

# ENERGY STAR® QUALIFIED PRODUCTS



## ENERGY STAR® Introduction

### What is ENERGY STAR®?

ENERGY STAR® is a joint program between the U.S. Environmental Protection Agency and the U.S. Department of Energy conceived to promote energy efficiency and reduce Greenhouse Gas emissions in hardware of all kinds. Products meeting certain standards such as contributing significant energy savings while maintaining high performance and features earn an ENERGY STAR® label. Such labeling identifies and promotes energy-efficient products and helps customers decide which products to purchase that will offer savings on their energy bills by lowering their electricity costs. Therefore, purchasing an Energy Star labeled product ensures you are saving energy and minimizing your environmental impact, all without sacrificing performance.



### Benefits to Lenovo's ENERGY STAR® Qualified Products

ENERGY STAR® compliant systems have been recognized as beneficial to the consumer through lower operating costs, lower overall energy consumption and reduced heat emissions.

Lenovo's historical and continued focus on product energy efficiency provides a strong product differentiator in a market and regulatory environment that increasingly values these attributes. Lenovo offers a full complement of ENERGY STAR® qualified laptop, desktops, workstations, monitors and servers. Many Lenovo notebook, desktop, workstation, server and monitor products satisfy and even exceed the current ENERGY STAR® requirements.

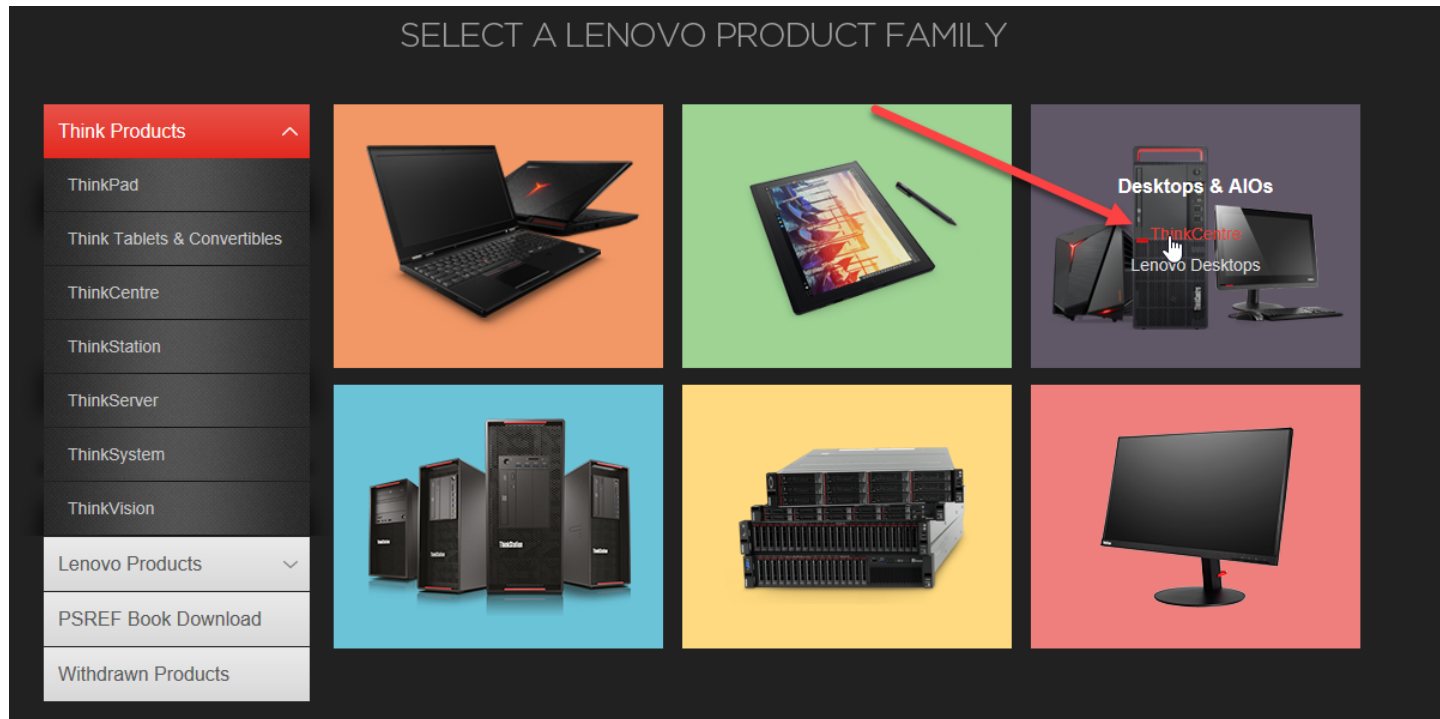
For further information, please see [www.lenovo.com/energy](http://www.lenovo.com/energy).

