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openvkl updated

AMD Ryzen 9 5900HX testing with a ASUS G513QY v1.0 (G513QY.318 BIOS) and ASUS AMD Cezanne 512MB on Ubuntu 22.10 via the Phoronix Test Suite.

Automated Executive Summary

c had the most wins, coming in first place for 46% of the tests.

Based on the geometric mean of all complete results, the fastest (c) was 1.015x the speed of the slowest (a). b was 1x the speed of c and a was 0.985x the speed of b.

Test Systems:

a

Processor: AMD Ryzen 9 5900HX @ 4.89GHz (8 Cores / 16 Threads), Motherboard: ASUS G513QY v1.0 (G513QY.318 BIOS), Chipset: AMD Renoir/Cezanne, Memory: 16GB, Disk: 512GB SAMSUNG MZVLQ512HBLU-00B00, Graphics: ASUS AMD Cezanne 512MB (2500/1000MHz), Audio: AMD Navi 21/23, Monitor: LQ156M1JW25, Network: Realtek

RTL8111/8168/8411 + MEDIATEK MT7921 802.11ax PCI

OS: Ubuntu 22.10, Kernel: 5.19.0-26-generic (x86_64), Desktop: GNOME Shell 43.0, Display Server: X Server 1.21.1.4 + Wayland, OpenGL: 4.6 Mesa 22.2.1 (LLVM 15.0.2 DRM 3.47), Vulkan: 1.3.224, Compiler: GCC 12.2.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Processor Notes: Scaling Governor: amd-pstate schedutil (Boost: Enabled) - Platform Profile: balanced - CPU Microcode: 0xa50000c - ACPI Profile: balanced
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Retpolines IBPB: conditional IBRS_FW STIBP: always-on RSB filling PBRSB-eIBRS: Not affected + srbds: Not affected + tsx_async_abort: Not affected

b

Processor: AMD Ryzen 9 5900HX @ 4.89GHz (8 Cores / 16 Threads), Motherboard: ASUS G513QY v1.0 (G513QY.318 BIOS), Chipset: AMD Renoir/Cezanne, Memory: 16GB, Disk: 512GB SAMSUNG MZVLQ512HBLU-00B00, Graphics: ASUS AMD Cezanne 512MB, Audio: AMD Navi 21/23, Monitor: LQ156M1JW25, Network: Realtek RTL8111/8168/8411 + MEDIATEK MT7921 802.11ax PCI

