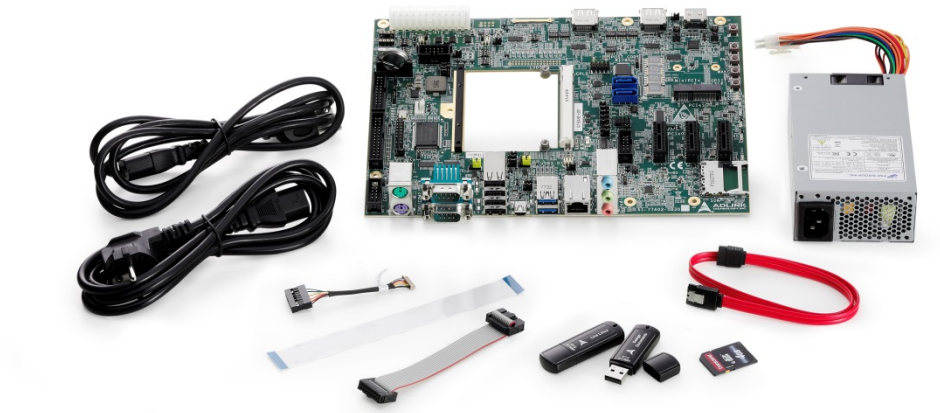
Qseven Starter Kit

Quick Start Guide



Manual Rev.: 1.0

Revision Date: May 15, 2018

Part Number: 50-1Z249-1000

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Leading EDGE COMPUTING

Preface

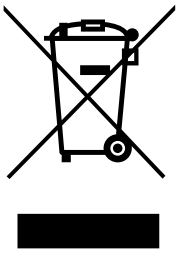
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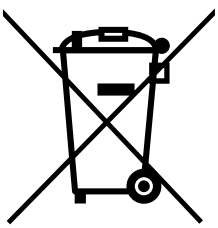
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Battery Labels (for products with battery)









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WARNING: This product can expose you to chemicals including acrylamide, arsenic, benzene, cadmium, Tris(1,3-dichloro-2-propyl)phosphate (TDCPP), 1,4-Dioxane, formaldehyde, lead, DEHP, styrene, DINP, BBP, PVC, and vinyl materials, which are known to the State of California to cause cancer, and acrylamide, benzene, cadmium, lead, mercury, phthalates, toluene, DEHP, DIDP, DnHP, DBP, BBP, PVC, and vinyl materials, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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Revision History

Revision	Description	Date	By
1.0	Initial Release	2018-05-15	DA

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1. Introduction

The Qseven Starter Kit is intended for testing and verifying Qseven systems based on Qseven modules and includes everything customers need to begin their own design and development. The Qseven Starter Kit includes the Q7-BASE reference carrier board, a Qseven module (of your choice), thermal solution (heat spreader or heatsink, of your choice), cabling, and ATX power supply.

The complete kit allows customers to quickly emulate the functionality of their end product for software development and hardware verification. Drivers, BSP, carrier board design files (including schematics, mechanical drawings and BOM), certificates, test reports, Qseven module user's manual, and thermal solution drawings are included to assist customers in designing their own custom carrier board.

The Qseven Starter Kit also includes a USB flash drive with SEMA pre-installed in a Linux OS environment. This helps customers quickly review the features provided by the EAPI.

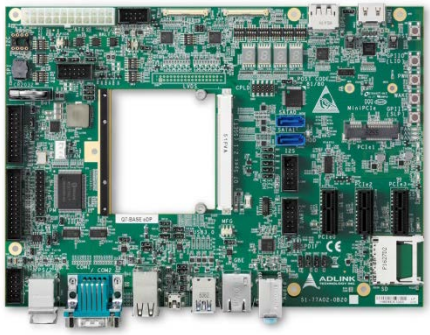
1.1. How to Order the Qseven Starter Kit



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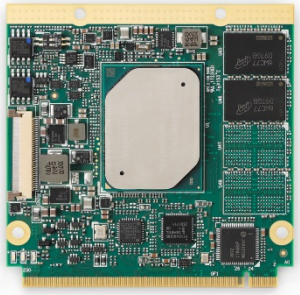
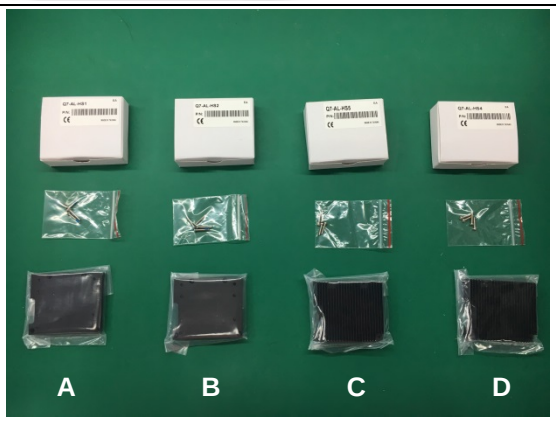
1.2. What's Included in the Qseven Starter Kit

