TANK- 700–QM67 720–Q67

- Intel® 2nd Gen Core™ Mobile Processor
- Intel® 2nd Gen Core™ Desktop Processor

High Performance Fanless Embedded System with 2nd Generation Intel® Core™ i7/i5/i3 Processor

Combo Gigabit LAN (SFP Fiber/RJ-45)

Features

◆ 2nd Gen Intel® Core™ i7/i5/i3 or Celeron® mobile processors for TANK-700
  2nd Gen Intel® Core™ i7/i5/i3 Pentium® and Celeron® desktop processors for TANK-720

◆ Intel® HD graphics supports H.264/AVC-MPEG2/VC1, DirectX 10.1 and OpenGL 3.0

◆ On-board 2GB DDR3 memory and one DDR3 SO-DIMM slot (system max. 10GB)

◆ Dual combo (10/100/1000 BASE-T(X) or 1000 baseSFP slot RJ-45 port) Gigabit LAN ports, supporting Intel® AMT 7.0

◆ Supports 8-channel audio/video capture and dual display by VGA and HDMI

◆ Supports two USB 3.0 ports, four USB 2.0 ports, one SATA 6Gb/s port, one CAN-bus port and eight COM ports (four with isolation)

◆ Dual-band 2.4/5GHz 802.11a/b/g/n 3T3R MIMO Wi-Fi for high speed wireless transmission

◆ Redundant dual DC power input (9V ~ 36V)

◆ CAN-bus interface with isolation

| Fanless | Intel® Core™ i3/i5/i7 | CAN-Bus | Dual Display | Gigabit Ethernet Dual GbE | DDR3 1333 | SERIAL ATA 6Gb/s SATA 6Gb/s | SUPERSPEED USB CERTIFIED USB 3.0 | SFP Filber | PCIe Mini Expansion | HDMI |

Fanless Solution

The TANK-700/720 series focuses on the best components that generate less heat, but maintain high system performance. With the fanless design, the TANK-700/720 series reduces system failure caused by fans and extends the lifetime of the device.

Intel® Virtualization Technology

The Intel® Virtualization Technology (Intel® VT) allows multiple, independent operating systems to run simultaneously on a single system. This entire "package" of virtual hardware - CPU, memory, NIC, OS and applications - is turned into a single software file that can be utilized as easily as using file copy and paste. The Intel® VT brings an entirely new level of efficiency and flexibility to IT environments.
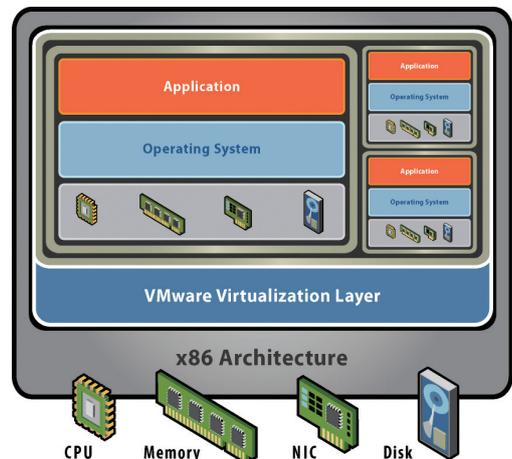
Auto Distribution of Resources
● Dynamic Balancing
● Continuous Optimization

+

Various Applications
● Automated
● Cross Applications

+

Dynamic Adjustment of Resources
● Non-disruptive Scaling
● Flexible and Reconfigurable

Application
Operating System
Application
Operating System
Application
Operating System

VMware Virtualization Layer

x86 Architecture

CPU   Memory   NIC   Disk

1 Industrial Computing Solutions

2 Video Capture Solutions

3 Embedded Computing Solutions

4 Automation Control

5 ORing Network Communication

6 Power Supply/ Peripherals

7 Panel Solutions Introduction

High Performance

Performance Leadership
- Desktop — Intel® Core™ i7/i5/i3 + Q67
- Mobile — Intel® Core™ i7/i5/i3 + QM67

