Power Configurator

Lenovo ThinkStation P3 Tiny Gen 2

Version 1.1, Published May.2026

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Overview

The ThinkStation P3 Tiny Gen 2 platform is the new desktop workstation that is the successor to the P3 Tiny in the ThinkStation family.

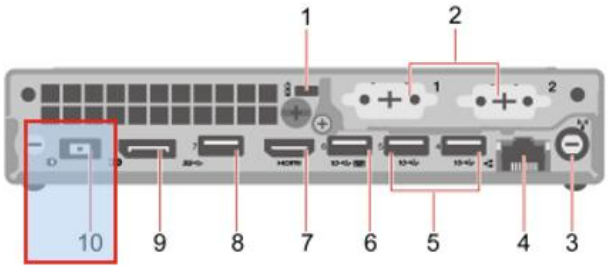
Same as the P3 Tiny, the P3 Tiny Gen 2 does not have an internal power supply. Instead, it is powered by an external power adapter, like that from a ThinkPad or ThinkStation Ultra SFF computers. There are three different power adapters available for P3 Ultra, each with a different power rating (Watts): 170W, 230W, 245W, and 330W.

The goal of this document is to highlight the specs of the system components with the highest power demand and allow you to make the best decisions when choosing the correct PSU for your hardware configuration.

Section 1 – Key Architectural Design

As mentioned above, the P3 Tiny Gen 2 is powered by an external power adapter that is connected to the rear of the system. Each of the three available power adapters are rated at 100-240V AC input with 20V DC output. The power cord connector is 20V, which is shared on some ThinkPad computers. The P3 Tiny Gen 2 rear 20V connector is shown in Figure 1:

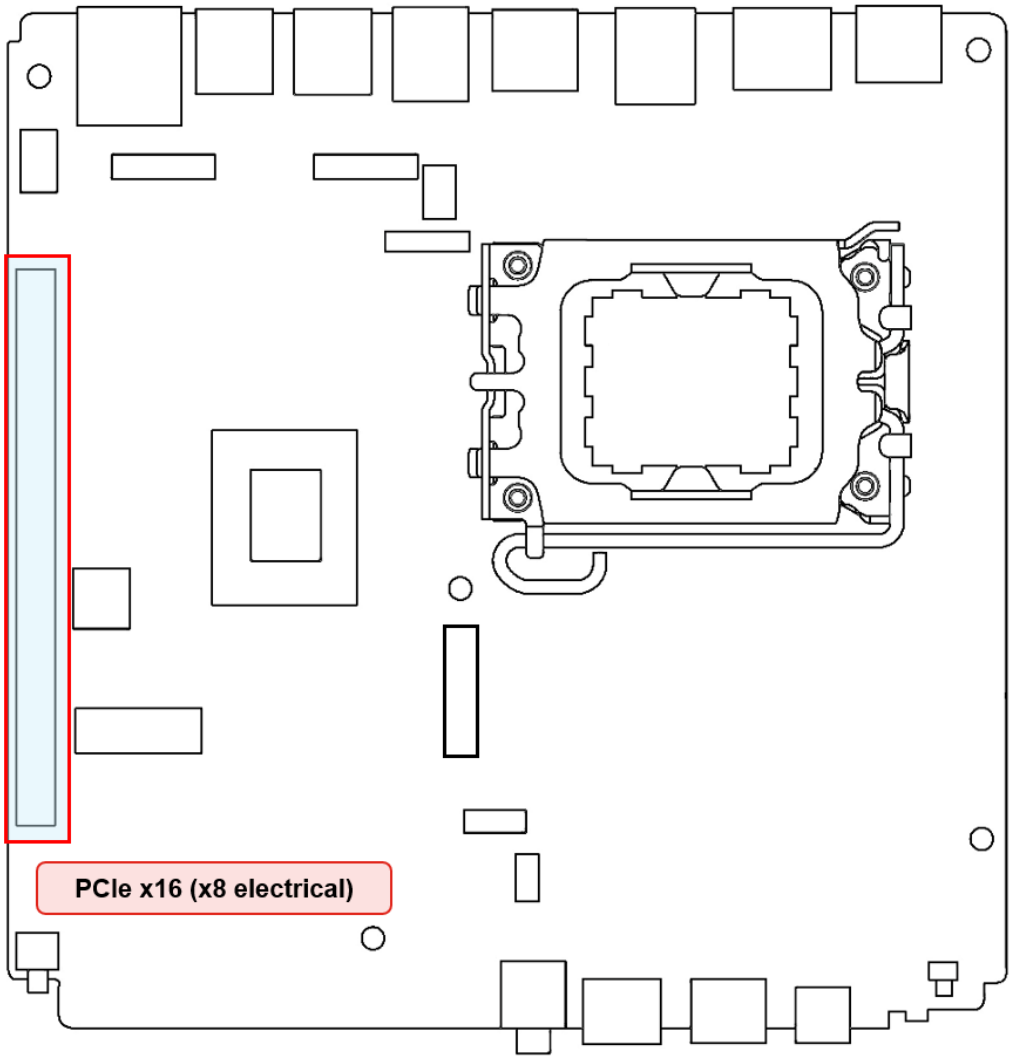
Figure 1 - Rear view



Item	Description	Item	Description
1	Security-lock slot	2	Optional connectors*
3	Wi-Fi® antenna slot*	4	Ethernet connector
5	USB-A connectors (USB 10Gbps)	6	USB-A connector (USB 10Gbps) (with smart power-on feature)
7	HDMI™ out connector	8	USB-A connector (USB 5Gbps)
9	DisplayPort™ out connector	10	Power adapter connector

P3 Tiny Gen 2 has a single PCIe x16 (x8 electrically) slot to support select low-profile GPUs and other PCIe cards. This is done using a PCIe x16 riser card (for supported GPUs) or a PCIe x4 riser card (for other supported PCIe devices).

Figure 2 - P3 Tiny Gen 2 Motherboard PCIe Slot



Section 2 – Power Ratings for Key System Components

To fully understand the power capabilities of the ThinkStation P3 Tiny Gen 2, it is important to know the power ratings of the individual system components.

The tables below show the power ratings for the various CPUs supported on P3 Tiny Gen 2. All supported CPUs have integrated graphics.

Table 1 - Arrow Lake CPUs Power Rating

CPU Name	CPU Power	Additional CPU information
Intel Ultra 9 285	65W	2.5 GHz, 24 cores, DDR5-6400
Intel Ultra 7 265	65W	2.4 GHz, 20 cores, DDR5-6400
Intel Ultra 5 245	65W	3.5 GHz, 14 cores, DDR5-6400
Intel Ultra 5 235	65W	3.4 GHz, 14 cores, DDR5-6400
Intel Ultra 5 235A	65W	3.4 GHz, 14 cores, DDR5-6400
Intel Ultra 5 225	65W	3.3 GHz, 10 cores, DDR5-6400
Intel Ultra 9 285T	35W	1.4 GHz, 24 cores, DDR5-6400
Intel Ultra 7 265T	35W	1.5 GHz, 20 cores, DDR5-6400
Intel Ultra 5 245T	35W	2.2 GHz, 14 cores, DDR5-6400
Intel Ultra 5 235T	35W	2.2 GHz, 14 cores, DDR5-6400
Intel Ultra 5 235TA	35W	2.2 GHz, 14 cores, DDR5-6400
Intel Ultra 5 225T	35W	2.5 GHz, 10 cores, DDR5-6400

At the time of this writing, P3 Tiny Gen 2 supports either the A400 or A1000 for a discrete GPU.

Section 3 – P3 Tiny Gen 2 Power Configurations

As mentioned previously, P3 Tiny Gen 2 supports 170W, 230W, 245W, and 330W power adapters. The following table shows the required power supply to support combinations of CPU and GPU.