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c

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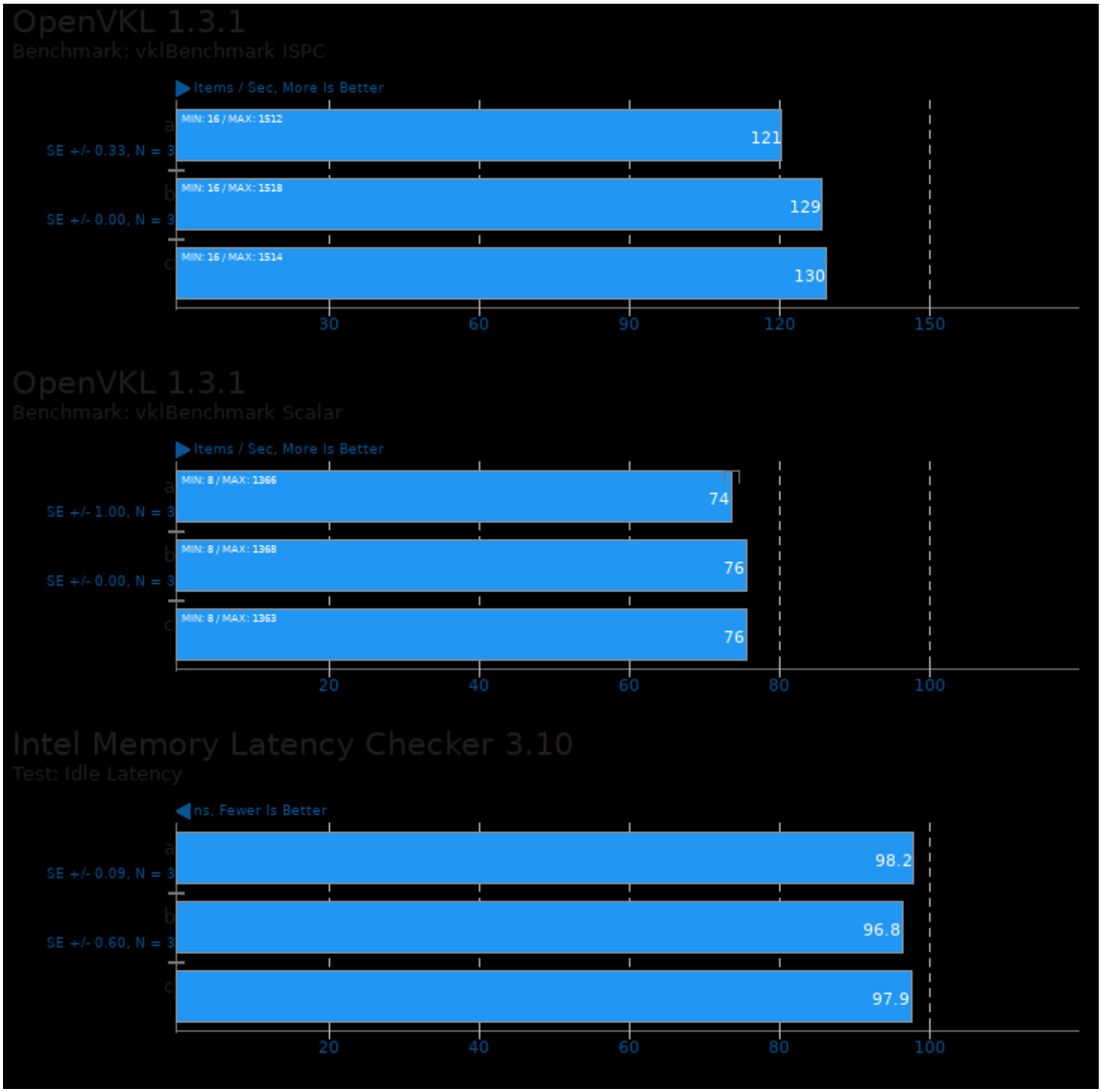
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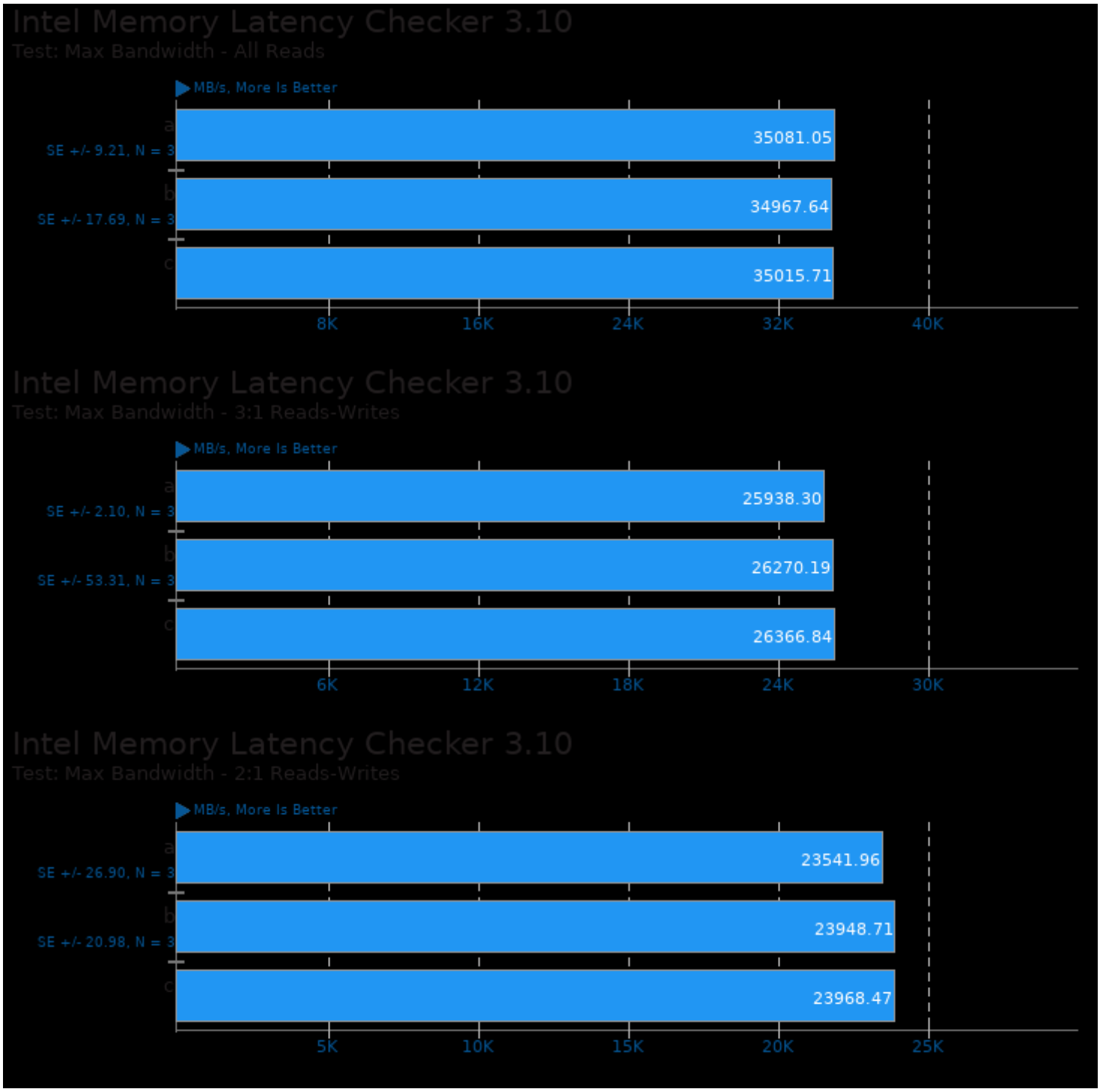
	a	b	c
OpenVKL - vklBenchmark ISPC (Items / Sec)	**121**	129	**130**
Normalized	93.08%	99.23%	100%
Standard Deviation	0.5%	0%	
OpenVKL - v.S (Items / Sec)	**74**	**76**	**76**
Normalized	97.37%	100%	100%