## How to Search for a Lenovo ENERGY STAR® Qualified Product

Lenovo ENERGY STAR® certified products can be found by searching the following formats:

- 1: Search for the product on the Lenovo Product Specifications Reference (PSREF) which can be found at: <http://psref.lenovo.com/>

**STEP 1:** Select the Lenovo Product Family.



**STEP 2:** Select the specific Product of interest.

The screenshot displays the 'SELECT A LENOVO PRODUCT FAMILY' interface. On the left is a navigation sidebar with categories like 'Think Products', 'ThinkCentre', and 'Lenovo Products'. The main content area is divided into sections: 'M Series AIO', 'M Series Desktop', and 'Smart Office'. A red arrow points to the 'ThinkCentre M820z AIO' product, which is highlighted in blue. A dropdown menu for 'Machine Types' is open, showing '10SC' and '10SD' options.

### SELECT A LENOVO PRODUCT FAMILY

- Think Products** (expanded)
  - ThinkPad
  - Think Tablets & Convertibles
  - ThinkCentre**
  - ThinkStation
  - ThinkServer
  - ThinkSystem
  - ThinkVision
- Lenovo Products
- PSREF Book Download
- Withdrawn Products

#### M Series AIO

- ThinkCentre M810z AIO
- **ThinkCentre M820z AIO** (Machine Types: 10SC, 10SD)
- ThinkCentre M910z AIO
- ThinkCentre M920z AIO

#### M Series Desktop

- ThinkCentre M600 Tiny
- ThinkCentre M600 Tiny Thin Client
- ThinkCentre M625 Tiny
- ThinkCentre M625 Tiny Thin Client
- ThinkCentre M710 SFF
- ThinkCentre M710 Tiny
- ThinkCentre M710 Tower
- ThinkCentre M710e SFF
- ThinkCentre M715 SFF
- ThinkCentre M715 Tiny
- ThinkCentre M715 Tiny (2nd Gen)
- ThinkCentre M715 Tiny Thin Client
- ThinkCentre M715 Tower
- ThinkCentre M720 SFF
- ThinkCentre M720 Tiny
- ThinkCentre M720 Tower
- ThinkCentre M725 SFF
- ThinkCentre M910 SFF
- ThinkCentre M910 Tiny
- ThinkCentre M910 Tower
- ThinkCentre M910x Tiny
- ThinkCentre M920 SFF
- ThinkCentre M920 Tiny
- ThinkCentre M920 Tower
- ThinkCentre M920x Tiny

#### Smart Office

- ThinkSmart Hub 500

**STEP 3:** Click on the Specifications tab. If the Product is ENERGY STAR® certified it will listed within the section containing Environmental certification and compliance information.

## ThinkCentre M820z AIO

Models

Specifications

Photos

Documentation

Accessories

Last updated: 28 Sep 18

Note: The specifications on this page may not be available in all regions, and may be changed or updated without notice.

If your browser can't load the specifications correctly, please click [here](#) to download the PDF file, and view it in Adobe® Reader®. Get Adobe Reader [PC Version](#) / [Android Version](#).

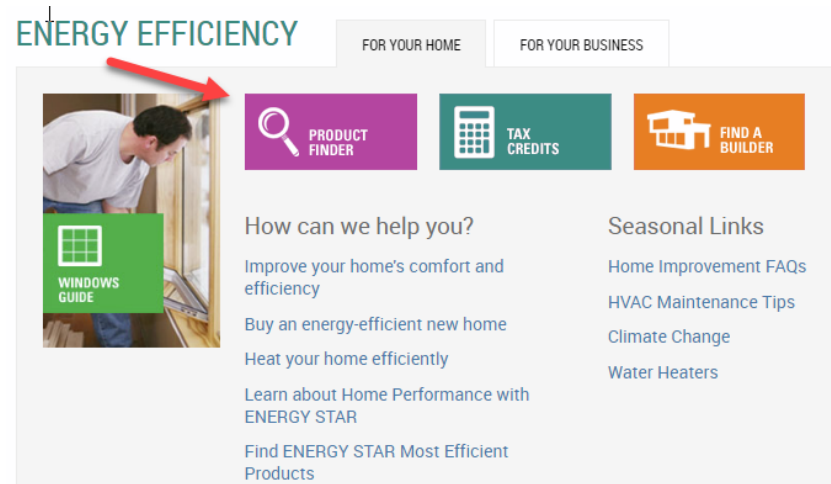
### ThinkCentre M820z Platform Specifications

