iVEC

(IEI Virtualization Edge Computer)

Hardware Specifications

Model	IVEC-TANKXM811-RPL01-R10	IVEC-TANKXM811-RPL02-R10	IVEC-TANKXM811-RPL03-R10	IVEC-TANKXM811-RPL04-R10
Form Factor				
Color	Black			
Dimension (W x D x H)	137.9 x 255.4 x 230.6 mm			
Fan/Fanless	Fanless (optional external fan helps to increase system performance in harsh environments)			
Chassis Construction	Extruded aluminum alloys			
Motherboard				
CPU	Intel® Core™ i9-13900TE 1.0GHz [up to 5.0GHz, 24-Core (8P+16E), 32 Thread, TDP 35W]	Intel® Core™ i7-13700TE 1.1GHz [up to 4.8GHz, 16-Core (8P+8E), 24 Thread, TDP 35W]	Intel® Core™ i5-13500TE 1.3GHz [up to 4.5GHz, 14-Core (6P+8E), 20 Thread, TDP 35W]	Intel® Core™ i3-13100TE 2.4GHz [up to 4.1GHz, 4-Core (4P), 8 Thread, TDP 35W]
Virtual CPU	32	24	20	8
Chipset	Intel® R680E			
System Memory	1 x 32GB SO-DIMM DDR4 3200MHz (pre-installed)	1 x 32GB SO-DIMM DDR4 3200MHz (pre-installed)	1 x 16GB SO-DIMM DDR4 3200MHz (pre-installed)	1 x 16GB SO-DIMM DDR4 3200MHz (pre-installed)
	up to 2 x SO-DIMM DDR4 and 64GB, support ECC memory SKU			
Storage				
Hard Drive	Host OS: 1 x 2.5" 512GB SATA 6Gb/s SSD (pre-installed)			
	VM Storage: 1 x 1TB M.2 2280 M-key SSD (NVMe PCIe x4, pre-installed)			
I/O Interfaces				
Ethernet	2 x RJ45: 1 x Intel I226LM 2.5GbE / 1 x Intel I226-V 2.5GbE (Note: I225 LM/-V 2.5GbE in the previous motherboard version)			
USB 3.2 Gen 2 (10Gb/s)	8			
COM	2 x RS-232/422/485			
	4 x RS-232			
Digital I/O	12-bit (6-in/6-out)			
Display	1 x DP++ (up to 4096 x 2160@60Hz)			
	1 x HDMI (up to 4096 x 2160@30Hz)			
Expansion Slots				
M.2	1 x 2230 A-key (PCIe x1/ USB 2.0 support Intel® vPro)			
Backplane	2 x PCIe x16 slot (x8 signal, pre-installed, total power up to 75W, support FHHL card)			
Power				
Power Input	DC Jack: 12V ~ 28V DC			
	Terminal Block: 12V ~ 28V DC			
Remote Power	Terminal Block: 2-pin			
Reliability				
Mounting	Wall mount			
Operating Temperature	-20°C ~ 60°C with air flow (with SSD), 10% ~ 95%, non-condensing			
Storage Temperature	-40°C ~ 80°C, 10% ~ 95%, non-condensing			
Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis (with SSD)			
Operation Vibration	MIL-STD-810G 514.6C-1 (with SSD)			
Weight (Net / Gross)	4.6kg / 5.6kg			
Safety / EMC	CE / FCC			
Watchdog Timer	Programmable 1 ~ 255 sec/min			
OS				
Host OS	Ubuntu IoT 22.04 LTS for Intel Platform (pre-installed) / Ubuntu IoT Certified Device : https://ubuntu.com/certified/202307-31831			
Guest OS	Windows / Linux OS (for details, refer to software spec)			

