




## Product environmental attributes – THE ECO DECLARATION

The declaration may be published only when all rows and/or fields marked with an \* are filled-in (n.a. for not applicable).  
Additional information regarding each item may be found under P14.

<b>Brand *</b>	<i>ThinkPad</i>	<b>Logo</b>  
<b>Company name *</b>	<i>Lenovo</i>	
<b>Contact information *</b>	<i>Lenovo Global Environmental Affairs Alvin L. Carter 1009 Think Place Building 2 / 5F1 Morrisville, North Carolina 27560 alcarter@lenovo.com</i>	
<b>Internet site *</b>	<i><a href="http://www.lenovo.com/social_responsibility/us/en/environment.html">http://www.lenovo.com/social_responsibility/us/en/environment.html</a></i>	
<b>Additional information</b>	<i>The latest version of this document can be found at <a href="http://www.lenovo.com/social_responsibility/us/en/datasheets_notebooks.html">http://www.lenovo.com/social_responsibility/us/en/datasheets_notebooks.html</a></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.	
<b>Type of product *</b>	<i>Notebook PC</i>
<b>Commercial name *</b>	<i>Zhaoyang K4450, Zhaoyang K4450A</i>
<b>Model number *</b>	<i>M/T: 20229</i>
<b>Issue date *</b>	<i>2013, May 23</i>
<b>Intended market *</b>	<input checked="" type="checkbox"/> Global <input type="checkbox"/> Europe <input type="checkbox"/> Asia, Pacific & Japan <input type="checkbox"/> Americas <input type="checkbox"/> Other
<b>Additional information</b>	

This is an uncontrolled copy when in printed form. Please refer to the contact information for the latest version.

Quality Control		Requirement met	
		Yes	No
QC1 *	The company enforces an internal quality control scheme to ensure the correctness of this eco declaration	<input checked="" type="checkbox"/>	<input type="checkbox"/>
QC2 *	The company is a member of an eco declaration system that enforces regular independent quality control such as organized by IT-Företagen (see <a href="http://www.itecodeclaration.org">www.itecodeclaration.org</a> ).	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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Product environmental attributes - Legal requirements		Requirement met		
Item		Yes	No	n.a.
<b>P1 Hazardous substances and preparations</b>				
P1.1*	Products do not contain more than; 0.1% lead, 0.01% cadmium, 0.1% mercury, 0.1% hexavalent chromium, 0.1% polybrominated biphenyls (PBB) or 0.1% polybrominated diphenyl ethers (PBDE). (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*	Textile and leather parts with direct skin contact do not contain Tri-(2,3,-dibromopropyl)-phosphate (TRIS), Tris-(aziridinyl)-phosphineoxide (TEPA), polybrominated biphenyl (PBB) (see legal reference). Comment: Legal reference has no maximum concentration values.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P1.7*	Textile and leather parts with direct skin contact do not contain more than 0.003% Azo colorants that split aromatic amines. (See legal reference and Note B1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P1.8*	Wooden parts do not contain arsenic and chromium as a wood preservation treatment as well as pentachlorophenol and derivatives (see legal reference). Comment: Legal reference has no maximum concentration values.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P1.9*	Parts with direct and prolonged skin contact do not release nickel in concentrations above 0.5 microgram/cm <sup>2</sup> /week (see legal reference). Comment: Max limit in legal reference when tested according to EN1811:1998.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P1.10*	REACH Article 33 information about substances in articles is available at (add URL or mail contact): <a href="http://www.lenovo.com/social_responsibility/us/en/environment.html">http://www.lenovo.com/social_responsibility/us/en/environment.html</a>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P2 Batteries</b>				
P2.1*	If the product contains a battery or an accumulator, it is labeled with the disposal symbol and if it contains more than 0.0005% of mercury (for button cells only) by weight, or more than 0.004% of lead, it shall be marked with the chemical symbol for the metal concerned, Hg or Pb. Information on proper disposal is provided in user manual. (See legal reference)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P2.2*	Button cells used in the product do not contain more than 2% by weight of mercury. Other 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 easily removable by either users or service providers (as dependent on the design of the product). Exception: Batteries that are permanently installed for safety, performance, medical or data integrity reasons do not have to be "easily removable". (See legal reference)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P3 Safety, EMC connection to the telephone network and labeling</b>				
P3.1*	The product complies with legally required safety standards as specified (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P3.2*	The product complies with legally required standards for electromagnetic compatibility (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P3.3*	If product is intended for connection to a public telecom network or contains a radio transmitter, it complies with legally required standards for radio and telecommunication devices (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P3.4*	The product is labeled to show conformance with applicable legal requirements (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P4 Consumable materials</b>				
P4.1*	If a photo conductor (drum, belt etc.) is used in the product, it does not contain cadmium max 0.01% (see legal reference and Note B1).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P4.2*	If ink/toner is used in the product, it does not contain cadmium max 0.1% by weight (see legal reference).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P4.3*	If the ink/toner formulation/preparation is classified as hazardous according to applicable regulations, the product/packaging is adequately labeled and a Safety Data Sheet (SDS) in accordance with these requirements is available (see legal reference).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>P5 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*	Plastic packaging material is marked according to ISO 11469 referring ISO 1043 (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"/>

Note B1: Restriction applies to the homogeneous material, unless other specified and expressed in weight %.

