



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	<u> </u>			
Contact information * e-mail address	Lenovo Global Environmental Affairs Alvin L Carter alcarter@lenovo.com	Lenovo			
Internet site *	https://www.lenovo.com/us/en/about/sustainability				
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 X390				
Model number *	20Q0, 20Q1, 20SC, 20SD				
Issue date *	2019/10/11				
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	mber *	20Q0, 20Q1, 20SC, 20	OSD		Logo	Lon		
Issue dat	:e *	2019/10/11				Lend		J _{tm}
Product	environ	mental attributes - I	_egal requirements			Require	men	t met
Item			-			Yes	No	n.a.
P1	Hazardo	us substances and pr	reparations					
P1.1*	Products	do comply with curren	t European RoHS Direct	ive. (See legal reference a	and NOTE B1)	X		
P1.2*	Commer	t: Legal reference has	os (see legal reference). no maximum concentrat					
P1.3*	hydrobro trichloroe concentr	mofluorocarbons (HBF ethane, methyl bromide ation values.	C), hydrochlorofluorcarb (see legal reference). C	Chlorofluorocarbons (CFC ons (HCFC), Halons, cart Comment: Legal reference	oontetrachloride, 1,1,1- e has no maximum			
P1.4*		do not contain more the l (PCT) in preparations		ted biphenyl (PCB), 0,005	5% polychlorinated			
P1.5*				proparaffins (SCCP) with a SCCP (see legal referen		ne 🔀		
P1.6*	(see lega	al reference).		se nickel in concentration rding to EN1811:2011-5.	ns above 0,5 μg/cm²/wee	k 🔀		
P1.7*		Article 33 information a ww.lenovo.com/us/en/a		es is available at (add UR	RL or mail contact):			
P2	Batterie	S						
P2.1*				pattery/accumulator is lab er manual. (See legal refe				
P2.2*	Batteries referenc		t contain more than 0,00	05% of mercury or 0,002	% of cadmium. (See lega	al 🔀		
P2.3*	Batteries	and accumulators are	readily removable. (See	legal reference)		\boxtimes		
P3	Conforn	nity verification & Eco	design (ErP)					
P3.1*	The prod	luct is CE-marked to sh	low conformance with ap	plicable legal requiremens://www.lenovo.com/us/er				
P3.2*		luct complies with the E al reference).	Eco design requirements	for energy-related produc	ets,			
	Required	I information is;		dded to this document, www.lenovo.com/us/en/cor	mplianco/oco doclaration			
P5	Product	packaging	avaliable at. Titlps://w	vv vv.10110 v 0.00111/ u 3/ 0 11/ 001	nphanos/eco-ueciaration			
P5.1*	Packagii	ng and packaging con		n more than 0,01% lead	d, mercury, cadmium a	nd 🔀		
P5.2*	The pack	ent chromium by weight kaging materials are ma e legal reference).		and numbers indicating th	ne nature of the material	(s) X		
P5.3*	The prod	uct packaging material al reference).	is free from ozone deple	ting substances as specifi	ed in the Montreal Protoc	col 🔀		
		-	no maximum concentrat	ion values.				
DG	Trootmo	nt information						

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.

Information for recyclers/treatment facilities is available (see legal reference).

P6.1*

Model number *	20Q0, 20Q1, 20SC, 20SD	Logo	Lonovo
Issue date *	2019/10/11		LEI IOVO"

