

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	
Contact information *	Lenovo Global Environmental Affairs	Lenovo
e-mail address	Alvin L Carter	LE IOVO.
	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 2nd Gen MTK				
Model number *	81QB				
Issue date *	2019-01-29				
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 n	umber *	81QB Logo					
lssue da	ate *	2019-01-29	Len	enovo			
Produc	t environ	mental attributes - Legal requirements	Require	ement	me		
ltem			Yes	No	n.a		
P1		ous substances and preparations					
P1.1*	Product	s do comply with current European RoHS Directive. (See legal reference and NOTE B1)					
P1.2*		s do not contain Asbestos (see legal reference). nt: Legal reference has no maximum concentration value.	\square				
P1.3*	hydrobr trichloro	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*	Product	s do not contain more than; 0,005% polychlorinated biphenyl (PCB), 0,005% polychlorinate yl (PCT) in preparations (see legal reference).	d 🔀				
P1.5*	Product	s do not contain more than 0,1% short chain chloroparaffins (SCCP) with 10-13 carbon ato ontaining at least 48% per mass of chlorine in the SCCP (see legal reference).	ns in the 🔀				
P1.6*	(see leg	th direct and prolonged skin contact do not release nickel in concentrations above 0,5 μg/c al reference). nt: Max limit in legal reference when tested according to EN1811:2011-5.	n²/week 🔀				
P1.7*	REACH	Article 33 information about substances in articles is available at (add URL or mail contact ww.lenovo.com/social_responsibility/us/en/environment.html):				
P2	Batterie						
P2.1*		oduct contains a battery or an accumulator, the battery/accumulator is labeled with the disp Information on proper disposal is provided in user manual. (See legal reference)	osal 🔀				
P2.2*	Batterie referenc	s or accumulators do not contain more than 0,0005% of mercury or 0,002% of cadmium. (See)	see legal 🛛 🔀				
P2.3*	Batterie	s and accumulators are readily removable. (See legal reference)	\boxtimes				
P3	Confor	nity verification & Eco design (ErP)					
P3.1*	The pro The Dec	duct is CE-marked to show conformance with applicable legal requirements (see legal refer claration of Conformity can be requested at (add link or e-mail address): www.lenovo.com/social_responsibility/us/en/ec_doc_notebooks/	rence).				
P3.2*	The pro	duct complies with the Eco design requirements for energy-related products, al reference).	\square				
	Require	d information is; given in item P15 or added to this document, available at (add URL): www.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, cadn ent chromium by weight of these together.	nium and 🔀				
P5.2*	The pac	kaging materials are marked with abbreviations and numbers indicating the nature of the material legal reference).	naterial(s) 🔀				
P5.3*	The pro (see leg	duct packaging material is free from ozone depleting substances as specified in the Montrea al reference). nt: Legal reference has no maximum concentration values.	l Protocol 🛛 🔀				
P6		ent information					
		ion 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 nu	umber *	81QB	Logo			
Issue dat	te *	2019-01-29		Len	ovc	
Product		mental attributes - Market requirements (See General NOTE GN	below)			
		onmental conscious design		Require		
Item P7		tory to fill in. Additional information regarding each item may be found under P14. Disassembly, recycling		Yes	No	n.a.
P7.1*		t have to be treated separately are easily separable				
P7.2*		aterials in covers/housing have no surface coating.			╞	╞
P7.3*		arts > 100 g consist of one material or of easily separable materials.			╞	╞
P7.4*	-	arts > 25 g have material codes according to ISO 11469 referring ISO 1043-4.			┢	╞
P7.5		arts are free from metal inlays or have inlays that can be removed with commonly a	available tools.		╶╞┤╴	╞
P7.6*		re easily separable. (This requirement does not apply to safety/regulatory labels).			╞	╞
	Product					
P7.7*		g can be done e.g. with processor, memory, cards or drives				
P7.8*		g can be done using commonly available tools			\neg	Ē
P7.9	Spare pa	rts are available after end of production for: 5 years				Ħ
P7.10	Service i	s available after end of production for: 5 years				Ē
	Material	and substance requirements				
P7.11*	Material		al type:			
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	weight (´ polyvinyl	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.	e retardants, ar	nd		
P7.15		ircuit boards, PCBs (without components) are low halogen: all 🗌 PCBs > 25 g 🗌 ed in IEC 61249-2-21. (See 1NOTE B2)	are low haloge	ən 🗌	\square	
P7.16	Marking:	tarded plastic parts > 25 g in covers / housings are marked according ISO 1043-4: >PC+ABS-TD15FR(40)< >PC+ABS-FR(40)<		\boxtimes		
P7.17		nemical specifications of flame retardants in printed circuit boards > 25 g (without c A (additive), TBBPA (reactive) (See NOTE B3), Other: <i>Brominated epoxy</i> 8-7				
		nemical specifications of flame retardants in printed circuit boards (without compon- g ISO 1043-4: <i>FR(16)</i>	ents) > 25 g	\square		
P7.18	concentr 1. Chemi 2. Chemi	ame retarded plastic parts > 25 g contain the following flame retardant substance ations above 0,1%: ical name: BPADP, CAS #: 181028-79-5 (See NOTE B4) ical name: , CAS #: " ical name: , CAS #: "	es/preparations	in 🔀		
		nemical specifications of flame retardants in plastic parts > 25 g according ISO 104	3-4:			
P7.19		parts > 25 g, flame retardant substances/preparations above 0,1% are used which		— <u> </u>		
	assigned	the following Risk phrases; and Hazard statements:				
			See note B5)			
P7.20*	Postcons	sumer recycled plastic material content is used in the product (See Note B6):		\square		
	a) Oft	t least one of the two alternatives below shall be answered; otal plastic parts' weight > 25 g, the postconsumer recycled plastic material conter ercentage of total plastic by weight) is 3.5% . The weight of recycled material is 17.6271 g.	nt (calculated as			

