

## Video Output Information

1. In the External Display Output column, the supported resolutions and the refresh rates for each display port are listed.
2. The port listed in front represents the port on the laptop, and the other one represents the port connected on the external monitor.

3. The Display Ports column shows the type and number of output connectors.

\*The miniDP and Type-C w/DP ports on the laptops listed in this document support DP v1.4 unless stated otherwise.

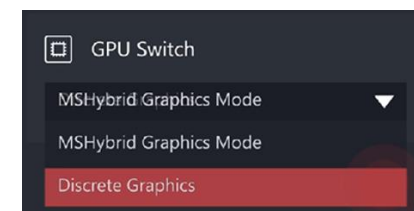
4. See the list of used acronyms in the right table.
5. The MUX switch is an option that allows users to run the system in MSHybrid mode or Discrete Graphics mode, and can be configured in the General Settings in MSI Centers (MSI Center/ MSI Center Pro) on laptops that support it.
6. To know which graphics card the display port is wired to, check where the display port is shown in the table, or check the connected graphics in the “Set PhysX Configuration” page in NVIDIA Control Panel.

External Display Output	
Max Resolution	Max Refresh Rate
TBT-HDMI* <sup>1</sup> : 4096x2160 @60Hz TBT-DP: 5120x2160 @60Hz TBT-Type C(TB/DP): 5120x2160 @60Hz	TBT-HDMI* <sup>1</sup> : 1920x1080 @240Hz TBT-DP: 1920x1080 @240Hz TBT-Type C(TB/DP): 1920x1080 @240Hz

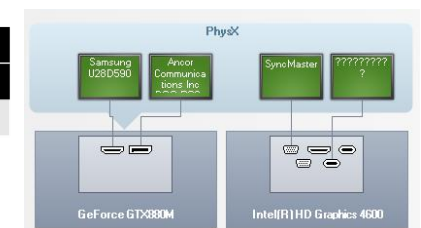
Max Resolution
TBT-HDMI* <sup>1</sup> : 4096x2160 @60Hz TBT-DP: 5120x2160 @60Hz TBT-Type C(TB/DP): 5120x2160 @60Hz
NB
Monitor

Display Ports	
iGPU	dGPU
TBT 4*3x1	-
Type-C w/DP x1	-
-	HDMIx1

Acronym	Description
DP/mDP	Display Port/ mini Display Port
HDMI	High-Definition Multimedia Interface
TBT	Thunderbolt
iGPU/dGPU	Integrated GPU/ Dedicated GPU



Display Ports	
iGPU	dGPU
TBT 4*3x2	-



# MSI Laptops with 12<sup>th</sup> Gen Intel Processor

## Gaming

- [Titan GT Series](#)
- [Stealth GS Series](#)
- [Raider GE Series](#)
- [Vector GP Series](#)
- [Crosshair Series](#)
- [Pulse GL Series](#)
- [Sword Series](#)
- [Katana GF Series](#)
- [Thin GF Series](#)

## Business & Productivity

- [Summit Series](#)
- [Prestige Series](#)
- [Modern Series](#)

## Content Creation

- [Creator Series](#)

## Titan GT Series

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Titan GT77 12UHS	RTX 3080 Ti	V	-	HDMI	HDMI: 4096x2160 @120Hz	HDMI: 1920x1080 @240Hz	5
			-	mDP	mDP-DP: 7680x4320 @30Hz	mDP-DP: 1920x1080 @360Hz	
			-	TBT 4x2	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160@144Hz	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160@144Hz	
Titan GT77 12UGS	RTX 3070 Ti	V	-	HDMI	HDMI: 4096x2160 @120Hz	HDMI: 1920x1080 @240Hz	5
			-	mDP	mDP-DP: 7680x4320 @30Hz	mDP-DP: 1920x1080 @360Hz	
			-	TBT 4x2	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160@144Hz	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160@144Hz	

## Stealth GS Series - 1/5

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Stealth GS77 12UHS	RTX 3080 Ti	-	TBT 4*2x1	-	TBT-HDMI: 4096x2160 @120Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160 @144Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 1920x1080 @165Hz	4
			-	Type-C/DPx1	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 7680x4320 @30Hz Type C-Type C: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @360Hz Type C-Type C: 1920*1080 @165Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	
Stealth GS77 12UH	RTX 3080	-	TBT 4*2x1	-	TBT-HDMI: 4096x2160 @120Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160 @144Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 1920x1080 @165Hz	4
			-	Type-C/DPx1	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 7680x4320 @30Hz Type C-Type C: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @360Hz Type C-Type C: 1920*1080 @165Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

\*2: Thunderbolt ports supports external displays in MSHybrid Graphics mode only. (Ref: <https://www.msi.com/faq/faq-4175>)

\*3: Maximum matrix display numbers are tested under MSHybrid mode; for dGPU mode, Intel Thunderbolt port has limited support according to \*2.

## Stealth GS Series - 2/5

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Stealth GS77 12UGS	RTX 3070 Ti	-	TBT 4*2x1	-	TBT-HDMI: 4096x2160 @120Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160 @144Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 1920x1080 @165Hz	4
			-	Type-C/DPx1	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 7680x4320 @30Hz Type C-Type C: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @360Hz Type C-Type C: 1920*1080 @165Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	
Stealth GS66 12UHS	RTX 3080 Ti	V	TBT 4*2x1	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 5120x2160 @60Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160 @144Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(TB/DP): 2560x1440 @240Hz	5*3
			-	Type-C/DPx2	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 5120x2160 @60Hz Type C-Type C(TB/DP): 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @360Hz Type C-Type C(TB/DP): 2560x1440 @240Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

\*2: Thunderbolt ports supports external displays in MSHybrid Graphics mode only. (Ref: <https://www.msi.com/faq/faq-4175>)

\*3: Maximum matrix display numbers are tested under MSHybrid mode; for dGPU mode, Intel Thunderbolt port has limited support according to \*2.

