

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			
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	alcarter@lenovo.com			
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Additional information	The latest version of this document can be found at:			
	http://www.lenovo.com/ecodeclaration			

The company declares (based on product specification or test results based obtained from sample testing), that the product conforms to the statements given in this declaration.					
Type of product *	Notebook				
Commercial name *	ThinkBook 14 G5+ IRH, Zhaoyang X7-14IRH				
Model number *	81HW,83AH				
Issue date *	2022/11/16				
Intended market *	🗌 Global 📃 Europe 🗌 Asia, Pacific & Japan 📃 Americas 🔀 Other <i>China</i>				
Additional information					

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#### 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 number *		81HW,83AH Logo					
lssue da	ite *	2022/11/16	Lend	JVC	) M		
Produc	t environ	mental attributes - Legal requirements	Require	ment	t met		
Item		<b>v</b>	Yes	No	n.a.		
P1	Hazard	ous substances and preparations					
P1.1*	Product	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.	$\square$				
P1.3*	Product hydrobro trichloro concent						
P1.4*	Product	concentration values. Products do not contain more than; 0,005% polychlorinated biphenyl (PCB), 0,005% polychlorinated terphenyl (PCT) in preparations (see legal reference).					
P1.5*	Product	s do not contain more than 0,1% short chain chloroparaffins (SCCP) with 10-13 carbon atoms in the ntaining at least 48% per mass of chlorine in the SCCP (see legal reference).	ie 🔀				
P1.6*	(see leg	th direct and prolonged skin contact do not release nickel in concentrations above 0,5 μg/cm²/wee al reference). nt: Max limit in legal reference when tested according to EN1811:2011-5.	k 🔀				
P1.7*	REACH	Article 33 information about substances in articles is available at (add URL or mail contact): www.lenovo.com/us/en/Lenovo-REACH-SVHC-					
P2	Batterie	S					
P2.1*		oduct contains a battery or an accumulator, the battery/accumulator is labeled with the disposal Information on proper disposal is provided in user manual. (See legal reference)	$\boxtimes$				
P2.2*	Batterie referenc	ıl 🖂					
P2.3*	Batterie	s and accumulators are readily removable. (See legal reference)	$\square$				
P3	Confor	nity verification & Eco design (ErP)					
P3.1*	The pro The D	duct is CE-marked to show conformance with applicable legal requirements (see legal reference). Declaration of Conformity can be requested at (add link or e-mail address www.lenovo.com/us/en/compliance/eu-doc for EU and	s):				
	https://	www.lenovo.com/us/en/compliance/uk-doc for UK					
P3.2*		duct complies with the Eco design requirements for energy-related products, al reference).	$\boxtimes$				
	Require	d information is; given in item P15 or added to this document, available at (add URL):	$\boxtimes$				
	https://	www.lenovo.com/us/en/compliance/eco-declaration					
P5		t packaging					
P5.1*	Packagi	ng and packaging components do not contain more than 0,01% lead, mercury, cadmium ar ent chromium by weight of these together.	nd 🔀				
P5.2*	The pac	kaging materials are marked with abbreviations and numbers indicating the nature of the material( ee legal reference).	s) 🔀				
P5.3*	The pro (see leg	duct packaging material is free from ozone depleting substances as specified in the Montreal Protoc al reference). nt: Legal reference has no maximum concentration values.	ol 🔀				
P6	Treatme	ent 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.

