



Lenovo Accessibility Conformance Report

Revised Section 508 Edition

VPAT® Version 2.3 – December 2018

Name of Product/Version: ThinkPad T490

See OS VPAT for operating system information on appropriate manufacturer’s website. See software VPATs for software application information.

Date: 17 December 2019

Contact information: compliance@Lenovo.com

Evaluation Methods Used:

Manual testing is performed on hardware products using a number of different tools to evaluate access by users with disabilities. Chroma optical test: brightness, contrast, color chromaticity tools are used to ensure contrast, a force gauge is used to evaluate key button force. One handed, and non-biometric operation is evaluated alongside stylus and other tools that are used to evaluate use without tight pinching or grasping. Measurement tools and meters are used to measure operable controls while audio meters are used to measure volume and gain. Connection ports are evaluated from design to ensure standard connection points are available. Any transducers designed to be held to the ear are evaluated by an outside laboratory for conformance to non-interference and coupling standards. Additional tests are performed based on applicable features of the product.

Applicable Standards/Guidelines

This report covers the degree of conformance for the following accessibility standard/guidelines:

| Standard/Guideline | Included In Report |
|--|---|
| Web Content Accessibility Guidelines 2.0, at http://www.w3.org/TR/2008/REC-WCAG20-20081211/ | Level A (No) Level AA (No) Level AAA (No) |
| Revised Section 508 standards as published by the U.S. Access Board in the Federal Register on January 18, 2017 Corrections to the ICT Final Rule as published by the US Access Board in the Federal Register on January 22, 2018 | (Yes) |

Terms

The terms used in the Conformance Level information are defined as follows:

- **Supports:** The functionality of the product has at least one method that meets the criterion without known defects or meets with equivalent facilitation.
- **Partially Supports:** Some functionality of the product does not meet the criterion.
- **Does Not Support:** The majority of product functionality does not meet the criterion.
- **Not Applicable:** The criterion is not relevant to the product.
- **Not Evaluated:** The product has not been evaluated against the criterion. This can be used only in WCAG 2.0 Level AAA.

Revised Section 508 Report

Chapter 3: Functional Performance Criteria (FPC)

| Criteria | Conformance Level | Remarks and Explanations |
|---|-------------------|---|
| <p>302.1 Without Vision. Where a visual mode of operation is provided, ICT shall provide at least one mode of operation that does not require user vision.</p> | <p>Supports</p> | <p>Touch can be used to identify and distinguish controls and keys without activating them. The capitol lock key and other toggle keys can be discerned both audibly and visually when combined with the operating system.</p> <p>Function keys, such as the Speaker/F1 key, only have a red LED and an icon that appears when activated. However, this information can be determined through other platform level apps and is announced when combined with platform level assistive technology features.</p> |
| <p>302.2 With Limited Vision. Where a visual mode of operation is provided, ICT shall provide at least one mode of operation that enables users to make use of limited vision.</p> | <p>Supports</p> | <p>All keys have visual symbols or characters with good contrast; usually light symbols on a dark background. Touch can be used to identify and distinguish controls and keys without activating them.</p> |
| <p>302.3 Without Perception of Color. Where a visual mode of operation is provided, ICT shall provide at least one visual mode of operation that does not require user perception of color.</p> | <p>Supports</p> | <p>Color alone is not used to communicate meaning</p> |
| <p>302.4 Without Hearing. Where an audible mode of operation is provided, ICT shall provide at least one mode of operation that does not require user hearing.</p> | <p>Supports</p> | <p>When combined with the operating system the product is designed to alert applications of system sounds when needed and a visual cue is also provided.</p> |

| Criteria | Conformance Level | Remarks and Explanations |
|---|-------------------|--|
| 302.5 With Limited Hearing. Where an audible mode of operation is provided, ICT shall provide at least one mode of operation that enables users to make use of limited hearing. | Supports | Hardware provides a physical volume control and/or an interface so that volume can be controlled by software. |
| 302.6 Without Speech. Where speech is used for input, control, or operation, ICT shall provide at least one mode of operation that does not require user speech. | Supports | User speech is not required. |
| 302.7 With Limited Manipulation. Where a manual mode of operation is provided, ICT shall provide at least one mode of operation that does not require fine motor control or simultaneous manual operations. | Supports | Controls, latches, and keys can be reached and operated using one hand and require minimal dexterity for ease of use by mobility impaired users. |
| 302.8 With Limited Reach and Strength. Where a manual mode of operation is provided, ICT shall provide at least one mode of operation that is operable with limited reach and limited strength. | Supports | Controls, latches, and keys can be reached and operated using one hand and require minimal dexterity for ease of use by mobility impaired users. Controls and keys can be operated with minimal force. |
| 302.9 With Limited Language, Cognitive, and Learning Abilities. ICT shall provide features making its use by individuals with limited cognitive, language, and learning abilities simpler and easier. | Supports | All keys and controls have visual symbols or characters with good contrast; usually light symbols on a dark background. Touch can be used to identify and distinguish controls and keys without activating them. |

