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# 4690k-980ti-zenkernel-no-mitigations

trfc 280; trfc2 172; trfc4 118

**Automated Executive Summary**

*5600-4.6ghz-fclk2000-mem4000-tkg-cfs-trfc-mitigationsoff-retry had the most wins, coming in first place for 33% of the tests.*

## Test Systems:

### Realtek RTL8111 - Arch rolling - Intel Core i5-4690K

Processor: Intel Core i5-4690K @ 4.40GHz (4 Cores), Motherboard: MSI Z97S SLI Krait Edition (MS-7922) v2.0 (V10.7 BIOS), Chipset: Intel 4th Gen Core DRAM, Memory: 16GB, Disk: 2 x 3001GB Western Digital WD30EFRX-68E + 500GB Samsung SSD 850 + 256GB INTEL SSDSC2KW25, Graphics: MSI NVIDIA GeForce GTX 980 Ti 6GB, Audio: Intel 9 HD Audio, Monitor: DELL P2415Q, Network: Realtek RTL8111/8168/8411 + Intel Wi-Fi 6 AX200

OS: Arch rolling, Kernel: 5.9.1-zen2-1-zen (x86_64), Display Server: X Server 1.20.9, Display Driver: NVIDIA 455.28, OpenGL: 4.6.0, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 3840x2160

Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: intel_cpufreq schedutil - CPU Microcode: 0x28
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Mitigation of PTE Inversion; VMX: vulnerable SMT disabled + mds: Vulnerable; SMT disabled + meltdown: Vulnerable + spec_store_bypass: Vulnerable + spectre_v1: Vulnerable: __user pointer sanitization and usercopy barriers only; no swapgs barriers + spectre_v2: Vulnerable IBPB: disabled STIBP: disabled + srbds: Vulnerable + tsx_async_abort: Not affected

## 8350u-march-skylake-mitigations-on

## 8350u-march-skylake-mitigations-off

Processor: Intel Core i5-8350U @ 3.60GHz (4 Cores / 8 Threads), Motherboard: LENOVO 20L7S1KW00 (N22ET65W 1.42 BIOS), Chipset: Intel Xeon E3-1200 v6/7th, Memory: 8GB, Disk: Samsung SSD 970 EVO Plus 250GB, Graphics: Intel UHD 620 (1100MHz), Audio: Realtek ALC257, Network: Intel-AC 9260

OS: Arch Linux, Kernel: 5.9.0-next-20201023-1-next-skylake-git (x86_64), Desktop: Sway, Display Server: Wayland, Compiler: GCC 10.2.0, File-System: f2fs, Screen Resolution: 1920x1080

Kernel Notes: i915.enable_guc=0 i915.enable_gvt=1
Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: intel_pstate powersave - CPU Microcode: 0xd6
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Mitigation of PTE Inversion; VMX: vulnerable + mds: Vulnerable; SMT vulnerable + meltdown: Vulnerable + spec_store_bypass: Vulnerable + spectre_v1: Vulnerable: __user pointer sanitization and usercopy barriers only; no swapgs barriers + spectre_v2: Vulnerable IBPB: disabled STIBP: disabled + srbds: Vulnerable + tsx_async_abort: Vulnerable

## 8350u-march-generic-mitigations-off

Processor: Intel Core i5-8350U @ 3.60GHz (4 Cores / 8 Threads), Motherboard: LENOVO 20L7S1KW00 (N22ET65W 1.42 BIOS), Chipset: Intel Xeon E3-1200 v6/7th, Memory: 8GB, Disk: Samsung SSD 970 EVO Plus 250GB, Graphics: Intel UHD 620 (1100MHz), Audio: Realtek ALC257, Network: Intel-AC 9260

OS: Arch Linux, Kernel: 5.9.0-next-20201023-1-next-generic-git (x86_64), Desktop: Sway, Display Server: Wayland, Compiler: GCC 10.2.0, File-System: f2fs, Screen Resolution: 1920x1080

Kernel Notes: i915.enable_guc=0 i915.enable_gvt=1
Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: intel_pstate powersave - CPU Microcode: 0xd6
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Mitigation of PTE Inversion; VMX: vulnerable + mds: Vulnerable; SMT vulnerable + meltdown: Vulnerable + spec_store_bypass: Vulnerable + spectre_v1: Vulnerable: __user pointer sanitization and usercopy barriers only; no swapgs barriers + spectre_v2: Vulnerable IBPB: disabled STIBP: disabled + srbds: Vulnerable + tsx_async_abort: Vulnerable

## 3100-4.3ghz-fclk1866-mem3733-timings-1

## 3100-4.3ghz-fclk1866-mem3733-timings-2-fixed

## 3100-4.3ghz-fclk1866-mem3733-timings-3

## 3100-4.3ghz-fclk1866-mem3733-timings-4

## 3100-4.3ghz-fclk1866-mem3733-timings-5

## 3100-4.3ghz-fclk1866-mem3733-timings-6

## 3100-4.3ghz-fclk1866-mem3733-timings-7

## 3100-4.3ghz-fclk1866-mem3733-timings-8

## 3100-4.3ghz-fclk1866-mem3733-timings-9

## 3100-4.3ghz-fclk1866-mem3733-timings-10

Processor: AMD Ryzen 3 3100 4-Core @ 4.30GHz (4 Cores / 8 Threads), Motherboard: ASUS TUF GAMING X570-PLUS (2802 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: Samsung SSD 970 EVO 500GB + 500GB Samsung SSD 850 + 256GB INTEL SSDSC2KW25 + 62GB DataTraveler 3.0, Graphics: MSI NVIDIA GeForce GTX 980 Ti 6GB, Audio: NVIDIA GM200 HD Audio, Monitor: DELL P2415Q, Network: Realtek RTL8111/8168/8411 + Intel Wi-Fi 6 AX200

OS: Arch Linux, Kernel: 5.9.8-arch1-1 (x86_64), Display Server: X Server 1.20.8, Display Driver: modesetting 1.20.8, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1024x768

Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: acpi-cpufreq schedutil - CPU Microcode: 0x8701021
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

## 3100-4.3ghz-fclk1866-mem3733-timings-11

## 3100-4.3ghz-fclk1866-mem3733-timings-12

## 3100-4.3ghz-fclk1866-mem3733-timings-13

## 3100-4.3ghz-fclk1866-mem3733-timings-14

## 3100-4.3ghz-fclk1866-mem3733-timings-15

## 3100-4.3ghz-fclk1866-mem3733-timings-16

## 3100-4.3ghz-fclk1866-mem3733-timings-17

## 3100-4.3ghz-fclk1866-mem3733-timings-18

## 3100-4.3ghz-fclk1866-mem3733-timings-19

## 3100-4.3ghz-fclk1866-mem3733-timings-20

## 3100-4.3ghz-fclk1866-mem3733-timings-21

## 3100-4.3ghz-fclk1866-mem3733-timings-22

## 3100-4.3ghz-fclk1866-mem3733-timings-14-retest

Processor: AMD Ryzen 3 3100 4-Core @ 4.30GHz (4 Cores / 8 Threads), Motherboard: ASUS TUF GAMING X570-PLUS (2802 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: Samsung SSD 970 EVO 500GB + 500GB Samsung SSD 850 + 256GB INTEL SSDSC2KW25, Graphics: MSI NVIDIA GeForce GTX 980 Ti 6GB, Audio: NVIDIA GM200 HD Audio, Monitor: DELL P2415Q, Network: Realtek RTL8111/8168/8411 + Intel Wi-Fi 6 AX200

OS: Arch Linux, Kernel: 5.9.8-arch1-1 (x86_64), Display Server: X Server 1.20.8, Display Driver: modesetting 1.20.8, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1024x768

Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: acpi-cpufreq schedutil - CPU Microcode: 0x8701021
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

## 3100-4.2ghz-fclk1833-mem3666-stable-timings-14-retest

Processor: AMD Ryzen 3 3100 4-Core @ 4.20GHz (4 Cores / 8 Threads), Motherboard: ASUS TUF GAMING X570-PLUS (2802 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: Samsung SSD 970 EVO 500GB + 500GB Samsung SSD 850 + 256GB INTEL SSDSC2KW25, Graphics: MSI NVIDIA GeForce GTX 980 Ti 6GB, Audio: NVIDIA GM200 HD Audio, Monitor: DELL P2415Q, Network: Realtek RTL8111/8168/8411 + Intel Wi-Fi 6 AX200

OS: Arch Linux, Kernel: 5.9.8-arch1-1 (x86_64), Display Server: X Server 1.20.8, Display Driver: modesetting 1.20.8, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1024x768

Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: acpi-cpufreq schedutil - CPU Microcode: 0x8701021
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

## 3100-4.3ghz-fclk1833-mem3666-stable-timings-14-retest2

Processor: AMD Ryzen 3 3100 4-Core @ 4.30GHz (4 Cores / 8 Threads), Motherboard: ASUS TUF GAMING X570-PLUS (2802 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: Samsung SSD 970 EVO 500GB + 500GB Samsung SSD 850 + 256GB INTEL SSDSC2KW25, Graphics: MSI NVIDIA GeForce GTX 980 Ti 6GB, Audio: NVIDIA GM200 HD Audio, Monitor: DELL P2415Q, Network: Realtek RTL8111/8168/8411 + Intel Wi-Fi 6 AX200

OS: Arch Linux, Kernel: 5.9.8-arch1-1 (x86_64), Display Server: X Server 1.20.8, Display Driver: modesetting 1.20.8, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1024x768

Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: acpi-cpufreq schedutil - CPU Microcode: 0x8701021
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

## 5600-4.6ghz-fclk2000-mem4000-baseline

## 5600-4.6ghz-fclk2000-mem4000-baseline-retry

## 5600-4.6ghz-fclk2000-mem4000-baseline-retry2

## 5600-4.6ghz-fclk2000-mem4000-baseline-retry3

Processor: AMD Ryzen 5 5600X 6-Core @ 4.60GHz (6 Cores / 12 Threads), Motherboard: ASUS TUF GAMING X570-PLUS (3405 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: Samsung SSD 970 EVO 500GB, Graphics: MSI NVIDIA GeForce GTX 980 Ti 6GB, Audio: NVIDIA GM200 HD Audio, Monitor: DELL P2415Q, Network: Realtek RTL8111/8168/8411 + Intel Wi-Fi 6 AX200

OS: Arch rolling, Kernel: 5.11.5-135-tkg-upds (x86_64), Display Server: X Server 1.20.10, Display Driver: NVIDIA 460.56, OpenGL: 4.6.0, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: Transparent Huge Pages: madvise
Environment Notes: __GL_SHADER_DISK_CACHE_SKIP_CLEANUP=1
Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - CPU Microcode: 0xa201009
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

## 5600-4.6ghz-fclk2000-mem4000-baseline-retry4

## 5600-4.6ghz-fclk2000-mem4000-baseline-retry5

Processor: AMD Ryzen 5 5600X 6-Core @ 4.60GHz (6 Cores / 12 Threads), Motherboard: ASUS TUF GAMING X570-PLUS (3405 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: Samsung SSD 970 EVO 500GB, Graphics: MSI NVIDIA GeForce GTX 980 Ti 6GB, Audio: NVIDIA GM200 HD Audio, Monitor: DELL P2415Q, Network: Realtek RTL8111/8168/8411 + Intel Wi-Fi 6 AX200

OS: Arch rolling, Kernel: 5.11.6-137-tkg-upds (x86_64), Display Server: X Server 1.20.10, Display Driver: NVIDIA 460.56, OpenGL: 4.6.0, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: Transparent Huge Pages: madvise
Environment Notes: __GL_SHADER_DISK_CACHE_SKIP_CLEANUP=1
Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - CPU Microcode: 0xa201009
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

## 5600-4.6ghz-fclk2000-mem4000-baseline-retry6

## 5600-4.5ghz-fclk2000-mem4000-baseline

## 5600-4.5ghz-fclk2000-mem4000-baseline-repo-zen

Processor: AMD Ryzen 5 5600X 6-Core @ 4.50GHz (6 Cores / 12 Threads), Motherboard: ASUS TUF GAMING X570-PLUS (3405 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: Samsung SSD 970 EVO 500GB, Graphics: MSI NVIDIA GeForce GTX 980 Ti 6GB, Audio: NVIDIA GM200 HD Audio, Monitor: DELL P2415Q, Network: Realtek RTL8111/8168/8411 + Intel Wi-Fi 6 AX200

OS: Arch rolling, Kernel: 5.11.6-137-tkg-upds (x86_64), Display Server: X Server 1.20.10, Display Driver: NVIDIA

460.56, OpenGL: 4.6.0, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: Transparent Huge Pages: madvise
Environment Notes: __GL_SHADER_DISK_CACHE_SKIP_CLEANUP=1
Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - CPU Microcode: 0xa201009
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

## 5600-4.5ghz-fclk2000-mem4000-baseline-repo-zen-retry

Processor: AMD Ryzen 5 5600X 6-Core @ 4.50GHz (6 Cores / 12 Threads), Motherboard: ASUS TUF GAMING X570-PLUS (3405 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: Samsung SSD 970 EVO 500GB, Graphics: MSI NVIDIA GeForce GTX 980 Ti 6GB, Audio: NVIDIA GM200 HD Audio, Monitor: DELL P2415Q, Network: Realtek RTL8111/8168/8411 + Intel Wi-Fi 6 AX200

OS: Arch rolling, Kernel: 5.11.6-zen1-1-zen (x86_64), Display Server: X Server 1.20.10, Display Driver: NVIDIA 460.56, OpenGL: 4.6.0, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: Transparent Huge Pages: always
Environment Notes: __GL_SHADER_DISK_CACHE_SKIP_CLEANUP=1
Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0xa201009
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

## 5600-4.5ghz-fclk2000-mem4000-tweakedmem-tkg-cfs

Processor: AMD Ryzen 5 5600X 6-Core @ 4.50GHz (6 Cores / 12 Threads), Motherboard: ASUS TUF GAMING X570-PLUS (3405 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: Samsung SSD 970 EVO 500GB, Graphics: MSI NVIDIA GeForce GTX 980 Ti 6GB, Audio: NVIDIA GM200 HD Audio, Monitor: DELL P2415Q, Network: Realtek RTL8111/8168/8411 + Intel Wi-Fi 6 AX200