Graphics and Media
- Integrated 3D graphics performance
- Enhanced graphics engine
- Enhanced media encode/decode
- New AVX instruction set

**Advanced Technologies and I/O**
- USB data lock
- PCI Express Gen2 speed

Scalability & Power Efficiency
- Less power consumption for improved thermal management

Fast Network Communication

Dual Combo (SFP Fiber/RJ-45) Gigabit LAN

The TANK-700/720 series adopts dual combo (SFP Fiber/RJ-45) Gigabit LAN designed for long-distance networking. It is used in long distance network environments where an Ethernet cable would be unable to provide adequate coverage.
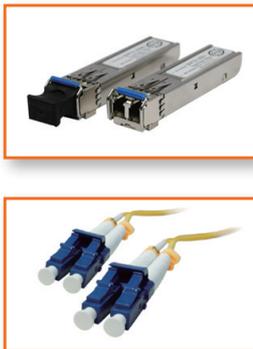

Intel® 82579 PHY with Intel® AMT 7.0 Supported

With the Intel® Core™ i7/i5/i3 hardware architecture, Intel® 82579 PHY Gigabit chipset and Intel® Active Management Technology 7.0 (AMT 7.0), IEI has developed the iEZman program, which allows users to remotely control devices and perform administrative tasks such as wake-on LAN, access, diagnostics and power on/off.
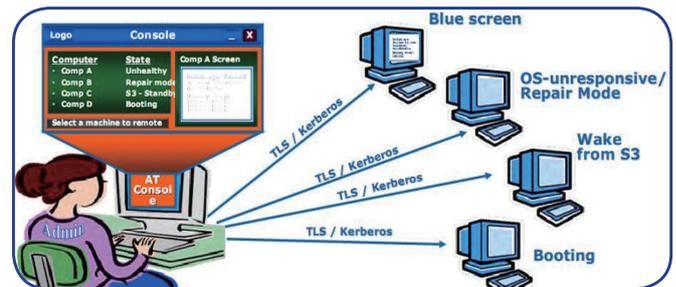
8-Channel Audio/Video Capture Solution
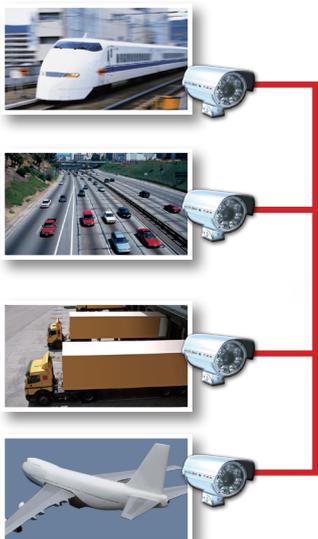
With an H.264 codec, the TANK-700/720 series is capable of compressing and decompressing Full HD (1920x1080) video in real-time without increasing CPU loadings. By supporting real-time recording, previewing, and HD video transmission through surveillance devices, the TANK-700/720 series is suitable as an intelligent monitoring system and transportation intelligent scheduling system solution.

**2 x 4-channel audio/video capture (system model name: IVCS-7008)**

Besides audio/video capture cards, the TANK-700/720 series can support other PCIe Mini cards by demand, such as 3G and GPS modules.

Redundant Dual DC Power Input

The TANK-700/720 series adopts redundant dual DC power input design, which ensures an uninterrupted power supply to the system and eliminates the risk of sudden shutdown and data loss, even if one power is unavailable or low voltage capacity is present.

