

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

Annex B2 - Product environmental attributes Notebooks and Tablets

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	Logo				
Company name *	Lenovo					
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Additional information	The latest version of this document can be found at:					
	http://www.lenovo.com/ecodeclaration					

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				
Commercial name *	ThinkPad T490s				
Model number *	20NX, 20NY				
Issue date *	2018/01/06				
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.

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.

mouorm	umber *	20NX, 20NY Logo			
lssue da	te *	2018/1/6	Leno		
Produc	t environ	mental attributes - Legal requirements	Require	men	t me
ltem			Yes	No	n.a.
P1		ous substances and preparations			
P1.1*	Products	s do comply with current European RoHS Directive. (See legal reference and NOTE B1)	\boxtimes		
P1.2*		s do not contain Asbestos (see legal reference). nt: Legal reference has no maximum concentration value.	\square		
P1.3*	Products hydrobro trichloro	s do not contain Ozone Depleting Substances: Chlorofluorocarbons (CFC), omofluorocarbons (HBFC), hydrochlorofluorcarbons (HCFC), Halons, carbontetrachloride, 1,1,1- ethane, methyl bromide (see legal reference). Comment: Legal reference has no maximum ration values.			
P1.4*	Products	s do not contain more than; 0,005% polychlorinated biphenyl (PCB), 0,005% polychlorinated yl (PCT) in preparations (see legal reference).	\boxtimes		
P1.5*	Products	s do not contain more than 0,1% short chain chloroparaffins (SCCP) with 10-13 carbon atoms in the ontaining at least 48% per mass of chlorine in the SCCP (see legal reference).	ie 🔀		
P1.6*	Parts wi (see leg	th direct and prolonged skin contact do not release nickel in concentrations above 0,5 μg/cm²/wee al reference). nt: Max limit in legal reference when tested according to EN1811:2011-5.	k 🔀		
P1.7*	REACH http://wv	Article 33 information about substances in articles is available at (add URL or mail contact): ww.lenovo.com/social_responsibility/us/en/environment.html	\square		
P2	Batterie				
P2.1*	symbol.	oduct contains a battery or an accumulator, the battery/accumulator is labeled with the disposal Information on proper disposal is provided in user manual. (See legal reference)	\boxtimes		
P2.2*	Batteries referenc	s or accumulators do not contain more than 0,0005% of mercury or 0,002% of cadmium. (See lega re)	al 🔀		
P2.3*	Batteries	and accumulators are readily removable. (See legal reference)	\mathbf{X}		
P3	Conform	nity verification & Eco design (ErP)			
P3.1*	The Dec	duct is CE-marked to show conformance with applicable legal requirements (see legal reference). claration of Conformity can be requested at (add link or e-mail address): ww.lenovo.com/social responsibility/us/en/ec_doc_notebooks/	\boxtimes		
P3.2*	The pro	duct complies with the Eco design requirements for energy-related products, al reference).	\boxtimes		
	Require	d information is; given in item P15 or added to this document, available at (add URL): ww.lenovo.com/social responsibility/us/en/datasheets_notebooks/			
P5		t packaging			
P5.1*	Packagi	ng and packaging components do not contain more than 0,01% lead, mercury, cadmium ar	nd 🔀		
P5.2*	The pac	ent chromium by weight of these together. kaging materials are marked with abbreviations and numbers indicating the nature of the material(se legal reference).	s) 🔀		
P5.3*	The prod (see leg	duct packaging material is free from ozone depleting substances as specified in the Montreal Protoc al reference).	iol 🔀		
	Commo	nt: Logal reference has no maximum concentration values			
P6		nt: Legal reference has no maximum concentration values.			

