

# iei®



**Ai**

# 2019

## Smart Healthcare Solution

Integrating Smarter Solutions to Provide Better Healthcare Experiences



[www.ieiworld.com](http://www.ieiworld.com)

# Core competence

Based on ISO 13485 & ISO 14971 quality and risk management system, IEI not only has solid medical products manufacturing experience but also co-work with various field experts to ensure our products meet the unique requirements of hospital.

Supported by self-owned laboratory, IEI medical computing systems are designed to comply with the latest and strictest medical standards, including UL 60601-1, CE(EN 60601-1-2), FCC Part 18 Class B.



IEI medical solution not only offers powerful and useful devices but also provides practical total solution to advance medical technology. IEI healthcare solution aims at decreasing human error in the workflow and creating a paperless environment by utilizing IEI smart medical products. Highly modular design also helps the user manage various situations in a flexible way and enhance work efficiency in their daily routine.

**DICOM Optimized/  
Isolation Design/  
Antistatic/ Antibacterial**

**ODM/OEM**

**Compliant with ISO  
13485/ 14971 and EN//  
UL 60601-1**

**Certified Medical  
Electronic Device**

**Medical & Optical  
Design Team**

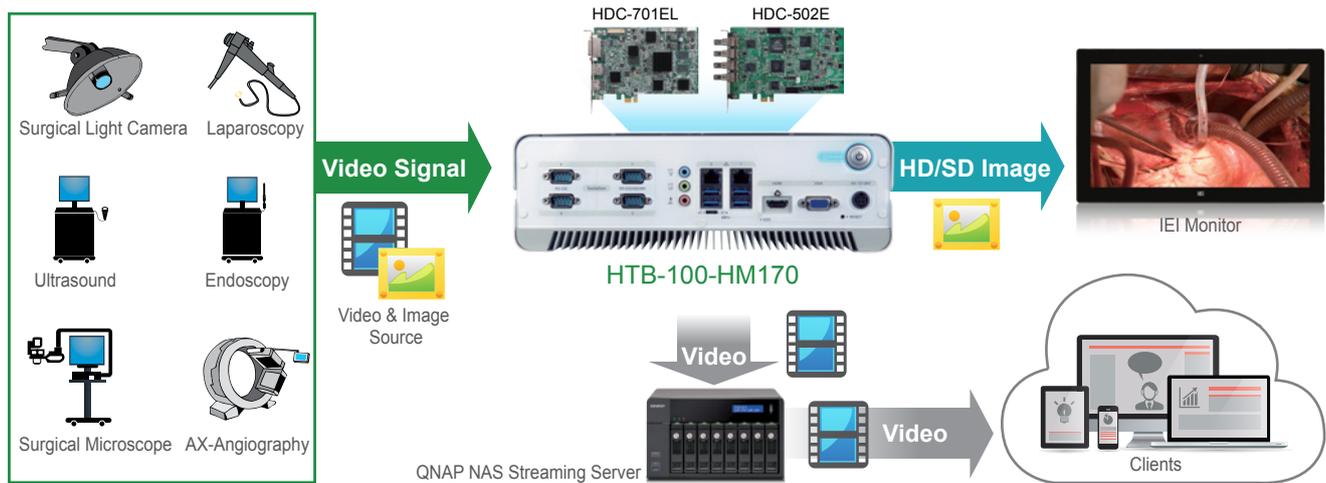




# Artificial Intelligence in Healthcare

Recently AI techniques have sent vast waves across healthcare industry. No one doubts that artificial intelligence has unimaginable potential. Within the next couple of years, it will revolutionize every area of our life. When it comes to our health, especially in matters of life and death, the promise of artificial intelligence (AI) to improve outcomes is very intriguing.

## » Medical Video Solutions



### ■ Medical HD Video Recording



Endoscopy Surgery



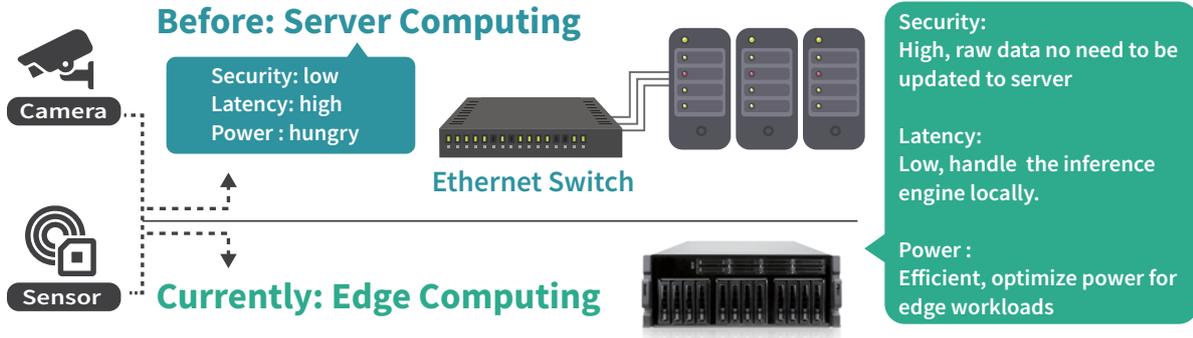
Ultrasound Scanner



Microscope

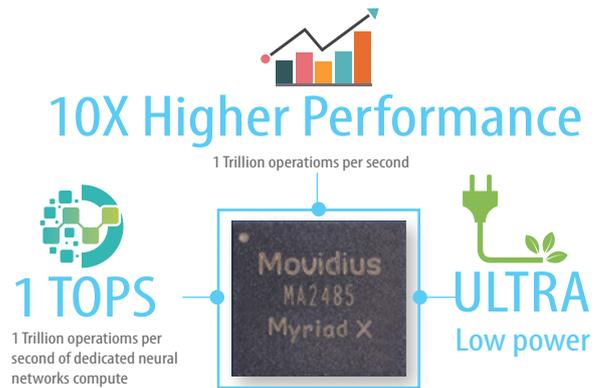
# » The Advantages of Edge Computing

- Reduce data center loading, transmit less data, and reduce network traffic bottlenecks.
- Real-time applications; the data is analyzed locally, free from long distant data center
- Lower costs; no need to implement sever grade machine for non-complex applications



## ■ The Feature of Mustang-V100-MX8

- PCI Express x4 AI acceleration card, low profile, 8 Intel® Movidius™ Myriad™ X VPU, RoHS
- One card for eight inference
- Power economy
- 1 TOPS for each chips, 8 TOPS for one card.
- Support OpenVINO™ Toolkit
- Power Economy: Only 25W
- Multi-Tasks: Eight myriad X chips can execute eight topologies simultaneously



