THE ECO DECLARATION

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 *	***Notebook PC***
Commercial name *	***ThinkPad W541***
Model number *	***20EF, 20EG***
Issue date *	*January 13, 2015*
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		**Requirement met**	
Item		Yes	No
QC1 *	The company enforces an internal quality control scheme to ensure the correctness of this eco declaration	☒	☐
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 *	20EF, 20EG		
Issue date *	January 13, 2015	Logo	lenovo

Product environmental attributes - Legal requirements		Requirement met		
Item		Yes	No	n.a.
P1	**Hazardous substances and preparations**			
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)	☐	☐	☒
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/cm^2/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)	☒	☐	☐
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).	☒	☐	☐
P3.2*	The product complies with legally required standards for electromagnetic compatibility (see legal reference).	☒	☐	☐
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).	☒	☐	☐
P3.4*	The product is labeled to show conformance with applicable legal requirements (see legal reference).	☒	☐	☐
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).	☐	☐	☒
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 and hexavalent chromium by weight of these together.	☒	☐	
P5.2*	Plastic packaging material is marked according to ISO 11469 referring ISO 1043 (see legal reference).	☒	☐	☐
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.	☒	☐	☐

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

Model number *	20EF, 20EG		
Issue date *	January 13, 2015	Logo	lenovo

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.
P6	**Treatment information**			
P6.1*	Information for recyclers/treatment facilities is available (see legal reference).	☒	☐	☐
P7	**Design**			
	Disassembly, recycling			
P7.1*	Parts that have to be treated separately are easily separable	☒	☐	☐
P7.2*	Plastic materials in covers/housing have no surface coating.	☐	☒	☐
P7.3*	Plastic parts >100g consist of one material or of easily separable materials.	☒	☐	☐
P7.4*	Plastic parts >25g have material codes according to ISO 11469 referring ISO 1043.	☒	☐	☐
P7.5	Plastic parts are free from metal inlays or have inlays that can be removed with commonly available tools.	☒	☐	☐
P7.6*	Labels are easily separable. (This requirement does not apply to safety/regulatory labels).	☒	☐	☐
	Product lifetime			
P7.7*	Upgrading can be done e.g. with processor, memory, cards or drives	☒	☐	☐
P7.8*	Upgrading can be done using commonly available tools	☒	☐	☐
P7.9.	Spare parts are available after end of production for: ***5*** years			☐
P7.10	Service is available after end of production for: ***5*** years			☐
	Material and substance requirements			
P7.11*	Product cover/housing material type: Material type: ***PC+ABS-FR(40)*** Material type: ***PA-GF50FR(40)*** Material type:			
P7.12	Electrical cable insulation materials of power cables are PVC free.	☐	☒	☐
P7.13	Electrical cable insulation materials of signal cables are PVC free	☒	☐	☐
P7.14	All cover/housing plastic parts >25g are free from chlorine and bromine.	☒	☐	☐
P7.15	All printed circuit boards (without components) >25g are halogen free. as defined in IEC61249-2-21. (See 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 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%: 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)***	☐ ☒	☐ ☐	☐ ☐
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)	☒	☐	☐
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 If mercury is used specify: Number of lamps: and max. mercury content per lamp: mg	☒	☐	☐
P8	**Batteries**			
P8.1*	Battery chemical composition: ***Lithium Ion/Lithium Manganese Dioxide***			☐
P8.2	Batteries meet the requirements of the following voluntary program/s: ***US Call2Recycle, EPBA, JBRC***			☐

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 *	20EF, 20EG		
Issue date *	January 13, 2015	Logo	lenovo

