MINISFORUM

DeskMini DMAF5

Introduction Presentation Rev 1.5

May 2020

ABOUT MINISFORUM

- MINISFORUM was born among a group of computer engineers who are passionate about advanced technology and design. Since its inception in 2012, MINISFORUM has been committed to innovation and production of outstanding products.
- Through these products, we can provide consumers with unparalleled satisfaction and reliability.
- We listen to every user's constructive opinions and understand customer needs. On this basis, a large number of innovations have been carried out, and innovative ideas have been injected into every product of the company. Through these products, people really benefit from the convenience of daily life.
- ach of our products is carefully crafted, when we choose materials, we pursue excellent quality. Pursue the ultimate perfection of product design. We do not simply stack hardware, but do a lot of optimization and integration to achieve the best performance of the product.
- Our goal is to surprise and excite customers when using our products.
- We are committed to providing customers with quality after-sales experience, and we will listen to any constructive suggestions. The problems encountered in the use of products are exchanged in the forum. So we will respond to all the questions in the first place.

ABOUT DESKMINI DMAF5

- In May 2020, MinisForum designed and released the DAF5 MINI PC with AMD Ryzen ™ 5 3550H processor, suitable for small businesses, industrial automation, offices, home theaters and living rooms. The built-in Vega8 integrated graphics can be used for low-end games. This is very low power consumption and can save a lot of electricity costs.
- This report introduces the DMAF5 MINI PC:

① Specifications

② Appearance

③ Benchmark test

SPECIFICATIONS

MINISFORUM

- Excellent integrated graphics
- Wireless card with excellent performance
- Dual RJ45 interface

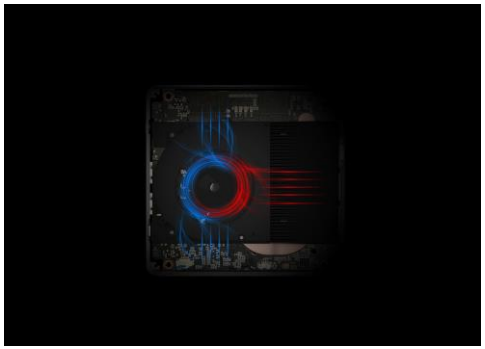
Processor	AMD Ryzen™ 5 3550H（2.1GHz~3.7GHz）， 4 Cores 8 Threads
GPU	Radeon™ Vega 8 Graphics（1.2GHz） By setting BIOS, 1GB / 2GB DDR4 can be used as dedicated Memory of Graphics
Memory	8GB×2 / 8GB×1 DDR4-2400 Dual channel （SODIMM slots×2）
Storage	1×M.2 2280 128GB/512GB SATA SSD (Made in Taiwan）， up to 2TB support
Storage Expansion	1×2.5 inch SATA3.0 HDD or SSD Support
Wireless Connectivity	M.2 2230 WIFI support （Intel® WiFi 6 AX200， BT 5.0 pre-install）
Video Output	① HDMI 2.0 (4K@60Hz)， ② Display Port (4K@60Hz) ③USB-C (4K@60Hz)
Audio Output	① HDMI 2.0 , ②3.5mm Audio Jack ③Display Port
Peripherals Interface	RJ45 Gigabit Ethernet×2， USB 3.1×4， USB-C×1
Power	DC 19V/3.42(adapter included）
System	
Feature	RTC wake up/Wake on Lan/Power on auto power on (BIOS setting) / Network boot/TDP35W

APPEARANCE

- Exquisite matte aluminum casing

APPEARANCE

- With super cooling system

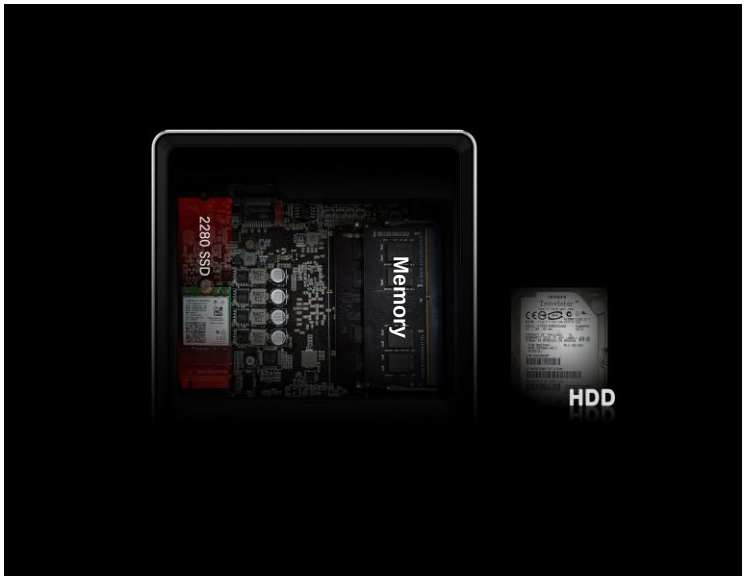


Super large turbo fan, low speed silent operation, < 30db & thickened heat conducting copper tube & bulk material overall spraying graphene
Super large air inlet & super large air outlet, allowing the machine to fully dissipate heat and play a higher performance.

APPEARANCE

- Easy DIY Upgradability

Our Mini PC is designed with a press and pop-up clasp, which makes it easy to install memory, SSD, HDD and Wi-Fi.



CPU specifications

- With the help of AMD Ryzen ™ 5 3550H, DMAF5 has 4 cores and 8 threads, and the main frequency is 2.1GHz.

CPU cores: 4, threads: 8

Reference clock frequency: 2.1GHz

Maximum acceleration clock frequency: up to 3.7GHz

Total primary cache: 384Kb

Total L2 cache: 2MB

Level 3 cache: 4MB

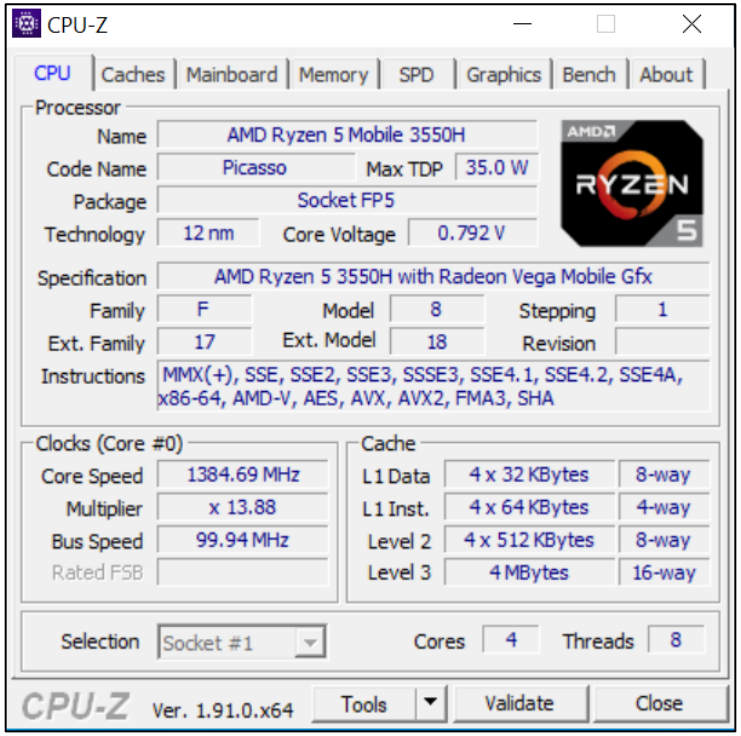
No frequency locking: no

CMOS:12nm

Package: FP5

PCI Express version: PCIe ® 3.0

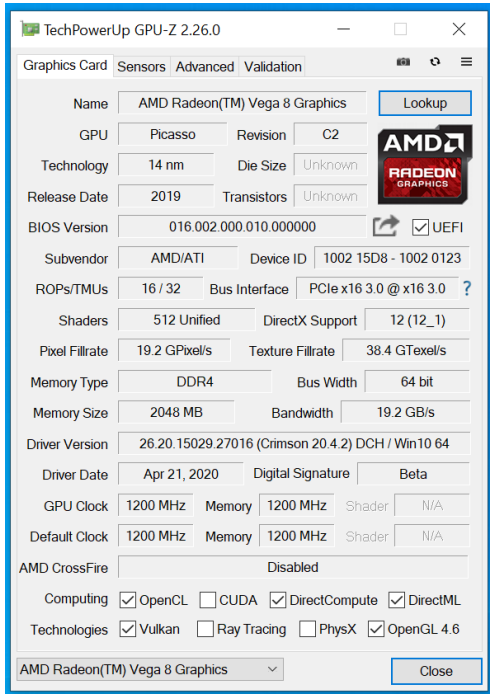
Maximum temperature: 105 ℃

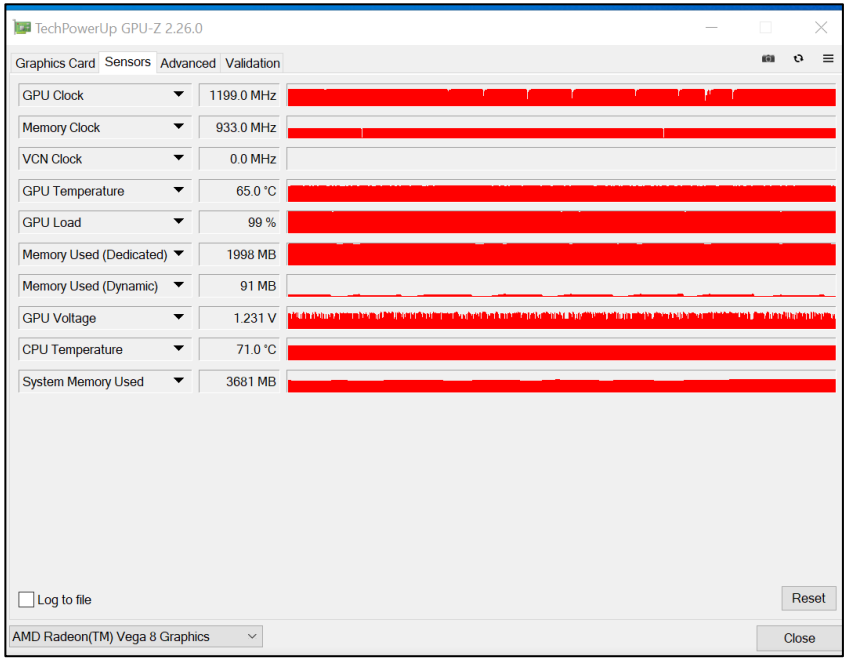


For more CPU specifications, please visit the official AMD website: https://www.amd.com/zh-hans/products/apu/amd-ryzen-5-3550h

Graphics specifications

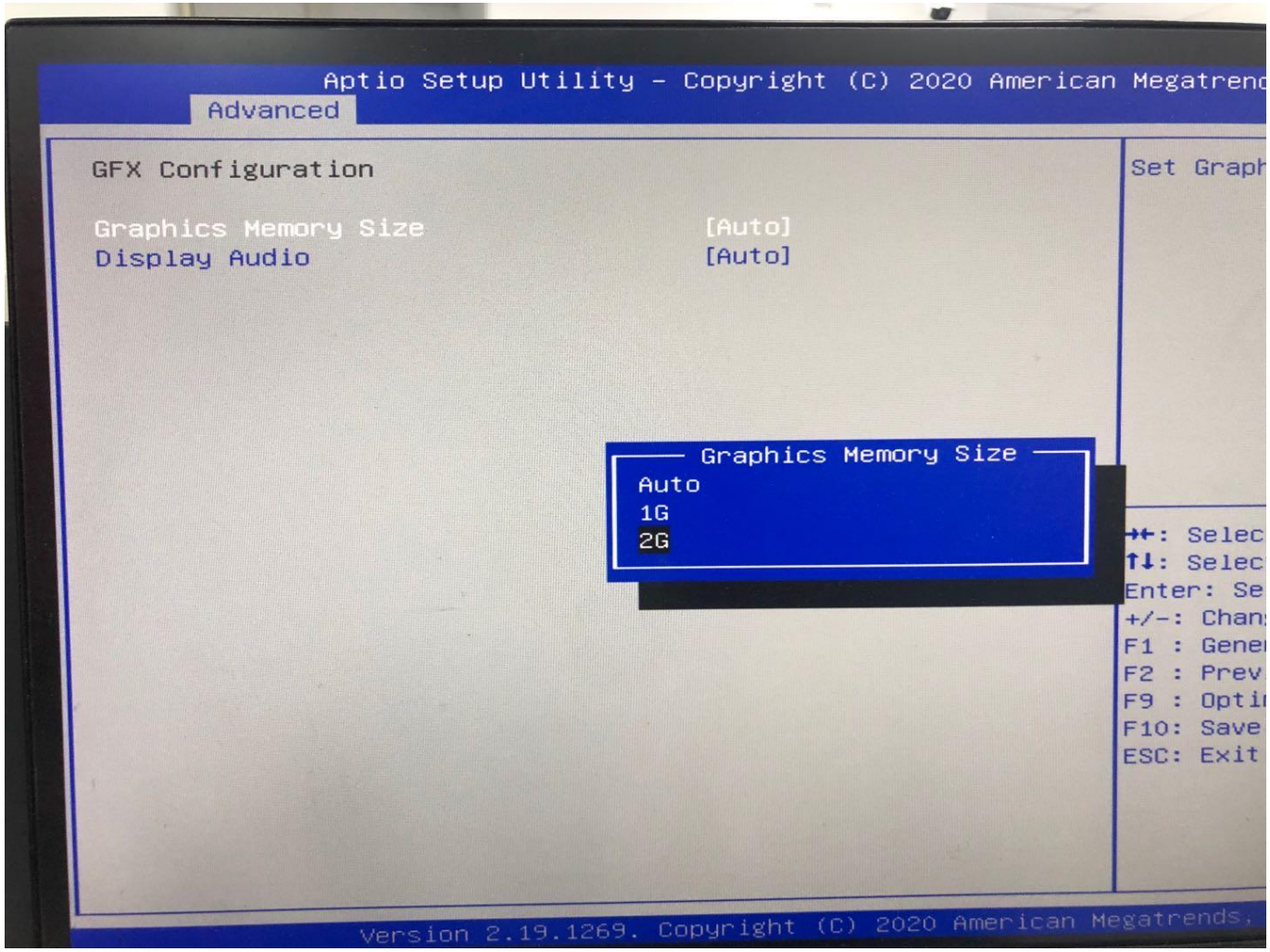
Graphics card model: Radeon ™ Vega 8 Graphics
Graphics frequency: 1200 MHz
Number of graphics cores: 8
Supported technologies: AMD SenseMI , “Zen” core architecture, Radeon Game Intelligent Display (FreeSync ™) ,DirectX® 12.





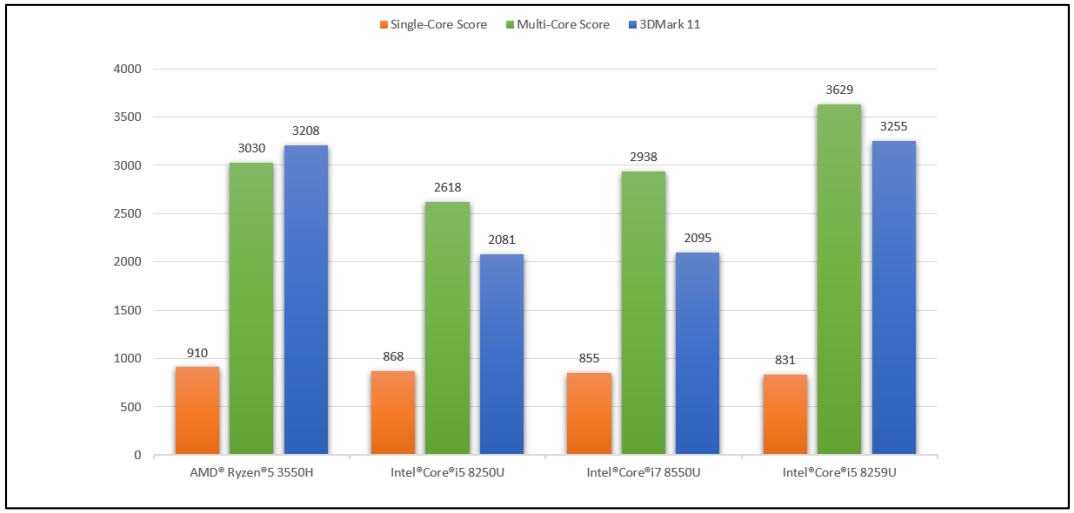
GRAPHICS MEMORY SIZE

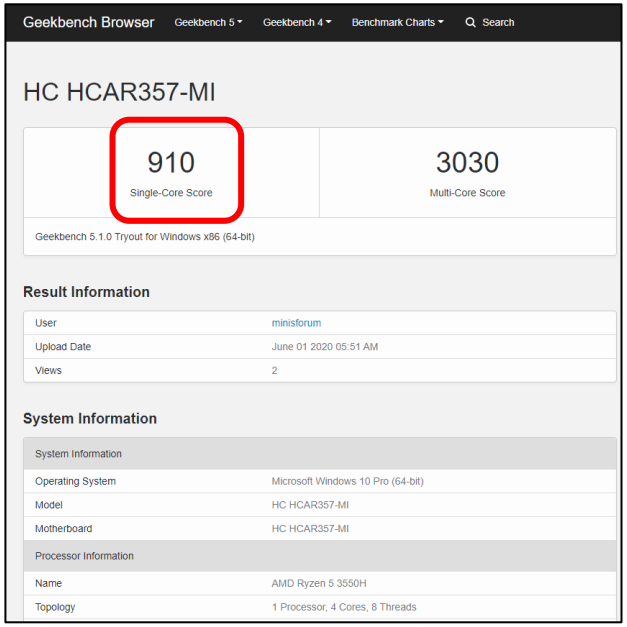
By setting BIOS, 1GB / 2GB DDR4 can be used as dedicated Memory of Graphics.



Performance comparison of competitive products CPU&GPU

- The following results were tested using Geekbench5.1 and 3DMARK 11.





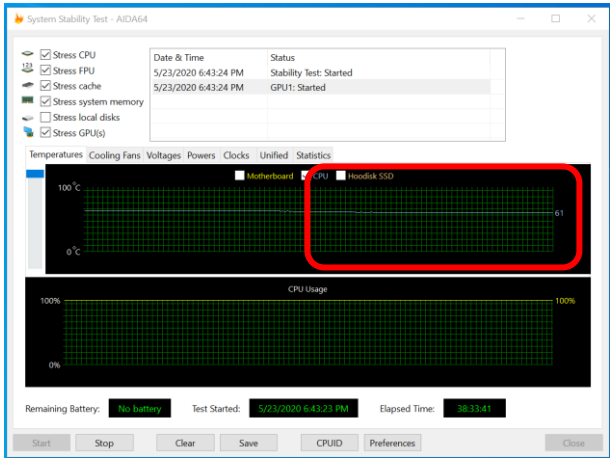
DMAF5 TDP 35W

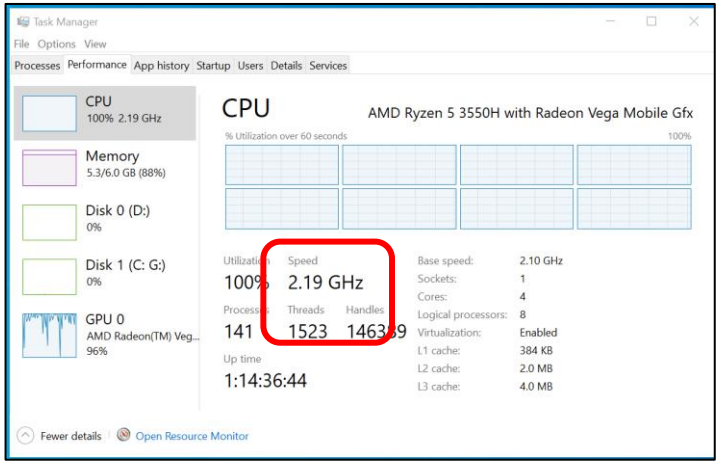
AMD Ryzen®5 processor, 4 cores / 8 threads, Equipped with Radeon™Vega 8 Graphics 8 Cores Graphics, Processor Base Frequency, Max Turbo Frequency 3.7GHz.CPU & GPU, with performance significantly higher than Intel® i5 8250U, higher than Intel® i7 8550U, and the same as Intel® i5 8259U.

TEMPERATURE TEST.

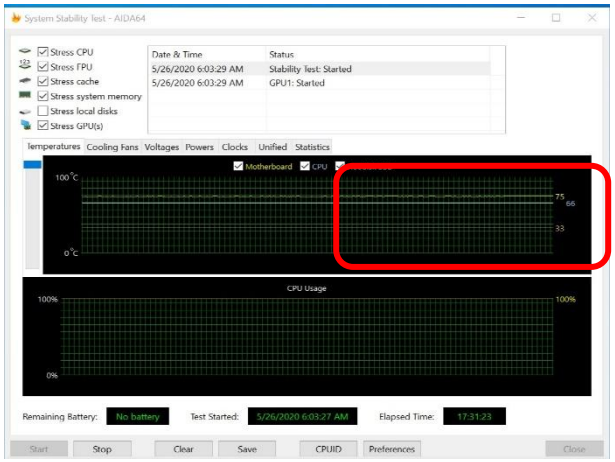
- Thanks to super cooling, TDP can be unlocked for higher performance. The following results were tested using AIDA64.
- AIDA64 test: stress test CPU / GPU / memory ... 100% load monitoring, for TDP 25W Unlocker, the temperature is maintained at about 61 ° C, the CPU frequency still performs best; for TDP 35W Unlocker, the temperature is maintained at At 75 ° C, the CPU frequency is increased by 0.55Ghz.

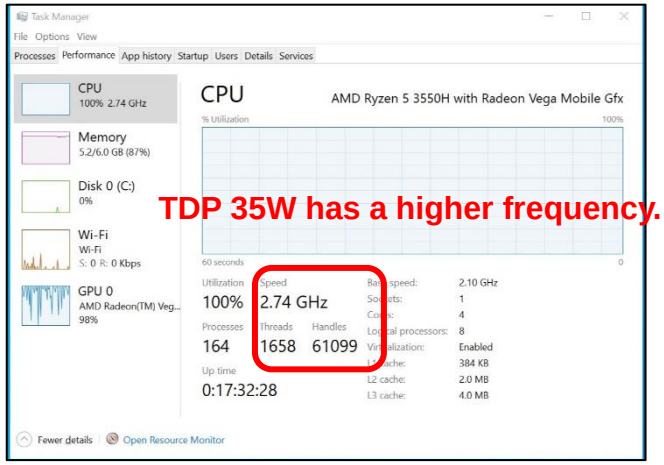
DMAF5 TDP 25W





DMAF5 TDP 35W



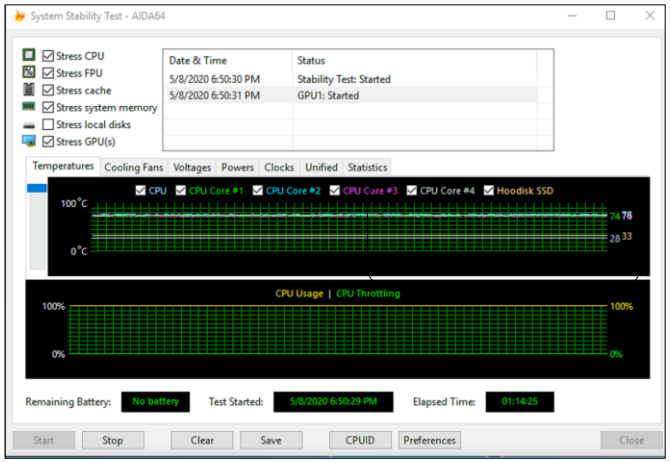


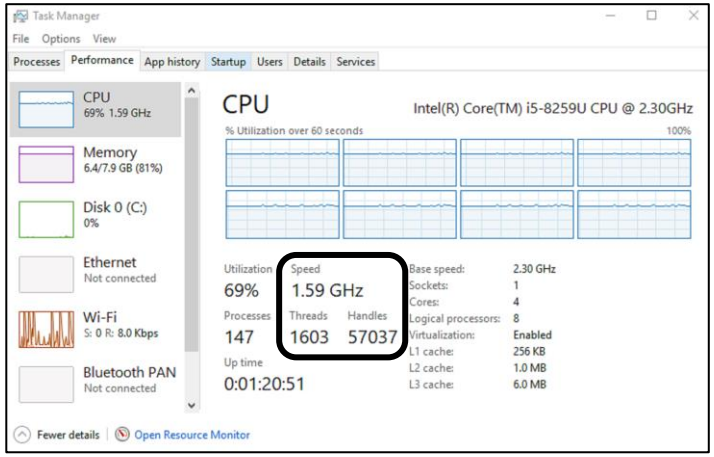
TDP 35W has a higher frequency.

Other Mini PC temperature tests.

- Without TDP Unlocker & poor cooling condition

  - The comparative test model uses the Intel Core® i5 8259U processor with a basic frequency of 2.3 GHz and a maximum turbo frequency of up to 3.80 GHz. Without TDP Unlocker and poor heat dissipation conditions, it is unable to fully utilize the better performance of the CPU.

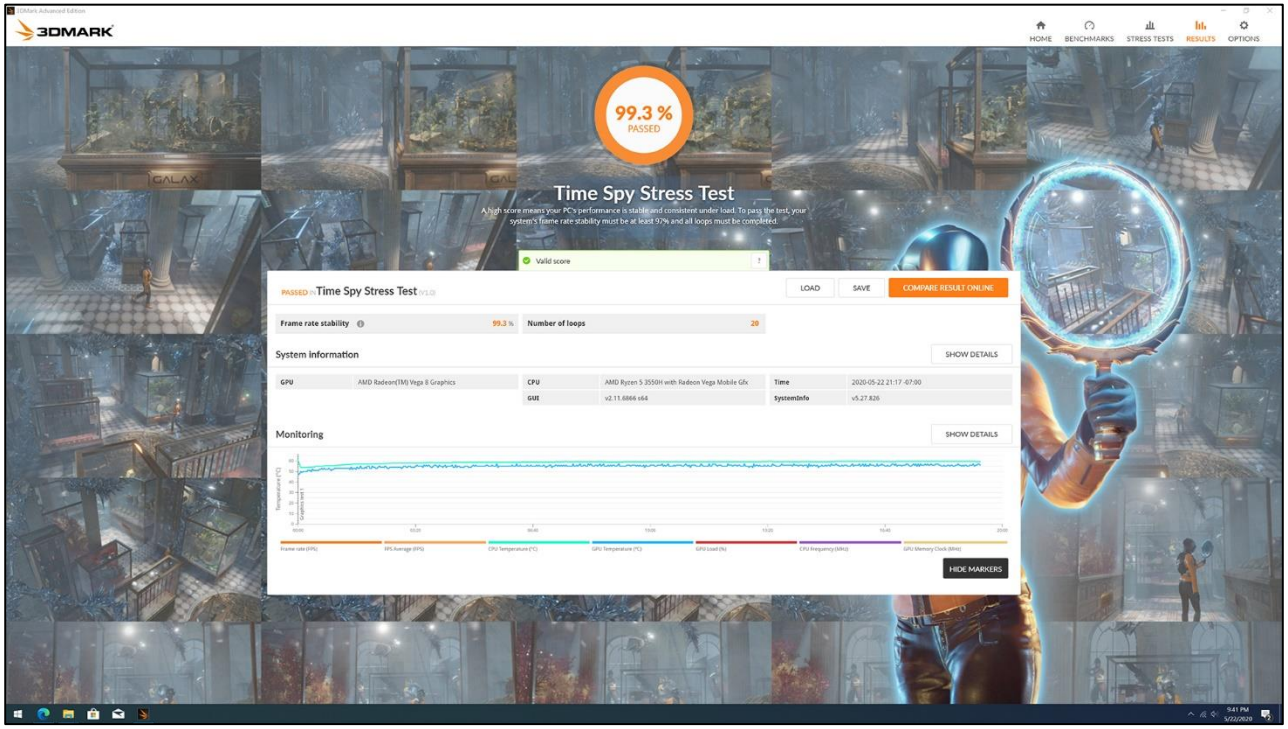




Intel Core® i5 8259U

3DMARK Stress Test

- The following results were tested using 3DMARK 13
- Test items: [Time Spy Stress Test]
- Test result: 99.3% PASSED

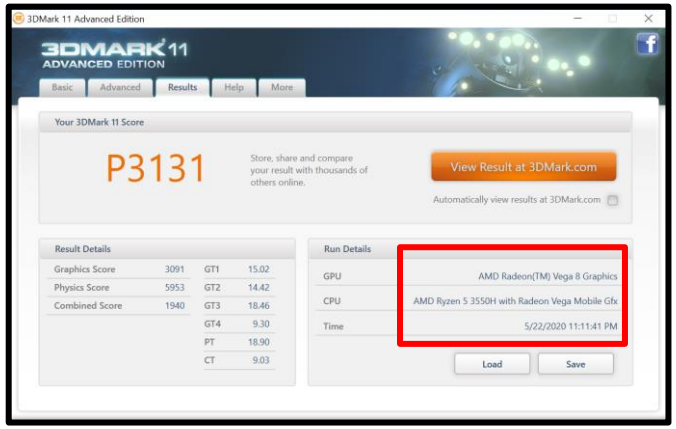


Very few mini PCs could pass this stress test.

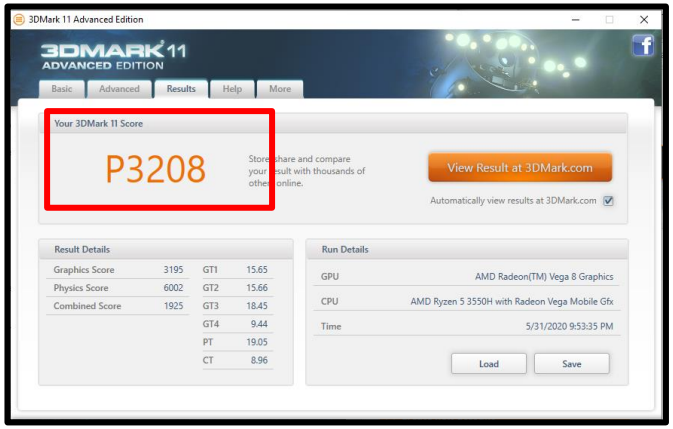
3DMARK11 TEST

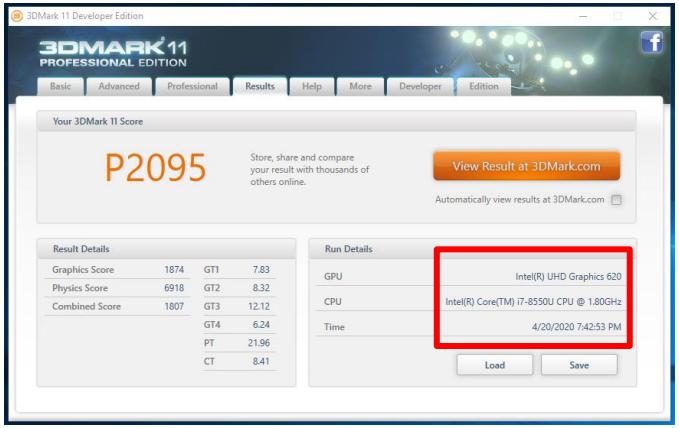
- The DeskMini DMAF5 and the i7 CPU models on the market were tested and compared with 3DMARK11:

DMAF5 TDP 25W



DMAF5 TDP 35W



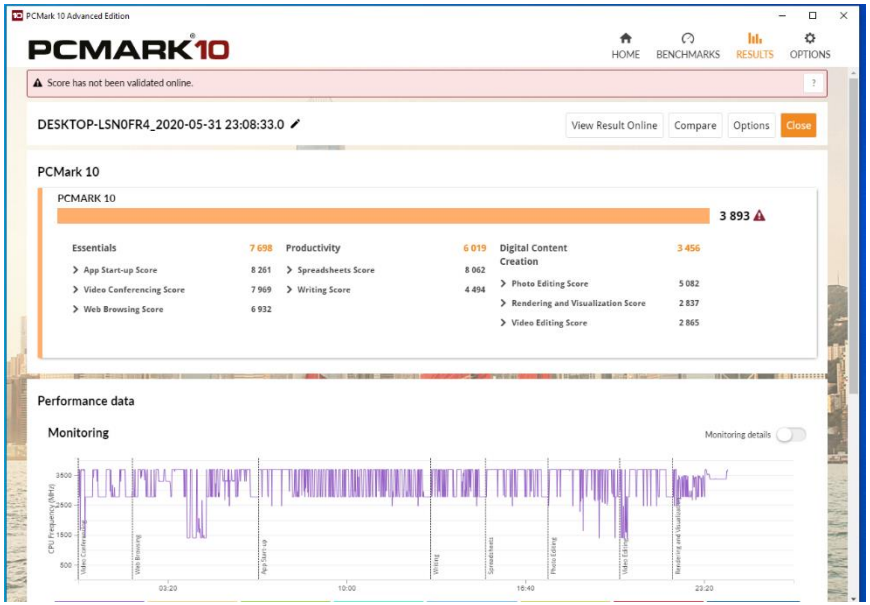


Other i7 CPU models mini pc

CPU PERFORMANCE

- PCMark 10 score
- TDP 25W =3503
- TDP 35W =3893

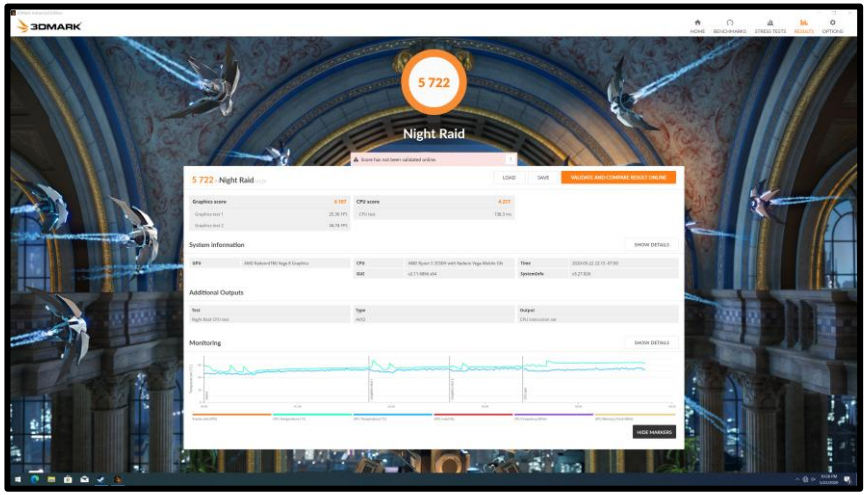
DMAF5 TDP 25W



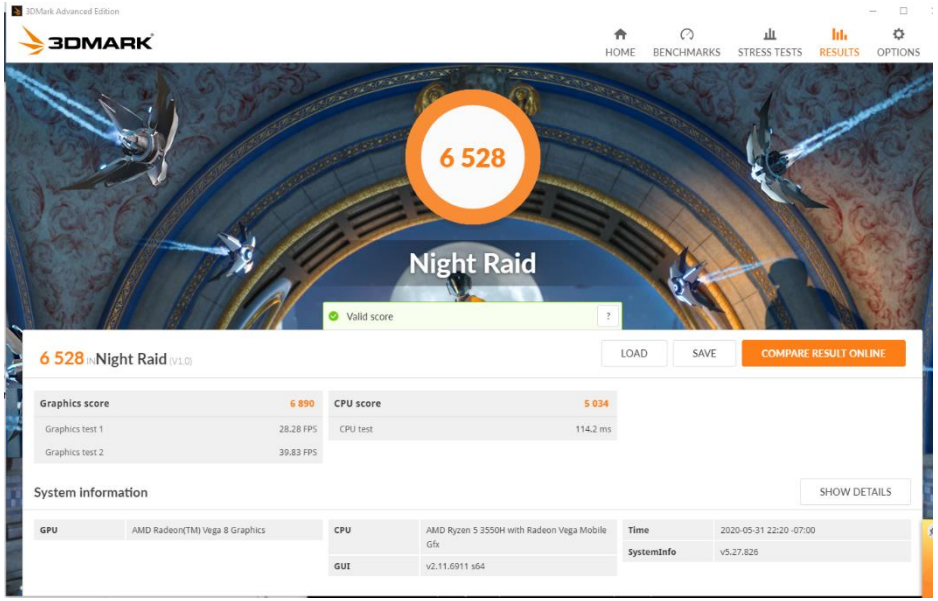
DMAF5 TDP 35W

GPU Performance

- 3DMARK Night Raid scored
- TDP 25W =5722
- TDP 35W =6528



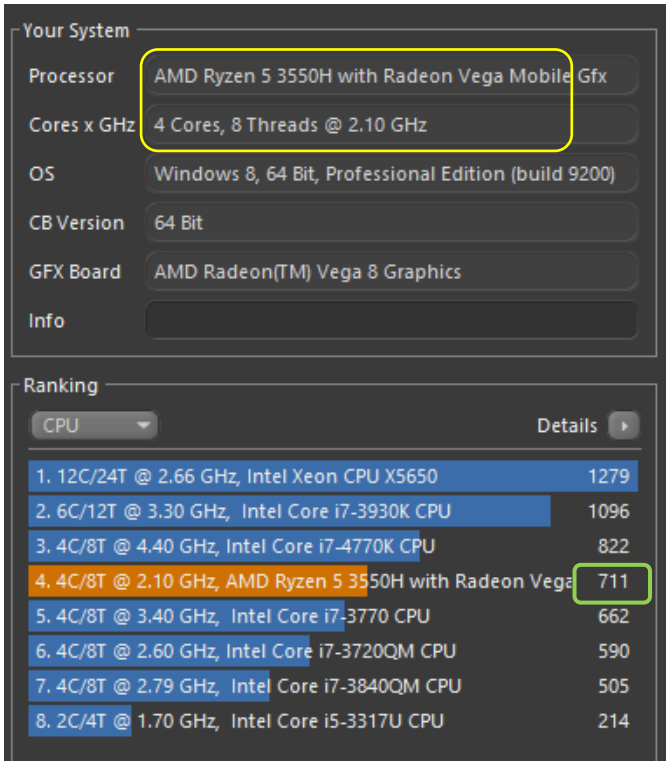
DMAF5 TDP 25W



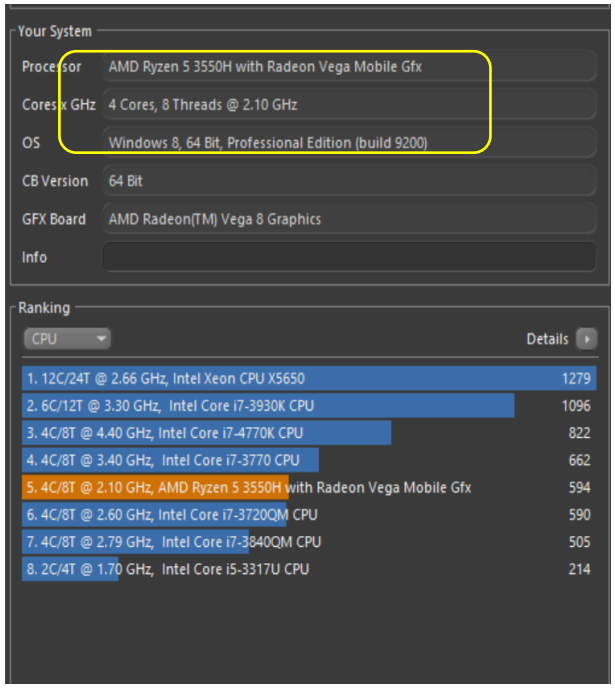
DMAF5 TDP 35W

GPU Performance

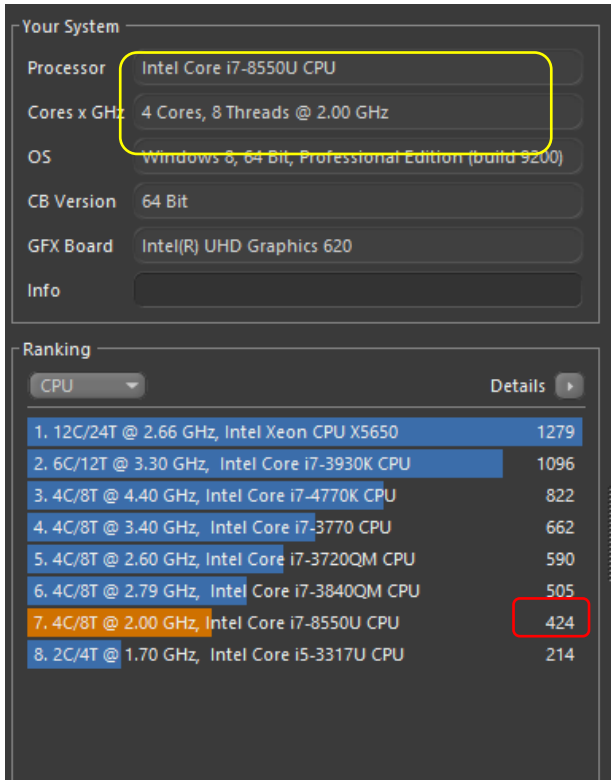
- Multi-core performance is similar to Core ™ i7-8550U
- (Reference: Cinbench R15)



DMAF5 TDP 35W



DMAF5 TDP 25W

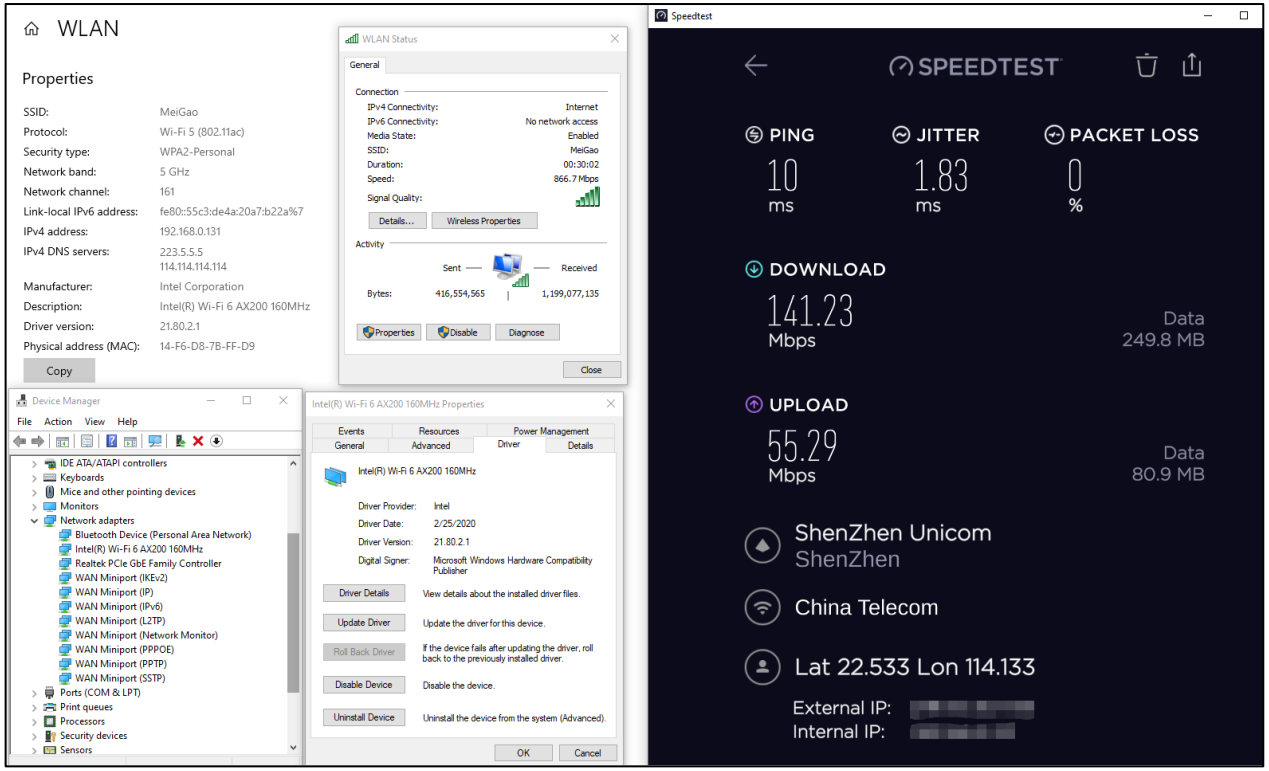


Core ™ i7-8550U

CineBench is a very convincing test system for CPU and graphics card, the latest version is R20. Compared with the maximum 16 cores of R11.5 version, the R15 version can support up to 256 logical cores. In addition, the new version also strengthens the investigation of shaders, anti-aliasing, shadows, lights, and reflection blur. The detection is more accurate.

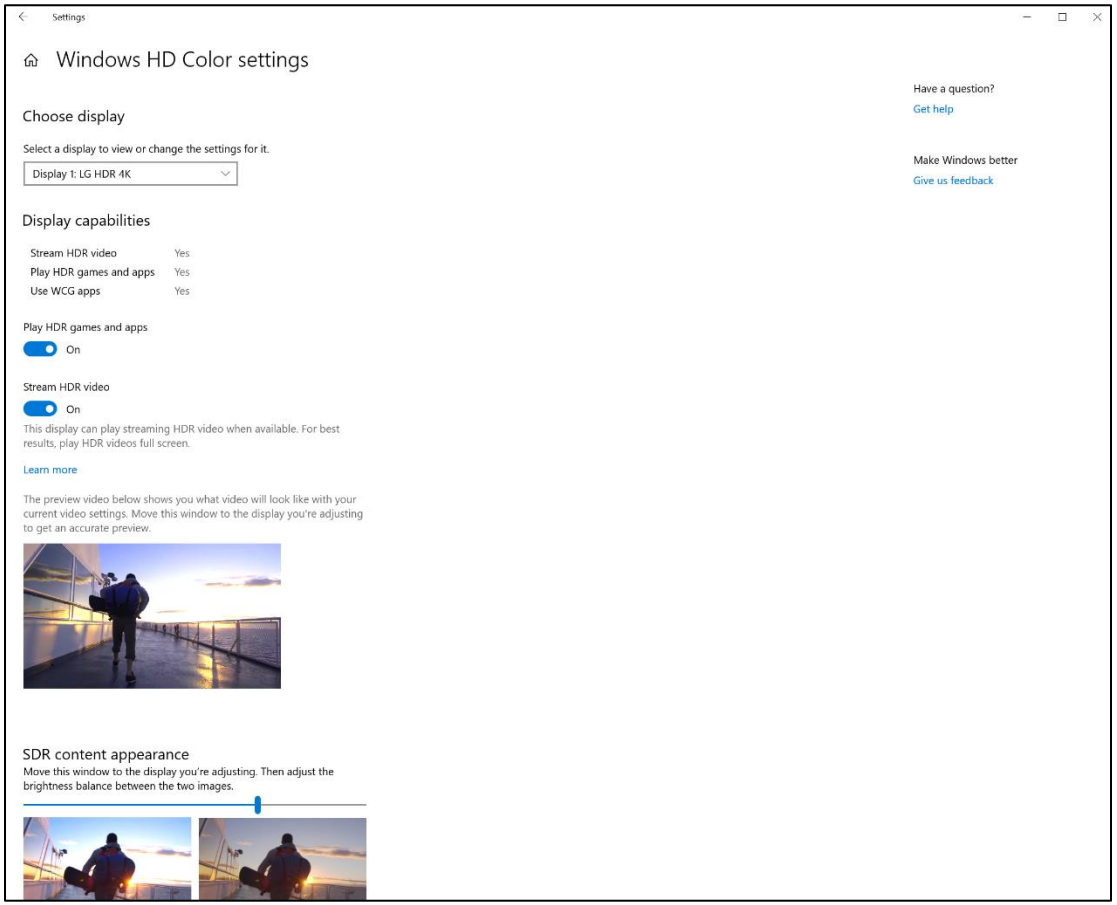
Intel® WIFI6 AX200, BT 5.0 pre-install

Intel AX200 WLAN belongs to the AX-22260 family, code-named "Cyclone Peak", supports WiFi 6 technology (802.11ax) standard, integrates Bluetooth 5.0 module, supports 5GHz / 2.4GHz dual frequency and multi-user 2x2 MIMO (MU-MIMO), peak bandwidth It is 2.4Gbps, which is at least 37% higher than the current 802.11ac rate. WiFi5 802.11ac standard supports 160Mhz bandwidth.



This is a 5G signal connected to the WiFi router 1900Mbps, with a download speed of up to 141Mbps and an upload speed of 55Mbps.(If you have a better WIFI router you will get faster speed.)

SUPPORT 4K HDR.



Thank you!