# » A Perfect Choice for AI Deep Learning Inference Workloads



## Mustang-V100-MX8

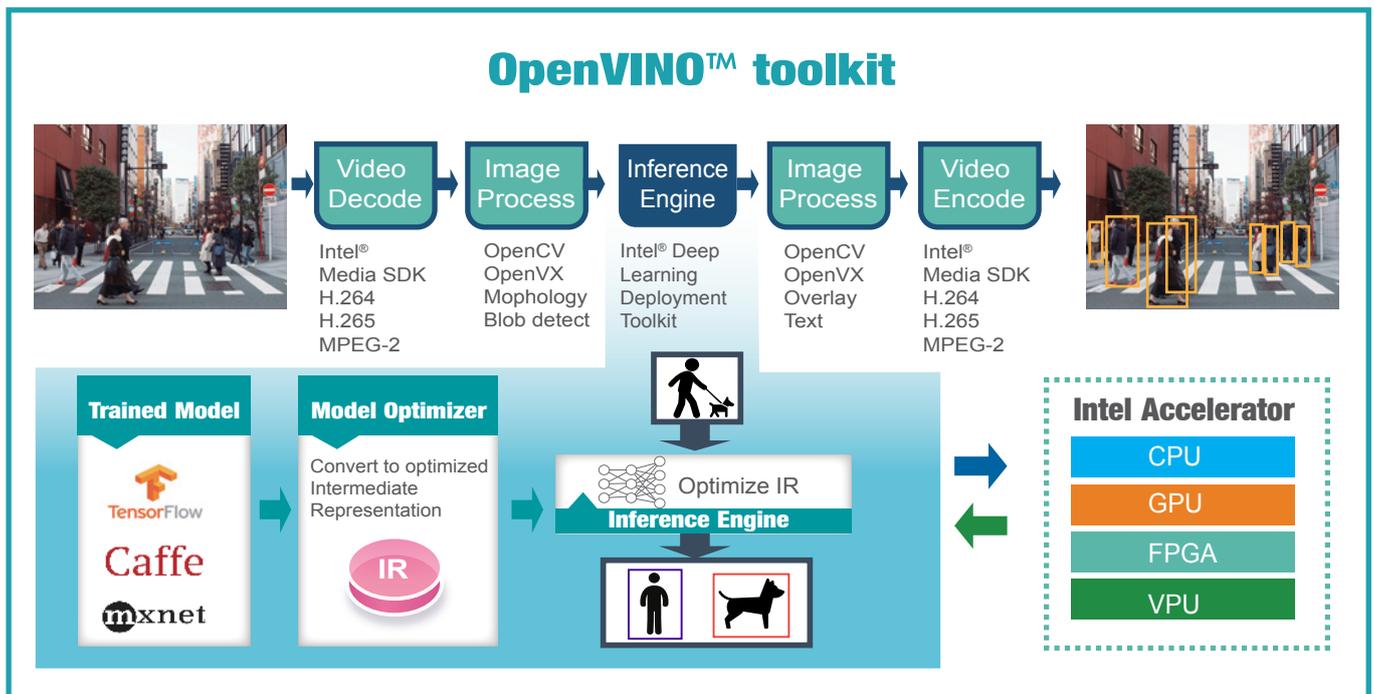
Intel® Vision Accelerator Design with Intel® Movidius™ VPU

- Compact Size
- Multiple Cards
- Low Power consumption
- Multi-Tasks
- Intel Movidius inside

# » Intel® Distribution of OpenVINO™ Toolkit

Intel® Distribution of OpenVINO™ toolkit is based on convolutional neural networks (CNN), the toolkit extends workloads across multiple types of Intel® platforms and maximizes performance.

It can optimize pre-trained deep learning models such as Caffe, MXNET, and ONNX Tensorflow. The tool suite includes more than 20 pre-trained models, and supports 100+ public and custom models (includes Caffe, MXNet, TensorFlow, ONNX, Kaldi) for easier deployments across Intel® silicon products (CPU, GPU/Intel® Processor Graphics, FPGA, VPU).



# » IEI AI-Ready Platform

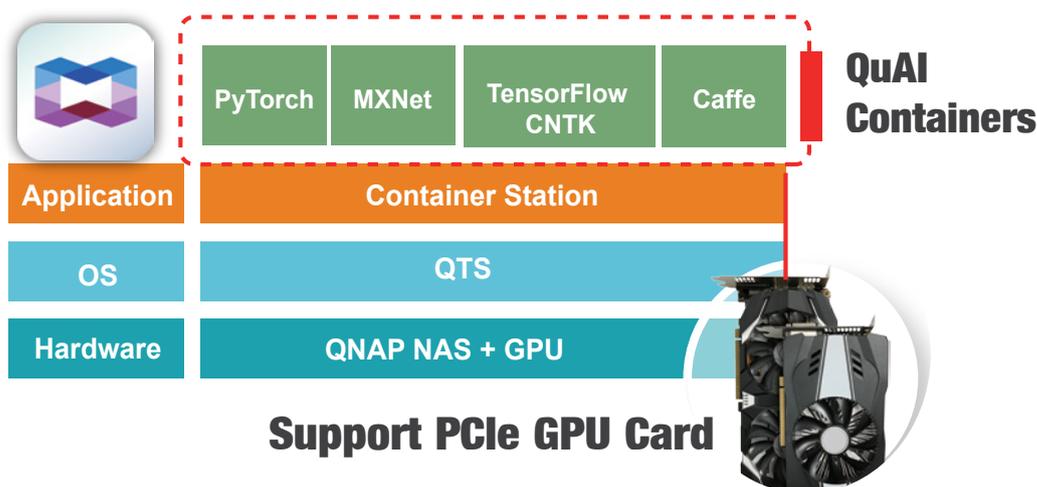
The IEI AI-Ready Platform is divided into three main sections:

- Training:**
  - Server: Grand-C422, TS-2888X
- Inference:**
  - Medical PPC & Medical Box PC: POC-W22A, HTB-100-HM170
  - QNAP NAS & MediQPACS
- Acceleration Card:**
  - Mustang series: Mustang-V100-MX8
  - Intel Mini PCIe (3050), Movidius MA2485 Myriad X

