

Contact: Caton Lai February 2024 intel ARC

3

# Graphics

Configuration

Ray Tracing

Memory

A380

8 Xe-Cores 8 Units 6GB GDDR6

The complete package for everyday PC gamers and content creators, where the most advanced graphics technologies and exceptional multimedia experiences meets entry-level 1080p gaming



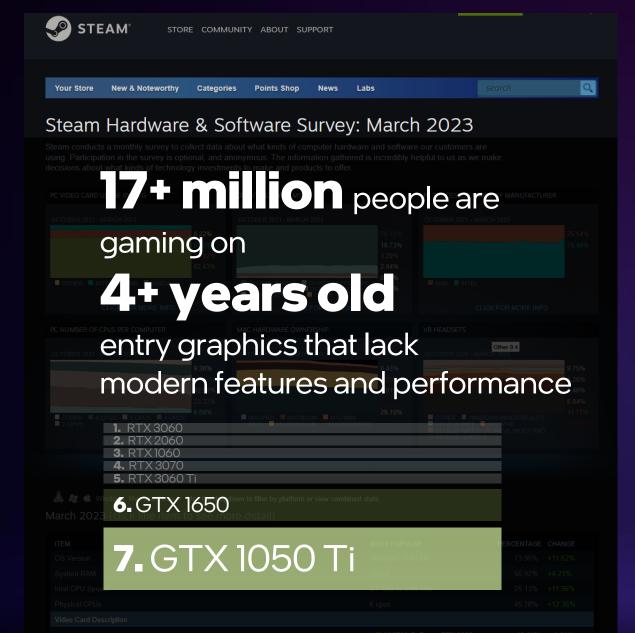


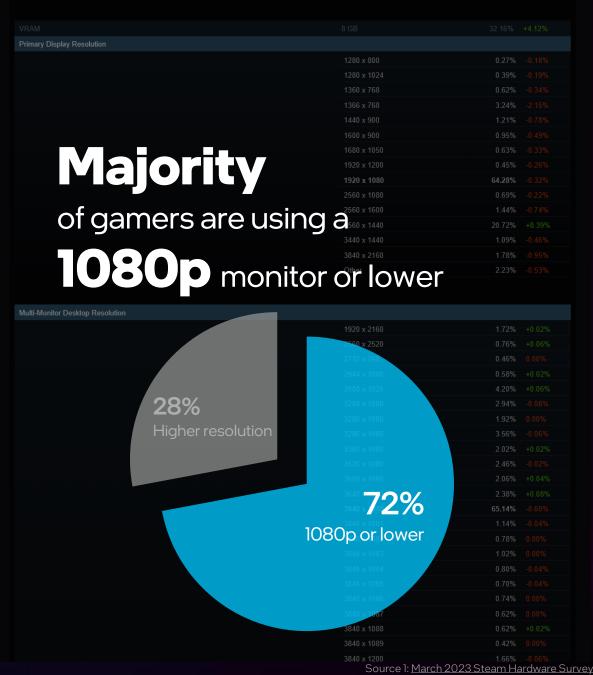




PCI>> EXPRESS

#### **Competitive Product Stack up** NVIDIA AMD Intel Intel® Arc™ A770 Intel® Arc™ RTX 3060 A750 12GB RX 6600 Series RTX 3060 8GB RX 6500XT Intel® Arc™ RX 6400 GTX 1650 A380 Intel® Arc™ GTX 1630 A310 RX 550 Iris Xe™ GT 1030 Graphics

