



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		ODOVO
e-mail address	Alvin L Carter		Lenovo
	alcarter@lenovo.com		
Internet site *	https://www.lenovo.com/us/en/sustainability-resources/		
Additional information	The latest version of this document can be found at:		
	http://www.lenovo.com/ecodeclaration		

	based on product specification or test results based obtained from sample testing), that the product nts given in this declaration.
Type of product *	Notebook
Commercial name *	ThinkBook 16 G5+ ARP
Model number *	21J0
Issue date *	2022/11/16
Intended market *	☐ Global ☐ Europe ☐ Asia, Pacific & Japan ☐ Americas ☒ Other <i>China</i>
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	mper *	21J0	Logo	Long	21/6	
Issue dat	e *	2022/11/16		Lend		тн
Product	environ	mental attributes - Legal requirements		Require	ment	met
Item				Yes	No	n.a.
P1	Hazardo	ous substances and preparations				
P1.1*		do comply with current European RoHS Directive. (See legal reference and NOTE	B1)	\boxtimes		
P1.2*	Commer	s do not contain Asbestos (see legal reference). nt: Legal reference has no maximum concentration value.				
P1.3*	hydrobro trichloroe	s do not contain Ozone Depleting Substances: Chlorofluorocarbons (CFC), omofluorocarbons (HBFC), hydrochlorofluorcarbons (HCFC), Halons, carbontetractethane, methyl bromide (see legal reference). Comment: Legal reference has no mation values.				
P1.4*		do not contain more than; 0,005% polychlorinated biphenyl (PCB), 0,005% polychil (PCT) in preparations (see legal reference).	lorinated	\boxtimes		
P1.5*		s do not contain more than 0,1% short chain chloroparaffins (SCCP) with 10-13 car ntaining at least 48% per mass of chlorine in the SCCP (see legal reference).	bon atoms in tl			
P1.6*	(see lega	th direct and prolonged skin contact do not release nickel in concentrations above (al reference). ht: Max limit in legal reference when tested according to EN1811:2011-5.),5 μg/cm²/wee	ek 🔀		
P1.7*	REACH	Article 33 information about substances in articles is available at (add URL or mail www.lenovo.com/us/en/Lenovo-REACH-SVHC-	contact):			
P2	Batterie	S				
P2.1*		duct contains a battery or an accumulator, the battery/accumulator is labeled with Information on proper disposal is provided in user manual. (See legal reference)	the disposal			
P2.2*	Batteries reference	or accumulators do not contain more than 0,0005% of mercury or 0,002% of cadne)	nium. (See leg	al 🔀		
P2.3*	Batteries	and accumulators are readily removable. (See legal reference)		\boxtimes		
P3	Conforn	nity verification & Eco design (ErP)				
P3.1*	The proc The Dec	luct is CE-marked to show conformance with applicable legal requirements (see legal laration of Conformity can be requested at (add link or e-mail address): www.lenovo.com/us/en/compliance/eu-doc for EU www.lenovo.com/us/en/compliance/uk-doc for UK	gal reference).			
P3.2*		duct complies with the Eco design requirements for energy-related products, al reference).				
		d information is;				
	https://v	www.lenovo.com/us/en/compliance/eco-declaration				
P5		packaging				
P5.1*	Packagir	ng and packaging components do not contain more than 0,01% lead, mercurent chromium by weight of these together.	y, cadmium a	nd 🔀		
P5.2*	The pacl	kaging materials are marked with abbreviations and numbers indicating the nature e legal reference).	of the material	(s) 🔀		
P5.3*		luct packaging material is free from ozone depleting substances as specified in the N	Montreal Proto	col 🔀	\Box	

(see legal reference).

Treatment information

P6 P6.1*

Comment: Legal reference has no maximum concentration values.

Information 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 *	21J0	Logo	Lonovo
Issue date *	2022/11/16		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	<u> </u>		
P7.1*	Parts that have to be treated separately are easily separable	\boxtimes		
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			
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):			
P7.12	Material type: PC+ABS+15%Talc Material type: PC Material type: POM Insulation materials of external electrical cables are PVC free.		_	
P7.12	Insulation materials of external electrical cables are PVC free.		 	
			井	
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	X	Ш	
	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 halogen as defined in IEC 61249-2-21. (See 1NOTE B2)			
P7.16	Flame retarded plastic parts > 25 g in covers / housings are marked according ISO 1043-4: Marking: >PC+ABS-TD15FR(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: chemical name: Dihydrooxa-	\bowtie	Ш	
	phosphophen-antreneoxid CAS #: 35948-25-5			
	Alt. 2: Chemical specifications of flame retardants in printed circuit boards (without components) > 25 g			
D7 40	according ISO 1043-4: FR(16) Alt. 1: Flame retarded plastic parts > 25 g contain the following flame retardant substances/preparations in			
P7.18	All. 1: Frame retarded plastic parts > 25 g contain the following frame retardant substances/preparations in concentrations above 0.1%:	\square		
	1. Chemical name: BPADP , CAS #: 181028-79-5 (See NOTE B4)		ш	ш
	2. Chemical name: , CAS #: "			
	3. Chemical name: , CAS #: "			
	Alt. 2: Chemical specifications of flame retardants in plastic parts > 25 g according ISO 1043-4:FR(40)	\boxtimes		
P7.19	In plastic parts > 25 g, flame retardant substances/preparations above 0,1% are used which have been	\boxtimes		
	assigned the following Risk phrases; and Hazard statements:			
D7.00*	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):		Ш	Ш
	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 13.92%.			
	or b) The weight of recycled material is 43.85 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 *	21J0	Logo	Lanova
Issue date *	2022/11/16		Lei IOVO.

