


Product environmental attributes – THE ECO DECLARATION

The declaration may be published only when all rows and/or fields marked with an * are filled-in (n.a. for not applicable).
Additional information regarding each item may be found under P14.

| | | |
|-------------------------------|--|--|
| Brand * | <i>ThinkPad</i> | Logo  |
| Company name * | <i>Lenovo</i> | |
| Contact information * | <i>Lenovo Global Environmental Affairs Alvin L Carter 1009 Think Place Building 2 / 5F1 Morrisville, North Carolina 27560 alcarter@lenovo.com</i> | |
| Internet site * | http://www.lenovo.com/social_responsibility/us/en/environment.html | |
| Additional information | <i>The latest version of this document can be found at http://www.lenovo.com/social_responsibility/us/en/datasheets_notebooks.html</i> | |

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 * | <i>Notebook</i> |
| Commercial name * | <i>ThinkPad L450</i> |
| Model number * | <i>20DS, 20DT</i> |
| Issue date * | <i>2014-11-17</i> |
| Intended market * | <input checked="" type="checkbox"/> Global <input type="checkbox"/> Europe <input type="checkbox"/> Asia, Pacific & Japan <input type="checkbox"/> Americas <input type="checkbox"/> Other |
| Additional information | |

This is an uncontrolled copy when in printed form. Please refer to the contact information for the latest version.

| Quality Control | | Requirement met | |
|------------------------|---|-------------------------------------|--------------------------|
| | | Yes | No |
| QC1 * | The company enforces an internal quality control scheme to ensure the correctness of this eco declaration | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| QC2 * | The company is a member of an eco declaration system that enforces regular independent quality control such as organized by IT-Företagen (see www.itecodeclaration.org). | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

| | | | |
|----------------|---|------------|--------------------|
| Model number * | ThinkPad L450 20DS, 20DT20DS, 20DT | | |
| Issue date * | 2014-11-17 | 2014-11-17 | Logo lenovo |

