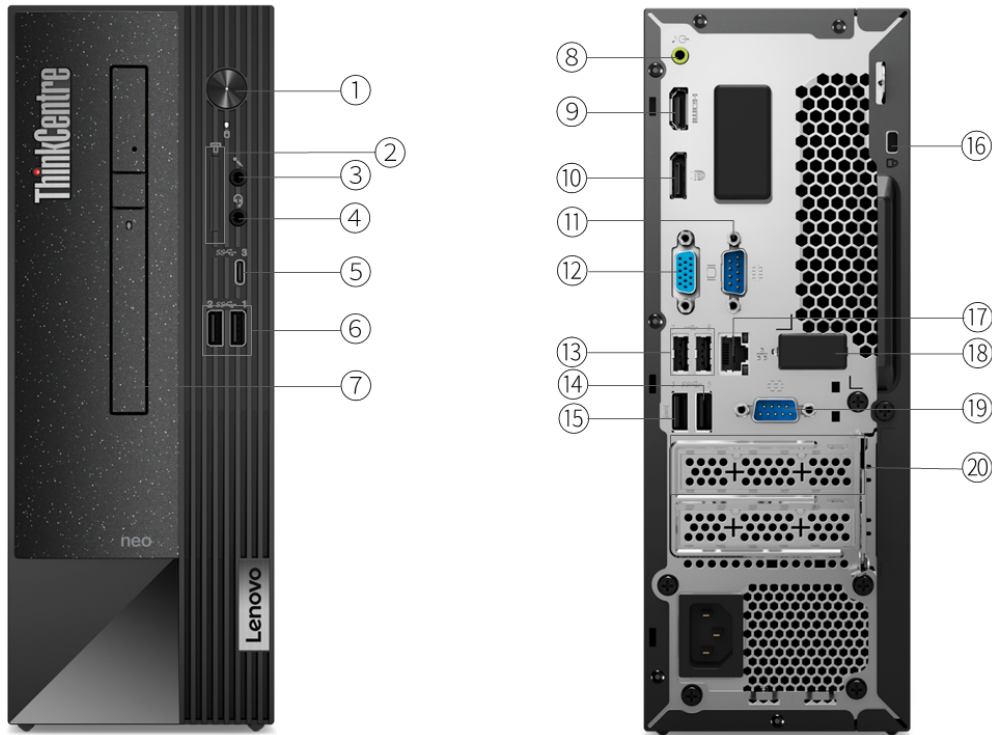


OVERVIEW



1. Power button	11. Serial *
2. Card reader *	12. VGA
3. Microphone (3.5mm)	13. 2x USB 2.0
4. Headphone / microphone combo jack (3.5mm)	14. 1x USB 3.2 Gen 1
5. USB-C 3.2 Gen 1 (data transfer, 15W charging)	15. 1x USB 3.2 Gen 1 (smart power on)
6. 2x USB 3.2 Gen 1	16. Kensington Security Slot
7. Optical drive *	17. Ethernet (RJ-45)
8. Audio line-out (3.5mm)	18. Smart cable clip slots *
9. HDMI 2.1 TMDS	19. Serial *
10. DP 1.4	20. Optional ports *

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

Intel® Celeron®, Intel® Pentium®, or 12th / 13th Generation Intel® Core™ i3 / i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics
Celeron® G6900	2	2	3.4GHz	-	4MB	Intel® UHD Graphics 710
Pentium® Gold G7400	2	4	3.7GHz	-	6MB	Intel® UHD Graphics 710
Core i3-12100	4 (4 P-core + 0 E-core)	8	P-core 3.3GHz	P-core 4.3GHz ^[1]	12MB	Intel® UHD Graphics 730
Core i3-12300	4 (4 P-core + 0 E-core)	8	P-core 3.5GHz	P-core 4.4GHz ^[2]	12MB	Intel® UHD Graphics 730
Core i5-12400	6 (6 P-core + 0 E-core)	12	P-core 2.5GHz	P-core 4.4GHz ^[3]	18MB	Intel® UHD Graphics 730
Core i5-12500	6 (6 P-core + 0 E-core)	12	P-core 3.0GHz	P-core 4.6GHz ^[4]	18MB	Intel® UHD Graphics 770
Core i5-12600	6 (6 P-core + 0 E-core)	12	P-core 3.3GHz	P-core 4.8GHz ^[5]	18MB	Intel® UHD Graphics 770
Core i7-12700	12 (8 P-core + 4 E-core)	20	P-core 2.1GHz / E-core 1.6GHz	Max Turbo up to 4.9GHz / P-core 4.8GHz / E-core 3.6GHz ^[6]	25MB	Intel® UHD Graphics 770
Core i3-13100	4 (4 P-core + 0 E-core)	8	P-core 3.4GHz	P-core 4.5GHz ^[7]	12MB	Intel® UHD Graphics 730
Core i5-13400	10 (6 P-core + 4 E-core)	16	P-core 2.5GHz / E-core 1.8GHz	P-core 4.6GHz / E-core 3.3GHz ^[8]	20MB	Intel® UHD Graphics 730
Core i5-13500	14 (6 P-core + 8 E-core)	20	P-core 2.5GHz / E-core 1.8GHz	P-core 4.8GHz / E-core 3.5GHz ^[9]	24MB	Intel® UHD Graphics 770
Core i5-13600	14 (6 P-core + 8 E-core)	20	P-core 2.7GHz / E-core 2.0GHz	P-core 5.0GHz / E-core 3.7GHz ^[10]	24MB	Intel® UHD Graphics 770
Core i7-13700	16 (8 P-core + 8 E-core)	24	P-core 2.1GHz / E-core 1.5GHz	Max Turbo up to 5.2GHz / P-core 5.1GHz / E-core 4.1GHz ^[11]	30MB	Intel® UHD Graphics 770

Notes:

[1], [2], [3], [4], [5], [6], [7], [8], [9], [10], [11] Intel® Max Turbo frequency will vary depending on application workload and the hardware and software configurations, see <http://www.intel.com/technology/turboboost/> for more information.

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 DG Windows® 10 Pro 64
- Ubuntu Linux^[1]
- No preload operating system

Notes:

[1] Some features may not be supported on the system with Linux preload, including but not limited to Intel® RST RAID, Human Presence Detection, etc.

Graphics

Graphics

**[1]

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD graphics 710	Integrated	Shared	3840×2160@60Hz(HDMI®), 1920x1200@60Hz(VGA), 4096x2304@60Hz(DP)	1x HDMI® 2.1 TMDS, 1x VGA, 1x DP 1.4 HBR2	DirectX® 12
Intel® UHD graphics 730	Integrated	Shared	3840×2160@60Hz(HDMI®), 1920x1200@60Hz(VGA), 4096x2304@60Hz(DP)	1x HDMI® 2.1 TMDS, 1x VGA, 1x DP 1.4 HBR2	DirectX® 12
Intel® UHD graphics 770	Integrated	Shared	3840×2160@60Hz(HDMI®), 1920x1200@60Hz(VGA), 4096x2304@60Hz(DP)	1x HDMI® 2.1 TMDS, 1x VGA, 1x DP 1.4 HBR2	DirectX® 12

Notes:

[1] The information of integrated graphics are not applicable for the models with processor which has no integrated graphics inside (for the details, please refer to processor section).

Monitor Support

Monitor Support

Supports up to 3 independent displays via (HDMI®, DP and VGA)

Chipset

Chipset

Intel® B660 chipset

Memory

Max Memory^[1]

Up to 64GB DDR4-3200

Memory Slots

Two DDR4 UDIMM slots, dual-channel capable

Memory Type

DDR4-3200

Notes:

[1] The max memory is based on the test results with current Lenovo® memory offerings.

Storage

Storage Support^[1]

Up to two drives, 1x 3.5" HDD + 1x M.2 SSD

- 3.5" HDD up to 2TB
- M.2 SSD up to 1TB

Storage Type^{***}

Disk Type	Interface	RPM	Security
3.5" SATA HDD	SATA 6Gb/s	7.2K	-
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	-	Opal
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	-	Opal 2.0

Notes:

[1] The max capacity of each disk type is based on the test results with current Lenovo® storage offerings.