OS: Arch rolling, Kernel: 5.11.6-137-tkg-cfs (x86_64), Display Server: X Server 1.20.10, Display Driver: NVIDIA 460.56, OpenGL: 4.6.0, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: Transparent Huge Pages: madvise
Environment Notes: __GL_SHADER_DISK_CACHE_SKIP_CLEANUP=1
Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - CPU Microcode: 0xa201009
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

## 5600-4.6ghz-fclk2000-mem4000-tweakedmem-tkg-cfs

## 5600-4.6ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-retry

## 5600-4.6ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-reduced-voltage

## 5600-4.6ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-reduced-voltage2

## 5600-4.6ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-reduced-voltage2-tightermem

## 5600-4.6ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-reduced-voltage2-revertmem-retry

## 5600-4.6ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-reduced-voltage2-revertmem-retry2

## 5600-4.6ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-reduced-voltage2-revertmem-retry3

## 5600-4.6ghz-fclk2000-mem4000-tkg-cfs-trfc

## 5600-4.6ghz-fclk2000-mem4000-tkg-cfs-trfc-mitigationsoff

## 5600-4.6ghz-fclk2000-mem4000-tkg-cfs-trfc-mitigationsoff-retry

Processor: AMD Ryzen 5 5600X 6-Core @ 4.60GHz (6 Cores / 12 Threads), Motherboard: ASUS TUF GAMING X570-PLUS (3405 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: Samsung SSD 970 EVO 500GB, Graphics: MSI NVIDIA GeForce GTX 980 Ti 6GB, Audio: NVIDIA GM200 HD Audio, Monitor: DELL P2415Q, Network: Realtek RTL8111/8168/8411 + Intel Wi-Fi 6 AX200

OS: Arch rolling, Kernel: 5.11.6-137-tkg-cfs (x86_64), Display Server: X Server 1.20.10, Display Driver: NVIDIA 460.56, OpenGL: 4.6.0, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: Transparent Huge Pages: madvise
Environment Notes: __GL_SHADER_DISK_CACHE_SKIP_CLEANUP=1
Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - CPU Microcode: 0xa201009
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Vulnerable: __user pointer sanitization and usercopy barriers only; no swapgs barriers + spectre_v2: Vulnerable IBPB: disabled STIBP: disabled + srbds: Not affected + tsx_async_abort: Not affected

## 5600-5.11tkgcfs-45allcore-1.875vCPU-1800fclk-1.75vfclk-3600mclk-13-13-13-30-tighertertiary

Processor: AMD Ryzen 5 5600X 6-Core @ 4.50GHz (6 Cores / 12 Threads), Motherboard: ASUS TUF GAMING X570-PLUS (3405 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: Samsung SSD 970 EVO 500GB, Graphics: MSI NVIDIA GeForce GTX 980 Ti 6GB, Audio: NVIDIA GM200 HD Audio, Monitor: DELL P2415Q, Network: Realtek RTL8111/8168/8411 + Intel Wi-Fi 6 AX200

OS: Arch rolling, Kernel: 5.11.8-140-tkg-cfs (x86_64), Display Server: X Server 1.20.10, Display Driver: NVIDIA 460.67, OpenGL: 4.6.0, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: Transparent Huge Pages: madvise
Environment Notes: __GL_SHADER_DISK_CACHE_SKIP_CLEANUP=1
Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Disabled) - CPU Microcode: 0xa201009
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Vulnerable: __user pointer sanitization and usercopy barriers only; no swapgs barriers + spectre_v2: Vulnerable IBPB: disabled STIBP: disabled + srbds: Not affected + tsx_async_abort: Not affected

Realtek RTL8111 - Arch rolling - Intel Core i5-469

8350u-march-skylake-mitigations-on
8350u-march-skylake-mitigations-off
8350u-march-generic-mitigations-off
3100-4.3ghz-fclk1866-mem3733-timings-1
3100-4.3ghz-fclk1866-mem3733-timings-2-fixed
3100-4.3ghz-fclk1866-mem3733-timings-3
3100-4.3ghz-fclk1866-mem3733-timings-4
3100-4.3ghz-fclk1866-mem3733-timings-5
3100-4.3ghz-fclk1866-mem3733-timings-6
3100-4.3ghz-fclk1866-mem3733-timings-7
3100-4.3ghz-fclk1866-mem3733-timings-8
3100-4.3ghz-fclk1866-mem3733-timings-9
3100-4.3ghz-fclk1866-mem3733-timings-10
3100-4.3ghz-fclk1866-mem3733-timings-11
3100-4.3ghz-fclk1866-mem3733-timings-12
3100-4.3ghz-fclk1866-mem3733-timings-13
3100-4.3ghz-fclk1866-mem3733-timings-14
3100-4.3ghz-fclk1866-mem3733-timings-15
3100-4.3ghz-fclk1866-mem3733-timings-16
3100-4.3ghz-fclk1866-mem3733-timings-17
3100-4.3ghz-fclk1866-mem3733-timings-18
3100-4.3ghz-fclk1866-mem3733-timings-19
3100-4.3ghz-fclk1866-mem3733-timings-20
3100-4.3ghz-fclk1866-mem3733-timings-21
3100-4.3ghz-fclk1866-mem3733-timings-22
3100-4.3ghz-fclk1866-mem3733-timings-14-retest
3100-4.2ghz-fclk1833-mem3666-stable-timings-14-re

3100-4.3ghz-fclk1833-mem3666-stable-timings-14-re

# 4690k-980ti-zenkernel-no-mitigations

5600-4.6ghz-fclk2000-mem4000-baseline
5600-4.6ghz-fclk2000-mem4000-baseline-retry
5600-4.6ghz-fclk2000-mem4000-baseline-retry2
5600-4.6ghz-fclk2000-mem4000-baseline-retry3
5600-4.6ghz-fclk2000-mem4000-baseline-retry4
5600-4.6ghz-fclk2000-mem4000-baseline-retry5
5600-4.6ghz-fclk2000-mem4000-baseline-retry6
5600-4.5ghz-fclk2000-mem4000-baseline
5600-4.5ghz-fclk2000-mem4000-baseline-repo-zen
5600-4.5ghz-fclk2000-mem4000-baseline-repo-zen-re

5600-4.5ghz-fclk2000-mem4000-tweakedmem-tkg-cfs

5600-4.6ghz-fclk2000-mem4000-tweakedmem-tkg-cfs

5600-4.6ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-r

5600-4.6ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-r

5600-4.6ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-r

5600-4.6ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-r

5600-4.6ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-r

5600-4.6ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-r

5600-4.6ghz-fclk2000-mem4000-tkg-cfs-trfc

5600-4.6ghz-fclk2000-mem4000-tkg-cfs-trfc-mitigat

5600-5.11tkgcfs-45allcore-1.875vCPU-1800fclk-1.75

# 4690k-980ti-zenkernel-no-mitigations

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WireGuard + Linux Networking Stack Stress Test (sec)** | 223.658 | 451.011 | 424.420 | 434.505 | 356.922 | 363.537 | 361.347 | 363.898 | 366.623 | 356.579 | 357.049 | 354.945 | 359.885 | 363.796 | 356.625 | 358.774 | 357.463 | 353.943 | 353.572 | 358.020 | 354.587 | 353.439 | 357.764 | 353.456 | 352.857 | 361.554 | 357.083 | 366.712 | 356.266 | 2688 | 194.296 | 186.376 | 183.189 | 183.869 | 185.869 | 188.571 | 183.782 | 177.249 | 200.406 |
| **Normalized** | 79.25% | 39.3% | 41.76% | 40.79% | 49.66% | 48.76% | 49.05% | 48.71% | 48.35% | 49.71% | 49.64% | 49.94% | 49.25% | 48.72% | 49.7% | 49.41% | 49.59% | 50.08% | 50.13% | 49.51% | 49.99% | 50.15% | 49.54% | 50.15% | 50.23% | 49.02% | 49.64% | 48.33% | 49.75% | 6.59% | 91.23% | 95.1% | 96.7% | 96.76% | 95.36% | 95.44% | 96.42% | 100% | 88.44% |
| **Standard Deviation** | 0.5% | 0.8% | 1.9% | 0.8% | 1.7% | 3% | 2.6% | 0.5% | 2.3% | 2.9% | 2.1% | 1.4% | 0.5% | 1.8% | 1.3% | 0.9% | 2.8% | 1.4% | 1.4% | 1.5% | 2.6% | 0.4% | 2.4% | 2.4% | 1.4% | 2.2% | 2% | 2.3% | 2.4% | 33.6% | 1% | 0.6% | 1.3% | 0.5% | 0.9% | 0.5% | 0.5% | 0.6% | 0.4% |

# 4690k-980ti-zenkernel-no-mitigations

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OSBench - Create Files (us/Event)** | 14.172725 | 64.582582 | 62.642379 | 62.307058 | 25.836079 | 25.925239 | 25.670665 | 25.327616 | 25.552248 | 25.668218 | 25.409888 | 25.250771 | 25.277969 | 25.611270 | 25.174307 | 25.157470 | 25.575279 | 25.160053 | 25.314906 | 25.691099 | 24.861350 | 25.110283 | 25.134618 | 25.272760 | 25.374772 | 25.290708 | 25.025364 | 25.796360 | 25.359539 | | | | | | | | 21.996963 | | 20.770959 | 20.670272 | | 20.510431 | 20.077396 | 20.506435 | | | | 20.590360 | 19.745404 | | 19.450081 | 20.268651 |
| **Normalized** | 100% | 21.95% | 22.62% | 22.75% | 54.86% | 54.67% | 55.21% | 55.96% | 55.47% | 55.22% | 55.78% | 56.13% | 56.07% | 55.34% | 56.3% | 56.34% | 55.42% | 56.33% | 55.99% | 55.17% | 57.01% | 56.44% | 56.39% | 56.08% | 55.85% | 56.05% | 56.64% | 54.93% | 55.89% | | | | | | | | 64.43% | | 68.23% | 68.57% | | 69.1% | 70.59% | 69.11% | | | | 68.83% | 71.78% | | 72.87% | 69.92% |
| **Standard Deviation** | 0.2% | 17% | 20.6% | 18.3% | 0.8% | 0.3% | 0% | 0.2% | 0.1% | 0.5% | 1.5% | 1.3% | 1.3% | 0.6% | 0.4% | 1.7% | 2.5% | 1.1% | 1.2% | 0.3% | 1.9% | 1.9% | 0.6% | 1.1% | 1.6% | 0.7% | 0.3% | 1% | 1.3% | | | | | | | | 1.8% | | 1% | 1.2% | | 0.9% | 1% | 0.7% | | | | 0.4% | 0.8% | | 0.4% | 0.8% |

# 4690k-980ti-zenkernel-no-mitigations

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| **O** | **1** | **2** | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **S** | **1** | **6** | 2 | 4 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 2 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
| **B** | **.** | **.** | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| **en** | **0** | **2** | 8 | 7 | 3 | 2 | 3 | 7 | 8 | 3 | 0 | 3 | 2 | 3 | 1 | 9 | 7 | 0 | 0 | 8 | 4 | 0 | 1 | 1 | 2 | 4 | 4 | 7 | 4 | 7 | 9 | 1 | 9 | 9 | 7 | 9 | 6 | 8 | 0 |
| **ch** | **5** | **3** | 3 | 0 | 8 | 0 | 6 | 2 | 7 | 2 | 5 | 6 | 0 | 0 | 0 | 9 | 9 | 4 | 6 | 6 | 5 | 0 | 0 | 4 | 1 | 7 | 0 | 8 | 1 | 9 | 5 | 0 | 5 | 4 | 2 | 2 | 2 | 4 | 1 |
| **-** | **3** | **2** | 4 | 3 | 6 | 6 | 3 | 6 | 4 | 6 | 6 | 7 | 7 | 9 | 2 | 6 | 9 | 9 | 6 | 8 | 7 | 6 | 7 | 3 | 8 | 3 | 5 | 9 | 0 | 5 | 3 | 4 | 3 | 6 | 9 | 7 | 0 | 2 | 9 |
| **Cr** | **8** | **4** | 1 | 3 | 3 | 6 | 2 | 4 | 2 | 6 | 4 | 9 | 6 | 1 | 5 | 8 | 7 | 9 | 0 | 5 | 0 | 3 | 3 | 0 | 1 | 6 | 3 | 2 | 1 | 9 | 1 | 0 | 0 | 6 | 7 | 6 | 8 | 5 | 8 |
| **ea** | **8** | **0** | 4 | 4 | 7 | 6 | 3 | 2 | 4 | 7 | 6 | 9 | 2 | 8 | 5 | 6 | 6 | 9 | 0 | 1 | 0 | 9 | 2 | 9 | 9 | 9 | 5 | 0 | 1 | 2 | 3 | 4 | 5 | 9 | 3 | 1 | 5 | 8 | 0 |
| **te** | **0** | **2** | 2 | 4 | 7 | 9 | 1 | 1 | 1 | 3 | 5 | 9 | 3 | 9 | 9 | 0 | 8 | 4 | 2 | 2 | 8 | 7 | 8 | 1 | 3 | 7 | 1 | 5 | 9 | 5 | 6 | 9 | 0 | 2 | 1 | 8 | 4 | 3 | 7 |
| **Th** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| **Ev** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **en** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **No** | 1 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 8 | 7 | 7 | 7 | 7 | 8 | 7 | 8 | 7 | 7 |
| **rm** | 0 | 2 | 8 | 4 | 3 | 4 | 3 | 2 | 1 | 3 | 4 | 3 | 4 | 3 | 4 | 5 | 5 | 4 | 4 | 5 | 3 | 5 | 4 | 4 | 4 | 3 | 3 | 2 | 3 | 6 | 3 | 8 | 9 | 9 | 0 | 9 | 1 | 9 | 8 |
| **aliz** | 0 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | % | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| **ed** | % | 1 | 4 | 7 | 5 | 2 | 6 | 3 | 8 | 8 | 8 | 6 | 2 | 8 | 6 | 0 | 8 | 8 | 7 | 5 | 3 | | 6 | 4 | 2 | 2 | 5 | 1 | 4 | 3 | 9 | 3 | 2 | 2 | 5 | 3 | 1 | 8 | 8 |
| | | 4 | 1 | 5 | 8 | 4 | 6 | 6 | 4 | % | 1 | 5 | 4 | 6 | 3 | 3 | % | 3 | 7 | 3 | 2 | | 1 | 8 | % | 6 | 1 | 4 | 9 | 9 | 2 | 7 | 2 | 6 | 1 | 7 | 5 | 5 | 4 |
| | | % | % | % | % | % | % | % | % | | % | % | % | % | % | % | | % | % | % | % | | % | % | | % | % | % | % | % | % | % | % | % | % | % | % | % | % |
| **Sta** | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 2 | 1 | 0 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 0 | 3 | 1 | 0 | 1 | 1 | 1 | 8 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |
| **nd** | . | . | . | . | % | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | % | . | . | . | . | % | . | . | . | . | . | . | % | . | . |
| **ard** | 3 | 7 | 6 | 5 | | 7 | 5 | 4 | 2 | 7 | 6 | 7 | 9 | 8 | 4 | 1 | 8 | 9 | 6 | 9 | 1 | 4 | 4 | 5 | | 6 | 7 | 8 | 3 | | 2 | 6 | 8 | 5 | 7 | 7 | | 2 | 5 |
| **De** | % | % | % | % | | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | | % | % | % | % | | % | % | % | % | % | % | | % | % |
| **via** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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# 4690k-980ti-zenkernel-no-mitigations