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Product environmental attributes - Market requirements - Environmental conscious design		Requirement met		
Item	*=mandatory to fill in. Additional information regarding each item may be found under P14.	Yes	No	n.a.
<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"/>
<b>P7</b>	<b>Design</b>			
	<b>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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
P7.3*	Plastic parts >100g consist of one material or of easily separable materials.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.4*	Plastic parts >25g have material codes according to ISO 11469 referring ISO 1043.	<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: Material type: <b>PC+ABS-FR(40)</b> Material type: Material type:			
P7.12	Electrical cable insulation materials of power cables are PVC free.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
P7.13	Electrical cable insulation materials of signal cables are PVC free	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
P7.14	All cover/housing plastic parts >25g are free from chlorine and bromine.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.15	All printed circuit boards (without components) >25g are halogen free. as defined in IEC61249-2-21. (See Note B2)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
P7.16	Flame retarded plastic parts >25g in covers / housings are marked according ISO 1043-4: Marking: <b>FR(40)</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.17	Alt. 1 Chemical specifications of flame retardants in printed circuit boards >25g (without components): TBBPA (additive) <input type="checkbox"/> , TBBPA (reactive) <input type="checkbox"/> , Other; chemical name: <b>DOPO(9,10-dihydro-9-oxa-10-phosphaphenanthrene-10-oxide)</b> , CAS #: <b>35948-25-5</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Alt. 2 Chemical specifications of flame retardants in printed circuit boards (without components) >25g according ISO 1043-4: <b>FR(40)</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.18	Alt. 1 Flame retarded plastic parts >25g contain the following flame retardant substances/preparations in concentrations above 0.1%: Comment: No legal limits exist, this is a market requirement. Provide a list of all used flame retardants including MSDS for each flame retardant. The list must contain complete chemical name, CAS number and supplier. 1. Chemical name: , CAS #: , Supplier: 2. Chemical name: , CAS #: , Supplier: 3. Chemical name: , CAS #: , Supplier:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Alt. 2 Chemical specifications of flame retardants in plastic parts >25g according ISO 1043-4: <b>FR(40)</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.19	Plastic parts >25g are free from flame retardant substances/ preparations above 0.1% classified as R45, R40, R46, R48, R50, R51, R53, R60, R61 and any combination of these (See Note B3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.20	Of total plastic parts' weight >25g, recycled material content is <b>6.4</b> %.			
P7.21	Of total plastic parts' weight >25g, biobased material content is <b>0</b> %.			
P7.22	Light sources are free from mercury	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P8</b>	<b>Batteries</b>			
P8.1*	Battery chemical composition: <b>Lithium Ion/Lithium Manganese Dioxide</b>			<input type="checkbox"/>
P8.2	Batteries meet the requirements of the following voluntary program/s: <b>US RBRC</b>			<input type="checkbox"/>

Note B2: IEC61249-2-21 has maximum limits for chlorine and bromine but does not address fluorine, iodine and astatine which are included in the group of halogens.

Note B3: 'Starting from January 2009, Risk phrases can be replaced by Hazard phrases according to the Globally Harmonized System (GHS), mandatory by December 2010.

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**Product environmental attributes - Market requirements (continued)** **Requirement met**

Item	Yes	No	n.a.
<b>P9 Energy consumption</b>			
9.1 For the product the following power levels or energy consumptions are reported:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Energy mode	Power level at 100 V AC	Power level at 115 V AC	Power level at 230 V AC
<b>Peak (On- max)</b>	65 W	65 W	65 W
<b>Category A</b>			
<b>Idle State - WOL Enabled</b>	W	W	W
<b>Sleep (S3) - WOL Enabled</b>	W	W	W
<b>Sleep (S3) - WOL Disabled</b>	W	W	W
<b>Off (S5) - WOL Enabled</b>	W	W	W
<b>Off (S5) - WOL Disabled</b>	W	W	W
<b>Category B</b>			
<b>Idle State - WOL Enabled</b>	5.84W	4.48W	4.96W
<b>Sleep (S3) - WOL Enabled</b>	0.53W	0.54W	0.61W
<b>Sleep (S3) - WOL Disabled</b>	W	W	W
<b>Off (S5) - WOL Enabled</b>	0.34W	0.38W	0.46W
<b>Off (S5) - WOL Disabled</b>	0.35W	0.35W	0.42W
EPS No-load (External power supply / charger plugged in the wall outlet but disconnected from the product.)	0.08W	0.08W	0.11W
P <sub>TEC</sub> Typical Energy Consumption	W	W	W
TEC Typical Energy Consumption	kWh/week	kWh/week	kWh/week
E <sub>TEC</sub> * Annual Energy Consumption	17.59	14.25	15.96
Display resolution : 1366 x 768 Megapixels			
Print Speed : Images per minute			
Default time to enter energy save mode: 20 minutes			
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* The product meets the energy requirements of the following voluntary program/s: ENERGY STAR® version: <b>Version 5.0 dated July 1, 2009</b> Product category: <b>B</b> Others specify: <b>ENERGY STAR for External Power Supplies Eligibility Criteria Version 2</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P10 Emissions</b>			
<b>Noise emission – Declared according to ISO 9296</b>			
P10.1	Mode	Mode description	Declared A-weighted sound power level L <sub>WAd</sub> (B)
			Declared A-weighted sound pressure level L <sub>pAm</sub> (dB)
			Operator position <input checked="" type="checkbox"/>
			Desktop <input checked="" type="checkbox"/>
			or Desk side <input type="checkbox"/>
	Idle	* HDD: Idle	* 3.0
	Operation	* HDD: Operating	* 4.0
	Other mode		
	Measured according to: <input checked="" type="checkbox"/> ISO7779 <input type="checkbox"/> ECMA-74 <input type="checkbox"/> Other (only if not covered by ECMA-74 with L <sub>pAm</sub> measurement distance m)		
P10.2	The product meets the acoustic noise requirements of the following voluntary program/s:		