Standard Deviation	2.3%	0%	
Intel Memory Latency Checker - Idle Latency (ns)	**98.2**	**96.8**	97.9
Normalized	98.57%	100%	98.88%
Standard Deviation	0.2%	1.1%	
Intel Memory Latency Checker - Max Bandwidth - All Reads (MB/s)	**35081**	**34968**	35016
Normalized	100%	99.68%	99.81%
Standard Deviation	0%	0.1%	
Intel Memory Latency Checker - Max Bandwidth - 3:1 Reads-Writes (MB/s)	**25938**	26270	**26367**
Normalized	98.37%	99.63%	100%
Standard Deviation	0%	0.4%	
Intel Memory Latency Checker - Max Bandwidth - 2:1 Reads-Writes (MB/s)	**23542**	23949	**23968**
Normalized	98.22%	99.92%	100%
Standard Deviation	0.2%	0.2%	
Intel Memory Latency Checker - Max Bandwidth - 1:1 Reads-Writes (MB/s)	**18023**	18215	**18295**
Normalized	98.51%	99.57%	100%
Standard Deviation	0.3%	0.3%	
Intel Memory Latency Checker - Max Bandwidth - Stream-Triad Like (MB/s)	**28711**	**28774**	28748
Normalized	99.78%	100%	99.91%
Standard Deviation	0.1%	0.1%	
Intel Memory Latency Checker - P.I.B - All Reads (MB/s)	**27230**	27267	**27281**
Normalized	99.81%	99.95%	100%
Standard Deviation	0%	0%	
Intel Memory Latency Checker - P.I.B - 3:1 Reads-Writes (MB/s)	**25829**	26294	**26333**
Normalized	98.09%	99.85%	100%
Standard Deviation	0.3%	0.4%	
Intel Memory Latency Checker - P.I.B - 2:1 Reads-Writes (MB/s)	**23374**	**23702**	23700
Normalized	98.61%	100%	99.99%
Standard Deviation	0%	0%	
Intel Memory Latency Checker - P.I.B - 1:1 Reads-Writes (MB/s)	**17978**	**18204**	18183
Normalized	98.76%	100%	99.89%
Standard Deviation	0.1%	0.1%	
Intel Memory Latency Checker - P.I.B - Stream-Triad Like (MB/s)	**28379**	**28443**	28434
Normalized	99.77%	100%	99.97%
Standard Deviation	0%	0%	

