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vulkan_big1open_garuda_vulkan_02

AMD Ryzen 7 5800X 8-Core testing with a ASRock B550 Phantom Gaming-ITX/ax (L1.61 BIOS) and Sapphire AMD Radeon RX 6800/6800 XT / 6900 16GB on Garuda Soaring via the Phoronix Test Suite.

Automated Executive Summary

bhz-big1open-salient-vulkan-01 had the most wins, coming in first place for 54% of the tests.

Based on the geometric mean of all complete results, the fastest (bhz-big1open-salient-vulkan-01) was 1.085x the speed of the slowest (bhz-big1open-garuda-vulkan-01). bhz-big1closedfoam-garuda-vulkan-01 was 0.935x the speed of bhz-big1open-salient-vulkan-01 and bhz-big1open-garuda-vulkan-01 was 0.985x the speed of bhz-big1closedfoam-garuda-vulkan-01.

The results with the greatest spread from best to worst included:

VKMark (Resolution: 1920 x 1080) at 1.669x
GL-vs-VK (Test: Static Scene - API: Vulkan - Multi-Threaded: No) at 1.391x
GL-vs-VK (Test: Static Scene - API: Vulkan - Multi-Threaded: No) at 1.391x
GL-vs-VK (Test: Static Scene - API: Vulkan - Multi-Threaded: Yes) at 1.297x
GL-vs-VK (Test: Static Scene - API: Vulkan - Multi-Threaded: Yes) at 1.296x
GL-vs-VK (Test: Shadow Mapping - API: Vulkan - Multi-Threaded: Yes) at 1.189x
GL-vs-VK (Test: Shadow Mapping - API: Vulkan - Multi-Threaded: Yes) at 1.187x

Dota 2 (Resolution: 1920 x 1080 - Renderer: Vulkan) at 1.098x
GL-vs-VK (Test: Shadow Mapping - API: Vulkan - Multi-Threaded: No) at 1.094x
GL-vs-VK (Test: Shadow Mapping - API: Vulkan - Multi-Threaded: No) at 1.094x.

Test Systems:

bhz-big1open-garuda-vulkan-01

Processor: AMD Ryzen 7 5800X 8-Core @ 3.80GHz (8 Cores / 16 Threads), Motherboard: ASRock B550 Phantom Gaming-ITX/ax (L1.61 BIOS), Chipset: AMD Starship/Matisse, Memory: 32GB, Disk: 1000GB Corsair Force MP600, Graphics: Sapphire AMD Radeon RX 6800/6800 XT / 6900 16GB (2475/1000MHz), Audio: AMD Device ab28, Monitor: VG279QM, Network: Intel I225-V + Intel Wi-Fi 6 AX200

OS: Garuda Soaring, Kernel: 5.11.16-zen1-1-zen (x86_64), Desktop: Xfce 4.16, Display Server: X Server 1.20.11, OpenGL: 4.6 Mesa 21.0.3 (LLVM 11.1.0), Vulkan: 1.2.145, Compiler: GCC 10.2.0 + Clang 11.1.0, File-System: btrfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
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
Graphics Notes: GLAMOR
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

bhz-big1open-salient-vulkan-01

Processor: AMD Ryzen 7 5800X 8-Core @ 3.80GHz (8 Cores / 16 Threads), Motherboard: ASRock B550 Phantom Gaming-ITX/ax (L1.61 BIOS), Chipset: AMD Starship/Matisse, Memory: 32GB, Disk: 1000GB Corsair Force MP600, Graphics: Sapphire AMD Radeon RX 6800/6800 XT / 6900 16GB (2475/1000MHz), Audio: AMD Device ab28, Monitor: VG279QM, Network: Intel I225-V + Intel Wi-Fi 6 AX200

OS: salientos rolling, Kernel: 5.11.13-arch1-1 (x86_64), Desktop: Xfce 4.16, Display Server: X Server 1.20.11, OpenGL: 4.6 Mesa 21.0.2 (LLVM 11.1.0), Vulkan: 1.2.173, Compiler: GCC 10.2.0 + Clang 11.1.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
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

bhz-big1closedfoam-garuda-vulkan-01

Processor: AMD Ryzen 7 5800X 8-Core @ 3.80GHz (8 Cores / 16 Threads), Motherboard: ASRock B550 Phantom Gaming-ITX/ax (L1.61 BIOS), Chipset: AMD Starship/Matisse, Memory: 32GB, Disk: 1000GB Corsair Force MP600,

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Graphics: Sapphire AMD Radeon RX 6800/6800 XT / 6900 16GB (2475/1000MHz), Audio: AMD Device ab28, Monitor: VG279QM, Network: Intel I225-V + Intel Wi-Fi 6 AX200

OS: Garuda Soaring, Kernel: 5.11.16-zen1-1-zen (x86_64), Desktop: Xfce 4.16, Display Server: X Server 1.20.11, OpenGL: 4.6 Mesa 21.0.3 (LLVM 11.1.0), Vulkan: 1.2.145, Compiler: GCC 10.2.0 + Clang 11.1.0, File-System: btrfs, Screen Resolution: 1920x1080

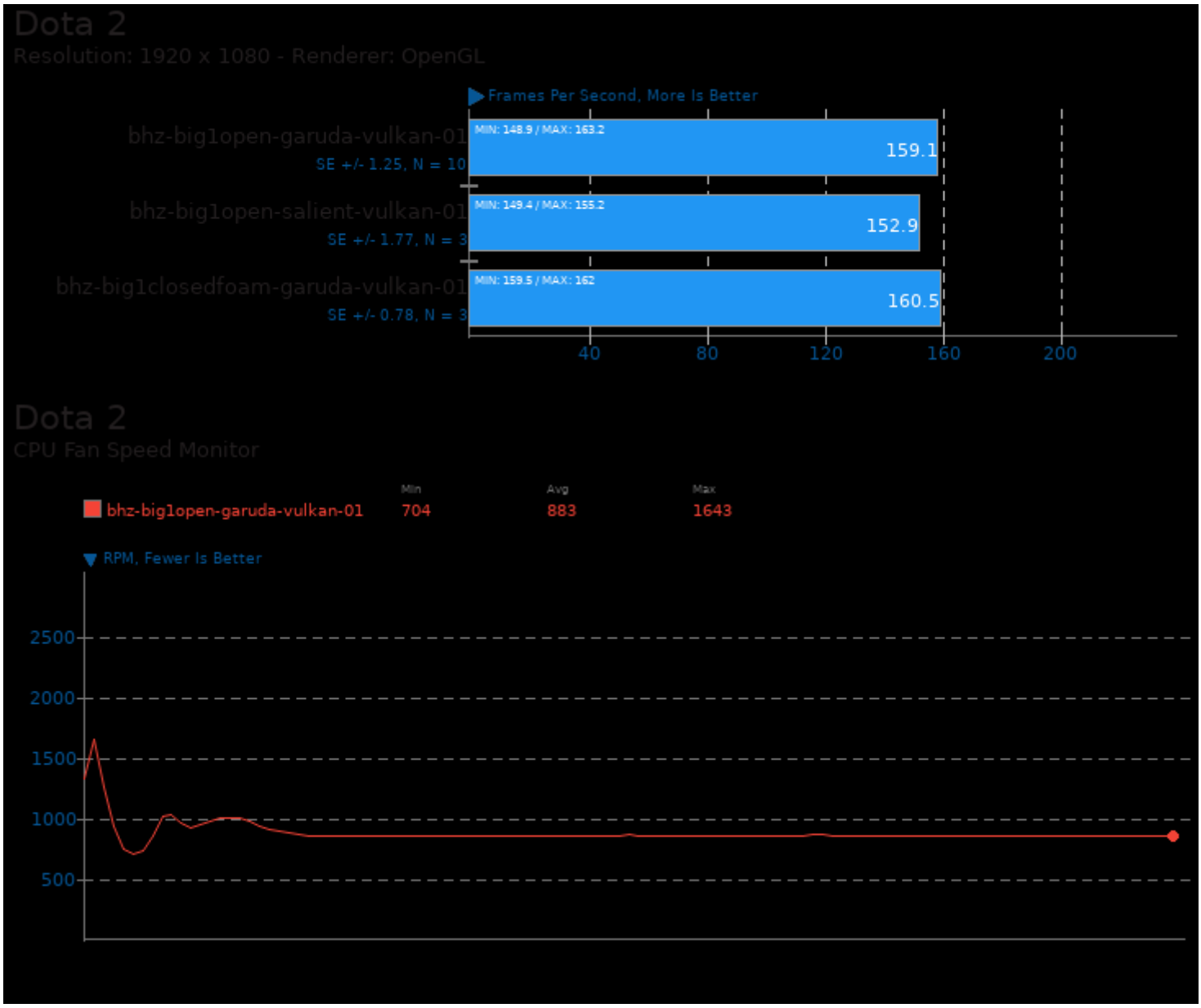
Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --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
Graphics Notes: GLAMOR
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

	bhz-big1open-garuda-vulkan-01	bhz-big1open-salient-vulkan-01	bhz-big1closedfoam-garuda-vulkan-01
Dota 2 - 1920 x 1080 - OpenGL (FPS)	159.1	**152.9**	**160.5**
Normalized	99.13%	95.26%	100%
Standard Deviation	2.5%	2%	0.8%
Dota 2 - 1920 x 1080 - Vulkan (FPS)	**139.6**	**127.1**	138.7
Normalized	100%	91.05%	99.36%
Standard Deviation	1.3%	2.4%	0.9%
Tesseract - 1920 x 1080 (FPS)	702.5142	**689.4266**	**708.0976**
Normalized	99.21%	97.36%	100%
Standard Deviation	1.9%	1.7%	0.6%
VKMark - 1920 x 1080 (VKMark Score)	**13228**	**22080**	13237
Normalized	59.91%	100%	59.95%
Standard Deviation	0%	0.1%	0.3%
GL-vs-VK - Static Scene - OpenGL - Yes (Frame Time - ms)	**128.883057**	130.383750	**131.642835**
Normalized	100%	98.85%	97.9%
Standard Deviation	1.4%	0.2%	1.7%
GL-vs-VK - Static Scene - OpenGL - Yes	**7.759954**	7.669684	**7.597841**
Normalized	100%	98.84%	97.91%
Standard Deviation	1.4%	0.2%	1.7%
GL-vs-VK - Static Scene - OpenGL - No (Frame Time - ms)	201.425649	**202.569308**	**186.618913**
Normalized	92.65%	92.13%	100%
Standard Deviation	0.3%	1.5%	0.5%
GL-vs-VK - Static Scene - OpenGL - No (FPS)	4.964646	**4.937316**	**5.358611**
Normalized	92.65%	92.14%	100%
Standard Deviation	0.3%	1.5%	0.5%
GL-vs-VK - Static Scene - Vulkan - Yes (Frame Time - ms)	11.473405	**9.302870**	**12.063983**
Normalized	81.08%	100%	77.11%
Standard Deviation	0%	0.1%	2.4%
GL-vs-VK - Static Scene - Vulkan - Yes (FPS)	87.158102	**107.493818**	**82.923693**
Normalized	81.08%	100%	77.14%

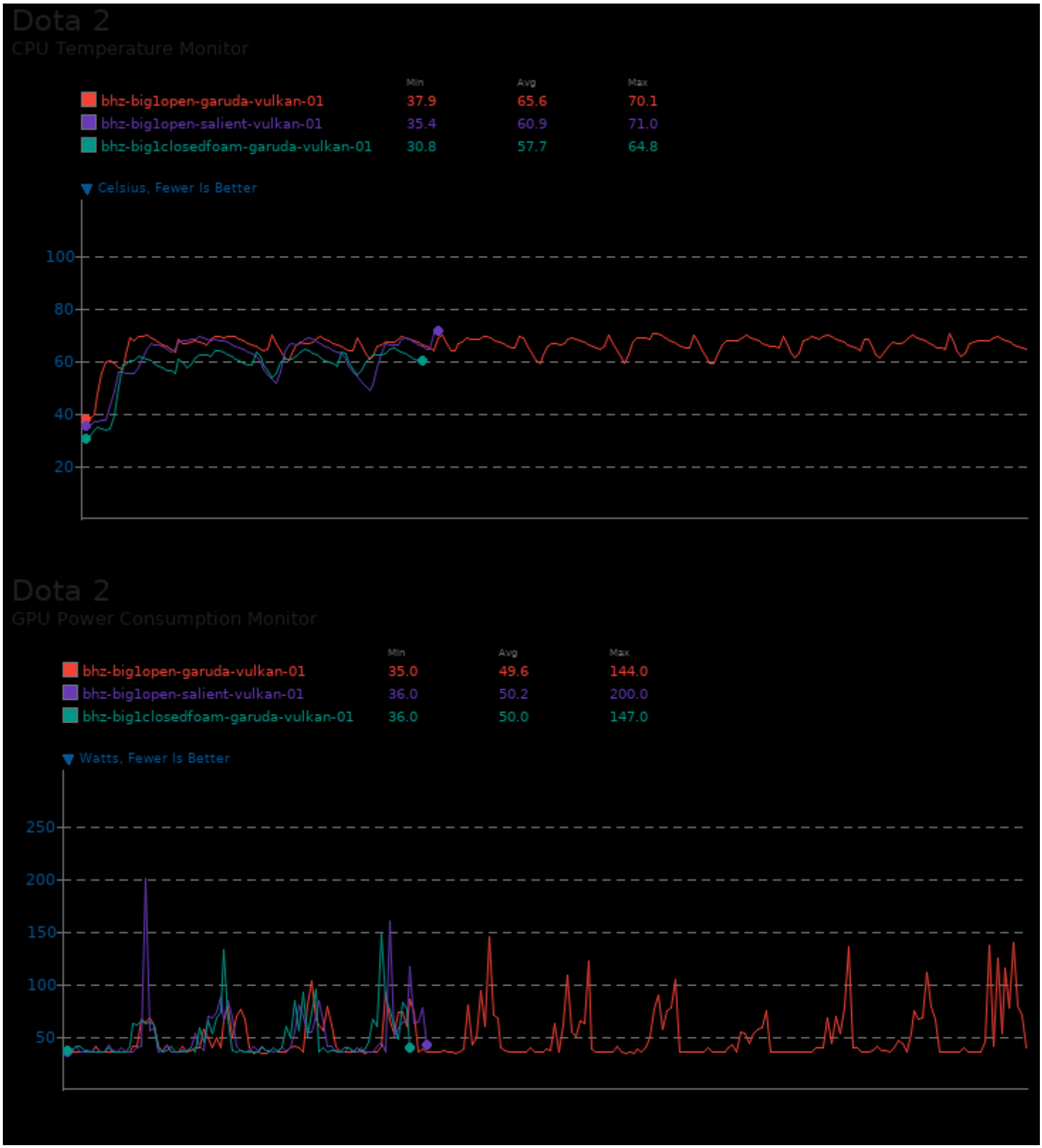
vulkan_big1open_garuda_vulkan_02

Standard Deviation	0%	0.1%	2.4%
GL-vs-VK - Static Scene - Vulkan - No (Frame Time - ms)	126.867952	91.196798	111.149612
Normalized	71.88%	100%	82.05%
Standard Deviation	0.5%	0.4%	0.6%
GL-vs-VK - Static Scene - Vulkan - No (FPS)	7.882351	10.965403	8.997093
Normalized	71.88%	100%	82.05%
Standard Deviation	0.5%	0.4%	0.6%
GL-vs-VK - T.W.D.L - OpenGL - No (Frame Time - ms)	15.907487	15.976017	15.743954
Normalized	98.97%	98.55%	100%
Standard Deviation	1.4%	1.5%	0.3%
GL-vs-VK - T.W.D.L - OpenGL - No (FPS)	62.871263	62.602624	63.516917
Normalized	98.98%	98.56%	100%
Standard Deviation	1.4%	1.4%	0.3%
GL-vs-VK - T.W.D.L - Vulkan - Yes (Frame Time - ms)	10.353913	10.197815	10.282598
Normalized	98.49%	100%	99.18%
Standard Deviation	0.8%	0.2%	0.1%
GL-vs-VK - T.W.D.L - Vulkan - Yes (FPS)	96.586412	98.060423	97.251740
Normalized	98.5%	100%	99.18%
Standard Deviation	0.8%	0.2%	0.1%
GL-vs-VK - T.W.D.L - Vulkan - No (Frame Time - ms)	15.802884	15.701945	15.647674
Normalized	99.02%	99.65%	100%
Standard Deviation	0.1%	1.3%	0.1%
GL-vs-VK - T.W.D.L - Vulkan - No (FPS)	63.279649	63.693333	63.907283
Normalized	99.02%	99.67%	100%
Standard Deviation	0.1%	1.3%	0.1%
GL-vs-VK - Shadow Mapping - OpenGL - No (Frame Time - ms)	5.126311	5.101914	5.177919
Normalized	99.52%	100%	98.53%
Standard Deviation	0.4%	1.2%	0.9%
GL-vs-VK - Shadow Mapping - OpenGL - No (FPS)	195.073793	196.024189	193.138249
Normalized	99.52%	100%	98.53%
Standard Deviation	0.4%	1.2%	0.9%
GL-vs-VK - Shadow Mapping - Vulkan - Yes (Frame Time - ms)	0.695025	0.584327	0.680792
Normalized	84.07%	100%	85.83%
Standard Deviation	4.8%	0.1%	1.7%
GL-vs-VK - Shadow Mapping - Vulkan - Yes (FPS)	1442	1711	1469
Normalized	84.25%	100%	85.85%
Standard Deviation	4.8%	0.1%	1.7%
GL-vs-VK - Shadow Mapping - Vulkan - No (Frame Time - ms)	3.080562	2.824682	3.090296
Normalized	91.69%	100%	91.4%
Standard Deviation	1.9%	1.1%	1.4%
GL-vs-VK - Shadow Mapping - Vulkan - No (FPS)	324.692041	354.051948	323.633471
Normalized	91.71%	100%	91.41%
Standard Deviation	1.9%	1.1%	1.4%

