


# 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 *	Lenovo	
Company name *	Lenovo	
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Additional information	The latest version of this document can be found at: <a href="http://www.lenovo.com/ecodeclaration">http://www.lenovo.com/ecodeclaration</a>	

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 *	All in One Computer
Commercial name *	ThinkCentre neo 50a 24 Gen 4
Model number *	12K7,12K8,12K9,12KA,12KB,12KD,12KC,12KE
Issue date *	2022.12.20
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	Low blue light;Flicker Free;Energy Star (12K9,12KA,12KD,12KE) ;EPEAT Silver (12K9,12KA,12KD,12KE)


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.

<b>Model number *</b>	<b>12K7,12K8,12K9,12KA,12KB,12KD,12KC,12KE</b>	<b>Logo</b>			
<b>Issue date *</b>	<b>2022.12.20</b>				
<b>Product environmental attributes - Legal requirements</b>					
<b>Item</b>		<b>Requirement met</b>			
		Yes	No	n.a.	
<b>P1</b>	<b>Hazardous substances and preparations</b>				
P1.1*	Products do comply with current European RoHS Directive. (See legal reference and NOTE 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 <sup>2</sup> /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 33 information about substances in articles is available at (add URL or mail contact): <a href="https://www.lenovo.com/us/en/Lenovo-REACH-SVHC-Disclosure">https://www.lenovo.com/us/en/Lenovo-REACH-SVHC-Disclosure</a>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>P2</b>	<b>Batteries</b>				
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"/>	
<b>P3</b>	<b>Conformity verification &amp; Eco design (ErP)</b>				
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: <a href="https://www.lenovo.com/us/en/compliance/eu-doc">https://www.lenovo.com/us/en/compliance/eu-doc</a> for EU ; <a href="https://www.lenovo.com/us/en/compliance/uk-doc">https://www.lenovo.com/us/en/compliance/uk-doc</a> 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: <a href="https://www.lenovo.com/us/en/compliance/eco-declaration">https://www.lenovo.com/us/en/compliance/eco-declaration</a>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>P5</b>	<b>Product packaging</b>				
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"/>	
<b>P6</b>	<b>Treatment information</b>				
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 *	12K7,12K8,12K9,12KA,12KB,12KD,12KC,12KE	Logo				
Issue date *	2022.12.20					
<b>Product environmental attributes - Market requirements (See General NOTE GN below)</b>						
<b>- Environmental conscious design</b>						
				<b>Requirement met</b>		
Item	* =mandatory to fill in. Additional information regarding each item may be found under P14.			Yes	No	n.a.
<b>P7 Design, Disassembly, recycling</b>						
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"/>
<b>Product lifetime</b>						
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: <b>5</b> years					<input type="checkbox"/>
P7.10	Service is available after end of production for: <b>5</b> years					<input type="checkbox"/>
<b>Material and substance requirements</b>						
P7.11*	Product cover/housing material type (e.g. plastics, metal, aluminum): Material type: <b>ABS</b> Material type: <b>PC</b> Material type: <b>PC+ABS</b> Material type: <b>SGCC</b>					
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 type="checkbox"/> PCBs > 25 g <input type="checkbox"/> are low halogen as defined in IEC 61249-2-21. (See 1NOTE B2)			<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: <b>&gt;FR(40)&lt;</b>			<input checked="" type="checkbox"/>	<input 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 NOTE B3), <input checked="" type="checkbox"/> Other: <b>Bromine-containing epoxy resin</b> , CAS #: <b>68928-70-1</b>			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Alt. 2: Chemical specifications of flame retardants in printed circuit boards (without components) > 25 g according ISO 1043-4:			<input 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: <b>&gt;FR(40)&lt;</b>			<input type="checkbox"/>	<input 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; Of total plastic parts' weight > 25 g, the postconsumer recycled plastic material content (calculated as a percentage of total plastic by weight) is <b>61%</b> . b) The weight of recycled material is <b>793.2</b> g.			<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 *	12K7,12K8,12K9,12KA,12KB,12KD,12KC,12KE	Logo	
Issue date *	2022.12.20		