Power1: 9 ~ 36V DC input

GND Power button

VCC ACC

Car lead-acid battery pack
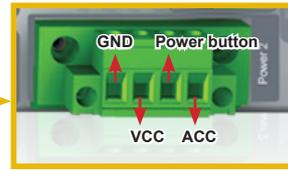
Power2: 10.5 ~ 36V DC input

Adapter

Isolation Protection

4 COM Ports with Isolation

COM with isolation

1. Isolated protection voltage: 2500V/min DC protection
2. Common-mode transient immunity >25 kV/µs ESD protection

2 x RS-422/485

COM

2 x RS-232

RS 422 / 485

CAN-bus Interface with Isolation

Controller Area Network (CAN or CAN-bus) is a vehicle bus standard designed to communicate or detect errors with each other within a vehicle, industrial automation and medical equipment. This drastically reduces the chance of data loss and ensures system reliability and is suitable for intelligent networking I/O devices such as sensors or actuators of machines or plants.
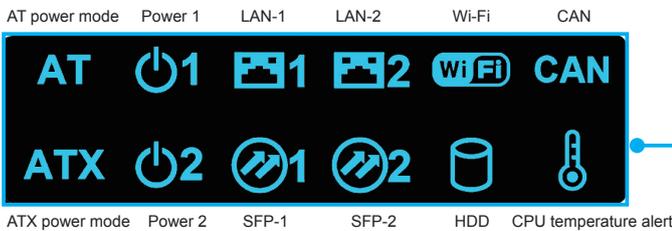
CAN-L, GND, CAN-H

CAN-bus with isolation

1. Isolated protection voltage 2500V/min DC protection
2. Typical transient immunity 50 kV/ms ESD protection

Fully Integrated I/O

Power switch and LED

1. Long-press 3 sec. to power on
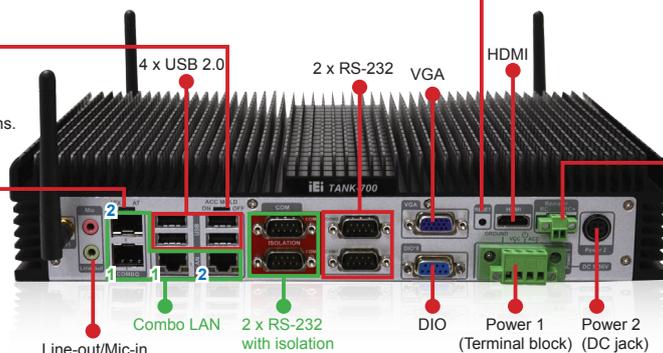2. Long-press 6 sec. to power off

Power switch

CAN-bus with isolation

2 x USB 3.0   2 x RS-422/485 with isolation

2 x 4-channel audio/video capture (Optional)

AT power mode	Power 1	LAN-1	LAN-2	Wi-Fi	CAN
AT	⏻1	🖧1	🖧2	Wi-Fi	CAN
ATX	⏻2	⊘1	⊘2	💾	🌡
ATX power mode	Power 2	SFP-1	SFP-2	HDD	CPU temperature alert

2 x RS-232

Reset
The reset button forces the system to be reset when system hangs up.

ACC MOLD ON OFF

ACC on/off
ACC on mode is designed for vehicle applications. Use the ACC signal to control power on/off.

4 x USB 2.0   2 x RS-232   VGA   HDMI

AT/ATX mode
Users can select a suitable mode according to the application.

Line-out/Mic-in

Combo LAN

2 x RS-232 with isolation

DIO

Power 1 (Terminal block)

Power 2 (DC jack)

Remote control
Users can power on/off the system by inputting low or high voltage into the terminal block.
High (2V ~ 5V): Power off
Low (< 0.4V): Power on

1 Industrial Computing Solutions

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7 Panel Solutions Introduction