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  - 4 1 0 1 7 7 2 2 8 3 4 9 9 4 9 4 0 3 9 3 0 5 8 4 3 0 3 8 0               6   9 3   9 0 9       9 3   6 8
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ard 3 6 1 1 4 5 8 1 8 8 2 8 5 3 9   6   5 9 8 6 7 2 7 4 9 4                 3   5 2   5 4 7       2 6   9 9
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# 4690k-980ti-zenkernel-no-mitigations

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **O** | **2** | 6 | **6** | 6 | 5 | 6 | 5 | 5 | 5 | 6 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 3 | 4 | 3 | 3 | 3 | 4 | 3 | 3 | 3 |
| **S** | **5** | 7 | **8** | 3 | 3 | 0 | 5 | 7 | 9 | 1 | 8 | 4 | 1 | 6 | 3 | 3 | 0 | 1 | 4 | 1 | 9 | 0 | 3 | 3 | 0 | 6 | 3 | 8 | 6 | 4 | 9 | 1 | 9 | 9 | 9 | 0 | 8 | 8 | 5 |
| **B** | **.** | . | **.** | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| **en** | **4** | 3 | **9** | 2 | 5 | 4 | 3 | 8 | 5 | 2 | 1 | 6 | 9 | 1 | 2 | 6 | 0 | 3 | 2 | 2 | 6 | 6 | 1 | 3 | 8 | 2 | 6 | 3 | 4 | 5 | 7 | 5 | 5 | 8 | 3 | 2 | 0 | 5 | 7 |
| **ch** | **2** | 8 | **2** | 0 | 0 | 4 | 2 | 8 | 4 | 7 | 5 | 4 | 9 | 8 | 7 | 0 | 4 | 2 | 4 | 6 | 9 | 9 | 1 | 3 | 5 | 5 | 3 | 6 | 3 | 2 | 2 | 6 | 6 | 2 | 2 | 1 | 2 | 6 | 6 |
| **-** | **5** | 3 | **7** | 3 | 9 | 3 | 6 | 7 | 0 | 6 | 6 | 3 | 0 | 6 | 7 | 6 | 3 | 2 | 9 | 9 | 0 | 0 | 6 | 0 | 0 | 0 | 3 | 6 | 2 | 3 | 0 | 2 | 0 | 3 | 4 | 9 | 9 | 0 | 9 |
| **Cr** | **7** | 4 | **6** | 1 | 8 | 0 | 5 | 2 | 0 | 7 | 6 | 1 | 1 | 5 | 0 | 8 | 2 | 7 | 7 | 5 | 4 | 1 | 4 | 2 | 7 | 7 | 8 | 4 | 8 | 0 | 5 | 7 | 0 | 0 | 7 | 6 | 3 | 2 | 9 |
| **ea** | **5** | 4 | **0** | 7 | 7 | 8 | 4 | 3 | 5 | 5 | 4 | 5 | 5 | 1 | 1 | 2 | 6 | 7 | 6 | 3 | 7 | 7 | 8 | 6 | 1 | 3 | 4 | 5 | 8 | 1 | 3 | 1 | 0 | 5 | 6 | 2 | 5 | 3 | 3 |
| **te** | **2** | 8 | **6** | 6 | 1 | 4 | 8 | 6 | 5 | 4 | 9 | 4 | 2 | 7 | 6 | 8 | 5 | 8 | 4 | 1 | 6 | 4 | 1 | 2 | 0 | 1 | 9 | 8 | 3 | 0 | 5 | 6 | 0 | 5 | 1 | 5 | 3 | 1 | 9 |
| **Pr** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **oc** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **es** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **se** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **s** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **(u** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **s/** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Ev** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **en** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **No** | 1 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 7 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 |
| **rm** | 0 | 7 | 6 | 0 | 7 | 2 | 5 | 3 | 2 | 1 | 3 | 6 | 8 | 5 | 7 | 7 | 0 | 9 | 6 | 9 | 2 | 0 | 7 | 7 | 0 | 5 | 7 | 3 | 5 | 3 | 4 | 1 | 4 | 3 | 4 | 3 | 6 | 5 | 1 |
| **aliz** | 0 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | % | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| **ed** | % | 7 | 8 | 2 | 5 | 0 | 9 | 9 | 7 | 4 | 7 | 5 | 9 | 2 | 7 | 4 | 8 | 5 | 8 | 5 | 6 | 1 | 8 | 6 | | 2 | 4 | 5 | 0 | 6 | 0 | 1 | 2 | 8 | 6 | 2 | 8 | 9 | 0 |
| | | 3 | 9 | 3 | 2 | 7 | 6 | 2 | % | 9 | 2 | 3 | % | 5 | 2 | 3 | 1 | 4 | 7 | 9 | % | 6 | 7 | 8 | | % | 1 | 6 | 5 | 5 | 1 | 7 | 7 | 5 | 6 | 2 | 6 | 4 | 8 |
| | | % | % | % | % | % | % | % | | % | % | % | | % | % | % | % | % | % | % | | % | % | % | | | % | % | % | % | % | % | % | % | % | % | % | % | % |
| **Sta** | 1 | 2 | 1 | 2 | 0 | 0 | 3 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 0 | 1 | 0 | 2 | 2 | 0 | 3 | 1 | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 1 | 0 |
| **nd** | . | . | % | . | . | . | % | . | . | . | . | . | . | . | . | . | . | % | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | % | . | . | . |
| **ard** | 7 | 4 | | 9 | 6 | 9 | | 7 | 9 | 8 | 6 | 9 | 8 | 2 | 4 | 4 | 8 | | 4 | 4 | 8 | 2 | 7 | 3 | 4 | 7 | 4 | 3 | 1 | 6 | 5 | 6 | 3 | 3 | 2 | | 7 | 5 | 6 |
| **De** | % | % | | % | % | % | | % | % | % | % | % | % | % | % | % | % | | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | | % | % | % |
| **via** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **tio** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **n** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

# 4690k-980ti-zenkernel-no-mitigations

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OSBench - Memory Allocations (Ns/Event)** | 70.491711 | **116.091013** | 109.646718 | 112.603188 | 69.828669 | 72.549502 | 72.105090 | 72.329362 | 73.003054 | 72.577397 | 72.919448 | 73.144007 | 71.383754 | 67.094008 | 67.457358 | 67.229032 | 67.346017 | 65.923214 | 66.207409 |
| **Normalized** | 76.19% | 46.27% | 48.98% | 47.7% | 76.92% | 74.03% | 74.49% | 74.26% | 73.57% | 74% | 73.66% | 73.43% | 75.24% | 80.05% | 79.62% | 79.89% | 79.75% | 81.47% | 81.12% |
| **Standard Deviation** | 0.1% | 1.8% | 0.4% | 0.8% | 0.1% | 0.1% | 0.2% | 0.1% | 0.1% | 0.1% | 0.2% | 2.7% | 2.9% | 0.4% | 0.1% | 0.2% | 0.2% | 0.2% | 0.1% |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OSBench - Memory Allocations (Ns/Event)** | 66.533724 | 66.249371 | 66.408714 | 67.418099 | 66.307386 | 66.354593 | 65.767368 | 66.073338 | 70.158720 | 69.331328 | 59.783618 | 58.294773 | 57.699283 | 56.984345 | 56.650400 | 56.811651 | 54.385344 | **53.709984** | 56.783438 |
| **Normalized** | 80.73% | 81.07% | 80.88% | 79.67% | 81% | 80.94% | 81.67% | 81.29% | 76.25% | 77.47% | 89.84% | 92.14% | 93.09% | 94.25% | 94.81% | 94.54% | 98.76% | 100% | 94.59% |
| **Standard Deviation** | 0.2% | 0.1% | 0.2% | 2.9% | 0.2% | 0.1% | 0.2% | 0.3% | 0.1% | 0.2% | 0.6% | 0.2% | 0.1% | 0.1% | 0.3% | 0% | 0.4% | 0.3% | 0.2% |

# 4690k-980ti-zenkernel-no-mitigations

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **7-** | 2 | 1 | 1 | **1** | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 5 | 5 | 5 | **5** | 5 | 5 | 5 | 5 | 5 |
| **Zi** | 0 | 5 | 5 | **5** | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 4 | 6 | 6 | **8** | 7 | 7 | 8 | 8 | 7 |
| **p** | 3 | 2 | 3 | **2** | 4 | 6 | 5 | 3 | 1 | 5 | 2 | 5 | 3 | 8 | 0 | 2 | 1 | 0 | 4 | 4 | 4 | 2 | 3 | 2 | 5 | 4 | 3 | 2 | 8 | 8 | 9 | 9 | **1** | 0 | 8 | 1 | 1 | 0 |
| **C** | 7 | 3 | 2 | **3** | 8 | 0 | 5 | 7 | 8 | 4 | 8 | 7 | 2 | 6 | 6 | 1 | 1 | 3 | 8 | 0 | 4 | 8 | 2 | 4 | 4 | 9 | 2 | 5 | 6 | 1 | 0 | 6 | **8** | 4 | 9 | 3 | 6 | 9 |
| **o** | 9 | 5 | 5 | **1** | 4 | 1 | 2 | 8 | 7 | 8 | 2 | 5 | 8 | 2 | 1 | 8 | 5 | 1 | 2 | 2 | 4 | 9 | 1 | 8 | 0 | 4 | 9 | 6 | 9 | 9 | 0 | 4 | **6** | 1 | 3 | 7 | 4 | 9 |
| **m** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **pr** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **es** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **si** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **on** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **-** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **C.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **S.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **T** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **(M** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **IP** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **S)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **No** | 3 | 2 | 2 | 2 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 9 | 9 | 9 | 1 | 9 | 9 | 9 | 9 | 9 |
| **rm** | 5 | 6 | 6 | 6 | 5 | 4 | 4 | 3 | 3 | 4 | 3 | 4 | 5 | 6 | 6 | 7 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 5 | 6 | 4 | 7 | 7 | 0 | 8 | 9 | 9 | 9 | 8 |
| **aliz** | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 0 | . | . | . | . | . |
| **ed** | 0 | 1 | 3 | 1 | 8 | 3 | 2 | 9 | 6 | 2 | 7 | 2 | 5 | 4 | 8 | 0 | 9 | 7 | 5 | 4 | 4 | 2 | 2 | 1 | 6 | 5 | 2 | 4 | 4 | 2 | 7 | 9 | % | 0 | 5 | 9 | 9 | 1 |
| | 2 | 8 | 4 | 8 | 3 | 1 | 3 | 3 | % | 2 | 6 | 7 | 6 | 8 | 2 | 9 | 1 | 7 | 4 | 1 | 8 | 1 | 7 | 4 | 4 | 6 | 8 | 4 | 9 | 1 | 9 | % | | 3 | % | 2 | 6 | 3 |
| | % | % | % | % | % | % | % | % | | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | | | % | | % | % | % |
| **Sta** | 1 | 1 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 |
| **nd** | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | % | . | . | . | . | . | . | . | . |
| **ard** | 7 | 1 | 9 | 6 | 4 | 1 | 5 | 2 | 3 | 6 | 4 | 7 | 2 | 9 | 1 | 2 | 1 | 1 | 4 | 8 | 7 | 7 | 7 | 2 | 6 | 8 | 3 | 6 | 3 | | 3 | 3 | 8 | 5 | 4 | 1 | 8 | 9 |
| **De** | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | | % | % | % | % | % | % | % | % |
| **via** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| **n** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

# 4690k-980ti-zenkernel-no-mitigations

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Stress-NG - CPU Cache (Bogo Ops/s)** | 23.23 | 13.93 | 13.84 | 14.06 | 37.83 | 34.00 | 34.66 | 33.27 | 31.46 | 32.15 | 33.72 | 35.16 | 38.44 | 41.27 | 42.47 | 41.45 | 41.92 | 42.28 | 41.81 | 40.86 | 41.90 | 41.78 | 43.52 | 42.89 | 41.96 | 45.09 |
| **Normalized** | 51.52% | 30.89% | 30.69% | 31.18% | 83.9% | 75.4% | 76.87% | 73.79% | 69.77% | 71.3% | 74.78% | 77.98% | 85.25% | 91.53% | 94.19% | 91.93% | 92.97% | 93.77% | 92.73% | 90.62% | 92.93% | 92.66% | 96.52% | 95.12% | 93.06% | 100% |
| **Standard Deviation** | 3% | 1% | 0.5% | 2.4% | 2.1% | 1.4% | 3.7% | 3.7% | 2.6% | 1.1% | 1.4% | 1.2% | 1% | 5.1% | 1.7% | 3.7% | 0.3% | 3.9% | 2.8% | 1.4% | 3% | 4.2% | 2.4% | 4.4% | 5.4% | 2% |

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Stress-NG - CPU Cache (Bogo Ops/s)** | 43.79 | 39.73 | 40.62 | | | | | | | | 20.76 | | 22.56 | 24.21 | | 24.68 | 24.57 | 24.68 | | | | | 24.47 | | 26.09 | 24.01 |
| **Normalized** | 97.12% | 88.11% | 90.09% | | | | | | | | 46.04% | | 50.03% | 53.69% | | 54.73% | 54.49% | 54.73% | | | | | 54.27% | | 57.86% | 53.25% |
| **Standard Deviation** | 2.8% | 4% | 4% | | | | | | | | 18.7% | | 4.4% | 2.1% | | 0.6% | 6% | 6% | | | | | 5.5% | | 2.4% | 6.2% |