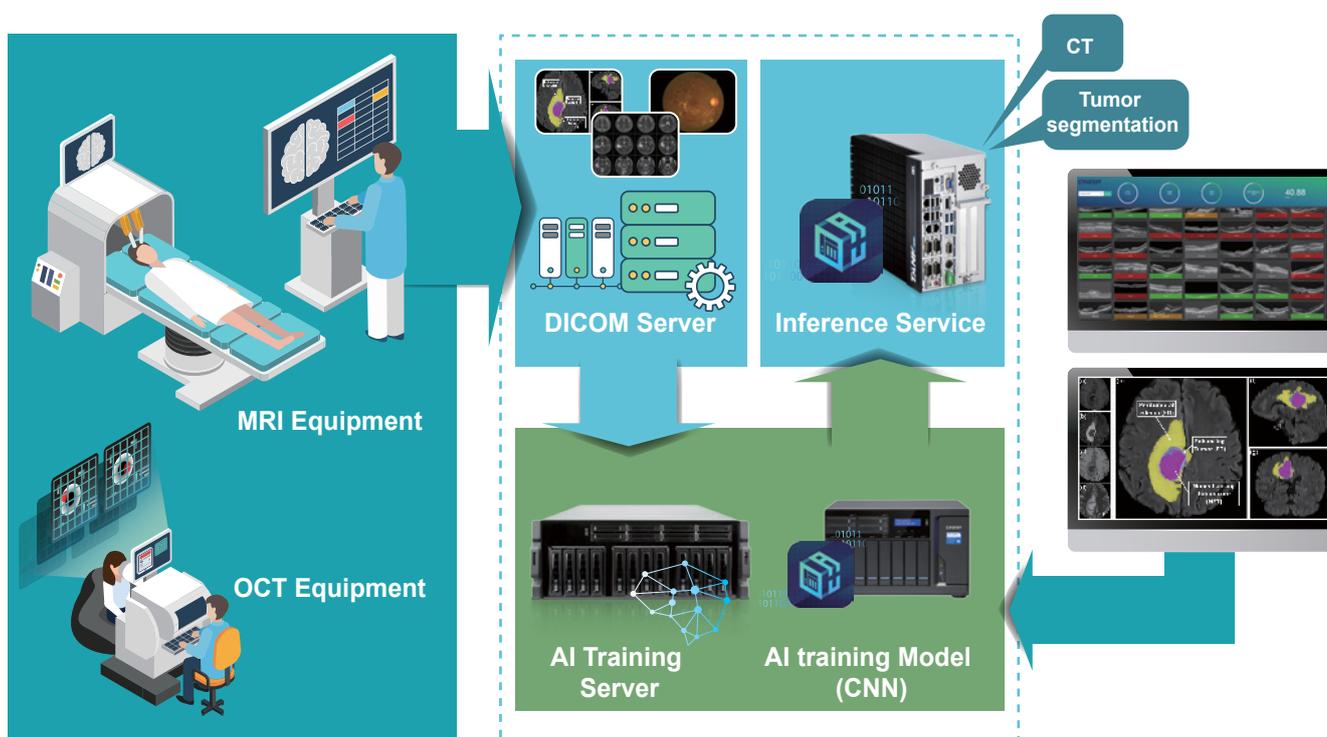
Moreover, IEI medical team leverages the ample SW RD resources from QNAP to come up with the QuAI, a free app built on our QTS operating system to facilitate the evolving of AI.



IEI group provides total solution for AI application, from big data management (NAS) , AI training (AI training platform, training machine and accelerator card) to AI inference (web based platform, inference machine both stand alone and embedded system)



## » Workflow of Medical AI





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# Smart Healthcare Solution

Healthcare that was once given only in the hospitals is now provided in diverse environments such as hospitals, communities or homes. Healthcare providers could be doctors, nurses, care-givers or patients themselves. With extensive experiences in researching and developing medical devices, IEI smart solutions helps our customers to provide high quality services and improve healthcare environment.



## • Mobile Nursing Solution

The ruggedized panel PC helps hospital to achieve paperless workflow. In the past, medical personnel spent lots of time on taking vital records manually. This may lead to human error and endanger patients' safety. Our worldwide solution partners have been using IEI products in wards, ICU and hemodialysis centers. Their solutions have successfully helped caregivers to spend more time with patients and improve the patient-doctor relationship.



## • Smart Outpatient Solution

In the past, waiting for long durations before seeing a doctor is quite common in the hospital. Hence, numerous hospitals have adopted smart outpatient services to increase operational efficiency, improve visitation convenience, and reduce patient wait times. IEI works with our field partners to enhance the patient satisfaction for outpatient department.



## • Operating Room Solution

In the OR, the surgical team has to be aware of all kinds of information such as vitals, surgical navigation or even patient's medical history. However, this information is usually provided by different machines or systems, making it difficult for the surgical team to catch them all at once. The integrated information platform assists the surgical team in accessing all information they need from one device to further optimize their work.



