

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.

Brand *	ThinkPad Logo		
Company name *	Lenovo		
Contact information *	Lenovo Global Environmental Affairs Alvin L Carter 1009 Think Place Building 2 / 5F1 Morrisville, North Carolina 27560 alcarter@lenovo.com		
Internet site *	http://www.lenovo.com/social_responsibility/us/en/environment.html		
Additional information	The latest version of this document can be found at http://www.lenovo.com/social_responsibility/us/en/datasheets_	notebooks.html	

	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 *	lotebook PC			
Commercial name *	ThinkPad W540			
Model number *	M/T: 20BG/20BH			
Issue date *	2014, June 13			
Intended market *	Global Europe Asia, Pacific & Japan Americas Other			
Additional information				

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

Quality	Control F	Requireme	nt met
Item		Yes	No
QC1 *	The company enforces an internal quality control scheme to ensure the correctness of this eco declaration	\boxtimes	
QC2 *	The company is a member of an eco declaration system that enforces regular independent quality control such as organized by IT-Företagen (see www.itecodeclaration.org).		

Model number *	ThinkPad W540	M/T: 20BG/20BH		
Issue date *	2014, June 13		Logo	lenovo.

Product	environmental attributes - Legal requirements	Require	ment	met
Item		Yes	No	n.a.
P1	Hazardous substances and preparations	<u></u> _		
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)			
P1.2*	Products do not contain Asbestos (see legal reference). Comment: Legal reference has no maximum concentration value.			
P1.3*	Products do not contain Ozone Depleting Substances: Chlorofluorocarbons (CFC), hydrobromofluorocarbons (HBFC), hydrochlorofluorcarbons (HCFC), Halons, carbontetrachloride, 1,1,1-trichloroethane, methyl bromide (see legal reference). Comment: Legal reference has no maximum concentration values.			
P1.4*	Products do not contain more than; 0.005% polychlorinated biphenyl (PCB), 0.005% polychlorinated terphenyl (PCT) in preparations (see legal reference).			
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).			
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.			
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)			\boxtimes
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.			
P1.9*	Parts with direct and prolonged skin contact do not release nickel in concentrations above 0.5 microgram/cm²/week (see legal reference). Comment: Max limit in legal reference when tested according to EN1811:1998.			
P1.10*	REACH Article 33 information about substances in articles is available at (add URL or mail contact): http://www.lenovo.com/social_responsibility/us/en/materials.html			
P2	Batteries			
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)			
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)	\boxtimes		
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)			
P3	Safety, EMC connection to the telephone network and labeling			
P3.1*	The product complies with legally required safety standards as specified (see legal reference).	\boxtimes		
P3.2*	The product complies with legally required standards for electromagnetic compatibility (see legal reference).	\boxtimes		
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).	S 🔀		
P3.4*	The product is labeled to show conformance with applicable legal requirements (see legal reference).	\boxtimes		
P4	Consumable materials			
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).			
P4.2*	If ink/toner is used in the product, it does not contain cadmium max 0.1% by weight (see legal reference).			\boxtimes
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).			
P5	Product packaging			
P5.1*	Packaging and packaging components do not contain more than 0.01% lead, mercury, cadmium an hexavalent chromium by weight of these together.	d 🔀		
P5.2*	Plastic packaging material is marked according to ISO 11469 referring ISO 1043 (see legal reference).	\boxtimes		
P5.3*	The product packaging material is free from ozone depleting substances as specified in the Montrea Protocol (see legal reference). Comment: Legal reference has no maximum concentration values.	al 🔀		

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

Model number *	ThinkPad W540	M/T: 20BG/20BH		
Issue date *	2014, June 13		Logo	lenovo.

