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Intel GPU

Intel Core i9-13900K testing with a ASUS ROG STRIX Z790-E GAMING WIFI (0502 BIOS) and Intel Arc A750 DG2 8GB on Ubuntu 22.04 via the Phoronix Test Suite.

Test Systems:

Intel Arc A750

Processor: Intel Core i9-13900K @ 5.50GHz (24 Cores / 32 Threads), Motherboard: ASUS ROG STRIX Z790-E GAMING WIFI (0502 BIOS), Chipset: Intel Device 7a27, Memory: 32GB, Disk: 4001GB Seagate ZP4000GP304001 + 2000GB CT2000BX500SSD1 + 0GB CD-ROM Drive, Graphics: Intel Arc A750 DG2 8GB (2400MHz), Audio: Intel Device 7a50, Monitor: PI-KVM Video, Network: Intel Device 125c + Intel Wi-Fi 6 AX210/AX211/AX411

OS: Ubuntu 22.04, Kernel: 6.1.0-060100rc5-generic (x86_64), Desktop: GNOME Shell 42.5, Display Server: X Server 1.21.1.3 + Wayland, OpenGL: 4.6 Mesa 23.0.0-devel (git-c9b13a9338), OpenCL: OpenCL 3.0, Vulkan: 1.3.235, Compiler: GCC 11.3.0 + LLVM 14.0.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: i915.force_probe=56a1 - Transparent Huge Pages: madvise
Processor Notes: Scaling Governor: intel_pstate powersave (EPP: performance) - CPU Microcode: 0x10e - Thermald 2.4.9

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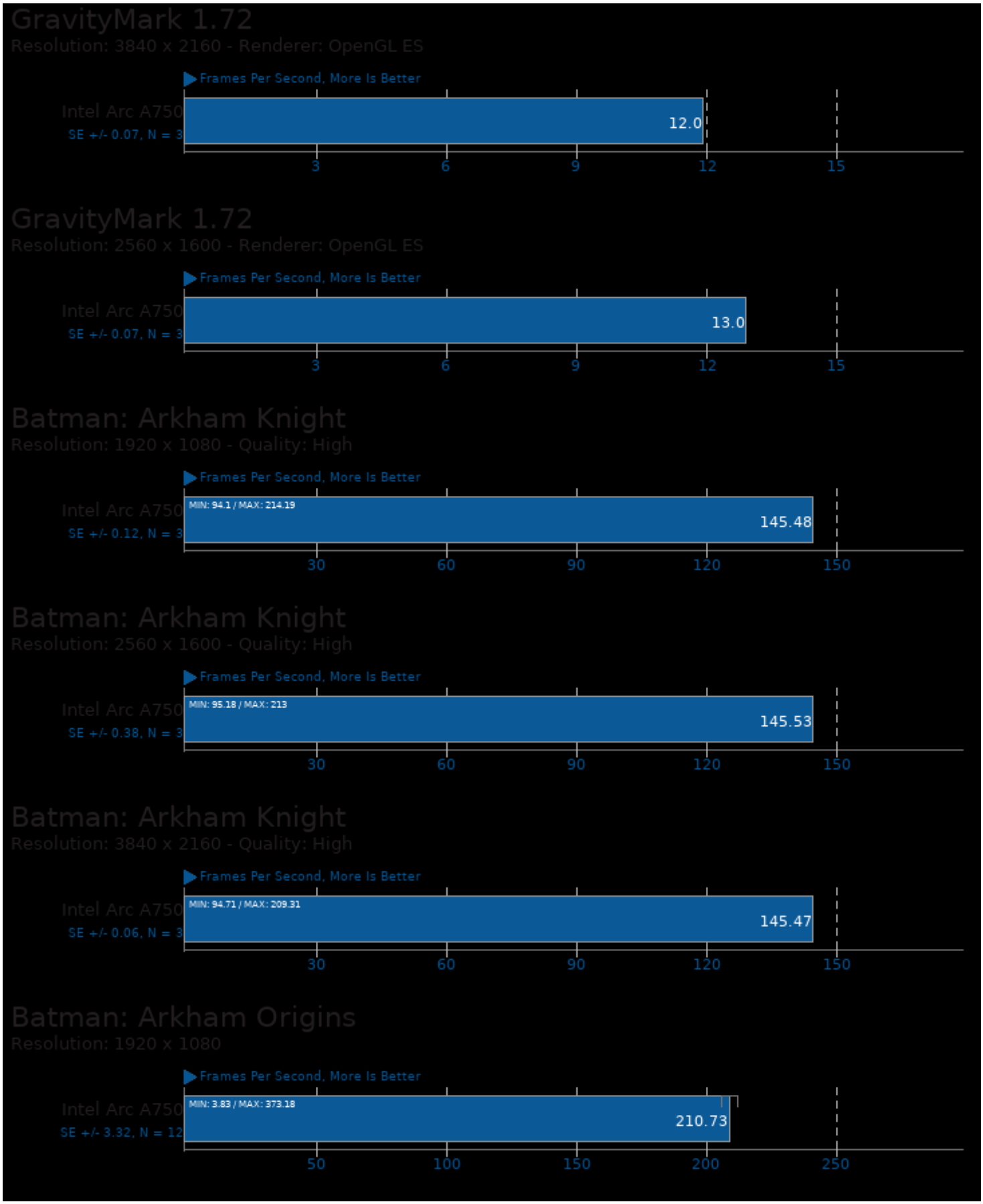
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling PBRSB-eIBRS: SW sequence + srbds: Not affected + tsx_async_abort: Not affected

