Certificate No:
TAA000035V

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Personal Computer

with type designation(s)
OptiPlex XE4 Tower, OptiPlex XE4 SFF

Issued to
Dell Inc.
Round Rock, TX, USA

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Temperature	**B**
Humidity	**B**
Vibration	**A**
EMC	**B**
Enclosure	**A**

Issued at **Hamburg** on **2022-08-03**
This Certificate is valid until **2027-08-02**.
DNV local station: **Certification & Inspection Services**

Approval Engineer: **Didier Girardin**

for **DNV**

Joannis Papanuskas
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Product description

OptiPlex XE4 Tower (Model D31M),

OptiPlex XE4 SFF (Model D17S)

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Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV rules for classification of ships Pt.4 Ch.9 Control and monitoring systems

Product certificate
If specified in the Rules, ref. Pt.4 Ch.9 Sec.1, the control and monitoring system in which the above listed hardware is used shall be delivered with a product certificate. For each such delivery the certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. The test shall be done according to an approved test program. After the certification the clause for application software control will be put into force.

Clause for application software control
All changes in software are to be recorded as long as the system is in use on board. The records of all changes are to be forwarded to DNV for evaluation and approval. Major changes in the software are to be approved before being installed in the computer.

Each delivery to be provided with installation instruction or later approved version including safe distance to compass and communication cable shielded type

Equipment to be installed in accordance to manufacturers documentation and manufacturers installation procedures.

Compass safe distance Standard: 120 cm – Steering: 80 cm

Type Approval documentation

See Annex

Tests carried out

Applicable tests according to class guideline DNV-CG-0339 August 2021
IEC 60945 (2002) Ed.4.0 clause 11.1 & 11.2 [Acoustic noise and compass safe distance Section]
Acoustic noise and compass safe distance

Marking of product

The products to be marked with:
- manufacturer name
- model name
- serial number
- power supply ratings
- Compass safe distance.
  Alternatively, the minimum safe distance for fixed equipment may be given in the equipment manual, but portable equipment shall always be marked according 60945 IEC:2002 Ch. 4.5.3

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:
- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

ANNEX

Product description as tested

OptiPlex XE4 Tower, Config 1				
Model D31M	DPN	Description		Model
Enclosure	C7GN4	CHAS, MT, XE4 Metal, min. 0.6mm thickness	Foxconn	N/A
Motherboard	KC23M	D12 OptiPlex XE4 MTP,X02-A,MB, RoHS	Foxconn	KY0108
CPU	8GM8F	I9-12900 Alder Lake -S C-0 LGA 2.4 GHz 8+8 32EU 30 MB 65W QS vPro P2	Intel	I9-12900
HDD	753F0	12T,722E,IT06,3.5,T-MG,EC	Toshiba	HDEPW41DBB51
	JJWJ1	HD,2T,S3,7.2,3.5,512E, SGT-V11X`	Seagate	2FR102
SSD	8D3R2	SSDR,2TB,G44,80S3,WDC,SN810	WDC	SDCPNRZ-2T00-1012
	VX5CD	SSDR,2TB,G44,80S3, MICRON,3400	Micron	MTFDKBA2T0TFH-1BC1AABDA
ODD	35KW8	DVD+/-RW,8X,9.5T,HLDA,RAM	HLDS	GU90N
GPU	FPMW0	Radeon 550,OUGA15N,FH	ECS	Radeon 550
PCIe Card	8PN32	Powered Serial PCIe card,FH	SUNIX	DEL4S00P
NIC	JJF4X	I225 PCIe x1 2.5 GbE NIC, FH	Intel	/
PSU	VFFKJ	500 D12 SFFP PLAT 7.0A 100-240V~50-60Hz	Liteon	L500EPS-01
Memory	WMMC0	DIMM,32GB,4800,2RX8,16,DDR5,NU *4	Micron	N/A
Wireless	G83J7	Intel Wi-Fi 6E AX211 2x2ax (Garfield Peak 2) CNVi2230	Intel	AX211NGW
EMI AC Filter	/	SI,KIT,ONFILTER,AFEUSKFG-D	OnFILTER	AFEUSKFG-D

OptiPlex XE4 SFF, Config 1 (Model D17S)				
Model D17S	DPN	Description		Model
Enclosure	W97M5	CHAS,SFF,XE4 Metal,min. 0.6mm thickness	Foxconn	N/A
(M)board	N5X78	D12 OptiPlex XE4 SFF,X02-A, RoHS	Foxconn	KY0123
CPU	8GM8F	I9-12900 Alder Lake -S C-0 LGA 2.4 GHz 8+8 32EU 30 MB 65W QS vPro P2	Intel	I9-12900
HDD	V308G	HD,12.T,722E.IT06,3.5,S,E,EC	Seagate	2MT133-1361
SSD	VX5CD	SSDR,2TB,G44,80S3, MICRON,3400	Micron	MTFDKBA2T0TFH-1BC1AABDA
	8D3R2	SSDR,2TB,G44,80S3,WDC,SN810	WDC	SDCPNRZ-2T00-1012
ODD	35KW8	DVD+/-RW,8X,9.5T,HLDA,RAM	HLDS	GU90N
GPU	YRDRX	Radeon 550,OUGA15N,LP	ECS	Radeon 550
PCIe Card	XKTC2	Parallel Port PCIe Card LP for SFF	SUNIX	PAR6408AL
PSU	MJXT6	300W D12 SFFm PLAT 4.2A 100-240V~50~60Hz	Liteon	L300EPS-01
Memory	732YD	DIMM,32GB,3200,2RX8,16,DDR4,NU *4	Hynix	/
Wireless	G83J7	Intel Wi-Fi 6E AX211 2x2ax (Garfield Peak 2) CNVi2230	Intel	AX211NGW
EMI AC Filter	/	SI,KIT,ONFILTER,AFEUSKFG-D	OnFILTER	AFEUSKFG-D