# 4690k-980ti-zenkernel-no-mitigations

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Stress-NG - CPU Stress (Bogo Ops/s)** | 1781 | 1455 | 1451 | **1450** | 1960 | 1947 | 1954 | 1962 | 1953 | 1953 | 1945 | 1945 | 1957 | 1963 | 1955 | 1958 | 1951 | 1968 | 1952 | 1948 | 1950 | 1964 | 1949 | 1951 | 1967 | 1963 |
| **Normalized** | 34.06% | 27.81% | 27.74% | 27.72% | 37.48% | 37.22% | 37.36% | 37.5% | 37.34% | 37.34% | 37.18% | 37.17% | 37.42% | 37.52% | 37.38% | 37.43% | 37.3% | 37.62% | 37.33% | 37.24% | 37.27% | 37.54% | 37.27% | 37.29% | 37.61% | 37.53% |
| **Standard Deviation** | 0.3% | 2.9% | 3% | 2.9% | 0.4% | 0.5% | 0.7% | 0.5% | 0.4% | 0.7% | 0.2% | 0.1% | 0.5% | 0.7% | 0.6% | 0.8% | 0.2% | 1.2% | 0.4% | 0.1% | 0.8% | 0.6% | 0% | 0.4% | 0.4% | 0.8% |

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Stress-NG - CPU Stress (Bogo Ops/s)** | 1966 | 1908 | 1954 | | | | | | | | 5077 | | 5075 | 5097 | | 5175 | 5200 | 5220 | | | | | 5163 | | **5231** | 5116 |
| **Normalized** | 37.59% | 36.48% | 37.35% | | | | | | | | 97.05% | | 97.03% | 97.44% | | 98.94% | 99.42% | 99.79% | | | | | 98.69% | | 100% | 97.8% |
| **Standard Deviation** | 1.8% | 0.7% | 0.6% | | | | | | | | 0.1% | | 0.6% | 0.2% | | 0.2% | 0.4% | 0.6% | | | | | 0.7% | | 2% | 0.5% |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Stress-NG - Vector Math (Bogo Ops/s)** | 22786 | 19968 | 19927 | **19923** | 39486 | 39477 | 39286 | 39477 | 39407 | 39342 | 39473 | 39471 | 39358 | 39490 | 39469 | 39482 | 39417 | 39497 | 39412 | 39419 | 39436 | 39439 | 39458 | 39419 | 39477 | 39422 | 39398 | 38573 | 39492 | | | | | | | | 68807 | | 68874 | 68815 | | **70345** | 70317 | 70341 | | | | | 70296 | | 70318 | 68707 |
| **Normalized** | 32.39% | 28.39% | 28.33% | 28.32% | 56.13% | 56.12% | 55.85% | 56.12% | 56.02% | 55.93% | 56.11% | 56.11% | 55.95% | 56.14% | 56.11% | 56.13% | 56.03% | 56.15% | 56.03% | 56.04% | 56.06% | 56.06% | 56.09% | 56.04% | 56.12% | 56.04% | 56.01% | 54.83% | 56.14% | | | | | | | | 97.81% | | 97.78% | 97.83% | | 100.0% | 99.96% | 99.99% | | | | | 99.93% | | 99.96% | 97.67% |
| **Standard Deviation** | 0% | 2.2% | 2.7% | 2.2% | 0% | 0% | 0.4% | 0.2% | 0.2% | 0.3% | 0.1% | 0.1% | 0.2% | 0.1% | 0.1% | 0.1% | 0.3% | 0.1% | 0.3% | 0.3% | 0.3% | 0.2% | 0% | 0.2% | 0.1% | 0.3% | 0.2% | 0.1% | 0.1% | | | | | | | | 0% | | 0% | 0% | | 0% | 0.1% | 0% | | | | | 0.1% | | 0.1% | 0.2% |

# 4690k-980ti-zenkernel-no-mitigations

| Stress-NG - Memory Copying (Bogo Ops/s) | Normalized | Standard Deviation |
|---|---|---|
| 1241 | 30.8% | 1.9% |
| 551.43 | 13.68% | 0.3% |
| 553.30 | 13.73% | 0.3% |
| **551.33** | 13.68% | 0.2% |
| 2975 | 73.83% | 1.2% |
| 2834 | 70.33% | 1.3% |
| 2943 | 73.03% | 2.5% |
| 2839 | 70.46% | 0.8% |
| 2844 | 70.58% | 0.8% |
| 2858 | 70.93% | 0.2% |
| 2737 | 67.91% | 0.6% |
| 2940 | 72.97% | 2.3% |
| 3045 | 75.57% | 2.5% |
| 3058 | 75.88% | 2% |
| 3590 | 89.09% | 0.8% |
| 3560 | 88.35% | 2.6% |
| 3786 | 93.95% | 0.5% |
| 3864 | 95.88% | 0.9% |
| 3927 | 97.46% | 0.1% |
| 4002 | 99.31% | 1.3% |
| **4030** | 100% | 1.6% |
| 3955 | 98.15% | 1.2% |
| 4018 | 99.7% | 1.5% |
| 3988 | 98.97% | 1% |
| 3923 | 97.36% | 0.6% |
| 3972 | 98.56% | 0.9% |
| 4001 | 99.29% | 0.4% |
| 3637 | 90.25% | 0.5% |
| 3813 | 94.62% | 1.4% |
| 2618 | 64.98% | 0.4% |
| 2820 | 69.98% | 0.2% |
| 2807 | 69.65% | 0.1% |
| 2805 | 69.61% | 0% |
| 2784 | 68.99% | 0.1% |
| 2804 | 69.59% | 0.1% |
| 2848 | 70.68% | 0% |
| 2864 | 71.07% | 0.1% |
| 2615 | 64.88% | 0% |

# 4690k-980ti-zenkernel-no-mitigations

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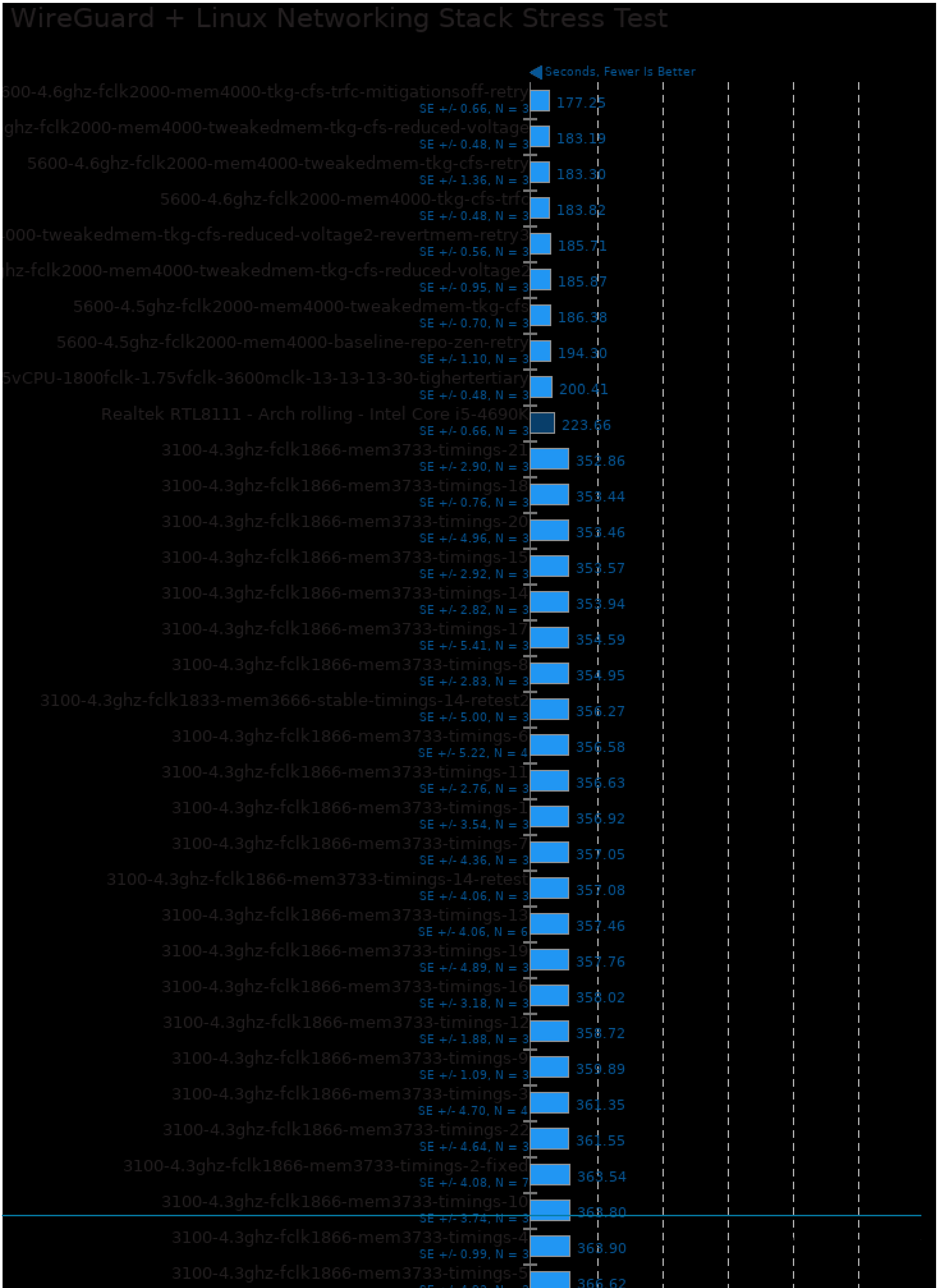
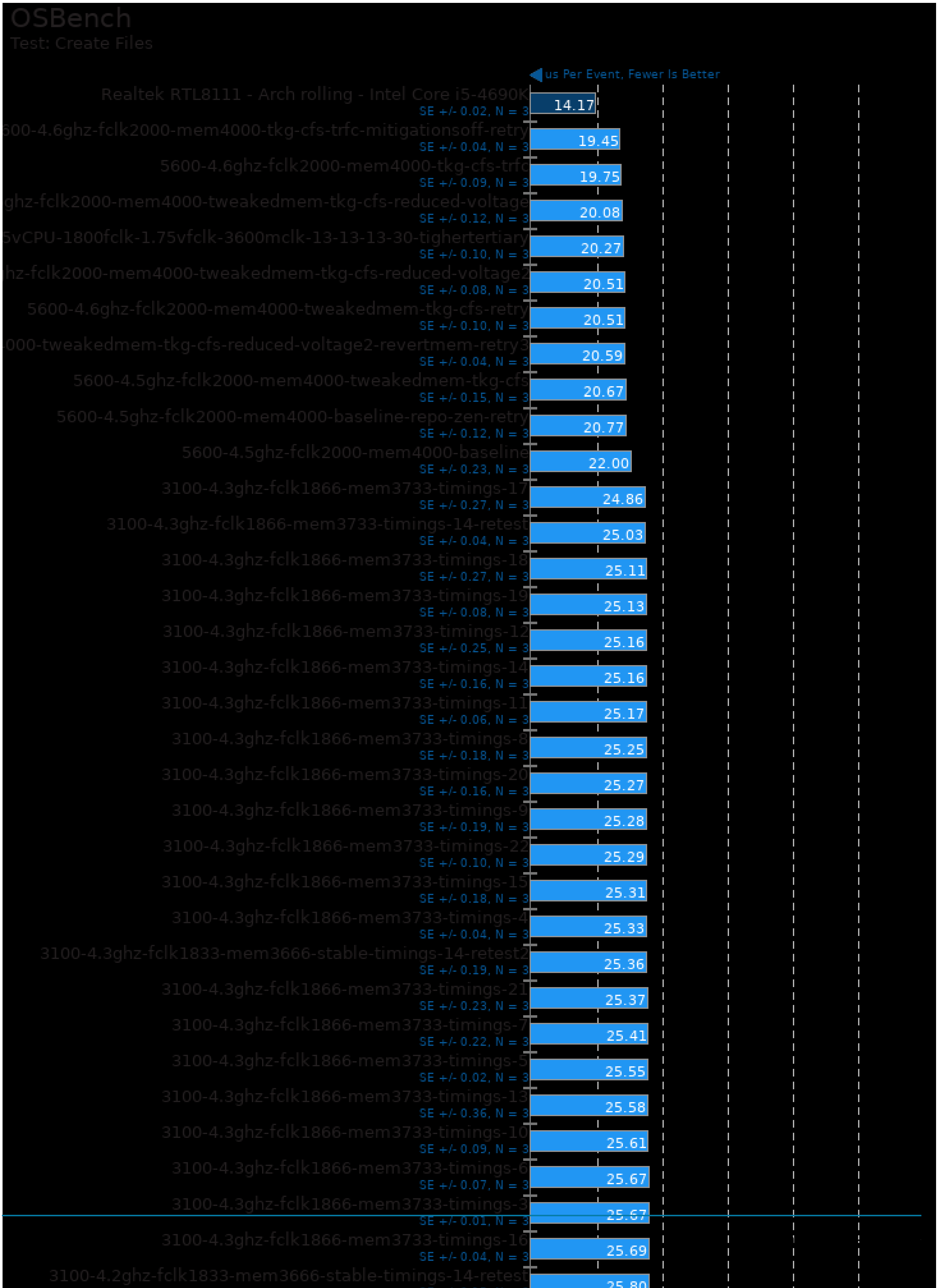
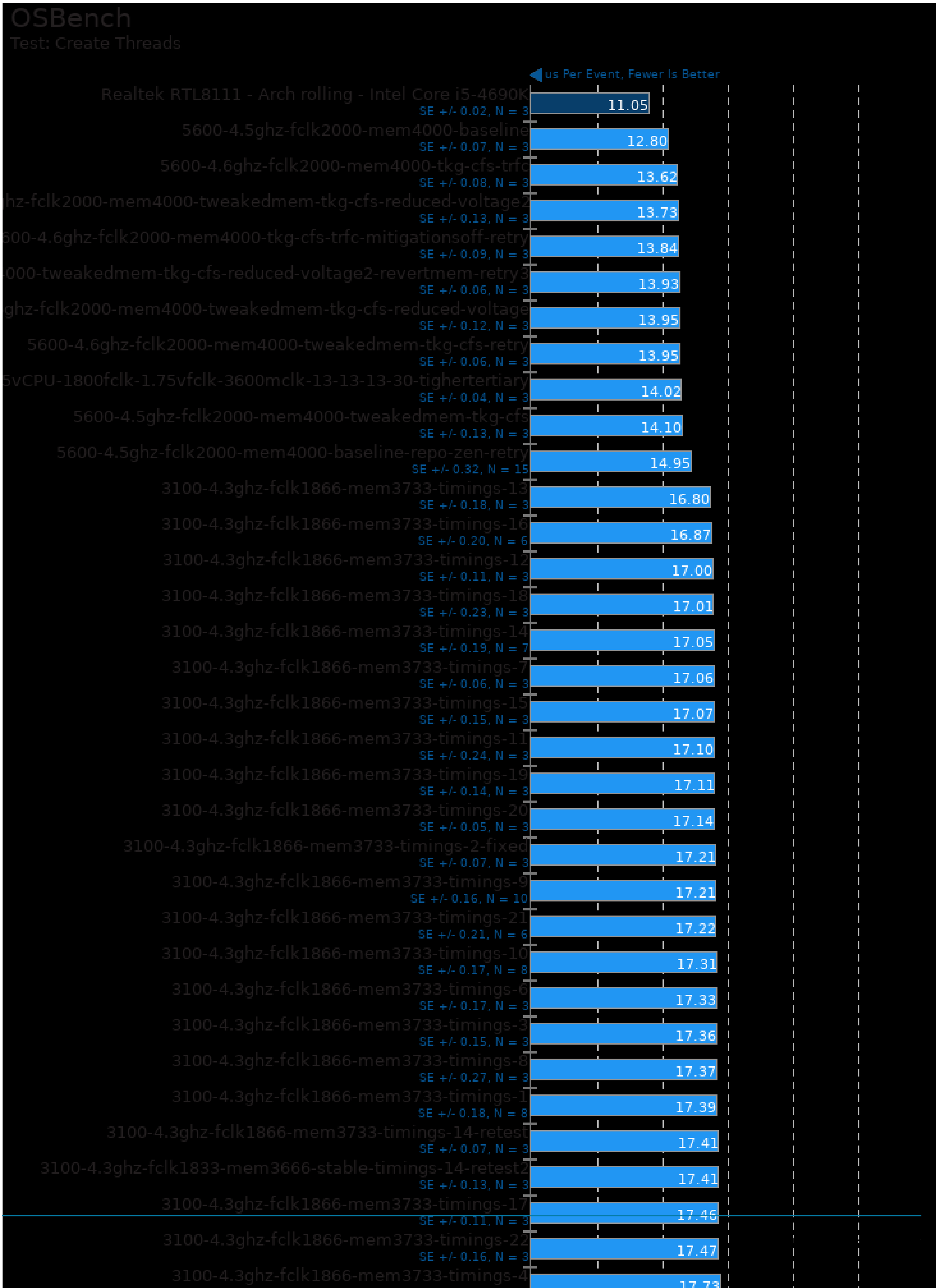
# 4690k-980ti-zenkernel-no-mitigations

