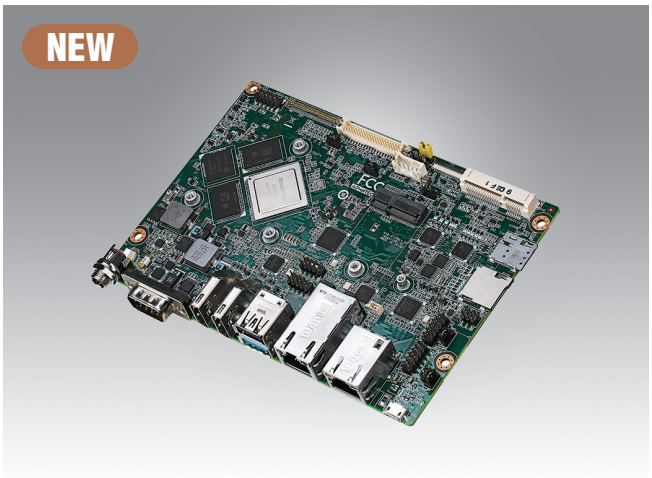
RSB-4710

Rockchip ARM Cortex-A72 RK3399 3.5" SBC



Features

- Rockchip RK3399 ARM Dual Cortex-A72 and Quad Cortex-A53 1.8 GHz
- Onboard 2GB LPDDR4 memory and 16GB eMMC
- Dual HDMI(4K 60fps + 1080P), 1 x eDP, 1 x dual channel LVDS, 1 x MIPI CSI
- Supports 4K H.264/H.265 video decoder
- 6 x serial, 1 x USB3.0, 4 x USB2.0 ,1 x USB OTG, 2 x GbE, 1 x SPI, 1 x I2C, 5 x GPIOs
- M.2 for WIFI/BT support, mini-PCIe for 3G/4G support
- Supports Debian9/10 and Android7.1/10.0

Introduction

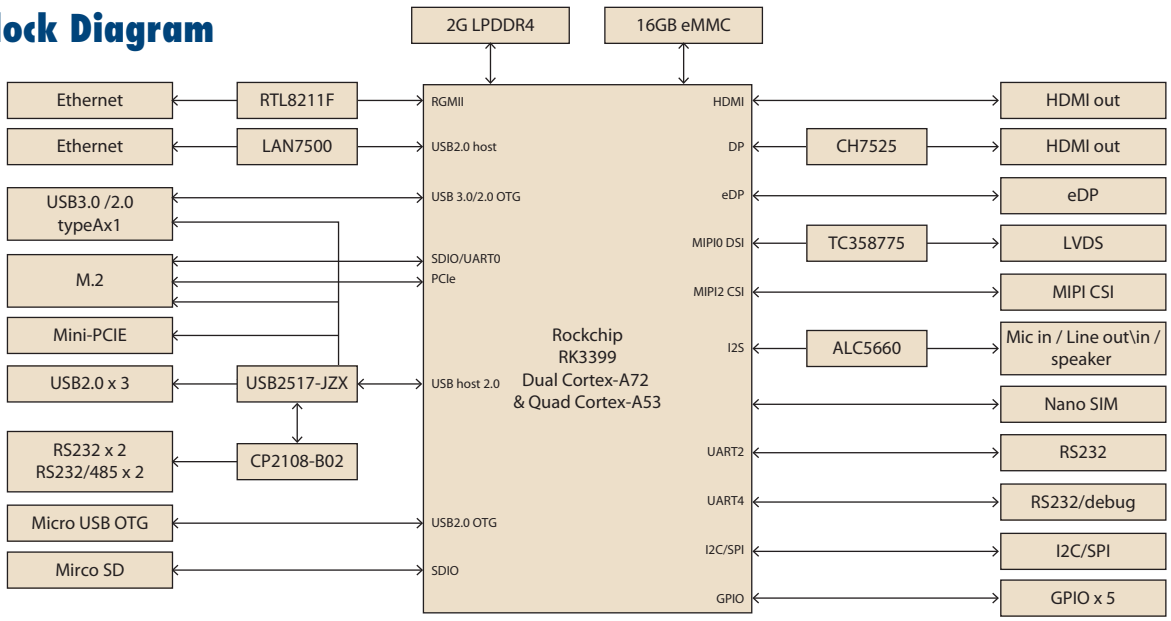
RSB-4710 is a RISC 3.5" single board computer (SBC) powered by a high-performance Rockchip RK3399 ARM dual Cortex-A72 and quad Cortex-A53 high performance processor which supports 4K display from HDMI. It offers both multiple display as dual HDMI/LVDS/eDP and multiple IO as dual GbE/6 x serials/6 x USB/5 x GPIO. RSB-4710 also features Mini-PCIe, M.2, and SIM card slots for integrating Wi-Fi, Bluetooth, and 3G/4G modules. It is an ideal solution for Kiosk, POS, and Vending machine application.