Product	t environmental attributes - Market requirements - Environmental conscious design Re	quire	ment	met
Item	*=mandatory to fill in. Additional information regarding each item may be found under P14.	Yes	No	n.a.
P6	Treatment information			
P6.1*	Information for recyclers/treatment facilities is available (see legal reference).	\boxtimes		
P7	Design Disassembly, recycling			
P7.1*	Parts that have to be treated separately are easily separable	X	\Box	\Box
P7.2*	Plastic materials in covers/housing have no surface coating.			Ħ
P7.3*	Plastic parts >100g consist of one material or of easily separable materials.			\blacksquare
P7.4*	Plastic parts >25g have material codes according to ISO 11469 referring ISO 1043.		Ħ	Ħ
P7.5	Plastic parts are free from metal inlays or have inlays that can be removed with commonly available tools.		Ħ	一一
P7.6*	Labels are easily separable. (This requirement does not apply to safety/regulatory labels).		Ħ	Ħ
	Product lifetime			
P7.7*	Upgrading can be done e.g. with processor, memory, cards or drives	X	П	П
P7.8*	Upgrading can be done using commonly available tools		$\overline{}$	Ħ
P7.9.	Spare parts are available after end of production for: 5 years			Ħ
P7.10	Service is available after end of production for: 5 years			H
	Material and substance requirements			
P7.11*	Product cover/housing material type:			
	Material type: <i>PC+ABS-FR</i> (40) Material type: <i>PA-GF50FR</i> (40) Material type:			
P7.12	Electrical cable insulation materials of power cables are PVC free.		\boxtimes	
P7.13	Electrical cable insulation materials of signal cables are PVC free	$\overline{\boxtimes}$		\Box
P7.14	All cover/housing plastic parts >25g are free from chlorine and bromine.	X	Ħ	一百
P7.15	All printed circuit boards (without components) >25g are halogen free. as defined in IEC61249-2-21. (See		Ī	一百
	Note B2)			
P7.16	Flame retarded plastic parts >25g in covers / housings are marked according ISO 1043-4: Marking: FR (40)			
P7.17	Alt. 1 Chemical specifications of flame retardants in printed circuit boards >25g (without components):			
	TBBPA (additive) , TBBPA (reactive) , Other ; chemical name: DOPO(9,10-dihydro-9-oxa-10-			
	phosphaphenanthrene-10-oxide), CAS #: 35948-25-5			
	Alt. 2			
	Chemical specifications of flame retardants in printed circuit boards (without components) >25g according	Ш	ш	Ш
	ISO 1043-4: FR (40)			
P7.18	Alt. 1			
	Flame retarded plastic parts >25g contain the following flame retardant substances/preparations in concentrations above 0.1%:	Ш		
	Comment: No legal limits exist, this is a market requirement.			
	1. Chemical name: , CAS #:			
	2. Chemical name: , CAS #:			
	3. Chemical name: , CAS #:			
	Alt. 2 Chemical specifications of flame retardants in plastic parts >25g according ISO 1043-4:			
	FR (40)	\boxtimes		
P7.19	Plastic parts >25g are free from flame retardant substances/ preparations above 0.1% classified as R45,		Ħ	Ħ
	R40, R46, R48, R50, R51, R53, R60, R61 and any combination of these (See Note B3)			
P7.20	Of total plastic parts' weight >25g, recycled material content is 0%.			
P7.21	Of total plastic parts' weight >25g, biobased material content is 0%.			
P7.22	Light sources are free from mercury	\boxtimes		
P8	If mercury is used specify: Number of lamps: and max. mercury content per lamp: mg Batteries mg			
P8.1*	Batteries Battery chemical composition: Lithium Ion/Lithium Manganese Dioxide			
P8.2	Batteries meet the requirements of the following voluntary program/s: <i>US Call2Recycle</i> , <i>EPBA</i> , <i>JBRC</i>			\dashv

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.

Model number *	ThinkPad W540	M/T: 20BG/20BH		
Issue date *	2014, June 13		Logo	lenovo.

