

AI-Powered Medical Panel PC for GI Endoscopic System

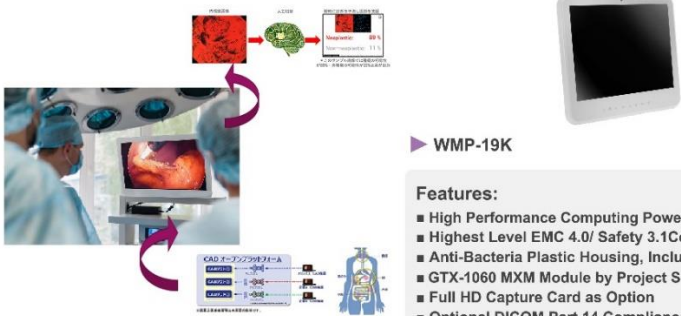
Wincomm new medical AI-Powered Computing Ready touch panel PC, WMP-19K, was used in JP hospital endoscopic system. Featuring on Coffee Lake Core i CPU, PCI-E x 4, MXM RTX-A2000 GPU card, it is ideal to medical AI imaging solution with the newest medical certification.



The AI-Powered Medical Panel PC WMP-19K/24K comes with the Intel 9th generation Coffee Lake platform CPU. Now this series has been upgraded to WMP-19S/22S/24S with the Intel 13th/14th generation, Raptor Lake platform. The size ranging from 19 inch to 24 inch for WMP-K / S series have the highest utilization computing performance on its panel size, compare to average of medical grade panel PC industry. Continuously with strong hardware integration core competence, WMP-K / S series winned the optimization computing power on the same panel size and CPU platform, moreover, it is passed the latest medical certification with the best expansion flexibility, which is benefited from Wincomm highly integration with its own design capability. For example, Wincomm WMP K series is designed with an independent MXM **RTX T1000 /A2000 GPU cards**, and extended to **RTX-A1000 & RTX-A4500** for WMP-S series. This design makes it powerful to support Medical AI on most imaging applications.

In addition to the significant increase in CPU performance and the anti-bacterial housing, including touch panel, is effective against MRSA (staph) which can't be reduced its effect by continuous alcohol cleaning the housing and a leading design to protect from second infection. With the safety design concept, WMP-K /S series can also be equipped with a 4KV Isolation COM / LAN / USB* module, to avoid expansive equipment damage from signal and voltage feedback loops and ensure patients safety.

Application



WMP-19K

Features:

- High Performance Computing Power
- Highest Level EMC 4.0/ Safety 3.1 Certification Ready
- Anti-Bacteria Plastic Housing, Including Touch Panel
- GTX-1060 MXM Module by Project Support
- Full HD Capture Card as Option
- Optional DICOM Part 14 Compliance
- Support RAID 0,1
- Support PCIe Expansions for AI-Based IoT Solution

Application:
 Medical AI - Assisted Diagnostic for Endoscopic System
 Field Site: Japan
 Model: WMP-15C, WMP-19K




Fig 1. Leveraging the high computing power with an independent RTX-A2000 GPU card, WMP-19K was successfully used in colorectal endoscopic diagnostic at JP hospitals.

Currently, WMP-19K, was used in more and more endoscopic systems at hospitals from JP to global, and was passed local PMDA approval notice together with Wincomm partners (Fig 1). The WMP-K series is designed to suit for AI-equipped endoscopic system at versatile application, such as colorectal diagnostic, bronchoscopy detection, and lung vision investigation. In addition, it has **USB3.1 gen II x 4 for WMP-K and USB3.2 gen II x 4 for WMP-S**, which transfer speed is up to 10 to 20 Gbps, to conveniently connect other medical devices. The anti-microbial (MRSA) P-cap touch with frozen screen hot key design allows users to easily operate and easily clean the unit. Compared to SATA interface HDD or SSD, WMP-K/S series are upgraded their driving disk to M.2 NVMe with PCIe 3.0 [x4] interface, which resulted in the speed significantly (Fig 2).

SATA III Hard Drive	SATA III SSD	NVMe SSD
~100 MB/s Read	530 MB/s Read	3,500 MB/s Read
~100 MB/s Write	500 MB/s Write	3,000 MB/s Write

Fig 2. Performance comparison table from SATA III HDD, SATA III SSD to M.2 NVMe SSD.

In a hospital setting, medical panel PC's which connect high-end medical equipment such as a next generation AI-powered endoscopy system, must meet the following conditions in order to be integrated into the hospital system.

System Features

- ✓ Medical grade with anti-microbial surface is a must
- ✓ High performance computing power
- ✓ Independent MXM GPU Card Inside
- ✓ Quick booting time
- ✓ Expansion PCI-E slot for video capture card
- ✓ Battery pack 20-50 minutes
- ✓ USB3.1 gen II for WMP-K and USB3.2 gen II for WMP-S
- ✓ 2-4 x COM & 4-6 x USB slots
- ✓ PCAP touch and high resolution panel quality
- ✓ Powerful graphic card integration

All Wincomm medical grade PCs have acquired the latest Medical certification, IEC-62133, with FCC / CE / VCCI Class B; Furthermore, Wincomm WMP-K / S series have completed ready to provide the full secured product design with the newest certification. The WMP-K / S series are equipped with various I.O. ports, such as LAN x 2, COM x 2, and USB 3.1(3.2) gen II x 4, which are suitable to support any medical environment requirement in more compact design and capable to customization by project.

Medical AI Panel PC - WMP-19K/24K/19S/22S/24S	
✓ Anti-Bacteria (MRSA) Plastic Housing & Touch Panel	
✓ 19" 1280x1024 LCD / 21.5" or 23.8" Full HD (1920 x 1080) / Diagnostic Panel	
✓ Intel® 9 th Generation Core i5/i7 CPU for WMP-K, 13 th / 14 th Generation Core i5/i7 CPU for WMP-S	
✓ Supports Dual Channel DDR4 up to 64GB for WMP-K, ddr5 up to 96GB for WMP-S	
✓ EN/UL 60601-1 Safety & EMC Latest Version Medical Certification Ready	
✓ Independent GeForce RTX A2000/A1000 and A4500 (for WMP-S) Graphic Card with 6GB memory	
✓ Support PCIe Expansion Slot	
WMP-K/S Standard I.O.	WMP-K/S Isolated I.O.
<ul style="list-style-type: none"> • USB3.1 Gen II x 4 for WMP-K • USB3.2 Gen II x4 & USB 3.2 II Type C for WMP-S • 1 X RS-232 x 1, 1 X RS232/RS422/RS485 • 2 X RJ45 (1 X 1G, 1 X 2.5G) • Line-out, Mic-In • DP X 2 	<ul style="list-style-type: none"> • USB3.1 Gen II x 4, ISO USB2.0 x 1 for WMP-K • USB3.2 Gen II X4 & USB 3.2 II Type C for WMP-S • 1 X ISO RS232/RS422/RS485 • 2 X RJ45, 1 X ISO RJ45 • Line-out, Mic-In • DP X 2

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