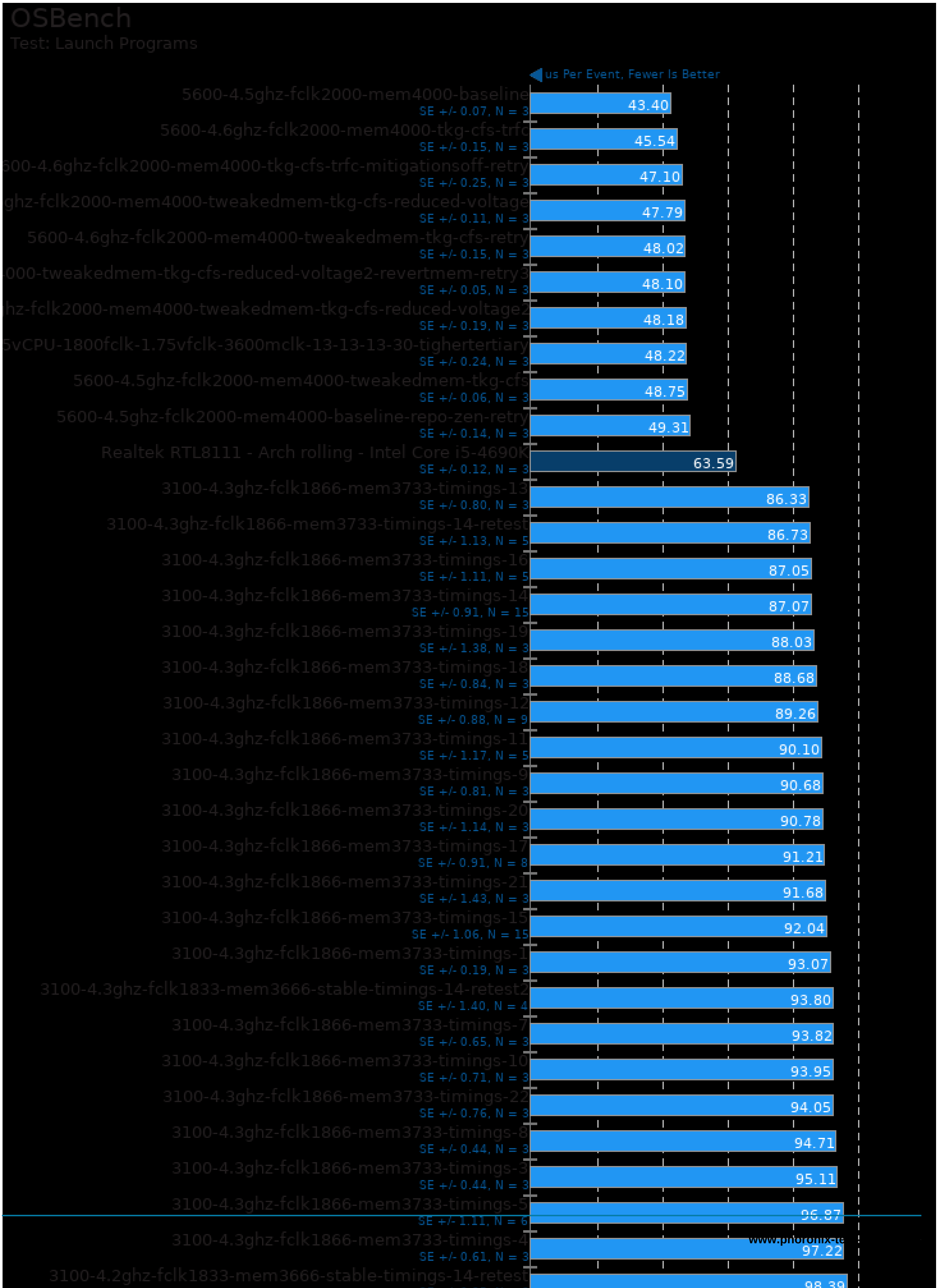


# 4690k-980ti-zenkernel-no-mitigations

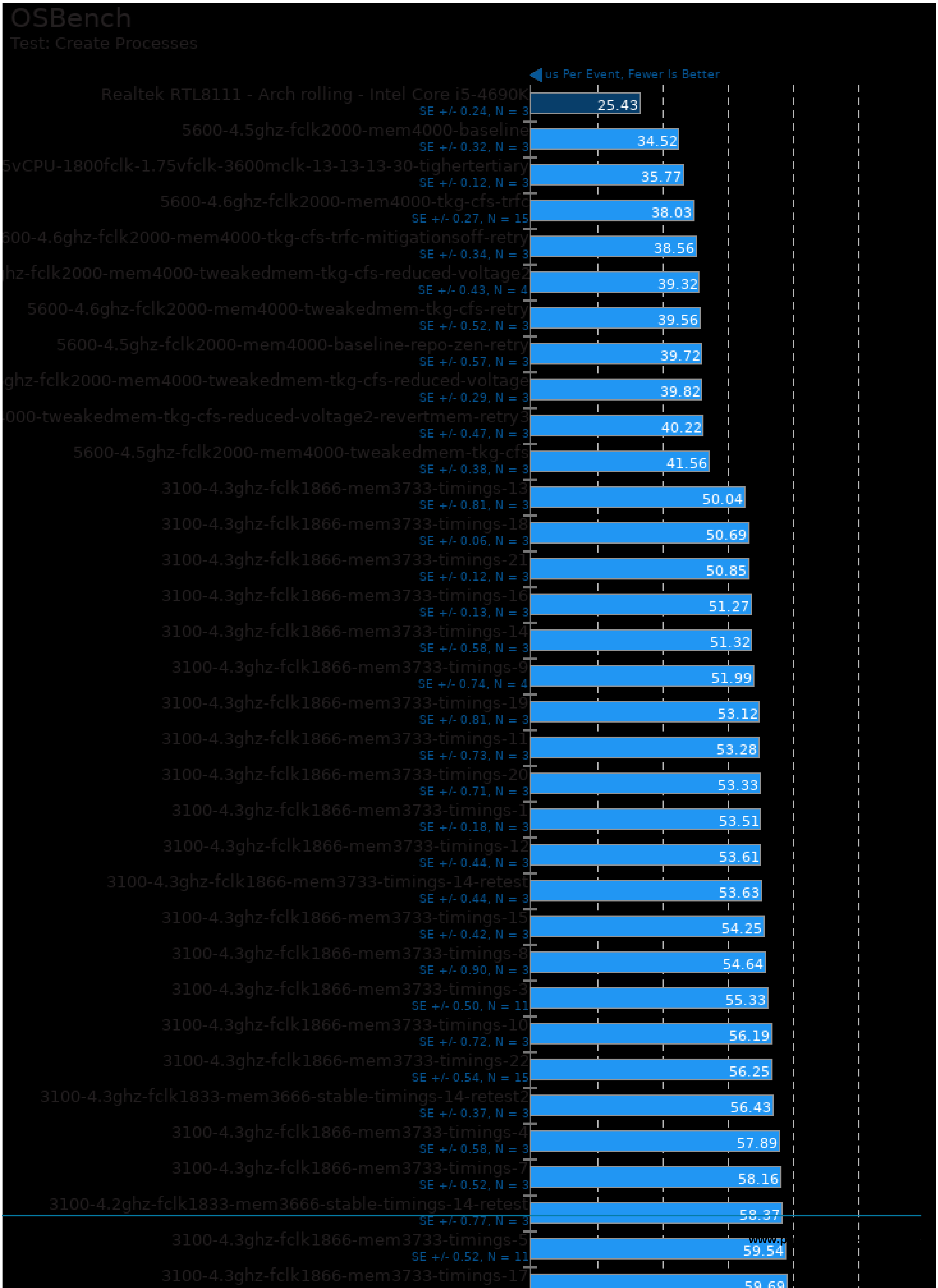


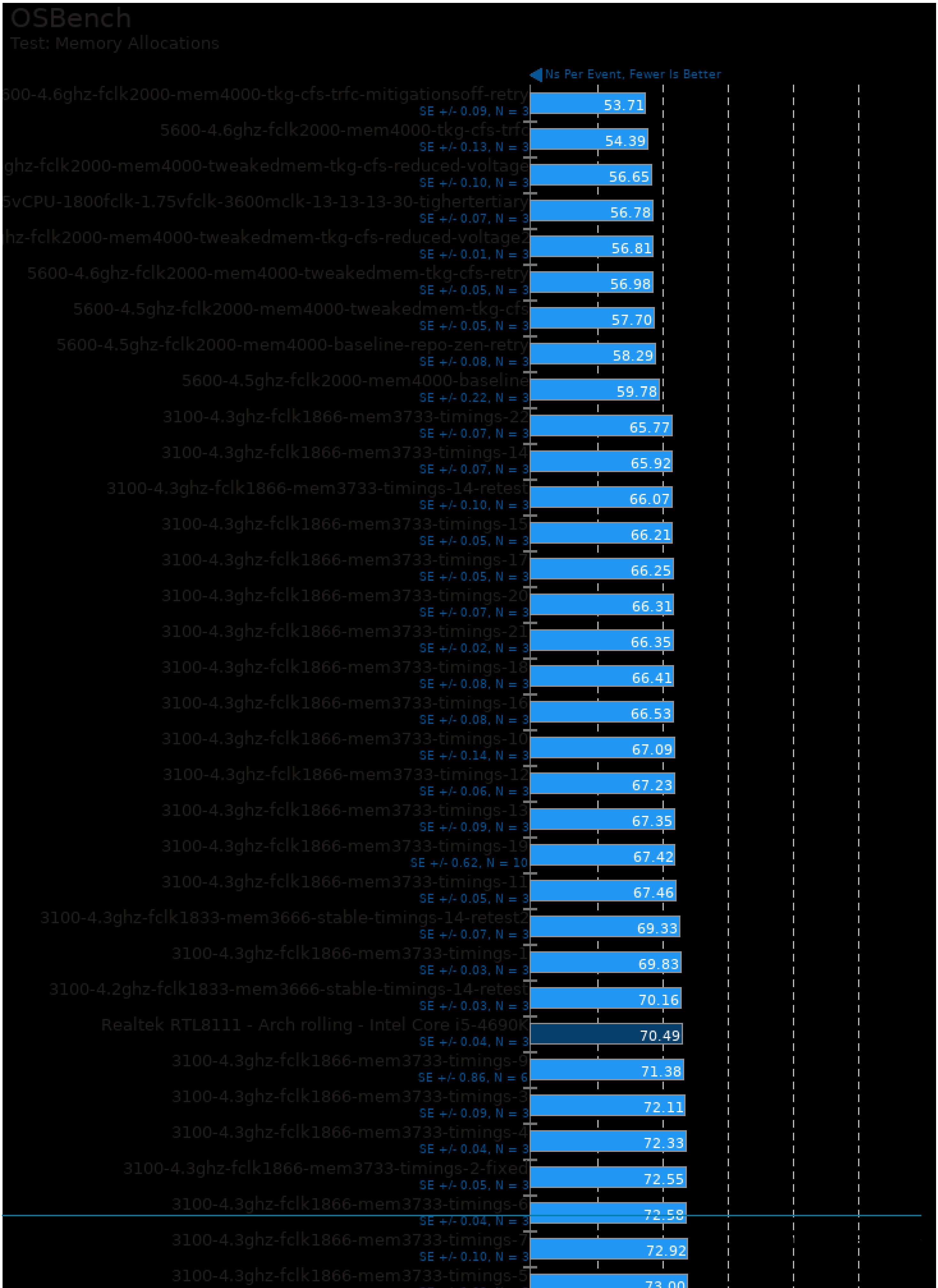

OSBench
Test: Create Threads
us Per Event, Fewer Is Better
Realtek RTL8111 - Arch rolling - Intel Core i5-4690K
SE +/- 0.02, N = 3
11.05
5600-4.5ghz-fclk2000-mem4000-baseline
SE +/- 0.07, N = 3
12.80
5600-4.6ghz-fclk2000-mem4000-tkg-cfs-trfc
SE +/- 0.08, N = 3
13.62
hz-fclk2000-mem4000-tweakedmem-tkg-cfs-reduced-voltage2
SE +/- 0.13, N = 3
13.73
00-4.6ghz-fclk2000-mem4000-tkg-cfs-trfc-mitigationsoff-retry
SE +/- 0.09, N = 3
13.84
000-tweakedmem-tkg-cfs-reduced-voltage2-revertmem-retry3
SE +/- 0.06, N = 3
13.93
ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-reduced-voltage
SE +/- 0.12, N = 3
13.95
5600-4.6ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-retry
SE +/- 0.06, N = 3
13.95
5vCPU-1800fclk-1.75vfclk-3600mclk-13-13-13-30-tighertertiary
SE +/- 0.04, N = 3
14.02
5600-4.5ghz-fclk2000-mem4000-tweakedmem-tkg-cfs
SE +/- 0.13, N = 3
14.10
5600-4.5ghz-fclk2000-mem4000-baseline-repo-zen-retry
SE +/- 0.32, N = 15
14.95
3100-4.3ghz-fclk1866-mem3733-timings-13
SE +/- 0.18, N = 3
16.80
3100-4.3ghz-fclk1866-mem3733-timings-16
SE +/- 0.20, N = 6
16.87
3100-4.3ghz-fclk1866-mem3733-timings-12
SE +/- 0.11, N = 3
17.00
3100-4.3ghz-fclk1866-mem3733-timings-18
SE +/- 0.23, N = 3
17.01
3100-4.3ghz-fclk1866-mem3733-timings-14
SE +/- 0.19, N = 7
17.05
3100-4.3ghz-fclk1866-mem3733-timings-7
SE +/- 0.06, N = 3
17.06
3100-4.3ghz-fclk1866-mem3733-timings-15
SE +/- 0.15, N = 3
17.07
3100-4.3ghz-fclk1866-mem3733-timings-11
SE +/- 0.24, N = 3
17.10
3100-4.3ghz-fclk1866-mem3733-timings-19
SE +/- 0.14, N = 3
17.11
3100-4.3ghz-fclk1866-mem3733-timings-20
SE +/- 0.05, N = 3
17.14
3100-4.3ghz-fclk1866-mem3733-timings-2-fixed
SE +/- 0.07, N = 3
17.21
3100-4.3ghz-fclk1866-mem3733-timings-9
SE +/- 0.16, N = 10
17.21
3100-4.3ghz-fclk1866-mem3733-timings-21
SE +/- 0.21, N = 6
17.22
3100-4.3ghz-fclk1866-mem3733-timings-10
SE +/- 0.17, N = 8
17.31
3100-4.3ghz-fclk1866-mem3733-timings-6
SE +/- 0.17, N = 3
17.33
3100-4.3ghz-fclk1866-mem3733-timings-3
SE +/- 0.15, N = 3
17.36
3100-4.3ghz-fclk1866-mem3733-timings-8
SE +/- 0.27, N = 3
17.37
3100-4.3ghz-fclk1866-mem3733-timings-1
SE +/- 0.18, N = 8
17.39
3100-4.3ghz-fclk1866-mem3733-timings-14-retest
SE +/- 0.07, N = 3
17.41
3100-4.3ghz-fclk1833-mem3666-stable-timings-14-retest2
SE +/- 0.13, N = 3
17.41
3100-4.3ghz-fclk1866-mem3733-timings-17
SE +/- 0.11, N = 3
17.46
3100-4.3ghz-fclk1866-mem3733-timings-22
SE +/- 0.16, N = 3
17.47
3100-4.3ghz-fclk1866-mem3733-timings-4
17.73

