

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	Log	0
Company name *	Lenovo		
Contact information *	Lenovo Global Environmental Affairs		Lenovo
e-mail address	Alvin L Carter		
	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/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 *	Lenovo 100e Chromebook				
Model number *	81ER				
Issue date *	2018-3-9				
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.

Model nu	Model number * 81ER Logo		Logo			
Issue dat	e *	2018-3-9		Lena		Отн
Product	environ	mental attributes - Legal requirements		Require	ment	met
Item				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)	\square		
P1.2*		s do not contain Asbestos (see legal reference). nt: Legal reference has no maximum concentration value.		\boxtimes		
P1.3*	hydrobro trichloro	s do not contain Ozone Depleting Substances: Chlorofluorocarbons (CFC), pmofluorocarbons (HBFC), hydrochlorofluorcarbons (HCFC), Halons, carbontetrachlo ethane, methyl bromide (see legal reference). Comment: Legal reference has no ma ration values.				
P1.4*		s do not contain more than; 0,005% polychlorinated biphenyl (PCB), 0,005% polychlo /l (PCT) in preparations (see legal reference).	orinated	\boxtimes		
P1.5*	Products	s do not contain more than 0,1% short chain chloroparaffins (SCCP) with 10-13 carbo ntaining at least 48% per mass of chlorine in the SCCP (see legal reference).	on atoms in the			
P1.6*	(see lega	th direct and prolonged skin contact do not release nickel in concentrations above 0, al reference). nt: Max limit in legal reference when tested according to EN1811:2011-5.	5 μg/cm²/week	\square		
P1.7*	REACH	Article 33 information about substances in articles is available at (add URL or mail co w.lenovo.com/social_responsibility/us/en/environment.html	ontact):			
P2	Batterie	S				
P2.1*		oduct contains a battery or an accumulator, the battery/accumulator is labeled with th Information on proper disposal is provided in user manual. (See legal reference)	ie disposal	\square		
P2.2*	Batteries referenc	s or accumulators do not contain more than 0,0005% of mercury or 0,002% of cadmi e)	um. (See legal	\boxtimes		
P2.3*	Batteries	s and accumulators are readily removable. (See legal reference)		\boxtimes		
P3	Conform	nity verification & Eco design (ErP)				
P3.1*	The Dec	duct is CE-marked to show conformance with applicable legal requirements (see lega laration of Conformity can be requested at (add link or e-mail address): www.lenovo.com/social_responsibility/us/en/ec_doc_notebooks/	al reference).			
P3.2*		duct complies with the Eco design requirements for energy-related products,				
1 0.2		al reference).				
		d information is; given in item P15 or added to this document, available at (add URL):				
	http://v	vww.lenovo.com/social_responsibility/us/en/datasheets_notebooks/				
P5		packaging				
P5.1*	Packagi	ng and packaging components do not contain more than 0,01% lead, mercury, ant chromium by weight of these together.	, cadmium and	i 🖂		
P5.2*	The pac	kaging materials are marked with abbreviations and numbers indicating the nature of the legal reference).	f the material(s))		
P5.3*	The pro Protocol	duct packaging material is free from ozone depleting substances as specified i (see legal reference). nt: Legal reference has no maximum concentration values.	n the Montrea	I 🔀		
P6		nt information				
P6.1*		on for recyclers/treatment facilities is available (see legal reference).				

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 *		81ER	Logo			
Issue dat	te *	2018-3-9		Len		тн
Product		mental attributes - Market requirements (See General NOTE GN				
		onmental conscious design	F	Require		met
Item		tory to fill in. Additional information regarding each item may be found under P14.		Yes	No	n.a.