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 nu	umber *	20NX, 20NY	Logo				
Issue dat	te *	2018/1/6		Len	Lenovo		
Product	t environ	mental attributes - Market requirements (See General NOTE GN	below)				
		onmental conscious design		Require	ment	met	
Item		tory to fill in. Additional information regarding each item may be found under P14.		Yes	No	n.a.	
P7		Disassembly, recycling					
P7.1*		t have to be treated separately are easily separable					
P7.2*		aterials in covers/housing have no surface coating.			\boxtimes		
P7.3*	Plastic pa	arts > 100 g consist of one material or of easily separable materials.		\square			
P7.4*	Plastic pa	arts > 25 g have material codes according to ISO 11469 referring ISO 1043-4.		\square			
P7.5	Plastic pa	arts are free from metal inlays or have inlays that can be removed with commonly a	available tools.	\square			
P7.6*	Labels a	re easily separable. (This requirement does not apply to safety/regulatory labels).					
	Product	lifetime					
P7.7*	Upgradir	g can be done e.g. with processor, memory, cards or drives		\square			
P7.8*	Upgradir	g can be done using commonly available tools			Π		
P7.9	Spare pa	rts are available after end of production for: 5 years				Ē	
P7.10		s available after end of production for: 5 years				Ħ	
		and substance requirements					
P7.11*		cover/housing material type (e.g. plastics, metal, aluminum):					
			al type: PC+AB	S			
		type: MgAI					
P7.12	Insulatio	n materials of external electrical cables are PVC free.			\boxtimes		
P7.13	Insulatio	n materials of internal electrical cables are PVC free.		\boxtimes			
P7.14		plastic casing/cover parts > 25 g contain no more than 0,1% weight (1000 ppm) b 1000 ppm) chlorine attributable to brominated flame retardants, chlorinated flame					
		chloride or 0,3% weight (3000 ppm) bromine and 0,3% weight (3000 ppm) chlorine i					
		n 25% post-consumer recycled content.	P	5			
P7.15	Printed c as define	ircuit boards, PCBs (without components) are low halogen: all 🔀 PCBs > 25 g 🔀 ed in IEC 61249-2-21. (See 1NOTE B2)	are low haloge	in 🔀			
P7.16	Marking:			\square			
P7.17		nemical specifications of flame retardants in printed circuit boards > 25 g (without c		_		_	
		A (additive), TBBPA (reactive) (See NOTE B3), Other: <i>Phosphorus Modifi</i> e	ed Epoxy Resir	ı, 🖂			
	CAS #: c	onfidential					
		nemical specifications of flame retardants in printed circuit boards (without compone g ISO 1043-4:	ents) > 25 g				
P7.18		ame retarded plastic parts > 25 g contain the following flame retardant substance	s/preparations i				
		ations above 0,1%:		\bowtie			
		ical name: <i>Phosphorus compounds</i> , CAS #: <i>confidential</i> (See NOTE B4) ical name: , CAS #: "					
		ical name: , CAS #: "					
			0.4.				
D7.40		nemical specifications of flame retardants in plastic parts > 25 g according ISO 104			<u> </u>	<u> </u>	
P7.19	assigned	parts > 25 g, flame retardant substances/preparations above 0,1% are used which the following Risk phrases; <i>confidential</i> and Hazard statements: <i>confiden</i>					
			See note B5)				
P7.20*	Postcons	sumer recycled plastic material content is used in the product (See Note B6):		\bowtie			
	If YES: a	t least one of the two alternatives below shall be answered;					
		otal plastic parts' weight > 25 g, the postconsumer recycled plastic material conten	t (calculated as				
	,	ercentage of total plastic by weight) is 3.02%.	,				
	or						
	b) The	weight of recycled material is 8.8 g.					

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 *	20NX, 20NY	Logo	
Issue date *	2018/1/6		Lei Iovo.

Item

Product environmental attributes - Market requirements (continued)

Requirement met Yes No n.a.

		stance requirements							
P7.21*	Biobased plastic I	material content is used	I in the product (See NC	DTE B7):					
	a) Of total plast total plastic l	total plastic by weight) is %.							
P7.22*			less than 0,1 mg/lamp.						
		specify: Number of lan	nps: and maximu	im mercury content per	lamp: mg				
P8.1*	Batteries	composition. Li ion							
	-	composition: <i>Li-ion</i>							
P9 P9.1	Energy consumption (See NOTE B8) For the product the following power levels or energy consumptions are reported:								
Energy mo		Power level at	Power level at	Power level at	Reference/Standard for energy				
		100 V AC	115 V AC	230 V AC	modes and test method *				
Peak (On-I		65 W	65 W	65 W	Full load				
<u>Categor</u>	<u>y 1</u>								
Short Idle Enabled	State - WOL	5.19 W	5.15 W	5.44 W	Use for ENERGY STAR V7.1 registration (P _{idle})				
Long Idle State - WOL Enabled		2.56 W	2.56 W	2.59 W	Use for ENERGY STAR V7.1 registration (P _{idle})				
Sleep (S3) - WOL Enabled		0.54 W	0.54 W	0.60 W	Use for ENERGY STAR V7.1 registration(P _{sleep})				
Sleep (S3) - WOL Disabled		0.52 W	0.52 W	0.57 W	Reference				
Off (S5) - WOL Enabled		0.25 W	0.25 W	0.30 W	Use for ENERGY STAR V7.1 registration(P _{off})				
Off (S5) - WOL Disabled		0.24 W	0.24 W	0.30 W	Use for ErP				
EPS No-loa	ad	0.08 W	0.08 W	0.12 W					
PTEC *	and Consumption	W	W	W					
ETEC *	ergy Consumption ergy Consumption	15.16 kWh/year	15.08 kWh/year	16.07 kWh/year	ETEC = (8760/1000) x (Port x 0.25 + Psleep x 0.35 + Plong_ldle x 0.10+				
		P Off Mode(S5) - W/) Enabled: Ruut Sleen	Mode(S3) - WOL Enabled	P _{short_Idle} x 0.30) d; P _{idle} : Idle State - WOL Enabled				
External Po	ower Supply Efficie		Efficiency Marking Pro						
	olution * : 2560*14			,					
		ave mode: 10 minutes							
P9.2*			on is provided with the	oroduct					
P9.3	Information about the energy save function is provided with the product.								
P10	Emissions	ciaco (monitors only).							
. 10	Noise emission – Declared according to ISO 9296 (See NOTE B9)								
P10.1		Mode description			A-weighted sound power level, L _{WA,c} (B)				
	Idle	* HDD idle		* 2.5					
	Operation	* Operating (CPU) * Operating (HDD)		* 3.8 * NA					
		Declared A-weighted soun	d pressure level (dB) $L_{p{\rm Am}}$	17 (operator position					
	Other mode	Declared A-weighted soun	d pressure level (dB) L _{pAm}		ı desktop – operating CPU) desktop – operating HDD)				
	Measured accord	ing to: 🔀 ISO 7779 📐 Other	ECMA-74 (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 <u>http://www.ecma-international.org/publications/standards/Ecma-370.htm</u>

