


THE ECO DECLARATION



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

Annex B2 - Product environmental attributes Workstations and Servers


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>	
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://www3.lenovo.com/us/en/social_responsibility/environment/</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>SERVER</i>
Commercial name *	<i>Lenovo ThinkSystem SR590</i>
Model number *	<i>7X98, 7X99</i>
Issue date *	<i>2017-11-17</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.

<p>About Annex B2</p> <p>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:</p> <p>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.</p>
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Model number *	7X98, 7X99	Logo	
Issue date *	2017-11-17		

Product environmental attributes - Legal requirements		Requirement met		
Item		Yes	No	n.a.
P1 Hazardous substances and preparations				
P1.1*	Products do comply with current European RoHS Directive. (See legal reference and NOTE B1)	<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 33 information about substances in articles is available at (add URL or mail contact): https://www3.lenovo.com/us/en/social_responsibility/environment/	<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 (add link or e-mail address): http://www.lenovo.com/social_responsibility/us/en/ec_doc_servers/ ; http://www.lenovo.com/social_responsibility/us/en/ec_doc_systemx/	<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 type="checkbox"/> available at (add URL):	<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 *	7X98, 7X99			Logo		
Issue date *	2017-11-17					
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 type="checkbox"/>	<input checked="" 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>Lithium Manganese Dioxide</i>					<input type="checkbox"/>
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 *		<input checked="" type="checkbox"/>
<i>Peak (On-max)</i>	W	W	W	<i>Full load</i>		
Category ---						
<i>Idle State - Minimum Power configuration</i>	87.700 W	87.486 W	86.530 W	<i>Use for ENERGY STAR® Program Requirements for Computer Servers V2.1 (P_{idle})</i>		
<i>Idle State - Typical Power Configuration</i>	195.048 W	193.944 W	191.256 W	<i>Use for ENERGY STAR® Program Requirements for Computer Servers V2.1 (P_{idle})</i>		
<i>Idle State - Low-end Performance Power Configuration</i>	87.700 W	87.486 W	86.530 W	<i>Use for ENERGY STAR® Program Requirements for Computer Servers V2.1 (P_{idle})</i>		
<i>Idle State - High-end Performance Power Configuration</i>	W	W	350.148 W	<i>Use for ENERGY STAR® Program Requirements for Computer Servers V2.1 (P_{idle})</i>		
ETEC * Annual Energy Consumption	kWh/year	kWh/year	kWh/year	$E_{TEC} = (8760/1000) \times (P_{off} \times 0.25 + P_{sleep} \times 0.35 + P_{long_idle} \times 0.10 + P_{short_idle} \times 0.30)$		<input checked="" 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) * :						<input checked="" type="checkbox"/>
Display resolution * : megapixels						<input checked="" type="checkbox"/>
Default time to enter energy save mode: 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						
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>* Indicates idle condition (system is powered on, but no disk activity and all other devices idling)</i>	* 5.9			<input type="checkbox"/>
	Operation	<i>* Indicates CPU and memory operating condition(run PTU with 50% TDP to stress CPU and memory subsystem)</i>	* 5.8			<input type="checkbox"/>
	Other mode	<i>Declared A-weighted sound pressure level (dB) L_{pAm}</i>	<i>(operator position desktop – idle)</i>			
	Other mode	<i>Declared A-weighted sound pressure level (dB) L_{pAm}</i>	<i>(operator position desktop – operating)</i>			
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 *	7X98, 7X99	Logo	
Issue date *	2017-11-17		