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

P7.21*		stance requirements		OTE DZ).	
P7.21"	•	material content is used		,	
		ne of the two alternative			
	 a) Of total plast total plastic l 		the biobased plastic m	aterial content (calculat	led as a percentage of
	or	by weight) is 70.			
		of the biobased plastic r	naterial is g.		
P7.22*		free from mercury, i.e.			
Do		I specify: Number of lar	nps: and maxim	um mercury content per	r lamp: mg
P8.1*	Battery chemical	composition: Lithium id	nn -		\square
P9		•)II		
P9.1		otion (See NOTE B8) ne following power level	s or energy consumption	one are reported:	
Energy mod		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-ri	nax)	100 W	100 W	100 W	Full load
Category	<u>/2</u>				
Short Idle	State - WOL	6.88 W	6.73 W	7.17 W	ENERGY STAR Computers V8
Enabled					,
Long Idle 9	State - WOL	0.81 W	0.82 W	0.83 W	ENERGY STAR Computers V8
Enabled	otate - WOL	0.07 **	0.02 **	0.03 VV	ENERGY STAR Computers vo
01 (00)	WOL Franklad	0.0014/	0.0014/	0.0514/	ENERGY STAR OF THE 1/2
Sieep (S3)	- WOL Enabled	0.83 W	0.83 W	0.85 W	ENERGY STAR Computers V8
Sleep (S3)	- WOL Disabled	0.81 W	0.82 W	0.83 W	ENERGY STAR Computers V8
Off (S5) - V	VOL Enabled	0.56 W	0.55 W	0.57 W	ENERGY STAR Computers V8
Off (S5) - V	VOL Disabled	0.50 W	0.51 W	0.53 W	ENERGY STAR Computers V8
EPS No-loa		0.03 W	0.03 W	0.03 W	
(External power su wall outlet but disc	upply / charger plugged in the connected from the product.)	1			
ETEC *	' '	22.56 kWh/year	22.15 kWh/year	23.42 kWh/year	E _{TEC} = (8760/1000) x (P _{off} x 0.25 +
Annual Ene	rgy Consumption				P _{sleep} x 0.35 + P _{long_Idle} x 0.10+ P _{short_Idle} x 0.30)
		P _{off} : Off Mode(S5) - W0	DL Enabled; P _{sleep} : Sleep	Mode(S3) - WOL Enable	d; P _{idle} : Idle State - WOL Enabled
External Po	wer Supply Efficie	ncy Level (International	Efficiency Marking Pro	otocol) * : V/	
	olution * : 2560*16		· · · · · ·	<u> </u>	
. ,		ave mode: 10 minutes			
P9.2*		the energy save functi	on is provided with the	product.	
P9.3		class (monitors only):	<u>'</u>		
P10	Emissions				
		- Declared according to	ISO 9296 (See NOTE	B9)	
P10.1	Mode	Mode description	,	Statistical upper limit	A-weighted sound power level, $L_{WA,c}$ (B)
	Idle	* System Idle		* 3.3	
	Operation	* CPU;Operation		* 3.8	
	Other mode	Declared A-weighted soun $L_{p{\sf Am}}$	d pressure level (dB)	22 (operator position	n desktop – idle)
	Other mode	Declared A-weighted soun	d pressure level (dR)	20.7 (00000000000000000000000000000000000	ion dockton anavatina
	Other mode	L_{pAm}	a pressure level (UD)	39.7 (operator positi	ion desktop – operating)
	Measured accord	ing to: X ISO 7779	ECMA-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 nur	nber *	21J0			Logo	Lon		
Issue date	*	2022/11/16				Lend		гн
Product	environn	nental attributes	- Market requirements (c	continued)		Require	ement	met
Item			-	•		Yes	No	n.a.
	Electron	magnetic emission	s					
P10.4	program	(s): MPR-II(3 pin A		y electromagnetic fields o	f the following volunta	ary 🔀		
P12		mics for computing					<u> </u>	
P12.1*	-		omic requirements of ISO 924		echnologies.	\boxtimes		
P12.2*		•	eets the requirements of ISO	9995 and ISO 9241-410.		\boxtimes		
P13		ng and documenta						
P13.1	Product Product Product	packaging material packaging material packaging material packaging material packaging material	type(s): Solid EPE type(s): PE bag	weight (kg): 0.319 weight (kg): 0.0325 weight (kg): 0.086 weight (kg): 0.015 : 0.0035				
P13.2*	Product	plastic primary pack	aging is free from PVC.			\square		
P13.3*		duct primary corrugater recovered fiber co	ated fiberboard packaging, sontent: 84 %	pecify the contained per	centage of minimum			
P13.4*		media for user and pronic, ⊠Paper, □	product documentation (tick bo Other	px):				
P13.5	Ùser and		em if paper documentation us ation on paper media is chlori					
	Element	hlorine-free al chlorine-free ed chlorine-free						
P14		ry programs					·	
P14.1	The prod	duct meets the requi	rements of the following volur	tary program(s):				
	Eco-labe	el:	Criteria version: 8 Criteria version: Criteria version:	Date: F	Product category: 2 Product category: Product category:			
P15		nal information (Se						
P9			ecific configuration may va					
	the info supplier informa	rmation contained r's knowledge avai tion. The informati	representations, guarantees in this document. All inforn lable at the time of completi on provided here is approxi or more information.	nation provided by supp on, and supplier shall h	lier in this documen ave no obligation to	nt is provided o update sucl	l based 1	on
P9			Notebooks & Tablet Compu /index.cfm?fuseaction=find			=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	ThinkBook 16 G5+ ARP	Logo	
Model Number	21J0		Longyo
Issue Date	2022/11/16		Lenovo.
Additional information			