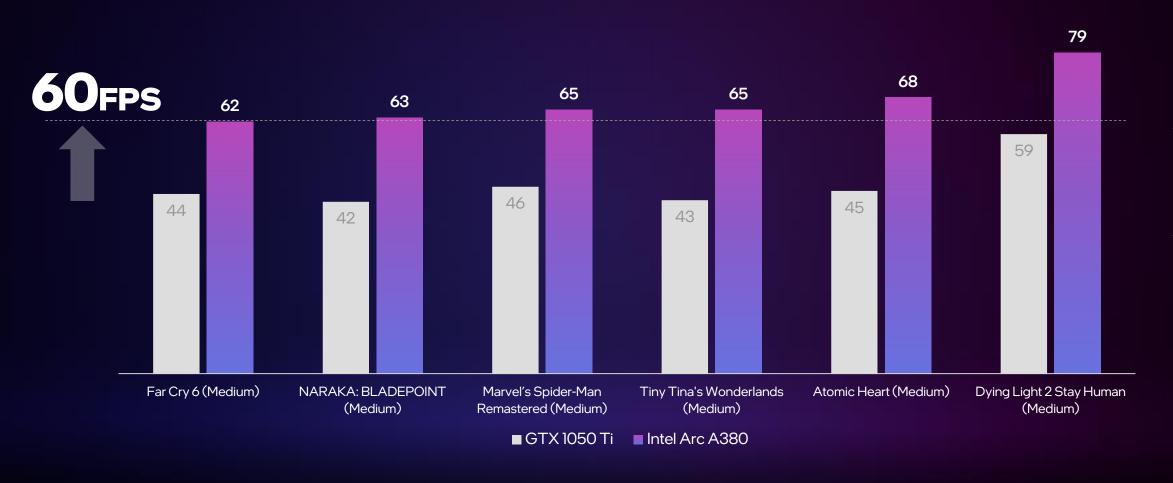




# FPS (Higher Is Bette

# It's Time To Upgrade A Significant Upgrade For The Latest Games

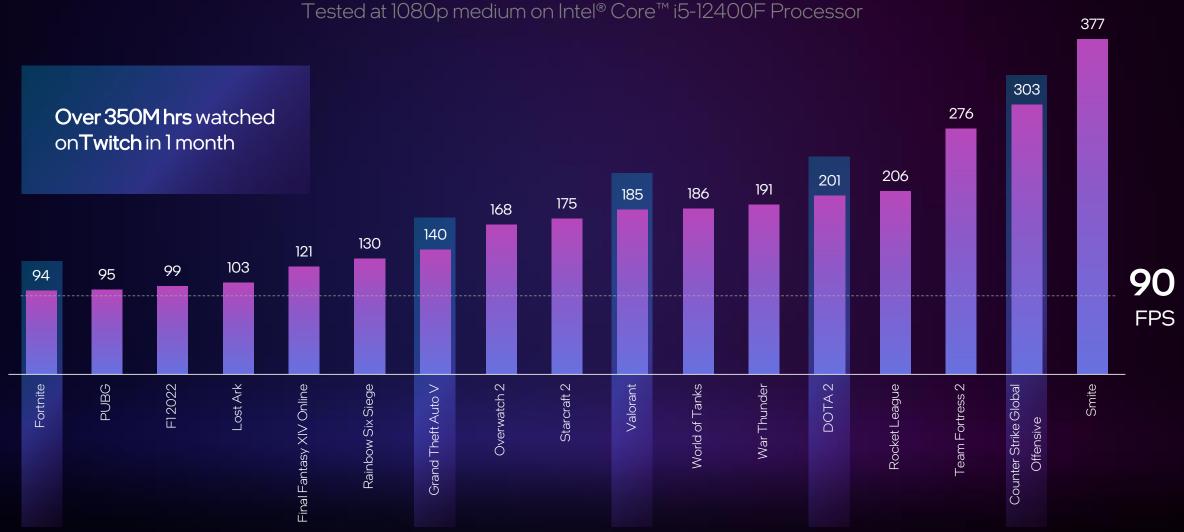
Tested at 1080p Medium



## Intel<sup>®</sup> Arc<sup>™</sup> A380 The GPU Choice with Modern Features

PU Choice with Modern Features		Intel	NVIDIA	AMD
		Arc <sup>®</sup> A380	GTX 1650	RX 6400
COMPETITIVE POSITIONING	Performance	1080p 60 med	1080p 60 med	1080p 60 med
MODERN FEATURES	Ray-Tracing Hardware (DirectX® 12 Ultimate)	Yes	No	Support for DX12 Ultimate but no dedicated HW
	Hardware-Accelerated AVI Decode/Encode	Yes	No	No
	Hardware-Accelerated H.264 &H.265 Encode	Yes	Yes	No
	Al-acceleration hardware	Yes	No	No
	Media Encoder	Latest gen Xe Media Engine	Volta/Turing generation (from 2017/2018)	Video Core Next 3.0 (from 2020)
	Concurrent Encoding Sessions	Unrestricted	5	0 Encoding not supported
	CPU + iGPU + dGPU Synergies	Yes, Intel Deep Link	No	Yes
SPEEDS & FEEDS	Memory Size	6GB GDDR6	4GB GDDR5/6	4GB GDDR6
	Maximum Number of Displays	4	3-4	2
	DisplayPort Support	DisplayPort 2.0 Ready	DisplayPort 1.4a	DisplayPort 1.4a
	HDMI Support	Up to HDMI 2.1	HDMI 2.0b	Up to HDMI 2.1
	PCIE	Gen 4, 16 GB/s	Gen 3, 16 GB/s	Gen 4, 8 GB/s