Model nu	mber *	20NX, 20NY			Logo			
Issue dat	e *	2018/1/6				Lenc	VO	тн
Product	environ	mental attribut	es - Market requirements (c	ontinued)		Require	ment	me
ltem						Yes	No	n.a
		magnetic emissi						
P10.4		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>)						
P12		mics for comput						
P12.1*	The disp	olay meets the ere	gonomic requirements of ISO 924	1-307 for visual displa	y technologies.			
P12.2*	The physical input device meets the requirements of ISO 9995 and ISO 9241-410.							
P13	Packag	ing and docume	ntation					
P13.1*	Product	packaging mater		weight (kg): 0.39 (kg): 0.026 (kg): 0.026				
P13.2*	Product	plastic primary pa	ackaging is free from PVC.			\square		
P13.3*	For product primary corrugated fiberboard packaging, specify the contained percentage of minimum post-							
P13.4*	Specify media for user and product documentation (tick box):							
P13.5	Ùser an		s item if paper documentation us entation on paper media is chlorir					
	Element	hlorine-free al chlorine-free ed chlorine-free						
P14	Volunta	ry programs						
P14.1			quirements of the following volun	tary program(s):				
	Eco-lab	Y STAR® el: <i>EPEAT</i> el: <i>PCGL</i> el: <i>TCO</i>	Criteria version: 7.1 Criteria version: 1680.1 Criteria version: Ver.13 Criteria version: Gen8.0	Date: 2018/12/20 Date: 2019/03/12 Date: 2019/03/12 Date:	Product category: <i>I1</i> Product category: <i>Note</i> Product category: <i>Note</i> Product category:	ebook ebook		
P15	Additio	nal information (See NOTE B10)					
P9	Energy	consumption of	specific configuration may val					
	informat knowled	ion contained in t ge available at th I here is approxin	o representations, guarantees, as his document. All information pro e time of completion, and supplie hate and provided for information	vided by supplier in thi or shall have no obligat	s document is provided i ion to update such inforn	based on supp nation. The inf	olier's format	ion
P9	See Ene	ergy Star Qualified	d Notebooks & Tablet Computers //index.cfm?fuseaction=find_a_p					-

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.

Commercial name	ThinkPad T490s	Logo
Model Number	20NX, 20NY	
Issue Date	2018/1/6	Lenovo
Additional information		