P7 P7.1*		Disassembly, recycling t have to be treated separately are easily separable				
P7.2*		aterials in covers/housing have no surface coating.			<u> </u>	<u> </u>
P7.3*		arts > 100 g consist of one material or of easily separable materials.			<u> </u>	<u> </u>
P7.4*		arts > 25 g have material codes according to ISO 11469 referring ISO 1043-4.			╶┝┤╴	<u> </u>
P7.4			vailable teele		<u> </u>	<u> </u>
	Plastic parts are free from metal inlays or have inlays that can be removed with commonly available tools.					
P7.6*		re easily separable. (This requirement does not apply to safety/regulatory labels).				
P7.7*	Product	g can be done e.g. with processor, memory, cards or drives		\square		
P7.8*	Upgrading can be done using commonly available tools				<u> </u>	<u> </u>
				\boxtimes		
P7.9		rts are available after end of production for: 5 years				<u> </u>
P7.10		s available after end of production for: 5 years				
P7.11*		and substance requirements				
P7.11		cover/housing material type (e.g. plastics, metal, aluminum): type: PC/ABS Material type: Materia	l type:			
P7.12		n materials of external electrical cables are PVC free.	i ijpo.		\square	
P7.13		n materials of internal electrical cables are PVC free.				Ħ
P7.14	External	plastic casing/cover parts > 25 g contain no more than 0,1% weight (1000 ppm) bi	omine and 0,1%			Ħ
	weight (1000 ppm) chlorine attributable to brominated flame retardants, chlorinated flame	retardants, and			
		chloride or 0,3% weight (3000 ppm) bromine and 0,3% weight (3000 ppm) g more than 25% post-consumer recycled content.	chlorine in parts	i		
P7.15		circuit boards, PCBs (without components) are low halogen: all PCBs > 2	25 g are low			
		as defined in IEC 61249-2-21. (See 1NOTE B2)				
P7.16	Flame re	tarded plastic parts > 25 g in covers / housings are marked according ISO 1043-4:		\boxtimes		
	Marking:	>PC+ABS-TD15FR(40)< >PC+ABS-FR(40)<				
P7.17		nemical specifications of flame retardants in printed circuit boards > 25 g (without co A (additive), TBBPA (reactive) (See NOTE B3), Other: Brominated epoxy		\boxtimes		
	26265-08		esin. Cas #:			
			$(mt_{\alpha}) > 0E_{\alpha}$			
		nemical specifications of flame retardants in printed circuit boards (without compone g ISO 1043-4: <i>FR(16)</i>	ents) > 25 g	\bowtie		
P7.18	<u>Alt. 1: Fl</u>	ame retarded plastic parts > 25 g contain the following flame retardant substance	s/preparations in			
		ations above 0,1%:		\boxtimes		
		cal name: BPADP , CAS #: 181028-79-5 (See NOTE B4)				
		cal name: , CAS #: " cal name: , CAS #: "				
		nemical specifications of flame retardants in plastic parts > 25 g according ISO 1043	2 1.			
P7.19		parts > 25 g, flame retardant substances/preparations above 0,1% are used which				<u> </u>
F7.19	•	the following Risk phrases; and Hazard statements:	nave been		A	
	-		ee note B5)			
P7.20*		sumer recycled plastic material content is used in the product (See Note B6):				
		t least one of the two alternatives below shall be answered;	(a alassia to sta			
		otal plastic parts' weight > 25 g, the postconsumer recycled plastic material conten ercentage of total plastic by weight) is %.	(calculated as			
	or					
		weight of recycled material is 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 nun	nber *	81ER				Logo		
Issue date	*	2018-3-9					Lenovo	
Product e	environr	nental at	tributes - Market ı	requirements (contir	ued)	•	Requiremen	nt met
Item					/		Yes No	n.a.
	Material	and subs	tance requirements	(continued)				
P7.21*	Biobase	d plastic m	aterial content is use	d in the product (See NC	DTE B7):			
	If YES; a	t least one	e of the two alternative	es below shall be answe	red;			
	a) Of	total plasti	c parts' weight > 25 g	g, the biobased plastic r %.	,	ated as a perce	ntage	
	or	otal plastic	by weight) is	/0.				
		weight of	the biobased plastic	material is g.				