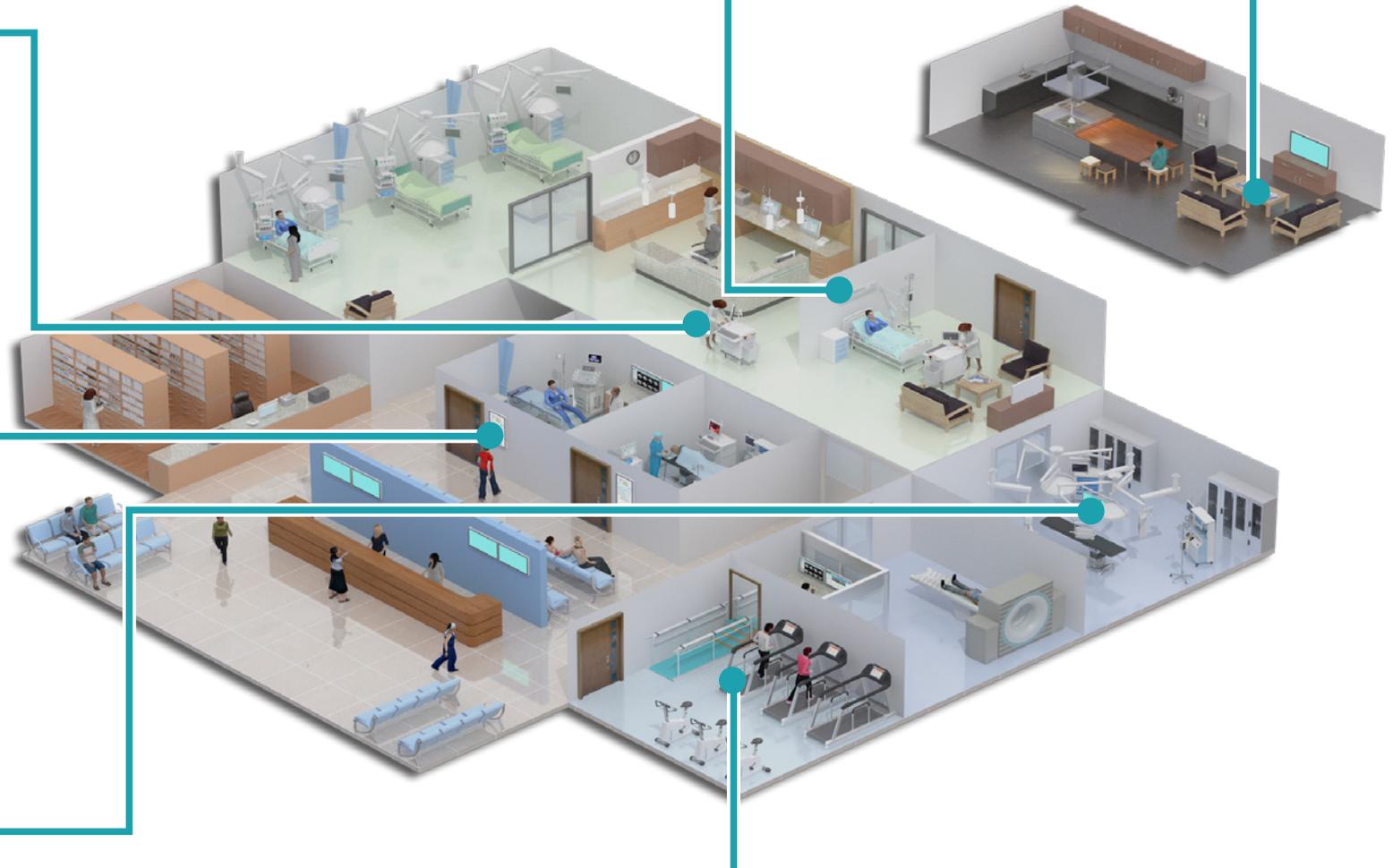
## • Bedside Infotainment Application

IEI's partners have integrated BIS-series, IOVU-series and POC-series with their bedside infotainment systems for a large number of hospitals worldwide, especially in Taiwan and USA. Bedside infotainment system has shown its value in improving patient-doctor relationship by assisting caregivers to provide necessary healthcare education to inpatients before and after treatments.



## • Homecare Solution

Population aging is becoming a worldwide issue. Therefore, IEI expands the healthcare market to the population aging field. By adapting the latest ICT technology, our smart devices not only help to connect people in an easier way but also could perform health management function. Medical staffs could interact with patient and check the home monitoring record in a remote site.



## • Rehabilitation Equipment



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# IEI Standard Medical Product

IEI has been developing and manufacturing industrial computers for almost two decades and medical devices for more than 10 years. The services we provide to our customers are with high quality and long-term support. Furthermore, the flexible OEM/ODM cooperation pattern is also the option for customers to choose products that are best fit to their requirements.

## » All-in-one Medical Grade Panel PC

User-friendly-oriented design is always the core value of us. IEI all-in-one medical grade panel PC series offers three product lines to accommodate all healthcare needs. All products are equipped with antibacteria chassis and IP65 front bezel for easy sterilization. The touch panel is easy to operate, even with multi-layer medical gloves. In addition, the products we designed support various communication functions, such as Bluetooth, 1D/2D barcode scanner, RFID, SCR and MSR. These units can provide clinician personnel conveniences and increase the work efficiency.



### POC Series

#### Point-of-care terminal

- Rich bottom I/O
- High performance with smart fan / fanless system
- Ambient light sensor for panel brightness adjustment



### POCm Series

#### Mobile point-of-care terminal

- Light weight design: under 6.8kg without battery
- High performance fanless system
- Multiple storage options: one 2.5" accessible SATA HDD bay or two M.2 M-key 2242/60/80 (PCIe+SATA) with RAID
- 3 hot swappable batteries with battery management utility design



### BIS Series

#### Bedside

- Back I/O with 1.5kV isolated RS-232/422/485
- High performance fanless system
- Monitor mode



Point-of-care terminal



Mobile point-of-care terminal



Bedside terminal

## • Anti-bacteria Cover



Anti-bacteria

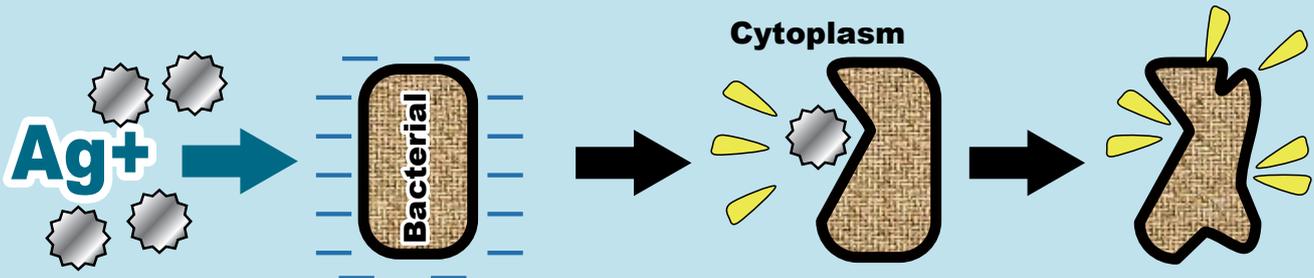
The case contains silver ions anti-bacterial materials, effectively inhibiting the propagation of bacteria.



<b>SGS</b>	食品實驗室-高雄 FOOD LAB-KAOHSIUNG
Initial Report	
Report No.: VQC1551620	Date: 2015/05/11
Client: ID INTEGRATION CORP.	Page: 1 of 4
THE FOLLOWING MERCHANDISE (HEREIN) SUBMITTED AND IDENTIFIED BY THE CLIENT AS:	
Product Name: Medical Panel PC Cover	Please refer to the photos for samples shown at the last page of this report.
Sample Condition: ---	---
Applicable: ---	---
Manufacturer: ---	---
Entry Date: 2015/05/18	---
Sample Received: 2015/05/20	---
Testing Date: 2015/05/20	---
Test Method: JIS Z2801 (smooth with water)	<b>JIS Z28901</b>
Test Result: ---	Please refer to test page(s).
Special Remark: This initial report is issued for notification only, detailed results are governed by the final test report.	

- Staphylococcus aureus
- Escherichia coli
- Pseudomonas aeruginosa
- Klebsiella pneumoniae
- MRSA

## • Antibacterial Mechanism of Silver Ions



Ag ions that have plus are drawn toward microbes, and disturb their electric balance.

The microbes are burst their cell wall and extinguished.

