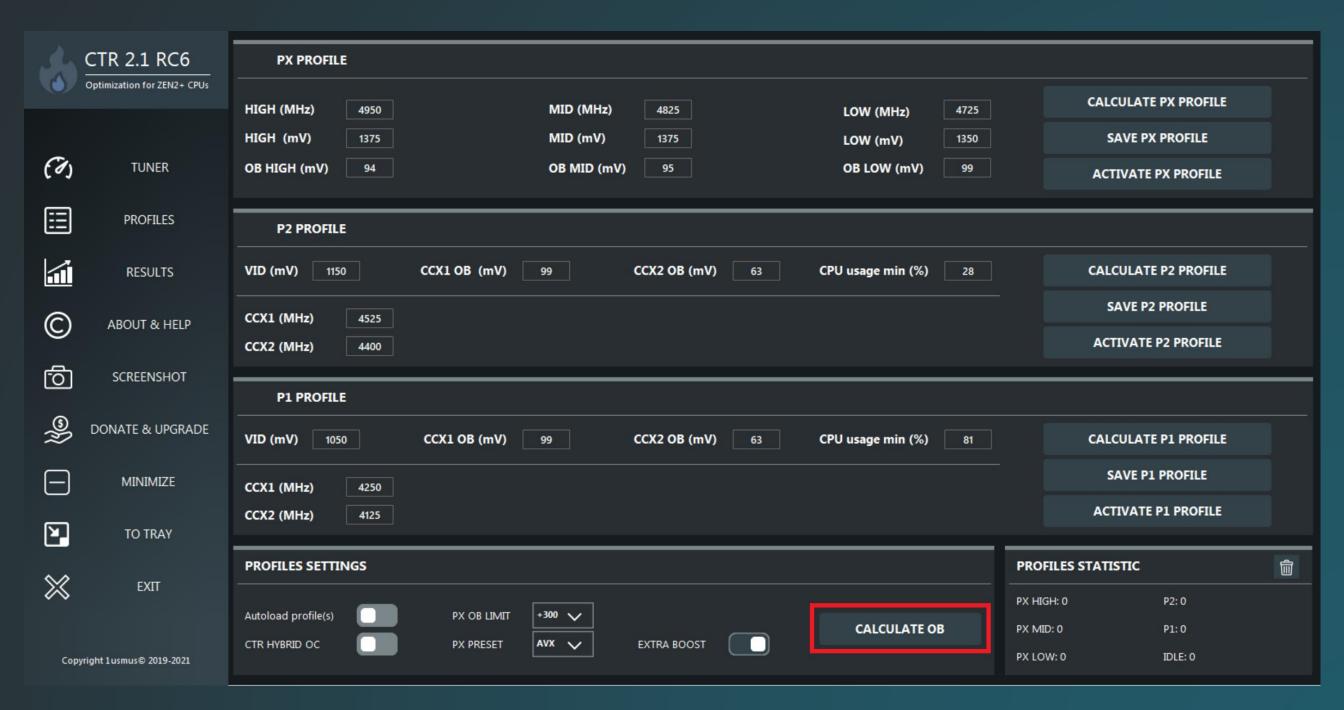


- Updated more accurate OB diagnostics, you don't have to adjust anything. The OB values will be set for each profile + saved automatically.
- During the OB diagnostics information about CO (Curve Optimizer) coefficients is presented to the user. If for some reason you can not use CTR HYBRID OC you have an alternative. Simply enter these CO coefficients in the BIOS. I know that there are some scripts that help find the CO. My solution is simpler, faster and more accurate. Why? I get an answer from SMU, i.e. the processor tells me which base curve it has and what it likes and what it doesn't like. For testing I also use AVX multi-core load. This allows me to get optimal results not only for each core individually, but also the result of interaction of all cores simultaneously. There are no alternatives to this function.
- Automatic update for CTR. Every time, when you start CTR, a secure TSL connection will be made to the github server where updates
 are stored. If an update is found, you will be notified. The process is fully automatic. After confirmation, the files are updated and the
 CTR is started.
 - About the github server. It is protected from hacker attacks and also has anti-virus software. Your system will always be safe.
- Load type detection system. This system allows real-time dynamic profiles to change their settings for maximum stability and performance. Now you can find out which application uses FMA3 and which uses AVX1 (for example).