Item	ributes - Market i	requirements (continuea)	Yes No	met n.a.
P9 Energy consumpti	on			165 140	II.a.
9.1 For the product the		els or energy cons	umptions are re	ported: See P14	
Energy mode *		Power level at 115 V AC		Reference / Standard for energy modes and test method *	
Peak (On-max)	135/170 W	135/170 W	135/170 W	Full load	
Category I1			L	L	
Short Idle - WOL Enabled	17.964 W	16.416 W	16.284 W	Use for Energy Star V6 registration(P _{SHORT_IDLE})	
Long Idle - WOL Enabled	12.900 W	12.348 W	12.264 W	Use for Energy Star V6 registration(PLONG_IDLE)	
Sleep (S3) - WOL Enabled	1.452 W	1.452 W	1.464 W	Use for Energy Star V6 registration(P _{SLEEP)}	
Sleep (S3) - WOL Disabled	W	W	W	Reference	
Off (S5) - WOL Enabled	0.792 W	0.804 W	<i>0.792</i> W	Use for Energy Star V6 registration(P _{OFF})	
Off (S5) - WOL Disabled	W	W	W	Use for ErP	
Category I2			•		
Short Idle - WOL Enabled	17.484 W	16.536 W	16.296 W	Use for Energy Star V6 registration(P _{SHORT_IDLE})	
Long Idle - WOL Enabled	12.936 W	14.868 W	12.060 W	Use for Energy Star V6 registration(PLONG_IDLE)	
Sleep (S3) - WOL Enabled	1.380 W	1.368 W	1.416 W	Use for Energy Star V6 registration(P _{SLEEP)}	
Sleep (S3) - WOL Disabled	W	W	W	Reference	
Off (S5) - WOL Enabled	0.804 W	0.804 W	<i>0.792</i> W	Use for Energy Star V6 registration(P _{OFF})	
Off (S5) - WOL Disabled	W	W	W	Use for ErP	
Category I3			•		
Short Idle - WOL Enabled	17.664 W	17.856 W	16.248 W	Use for Energy Star V6 registration(PSHORT_IDLE)	
Long Idle - WOL Enabled	13.824 W	13.512 W	12.492 W	Use for Energy Star V6 registration(PLONG_IDLE)	
Sleep (S3) - WOL Enabled	1.536 W	1.524 W	1.476 W	Use for Energy Star V6 registration(P _{SLEEP})	
Sleep (S3) - WOL Disabled	W	W	W	Reference	
Off (S5) - WOL Enabled	0.804 W	0.804 W	<i>0.780</i> W	Use for Energy Star V6 registration(P _{OFF})	
Off (S5) - WOL Disabled	W	W	W	Use for ErP	
EPS No-load (External power supply / charger plugged in the wall outlet but disconnected from the product.)	W	0.168 W	0.192 W		
PTEC * Typical Energy Consumption	W	W	W		
TEC * Typical Energy Consumption	kWh/week	kWh/week	kWh/week		
ETEC * Annual Energy Consumption	I1:64.70,I2:63.27 , I3:65.00 kWh/year	I1:60.17,I2:62. 44,I3:65.20 kWh/year	<i>I1:59.76,I2:59</i> . <i>47,I3:59.88</i> kWh/year	E _{TEC} = (8760/1000) x (P _{OFF} × T _{OFF} + P _{SLEEP} × T _{SLEEP} + P _{LONG_IDLE} × T _{SHORT_IDLE} × T _{SHORT_IDLE})	
Display resolution*: 1366 x 76	8,1920 x 1080, 288	0 x 1620 Pixels			
	ages per minute				
Default time to enter energy sav	re mode: 20 minutes	3			
P9.2* Information about th			th the product.		
P9.3* The product meets the energy requirements of the following voluntary program/s: ENERGY STAR® version: Version 6.0 dated June 2, 2014 Tier: Product category: 11,12,13 Others specify:					

Model number *	ThinkPad W540	M/T: 20BG/20BH		
Issue date *	2014, June 13		Logo	lenovo.

Product 6	duct environmental attributes - Market requirements (continued) Requirement met					
					Yes No	n.a.
P10	Emissions					
		- Declared according to ISO 9296				
P10.1	Mode	Mode description	Declared	Declared A-weighted		
			A-weighted sound power	sound pressure level $L_{p{\rm An}}$		
			level L_{WAd} (B)	Operator position 🔀 Bystand	der positions	3
			ma	Desktop 🔀	L]
					roduct is no or attended	
	Idle	* Idle	* 2.8	21		\Box
	Operation	* Operating HDD / CPU	* 3.2 / 3.3	22 / 30		┑┌
	Other mode					_
	Measured accord	ding to: ISO7779 ECMA-74				
		Other (only if not covered	d by ECMA-74 wit	h L _{pAm} measurement distance	m)	
P10.2	The product mee	ets the acoustic noise requirements of the fo	ollowing voluntary	program/s:		\boxtimes
	Chemical emiss	sions from printing products				
P10.3*		according to ECMA-328 (ISO/IEC 28360) st	andard 🔲, other	specify:		
P10.4		rate (print phase) is (mg/h):				\boxtimes
D. 10. F	Dust	,	zene TV0			
P10.5		on requirements of the following voluntary p	_	are met for :		
	Dust	Ozone Styrene	Benzene	TVOC		
P10.6	Computer display	y meets the requirement for low frequency	electromagnetic fi	elds of the following voluntary		
	program/s: MPR	-II(3 pin AC adapter only)	electromagnetic in	elds of the following voluntary		. ⊔
P11		aterials for printing products				
P11.1*		neet (SDS) is available for the ink/toner pre	•	· · · · · · · · · · · · · · · · · · ·		
P11.2*	EN12281.	g post-consumer recycled fibers can be u		at it meets the requirements of		
P11.3*	· · · /	printing/copying is an integrated product fur	nction.			
P12		computing products	007 familianal alla			
P12.1*		ts the ergonomic requirements of ISO 9241		, ,		
		ut device meets the requirements of ISO 99	195 and 150 9241	-410.		
P13 P13.1*	Product packaging	documentation ng material type(s): 80% Recycled Corrug	ated Cardboard	weight (kg): 0.533		
1 10.1		ng material type(s): 100% Recycled Polyet				
	Product packagir	ng material type(s): Others (plastic bags)		weight (kg): 0.022		
P13.2*		ackaging is free from PVC.				
P13.3*	Specify media for user and product documentation (tick box):					
P13.4*	For paper user and product documentation, please specify contained percentage of post-consumer recycled fiber: 0%					
P14		mation (See Note B4)				
		makes no representations, guarantees, ass				
	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:					
P7.15	http://www.energystar.gov/index.cfm?fuseaction=find_a_product.showProductGroup&pgw_code=CO Excluding 135W, 170W AC adapter					