Product environmental attributes - Market requirements (continued)					Requirement met
Item					Yes No n.a.
P9	**Energy consumption**				
9.1	For the product the following power levels or energy consumptions are reported: **See P14**				
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 *	☐
Peak (On-max)	*135/170* W	*135/170* W	*135/170* W	*Full load*	☐
Category I1					
Short Idle - WOL Enabled	*17.964* W	*16.416* W	*16.284* W	*Use for Energy Star V6.1 registration (P_{SHORT_IDLE})*	☐
Long Idle - WOL Enabled	*12.900* W	*12.348* W	*12.264* W	*Use for Energy Star V6.1 registration (P_{LONG_IDLE})*	☐
Sleep (S3) - WOL Enabled	*1.452* W	*1.452* W	*1.464* W	*Use for Energy Star V6.1 registration (P_{SLEEP})*	☐
Off (S5) - WOL Enabled	*0.792* W	*0.804* W	*0.792* W	*Use for Energy Star V6.1 registration (P_{OFF})*	☐
Category I2					
Short Idle - WOL Enabled	*17.484* W	*16.536* W	*16.296* W	*Use for Energy Star V6.1 registration (P_{SHORT_IDLE})*	☐
Long Idle - WOL Enabled	*12.936* W	*14.868* W	*12.060* W	*Use for Energy Star V6.1 registration (P_{LONG_IDLE})*	☐
Sleep (S3) - WOL Enabled	*1.380* W	*1.368* W	*1.416* W	*Use for Energy Star V6.1 registration (P_{SLEEP})*	☐
Off (S5) - WOL Enabled	*0.804* W	*0.804* W	*0.792* W	*Use for Energy Star V6.1 registration (P_{OFF})*	☐
Category I3					
Short Idle - WOL Enabled	*17.664* W	*17.856* W	*16.248* W	*Use for Energy Star V6.1 registration (P_{SHORT_IDLE})*	☐
Long Idle - WOL Enabled	*13.824* W	*13.512* W	*12.492* W	*Use for Energy Star V6.1 registration (P_{LONG_IDLE})*	☐
Sleep (S3) - WOL Enabled	*1.536* W	*1.524* W	*1.476* W	*Use for Energy Star V6.1 registration (P_{SLEEP})*	☐
Off (S5) - WOL Enabled	*0.804* W	*0.804* W	*0.780* W	*Use for Energy Star V6.1 registration (P_{OFF})*	☐
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	*I1:59.76,I2:59.47,I3:59.88* kWh/year	$E_{TEC} = (8760/1000) \times (P_{OFF} \times T_{OFF} + P_{SLEEP} \times T_{SLEEP} + P_{LONG\_IDLE} \times T_{LONG\_IDLE} + P_{SHORT\_IDLE} \times T_{SHORT\_IDLE})$	☐
Display resolution* : *1366 x 768,1920 x 1080, 2880 x 1620* Pixels					☐
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.				☒ ☐ ☐
P9.3*	The product meets the energy requirements of the following voluntary program/s: ENERGY STAR® version: *Version 6.1* Tier: Product category: *I1,I2,I3* Others specify:				☒ ☐ ☐