Removable Storage

Optical^{**}

- DVD-ROM, SATA 1.5Gb/s, slim (9.0mm)
- DVD burner (DVD±RW), SATA connector, slim (9.0mm)

- None

Card Reader

- 7-in-1 card reader (SD, SDHC, SDXC, MMC, MS, MS-Pro, XD)
- No card reader

Multi-Media**Audio Chip**

High Definition (HD) Audio, Realtek® ALC623-CG codec

Speakers

- No speakers
- Single speaker, 1W x1

Power Supply**Power Supply****

Power	Type	Efficiency	Key Features
260W	Fixed	90%	Autosensing, 80 PLUS Gold qualified
180W	Fixed	85%	Autosensing

DESIGN**Input Device****Keyboard****

- Lenovo® Calliope Keyboard (USB connector), black
- Lenovo® Traditional Keyboard (USB connector), black
- No keyboard

Mouse

- Lenovo® Calliope Mouse (USB connector), black
- No mouse

Mechanical**Form Factor**

SFF (7.4L)

Dimensions (WxDxH)^[1]

100 x 308 x 274.8 mm (3.9 x 12.1 x 10.8 inches)

Packaging Dimensions (WxDxH)

195 x 390 x 500 mm (7.7 x 15.4 x 19.7 inches)

Weight^[2]

Around 4.5 kg (9.9 lbs)

Packaging Weight

Around 6.35 kg (14 lbs)

Case Color

Raven black

Bays

- 1x 2.5"/3.5" disk bay
- 1x slim ODD bay

Expansion Slots

- One PCIe® 4.0 x16, low-profile (length < 167.65mm, height < 68.90mm)
- One PCIe® 3.0 x1, low-profile (length < 167.65mm, height < 68.90mm)
- Two M.2 slots (one for WLAN, one for SSD)

Stand

- Vertical stand
- No stand

Others

(Optional) Smart Cable (USB-A to USB-C®)

Notes:

[1] The system dimensions may vary depending on configurations.

[2] The system weight is approximate and based on results in Lenovo® lab, which varies depending on the source of component, variance of the distribution of each component, and manufacturing process. It may not be the exact weight for each specific model.

CONNECTIVITY

Network

Onboard Ethernet

Gigabit Ethernet, Realtek® RTL8111HN, 1x RJ-45, supports Wake-on-LAN

WLAN + Bluetooth®**

- Realtek® Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.1, M.2 card
- Intel® Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.1 (Bluetooth® 5.2 hardware ready), M.2 Card^[1]
- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.1 (Bluetooth® 5.3 hardware ready), M.2 Card^[2]
- No WLAN and Bluetooth®

Notes:

[1] Bluetooth® 5.2 is hardware ready but may run at a lower version due to OS limitations.

[2] Bluetooth® 5.3 is hardware ready but may run at a lower version due to OS limitations.

Ports^[1]

Front Ports

- 1x USB-C® 3.2 Gen 1 (support data transfer and 5V@3A charging)
- 2x USB 3.2 Gen 1
- 1x headphone / microphone combo jack (3.5mm)
- 1x microphone (3.5mm)

Optional Front Ports

1x card reader

Rear Ports

- 2x USB 2.0
- 2x USB 3.2 Gen 1 (one supports Smart Power On)
- 1x HDMI® 2.1 TMDS
- 1x DisplayPort™ 1.4
- 1x VGA
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)

Optional Rear Ports***

- 2x USB 2.0
- 1x parallel
- 1x serial
- 1x 2nd serial
- None

Notes:

[1] The transfer speed of following ports will vary and, depending on many factors, such as the processing speed of the host device, file attributes and other factors related to system configuration and your operating environment, will be slower than theoretical speed.

USB 2.0: 480 Mbit/s;

USB 3.2 Gen 1 (SuperSpeed USB 5Gbps, formerly USB 3.0 / USB 3.1 Gen 1): 5 Gbit/s;

USB 3.2 Gen 2 (SuperSpeed USB 10Gbps, formerly USB 3.1 Gen 2): 10 Gbit/s;

USB4® 20Gbps / USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 Gbit/s;

USB4® 40Gbps (USB 40Gbps): 40 Gbit/s;

Thunderbolt™ 3/4: 40 Gbit/s.

SECURITY & PRIVACY

Security

Security Chip

Discrete TPM 2.0, TCG certified

Physical Locks

- (Optional) Smart Cable Clip
- Kensington® Security Slot™, 3 x 7 mm
- Padlock Loop

Chassis Intrusion Switch

- Chassis intrusion switch
- No chassis intrusion switch

Fingerprint Reader

No fingerprint reader

BIOS Security

- Supervisor password
- Power-on password
- Hard disk password
- Cover presence switch
- Individual USB port disablement
- Intel® BIOS guard
- Secure Wipe
- Self-healing BIOS
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)

MANAGEABILITY

System Management

System Management

Non-vPro®

SERVICE

Warranty^[1]

Base Warranty**

- 1-year courier or carry-in service
- 1-year limited onsite service
- No base warranty

Notes:

[1] The warranty upgrades may be bundled with some models, please check the "Included upgrade" column in the specific model's configurations. For more service extensions, please go to <https://smartfind.lenovo.com/>. To learn more details of warranty policy, please access <https://pcsupport.lenovo.com/warranty>.

ACCESSORIES

Bundled Accessories

Bundled Accessories

- DP to DVI dongle
- DP to Dual DP dongle
- DP to HDMI® dongle
- DP to VGA dongle
- HDMI® to HDMI® dongle
- HDMI® to VGA dongle
- None

OPERATING REQUIREMENTS

Operating Environment

Temperature

- Operating: 5°C (41°F) to 35°C (95°F)
- Storage: -40°C (-40°F) to 60°C (140°F)

Relative Humidity

- Operating: 20% to 80%
- Storage: 10% to 90%

Altitude

- Operating: 0 m (0 ft) to 3048 m (10,000 ft)
- Storage: 0 m (0 ft) to 12192 m (40,000 ft)

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Silver Registered^[2]
- (Optional) EPEAT™ Gold Registered^[3]
- ErP Lot 3
- RoHS compliant
- TCO Certified

Notes:

[1] The items listed under the "Green Certifications" section may not only refer to certification but also registration or self-declaration. For ESG & regulatory compliance documents, please visit <https://compliance.lenovo.com>.

[2], [3] EPEAT™ is registered where applicable, please visit epeat.net for registration status by country.

Other Certifications

Other Certifications

- (Optional) TÜV Rheinland® Low Noise
- (Optional) TÜV Rheinland® Ultra Low Noise

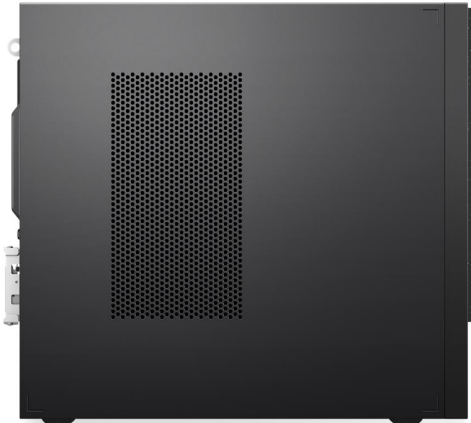
- Feature with ** means that only one offering listed under the feature is configured on selected models.
- Feature with *** means that one or more offerings listed under the feature could be configured on selected models.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION "AS IS," WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