# Join over 430 Million monthly gamers with Intel Arc A380

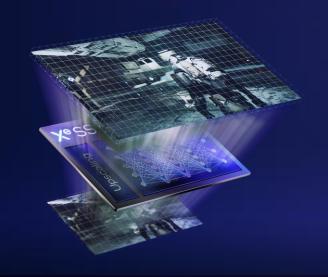


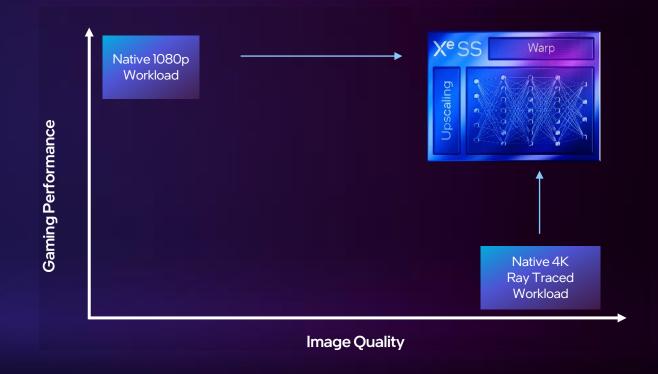
FPS (Higher Is Better)

## Intel®

# X Super Sampling

Intel® XeSS harnesses dedicated AI processors on Intel® Arc™ GPUs to apply deep learning algorithms that intelligently boost performance and immersion.

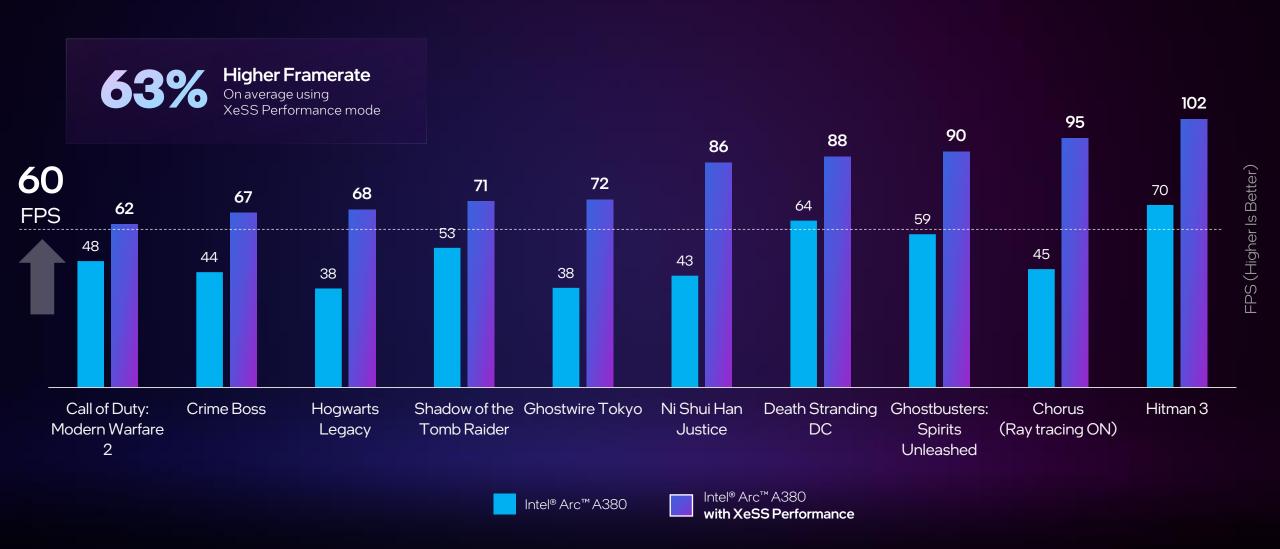




Intel Arc A380 Product Guide V1.3 Graph is not to scale and for illustrative purposes only.

## Play Even More Games with XeSS on the Intel® Arc™ A380

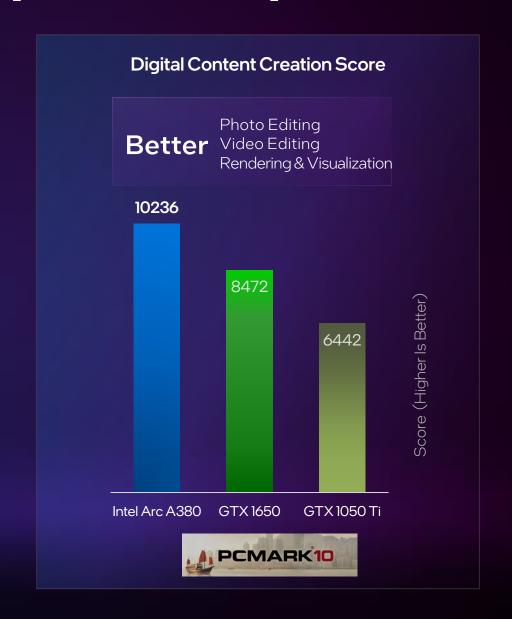
Tested at 1080p high on Intel® Core™ i5-12400F Processor



Performance varies by use, configuration and other factors See <u>backup</u> for workload and system configurations. Intel Arc A380 Product Guide V1.3