P7.22*			ree from mercury, i.e. specify: Number of la	less than 0,1 mg/lamp. mps: and maximu	Im mercury content per	·lamp: mo		
P8	Batterie	s					-	
P8.1*	Battery of	hemical c	omposition: <i>Lithium</i>	ion				
P9			tion (See NOTE B8)					
P9.1		product the		ls or energy consumptio				
Energy mod	de *		Power level at 100 V AC	Power level at 115 V AC	Power level at 230 V AC	Reference/Star modes and test	ndard for energy t method *	
Peak (On-r	nax)		45 W	45 W	45 W	Full load		
Category	y 11-							
Short Idle Enabled	State - W	OL	4.11 W	4.18 W	3.95 W	Use for ENER registration (F		
Long Idle S Enabled	State - W	OL	1.77 W	1.82 W	1.89 W	Use for ENER registration (P		
Sleep (S3)	- WOL E	nabled	W	W	W	Use for ENER registration(P		
Sleep (S3)	- WOL D	isabled	1.12 W	1.12 W	1.12 W	Reference		
Off (S5) - V	VOL Enal	bled	W	W	W	Use for ENER registration(P		
Off (S5) - V	VOL Disa	bled	1.1 W	1.1 W	1.1 W	Use for ErP		
EPS No-loa (External power si wall outlet but disc		plugged in the	0.02 W	0.02 W	0.07 W			
PTEC * Typical Ene			36.92 W	36.92 W	36.92 W			\boxtimes
ETEC * Annual Ene			18.4 kWh/year	18.64 kWh/year	18.18 kWh/year	E _{TEC} = (8760/10 + P _{sleep} x 0.35 P _{short_ldle} x 0.30	000) x (P _{off} x 0.25 + P _{long_Idle} x 0.10+	
			Poff: Off Mode(S5) - W	OL Enabled; Psleep: Sleep	Mode(S3) - WOL Enable	d; Pidle: Idle State	- WOL Enabled	
				al Efficiency Marking Pro	tocol) * :			
Display res	olution * :	1366*768	megapixels					
Default time	e to enter	energy sa	ve mode: 30 minutes					
P9.2*	Informat	ion about t	he energy save funct	ion is provided with the	product.			
P9.3	Energy e	efficiency c	lass (monitors only):					
P10	Emissio	ns						<u> </u>
	Noise er	mission –	Declared according t	o ISO 9296 (See NOTE	B9)			
P10.1	Mode Idle		lode description System Idle		Statistical upper limit	A-weighted sou	nd power level, <i>L_{WA,c}</i>	с (B)
	Operatio		CPU;Operation		* 16.3			- - -
				nd pressure level (dB) $L_{p{ m Am}}$		ition deplote - 11	(Ja)	
	Other me					ition desktop – id		
	Other me			nd pressure level (dB) L_{pAm}	(operator pos	ition desktop – oj	perating)	
	Measure	d accordir	ng to: 🔀 ISO 7779 L Other	_ ECMA-74 (only if not covered by	FCMA-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;

 $see \ \underline{http://www.ecma-international.org/publications/standards/Ecma-370.htm}$

Model nu	nber *	81ER					Logo				
Issue date)*	2018-3-9						Le	eno	vo	тм
Product	environ	nental attributes - I	Market requiren	nents (con	tinued)				quire		met
Item									Yes	No	n.a
		nagnetic emissions									
P10.4	program		•	frequency el	ectromagnetic fields	s of the foll	owing volunta	ary			
P12	Ergono	nics for computing p	roducts								
P12.1*	The disp	lay meets the ergonon	nic requirements o	f ISO 9241-3	307 for visual displa	y technolog	gies.		\boxtimes		
P12.2*	The phy	sical input device meet	ts the requirements	s of ISO 999	5 and ISO 9241-41	0.			\mathbf{X}		
P13	Packagi	ng and documentation	on								
P13.1*	Product	packaging material typ packaging material typ packaging material typ	pe(s): paper	weight (kg weight (kg weight (kg): 0.00755						
P13.2*	Product	plastic primary packag	jing is free from P∖	/C.					\boxtimes		
P13.3*	consum	luct primary corrugate r recovered fiber cont	ent: 90%			ercentage	of minimum	post-			
P13.4*		nedia for user and pro onic, XPaper, Ot		on (tick box):							
