# Compare Dimensity 7300 and 7200: Which chip is more powerful?

Nothing's CMF Phone 1 features the latest Dimensity 7300 processor, which appears to be an upgrade over the Dimensity 7200 chipset found in the Nothing Phone (2a).

However, there's more to this upgrade than meets the eye. So, to analyze MediaTek's strange naming scheme, let's compare the Dimensity 7300 and Dimensity 7200 chipsets. Several benchmark tests including Geekbench, AnTuTu, CPU Throttling test, 3DMark, etc. have been tested. perform

## Overview of Dimensity 7300 and 7200 specifications

Take a look at the specifications of Dimensity 7300 (CMF Phone 1) and Dimensity 7200 (Nothing Phone (2a) to understand the difference between both processors.

| | Dimensity 7300 | Dimensity 7200 |
|---|---|---|
| Release date | May 2024 | February 2023 |
| Process node | TSMC 4nm (N4P) | TSMC 4nm (N4P) |
| CPU | Octa-core CPU<br>4x 2.5GHz (Cortex-A78)<br>4x 2.0GHz (Cortex-A55) | Octa-core CPU<br>2x 2.8GHz (Cortex-A715)<br>6x 2.0GHz (Cortex-A510) |
| GPU | Arm Mali-G615 MC2<br>FHD+ @144Hz | ARM Mali-G610 MC4<br>FHD+ @144Hz |
| NPU | MediaTek's 6th-gen APU 655 | MediaTek APU 650 |
| Camera support | MediaTek Imagiq 950<br>Capture photos up to 200MP<br>Record 4K HDR video | MediaTek Imagiq 765<br>Capture photos up to 200MP<br>Record 4K HDR videos |
| Connect | Wi-Fi 6E, Bluetooth 5.4 | Wi-Fi 6E, Bluetooth 5.3 |
| Modem | MediaTek 5G Modem, Dual 5G, VoNR<br>Maximum download speed 3.27 Gbps | MediaTek 5G Modem, Dual 5G, VoNR<br>Maximum download speed 4.7 Gbps |
| Storage/RAM support | UFS 3.1<br>LPDDR5/LPDDR4x, memory up to 6400Mbps | UFS 3.1<br>LPDDR5/LPDDR4x, memory up to 6400Mbps |
| NavIC support | Have | Have |
| AV1 decoding | Are not | Are not |

# CPU Geekbench 6

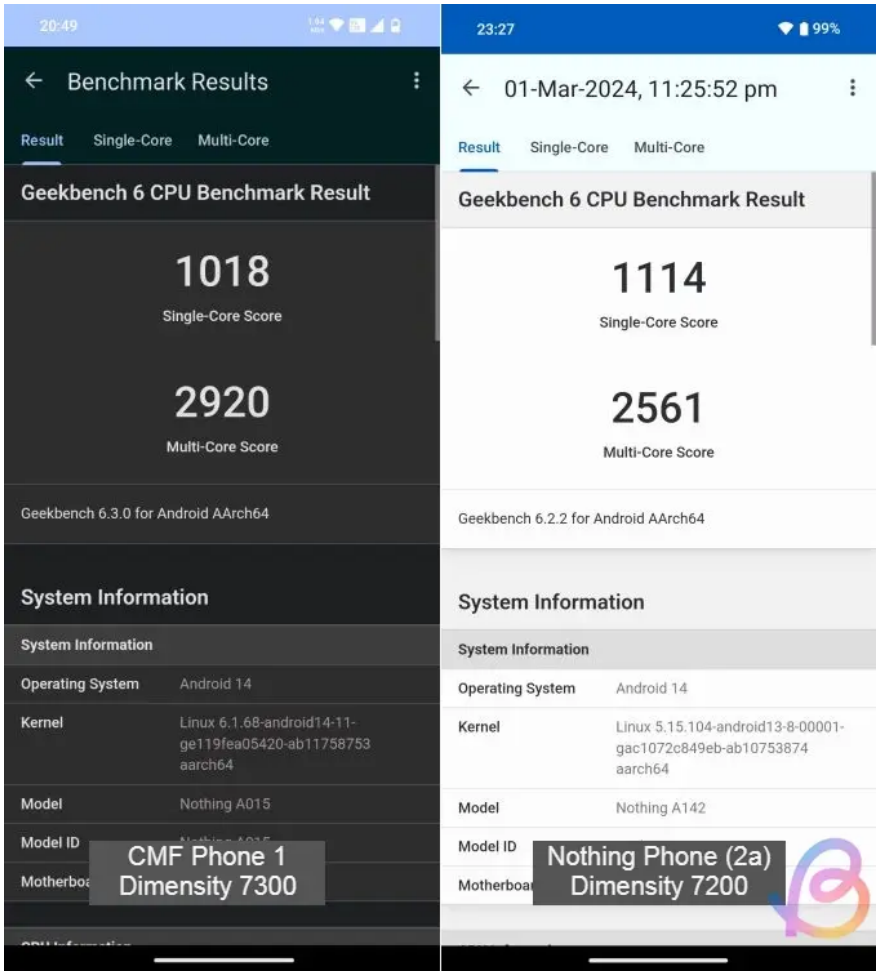
First, let's compare the CPU performance of the Dimensity 7300 and 7200. In the Geekbench test, the Dimensity 7300 scored 1,018 single-core and 2,920 multi-core.

In contrast, the Dimensity 7200 achieved a single-core score of 1,114, about 10% higher than the 7300, and a multi-core score of 2,561, nearly 14% slower.

In multi-threaded tasks, the Dimensity 7200 is worse than the 7300 because the 7300 has 4 Cortex-A78 cores while the 7300 has only two Cortex-A715 cores. Sure, the Cortex-A715 cores are newer ARM cores compared to the older Cortex-A78 cores, but you can't get a performance boost with 6 Cortex-A510 performance cores.

However, in single-core tasks, the Dimensity 7200 shines. It clocks up to 2.8 GHz so it could be 10% ahead. Overall, since the Dimensity 7200 integrates the newer ARM core, the overall performance and performance per watt will be superior to the Dimensity 7300.

| | **Dimensity 7300** | **Dimensity 7200** |
|---|---|---|
| Single core | 1,018 | 1,114 |
| Multi-core | 2,920 | 2,561 |

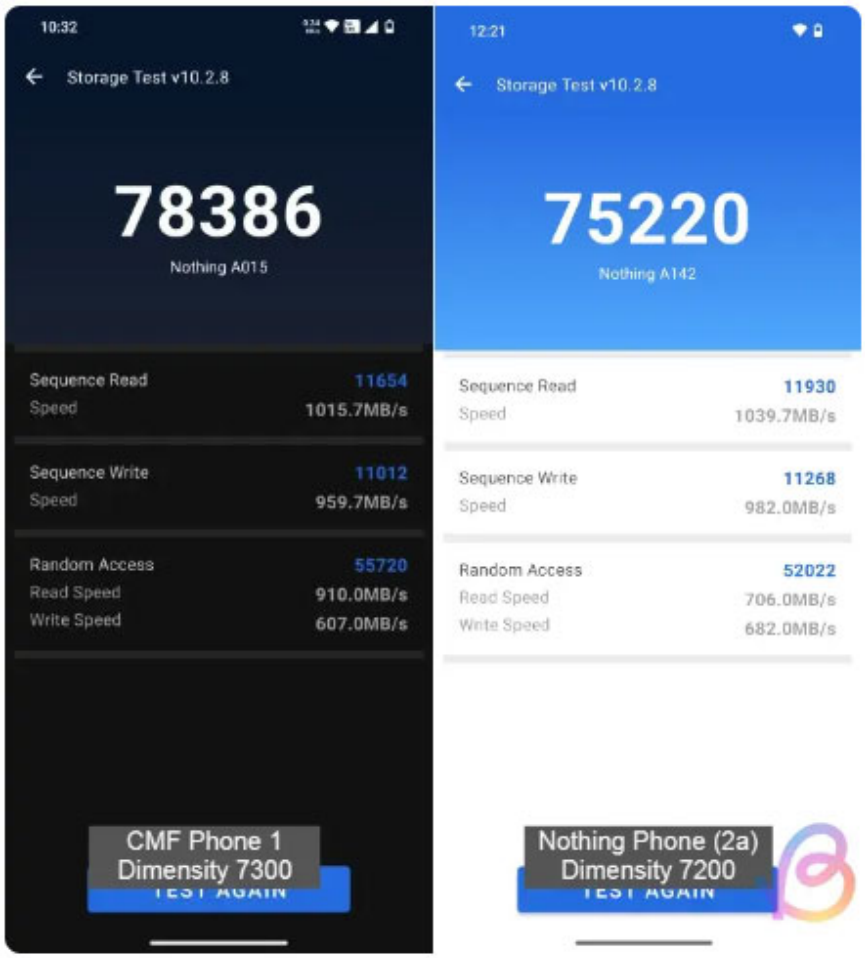


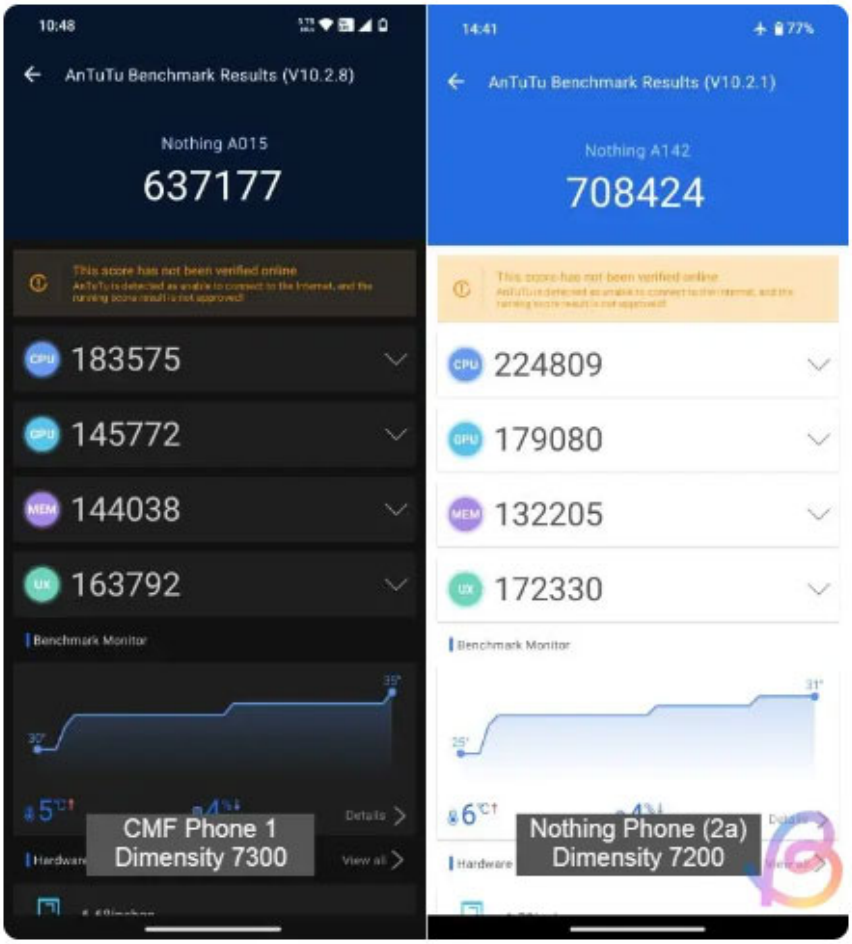
# AnTuTu Benchmark

Next, in AnTuTu Benchmark, Dimensity 7300 scored 637,177 points while Dimensity 7200 reached 708,424 points, an 11% increase in overall performance. In this test, the difference in CPU and GPU performance is more obvious. Dimensity 7200's CPU reached 224,809 points while Dimensity 7300's CPU reached 183,575 points, a difference of 22%.

In terms of GPU performance, there is a difference of 22%. Simply put, the previous generation Dimensity 7200 outperforms the latest Dimensity 7300 chipset in almost every segment. Finally, in the storage test, both performed the same way.

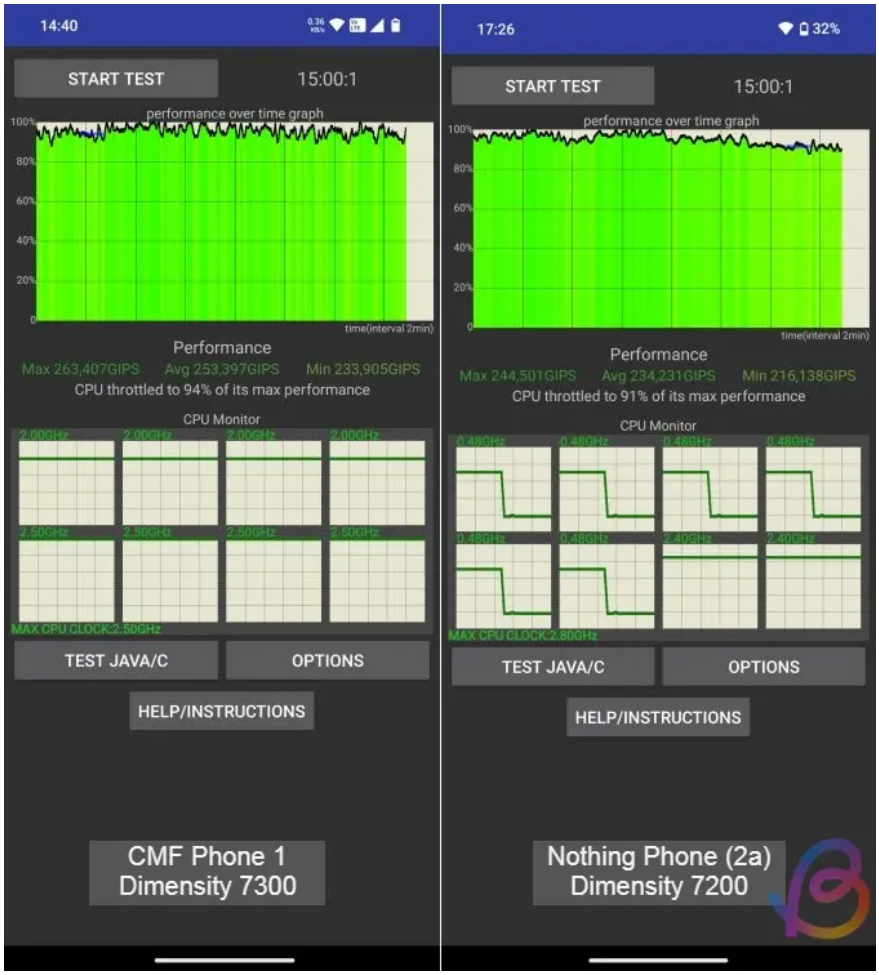
| | **Dimensity 7300** | **Dimensity 7200** |
|---|---|---|
| AnTuTu Score | 637,177 | 708,424 |
| CPU | 183,575 | 224,809 |
| GPU | 145,772 | 179,080 |
| Memory | 144,038 | 132,205 |
| UX | 163,792 | 172,330 |
| Check storage | 78,386 | 75,220 |






# Check CPU Throttling

Moving on to the CPU Throttling test, both chipsets delivered excellent performance with almost no noticeable drop in performance. In the 15-minute test, the Dimensity 7300 dropped to 94% of maximum efficiency and the Dimensity 7200 reached 91%. Command execution performance is also quite close.

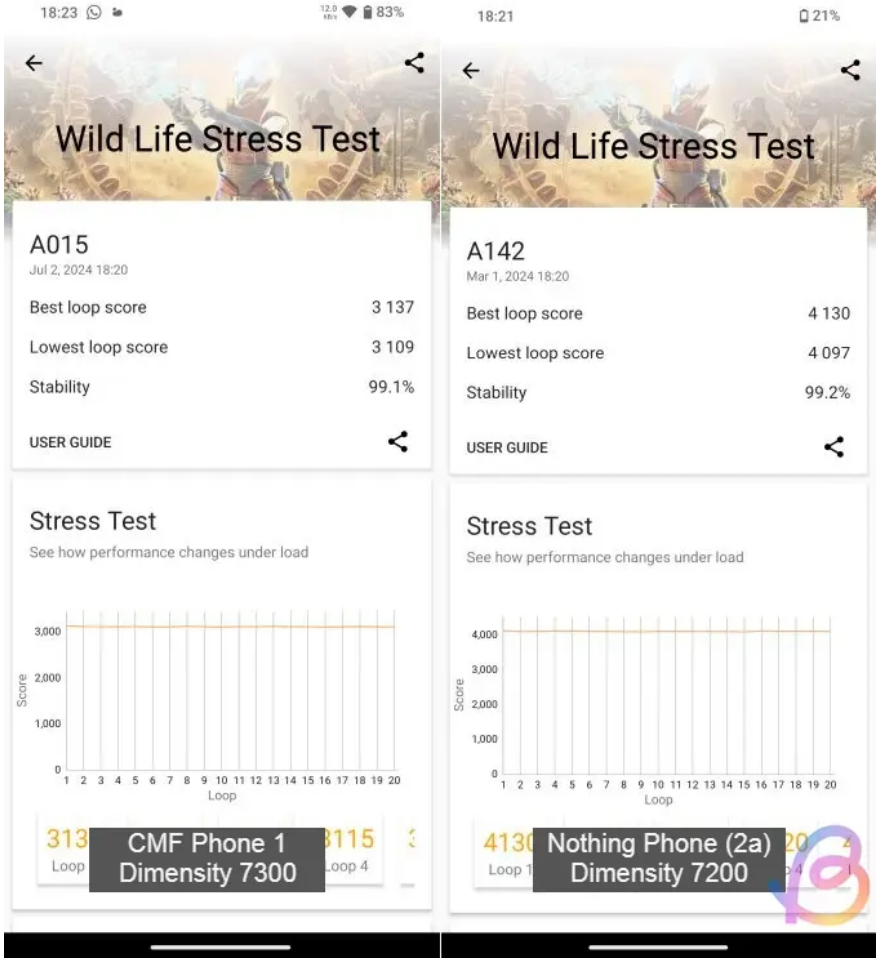



# 3DMark Wild Life Stress Test

Coming to the in-depth 3DMark Wild Life Stress test that evaluates the power of the GPU, the difference becomes even more apparent. Although stability remains similar across the board, the Dimensity 7200's Mali-G610 MC4 GPU outperforms the Dimensity 7300's Mali-G615 MC2 GPU by more than 30%.