Chapter 4: Hardware

| Criteria | Conformance Level | Remarks and Explanations |
|---|-------------------------------------|-------------------------------------|
| 402 Closed Functionality | Heading cell – no response required | Heading cell – no response required |
| 402.1 General | Heading cell – no response required | Heading cell – no response required |
| 402.2 Speech-Output Enabled | Heading cell – no response required | Heading cell – no response required |
| 402.2.1 Information Displayed On-Screen | Not Applicable | Not closed functionality |
| 402.2.2 Transactional Outputs | Not Applicable | Not closed functionality |
| 402.2.3 Speech Delivery Type and Coordination | Not Applicable | Not closed functionality |
| 402.2.4 User Control | Not Applicable | Not closed functionality |

| Criteria | Conformance Level | Remarks and Explanations |
|---|-------------------------------------|---|
| 402.2.5 Braille Instructions | Not Applicable | Not closed functionality |
| 402.3 Volume | Heading cell – no response required | Heading cell – no response required |
| 402.3.1 Private Listening | Not Applicable | Not closed functionality |
| 402.3.2 Non-private Listening | Not Applicable | Not closed functionality |
| 402.4 Characters on Display Screens | Not Applicable | Not closed functionality |
| 402.5 Characters on Variable Message Signs | Not Applicable | Not closed functionality |
| 403 Biometrics | Heading cell – no response required | Heading cell – no response required |
| 403.1 General. Where provided, biometrics shall not be the only means for user identification or control. | Supports | Where biometrics are used to authenticate, users can alternatively authenticate using a password. |
| 404 Preservation of Information Provided for Accessibility | Heading cell – no response required | Heading cell – no response required |
| 404.1 General. ICT that transmits or converts information or communication shall not remove non-proprietary information provided for accessibility or shall restore it upon delivery. | Supports | Accessibility structure and descriptions are preserved. |
| 405 Privacy | Heading cell – no response required | Heading cell – no response required |
| 405.1 General. The same degree of privacy of input and output shall be provided to all individuals. When speech output required by 402.2 is enabled, the screen shall not blank automatically. | Supports | Speech is not required for use. When combined with the operating system, screen reader users can use a headset to ensure privacy. |
| 406 Standard Connections | Heading cell – no response required | Heading cell – no response required |
| 406.1 General. Where data connections used for input and output are provided, at least one of each type of connection shall conform to industry standard non-proprietary formats. | Supports | The product design uses industry standard ports so that alternative equipment and assistive technologies can be accommodated. |
| 407 Operable Parts | Heading cell – no response required | Heading cell – no response required |
| 407.2 Contrast. Where provided, keys and controls shall contrast visually from background surfaces. Characters and symbols shall contrast visually from background surfaces with either light characters or symbols on a dark background or dark characters or symbols on a light background. | Supports | All keys and controls have visual symbols or characters with good contrast; usually light symbols on a dark background. |
| 407.3 Input Controls | Heading cell – no response required | Heading cell – no response required |