## Get Equipped for Everyday Productivity Essentials





## Leading Next-Gen and Media Capabilities

	Intel®Arc®A380	AMD RX 6400	GTX 1650
AV1	Full support	Limited and partial support	
Decode	Yes		
Encode	Yes	No	
VP9			
Decode	Yes	Yes	Yes
Encode	Yes		
HEVC/H.265			
Decode	Yes	Yes	Yes
Encode	Yes	No	No B-Frame and 4:2:2 support
AVC/H.264			
Decode	Yes	Yes	Yes
Encode	Yes		Yes
JPEG			
Decode	Yes		Limited
Encode	Yes		

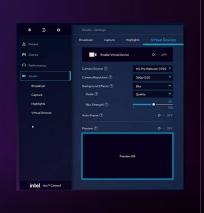


#### Creator Studio

All-in-one software suite packed with creator features built into Arc Control Software:

Green Screen - Background Blur - Auto-camera Framing

Bring your best for your stream viewers or call into meetings with confidence, no matter what's going on around you.





## Winning

# Media Processing Performance

Cyberlink Power Director Video Transcoding – Hardware Acceleration

Time to complete in seconds – lower is better Converting a 4K60 file from 80Mbps to 40 Mbps, AVC -> HEVC



3.2x faster
than NVIDIA GTX 1650

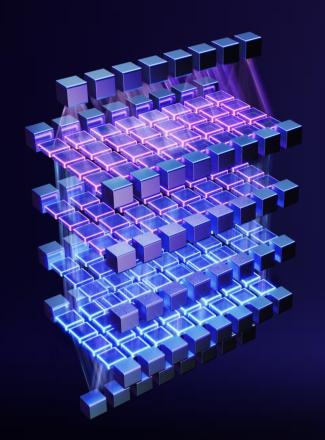
AMD Radeon 6400, 6500, and 6500 XT have no encoding cores.



### Superior

# Al Video Editing Performance

DaVinci Resolve(18.6.4 Build 6) – Lens Blur Completion Rate measured in FPS-higher is better





34% faster 21% faster

than AMD RX 6400 in video transcoding

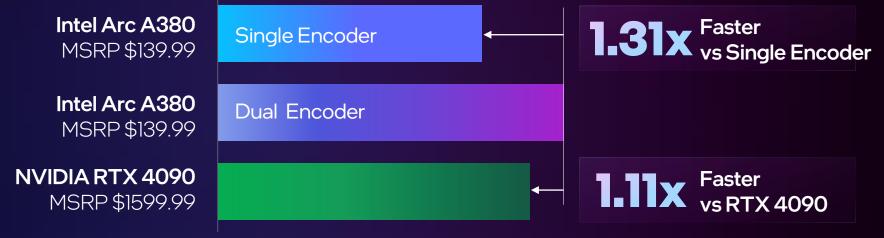
than NVIDIA GTX 1650 in video transcoding

# X<sup>e</sup> Media Engine Video Scaler HDR Tone Mapper Bayer Processor

### Unlock faster productivity

# **Dual Encoding Capabilities**

Video Export using Premiere Pro Version 24.1.0 (Build 85) 10b 4K/25 AVC @250Mbps -> 4K/25 HEVC @100Mbps Relative Completion Rate measured in FPS



With dual encode enabled, the Intel Arc A380 is faster than the top end NVIDIA GPU for encoding tasks, at approximately 10% of the cost!

Did you know

80%
of the world's internet traffic is video content?

# Why AV1?

Smaller file size for easier storage

Better quality per bitrate

Backed by major industry players

Better performance in bandwidth limited scenarios

Source: https://www.cisco.com/c/dam/m/en\_us/solutions/service-provider/vni-forecast-highlights/pdf/Global\_Device\_Growth\_Traffic\_Profiles.pdf Intel does not control or audit third-party data. You should consult other sources to evaluate accuracy.