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 *	81QB	Logo	
Issue date *	2019-01-29		Lenovo
Product environ	nental attributes - Market requirements (continued)		Requirement met

Item

Requirement met Yes No n.a.

	Material and s	ubstance requirement	s (continued)			
P7.21*			ed in the product (See N	OTE B7):		
			ves below shall be answe			
			g, the biobased plastic m		ated as a percentage of	
		ic by weight) is %		, , , , , , , , , , , , , , , , , , ,		
	or b) The weigh	t of the biobasod plastic	matorial is a			
P7.22*		nt of the biobased plastic	c material is g. e. less than 0,1 mg/lamp.			
1 1.22		ed specify: Number of la		um mercury content p		
P8	Batteries					
P8.1*	Battery chemic	al composition: Lithium	ion			
P9		mption (See NOTE B8)				
P9.1			els or energy consumption			
Energy m		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	n-max)	14.9 W	14.6 W	15.56 W	Full load	
<u>Catego</u>	ry 11-					
Short Idle	e State - WOL	3.8 W	3.8 W	3.9 W	Use for ENERGY STAR V6	
Enabled					registration (P _{idle})	
Long Idle	e State - WOL	1.8 W	1.8 W	1.9 W	Use for ENERGY STAR V6	
Enabled					registration (Pidle)	
01 (01		d 0.7 W	0.010/	0.6 W	Deferrer e	
	3) - WOL Disable		0.6 W		Reference	
Off (S5) -	WOL Disabled	0.3 W	0.3 W	0.3 W	Use for ErP	
EPS No-le		0.02 W	0.02 W	0.07 W		
(External powe wall outlet but o	er supply / charger plugged ir disconnected from the produc	n the ct.)				
PTEC *		22.71 W	22.71 W	22.71 W		
Typical El	nergy Consumptic	n 13.97 kWh/year	14.32 kWh/year	14.06 kWh/year	E _{TEC} = (8760/1000) x (P _{off} x 0.25	
	nergy Consumptio		14.52 KWII/yeai	14.00 KWII/yeai	$+ P_{sleep} \times 0.35 + P_{long_ldle} \times 0.10+$	\square
					P _{short_ldle} x 0.30)	
External	Dower Cumply Effi				led; P _{idle} : Idle State - WOL Enabled	
			al Efficiency Marking Pro			<u> </u>
	esolution * : 1366 *	•				Ц.
		/ save mode: 30 minute				Ц.
P9.2*			ction is provided with the	product.		Ц.
P9.3		cy class (monitors only)	:			\bowtie
P10	Emissions	n - Declared according	to ISO 9296 (See NOTE	B0)		
P10.1		Mode description			nit A-weighted sound power level, <i>L_{WA,c}</i> ((B)
	Idle	* System Idle		* 17.4		
	Operation	* CPU;Operation		* 17.5		Ħ
	Other mode	Declared A-weighted sou	und pressure level (dB) $L_{p{\sf An}}$	(operator p	osition desktop – idle)	
	Other mode	Declared A-weighted sou	und pressure level (dB) L_{pAn}	(operator p	osition desktop – operating)	
	-					
	ivieasured acco	ording to: 🔀 ISO 7779				
L		Other	(only if not covered by	EUNA-14		