P13.5	User and	only complete this item I product documentation ease specify:	n if paper documer on on paper media	ntation used) i is chlorine-f	ree:				\boxtimes		
	Totally o	hlorine-free									
	,	al chlorine-free							Ħ		
	Process	ed chlorine-free							H		
P14	Volunta	ry programs									
P14.1		luct meets the requirer	ments of the follow	ving voluntar	/ program(s):						
	ENERG Eco-labe		Criteria version: <mark>6.</mark> Criteria version:	1	Date: 2017-12-14 Date:	Product of	category: // category:				
	Eco-labe		Criteria version:		Date:	Product of	category:				
P15		al information (See N									
P9		consumption of spec									
	informat knowled	upplier makes no repr on contained in this do ge available at the time here is approximate a on.	ocument. All inform e of completion, ar	nation provid nd supplier sl	ed by supplier in thi hall have no obligat	s documer ion to upda	nt is provided ate such inform	based of mation. T	n supp The inf	olier's ormat	ion
P9		rgy Star Qualified Note w.energystar.gov/inde					code=CO				

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	Lenovo 100e Chromebook	Logo
Model Number	81ER	
Issue Date	2018-3-9	Lenovo
Additional information		

P7.1.1	Product environmental attributes							
(d)	Year of manufacture:				2018			
(e)	Etec value (kWh) per ErP Lot 3 Catego disabled and if the system is tested with				cards (dGfx) are			
(f)	Etec value (kWh) per ErP Lot 3 Categor enable	y and capability adjust	ments applied when a	II 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]	4GB						
nents 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 a	Discrete Audio Card	NO (Yes / No)	(Yes / No)	(Yes / No)	(Yes / No)			
capa	Discrete graphics Card(s) [number / #]	NO #: (Yes / No)	#: (Yes / No)	#: (Yes / No)	#: (Yes / No)			
	Category of discrete graphics Card(s)							
esults	Etec Value (kWh) - dGfx disabled all discrete graphics cards (dGfx) are disabled/ UMA is active for switchable graphics/ product has no graphics cards (dGfx)	18.6						
Test results	Etec Value (kWh) - dGfx enabled all discrete graphics cards (dGfx) are enabled							
(g)	Idle state power demand (Watts);				4.18			
(h)	Sleep mode power demand (Watts);				1.12			
(i)	Sleep mode with WOL enabled power de	emand (Watts) (where	enabled);					
(j)	Off mode power demand (Watts);				1.12			
(k)	Off mode with WOL enabled power dem	and (Watts) (where en	abled);					
(I)	Internal power supply efficiency at 10 %	20 %, 50 % and 100 %	% of rated output powe	er (if applicable):				
	10% 20% 50%	100% Avera	ge					
(m)	External power supply efficiency (if appli	cable)*:						
	Average active efficiency: 89.23%, 87	7.25%,89.44%,81.4	4%					
	*internal note: show values for all available external p							
(o)	Minimum number of loading cycles that t	the batteries can withs	and (applies only to n	otebook computers):	300			
(p-1)	p-1) Measurement methodology used to determine information mentioned in points (I) – internal PSU efficiency: N/A							

(p-2)	Measurement methodology used to determine information mentioned in points (m) – external PSU efficiency: ENERGY STAR® Program Requirements for Single Voltage External Ac-Dc and Ac-Ac Power Supplies Eligibility Criteria (Version 2.0)							
(p-3)	Measurement method	dology used to determine information mentioned in p <i>≥</i> 70% of Cmin	points (o) – loading cycles batteries:					
