

Energy Efficiency Standards for Computers and Monitors

The purpose of this regulation is to improve the energy efficiency of new computers and computer monitors. Improved energy efficiency can reduce energy costs for homeowners and businesses and support competitive electricity rates.

This circular includes new additions to the Energy Efficiency Standards Regulation (EESR) for computers and computer monitors that were approved Feb 16, 2021.

For further information on Energy Efficiency Standards, including detailed guidance on specific products, visit: [British Columbia | Energy Efficiency Standards](#)

Regulated Products

“Computer” means a device that performs logical operations and processes data. A computer includes both stationary and portable units and includes:

- a) desktop computers,
- b) mobile gaming systems,
- c) thin clients,
- d) notebook computers,
- e) portable all-in-ones,
- f) high expandability computers,
- g) mobile workstations,
- h) workstations,
- i) rack-mounted workstations, and
- j) small-scale servers;

but, does not include:

- a) game consoles,
- b) industrial computers,
- c) servers other than small-scale servers,
- d) small computer devices,
- e) small-volume computer models,
- f) tablets, or
- g) televisions.

Definitions of regulated products can be found in the Energy Efficiency Standards Regulation in Part 9, Division 2 Section 52, Division 3 Section 61, and Division 5 Section 72. Definitions of excluded products can be found in Part 9, Division 1 Section 51.

“Computer monitor” means an analog or digital device that:

- a) is designed primarily to display computer-generated signals for viewing by one person in a desk-based environment,
- b) has a diagonal screen size of:
 - i. not less than 17 inches, and
 - ii. not more than 61 inches,
- c) has a pixel density of greater than 5 000 pixels per square inch, and
- d) is composed of a display screen and associated electronics;

but does not include:

- a) a monitor that:
 - i. can operate with a keyboard, video and mouse switch, and
 - ii. is designed to be used in a server rack for use solely in a data centre;
- b) a medical computer monitor;
- c) an analog or digital device designed primarily for the display of computer-generated signals that is not marketed for use as a computer monitor or a television;
- d) a television; or
- e) a display with integrated or replaceable batteries, including an electronic reader, a mobile phone, a tablet or a digital picture frame, that is designed to support primary operation without alternating current electrical power or external direct current electrical power.

Energy Performance Standard

Computers

The energy performance standards for desktop computers, thin clients, mobile gaming systems, portable all-in-ones, notebook computers, small-scale servers and workstations can be found in Part 9 Division 2, 3 and 5 of the Energy Efficiency Standards Regulation as follows:

Desktop computer, mobile gaming system or thin client with $ES \leq 250$

- TEC must be ≤ 50 kWh/yr + allowance for applicable adders
- Must be shipped with energy compliant power management settings

Desktop computer, mobile gaming system or thin client with $ES > 250$ and ≤ 425

- TEC must be ≤ 60 kWh/yr + allowance for applicable adders
- Must be shipped with energy compliant power management settings

Desktop computer, mobile gaming system or thin client with $ES > 425$ and ≤ 690

- TEC must be ≤ 75 kWh/yr + allowance for applicable adders
- Must be shipped with energy compliant power management settings

Notebook computer or portable all-in-one computer

- TEC must be ≤ 30 kWh/yr + allowance for applicable adders
- Must be shipped with energy compliant power management settings

High expandability computer, mobile workstation or workstation other than rack-mounted workstation

- Must have energy compliant power management settings
- Must meet the energy efficiency ethernet capability standard set out in IEEE 802.3az-2010

Rack-mounted workstation

- Must transition connected displays into sleep mode within 15 minutes of user inactivity
- Must meet the energy efficiency ethernet capability standard set out in IEEE 802.3az-2010

Small-scale server

- Must transition connected displays into sleep mode within 15 minutes of user inactivity
- Must meet the energy efficiency ethernet capability standard set out in IEEE 802.3az-2010

Where:

1. Computer sleep mode is defined in Section 50;
2. Applicable adders for evaluating the TEC (Total Energy Consumption) of
 - a. desktop computers, mobile gaming systems and thin clients are found in section 56;
 - b. integrated displays for desktop computers, mobile gaming systems and thin clients are found in section 57;
3. first discrete GPUs for desktop computers, mobile gaming systems and thin clients are found in Section 59;
4. ES (Expandability score) means a score that is determined under Section 55; and
5. The requirements for energy compliant power management settings are in Section 60.

Computer Monitors

The energy performance standard for computer monitor standard can be found in Part 9 Division 4 of the Energy Efficiency Standards Regulation as follows:

$$E_{on} \leq E_{on_max} + E_{EPD} + E_{Game} + E_{OLED} + E_{Curve}$$

Where:

1. E_{on} is the computer monitor on-mode power draw in watts;
2. E_{on_max} is the maximum on-mode power draw in watts as defined in Section 70;
3. E_{EPD} is the enhanced performance display allowance in watts as defined in Section 71;
4. E_{Game} is the gaming monitor allowance in watts as defined in Section 71;
5. E_{OLED} is the OLED monitor allowance in watts as defined in Section 71; and
6. E_{Curve} is the curved monitor allowance in watts as defined in Section 71.

Effective Date

Performance standard applies to regulated computers and computer monitors manufactured after July 1, 2021.

Verification and Labelling

There are two compliance pathways for product verification and reporting requirements. Products may either be verified by a designated tester, *or* registered on the California Energy Commission Modernized Appliance Efficiency Database System. Energy efficiency verification labels are only required for products that are not listed on:

- i. an internet accessible directory of a designated tester; or
- ii. the California Energy Commission Modernized Appliance Efficiency Database System.

For the purposes of verifying a computer or computer monitor, the following persons, agencies or organizations are designated testers:

- a) an inspector designated under the Energy Efficiency Act;
- b) a certification body accredited by the Standards Council of Canada; and
- c) a certification body accredited by an International Accreditation Forum Multilateral Recognition Arrangement signatory to ISO/IEC 17065 which maintains an internet accessible product listing.

Registered on the California Energy Commission Modernized Appliance Efficiency Database System means:

- i. a valid certification report for the device is listed the California Energy Commission Modernized Appliance Efficiency Database System; and
- ii. the certification report allows for verification that the energy performance standard for that product is met.

Test Standard

Regulated Product	Test Standard
Computers	The test method set out in ENERGY STAR Program Requirements for Computers, Final Test Method Rev. March-2016.
Computer monitors	The test method set out in the ENERGY STAR Program Requirements for Displays, Final Test Method Rev. Sep-2015.