Product	environmental attributes - Market requirements (See General NOTE GN below)				
		Require	ment	met	
Item	*=mandatory to fill in. Additional information regarding each item may be found under P14.	Yes	No	n.a.	
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.		\boxtimes		
P7.3*	Plastic parts > 100 g consist of one material or of easily separable materials.	\boxtimes			
P7.4*	Plastic parts > 25 g have material codes according to ISO 11469 referring ISO 1043-4.	\boxtimes			
P7.5	Plastic parts are free from metal inlays or have inlays that can be removed with commonly available tools.	\boxtimes			
P7.6*	Labels are easily separable. (This requirement does not apply to safety/regulatory labels).	\boxtimes			
	Product lifetime				
P7.7*	Upgrading can be done e.g. with processor, memory, cards or drives	\boxtimes			
P7.8*	Upgrading can be done using commonly available tools	\boxtimes			
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 (e.g. plastics, metal, aluminum): Material type: PPS+50%GF; Material type: PC+ABS; EP+70%CF PC+40%GF Material type: Mg-AI				
P7.12	Insulation materials of external electrical cables are PVC free.		\boxtimes		
P7.13	Insulation materials of internal electrical cables are PVC free.				
P7.14	External plastic casing/cover parts > 25 g contain no more than 0,1% weight (1000 ppm) bromine and 0,1% weight (1000 ppm) chlorine attributable to brominated flame retardants, chlorinated flame retardants, and polyvinyl chloride or 0,3% weight (3000 ppm) bromine and 0,3% weight (3000 ppm) chlorine in parts containing more than 25% post-consumer recycled content.				
P7.15	Printed circuit boards, PCBs (without components) are low halogen: all PCBs > 25 g are low haloge as defined in IEC 61249-2-21. (See 1NOTE B2)	n 🛚			
P7.16	Flame retarded plastic parts > 25 g 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 > 25 g (without components): TBBPA (additive), TBBPA (reactive) (See NOTE B3), Other: Phosphorus Modified Epoxy Resin, CAS #: confidential				
	Alt. 2: Chemical specifications of flame retardants in printed circuit boards (without components) > 25 g according ISO 1043-4:				
P7.18	Alt. 1: Flame retarded plastic parts > 25 g contain the following flame retardant substances/preparations i concentrations above 0,1%: 1. Chemical name: halogen-free organic phosphorus compound, CAS #: confidential (See NOTE B4)	\boxtimes			
	Alt. 2: Chemical specifications of flame retardants in plastic parts > 25 g according ISO 1043-4:				
P7.19	In plastic parts > 25 g, flame retardant substances/preparations above 0,1% are used which have been assigned the following Risk phrases; <i>R11,R16, R52/53; R43,R53</i> and Hazard statements: <i>H228, H412; H317, H413</i>		Ш		
	The source(s) for these classifications is/are found at (add URL(s)): , (See note B5)				
P7.20*	Postconsumer recycled plastic material content is used in the product (See Note B6): If YES; at least one of the two alternatives below shall be answered; a) Of total plastic parts' weight > 25 g, the postconsumer recycled plastic material content (calculated as a percentage of total plastic by weight) is 3.3%. or b) The weight of recycled material is 8.5 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 *	20Q0, 20Q1, 20SC, 20SD	Logo	Lanava
Issue date *	2019/10/11		Lei IOVO.

Product environmental attributes - Market requirements (continued)	Requi	remer	nt met
Item	Yes	No	n.a.