Software Specifications

Main Features	Sub Features
System Management Console	Web-based management console
System Overview Dashboard	● VM Status Monitoring: VM running and status change ● CPU Utilization Monitoring: CPU utilization ranking ● Memory Utilization Monitoring: Memory utilization ranking ● Network Traffic Bandwidth Monitoring: Network received and transmitted data rate ● Storage Performance Monitoring: Storage read and write data rate
Virtual Machine Management	● VM Creation ● VM Import ● VM Migration ● Virtual Desktop Console Support for Managing VMs: Browser-based ● VM Power Management ● Single VM management: > Information and dashboard: General, System, Display and Sound, Others, Storage, Network > Real time monitor: CPU usage, memory usage, network throughput, disk throughput > Snapshot management > Logs query ● Edit VM: > Synchronize time > Edit > Clone > Export > Data protection > Single VM share link management > Delete VM
Data Protection Plan Management	● Query for Protection Plan ● Creating a Backup Data Protection Plan ● Restoring a Backup Data Protection Plan ● Run Backup Data Protection Plan ● Edit Data Protection Plan ● Delete Data Protection Plan
OS Images Management	● Search OS Image ● Edit OS Image ● Delete OS Image ● Upload OS Image
System Management	● User management ● VM access permissions ● Overall VM share link management ● Overall VM exported file management
System Preferences	● Memory: > Provisioning System Memory > Memory Optimizer ● Remote Device Credentials Management
System Log	● Query Log ● Save and export Log ● Clear Log
Virtual Desktop Console for Managing VM	● Browser base remote desktop ● Pin task bar ● Task bar layout option ● VM power management ● Take snapshot ● Display quality setting ● Send function key and custom key ● Full screen ● Capture screen to image ● Audio on/off
Supported Guest Operating Systems	● Microsoft Windows: Windows 11, Windows 10, Windows 8.1, Windows 8, Windows 7, Windows XP SP3 ● Windows Server: Windows Server 2022, Windows Server 2019, Windows Server 2016 ● Linux - Ubuntu: Ubuntu 22.04, Ubuntu 20.10, Ubuntu 20.04, Ubuntu 19.10, Ubuntu 19.04, Ubuntu 18.10, Ubuntu 18.04, Ubuntu 17.10, Ubuntu 17.04, Ubuntu 16.10, Ubuntu 16.04 ● Linux - Debian: Debian 9.1.0 (Linux kernel: 4.9.0-6), Debian 10, Debian 11, Debian 12 ● Linux - Fedora Fedora 24 – 26, Fedora 27–38 ● Linux - Red Hat: Red Hat Enterprise Linux 7, Red Hat Enterprise Linux 8, Red Hat Enterprise Linux 9 ● Linux - CentOS: CentOS 7.0 - 7.4, CentOS 8.0-8.5, CentOS Stream 8/9 ● Linux - SUSE: SUSE Linux Enterprise Server 15 ● UNIX - FreeBSD: FreeBSD 11, FreeBSD 12, FreeBSD 13
Serial Connection Expansion Card for VM	IEI approved RS232/RS485 card
AI Acceleration for VM	● iGPU (CPU integrated GPU): virtual GPU card supports up to 7 VM (based on Intel Core-i9 13900TE) ● Dedicated GPU : NVIDIA GeForce Series Note: The VM enabled AI Acceleration will not support Browser base VM remote desktop
NIC Expansion Card	IEI approved POE NIC Card
Maximum Number of Snapshots	Up to 32 per VM
Maximum Number of Simultaneously Running VMs	The number of concurrently-running VMs is generally limited to the available CPU and memory resources of the device. Running multiple VMs at the same time may affect the performance of the device.
Maximum Number of VMs	No limit
Maximum Number of Virtual Devices	Each VM supports up to 16 devices, including hard disks and CD/DVD ROMs.
Maximum Number of Virtual Network Adapters	Up to 8 per VM
Maximum Number of Physical USB Connections	Up to 4 per VM
Maximum Number of Physical PCIe Connections	Up to 3 per VM
Supported File Types for Import	*.ova, *.ovf, *.vmx, *.qvm(from iVEC), *.vhdx
Supported File Types for Export	*.ovf, *.qvm, *.vhdx
Host OS Support	Ubuntu IoT 22.04 LTS for Intel Platform
Hardware Support	IEI approved hardware
Application OTA Upgrade	Supported
External Storage Support	● iRM Mini Server (recommended QTS OS V5.1.*) ● iVEC Node ● QNAP Storage (recommended QTS OS V5.1.*)
Network	● IP Configurations: Manual (Static IP) / DHCP (Dynamic IP) Client ● Network Mode: Bridge and NAT ● Network Redundancy Support: Active/Standby mode of operation (For detailed settings, please refer to the user manual.) ● Virtual Networking Support: Yes Note: ● Support user-defined bridge networks ● Optional Accessories: IEI PoE LAN Module for network expansion