| Product environmental attributes - Legal requirements | | Requirement met | | |
|--|---|-------------------------------------|--------------------------|-------------------------------------|
| Item | | Yes | No | n.a. |
| P1 Hazardous substances and preparations | | | | |
| P1.1* | Products do not contain more than; 0.1% lead, 0.01% cadmium, 0.1% mercury, 0.1% hexavalent chromium, 0.1% polybrominated biphenyls (PBB) or 0.1% polybrominated diphenyl ethers (PBDE). (See legal reference and Note B1) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| P1.2* | Products do not contain Asbestos (see legal reference). Comment: Legal reference has no maximum concentration value. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| P1.3* | Products do not contain Ozone Depleting Substances: Chlorofluorocarbons (CFC), hydrobromofluorocarbons (HBFC), hydrochlorofluorocarbons (HCFC), Halons, carbontetrachloride, 1,1,1-trichloroethane, methyl bromide (see legal reference). Comment: Legal reference has no maximum concentration values. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| P1.4* | Products do not contain more than; 0.005% polychlorinated biphenyl (PCB), 0.005% polychlorinated terphenyl (PCT) in preparations (see legal reference). | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| P1.5* | Products do not contain more than 0.1% short chain chloroparaffins (SCCP) with 10-13 carbon atoms in the chain containing at least 48% per mass of chlorine in the SCCP (see legal reference). | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| P1.6* | Textile and leather parts with direct skin contact do not contain Tri-(2,3,-dibromopropyl)-phosphate (TRIS), Tris-(aziridiny)-phosphineoxide (TEPA), polybrominated biphenyl (PBB) (see legal reference). Comment: Legal reference has no maximum concentration values. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| P1.7* | Textile and leather parts with direct skin contact do not contain more than 0.003% Azo colorants that split aromatic amines. (See legal reference and Note B1) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| P1.8* | Wooden parts do not contain arsenic and chromium as a wood preservation treatment as well as pentachlorophenol and derivatives (see legal reference). Comment: Legal reference has no maximum concentration values. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| P1.9* | Parts with direct and prolonged skin contact do not release nickel in concentrations above 0.5 microgram/cm ² /week (see legal reference). Comment: Max limit in legal reference when tested according to EN1811:1998. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P1.10* | REACH Article 33 information about substances in articles is available at (add URL or mail contact): http://www.lenovo.com/social_responsibility/us/en/materials.html | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P2 Batteries | | | | |
| P2.1* | If the product contains a battery or an accumulator, it is labeled with the disposal symbol and if it contains more than 0.0005% of mercury (for button cells only) by weight, or more than 0.004% of lead, it shall be marked with the chemical symbol for the metal concerned, Hg or Pb. Information on proper disposal is provided in user manual. (See legal reference) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P2.2* | Button cells used in the product do not contain more than 2% by weight of mercury. Other batteries or accumulators do not contain more than 0.0005% of mercury or 0.002% of cadmium. (See legal reference) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P2.3* | Batteries and accumulators are easily removable by either users or service providers (as dependent on the design of the product). Exception: Batteries that are permanently installed for safety, performance, medical or data integrity reasons do not have to be "easily removable". (See legal reference) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P3 Safety, EMC connection to the telephone network and labeling | | | | |
| P3.1* | The product complies with legally required safety standards as specified (see legal reference). | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P3.2* | The product complies with legally required standards for electromagnetic compatibility (see legal reference). | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P3.3* | If product is intended for connection to a public telecom network or contains a radio transmitter, it complies with legally required standards for radio and telecommunication devices (see legal reference). | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P3.4* | The product is labeled to show conformance with applicable legal requirements (see legal reference). | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P4 Consumable materials | | | | |
| P4.1* | If a photo conductor (drum, belt etc.) is used in the product, it does not contain cadmium max 0.01% (see legal reference and Note B1). | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| P4.2* | If ink/toner is used in the product, it does not contain cadmium max 0.1% by weight (see legal reference). | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| P4.3* | If the ink/toner formulation/preparation is classified as hazardous according to applicable regulations, the product/packaging is adequately labeled and a Safety Data Sheet (SDS) in accordance with these requirements is available (see legal reference). | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| P5 Product packaging | | | | |
| P5.1* | Packaging and packaging components do not contain more than 0.01% lead, mercury, cadmium and hexavalent chromium by weight of these together. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| P5.2* | Plastic packaging material is marked according to ISO 11469 referring ISO 1043 (see legal reference). | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P5.3* | The product packaging material is free from ozone depleting substances as specified in the Montreal Protocol (see legal reference). Comment: Legal reference has no maximum concentration values. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Note B1: Restriction applies to the homogeneous material, unless other specified and expressed in weight %.

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|----------------|---|---------------|------------|
| Model number * | ThinkPad L450 20DS, 20DT20DS, 20DT | | |
| Issue date * | 2014-11-17 | 2014-11-17 | 2014-11-17 |
| | Logo | lenovo | |