- The response speed of dynamic profiles has doubled. That is, the frequency change speed is 8ms instead of the usual 16ms. This allows you to increase or decrease the frequency faster in relation to load and conditions.
- Windows notification. If the CTR is minimized or minimized to the tray you will not miss important messages. In the bottom right
 corner you will receive different kinds of notifications. In most cases this information is not critical, but it is worth writing to Discord
 about it. At the moment there are compatibility problems with the following programs: AIDA 64 (blocks global PCI mutex), Aquaero
 (does not allow for the use of global PCI mutex), Corsair iCUE (does not allow for the use of global PCI mutex) and AMD Ryzen
 Master (does not use a secure connection to the SMU).
- EXTRA BOOST superstructure for OB, which allows dynamic profiles to run at higher frequencies in SSE AVX1 loads. On average
 this is an extra 25-50 MHz without increasing the voltages.
- Full adaptation to CPU LLC (Load Line Calibration) Auto. More stability and more performance if you use CPU LLC Auto. This is my
 new recommendation for RC6.



Clock Tuner for Ryzen™ 2.1 – CO INFO

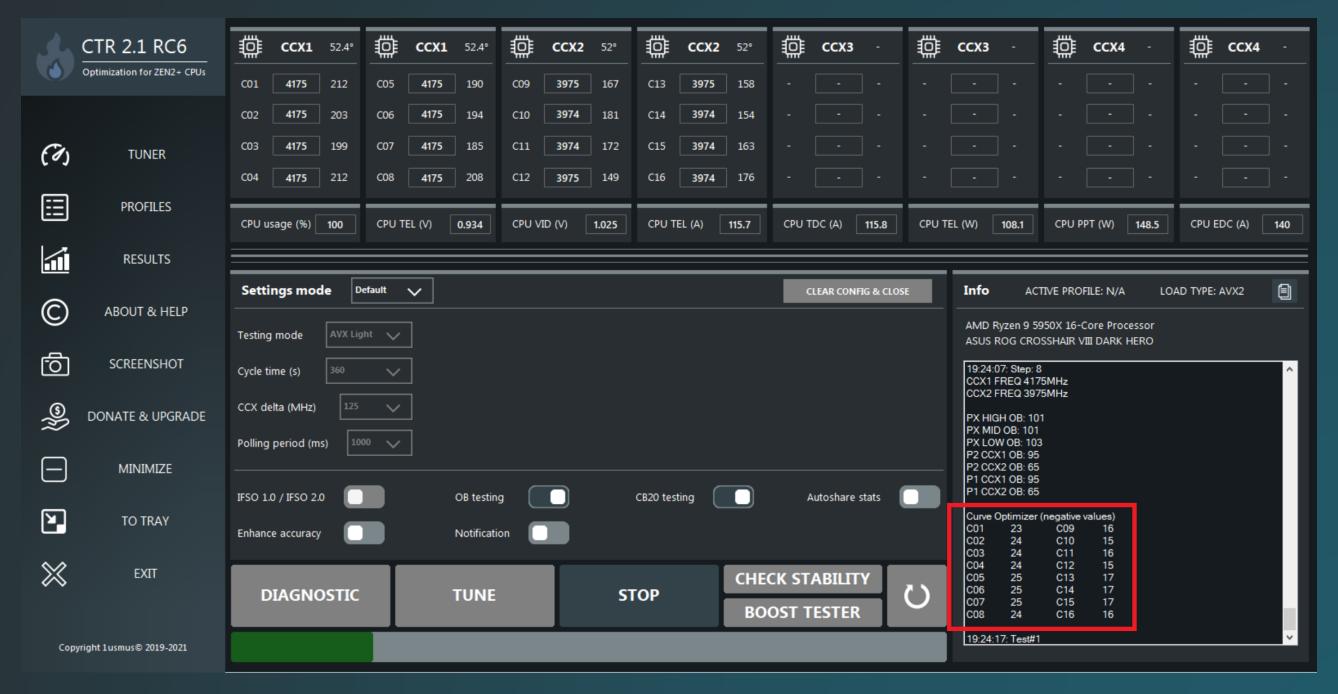
In order to get CO (Curve Optimizer) coefficients it is enough to press 1 button – "CALCULATE OB". The process can take up to 15-20 minutes. Important! The CO must be turned off in the BIOS.