Specifications

Model Name		TANK-700-QM67	TANK-720-Q67
Chassis	Color	Black C + Sliver C	Blue C + Sliver C
	Dimensions (WxDxH)	310 x 200 x 62 mm	310 x 200 x 70 mm
	System Fan	Fanless	Fanless
	Chassis Construction	Extruded aluminum alloy, Heavy duty steel sheet	Extruded aluminum alloy, Heavy duty steel sheet
Motherboard	CPU	2nd Generation Intel® -Core™ i5-2xxE, dual-core (above 2.5GHz), 35W -Core™ i3-2xxE, dual-core (above 2.2GHz), 35W -Celeron® B8xx, dual-core (above 1.6GHz), 35W	2nd Generation Intel® -Core™ i5-2xxT, dual-core (above 2.7GHz), 35W -Core™ i3-2xxT, dual-core (above 2.5GHz), 35W -Pentium® G6xxT, dual-core (above 2.2GHz), 35W
	Chipset	Intel® QM67	Intel® Q67
	System Memory	On-board DDR3 2GB memory 1 x 204-pin DDR3 SDRAM SO-DIMM (System Max: 10GB)	
Storage	Hard Drive	2 x 2.5" SATA HDD Bay	2 x 2.5" SATA HDD Bay
I/O interfaces	USB 3.0	2	2
	USB 2.0	4	4
	Ethernet	2 x Combo (SFP Fiber / RJ-45) LAN1: Intel® 82579 with Intel® AMT 7.0 supported, LAN2: Intel® 82583V Ethernet	
	RS-232	4 x DB-9 (2 w/Isolation Protection) & 2 x RJ-45	4 x DB-9 (2 w/Isolation Protection) & 2 x RJ-45
	RS-422/485	2 x RJ-45 with isolation	2 x RJ-45 with isolation
	Digital I/O	8-bit Digital I/O, 4-bit input / 4-bit output	8-bit Digital I/O, 4-bit input / 4-bit output
	CAN-bus	1 x Phoenix terminal block	1 x Phoenix terminal block
	Display	1 x VGA, 1 X HDMI	1 x VGA, 1 X HDMI
	Resolution	VGA: Up to 2048 x 1536 @ 75Hz, HDMI: Up to 1920 x 1200 @ 60Hz	
	Audio	1 x Line-out, 1 x Mic-in	1 x Line-out, 1 x Mic-in
	Other	Optional 4-channel audio/video input PCIe Mini card	Optional 4-channel audio/video input PCIe Mini card
	Wireless	1 x 802.11a/b/g/n (optional)	1 x 802.11a/b/g/n (optional)
Expansions	PCIe Mini	3 x Full Size	3 x Full Size
Power	Power Input	Redundant dual DC input Terminal Block: 9V (+/-0.3V) ~ 36V, DC Jack: 10.5V (+/-0.3V)~36V	Redundant dual DC input Terminal Block: 9V (+/-0.3V) ~ 36V, DC Jack: 10.5V (+/-0.3V)~36V
	Power Consumption	19V@3.3A (Intel® Core™ i5-2540M with 4GB DDR3 Memory)	19V@3.1A (Intel® Core™ i3-2100T with 4GB DDR3 Memory)
Reliability	Mounting	Wall mount	Wall mount
	Operating Temperature	-20°C ~ 70°C with air flow (SSD), 5% ~ 95%, non-condensing	-20°C ~ 50°C with air flow (SSD), 5% ~ 95%, non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms, 3 shocks per axis	Half-sine wave shock 5G, 11ms, 3 shocks per axis
	Operating Vibration	MIL-STD-810F 514.5C-2 (with SSD)	MIL-STD-810F 514.5C-2 (with SSD)
	Weight (Net/Gross)	3.8Kg/6.5Kg	4.2Kg/6.9Kg
	Safety & EMC	CE/FCC	CE/FCC
OS	Supported OS	Microsoft® WES7E, Microsoft® Windows® XP Embedded	