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

**Material and substance requirements (continued)**

P7.21*	Biobased plastic material content is used in the product (See NOTE B7):  If YES; at least one of the two alternatives below shall be answered; a) Of total plastic parts' weight > 25 g, the biobased plastic material content (calculated as a percentage of total plastic by weight) is %. or b) The weight of the biobased plastic material is g.	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>P8 Batteries</b>	
P8.1*	Battery chemical composition: <i>Lithium Manganese Dioxide</i>

**P9 Energy consumption (See NOTE B8)**

P9.1 For the product the following power levels or energy consumptions are reported:				
Energy mode *	Power level at 100 V AC	Power level at 115 V AC	Power level at 230 V AC	Reference/Standard for energy modes and test method *
<i>Peak (On-max)</i>	W	87.32 W	W	<i>Full load</i>
<b>Category ---2</b>				
<i>Short Idle State - WOL Enabled</i>	21.06W	21.42W	21.14W	<i>ENERGY STAR Computers V8</i>
<i>Long Idle State - WOL Enabled</i>	2.19W	2.05W	2.175W	<i>ENERGY STAR Computers V8</i>
<i>Sleep (S3) - WOL Enabled</i>	2.19W	2.05W	2.175W	<i>ENERGY STAR Computers V8</i>
<i>Off (S5) - WOL Enabled</i>	0.9W	0.88W	0.9W	<i>ENERGY STAR Computers V8</i>
EPS No-load <small>(External power supply / charger plugged in the wall outlet but disconnected from the product.)</small>	W	W	W	<input checked="" type="checkbox"/>
PTEC * Typical Energy Consumption	W	W	W	<input checked="" type="checkbox"/>
ETEC * Annual Energy Consumption	67.53 kWh/year	67.32 kWh/year	67.22 kWh/year	$E_{TEC} = (8760/1000) \times (P_{off} \times 0.45 + P_{sleep} \times 0.05 + P_{long\_idle} \times 0.15 + P_{short\_idle} \times 0.35)$ <i>P<sub>off</sub>: Off Mode(S5) - WOL Enabled; P<sub>sleep</sub>: Sleep Mode(S3) - WOL Enabled; P<sub>idle</sub>: Idle State - WOL Enabled</i>
External Power Supply Efficiency Level (International Efficiency Marking Protocol) * :				<input checked="" type="checkbox"/>
Display resolution * : 2.07 megapixels				<input type="checkbox"/>
Default time to enter energy save mode: 10 minutes				<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"/>
P9.3 Energy efficiency class (monitors only):				<input checked="" type="checkbox"/>

**P10 Emissions**

<b>Noise emission – Declared according to ISO 9296 (See NOTE B9)</b>			
P10.1	Mode	Mode description	Statistical upper limit A-weighted sound power level, $L_{WA,c}$ (B)
	Idle	* <i>HDD:Idle</i>	* 2.6
	Operation	* <i>HDD: Operating</i>	* 3.5
	Other mode	<i>Declared A-weighted sound pressure level (dB) <math>L_{pAm}</math></i>	24 (operator position desktop – idle)
Other mode	<i>Declared A-weighted sound pressure level (dB) <math>L_{pAm}</math></i>	19 (operator position desktop – operating)	
Measured according to: <input checked="" type="checkbox"/> ISO 7779 <input type="checkbox"/> ECMA-74 <input type="checkbox"/> Other (only if not covered by ECMA-74)			

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

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

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

Model number *	12K7,12K8,12K9,12KA,12KB,12KD,12KC,12KE	Logo	
Issue date *	2022.12.20		