1.2.1. Standard Items

No.	Photo	Part Number	Description
1.		91-77A02-100E (LVDS version) 91-77A02-110E (eDP version)	**Q7-BASE** Qseven reference carrier board
2.		31-32220-0000	**Power Supply Unit**
3.		29-02480-0040	**USB Flash Drive (**2pcs) One containing documents One with SEMA pre-installed in Linux OS
4.		30-10057-5010	**7-pin SATA cable** 180° (-) to 180°
5.		30-00001-0030	**US Power Cord**, 10A, 125V
6.		30-00002-0010	**EU Power Cord**, 220V

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1.2.2. Optional Items

No.	Photo	Part Number	Description
1.		See data sheet	**Qseven module** of your choice
2.		A = Heat spreader (high profile) B = Heat spreader (low profile) C = Passive heatsink (low profile) D = Passive heatsink (high profile)	**Thermal solution** of your choice (only one thermal solution included in standard kit.)

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2. Getting Started

2.1. Unpacking

Check that the EPE foam contains the items shown below:



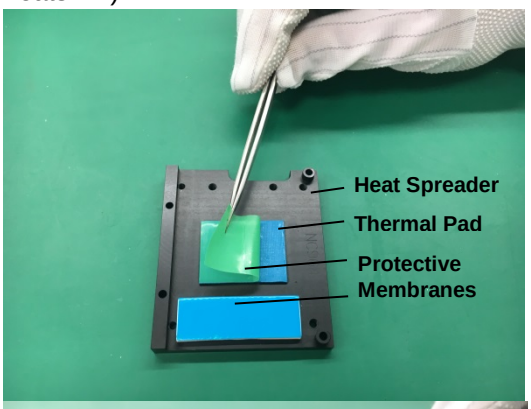
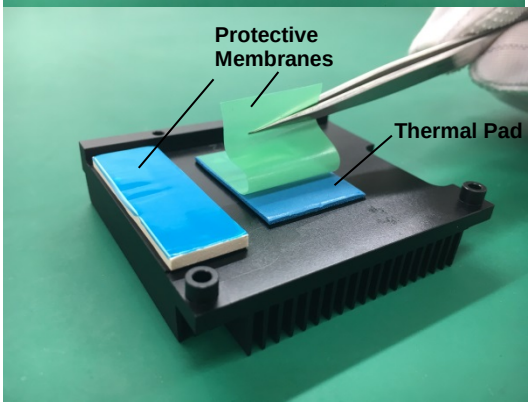
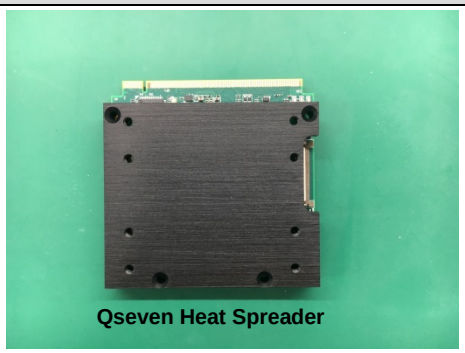
Remove the EPE foam and ensure the underneath accessory boxes contain items shown below:



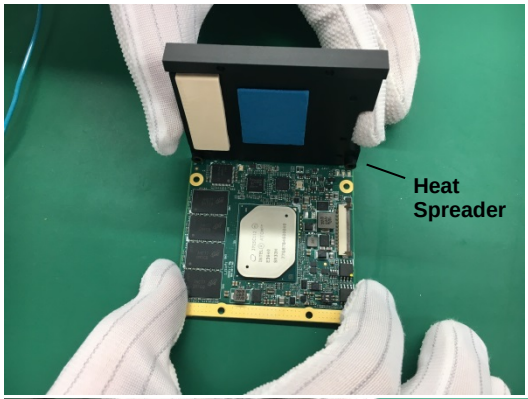
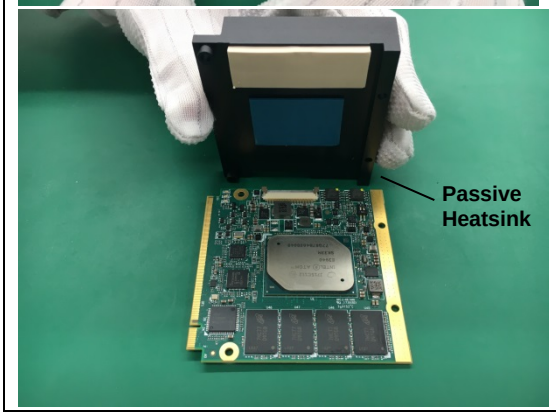