## • User-experience Design



Multi-layer medical glove



IP65 proofed front glass is easy to be cleaned with cleaners

## • Peripheral Items

IEI offers rich optional peripheral items to make our medical panel PC even useful for medical staffs.



### Medical Barcode Reader

For fulfilling the demands of remote monitoring on healthcare, IEI provides a hand-held 2D barcode reader to expand and enhance function of medical cart computer for monitoring patient status.



### 3-in-1 Combo Card Reader

Through RFID, 3-in-1 card reader and Wi-Fi connection, doctors and nurses can log-in to the hospital information system to input medical checkup results, and to check the dosing records and other healthcare information.



### Handle Module with Barcode Reader and Reading Light

With the help of handle module, users can move panel PC easily. The barcode reader and the reading light module with adjustable operating angle can be used for multiple purposes.

## » RISC Panel PC & Mobile Solution

The IOVU RISC Based PC Series enables the great embedded flexibility for medical usage applications. Making use of the low power consumption RISC platform, the IOVU series adopts a fan-less and power efficient design, providing a cost-effective, stable, and easy to use solution to collect, transfer, process, access , and manage data. Power over Ethernet (PoE) is another key feature to deal with the troublesome work of cabling & power deployment. Mobile solution enhances the working efficiency of medical personnel and optimizes clinical workflow.



IOVU-210AD-RK39



IOVU-210AR-RK39



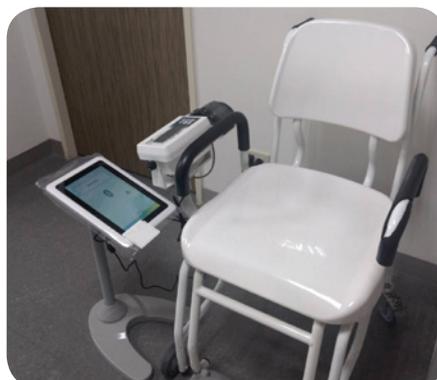
IOVU-207AR-RK39



MODAT-550A



Integrated digital head board



Hemodialysis application



Mobile solution

## » Medical Embedded System

Our strong knowledge of market and technology innovation offers long-term support, high quality, reliable and flexibility for all of our products with choices of size, performance and feature for different applications. Our medical grade box PC can be used in operating room, nursing station, dialysis system or examination center, etc. IEI medical grade hardware solutions provide surgical team an integrated information platform so that they can perform the procedure more efficient, accurate and safe.



- **Compliant with medical standards**

The HTB-100 is compliant with medical standards, including IEC 60601-1 V3.1, IEC 60601-1-2 V4.0, IEC 62304, IEC 62366, ISO 14971 and FCC part 18 class B, making the medical environment more reliable.

- **Flexible expansion**

The flexible expansion is one of the advantages of the HTB-100 for medical applications. The HTB-100 reserves a PCIe x16 slot for add-on card expansions, such as capture card for medical imaging inspection during surgery.



- **Isolated COM ports for safety protection**

The COM ports support 2.5kV isolation that meets medical standard (IEC 60601-1-2 V4.0). The isolated ports can increase safety on device designed for medical environment, and provide comprehensive protection against electrical surges for patients and medical staffs.

- **Fanless and easy maintenance**

The HTB-100 is a fanless embedded system, and the heatsink is situated on the bottom side. The design makes the HTB-100 an easy-to-clean and reliable system for the medical environment.

- **Ground pin to prevent harm to patients and medical staffs**

The perfect grounding pin design can avoid current from the HTB-100 to vital devices which connect to patients, and to avoid the current damage from other devices.

- **Easy mounting design**

Various mounting methods such as desktop and wall mount are supported for easy use in medical environment. The provided flexible mounting bracket can be oriented 180 degrees to change from desktop to wall mount.



## » Surgical Monitor

The BriteMED® surgical monitor series is a versatile medical LCD monitor which supports a wide range of inputs and outputs from multiple modalities. The quality panel technology produces stable and artifact-free imaging required during an operation. The anti-glare glass design ensure accurate image viewing under strong lighting in the operation theater.



\* Stand is optional

**MMS-21C**



\* Stand is optional

**MMS-21CA**



\* Stand is optional

**MMS-21CT**



\* Stand is optional

**MMS-27C**



\* Stand is optional

**MMS-27CA**

## » Medical Cart

The BriteMED® medical carts are designed with aluminum-alloy structure. Each metal sheet is joined together by electro-welding instead of screw, ensuring the strength and safety when moving around in the hospital. Integrated with the optional panel PCs and batteries, it provides a total solution for mobile health applications