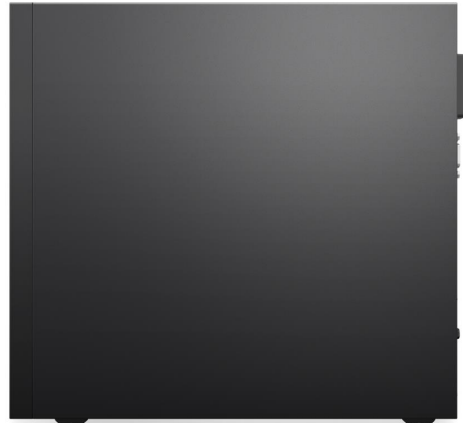
intel



intel



intel



intel



intel

Product Carbon Footprint

ThinkCentre neo 50s Gen 4

Machine Types: 12JE, 12JF, 12JG, 12JH

Device Type: Desktop

Report Date 12/20/2022



Lenovo values our commitment to the environment. As part of that commitment, Lenovo performs a streamlined product lifecycle analysis in accordance with the IEC TR 62921 standard. This analysis allows the customer to estimate the carbon footprint of their product. The carbon footprint is the total green-house gases emitted by the product over its lifespan reported as global warming potential for 100-year time horizon (GWP-100) in units of CO₂ equivalents

Estimated carbon footprint of the: **ThinkCentre neo 50s Gen 4**

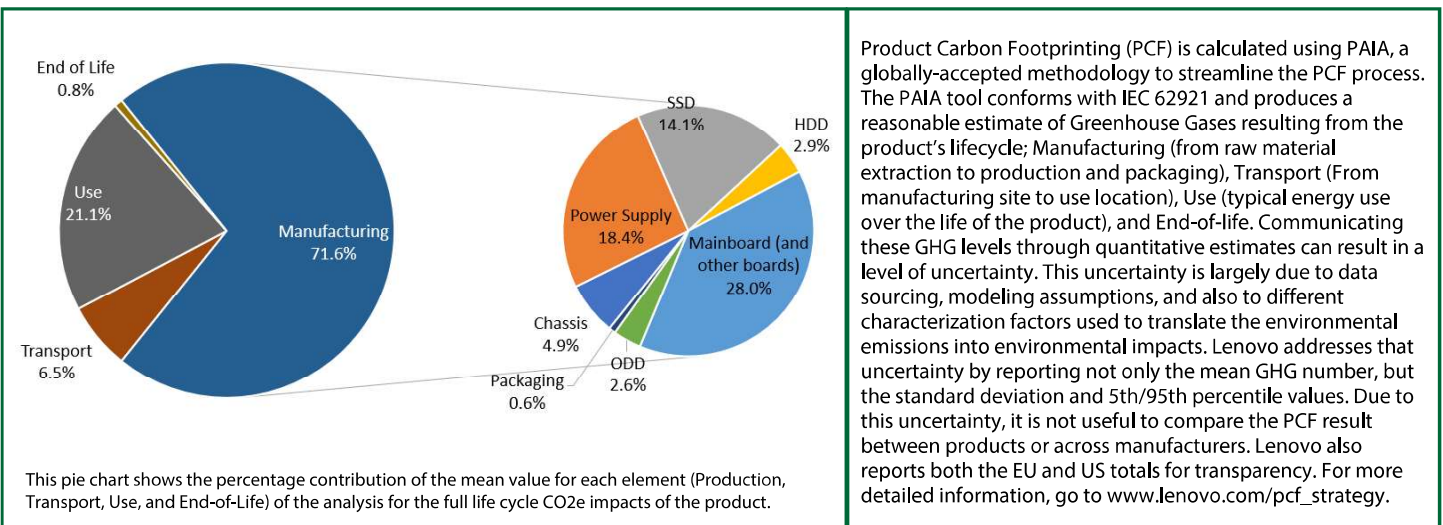
513 kg CO₂e ±

96 kg CO₂e

This estimate uses the assumptions from the table below (Based on EU use location. U.S. estimates below):

Product Weight (kg)	4.80	Product Form Factor	SFF	Assembly Location	China
Product Lifetime (years)	4	Yearly Typical Energy Use (kWh)	53.90	Use Location	Europe

Below is a breakout of the carbon emissions of this product by both lifecycle stage (raw material extraction through product end-of-life) and greenhouse gases resulting from the manufacture of major components:



Mean (EU):	513	5th Percentile (EU):	268	Mean (US):	555
Standard Deviation (EU):	96	95th Percentile (EU):	968	Standard Deviation (US):	69

Lenovo (Singapore) Pte. Ltd.
151 Lorong Chuan,
#02-01, New Tech Park,
Singapore, 556741
(Tel - 65-6827-1000 & Fax- 65-6827-1100)



EU Declaration of Conformity

For the **ThinkCentre neo 50s Gen 4 Personal Computer**

Machine Type: 12JE***, 12JF*****, 12JG*****, 12JH*******

(Where * can be 0-9, a-z, A-Z, hyphen or blank for marketing purpose and no impact safety/RF/EMC related critical components and constructions)

We, Lenovo (Singapore) Pte Ltd, declare under sole responsibility that the above products,
manufactured for:

**Lenovo PC HK Limited.
23/F, Lincoln House, Taikoo Place 979 King's Road,
Quarry Bay, Hong Kong, China**

to which this declaration relates, is in conformity with the requirements of the following EU Directives:


- **Directive 2014/53/EU on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment.**
- **Directive 2009/125/EC establishing a framework for the setting of Ecodesign requirements for Energy-related products.**
- **Council Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment as amended by Directive 2015/863/EU.**

The conformity assessment procedure referred to in Article 17.4a of Directive 2014/53/EU has been followed and performed with the involvement of a Notified Body, in accordance with Article 3.2:

Notified Body Name/number : TIMCO Engineering, Inc. / 1177

Issued the EU-type examination certificate: E1177-222454

The Technical Documentation (TD), relevant to the product described above and which support this DoC is available from the EU contact address on this DoC.

Signed:  _____ Date: 20th Jan 2023
Joseph Chua (Executive Director)
Place of issue: Lenovo (Singapore) Pte Ltd.

European Contact for regulatory topics only:
Lenovo (Slovakia), Landererova 12, 811 09 Bratislava, Slovakia
Tel: +421 2 6868 3018

Lenovo (Singapore) Pte. Ltd.
 151 Lorong Chuan,
 #02-01, New Tech Park,
 Singapore, 556741
 (Tel - 65-6827-1000 & Fax- 65-6827-1100)



Standards References

The following harmonized standards and normative documents are those to which the product's conformance is declared, and by specific reference to the essential requirements of the referenced Directives:

RE Directive

Article 3.1(a) (Safety & Health)	EN 62368-1	:	2014+A11:2017	✓
	EN IEC 62368-1	:	2020+A11:2020	✓
	EN IEC 62311	:	2020	✓

Article 3.1(b) (EMC)	EN 55032	:	2015+A11:2020	✓
	EN IEC 61000-3-2	:	2019	✓
	EN 61000-3-3	:	2013+A1:2019	✓
	EN 55035	:	2017+A11:2020	✓
	EN 301 489-1	V2.2.3	2019-11	✓
	EN 301 489-3	V2.1.1	2019-03	✓
	EN 301 489-17	V3.2.4	2020-09	✓

					Wireless module inside				
					WLAN with Bluetooth 1	WLAN with Bluetooth 2			
Article 3.2 (Radio Spectrum)	EN 300 328	V2.2.2	2019-07		✓	✓			
	EN 301 893	V2.1.1	2017-05		✓	✓			
	EN 300 440	V2.2.1	2018-07		✓	✓			
	Draft EN 303 687	V1.0.0	2022-04		✓				

RoHS Directive	EN 50581:2012	EN IEC 63000:2018	✓
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ErP Directive	(EU) 2019/1782	(Lot 7)	
	EC 1275/2008	(Lot 6/26)	
	EN 50564:2011		
	EC 617/2013 ErP – Class B	(Lot 3)	✓
	EN 62623:2013		

Wireless modules

Wireless module inside	MODEL
WLAN with Bluetooth 1	AX211NGW
WLAN with Bluetooth 2	AX201NGW
	RTL8852BE

European Contact for regulatory topics only:
 Lenovo (Slovakia), Landererova 12, 811 09 Bratislava, Slovakia
 Tel: +421 2 6868 3018