Clock Tuner for Ryzen™ 2.1 – CO INFO

If you want to use CO (Curve Optimizer) - just enter these coefficients in the BIOS. Max CPU Boost Clock Override in the range 100 – 175 MHz. PBO Limits - Disabled. This will help increase the performance of your system without changing the base TDP. The most preferred mode. If you turn on PBO Limits, you get a red-hot iron.





Clock Tuner for Ryzen™ 2.1 – LOAD TYPE

I know that many of you were curious to know what type of load is currently present in the system. CTR will tell you about it. At the moment there is a definition of light (SSE) load, AVX1 (or heavy SSE), AVX2 and FMA3.



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Clock Tuner for Ryzen™ 2.1 – NOTIFICATION

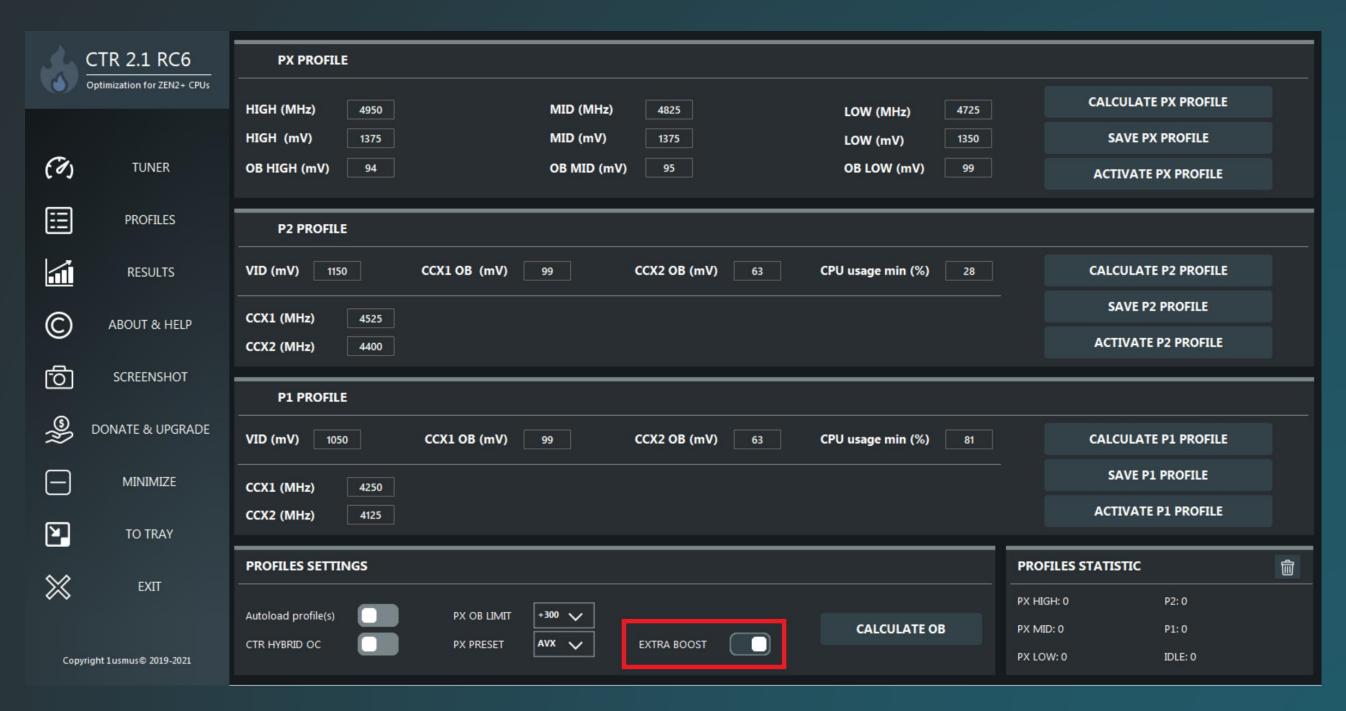
If the CTR is minimized or minimized to the tray you will not miss important messages. In the bottom right corner (where the clock is located) you will receive different kinds of notifications. In most cases this information is not critical. Please note, if you have disabled Windows notifications you will not be able to receive notifications from CTR.