| Product environmental attributes - Market requirements - Environmental conscious design | | Requirement met | | |
|---|--|-------------------------------------|-------------------------------------|--------------------------|
| Item | *=mandatory to fill in. Additional information regarding each item may be found under P14. | Yes | No | n.a. |
| P6 Treatment information | | | | |
| P6.1* | Information for recyclers/treatment facilities is available (see legal reference). | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P7 Design | | | | |
| Disassembly, recycling | | | | |
| P7.1* | Parts that have to be treated separately are easily separable | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P7.2* | Plastic materials in covers/housing have no surface coating. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| P7.3* | Plastic parts >100g consist of one material or of easily separable materials. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P7.4* | Plastic parts >25g have material codes according to ISO 11469 referring ISO 1043. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P7.5 | Plastic parts are free from metal inlays or have inlays that can be removed with commonly available tools. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P7.6* | Labels are easily separable. (This requirement does not apply to safety/regulatory labels). | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Product lifetime | | | | |
| P7.7* | Upgrading can be done e.g. with processor, memory, cards or drives | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P7.8* | Upgrading can be done using commonly available tools | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P7.9. | Spare parts are available after end of production for: 5 years | | | <input type="checkbox"/> |
| P7.10 | Service is available after end of production for: 5 years | | | <input type="checkbox"/> |
| Material and substance requirements | | | | |
| P7.11* | Product cover/housing material type: Material type: >PC+ABS-FR(40)< Material type: _____ Material type: _____ | | | |
| P7.12 | Electrical cable insulation materials of power cables are PVC free. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| P7.13 | Electrical cable insulation materials of signal cables are PVC free | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P7.14 | All cover/housing plastic parts >25g are free from chlorine and bromine. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P7.15 | All printed circuit boards (without components) >25g are halogen free. as defined in IEC61249-2-21. (See Note B2) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P7.16 | Flame retarded plastic parts >25g in covers / housings are marked according ISO 1043-4: Marking: FR(40) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P7.17 | Alt. 1 Chemical specifications of flame retardants in printed circuit boards >25g (without components): TBBPA (additive) <input type="checkbox"/> , TBBPA (reactive) <input type="checkbox"/> , Other; chemical name: DOPO , CAS #: 35948-25-5 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | Alt. 2 Chemical specifications of flame retardants in printed circuit boards (without components) >25g according ISO 1043-4: FR(40) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P7.18 | Alt. 1 Flame retarded plastic parts >25g contain the following flame retardant substances/preparations in concentrations above 0.1%: Comment: No legal limits exist, this is a market requirement. 1. Chemical name: FR 3002 , CAS #: confidential 2. Chemical name: TMB1615 , CAS #: confidential 3. Chemical name: GC-1150 , CAS #: confidential Alt. 2 Chemical specifications of flame retardants in plastic parts >25g according ISO 1043-4: FR(40) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P7.19 | Plastic parts >25g are free from flame retardant substances/ preparations above 0.1% classified as R45, R40, R46, R48, R50, R51, R53, R60, R61 and any combination of these (See Note B3) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P7.20 | Of total plastic parts' weight >25g, recycled material content is 10.3% . | | | |
| P7.21 | Of total plastic parts' weight >25g, biobased material content is 0% . | | | |
| P7.22 | Light sources are free from mercury If mercury is used specify: Number of lamps: _____ and max. mercury content per lamp: _____ mg | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P8 Batteries | | | | |
| P8.1* | Battery chemical composition: Lithium Ion / Lithium Manganese Dioxide | | | <input type="checkbox"/> |
| P8.2 | Batteries meet the requirements of the following voluntary program/s: US Call2Recycle, and add EPBA, JBRC | | | <input type="checkbox"/> |

Note B2: IEC61249-2-21 has maximum limits for chlorine and bromine but does not address fluorine, iodine and astatine which are included in the group of halogens.

Note B3: 'Starting from January 2009, Risk phrases can be replaced by Hazard phrases according to the Globally Harmonized System (GHS), mandatory by December 2010.

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| Model number * | ThinkPad L450 20DS, 20DT20DS, 20DT | | |
| Issue date * | 2014-11-17 | 2014-11-17 | 2014-11-17 |
| Logo | lenovo | | |

| Product environmental attributes - Market requirements (continued) | Requirement met |
|--|-----------------|
|--|-----------------|

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|------|-----|----|------|
| Item | Yes | No | n.a. |
|------|-----|----|------|

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| P9 Energy consumption |
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9.1 For the product the following power levels or energy consumptions are reported: [See P14](#)

| 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 * | <input type="checkbox"/> |
|----------------------|-------------------------|-------------------------|-------------------------|---|--------------------------|
| Peak (On-max) | 45/65 W | 45/65 W | 45/65 W | Full load | <input type="checkbox"/> |

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|--------------------|
| Category I1 |
|--------------------|

| | | | | | |
|--------------------------------|--------|--------|--------|---|--------------------------|
| Short Idle State - WOL Enabled | 7.54 W | 7.55 W | 7.45 W | Use for ENERGY STAR V6 registration (P_{idle}) | <input type="checkbox"/> |
| Long Idle State - WOL Enabled | 5.25 W | 5.55 W | 5.25 W | Use for ENERGY STAR V6 registration (P_{idle}) | <input type="checkbox"/> |
| Sleep (S3) - WOL Enabled | 0.55 W | 0.55 W | 0.59 W | Use for ENERGY STAR V6 registration (P_{sleep}) | <input type="checkbox"/> |
| Sleep (S3) - WOL Disabled | 0.55 W | 0.55 W | 0.59 W | Reference | <input type="checkbox"/> |
| Off (S5) - WOL Enabled | 0.19 W | 0.19 W | 0.23 W | Use for ENERGY STAR V6 registration (P_{off}) | <input type="checkbox"/> |
| Off (S5) - WOL Disabled | 0.19 W | 0.19 W | 0.23 W | Use for EuP | <input type="checkbox"/> |