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Product environmental attributes - Market requirements (continued)		Requirement met		
Item		Yes	No	n.a.
<b>Chemical emissions from printing products</b>				
P10.3*	Test performed according to ECMA-328 (ISO/IEC 28360) standard <input type="checkbox"/> , other specify:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P10.4	Typical emission rate (print phase) is (mg/h): Dust            Ozone            Styrene            Benzene            TVOC			<input checked="" type="checkbox"/>
P10.5	Chemical emission requirements of the following voluntary program/s are met for : Dust <input type="checkbox"/> Ozone <input type="checkbox"/> Styrene <input type="checkbox"/> Benzene <input type="checkbox"/> TVOC <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Electromagnetic emissions</b>				
P10.6	Computer display meets the requirement for low frequency electromagnetic fields of the following voluntary program/s: <i>MPR-II(3 pin AC adapter only)</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P11 Consumable materials for printing products</b>				
P11.1*	A Safety Data Sheet (SDS) is available for the ink/toner preparation, even if not legally required (see P4.3).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P11.2*	Paper containing post-consumer recycled fibers can be used, provided that it meets the requirements of EN12281.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P11.3*	2-sided (duplex) printing/copying is an integrated product function.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 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 type="checkbox"/>	<input type="checkbox"/>
<b>P13 Packaging and documentation</b>				
P13.1*	Product packaging material type(s): <i>Corrugated Cardboard</i> weight (kg): <b>0.682</b> Product packaging material type(s): <i>Recycled Polyethylene (RLDPE)</i> weight (kg): <b>0.192</b> Product packaging material type(s): <i>Others(Plastic Bags)</i> weight (kg): <b>0.022</b>			
P13.2*	Product plastic packaging is free from PVC.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P13.3*	Specify media for user and product documentation (tick box): Electronic <input checked="" type="checkbox"/> , Paper <input checked="" type="checkbox"/> , Other <input type="checkbox"/>			<input type="checkbox"/>
P13.4*	For paper user and product documentation, please specify contained percentage of post-consumer recycled fiber: <b>0%</b> . (Japan only 70%)			<input type="checkbox"/>
<b>P14 Additional information (See Note B4)</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://downloads.energystar.gov/bi/qplist/laptops_prod_list.xls">http://downloads.energystar.gov/bi/qplist/laptops_prod_list.xls</a>			

Note B4: 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 B

Reference	Declaration item
2002/95/EC (ROHS Directive)	P1.1, P4.1
REACH, Annex XVII	P1.6, P1.8, P4.2
REACH, Annex XVII	P1.4
REACH, Annex XVII	P1.2
REACH, Annex XVII	P1.7
REACH, Annex XVII	P1.9
Regulation (EC) No. 2037/2000, 2038/2000, 2039/2000	P1.3
Norwegian regulation relating to restrictions on the use of certain dangerous chemicals 20.12.2002	P1.5
2006/66/EC (Battery and accumulators Directive)	P2.1, P2.2, P2.3, P3.4, P8.1
2006/95/EC (Low Voltage Directive)	P3.1, 3.4
2004/108/EEC (New EMC Directive)	P3.2, 3.4
1999/5/EC (R&TTE Directive)	P3.3, 3.4
"REACH" Regulation (1907/2006), annex VII	P1.10
(EC) No.1272/2008 regulation on classification, labeling and packaging (CLP)	P4.3
REACH article 31, annex II	P4.3
2004/12/EC (Directive on packaging and packaging waste)	P5.1
(97/129/EC) (Commission Decision on Identification System for Packaging Materials)	P5.2
2037/2000/EC Regulation on Substances that Deplete the Ozone Layer	P5.3
2002/96/EC (WEEE directive)	P3.4, P6.1
(EC) No.1272/2008 regulation on classification, labeling and packaging (CLP)	P7.19