Table 2 – P3 Tiny Gen 2 PSUs

<table>
<tr><th colspan="7">P3 Tiny Gen 2 PSU Requirement</th></tr>
<tr><th rowspan="2">GPU</th><th colspan="3">65W CPU</th><th colspan="3">35W CPU</th></tr>
<tr><th>Ultra 9</th><th>Ultra 7</th><th>Ultra 5</th><th>Ultra 9</th><th>Ultra 7</th><th>Ultra 5</th></tr>
<tr><td>No GPU</td><td colspan="2">245W**</td><td colspan="3" rowspan="2">170W*</td></tr>
<tr><td>T1000 (35W)</td><td colspan="3">N/A</td></tr>
<tr><td>T1000 (65W)</td><td colspan="2" rowspan="3">330W</td><td rowspan="3">245W**</td><td colspan="2">N/A</td></tr>
<tr><td>A400</td><td colspan="2" rowspan="2">170W*</td></tr>
<tr><td>A1000</td></tr>
<tr><td colspan="7"><u>NOTES</u>
*Either 170W, 230W, or 245W PSU compatible
**Either 230W or 245W PSU compatible</td></tr>
</table>

P3 Tiny Gen 2 Power Configuration Notes:

- All supported GPUs must use the PCIe x16 riser. Other supported PCIe cards must use the PCIe x4 riser. See Appendix for more info.
- The premium internal speaker cannot be used if the system has a A400 or A1000 installed.
- T1000 has two heatsink solutions depending on the CPU power rating (35W or 65W).
- The 245W PSU has been added post-launch as an alternative to the 230W PSU. Functionally the two PSU are interchangeable in terms of system power requirements.

Section 4 – Board-To-Board (BTB) Cards

P3 Tiny Gen 2 offers the ability to expand the system's rear IO capabilities with the use of Board-To-Board (BTB) cards. Two BTB connectors on the motherboard allow for extensive customization based on user needs. This section will cover currently available BTB cards. It is important to note that while any BTB cards are installed in the system, no PCIe device can be installed in the PCIe x16 slot.

Check the Appendix for pictures and part numbers for all the supported BTB cards.