## Stealth GS Series - 3/5

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Stealth GS66 12UH	RTX 3080	V	TBT 4*2x1	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 5120x2160 @60Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160 @144Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(TB/DP): 2560x1440 @240Hz	5*3
				Type-C/DPx2	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 5120x2160 @60Hz Type C-Type C(TB/DP): 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @360Hz Type C-Type C(TB/DP): 2560x1440 @240Hz	
				HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	
Stealth GS66 12UGS	RTX 3070 Ti	V	TBT 4*2x1	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 5120x2160 @60Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160 @144Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(TB/DP): 2560x1440 @240Hz	5*3
			-	Type-C/DPx2	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 5120x2160 @60Hz Type C-Type C(TB/DP): 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @3-60Hz Type C-Type C(TB/DP): 2560x1440 @240Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

\*2: Thunderbolt ports supports external displays in MSHybrid Graphics mode only. (Ref: <https://www.msi.com/faq/faq-4175>)

\*3: Maximum matrix display numbers are tested under MSHybrid mode; for dGPU mode, Intel Thunderbolt port has limited support according to \*2.

## Stealth GS Series - 4/5

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU* <sup>1</sup>	Max Resolution	Max Refresh Rate	
Stealth GS66 12UG	RTX 3070	V	TBT 4* <sup>2</sup> x1	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 5120x2160 @60Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160 @144Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(TBT/DP): 2560x1440 @240Hz	5* <sup>3</sup>
			-	Type-C/DPx2	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 5120x2160 @60Hz Type C-Type C(TB/DP): 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @3-60Hz Type C-Type C(TB/DP): 2560x1440 @240Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	
Stealth GS66 12UE	RTX 3060	V	TBT 4* <sup>2</sup> x1	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 5120x2160 @60Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160 @144Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(TBT/DP): 2560x1440 @240Hz	5* <sup>3</sup>
			-	Type-C/DPx2	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 5120x2160 @60Hz Type C-Type C(TB/DP): 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @3-60Hz Type C-Type C(TB/DP): 2560x1440 @240Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

\*2: Thunderbolt ports supports external displays in MSHybrid Graphics mode only. (Ref: <https://www.msi.com/faq/faq-4175>)

\*3: Maximum matrix display numbers are tested under MSHybrid mode; for dGPU mode, Intel Thunderbolt port has limited support according to \*2.

## Stealth GS Series - 5/5

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Stealth 17M A12UE	RTX 3060	-	-	Type-C/DPx1	Type C-HDMI: 4096x2160 @60Hz Type C-DP: 5120x2160 @60Hz Type C-Type C(DP): 3840x2160 @144Hz	Type C-HDMI: 2650x1080 @180Hz Type C-DP: 1920x1080 @360Hz Type C-Type C(DP): 3840x2160 @144Hz	3
			-	HDMIx1	HDMI: 4096x2160 @120Hz	HDMI: 2650x1080 @180Hz	
Stealth 15M B12UE	RTX 3060	-	-	Type-C/DPx1	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 7680x4320 @30Hz Type C-Type C(DP): 3840x2160 @60Hz	Type C-HDMI: 2650x1080 @180Hz Type C-DP: 1920x1080 @120Hz Type C-Type C(DP): 3840x2160 @60Hz	3
			-	HDMIx1	HDMI: 4096x2160 @120Hz	HDMI: 2650x1080 @180Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

\*2: Thunderbolt ports supports external displays in MSHybrid Graphics mode only. (Ref: <https://www.msi.com/faq/fag-4175>)

\*3: Maximum matrix display numbers are tested under MSHybrid mode; for dGPU mode, Intel Thunderbolt port has limited support according to \*2.



## Raider GE Series - 1/6

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Raider GE77HX 12UHS	RTX 3080 Ti	V	-	TBT 4x1	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP):3840x2160 @144Hz	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 1920x1080 @165Hz TBT-TBT: 3840x2160 @144Hz TBT-Type C(DP): 3840x2160 @144Hz	4
			-	Type-C/DPx1	Type C-HDMI: 4096x2160 @60Hz Type C-DP: 7680x4320 @30Hz Type C-Type C(TB/DP): 3840x2160 @60Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @360Hz Type C-Type C(TB/DP): 2560x1440 @165Hz Type C-TBT: 3840x2160 @144Hz	
			-	HDMIx1	HDMI : 4096x2160 @60Hz	HDMI : 1920x1080 @240Hz	
Raider GE77HX 12UH	RTX 3080	V	-	TBT 4x1	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP):3840x2160 @144Hz	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 1920x1080 @165Hz TBT-TBT: 3840x2160 @144Hz TBT-Type C(DP): 3840x2160 @144Hz	4
			-	Type-C/DPx1	Type C-HDMI: 4096x2160 @60Hz Type C-DP: 7680x4320 @30Hz Type C-Type C(TB/DP): 3840x2160 @60Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @360Hz Type C-Type C(TB/DP): 2560x1440 @165Hz Type C-TBT: 3840x2160 @144Hz	
			-	HDMIx1	HDMI : 4096x2160 @60Hz	HDMI : 1920x1080 @240Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