	Material and sub	stance requirements	(continued)					
P7.21*		material content is use		IOTE B7):				
	,	ne of the two alternative		,	ated as a percentage of			
	total plastic		, the biobased plastic i	naterial content (calcul	ated as a percentage of			
	or	- f +h - h:-hd -l+:-						
P7.22*		of the biobased plastic free from mercury, i.e.		<u> </u>				
1 7.22		d specify: Number of la		num mercury content p				
P8	Batteries			, , , , , , , , , , , , , , , , , , ,	· · · · · · · · · · · · · · · · · · ·			
P8.1*	Battery chemical	composition: Li-ion						
P9	Energy consum	ption (See NOTE B8)			_			
P9.1	For the product the	ne following power leve	ls or energy consumpt	ions are reported:				
	nergy mode * Power level at Power level at 100 V AC 115 V AC 230 V AC Reference/Standard for energy modes and test method *							
Peak (On-	max)	65 W	65 W	65 W	Full load			
Categor	<u>y</u>							
Short Idle Enabled	State - WOL	4.36 W	4.32 W	4.48 W	Use for ENERGY STAR V7.1 registration (P _{idle})			
	0	4.00.14	4.0010/	0.40104	` '			
Enabled	State - WOL	1.90 W	1.90 W	2.12 W	Use for ENERGY STAR V7.1 registration (P _{idle})			
Sleep (S3) - WOL Enabled		0.59 W	0.59 W	0.64 W	Use for ENERGY STAR V7.1 registration (Psleep)			
Off (S5) - I	WOL Disabled	0.26 W	0.26 W	0.31 W	Use for ErP			
EPS No-loa	ad	0.095 W	0.096 W	0.117 W				
	supply / charger plugged in the connected from the product.)							
PTEC *	connected from the product.)	1.59 W	1.58 W	1.67 W				
	ergy Consumption							
ETEC * Annual Ene	ergy Consumption	13.28 kWh/year	13.19 kWh/year	13.94 kWh/year	E _{TEC} = (8760/1000) x (P _{off} x 0.25 + P _{sleep} x 0.35 + P _{long_idle} x 0.10+ P _{short_idle} x 0.30)			
		Poff: Off Mode(S5) - W	OL Enabled; Psleep: Slee	p Mode(S3) - WOL Enab	led; P _{idle} : Idle State - WOL Enabled			
External Po	ower Supply Efficie	ncy Level (Internationa	ll Efficiency Marking Pr	rotocol) * : V/				
Display res	solution * : 2.07 me	gapixels			1920*1080			
Default time	e to enter energy s	ave mode: 25 minutes						
P9.2*	Information about	the energy save funct	ion is provided with the	product.				
P9.3	Energy efficiency	class (monitors only):	·	·				
P10	Emissions							
-	Noise emission – Declared according to ISO 9296 (See NOTE B9)							
P10.1		Mode description	•		nit A-weighted sound power level, L _{WA,c} (B)			
	Idle	* HDD idle		* 2.5				
	Operation	* Operating (CPU)		* 3.7				
		Declared A-weighted sour	r		ion desktop – idle)			
	1	Declared A-weighted sour		30 (operator positi	ion desktop – operating)			
	Measured accord	ing to: 🔀 ISO 7779 🛭	CMA-74					
	Other (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 http://www.ecma-international.org/publications/standards/Ecma-370.htm

Model number *	20Q0, 20Q1, 20SC, 20SD	Logo	Lonovo
Issue date *	2019/10/11		Lei IOVO,

Product e	environmental attributes - Market requirements (continued)	equirer	nent	met		
Item		Yes	No	n.a.		
	Electromagnetic emissions					
P10.4	Computer display meets the requirement for low frequency electromagnetic fields of the following voluntary	\boxtimes				
	program(s): MPR-II(3 pin AC adapter only)					
P12	Ergonomics for computing products					
P12.1*	The display meets the ergonomic requirements of ISO 9241-307 for visual display technologies.	\boxtimes				
P12.2*	The physical input device meets the requirements of ISO 9995 and ISO 9241-410.	\boxtimes				
P13	Packaging and documentation					
P13.1*	Product packaging material type(s): Corrugated paper weight (kg): 0.42					
	Product packaging material type(s): Bamboo weight (kg): 0.07					
	Product packaging material type(s): LDPE weight (kg): 0.03					
D40.0*	Product packaging material type(s): PP weight (kg): 0.003					
P13.2*	Product plastic primary packaging is free from PVC.			Щ		
P13.3*	For product primary corrugated fiberboard packaging, specify the contained percentage of minimum post-consumer recovered fiber content: $70~\%$			Ш		
P13.4*	Specify media for user and product documentation (tick box):					
	Electronic, Paper, Other					
P13.5	(Please only complete this item if paper documentation used)					
	User and product documentation on paper media is chlorine-free:					
	If Yes, please specify:					
	Totally chlorine-free	\boxtimes				
	Elemental chlorine-free	$\overline{\boxtimes}$				
	Processed chlorine-free	Ħ				
P14	Voluntary programs					
P14.1	The product meets the requirements of the following voluntary program(s):					
	ENERGY STAR® Criteria version: 7.1 Date: 2018/12/10 Product category: 1					
	Eco-label: EPEAT Criteria version: 1680.1 Date: 2019/3/12 Product category: Notebook			ļ		
	Eco-label: TCO Criteria version: NoteBook 5.0 Date: Product category: NoteBook 5.0 Da					
D45	Eco-label: PCGL Criteria version: V13 Date: 2019/3/12 Product category: Notebo	OK				
P15	Additional information (See NOTE B10) Energy consumption of specific configuration may vary; description of the tested product configuration	.				
	NOTE: Supplier makes no representations, guarantees, assurances or warranties whether express or implied,		tho			
	information contained in this document. All information provided by supplier in this document is provided based					
	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					

