Quick Guide

ECB−PR70

Ver:1.0

Package List：

1. Mother Board 2. Pub 3. Adaptor(option)
4. USB cable(option)

Notice：

The adapter requires DC5V @3A.
Be sure to install a custom heatsink when running under a large load.
Must be used under normal temperature conditions.
External power supply is required for larger loads.
Must use the standard wifi antenna.
Be careful not to reverse the power of the serial port and GPIO, otherwise it will damage the motherboard.

It is recommended to use an electrostatic bracelet to prevent damage,
Please do not connect to interfaces other than USB, LAN, Audio, HDMI when power is on.

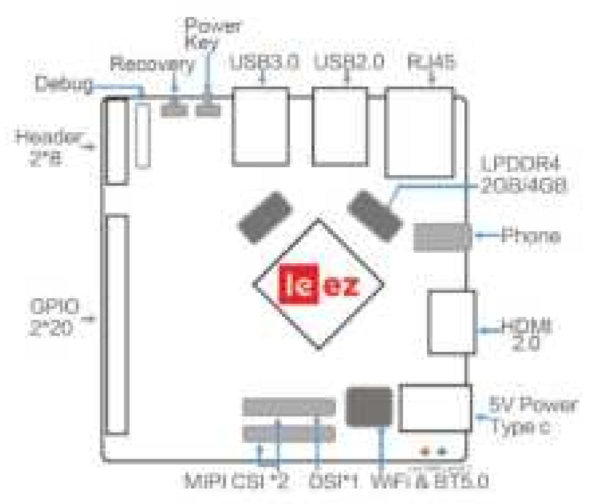
Usage Step：

1.From the website https://github.com/leezsbc/resources / wiki / Leez−P710 download the appropriate image.
2. Burn the operating system to SD card or eMMC, (see the official website for the burning method
Relevant detailed guidelines https://leez.lenovo.com).
3. Connect the appropriate peripherals.
4. USB 5V power connected to the power adapter.

Tech Support：

- ：https://leez.lenovo.com
- Leez forum：https://leez.lenovo.com/forum
- mail：leezinfo@lenovo.com

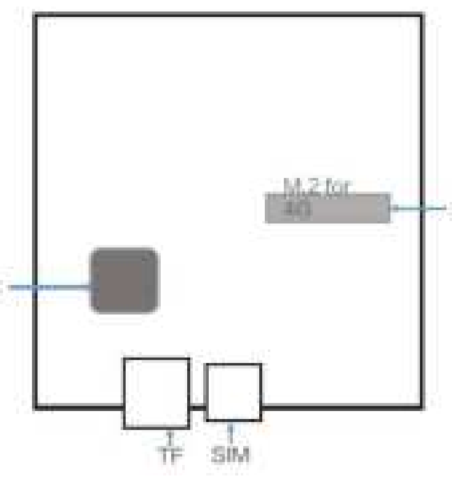
Front



GPIO 40PIN header

1	3V3	2	5V
3	SDA2	4	5V
5	SCL2	6	■
7	A0	8	C1
9	■	10	C0
11	A1	12	C2
13	A3	14	■
15	A4	16	C6
17	3V3	18	C7
19	SP1T	20	■
21	SP1R	22	D0
23	SP1C	24	SP1CS
25	■	26	SPDIF
27	SDA1	28	SCL1
29	RX	30	■
31	TX	32	I2CLK
33	CK	34	■
35	DI0	36	DO0
37	DI1	38	DI2
39	■	40	DI3