pCART-N1



pCART-N3



pCART-T1



pCART-D1



pCART-D2

# » Selection Guide

## • All-in-one Medical Grade Panel PC



Series		POC		
Model		POC-17C-ULT3	POC-W22A-H81	POC-W24C-ULT3
LCD/Touch	LCD Size (inch)	17"	22"	24"
	Max. Resolution	1280 (W) x 1024 (H)	1920 (W) x 1080 (H)	1920 (W) x 1080 (H)
	Brightness (cd/m <sup>2</sup> )	350	250	250
	Contrast Ratio	1000:1	1000:1	1000:1
	LCD Color	16.7M	16.7M	16.7M
	Viewing Angle (H-V)	170°/160°	170°/160°	178°/ 178°
	Touchscreen	Projected capacitive type with USB interface	Projected capacitive type with 10-point multi-touch	Projected capacitive type with 10-point multi-touch
System	CPU	6th Generation Intel® mobile ULT Core™ i7/i5/ Celeron® processor	Intel® desktop Core™ i5/i3/Pentium® CPU (up to TDP 35W CPU)	6th Generation Intel® mobile ULT Core™ i7/i5/ Celeron® processor 7th Generation Intel® mobile ULT Core™ i7/i5/ Celeron® processor (by project base)
	Chipset	--	Intel® H81	--
	Memory	Two 260-pin 1600/1333MHz dual-channel DDR4 SO-DIMM, 4GB pre-installed (system max.32GB)	Two 204-pin 1600/1333MHz dual-channel DDR3 SO-DIMM, 4GB pre-installed (system max.16GB)	Two 260-pin 1600/1333MHz dual-channel DDR4 SO-DIMM, 4GB pre-installed (system max.32GB)
	I/O Ports	1 x RJ-11 for 1D/2D barcode reader 4 x USB 2.0 (2 on the side) 4 x USB 3.1 Gen 1 (5Gb/s) port 1 x HDMI output 2 x GbE LAN port 1 x RS-232/422/485 1 x 12~28V DC jack	1 x RS-232/422/485 2 x GbE LAN by RJ-45 (1 for iRIS) 1 x Power button 1 x VGA output 1 x HDMI output 1 x GbE LAN port 1 x 12V~28V DC Jack 2 x USB 3.1 Gen 1 (5Gb/s) 4 x USB 2.0 (2 on the bottom and 2 on the side) 1 x RJ-11 for barcode module (1D/2D)	1 x RJ-11 for 1D/2D barcode reader 4 x USB 2.0 (2 on the side) 4 x USB 3.1 Gen 1 (5Gb/s) port 1 x HDMI output 2 x GbE LAN port 1 x RS-232/422/485 1 x 12~28V DC jack
	Storage	2 x 2.5" SATA 6Gb/s accessible HDD bay 1 x mSATA (E-Window)	1 x 2.5" SATA HDD bay	1 x 2.5" SATA 6Gb/s HDD bay 1 x mSATA reserved (E-Window)
	Audio	2 x 2W speaker, digital microphone		
	LED Function	RFID indicator	2-light battery status LED, RFID indicator LED	RFID indicator
	OSD Function	1 x LCD on/off 1 x Brightness up 1 x Brightness down 1 x Volume up 1 x Volume down 1 x Touch lock button for cleaning Combinations: 1 x Lock/Unlock OSD 1 x Power on/off	1 x LCD on/off 1 x Brightness up 1 x Brightness down 1 x Volume up 1 x Volume down 1 x Touch lock button for cleaning Combinations: 1 x Lock/Unlock OSD 1 x Power on/off	1 x LCD on/off 1 x Brightness up 1 x Brightness down 1 x Volume up 1 x Volume down 1 x Touch lock button for cleaning Combinations: 1 x Lock/Unlock OSD 1 x Power on/off
	Auto-dimming	Yes		
	Expansion	1 x E-Window slot (full-size PCIe Mini slot with PCIe/mSATA/USB)		
	Wireless	Wi-Fi and Bluetooth	IEEE 802.11 a/b/g/n/ac 2T2R module with Bluetooth V4.1 (M.2 2230 A-E key module)	IEEE 802.11 a/b/g/n/ac 1T1R module
Physical	Construction Material	ABS+PC plastic with antibacterial material		
	Mounting	Wall, Stand and Arm VESA 75/100		
	Net Weight	6.0 kg	7.3 kg	7.5 Kg
Environment	Dimensions (WxHxD) (mm)	435 x 376 x 65	543 x 350 x 52	595 x 380 x 61
	Operating Temperature (°C)	0°C ~ 40°C		
	IP Level	IP 65 compliant front panel		
Power	Thermal Solution	Fanless	Smart Fan	Fanless
	Power Requirement	12V~28V DC input		
	Power Adapter	120W medical power adapter: Input: 90V~264V AC, Output: 19V DC		
Certification	CE, FCC Class B part 18, ANSI / AAMI / ES60601-1 CAN/CSA-C22.2 No. 60601-1:14,IEC 60601-1-6/IEC62366,ISO 14971		CE, FCC Class B part 18, ANSI / AAMI / ES60601-1 CAN/CSA-C22.2 No. 60601-1:14,IEC 60601-1-6/IEC62366,ISO 14971	CE, FCC Class B part 18, ANSI / AAMI / ES60601-1 CAN/CSA-C22.2 No. 60601-1:14,IEC 60601-1-6/IEC62366,ISO 14971

# » Selection Guide

## • All-in-one Medical Grade Panel PC



Series		POCm		BIS
Model		POCm-W22C-ULT3	POCm-W24C-ULT3	BIS-W19C-ULT4
LCD Touch Specification	LCD Size (inch)	21.5"		18.5"
	Max. Resolution	1920 (W) x 1080 (H)		1366 (W) x 768 (H) / 1920 (W) x 1080 (H)
	Brightness (cd/m <sup>2</sup> )	250		250 / 350
	Contrast Ratio	1000:1		
	LCD Color	16.7M		
	Viewing Angle (H-V)	170°/160°	178°/178°	170°/160°, 178°/178°
	Touchscreen	Projected capacitive type with 10-point multi-touch		
System	CPU	6th Generation Intel® mobile ULT Core™ i7/i5/Celeron® processor		7th Generation Intel® mobile ULT Core™ i5/ Celeron® processor
	Memory	Two 260-pin 1600/1333MHz dual-channel DDR4 SODIMM, 4GB pre-installed (system max.32GB)		
	I/O Ports	Bottom I/O 1 x DC Jack 2 x HDMI out 2 x GbE LAN port 2 x RS-232/422/485 4 x USB 3.1 Gen 1 (5Gb/s) port 1 x RJ-11 for barcode module	Other 2 x USB 2.0 port (side) 1 x Audio out (side) + 1 x Mic in (side) 1 x Digital Mic (front, bottom)	Rear 1 x 1.5kV isolation COM port 1 x 12~28V DC Jack 1 x GbE LAN port 2 x USB 3.1 Gen 1 (5Gb/s) port Bottom 1 x RJ-11 for barcode scanner 1 x GbE LAN port 2 x USB 3.1 Gen 1 (5Gb/s) port 1 x HDMI output Side 1 x HDMI input (optional) 2 x USB 2.0 port 1 x Audio out 1 x Mic in
	Storage	1 x 2.5" accessible SATA HDD bay 2 x M-key M.2 2242/60/80 (PCIe+SATA) with RAID		1 x 2.5" SATA 6Gb/s HDD bay 1 x mSATA reserved (E-Window)
	Audio	2 x 3W Speaker, digital microphone		
	LED	RFID indicator Battery indicator (color: blue/orange)		RFID indicator
	OSD Function	1 x System on/off 1 x Brightness down 1 x Brightness up 1 x Volume down 1 x Volume up 1 x LCD on/off and touch lock for cleaning		1 x LCD on/off 1 x Brightness down 1 x Brightness up 1 x Volume down 1 x Volume up 1 x Touch lock (OSD lock included) Combinations: 1 x Auto-dimming on/off
	Auto-dimming	No		Yes
	Expansion	1 x E-Window slot (full-size PCIe Mini slot with PCIe/mSATA/USB)		
	Wireless	Wi-Fi and Bluetooth	IEEE 802.11 a/b/g/n/ac 2T2R module with Bluetooth V4.1 (M.2 2230 A-E key module)	
Physical	Construction Material	ABS+PC plastic with anti-bacterial material		
	Mounting	Wall, Stand and Arm VESA 75/100		
	Net Weight	6.8 kg without battery		6.5 kg
	Dimensions (WxHxD) (mm)	543 x 350 x 61	595 x 380 x 61	478.6 x 317.3 x 60.1
Environment	Operating Temperature (°C)	0°C~40°C		
	IP Level	Front: IP65, Back: IP32 above		IP 65 compliant front panel
	Thermal Solution	Fanless		
Power	Power Requirement	12V~28V DC input		
	Power Adapter	120W medical power adapter: Input: 100V~240V AC, Output: 12V DC		120W medical power adapter: Input: 90V~264V AC; Output: 19V DC
Certification	CE, FCC Class B part 18,ANSI/AAMI ES60601-1 CAN/CSA-C22.2 No. 60601-1:14,IEC 60601-1-6/IEC62366,ISO 14971		CE, FCC Class B part 18,ANSI/AAMI ES60601-1 CAN/CSA-C22.2 No. 60601-1:14,IEC 60601-1-6/IEC62366,ISO 14971	