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"/>	<input type="checkbox"/>	<input type="checkbox"/>
P12 Ergonomics for computing products				
P12.1*	The display meets the ergonomic requirements of ISO 9241-307 for visual display technologies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P12.2*	The physical input device meets the requirements of ISO 9995 and ISO 9241-410.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P13 Packaging and documentation				
P13.1*	For Sales, Product packaging material type(s): Paper - Corrugated Double wall weight (kg): 3.5 Product packaging material type(s): Paper - Corrugated single wall weight (kg): 1.02 Product packaging material type(s): Plastic - Solid EPE (solid Expanded polyethylene) weight (kg): 1.3 Product packaging material type(s): Plastic - HDPE (high density polyethylene) weight (kg): 0.07 For Transport, Product packaging material type(s): Wood weight (kg): 1.5 Product packaging material type(s): Metal - Steel weight (kg): 0.00075 Product packaging material type(s): Plastic - PP (polypropylene) weight (kg): 0.015 Product packaging material type(s): Plastic - LDPE (low density polyethylene) weight (kg): 0.1 Product packaging material type(s): Paper - cardboard weight (kg): 0.07			
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: 55 %			<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 type="checkbox"/>	<input type="checkbox"/>	
P14 Voluntary programs				
P14.1	The product meets the requirements of the following voluntary program(s): ENERGY STAR® Criteria version: V2.1 Date: Product category: Eco-label: GreenGuard Criteria version: Date: Product category: Eco-label: CELP 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: 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: https://www.energystar.gov/products/office_equipment/enterprise_servers			

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


- Workstation/Server -

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:

Workstation, mobile workstation, desktop thin client, small-scale server and computer server

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

Commercial name	Lenovo ThinkSystem SR590	
Model Number	7X98, 7X99	
Issue Date	2017-11-17	
Additional information		

P7.3.1 Product environmental attributes	
(d)	Year of manufacture: <i>on product label</i>
(e)	<p>Internal power supply efficiency:</p> <p>FSF030</p> <p>Power Efficiency: 10% 91.56% 20% 93.81% 50% 95.09% 100% 93.99% Average 94.30%</p> <p>700-014187-0000</p> <p>Power Efficiency: 10% 90.72% 20% 93.51% 50% 94.62% 100% 93.23% Average 93.79%</p> <p>DPS-550AB-24 X</p> <p>Power Efficiency: 10% 91.11% 20% 94.01% 50% 94.92% 100% 93.28% Average 94.07%</p> <p>DPS-750AB-37 X</p> <p>Power Efficiency: 10% 92.11% 20% 95.04% 50% 96.03% 100% 94.91% Average 95.33%</p> <p>FSF061</p> <p>Power Efficiency: 10% 92.63% 20% 95.10% 50% 96.03% 100% 94.67% Average 95.27%</p> <p>700-014188-0000</p> <p>Power Efficiency: 10% 89.99% 20% 93.57% 50% 94.71% 100% 93.58% Average 93.95%</p> <p>FSF055</p> <p>Power Efficiency: 10% 91.36% 20% 93.25% 50% 94.78% 100% 93.33% Average 93.79%</p>
(f)	<p>Test parameters for measurements:</p> <ul style="list-style-type: none"> — 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>-Test Voltage : 230V , Frequency: 50Hz</p> <p>-Total harmonic distortion : <2%</p> <p>- Information and documentation on the instrumentation : <i>Please refer to additional information</i> ,</p> <p>- Set-up and circuits used for electrical testing: <i>Please refer to additional information</i></p>
(g)	Maximum power (Watts) 520.755
(h)	Idle state power (Watts) 249.342
(i)	Sleep mode power (Watts) N/A
(j)	Off mode power (Watts) 17.380
(l-1)	Measurement methodology used to determine information mentioned in points (e): Generalized Test Protocol for Calculating the Energy Efficiency of Internal Ac-Dc and Dc-Dc Power Supplies Revision 6.6 (April, 2012)
(l-2)	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: Guidelines accompanying Commission Regulation (EU) No 617/2013
Additional information	

- Information and documentation on the instrumentation

In strument I.D.	Instrument Type	Range Used	Make and Model
A8	AC POWER SOURCE	1~280VAC;1~550HZ;1000VA	EC1000S; SN:9136092
B43	Digital Watch	Full range	HS-70W; SN:107Q05R
B45	Power Meter	0~600V;0~20A	WT210;SN:27D94199 9
B48	Humidity/Temperature Sensor	15~30°C;12~89%RH	Watchport/H;SN:W114 92318

- Set-up and circuits used for electrical testing:

