



## **KS057R-FS**

### **5.7" Fanless Touch Panel PC User's Manual**

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## Trademarks

Product names or trademarks appearing in this manual are for identification purpose only and are the properties of the respective owners.

## FCC and DOC Statement on Class A

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio TV technician for help.

### Notice:

1. The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
2. Shielded interface cables must be used in order to comply with the emission limits.

## Table of Contents

Copyright.....	2	Graphics Interface .....	13
Trademarks.....	2	RJ45 LAN Ports.....	14
FCC and DOC Statement on Class A .....	2	9~36V DC-in .....	14
About this Manual.....	4	USB Ports.....	15
Warranty .....	4	Serial Port.....	15
Static Electricity Precautions .....	4	I/O Connectors.....	16
Safety Measures.....	4	Expansion Slots .....	16
Safety Precautions .....	5	Debug Connectors .....	16
About the Package.....	5	Front Panel Connector .....	17
Chapter 1 - Introduction.....	6	Battery.....	17
Overview.....	6	Chapter 6 - Mounting Options .....	20
Key Features .....	6	Din-rail Mount.....	20
Specifications.....	7	Wall Mount.....	20
Getting to Know the KS057R-FS .....	8	Chapter 7 - Software Features.....	21
Mechanical Dimensions .....	9		
Chapter 2 - Getting Started .....	10		
Chapter 3 - Installing Devices.....	11		
Removing the Chassis Cover.....	11		
Installing a Mini PCIe Card.....	11		
Chapter 4 - Jumper Settings.....	12		
Boot Mode Select.....	12		
Chapter 5 - Ports and Connectors.....	13		
Panel I/O Ports.....	13		

## About this Manual

You can download it and other product related documentation from our website at [www.dfi.com](http://www.dfi.com).

## Warranty

1. Warranty does not cover damages or failures that arised from misuse of the product, inability to use the product, unauthorized replacement or alteration of components and product specifications.
2. The warranty is void if the product has been subjected to physical abuse, improper installation, modification, accidents or unauthorized repair of the product.
3. Unless otherwise instructed in this user's manual, the user may not, under any circumstances, attempt to perform service, adjustments or repairs on the product, whether in or out of warranty. It must be returned to the purchase point, factory or authorized service agency for all such work.
4. We will not be liable for any indirect, special, incidental or consequential damages to the product that has been modified or altered.

## Static Electricity Precautions

It is quite easy to inadvertently damage your PC, system board, components or devices even before installing them in your system unit. Static electrical discharge can damage computer components without causing any signs of physical damage. You must take extra care in handling them to ensure against electrostatic build-up.

1. To prevent electrostatic build-up, leave the system board in its anti-static bag until you are ready to install it.
2. Wear an antistatic wrist strap.
3. Do all preparation work on a static-free surface.
4. Hold the device only by its edges. Be careful not to touch any of the components, contacts or connections.
5. Avoid touching the pins or contacts on all modules and connectors. Hold modules or connectors by their ends.



### Important:

Electrostatic discharge (ESD) can damage your processor, disk drive and other components. Perform the upgrade instruction procedures described at an ESD workstation only. If such a station is not available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the system chassis. If a wrist strap is unavailable, establish and maintain contact with the system chassis throughout any procedures requiring ESD protection.

## Safety Measures

To avoid damages to the system:

- Use the correct AC input voltage range.

To reduce the risk of electric shock:

- Unplug the power cord before removing the system chassis cover for installation or servicing. After installation or servicing, cover the system chassis before plugging the power cord.

Battery:

- Danger of explosion if battery incorrectly replaced.
- Replace only with the same or equivalent type recommend by the manufacturer.
- Dispose of used batteries according to local ordinance.

## Safety Precautions

- Use the correct DC input voltage range.
- Unplug the power cord before removing the system chassis cover for installation or servicing. After installation or servicing, cover the system chassis before plugging the power cord.
- Danger of explosion if battery incorrectly replaced.
- Replace only with the same or equivalent type recommend by the manufacturer.
- Dispose of used batteries according to local ordinance.
- Keep this system away from humidity.
- Place the system on a stable surface. Dropping it or letting it fall may cause damage.
- The openings on the system are for air ventilation to protect the system from overheating. **DO NOT COVER THE OPENINGS.**
- Place the power cord in such a way that it will not be stepped on. Do not place anything on top of the power cord. Use a power cord that has been approved for use with the system and that it matches the voltage and current marked on the system's electrical range label.
- If the system will not be used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
- If one of the following occurs, consult a service personnel:
  - The power cord or plug is damaged.
  - Liquid has penetrated the system.
  - The system has been exposed to moisture.
  - The system is not working properly.
  - The system dropped or is damaged.
  - The system has obvious signs of breakage.
- The unit uses a three-wire ground cable which is equipped with a third pin to ground the unit and prevent electric shock. Do not defeat the purpose of this pin. If your outlet does not support this kind of plug, contact your electrician to replace the outlet.
- Disconnect the system from the DC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.