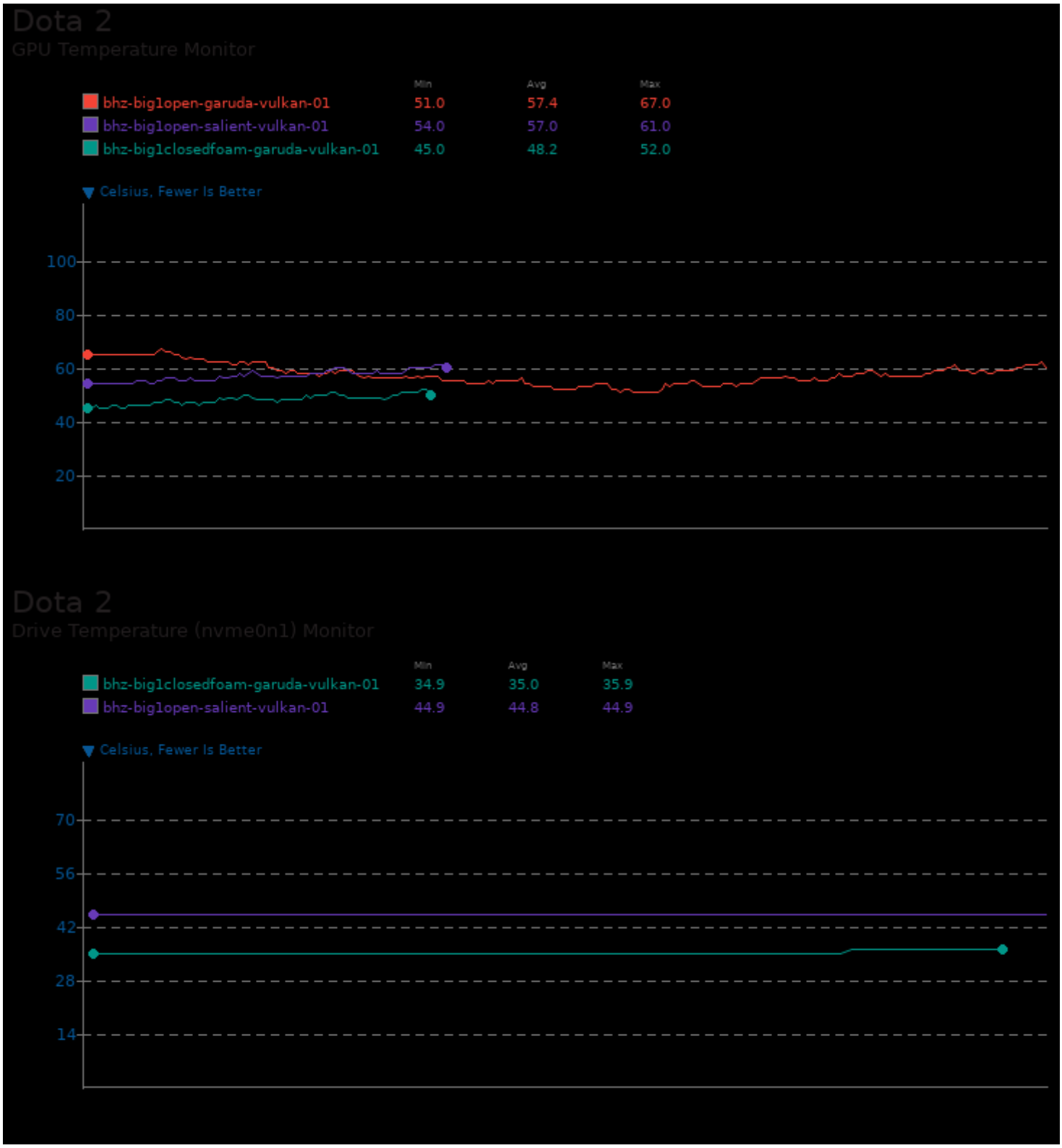
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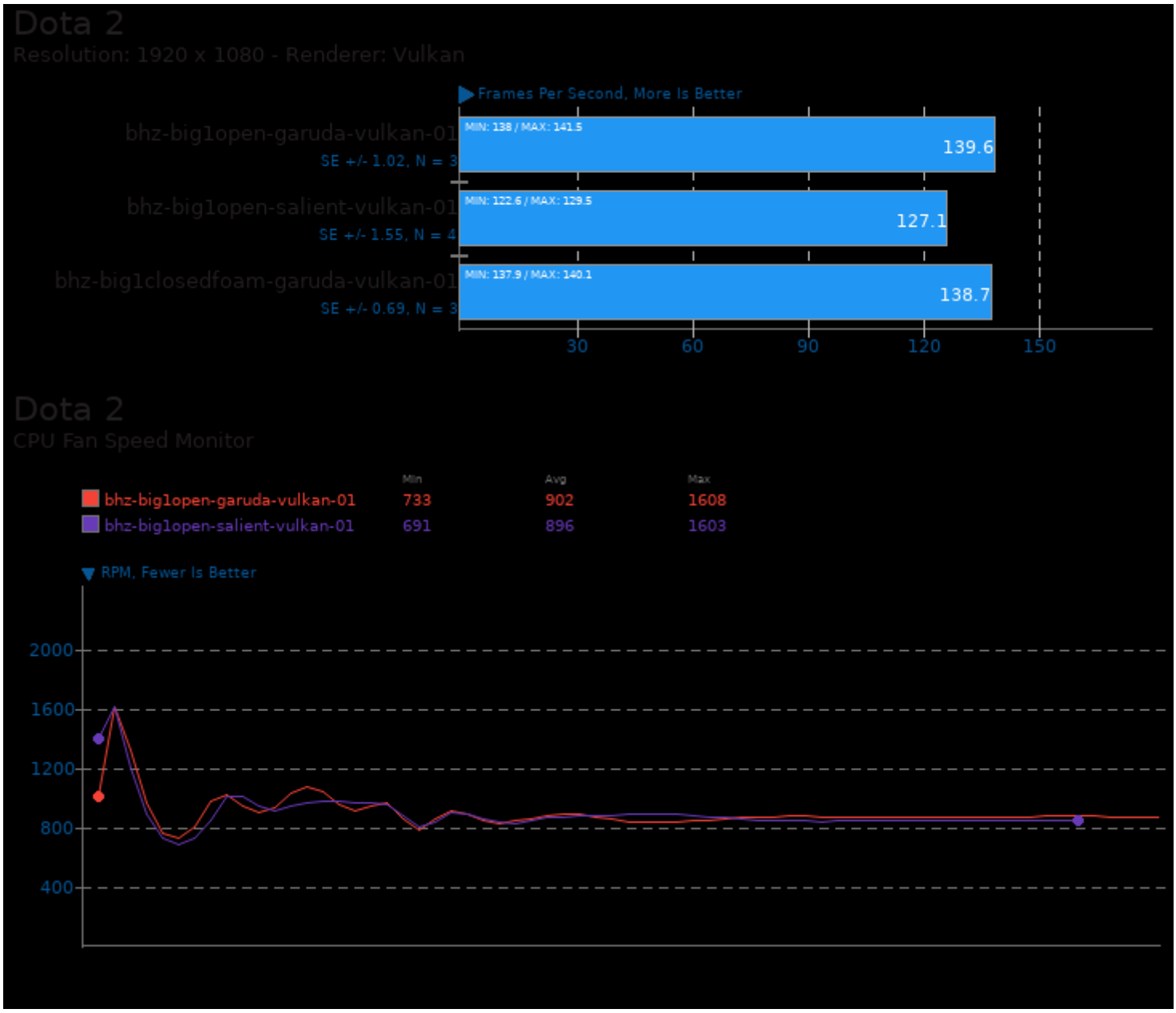
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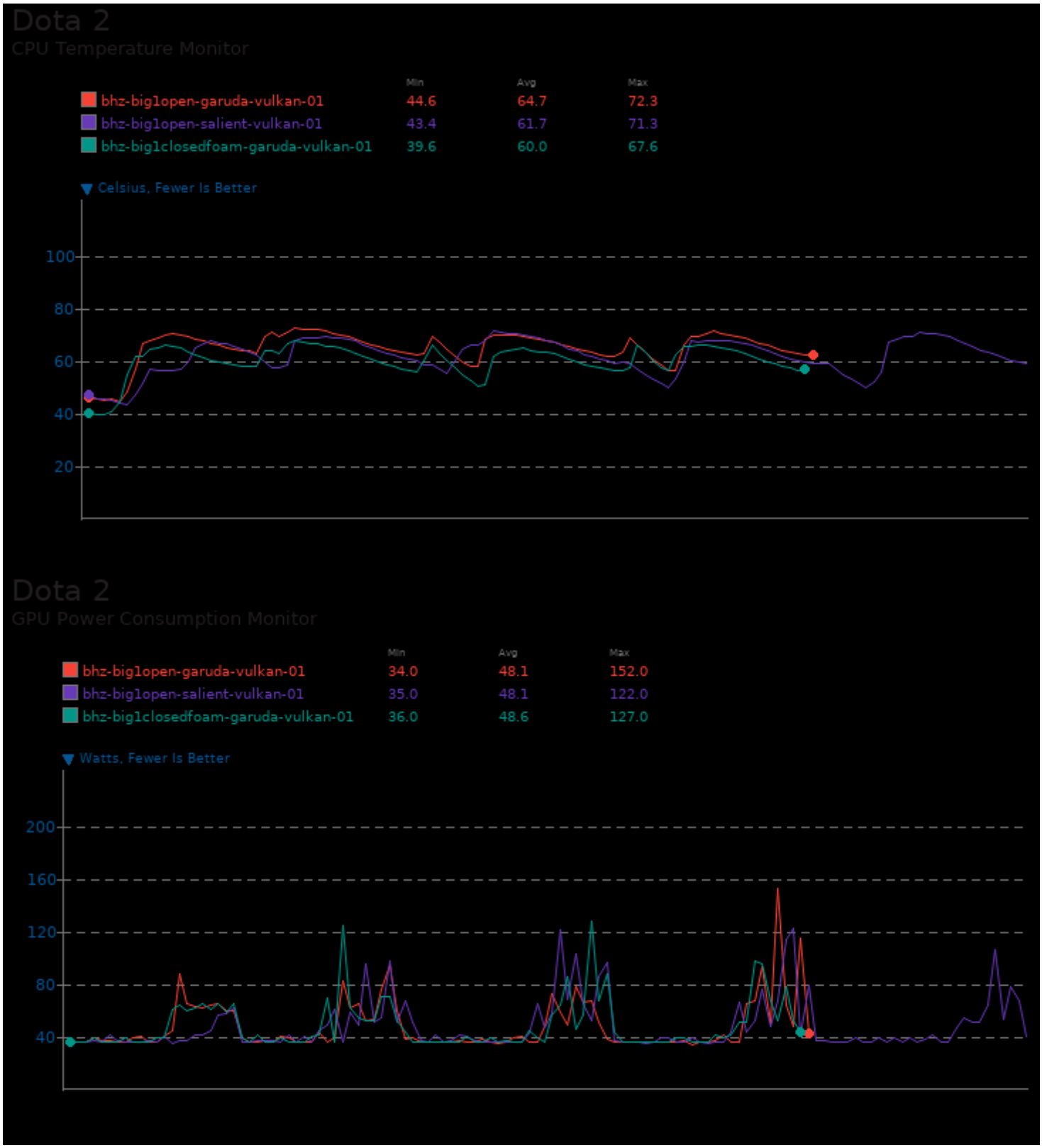
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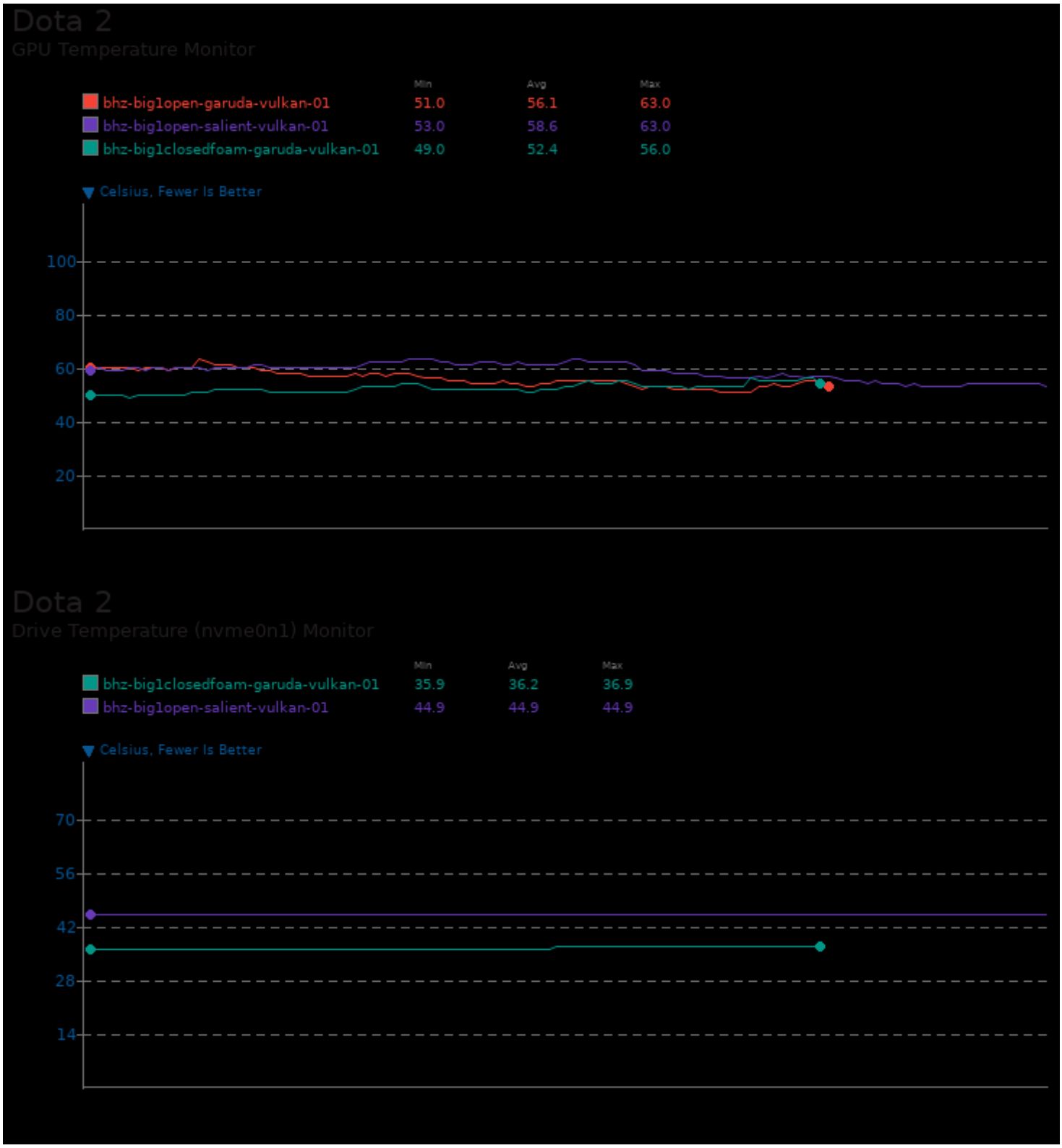
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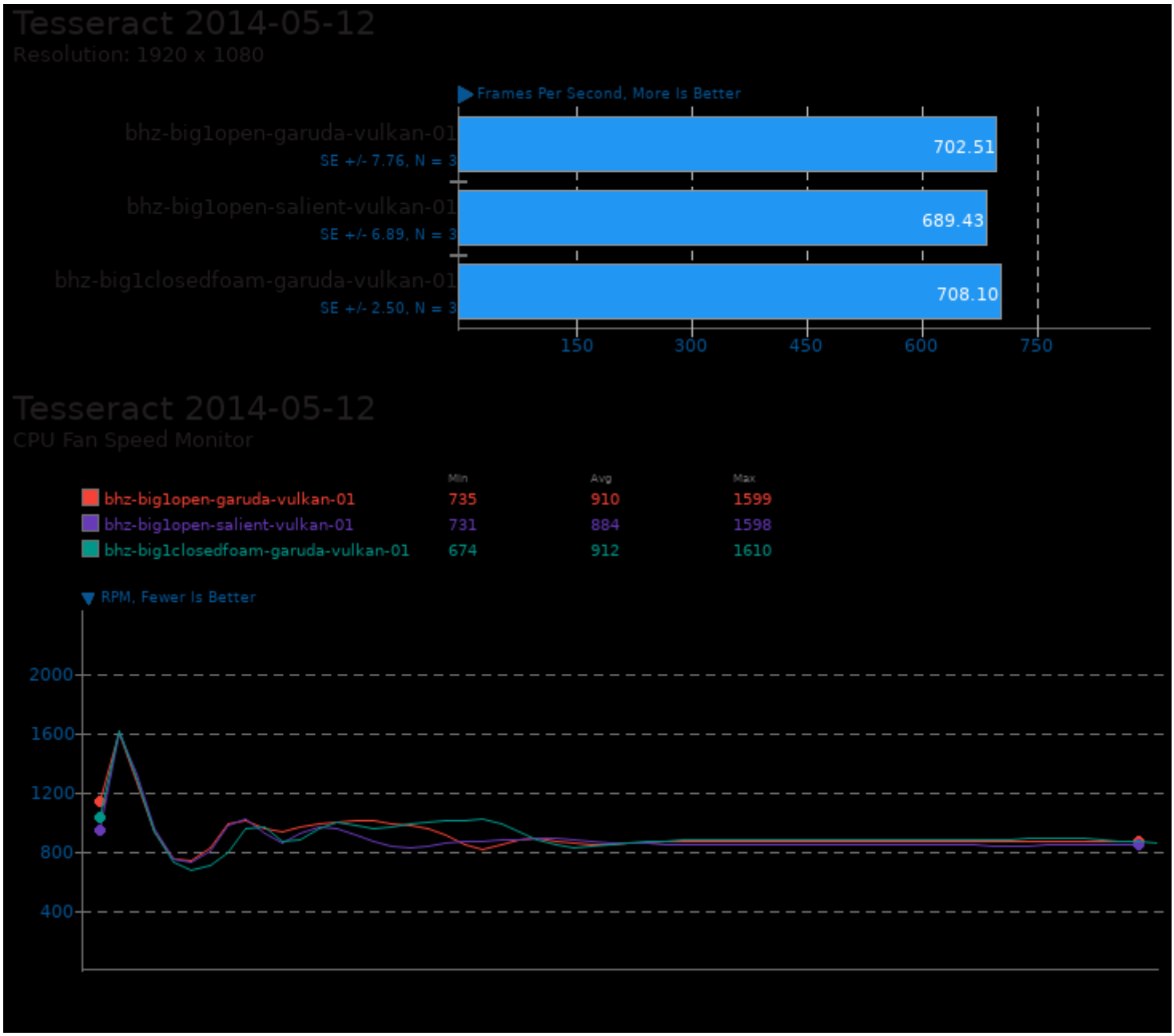
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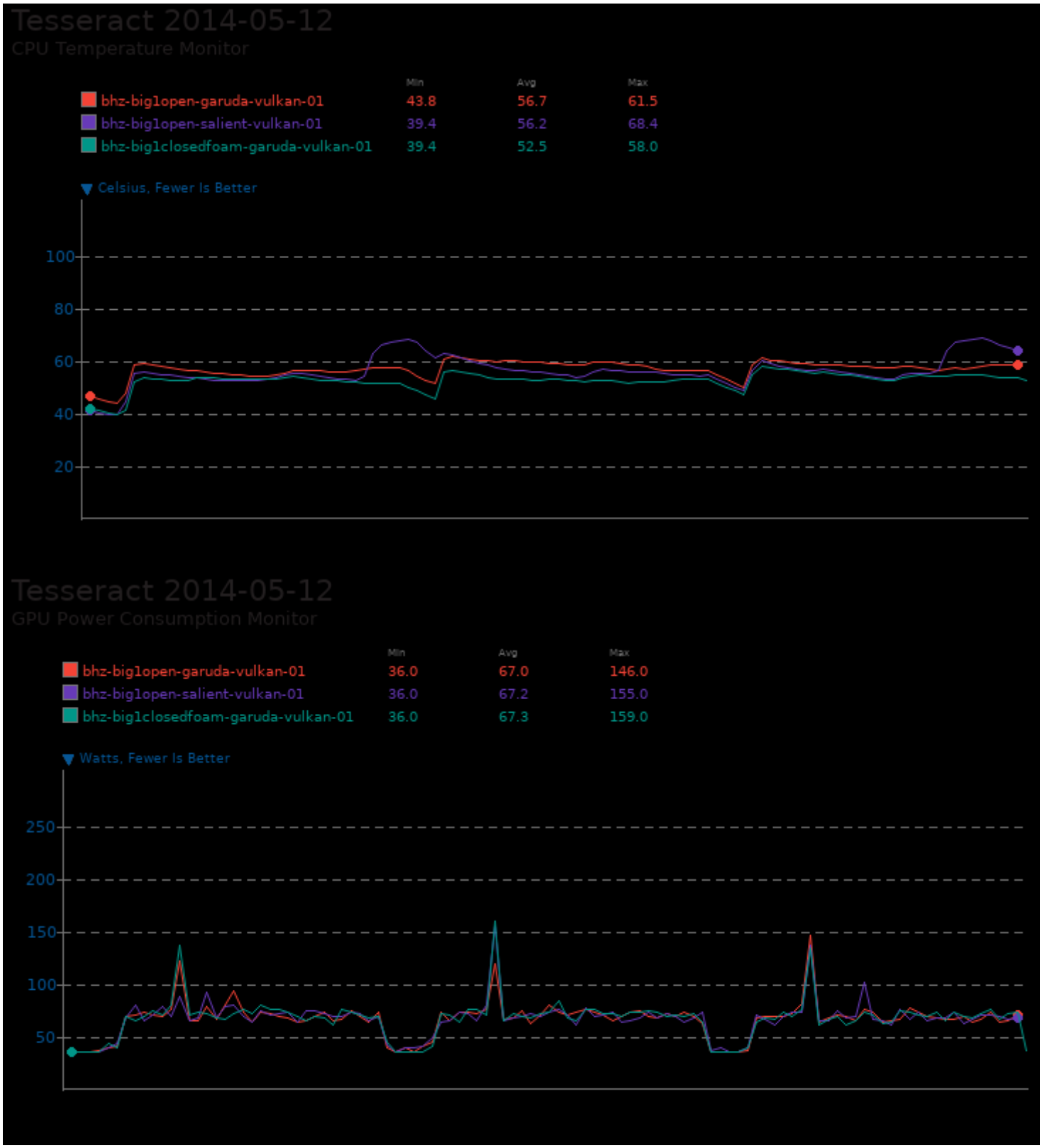
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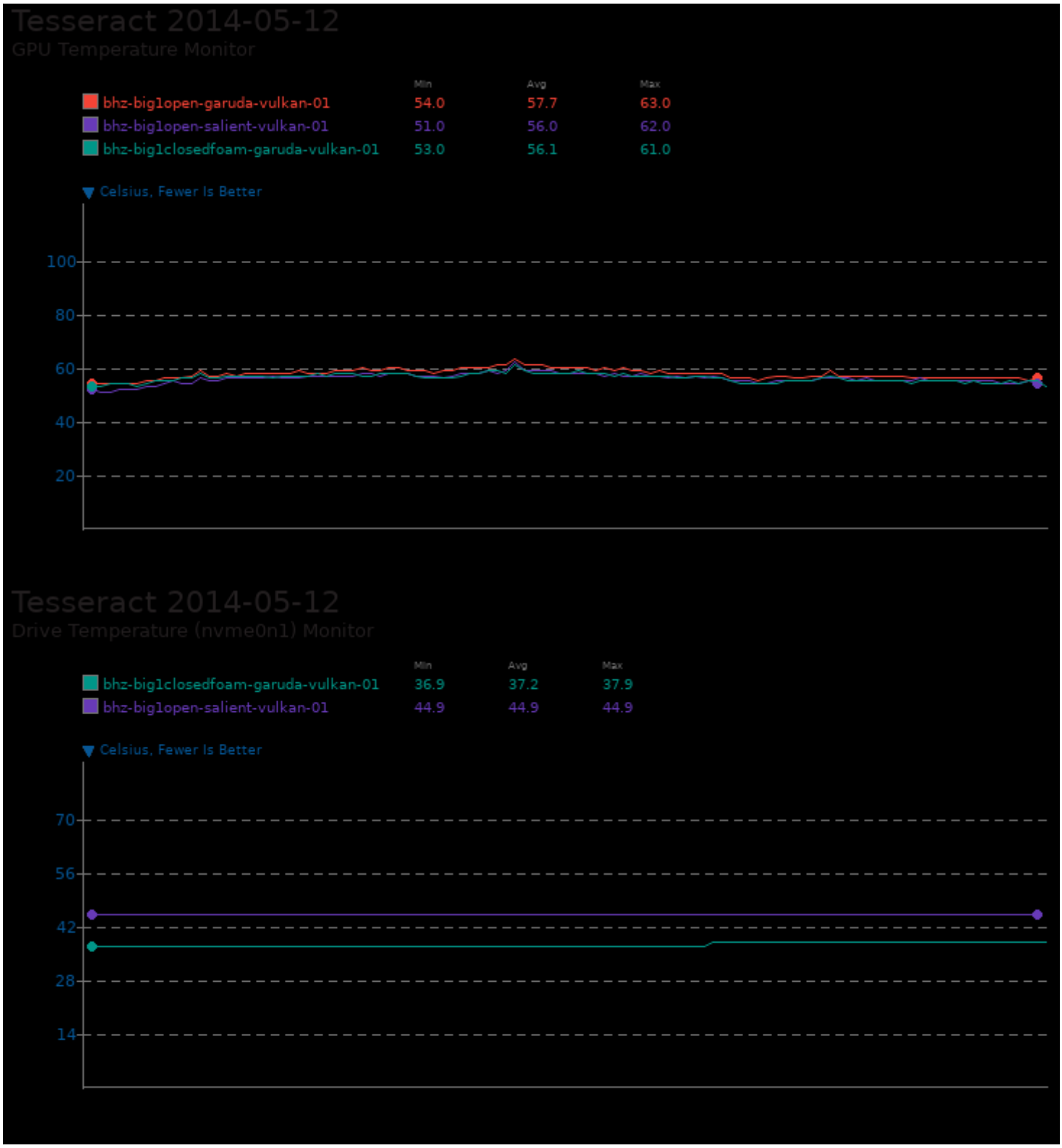