Intel Arc A380 Product Guide V1.3



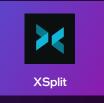
# Full AVI Hardware Acceleration

With Intel® Arc™ Graphics

Many Apps Available Today With Intel Arc AVI Support







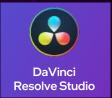
STREAM

















CONSUME

## **AVI Game Streaming** with Intel<sup>®</sup> Arc<sup>™</sup>

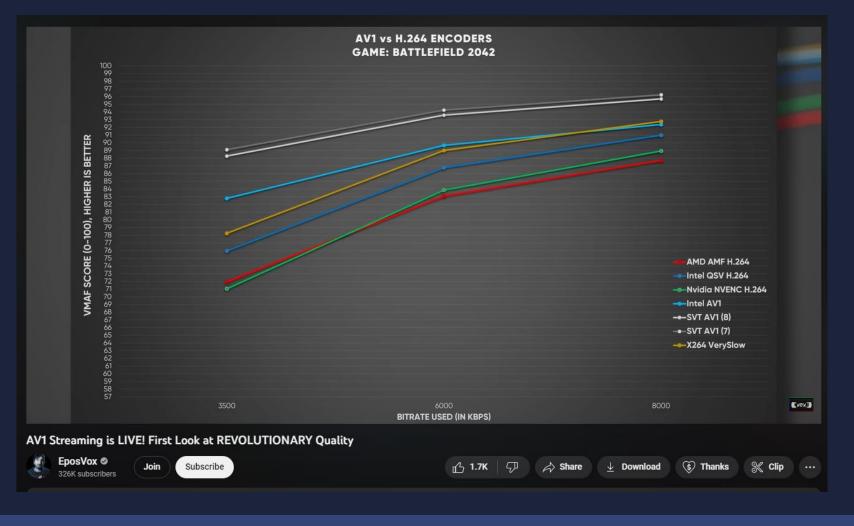
AV1 delivers much better visual quality and details at the same bitrate allowing streamers to save on bandwidth or stream in higher quality



Streaming at 5 Mbps

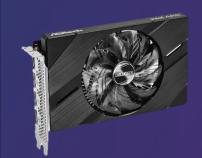
# AVI Game Streaming with Intel® Arc™

AVI delivers much better visual quality and details at the same bitrate allowing streamers to save on bandwidth or stream in higher quality



"Intel Arc graphics cards are a great entry point for AV1 video, with the A750 and A380 offering AV1 encoding at lower price point than any other GPU vendor. ... The A380 is perfect for your dedicated streaming rig, media server or as a secondary encoding card - if you want to add that into a bigger gaming PC. It's low cost, has lower power draw, and a slim design. "

## Intel Arc A380 Cards



ASRock A380 Challenger ITX

Sparkle A380 Elf





Gunnir A380 Photon

# Finished System Designs and SI Partners











Acer Aspire TC-1760



Acer Nitro N50



Asus S501MD



HP Victus



intel CORE



intel ARC

Full Desktops Starting at **\$599** 

# Supercharged Graphics Performance for modern gaming and everyday computing



# Smooth 1080p Gaming at over 60 FPS

More Performance with XeSS

A major upgrade

# Better Productivity & Digital Content Creation

Advanced Media Encoder
Full AV1 Support

Aodern Patures

XeSS









Image is provided for illustrative purposes only

\*Other names and brands may be claimed as the property of others. Intel® Deep Link technologies requires an Intel® Core™ CPU with integrated graphics.

# Notices & Disclaimers

Performance varies by use, configuration and other factors. Learn more at <a href="www.Intel.com/PerformanceIndex">www.Intel.com/PerformanceIndex</a> (graphics and accelerators).

Performance results are based on testing as of dates shown in configurations and may not reflect all publicly available updates. No product or component can be absolutely secure.

Intel does not control or audit third-party data. You should consult other sources to evaluate accuracy.

Intel technologies may require enabled hardware, software or service activation.

All product plans and roadmaps are subject to change without notice.

Statements that refer to future plans or expectations are forward-looking statements. These statements are based on current expectations and involve many risks and uncertainties that could cause actual results to differ materially from those expressed or implied in such statements. For more information on the factors that could cause actual results to differ materially, see our most recent earnings release and SEC filings at www.intc.com.

© Intel Corporation. Intel, the Intel logo, and other Intel marks are trademarks of Intel Corporation or its subsidiaries. Other names and brands may be claimed as the property of others.

# Appendix

## **Workloads and Configurations:** It's Time To Upgrade –GTX 1050 Ti vs Arc A380

**CLAIM SYSTEM CONFIGURATION** Intel® Arc™ A380 delivers over 60 FPS Intel GPU SKU: ASRock Arc A380 Challenger ITX Intel GFX Driver: Intel® Graphics Driver 31.0.101.4257 gaming experience at 1080p medium compared to the GTX 1050 Ti that cannot NVIDIA GPUSKU: GIGABYTE Windforce GeForce GTX 1050 Ti reach 60 FPS in many recent and popular across all configurations and test runs. OC 4G titles. NVIDIA GFX Driver: GeForce Game Ready Driver 31.0.15.3141 Game workloads that support this claim are: Intel® Arc™ A380 delivers 48% more

performance compared to the GTX 1050 Ti in many recent and popular titles.