Product environmental attributes - Market requirements (continued)		Requirement met		
Item		Yes	No	n.a.
<b>Electromagnetic emissions</b>				
P10.4	Computer display meets the requirement for low frequency electromagnetic fields of the following voluntary program(s): <b>CE,FCC,VCCI,C-Tick</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P12 Ergonomics for computing products</b>				
P12.1*	The display meets the ergonomic requirements of ISO 9241-307 for visual display technologies.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
P12.2*	The physical input device meets the requirements of ISO 9995 and ISO 9241-410.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>P13 Packaging and documentation</b>				
P13.1*	Product packaging material type(s): <b>Paper -Corrugated Double wall</b> weight (kg): <b>1.33</b> Product packaging material type(s): <b>Paper -Corrugated Double wall</b> weight (kg): <b>0.196</b> Product packaging material type(s): <b>Plastic - Solid EPE (solid Expanded polyethylene)</b> weight (kg): <b>0.796</b> Product packaging material type(s): <b>Plastic - Thermoformed LDPE (thermoformed I</b> weight (kg): <b>0.054</b>			
P13.2*	Product plastic primary packaging is free from PVC.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P13.3*	For product primary corrugated fiberboard packaging, specify the contained percentage of minimum post-consumer recovered fiber content: <b>80 %</b>			<input type="checkbox"/>
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"/>
P13.5	(Please only complete this item if paper documentation used) User and product documentation on paper media is chlorine-free: If Yes, please specify:  Totally chlorine-free Elemental chlorine-free Processed chlorine-free	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
		<input checked="" type="checkbox"/>		
		<input type="checkbox"/>		
		<input type="checkbox"/>		
<b>P14 Voluntary programs</b>				
P14.1	The product meets the requirements of the following voluntary program(s):  Eco-label: <b>Low blue light</b> Criteria version: <b>2 Pfg 2383</b> Date: <b>2022.12.30</b> Product category: <b>Personal Computer</b> Eco-label: <b>Flicker Free</b> Criteria version: <b>2 Pfg 1797</b> Date: <b>2022.12.30</b> Product category: <b>Personal Computer</b> Eco-label: <b>Energy Star</b> Criteria version: <b>8.0</b> Date: <b>2022.11.28</b> Product category: <b>Computer</b> Eco-label: <b>Silver</b> Criteria version: <b>2019</b> Date: <b>2023.1.16</b> Product category: <b>All-in-One</b>			
<b>P15 Additional information (See NOTE B10)</b>				
P9	<b>Energy consumption of specific configuration may vary; description of the tested product configuration:</b> <b>Intel i7-13700H/32G memory/1TBHDD+1TBSSD/Switchable GPU/180w</b>			
	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.			
P9	See Energy Star Qualified Notebooks & Tablet Computers for the latest information: <a href="http://www.energystar.gov/index.cfm?fuseaction=find_a_product.showProductGroup&amp;pgw_code=CO">http://www.energystar.gov/index.cfm?fuseaction=find_a_product.showProductGroup&amp;pgw_code=CO</a>			

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.

<b>Commercial name</b>	<i>ThinkCentre neo 50a 24 Gen 4</i>	<b>Logo</b> 
<b>Model Number</b>	<i>12K7,12K8,12K9,12KA,12KB,12KD,12KC,12KE</i>	
<b>Issue Date</b>	<i>2022.12.20</i>	
<b>Additional information</b>	<i>Low blue light;Flicker Free;Energy Star (12K9;12KA;12KD;12KE) ;EPEAT Silver (12K9;12KA;12KD;12KE)</i>	