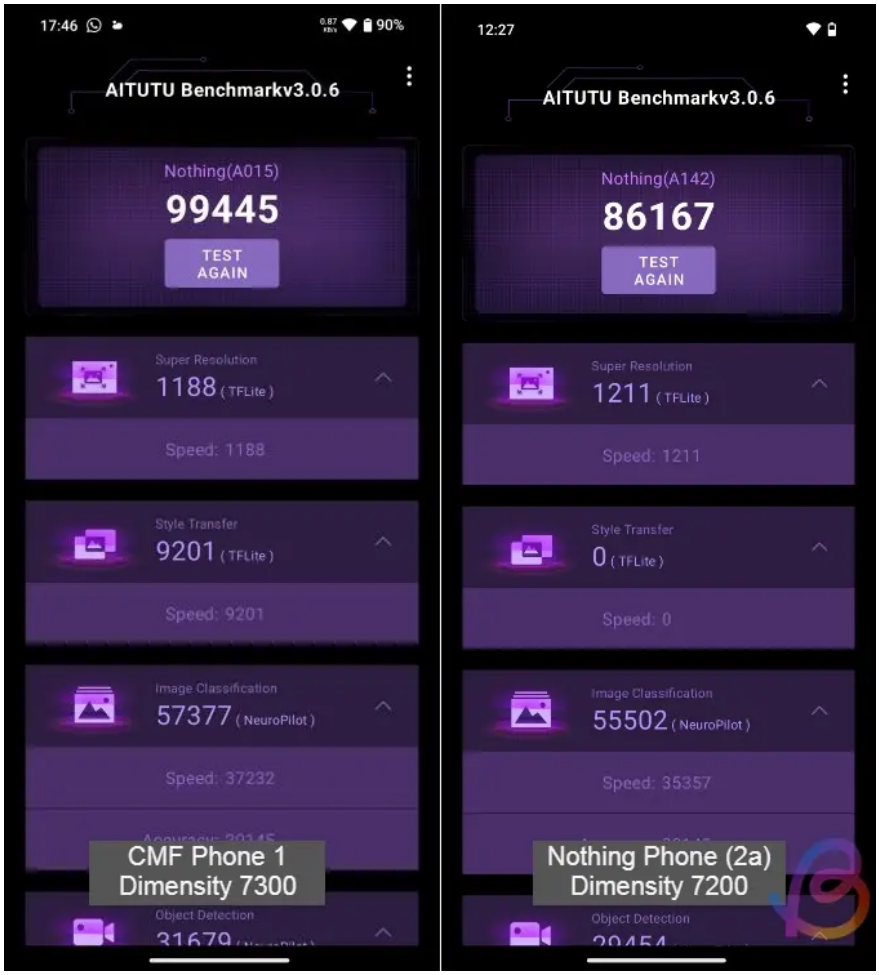
MediaTek has integrated a newer GPU into the Dimensity 7300, but the compute cores have been halved. In short, despite being an older chipset, the Dimensity 7200 offers better graphics performance than the latest Dimensity 7300 SoC.

| | **Dimensity 7300** | **Dimensity 7200** |
|---|---|---|
| Best loop point | 3,137 | 4,130 |
| Lowest loop point | 3,109 | 4,097 |
| Stability | 99.1% | 99.2% |




# AITuTu Benchmark

In the AITuTu benchmark that tests the NPU, or APU (AI Processing Unit) as MediaTek likes to call it, the Dimensity 7300 actually has a more powerful AI accelerator. MediaTek's 6th generation APU 655 offers 15% more performance than the APU 650 found on the D7200. In some AI workflows, you'll get better performance on the latest Dimensity 7300 chipset.




# Test 5G speed

In the 5G speed test, the Dimensity 7300's 5G modem also provided better download speed than the Dimensity 7200. When tested on Jio's 5G network at the same location, the Dimensity 7300 achieved a maximum download speed of 339 Mbps and maximum upload speed is 3.09 Mbps.

In contrast, the Dimensity 7200's 5G modem can reach 298 Mbps in the download speed test and 2.10 Mbps in the upload speed test. It looks like MediaTek has added a new 5G modem to the Dimensity 7300. Remember that both chipsets support dual SIM 5G connectivity and VoNR.


# Conclude

To conclude, the Dimensity 7300 is not a complete upgrade over the Dimensity 7200. In fact, the Dimensity 7300 integrates an older ARM core. Yes, multi-core CPU performance is better, but there's no doubt that the newer ARM cores deliver better overall efficiency and performance per watt. In single-core tasks, you'll get faster performance on the previous generation Dimensity 7200 chipset.

And in the GPU, there is a clear downgrade. The Mali-G615 MC2 GPU on the Dimensity 7300 is weaker than the D7200's GPU. Finally, in terms of AI and 5G performance, the latest Dimensity 7300 has minor improvements compared to the Dimensity 7200.

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