltd.	ASL16112121	0	2016-11-30
Relatório de ensaio emitido por / Test report issued by Nemko Taiwan	319610	0	2016-11-14
Relatório de ensaio emitido por / Test report issued by Nemko Taiwan	332771	0	2017-06-01
Relatório de ensaio emitido por / Test report issued by International Standards Laboratory	ISL-16LE504CE	0	2016-11-07
Relatório de ensaio emitido por / Test report issued by International Standards Laboratory	ISL-16LE506CE	0	2016-11-07
Relatório de ensaio emitido por / Test report issued by International Standards Laboratory	ISL-16LE504FBE	0	2016-11-07
Relatório de ensaio emitido por / Test report issued by International Standards Laboratory	ISL-16LE506FBE	0	2016-11-07
Relatório de ensaio emitido por / Test report issued by International Standards Laboratory	ISL-16LS035OS	0	2016-12-14
Relatório de ensaio emitido por / Test report issued by International Standards Laboratory	ISL-16LS036OS	0	2016-12-14
Relatório de ensaio emitido por / Test report issued by Nemko Taiwan	307773	0	2017-04-21
Relatório de ensaio emitido por / Test report issued by International Standards Laboratory	ISL-15LE156CE-R1	0	2017-05-25
Relatório de ensaio emitido por / Test report issued by International Standards Laboratory	ISL-15LE155CE-R1	0	2017-05-25
Relatório de ensaio emitido por / Test report issued by International Standards Laboratory	ISL-15LE156FB-R1	0	2017-06-19
Relatório de ensaio emitido por / Test report issued by International Standards Laboratory	ISL-15LE155FB-R1	0	2017-06-19
Relatório de ensaio emitido por / Test report issued by International Standards Laboratory	ISL-17LS009OS	0	2017-05-26
Relatório de ensaio emitido por / Test report issued by International Standards Laboratory	ISL-17LS010OS	0	2017-05-26
Relatório de ensaio emitido por / Test report issued by IBEC	R171774	0	2017-07-17
Relatório de ensaio emitido por / Test report issued by IBEC	R171775	0	2017-08-10
Relatório de ensaio emitido por / Test report issued by FIT	S17-147-SERV-02	0	2017-06-29

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### Appendix A (Modelo/Model: P88G, P88G...)

(The dots "." in model name can be 0 to 9, A to Z, a to z, "f", "-" or blank, for marketing purpose only.)

**CARACTERÍSTICAS NOMINAIS / RATINGS:** I/P: 19.5Vdc, 2.31A or 3.34A; Class III; IP20

### Normas aplicáveis / Applicable standards:

IEC 60950-1: 2005 + A1:2009 + A2:2013; CISPR 32:2012, CISPR 32:2015, 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, Annex E of INMETRO Decree no. 170/2012