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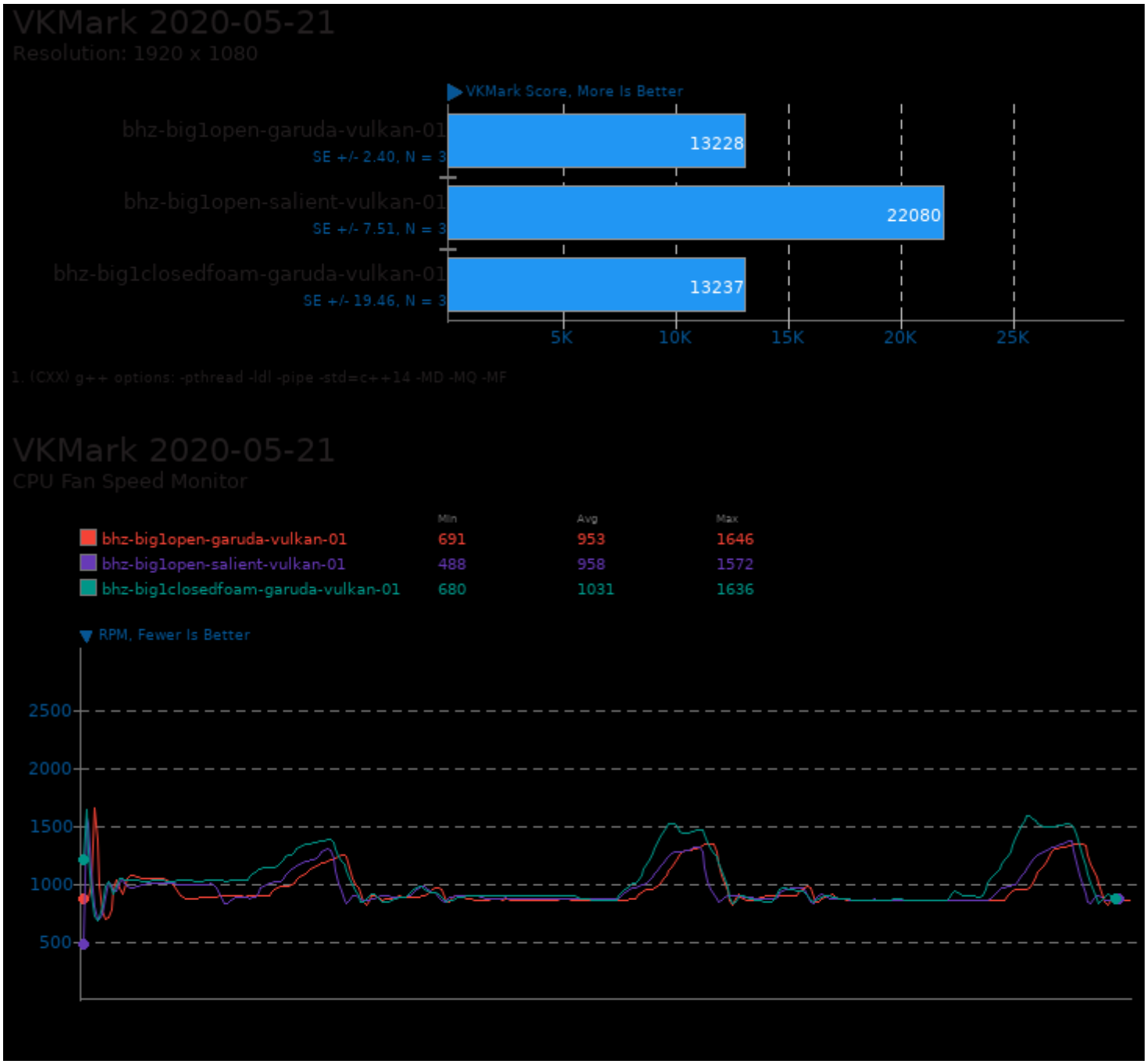
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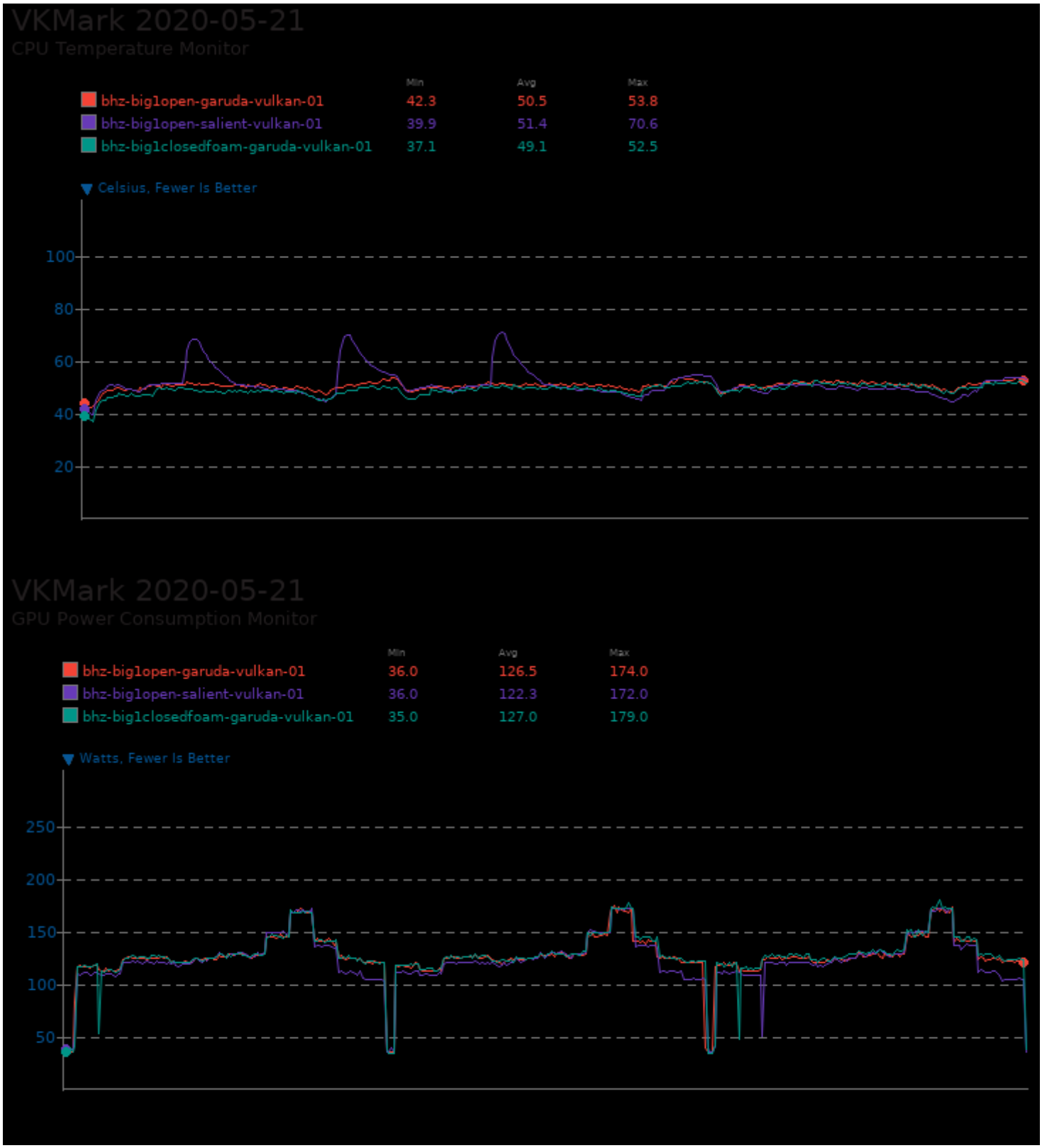
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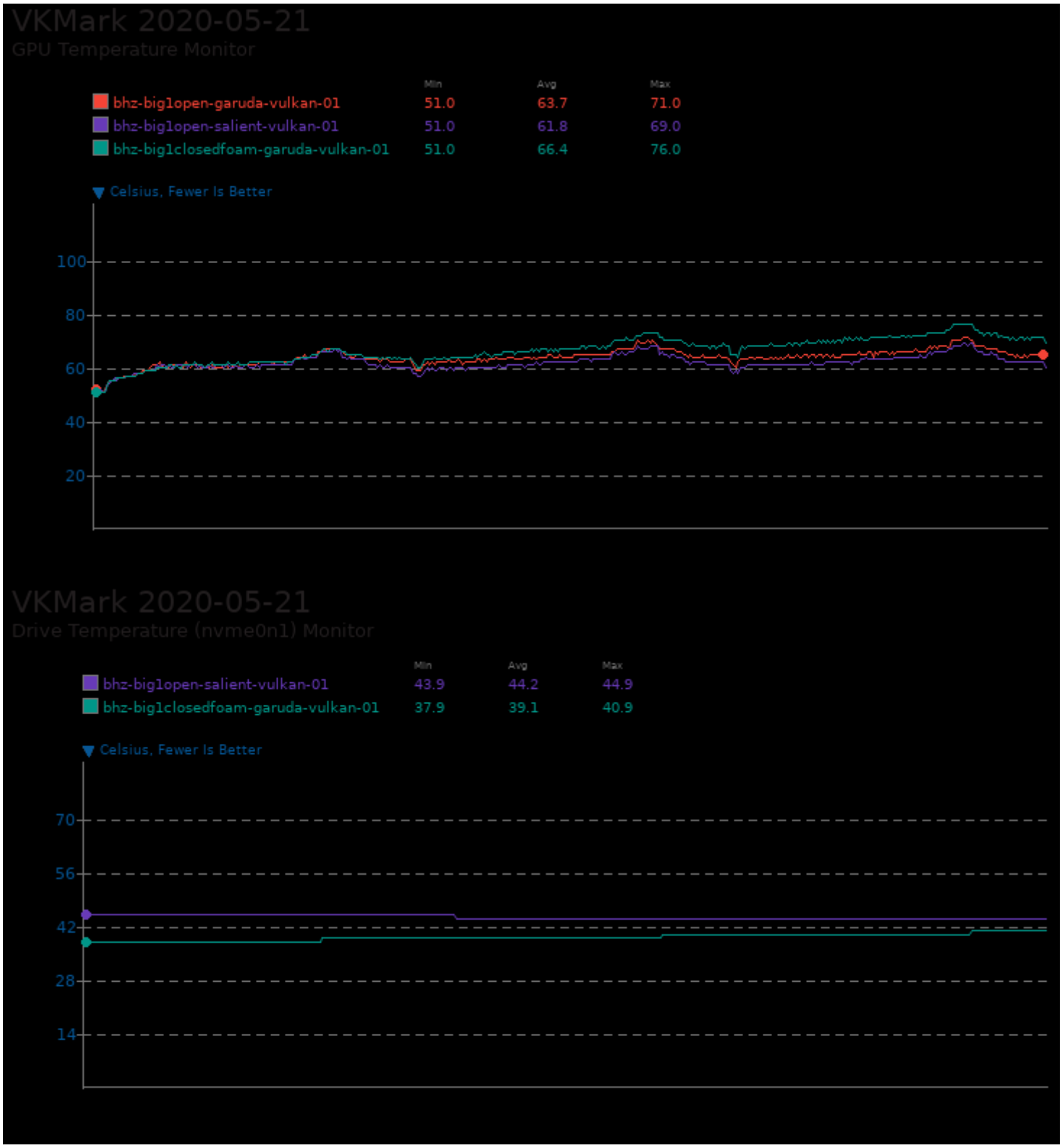
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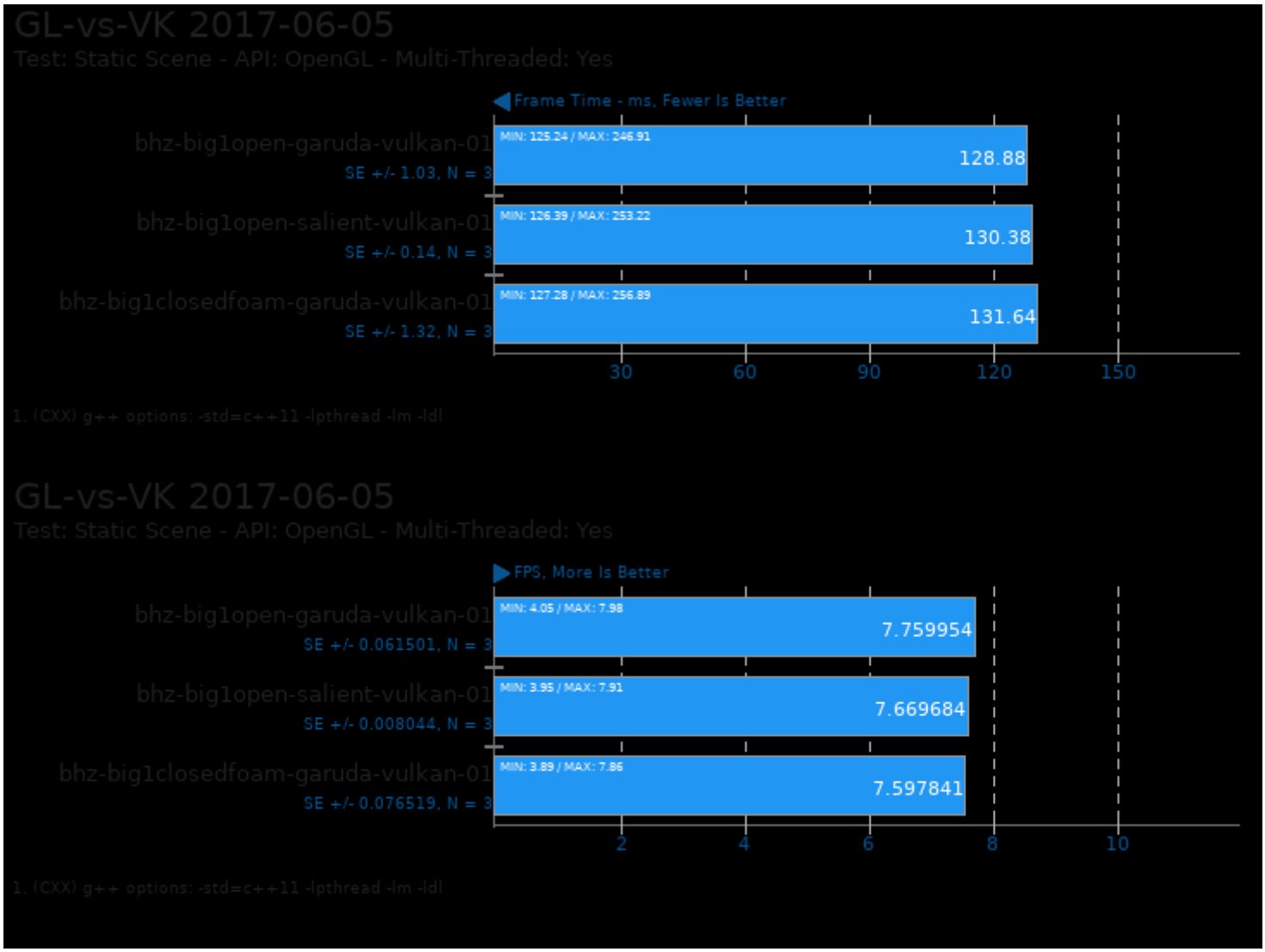
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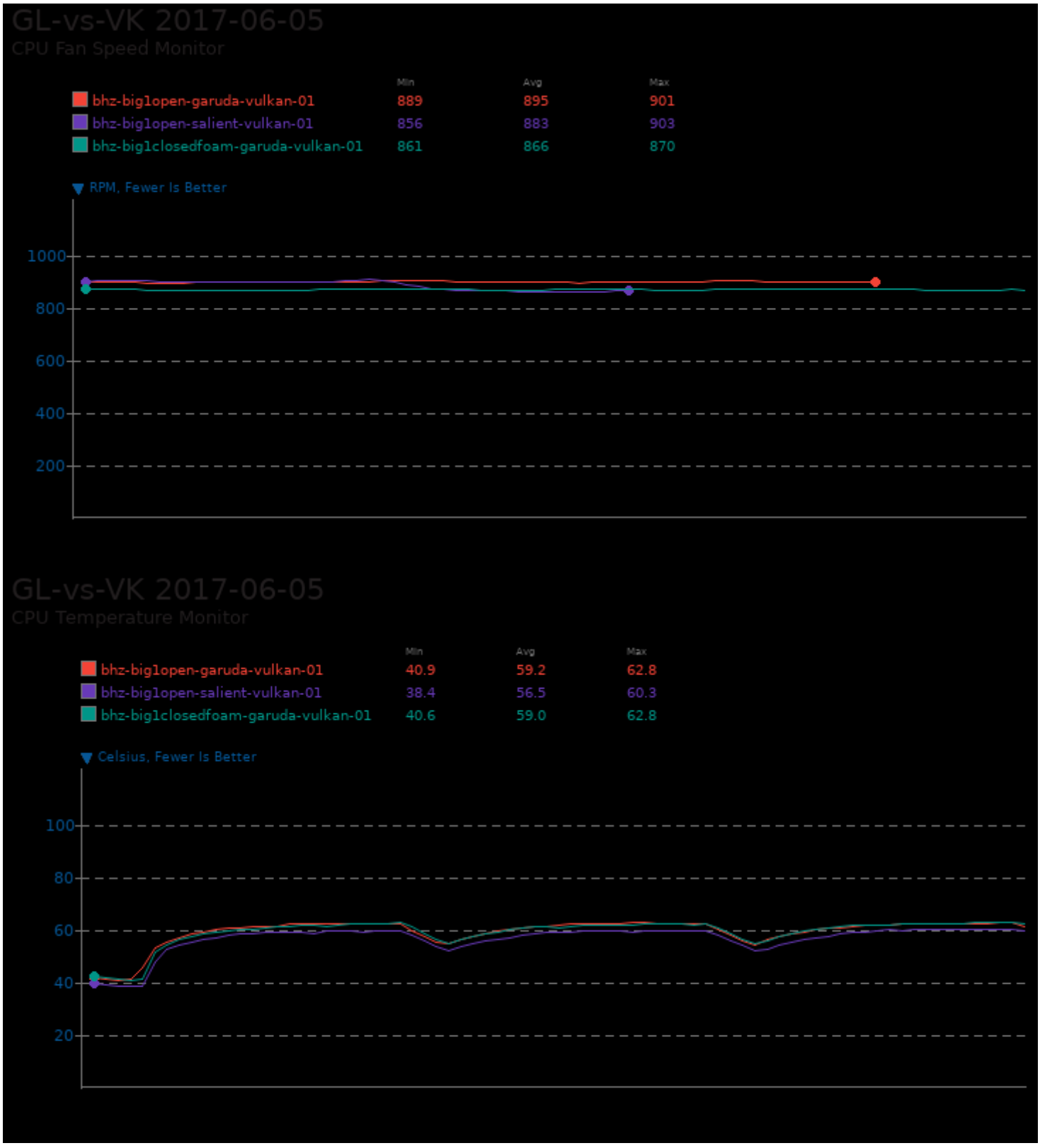
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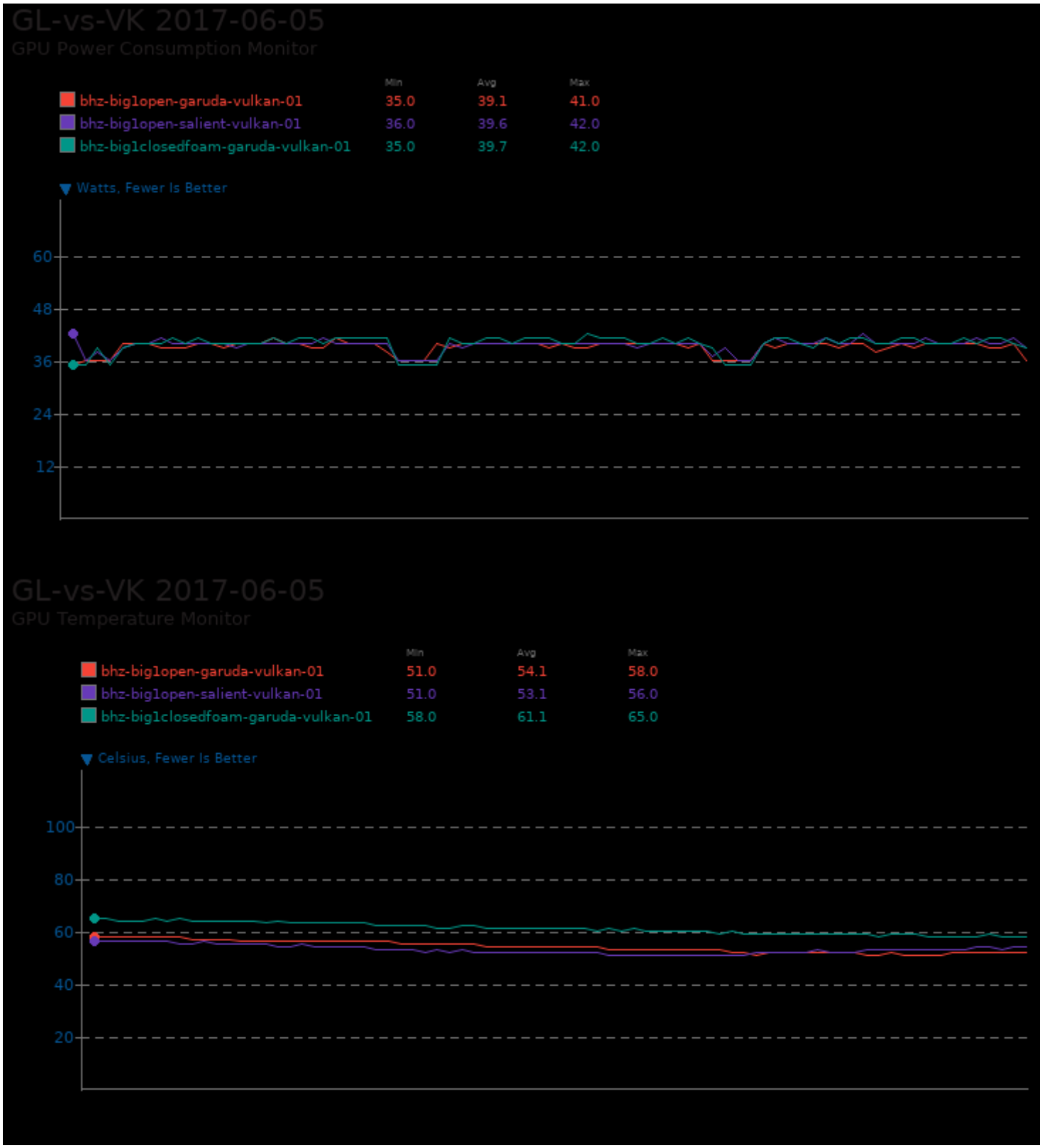
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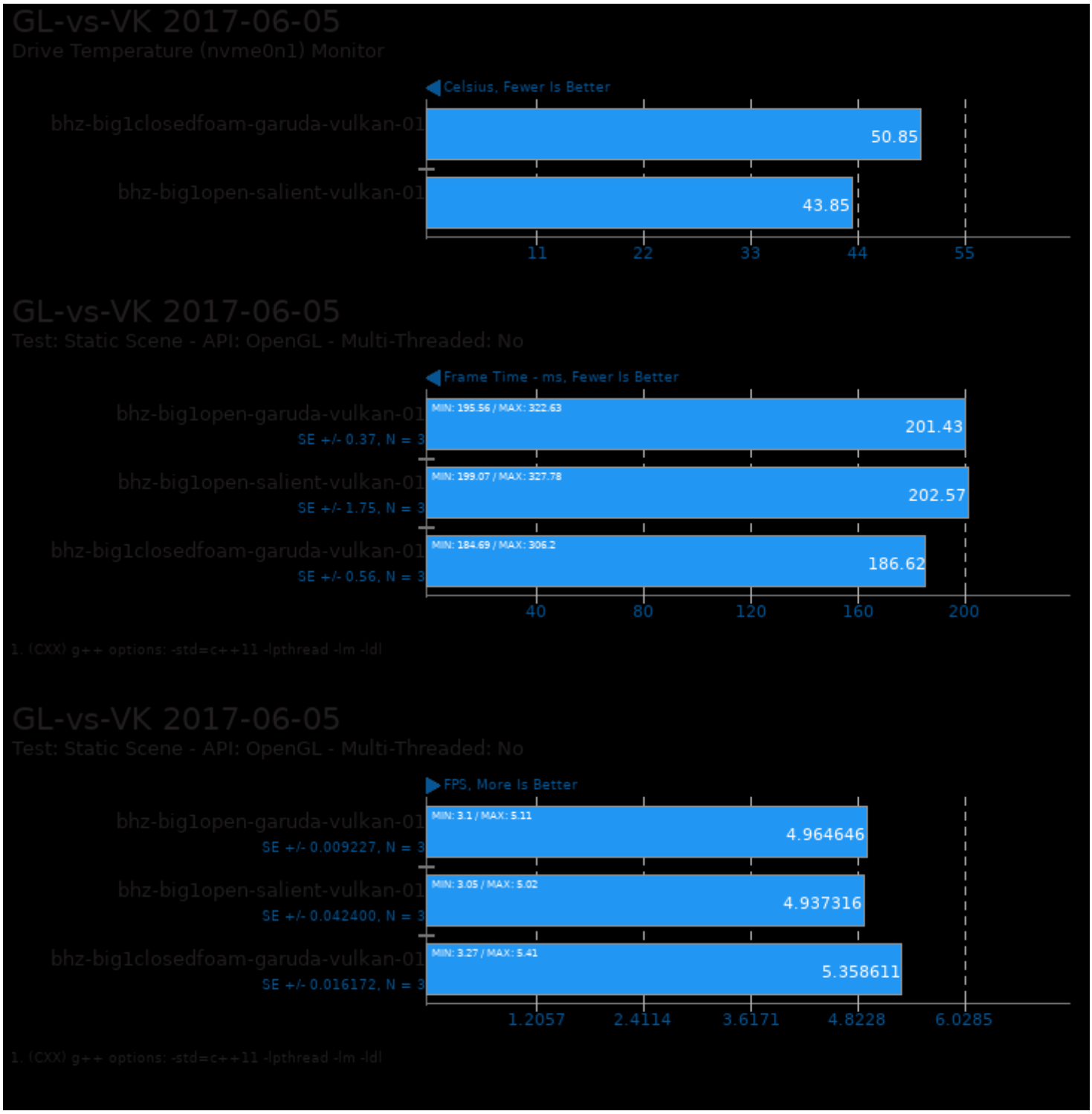
