

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.

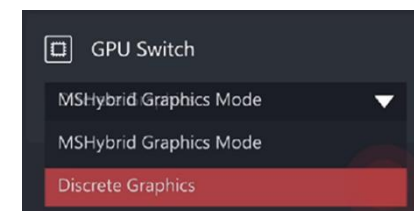
4. See the list of used acronyms in the right table.
5. The MUX switch is an option that allows users to run the system in MSHybrid mode or Discrete Graphics mode, and can be configured in the General Settings in MSI Centers (MSI Center/ MSI Center Pro) on laptops that support it.
6. To know which graphics 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*1: 4096x2160 @60Hz TBT-DP: 5120x2160 @60Hz TBT-Type C(TB/DP): 5120x2160 @60Hz	TBT-HDMI*1: 1920x1080 @240Hz TBT-DP: 1920x1080 @240Hz TBT-Type C(TB/DP): 1920x1080 @240Hz

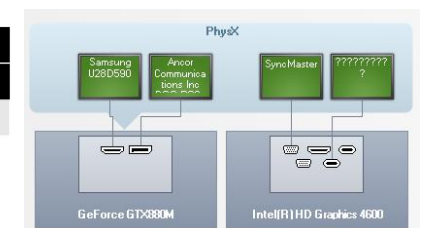
Max Resolution
TBT-HDMI*1: 4096x2160 @60Hz TBT-DP: 5120x2160 @60Hz TBT-Type C(TB/DP): 5120x2160 @60Hz
NB
Monitor

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 Core series 2 Intel Processor

Gaming

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Business & Productivity

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Cyborg - 1/1

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU* ¹	Max Resolution	Max Refresh Rate	
Cyborg 14 A2RVE	RTX 4050	-	-	Type-C w/DP x1	Type C-HDMI: 4096x2160 @60Hz Type C-DP: 5120x2160 @60Hz Type C-Type C(DP): 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @360Hz Type C-Type C(DP): 2560x1440 @240Hz	3* ²
			HDMI x1	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	
Cyborg 15 A2RVE	RTX 4050	-	-	Type-C w/DP x1	Type C-HDMI: 4096x2160 @60Hz Type C-DP: 7680x4320 @60Hz Type C-Type C(DP): 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @380Hz Type C-Type C(DP): 2560x1440 @240Hz	3* ²
			HDMI x1	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	
Cyborg 15 A2RVEK	RTX 4050	-	-	Type-C w/DP x1	Type C-HDMI: 4096x2160 @60Hz Type C-DP: 7680x4320 @60Hz Type C-Type C(DP): 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @380Hz Type C-Type C(DP): 2560x1440 @240Hz	3* ²
			HDMI x1	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	
Cyborg 15 A2RUDX	RTX 3050	-	-	Type-C w/DP x1	Type C-HDMI: 4096x2160 @60Hz Type C-DP: 7680x4320 @60Hz Type C-Type C(DP): 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @380Hz Type C-Type C(DP): 2560x1440 @240Hz	3* ²
			HDMI x1	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	
Cyborg 15 A2RUDXK	RTX 3050	-	-	Type-C w/DP x1	Type C-HDMI: 4096x2160 @60Hz Type C-DP: 7680x4320 @60Hz Type C-Type C(DP): 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @380Hz Type C-Type C(DP): 2560x1440 @240Hz	3* ²
			HDMI x1	-	HDMI: 4096x2160 @60Hz	HDMI: 1920x1080 @240Hz	

Note:

*1: VR devices will require Display Ports wired to the dGPU to function correctly.

Display output ports wired to the dGPU support external displays in MSHybrid Graphics and Discrete Graphics mode only.

*2: Maximum matrix display numbers are tested under MSHybrid mode.

Modern - 1/1

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU* ¹	Max Resolution	Max Refresh Rate	
Modern 14 H D2RMG	UMA	-	HDMI x1	-	HDMI: 4096x2160@60Hz	HDMI: 1920x1080 @240Hz	3* ²
			Type-C w/DP x1	-	Type C-HDMI: 7680x4320 @60Hz Type C-DP: 5120x2160 @60Hz Type C: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @360Hz Type-C:2560x1440 @240Hz	

Note:

*1: VR devices will require Display Ports wired to the dGPU to function correctly.

Display output ports wired to the dGPU support external displays in MSHybrid Graphics and Discrete Graphics mode only.

*2: Maximum matrix display numbers are tested under MSHybrid mode.

Commercial - 1/1

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU* ¹	Max Resolution	Max Refresh Rate	
Commercial 14 H A2RMG	UMA	-	HDMI x1	-	HDMI: 4096x2160@60Hz	HDMI: 1920x1080 @240Hz	3* ²
			Type-C w/DP x1	-	Type C-HDMI: 7680x4320 @60Hz Type C-DP: 5120x2160 @60Hz Type C: 3840x2160 @144Hz	Type C-HDMI: 1920x1080 @240Hz Type C-DP: 1920x1080 @360Hz Type-C:2560x1440 @240Hz	

Note:

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