### LISTA DE COMPONENTES CRÍTICOS / LIST OF CRITICAL COMPONENTS:

Componente/Component	Fabricante/Manufacturer	Tipo/Modelo Type/Model	Características técnicas/ Technical data	Norma/ Standard	Marca de conformidade/ Mark(s) of conformity
AC/DC adapter	Chicony Power Technology Co., Ltd. (Trademark: DELL)	HA45NM14Z (The Z in model name can be 0 to 9, for marketing purpose.)	I/P: 100-240Vac, 50-60Hz, 1.3A. O/P: 19.5Vdc, 2.31A Cl. I. Tma: 40°C Altitude: 5000m	IEC 60950-1 (ed.2); am1; am2, EN 60950-1:2006+A11+A1+A12+A2, UL 60950-1 2ed	CB by Nemko (NO81304), TUV, UL
	Delta Electronics Inc (Trademark: DELL)	DA45NM14Z (Z=0-9 for marking purpose and no impact safety related critical components and construction)	I/P: 100-240Vac, 50-60Hz, 1.3A. O/P: 19.5Vdc, 2.31A Cl. II (double insulated) with Functional Earthing. Tma: 40°C, Altitude: 5000m	IEC 60950-1 (ed.2); am1; am2, EN 60950-1:2006+A11+A1+A12+A2, UL 60950-1 2ed	CB by UL/Demko (DK-39447-A2-UL), Nemko, UL
	Flextronics Sales & Marketing (A-P) Ltd. (Trademark: DELL)	FA45NM16Z (The "Z" in model name can be 0-9, for marketing purpose.)	I/P: 100-240Vac, 50-60Hz, 1.3A. O/P: 19.5Vdc, 2.31A Cl. I. Tma: 40°C Altitude: 5000m	IEC 60950-1 (ed.2); am1; am2, EN 60950-1:2006+A11+A1+A12+A2, UL 60950-1 2ed	CB by Nemko (NO81006), Nemko UL
	Shenzhen Huntkey Electric Co., Ltd. (Trademark: DELL)	HK45NM14Z ( "Z" meaning various number which maybe 0-9, for market only.)	I/P: 100-240Vac, 50-60Hz, 1.3A. O/P: 19.5Vdc, 2.31A Cl. I. Tma: 40°C Altitude: 5000m	IEC 60950-1 (ed.2); am1; am2, EN 60950-1:2006+A11+A1+A12+A2, UL 60950-1 2ed	CB by Nemko (NO81353/M1), TUV, UL
	Lite-On Technology Corporation (Trademark: DELL)	LA45NM14Z (The "Z" in model name can be 0 to 9 for marketing purpose only.)	I/P: 100-240Vac, 50-60Hz, 1.3A. O/P: 19.5Vdc, 2.31A Cl. I. Tma: 40°C Altitude: 5000m	IEC 60950-1 (ed.2); am1; am2, EN 60950-1:2006+A11+A1+A12+A2, UL 60950-1 2ed	CB by Nemko (NO81747/M2), TUV, UL
	Chicony Power Technology Co., Ltd. (Trademark: DELL or Dell Inc.)	HA65NS5-00	I/P: 100-240Vac, 50-60Hz, 1.7A. O/P: 19.5Vdc, 3.34A Cl. I. Tma: 40°C Altitude: 3050m or 5000m	IEC 60950-1 (ed.2); am1; am2, EN 60950-1:2006+A11+A1+A12+A2, UL 60950-1 2ed	CB by Nemko (NO89677), Nemko, UL
Alt. AC/DC adapter	Delta Electronics Inc (Trademark: Dell Inc.)	DA65NM111-00	I/P: 100-240Vac, 50-60Hz, 1.6A. O/P: 19.5Vdc, 3.34A Cl. I. Tma: 40°C Altitude: 3048m or 5000m	IEC 60950-1 (ed.2); am1; am2, EN 60950-1:2006+A11+A1+A12+A2, UL 60950-1 2ed	CB by UL/Demko (DK-45612-UL), UL
	Lite-On Technology Corporation (Trademark: DELL)	LA65NS2-.. (The dots "." in model name can be any alphanumeric character including blank or "-", for marketing use only.)	I/P: 100-240Vac, 50-60Hz, 1.6A. O/P: 19.5Vdc, 3.34A Cl. I. Tma: 40°C Altitude: 5000m	IEC 60950-1 (ed.2); am1; am2, EN 60950-1:2006+A11+A1+A12+A2, UL 60950-1 2ed	CB by Nemko (NO82445/A1/M2), Nemko, UL

**Organismo de Certificação /  
Certification Body**

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41-IC-F0033 rev 8.0



# CERTIFICADO DE CONFORMIDADE

## CERTIFICATE OF CONFORMITY

Certificado No. / Certificate No. **UL-BR 15.0651**

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**Certificado de conformidade válido somente acompanhado das páginas de 1 até 29**