| |
|-----------------|
| Category |
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| | | | | | |
|--------------------------------|--|--|--|---|--------------------------|
| Short Idle State - WOL Enabled | | | | Use for ENERGY STAR V6 registration (P_{idle}) | <input type="checkbox"/> |
| Long Idle State - WOL Enabled | | | | Use for ENERGY STAR V6 registration (P_{idle}) | <input type="checkbox"/> |
| Sleep (S3) - WOL Enabled | | | | Use for ENERGY STAR V6 registration (P_{sleep}) | <input type="checkbox"/> |
| Sleep (S3) - WOL Disabled | | | | Reference | <input type="checkbox"/> |
| Off (S5) - WOL Enabled | | | | Use for ENERGY STAR V6 registration (P_{off}) | <input type="checkbox"/> |
| Off (S5) - WOL Disabled | | | | Use for EuP | <input type="checkbox"/> |

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|--|--------|--------|--------|--|--------------------------|
| EPS No-load (External power supply / charger plugged in the wall outlet but disconnected from the product.) | 0.07 W | 0.08 W | 0.12 W | | <input type="checkbox"/> |
|--|--------|--------|--------|--|--------------------------|

| | | | | | |
|--------------------------------------|---|---|---|--|--------------------------|
| PTEC * Typical Energy Consumption | W | W | W | | <input type="checkbox"/> |
|--------------------------------------|---|---|---|--|--------------------------|

| | | | | | |
|-------------------------------------|----------|----------|----------|--|-------------------------------------|
| TEC * Typical Energy Consumption | kWh/week | kWh/week | kWh/week | | <input checked="" type="checkbox"/> |
|-------------------------------------|----------|----------|----------|--|-------------------------------------|

| | | | | | |
|-------------------------------------|----------------|----------------|----------------|---|--------------------------|
| ETEC * Annual Energy Consumption | 26.52 kWh/year | 26.76 kWh/year | 26.49 kWh/year | $E_{TEC} = (8760/1000) \times (P_{off} \times 0.25 + P_{sleep} \times 0.35 + P_{long_idle} \times 0.10 + P_{short_idle} \times 0.30)$ | <input type="checkbox"/> |
|-------------------------------------|----------------|----------------|----------------|---|--------------------------|

P_{off} : Off Mode(S5) - WOL Enabled; P_{sleep} : Sleep Mode(S3) - WOL Enabled; P_{idle} : Idle State - WOL Enabled

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|---|--|--|--|--|--------------------------|
| Display resolution * : 1.05 / 2.07 Megapixels | | | | | <input type="checkbox"/> |
|---|--|--|--|--|--------------------------|

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|-----------------------------------|--|--|--|--|-------------------------------------|
| Print Speed * : Images per minute | | | | | <input checked="" type="checkbox"/> |
|-----------------------------------|--|--|--|--|-------------------------------------|

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|--|--|--|--|--|--------------------------|
| Default time to enter energy save mode: 10 minutes | | | | | <input type="checkbox"/> |
|--|--|--|--|--|--------------------------|

| | | | |
|---|-------------------------------------|--------------------------|--------------------------|
| P9.2 * Information about the energy save function is provided with the product. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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| | | | |
|--|-------------------------------------|--------------------------|--------------------------|
| P9.3 * The product meets the energy requirements of the following voluntary program/s: ENERGY STAR® version: Version 6.1 dated Sep 10, 2014 Tier: Product category: I1 Others specify: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--|-------------------------------------|--------------------------|--------------------------|