Fiche produit relative aux qualités et caractéristiques environnementales: applicable en France, loi AGEC article 13

Type de produit:	Desktop
Nom commercial:	ThinkCentre neo 50s
Numéro de modèle:	115W, 115X, 115Y, 1170
Date:	12/30/2022

	EMBALLAGES	PAPIERS	EQUIPEMENTS ÉLECTRIQUES ET ÉLECTRONIQUES	BATTERIES ET ACCUMULATEURS
Compostabilité		<i>non applicable</i>	<i>non applicable</i>	<i>non applicable</i>
Incorporation de matière recyclée	Contient au moins [30%] de matières recyclées	Contient au moins [60%] de matières recyclées	Contient au moins [30%] de plastique recyclé (EPEAT méthodologie)	
Possibilités de réemploi		<i>non applicable</i>	<i>non applicable</i>	<i>non applicable</i>
Recyclabilité ⁽¹⁾				
Présence de métaux précieux	<i>non applicable</i>	<i>non applicable</i>	Contient au moins [1 milligramme] de métaux précieux.	<i>non applicable</i>
Présence de terres rares	<i>non applicable</i>	<i>non applicable</i>	Contient au moins [1 milligramme] de terres rares.	<i>non applicable</i>
Présence d'une substance dangereuse			Contient une substance extrêmement préoccupante (*)	Contient une substance extrêmement préoccupante (*)
Communication sur la modulation			Ce produit fait l'objet d'un bonus	

(*) Remarque:

Référence « [Lenovo/Moto REACH SVHC 2022 Divulgateion \(conformément à l'article 33 de REACH de l'UE\)](#) »

(1) Remarque:

Conformément aux exigences de l'article 13 de la loi AGEC et de son décret d'application n°2022-748 du 29 avril 2022, les taux de recyclabilité sont à calculer selon des méthodologies développées par les éco-organismes. A ce jour, les éco-organismes n'ont pas finalisé ces méthodologies.

non applicable signifie qu'il n'y a aucune exigence en vertu de la loi française AGEC.


THE ECO DECLARATION



ECMA/TC38-TG3/2015/026
(Rev. 1 – 15 April 2017)

Annex B2- Product environmental attributes Desktop/All-in-One Computers

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 *	<i>Lenovo</i>	Logo 
Company name *	<i>Lenovo</i>	
Contact information * e-mail address	<i>Lenovo Global Environmental Affairs Alvin L Carter alcarter@lenovo.com</i>	
Internet site *	<i>https://www.lenovo.com/us/en/sustainability-resources/</i>	
Additional information	<i>The latest version of this document can be found at: http://www.lenovo.com/ecodeclaration</i>	

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 *	<i>Desktop Computer</i>
Commercial name *	<i>ThinkCentre neo 50s Gen 4</i>
Model number *	<i>12JE, 12JF, 12JG, 12JH</i>
Issue date *	<i>2023-01-12</i>
Intended market *	<input checked="" type="checkbox"/> Global <input type="checkbox"/> Europe <input type="checkbox"/> Asia, Pacific & Japan <input type="checkbox"/> Americas <input type="checkbox"/> 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 *	12JE, 12JF, 12JG, 12JH	Logo			
Issue date *	2023-01-12				
Product environmental attributes - Legal requirements					
Item		Requirement met			
		Yes	No	n.a.	
P1 Hazardous substances and preparations					
P1.1*	Products do comply with current European RoHS Directive. (See legal reference andNOTE B1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
P1.2*	Products do not contain Asbestos (see legal reference). Comment: Legal reference has no maximum concentration value.	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
P1.4*	Products do not contain more than; 0,005% polychlorinated biphenyl (PCB), 0,005% polychlorinated terphenyl (PCT)in preparations (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
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).	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
P1.7*	REACH Article 33information about substances in articles is available at (add URL or mail contact): https://www.lenovo.com/us/en/Lenovo-REACH-SVHC-Disclosure	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
P2.2*	Batteries or accumulators do not contain more than 0,0005% of mercury or 0,002% of cadmium. (See legal reference)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
P2.3*	Batteries and accumulators are readily removable. (See legal reference)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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: https://www.lenovo.com/us/en/compliance/eu-doc for EU https://www.lenovo.com/us/en/compliance/uk-doc for UK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
P3.2*	The product complies with the Eco design requirements for energy-related products, (see legal reference). Required information is; <input checked="" type="checkbox"/> given in item P15 or added to this document, <input checked="" type="checkbox"/> available at: https://www.lenovo.com/us/en/compliance/eco-declaration	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
P5.2*	The packaging materials are marked with abbreviations and numbers indicating the nature of the material(s) used (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
P6 Treatment information					
P6.1*	Information for recyclers/treatment facilities is available (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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 *	12JE, 12JF, 12JG, 12JH	Logo			
Issue date *	2023-01-12				
Product environmental attributes - Market requirements (See General NOTE GN below)					
- Environmental conscious design					
Item	*=	Requirement met			
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	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
P7.2*	Plastic materials in covers/housing have no surface coating.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
P7.3*	Plastic parts > 100 g consist of one material or of easily separable materials.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
P7.4*	Plastic parts > 25 g have material codes according to ISO 11469 referring ISO 1043-4.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
P7.5	Plastic parts are free from metal inlays or have inlays that can be removed with commonly available tools.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
P7.6*	Labels are easily separable. (This requirement does not apply to safety/regulatory labels).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Product lifetime					
P7.7*	Upgrading can be done e.g. with processor, memory, cards or drives	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
P7.8*	Upgrading can be done using commonly available tools	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
P7.9	Spare parts are available after end of production for: 5 years			<input type="checkbox"/>	
P7.10	Service is available after end of production for: 5 years			<input type="checkbox"/>	
Material and substance requirements					
P7.11*	Product cover/housing material type(e.g. plastics, metal, aluminum): Material type: ABS Material type: PC Material type: steel				
P7.12	Insulation materials of external electrical cables are PVC free.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P7.13	Insulation materials of internal electrical cables are PVC free.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
P7.15	Printed circuit boards, PCBs (without components) are low halogen: all <input checked="" type="checkbox"/> PCBs > 25 g <input type="checkbox"/> are low halogen as defined in IEC61249-2-21. (See 1NOTEB2)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P7.16	Flame retarded plastic parts > 25 g in covers / housings are marked according ISO 1043-4: Marking:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P7.17	Alt. 1: Chemical specifications of flame retardants in printed circuit boards > 25 g (without components): <input type="checkbox"/> TBBPA (additive), <input checked="" type="checkbox"/> TBBPA(reactive)(See NOTEB3), <input type="checkbox"/> Other: , CAS #: Alt. 2: Chemical specifications of flame retardants in printed circuit boards (without components) > 25 g according ISO 1043-4: FR(16)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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)): , (See note B5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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 30.5% . or b) The weight of recycled material is 100.2g .	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	


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.