Clock Tuner for Ryzen™ 2.1 – EXTRA BOOST

EXTRA BOOST - superstructure for OB, which allows dynamic profiles to run at higher frequencies in SSE - AVX1 loads. On average this is an extra 25-50 MHz without increasing the voltages. Not available for PX HIGH only.

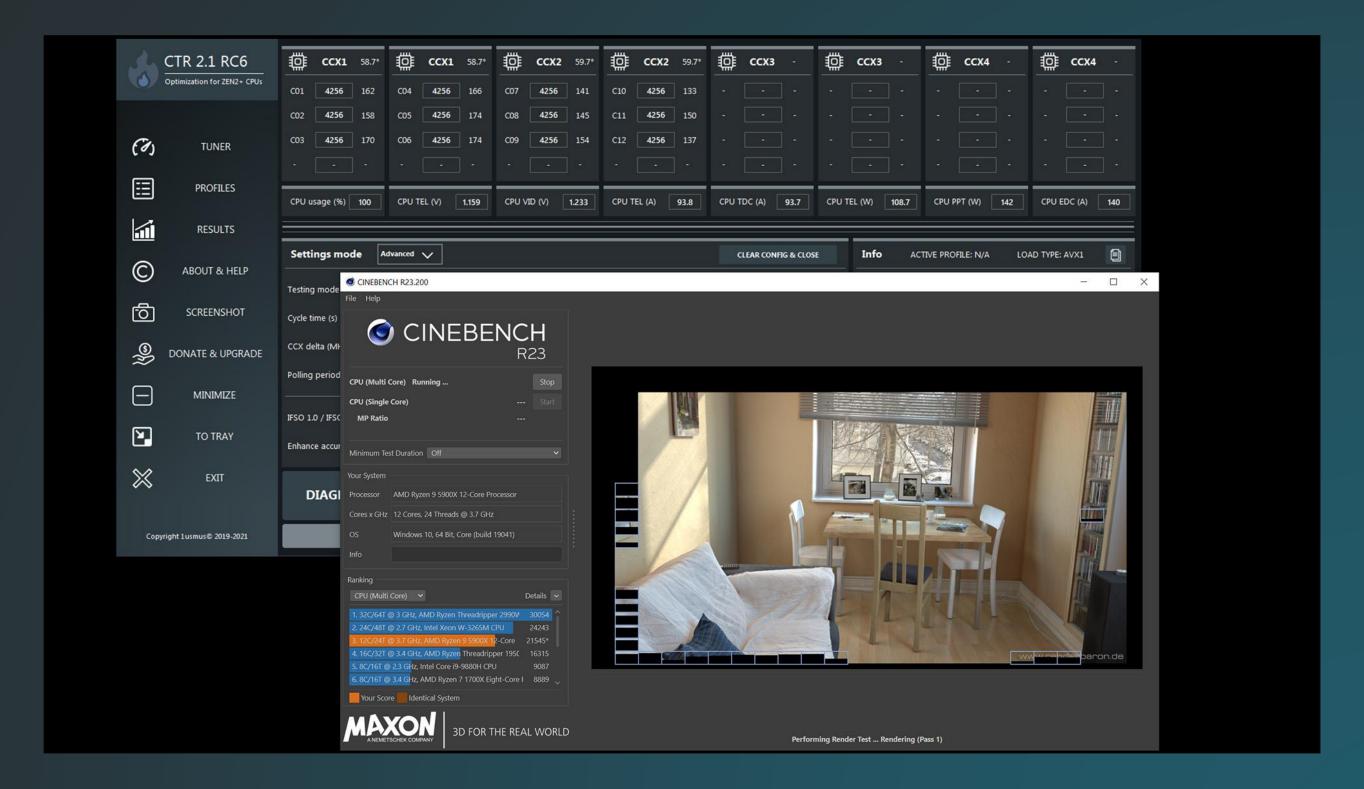


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Clock Tuner for Ryzen™ 2.1 – TESTING