Model number *	20EF, 20EG		
Issue date *	January 13, 2015	Logo	lenovo

Product environmental attributes - Market requirements (continued)						Requirement met		
						Yes	No	n.a.
P10	**Emissions**							
	Noise emission – Declared according to ISO 9296							
P10.1	Mode	Mode description	Declared A-weighted sound power level L_{WAd} (B)	Declared A-weighted sound pressure level L_{pAm} (dB) Operator position ☒ Desktop ☒ or Desk side ☐	Bystander positions ☐ (only if product is not operator attended)			
	Idle	* *Idle*	* *2.8*	*21*				☐
	Operation	* *Operating (HDD)*	* *3.2*	*22*				☐
	Other mode	* *Operating (CPU)*	* *3.3*	*30*				
	Measured according to: ☒ ISO7779 ☒ ECMA-74 ☐ Other (only if not covered by ECMA-74 with L_{pAm} measurement distance m)							
P10.2	The product meets the acoustic noise requirements of the following voluntary program/s:					☐	☐	☒
	Chemical emissions from printing products							
P10.3*	Test performed according to ECMA-328 (ISO/IEC 28360) standard ☐, other specify:					☐	☐	☒
P10.4	Typical emission rate (print phase) is (mg/h): Dust Ozone Styrene Benzene TVOC							☒
P10.5	Chemical emission requirements of the following voluntary program/s are met for : Dust ☐ Ozone ☐ Styrene ☐ Benzene ☐ TVOC ☐					☐	☐	☒
	Electromagnetic emissions							
P10.6	Computer display meets the requirement for low frequency electromagnetic fields of the following voluntary program/s: *MPR-II(3 pin AC adapter only)*					☒	☐	☐
P11	**Consumable materials for printing products**							
P11.1*	A Safety Data Sheet (SDS) is available for the ink/toner preparation, even if not legally required (see P4.3).					☐	☐	☒
P11.2*	Paper containing post-consumer recycled fibers can be used, provided that it meets the requirements of EN12281.					☐	☐	☒
P11.3*	2-sided (duplex) printing/copying is an integrated product function.					☐	☐	☒
P12	**Ergonomics for computing products**							
P12.1*	The display meets the ergonomic requirements of ISO 9241-307 for visual display technologies.					☒	☐	☐
P12.2*	The physical input device meets the requirements of ISO 9995 and ISO 9241-410.					☒	☐	☐
P13	**Packaging and documentation**							
P13.1*	Product packaging material type(s): *80% Recycled Corrugated Cardboard* weight (kg): *0.533* Product packaging material type(s): *100% Recycled Polyethylene (RLDPE) Cushions* weight (kg): *0.128* Product packaging material type(s): *Others (plastic bags)* weight (kg): *0.022*							
P13.2*	Product plastic packaging is free from PVC.					☒	☐	☐
P13.3*	Specify media for user and product documentation (tick box): Electronic ☒, Paper ☒, Other ☐							☐
P13.4*	For paper user and product documentation, please specify contained percentage of post-consumer recycled fiber: *0%*							☐
P14	**Additional information (See Note B4)**							
	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: http://www.energystar.gov/index.cfm?fuseaction=find_a_product.showProductGroup&pgw_code=CO***							
P7.15	***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 W541***	**Logo**
Model Number	***20EF, 20EG***	lenovo
Issue Date	***January 13, 2015***	
Additional information		

P7.1.1 Product environmental attributes		
(d)	year of manufacture:	***2015***
(e)	**E TEC value** (kWh) per ErP Lot 3 Category and capability adjustments applied when **all discrete graphics cards (dGfx) are disabled** and if the system is tested with switchable graphics mode with UMA driving the display: **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 cards (dGfx) are enabled:** **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***
(l)	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): Average: ***135W: 89,88%,91,35%,170W: 90,80%,92,60%***	
(o)	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 (l) – 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:	

	ENERGY STAR measurement methodology	
(q)	sequence of steps for achieving a stable condition with respect to power demand:: ***ENERGY STAR measurement methodology***	
(r)	description of how sleep and/or off mode was selected or programmed: ***By selecting 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: ***Automatically changes to sleep after 20 minutes***	
(t)	the **duration of idle state condition before the computer automatically reaches sleep mode**, or another condition which does not exceed the applicable power demand requirements for sleep mode (in minutes):	***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-saving potential of power management functionality: ***User information described in User Guide and Power Manager under ThinkVantage menu in all programs***	
(x)	user information on how to enable the power management functionality: ***User information described in User Guide and Power Manager under ThinkVantage menu in all programs***	
(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: ***230V, 50Hz, Total Harmonic Distortion <2 %***	

Addition Notebook Battery Information:			
Yes (Battery **not** user replaceable)	No (Battery user replaceable)	n/a	This notebook computer is operated by battery/ies that cannot be accessed and replaced by a non-professional user. **The battery[ies] in this product cannot be easily replaced by users themselves**
☐	☒	☐	