Motherboard: Asus ROG MAXIMUS Z790 Hero CPU: Intel® Core i5-12400F

Memory: 32GB (2x16GB) DDR5 4800MHz

Memory SKU: Corsair CMT32GX5M2B5600C36 M.2 SSD: Corsair MP600 Pro XT 4TB/8TB NVMe

Power Supply: Corsair RMx Series RM850x

OS: Win 11 Pro

OS Version: v22H2, Build: 22621.1413

Power Policy: Balanced Core Isolation: Disabled **MEASUREMENT** 

All FPS (frames per second) scores are either measured with PresentMon or in-game benchmark. All gameplay has a documented workload running the same replay or game scenario

- Call of Duty: Modern Warfare 2 (High, XeSS ON) Arc A380: 62.22 FPS -GTX 1050Ti; 40.35 FPS
- Far Cry 6 (Medium) Arc A380: 62 FPS GTX 1050Ti: 44.26
- NARAKA: BLADEPOINT (Medium) Arc A380: 63 FPS -GTX 1050Ti: 42.32 FPS
- Marvel's Spider-Man Remastered (Medium) Arc A380: 65 FPS -GTX 1050Ti: 46 FPS
- Tiny Tina's Wonderlands (Medium) Arc A380: 65 FPS -GTX 1050Ti: 42.72 FPS
- Crime Boss (High, XeSS ON) Arc A380: 66.59 FPS GTX 1050Ti: 41.33 FPS
- Atomic Heart (Medium) Arc A380: 68 FPS GTX 1050Ti: 45 FPS
- Ghostwire: Tokyo (High, XeSS On) Arc A380: 71.69 FPS GTX 1050Ti: 45.49 FPS
- Dying Light 2 Stay Human (Medium) Arc A380: 79 FPS GTX 1050Ti: 59 FPS

All games tested at 1080p resolution at medium settings Average of uplift: 48%

April 2023

**MEASUREMENT** 

**PERIOD** 

It's Time To Upgrade A Significant Upgrade For The Latest Games

## Workloads and Configurations: Over 90 FPS Gaming on Arc A380

#### **MEASUREMENT CLAIM SYSTEM CONFIGURATION MEASUREMENT PERIOD** April 2023 Intel® Arc™ A380 delivers over 90 FPS in a GPUSKU: ASRock Arc A380 Challenger ITX All FPS (frames per second) scores are either measured with Intel GFX Driver: Intel® Graphics Driver 31.0.101.4257 large range of games at 1080p medium. PresentMon or in-game benchmark. All gameplay has a Motherboard: Asus ROG MAXIMUS Z790 Hero documented workload running the same replay or game CPU: Intel® Core i5-12400F scenario across all configurations and test runs. Memory: 32GB (2x16GB) DDR5 4800MHz Memory SKU: Corsair CMT32GX5M2B5600C36 Game workloads that support this claim are: M.2SSD: Corsair MP600 Pro XT 4TB/8TB NVMe Fortnite -94 FPS Power Supply: Corsair RMx Series RM850x PUBG-95 FPS OS: Win 11 Pro F12022 -99 FPS **OS Version:** v22H2, Build: 22621.1413 Lost Ark -103 FPS Power Policy: Balanced Final Fantasy XIV Online -121 FPS Core Isolation: Disabled Rainbow Six Siege -130 FPS Grand Theft Auto V-140 FPS Overwatch 2 -168 FPS Starcraft 2-175 FPS Valorant-185 FPS World of Tanks -186 War Thunder -191 FPS DOTA 2-201 FPS Rocket League -206 FPS Join over 430 Million monthly gamers Team Fortress 2 - 276 FPS Counter Strike Global Offensive -303 FPS Smite -377 FPS All games tested at 1080p resolution with at medium settings.

## Workloads and Configurations: A380 XeSS Performance

XeSS performance mode delivers a a significant boost in gaming framerate when tested on Intel® Arc™ A380 Graphics

**CLAIM** 

XeSS performance mode delivers a 63% boost in gaming framerate when tested on Intel® Arc™ A380 Graphics

#### **SYSTEM CONFIGURATION**

**GPUSKU:** ASRock Arc A380 Challenger ITX Intel GFX Driver: Intel® Graphics Driver 31.0.101.4257

Motherboard: Asus ROG MAXIMUS Z790 Hero CPU: Intel® Core i5-12400F

Memory: 32GB (2x16GB) DDR5 4800MHz

Memory SKU: Corsair

CMT32GX5M2B5600C36

M.2SSD: Corsair MP600 Pro XT 4TB/8TB

Power Supply: Corsair RMx Series RM850x OS: Win 11 Pro

**OS Version:** v22H2, Build: 22621.1413

Power Policy: Balanced Core Isolation: Disabled

#### **MEASUREMENT**

All games run at 1080p high resolution and FPS was measured.

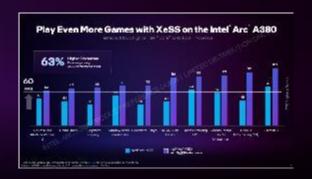
- Call of Duty: Modern Warfare 2 -Native: 48.21, XeSS Performance: 62.22
- Crime Boss –Native: 44.02, XeSS Performance: 66.59
- Hogwarts Legacy Native: 37.79, XeSS Performance: 67.79
- Shadow of the Tomb Raider Native: 53.28. XeSS Performance: 70.97
- Ghostwire Tokyo –Native: 38.03, XeSS Performance: 71.69
- Ni Shui Han Justice Native: 42.69, XeSS Performance: 85.82
- Death Stranding DC -Native: 63.66, XeSS Performance: 88.05
- Ghostbusters: Spirits Unleashed Native: 58.5, XeSS Performance: 89.93
- Chorus (Ray tracing ON) –Native: 45.14, XeSS Performance: 95.5
- Hitman 3 Native: 69.64, XeSS Performance: 102.41

Average of the uplift: 63%

April 5-28 2023

**MEASUREMENT** 

**PERIOD** 



# Workloads and Configurations: PCMark 10 Essentials and Digital Content Creation

Intel Arc A380 and A310 perform better than both the GTX 1650 and GTX 1050 Ti in PCMark 10 Essentials and Digital Content Creation tests.