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Enclosure Material for LCD cover and bottom use	Interchangeable	Interchangeable	Aluminum, thickness 0.42mm min.	IEC 60950-1	Test in the equip.
Enclosure Material for LCD bezel	Covestro Deutschland AG [PC Resins]	FR3002 + (+ - Material designations may be followed by a six digit numerical code denoting color.)	V-0, thickness 0.9 mm thick. 70°C	UL 94	UL
	Covestro Deutschland AG [PC Resins]	FR3021 GR+ (+ - Material designations may be followed by a six digit numerical code denoting color.)	V-1, thickness 1.2 mm thick. 60°C	UL 94	UL
	Covestro Deutschland AG [PC Resins]	FR3021 + (+ - Material designations may be followed by a six digit numerical code denoting color.)	V-0, thickness 1.5 mm thick. 85°C	UL 94	UL
Enclosure Material for keyboard bezel Alt.	Interchangeable	Interchangeable	Aluminum, thickness 0.8mm min.	IEC 60950-1	Test in the equip.
	Covestro Deutschland AG [PC Resins]	FR3021 + (+ - Material designations may be followed by a six digit numerical code denoting color.)	V-0, thickness 1.5 mm thick. 85°C	UL 94	UL
Alt.	Covestro Deutschland AG [PC Resins]	FR3021 GR+ (+ - Material designations may be followed by a six digit numerical code denoting color.)	V-1, thickness 1.2 mm thick. 60°C	UL 94	UL
Speaker	Interchangeable	Interchangeable	Generic, 3.6 ohm min., 2.5 Watts max.	IEC 60950-1	Test in the equip.
LCD Panel	AUO	B140HAN02.1	14.0" TFT, glass type, min. 0.34 mm thick (with LED back-light module)	--	Test in the equip. (See annex A.2)
	Interchangeable	Interchangeable	14.0" TFT, glass type, min. 0.34 mm thick (with LED back-light module)	--	Test in the equip. (See annex A.2)
Hard Disk Device (HDD) (Optional)	Western Digital	WDU000UXZ-YYXXYY	Max. 0.35A/1.5A/1.0A, 3.3Vdc/5Vdc/ 12Vdc	EN 60950-1:2006+A11+A1+A12+A2, UL 60950-1	TUV, UL
	Interchangeable	Interchangeable	Max. 0.35A/1.5A/1.0A, 3.3Vdc/5Vdc/ 12Vdc	EN 60950-1:2006+A11+A1+A12+A2, UL 60950-1	Verified by Nemko or other cert. body
Rechargeable Li-ion battery pack (3S1P)	BYD Lithium Battery Co., Ltd. (Trademark: DELL)	WDX0R	11.4Vdc, 3500mAh	IEC 60950-1:2005+A1+A2, EN 60950-1:2006+A11+A1+A12+A2, IEC 62133: 2012, EN 62133: 2013, UL 60950-1, UL 2054	CB by TUV/RH, TUV, UL
	LG CHEM, LTD. (Trademark: DELL)	WDX0R	11.4Vdc, 42Wh (3500mAh)	IEC 60950-1:2005+A1+A2, EN 60950-1:2006+A11+A1+A12+A2, IEC 62133: 2012, EN 62133: 2013, UL 60950-1, UL 2054	CB by UL/Demko, TUV, UL

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	Samsung SDI Co Ltd (Trademark: DELL)	WDX0R	11.4Vdc, 42Wh	IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11+A1+A12+A2, IEC 62133: 2012, EN 62133: 2013, UL 60950-1, UL 2054	CB by UL/Demko, TUV, UL
	Simplo Technology Co Ltd (Trademark: DELL)	WDX0R	11.4Vdc, 42Wh	IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11+A1+A12+A2, IEC 62133: 2012, EN 62133: 2013, UL 60950-1, UL 2054	CB by UL/Demko, TUV, UL
DC Fan	Delta Electronics, Inc.	KDB0705HCA02XXXXXX (X stands for 0-9, A-Z, - or blank for marketing purpose only)	5Vdc, 0.5A, 3.7CFM min.	IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11+A1+A12+A2, UL 507	TUV, UL
	Forcecon Tech. Co., Ltd.	DF(X1)531005(Y1)L0T (X1 stands for B, C or S, Y1 stands for P, F or V)	5Vdc, 0.5A, 3.7CFM min.	IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11+A1+A12+A2, UL 507	TUV, UL
	Interchangeable	Interchangeable	5Vdc, 0.5A max, 3.7CFM min	IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006+A11+A1+A12+A2, UL 507	TUV or VDE, UL
PCB	Interchangeable	Interchangeable	V-1 min., 105°C min.	UL 796	UL
RTC Battery (Lithium type)	DOUBLE BEST CO LTD (DBV)	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 CR2032	3Vdc, max. Abnormal charging Current 10mA	UL 1642	UL (MH46388)
	VIC-DAWN ENTERPRISE CO LTD (KTS)		3Vdc, max. Abnormal charging Current 10mA	UL 1642	UL (MH20550)
Power Cord Set	Various	Various	----	NBR 14136, NBR NM 60884-1	INMETRO