Model number *	12JE, 12JF, 12JG, 12JH	Logo	
Issue date *	2023-01-12		

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 NOTEB7): 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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

P8 Batteries	
P8.1*	Battery chemical composition: <i>Li-manganese dioxide</i>

P9 Energy consumption (See NOTEB8)

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 115V AC	Power level at 230 V AC	Reference/Standard for energy modes and test method *	<input type="checkbox"/>
<i>Peak (On-max)</i>	W	W	W	<i>Full load</i>	
Category I1					
<i>Short Idle State - WOL Enabled</i>	14.2617W	14.2356W	13.2504W	ENERGY STAR Computers V8(P _{idle})	
<i>Long Idle State - WOL Enabled</i>	11.1247W	11.3205W	11.3044W	ENERGY STAR Computers V8(P _{idle})	
<i>Sleep (S3) - WOL Enabled</i>	1.4593W	1.4596W	1.4596W	ENERGY STAR Computers V8(P _{sleep})	
<i>Sleep (S3) - WOL Disabled</i>	1.3589 W	1.3588 W	1.3589 W	ENERGY STAR Computers V8	
<i>Off (S5) - WOL Enabled</i>	0.5918 W	0.5978 W	0.5958W	ENERGY STAR Computers V8(P _{off})	
<i>Off (S5) - WOL Disabled</i>	0.4862 W	0.4861 W	0.4862 W	ENERGY STAR Computers V8	
Category I2					
<i>Short Idle State - WOL Enabled</i>	13.4818W	13.4588W	13.4568W	ENERGY STAR Computers V8(P _{idle})	
<i>Long Idle State - WOL Enabled</i>	12.1359W	12.1652W	12.1466W	ENERGY STAR Computers V8(P _{idle})	
<i>Sleep (S3) - WOL Enabled</i>	1.4523W	1.4625W	1.4563W	ENERGY STAR Computers V8(P _{sleep})	
<i>Sleep (S3) - WOL Disabled</i>	1.3685 W	1.3685 W	1.3684 W	ENERGY STAR Computers V8	
<i>Off (S5) - WOL Enabled</i>	0.5375 W	0.5402 W	0.5388W	ENERGY STAR Computers V8(P _{off})	
<i>Off (S5) - WOL Disabled</i>	0.4838 W	0.4838 W	0.4838 W	ENERGY STAR Computers V8	
EPS No-load (External power supply / charger plugged in the wall outlet but disconnected from the product.)	W	W	W		<input checked="" type="checkbox"/>
PTEC *	W	W	W		<input checked="" type="checkbox"/>
ETEC *					
Annual Energy Consumption	I1: 53.76 I2: 52.49	I1: 53.87 I2: 52.50	I1: 53.90 I2: 52.45	$E_{TEC} = (8760/1000) \times (P_{off} \times 0.45 + P_{sleep} \times 0.05 + P_{long_idle} \times 0.15 + P_{short_idle} \times 0.35)$	<input type="checkbox"/>
				<i>P_{off}: Off Mode(S5) - WOL Enabled; P_{sleep}: Sleep Mode(S3) - WOL Enabled; P_{idle}: Idle State - WOL Enabled</i>	
External Power Supply Efficiency Level (International Efficiency Marking Protocol) *				N/A	<input type="checkbox"/>
Display resolution * : megapixels				N/A	<input type="checkbox"/>
Default time to enter energy save mode: 25minutes					<input type="checkbox"/>
P9.2*	Information about the energy save function is provided with the product.				<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

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>

P9.3	Energy efficiency class (monitors only):		N/A	<input type="checkbox"/>
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	* <i>HDD: Idle</i>	*3.0	<input type="checkbox"/>
	Operation	* <i>HDD: Operating</i>	*3.0	<input type="checkbox"/>
	Other mode	<i>Declared A-weighted sound pressure level (dB) L_{pAm}</i>	<i>21.4(operator position desktop – idle)</i>	
	Other mode	<i>Declared A-weighted sound pressure level (dB) L_{pAm}</i>	<i>25.5(operator position desktop – operating)</i>	
Measured according to: <input checked="" type="checkbox"/> ISO7779 <input type="checkbox"/> ECMA-74 <input type="checkbox"/> Other (only if not covered by ECMA-74)				

Model number *	12JE, 12JF, 12JG, 12JH	Logo	
Issue date *	2023-02-27		

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): <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> n.a.		
P12 Ergonomics for computing products			
P12.1*	The display meets the ergonomic requirements of ISO 9241-307 for visual display technologies. <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> n.a.		
P12.2*	The physical input device meets the requirements of ISO 9995 and ISO 9241-410. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n.a.		
P13 Packaging and documentation			
P13.1*	Product packaging material type(s): <i>EPE</i> weight (kg): <i>0.120</i> Product packaging material type(s): <i>HDPE</i> weight (kg): <i>0.020</i> Product packaging material type(s): <i>Corrugated Fiberboard</i> weight (kg): <i>0.766</i> Product packaging material type(s): <i>Corrugated Fiberboard</i> weight (kg): <i>0.120</i>		
P13.2*	Product plastic primary packaging is free from PVC. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n.a.		
P13.3*	For product primary corrugated fiberboard packaging, specify the contained percentage of minimum post-consumer recovered fiber content: <i>35</i> % <input type="checkbox"/> n.a.		
P13.4*	Specify media for user and product documentation (tick box): <input checked="" type="checkbox"/> Electronic, <input checked="" type="checkbox"/> Paper, <input type="checkbox"/> Other <input type="checkbox"/> n.a.		
P13.5	(Please only complete this item if paper documentation used) User and product documentation on paper media is chlorine-free: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, please specify: Totally chlorine-free <input checked="" type="checkbox"/> Elemental chlorine-free <input type="checkbox"/> Processed chlorine-free <input type="checkbox"/>		
P14 Voluntary programs			
P14.1	The product meets the requirements of the following voluntary program(s): ENERGY STAR® Criteria version: <i>8.0</i> Date: Product category: <i>I1 I2</i> Eco-label: Criteria version: Date: Product category: Eco-label: Criteria version: Date: Product category:		
P15 Additional information (See NOTE B10)			
P9	Energy consumption of specific configuration may vary; description of the tested product configuration: <i>NOTE: Supplier makes no representations, guarantees, assurances or warranties whether express or implied, regarding the information contained in this document. All information provided by supplier in this document is provided based on supplier's knowledge available at the time of completion, and supplier shall have no obligation to update such information. The information provided here is approximate and provided for informational purposes only. See a Lenovo Account Representative for more information.</i>		
P9	<i>See Energy Star Qualified Notebooks & Tablet Computers for the latest information: http://www.energystar.gov/index.cfm?fuseaction=find_a_product.showProductGroup&pgw_code=CO</i>		

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.

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

Lenovo ErP Lot3 Information Sheet


- PC / Notebook -

As required by 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 (ErP Lot3).

Products scope of this sheet:

Desktop computer, integrated desktop computer, and notebook computer

This document is only valid in connection with the IT Eco Declaration of the specific Product.

Commercial name	<i>ThinkCentre neo 50s Gen 4</i>	Logo 
Model Number	<i>12JE, 12JF, 12JG, 12JH</i>	
Issue Date	<i>2023-01-12</i>	
Additional information		

P7.1.1 Product environmental attributes					
(d) year of manufacture:					
(e) Etec value (kWh) per ErP Lot 3 Category and capability adjustments applied when all discrete graphics cards (dGfx) are disabled and if the system is tested with switchable graphics mode with UMA driving the display.					
(f) Etec value (kWh) per ErP Lot 3 Category and capability adjustments applied when all discrete graphics cards (dGfx) are enable					
		Category A (according to ErP Lot 3)	Category B (according to ErP Lot 3)	Category C (according to ErP Lot 3)	Category D (according to ErP Lot 3)
capability adjustments applied during testing	Memory over base [GB]		64		64
	Additional internal storage	(Yes / No)	Yes (Yes / No)	(Yes / No)	Yes (Yes / No)
	Discrete television tuner	(Yes / No)	No (Yes / No)	(Yes / No)	No (Yes / No)
	Discrete Audio Card	(Yes / No)	No (Yes / No)	(Yes / No)	No (Yes / No)
	Discrete graphics Card(s) [number / #]	#: (Yes / No)	No #: 0 (Yes / No)	#: (Yes / No)	No #: 0 (Yes / No)
	Category of discrete graphics Card(s)				
Test results	Etec Value (kWh) - dGfx disabled all discrete graphics cards (dGfx) are disabled / UMA is active for switchable graphics/ product has no graphics cards (dGfx)				
	Etec Value (kWh) - dGfx enabled all discrete graphics cards (dGfx) are enabled				
(g)	Idle state power demand (Watts);			Cat-B:14.2504 Cat-D:13.4568	
(h)	Sleep mode power demand (Watts);			Cat-B:1.4625 Cat-D:1.4563	
(i)	Sleep mode with WOL enabled power demand (Watts) (where enabled);			Cat-B: 1.3589 Cat-D:1.3685	
(j)	Off mode power demand (Watts);			Cat-B:0.4862 Cat-D:0.4838	
(k)	Off mode with WOL enabled power demand (Watts) (where enabled);			0Cat-B:0.5958 Cat-D:0.5388	
(l)	Internal power supply efficiency at 10 %, 20 %, 50 % and 100 % of rated output power (if applicable): PCH018 10% 81.3 20% 85.2 50% 87.3 100% 84.8 Average 85.8				
(m)	External power supply efficiency (if applicable)*: Average active efficiency: <small>*internal note: show values for all available external power supplies</small>				
(o)	Minimum number of loading cycles that the batteries can withstand (applies only to notebook computers):				N/A
(p-1)	Measurement methodology used to determine information mentioned in points (l) – internal PSU efficiency: 80 PLUS® Program				