| Criteria | Conformance Level | Remarks and Explanations |
|---|-------------------------------------|--|
| 407.3.1 Tactilely Discernible. Input controls shall be operable by touch and tactilely discernible without activation. | Supports | Touch can be used to identify and distinguish controls and keys without activating them. |
| 407.3.2 Alphabetic Keys. Where provided, individual alphabetic keys shall be arranged in a QWERTY-based keyboard layout and the “F” and “J” keys shall be tactilely distinct from the other keys. | Supports | Keyboard keys (F and J) have discernible nubs to assist users in keyboard orientation. Physical keyboards can be used with products that only have touchscreens. |
| 407.3.3 Numeric Keys. Where provided, numeric keys shall be arranged in a 12-key ascending or descending keypad layout. The number five key shall be tactilely distinct from the other keys. Where the ICT provides an alphabetic overlay on numeric keys, the relationships between letters and digits shall conform to ITU-T Recommendation E.161 (incorporated by reference, see 702.7.1). | Supports | Numeric keys are arranged in a 12-key ascending keyboard layout. When numeric keypads are used the number 5 key has a discernible nub to assist users in keyboard orientation. |
| 407.4 Key Repeat. Where a keyboard with key repeat is provided, the delay before the key repeat feature is activated shall be fixed at, or adjustable to, 2 seconds minimum. | Supports | When combined with operating system, an option to change keyboard repeat rate is provided so users can adjust the rate to accommodate their needs. |
| 407.5 Timed Response. Where a timed response is required, the user shall be alerted visually, as well as by touch or sound, and shall be given the opportunity to indicate that more time is needed. | Supports | When combined with the operating system, options are provided to turn the display off after a range of time frames including “Never”. |
| 407.6 Operation. At least one mode of operation shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds (22.2 N) maximum | Supports | Controls, latches, and keys can be reached and operated using one hand and require minimal dexterity for ease of use by mobility impaired users. Controls and keys can be operated with minimal force. |
| 407.7 Tickets, Fare Cards, and Keycards. Where tickets, fare cards, or keycards are provided, they shall have an orientation that is tactilely discernible if orientation is important to further use of the ticket, fare card, or keycard. | Not applicable | |
| 407.8 Reach Height and Depth | Heading cell – no response required | Heading cell – no response required |
| 407.8.1 Vertical Reference Plane | Not applicable | |

| Criteria | Conformance Level | Remarks and Explanations |
|--|-------------------------------------|---|
| 407.8.1.1 Vertical Plane for Side Reach | Not applicable | |
| 407.8.1.2 Vertical Plane for Forward Reach | Not applicable | |
| 407.8.2 Side Reach | Not applicable | |
| 407.8.2.1 Unobstructed Side Reach | Not applicable | |
| 407.8.2.2 Obstructed Side Reach | Not applicable | |
| 407.8.3 Forward Reach | Not applicable | |
| 407.8.3.1 Unobstructed Forward Reach | Not applicable | |
| 407.8.3.2 Obstructed Forward Reach | Not applicable | |
| 407.8.3.2.1 Operable Part Height for ICT with Obstructed Forward Reach | Not applicable | |
| 407.8.3.2.2 Knee and Toe Space under ICT with Obstructed Forward Reach | Not applicable | |
| 408 Display Screens | Heading cell – no response required | Heading cell – no response required |
| 408.2 Visibility. Where stationary ICT provides one or more display screens, at least one of each type of display screen shall be visible from a point located 40 inches (1015 mm) above the floor space where the display screen is viewed. | Not applicable | |
| 408.3 Flashing. Where ICT emits lights in flashes, there shall be no more than three flashes in any one-second period. | Supports | The use of blinking text, objects or elements has been avoided, reducing risk of seizures for users with photosensitive epilepsy. |
| 409 Status Indicators | Heading cell – no response required | Heading cell – no response required |
| 409.1 General. Where provided, status indicators shall be discernible visually and by touch or sound. | Supports | When combined with the operating system an option is provided to produce sound with increasing/decreasing volume to duplicate visual status indicators. For example, a notification will sound when |

| Criteria | Conformance Level | Remarks and Explanations |
|---|-------------------------------------|---|
| | | Toggle keys (CAPS LOCK, NUM LOCK, SCROLL LOCK) are engaged if selected in the Ease of Access Center. |
| 410 Color Coding | Heading cell – no response required | Heading cell – no response required |
| 410.1 General. Where provided, color coding shall not be used as the only means of conveying information, indicating an action, prompting a response, or distinguishing a visual element. | Supports | Color alone is not used to communicate meaning. |
| 411 Audible Signals | Heading cell – no response required | Heading cell – no response required |
| 411.1 General. Where provided, audible signals or cues shall not be used as the only means of conveying information, indicating an action, or prompting a response | Supports | When combined with the operating system the product is designed to alert applications of system sounds when needed and a visual cue is also provided. |
| 412 ICT with Two-Way Voice Communication | Heading cell – no response required | Heading cell – no response required |
| 412.2 Volume Gain | Heading cell – no response required | Heading cell – no response required |
| 412.2.1 Volume Gain for Wireline Telephones | Not Applicable | |
| 412.2.2 Volume Gain for Non-Wireline ICT | Supports | When combined with the operating system, an option is provided for volume control. |
| 412.3 Interference Reduction and Magnetic Coupling | Heading cell – no response required | Heading cell – no response required |
| 412.3.1 Wireless Handsets | Not Applicable | |
| 412.3.2 Wireline Handsets | Not Applicable | |
| 412.4 Digital Encoding of Speech | Not Applicable | |
| 412.5 Real-Time Text Functionality | Not Applicable | Reserved for future |
| 412.6 Caller ID | Not Applicable | |
| 412.7 Video Communication | Not Applicable | |
| 412.8 Legacy TTY Support | Heading cell – no response required | Heading cell – no response required |
| 412.8.1 TTY Connectability | Not Applicable | |