OptiPlex XE4 SFF Config 2 (Model D17S)				
	DPN	Description		Model
Enclosure	W97M5	CHAS,SFF,XE4 Metal,min. 0.6mm thickness	Foxconn	N/A
(M)board	N5X78	D12 OptiPlex XE4 SFF,X02-A, RoHS	Foxconn	KY0123
CPU	V70K1	I5-12400 Alder Lake -S C-0 LGA 2.5 GHz 6+0 24EU 18MB 65W QS MS0	Intel	I5-12400
HDD	DD2XK	HD,2TB,5.4,2.5,7,SM,SGT-RWR (SMR)	Seagate	1R8174
	7C9DV	HD,2TB,5.4,2.5,7,SM,WD-MN1000M (SMR)	WD	WD20SPZX-75UA7
SSD	YFGP3	SSDR,2TB,P44,80S3,SSSTC,CA6	SSSTC	CA6-8D2048-Q11
	D2GDK	SSDR,2TB,P44,80S3,SMSNG,PM9A1	Samsung	MZVL22T0HBLB-00BD1
ODD	PNDVV	DVD+/-RW,8X,9.5T,PLDS	PLDS	DU-8A5LH
GPU	GDC6J	Radeon 540,OUGA15A,LP	ECS	Radeon 540
USB Card	6NTMR	USB type-A 3.1 Gen 2,LP	SUNNIX	USB2312AL
PSU	HD2W8	300W D12 SFFm PLAT 4.2A 100-240V~50~60Hz	Acbel	AC300EPS-01
Memory	732YD	DIMM,32GB,3200,2RX8,16,DDR4,NU *4	Hynix	/
Wireless	G83J7	Intel Wi-Fi 6E AX211 2x2ax (Garfield Peak 2) CNVi2230	Intel	AX211NGW
EMI AC Filter	/	SI,KIT,ONFILTER,AFEUSKFG-D	OnFILTER	AFEUSKFG-D

Equipment options:

Dell Inc. XE4 CPU Equivalencies covered by present certificate (Alder Lake Family):

DPN [1)]	Description	Model	max (GHz)	Max. Power (W)
791VG	PRC,ADS,I3-12100,3.3,60,40	I3-12100	4,3	89
V70K1	**PRC,ADS,I5-12400,2.5,65,60**	**I5-12400**	**4,4**	**117**
NGVGH	PRC,ADS,I3-12300,3.5,60,40	I3-12300	4,4	89
2G6VY	PRC,ADS,I5-12500,3.0,65,60	I5-12500	4,6	117
6JVVY	PRC,ADS,I5-12600,3.3,65,60	I5-12600	4,8	117
VXNR0	PRC,ADS,I7-12700,2.1,65,84	I7-12700	4,9	180
8GM8F	**PRC,ADS,I9-12900,2.4,65,88**	**I9-12900**	**5,1**	**202**
82CPD	PRC,ADS,G7400,3.7,46,2	G7400	3,7	46

Dell Inc. XE4 SSD Equivalencies covered by present certificate:

Type	Supplier		Description	DPN	Model
NVMe	**WDC**	**2TB**	**SSDR,2TB,G44,80S3,WDC,SN810**	**8D3R2**	**SDCPNRZ-2T00-1012**
NVMe	WDC	1TB	SSDR,1TB,G44,80S3,WDC,SN810	6G71G	SDCPNRY-1T00
NVMe	WDC	512GB	SSDR,512G,G44,80S3,WDC,SN810	7WF74	SDCPNRY-512G
NVMe	WDC	256GB	SSDR,256G,G44,80S3,WDC,SN810	N/A	SDCPNRY-256G
NVMe	**Micron**	**2TB**	**SSDR,2TB,G44,80S3,MICRON,3400**	**VX5CD**	**MTFDKBA2T0TFH-1BC1AABDA**
NVMe	Micron	1TB	SSDR,1TB,G44,80S3,MICRON,3400	35R2M	MTFDKBA1T0TFH-1BC1AAB
NVMe	Micron	512GB	SSDR,512G,G44,80S3,MICRON,3400	JNPWN	MTFDKBA512TFH-1BC1AAB
NVMe	**SSSTC**	**2TB**	**SSDR,2TB,P44,80S3,SSSTC,CA6**	**YFGP3**	**CA6-8D2048-Q11**
NVMe	SSSTC	1TB	SSDR,1TB,G44,80S3,SSSTC,CA6	76YTH	CA6-8D1024
NVMe	SSSTC	512GB	SSDR,512G,G44,80S3,SSSTC,CA6	5FHN5	CA6-8D512
NVMe	SSSTC	256GB	SSDR,256G,G44,80S3,SSSTC,CA6	N/A	CA6-8D256
NVMe	**Samsung**	**2TB**	**SSDR,2TB,P44,80S3,SMSNG,PM9A1**	**D2GDK**	**MZVL22T0HBLB-00BD1**
NVMe	Samsung	1TB	MULT.	MULT.	MZVL21T0HCLR-00$00/07
NVMe	Samsung	512GB	MULT.	MULT.	MZVL2512HCJQ-00$00/07
NVMe	Samsung	256GB	MULT.	MULT.	MZVL2256HCHQ-00$00/07

Note; 1) Equipment in bold was tested. (ref to reports CEBBRB-WTW-P21100636 & CEBBRB-WTW-P21100635)

Documentation

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