	Intel Arc A750
GravityMark - 3840 x 2160 - OpenGL ES (FPS)	12.0
Standard Deviation	1%
GravityMark - 2560 x 1600 - OpenGL ES (FPS)	13.0
Standard Deviation	0.9%
Batman: Arkham Knight - 1920 x 1080 - High (FPS)	145.48
Standard Deviation	0.1%
Batman: Arkham Knight - 2560 x 1600 - High (FPS)	145.53
Standard Deviation	0.4%
Batman: Arkham Knight - 3840 x 2160 - High (FPS)	145.47
Standard Deviation	0.1%
Batman: Arkham Origins - 1920 x 1080 (FPS)	210.73
Standard Deviation	5.5%
Batman: Arkham Origins - 2560 x 1600 (FPS)	218.03
Standard Deviation	0.2%
Batman: Arkham Origins - 3840 x 2160 (FPS)	205.83
Standard Deviation	0.2%
Civilization VI - Highest - 1920 x 1080 (FPS)	39.37
Standard Deviation	8.9%
Civilization VI - Highest - 2560 x 1600 (FPS)	38.43
Standard Deviation	0.2%
Civilization VI - Highest - 3840 x 2160 (FPS)	38.55
Standard Deviation	0.2%
Counter-Strike: Global Offensive - 1920 x 1080 - OpenGL (FPS)	435.76
Standard Deviation	7.5%
Counter-Strike: Global Offensive - 2560 x 1600 - OpenGL (FPS)	499.95
Standard Deviation	0.1%
Counter-Strike: Global Offensive - 3840 x 2160 - OpenGL (FPS)	501.14
Standard Deviation	0.3%
Cyberpunk 2077 - 1920 x 1080 - Ultra (FPS)	42.30
Standard Deviation	0.4%
Cyberpunk 2077 - 2560 x 1600 - Ultra (FPS)	57.43
Standard Deviation	0.2%
Cyberpunk 2077 - 3840 x 2160 - Ultra (FPS)	57.49
Standard Deviation	0.3%
Shadow of the Tomb Raider - 1920 x 1080 - Highest - SMAAT2x	75.9
Standard Deviation	0.1%
Shadow of the Tomb Raider - 2560 x 1600 - Highest - SMAAT2x	75.9
Standard Deviation	0.2%
X-Plane - 1920 x 1080 - Extreme - OpenGL (FPS)	105.95
Standard Deviation	0.4%
X-Plane - 2560 x 1600 - Extreme - OpenGL (FPS)	105.42
Standard Deviation	0.7%
X-Plane - 3840 x 2160 - Extreme - OpenGL (FPS)	105.91
Standard Deviation	0.8%
GravityMark - 1920 x 1080 - OpenGL ES (FPS)	12.9