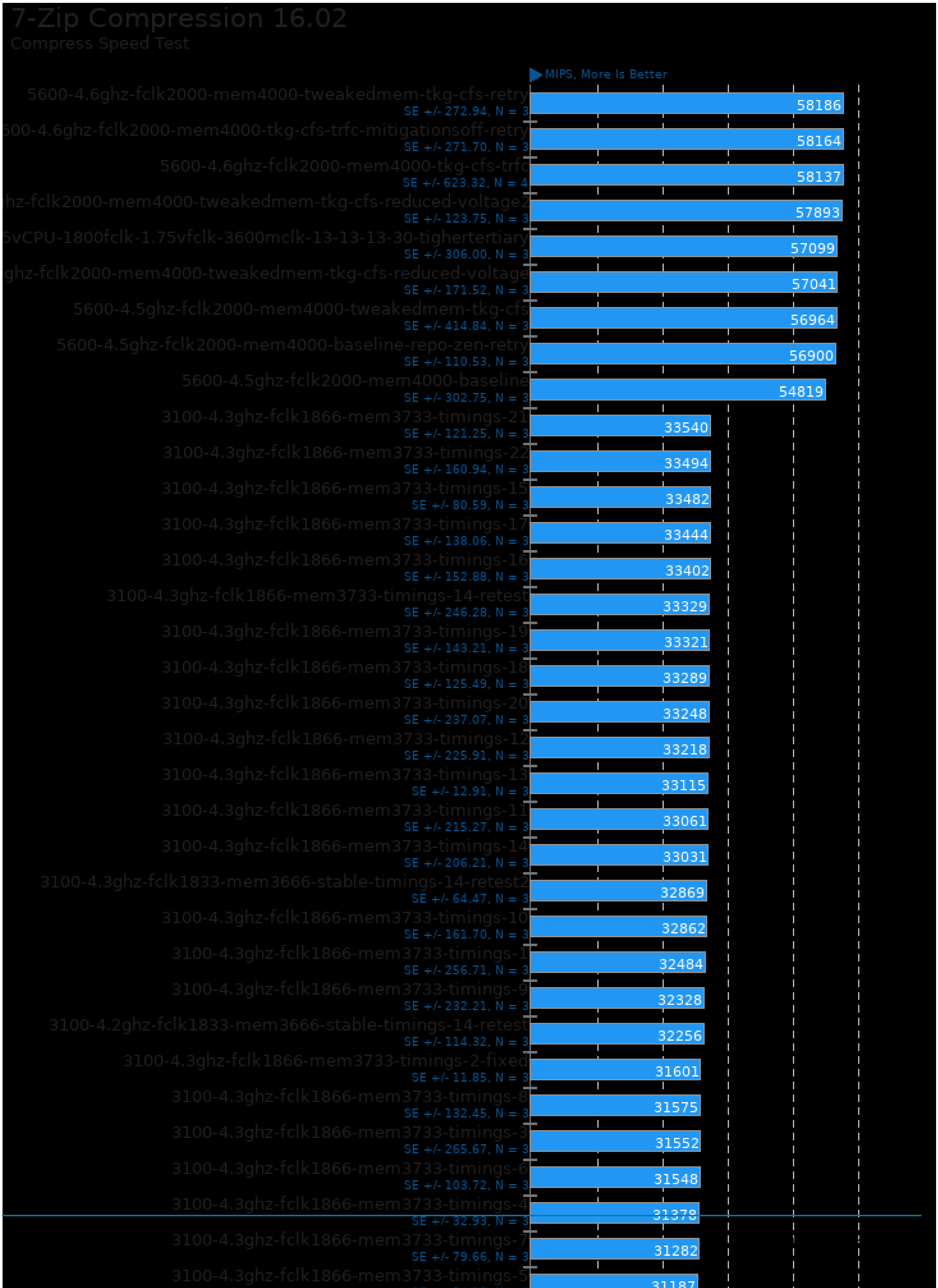
# 4690k-980ti-zenkernel-no-mitigations

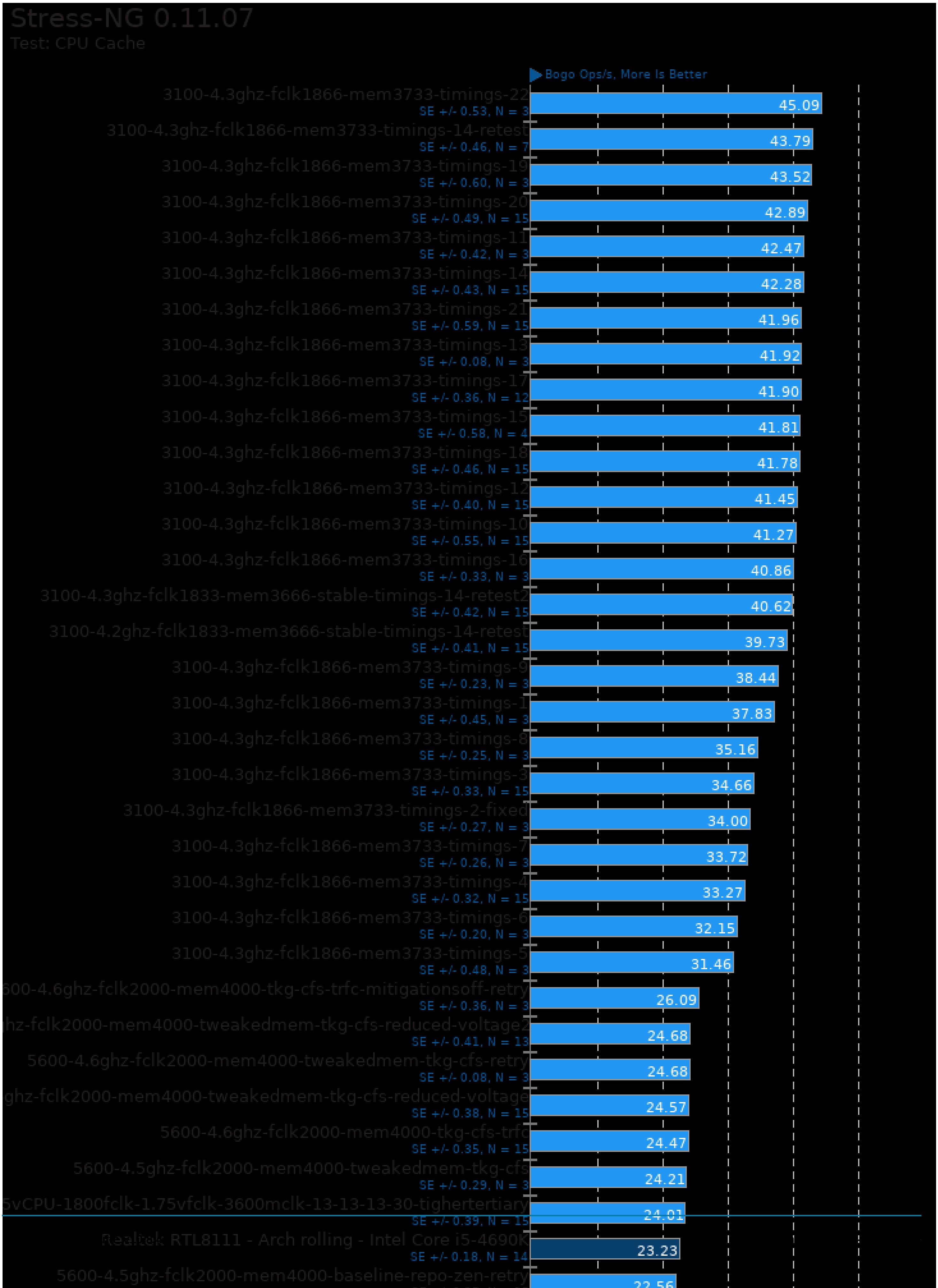


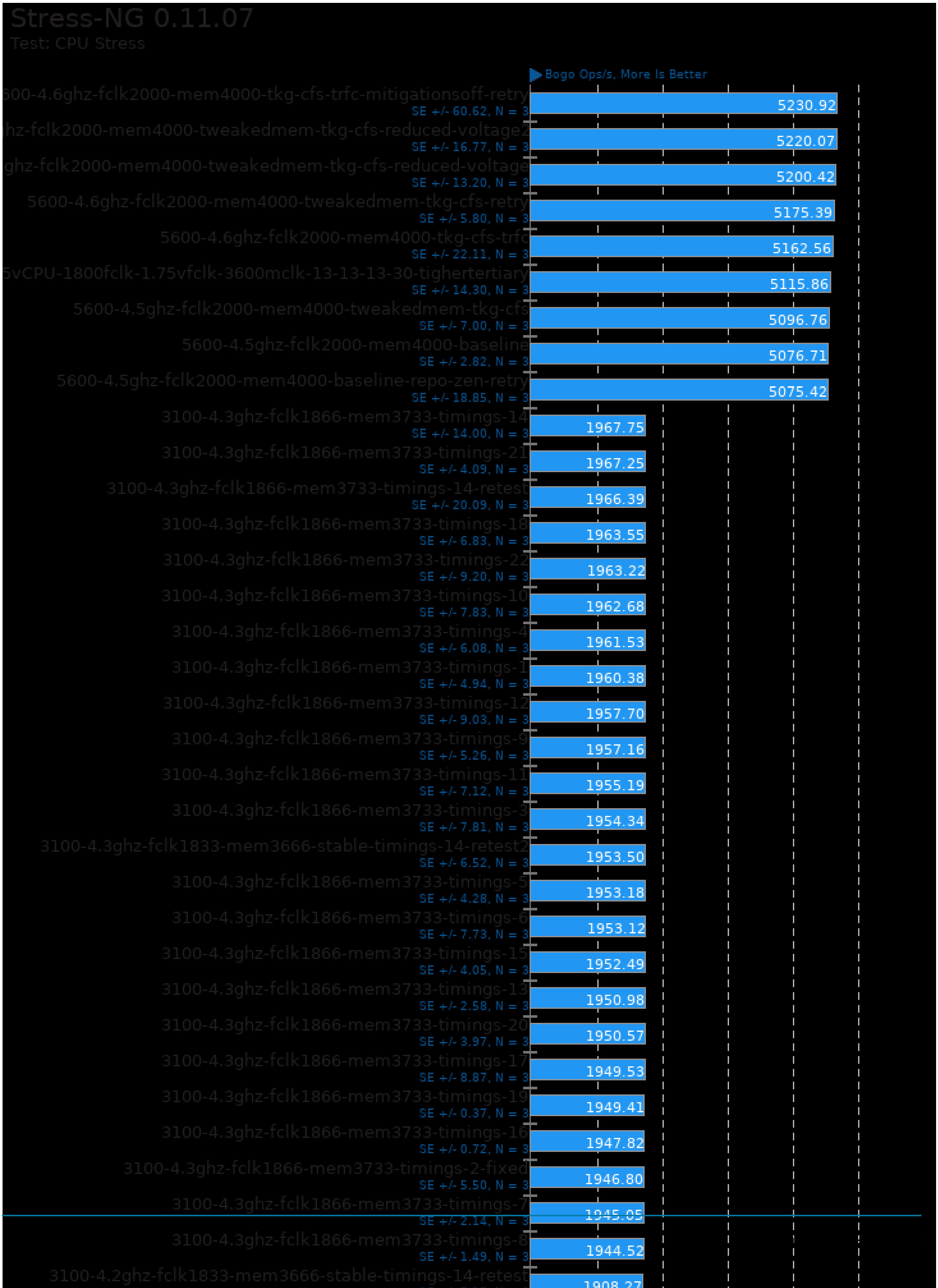
# 4690k-980ti-zenkernel-no-mitigations



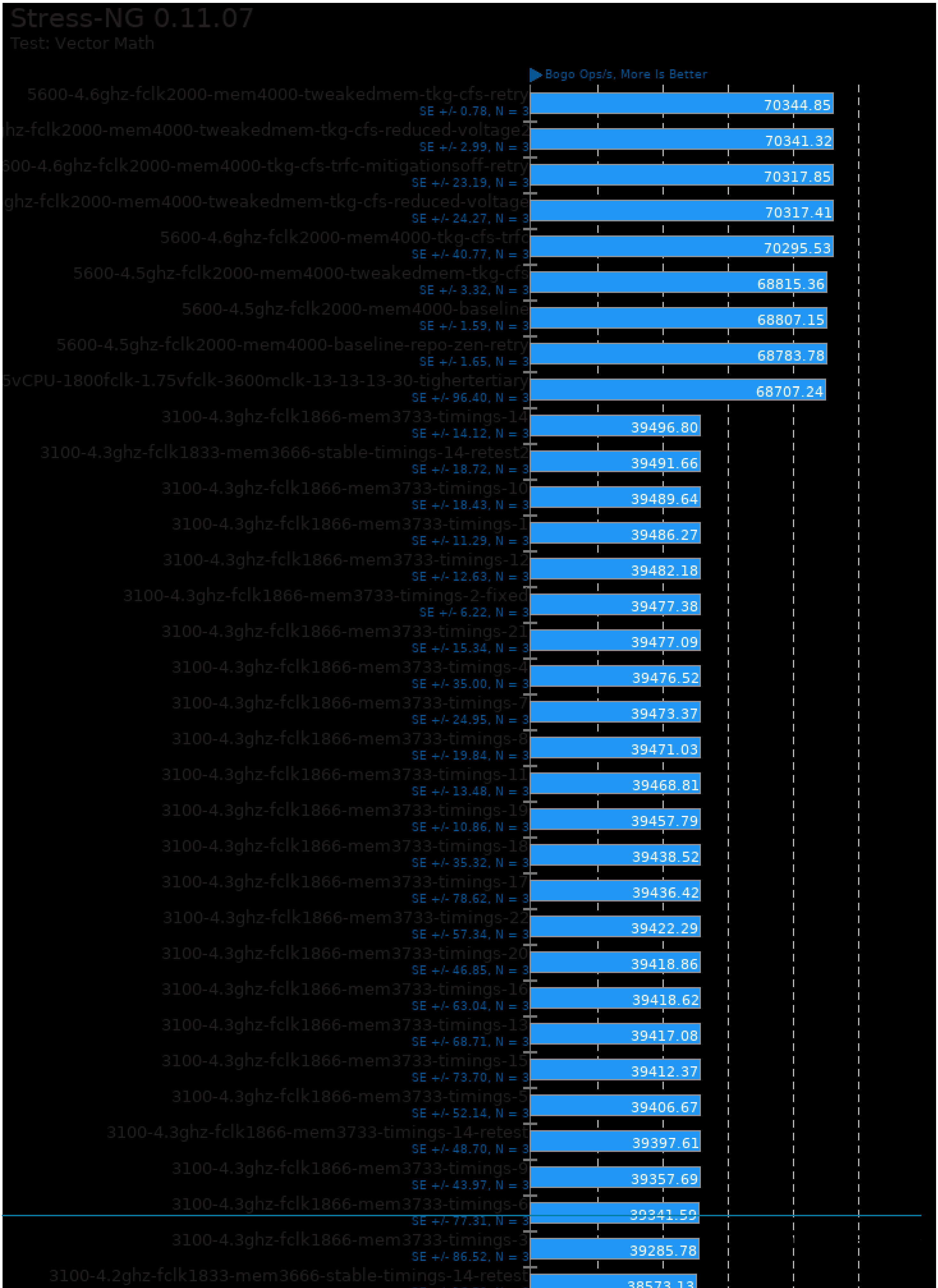

OSBench
Test: Memory Allocations
Ns Per Event, Fewer Is Better
600-4.6ghz-fclk2000-mem4000-tkg-cfs-trfc-mitigationsoff-retry
SE +/- 0.09, N = 3
53.71
5600-4.6ghz-fclk2000-mem4000-tkg-cfs-trfc
SE +/- 0.13, N = 3
54.39
ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-reduced-voltage
SE +/- 0.10, N = 3
56.65
5vCPU-1800fclk-1.75vfclk-3600mclk-13-13-13-30-tighertertiary
SE +/- 0.07, N = 3
56.78
hz-fclk2000-mem4000-tweakedmem-tkg-cfs-reduced-voltage2
SE +/- 0.01, N = 3
56.81
5600-4.6ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-retry
SE +/- 0.05, N = 3
56.98
5600-4.5ghz-fclk2000-mem4000-tweakedmem-tkg-cfs
SE +/- 0.05, N = 3
57.70
5600-4.5ghz-fclk2000-mem4000-baseline-repo-zen-retry
SE +/- 0.08, N = 3
58.29
5600-4.5ghz-fclk2000-mem4000-baseline
SE +/- 0.22, N = 3
59.78
3100-4.3ghz-fclk1866-mem3733-timings-22
SE +/- 0.07, N = 3
65.77
3100-4.3ghz-fclk1866-mem3733-timings-14
SE +/- 0.07, N = 3
65.92
3100-4.3ghz-fclk1866-mem3733-timings-14-retest
SE +/- 0.10, N = 3
66.07
3100-4.3ghz-fclk1866-mem3733-timings-15
SE +/- 0.05, N = 3
66.21
3100-4.3ghz-fclk1866-mem3733-timings-17
SE +/- 0.05, N = 3
66.25
3100-4.3ghz-fclk1866-mem3733-timings-20
SE +/- 0.07, N = 3
66.31
3100-4.3ghz-fclk1866-mem3733-timings-21
SE +/- 0.02, N = 3
66.35
3100-4.3ghz-fclk1866-mem3733-timings-18
SE +/- 0.08, N = 3
66.41
3100-4.3ghz-fclk1866-mem3733-timings-16
SE +/- 0.08, N = 3
66.53
3100-4.3ghz-fclk1866-mem3733-timings-10
SE +/- 0.14, N = 3
67.09
3100-4.3ghz-fclk1866-mem3733-timings-12
SE +/- 0.06, N = 3
67.23
3100-4.3ghz-fclk1866-mem3733-timings-13
SE +/- 0.09, N = 3
67.35
3100-4.3ghz-fclk1866-mem3733-timings-19
SE +/- 0.62, N = 10
67.42
3100-4.3ghz-fclk1866-mem3733-timings-11
SE +/- 0.05, N = 3
67.46
3100-4.3ghz-fclk1833-mem3666-stable-timings-14-retest2
SE +/- 0.07, N = 3
69.33
3100-4.3ghz-fclk1866-mem3733-timings-1
SE +/- 0.03, N = 3
69.83
3100-4.2ghz-fclk1833-mem3666-stable-timings-14-retest
SE +/- 0.03, N = 3
70.16
Realtek RTL8111 - Arch rolling - Intel Core i5-4690K
SE +/- 0.04, N = 3
70.49
3100-4.3ghz-fclk1866-mem3733-timings-9
SE +/- 0.86, N = 6
71.38
3100-4.3ghz-fclk1866-mem3733-timings-3
SE +/- 0.09, N = 3
72.11
3100-4.3ghz-fclk1866-mem3733-timings-4
SE +/- 0.04, N = 3
72.33
3100-4.3ghz-fclk1866-mem3733-timings-2-fixed
SE +/- 0.05, N = 3
72.55
3100-4.3ghz-fclk1866-mem3733-timings-6
SE +/- 0.04, N = 3
72.58