## Raider GE Series - 2/6

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Raider GE77HX 12UGS	RTX 3070 Ti	V	-	TBT 4x1	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP):3840x2160 @144Hz	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 1920x1080 @165Hz TBT-TBT: 3840x2160 @144Hz TBT-Type C(DP): 3840x2160 @144Hz	4
			-	Type-C/DPx1	Type C-HDMI: 4096x2160 @60Hz Type C-DP: 7680x4320 @30Hz Type C-Type C(TB/DP): 3840x2160 @60Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @360Hz Type C-Type C(TB/DP): 2560x1440 @165Hz Type C-TBT: 3840x2160 @144Hz	
			-	HDMIx1	HDMI : 4096x2160 @60Hz	HDMI : 1920x1080 @240Hz	
Raider GE67HX 12UHS	RTX 3080 Ti	V	-	TBT 4x1	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP):3840x2160 @144Hz	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 1920x1080 @165Hz TBT-TBT: 3840x2160 @144Hz TBT-Type C(DP): 3840x2160 @144Hz	4
			-	Type-C/DPx1	Type C-HDMI: 4096x2160 @60Hz Type C-DP: 7680x4320 @30Hz Type C-Type C(TB/DP): 3840x2160 @60Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @360Hz Type C-Type C(TB/DP): 2560x1440 @165Hz Type C-TBT: 3840x2160 @144Hz	
			-	HDMIx1	HDMI : 4096x2160 @60Hz	HDMI : 1920x1080 @240Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

## Raider GE Series – 3/6

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Raider GE67HX 12UH	RTX 3080	V	-	TBT 4x1	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP):3840x2160 @144Hz	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 1920x1080 @165Hz TBT-TBT: 3840x2160 @144Hz TBT-Type C(DP): 3840x2160 @144Hz	4
			-	Type-C/DPx1	Type C-HDMI: 4096x2160 @60Hz Type C-DP: 7680x4320 @30Hz Type C-Type C(TB/DP): 3840x2160 @60Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @360Hz Type C-Type C(TB/DP): 2560x1440 @165Hz Type C-TBT: 3840x2160 @144Hz	
			-	HDMIx1	HDMI : 4096x2160 @60Hz	HDMI : 1920x1080 @240Hz	
Raider GE67HX 12UGS	RTX 3070 Ti	V	-	TBT 4x1	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP):3840x2160 @144Hz	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 1920x1080 @165Hz TBT-TBT: 3840x2160 @144Hz TBT-Type C(DP): 3840x2160 @144Hz	4
			-	Type-C/DPx1	Type C-HDMI: 4096x2160 @60Hz Type C-DP: 7680x4320 @30Hz Type C-Type C(TB/DP): 3840x2160 @60Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @360Hz Type C-Type C(TB/DP): 2560x1440 @165Hz Type C-TBT: 3840x2160 @144Hz	
			-	HDMIx1	HDMI : 4096x2160 @60Hz	HDMI : 1920x1080 @240Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

## Raider GE Series – 4/6

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Raider GE76 12UHS	RTX 3080 Ti	V	TBT 4*2x1	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160 @60Hz	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160 @60Hz	5*3
			-	Type-C/DPx1	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 3840x2160 @144Hz Type C-Type C(TB/DP): 7680x4320 @30Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 2560*1440 @240Hz Type C-Type C(TB/DP): 1920x1080 @360Hz Type C-TBT: 2560*1440 @240Hz	
			-	mDPx1	mDP-DP: 7680x4320 @30Hz	mDP-DP: 1920x1080 @360Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	
Raider GE76 12UH	RTX 3080	V	TBT 4*2x1	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160 @60Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-TBT: 2560*1440 @240Hz TBT-Type C(TB/DP): 2560*1440 @240Hz	5*3
			-	Type-C/DPx1	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 3840x2160 @144Hz Type C-Type C(TB/DP): 7680x4320 @30Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 2560*1440 @240Hz Type C-Type C(TB/DP): 1920x1080 @360Hz Type C-TBT: 2560*1440 @240Hz	
			-	mDPx1	mDP-DP: 7680x4320 @30Hz	mDP-DP: 1920x1080 @360Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

\*2: Thunderbolt ports supports external displays in MSHybrid Graphics mode only. (Ref: <https://www.msi.com/faq/faq-4175>)

\*3: Maximum matrix display numbers are tested under MSHybrid mode; for dGPU mode, Intel Thunderbolt port has limited support according to \*2.

## Raider GE Series – 5/6

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Raider GE76 12UGS	RTX 3070 Ti	V	TBT 4*2x1	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160 @60Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-TBT: 2560*1440 @240Hz TBT-Type C(TB/DP): 2560*1440 @240Hz	5*3
			-	Type-C/DPx1	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 3840x2160 @144Hz Type C-Type C(TB/DP): 7680x4320 @30Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 2560*1440 @240Hz Type C-Type C(TB/DP): 1920x1080 @360Hz Type C-TBT: 2560*1440 @240Hz	
			-	mDPx1	mDP-DP: 7680x4320 @30Hz	mDP-DP: 1920x1080 @360Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	
Raider GE66 12UHS	RTX 3080 Ti	V	TBT 4*2x1	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160 @60Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-TBT: 2560*1440 @240Hz TBT-Type C(TB/DP): 2560*1440 @240Hz	5*3
			-	Type-C/DPx1	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 3840x2160 @144Hz Type C-Type C(TB/DP): 7680x4320 @30Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 2560*1440 @240Hz Type C-Type C(TB/DP): 1920x1080 @360Hz Type C-TBT: 2560*1440 @240Hz	
			-	mDPx1	mDP-DP: 7680x4320 @30Hz	mDP-DP: 1920x1080 @360Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

\*2: Thunderbolt ports supports external displays in MSHybrid Graphics mode only. (Ref: <https://www.msi.com/fag/fag-4175>)

\*3: Maximum matrix display numbers are tested under MSHybrid mode; for dGPU mode, Intel Thunderbolt port has limited support according to \*2.