**CLAIM** 

**SYSTEM CONFIGURATION** 

**MEASUREMENT** 

MEASUREMENT PERIOD

**Motherboard:** Asus ROG MAXIMUS Z790 Hero **CPU:** Intel® Core i5-12400F

Memory: 32GB (2x16GB) DDR5 4800MHz
Memory SKU: Corsair CMT32GX5M2B5600C36

Intel GPU #1: ASRock Arc A380 Challenger ITX Intel GPU #2: GUNNIR Arc A310

Intel GFX Driver: Intel® Graphics Driver 31.0.101.4335 NVIDIA GPU #1: ASUS TUF Gaming GeForce GTX

NVIDIA GPU #2: GIGABYTE Windforce GeForce GTX 1050 Ti OC 4G

**NVIDIA GFX Driver:** GeForce Game Ready Driver 31.0.15.3141

M.2 SSD: Corsair MP600 Pro XT 4TB/8TB NVMe Power Supply: Corsair RMx Series RM850x OS: Win 11 Pro

**OS Version:** v22H2, Build: 22621.1413

Power Policy: Balanced Core Isolation: Disabled

1650 4GB GDDR6

All apps run 3 times and median of 3 runs was taken. The result is output as a score, where a higher score equates to better performance.

#### PCMark 10 Essentials

- Intel Arc A380: 10562
- Intel Arc A310: 10230
- GTX 1650: 9908
- GTX 1050 Ti: 10093

#### PCMark 10 Digital Content Creation

- Intel Arc A380: 10236
- Intel Arc A310: 9554
- GTX 1650: 8472
- GTX 1050 Ti: 6442

April 18 - 28 2023



# Workloads and Configurations: Media Processing Performance

**CLAIM** 

#### MEASUREMENT

#### **MEASUREMENT PERIOD**

Intel® Arc™ A380 delivers 3.2x faster transcoding in Cyberlink Power director compared to NVIDIA GTX 1650, and 1.81x faster compared to the Radeon RX 6600

#### Intel® Arc™ A380 configuration:

Processor: Intel® Core™ i9-13900K

Motherboard: Asus ROG MAXIMUS Z790 Hero

**SYSTEM CONFIGURATION** 

(BIOS: 0703 x64)

Ram: 32GB (2x16GB) DDR5 4800MHz

**OS**: Windows 11 Pro Version 22H2, 222621.1105

**Discrete Graphics**: Intel® Arc™ A380

Graphics Driver: 31.0.101.4032 Storage: Corsair MP600 Pro XT 4TB NVMe

#### AMD Radeon RX 6600 configuration

Processor: Intel® Core™ i9-13900K

Motherboard: Asus ROG MAXIMUS Z790 Hero

(BIOS: 0703 x64)

Ram: 32GB (2x16GB) DDR5 4800MHz

**OS**: Windows 11 Pro Version 22H2, 222621.1105

**Discrete Graphics**: XFX SPEEDSTER SWFT210

Radeon RX 6600 8GB, RX-66XL8LFDQ

Graphics Driver: 31.0.12029.10015

**Storage:** Corsair MP600 Pro XT 4TB NVMe

#### NVIDIA GeForce GTX 1650 configuration:

Processor: Intel® Core™ i9-13900K

Motherboard: Asus ROG MAXIMUS Z790 Hero

(BIOS: 0703 x64)

Ram: 32GB (2x16GB) DDR5 4800MHz

**OS**: Windows 11 Pro Version 22H2, 222621.1105

Discrete Graphics: TUF-GTX1650-O4GD6-P-

**GAMING** 

**Graphics Driver**: 31.0.15.2802

Storage: Corsair MP600 Pro XT 4TB NVMe

Cyberlink Power Director was used to measure the encoding speed of a 4K60 80Mbps -> 40Mbps AVC -> HEVC. The comparison for the claim is using a system with an Intel Arc A380 GPU installed vs the same desktop configuration with a GTX 1650, or RX 6600 installed.