Dimensions *(Unit: mm)*

TANK-700

TANK-720

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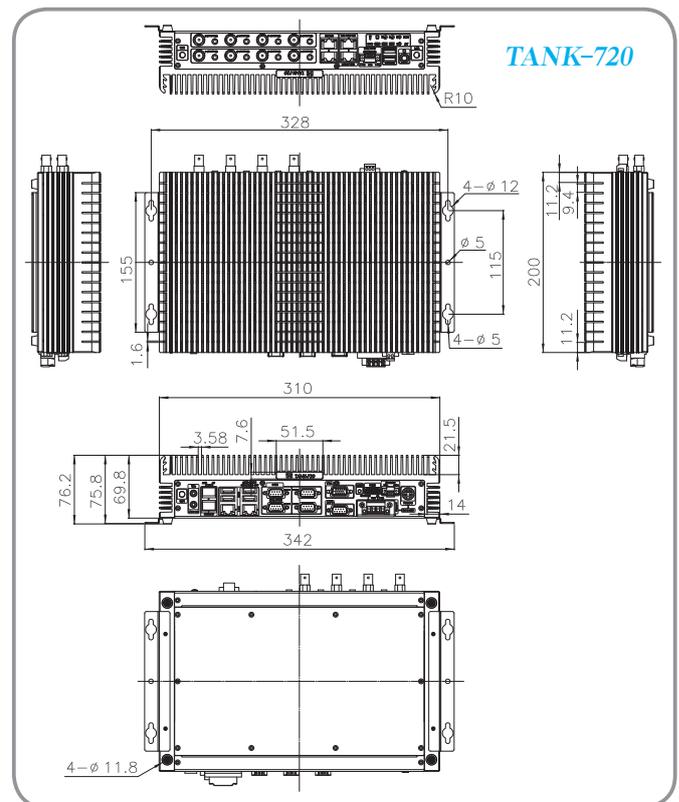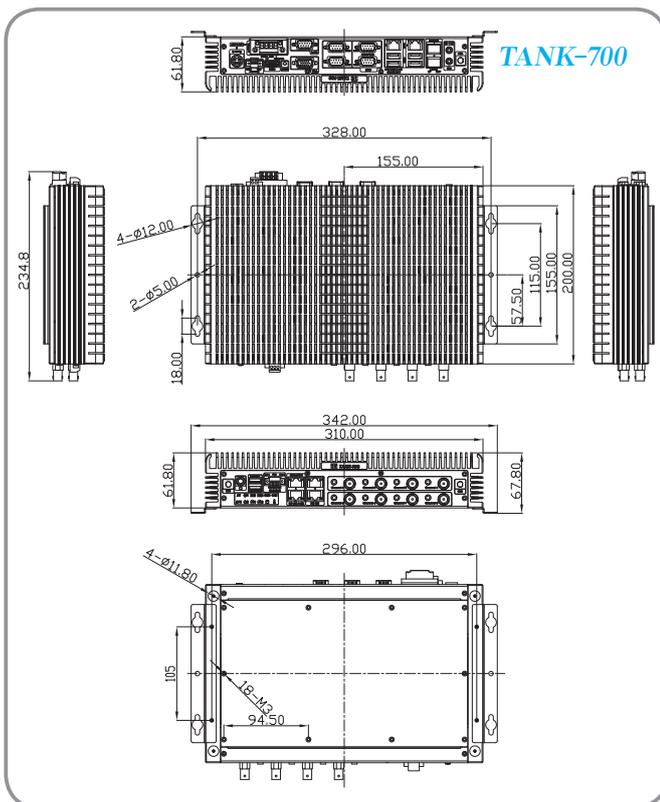
5 ORing Network Communication