## Raider GE Series -6/6

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Raider GE66 12UH	RTX 3080	V	TBT 4*2x1	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160 @60Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-TBT: 2560*1440 @240Hz TBT-Type C(TB/DP): 2560*1440 240Hz	5*3
			-	Type-C/DPx1	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 3840x2160 @144Hz Type C-Type C(TB/DP): 7680x4320 @30Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 2560*1440 @240Hz Type C-Type C(TB/DP): 1920x1080 @360Hz Type C-TBT: 2560*1440 @240Hz	
			-	mDPx1	mDP-DP: 7680x4320 @30Hz	mDP-DP: 1920x1080 @360Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	
Raider GE66 12UGS	RTX 3070 Ti	V	TBT 4*2x1	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160 @60Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-TBT: 2560*1440 240Hz TBT-Type C(TB/DP): 2560*1440 240Hz	5*3
			-	Type-C/DPx1	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 3840x2160 @144Hz Type C-Type C(TB/DP): 7680x4320 @30Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 2560*1440 240Hz Type C-Type C(TB/DP): 1920x1080 @360Hz Type C-TBT: 2560*1440 240Hz	
			-	mDPx1	mDP-DP: 7680x4320 @30Hz	mDP-DP: 1920x1080 @360Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

\*2: Thunderbolt ports supports external displays in MSHybrid Graphics mode only. (Ref: <https://www.msi.com/fag/fag-4175>)

\*3: Maximum matrix display numbers are tested under MSHybrid mode; for dGPU mode, Intel Thunderbolt port has limited support according to \*2.

## Vector GP Series - 1/7

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU* <sup>1</sup>	Max Resolution	Max Refresh Rate	
Vector GP76HX 12UHS	RTX 3080 Ti	V	-	TBT 4x1	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP):3840x2160 @144Hz	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 1920x1080 @165Hz TBT-TBT: 3840x2160 @144Hz TBT-Type C(DP): 3840x2160 @144Hz	4
			-	Type-C/DPx1	Type C-HDMI: 4096x2160 @60Hz Type C-DP: 7680x4320 @30Hz Type C-Type C(TB/DP): 3840x2160 @60Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @360Hz Type C-Type C(TB/DP): 2560x1440 @165Hz Type C-TBT: 3840x2160 @144Hz	
			-	HDMIx1	HDMI : 4096x2160 @60Hz	HDMI : 1920x1080 @240Hz	
Vector GE76HX 12UH	RTX 3080	V	-	TBT 4x1	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP):3840x2160 @144Hz	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 1920x1080 @165Hz TBT-TBT: 3840x2160 @144Hz TBT-Type C(DP): 3840x2160 @144Hz	4
			-	Type-C/DPx1	Type C-HDMI: 4096x2160 @60Hz Type C-DP: 7680x4320 @30Hz Type C-Type C(TB/DP): 3840x2160 @60Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @360Hz Type C-Type C(TB/DP): 2560x1440 @165Hz Type C-TBT: 3840x2160 @144Hz	
			-	HDMIx1	HDMI : 4096x2160 @60Hz	HDMI : 1920x1080 @240Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

## Vector GP Series - 2/7

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Vector GP76HX 12UGS	RTX 3070 Ti	V	-	TBT 4x1	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP):3840x2160 @144Hz	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 1920x1080 @165Hz TBT-TBT: 3840x2160 @144Hz TBT-Type C(DP): 3840x2160 @144Hz	4
			-	Type-C/DPx1	Type C-HDMI: 4096x2160 @60Hz Type C-DP: 7680x4320 @30Hz Type C-Type C(TB/DP): 3840x2160 @60Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @360Hz Type C-Type C(TB/DP): 2560x1440 @165Hz Type C-TBT: 3840x2160 @144Hz	
			-	HDMIx1	HDMI : 4096x2160 @60Hz	HDMI : 1920x1080 @240Hz	
Vector GE66HX 12UHS	RTX 3080 Ti	V	-	TBT 4x1	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP):3840x2160 @144Hz	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 1920x1080 @165Hz TBT-TBT: 3840x2160 @144Hz TBT-Type C(DP): 3840x2160 @144Hz	4
			-	Type-C/DPx1	Type C-HDMI: 4096x2160 @60Hz Type C-DP: 7680x4320 @30Hz Type C-Type C(TB/DP): 3840x2160 @60Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @360Hz Type C-Type C(TB/DP): 2560x1440 @165Hz Type C-TBT: 3840x2160 @144Hz	
			-	HDMIx1	HDMI : 4096x2160 @60Hz	HDMI : 1920x1080 @240Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.



## Vector GP Series - 3/7

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU* <sup>1</sup>	Max Resolution	Max Refresh Rate	
Vector GE66HX 12UGS	RTX 3070 Ti	V	-	TBT 4x1	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP):3840x2160 @144Hz	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 1920x1080 @165Hz TBT-TBT: 3840x2160 @144Hz TBT-Type C(DP): 3840x2160 @144Hz	4
			-	Type-C/DPx1	Type C-HDMI: 4096x2160 @60Hz Type C-DP: 7680x4320 @30Hz Type C-Type C(TB/DP): 3840x2160 @60Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @360Hz Type C-Type C(TB/DP): 2560x1440 @165Hz Type C-TBT: 3840x2160 @144Hz	
			-	HDMIx1	HDMI : 4096x2160 @60Hz	HDMI : 1920x1080 @240Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