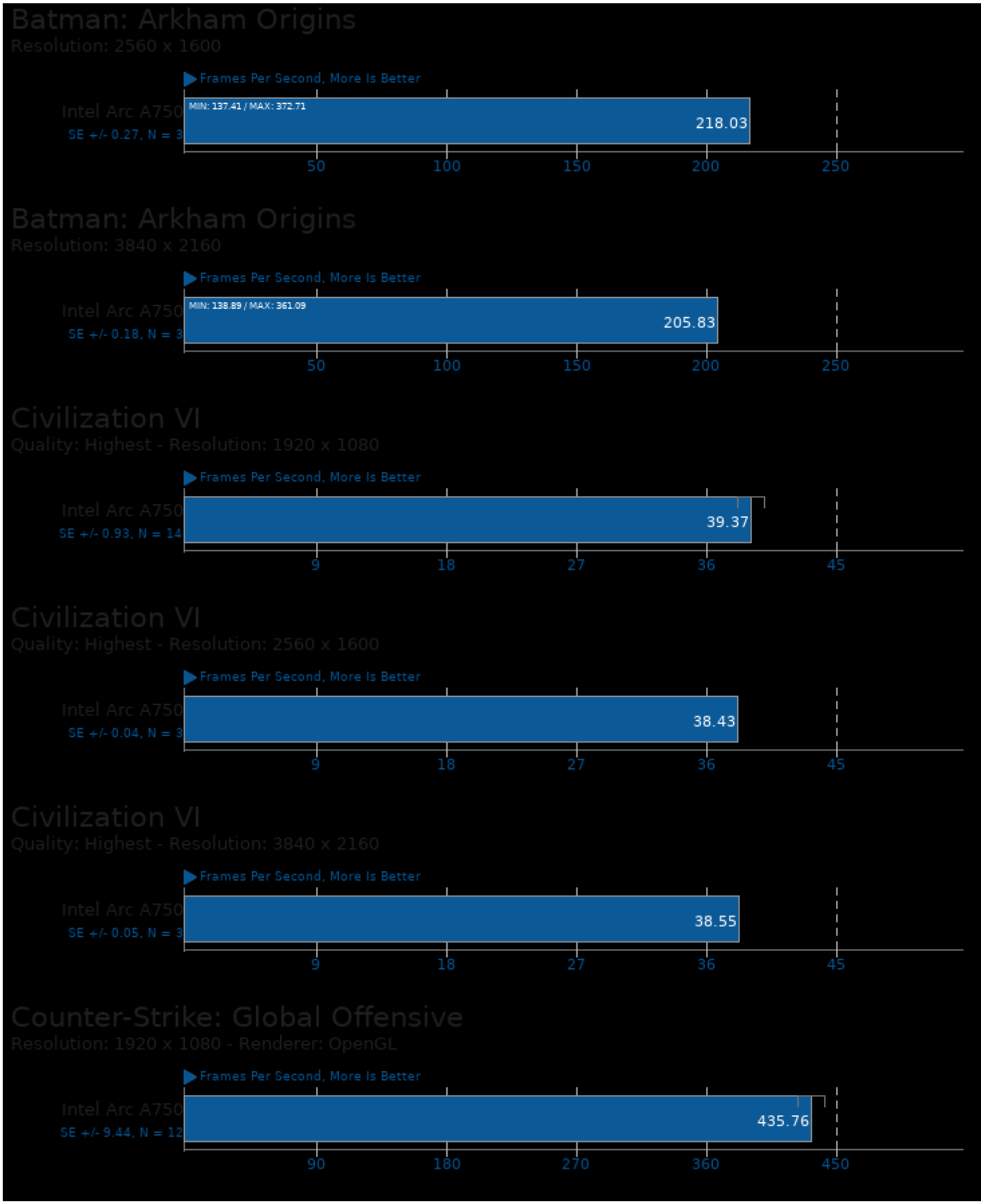
Intel GPU

Standard Deviation 0.9%

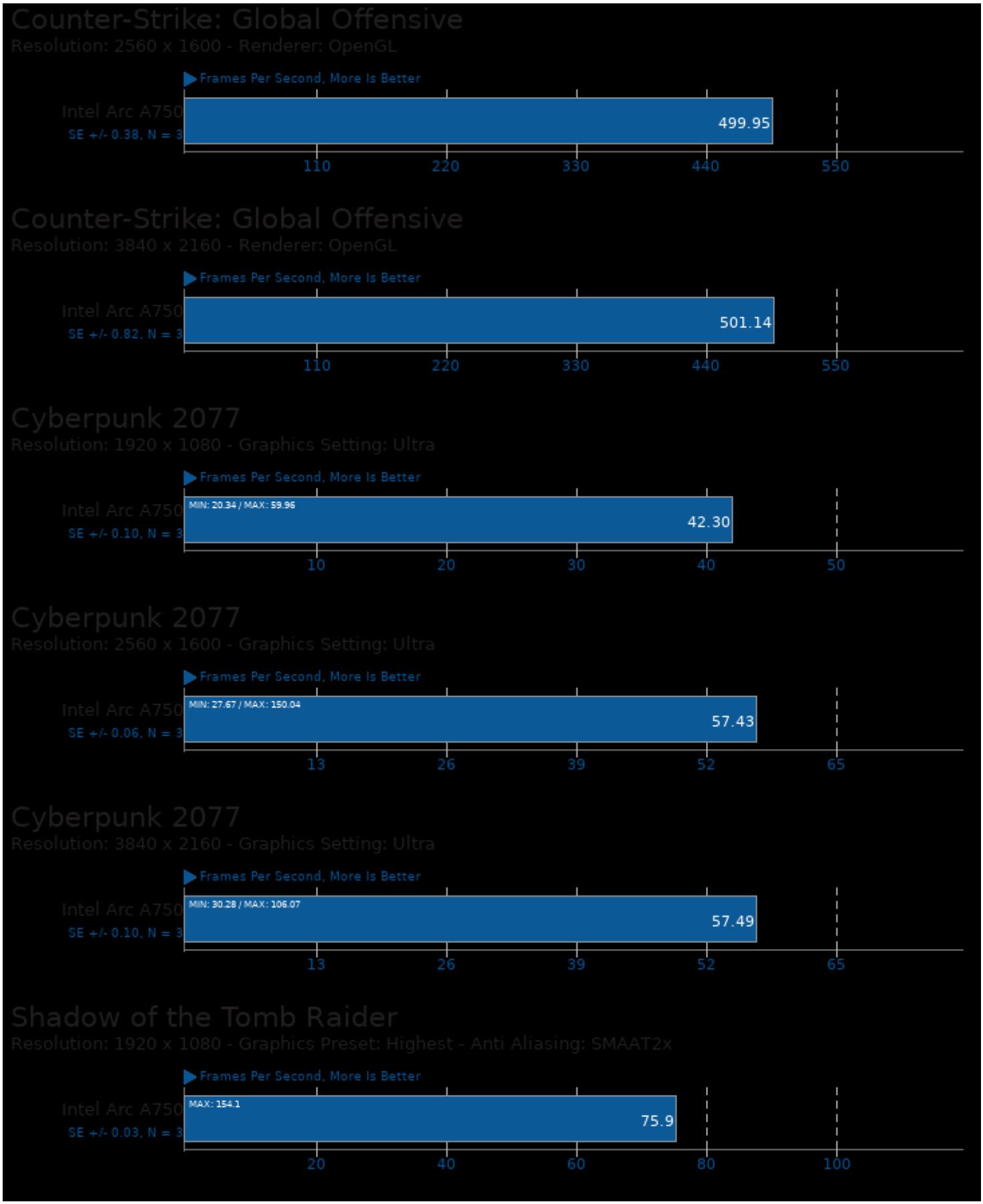
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GravityMark 1.72
Resolution: 3840 x 2160 - Renderer: OpenGL ES
Frames Per Second, More Is Better
Intel Arc A750
SE +/- 0.07, N = 3
12.0
3
6
9
12
15
GravityMark 1.72
Resolution: 2560 x 1600 - Renderer: OpenGL ES
Frames Per Second, More Is Better
Intel Arc A750
SE +/- 0.07, N = 3
13.0
3
6
9
12
15
Batman: Arkham Knight
Resolution: 1920 x 1080 - Quality: High
Frames Per Second, More Is Better
Intel Arc A750
SE +/- 0.12, N = 3
MIN: 94.1 / MAX: 214.19
145.48
30
60
90
120
150
Batman: Arkham Knight
Resolution: 2560 x 1600 - Quality: High
Frames Per Second, More Is Better
Intel Arc A750
SE +/- 0.38, N = 3
MIN: 95.18 / MAX: 213
145.53
30
60
90
120
150
Batman: Arkham Knight
Resolution: 3840 x 2160 - Quality: High
Frames Per Second, More Is Better
Intel Arc A750
SE +/- 0.06, N = 3
MIN: 94.71 / MAX: 209.31
145.47
30
60
90
120
150
Batman: Arkham Origins
Resolution: 1920 x 1080
Frames Per Second, More Is Better
Intel Arc A750
SE +/- 3.32, N = 12
MIN: 3.83 / MAX: 373.18
210.73
50
100
150
200
250