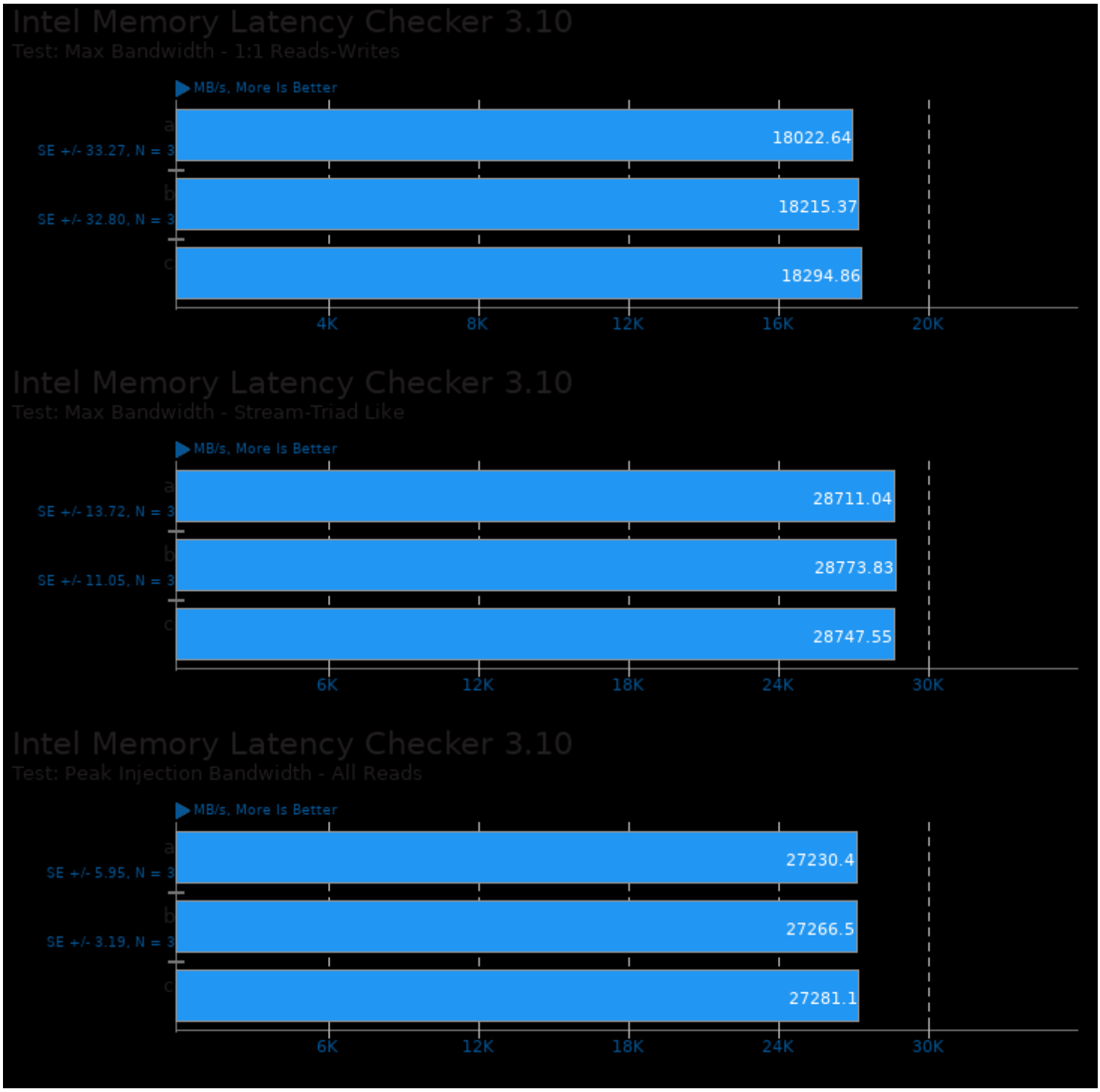
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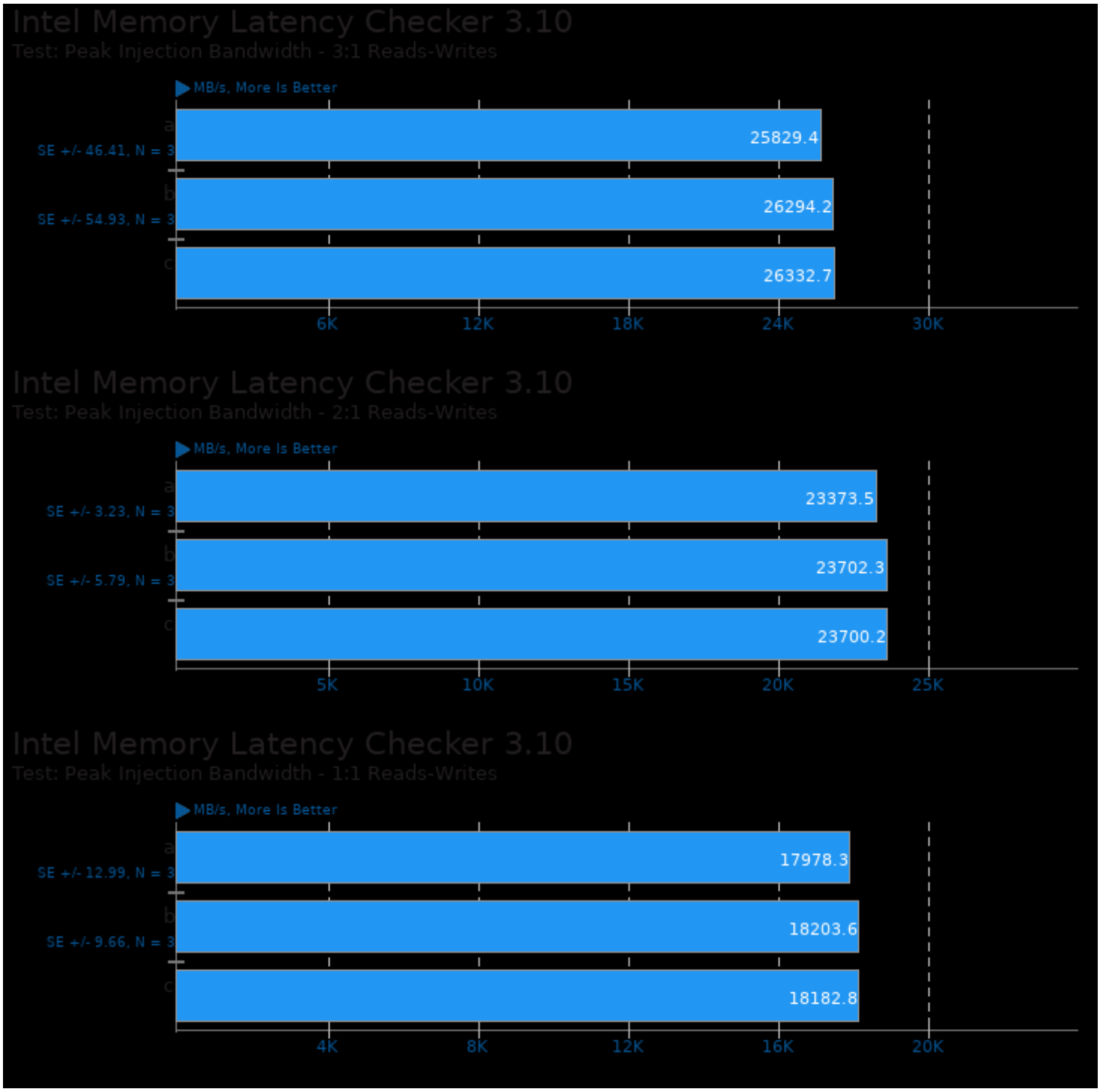