## Vector GP Series - 4/7

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Vector GP76 12UHS	RTX 3080 Ti	V	-	Type-C/DPx1	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 3840x2160 @144Hz Type C-Type C(TB/DP): 7680x4320 @30Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 2560*1440 @240Hz Type C-Type C(TB/DP): 1920x1080 @360Hz Type C-TBT: 2560*1440 240Hz	4
			-	mDPx1	mDP-DP: 7680x4320 @30Hz	mDP-DP: 1920x1080 @360Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	
Vector GP76 12UH	RTX 3080	V	-	Type-C/DPx1	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 3840x2160 @144Hz Type C-Type C(TB/DP): 7680x4320 @30Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 2560*1440 240Hz Type C-Type C(TB/DP): 1920x1080 @360Hz Type C-TBT: 2560*1440 240Hz	4
			-	mDPx1	mDP-DP: 7680x4320 @30Hz	mDP-DP: 1920x1080 @360Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	
Vector GP76 12UHO	RTX 3080	V	-	Type-C/DPx1	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 3840x2160 @144Hz Type C-Type C(TB/DP): 7680x4320 @30Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 2560*1440 240Hz Type C-Type C(TB/DP): 1920x1080 @360Hz Type C-TBT: 2560*1440 240Hz	4
			-	mDPx1	mDP-DP: 7680x4320 @30Hz	mDP-DP: 1920x1080 @360Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

## Vector GP Series - 5/7

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Vector GP76 12UGS	RTX 3070 Ti	V	-	Type-C/DPx1	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 3840x2160 @144Hz Type C-Type C(TB/DP): 7680x4320 @30Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 3840x2160 @144Hz Type C-Type C(TB/DP): 7680x4320 @30Hz Type C-TBT: 3840x2160 @144Hz	4
			-	mDPx1	mDP-DP: 7680x4320 @30Hz	mDP-DP: 1920x1080 @360Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	
Vector GP76 12UGSO	RTX 3070 Ti	V	-	Type-C/DPx1	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 3840x2160 @144Hz Type C-Type C(TB/DP): 7680x4320 @30Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 3840x2160 @144Hz Type C-Type C(TB/DP): 7680x4320 @30Hz Type C-TBT: 3840x2160 @144Hz	4
			-	mDPx1	mDP-DP: 7680x4320 @30Hz	mDP-DP: 1920x1080 @360Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	
Vector GP76 12UE	RTX 3060	V	-	Type-C/DPx1	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 3840x2160 @144Hz Type C-Type C(TB/DP): 7680x4320 @30Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 2560*1440 240Hz Type C-Type C(TB/DP): 1920x1080 @360Hz Type C-TBT: 2560*1440 240Hz	4
			-	mDPx1	mDP-DP: 7680x4320 @30Hz	mDP-DP: 1920x1080 @360Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

## Vector GP Series - 6/7

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Vector GP76 12UEO	RTX 3060	V	-	Type-C/DPx1	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 3840x2160 @144Hz Type C-Type C(TB/DP): 7680x4320 @30Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 2560*1440 240Hz Type C-Type C(TB/DP): 1920x1080 @360Hz Type C-TBT: 2560*1440 240Hz	4
			-	mDPx1	mDP-DP: 7680x4320 @30Hz	mDP-DP: 1920x1080 @360Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	
Vector GP66 12UH	RTX 3080	V	-	Type-C/DPx1	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 3840x2160 @144Hz Type C-Type C(TB/DP): 7680x4320 @30Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 2560*1440 240Hz Type C-Type C(TB/DP): 1920x1080 @360Hz Type C-TBT: 2560*1440 240Hz	4
			-	mDPx1	mDP-DP: 7680x4320 @30Hz	mDP-DP: 1920x1080 @360Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	
Vector GP66 12UGS	RTX 3070 Ti	V	-	Type-C/DPx1	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 3840x2160 @144Hz Type C-Type C(TB/DP): 7680x4320 @30Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 2560*1440 240Hz Type C-Type C(TB/DP): 1920x1080 @360Hz Type C-TBT: 2560*1440 240Hz	4
			-	mDPx1	mDP-DP: 7680x4320 @30Hz	mDP-DP: 1920x1080 @360Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

## Vector GP Series - 7/7

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Vector GP66 12UG	RTX 3070	V	-	Type-C/DPx1	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 3840x2160 @144Hz Type C-Type C(TB/DP): 7680x4320 @30Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 2560*1440 240Hz Type C-Type C(TB/DP): 1920x1080 @360Hz Type C-TBT: 2560*1440 240Hz	4
			-	mDPx1	mDP-DP: 7680x4320 @30Hz	mDP-DP: 1920x1080 @360Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	
Vector GP66 12UE	RTX 3060	V	-	Type-C/DPx1	Type C-HDMI: 4096x2160 @120Hz Type C-DP: 3840x2160 @144Hz Type C-Type C(TB/DP): 7680x4320 @30Hz Type C-TBT: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 2560*1440 240Hz Type C-Type C(TB/DP): 1920x1080 @360Hz Type C-TBT: 2560*1440 240Hz	4
			-	mDPx1	mDP-DP: 7680x4320 @30Hz	mDP-DP: 1920x1080 @360Hz	
			-	HDMIx1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

## Crosshair Series – 1/2

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU* <sup>1</sup>	Max Resolution	Max Refresh Rate	
Crosshair 17 B12UGSZO	RTX 3070 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Crosshair 17 B12UGSZ	RTX 3070 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Crosshair 17 B12UGZO	RTX 3070	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Crosshair 17 B12UGZ	RTX 3070	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Crosshair 17 B12UEZO	RTX 3060	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Crosshair 17 B12UEZ	RTX 3060	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

## Crosshair Series – 2/2

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU* <sup>1</sup>	Max Resolution	Max Refresh Rate	
Crosshair 15 B12UGSZO	RTX 3070 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Crosshair 15 B12UGSZ	RTX 3070 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Crosshair 15 B12UGZO	RTX 3070	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Crosshair 15 B12UGZ	RTX 3070	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Crosshair 15 R6E B12UGZ	RTX 3070	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Crosshair 15 B12UEZO	RTX 3060	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Crosshair 15 B12UEZ	RTX 3060	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Crosshair 15 R6E B12UEZ	RTX 3060	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

## Pulse GL Series – 1/2

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU* <sup>1</sup>	Max Resolution	Max Refresh Rate	
Pulse GL76 12UGSZOK	RTX 3070 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Pulse GL76 12UGSZK	RTX 3070 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Pulse GL76 12UGK	RTX 3070	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Pulse GL76 12UEK	RTX 3060	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Pulse GL76 12UDK	RTX 3050 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2
Pulse GL76 12UCK	RTX 3050	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.