P7.1.1 Product environmental attributes					
(d) year of manufacture:		<b>2022</b>			
(e) <b>Etec value</b> (kWh) per ErP Lot 3 Category and capability adjustments applied when <b>all discrete graphics cards (dGfx) are disabled</b> and if the system is tested with switchable graphics mode with UMA driving the display.					
(f) <b>Etec value</b> (kWh) per ErP Lot 3 Category and capability adjustments applied when <b>all discrete graphics cards (dGfx) are enable</b>					
		<b>Category A</b> <small>(according to ErP Lot 3)</small>	<b>Category B</b> <small>(according to ErP Lot 3)</small>	<b>Category C</b> <small>(according to ErP Lot 3)</small>	<b>Category D</b> <small>(according to ErP Lot 3)</small>
capability adjustments applied during testing	Memory over base [GB]				<b>16</b>
	Additional internal storage	(Yes / No)	(Yes / No)	(Yes / No)	<b>Yes</b> <small>(Yes / No)</small>
	Discrete television tuner	(Yes / No)	(Yes / No)	(Yes / No)	<b>No</b> <small>(Yes / No)</small>
	Discrete Audio Card	(Yes / No)	(Yes / No)	(Yes / No)	<b>No</b> <small>(Yes / No)</small>
	Discrete graphics Card(s) [number / #]	(Yes / No) #:	(Yes / No) #:	(Yes / No) #:	<b>Yes #: 1</b> <small>(Yes / No)</small>
	Category of discrete graphics Card(s)				
Test results	<b>Etec Value (kWh) - dGfx disabled</b> <small>all discrete graphics cards (dGfx) are disabled/ UMA is active for switchable graphics/ product has no graphics cards (dGfx)</small>				
	<b>Etec Value (kWh) - dGfx enabled</b> <small>all discrete graphics cards (dGfx) are enabled</small>				<b>29.13</b>
(g)	Idle state power demand (Watts);	<b>6.804</b>			
(h)	Sleep mode power demand (Watts);	<b>2.029</b>			
(i)	Sleep mode with WOL enabled power demand (Watts) (where enabled);	<b>2.175</b>			
(j)	Off mode power demand (Watts);	<b>0.822</b>			
(k)	Off mode with WOL enabled power demand (Watts) (where enabled);	<b>0.9</b>			
(l)	Internal power supply efficiency at 10 %, 20 %, 50 % and 100 % of rated output power (if applicable): 10% <b>84.78%</b> 20% <b>89.71%</b> 50% <b>92.07%</b> 100% <b>92.31%</b> Average <b>91.36%</b> <i>PA-1181-01 180W</i> 10% <b>88.38%</b> 20% <b>90.29%</b> 50% <b>93.23%</b> 100% <b>92.68%</b> Average <b>92.06%</b> <i>HKF1801-3D 180W</i>				
(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):	<b>N/A</b>			

(p-1)	Measurement methodology used to determine information mentioned in points (l) – internal PSU efficiency:  <i>80 PLUS® Certified Power Supplies</i>
(p-2)	Measurement methodology used to determine information mentioned in points (m) – external PSU efficiency:  <i>N/A</i>
(p-3)	Measurement methodology used to determine information mentioned in points (o) – loading cycles batteries:  <i>N/A</i>
(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:  <i>refer to IEC62623:2013-Desktop and notebook computers-Measurement of energy consumption</i>
(q)	Sequence of steps for achieving a stable condition with respect to power demand:  <i>Based on user manual/Power on-&gt;Wait 5 minutes-&gt;Stable condition</i>
(r)	Description of how sleep and/or off mode was selected or programmed:  <i>Set power button behaviors</i>  <b>Set power button behaviors</b>  You can define what the power button does according to your preference. For example, by press power button, you can turn off the computer or put the computer to sleep or hibernation mode.  To change what the power button does: <ol style="list-style-type: none"> <li>1. Go to <b>Control Panel</b> and view by large icons or small icons.</li> <li>2. Click <b>Power Options → Choose what the power buttons do</b>.</li> <li>3. Change the settings as you prefer.</li> </ol>
(s)	Sequence of events required to reach the mode where the equipment automatically changes to sleep and/or off mode:  <i>Based on user manual/Control Panel-&gt;Power Options-&gt; Change Settings-&gt; Restore default settings for this plan</i>
(t)	<b>Duration of idle state condition before the computer automatically reaches sleep mode</b> , or another condition which does not exceed the applicable power demand requirements for sleep mode (in minutes): <i>10 minutes</i>
(u)	<b>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</b> (in minutes): <i>N/A</i>
(v)	<b>Length of time before the display sleep mode is set to activate</b> after user inactivity (in minutes): <i>10 minutes</i>
(w)	Information on the energy-saving potential of power management functionality:  <i>N/A</i>



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

**Based on user manual-Set the power plan**

**Set the power plan**

For ENERGY STAR® compliant computers, the following power plan takes effect when your computers have been idle for a specified duration:

- turn off the display: After 10 minutes
- put the computer to sleep: After 10 minutes

To awaken the computer from Sleep mode, press any key on your keyboard.