Back



System Spec

Item	Description
Platform	Rockchip RK3399,Mali-T860 GPU
Memory	4/2GB LPDDR4
Storage	eMMC 16GB(optional)
M.2	M.2 B-key Slot*1, 3042, for 4G LTE
USIM	USIM slot*1
Connectivity	Ethernet: Native Gbps Ethernet
	WiFi: 802.11a/b/g/n/ac, Bluetooth 5.0
	Antenna*1: IPX Connector
Video Input	2 4-Lane MIPI-CSI, dual ISP,
Video Output	HDMI*1: HDMI 2.0a, supports 4K@60Hz，HDCP 1.4/2.2, DP*1(usb type c)
	4-Lane MIPI-DSI*1
USB	USB 3.0A*1 + USB 3.0 Type c*1, Support DP
	USB2.0*2,Type-A ports
	USB Type-C*1: 5V Power input
Pin-header	GPIO1: 40pin, 2.54mm pitch pin-header
	2*3V/1.8V I2C, up to 1*3V UART, 1*3V SPI, 1*SPDIF_TX, up to 8*3V GPIOs, 1*1.8V 8 channels I2S
	GPIO2: 8*2pin, 2.54mm pitch pin-header
	USB 2.0 Host *2 , led, pwr, reset, audio output
	GPIO3: Serial Debug Port*1, 4pin,2.54mm header
Key	PowerKey*1
LED	Power LED(Red)*1
	GPIO Controlled LED(Green)*1
Others	RTC: 2 Pin 1.27/1.25mm RTC battery input connector,
Power	DC 5V/3A
Heat sink	Fanless cooling fin

FCC Modular Usage Statement

2.2 List of applicable FCC rules

FCC CFR Title 47 Part 15 Subpart C Section 15.247
FCC CFR Title 47 Part 15 Subpart E Section 15.407

2.3 Summarize the specific operational use conditions

This transmitter must not be co - located or operating in conjunction with any other antenna or transmitter.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.
NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed andused in accordance with the instructions, 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 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.

2.6 RF exposure considerations

This modular complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This modular must be installed and operated with a minimum distance of 20 cm between the radiator and user body.

2.7 Antennas

Integral antenna with antenna gain 2dBi for frequency range from 2402MHz to 2480MHz and
1.3dBi for frequency range from 5180MHz to 5240MHz & 5745MHz to 5825MHz .The antenna is a detachable FPC antenna. Please use the same type of antenna and the antenna gain should not exceed the specified value. Do not replace other types of antennas without permission.

Label and compliance information

If the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: “Contains Transmitter Module FCC ID: A5M-ECBPR70”

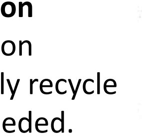
Antennas : The antenna design frequency bandis:2.4G/5.8GWIFI segment. 2400-2480MHz
5100-5850MHz Radiantefficiency2400-2480MHz:>45%
5100-5850MHz：＞30%
Label and compliance information If this certified module is installed inside the host device, then the outside of the host must be labeled with “ Contains FCC ID: A5M-ECBPR70”.

Recycling and Environmental Information

Lenovo encourages owners of information technology (IT) equipment to responsibly recycle their equipment when it is no longer needed. Lenovo offers a variety of programs and services to assist equipment owners in recycling their IT products. For information on recycling Lenovo products, go to: http://www.lenovo.com/recycling

Important battery and WEEE information

Batteries and electrical and electronic equipment marked with the symbol of a crossed-out wheeled bin may not be disposed as unsorted municipal waste. Batteries and waste of electrical and electronic equipment (WEEE) shall be treated separately using the collection framework available to customers for the return, recycling, and treatment of batteries and WEEE. When possible, remove and isolate batteries from WEEE prior to placing WEEE in the waste collection stream. Batteries are to be collected separately using the framework available for the return, recycling, and treatment of batteries and accumulators.



Country-specific information is available at:
http://www.lenovo.com/recycling

Restriction of Hazardous Substances

Directive (RoHS) European Union RoHS
Lenovo products sold in the European Union on or after 3 January 2013 meet the requirements of Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment ("RoHS recast" or "RoHS 2").
For more information about Lenovo progress on RoHS, go to: http://www.lenovo.com/social_responsibility/us/en/RoHS_Communication.pdf
Plastic Bag Notice
DANGER: Plastic bags can be dangerous. Keep plastic bags away from babies and children to avoid danger of suffocation.