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 http://www.ecma-international.org/publications/standards/Ecma-370.htm

Model nu	mber *	81QB					Logo				
Issue dat	:e *	2019-01-29						Le	eno	VO	тн
Product	environ	mental attribut	es - Market requirer	nents (con	tinued)			Re	quire	ment	met
Item									Yes	No	n.a.
		magnetic emissi									
P10.4	Comput program		the requirement for low	frequency el	ectromagnetic fields	s of the follo	owing volun	itary			\square
P12		mics for comput									
P12.1*	The disp	play meets the erg	gonomic requirements c	of ISO 9241-3	307 for visual displa	y technolog	gies.		\square		
P12.2*	The phy	sical input device	meets the requirement	s of ISO 999	5 and ISO 9241-41	0.			\times		
P13	Packag	ing and docume	ntation								
P13.1*	Product		ial type(s): <i>carton</i> ial type(s): <i>paper</i> ial type(s): <i>EPE</i>	weight (kg weight (kg weight (kg): 0.008						
P13.2*	Product	plastic primary p	ackaging is free from P	/C.					\mathbf{X}		
P13.3*		duct primary con er recovered fibe	rugated fiberboard pacl r content: 90 %	kaging, spec	ify the contained p	ercentage	of minimur	n post-			
P13.4*	Specify	media for user ar ronic, 🔀 Paper,	nd product documentation	on (tick box):							
P13.5	Ùser an		is item if paper docume entation on paper media						\boxtimes		
	Totally c	hlorine-free							\square		
	Element	al chlorine-free							Fi -		
	Process	ed chlorine-free							H		
P14	Volunta	ry programs									
P14.1			quirements of the follow	ving voluntar	y program(s):						
	ENERG Eco-labe Eco-labe		Criteria version: 7. Criteria version: Criteria version:	1	Date: 2018-12-20 Date: Date:	Product o Product o Product o	• •				
P15	Additio	nal information	(See NOTE B10)								
P9			specific configuration								
	informat knowled	ion contained in t ge available at th d here is approxin	o representations, guara his document. All inform le time of completion, an nate and provided for in	nation provid	ed by supplier in thi hall have no obligat	is documen ion to upda	t is provide te such info	d based o ormation.	n supp The inf	olier's format	ion
P9	See Ene	ergy Star Qualifie	d Notebooks & Tablet C v/index.cfm?fuseaction-				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 2nd Gen MTK	Logo	
Model Number	81QB		
Issue Date	2019-01-29		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
	disabled and if the system is tested with	i switchable graphics h	node with UMA driving	the display.	
(f)	Etec value (kWh) per ErP Lot 3 Categor	ry and capability adjust	ments applied when a	Il discrete graphics o	cards (dGfx) are
	enable				
		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]	8GB			
ents ting	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 lied du	Discrete Audio Card	NO (Yes / No)	(Yes / No)	(Yes / No)	(Yes / No)
cap	Discrete graphics Card(s) [number / #]	NO #: (Yes / No)	#: (Yes / No)	#: (Yes / No)	#: (Yes / No)
	Category of discrete graphics Card(s)				
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)	14.15			
Test r	Etec Value (kWh) - dGfx enabled all discrete graphics cards (dGfx) are enabled				
(g)	Idle state power demand (Watts);				3.8
(h)	Sleep mode power demand (Watts);				1.9
(i)	Sleep mode with WOL enabled power de	emand (Watts) (where	enabled);		
(j)	Off mode power demand (Watts);				0.3
(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	age		
(m)	External power supply efficiency (if appli	cable)*:			
	Average active efficiency: 89.42%,88.	77%,89.44%,88.37%,8	7.49%,88.45%		
(-)	*internal note: show values for all available external p		tand (analise ask tan		
(0)	Minimum number of loading cycles that	the datteries can withs	tand (applies only to n	olebook computers):	300
(p-1)	Measurement methodology used to dete	ermine information mer N/A	ntioned in points (I) – ir	ternal PSU efficiency:	