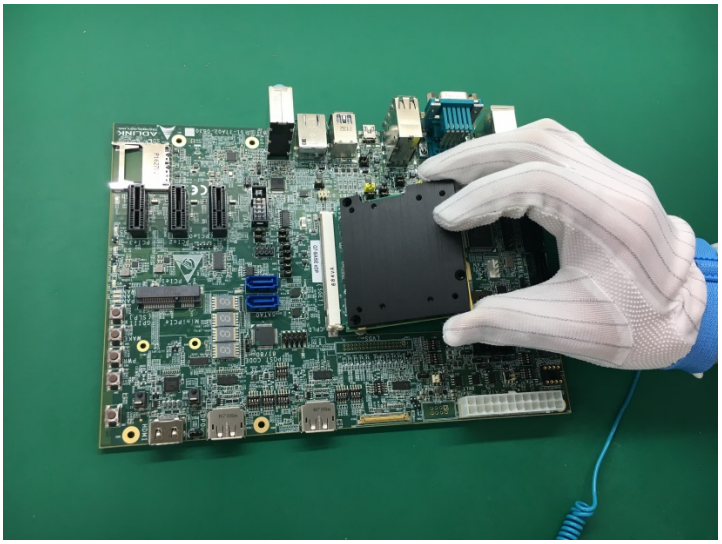
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2.2. Board Installation

Procedure	Required Items
Step 1 Remove all protective membranes from the thermal pads on the thermal solution (either heat spreader or passive heatsink.)  	 

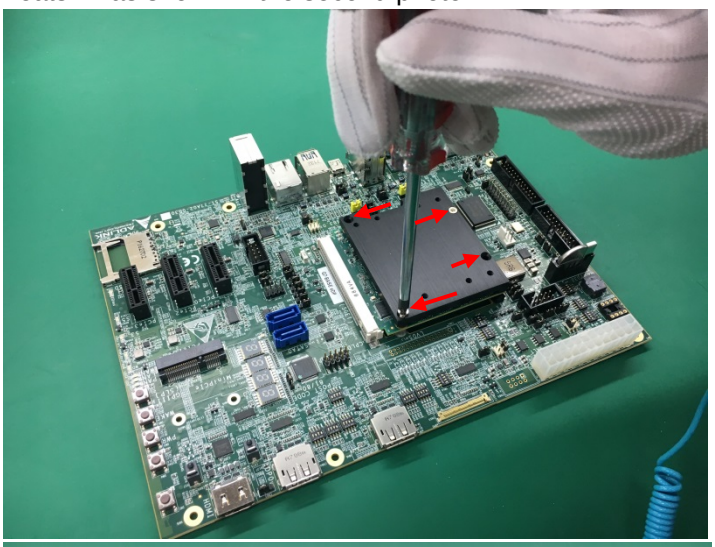
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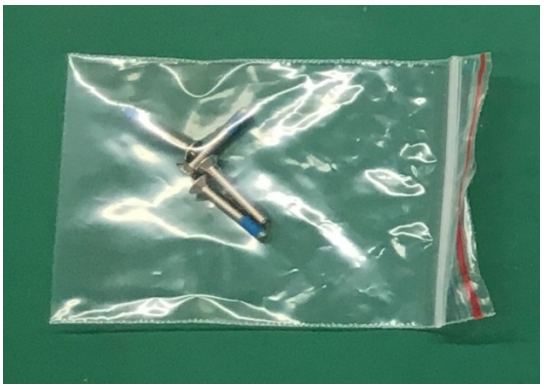
Step 2 Assemble the thermal solution (either heat spreader or passive heatsink) onto the Qseven module as shown in the following two photos.  	Not Applicable