3100-4.3ghz-fclk1866-mem3733-timings-7
SE +/- 0.10, N = 3
72.92
3100-4.3ghz-fclk1866-mem3733-timings-5
73.00


7-Zip Compression 16.02
Compress Speed Test
MIPS, More Is Better
5600-4.6ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-retry
SE +/- 272.94, N = 3
58186
600-4.6ghz-fclk2000-mem4000-tkg-cfs-trfc-mitigationsoff-retry
SE +/- 271.70, N = 3
58164
5600-4.6ghz-fclk2000-mem4000-tkg-cfs-trfc
SE +/- 623.32, N = 4
58137
hz-fclk2000-mem4000-tweakedmem-tkg-cfs-reduced-voltage2
SE +/- 123.75, N = 3
57893
5vCPU-1800fclk-1.75vfclk-3600mclk-13-13-13-30-tighertertiary
SE +/- 306.00, N = 3
57099
ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-reduced-voltage
SE +/- 171.52, N = 3
57041
5600-4.5ghz-fclk2000-mem4000-tweakedmem-tkg-cfs
SE +/- 414.84, N = 3
56964
5600-4.5ghz-fclk2000-mem4000-baseline-repo-zen-retry
SE +/- 110.53, N = 3
56900
5600-4.5ghz-fclk2000-mem4000-baseline
SE +/- 302.75, N = 3
54819
3100-4.3ghz-fclk1866-mem3733-timings-21
SE +/- 121.25, N = 3
33540
3100-4.3ghz-fclk1866-mem3733-timings-22
SE +/- 160.94, N = 3
33494
3100-4.3ghz-fclk1866-mem3733-timings-15
SE +/- 80.59, N = 3
33482
3100-4.3ghz-fclk1866-mem3733-timings-17
SE +/- 138.06, N = 3
33444
3100-4.3ghz-fclk1866-mem3733-timings-16
SE +/- 152.88, N = 3
33402
3100-4.3ghz-fclk1866-mem3733-timings-14-retest
SE +/- 246.28, N = 3
33329
3100-4.3ghz-fclk1866-mem3733-timings-19
SE +/- 143.21, N = 3
33321
3100-4.3ghz-fclk1866-mem3733-timings-18
SE +/- 125.49, N = 3
33289
3100-4.3ghz-fclk1866-mem3733-timings-20
SE +/- 237.07, N = 3
33248
3100-4.3ghz-fclk1866-mem3733-timings-12
SE +/- 225.91, N = 3
33218
3100-4.3ghz-fclk1866-mem3733-timings-13
SE +/- 12.91, N = 3
33115
3100-4.3ghz-fclk1866-mem3733-timings-11
SE +/- 215.27, N = 3
33061
3100-4.3ghz-fclk1866-mem3733-timings-14
SE +/- 206.21, N = 3
33031
3100-4.3ghz-fclk1833-mem3666-stable-timings-14-retest2
SE +/- 64.47, N = 3
32869
3100-4.3ghz-fclk1866-mem3733-timings-10
SE +/- 161.70, N = 3
32862
3100-4.3ghz-fclk1866-mem3733-timings-1
SE +/- 256.71, N = 3
32484
3100-4.3ghz-fclk1866-mem3733-timings-9
SE +/- 232.21, N = 3
32328
3100-4.2ghz-fclk1833-mem3666-stable-timings-14-retest
SE +/- 114.32, N = 3
32256
3100-4.3ghz-fclk1866-mem3733-timings-2-fixed
SE +/- 11.85, N = 3
31601
3100-4.3ghz-fclk1866-mem3733-timings-8
SE +/- 132.45, N = 3
31575
3100-4.3ghz-fclk1866-mem3733-timings-3
SE +/- 265.67, N = 3
31552
3100-4.3ghz-fclk1866-mem3733-timings-6
SE +/- 103.72, N = 3
31548
3100-4.3ghz-fclk1866-mem3733-timings-4
SE +/- 32.93, N = 3
31378
3100-4.3ghz-fclk1866-mem3733-timings-7
SE +/- 79.66, N = 3
31282
3100-4.3ghz-fclk1866-mem3733-timings-5
31187