Model nu	umber *	81HW,83AH	Logo	Lon		
Issue da	te *	2022/11/16		Len	ove	Этн
Product	t environ	mental attributes - Market requirements (See General NOTE GN	below)			
		onmental conscious design		Require	ment	met
Item		tory to fill in. Additional information regarding each item may be found under P14.		Yes	No	n.a.
P7.1*		Disassembly, recycling at have to be treated separately are easily separable				
P7.2*		naterials in covers/housing have no surface coating.				
P7.3*		arts > 100 g consist of one material or of easily separable materials.				
P7.4*	Plastic p		$\exists$			
P7.5	Plastic p		H	H		
P7.6*		re easily separable. (This requirement does not apply to safety/regulatory labels).			H	
	Product	lifetime				
P7.7*	Upgradir	ng can be done e.g. with processor, memory, cards or drives		$\boxtimes$		
P7.8*	Upgradir	ng can be done using commonly available tools		$\boxtimes$		
P7.9	Spare pa	arts are available after end of production for: <b>5</b> years				
P7.10	Service i	is available after end of production for: 5 years				
		and substance requirements				
P7.11*		cover/housing material type (e.g. plastics, metal, aluminum): type: PC+ABS+15% Talc Material type: PC Materi	al type: <b>POM</b>			
P7.12		n materials of external electrical cables are PVC free.		$\boxtimes$		
P7.13	Insulatio	n materials of internal electrical cables are PVC free.			Π	
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 flam I chloride or 0,3% weight (3000 ppm) bromine and 0,3% weight (3000 ppm) chlorine i an 25% post-consumer recycled content.	e retardants, an	d 🗖		
P7.15	as define	circuit boards, PCBs (without components) are low halogen: all ⊠PCBs > 25 g ⊠ ed in IEC 61249-2-21. (See 1NOTE B2)		n 🔀		
P7.16	Marking:	etarded plastic parts > 25 g in covers / housings are marked according ISO 1043-4: : > <b>FR(40)</b> <		$\square$		
P7.17		hemical specifications of flame retardants in printed circuit boards > 25 g (without c PA (additive), TBBPA (reactive) (See NOTE B3), Other: <b>DOPO</b> CAS #: <b>3594</b>		$\square$		
		hemical specifications of flame retardants in printed circuit boards (without compon g ISO 1043-4: <i>FR(16)</i>	ents) > 25 g			
P7.18	concentr 1. Chem 2. Chem	ame retarded plastic parts > 25 g contain the following flame retardant substance rations above 0,1%: ical name: <b>BPADP</b> , CAS #: <b>181028-79-5</b> (See NOTE B4) ical name: , CAS #: " ical name: , CAS #: "	es/preparations i	n 🔀		
	Alt. 2: Cł	hemical specifications of flame retardants in plastic parts > 25 g according ISO 104	3-4: <b>FR(40)</b>	$\square$		
P7.19	In plastic assigned	c parts > 25 g, flame retardant substances/preparations above 0,1% are used whic d the following Risk phrases; <i>P273, P391, P501</i> and Hazard statements: <i>H411</i> rce(s) for these classifications is/are found at (add URL(s)):				
DZ COT	Dest	https://china.guidechem.com/cas/31822.html, (See note B5)				
P7.20*	lfYES;a a) Oft ape or	sumer recycled plastic material content is used in the product (See Note B6): at least one of the two alternatives below shall be answered; total plastic parts' weight > 25 g, the postconsumer recycled plastic material content ercentage of total plastic by weight) is $15.96\%$ .	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 <a href="http://www.ecma-international.org/publications/standards/Ecma-370.htm">http://www.ecma-international.org/publications/standards/Ecma-370.htm</a>

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 *	81HW,83AH	Logo	Lenovo
Issue date *	2022/11/16		LEIIUVU
Product environm	nental attributes - Market requirements (continued)		Requirement met

Item

Requirement metYesNon.a.

1	•	aterial content is used						
			i in the product (See	NOTE B7):				
	<ul> <li>If YES; at least one of the two alternatives below shall be answered;</li> <li>a) Of total plastic parts' weight &gt; 25 g, the biobased plastic material content (calculated as a percentage of total plastic by weight) is %.</li> <li>or</li> </ul>							
-		the biobased plastic r	naterial is g.					
		ee from mercury, i.e. pecify: Number of lan		np. mum mercury conte	nt per lamp: mg			
-	Batteries							
	,	omposition: <i>Lithium i</i>	on					
	Energy consumption (See NOTE B8) For the product the following power levels or energy consumptions are reported:							
Energy mode		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-m	ax)	100 W	100 W	100 W	Full load			
Category	2							
Short Idle St Enabled	tate - WOL	6.18 W	5.97 W	6.48 W	ENERGY STAR Computers V8 (P <sub>idle</sub> )			
Long Idle St Enabled	tate - WOL	0.74 W	0.75 W	0.79 W	ENERGY STAR Computers V8 (P <sub>idle</sub> )			
Sleep (S3) -	WOL Enabled	0.75 W	0.76 W	0.82 W	ENERGY STAR Computers V8(P <sub>sieep</sub> )			
Sleep (S3) -	WOL Disabled	0.74 W	0.75 W	0.79 W	ENERGY STAR Computers V8			
Off (S5) - W	OL Enabled	0.61 W	0.61 W	0.66 W	ENERGY STAR Computers V8(P <sub>off</sub> )			
Off (S5) - W	OL Disabled	0.33 W	0.33 W	0.35 W	ENERGY STAR Computers V8			
EPS No-load (External power sup wall outlet but discor	ply / charger plugged in the nnected from the product.)	0.044 W	0.044 W	0.044 W				
PTEC * Typical Energ	gy Consumption	W	W	W				
ETEC * Annual Energ	gy Consumption	<b>19.87</b> kWh/year	<b>19.36</b> kWh/year	20.92 kWh/year	$E_{TEC} = (8760/1000) \times (P_{off} \times 0.25 + P_{sleep} \times 0.35 + P_{long_ldle} \times 0.10 + P_{short_ldle} \times 0.30)$			
ļ					Disabled; P <sub>idle</sub> : Idle State - WOL Disabled			
ETEC * Annual Energ	gy Consumption	20.51 kWh/year	20.00 kWh/year	21.69 kWh/year	$E_{TEC} = (8760/1000) \times (P_{off} \times 0.25 + P_{sleep} \times 0.35 + P_{long_idle} \times 0.10 + P_{short_idle} \times 0.30)$			
					Enabled; Pidle: Idle State - WOL Enabled			
External Pow	ver Supply Efficiend	cy Level (International	Efficiency Marking	Protocol) * : VI				
Display resol	lution * : <b>2880*180</b>	0 megapixels						
Default time	to enter energy sav	ve mode: <b>10</b> minutes						
P9.2* I	Information about t	he energy save functi	on is provided with t	he product.				
P9.3 E	Energy efficiency c	lass (monitors only):						