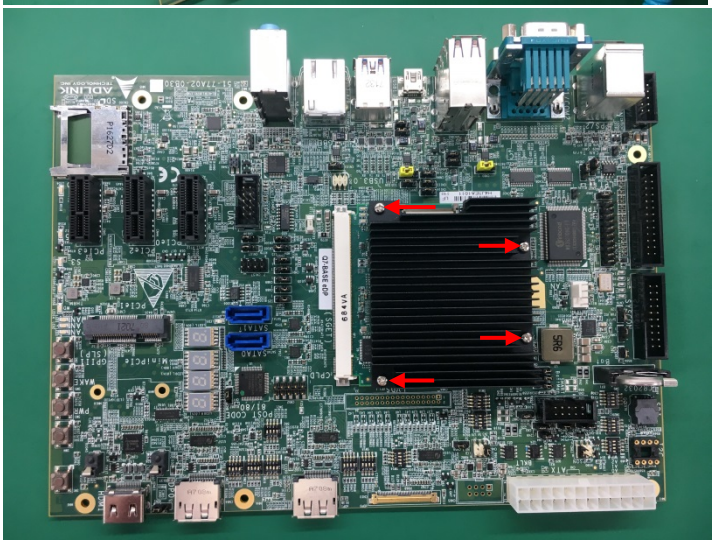
Step 3 Insert the Qseven module connector into the Qseven interface slot on the Qseven carrier board as shown in following two photos.  	Not Applicable

Step 4

Install four 2.7mm countersink screws to mount the heat spreader to the carrier board as shown in the following photo or use four 2.7mm panhead screws to mount the passive heatsink as shown in the second photo.



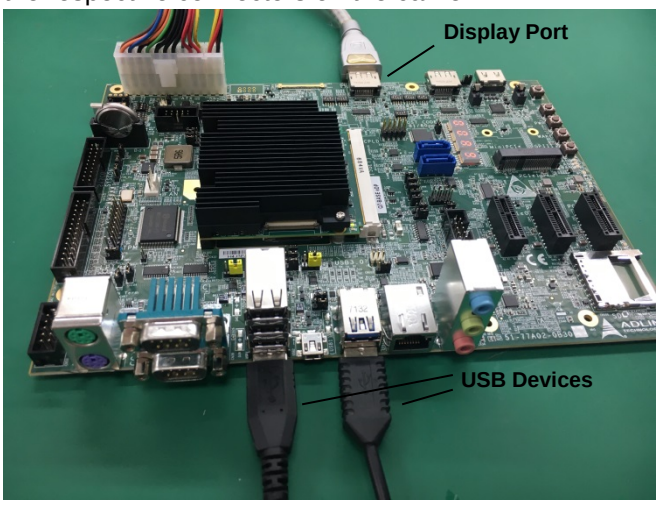




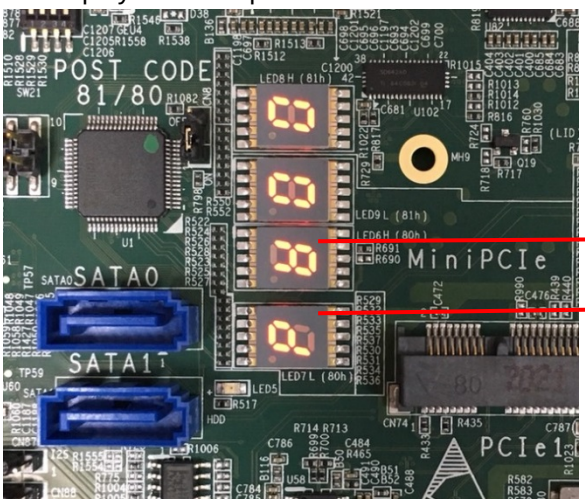


2.3. Power and I/O Connectors

Connect the Power Supply	Required Items
Plug in the ATX connector of the power supply to CN1 on the Q7-BASE carrier board. 	
Plug the AC power cord into the power supply. 	

Connect the Keyboard, Mouse and External GPU Card	Required Items
Plug in the display cable and USB keyboard and mouse cables to the respective connectors on the carrier. 	Not Applicable

2.4. Powering Up the Qseven System

Powering up the Qseven system	Required Items
Plug in the AC power cord to a wall outlet and turn on the power supply. The 80h POST LEDs (LED6 and LED7) on the Q7-BASE will display the bootup status.  If no operating system is installed on the system, the monitor will display the BIOS setup menu after the first boot up.	Not Applicable

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3. Display LEDs and Mini LEDs

This section describes the hexadecimal display and mini LED functionality.

3.1. Bootup Procedure

During power-up and BIOS execution, the CPU will first retrieve commands from POST and then execute them. Each command has a corresponding debug port data code or BIOS POST checkpoint code. The results from each checkpoint can be viewed on the display LEDs of the carrier, allowing the technician or administrator to debug the system. The POST code is written to I/O port 80h, and for extended POST codes port 80h and 81h are used.