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Batman: Arkham Origins
Resolution: 2560 x 1600
Frames Per Second, More Is Better
Intel Arc A750
SE +/- 0.27, N = 3
MIN: 137.41 / MAX: 372.71
218.03
50
100
150
200
250
Batman: Arkham Origins
Resolution: 3840 x 2160
Frames Per Second, More Is Better
Intel Arc A750
SE +/- 0.18, N = 3
MIN: 138.89 / MAX: 361.09
205.83
50
100
150
200
250
Civilization VI
Quality: Highest - Resolution: 1920 x 1080
Frames Per Second, More Is Better
Intel Arc A750
SE +/- 0.93, N = 14
39.37
9
18
27
36
45
Civilization VI
Quality: Highest - Resolution: 2560 x 1600
Frames Per Second, More Is Better
Intel Arc A750
SE +/- 0.04, N = 3
38.43
9
18
27
36
45
Civilization VI
Quality: Highest - Resolution: 3840 x 2160
Frames Per Second, More Is Better
Intel Arc A750
SE +/- 0.05, N = 3
38.55
9
18
27
36
45
Counter-Strike: Global Offensive
Resolution: 1920 x 1080 - Renderer: OpenGL
Frames Per Second, More Is Better
Intel Arc A750
SE +/- 9.44, N = 12
435.76
90
180
270
360
450

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Counter-Strike: Global Offensive
Resolution: 2560 x 1600 - Renderer: OpenGL
Frames Per Second, More Is Better
Intel Arc A750
SE +/- 0.38, N = 3
499.95
110
220
330
440
550
Counter-Strike: Global Offensive
Resolution: 3840 x 2160 - Renderer: OpenGL
Frames Per Second, More Is Better
Intel Arc A750
SE +/- 0.82, N = 3
501.14
110
220
330
440
550
Cyberpunk 2077
Resolution: 1920 x 1080 - Graphics Setting: Ultra
Frames Per Second, More Is Better
Intel Arc A750
SE +/- 0.10, N = 3
MIN: 20.34 / MAX: 59.96
42.30
10
20
30
40
50
Cyberpunk 2077
Resolution: 2560 x 1600 - Graphics Setting: Ultra
Frames Per Second, More Is Better
Intel Arc A750
SE +/- 0.06, N = 3
MIN: 27.67 / MAX: 150.04
57.43
13
26
39
52
65
Cyberpunk 2077
Resolution: 3840 x 2160 - Graphics Setting: Ultra
Frames Per Second, More Is Better
Intel Arc A750
SE +/- 0.10, N = 3
MIN: 30.28 / MAX: 106.07
57.49
13
26
39
52
65
Shadow of the Tomb Raider
Resolution: 1920 x 1080 - Graphics Preset: Highest - Anti Aliasing: SMAAT2x
Frames Per Second, More Is Better
Intel Arc A750
SE +/- 0.03, N = 3
MAX: 154.1
75.9
20
40
60
80
100