6 Power Supply/ Peripherals

7 Panel Solutions Introduction

Ordering information

TANK-700 series

Part No.	Description
TANK-700-QM67-i5/2G-R21	Fanless embedded system, Core™ i5 Dual Core 2xxE CPU (Above 2.5GHz), TDP 35W, 2GB DDR3 on-board memory, VGA/HDMI, USB 3.0, SATA 3.0, SFP Fiber, Isolated CAN, Audio, 9-36V DC input, -20~70°C, R21
TANK-700-QM67W-i5/2G-R21	Fanless embedded system, Core™ i5 Dual Core 2xxE CPU (Above 2.5GHz), TDP 35W, 2GB DDR3 on-board memory, VGA/HDMI, USB 3.0, SATA 3.0, SFP Fiber, 3T3R 802.11b/g/n wireless, Isolated CAN, Audio, 9-36V DC input, -20~70°C, R21
TANK-700-QM67-i3/2G-R21	Fanless embedded system, Core™ i3 Dual Core 2xxE CPU (Above 2.2GHz), TDP 35W, 2GB DDR3 on-board memory, VGA/HDMI, USB 3.0, SATA 3.0, SFP Fiber, Isolated CAN, Audio, 9-36V DC input, -20~70°C, R21
TANK-700-QM67W-i3/2G-R21	Fanless embedded system, Core™ i3 Dual Core 2xxE CPU (Above 2.2GHz), TDP 35W, 2GB DDR3 on-board memory, VGA/HDMI, USB 3.0, SATA 3.0, SFP Fiber, 3T3R 802.11b/g/n wireless, Isolated CAN, Audio, 9-36V DC input, -20~70°C, R21
TANK-700-QM67-C/2G-R21	Fanless embedded system, Celeron® Dual Core B8xx CPU (Above 1.6GHz), TDP 35W, 2GB DDR3 on-board memory, VGA/HDMI, USB 3.0, SATA 3.0, SFP Fiber, Isolated CAN, Audio, 9-36V DC input, -20~70°C, R21
TANK-700-QM67W-C/2G-R21	Fanless embedded system, Celeron® Dual Core B8xx CPU (Above 1.6GHz), TDP 35W, 2GB DDR3 on-board memory, VGA/HDMI, USB 3.0, SATA 3.0, SFP Fiber, 3T3R 802.11b/g/n wireless, Isolated CAN, Audio, 9-36V DC input, -20~70°C, R21
Memory Selection	DDR3-SO-1333-2GB — SO-DIMM DDR3 1333MHz 2GB
	DDR3-SO-1333-4GB — SO-DIMM DDR3 1333MHz 4GB

TANK-720 series

Part No.	Description
TANK-720-Q67-i5/2G-R20	Fanless embedded system, Core™ i5 Dual Core 2xxT CPU (Above 2.7GHz), TDP 35W, 2GB DDR3 on-board memory, VGA/HDMI, USB 3.0, 2 x SATA 3.0, SFP Fiber, Isolated CAN, Audio, 9-36V DC input, -20~50°C, R20, RoHS
TANK-720-Q67W-i5/2G-R20	Fanless embedded system, Core™ i5 Dual Core 2xxT CPU (Above 2.7GHz), TDP 35W, 2GB DDR3 on-board memory, VGA/HDMI, USB 3.0, 2 x SATA 3.0, SFP Fiber, 3T3R 802.11a/b/g/n wireless, Isolated CAN, Audio, 9-36V DC input, -20~50°C, R20, RoHS
TANK-720-Q67-i3/2G-R20	Fanless embedded system, Core™ i3 Dual Core 2xxT CPU (Above 2.5GHz), TDP 35W, 2GB DDR3 on-board memory, VGA/HDMI, USB 3.0, 2 x SATA 3.0, SFP Fiber, Isolated CAN, Audio, 9-36V DC input, -20~50°C, R20, RoHS
TANK-720-Q67W-i3/2G-R20	Fanless embedded system, Core™ i3 Dual Core 2xxT CPU (Above 2.5GHz), TDP 35W, 2G DDR3 on-board memory, VGA/HDMI, USB 3.0, 2 x SATA 3.0, SFP Fiber, 3T3R 802.11a/b/g/n wireless, Isolated CAN, Audio, 9-36V DC input, -20~50°C, R20, RoHS
TANK-720-Q67-P/2G-R20	Fanless embedded system, Pentium® Dual Core G6xxT CPU (Above 2.2GHz), TDP 35W, 2GB DDR3 on-board memory, VGA/HDMI, USB 3.0, 2 x SATA 3.0, SFP Fiber, Isolated CAN, Audio, 9-36V DC input, -20~50°C, R20, RoHS
TANK-720-Q67W-P/2G-R20	Fanless embedded system, Pentium® Dual Core G6xxT CPU (Above 2.2GHz), TDP 35W, 2G DDR3 on-board memory, VGA/HDMI, USB 3.0, 2 x SATA 3.0, SFP Fiber, 3T3R 802.11a/b/g/n wireless, Isolated CAN, Audio, 9-36V DC input, -20~50°C, R20, RoHS
Memory Selection	DDR3-SO-1333-2GB — SO-DIMM DDR3 1333MHz 2GB
	DDR3-SO-1333-4GB — SO-DIMM DDR3 1333MHz 4GB