(p-4)		dology used to determine information mentioned in n oint P9.1 in the Product IT Eco Declaration: IEC 62623	naximum, idle, sleep, off mode					
(q)	Sequence of steps fo	r achieving a stable condition with respect to power Power on -> Wait 5 minutes ->Stable con						
(r)	Description of how slo	eep and/or off mode was selected or programmed: Begin menu -> Power -> Select sleep or o	ff mode					
(s)	Sequence of events required to reach the mode where the equipment automatically changes to sleep and/or off mode:							
		NA						
(t)		e condition before the computer automatically re not exceed the applicable power demand requirement		30min				
(u)	mode that has a low	a period of user inactivity in which the computer rer power demand requirement than sleep mode (in	minutes):	NA				
(v) (w)	Length of time before the display sleep mode is set to activate after user inactivity (in minutes): 10min Information on the energy-saving potential of power management functionality: Refer to User Guide							
(x)	User information on h	low to enable the power management functionality: <i>Refer to User Guide</i>						
(z)		neasurements: — test voltage in V and frequency in system, — information and documentation on the ins ting: 230V50HZ-2%-Edition 2.0, 2011-01, Section 4	strumentation, set-up and circuits					
Addition	al 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/b	uilt-in Battery	\boxtimes						
	detachable Battery							
	kup Battery							
Other:								
Additional	information							
Акумулаторна	та[ите] батерия[и] в този г	easily replaced by users themselves. родукт не може да се замени[ят] лесно от самите потребите ser sustituidas fácilmente por los propios usuarios.	ели.					
Výměnu baterie/baterií v tomto výrobku by neměli provádět sami uživatelé. Brugeren kan ikke uden videre udskifte batteriet/batterierne i dette produkt. Der Akku/die Akkus dieses Produkts kann/können nicht ohne weiteres vom Benutzer selbst ausgetauscht werden. Kasutajad ei saa selle toote akut/akusid ise hõlpsasti asendada.								
Η μπαταρία[-ες] στο προϊόν αυτό δεν μπορούν να αντικατασταθούν εύκολα από τους ίδιους τους χρήστες _a/les batterie(s présente(s) dans ce produit ne peuvent être facilement remplacée(s) par les utilisateurs eux-mêmes. Korisnik ne može lako zamijeniti Bateriju sam u ovom proizvodu.								
Lietotāji paši n	a batteria/le batterie in questo prodotto non può/possono essere facilmente sostituita/e dall'utente. ietotāji paši nevar nomainīt šā ražojuma akumulatoru(-us).							
A termék akku	sio gaminio baterijos [baterijų] pats vartotojas negali lengvai pakeisti. ⊾termék akkumulátorát/akkumulátorait a felhasználó nem tudja egyedül egyszerűen kicserélni. -batterija/batteriji f'dan il-prodott ma tistax/jistgħux tiġi/jiġu sostitwita/i mill-utenti stess.							
Batteriet [ene]	i dette produktet kan ikke le	le gebruiker niet gemakkelijk vervangbaar.						
Użytkownik nie	e może sam w łatwy sposób	wymienić baterii w tym produkcie. I ser facilmente substituídas pelos próprios utilizadores.						
Bateria (baterii Batériu(-ie) v te	ile) din acest produs nu poa omto výrobku nemôže vymie	te (pot) fi ușor înlocuită (înlocuite) de utilizatorii înșiși. ănăr používatel.						
Baterij/baterije	aterij/baterije v tem izdelku uporabniki sami ne morejo zlahka zamenjati. ämän tuotteen akku [akut] eli/vät] ole helposti käyttäjän vaihdettavissa. et är inte enkelt för kunden att säök byta ut batteriefbatterierna.							