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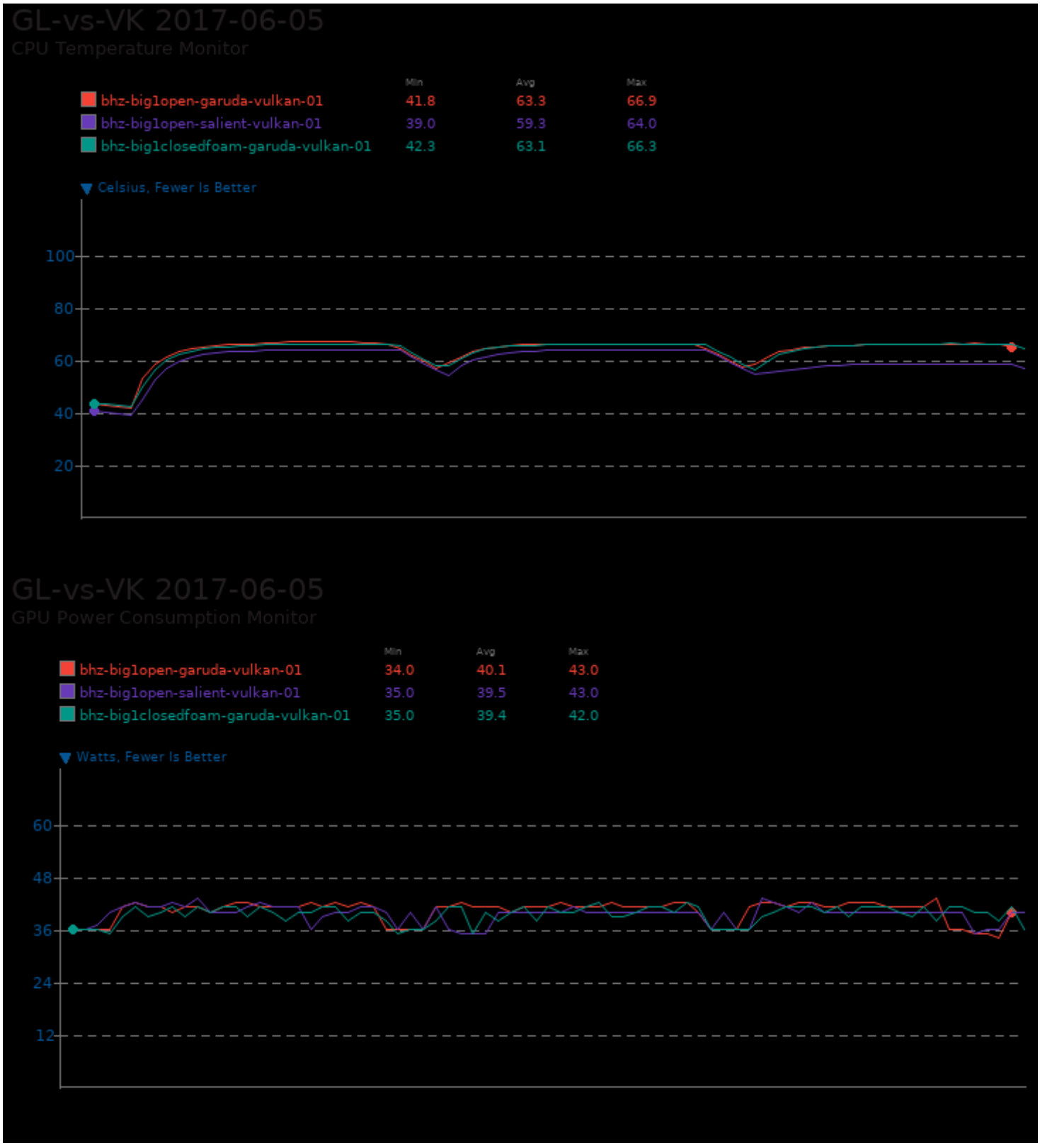
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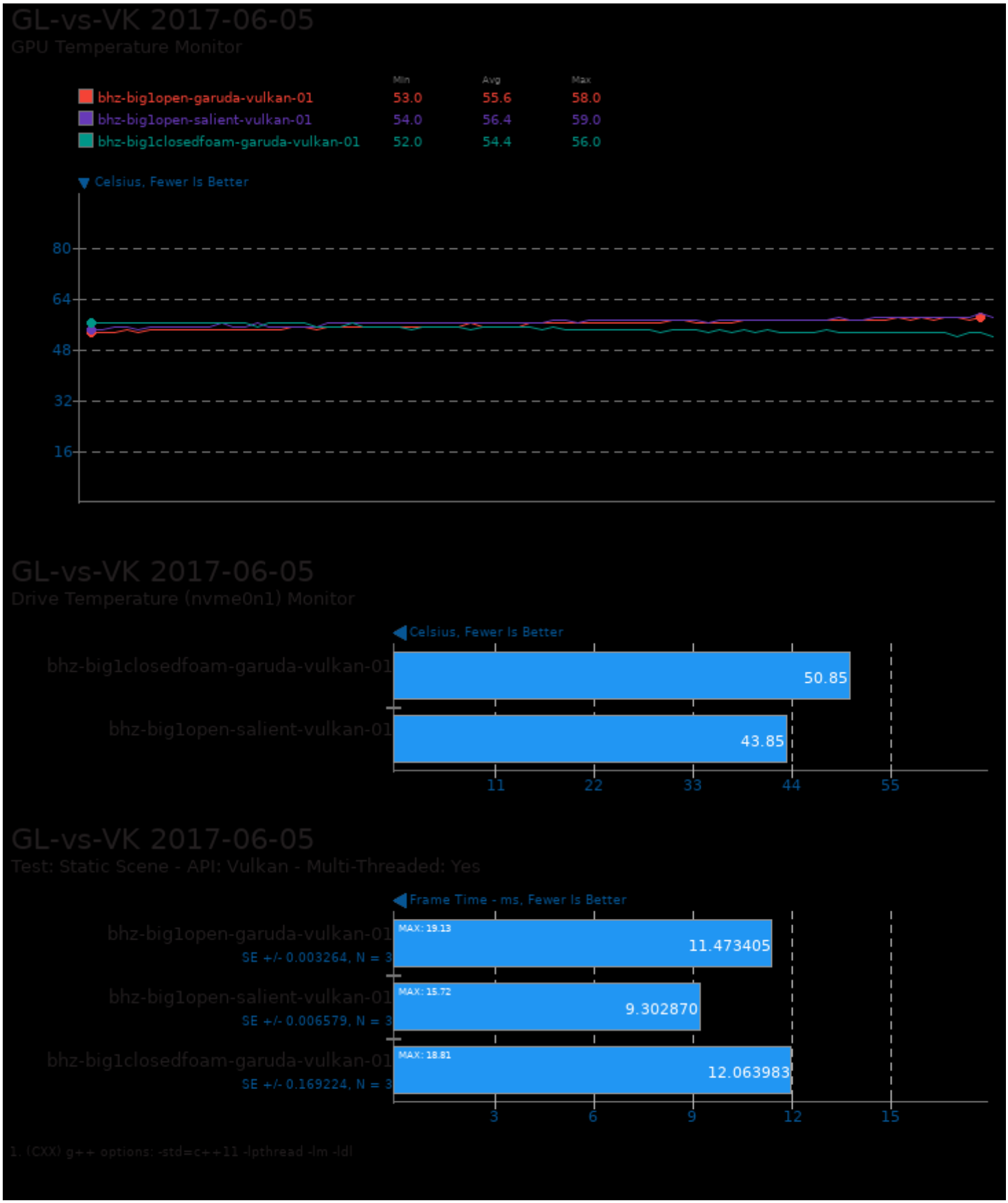
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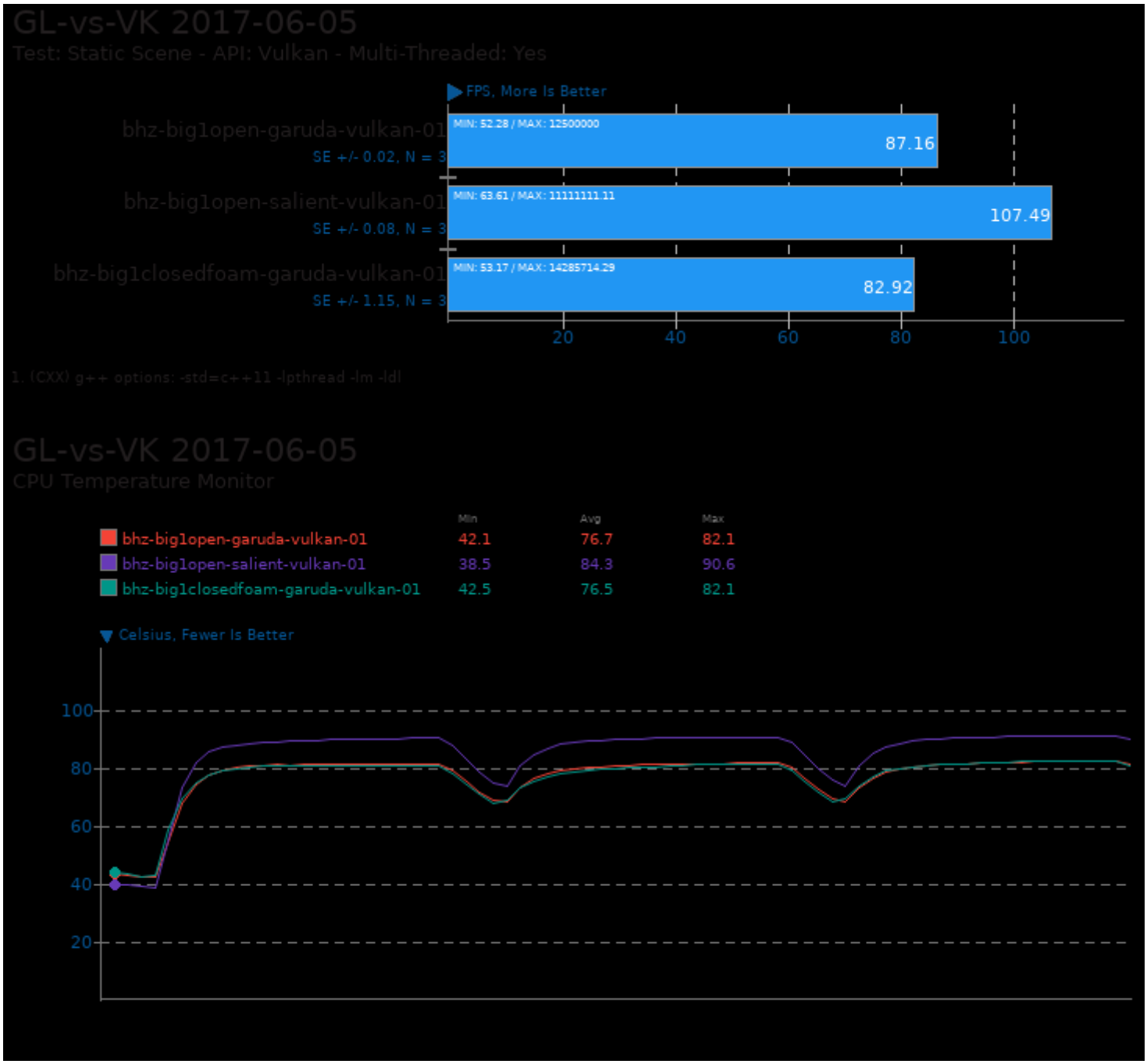
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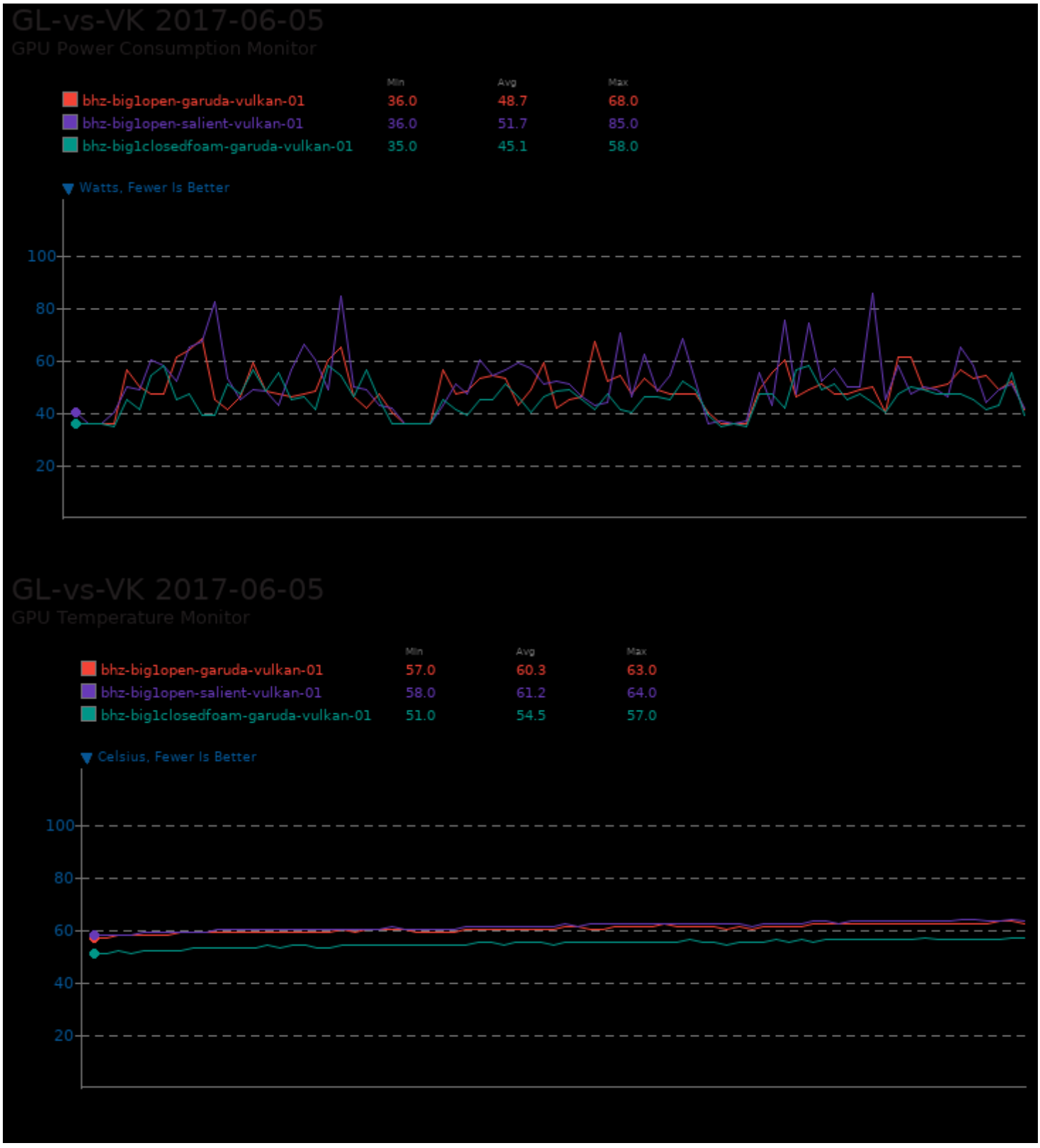
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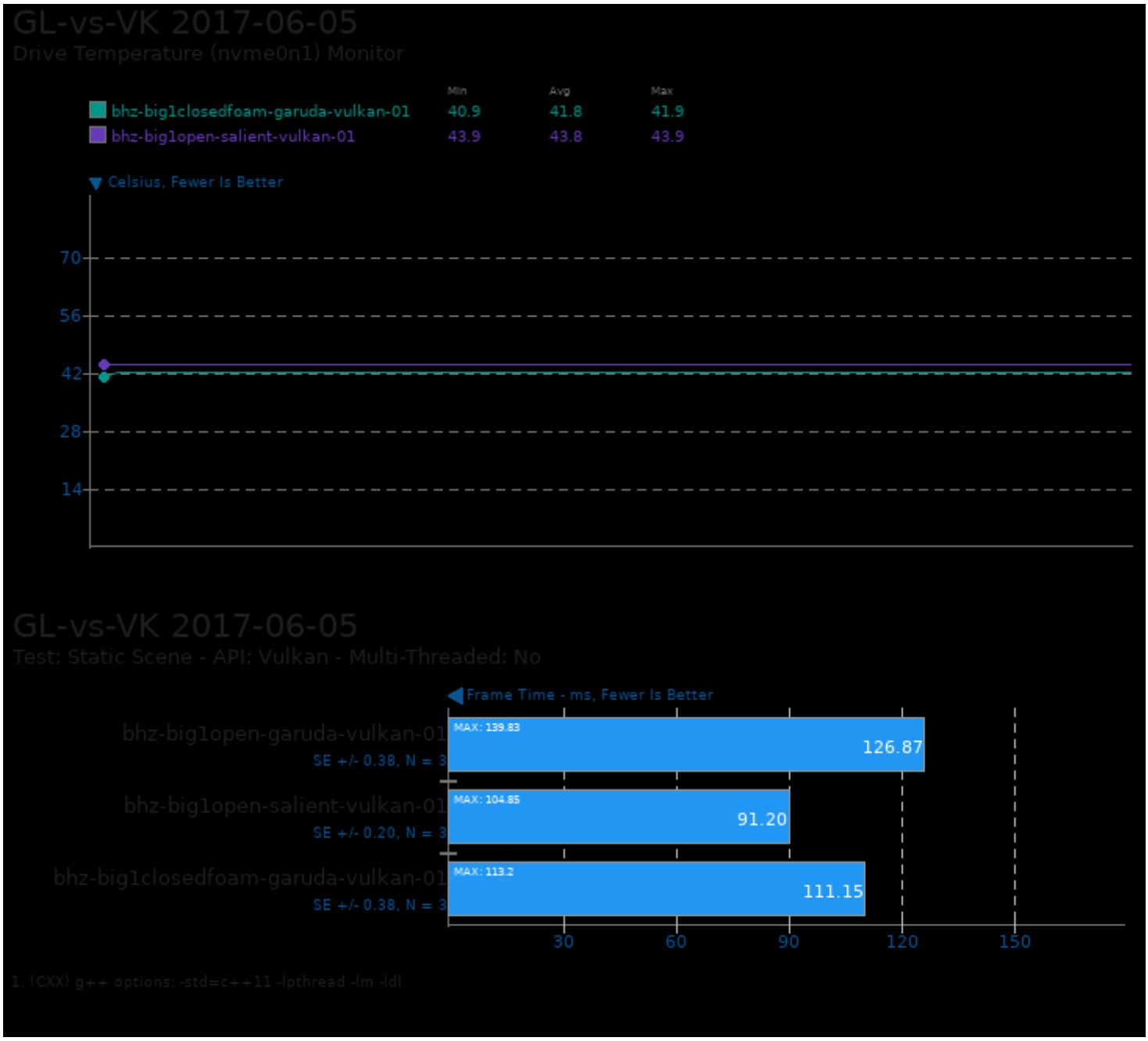
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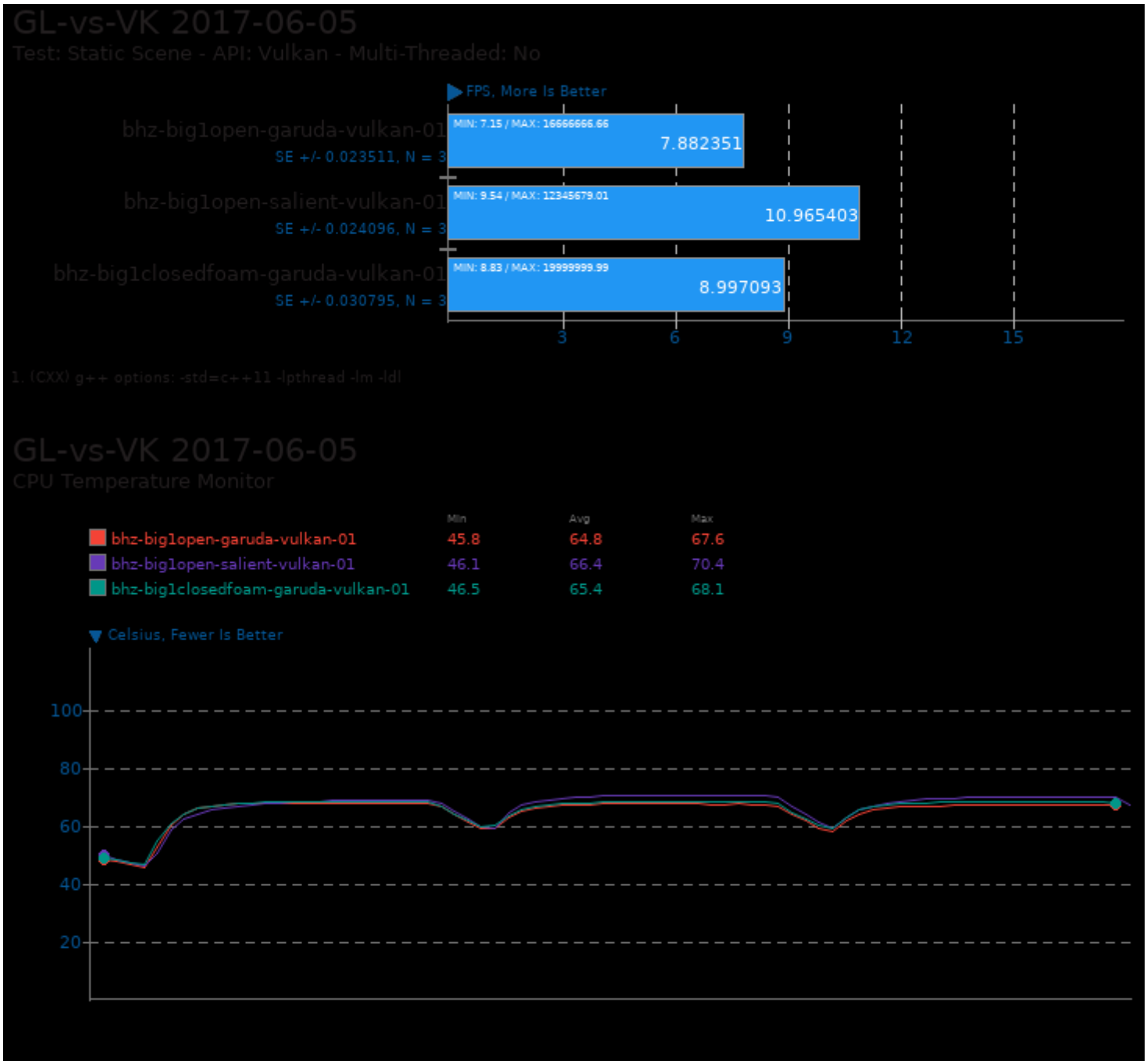
