msi

MSI Gaming GT76 9SG-064PL Titan Intel® Core™ i9 i9-9900K Laptop 43,9 cm (17.3") 4K Ultra HD 64 GB DDR4-SDRAM 2,02 TB HDD+SSD NVIDIA® GeForce RTX™ 2080 Wi-Fi 6 (802.11ax) Windows 10 Pro Black

Brand : MSI　　　　**Product family:** Gaming　　　　**Product code:** GT76 9SG-064PL

Product name : GT76 9SG-064PL Titan

- Windows 10 Pro 64-bit
- Intel Core i9-9900K (16MB Cache, 3.6GHz)
- 43.9 cm (17.3") 4K Ultra HD 3840 x 2160, NVIDIA GeForce RTX 2080 (8GB GDDR6)
- 64GB DDR4-SDRAM & 1000GB HDD, 1024GB SSD
Intel Core i9-9900K (16MB Cache, 3.6GHz), 64GB DDR4-SDRAM, 1000GB HDD, 1024GB SSD, 43.9 cm (17.3") 4K Ultra HD 3840 x 2160, Intel UHD Graphics 630, NVIDIA GeForce RTX 2080 (8GB GDDR6), LAN, WLAN, Bluetooth, Webcam, Windows 10 Pro 64-bit
MSI Gaming GT76 9SG-064PL Titan. Product type: Laptop, Form factor: Clamshell. Processor family: Intel® Core™ i9, Processor model: i9-9900K, Processor frequency: 3,6 GHz. Display diagonal: 43,9 cm (17.3"), HD type: 4K Ultra HD, Display resolution: 3840 x 2160 pixels. Internal memory: 64 GB, Internal memory type: DDR4-SDRAM. Total storage capacity: 2,02 TB, Storage media: HDD+SSD. On-board graphics card model: Intel® UHD Graphics 630. Operating system installed: Windows 10 Pro. Product colour: Black

Design

Product type *	Laptop
Product colour *	Black
Form factor *	Clamshell
Market positioning	Gaming

Display

Display diagonal *	43,9 cm (17.3")
Display resolution *	3840 x 2160 pixels
Touchscreen *	✗
HD type	4K Ultra HD
LED backlight	✔
Native aspect ratio	16:9
Dual-screen	✗

Processor

Processor manufacturer *	Intel
Processor family *	Intel® Core™ i9
Processor generation	9th gen Intel® Core™ i9
Processor model *	i9-9900K
Processor cores	8
Processor threads	16
Processor boost frequency	5 GHz
Processor frequency *	3,6 GHz
System bus rate	8 GT/s
Processor cache	16 MB
Processor cache type	Smart Cache
Processor socket	LGA 1151 (Socket H4)
Processor lithography	14 nm
Processor operating modes	64-bit
Processor codename	Coffee Lake
Thermal Design Power (TDP)	95 W
Tjunction	100 °C
Maximum number of PCI Express lanes	16

Network

Top Wi-Fi standard *	Wi-Fi 6 (802.11ax)
Wi-Fi standards	802.11a, 802.11b, 802.11g, Wi-Fi 4 (802.11n), Wi-Fi 5 (802.11ac), Wi-Fi 6 (802.11ax)
Antenna type	2x2
Ethernet LAN	✔
Ethernet LAN data rates	10,100,1000 Mbit/s
Bluetooth	✔
Bluetooth version	5.1

Ports & interfaces

USB 3.2 Gen 2 (3.1 Gen 2) Type-A ports quantity	4
USB 3.2 Gen 2 (3.1 Gen 2) Type-C ports quantity	2
Ethernet LAN (RJ-45) ports	1
HDMI ports quantity *	1
Mini DisplayPorts quantity	1
Headphone outputs	1
Microphone in	✔
USB Type-C DisplayPort Alternate Mode	✔

Performance

Motherboard chipset	Intel Z390

Keyboard

Pointing device	Touchpad
Numeric keypad *	✔
Keyboard backlit	✔
Keyboard backlit colour	Various
Windows keys	✔

Software

Operating system architecture	64-bit

Processor

PCI Express slots version	3.0
PCI Express configurations	1x16, 2x8, 1x8+2x4

Memory

Internal memory *	64 GB
Internal memory type	DDR4-SDRAM
Memory form factor	SO-DIMM
Memory slots	4x SO-DIMM
Maximum internal memory *	128 GB

Storage

Total storage capacity *	2,02 TB
Storage media *	HDD+SSD
Total HDDs capacity	1 TB
Number of HDDs installed	1
HDD capacity	1 TB
Total SSDs capacity	1,02 TB
Number of SSDs installed	2
SSD capacity	512 GB
SSD interface	NVMe
NVMe	✔
SSD form factor	M.2
Optical drive type *	✘
Card reader integrated	✔
Compatible memory cards	MicroSD (TransFlash)

Graphics

Discrete graphics card model *	NVIDIA® GeForce RTX™ 2080
Discrete graphics card memory	8 GB
Discrete graphics memory type	GDDR6
On-board graphics card *	✔
Discrete graphics card *	✔
On-board graphics card family	Intel® UHD Graphics
On-board graphics card model *	Intel® UHD Graphics 630
On-board graphics card base frequency	350 MHz
On-board graphics card dynamic frequency (max)	1200 MHz
Maximum on-board graphics card memory	64 GB
On-board graphics card DirectX version	12.0
On-board graphics card OpenGL version	4.5
On-board graphics card ID	0x3E98
Number of discrete graphics cards installed	1
CUDA	✔

Audio

Number of built-in speakers	2
Speaker power	2 W
Built-in subwoofer	✔
Built-in microphone	✔

Camera

Front camera	✔
Front camera signal format	720p
Front camera HD type	HD
Video capturing speed	30 fps

Network

Wi-Fi	✔

Software

Operating system installed *	Windows 10 Pro

Processor special features

Intel® Identity Protection Technology (Intel® IPT)	✔
Intel® Hyper Threading Technology (Intel® HT Technology)	✔
Intel® Turbo Boost Technology	2.0
Enhanced Intel SpeedStep Technology	✔
Intel® Clear Video HD Technology (Intel® CVT HD)	✔
Intel Clear Video Technology	✔
Intel® InTru™ 3D Technology	✔
Intel® Quick Sync Video Technology	✔
Intel® AES New Instructions (Intel® AES-NI)	✔
Intel Trusted Execution Technology	✔
Intel VT-x with Extended Page Tables (EPT)	✔
Intel® Secure Key	✔
Intel TSX-NI	✔
Intel Stable Image Platform Program (SIPP)	✔
Intel® OS Guard	✔
Intel Software Guard Extensions (Intel SGX)	✔
Intel 64	✔
Execute Disable Bit	✔
Idle States	✔
Thermal Monitoring Technologies	✔
Processor package size	37.5 x 37.5 mm
Supported instruction sets	SSE4.1, SSE4.2, AVX 2.0
Scalability	1S
CPU configuration (max)	1
Embedded options available	✘
Thermal solution specification	PCG 2015D
Intel Virtualization Technology for Directed I/O (VT-d)	✔
Intel Virtualization Technology (VT-x)	✔
Processor ARK ID	186605

Battery

Battery technology	Lithium-Ion (Li-Ion)
Number of battery cells	8
Battery capacity *	90 Wh

Power

AC adapter power	230 W
DC-in jack	✔

Weight & dimensions

Width	397 mm
Depth	330 mm
Height (front)	3,3 cm
Height (rear)	4,2 cm
Weight *	4,2 kg

Packaging content

AC adapter included *	✔

Other features

3D	✘

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