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| P10 Emissions |
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| Noise emission – Declared according to ISO 9296 |
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| P10.1 | Mode | Mode description | Declared A-weighted sound power level L_{WAd} (B) | Declared A-weighted sound pressure level L_{pAm} (dB) | |
|---|------------|-------------------------|---|--|--|
| | | | | Operator position <input checked="" type="checkbox"/> Desktop <input type="checkbox"/> or Desk side <input type="checkbox"/> | Bystander positions <input type="checkbox"/> (only if product is not operator attended) |
| | Idle | * HDD: Idle | * 3.1 | 21 | |
| | Operation | * HDD: Operating | * 3.3 | 27 | |
| | Other mode | ODD operating | N/A | N/A | |
| Measured according to: <input checked="" type="checkbox"/> ISO7779 <input checked="" type="checkbox"/> ECMA-74 <input type="checkbox"/> Other (only if not covered by ECMA-74 with L_{pAm} measurement distance m) | | | | | |

P10.2 The product meets the acoustic noise requirements of the following voluntary program/s:

| | | |
|----------------|---|--------------------|
| Model number * | ThinkPad L450 20DS, 20DT20DS, 20DT | |
| Issue date * | 2014-11-17/2014-11-17 | Logo lenovo |

| Product environmental attributes - Market requirements (continued) | | Requirement met | | |
|---|---|-------------------------------------|--------------------------|-------------------------------------|
| Item | | Yes | No | n.a. |
| Chemical emissions from printing products | | | | |
| P10.3* | Test performed according to ECMA-328 (ISO/IEC 28360) standard <input type="checkbox"/> , other specify: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| P10.4 | Typical emission rate (print phase) is (mg/h): Dust Ozone Styrene Benzene TVOC | | | <input checked="" type="checkbox"/> |
| P10.5 | Chemical emission requirements of the following voluntary program/s are met for : Dust <input type="checkbox"/> Ozone <input type="checkbox"/> Styrene <input type="checkbox"/> Benzene <input type="checkbox"/> TVOC <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Electromagnetic emissions | | | | |
| P10.6 | Computer display meets the requirement for low frequency electromagnetic fields of the following voluntary program/s: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P11 Consumable materials for printing products | | | | |
| P11.1* | A Safety Data Sheet (SDS) is available for the ink/toner preparation, even if not legally required (see P4.3). | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| P11.2* | Paper containing post-consumer recycled fibers can be used, provided that it meets the requirements of EN12281. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| P11.3* | 2-sided (duplex) printing/copying is an integrated product function. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| P12 Ergonomics for computing products | | | | |
| P12.1* | The display meets the ergonomic requirements of ISO 9241-307 for visual display technologies. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P12.2* | The physical input device meets the requirements of ISO 9995 and ISO 9241-410. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P13 Packaging and documentation | | | | |
| P13.1* | Product packaging material type(s): carton weight (kg): 0.445 Product packaging material type(s): paper pad weight (kg): 0.04 Product packaging material type(s): bag weight (kg): 0.003 Product packaging material type(s): manual weight (kg): 0.01 Product packaging material type(s): cushion weight (kg): 0.08 | | | |
| P13.2* | Product plastic packaging is free from PVC. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P13.3* | Specify media for user and product documentation (tick box): Electronic <input checked="" type="checkbox"/> , Paper <input checked="" type="checkbox"/> , Other <input type="checkbox"/> | | | <input type="checkbox"/> |
| P13.4* | For paper user and product documentation, please specify contained percentage of post-consumer recycled fiber: 100% | | | <input type="checkbox"/> |
| P14 Additional information (See Note B4) | | | | |
| NOTE: Supplier makes no representations, guarantees, assurances or warranties whether express or implied, regarding the information contained in this document. All information provided by supplier in this document is provided based on supplier's 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 B4: 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 B

