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Thinkpad T14 Gen2 AMD

Internals

- Ryzen 5 5650u
  - This CPU is great, 6 core, 12 thread. Fast enough for most daily uses.
- 8 GB soldered
  - WTF Lenovo. Even your “lower end budget model”, the Lenovo Thinkpad E495 had DUAL DIMM slots. This isn't even DDR5 where you can blame it on signal integrity. YOUR OTHER DDR4 LAPTOPS HAVE DUAL DIMMS. I WANT DUAL SODIMM SLOTS. Why am I mad about this you may ask? I expect to be able to upgrade to 2x 32 GB SODIMM modules to get 64GB of RAM.
  - With the current config, my options were 16 soldered, and 0 in DIMM, which is slow due to running in single channel mode, or, 8+8, which is faster, but limits any future upgrades to 8+32GB.
- 8 GB in DIMM (upgraded to 16)
  - At least it's not fully soldered? The included DIMM was 2Rx16, which is the slow type IIRC as per LTT. It WAS 3200 MT/s however, which is good to see. The E495 was running at 2400 MT/s.
- 256 GB SN530 SSD (upgraded to 500GB SN550)
  - This is fine, the SN 530 is an OEM SN 550. Now, a complaint is that the slot is wired for PCIe 3.0 x4, not PCIe 4.0, despite the APU supporting 4.0. Is it a big deal? No, but at the same time, for a flagship business laptop, why not have it 4.0? *Note, this is based on Lenovo PSREF, I do not own any Gen4 SSDs (heck, I run my desktop off PCIe 2.0 x2, since it mostly impacts sequential throughput, which is not as important as 4K speeds and IOPS.
- 1080P 60Hz 250nit IPS display (the panel looks like sh*t)
  - This panel is DISGUSTING to look at. At least it's not TN??
  - The color gamut makes CRTs look acceptable. Red looks like orange, green looks like lime, blue looks pale. It's BAD. Compared to the E495, the gamut coverage appears to be just as bad, but unlike the E495, the calibration is worse (see below). Yes, I am comparing to better desktop grade monitors with over 100% sRGB, but really, how much would it have cost them to put a 100% sRGB panel in here that's factory calibrated??? I'm not asking for high refresh rate or anything, just for it to look good at least.
  - The color calibration is piss poor, especially white items have a greenish yellowish cast, which isn't great. The E495 had a more acceptable white point and colours by comparison, but both are not great.
  - The panel suffers from image retention. This has as much if not more image retention compared to my LG 27UD58, which itself was not great either.
  - Anti glare coating isn't great, but not awful. This version isn't a touchscreen, so I can't comment on that.
  - The viewing angles aren't as wide as true IPS (there is a notable drop in brightness when you go off on either axis), but fine if you want to watch a movie with your imaginary friends.
  - One good thing: 1080p 60hz is perfectly fine for this laptop. Higher res is unnecessary battery drain at 14“, and higher refresh rate is kind of meaningless when you don't have a dGPU to drive it anyway.

- US layout backlit keyboard
  - The keyboard is actually really good. By far one of the best parts of the laptop. It's clicky, has decent travel, and feels good for a slim laptop keyboard. No, you can't compare it to mechanical, but it is leaps ahead of typical mushy laptop keyboards, like the one on the Lenovo Ideapad 3 (2021)
- Synaptics trackpad
  - The tracking on this is simply put “awful”. Especially on Linux, it always fails to detect proper inputs or gets stuck with a ghost input. It feels worse than the E495 touchpad.
  - It is not glass topped, and so feels bad to glide your finger on, especially if a bit oily.
  - Disable the touchpad and use the trackpoint. Seriously, it's so bad I find myself giving up the minute I try to move the cursor and switch to using the trackpoint.
- Trackpoint
  - A specialty of business laptops. Works better than the touchpad, especially when typing. I mean, I even used it as a makeshift joystick in some games when I didn't have a mouse.
- Realtek WiFi (upgraded to Intel AX200)
  - It's not Broadcomm! Yay!
  - Lenovo really ought to be putting Intel WiFi cards. I mean, the Realtek ones aren't bad, but even the cheaper E495 had a Intel 9620. I have no idea about the technical specifications of the Realtek vs Intel cards, I just have had better luck with Intel drivers on Linux. I can't comment on which is better in Windows.
- Realtek audio
  - Unlike the Lenovo Thinkpad E495, which had a Conexant DAC, this is back to the typical Realtek HD audio. I mean, it's not awful, but, my main complaint with the Realtek audio is that I can hear the hissing when I pause something, followed by it cutting out after a few seconds. This means that the SNR (signal to noise ratio) isn't very high.
  - The cutting out means it's turning off the amp to save power. Fine, but it means that the first half second of any audio that plays is cut off, particularly important for notifications when nothing else is playing, as the first bit will but cut off as the DAC turns back on.
  - I also love that the Linux driver calls the output option “Play HiFi quality audio” - either these guys never heard a HiFi in their life or they think that BS is going to run lol.
- 1080p webcam
  - Not great, fixed focus, but has a cover. Logi C720 looks better IMO. But, since the USB ports have separate controllers, you can use a capture card.

Externals

Overall, I think the I/O is good. Thoughts below:

- 2x USB 3.1 A (Gen2?) ports
  - Both of the ports appear **to be on different USB root controllers**. This is EXCELLENT to hear, as otherwise it is very easy to bottleneck the USB root on laptops. On the Lenovo Thinkpad E495 for example, both ports were inexplicably on one controller, with just the webcam on the other.
- HDMI 2.0
  - Note - While they may call this “HDMI 2.1”, it has the bandwidth of 2.0 (the standards were renamed like USB 3.whatever). This means that it CAN run 4k60, but it will NOT run high

refresh rate 4k. This is better than the Lenovo Thinkpad E495, where they inexplicably used HDMI 1.4, despite the APU supporting 2.0?

- USB-C + power (Supports DP alt mode)
  - This is the main USB-C port. It works for charging, 3.1 gen2 (have not tested gen2x2), as well as using the DP alt mode. I'm not sure if this is running 2 lane or 4 lane DP or if that's a thing outside eDP, but if you use a type C to DP cable, it will run 4k160. If you use any type of hub, YMMV, I found it to be questionable.
- USB-C (for dock) (supports DP alt mode)
  - This is technically part of the dock connector, but you CAN just jam in a type-C cable, and it totally works. It also supports DP. Does not charge.
- 3.5mm TRRS
  - It's fine. Powered by Realtek sh*t. Linux calls it “Play HiFi quality audio” - what an insult. See later in review.
- MicroSD reader
  - WHY ISN'T THIS A FULL SIZE SD READER? The pinout would be exactly the same but it would be twice as versatile. Full size reader would mean it can read both (with an adapter). This means I can't copy stuff off my camera. Why?
- 1Gbit Ethernet
  - It ain't 2.5 Gbit, but, Ethernet ports are a rare breed on laptops these days, and I will gladly take one any day.
  - It is a Realtek port that also has the issue like the Lenovo Thinkpad E495 where it does not work after waking from suspend on Linux. If this happens, just run `sudo rmmod r8169 && sudo modprobe r8169` to reload the driver, which makes it work.

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