## Pulse GL Series – 2/2

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU* <sup>1</sup>	Max Resolution	Max Refresh Rate	
Pulse GL66 12UGSZOK	RTX 3070 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Pulse GL66 12UGSZK	RTX 3070 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Pulse GL66 12UGK	RTX 3070	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Pulse GL66 12UGKV	RTX 3070	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Pulse GL66 12UEK	RTX 3060	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Pulse GL66 12UDK	RTX 3050 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2
Pulse GL66 12UCK	RTX 3050	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

## Sword Series

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU* <sup>1</sup>	Max Resolution	Max Refresh Rate	
Sword 15 A12UGS	RTX 3070 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Sword 15 A12UG	RTX 3070	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Sword 15 A12UE	RTX 3060	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Sword 15 A12UD	RTX 3050 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2
Sword 15 A12UC	RTX 3050	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

## Katana GF Series – 1/4

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Katana GF76 12UGSZOK	RTX 3070 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF76 12UGSOK	RTX 3070 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF76 12UGSO	RTX 3070 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF76 12UGSK	RTX 3070 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF76 12UGS	RTX 3070 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF76 12UGOK	RTX 3070	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF76 12UGO	RTX 3070	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF76 12UGK	RTX 3070	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF76 12UG	RTX 3070	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF76 12UEOK	RTX 3060	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

## Katana GF Series – 2/4

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU <sup>*1</sup>	Max Resolution	Max Refresh Rate	
Katana GF76 12UEO	RTX 3060	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF76 12UEK	RTX 3060	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF76 12UE	RTX 3060	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF76 12UDOK	RTX 3050 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2
Katana GF76 12UDO	RTX 3050 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2
Katana GF76 12UDK	RTX 3050 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2
Katana GF76 12UD	RTX 3050 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2
Katana GF76 12UCOK	RTX 3050	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2
Katana GF76 12UCO	RTX 3050	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2
Katana GF76 12UCK	RTX 3050	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2
Katana GF76 12UC	RTX 3050	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

## Katana GF Series – 3/4

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Katana GF66 12UGSZOK	RTX 3070 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF66 12UGSOK	RTX 3070 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF66 12UGSO	RTX 3070 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF66 12UGSK	RTX 3070 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF66 12UGS	RTX 3070 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF66 12UGOK	RTX 3070	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF66 12UGO	RTX 3070	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF66 12UGK	RTX 3070	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF66 12UG	RTX 3070	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF66 12UEOK	RTX 3060	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

## Katana GF Series – 4/4

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Katana GF66 12UEO	RTX 3060	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF66 12UEK	RTX 3060	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF66 12UE	RTX 3060	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
Katana GF66 12UDOK	RTX 3050 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2
Katana GF66 12UDO	RTX 3050 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2
Katana GF66 12UDK	RTX 3050 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2
Katana GF66 12UD	RTX 3050 Ti	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2
Katana GF66 12UC	RTX 3050	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2
Katana GF66 12UCOK	RTX 3050	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2
Katana GF66 12UCO	RTX 3050	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2
Katana GF66 12UCK	RTX 3050	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2
Katana GF66 12UC	RTX 3050	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	2

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

## Thin GF Series

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU <sup>*1</sup>	Max Resolution	Max Refresh Rate	
Thin GF63 12HW	Intel Arc A370M Graphics	-	HDMI	-	HDMI: 4096x2160 @120Hz	HDMI: 2560x1080 @180Hz	2

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

## Summit Series – 1/2

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Summit E16Flip A12UDT	RTX 3050 Ti	-	TBT 4x2	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-Type C(DP): 3840x2160 @144Hz TBT-Type C(TBT): 5120x2160 @60Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(DP): 1920x1080 @165Hz	3*2
			HDMIx1	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	
Summit E16Flip A12UCT	RTX 3050	-	TBT 4x2	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-Type C(DP): 3840x2160 @144Hz TBT-Type C(TBT): 5120x2160 @60Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(DP): 1920x1080 @165Hz	3*2
			HDMIx1	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	
Summit E16FlipEvo A12MT	UMA	-	TBT 4x2	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-Type C(DP): 3840x2160 @144Hz TBT-Type C(TBT): 5120x2160 @60Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(DP): 1920x1080 @165Hz	3*2
			HDMIx1	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	
Summit E14FlipEvo A12MT	UMA	-	TBT 4x2	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-Type C(DP): 3840x2160 @144Hz TBT-Type C(TBT): 5120x2160 @60Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(DP): 1920x1080 @165Hz	3*2
			HDMIx1	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

\*2: Maximum Matrix Display output will exclude one Type-C Thunderbolt port, as it will be used for AC power connection.



## Summit Series – 2/2

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU* <sup>1</sup>	Max Resolution	Max Refresh Rate	
Summit E14Evo A12M	UMA	-	TBT 4x2	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-Type C(DP): 3840x2160 @144Hz TBT-Type C(TBT): 5120x2160 @60Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(DP): 1920x1080 @165Hz	3* <sup>2</sup>
			HDMIx1	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	
Summit E13FlipEvo A12MT	UMA	-	TBT 4x2	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-Type C(DP): 3840x2160 @144Hz TBT-Type C(TBT): 5120x2160 @60Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(DP): 1920x1080 @165Hz	3* <sup>2</sup>
			HDMIx1	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	
Summit E13Flip A12MT	UMA	-	TBT 4x2	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-Type C(DP): 3840x2160 @144Hz TBT-Type C(TBT): 5120x2160 @60Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(DP): 1920x1080 @165Hz	3* <sup>2</sup>
			HDMIx1	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

\*2: Maximum Matrix Display output will exclude one Type-C Thunderbolt port, as it will be used for AC power connection.