Options

Options	Part No.	Description
Gigabit Ethernet SFP Module	SFP1G-SX/-I	1Gbps SFP optical transceiver, multi-mode/550m, 850nm (0°C ~ 70°C)/industrial grade (-20°C ~ 85°C)
	SFP1G-MLX/-I	1Gbps SFP optical transceiver, multi-mode/2Km, 1310nm (0°C ~ 70°C)/industrial grade (-40°C ~ 85°C)
	SFP1G-LX10/-I	1Gbps SFP optical transceiver, single-mode/10Km, 1310nm (0°C ~ 70°C)/industrial grade (-40°C ~ 85°C)
	SFP1G-XD70/-I	1Gbps SFP optical transceiver, single-mode/50Km, 1550nm (0°C ~ 70°C)/industrial grade (-40°C ~ 85°C)
Fiber Cord	FPC-LCLC-MM3M	Optical connector LC/LC, multi-mode, diameter 62.5/125 µm, length 3m
Fiber Cord	FPC-LCLC-SS3M	Optical connector LC/LC, single-mode, diameter 9/125 µm, length 3m
OS: Win CE 6.0 (CD-ROM)	TANK-700-QM67-CE060-R10	OS Image with WINCE 6.0, for TANK-700 QM67 Series, with CD-ROM, RoHS
	TANK-720-Q67-CE060-R10	OS Image with WINCE 6.0, for TANK-720 Q67 Series, with CDROM, R10
OS: Win XPE (CD-ROM)	TANK-700-QM67-XPE-R10	OS Image with XPE, for TANK-700 QM67 Series, with CD-ROM, RoHS
	TANK-720-Q67-XPE-R10	OS Image with XPE, for TANK-720 Q67 Series, with DVD-ROM, R10
OS: Linux (CD-ROM)	TANK-700-QM67-LNX-R10*	OS Image with Linux for TANK-700 QM67, Debian operating system, Kernel version 2.6.26, with CD-ROM, RoHS
	TANK-720-Q67-LNX-R10*	OS Image with Linux for TANK-720 Q67, Debian operation system, Kernel version 2.6.26, with CD-ROM, R10
OS: Win 7 Embedded (CD-ROM)	TANK-700-QM67-WES7E-R10	OS Image with Windows Embedded Standard 7 E, for TANK-700 QM67 Series, with CD-ROM, RoHS
	TANK-720-Q67-WES7E-R10	OS Image with Windows Embedded Standard 7 E, for TANK-720 Q67 Series, with DVD-ROM, R10

* it doesn't include video/audio capture card's driver

Packing list

Item	Part No.	Quantity	Description
Utility CD		1	Drivers and user manual
One Key Recovery CD	7B000-000724-RS	1	
Power Adapter	63040-010090-020-RS	1	FSP090-D2BA1, 90 ~ 264VAC input, 90W, 19VDC output, Din 4-pin
Power Cord	32702-000401-100-RS	1	1500 mm, European Standard
RJ-45 to DB-9 COM Port Cable	32005-000200-200-RS	4	Round cable, RS-232/422/485, RS-232 cable, 2, 300mm, 26AWG, (A)D-SUB 9P male, (B)RJ-45 8P8C+SHELL, RoHS
Power Cord Convert Cable	32702-000300-100-RS	1	Convert normal type cord to triangle type cord cable
Chassis Screw	44013-030041-RS	8	M3*4 chassis screws for backup
Mounting Bracket	41020-0163J4-00-RS	2	
Mounting Bracket Screws	44003-030062-RS	8	M3*6 mounting bracket screws
Wi-Fi Antenna (for Wi-Fi module only)	32505-000900-100-RS	3	External antenna
Pluggable DC-in Terminal Block	33502-000055-RS	1	4-pin
Pluggable CAN-bus Terminal Block	33502-000007-RS	1	3-pin
Pluggable Remote Control Terminal Block	33101-000422-RS	1	2-pin