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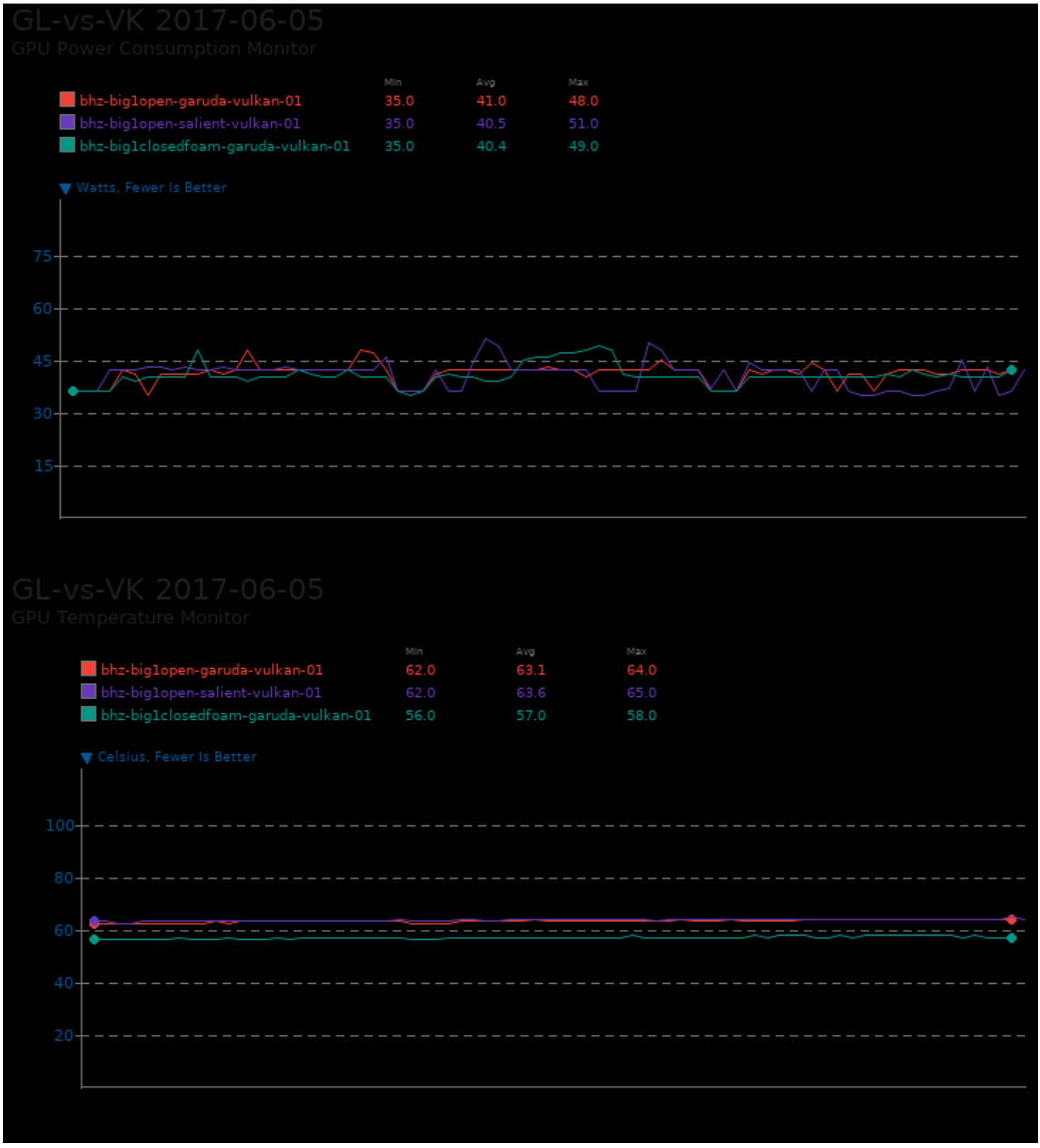
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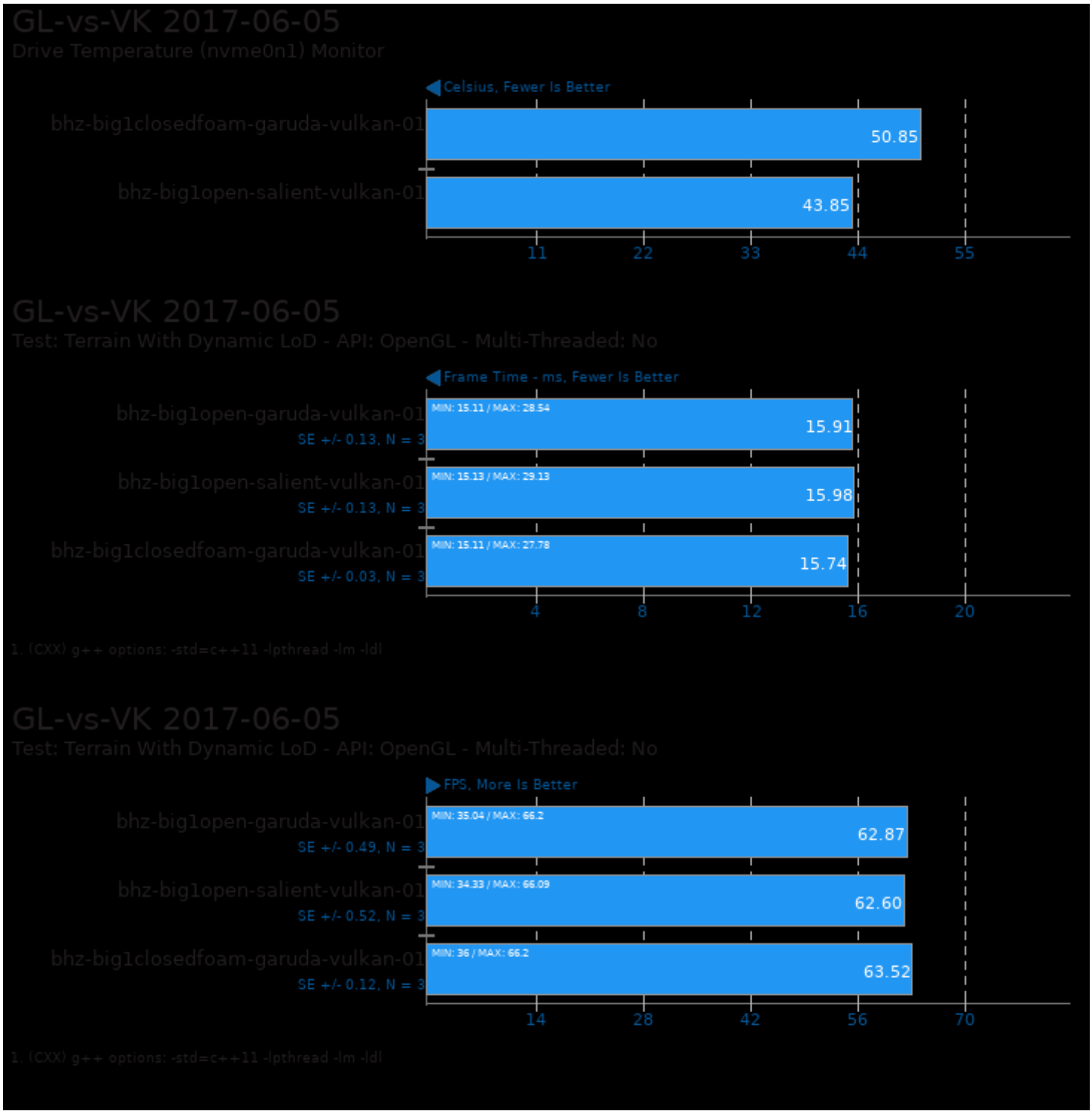
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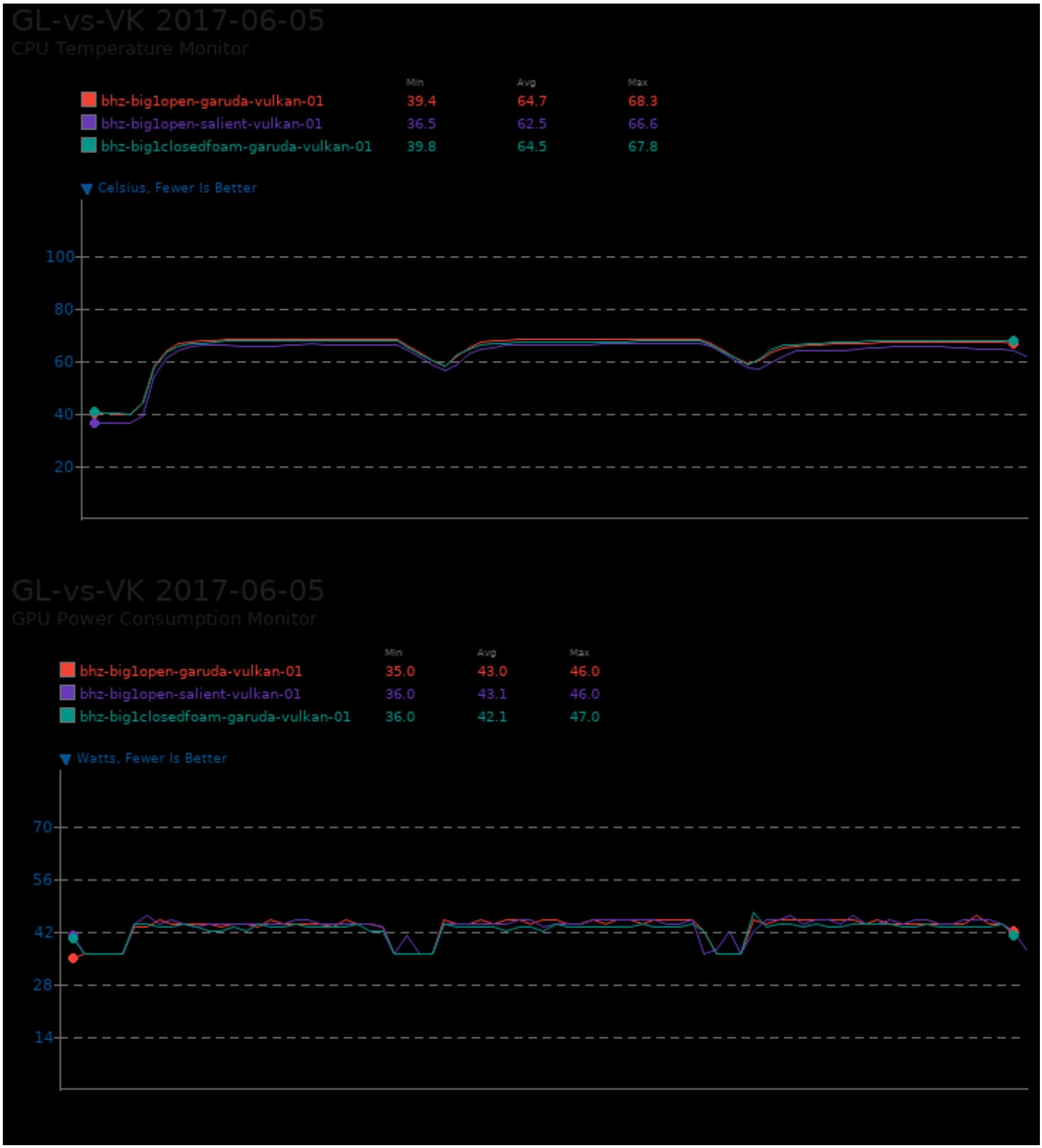
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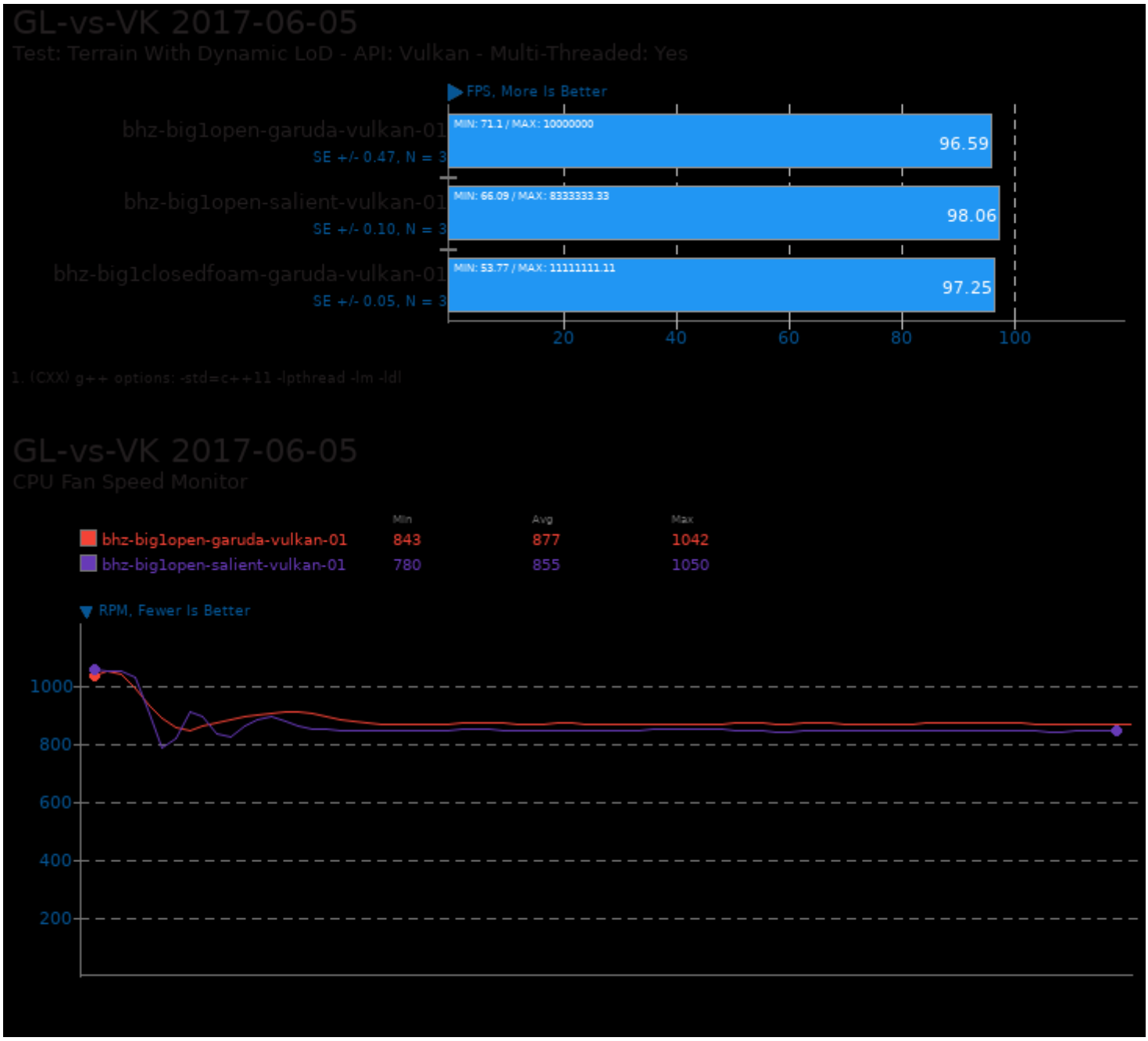
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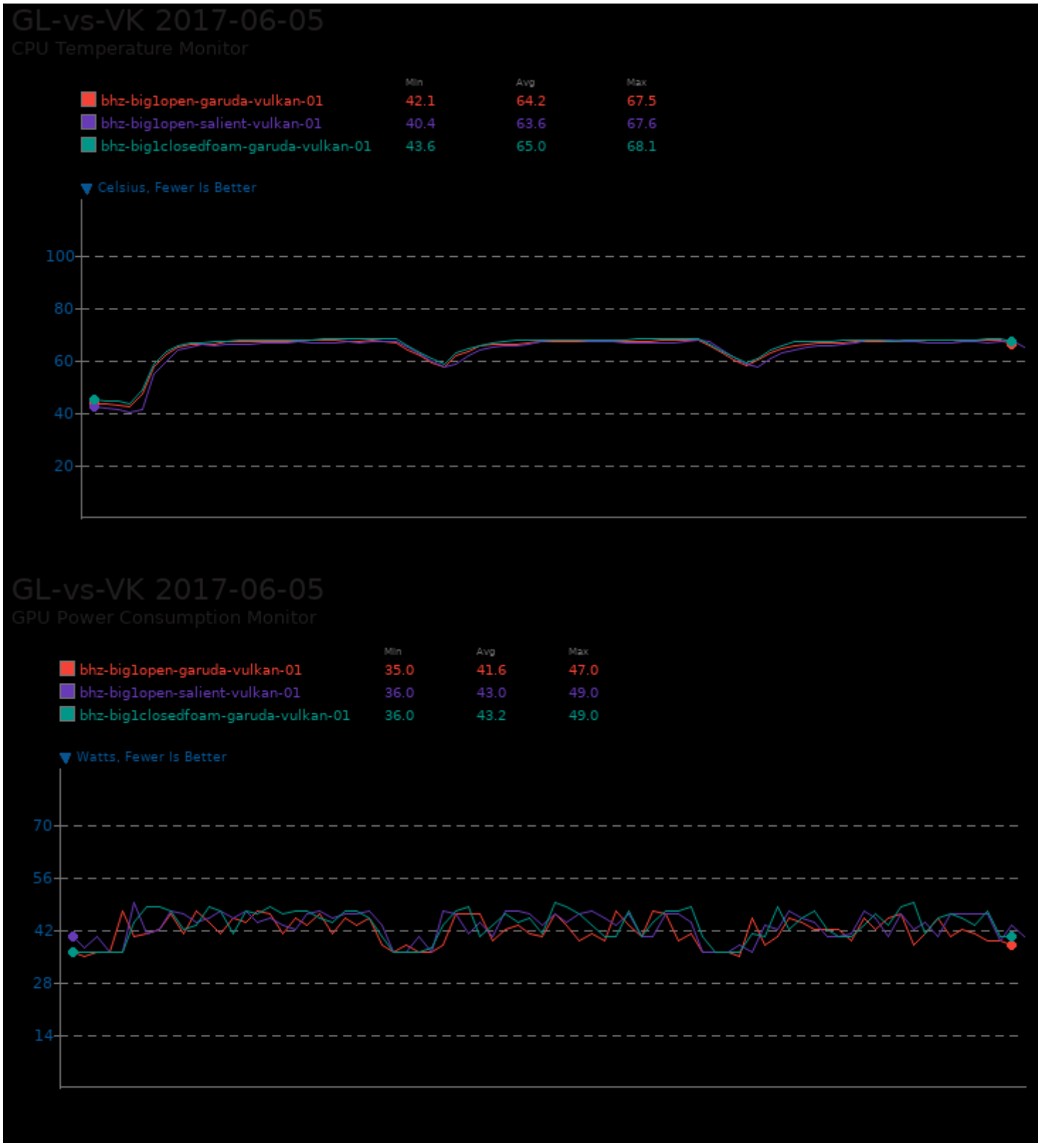
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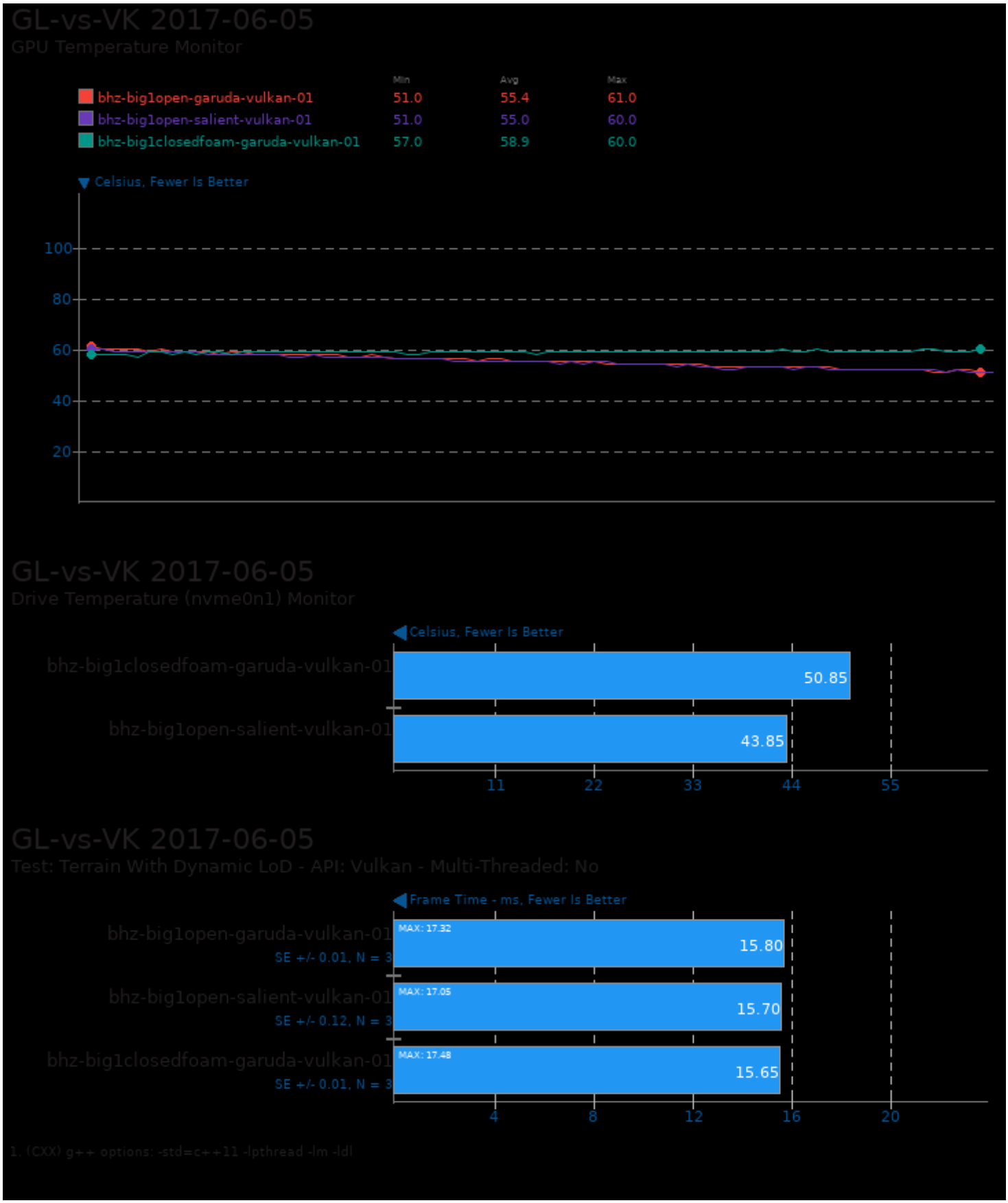
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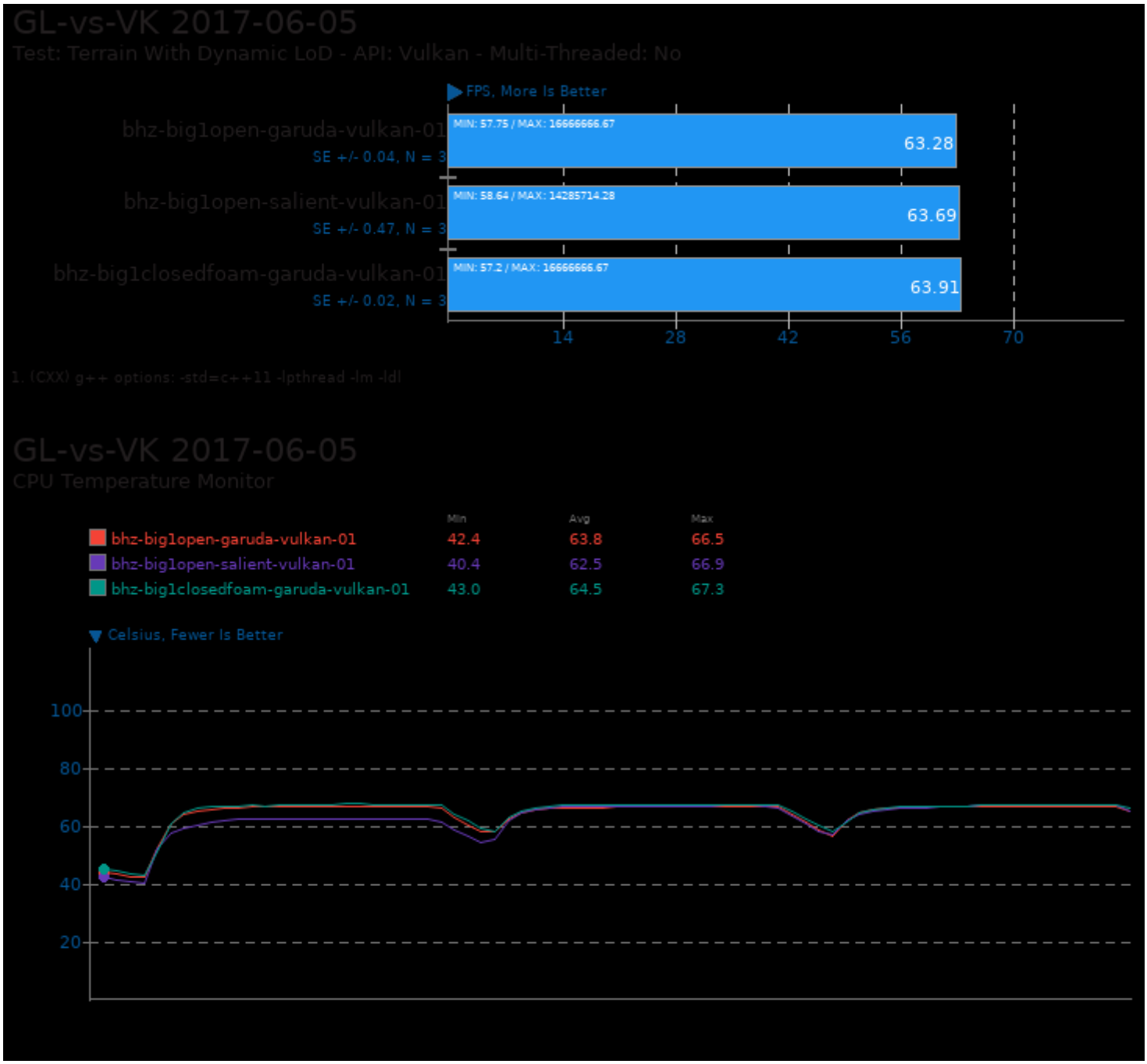