(p-2)	Measurement methodology used to determine information mentioned in points (m) – external PSU efficiency: N/A
(p-3)	Measurement methodology used to determine information mentioned in points (o) – loadingcycles batteries: N/A
(p-4)	Measurement methodology used to determine information mentioned in maximum, idle, sleep, off mode power as defined in Point P9.1 in the Product IT Eco Declaration: IEC 62623 / IEC EN50564:2011 measurement methodology
(q)	Sequence of steps for achieving a stable condition with respect to power demand: Power on -> Wait 5 minutes ->Stable condition
(r)	Description of how sleep and/or off mode was selected or programmed: Begin menu -> Power -> Select sleep or off mode
(s)	Sequence of events required to reach the mode where the equipment automatically changes to sleep and/or off mode: Control Panel->Power Options-> Change Settings-> Restore default settings for this plan
(t)	Duration of idle state condition before the computer automatically reaches sleep mode , or another condition which does not exceed the applicable power demand requirements for sleep mode(in minutes): 25 minutes
(u)	Length of time after a period of user inactivity in which the computer automatically reaches a power mode that has a lower power demand requirement than sleep mode (in minutes):
(v)	Length of time before the display sleep mode is set to activate after user inactivity (in minutes): 10 minutes
(w)	Information on the energy-saving potential of power management functionality: N/A

(x)	User information on how to enable the power management functionality: Refer to User Guide
-----	---

(z)	<p>Test parameters for measurements: — test voltage in V and frequency in Hz, — total harmonic distortion of the electricity supply system, — information and documentation on the instrumentation, set-up and circuits used for electrical testing:</p> <p>Test voltage in V and frequency in Hz230V/50Hz Total harmonic distortion of the electricity supply system≤2% Information and documentation on the instrumentation, set-up and circuits used for electrical testing</p> <table border="1"> <thead> <tr> <th>Instrument Type</th> <th>Range Used Or ***</th> <th>Make and Model **</th> </tr> </thead> <tbody> <tr> <td>AC Power Source</td> <td>1~280VAC;1~550HZ;1000VA.</td> <td>NF;EC1000S; SN:9152124</td> </tr> <tr> <td>Digital Watch</td> <td>Full range</td> <td>CASIO; HS-70W; SN:208Q08R</td> </tr> <tr> <td>Power Meter</td> <td>0~600V;0~20A</td> <td>YOKOGAWA;WT210;SN:91M944560</td> </tr> <tr> <td>Hygrothermograph</td> <td>15~35°C/15~90%</td> <td>testo; 608-H1,SN:1034895602</td> </tr> <tr> <td>Thermal anemometer</td> <td>0~20m/s,-20~70°C</td> <td>Testo;425;SN:02591883</td> </tr> <tr> <td>Light Measuring</td> <td>1° ;1-300cd/ m²</td> <td>Konica Minolta;LS-110;</td> </tr> </tbody> </table>	Instrument Type	Range Used Or ***	Make and Model **	AC Power Source	1~280VAC;1~550HZ;1000VA.	NF;EC1000S; SN:9152124	Digital Watch	Full range	CASIO; HS-70W; SN:208Q08R	Power Meter	0~600V;0~20A	YOKOGAWA;WT210;SN:91M944560	Hygrothermograph	15~35°C/15~90%	testo; 608-H1,SN:1034895602	Thermal anemometer	0~20m/s,-20~70°C	Testo;425;SN:02591883	Light Measuring	1° ;1-300cd/ m²	Konica Minolta;LS-110;
Instrument Type	Range Used Or ***	Make and Model **																				
AC Power Source	1~280VAC;1~550HZ;1000VA.	NF;EC1000S; SN:9152124																				
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Thermal anemometer	0~20m/s,-20~70°C	Testo;425;SN:02591883																				
Light Measuring	1° ;1-300cd/ m²	Konica Minolta;LS-110;																				

Additional Notebook Battery Information:

	Battery[ies] not user replaceable The battery[ies] in this product cannot be easily replaced by users themselves. ¹⁾	Battery[ies] user replaceable	n/a
Internal/built-in Battery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
External/detachable Battery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bios Backup Battery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional information

1)

The battery[ies] in this product cannot be easily replaced by users themselves.
Акумуляторната[ите] батерия[и] в този продукт не може да се замени[ят] лесно от самите потребители.
Las baterías de este producto no pueden ser sustituidas fácilmente por los propios usuarios.
Výměna baterie/baterií v tomto výrobku by nemělo provádět sám uživatelé.
Brugeren kan ikke uden videre udskifte batteriet/batterierne i dette produkt.
Der Akku/die Akkus dieses Produkts kann/können nicht ohne weiteres vom Benutzer selbst ausgetauscht werden.
Kasutajade isas aselle toote akut/akusid ise hõlpsasti asendada.
Η μπαταρία[-ες] στο προϊόν αυτό δε μπορεί να αντικατασταθούν εύκολα από τους ίδιους τους χρήστες.
La/les batterie(s) présente(s) dans ce produit ne peuvent être facilement remplacée(s) par les utilisateurs eux-mêmes.
Korisnik ne može lakozamijeniti Bateriju sam u ovom proizvodu.
La batteria/le batterie in questo prodotto non può/possono essere facilmente sostituita/e dall'utente.
Lietotāji pašiem nav jāmaina šādas ierīces akumulatoru(-us).
Šiogaminio baterijos [baterijų] pats vartotojas negali lengvai pakeisti.
A termék akkumulátorát/akkumulátorait a felhasználónak nem tudja egyedül egyszerűen kicserélni.
Il-batterija/batterijif dan il-prodott ma tistax/jistghuxtiġi/jiġusostitwita/i mill-utentistess.
Batteriet [ene] i dette produktet kan ikke lett erstattes av brukerne selv.
De batterij(en) in dit product is (zijn) door de gebruiker niet gemakkelijk vervangbaar.
Użytkownik nie może sam w łatwy sposób wymienić baterii w tym produkcie.
Aou as baterias deste produto não podem ser facilmente substituídas pelos próprios utilizadores.
Bateria (bateriile) din acest produs nu poate (pot) fi ușor înlocuită (înlocuite) de utilizatori înșiși.
Batériu(-ie) v tomto výrobku nemôže vymeniť použivateľ.
Baterij/baterije v tem izdelku uporabnikisami ne morejo zlahka zamenjati.
Tämä tuotteen akku [akut] ei[vät] ole helppokäyttäjän vaihdettava.
Det är inte enkelt för kunden att själv byta ut batteriet/batterierna.
Bu üründerki batarya(lar) kullanıcılartarafından kolaylıkla değiştirilemez.



Lenovo Accessibility Conformance Report

Revised Section 508 Edition

VPAT® Version 2.3 – December 2018

Name of Product/Version: ThinkCentre neo 50s Gen 4

Product Description: Desktop computer

See OS VPAT for operating system information on appropriate manufacturer’s website. See software VPATs for software application information.