To reset the power plan:

1. Right-click the battery status icon and select **Power Options**.
2. Choose or customize a power plan of your preference.

**Enable or disable the ErP LPS compliance mode**

Lenovo computers meet the eco-design requirements of the ErP Lot 3 regulation. For more information, go to:

<https://www.lenovo.com/us/en/compliance/eco-declaration>

You can enable the ErP LPS compliance mode to reduce the consumption of electricity when the computer is off or in sleep mode.

To enable or disable the ErP LPS compliance mode:

1. Restart the computer. When the logo screen is displayed, press F1 or Fn+F1.
2. Select **Power → Enhanced Power Saving Mode** and press Enter.
3. Depending on whether you select **Enabled** or **Disabled**, do one of the following:
  - If you select **Enabled**, press Enter. Then, select **Power → Automatic Power On** and press Enter. Check whether the Wake on LAN feature is disabled automatically. If no, disable it.
  - If you select **Disabled**, press Enter. Then, go to the next step.
4. Press F10 or Fn+F10 to save the changes and exit.

When the ErP LPS compliance mode is enabled, you can wake up the computer by doing one of the following:

- Press the power button.
- Enable the Wake Up on Alarm feature to make the computer wake up at a set time.

To meet the off mode requirement of ErP compliance, you need to disable the Fast Startup function.

1. Go to **Control Panel** and view by large icons or small icons.
2. Click **Power Options → Choose what the power buttons do → Change settings that are currently unavailable**.
3. Clear the **Turn on fast startup (recommended)** option from the **Shutdown settings** list.

(z) 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:

**Test voltage in V and frequency in Hz: 230V/50Hz**

*Total harmonic distortion of the electricity supply system: ≤2%*

Instrument Type	Range Used Or ***	Make and Model **
AC Power Source	230V;50Hz	EXTECH;6810;SN:1450172
Power Meter	0~200V;0~20A	YOKOGAWA;WT210;SN:91H427511
Hygrothermograph	-20 to 50°C;20 to 90%	SEKONIC;ST-50
Light Measuring	1° ; 0.01 to 999,900 cd/m2	Konica Minolta;LS-150

**Additional Notebook Battery Information:**

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

Bios Backup Battery	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Additional information</b>			

1)

The battery[ies] in this product cannot be easily replaced by users themselves.  
 Аккумуляторната[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.  
 Výměnu baterie/baterií v tomto výrobku by neměli provádět sami uživatelé.  
 Brugerene 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.  
 Kasutajad ei saa selle toote akut/akusid ise hõlpsasti asendada.  
 Η μπαταρία[ες] στο προϊόν αυτό δεν μπορούν 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 lako zamijeniti Bateriju sam u ovom proizvodu.  
 La batteria/le batterie in questo prodotto non può/possono essere facilmente sostituita/e dall'utente.  
 Lietotāji paši nevar nomainīt šā ražojuma akumulatoru(-us).  
 Šio gaminio baterijos [baterijų] pats vartotojas negali lengvai pakeisti.  
 A termék akkumulátorát/akkumulátorait a felhasználó nem tudja egyedül egyszerűen kicserélni.  
 Il-batterija/batteriji f'dan il-prodott ma tistax/jistghux tiġi/jiġu sostitwiti/i mill-utenti stess.  
 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.  
 A ou 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 utilizatorii înșiși.  
 Batériu(-ie) v tomto výrobku nemôže vymieňať používateľ.  
 Baterij/baterije v tem izdelku uporabniki sami ne morejo zlahka zamenjati.  
 Tämän tuotteen akku [akut] ei[vät] ole helposti käytettävän vaihdettavissa.  
 Det är inte enkelt för kunden att själv byta ut batteriet/batterierna.  
 Bu üründe ki batarya(lar) kullanıcılar tarafından kolaylıkla değiştirilemez.