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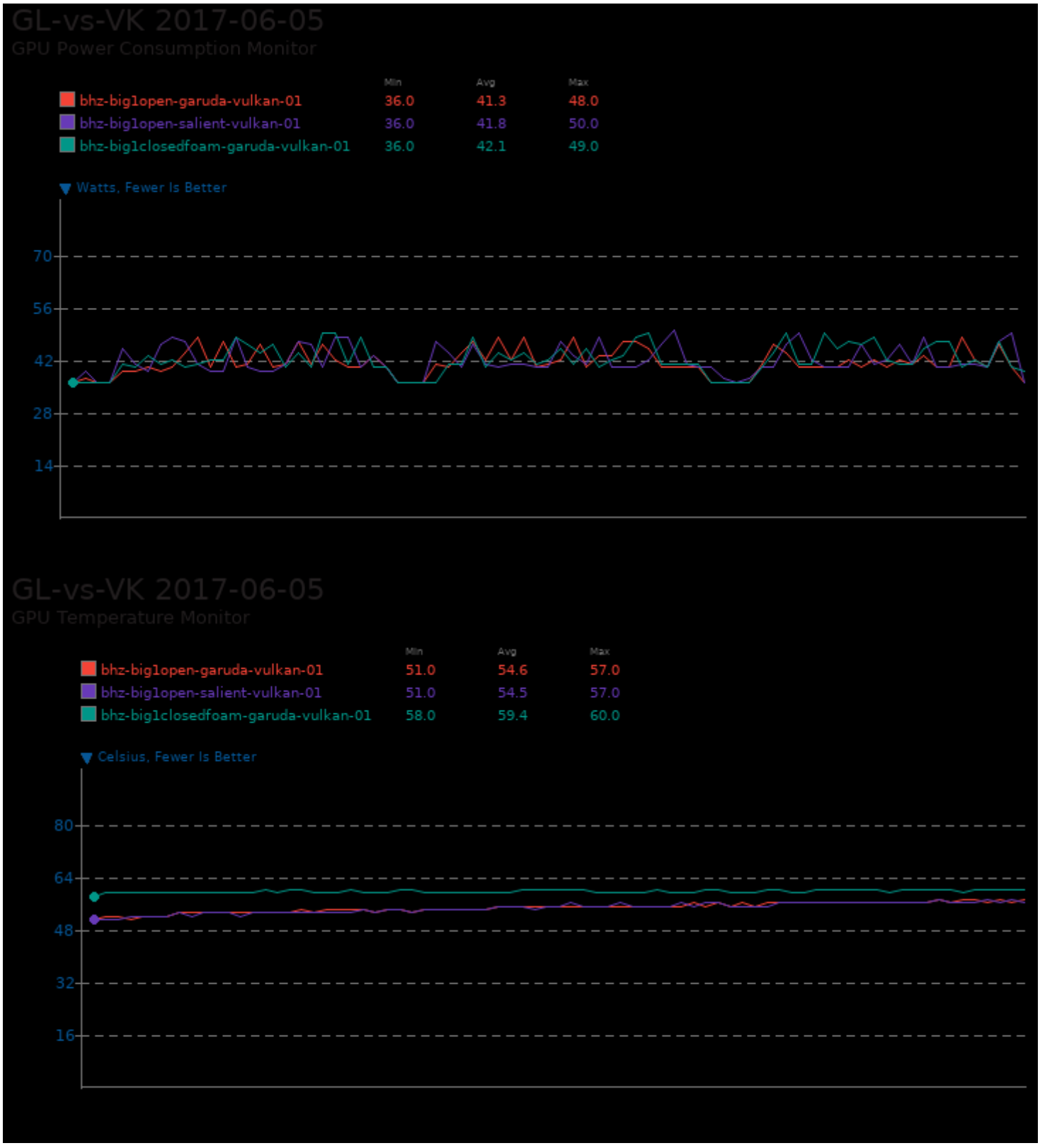
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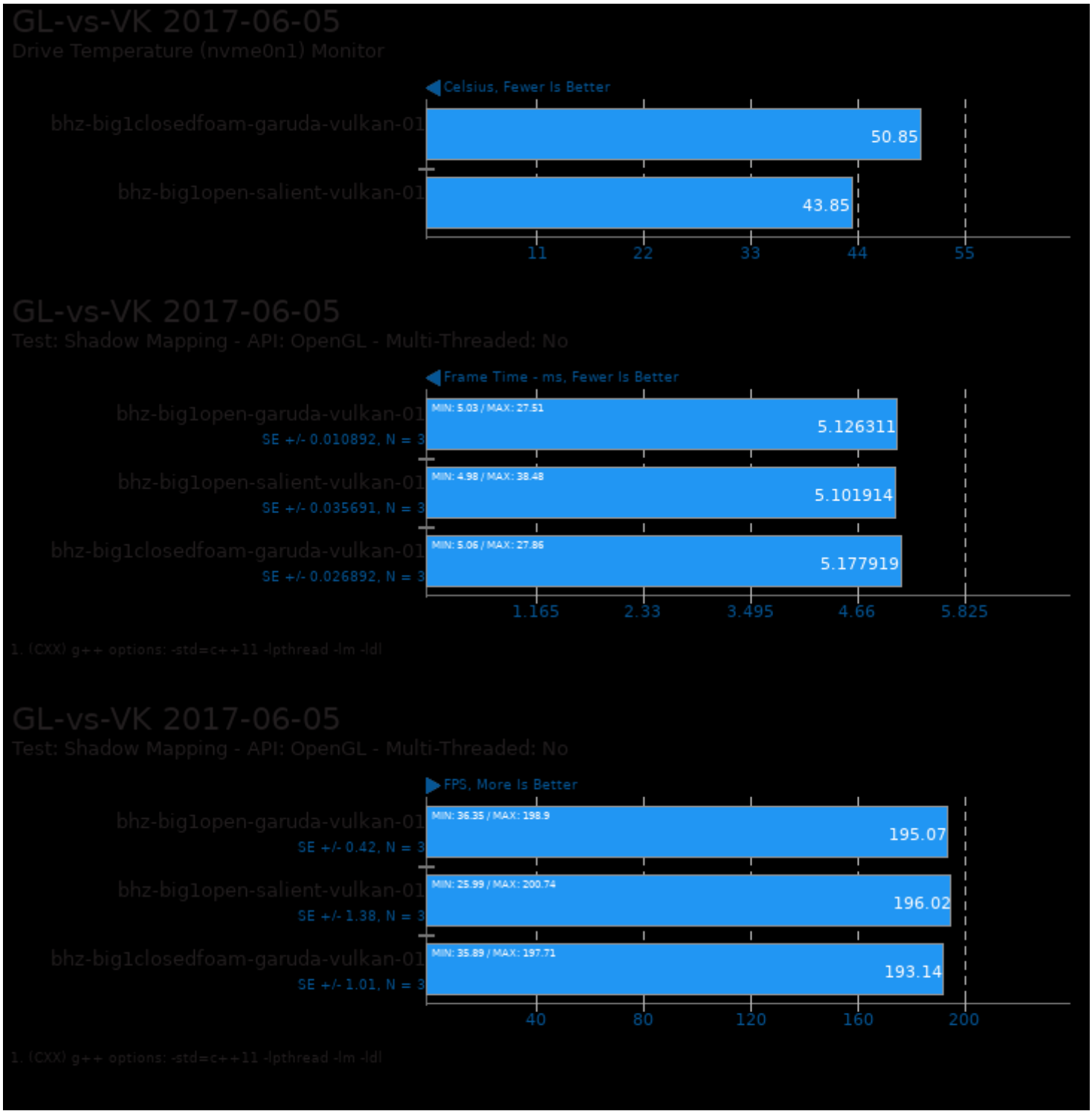
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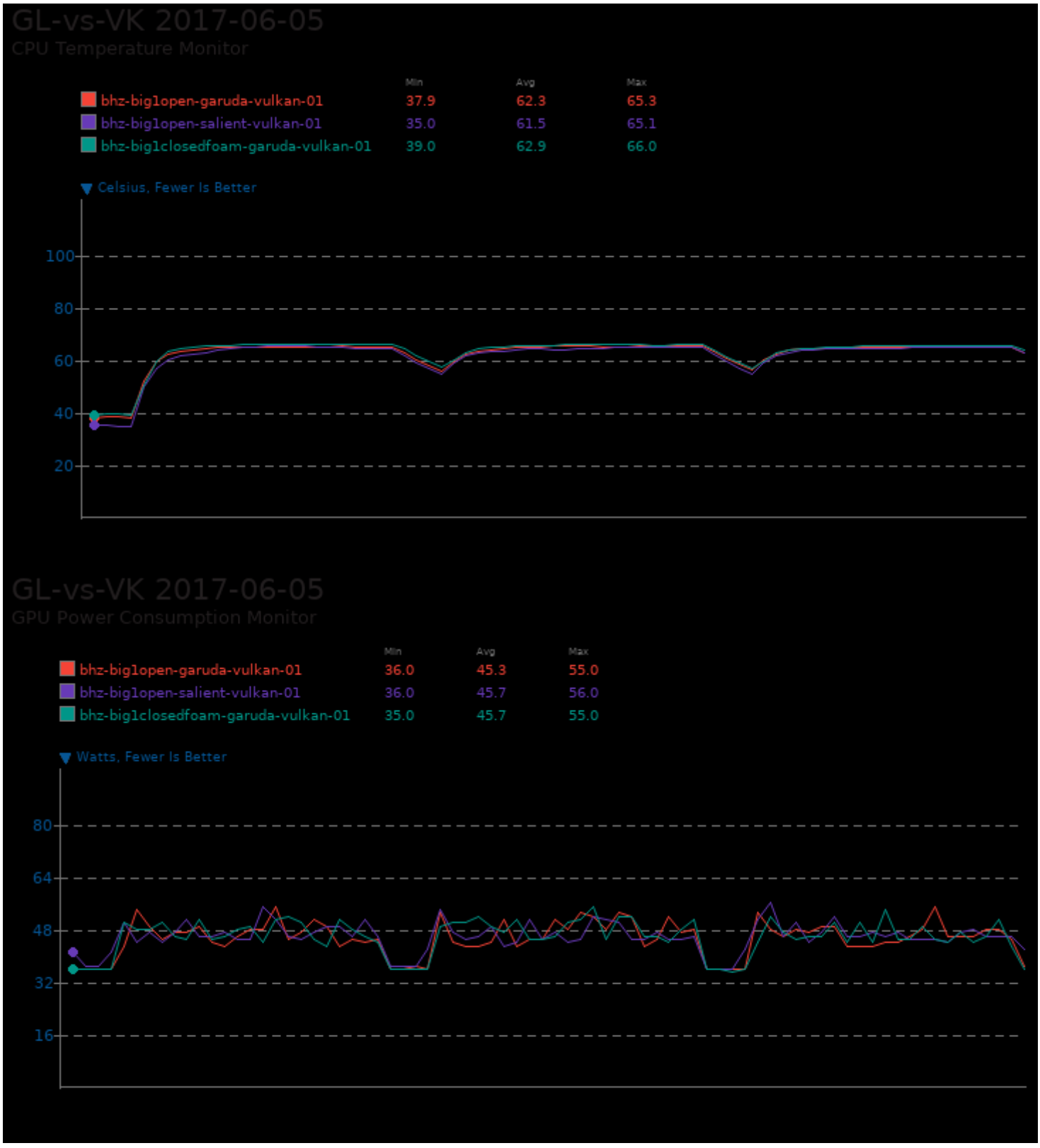
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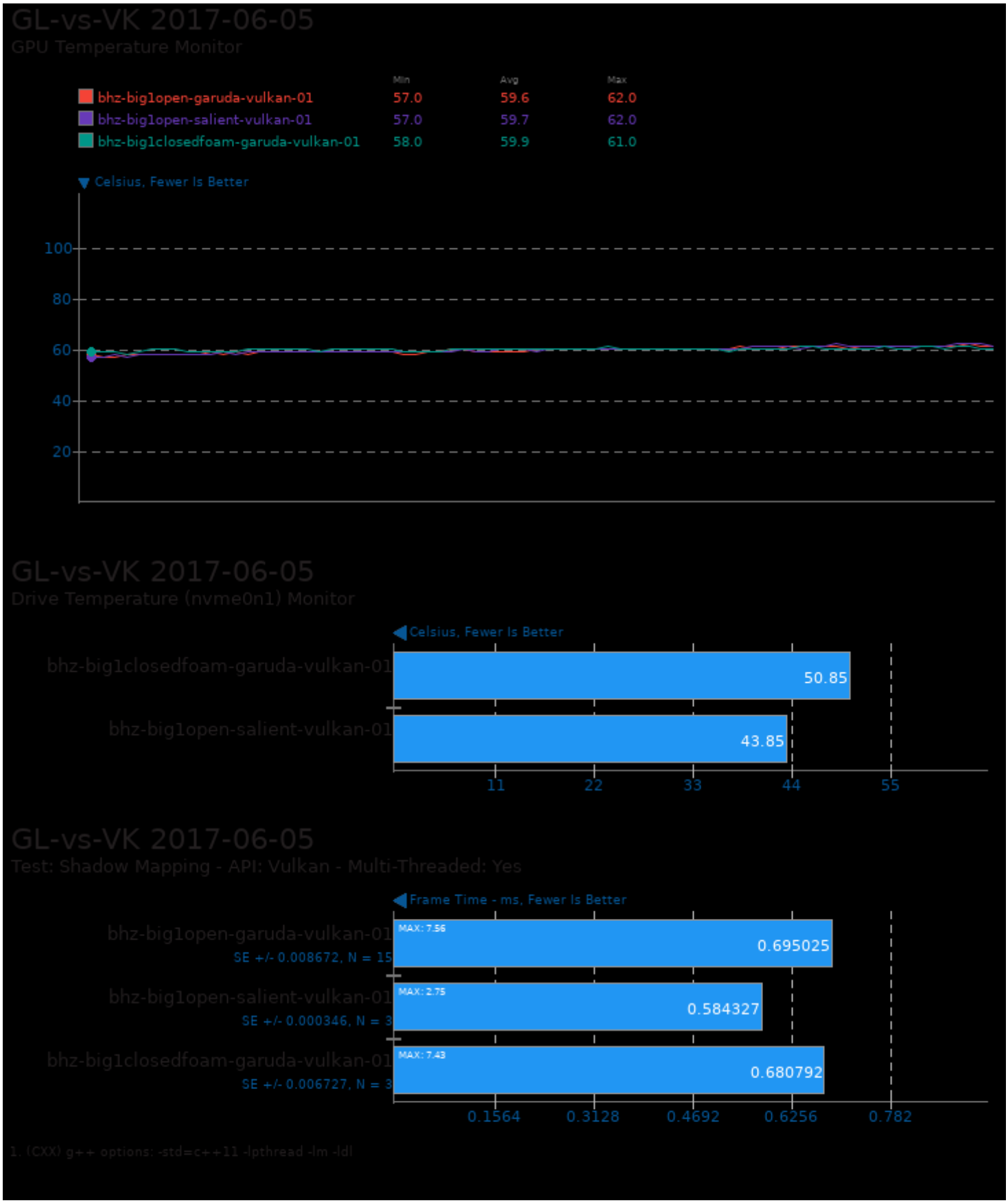
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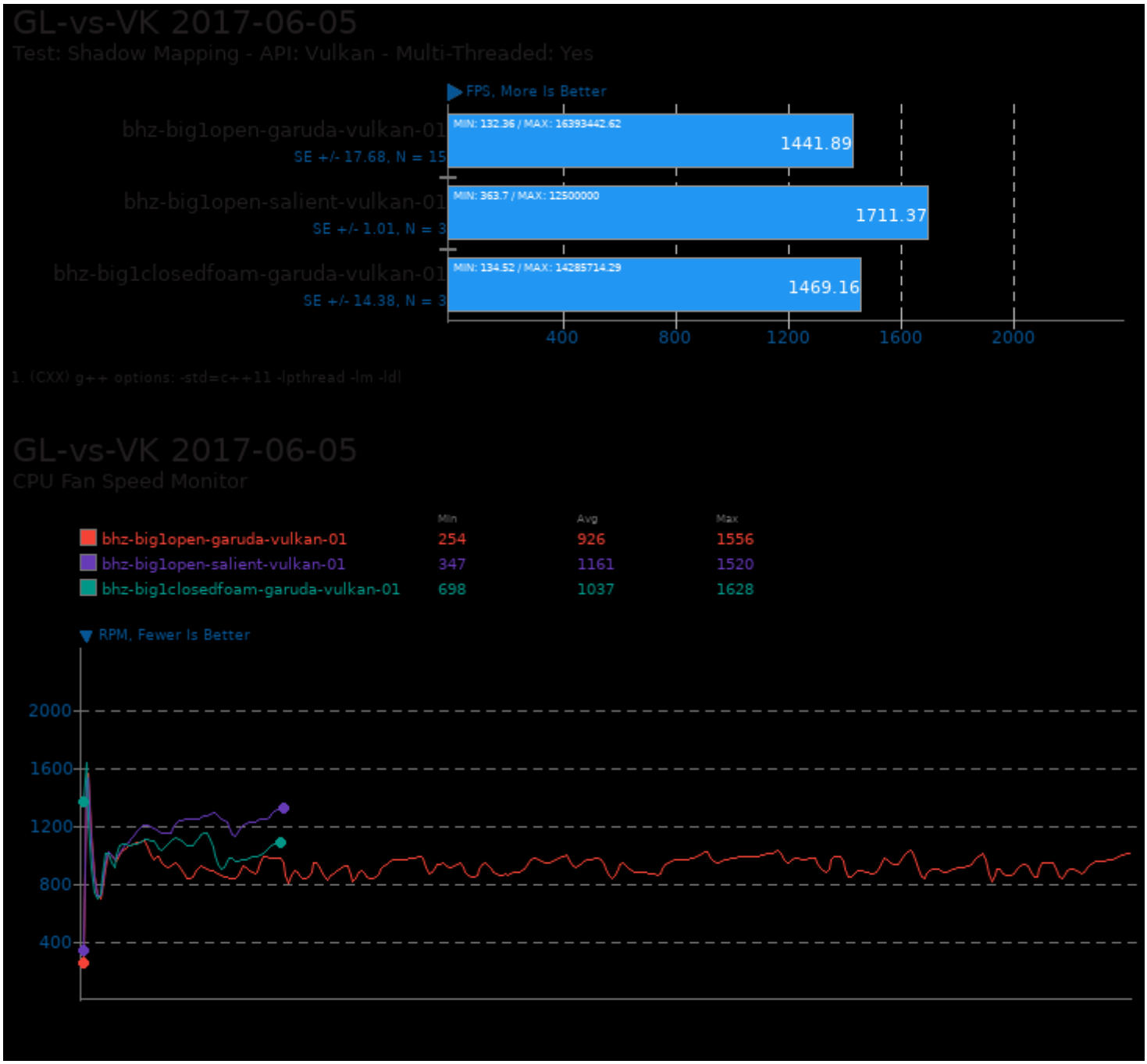
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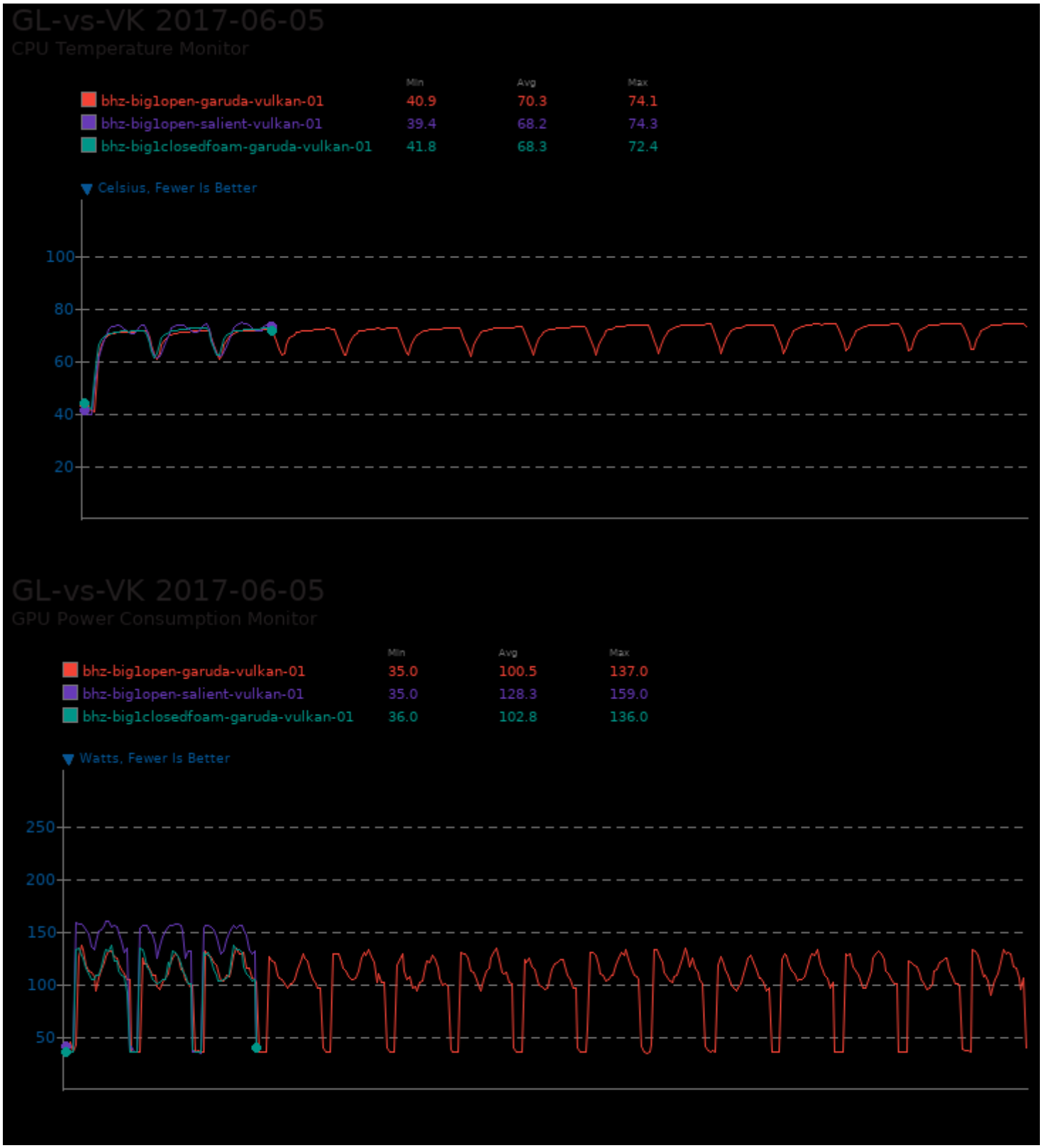
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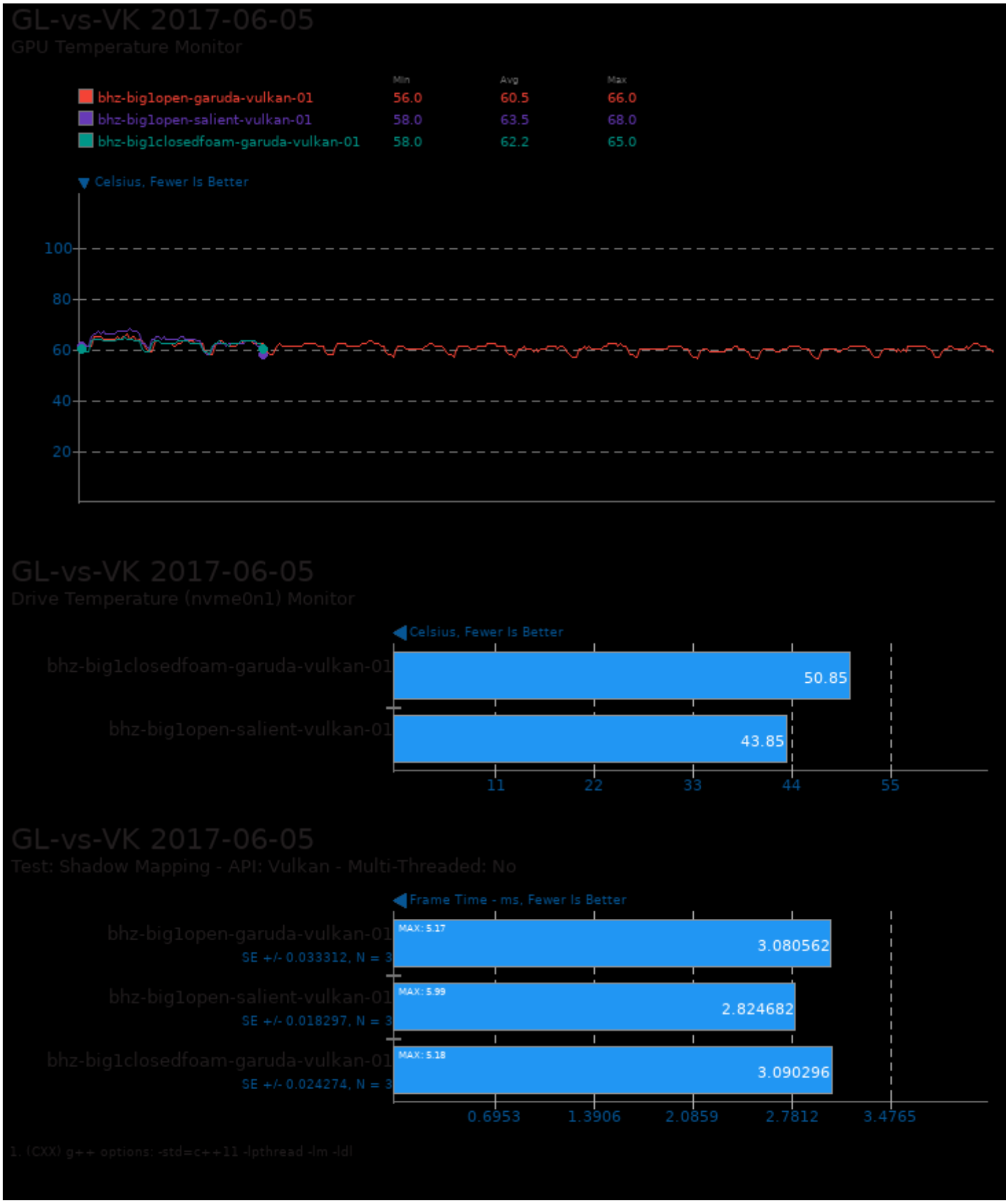