Date: 15 March 2023

Contact information: compliance@Lenovo.com

Evaluation Methods Used:

Manual testing is performed on hardware products using a number of different tools to evaluate access by users with disabilities. Chroma optical test: brightness, contrast, color chromaticity tools are used to ensure contrast, a force gauge is used to evaluate key button force. One handed, and non-biometric operation is evaluated alongside stylus and other tools that are used to evaluate use without tight pinching or grasping. Measurement tools and meters are used to measure operable controls while audio meters are used to measure volume and gain. Connection ports are evaluated from design to ensure standard connection points are available. Any transducers designed to be held to the ear are evaluated by an outside laboratory for conformance to non-interference and coupling standards. Additional tests are performed based on applicable features of the product.

Applicable Standards/Guidelines

This report covers the degree of conformance for the following accessibility standard/guidelines:

Standard/Guideline	Included In Report
Web Content Accessibility Guidelines 2.0, at http://www.w3.org/TR/2008/REC-WCAG20-20081211/	Level A (No) Level AA (No) Level AAA (No)
Revised Section 508 standards as published by the U.S. Access Board in the Federal Register on January 18, 2017 Corrections to the ICT Final Rule as published by the US Access Board in the Federal Register on January 22, 2018	(Yes)

Terms

The terms used in the Conformance Level information are defined as follows:

- **Supports:** The functionality of the product has at least one method that meets the criterion without known defects or meets with equivalent facilitation.
- **Partially Supports:** Some functionality of the product does not meet the criterion.
- **Does Not Support:** The majority of product functionality does not meet the criterion.
- **Not Applicable:** The criterion is not relevant to the product.
- **Not Evaluated:** The product has not been evaluated against the criterion. This can be used only in WCAG 2.0 Level AAA.

Revised Section 508 Report

Chapter 3: Functional Performance Criteria (FPC)

Criteria	Conformance Level	Remarks and Explanations
<p>302.1 Without Vision. Where a visual mode of operation is provided, ICT shall provide at least one mode of operation that does not require user vision.</p>	<p>Supports</p>	<p>Touch can be used to identify and distinguish controls and keys without activating them. The capitol lock key and other toggle keys can be discerned both audibly and visually when combined with the operating system.</p> <p>Function keys, such as the Speaker/F1 key, only have a red LED and an icon that appears when activated. However, this information can be determined through other platform level apps and is announced when combined with platform level assistive technology features.</p>
<p>302.2 With Limited Vision. Where a visual mode of operation is provided, ICT shall provide at least one mode of operation that enables users to make use of limited vision.</p>	<p>Supports</p>	<p>All keys have visual symbols or characters with good contrast; usually light symbols on a dark background. Touch can be used to identify and distinguish controls and keys without activating them.</p>
<p>302.3 Without Perception of Color. Where a visual mode of operation is provided, ICT shall provide at least one visual mode of operation that does not require user perception of color.</p>	<p>Supports</p>	<p>Color alone is not used to communicate meaning</p>
<p>302.4 Without Hearing. Where an audible mode of operation is provided, ICT shall provide at least one mode of operation that does not require user hearing.</p>	<p>Supports</p>	<p>When combined with the operating system the product is designed to alert applications of system sounds when needed and a visual cue is also provided.</p>

Criteria	Conformance Level	Remarks and Explanations
302.5 With Limited Hearing. Where an audible mode of operation is provided, ICT shall provide at least one mode of operation that enables users to make use of limited hearing.	Supports	Hardware provides a physical volume control and/or an interface so that volume can be controlled by software.
302.6 Without Speech. Where speech is used for input, control, or operation, ICT shall provide at least one mode of operation that does not require user speech.	Supports	User speech is not required.
302.7 With Limited Manipulation. Where a manual mode of operation is provided, ICT shall provide at least one mode of operation that does not require fine motor control or simultaneous manual operations.	Supports	Controls, latches, and keys can be reached and operated using one hand and require minimal dexterity for ease of use by mobility impaired users.
302.8 With Limited Reach and Strength. Where a manual mode of operation is provided, ICT shall provide at least one mode of operation that is operable with limited reach and limited strength.	Supports	Controls, latches, and keys can be reached and operated using one hand and require minimal dexterity for ease of use by mobility impaired users. Controls and keys can be operated with minimal force.
302.9 With Limited Language, Cognitive, and Learning Abilities. ICT shall provide features making its use by individuals with limited cognitive, language, and learning abilities simpler and easier.	Supports	All keys and controls have visual symbols or characters with good contrast; usually light symbols on a dark background. Touch can be used to identify and distinguish controls and keys without activating them.

Chapter 4: Hardware

Criteria	Conformance Level	Remarks and Explanations
402 Closed Functionality	Heading cell – no response required	Heading cell – no response required
402.1 General	Heading cell – no response required	Heading cell – no response required
402.2 Speech-Output Enabled	Heading cell – no response required	Heading cell – no response required
402.2.1 Information Displayed On-Screen	Not Applicable	Not closed functionality
402.2.2 Transactional Outputs	Not Applicable	Not closed functionality
402.2.3 Speech Delivery Type and Coordination	Not Applicable	Not closed functionality

Criteria	Conformance Level	Remarks and Explanations
402.2.4 User Control	Not Applicable	Not closed functionality
402.2.5 Braille Instructions	Not Applicable	Not closed functionality
402.3 Volume	Heading cell – no response required	Heading cell – no response required
402.3.1 Private Listening	Not Applicable	Not closed functionality
402.3.2 Non-private Listening	Not Applicable	Not closed functionality
402.4 Characters on Display Screens	Not Applicable	Not closed functionality
402.5 Characters on Variable Message Signs	Not Applicable	Not closed functionality
403 Biometrics	Heading cell – no response required	Heading cell – no response required
403.1 General. Where provided, biometrics shall not be the only means for user identification or control.	Supports	Where biometrics are used to authenticate, users can alternatively authenticate using a password.
404 Preservation of Information Provided for Accessibility	Heading cell – no response required	Heading cell – no response required
404.1 General. ICT that transmits or converts information or communication shall not remove non-proprietary information provided for accessibility or shall restore it upon delivery.	Supports	Accessibility structure and descriptions are preserved.
405 Privacy	Heading cell – no response required	Heading cell – no response required
405.1 General. The same degree of privacy of input and output shall be provided to all individuals. When speech output required by 402.2 is enabled, the screen shall not blank automatically.	Supports	Speech is not required for use. When combined with the operating system, screen reader users can use a headset to ensure privacy.
406 Standard Connections	Heading cell – no response required	Heading cell – no response required
406.1 General. Where data connections used for input and output are provided, at least one of each type of connection shall conform to industry standard non-proprietary formats.	Supports	The product design uses industry standard ports so that alternative equipment and assistive technologies can be accommodated.
407 Operable Parts	Heading cell – no response required	Heading cell – no response required
407.2 Contrast. Where provided, keys and controls shall contrast visually from background surfaces. Characters and symbols shall contrast visually	Supports	All keys and controls have visual symbols or characters with good contrast; usually light symbols on a dark background.