| Criteria | Conformance Level | Remarks and Explanations |
|--|-------------------------------------|-------------------------------------|
| 412.8.2 Voice and Hearing Carry Over | Not Applicable | |
| 412.8.3 Signal Compatibility | Not Applicable | |
| 412.8.4 Voice Mail and Other Messaging Systems | Not Applicable | |
| 413 Closed Caption Processing Technologies | Heading cell – no response required | Heading cell – no response required |
| 413.1.1 Decoding and Display of Closed Captions. Players and displays shall decode closed caption data and support display of captions. | Not Applicable | |
| 413.1.2 Pass-Through of Closed Caption Data. Cabling and ancillary equipment shall pass through caption data. | Not Applicable | |
| 414 Audio Description Processing Technologies | Heading cell – no response required | Heading cell – no response required |
| 414.1.1 Digital Television Tuners | Not Applicable | |
| 414.1.2 Other ICT | Not Applicable | |
| 415 User Controls for Captions and Audio Descriptions | Heading cell – no response required | Heading cell – no response required |
| 415.1.1 Where ICT provides operable parts for volume control, ICT shall also provide operable parts for caption selection. | Not Applicable | |
| 415.1.2 Audio Description Controls. Where ICT provides operable parts for program selection, ICT shall also provide operable parts for the selection of audio description. | Not Applicable | |

Chapter 5: Software – see Software VPAT

Notes: This is a hardware VPAT, see software VPAT for OS and other software applications.

Chapter 6: Support Documentation and Services

| Criteria | Conformance Level | Remarks and Explanations |
|--|-------------------------------------|--|
| 601.1 Scope | Heading cell – no response required | Heading cell – no response required |
| 602 Support Documentation | Heading cell – no response required | Heading cell – no response required |
| 602.2 Accessibility and Compatibility Features. Documentation shall list and explain how to use the accessibility and compatibility features | Supports | Product documentation is available online in an accessible format at https://www.lenovo.com/support |

| Criteria | Conformance Level | Remarks and Explanations |
|--|-------------------------------------|--|
| required by Chapters 4 and 5. Documentation shall include accessibility features that are builtin and accessibility features that provide compatibility with assistive technology. | | VPATs are available at https://www.lenovo.com/us/en/compliance/accessibility-conformance |
| 602.3 Electronic Support Documentation. Documentation in electronic format, including Web-based self-service support, shall conform to Level A and Level AA Success Criteria and Conformance Requirements in WCAG 2.0 (incorporated by reference, see 702.10.1). | Supports | The electronic web-based product documentation conforms to Level A and Level AA Success Criteria and Conformance Requirements in WCAG 2.0. |
| 602.4 Alternate Formats for Non-Electronic Support Documentation. Where support documentation is only provided in nonelectronic formats, alternate formats usable by individuals with disabilities shall be provided upon request. | Not Applicable | Documentation is available in electronic format. |
| 603 Support Services | Heading cell – no response required | Heading cell – no response required |
| 603.2 Information on Accessibility and Compatibility Features. ICT support services shall include information on the accessibility and compatibility features required by 602.2. | Supports | Lenovo Support provides information on accessibility and compatibility features. This information is also documented in the product documentation. Accessibility Features page https://www.lenovo.com/us/en/lenovo/accessibility/ |
| 603.3 Accommodation of Communication Needs. Support services shall be provided directly to the user or through a referral to a point of contact. Such ICT support services shall accommodate the communication needs of individuals with disabilities. | Supports | Lenovo Services provides communications in voice, chat, and email. Telecommunications Relay Service (TRS) is supported for customers who are deaf or hard of hearing. For support, contact 1-855-2-LENOVO (1-855-253-6686). |

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