Figure 3 - P3 Tiny Gen 2 Motherboard BTB Slots

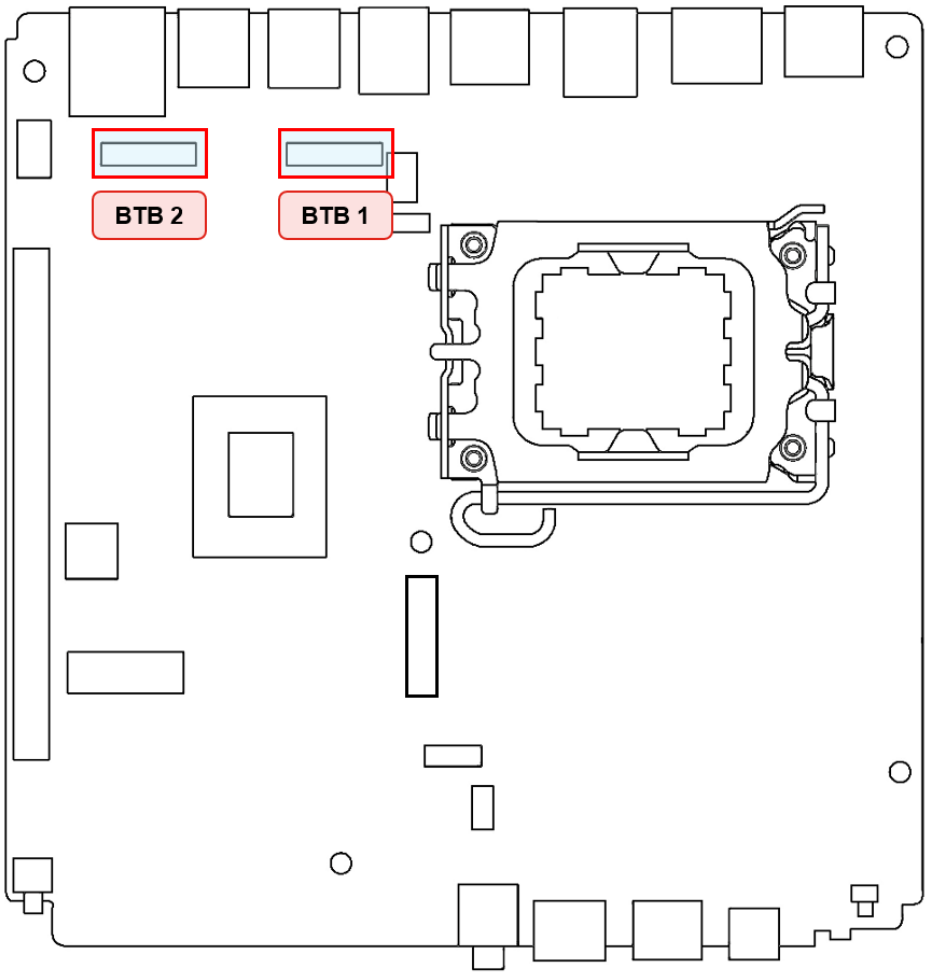


Figure 4 - P3 Tiny Gen 2 Motherboard BTB Slots, Rear View

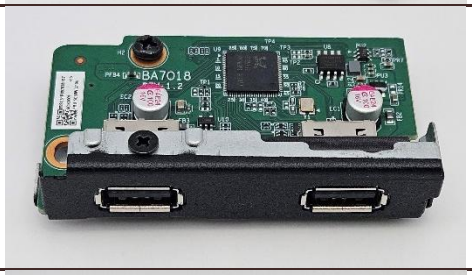
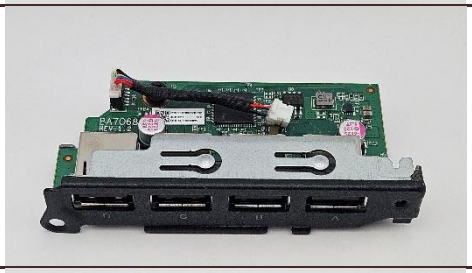
P3 Tiny Gen 2 BTB Configuration Notes:

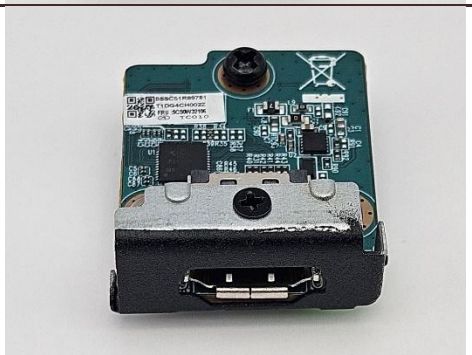
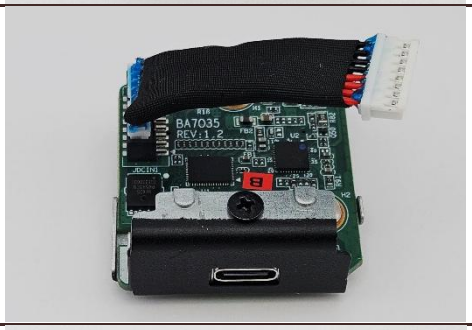
- The Dual & Quad USB BTB cards occupy the full width of the rear IO, so no other BTB cards can be installed at the same time.
- P3 Tiny Gen 2 can support up to **two** (each or mix) of the following BTB cards:
    - DP, HDMI2.0 (4K), HDMI2.1 (8K), VGA, 2.5G LAN
- P3 Tiny Gen 2 can support up to one USB-C BTB card. Must go in BTB1 port.
- P3 Tiny Gen 2 can support up to one Thunderbolt 4 BTB card. Must go in BTB2 port.
- Single width BTB cards mentioned above can be mixed.