| Reference | Declaration item |
|--|------------------------------|
| 2002/95/EC (ROHS Directive) | P1.1, P4.1 |
| REACH, Annex XVII | P1.6, P1.8, P4.2 |
| REACH, Annex XVII | P1.4 |
| REACH, Annex XVII | P1.2 |
| REACH, Annex XVII | P1.7 |
| REACH, Annex XVII | P1.9 |
| Regulation (EC) No. 2037/2000, 2038/2000, 2039/2000 | P1.3 |
| Norwegian regulation relating to restrictions on the use of certain dangerous chemicals 20.12.2002 | P1.5 |
| 2006/66/EC (Battery and accumulators Directive) | P2.1, P2.2, P2.3, P3.4, P8.1 |
| 2006/95/EC (Low Voltage Directive) | P3.1, 3.4 |
| 2004/108/EEC (New EMC Directive) | P3.2, 3.4 |
| 1999/5/EC (R&TTE Directive) | P3.3, 3.4 |
| "REACH" Regulation (1907/2006), annex VII | P1.10 |
| (EC) No.1272/2008 regulation on classification, labeling and packaging (CLP) | P4.3 |
| REACH article 31, annex II | P4.3 |
| 2004/12/EC (Directive on packaging and packaging waste) | P5.1 |
| (97/129/EC) (Commission Decision on Identification System for Packaging Materials) | P5.2 |
| 2037/2000/EC Regulation on Substances that Deplete the Ozone Layer | P5.3 |
| 2002/96/EC (WEEE directive) | P3.4, P6.1 |
| (EC) No.1272/2008 regulation on classification, labeling and packaging (CLP) | P7.19 |

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 | <i>ThinkPad L450</i> |  |
| Model Number | <i>20DS, 20DT</i> | |
| Issue Date | <i>2014-11-17</i> | |
| Additional information | | |

| P7.1.1 Product environmental attributes | |
|---|---|
| (d) | year of manufacture: <i>2015</i> |
| (e) | E TEC 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: Category (according to ErP Lot 3): <i>A</i> Etec: <i>14.96</i> |
| (f) | E TEC value (kWh) per ErP Lot 3 Category and capability adjustments applied when all discrete graphics cards (dGfx) are enabled: Category (according to ErP Lot 3): <i>B</i> Etec: <i>15.76</i> |
| (g) | idle state power demand (Watts); <i>5.34</i> |
| (h) | sleep mode power demand (Watts); <i>0.59</i> |
| (i) | sleep mode with WOL enabled power demand (Watts) (where enabled); <i>0.59</i> |
| (j) | off mode power demand (Watts); <i>0.23</i> |
| (k) | off mode with WOL enabled power demand (Watts) (where enabled); <i>0.23</i> |
| (l) | 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): 10% 20% 50% 100% Average ; or level: <i>V</i> |
| (o) | the minimum number of loading cycles that the batteries can withstand (applies only to notebook computers): <i>500 cycles</i> |
| (p-1) | the measurement methodology used to determine information mentioned in points (l) – internal PSU efficiency: <i>NA</i> |
| (p-2) | the measurement methodology used to determine information mentioned in points (m) – external PSU efficiency: <i>Measuring the Energy Consumption of External Power Supplies, Appendix Z to 10 CFR Part 430.</i> |
| (p-3) | the measurement methodology used to determine information mentioned in points (o) – loadingcycles batteries: <i>IEC 61960 measurement methodology / 0.5C Charge/Discharge</i> |

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| (p-4) | the 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: ENERGY STAR Test Method for Computers, Rev. Aug-2010 |
| (q) | sequence of steps for achieving a stable condition with respect to power demand:: Boot the computer and wait until the operating system has fully loaded. If necessary, run the initial operating system setup and allow all preliminary file indexing and other one-time/periodic processes to complete. |
| (r) | description of how sleep and/or off mode was selected or programmed: refer to power management, sleep mode: ACPI system level G1/S3 (suspend to RAM) state; off mode: ACPI system level G2/S5 ('soft off') state |
| (s) | sequence of events required to reach the mode where the equipment automatically changes to sleep and/or off mode: refer to power management, 20mins automatically reaches sleep mode |
| (t) | the 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): 20 |
| (u) | the 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): NA |
| (v) | the length of time before the display sleep mode is set to activate after user inactivity (in minutes): 10 |
| (w) | information on the energy-saving potential of power management functionality: refer to user manual |
| (x) | user information on how to enable the power management functionality: refer to user manual |
| (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, 50GHZ-<0.5%-ENERGY STAR Test Method for Computers, Rev. Aug-2010 |

| Addition Notebook Battery Information: | | | |
|---|-------------------------------------|--------------------------|---|
| Yes (Battery not user replaceable) | No (Battery user replaceable) | n/a | This notebook computer is operated by battery/ies that can be accessed and replaced by a non-professional user. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | The battery[ies] in this product can be easily replaced by users themselves |

| Additional information |
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