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

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	ThinkPad W540	Logo
Model Number	20BG, 20BH	lenovo.
Issue Date	2014, July 1	
Additional information		

(d)	year of manufacture:	2014				
(e)	E TEC value (kWh) per ErP Lot 3 Category and capability adjustments applied when all discrete graphics ca disabled and if the system is tested with switchable graphics mode with UMA driving the display:	rds (dGfx) are				
	Category (according to ErP Lot 3): Etec:					
(f)	E TEC value (kWh) per ErP Lot 3 Category and capability adjustments applied when all discrete graphics carenabled:	ds (dGfx) are				
	Category (according to ErP Lot 3): B Etec: 48.38					
(g)	idle state power demand (Watts);	15.49				
(h)	sleep mode power demand (Watts);					
(i)	sleep mode with WOL enabled power demand (Watts) (where enabled);	1.62				
(j)	off mode power demand (Watts);					
(k)	off mode with WOL enabled power demand (Watts) (where enabled);	1.19				
(I)	internal power supply efficiency at 10 %, 20 %, 50 % and 100 % of rated output power (if applicable):					
	10% 20% 50% 100% Average					
(m)	external power supply efficiency (if applicable):					
	10% 20% 50% 100% Average ;					
	or level: V					
(0)	the minimum number of loading cycles that the batteries can withstand (applies only to notebook computers):	300				
(p-1)	the measurement methodology used to determine information mentioned in points (I) – internal PSU efficiency: Not applicable					
(p-2)	the measurement methodology used to determine information mentioned in points (m) – external PSU efficiency: EPA "Test Method for Calculating the Energy Efficiency of Single-Voltage External AC-DC and AC-AC Power Supplies" dated August 11, 2004					
(p-3)	the measurement methodology used to determine information mentioned in points (o) – loadingcycles batteries: IEC 61960 measurement methodology					

(p-4)	the 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:							
			ENER	GY STAR measurement methodology				
(q)	sequence	sequence of steps for achieving a stable condition with respect to power demand::						
			ENER	GY STAR measurement methodology				
(r)	description of how sleep and/or off mode was selected or programmed:							
		By selectin	g sleep	and/or off mode thru Windows operating system				
(s)	sequence of events required to reach the mode where the equipment automatically changes to sleep and/or off mode:							
		A	utomati	ically changes to sleep after 20 minutes				
(t)				refore the computer automatically reaches sleep mode, or another oplicable power demand requirements for sleep mode (in minutes):	20 minutes			
(u)	the 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)	the length of time before the display sleep mode is set to activate after user inactivity (in minutes): 10 minutes							
(w)	information	on the energy-savi	ng poter	ntial of power management functionality:				
	User i	nformation describ	ed in U	ser Guide and Power Manager under ThinkVantage menu in all programs				
(x)	user inform	nation on how to ena	able the	power management functionality:				
	User i	nformation describ	ed in U	ser Guide and Power Manager under ThinkVantage menu in all programs				
(z)	the electric			test voltage in V and frequency in Hz, — total harmonic distortion of ation and documentation on the instrumentation, set-up and circuits				
			230V,	50Hz, Total Harmonic Distortion <2 %				
Addition	n Notebook B	attery Information:						
Yes		No	n/a	This notebook computer is operated by battery/ies that cannot be access by a non-professional user.	sed and replaced			
(Battery replacea	not user able)	(Battery user replaceable)		The battery[ies] in this product cannot be easily replact themselves	ced by users			

Additional information							