## Prestige Series– 1/2

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU* <sup>1</sup>	Max Resolution	Max Refresh Rate	
Prestige 15 A12UD	RTX 3050 Ti	-	TBT 4x2	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-Type C(DP): 3840x2160 @144Hz TBT-Type C(TBT): 5120x2160 @60Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(TB/DP): 2560x1440 @240Hz	3* <sup>2</sup>
			HDMIx1	-	HDMI: 4096x2160 @120Hz	HDMI: 1920x1080 @165Hz	
Prestige 15 A12UC	RTX 3050	-	TBT 4x2	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-Type C(DP): 3840x2160 @144Hz TBT-Type C(TBT): 5120x2160 @60Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(TBT/DP): 2560x1440 @240Hz	3* <sup>2</sup>
			HDMIx1	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	
Prestige 15 A12SC	GTX 1650	-	TBT 4x2	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-Type C(DP): 3840x2160 @144Hz TBT-Type C(TBT): 5120x2160 @60Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(TBT/DP): 2560x1440 @240Hz	3* <sup>2</sup>
			HDMIx1	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @165Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

\*2: Maximum Matrix Display output will exclude one Type-C Thunderbolt port, as it will be used for AC power connection.

## Prestige Series– 2/2

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU <sup>*1</sup>	Max Resolution	Max Refresh Rate	
Prestige 14 A12UC	RTX 3050	-	TBT 4x2	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-Type C(DP): 3840x2160 @144Hz TBT-Type C(TBT): 5120x2160 @60Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(TBT/DP): 2560x1440 @240Hz	2 <sup>*2</sup>
Prestige 14 A12SC	GTX 1650	-	TBT 4x2	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-Type C(DP): 3840x2160 @144Hz TBT-Type C(TBT): 5120x2160 @60Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(TBT/DP): 2560x1440 @240Hz	2 <sup>*2</sup>
Prestige 14Evo A12M	UMA	-	TBT 4x2	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-Type C(DP): 3840x2160 @144Hz TBT-Type C(TBT): 5120x2160 @60Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(TBT/DP): 2560x1440 @240Hz	2 <sup>*2</sup>

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

\*2: Maximum Matrix Display output will exclude one Type-C Thunderbolt port, as it will be used for AC power connection.

## Modern Series

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU <sup>*1</sup>	Max Resolution	Max Refresh Rate	
Modern 15 B12M	UMA	-	HDMIx1	-	HDMI: 4096*2160 @30HZ	HDMI: 1920x1080@144HZ	2
Modern 15 B12HW	UMA	-	HDMIx1	-	HDMI: 4096*2160 @60HZ	HDMI: 1920*1080@165HZ	2
Modern 14 C12M	UMA	-	HDMIx1	-	HDMI: 4096x2160 @30HZ	HDMI: 1920x1080@120HZ	2

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

## Creator Series – 1/7

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU* <sup>1</sup>	Max Resolution	Max Refresh Rate	
CreatorPro X17 A12UMS	RTX A5000	V	HDMI	HDMI	HDMI: 4096x2160 @120Hz	HDMI: 1920x1080 @240Hz	4
			mDP	mDP	mDP-DP: 7680x4320 @30Hz	mDP-DP: 1920x1080 @360Hz	
			TBT 4x1	TBT 4x1	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160@144Hz	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160@144Hz	
CreatorPro X17 A12UKS	RTX A3000	V	HDMI	HDMI	HDMI: 4096x2160 @120Hz	HDMI: 1920x1080 @240Hz	4
			mDP	mDP	mDP-DP: 7680x4320 @30Hz	mDP-DP: 1920x1080 @360Hz	
			TBT 4x1	TBT 4x1	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160@144Hz	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160@144Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

\*2: Thunderbolt ports supports external displays in MSHybrid Graphics mode only. (Ref: <https://www.msi.com/faq/faq-4175>)

\*3: Maximum matrix display numbers are tested under MSHybrid mode; for dGPU mode, Intel Thunderbolt port has limited support according to \*2.

## Creator Series – 2/7

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
CreatorPro Z17 A12UMST	RTX A5500	-	TBT 4x2	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 5120x2160 @60Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160 @144Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(TB/DP): 2560x1440 @240Hz	4
			-	HDMI x1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	
CreatorPro Z17 A12UKST	RTX A3000	-	TBT 4x2	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 5120x2160 @60Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160 @144Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(TB/DP): 2560x1440 @240Hz	4
			-	HDMI x1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	
CreatorPro Z16P B12UMST	RTX A5500	-	TBT 4x1	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160@144Hz	TBT-HDMI: 2560x1080@180Hz TBT-DP: 1920x1080@360Hz TBT-TBT: 3840x2160@60Hz TBT-Type C(DP): 1920x1080 @165Hz	3
			-	Type-C/DPx1	Type C: 7680x4320@30hz	Type C: 7680x4320@30hz	
CreatorPro Z16P B12UKST	RTX A3000	-	TBT 4x1	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160@144Hz	TBT-HDMI: 2560x1080@180Hz TBT-DP: 1920x1080@360Hz TBT-TBT: 3840x2160@60Hz TBT-Type C(DP): 1920x1080 @165Hz	3
			-	Type-C/DPx1	Type C: 7680x4320@30hz	Type C: 7680x4320@30hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

\*2: Thunderbolt ports supports external displays in MSHybrid Graphics mode only. (Ref: <https://www.msi.com/faq/faq-4175>)

\*3: Maximum matrix display numbers are tested under MSHybrid mode; for dGPU mode, Intel Thunderbolt port has limited support according to \*2.