Product Specifications Reference (PSREF)

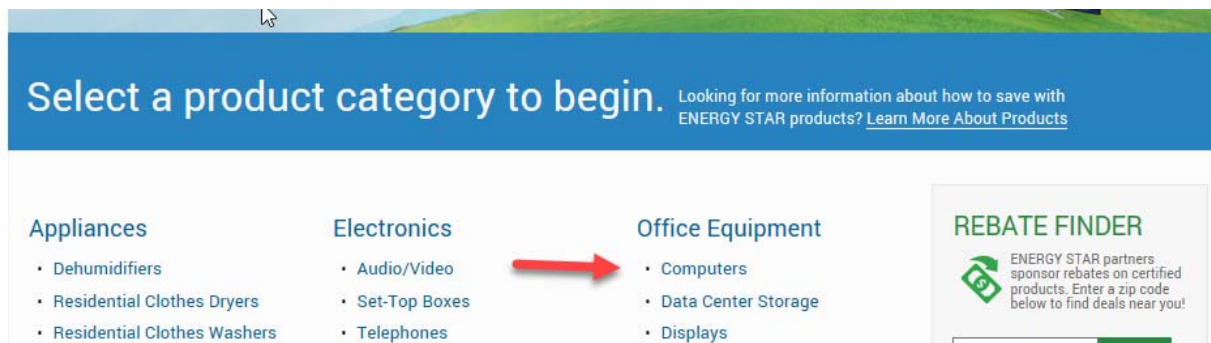
Processor	Intel® Celeron®, Intel Pentium®, or 8th Generation Intel Core™ i3 / i5 / i7 Processor	Security features	• Security slot (in rear for attachment of optional Kensington® MicroSaver® cable; Kensington lock also locks chassis)	• Power-on, admin, hard disk password																																																																							
	<table border="1"> <thead> <tr> <th>Processor</th> <th>Cores / Threads</th> <th>Frequency Base/Max(GHz)</th> <th>Cache</th> <th>Memory Support (Up to)</th> <th>Integrated Graphics</th> </tr> </thead> <tbody> <tr> <td>Celeron G4900</td> <td>2 / 2</td> <td>3.1G</td> <td>2 MB</td> <td>DDR4-2400</td> <td>UHD 610</td> </tr> <tr> <td>Celeron G4920</td> <td>2 / 2</td> <td>3.2G</td> <td>2 MB</td> <td>DDR4-2400</td> <td>UHD 610</td> </tr> <tr> <td>Pentium Gold G5400</td> <td>2 / 4</td> <td>3.7G</td> <td>4 MB</td> <td>DDR4-2400</td> <td>UHD 610</td> </tr> <tr> <td>Pentium Gold G5500</td> <td>2 / 4</td> <td>3.8G</td> <td>4 MB</td> <td>DDR4-2400</td> <td>UHD 630</td> </tr> <tr> <td>Pentium Gold G5600</td> <td>2 / 4</td> <td>3.9G</td> <td>4 MB</td> <td>DDR4-2400</td> <td>UHD 630</td> </tr> <tr> <td>Core i3-8100</td> <td>4 / 4</td> <td>3.6G</td> <td>6 MB</td> <td>DDR4-2400</td> <td>UHD 630</td> </tr> <tr> <td>Core i3-8300</td> <td>4 / 4</td> <td>3.7G</td> <td>8 MB</td> <td>DDR4-2400</td> <td>UHD 630</td> </tr> <tr> <td>Core i5-8400</td> <td>6 / 6</td> <td>2.8G / 4.0G</td> <td>9 MB</td> <td>DDR4-2666</td> <td>UHD 630</td> </tr> <tr> <td>Core i5-8500</td> <td>6 / 6</td> <td>3.0G / 4.1G</td> <td>9 MB</td> <td>DDR4-2666</td> <td>UHD 630</td> </tr> <tr> <td>Core i5-8600</td> <td>6 / 6</td> <td>3.1G / 4.3G</td> <td>9 MB</td> <td>DDR4-2666</td> <td>UHD 630</td> </tr> <tr> <td>Core i7-8700</td> <td>6 / 12</td> <td>3.2G / 4.6G</td> <td>12 MB</td> <td>DDR4-2666</td> <td>UHD 630</td> </tr> </tbody> </table>	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics	Celeron G4900	2 / 2	3.1G	2 MB	DDR4-2400	UHD 610	Celeron G4920	2 / 2	3.2G	2 MB	DDR4-2400	UHD 610	Pentium Gold G5400	2 / 4	3.7G	4 MB	DDR4-2400	UHD 610	Pentium Gold G5500	2 / 4	3.8G	4 MB	DDR4-2400	UHD 630	Pentium Gold G5600	2 / 4	3.9G	4 MB	DDR4-2400	UHD 630	Core i3-8100	4 / 4	3.6G	6 MB	DDR4-2400	UHD 630	Core i3-8300	4 / 4	3.7G	8 MB	DDR4-2400	UHD 630	Core i5-8400	6 / 6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	Core i5-8500	6 / 6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630	Core i5-8600	6 / 6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630	Core i7-8700	6 / 12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630	<ul style="list-style-type: none"> <li>• Smart USB protection, allows keyboard/mouse only, blocks all storage devices</li> <li>• Individual USB port disablement</li> <li>• Optional Chassis intrusion switch</li> </ul>	<ul style="list-style-type: none"> <li>• Boot sequence control</li> <li>• Boot without keyboard and mouse</li> <li>• Optional Chassis intrusion switch</li> </ul>
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Keyboard	<ul style="list-style-type: none"> <li>Some: Lenovo Calliope Keyboard (USB connector), black</li> <li>Some: Lenovo Traditional Keyboard (USB connector), black</li> <li>Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black</li> </ul>	<ul style="list-style-type: none"> <li>Some: Lenovo Calliope Mouse (USB connector), black</li> <li>Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black</li> <li>Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black</li> </ul>																																																																									
Mouse																																																																											
Mechanical		<ul style="list-style-type: none"> <li>• Business black color</li> <li>• Toolless back cover, stand, memory removal</li> <li>• Support VESA mount (100mm)</li> </ul>																																																																									
Memory	32GB max, DDR4-2666*, two 260-pin SO-DIMM sockets, dual-channel capable * System clocks down for the processors with lower memory controller																																																																										