### DOCUMENTOS / DOCUMENTS:

Título / Title	Número / Number	Revisão / Revision	Data emissão / Issuing Date	Data Realização Performance Date	de /
<<Dados da Auditoria / Audit data >> (Fornecedor & Fabricante / Supplier & Manufacture) <b>Factory: DELL COMPUTADORES DO BRASIL LTDA</b>	BR2263	0	2017-03-08	N/A	
<b>Relatório de ensaio emitido por / Test report issued by</b> <i>Nemko Taiwan</i>	337792	0	2017-09-06	N/A	
<b>Relatório de ensaio emitido por / Test report issued by</b> <i>Audix Technology Corporation, EMC Department</i>	EM-E170771	0	2017-08-01	N/A	
<b>Relatório de ensaio emitido por / Test report issued by</b> <i>Audix Technology Corporation, EMC Department</i>	EM-F170478	0	2017-08-01	N/A	
<b>Relatório de ensaio emitido por / Test report issued by</b> <i>Underwriters Laboratories Taiwan Co., Ltd.</i>	4788140083	0	2017-09-27	N/A	
<<Software / Software>>	N/A				
<<Manual do usuário / User's manual>>	N/A				

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# CERTIFICADO DE CONFORMIDADE

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**Appendix B (Modelo/Model: P89G, P89G...)**

(The dots "." in the model name can be 0 to 9, A to Z, a to z, - or blank for marketing use.)

**CARACTERÍSTICAS NOMINAIS / RATINGS:** I/P: 3.34 A, 19.5 Vdc; Class III; IP20

**Normas aplicáveis / Applicable standards:**

IEC 60950-1: 2005 + A1:2009 + A2:2013; CISPR 32:2012 Class B, CISPR 32:2015 Class B, CISPR 24: 2010 +A1:2015, IEC 61000-3-2: 2014 Class D, 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, Annex E of INMETRO Decree no. 170/2012

**LISTA DE COMPONENTES CRÍTICOS / LIST OF CRITICAL COMPONENTS:**

Componente/Component	Fabricante/Manufacturer	Tipo/Modelo Type/Model	Características técnicas/ Technical data	Norma/ Standard	Marca de conformidade/ Mark(s) of conformity
AC/DC adapter	Chicony / DELL	HA65NS5-00	I/P: 1.7A 100-240V~, 50-60Hz, Cl. I O/P: 3.34A, 19.5Vdc (altitude: 5000m)	IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006 +A11 +A1 +A12+A2, UL60950-1	CB by Nemko (NO89677), N, UL
	Delta / Dell Inc.	DA65NM111-00	I/P: 100-240Vac, 1.6A, 50-60Hz, Cl.I O/P: 3.34A, 19.5Vdc (altitude: 5000m)	IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006 +A11 +A1 +A12+A2, UL60950-1	CB by UL/Demko (DK-45610-UL), N, UL
	Lite-On / Dell	LA65NS2-.. (The dots "." in the model name can be any alphanumeric character or blank or "-", for marketing use only.)	I/P: 1.6A 100-240V 50-60Hz, Cl. I O/P: 3.34A, 19.5Vdc (altitude: 5000m)	IEC 60950-1: 2005+A1+A2, EN 60950-1: 2006 +A11 +A1 +A12+A2, UL60950-1	CB by Nemko (NO82445), N, UL
Enclosure (for all parts)	COVESTRO DEUTSCHLAND AG [PC RESINS] (BAYER)	FR3021+ + - Material designations may be followed by a six digit numerical code denoting color.	V-0, min. 1.2 mm thick	UL 94	UL
	COVESTRO DEUTSCHLAND AG [PC RESINS] (BAYER)	FR3002+ + - Material designations may be followed by a six digit numerical code denoting color.	V-0, min. 1.0 mm thick	UL 94	UL
	COVESTRO DEUTSCHLAND AG [PC RESINS] (BAYER)	FR3021 + (+ - Material designations may be followed by a six digit numerical code denoting color.)	V-0, min. 1.5mm thick	UL 94	UL
LCD Panel	AUO	B140XTN02.E	14.0" TFT, glass type, min. 0.34 mm thick (with LED back-light module)	IEC 60950-1	See annex A.2
	Interchangeable	Interchangeable	14.0" TFT, glass type, min. 0.34 mm thick (with LED back-light module)	IEC 60950-1	Tested in the equipment
HDD (optional)	Seagate	ST9 or 2.5 Series or ST with additional suffixes HDD1Fxxx	5Vdc, 1.5A max.	IEC 60950-1, UL 60950-1	CB by UL, UL
	Toshiba		5Vdc or 3.3Vdc, 0.5A max.	IEC 60950-1, UL 60950-1	TUV RH, UL
	Interchangeable	Interchangeable	5Vdc, 1.5A max.; or 3.3Vdc, 0.5A max.	IEC 60950-1, UL 60950-1	Verified by Nemko or other certificate body, UL