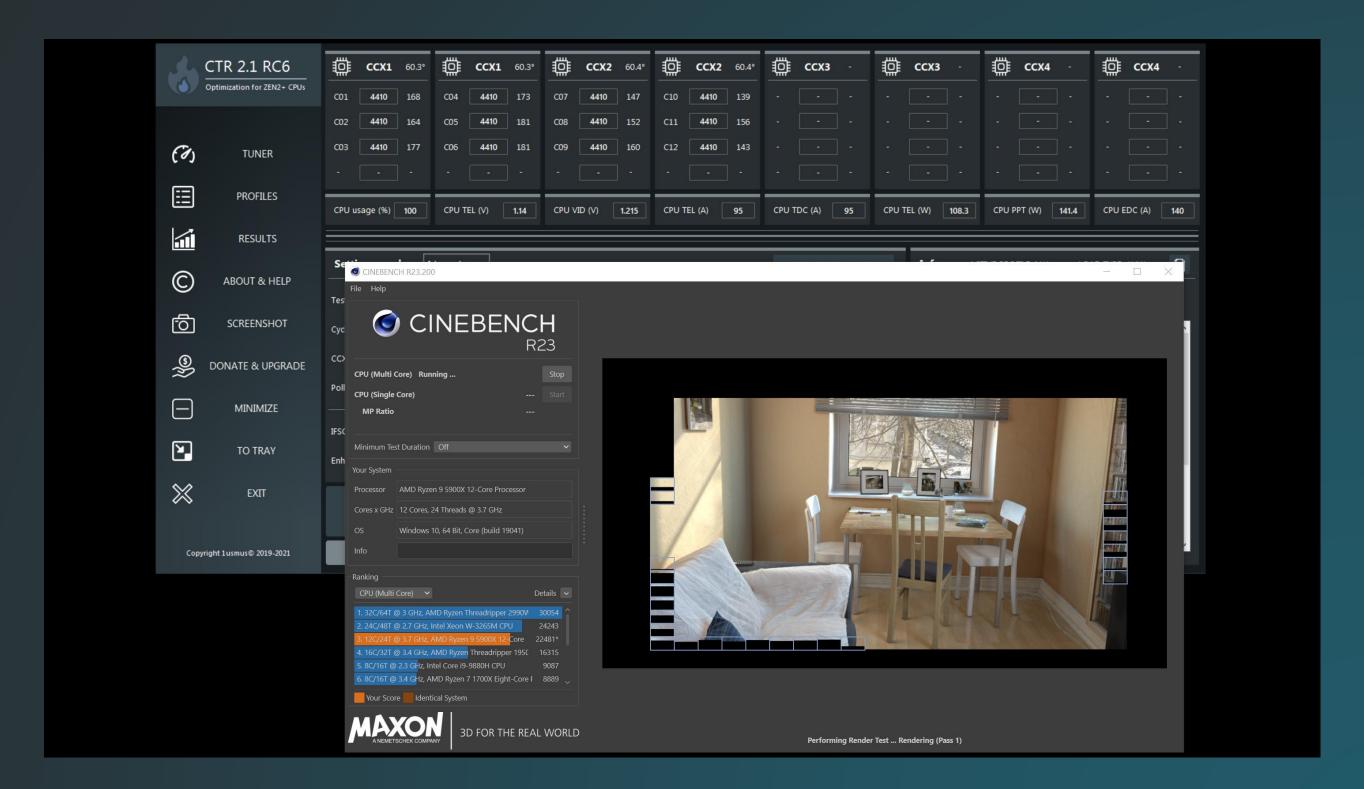
Stock settings. 4256 / 4256 MHz, VID 1.233V, PPT 142W, 21545 pts.





Clock Tuner for Ryzen™ 2.1 – TESTING

Curve Optimizer, PBO Limits – Disabled, Boost Override + 175MHz. 4410 / 4410 MHz, VID 1.215V, PPT 142W, 22481 pts.





Clock Tuner for Ryzen™ 2.1 – TESTING

CTR HYBRID OC, EXTRA BOOST - Enabled, default settings. 4624 / 4475 MHz, VID 1.175V, PPT 135W, 23150 pts.