The POST code is shown on the 7-segment LED displays on the board

3.2. LED Table

The following LEDs indicate status of system signals as shown in the table below.

LED	Function
CB_RESET#	LED lights on active reset signal of carrier board
CB_PWROK	LED lights on active power-OK from Qseven module
SUS_S3#	LED lights on released SUS_S3# signal from Qseven module
SUS_S4#	LED lights on released SUS_S4# signal from Qseven module
SUS_S5#	LED lights on released SUS_S5# signal from Qseven module
BMC_STATUS	LED shows the status of the BMC on the Qseven module
PWRBTN#	LED lights on active power button signal of Qseven module
SYS_RESET#	LED lights on active reset signal of Qseven module

3.3. BMC Status

The BMC_STATUS LED shows the status of the BMC on the Qseven module.

Behavior (blue)	Description
Blinking	A blinking BMC_STATUS LED indicates a failure during power up. The number of flashes indicates the error code. A missing/wrong system voltage, stuck on the reset line, BIOS failure or an unexpected shutdown of an onboard power supply is displayed by this signaling code. The error code is board specific (refer to the user's manual for your Qseven module).
Bright flash	A system state change occurs. Power-button activity, Reset-button activity, PCI_RST# activity or activity on the SLP_Sx signals is shown by this signaling mode.
Fast blinking	If the board is running on Fail-Safe-BIOS, the BMC_STATUS LED blinks very quickly.
Short bright flash every 4 seconds	System is in Suspend-to-RAM or Suspend-to-Disk state.

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Safety Instructions

Read and follow all instructions marked on the product and in the documentation before you operate your system. Retain all safety and operating instructions for future use.

- Please read these safety instructions carefully.
- Please keep this User‘s Manual for later reference.
- The equipment should be operated only from the type of power source indicated on the rating label. Make sure of the voltage of the power source when connecting the equipment to the power outlet.
- If your equipment has a voltage selector switch, make sure that the switch is in the proper position for your area. The voltage selector switch is set at the factory to the correct voltage.
- For pluggable equipment, make sure that the socket-outlet shall be installed near the equipment and shall be easily accessible.
- Place the power cord in such a way that people cannot step on it. Do not place anything over the power cord.
- If the equipment is not used for long time, disconnect the equipment from the main power to avoid being damaged by transient overvoltage.
- All cautions and warnings on the equipment should be noted.
- Please keep this equipment from humidity.
- Do not use this equipment near water or a heat source.
- Lay this equipment on a reliable surface when installing. A drop or fall could cause injury.
- Never pour any liquid into opening; this could cause fire or electrical shock.
- Openings in the case are provided for ventilation. Do not block or cover these openings. Make sure you provide adequate space around the system for ventilation when you set up your work area. Never insert objects of any kind into the ventilation openings.
- To avoid electrical shock, always unplug all power cables and modem cables from the wall outlets before removing covers.
- Lithium Battery provided (real time clock battery)

CAUTION – Risk of explosion if battery is replaced with one of an incorrect type. Dispose of used batteries according to the instructions

- If one of the following situations arises, get the equipment checked by a service personnel:
  - The power cord or plug is damaged.
  - Liquid has penetrated into the equipment.
  - The equipment has been exposed to moisture.
  - The equipment does not work well, or you can not get it to work according to user‘s manual.
  - The equipment was dropped and damaged.
  - The equipment has obvious signs of breakage.

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Getting Service

Ask an Expert: http://askanexpert.adlinktech.com

ADLINK Technology, Inc.
Address: 9F, No.166 Jian Yi Road, Zhonghe District
New Taipei City 235, Taiwan
Tel: +886-2-8226-5877
Fax: +886-2-8226-5717
Email: service@adlinktech.com

Ampro ADLINK Technology, Inc.
Address: 5215 Hellyer Avenue, #110, San Jose, CA 95138, USA
Tel: +1-408-360-0200
Toll Free: +1-800-966-5200 (USA only)
Fax: +1-408-360-0222
Email: info@adlinktech.com

ADLINK Technology (China) Co., Ltd.
Address: 300 Fang Chun Rd., Zhangjiang Hi-Tech Park, Pudong New Area
Shanghai, 201203 China
Tel: +86-21-5132-8988
Fax: +86-21-5132-3588
Email: market@adlinktech.com

ADLINK Technology GmbH
Address: Hans-Thoma-Strasse 11, D-68163, Mannheim, Germany
Tel: +49-621-43214-0
Fax: +49-621 43214-30
Email: emea@adlinktech.com

Please visit the Contact page at www.adlinktech.com for information on how to contact the ADLINK regional office nearest you.

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