Storage	<ul style="list-style-type: none"> <li>Some: Hard Drive / SATA 6.0Gb/s, 2.5", 5400 rpm or 7200 rpm</li> <li>Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5"</li> <li>Some: M.2 SSD / PCIe NVMe, PCIe 3.0 x 4", 32Gb/s</li> <li>* 128GB SSD M.2 (2242) PCIe NVMe only supports PCIe 3.0 x 2, 16Gb/s</li> <li>Some: Intel Optane™ Memory (not support Celeron / Pentium Processor), M.2</li> <li>Some: DVD-ROM SATA 1.5Gb/s Drive, slim (9.0mm)</li> <li>Some: DVD Burner (DVD±RW), SATA 1.5Gb/s Drive, slim (9.0mm)</li> <li>Optional 3-in-1 media card reader</li> </ul>																																																																										
Optical																																																																											
Media reader																																																																											
Graphics	Intel HD Graphics 610/630 in processor, uses main memory, DirectX® 12, external monitor support via DisplayPort™																																																																										
Display	21.5" (546.1mm) Full HD 1080p (1920x1080) TFT color, Borderless design, MVA panel, wide viewing angle (+/- 89°), LED backlight, 250 nits, 16:9 aspect ratio, 1000:1 contrast ratio, anti-glare, support Low Blue Light Mode																																																																										
Multi-touch	Optional multi-touch, supports 10-point, AIT (Advanced In-cell Touch) technology																																																																										
Camera	Optional 1080p camera, with dual microphone, LED indicator, physical switch on/off, supports multi-degree rotation (horizontal 0° to 180°, vertical -25° to 25°)																																																																										
Controls	Physical buttons on side for microphone mute and power on/off																																																																										
Chipset	Intel B360 Chipset																																																																										
Rear ports	Four USB 3.1 Gen1 (one supports Smart Power On), one ethernet (RJ-45), one DisplayPort, one optional serial (9-pin)																																																																										
Side ports	one USB 3.1 Gen2 (one is Always On and fast charge), one USB 3.1 Type-C Gen 1, one optional card reader, one headphone / microphone combo jack (3.5mm)																																																																										
M.2 card slot	Two M.2 Card slots (one for WLAN, one for SSD/Optional)																																																																										
Audio support	High Definition (HD) Audio, Realtek ALC233 / two internal speakers (2W x 2), Dolby® Audio™ Premium																																																																										
WLAN <sup>13</sup>	<ul style="list-style-type: none"> <li>Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 1x1</li> <li>Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2</li> <li>Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless AC 3165</li> </ul>																																																																										
Power supply	150 watts, autosensing, 90% PSU																																																																										
Limited warranty <sup>3</sup>	<ul style="list-style-type: none"> <li>Some: 1-year or 3-year, depot repair service / service upgrades available</li> <li>Some: 1-year or 3-year, limited onsite service / service upgrades available</li> </ul>																																																																										
Preload	<p><b>Preloaded operating system</b></p> <ul style="list-style-type: none"> <li>Some: Windows 10 Pro 64-bit</li> <li>Some: Windows 10 Home 64-bit</li> </ul> <p><b>Preloaded applications (only some listed)</b></p> <ul style="list-style-type: none"> <li>• Lenovo Vantage</li> <li>• Microsoft Office preloaded; purchase a product key to activate</li> <li>• Cyberlink Power2Go (only for models with DVD / DVD±RW)</li> <li>• Cyberlink Power2GO (only for models with DVD±RW)</li> <li>• LinkedIn</li> </ul>																																																																										
Environment	ENERGY STAR® 7.0*, EPEAT™ Gold rating* (*not for non-OS models), ErP Lot 3, TCO AIO Computer certified, GREENGUARD® certified, TUV Eye comfort certified (for Full Function Monitor Stand only), TUV Low Blue Light certified, TUV Ultra Low Noise certified (on some models), RoHS-compliant																																																																										
MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus)																																																																										
Accessories	For compatible accessories, please go to <a href="http://smartfind.lenovo.com">http://smartfind.lenovo.com</a>																																																																										