(d)	Year of manufacture:				
(e)	Etec value (kWh) per ErP Lot 3 Catego disabled and if the system is tested with Etec value (kWh) per ErP Lot 3 Categor	n switchable graphics n	node with UMA driving	g the display.	, ,
	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]	32	32	(according to EIF Lot 3)	(according to ETF Lot 3)
ents sting	Additional internal storage	NO (Yes / No)	NO (Yes / No)	(Yes / No)	(Yes / No)
capability adjustments applied during testing	Discrete television tuner	NO (Yes / No)	NO (Yes / No)	(Yes / No)	(Yes / No)
ability a lied du	Discrete Audio Card	NO (Yes / No)	NO (Yes / No)	(Yes / No)	(Yes / No)
cap	Discrete graphics Card(s) [number / #]	NO #: (Yes / No)	Yes #: 1 (Yes / No)	#: (Yes / No)	#: (Yes / No)
	Category of discrete graphics Card(s)	NO	G4		
saults	Etec Value (kWh) - dGfx disabled all discrete graphics cards (dGfx) are disabled/ UMA is active for switchable graphics/ product has no graphics cards (dGfx)	5.45			
Test results	Etec Value (kWh) - dGfx enabled all discrete graphics cards (dGfx) are enabled		4.36		
g)	Idle state power demand (Watts);	1	<u> </u>	4	0.965
h)	Sleep mode power demand (Watts);				0.965
i)	Sleep mode with WOL enabled power de	emand (Watts) (where	enabled);		NA
j)	Off mode power demand (Watts);				0.392
(k)	Off mode with WOL enabled power dem	and (Watts) (where en	abled);		NA
(1)	Internal power supply efficiency at 10 %,	, 20 %, 50 % and 100 °	% of rated output pow	er (if applicable):	
	10% 20% 50%	100% Avera	age		
m)	External power supply efficiency (if appli	cable)*:			
	Average active efficiency: 85.76%, 85.	27%, 84.09%, 83.45	%, 84.64%		
0)	*internal note: show values for all available external p Minimum number of loading cycles that t	300 cycles			
p-1)	Measurement methodology used to dete	ermine information mer	ntioned in points (I) – in	nternal PSU efficiency	:

(p-2)	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 methodology used to determine information mentioned in points (o) – loading cycles batteries: ≥70% of Cmin			
(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: <i>IEC</i> 62623			
(q)	Sequence of steps for achieving a stable condition with respect to power demand::			
		Power on -> Wait 5 minutes -> Stable col	ndition	
(r)	Description of how sleep and/or off mode was selected or programmed:			
Begin menu -> Power -> Select sleep or off mode				
(s)	Sequence of events required to reach the mode where the equipment automatically changes to sleep and/or off mode: <i>NA</i>			
(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)	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)	Length of time before the display sleep mode is set to activate after user inactivity (in minutes):			10min
(w)	Information on the energy-saving potential of power management functionality:			
Refer to User Guide				
(x)	User information on how to enable the power management functionality:			
Refer to User Guide				
(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:230V50HZ-2%-Edition 2.0, 2011-01, Section 4, IEC62301				
Additional Notebook Battery 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)		
Internal/built-in Battery				
External/detachable Battery				
Bios Backup Battery				
Other:				
Additional 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 akkumulátorát/akkumulátorait a felhasználó nem tudja egyedül egyszerűen kicserélni.

II-batterija/batteriji f dan iI-prodott ma tistax/jistgħux tiġ/ijġu 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 ușor 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.