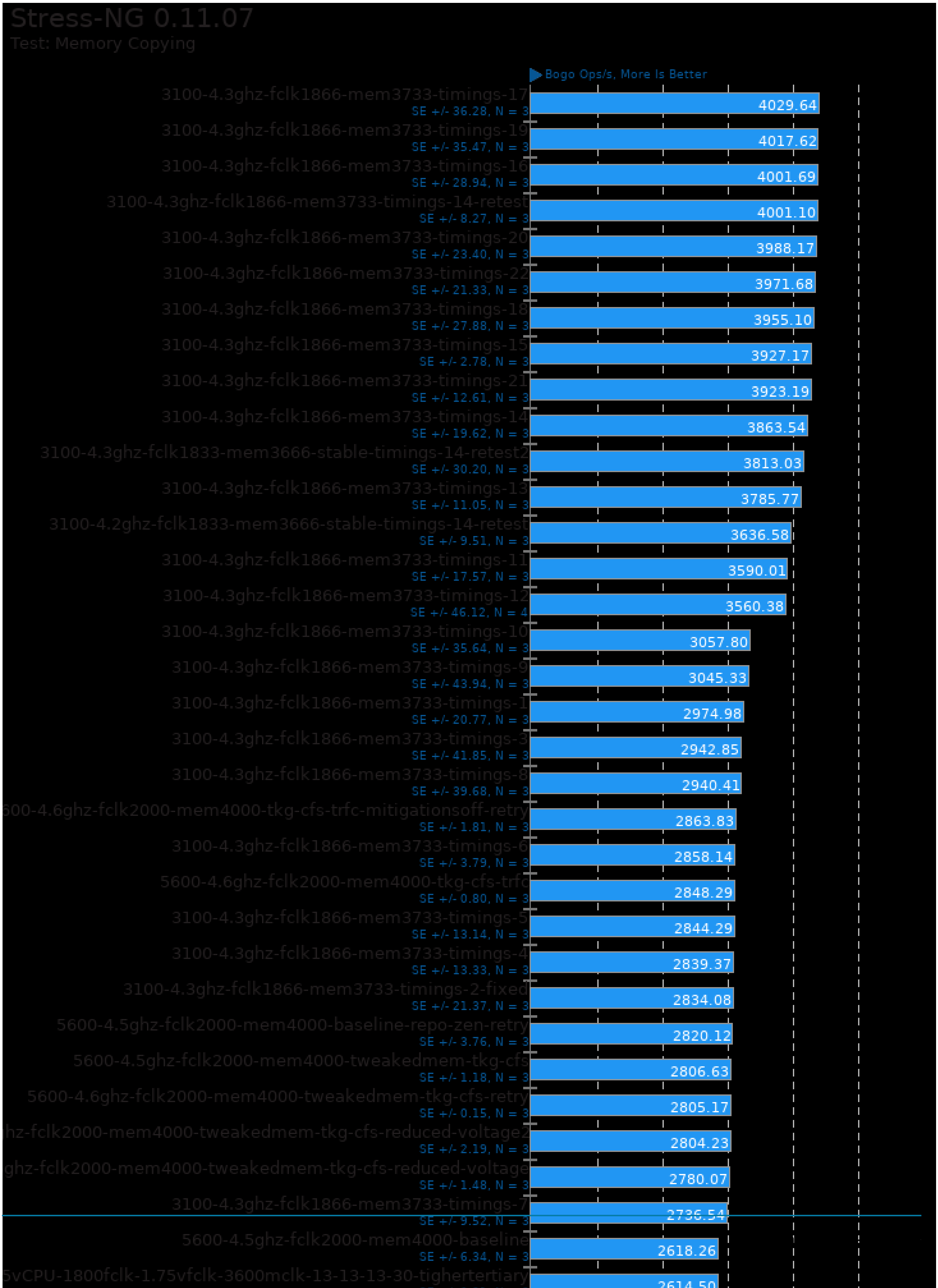

Stress-NG 0.11.07
Test: CPU Cache
Bogo Ops/s, More Is Better
3100-4.3ghz-fclk1866-mem3733-timings-22
SE +/- 0.53, N = 3
45.09
3100-4.3ghz-fclk1866-mem3733-timings-14-retest
SE +/- 0.46, N = 7
43.79
3100-4.3ghz-fclk1866-mem3733-timings-19
SE +/- 0.60, N = 3
43.52
3100-4.3ghz-fclk1866-mem3733-timings-20
SE +/- 0.49, N = 15
42.89
3100-4.3ghz-fclk1866-mem3733-timings-11
SE +/- 0.42, N = 3
42.47
3100-4.3ghz-fclk1866-mem3733-timings-14
SE +/- 0.43, N = 15
42.28
3100-4.3ghz-fclk1866-mem3733-timings-21
SE +/- 0.59, N = 15
41.96
3100-4.3ghz-fclk1866-mem3733-timings-13
SE +/- 0.08, N = 3
41.92
3100-4.3ghz-fclk1866-mem3733-timings-17
SE +/- 0.36, N = 12
41.90
3100-4.3ghz-fclk1866-mem3733-timings-15
SE +/- 0.58, N = 4
41.81
3100-4.3ghz-fclk1866-mem3733-timings-18
SE +/- 0.46, N = 15
41.78
3100-4.3ghz-fclk1866-mem3733-timings-12
SE +/- 0.40, N = 15
41.45
3100-4.3ghz-fclk1866-mem3733-timings-10
SE +/- 0.55, N = 15
41.27
3100-4.3ghz-fclk1866-mem3733-timings-16
SE +/- 0.33, N = 3
40.86
3100-4.3ghz-fclk1833-mem3666-stable-timings-14-retest2
SE +/- 0.42, N = 15
40.62
3100-4.2ghz-fclk1833-mem3666-stable-timings-14-retest
SE +/- 0.41, N = 15
39.73
3100-4.3ghz-fclk1866-mem3733-timings-9
SE +/- 0.23, N = 3
38.44
3100-4.3ghz-fclk1866-mem3733-timings-1
SE +/- 0.45, N = 3
37.83
3100-4.3ghz-fclk1866-mem3733-timings-8
SE +/- 0.25, N = 3
35.16
3100-4.3ghz-fclk1866-mem3733-timings-3
SE +/- 0.33, N = 15
34.66
3100-4.3ghz-fclk1866-mem3733-timings-2-fixed
SE +/- 0.27, N = 3
34.00
3100-4.3ghz-fclk1866-mem3733-timings-7
SE +/- 0.26, N = 3
33.72
3100-4.3ghz-fclk1866-mem3733-timings-4
SE +/- 0.32, N = 15
33.27
3100-4.3ghz-fclk1866-mem3733-timings-6
SE +/- 0.20, N = 3
32.15
3100-4.3ghz-fclk1866-mem3733-timings-5
SE +/- 0.48, N = 3
31.46
600-4.6ghz-fclk2000-mem4000-tkg-cfs-trfc-mitigationsoff-retry
SE +/- 0.36, N = 3
26.09
hz-fclk2000-mem4000-tweakedmem-tkg-cfs-reduced-voltage2
SE +/- 0.41, N = 13
24.68
5600-4.6ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-retry
SE +/- 0.08, N = 3
24.68
ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-reduced-voltage
SE +/- 0.38, N = 15
24.57
5600-4.6ghz-fclk2000-mem4000-tkg-cfs-trfc
SE +/- 0.35, N = 15
24.47
5600-4.5ghz-fclk2000-mem4000-tweakedmem-tkg-cfs
SE +/- 0.29, N = 3
24.21
5vCPU-1800fclk-1.75vfclk-3600mclk-13-13-13-30-tighertertiary
SE +/- 0.39, N = 15
24.01
Realtek RTL8111 - Arch rolling - Intel Core i5-4690K
SE +/- 0.18, N = 14
23.23
5600-4.5ghz-fclk2000-mem4000-baseline-repo-zen-retry
22.56


Stress-NG 0.11.07
Test: CPU Stress
Bogo Ops/s, More Is Better
600-4.6ghz-fclk2000-mem4000-tkg-cfs-trfc-mitigationsoff-retry
SE +/- 60.62, N = 3
5230.92
ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-reduced-voltage2
SE +/- 16.77, N = 3
5220.07
ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-reduced-voltage
SE +/- 13.20, N = 3
5200.42
5600-4.6ghz-fclk2000-mem4000-tweakedmem-tkg-cfs-retry
SE +/- 5.80, N = 3
5175.39
5600-4.6ghz-fclk2000-mem4000-tkg-cfs-trfc
SE +/- 22.11, N = 3
5162.56
5vCPU-1800fclk-1.75vfclk-3600mclk-13-13-13-30-tighertertiary
SE +/- 14.30, N = 3
5115.86
5600-4.5ghz-fclk2000-mem4000-tweakedmem-tkg-cfs
SE +/- 7.00, N = 3
5096.76
5600-4.5ghz-fclk2000-mem4000-baseline
SE +/- 2.82, N = 3
5076.71
5600-4.5ghz-fclk2000-mem4000-baseline-repo-zen-retry
SE +/- 18.85, N = 3
5075.42
3100-4.3ghz-fclk1866-mem3733-timings-14
SE +/- 14.00, N = 3
1967.75
3100-4.3ghz-fclk1866-mem3733-timings-21
SE +/- 4.09, N = 3
1967.25
3100-4.3ghz-fclk1866-mem3733-timings-14-retest
SE +/- 20.09, N = 3
1966.39
3100-4.3ghz-fclk1866-mem3733-timings-18
SE +/- 6.83, N = 3
1963.55
3100-4.3ghz-fclk1866-mem3733-timings-22
SE +/- 9.20, N = 3
1963.22
3100-4.3ghz-fclk1866-mem3733-timings-10
SE +/- 7.83, N = 3
1962.68
3100-4.3ghz-fclk1866-mem3733-timings-4
SE +/- 6.08, N = 3
1961.53
3100-4.3ghz-fclk1866-mem3733-timings-1
SE +/- 4.94, N = 3
1960.38
3100-4.3ghz-fclk1866-mem3733-timings-12
SE +/- 9.03, N = 3
1957.70
3100-4.3ghz-fclk1866-mem3733-timings-9
SE +/- 5.26, N = 3
1957.16
3100-4.3ghz-fclk1866-mem3733-timings-11
SE +/- 7.12, N = 3
1955.19
3100-4.3ghz-fclk1866-mem3733-timings-3
SE +/- 7.81, N = 3
1954.34
3100-4.3ghz-fclk1833-mem3666-stable-timings-14-retest2
SE +/- 6.52, N = 3
1953.50
3100-4.3ghz-fclk1866-mem3733-timings-5
SE +/- 4.28, N = 3
1953.18
3100-4.3ghz-fclk1866-mem3733-timings-6
SE +/- 7.73, N = 3
1953.12
3100-4.3ghz-fclk1866-mem3733-timings-15
SE +/- 4.05, N = 3
1952.49
3100-4.3ghz-fclk1866-mem3733-timings-13
SE +/- 2.58, N = 3
1950.98
3100-4.3ghz-fclk1866-mem3733-timings-20
SE +/- 3.97, N = 3
1950.57
3100-4.3ghz-fclk1866-mem3733-timings-17
SE +/- 8.87, N = 3
1949.53
3100-4.3ghz-fclk1866-mem3733-timings-19
SE +/- 0.37, N = 3
1949.41
3100-4.3ghz-fclk1866-mem3733-timings-16
SE +/- 0.72, N = 3
1947.82
3100-4.3ghz-fclk1866-mem3733-timings-2-fixed
SE +/- 5.50, N = 3
1946.80
3100-4.3ghz-fclk1866-mem3733-timings-7
SE +/- 2.14, N = 3
1945.05
3100-4.3ghz-fclk1866-mem3733-timings-8
SE +/- 1.49, N = 3
1944.52
3100-4.2ghz-fclk1833-mem3666-stable-timings-14-retest
1908.27

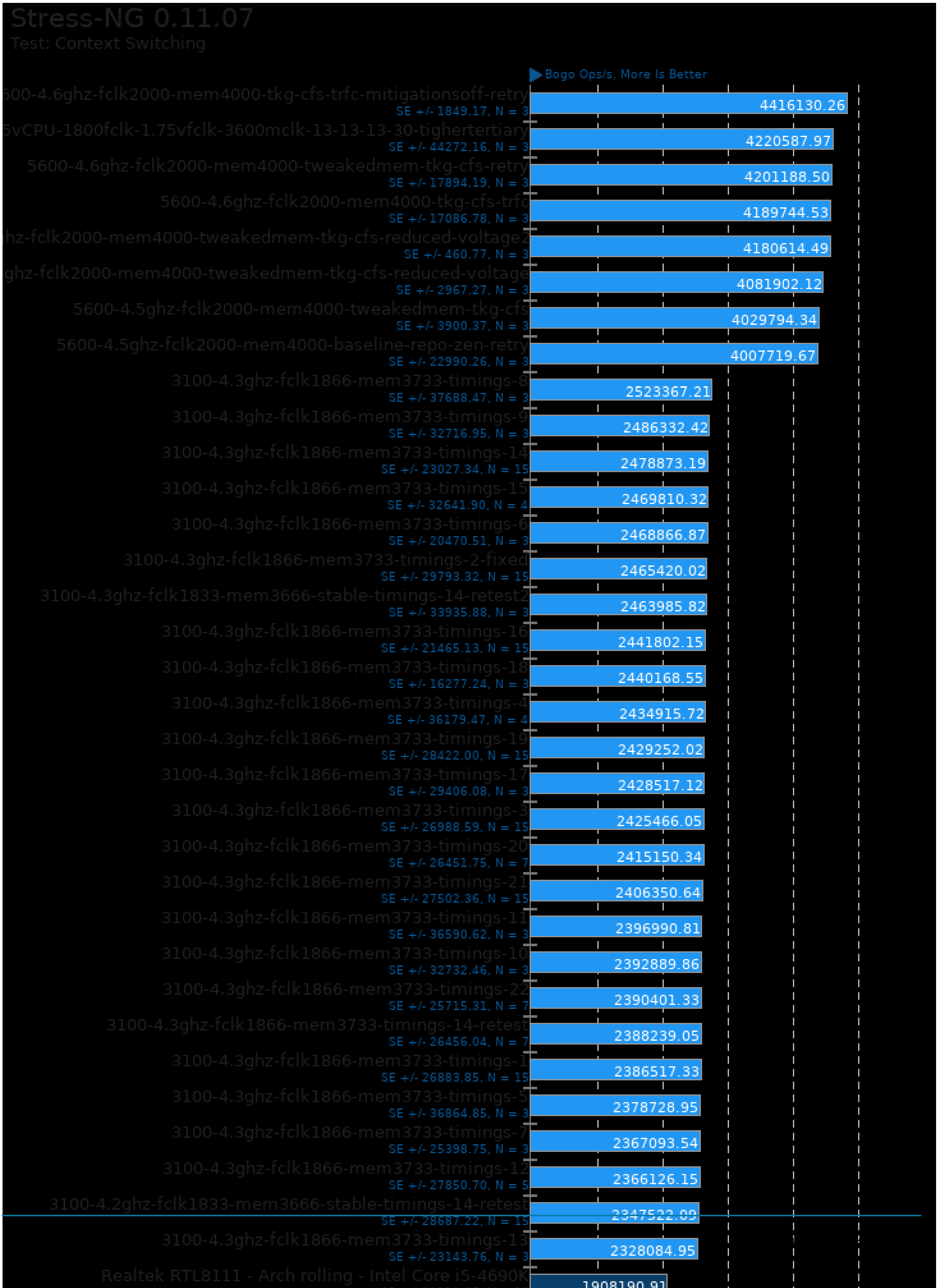
# 4690k-980ti-zenkernel-no-mitigations



# 4690k-980ti-zenkernel-no-mitigations



# 4690k-980ti-zenkernel-no-mitigations



# 4690k-980ti-zenkernel-no-mitigations

*This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 08:42.*