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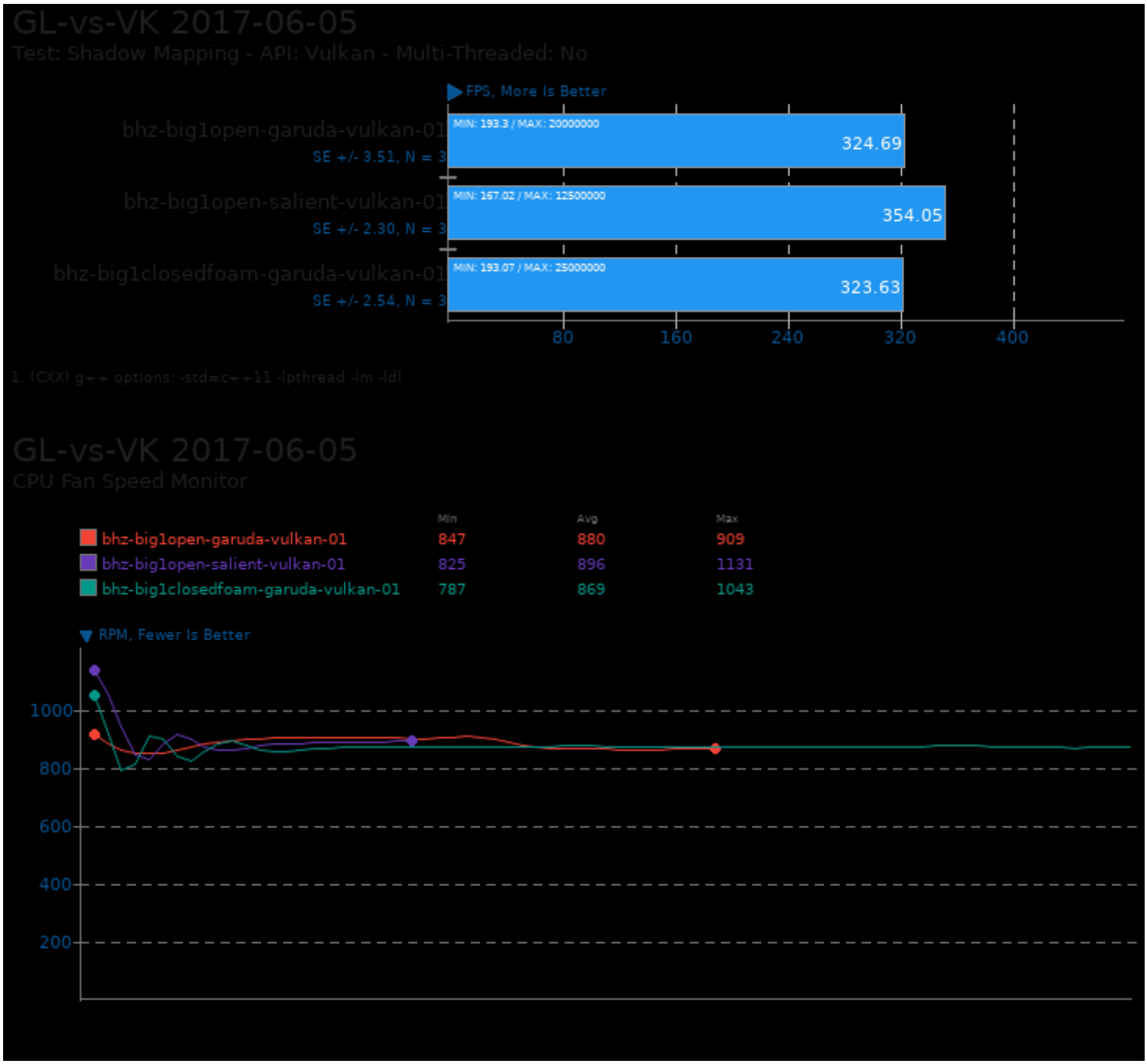
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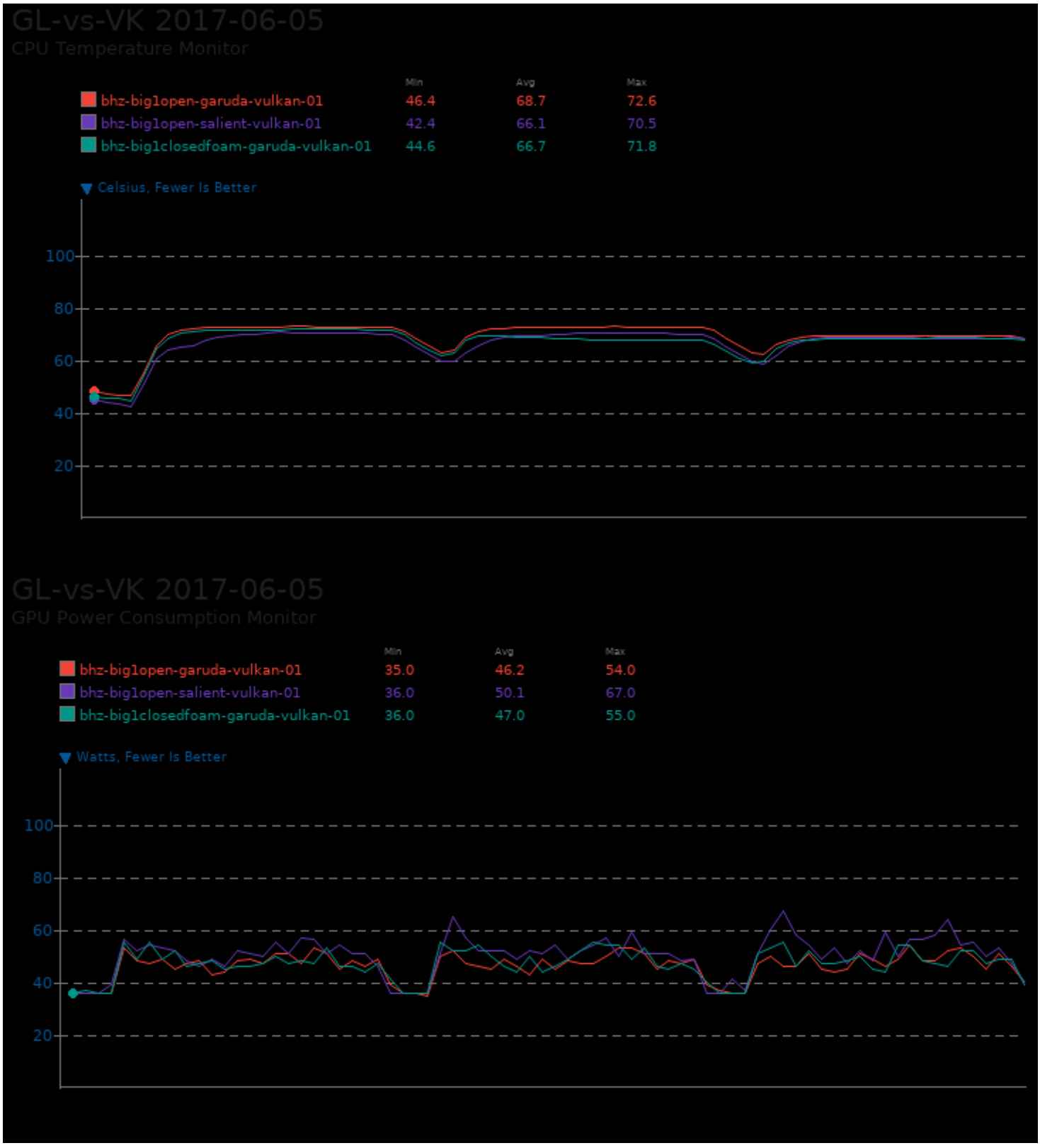
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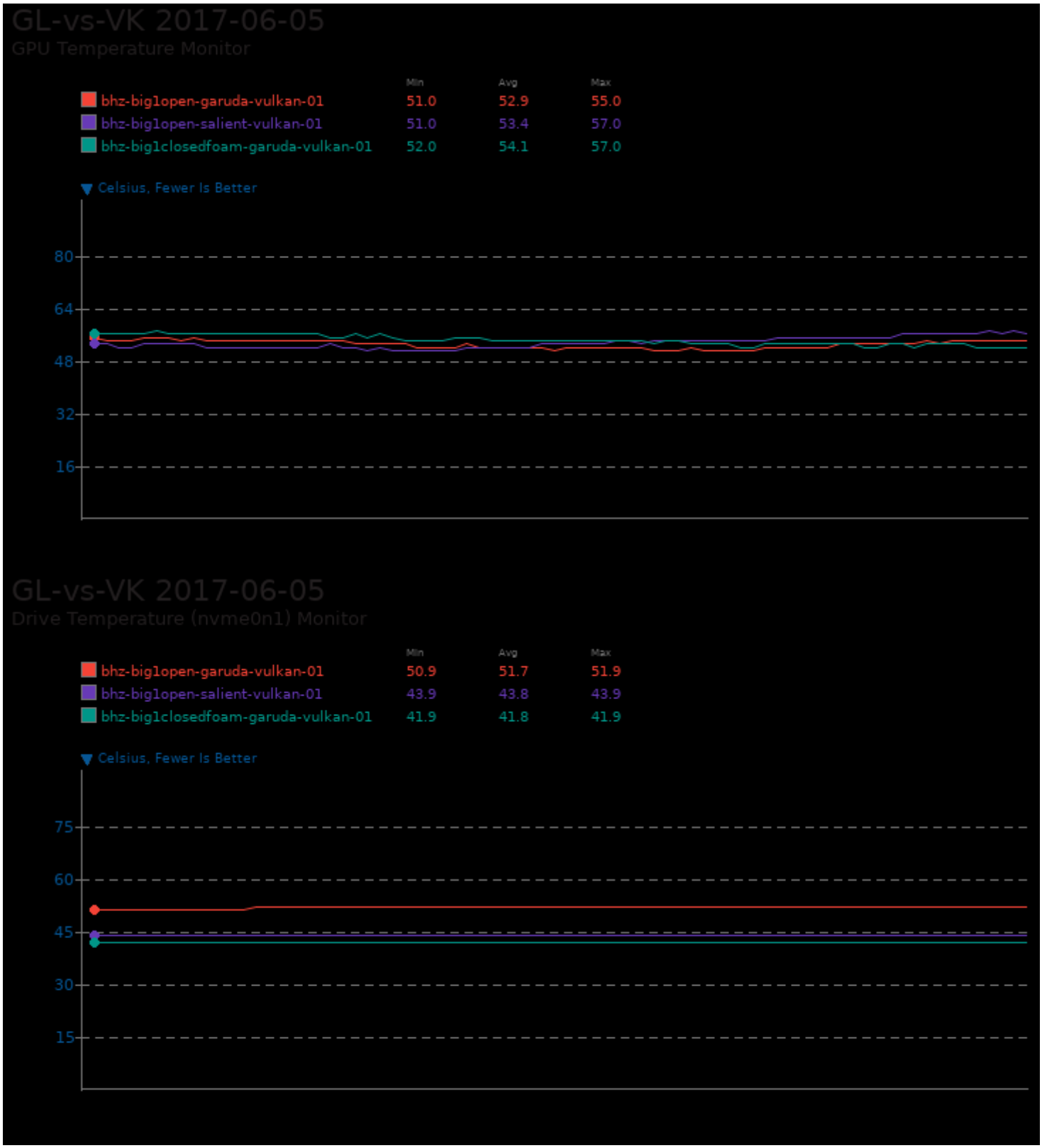
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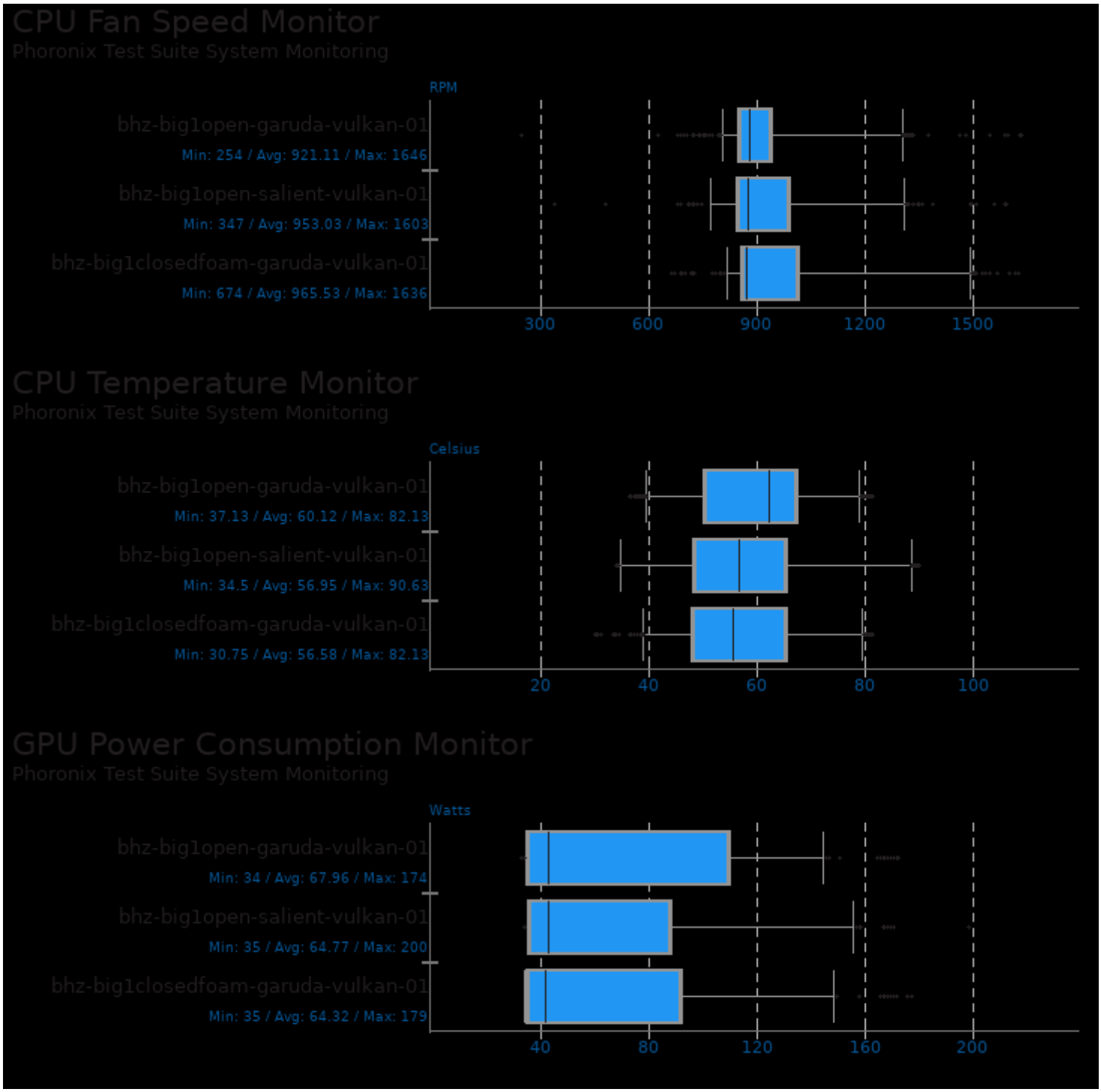
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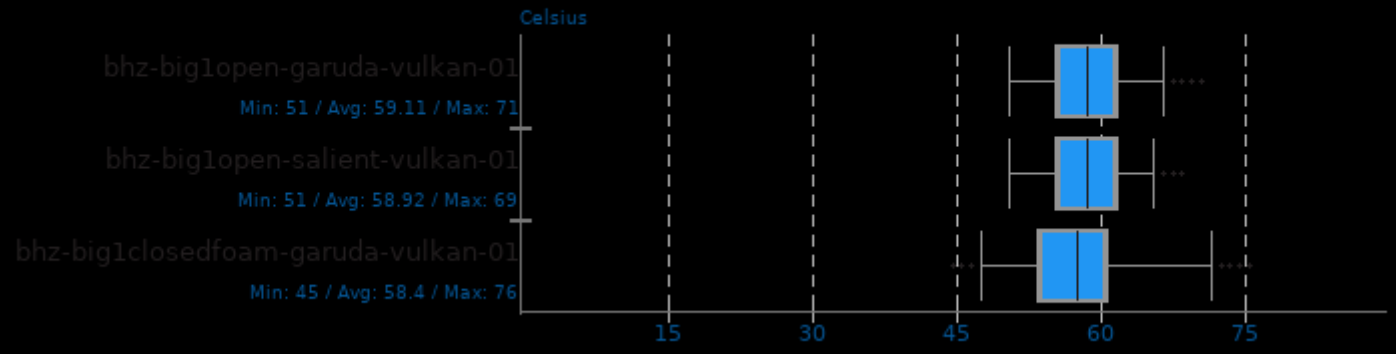
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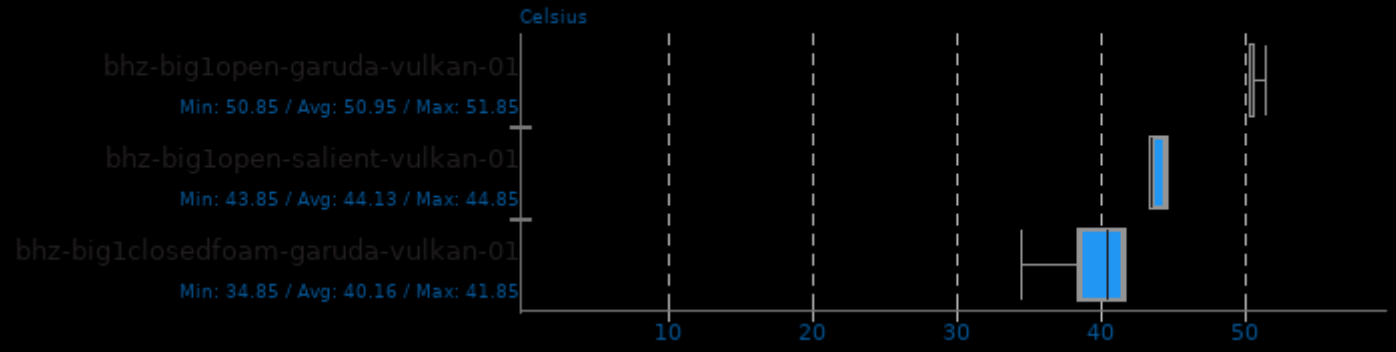
GPU Temperature Monitor