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

NOTE B9 A Guidance document on Acoustic Noise is available; see <u>http://www.ecma-international.org/publications/standards/Ecma-370.htm</u>

P10	Emissions							
	Noise emission	Noise emission – Declared according to ISO 9296 (See NOTE B9)						
P10.1	Mode	Mode description	Statistical upper limit A-weighted sound power level, L <sub>WA,c</sub> (B)					
	Idle	* System Idle	* 3.3					
1	Operation	* CPU;Operation	* 3.8					
	Other mode	Declared A-weighted sound pressure level (dB) L <sub>pAm</sub>	22 (operator position desktop – idle)					
	Other mode         Declared A-weighted sound pressure level (dB)         39.7 (operator position desktop - operating)           L <sub>pAm</sub> 39.7 (operator position desktop - operating)         39.7 (operator position desktop - operating)		39.7 (operator position desktop – operating)					
	Measured acc	Measured according to: 🔀 ISO 7779 🗌 ECMA-74						
		Other (only if not covered by ECMA-74)						

Model nu	umber *	81HW,83AH				Logo			
Issue da	te *	2022/11/16					Lenc	<b>OVO</b>	тн
Product	t environ	mental attribut	es - Market requirements (cor	ntinued)			Require	ment	me
Item							Yes	No	n.a
		magnetic emiss							
P10.4			the requirement for low frequency e AC adapter only)	lectromagneti	c fields of the foll	owing volunta	ary 🔀		
P12		mics for compu							
P12.1*	The dis	play meets the er	gonomic requirements of ISO 9241-	307 for visual	display technolo	gies.	$\square$		
P12.2*	The phy	sical input device	e meets the requirements of ISO 999	95 and ISO 92	241-410.		$\square$		
P13	Packag	ing and docume	entation						
P13.1	Product Product Product	packaging mater packaging mater packaging mater	ial type(s): <i>Multi layer corrugated</i> ial type(s): <i>Single layer corrugated</i> ial type(s): <i>White EPE</i> ial type(s): <i>PE</i> ial type(s): <i>Vitriol paper</i>	cardboard d board	weight (kg): 0 weight (kg): 0 weight (kg): 0 weight (kg): 0 weight (kg): 0	0.0275 1.070 1.014			
P13.2*			ackaging is free from PVC.				$\square$		
P13.3*		For product primary corrugated fiberboard packaging, specify the contained percentage of minimum post-							
P13.4*	Specify		nd product documentation (tick box)	:					
P13.5	Ùser an		is item if paper documentation used entation on paper media is chlorine-						
	Elemen	chlorine-free tal chlorine-free ed chlorine-free							
P14	Volunta	ry programs							
P14.1	The pro	duct meets the re	equirements of the following voluntar	ry program(s):					
	Eco-lab Eco-lab	el:	Criteria version: <i>8</i> Criteria version: <i>1680.1-2018</i> Criteria version:	Date: Date: Date:	Product	category: <b>2</b> category: category:			
P15			(See NOTE B10)						
P9 P9	NOTE: the info supplie informa Accourt	Supplier makes rmation contair r's knowledge a ttion. The inforn tt Representativ	f specific configuration may vary; no representations, guarantees, a red in this document. All informat vailable at the time of completion nation provided here is approxima e for more information. red Notebooks & Tablet Computer	assurances of ion provided , and supplie ate and provi	or warranties wh by supplier in t er shall have no ded for informat	ether expres his documer obligation to	ss or implied, nt is provided o update such	based	d on
F J			gov/index.cfm?fuseaction=find_a			o&pgw_code	e=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 14 G5+ IRH, Zhaoyang X7-14IRH	Logo
Model Number	21HW,83AH	
Issue Date	2022/11/16	Lenovo
Additional information		