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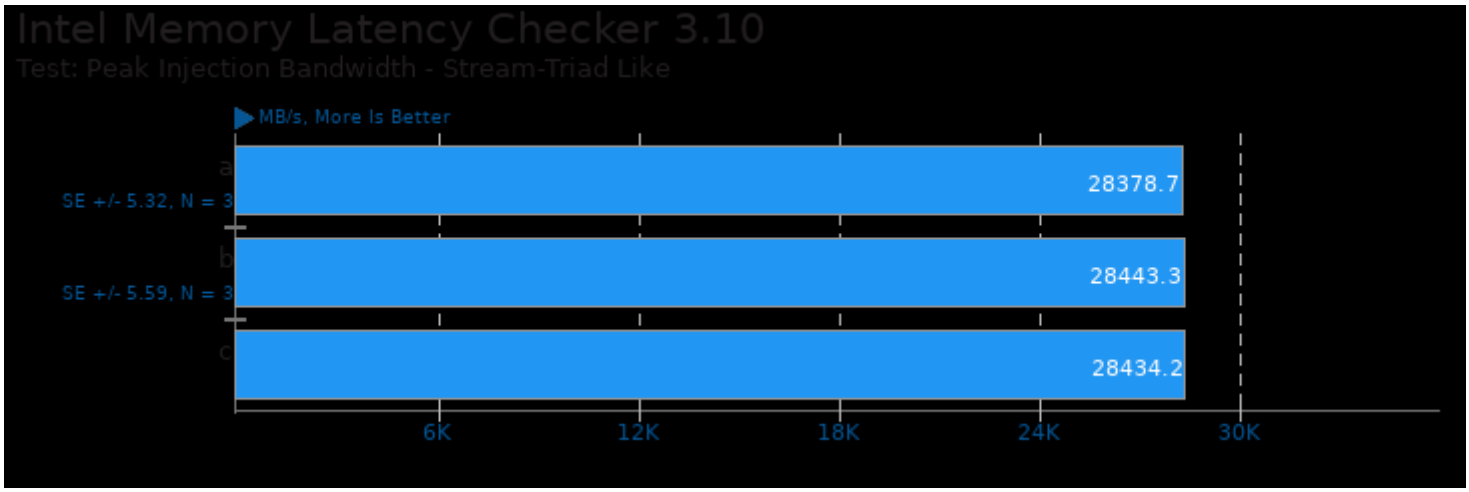
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