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Shadow of the Tomb Raider

Resolution: 2560 x 1600 - Graphics Preset: Highest - Anti Aliasing: SMAAT2x



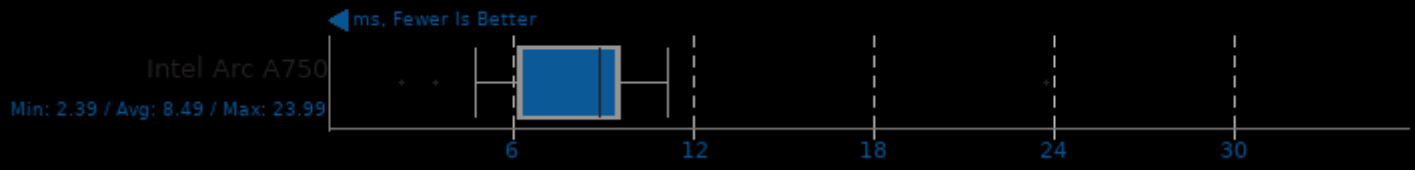
X-Plane 11

Resolution: 1920 x 1080 - Quality: Extreme - Renderer: OpenGL



X-Plane 11

Resolution: 1920 x 1080 - Quality: Extreme - Renderer: OpenGL - Per Frame Timing