# » Selection Guide

## • RISC Based Panel PC



Series		RISC		
Model		IOVU-210AD-RK39-R10-TW	IOVU-207AR-RK39-R10-TW	IOVU-210AR-RK39-R10-TW
Chassis	Color	white		
	Dimensions (WxHxD)	293 x 209.5 x 44.5 (mm)	210.7 x 154.7 x 29.6 (mm)	282.5 x 174.3 x 26.8 (mm)
	System Fan	Fanless		
	Chassis Construction	PC + ABS plastic front, metal rear	PC + ABS plastic front, metal rear	PC + ABS plastic
Display	Size	10"	7"	10"
	Resolution	800 (RGB) x 1280	720 (RGB) x 1280	800 (RGB) x 1280
	Brightness (cd/m <sup>2</sup> )	250 cd/m <sup>2</sup> (typ.)	300 cd/m <sup>2</sup> (typ.)	250 cd/m <sup>2</sup> (typ.)
	Pixel Pitch (mm)	0.0564 (H) x 0.1692 (V)	0.1239 (H) x 0.119 (V)	0.0564 (H) x 0.1692 (V)
	Viewing Angle (H/V)	85/85/85/85 Deg.	70/70/70/70 Deg.	85/85/85/85 Deg.
	Touchscreen	Projected capacitive		
Motherboard	CPU	Rockchip RK3399 (Dual-core Cortex-A72 up to 1.8GHz + Quad-core Cortex-A53 up to 1.5GHz)		
	System Memory	On-board 2 GB LPDDR3-1866		
Storage	SD Card	1 x microSD Slot		
	Flash	On-board 16 GB eMMC		
Communication	WLAN	On-board Wi-Fi 802.11a/b/g/n/ac (2T2R)		
	Bluetooth	Bluetooth 4.1		
	RFID	13.56 MHz ISO4443 A/B, read-write capable (NXP PN553)	N/A	13.56 MHz ISO4443 A/B, read-write capable (NXP PN553)
I/O Interfaces	I/O interface	1 x 10/100/1000Mbps RJ-45 LAN w/ POE 1 x RS-232/422/485 1 x RS-232 1 x DIO 4-pin (2 in / 2 out) 1 x DC jack 1 x DC-in terminal block	1 x 10/100/1000Mbps RJ-45 LAN 1 x Terminal block (2-pin) for SOS key 1 x DC jack	1 x RS-232 (4-pin wafer connector) 1 x RS-232/422/485 (4-pin terminal block) 1 x 4-bit by terminal block (2 in, 2 out) 2 x 2-bit by 4-pin wafer connector (1 in, 1 out) 3 x I <sup>2</sup> C (4-pin wafer connector) 1 x 10/100/1000Mbps RJ-45 LAN w/ POE 1 x 10/100/1000Mbps RJ-45 LAN 1 x DC jack
	USB 3.1 Gen 1	1 x Type A 1 x Type C OTG	1 x Type A	1 x Type A
	USB 2.0	2 x Type A	1 x Type A	1 x Type A
	Others	2 x USB 2.0 (internal)	1 x Type C OTG (Internal) 2 x UART w/ 3V (internal) 2 x USB 2.0 (internal)	1 x Type C OTG (Internal) 2 x UART w/ 3V (internal) 2 x USB 2.0 (internal)
	Multimedia	Speaker / Mic 2 x Mic 1 x 2W speaker	1 x Mic 1 x 2W speaker	1 x Mic 2 x 1.5W speaker
LED Indicator & Button	Indicator	1 x Power LED 1 x WiFi LED 1 x BT LED	1 x Power (green) 1 x Mail (blue) 1 x Phone (green) 1 x Exclamation Mark (red)	1 x Power LED 1 x RFID LED 3 x Key pad LED (Volume / SOS)
	Button	1 x Reset Button	1 x Reset Button 1 x SOS key (with red bar) 2 x Function key for AP operation (with green bar)	1 x Reset Button 1 x Volume up 1 x Volume down 1 x SOS Button
Power	Power Input	12V DC input (range : 9V ~ 30V) PoE: IEEE 802.3 at standard (Power Device)	12V DC input (range : 9V ~ 30V)	12V DC input (range : 9V ~ 30V) PoE: IEEE 802.3 at standard (Power Device)
	Consumption	12V @ 1.2A	12V @ 1.05A	12V @ 1.1A
Reliability	Mounting	VESA Mount 75mmx75mm	VESA Mount 75mmx75mm	Panel mount, In wall cage 110mmx100mm
	Operating Temperature	-10°C ~ 50°C with air flow		
	Storage Temperature	-20°C ~ 60°C		
	Humidity	10% ~ 90%, non-condensing		
	Safety/EMC	CE/FCC Class A compliant	CE/FCC Class B compliant	CE/FCC Class B compliant
OS	Supported OS	Android 7.1		