Intel Arc A380 completed in 91 seconds GeForce GTX 1650 completed in 291 seconds Radeon RX 6600 completed in 165 seconds Jan 17 2023



## Workloads and Configurations – XMX Al Video Editing

#### **CLAIM**

Intel® Arc™ A380 utilizes built in XMX engines to complete Al tasks faster. In DaVinci Resolve(18.6.4 Build 6) using the Lens Blur tool, the Intel® Arc™ A380 is able to generate images 21% faster than an NVIDIA GTX 1650, and 34% faster than an AMD Radeon RX 6400

#### **SYSTEM CONFIGURATION**

#### Intel® Arc™ A380 configuration:

Processor: Intel® Core™ i9-13900K

Motherboard: Asus ROG MAXIMUS Z790 Hero

(BIOS: 0813 x64)

Ram: 32GB (2x16GB) DDR5 5600MHz OS: Windows 11 Pro Version 10.0.22631.2861

Discrete Graphics: Intel Arc A380

**Graphics Driver**: 31.0.101.5180 / 5122 / 5085 **Storage**: Corsair MP600 Pro XT 4TB NVMe

#### AMD Radeon RX 6400 configuration

Processor: Intel® Core™ i9-13900K

Motherboard: Asus ROG MAXIMUS Z790 Hero

(BIOS: 0813 x64)

**Ram**: 32GB (2x16GB) DDR5 5600MHz

**OS**: Windows 11 Pro Version 10.0.22631.2861

Discrete Graphics: AMD Radeon RX 6400

**Graphics Driver**: 31.0.23013.1023

**Storage:** Corsair MP600 Pro XT 4TB NVMe

#### NVIDIA GeForce GTX 1650 configuration:

Processor: Intel® Core™ i9-13900K

Motherboard: Asus ROG MAXIMUS Z790 Hero

(BIOS: 0813 x64)

Ram: 32GB (2x16GB) DDR5 5600MHz

**OS**: Windows 11 Pro Version 10.0.22631.2861

Discrete Graphics: GeForce GTX 1650

Graphics Driver: 31.0.15.4633

Storage: Corsair MP600 Pro XT 4TB NVMe

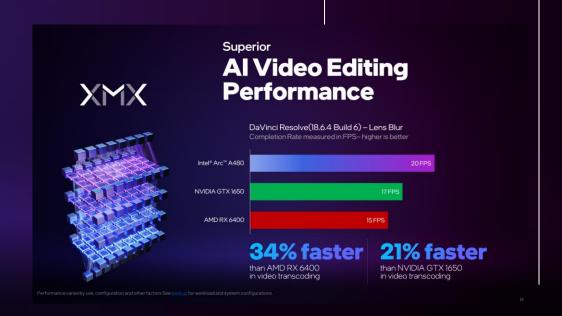
#### **MEASUREMENT**

XMX performance tested on DaVinci Resolve(18.6.4 Build 6) AI Test Suite v2.5 using the Lens Blur tool Rate to completion measured in FPS are as follows:

A380 6GB - 20.42 FPS GTX 1650 - 16.88 FPS RX 6400 - 15.26 FPS

#### **MEASUREMENT PERIOD**

January 19 2024



## Workloads and Configurations – Dual Encoding

**CLAIM** 

With dual encoders enabled, the Intel® Arc™ A380 is able to export videos 10% faster than an NVIDIA GeForce RTX 4090 which costs 10x as much.

With dual encoders enabled, the Intel® Arc™ A380 is able to export videos 31% faster than just using the single encoder

#### **SYSTEM CONFIGURATION**

#### Intel® Arc™ A380 configuration:

Processor: Intel® Core™ i9-13900K

Motherboard: Asus ROG MAXIMUS Z790 Hero

(BIOS: 0813 x64)

**Ram**: 32GB (2x16GB) DDR5 5600MHz

**OS**: Windows 11 Pro Version 10.0.22631.2861

Discrete Graphics: Intel Arc A380

Graphics Driver: 31.0.101.5180 / 5122 / 5085 Storage: Corsair MP600 Pro XT 4TB NVMe

#### NVIDIA GeForce RTX 4090 configuration:

**Processor**: Intel® Core™ i9-13900K

Motherboard: Asus ROG MAXIMUS Z790 Hero

(BIOS: 0813 x64)

**Ram**: 32GB (2x16GB) DDR5 5600MHz

**OS**: Windows 11 Pro Version 10.0.22631.2861

Discrete Graphics: GeForce RTX 4090

**Graphics Driver**: 31.0.15.4633

Storage: Corsair MP600 Pro XT 4TB NVMe

#### **MEASUREMENT**

Tested using Premiere Pro Version 24.1.0 (Build 85). Exporting a video from 10b 4K/25 AVC @250Mbps to 4K/25 HEVC @100Mbps Completion rate (measured in FPS) are as follows:

Intel Arc A380 single encoder: 100.69 FPS Intel Arc A380 dual encoder: 111.57 FPS NVIDIA RTX 4090: 100.69 FPS

#### **MEASUREMENT PERIOD**

January 19 2024