## Creator Series – 3/7

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU* <sup>1</sup>	Max Resolution	Max Refresh Rate	
CreatorPro M17 A12UKS	RTX A3000	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
CreatorPro M17 A12UJS	RTX A2000	-	HDMI	-	HDMI: 4096x2160 @120Hz	HDMI: 2560x1080 @180Hz	2
CreatorPro M17 A12UIS	RTX A1000	-	HDMI	-	HDMI: 4096x2160 @120Hz	HDMI: 2560x1080 @180Hz	2
CreatorPro M16 A12UKS	RTX A3000	-	HDMI	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	2
CreatorPro M16 A12UJS	RTX A2000	-	HDMI		HDMI: 4096x2160 @120Hz	HDMI: 2560x1080 @180Hz	2
CreatorPro M16 A12UIS	RTX A1000	-	HDMI		HDMI: 4096x2160 @120Hz	HDMI: 2560x1080 @180Hz	2

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

## Creator Series – 4/7

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Creator Z17 A12UHST	RTX 3080 Ti	-	TBT 4x2	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 5120x2160 @60Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160 @144Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(TB/DP): 2560x1440 @240Hz	4
			-	HDMI x1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	
Creator Z17 A12UHT	RTX 3080	-	TBT 4x2	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 5120x2160 @60Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160 @144Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(TB/DP): 2560x1440 @240Hz	4
			-	HDMI x1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	
Creator Z17 A12UGST	RTX 3070 Ti	-	TBT 4x2	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 5120x2160 @60Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160 @144Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(TB/DP): 2560x1440 @240Hz	4
			-	HDMI x1	HDMI : 7680x4320 @60Hz	HDMI : 1920x1080 @240Hz	
Creator Z17 A12UET	RTX 3060	-	TBT 4x2	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 5120x2160 @60Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160 @144Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(TB/DP): 2560x1440 @240Hz	4
			-	HDMI x1	HDMI : 7680x4320 @60Hz	HDMI: 1920x1080 @240Hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

\*2: Thunderbolt ports supports external displays in MSHybrid Graphics mode only. (Ref: <https://www.msi.com/faq/faq-4175>)

\*3: Maximum matrix display numbers are tested under MSHybrid mode; for dGPU mode, Intel Thunderbolt port has limited support according to \*2.



## Creator Series – 5/7

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Creator Z16P B12UHST	RTX 3080 Ti	-	TBT 4x1	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160@60Hz	TBT-HDMI: 2560x1080 @180Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(TB/DP): 1920x1080 @360Hz	3
				Type-C/DPx1	Type C: 7680x4320@30hz	Type C: 7680x4320@30hz	
Creator Z16P B12UHT	RTX 3080	-	TBT 4x1	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160@60Hz	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 7680x4320 @30 Hz	3
				Type-C/DPx1	Type C: 7680x4320@30hz	Type C: 7680x4320@30hz	
Creator Z16P B12UGST	RTX 3070 Ti	-	TBT 4x1	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160@60Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(TB/DP): 2560x1440 @240Hz	3
			-	Type-C/DPx1	Type C: 7680x4320@30hz	Type C: 7680x4320@30hz	
Creator Z16P B12UET	RTX 3060	-	TBT 4x1	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160@60Hz	TBT-HDMI: 2560x1080 @180Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(TB/DP): 1920x1080 @360Hz	3
			-	Type-C/DPx1	Type C: 7680x4320@30hz	Type C: 7680x4320@30hz	

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

\*2: Thunderbolt ports supports external displays in MSHybrid Graphics mode only. (Ref: <https://www.msi.com/faq/faq-4175>)

\*3: Maximum matrix display numbers are tested under MSHybrid mode; for dGPU mode, Intel Thunderbolt port has limited support according to \*2.

## Creator Series – 6/7

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU* <sup>1</sup>	Max Resolution	Max Refresh Rate	
Creator Z16 A12UET	RTX 3060	-	TBT 4x2	-	TBT-HDMI: 4096x2160 @60Hz TBT-DP: 7680x4320 @30Hz TBT-TBT: 5120x2160 @60Hz TBT-Type C(DP): 3840x2160 @144Hz	TBT-HDMI: 1920x1080 @240Hz TBT-DP: 1920x1080 @360Hz TBT-Type C(TBT/DP): 2560x1440 @240Hz	3

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.

\*2: Thunderbolt ports supports external displays in MSHybrid Graphics mode only. (Ref: <https://www.msi.com/faq/faq-4175>)

\*3: Maximum matrix display numbers are tested under MSHybrid mode; for dGPU mode, Intel Thunderbolt port has limited support according to \*2.

## Creator Series – 7/7

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU* <sup>1</sup>	Max Resolution	Max Refresh Rate	
Creator M16 A12UGS	RTX 3070 Ti	-	HDMI	-	HDMI :4096x2160 @60Hz	HDMI :1920x1080 @240Hz	2
Creator M16 A12UG	RTX 3070	-	HDMI	-	HDMI :4096x2160 @60Hz	HDMI :1920x1080 @240Hz	2
Creator M16 A12UE	RTX 3060	-	HDMI	-	HDMI :4096x2160 @60Hz	HDMI :1920x1080 @240Hz	2
Creator M16 A12UD	RTX 3050 Ti	-	HDMI	-	HDMI :4096x2160 @60Hz	HDMI :1920x1080 @165Hz	2
Creator M16 A12UC	RTX 3050	-	HDMI	-	HDMI :4096x2160 @60Hz	HDMI :1920x1080 @165Hz	2

Note:

\*1: VR devices will require display ports wired to the dGPU to function correctly.