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 X390	Logo	
Model Number	20Q0, 20Q1, 20SC, 20SD		Lonovo
Issue Date	2019/09/27		Lenovo.
Additional information			

d)	Year of manufacture:				2018		
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 Category and capability adjustments applied when all discrete graphics 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)		
ents sting	Memory over base [GB]	16					
	Additional internal storage	YES (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)		
caps	Discrete graphics Card(s) [number / #]	NO #: (Yes / No)	#: (Yes / No)	#: (Yes / No)	#: (Yes / No)		
	Category of discrete graphics Card(s)	NA					
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)						
Test results	Etec Value (kWh) - dGfx enabled all discrete graphics cards (dGfx) are enabled	8.44					
g)	Idle state power demand (Watts);	<u> </u>	<u> </u>	<u> </u>	2.27		
٦)	Sleep mode power demand (Watts);		0.64				
)	Sleep mode with WOL enabled power demand (Watts) (where enabled);				0.66		
)	Off mode power demand (Watts);				0.35		
k)	Off mode with WOL enabled power demand (Watts) (where enabled);						
)	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 active efficiency: 65W: 89.41%,88.62%,88.96%						
	*internal note: show values for all available external p	ower supplies					
0)	Minimum number of loading cycles that the batteries can withstand (applies only to notebook computers): 500 cycles						
p-1)	Measurement methodology used to determine information mentioned in points (I) – internal PSU efficiency: NA						
p-2)	Measurement methodology used to determine information mentioned in points (m) – external PSU efficiency: EN 50563:2011 measurement methodology						

(p-3)	o-3) Measurement methodology used to determine information mentioned in points (o) – loading cycles batteries: EN 61960 measurement methodology							
(p-4)	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: EN 62623:2013 measurement methodology							
(q)	Sequence of steps for achieving a stable condition with respect to power demand: EN 62623:2013 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 30 minutes**							
(t)	t) 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):							
(u)								
(v)	Length of time before the display sleep mode is set to activate after user inactivity (in minutes):							
(w) (x)	User information on	nergy-saving potential of power management function of described in User Guide and Power Manager of programs thow to enable the power management functionality: on described in User Guide and Power Manager of programs	ınder ThinkVantage menu in all					
(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	nal Notebook Batter							
		Battery[ies] <u>not</u> user replaceable The battery[ies] in this product cannot be easily replaced by users themselves. 1)	Battery[ies] user replaceable	n/a				
Internal/built-in Battery		\boxtimes						
External/detachable Battery								
Bios Backup Battery								
Other:								
Addition	al information							
)								

The battery[ies] in this product cannot be easily replaced by users themselves.

Акумулаторната[ите] батерия[и] в този продукт не може да се замени[ят] лесно от самите потребители. Las baterías de este producto no pueden ser sustituidas fácilmente por los propios usuarios. 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 La/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.

La batteria/le batterie in questo prodotto non può/possono essere facilmente sostituita/e dall'utente. Lietotāji paši nevar nomainīt šā ražojuma akumulatoru(-us).

Šio gaminio baterijos [baterijų] pats vartotojas negali lengvai pakeisti.

A termék akkumulátorait a felhasználó nem tudja egyedül egyszerűen kicserélni. Il-batterija/batteriji f'dan il-prodott ma tistax/jistgħux tiġi/jiġu sostitwita/i mill-utenti stess. 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. Użytkownik nie może sam w łatwy 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 înşişi. 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.