## About the Package

The package contains the following items. If any of these items are missing or damaged, please contact your dealer or sales representative for assistance.

- One 5.7" Touch Panel PC
- One sheet of poron foam

## Optional Items

- Wall mount kit
- Wi-Fi kit
- Power adapter (60W, 12V/5A, Level 6, RoHS)
- Power cord

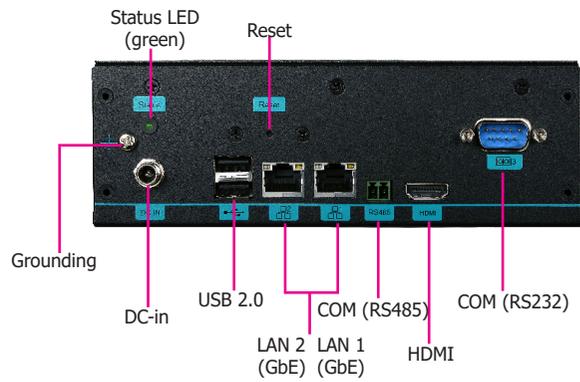
The board and accessories in the package may not come similar to the information listed above. This may differ in accordance to the sales region or models in which it was sold. For more information about the standard package in your region, please contact your dealer or sales representative.

## Chapter 1 - Introduction

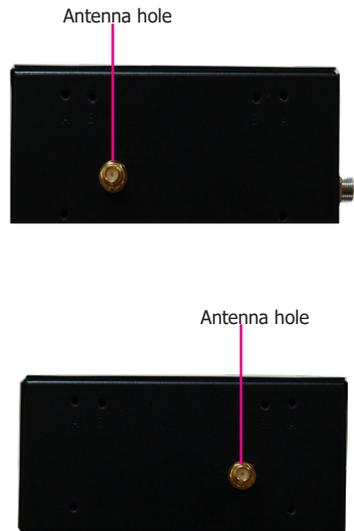
### Overview

KS057R-FS

#### Connector Panel



#### Side View



### Key Features

<b>Model Name</b>	<b>KS057R-FS</b>
<b>Processor</b>	NXP i.MX6 Cortex-A9 DualLite, 1.0 GHz
<b>LAN</b>	Two LAN ports on the connector panel
<b>COM</b>	Two COM ports (via DB-9 & terminal block) on the connector panel
<b>Display</b>	HDMI port on the connector panel
<b>USB</b>	Two USB 2.0 ports (type A)

## Specifications

<b>Processor</b>	NXP i.MX6 Cortex-A9 DualLite, 1.0 GHz
<b>Memory</b>	1GB SDRAM memory down Single Channel DDR3L 1600MHz
<b>Display and Touch Screen</b>	<ul style="list-style-type: none"> <li>• Display: 5.7" 640x480 TFT LCD Panel with Resistive Touch Screen</li> <li>• Brightness: 400 cd/m<sup>2</sup></li> <li>• Contrast: 800:1</li> <li>• Backlight Lifetime: 50,000 hours</li> </ul>
<b>Graphics</b>	<ul style="list-style-type: none"> <li>• HDMI               <ul style="list-style-type: none"> <li>- HDMI 1.4: resolution up to 1920x1080 @ 60Hz</li> </ul> </li> <li>• Single Display               <ul style="list-style-type: none"> <li>- Yocto: HDMI or LVDS (default)</li> </ul> </li> <li>• Dual Display               <ul style="list-style-type: none"> <li>- Android: HDMI + LVDS (available upon request)</li> </ul> </li> </ul>
<b>Storage</b>	4MB NOR Flash 8GB/16GB eMMC
<b>Expansion</b>	1 x Full-size Mini PCIe (PCIe/USB)
<b>Ethernet Controller</b>	1 x ATHEROS AR8033 Ethernet Controller (10/100/1000Mbps) 1 x LAN7500 Ethernet Controller (10/100/1000Mbps)
<b>I/O Ports</b>	2 x GbE (RJ-45) (10/100/1000Mbps) 2 x USB 2.0 (type A) 2 x Wi-Fi Module Antenna Hole 1 x RS-485 1 x RS-232 1 x DC-in connector 1 x Reset switch 1 x HDMI
<b>Watchdog Timer</b>	System Reset, Programmable via Software from 1 to 255 Seconds
<b>Power</b>	Type:12V DC Connector: DC Jack
<b>OS Support</b>	Yocto 1.8 (default preloaded on eMMC) Android 5.1.1 (available upon request)
<b>Mechanism</b>	Construction: sheet metal Mounting: Wall, Din-rail* Weight: TBD Dimensions (W x H x D): 170.2mm x 121mm x 57.5mm
<b>Environment</b>	Operating Temperature: -20 to 60°C (with extended temperature peripherals, ambient with air flow) Storage Temperature: -30 to 80°C Relative Humidity: 5 to 90% RH (non-condensing)