	odology used to determine information mentioned in p Program Requirements for Single Voltage Externa Eligibility Criteria (Version 2.0)					
(p-3) Measurement metho	Measurement methodology used to determine information mentioned in points (o) – loading cycles batteries: ≥70% of Cmin					
	odology used to determine information mentioned in r Point P9.1 in the Product IT Eco Declaration: IEC 62623	naximum, idle, sleep, off mode				
(q) Sequence of steps 1	or achieving a stable condition with respect to power Power on -> Wait 5 minutes ->Stable con					
(r) Description of how s	leep and/or off mode was selected or programmed: Begin menu -> Power -> Select sleep or c	ff mode				
(s) Sequence of events off mode:	required to reach the mode where the equipment au	tomatically changes to sleep and/or				
condition which doe	te condition before the computer automatically results of the applicable power demand requirements of the appl	ents for sleep mode (in minutes):	30min			
	r a period of user inactivity in which the compute wer power demand requirement than sleep mode (in		NA			
(v) Length of time bef	ore the display sleep mode is set to activate after	user inactivity (in minutes):	10min			
(w) Information on the e	nergy-saving potential of power management functio <i>Refer to User Guide</i>	nality:				
(x) User information on	how to enable the power management functionality: <i>Refer to User Guide</i>					
	measurements: — test voltage in V and frequency in system, — information and documentation on the in sting: 230V50HZ-2%-Edition 2.0, 2011-01, Section 4	strumentation, set-up and circuits				
Additional Notebook Batte						
	Battery[ies] <u>not</u> user replaceable The battery[ies] in this product cannot be easily	Battery[ies] user replaceable	n/a			
	replaced by users themselves. ¹⁾					
Internal/built-in Battery						
External/detachable Battery						
Bios Backup Battery						
Other:						
Additional information						
s baterías de este producto no pueden měnu baterie/baterií v tomto výrobku by ugeren kan ikke uden videre udskifte ba	иродукт не може да се замени[ят] лесно от самите потребител ser sustituidas fácilmente por los propios usuarios. neměli provádět sami uživatelé. tkeriet/batterierne i dette produkt. /können nicht ohne weiteres vom Benutzer selbst ausgetauscht v					
μπαταρία[-ες] στο προϊόν αυτό δεν μπο /les batterie(s présente(s) dans ce prod prisnik ne može lako zamijeniti Bateriju s	οούν να αντικατασταθούν εύκολα από τους ίδιους τους χρήστες uit ne peuvent être facilement remplacée(s) par les utilisateurs eu	x-mêmes.				

- Lietotāji paši nevar nomainīt šā ražojuma akumulatoru(-us). Šio gaminio baterijos [bateriju] pats vartotojas negali lengvai pakeisti. A termék akkumulátorát/akkumulátorait a felhasználó nem tudja egyedül egyszerűen kicserélni. II-batterija/batteriji f'dan iI-prodott ma tistax/jistgħux tiġi/jiġu sostitwita/i mill-utenti stess. Batteriet [ene] i dette produktet kan ikke lett erstattes av brukerne selv.

- Batteriet [ene] i dette produktet kan ikke lett erstattes av brukerne selv. De batterij(en) in dit product is (zijn) door de gebruiker niet gemakkelijk vervangbaar. Užytkownik nie može sam w latwy sposób wymienić baterii w tym produkcie. A ou as baterias deste produto não podem ser facilmente substituídas pelos próprios utilizadores. Bateria (bateriile) din acest produs nu poate (pot) fi uşor înlocuită (înlocuite) de utilizatorii înșiși. Batériu(-ie) v tomto výrobku nemôže vymieňať používateľ. Baterij/baterije v tem izdelku uporabniki sami ne morejo zlahka zamenjati. Tämän tuotteen akku [akut] ei[vät] ole helposti käyttäjän vaihdettavissa. Det är inte enkelt för kunden att själv byta ut batteriet/batterierna. Bu üründeki batarya(lar) kullanıcılar tarafından kolaylıkla değiştirilemez.

Annex B1 of ECMA-370 5th edition (Lenovo) 2015-04-08