Phoronix Test Suite System Monitoring



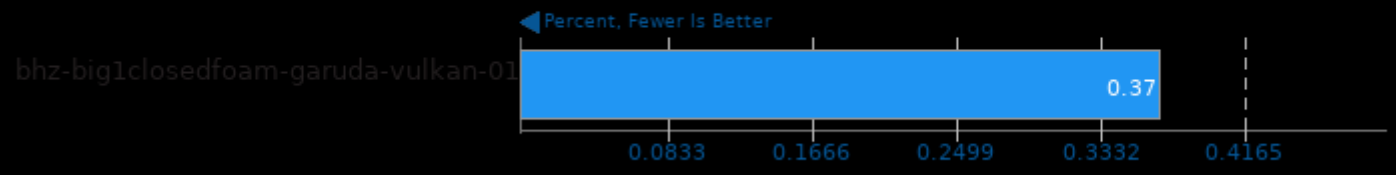
Drive Temperature (nvme0n1) Monitor

Phoronix Test Suite System Monitoring



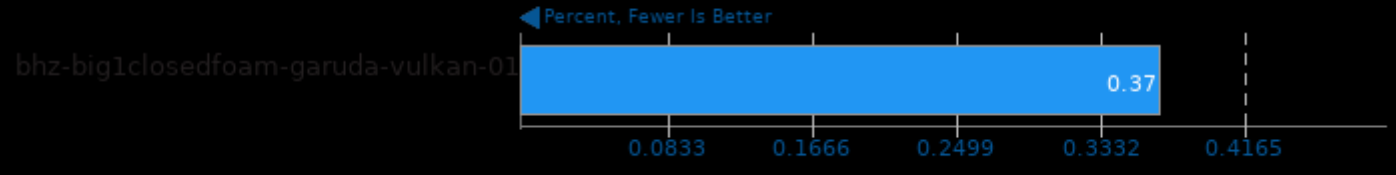
Dota 2

CPU Usage (Summary) Monitor



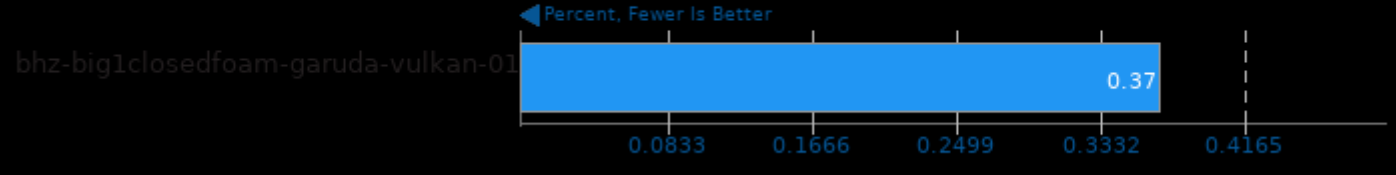
Dota 2

CPU Usage (Summary) Monitor

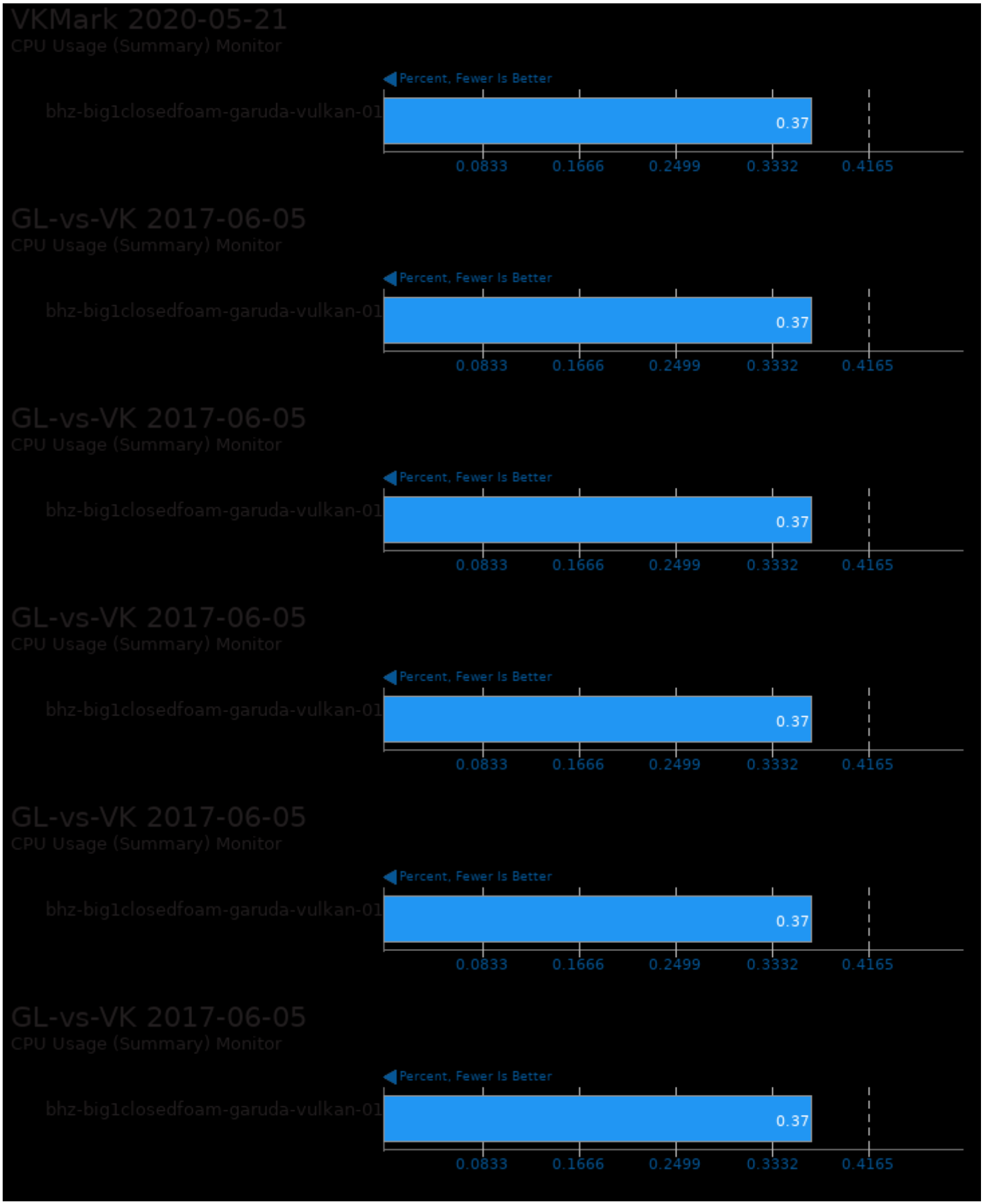


Tesseract 2014-05-12

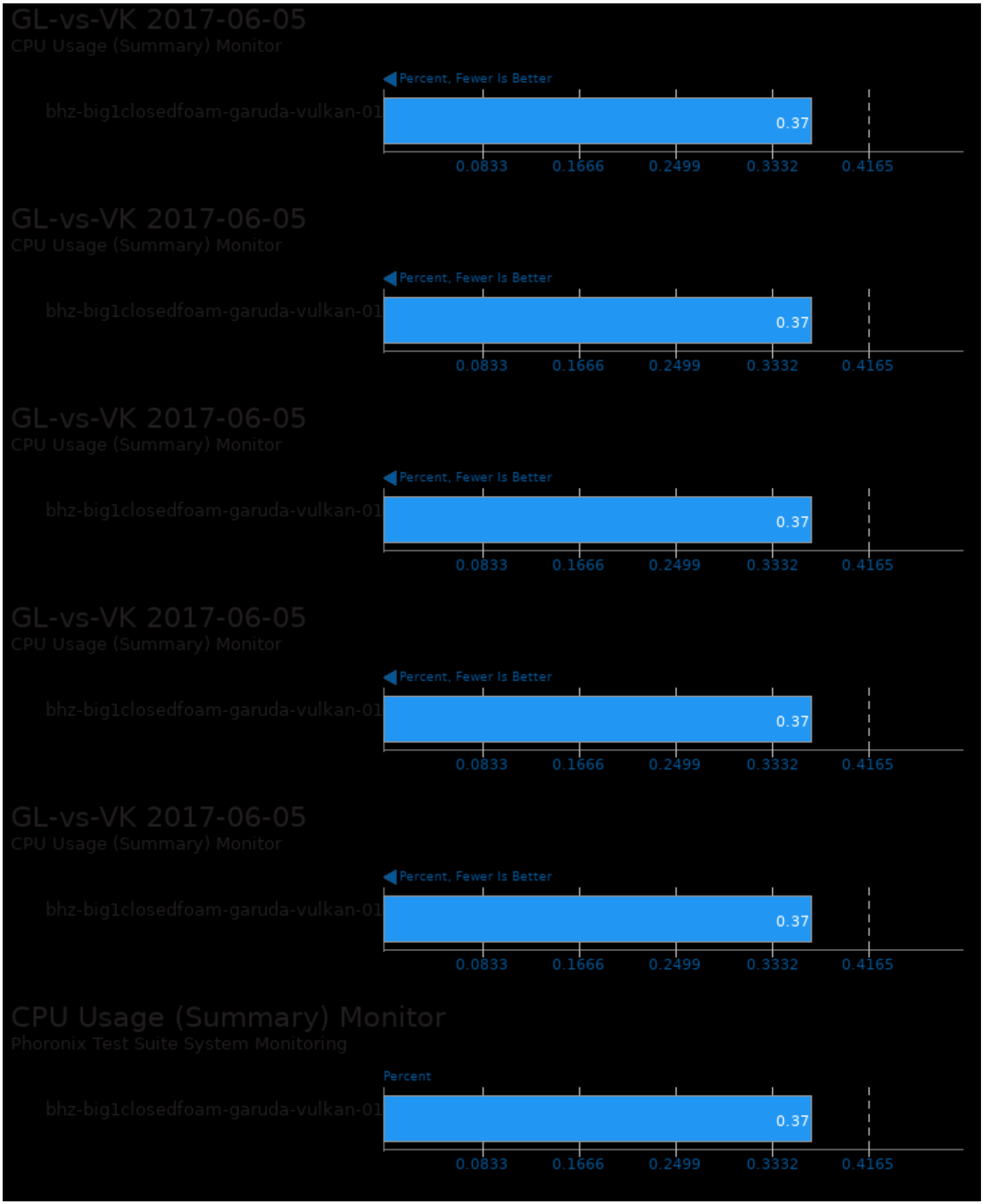
CPU Usage (Summary) Monitor



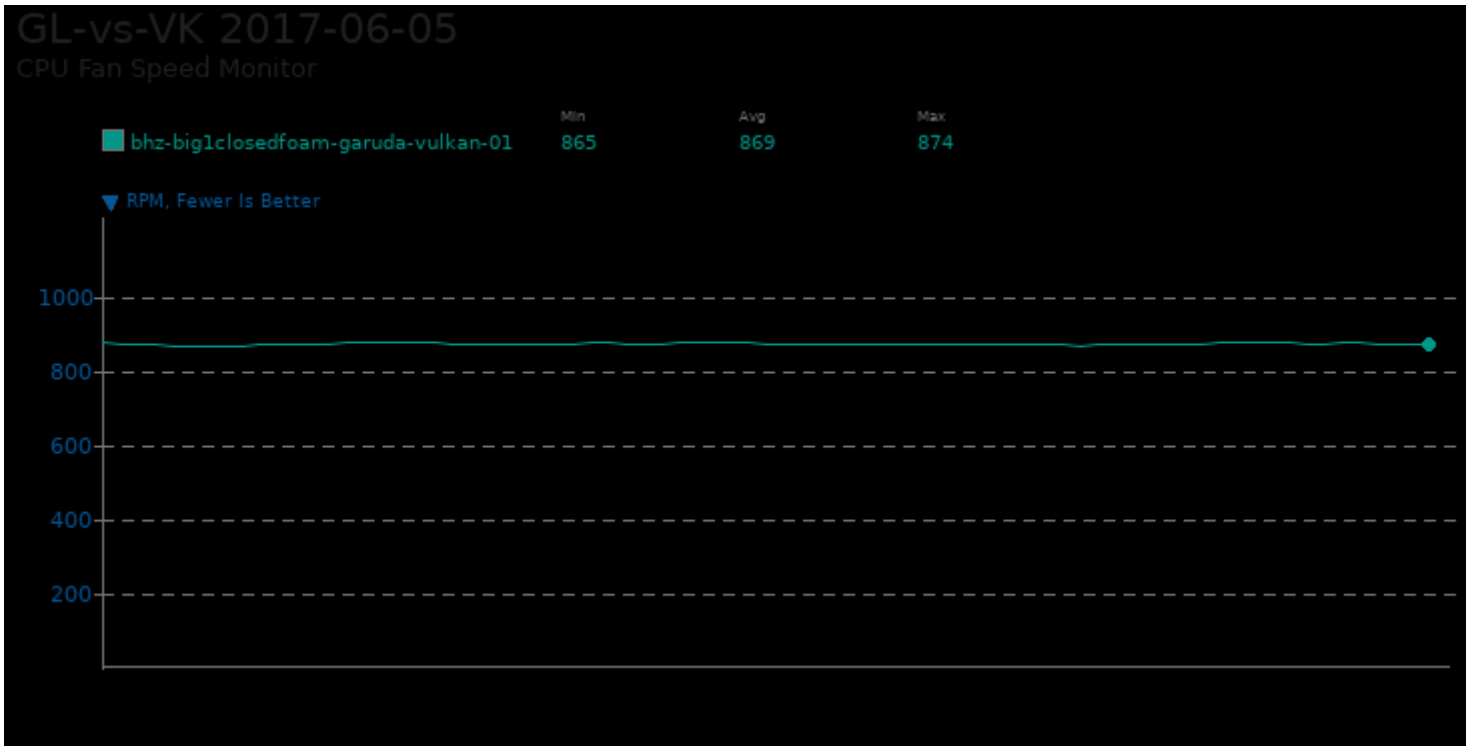
vulkan_big1open_garuda_vulkan_02



vulkan_big1open_garuda_vulkan_02



vulkan_big1open_garuda_vulkan_02



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