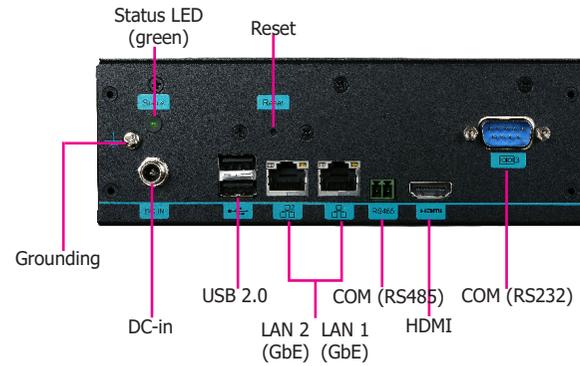
<b>Tests and Certification</b>	<ul style="list-style-type: none"> <li>• Shock               <ul style="list-style-type: none"> <li>OP: Half-sine, 3G @ 11ms</li> <li>Non-OP: Half-sine, 5G @ 11ms</li> </ul> </li> <li>• Vibration               <ul style="list-style-type: none"> <li>OP: Random, 1Grms @ 5~500Hz, 30min</li> <li>Non-OP: Sweep sine, 3Grms @ 10~500Hz, 30min</li> </ul> </li> </ul>
<b>Certifications</b>	CE, FCC Class A


**Note:**

\*Optional items are not supported in standard model. Please contact your sales representative for more information.

## Getting to Know the KS057R-FS

### Connector Panel View



#### DC-in

Plug a power adapter into this socket. The acceptable power voltage/type is 12V/DC.

#### Status (green)

Shows the status of the system.

#### USB 2.0 Ports

Connect USB 3.0, USB 2.0 or 1.1 devices.

#### HDMI Port

Connects the HDMI port of a display.

#### COM Ports

One RS232 (DB-9 connector) and one RS485 (two-pin terminal) port.

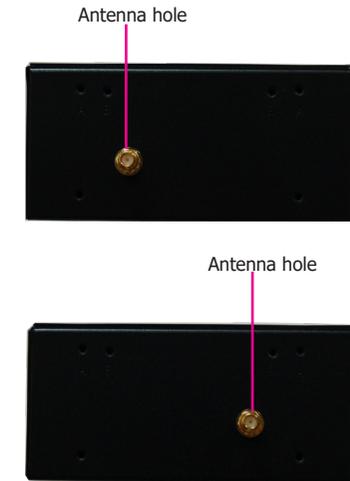
#### LAN Ports

Connect a network device or an Ethernet cable for network connectivity.

#### Reset Switch

Press to restart the system without turning off the power.

### Side View

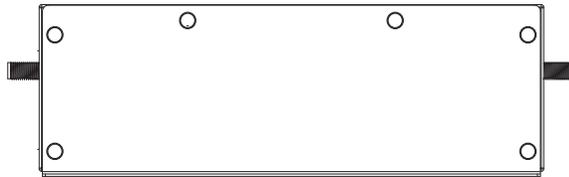


#### Wireless Antenna Holes

Reserved for installing wireless antennas.

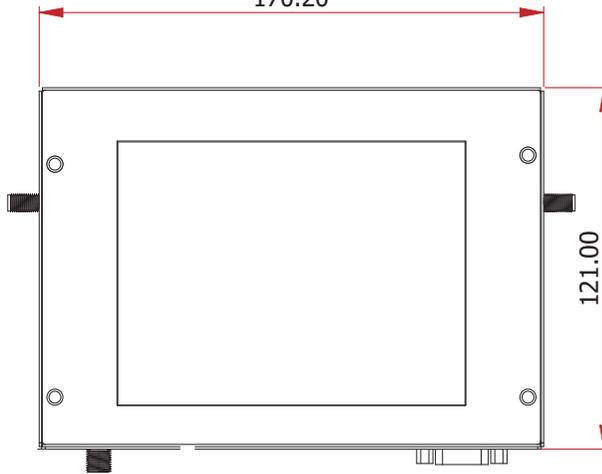
### Mechanical Dimensions

Top View



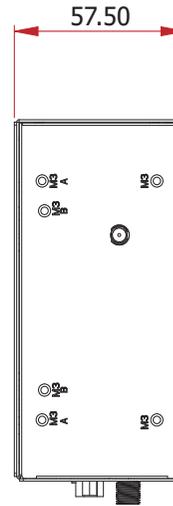
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Front View

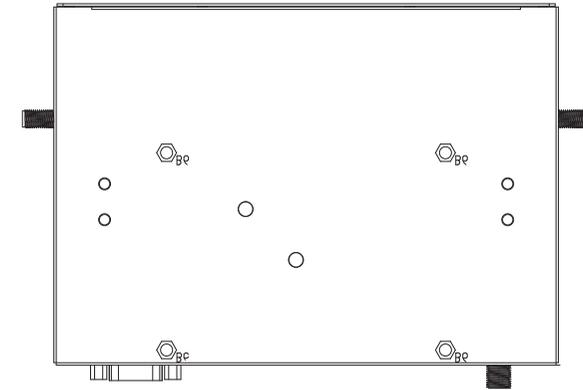


121.00

Right View



57.50



Bottom View