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# CERTIFICADO DE CONFORMIDADE

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SSD (optional)	INTEL CORP	SSDMA*, SSDMC*, SSDPE*, SSDPED*, SSDSA1*, SSDSA2*, SSDSC1*, SSDSC2*, SSDSCI*, SSDSCJ*, SSDSCK*, SSDSCMMW* 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.	3.3Vdc; 5Vdc; and/ or 12 Vdc	IEC 60950-1, UL 60950-1	CB by UL, UL
Alt. SSD (optional)	Interchangeable	Interchangeable	3.3Vdc; 5Vdc; and/ or 12 Vdc	IEC 60950-1, UL 60950-1	Verified by Nemko or other certificate body, UL
DC fans	Forcecon	DFS531005MC0T	5Vdc, 0.5A max., min. 0.5CFM (sys.)	EN 60950-1: 2006+A11+A1+A12+A2, UL 507	TUV RH, UL
	Forcecon	DFS1503055P0T	5Vdc, 0.5A max., min. 0.5CFM (sys.)	EN 60950-1: 2006+A11+A1+A12+A2, UL 507	TUV RH, UL
	Forcecon	DFS150705590T	5Vdc, 0.5A max., min. 0.5CFM (sys.)	EN 60950-1: 2006+A11+A1+A12+A2, UL 507	TUV RH, UL
	Delta	NS65B08XXXXXXXXXX (X stands for A-Z, 0-9, - or blank, for marketing purpose only)	5Vdc, 0.5A, min. 1.0CFM (sys.)	EN 60950-1: 2006+A11+A1+A12+A2, UL 507	TUV RH, UL
	Delta	NS65C02XXXXXXXXXX (X stands for A-Z, 0-9, - or blank, for marketing purpose only)	5Vdc, 0.5A, min. 1.0CFM (sys.)	EN 60950-1: 2006+A11+A1+A12+A2, UL 507	TUV RH, UL
Alt. DC fans	ACT-RX Technology Corporation	FN0565-A1(c)L(e) (Marketing Code: (c) can be three alphanumeric codes combination of 000-999, aaa-zzz or AAA-ZZZ; (e) can be three alphanumeric codes, each alphanumeric of 0-9, a-z, A-Z or blank)	5Vdc, 0.45A, min. 0.8CFM (sys.)	EN 60950-1: 2006+A11+A1+A12+A2, UL 507	TUV SUD, UL
	Forcecon	DFS1507057R0T	5Vdc, 0.5A max., min. 0.5CFM (sys.)	EN 60950-1: 2006+A11+A1+A12+A2, UL 507	TUV/RH, UL
	Delta	NS65C06-17G13	5Vdc, 0.5A, min. 0.5CFM (sys.)	IEC 60950-1	Tested in the equipment
RTC Battery (Lithium)	Hitachi Maxell	CR2032	3Vdc, max. abnormal charging current 10mA	UL 1642	UL (MH12568)
	Panasonic	CR2032	3Vdc, max. abnormal charging current 10mA	UL 1642	UL (MH12210)
	FDK	CR2032	3Vdc, max. abnormal charging current 10mA	UL 1642	UL (MH13421)
	Varta	CR2032	3Vdc, max. abnormal charging current 10mA	UL 1642	UL (MH28845)
	Mitsubishi	CR2032	3Vdc, max. abnormal charging current 10mA	UL 1642	UL (MH15370)
	Double Best (DBV)	CR2032	3Vdc, max. abnormal charging current 10mA	UL 1642	UL (MH46388)
	VIC-DAWN Enterprise (KTS)	CR2032	3Vdc, max. abnormal charging current 10mA	UL 1642	UL (MH20550)
	JHIH HONG (JHT)	CR2032	3Vdc, max. abnormal charging current 10mA	UL 1642	UL (MH48406)
	Toshiba	CR2032	3Vdc, max. abnormal charging current 10mA	UL 1642	UL (MH12828)
	EVE ENERGY CO LTD	CR2032	3Vdc, max. abnormal charging current 10mA	UL 1642	UL (MH28717)

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# CERTIFICADO DE CONFORMIDADE