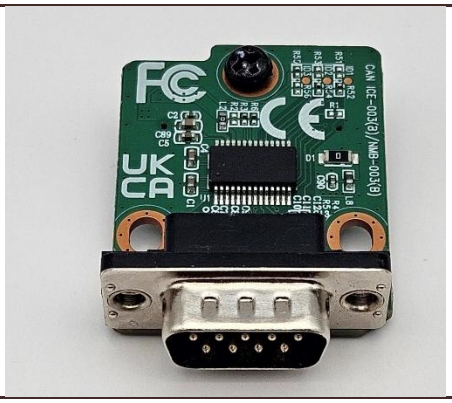
Appendix

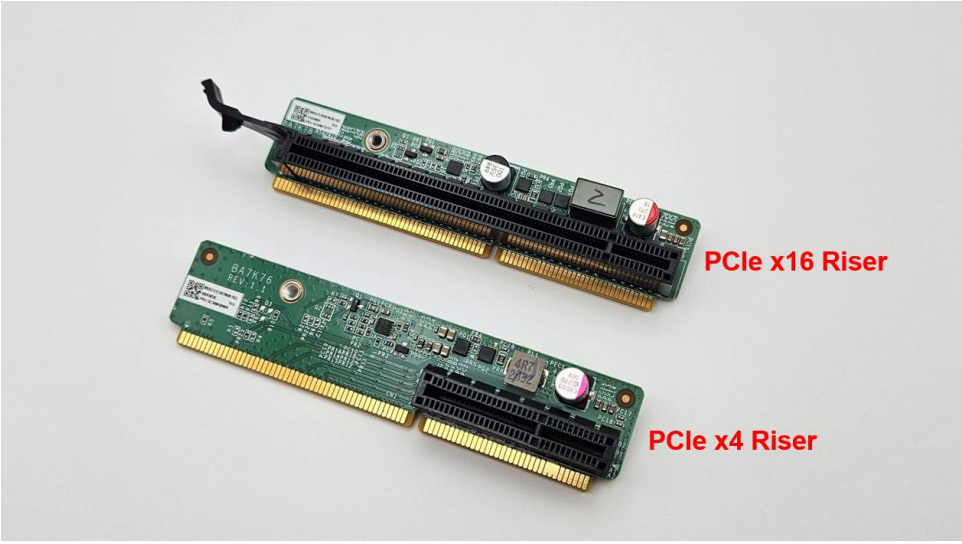
This section contains additional useful information about the relevant hardware used in P3 Tiny Gen 2 systems. Table 5 below lists available BTB cards for P3 Tiny Gen 2 as of the time of this writing.

Table 3 – P3 Tiny Gen 2 BTB Cards

Part	Description	Part Number (FRU#)
	Tiny Punch Out Bracket	5M11C16882
	Dual USB 3.2 BTB Card	5C50W32104
	Quad USB 3.2 BTB Card	5C50W32095
	DisplayPort BTB Card	5C50W32115 or 5C50W32114

	Rear Thunderbolt 4 BTB Card* *Does not provide power delivery	5C50W32100
	HDMI 2.0 (4K) BTB Card	5C50W32102 or 5C50W32106
	HDMI 2.1 (8K) BTB Card	5C50W32103 or 5C5W32097
	USB-C (100W) BTB Card* *5Gbps with DisplayPort and PD 3.0 functions	5C50W00907
	2.5G LAN BTB Card	5C50W32096
	VGA BTB Card	5C50W32094 or 5C50W32099

	COM BTB Card	5C50W32101 or 5C50W32105



PCIe risers are installed at the factory based on system configuration. If no PCIe device is selected during initial purchase, no riser will be installed in the system. The part numbers for the risers are below. Additionally, an M3x6 screw is recommended to secure the riser to the side of the chassis.

- PCIe x16 Riser - 5C50W32107
- PCIe x4 Riser - 5C50W00909

Table 4 – P3 Tiny Gen 2 Custom PCIe Brackets

Part	Description	Part Number (FRU#)
	A1000/A400 Custom PCIe Bracket	5M11N44156
	I350-T2 Custom PCIe Bracket	5M10U50349
	I350-T4 Custom PCIe Bracket	5M10U50350
	BCM 5720 Custom PCIe Bracket	5M11H28444
	BCM 5719 Custom PCIe Bracket	5M11H28443

		
230W AC Adapter	300W AC Adapter	330W AC Adapter
4X21L38738*	4X21L18243*	5A10V03267*

*Option Kit P/N will differ based on region. Please refer to the ThinkStation Options Compatibility Matrix (OCM) for more details.

Revision History

Version	Date	Author	Changes/Updates
v1.0	6/23/25	Chris C.	Initial Release
v1.1	5/29/26	Chris C.	Updated Info