## MSI Cyborg 15 A12VF-078MX Intel® Core™ i7 i7-12650H Computadora portátil 39.6 cm (15.6") Full HD 16 GB DDR5-SDRAM 1 TB SSD NVIDIA GeForce RTX 4060 Wi-Fi 6 (802.11ax) Windows 11 Home Negro

Marca : MSI Familia de productos: Cyborg Código del producto: CYBORG 15 A12VF-078MX

## Nombre del producto:

Cyborg 15 A12VF-078MX

MSI Cyborg 15 A12VF-078MX. Tipo de producto: Computadora portátil, Factor de forma: Concha. Familia de procesador: Intel® Core™ i7, Modelo del procesador: i7-12650H. Diagonal de la pantalla: 39.6 cm (15.6"), Tipo HD: Full HD, Resolución de la pantalla: 1920 x 1080 Pixeles. Memoria interna: 16 GB, Tipo de memoria interna: DDR5-SDRAM. Capacidad total de almacenaje: 1 TB, Unidad de almacenamiento: SSD. Modelo de gráficos en tarjeta: Intel® UHD Graphics, Modelo de adaptador de gráficos discretos: NVIDIA GeForce RTX 4060. Sistema operativo instalado: Windows 11 Home. Color del producto: Negro



Design		Graphics	
Colour name	Translucent Black	Graphics card Open GL support	<b>✓</b>
Product type *	Laptop	Audio	
Product colour *	Black	Audio system	Nahimic 3
Form factor *	Clamshell	Number of built-in speakers	2
Market positioning	Gaming	Speakers manufacturer	Nahimic
Display		Speaker power	2 W
Display diagonal *	39.6 cm (15.6")	Built-in microphone	<b>✓</b>
Display resolution *	1920 x 1080 pixels	Camera	
Touchscreen *	×		1
HD type	Full HD	Front camera	HD .
LED backlight	<b>✓</b>	Front camera HD type Video capturing speed	ทบ 30 fps
Native aspect ratio	16:9	, 3 ,	30 lps
Display brightness	250 cd/m <sup>2</sup>	Network	
Maximum refresh rate	144 Hz	Top Wi-Fi standard *	Wi-Fi 6 (802.11ax)
Processor		Wi-Fi standards	Wi-Fi 6 (802.11ax)
Processor manufacturer *	Intel	Mobile network connection *	×
Processor family *	Intel® Core™ i7	WLAN controller model	Intel Wi-Fi 6 AX201
Processor generation	12th gen Intel® Core™ i7	WLAN controller manufacturer	Intel
Processor model *	i7-12650H	Ethernet LAN	✓
Processor cores	10	Ethernet LAN data rates	10,100,1000 Mbit/s
Processor boost frequency	4.7 GHz	Bluetooth	✓
Performance cores	6	Bluetooth version	5.2
Efficient cores	4	Ports & interfaces	
Performance-core Max Turbo Frequency	4.7 GHz	USB 3.2 Gen 1 (3.1 Gen 1) Type-A	2
Efficient-core Max Turbo Frequency		ports quantity * USB 3.2 Gen 1 (3.1 Gen 1) Type-C	
Efficient-core boost frequency	3.5 GHz	ports quantity *	1
Processor cache	24 MB	Ethernet LAN (RJ-45) ports	1

Processor		Ports & interfaces	
Processor cache type Configurable TDP-down Processor base power Maximum turbo power	Smart Cache 35 W 45 W 115 W	HDMI ports quantity * HDMI version Combo headphone/mic port USB Type-C DisplayPort Alternate	1 2.1 •
Memory		Mode	•
Internal memory * Internal memory type Memory clock speed Memory form factor Memory layout (slots x size) Memory slots Maximum internal memory *	16 GB DDR5-SDRAM 4800 MHz SO-DIMM 2 x 8 GB 2x SO-DIMM 64 GB	Performance Motherboard chipset	Intel HM670
		Keyboard	
		Pointing device Numeric keypad * Keyboard backlit	Touchpad ✓
Storage		Keyboard backlit colour	Blue
Total storage capacity * Storage media * Total SSDs capacity Number of SSDs installed SSD capacity	1 TB SSD 1 TB 1 1 TB PCI Express 4.0	Island-style keyboard	<b>✓</b>
		Software	
		Operating system installed *	Windows 11 Home
		Processor special features	
SSD interface		Intel Flex Memory Access	✓
NVMe		Intel VT-x with Extended Page Tables (EPT)	✓
SSD form factor	M.2	Execute Disable Bit	✓
Optical drive type *	X	CPU configuration (max)	1
Graphics		Embedded options available	X
Discrete GPU manufacturer	NVIDIA NVIDIA GeForce RTX 4060 8 GB	Intel Virtualization Technology for Directed I/O (VT-d)	✓
Discrete graphics card model *  Discrete graphics card memory		Intel Virtualization Technology (VT-x)	<b>/</b>
Discrete graphics memory type On-board graphics card *	GDDR6 ✓	Battery	
On-board GPU manufacturer  Discrete graphics card *  On-board graphics card family	Intel  ✓ Intel® UHD Graphics Intel® UHD Graphics	Number of battery cells Battery capacity *	3 53.5 Wh
		Power	
		AC adapter power	120 W
On-board graphics card 4K support		DC-in jack	✓
		Security	
		Cable lock slot	✓
		Cable lock slot type	Kensington
		Weight & dimensions	
		Width Depth	359.4 mm 250.3 mm
		Height (front)	2.19 cm
		Height (rear)	2.29 cm
		Weight *	1.98 kg