Criteria	Conformance Level	Remarks and Explanations
from background surfaces with either light characters or symbols on a dark background or dark characters or symbols on a light background.		
407.3 Input Controls	Heading cell – no response required	Heading cell – no response required
407.3.1 Tactilely Discernible. Input controls shall be operable by touch and tactilely discernible without activation.	Supports	Touch can be used to identify and distinguish controls and keys without activating them.
407.3.2 Alphabetic Keys. Where provided, individual alphabetic keys shall be arranged in a QWERTY-based keyboard layout and the “F” and “J” keys shall be tactilely distinct from the other keys.	Supports	Keyboard keys (F and J) have discernible nubs to assist users in keyboard orientation. Physical keyboards can be used with products that only have touchscreens.
407.3.3 Numeric Keys. Where provided, numeric keys shall be arranged in a 12-key ascending or descending keypad layout. The number five key shall be tactilely distinct from the other keys. Where the ICT provides an alphabetic overlay on numeric keys, the relationships between letters and digits shall conform to ITU-T Recommendation E.161 (incorporated by reference, see 702.7.1).	Supports	Numeric keys are arranged in a 12-key ascending keyboard layout. When numeric keypads are used the number 5 key has a discernible nub to assist users in keyboard orientation.
407.4 Key Repeat. Where a keyboard with key repeat is provided, the delay before the key repeat feature is activated shall be fixed at, or adjustable to, 2 seconds minimum.	Supports	When combined with operating system, an option to change keyboard repeat rate is provided so users can adjust the rate to accommodate their needs.
407.5 Timed Response. Where a timed response is required, the user shall be alerted visually, as well as by touch or sound, and shall be given the opportunity to indicate that more time is needed.	Supports	When combined with the operating system, options are provided to turn the display off after a range of time frames including “Never”.
407.6 Operation. At least one mode of operation shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds (22.2 N) maximum	Supports	Controls, latches, and keys can be reached and operated using one hand and require minimal dexterity for ease of use by mobility impaired users. Controls and keys can be operated with minimal force.
407.7 Tickets, Fare Cards, and Keycards. Where tickets, fare cards, or keycards are provided, they shall have an orientation that is tactilely discernible if orientation is important to further use of the ticket, fare card, or keycard.	Not applicable	

Criteria	Conformance Level	Remarks and Explanations
407.8 Reach Height and Depth	Heading cell – no response required	Heading cell – no response required
407.8.1 Vertical Reference Plane	Not applicable	
407.8.1.1 Vertical Plane for Side Reach	Not applicable	
407.8.1.2 Vertical Plane for Forward Reach	Not applicable	
407.8.2 Side Reach	Not applicable	
407.8.2.1 Unobstructed Side Reach	Not applicable	
407.8.2.2 Obstructed Side Reach	Not applicable	
407.8.3 Forward Reach	Not applicable	
407.8.3.1 Unobstructed Forward Reach	Not applicable	
407.8.3.2 Obstructed Forward Reach	Not applicable	
407.8.3.2.1 Operable Part Height for ICT with Obstructed Forward Reach	Not applicable	
407.8.3.2.2 Knee and Toe Space under ICT with Obstructed Forward Reach	Not applicable	
408 Display Screens	Heading cell – no response required	Heading cell – no response required
408.2 Visibility. Where stationary ICT provides one or more display screens, at least one of each type of display screen shall be visible from a point located 40 inches (1015 mm) above the floor space where the display screen is viewed.	Not applicable	
408.3 Flashing. Where ICT emits lights in flashes, there shall be no more than three flashes in any one-second period.	Supports	The use of blinking text, objects or elements has been avoided, reducing risk of seizures for users with photosensitive epilepsy.
409 Status Indicators	Heading cell – no response required	Heading cell – no response required
409.1 General. Where provided, status indicators shall be discernible visually and by touch or sound.	Supports	When combined with the operating system an option is provided to produce

Criteria	Conformance Level	Remarks and Explanations
		sound with increasing/decreasing volume to duplicate visual status indicators. For example, a notification will sound when Toggle keys (CAPS LOCK, NUM LOCK, SCROLL LOCK) are engaged if selected in the Ease of Access Center.
410 Color Coding	Heading cell – no response required	Heading cell – no response required
410.1 General. Where provided, color coding shall not be used as the only means of conveying information, indicating an action, prompting a response, or distinguishing a visual element.	Supports	Color alone is not used to communicate meaning.
411 Audible Signals	Heading cell – no response required	Heading cell – no response required
411.1 General. Where provided, audible signals or cues shall not be used as the only means of conveying information, indicating an action, or prompting a response	Supports	When combined with the operating system the product is designed to alert applications of system sounds when needed and a visual cue is also provided.
412 ICT with Two-Way Voice Communication	Heading cell – no response required	Heading cell – no response required
412.2 Volume Gain	Heading cell – no response required	Heading cell – no response required
412.2.1 Volume Gain for Wireline Telephones	Not Applicable	
412.2.2 Volume Gain for Non-Wireline ICT	Supports	When combined with the operating system, an option is provided for volume control.
412.3 Interference Reduction and Magnetic Coupling	Heading cell – no response required	Heading cell – no response required
412.3.1 Wireless Handsets	Not Applicable	
412.3.2 Wireline Handsets	Not Applicable	
412.4 Digital Encoding of Speech	Not Applicable	
412.5 Real-Time Text Functionality	Not Applicable	Reserved for future
412.6 Caller ID	Not Applicable	
412.7 Video Communication	Not Applicable	
412.8 Legacy TTY Support	Heading cell – no response required	Heading cell – no response required

Criteria	Conformance Level	Remarks and Explanations
412.8.1 TTY Connectability	Not Applicable	
412.8.2 Voice and Hearing Carry Over	Not Applicable	
412.8.3 Signal Compatibility	Not Applicable	
412.8.4 Voice Mail and Other Messaging Systems	Not Applicable	
413 Closed Caption Processing Technologies	Heading cell – no response required	Heading cell – no response required
413.1.1 Decoding and Display of Closed Captions. Players and displays shall decode closed caption data and support display of captions.	Not Applicable	
413.1.2 Pass-Through of Closed Caption Data. Cabling and ancillary equipment shall pass through caption data.	Not Applicable	
414 Audio Description Processing Technologies	Heading cell – no response required	Heading cell – no response required
414.1.1 Digital Television Tuners	Not Applicable	
414.1.2 Other ICT	Not Applicable	
415 User Controls for Captions and Audio Descriptions	Heading cell – no response required	Heading cell – no response required
415.1.1 Where ICT provides operable parts for volume control, ICT shall also provide operable parts for caption selection.	Not Applicable	
415.1.2 Audio Description Controls. Where ICT provides operable parts for program selection, ICT shall also provide operable parts for the selection of audio description.	Not Applicable	

Chapter 5: Software – see Software VPAT

Notes: This is a hardware VPAT, see software VPAT for OS and other software applications.

Chapter 6: Support Documentation and Services

Criteria	Conformance Level	Remarks and Explanations
601.1 Scope	Heading cell – no response required	Heading cell – no response required
602 Support Documentation	Heading cell – no response required	Heading cell – no response required

Criteria	Conformance Level	Remarks and Explanations
<p>602.2 Accessibility and Compatibility Features. Documentation shall list and explain how to use the accessibility and compatibility features required by Chapters 4 and 5. Documentation shall include accessibility features that are builtin and accessibility features that provide compatibility with assistive technology.</p>	Supports	<p>Product documentation is available online in an accessible format at https://www.lenovo.com/support</p> <p>VPATs are available at https://www.lenovo.com/us/en/compliance/accessibility-conformance</p>
<p>602.3 Electronic Support Documentation. Documentation in electronic format, including Web-based self-service support, shall conform to Level A and Level AA Success Criteria and Conformance Requirements in WCAG 2.0 (incorporated by reference, see 702.10.1).</p>	Supports	<p>The electronic web-based product documentation conforms to Level A and Level AA Success Criteria and Conformance Requirements in WCAG 2.0.</p>
<p>602.4 Alternate Formats for Non-Electronic Support Documentation. Where support documentation is only provided in nonelectronic formats, alternate formats usable by individuals with disabilities shall be provided upon request.</p>	Not Applicable	<p>Documentation is available in electronic format.</p>
<p>603 Support Services</p>	Heading cell – no response required	<p>Heading cell – no response required</p>
<p>603.2 Information on Accessibility and Compatibility Features. ICT support services shall include information on the accessibility and compatibility features required by 602.2.</p>	Supports	<p>Lenovo Support provides information on accessibility and compatibility features. This information is also documented in the product documentation.</p> <p>Accessibility Features page https://www.lenovo.com/us/en/lenovo/accessibility/</p>
<p>603.3 Accommodation of Communication Needs. Support services shall be provided directly to the user or through a referral to a point of contact. Such ICT support services shall accommodate the communication needs of individuals with disabilities.</p>	Supports	<p>Lenovo Services provides communications in voice, chat, and email. Telecommunications Relay Service (TRS) is supported for customers who are deaf or hard of hearing.</p> <p>For support, contact 1-855-2-LENOVO (1-855-253-6686).</p>

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