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Alt. RTC Battery (Lithium)	GUANGDONG TIANQIU ELECTRONICS TECHNOLOGY CO LTD	CR2032	3Vdc, max. abnormal charging current 10mA	UL 1642	UL (MH48705)
Li-ion battery pack (For all MBs used)	SIMPLO TECHNOLOGY CO LTD (DELL)	WDX0R	11.4Vdc, 42Wh	IEC 60950-1 (ed2); am 1,am2 IEC 62133 (ed.2), UL 60950-1; 2nd, UL 2054 IEC 60950-1 (ed2); am 1,am2 IEC 62133 (ed.2), UL 60950-1; 2nd, UL 2054 IEC 60950-1 (ed2); am 1,am2 IEC 62133 (ed.2), UL 60950-1; 2nd, UL 2054 IEC 60950-1 (ed2); am 1,am2 IEC 62133 (ed.2), UL 60950-1; 2nd, UL 2054	CB by UL (Demko), UL
	SAMSUNG SDI Co., LTD. (DELL)	WDX0R	11.4Vdc, 42Wh		CB by UL (Demko), UL
	LG CHEM, LTD. (DELL)	WDX0R	11.4Vdc, 42Wh		CB by UL (Demko), UL
	BYD Lithium Battery Co., Ltd (DELL)	WDX0R	11.4Vdc, 3500mAh		CB by UL (Demko), UL
Li-ion battery pack (for MB D used only)	LG CHEM, LTD. (DELL)	33YDH	15.2Vdc, 56Wh	IEC 60950-1 (ed.2); am1; am2, IEC 62133 (ed.2), UL 60950-1, UL 2054 IEC 60950-1 (ed.2); am1; am2, IEC 62133 (ed.2), UL 60950-1, UL 2054	CB by UL/Demko, UL
	SAMSUNG SDI Co., LTD. (DELL)	33YDH	15.2Vdc, 56Wh		CB by UL/Demko, UL
PCB	Interchangeable	Interchangeable	V-1 min., 105°C min.	UL 796	UL
Speaker (two provided) (optional)	Interchangeable	Interchangeable	Each 4Ω min, 2W max.	IEC 60950-1	Tested in the equipment
Power Cord Set	Various	Various	----	NBR 14136, NBR NM 60884-1	INMETRO

### DOCUMENTOS / DOCUMENTS:

Título / Title	Número / Number	Revisão / Revision	Data emissão / Issuing Date	Data Realização de / Performance Date
<<Dados da Auditoria / Audit data >> (Fornecedor & Fabricante / Supplier & Manufacture) DELL COMPUTADORES DO BRASIL LTDA	BR2263	0	2017-03-08	N/A
Relatório de ensaio emitido por / Test report issued by Nemko Taiwan	335503	0	2017 -07-26	N/A
Relatório de ensaio emitido por / Test report issued by Nemko Taiwan	339807	0	2017 -10-11	N/A
Relatório de ensaio emitido por / Test report issued by BTL Inc.	BTL-EMC-1-1709146	0	2017-10-20	N/A
Relatório de ensaio emitido por / Test report issued by Underwriters Laboratories Taiwan Co., Ltd.	4788246717	0	2017-11-30	N/A
<<Software / Software>>	N/A			
<<Manual do usuário / User's manual>>	N/A			

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*Certificate of conformity valid with pages from 1 to 29*

### OBSERVAÇÕES / OBSERVATIONS:

- 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.*
- 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.*
- 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:

12 de dezembro de 2017 / December 12, 2017	Adicionar novo modelo no. P89G, P89G... / Add new model no. P89G, P89G...
20 de Outubro de 2017 / October 20, 2017	Renovação do certificado / Certificate Renewal
17 de Outubro de 2017 / October 17, 2017	Adicionar novo modelo no. P88G, P88G... / Add new model no. P88G, P88G...
31 de Agosto de 2017 / August 31, 2017	Unificação do certificado e renovação do certificado ULBR 16.1132, ULBR 15.0897, ULBR 16.0027, ULBR 16.0704, ULBR 16.1129, ULBR 16.1139, ULBR 17.0013, ULBR 16.1145 e ULBR 17.0577 a este certificado / Unification of the certificate and renewal ULBR 16.1132, ULBR 15.0897, ULBR 16.0027, ULBR 16.0704, ULBR 16.1129, ULBR 16.1139, ULBR 17.0013, ULBR 16.1145 and ULBR 17.0577 to this certificate.
11 de Agosto de 2015 / August 11, 2015	Emissão inicial / Initial Issue
<b>A última revisão substitui e cancela as anteriores</b> The last review cancel and substitutes the previous ones	

**Organismo de Certificação /  
Certification Body**

**UL do Brasil Certificações**

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