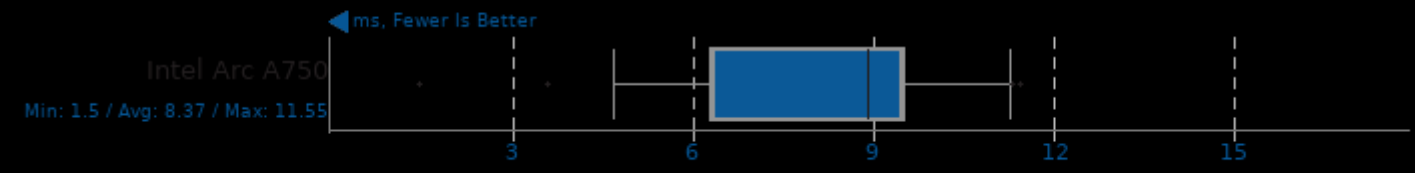
X-Plane 11

Resolution: 2560 x 1600 - Quality: Extreme - Renderer: OpenGL



X-Plane 11

Resolution: 2560 x 1600 - Quality: Extreme - Renderer: OpenGL - Per Frame Timing

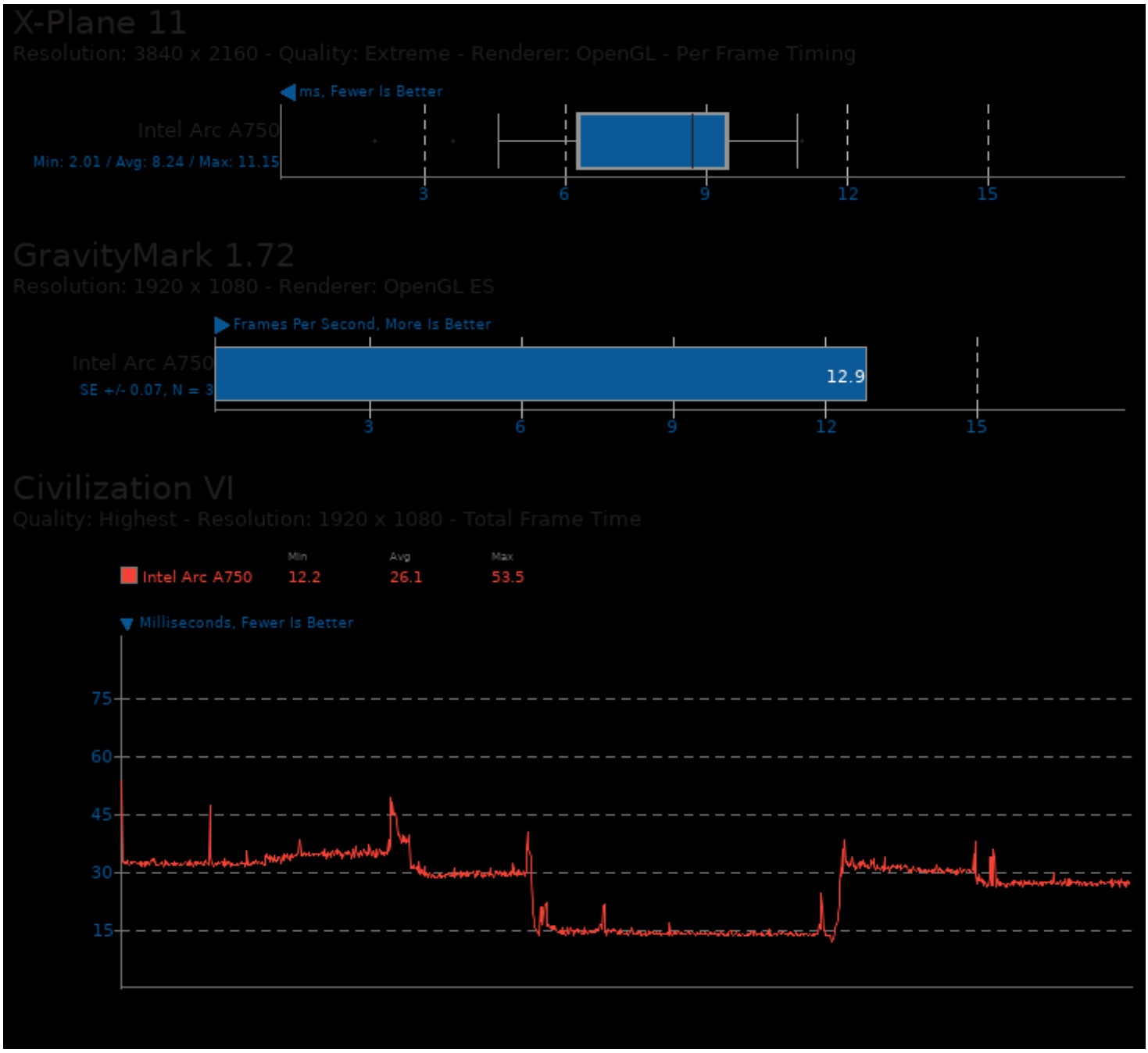


X-Plane 11

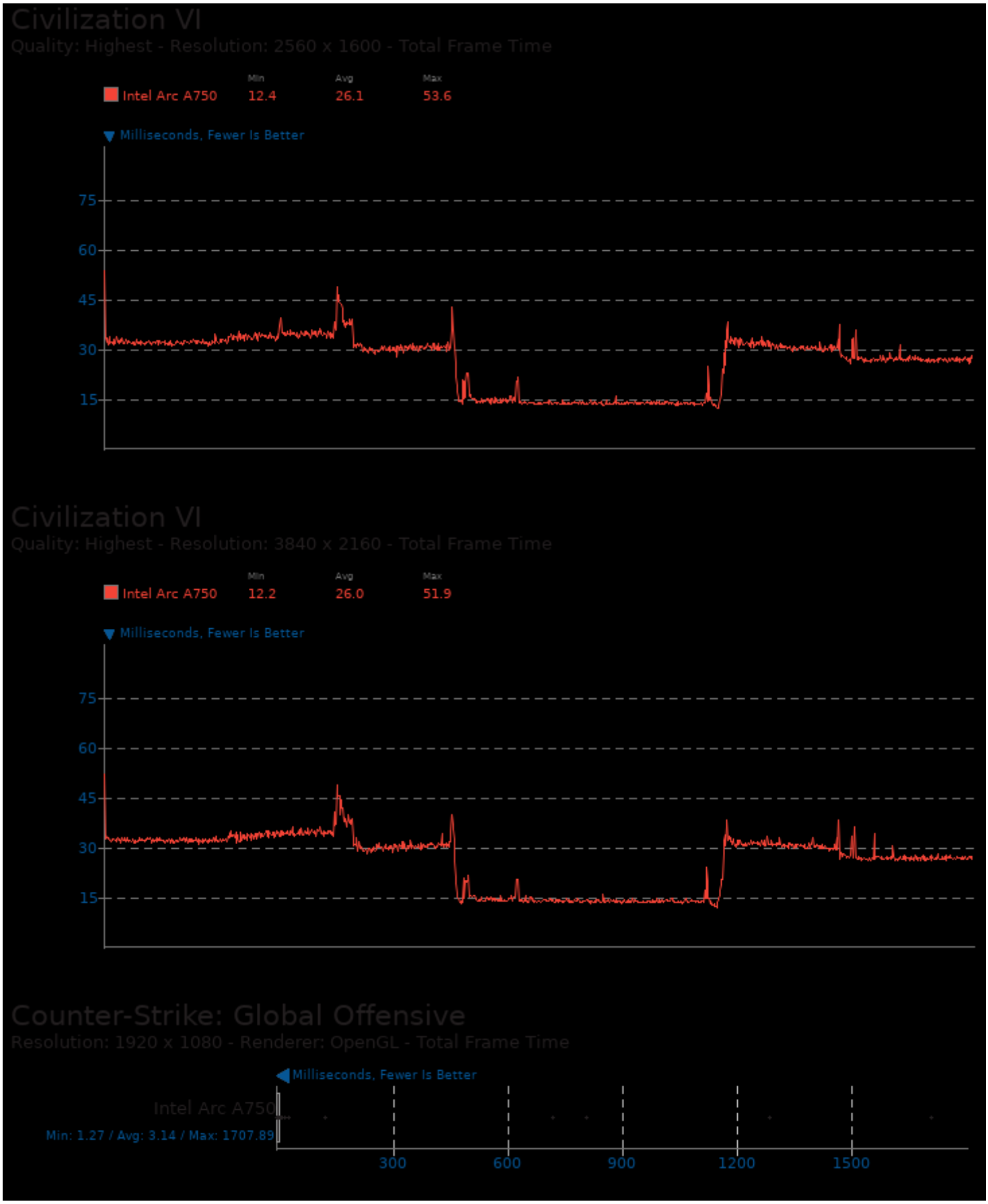
Resolution: 3840 x 2160 - Quality: Extreme - Renderer: OpenGL