Lithium battery notice

DANGER: Danger of explosion if battery is incorrectly replaced.
When replacing the lithium coin cell battery, use only the same or an equivalent type that is recommended by the manufacturer.
The battery contains lithium and can explode if not properly used, handled, or disposed of.
Do not:

- Throw or immerse into water
- Heat to more than 100° C (212° F)
- Repair or disassemble

Dispose of the battery as required by local ordinances or regulations.
The following statement applies to users in the state of California, U.S.A.
Perchlorate material: Special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate.
Export Classification Notice
This product is subject to the United States Export Administration regulations (EAR) and has an Export Classification Control Number (ECCN) of 5A992.c. It can be re-exported except to any of the embargoed countries in the EAR E1 country list.
Compliance Information

The latest electronic compliance and environmental information is available from the Lenovo Web sites.
To view compliance information go to:
http://www.lenovo.com/compliance
To download environmental information go to:
http://www.lenovo.com/ecodeclaration

IMPORTANT SAFETY INSTRUCTIONS

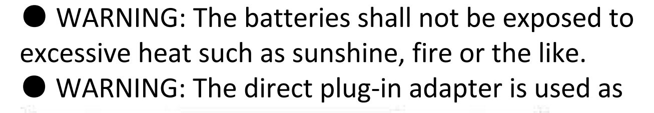
Notice: Product related information is located at the bottom of your device.

● Read these instructions – All the safety and operating instructions should be read before this product is operated.

● Keep these instructions – The safety and operating instructions should be retained for future reference.
● Heed all warnings – All warnings on the appliance and in the operating instructions should be adhered to.
● Follow all instructions – All operating and use instructions should be followed.
● Do not use this apparatus near water – The appliance should not be used near water or moisture – for example, in a wet basement or near a swimming pool, and the like.
● Clean only with dry cloth.
● Do not block any ventilation openings. Install in accordance with the manufacture's instructions.
● Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
● Do not defeat the safety purpose of the polarized or grounding plug. A polarized plug has two blades with one wider than the other. A grounding plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

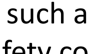
● Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and at the point where they exit from the apparatus
● Only use attachments/accessories specified by the manufacturer.
● Unplug the apparatus
during lightning storms or
when unused for long periods of time.
● Refer all servicing to qualified personnel.

Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
● Minimum distances around the apparatus for sufficient ventilation is 20 cm.
● The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, table-cloths, curtains, etc.
● No naked flame sources, such as lighted candles, should be placed on the apparatus.
● The use of apparatus in moderate climates.
● WARNING: The batteries shall not be exposed to excessive heat such as sunshine, fire or the like.
● WARNING: The direct plug-in adapter is used as disconnect device, the disconnect device shall remain readily operable.



● This lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of non-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.
● WARNING: To reduce the risk of electric shock, do not remove cover (or back) as there are no user-serviceable parts inside. Refer servicing to qualified personnel.
● The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the appliance.

This equipment is a Class II or double insulated electrical appliance. It has been designed in such a way that it does not require a safety connection to electrical earth.



FCC Statement

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SAR Statement
This equipment complies with FCC/IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Manufacturer: Lenovo (Beijing) Limited
Location: 201-H2-6, Floor 2, Building 2, No.6 Shangdi West Road, Haidian District, Beijing, China 100085
Operating temperature： 0 ℃ to +60℃

We declares that this device is in compliance with the essential repuirements and other relevant provisions of Directive 2014/53/EU.

Our product do not contains the AC/DC adapter. You need purchase the DC 5V/3A compliance the directive 2014/30/EU.
The adapter shall be installed near the equipment and shall be easily accessible.

Wi-Fi
Operation Frequency: 2412MHz~2472MHz
Maximum Power: 15.53dBm(E.I.R.P.)