2: Use the ENERGY STAR® Product Finder (steps below) which can be found at the following web address:  
<https://www.energystar.gov/productfinder/>

*\*Note:* This website can also be found by visiting the ENERGY STAR® main webpage at <https://www.energystar.gov/> then selecting the following link for the Product Finder:



**STEP 1:** Select the product category.



**STEP 2:** Filter the results by entering the Lenovo Product Name or Machine Type.

## Find and Compare Products

Languages: [English](#) | [Français](#)

[Access to ENERGY STAR API, Data Set or Excel File](#)



Find product models that have earned the ENERGY STAR and compare features, savings and more to optimize your purchase.

- 1 Select a product category of interest to you.
- 2 Get details on specific qualifying models.
- 3 Make informed purchasing decisions.

ENERGY STAR Certified

## Computers

Visit the [Computers](#) page for usage tips and buying guidelines.

[CHANGE product category](#)

### Filter Your Results

845 Records Found

Sort by:

Brand Name

ThinkPad T480

#### Type

- Desktop (179)
- Integrated Desktop (83)
- Notebook (455)

### FUJITSU - ESPRIMO Q958

Compare

Desktop

Processor Name: Celeron || Pentium || Celeron || Pentium || Core i7

Minimum Processor Speed (GHz): 2

### Filter Your Results

2 Records Found

Sort by:

Brand Name

ThinkPad T480

#### Type

- Desktop (179)
- Integrated Desktop (83)
- Notebook (455)
- Slate/Tablet (81)
- Thin Client (18)
- Two-In-One Notebook (9)
- Workstation (24)
- Do not filter

### Lenovo - 20L5

Compare

Notebook

Processor Name: Core i7 || Core i7

Minimum Processor Speed (GHz): 2

Minimum System Memory (GB): 32

### Lenovo - 20L7

Compare

Notebook

Processor Name: Core i7 || Core i7

Minimum Processor Speed (GHz): 2

Minimum System Memory (GB): 24

**STEP 2:** Click on the link for specific product of interest and review energy efficiency performance information.

[back to results](#)

### Lenovo - ThinkPad T480 : 20L5

Specifications	
Type:	Notebook
Category 1: Processor Brand:	Intel
Category 1: Processor Name:	Core i7
Category 1: Base Processor Speed Per Core (GHz):	1.9
Category 1: Physical CPU Cores (count):	4
Category 1: System Memory (GB):	32.0
Category 1: Graphics Category:	G3
Category 1: Default Low-power Mode:	Off Mode with Hibernation
Category 1: Long Idle Power Used for Sleep Mode:	No
Category 1: Off Mode (watts):	0.4
Category 1: Sleep Mode (watts):	0.7
Category 1: Long Idle (watts):	3.6
Category 1: Short Idle (watts):	5.9
Category 1: Base TEC Allowance (kWh):	8
Category 1: Functional Adder Allowances (kWh):	21.7
Category 1: TEC of Model (kWh):	18.1
Notebooks, Desktops, Integrated Computers, Slate/Tablets, Two-in-one Notebooks, and Portable All-in-ones Category for TEC (Typical Energy Consumption) Criteria:	1
Category II: Processor Brand:	Intel
Category II: Processor Name:	Core i7

If you are unable to locate your product using these instructions please contact your Lenovo representative or the Lenovo Environmental Affairs Department by emailing [environment@lenovo.com](mailto:environment@lenovo.com)