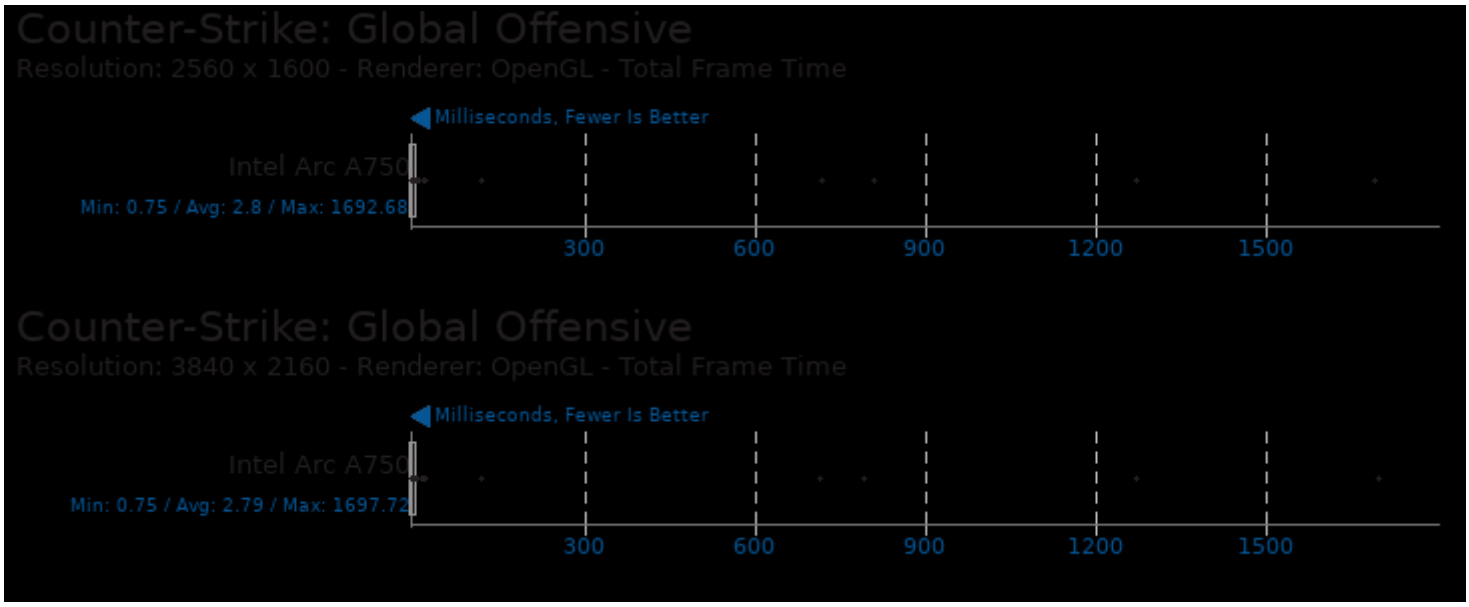


Intel GPU


X-Plane 11
Resolution: 3840 x 2160 - Quality: Extreme - Renderer: OpenGL - Per Frame Timing
ms, Fewer Is Better
Intel Arc A750
Min: 2.01 / Avg: 8.24 / Max: 11.15
3
6
9
12
15
GravityMark 1.72
Resolution: 1920 x 1080 - Renderer: OpenGL ES
Frames Per Second, More Is Better
Intel Arc A750
SE +/- 0.07, N = 3
12.9
3
6
9
12
15
Civilization VI
Quality: Highest - Resolution: 1920 x 1080 - Total Frame Time
Min
Avg
Max
Intel Arc A750
12.2
26.1
53.5
Milliseconds, Fewer Is Better
75
60
45
30
15

Intel GPU


Civilization VI
Quality: Highest - Resolution: 2560 x 1600 - Total Frame Time
Min
Avg
Max
Intel Arc A750
12.4
26.1
53.6
Milliseconds, Fewer Is Better
75
60
45
30
15
Civilization VI
Quality: Highest - Resolution: 3840 x 2160 - Total Frame Time
Min
Avg
Max
Intel Arc A750
12.2
26.0
51.9
Milliseconds, Fewer Is Better
75
60
45
30
15
Counter-Strike: Global Offensive
Resolution: 1920 x 1080 - Renderer: OpenGL - Total Frame Time
Milliseconds, Fewer Is Better
Intel Arc A750
Min: 1.27 / Avg: 3.14 / Max: 1707.89
300
600
900
1200
1500



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