P7.1.1	Product environmental attributes						
(d)	Year of manufacture:				2017		
(e)	Etec 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.						
(f)	Etec value (kWh) per ErP Lot 3 Categor enable	y and capability adjust	tments applied when a	Ill discrete graphics o	cards (dGfx) are		
		Category A (according to ErP Lot 3)	Category B (according to ErP Lot 3)	Category C (according to ErP Lot 3)	Category D (according to ErP Lot 3)		
	Memory over base [GB]	12	(4,	(0	(40000000000000000000000000000000000000		
ents sting	Additional internal storage	No (Yes / No)	(Yes / No)	(Yes / No)	(Yes / No)		
capability adjustments applied during testing	Discrete television tuner	No (Yes / No)	(Yes / No)	(Yes / No)	(Yes / No)		
ability <i>ɛ</i> lied du	Discrete Audio Card	No (Yes / No)	(Yes / No)	(Yes / No)	(Yes / No)		
cap: app	Discrete graphics Card(s) [number / #]	No #: (Yes / No)	#: (Yes / No)	#: (Yes / No)	#: (Yes / No)		
	Category of discrete graphics Card(s)	NA					
Test results	Etec Value (kWh) - dGfx disabled all discrete graphics cards (dGfx) are disabled/ UMA is active for switchable graphics/ product has no graphics cards (dGfx)	9.42					
Test r	Etec Value (kWh) - dGfx enabled all discrete graphics cards (dGfx) are enabled						
(g)	Idle state power demand (Watts);	<u></u>			2.83		
(h)	Sleep mode power demand (Watts);				0.554		
(i)	Sleep mode with WOL enabled power de	emand (Watts) (where	enabled);		0.577		
(j)	Off mode power demand (Watts);				0.292		
(k)	Off mode with WOL enabled power dema	and (Watts) (where en	abled);		0.305		
(I)	Internal power supply efficiency at 10 %, 20 %, 50 % and 100 % of rated output power (if applicable):						
	10% 20% 50%	100% Avera	age				
(m)	External power supply efficiency (if applied	cable)*:					
	Average active efficiency: 65W:89,41%,88,62%,88,96%						
(0)	*internal note: show values for all available external po Minimum number of loading cycles that t		tand (applies only to n	otebook computers):			
(0)		The ballenes can willis	tand (applies only to h	olebook computers).			
(p-1)	-1) Measurement methodology used to determine information mentioned in points (I) – internal PSU efficiency: NA						
(p-2)	Measurement methodology used to dete EN 5056	rmine information mer 53:2011 measuremen		external PSU efficience	y:		

(p-3) Measurement method	dology used to determine information mentioned in p EN 62623:2013 measurement methodo					
	dology used to determine information mentioned in r Point P9.1 in the Product IT Eco Declaration: IEC 62623 / IEC EN50564:2011 measurement r					
(q) Sequence of steps fo	Sequence of steps for achieving a stable condition with respect to power demand: IEC 62623 / IEC EN50564:2011 measurement methodology					
	(r) Description of how sleep and/or off mode was selected or programmed: refer to power management, sleep mode: ACPI system level G1/S3 (suspend to RAM) state; off mode: ACPI system level G2/S5 ('soft off') state					
off mode:	required to reach the mode where the equipment au					
refe	r to power management, 30mins automatically re	eaches sleep mode				
	e condition before the computer automatically ro not exceed the applicable power demand requirement		30			
(u) Length of time after	a period of user inactivity in which the compute	r automatically reaches a power	NA			
	<pre>/er power demand requirement than sleep mode (in re the display sleep mode is set to activate after if</pre>		10			
	ergy-saving potential of power management function refer to user manual					
(x) User information on h	now to enable the power management functionality: refer to user manual					
	neasurements: — test voltage in V and frequency in system, — information and documentation on the in- ting: 230V/50HZ, Total Harmonic Distortion	strumentation, set-up and circuits				
Additional Notebook Batter	y Information:					
	Battery[ies] not user replaceable	Battery[ies] user replaceable	n/a			
	The battery[ies] in this product cannot be easily replaced by users themselves. $^{1)} \ensuremath{}$					
Internal/built-in Battery						
External/detachable Battery						
Bios Backup Battery						
Other:						
Additional information						
Las baterias de este producto no pueden si Jýměnu baterie/baterií v tomto výrobku by j Brugeren kan ikke uden videre udskifte batt Der Akku/die Akkus dieses Produkts kann/ł Kasutajad ei saa selle toote akut/akusid ise 4 µmαrapia[-ɛc] στο προϊόν αυτό δεν µmopu- a./les batterie(s présente(s) dans ce produ Korisnik ne može lako zamijeniti Bateriju sa La batteria/le batterie in questo prodotto no Lietotăji paši nevar nomaint šā ražojuma al Sio gaminio baterijos [bateriju] pats vartotoj A termék akkumulátorát/akkumulátoriat a fe I-batterija/batteriji f'dan il-prodott ma tistax/J Batteriet [ene] i dette produktet kan ikke lett De batterij(en) in dit product is (zijn) door de Jýtkownik nie može sam w latwy sposób v A ou as baterias deste produto não podem	οο ^Δ γκτ ⁻ не мож ² да се замени[ят] лесно от самите потребите <i>r</i> er sustituidas fácilmente por los propios usuarios. neměli provádět sami uživatelé. eriet/batterierne i dette produkt. können nicht ohne weiteres vom Benutzer selbst ausgetauscht w hôlpsasti asendada. oúv va αντικατασταθούν εύκολα από τους ίδιους τους χρήστες it ne peuvent être facilement remplacée(s) par les utilisateurs eu m u ovom proizvodu. n può/possono essere facilmente sostituita/e dall'utente. kumulatoru(-us). as negali lengvai pakeisti. ihasználó nem tudja egyedül egyszerűen kicserélni. iistgħux tiġi/jiġu sostitwita/i mill-utenti stess. erstattes av brukerne selv. e gebruiker niet gemakkelijk vervangbaar.	verden.				

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