P7.1.1	Product environmental attributes							
(d)	Year of manufacture:							
(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)			
	Memory over base [GB]	32	16					
ents ting	Additional internal storage	NO (Yes / No)	Yes (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					
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)	10.76						
Test results	Etec Value (kWh) - dGfx enabled all discrete graphics cards (dGfx) are enabled		14.46					
(g)	Idle state power demand (Watts);			J	4.445			
(h)	Sleep mode power demand (Watts);				0.646			
(i)	Sleep mode with WOL enabled power de	emand (Watts) (where	enabled);		NA			
(j)	Off mode power demand (Watts);				0.421			
(k)	Off mode with WOL enabled power dem	and (Watts) (where en	abled);		NA			
(I)	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: <b>85.76%</b> , <b>85.</b> *internal note: show values for all available external p		%,84.64%					
(0)	Minimum number of loading cycles that t		tand (applies only to n	otebook computers):	300 cycles			
(p-1)	Measurement methodology used to dete	rmine information mer	ntioned in points (I) – in	nternal PSU efficiency	:			

(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 metho	dology used to determine information mentioned in p <i>≥</i> 70% of Cmin	points (o) – loading cycles batteries:				
		dology used to determine information mentioned in r Point P9.1 in the Product IT Eco Declaration:	naximum, idle, sleep, off mode				
		IEC 62623					
(q)	Sequence of steps for	or achieving a stable condition with respect to power	demand::				
		Power on -> Wait 5 minutes ->Stable con	ndition				
(r)	Description of how sleep and/or off mode was selected or programmed:						
		Begin menu -> Power -> Select sleep or o	ff mode				
(s)	Sequence of events off mode: NA	required to reach the mode where the equipment au	tomatically changes to sleep and/or				
(t)		te condition before the computer automatically re		30min			
	Length of time after	not exceed the applicable power demand requirement a period of user inactivity in which the compute	r automatically reaches a power	NA			
	<ul> <li>mode that has a lower power demand requirement than sleep mode (in minutes):</li> <li>Length of time before the display sleep mode is set to activate after user inactivity (in minutes):</li> </ul>						
(w)							
(x)	User information on	how to enable the power management functionality:					
		Refer to User Guide					
(z)	the electricity supply	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				
Additiona	I Notebook Batter						
		Battery[ies] <u>not</u> user replaceable	Battery[ies] user replaceable	n/a			
		The battery[ies] in this product cannot be easily replaced by users themselves. <sup>1)</sup>					
Internal/bu	ilt-in Battery	$\boxtimes$					
External/d	etachable Battery						
Bios Back	up Battery						
Other:							
Additional	information						
кумулаторната	[ите] батерия[и] в този п	asily replaced by users themselves. родукт не може да се замени[ят] лесно от самите потребител er sustituidas fácilmente por los propios usuarios.	и.				
ýměnu baterie/t rugeren kan ikk er Akku/die Akk asutajad ei saa	paterií v tomto výrobku by e uden videre udskifte bat us dieses Produkts kann/ selle toote akut/akusid ise	neměli provádět sami uživatelé. teriet/batterierne i dette produkt. können nicht ohne weiteres vom Benutzer selbst ausgetauscht w hõlpsasti asendada.	verden.				
a/les batterie(s j orisnik ne može a batteria/le bat	présente(s) dans ce produ lako zamijeniti Bateriju sa terie in questo prodotto no	n può/possono essere facilmente sostituita/e dall'utente.	x-mêmes.				
io gaminio bate termék akkumu -batterija/batterij	ilátorát/akkumulátorait a fé ji f'dan il-prodott ma tistax/	jas negali lengvai pakeisti. elhasználó nem tudja egyedül egyszerűen kicserélni. jistgħux tiġi/jiġu sostitwita/i mill-utenti stess.					
e batterij(en) in Iżytkownik nie m	dit product is (zijn) door d noże sam w łatwy sposób	t erstattes av brukerne selv. e gebruiker niet gemakkelijk vervangbaar. wymienić baterii w tym produkcie. ser facilmente substituídas pelos próprios utilizadores.					

A ou as baterias deste produto não podem ser facilmente substituídas pelos próprios utilizadore Bateria (bateriile) din acest produs nu poate (pot) fi usor inlocuită (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 käyttäjan vaihdettavissa. Det är inte enkelt för kunden att själv byta ut batteriet/batterierna. Bu üründeki batarya(lar) kullanıcılar tarafından kolaylıkla değiştirilemez.