# » Selection Guide

## • Medical Box PC / Medical Barcode Reader / MODAT Series



Series		Medical Box PC
Model		HTB-100-HM170
Physical	Color	Silver+Greishy blue
	Dimensions (WxDxH)	294 x 209 x 90.2
	Net Weight	2.2 kg
	System Fan	Fanless
	Chassis Construction	Extruded aluminum alloy
Motherboard	CPU	Intel® Core™ i7-6822EQ (2 GHz, quad-core, TDP=25) Intel® Core™ i5-6442EQ (1.9 GHz, quad-core, TDP=25)
	Chipset	Intel® HM170
	System Memory	2 x 260-pin DDR4 SO-DIMM, one 4 GB pre-installed (system max: 32GB)
Storage	Hard Drive	1 x 2.5" SATA 6Gb/s HDD/SSD bay
Power	Power Input	DC Jack: 12~28V DC
	Power Consumption	19V@4.4A (Intel® Core™ i7-6822EQ with 4 GB memory)
	Adapter	Adapter Power; Vin:90~264VAC; 150W; Dim:85*170*42.5mm; Plug=6.5mm; Cable=1200mm; MEDICAL; Vout:19VDC; Din 4Pin/lock; CCL; R10
Reliability	Mounting	Wall mounting
	Operating Temperature	0°C ~ 40°C with air flow (SSD), 10% ~ 95%, non-condensing
	Storage Temperature	-40°C ~ 70°C with air flow (SSD), 10% ~ 90%, non-condensing
	Operating Shock	Half-sine wave shock 5G; 11ms; 100 shocks per axis
	Operating Vibration	MIL-STD-810G 514.6 C-1 (with SSD)
	Safety / EMC	CE, FCC class B part 18, IEC 60601-1 V3.1, IEC 60601-1-2 V4.0, IEC 62304, ISO 14971
OS	Supported OS	Microsoft® Windows 8, Microsoft® Embedded Standard 7

Series		Medical Barcode Reader
Model		HTDB-100FM
Electrical	Interface	RJ-45 to USB 2.0
	Input Voltage	5 V
	Operating Power	2 W ~ 3 W
Mechanical	Dimensions (HxWxD)	17.5 cm x 5.9 cm x 11.2 cm
	Weight	120 g
Light Source	Aiming Pattern	520 ~ 535 nm LED
	Illumination	646 ~ 666 nm LED
System Requirement	OS Support	Microsoft Windows 7/8.1(32-bit&64-bit)
	SDK	Windows: Provides SDK and demo program with sample source code Linux: Provides SDK and demo program with sample source code
Symbolologies	1D	UPC/EAN, UPC/EAN with supplementals, Bookland EAN, ISSN, UCC Coupon Extended Code, Code 128, GS1-128, ISBT 128, Code 39, Code 39 Full ASCII, Code 93, Interleaved 2 of 5, Codabar, MSI
	2D	MicroPDF417, PDF417, Data Matrix, QR Code, Micro QR Code
Certification	Electrical Safety	UL60950-1 2nd ed, EN60950-1/IEC60950-1 2nd ed
	LED Safety	IEC 62471 and EN 62471
	EMI/RFI	FCC Part 15 Class B, EN55022 Class B, EN55024, Medical Electrical Equipment:EN60601-1-2, FCC Part 18



Series		PDA MODAT	
Model		MODAT-550A-OA53-R10	MODAT-550A-OA53-ET-R10
Display	LCD size	5.5"	
	Brightness (cd/m <sup>2</sup> )	300 cd/m <sup>2</sup>	
	Max. Resolution	1080 x 1920 (Full HD)	
	Viewing Angle	80/80/80/80 Deg.	
	Touchscreen	5-point projected capacitive	
System	CPU	Octa-core 64-bit Cortex-A53 1.5 GHz processor	
	Operating System	Android 7.0	
	Memory	16GB eMMC 2GB LPDDR3	
	Storage	microSD slot up to 64GB	

Communication	Wi-Fi	802.11a/b/g/n
	Bluetooth	4.0 LE
	Modem (Optional)	GSM (850, 900, 1800, 1900) WCDMA (Band 1, 2, 5, 8) TDS-CDMA (Band 34, 39) LTE FDD (Band 1, 2, 3, 4, 5, 7, 8, 20) TDD (Band 38, 39, 40, 41b)
		GPS
Enviroments	Operating Temperature	-10°C ~ 50°C
	Storage Temperature	-20°C ~ 60°C
	Humidity	10% ~ 95%, non condensing
	Drop Survival	1.5m
	Environmental Protection	IP 65
Physical	Dimensions (L x W x H)	160.9 mm x 85.4 mm x 28.85 mm
	Weight	Under 380g

# » Selection Guide

## • Peripheral Items / Surgical Monitor / Medical Cart



Series	Peripheral Items	
Model	MEDP-CR-R10	MEDP-HD-BR-R10
Feature	Magnetic card reader/Smart card reader/Fingerprint sensor, white	Metal handle covered with soft rubber, with barcode reader and reading light, White



Series	Surgical Monitor					
Model	MMS-21C	MMS-21CA	MMS-21CT	MMS-27C	MMS-27CA	
Description	General VGA, DVI inputs	Multiple analog inputs	Touch-screen model	High-brightness model with VGA, DVI inputs	High-brightness model with multiple analog inputs	
Picture Performance	LCD Size	21.5" (16:9)		27" (16:9)		
	Resolution	1920 (W) x 1080 (H) pixels			1920 (W) x 1080 (H) pixels	
	Brightness (max.)	250 nits (typical)			900 nits (typical)	
	Contrast Ratio	5000:1 (typical)			1000:1 (typical)	
	Viewing Angle (H/V)	178° / 178° (typical)			178° / 178° (typical)	
General	Power Requirement	10V~28V DC input				
	Power Adaptor	Medical grade power adaptor: input: 100~240V AC 50~60Hz; output: 12V DC/5.42A		Medical grade power adaptor: 100-240V AC 50-60Hz; output: 12V DC/7.5A		
	Dimensions (WxHxD)	530.3 x 325 x 53 mm		657 x 400 x 60.5 mm		
	Weight	6.2 kg		11 kg		
	Mounting Standard	VESA 75 x 75 mm / 100 x 100 mm		VESA 100 x 100 mm / 200 x 100 mm		
Environment	Operating Temperature	0°C~40°C				
	Operating Humidity	10~90% (non-condensing)				
	Storage Temperature	-20°C ~60°C				
	Storage Humidity	10~90% (non-condensing)				
Certifications	Medical Certifications CE, FCC Class B part 18, AAMI ES 60601-1 and EN 60601-1					



Series	Medical Cart				
Model	pCART-N1	pCART-N3	pCART-T1	pCART-D1	pCART-D2
Description	Ergonomic for medication use	Small and Compact for use in limited space	Light-weight for maximum storage purpose	Elegant design for documentation purpose	Slim and economical for space-saving advantage
Size (L x W x H)	54 x 68 x 101cm	51 x 46 x 94cm	71.6 x 52 x 94.5cm	52 x 54 x 150cm	80 x 64 x 145cm
Working Table Dimensions (L x W)	45 x 59cm		62 x 42cm	54 x 45cm	51.7 x 26.1cm
Side Table Loading Weight (max.)	8 kg			N/A	
Supported Arm Loading Weight (max.)	12kg		8kg	10kg	8kg



\*Specifications are subject to change without prior notice.

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