Specifications

Form Factor		3.5" SBC
Processor	CPU	Rockchip RK3399 ARM dual Cortex-A72 and quad Cortex-A53 1.8 GHz
Memory	Technology	LPDDR4 1333MHz
	Capacity	On-board LPDDR4 2GB
	Flash	16GB of eMMC NAND Flash for OS and Advantech's boot loader
Graphics	LVDS	1 x 18/24-bit LVDS with 1920 x 1200 for dual channels at 60Hz
	HDMI	2
	eDP	1, max 2.7Gbps
	Graphics Engine	OpenGL ES 1.1/2.0/3.1, OpenCL 1.1, DirectX 11
	H/W Video Codec	Decoder: MPEG-1, MPEG-2, MPEG-4, H.263, H.264, AVS, VC-1, VP8, MVC, HEVC/H.265 decoder, 4k@60FPS Encoder: H.264 (BP@level4.0, MP, HP@level4.0), MVC and VP8
Ethernet	Chipset	RTL8211FSI
	Speed	2 x 10/100/1000 Mbps
WatchDog Timer		Yes
I/O	SATA	-
	SATA Power	-
	USB	1 x USB OTG, 1 x USB3.0 & 1 x USB2.0 by TypeA, 3 x USB2.0 by pinheaders
	Audio	1 x Line out, 1 x Mic-in, 1 x line in, 1 x Speaker out via a pin header
	SPDIF	-
	SDIO	-
	Serial Port	1 RS232 w/2wire, by DB9 1 RS232 w/2Wire, by pin header, reused as debug port by jumper 2 RS232 by pin headers 2 RS232/485 by pin headers
	SPI	1, can be config to GPIO by SW
	CAN	-
	GPIO	5 x GPIO via pin header (3.3V TTL level)
	I²C	1, can be config to GPIO by SW
	System Bus	-
	Touch	-
	MIPI CSI	1
	Button	1 x reset button, 1 x power button via a pin header
Expansion	Mini PCIe	1 x Mini PCIe slot, w/USB
	SD Socket	1 x Micro SD slot
	SIM Slot	1 x SIM slot
	M.2 Socket	1 x M.2 2230 Key E slot, w/SIDO*UART*PCIe*USB
Power	Power Supply Voltage	12 V
	Power Type	DC-in
	Power Consumption	Boost 15W@12V
Environment	Operating Temperature	0 ~ 60 °C/-20 ~ 85 °C
	Operating Humidity	5 ~ 95% relative humidity, non-condensing
Mechanical	Dimensions (W x D)	146 x 102 mm
Operation System		Supports Debian9/10 and Android7.1/10.0
Certifications		CE/FCC Class B

研伟科技 15323776600

Block Diagram



Ordering Information

Part Number	CPU	Memory	Flash	HDMI	eDP	LVDS	LAN	Serial Port	SATA	USB	System Bus	SD	CAN Bus	Operating Temperature
RSB-4710CO-XNA1E	Rockchip RK3399	2GB	16GB	2	1	1	2	6	-	6	-	1	-	0 ~ 60 °C
RSB-4710WO-XNA1E	Rockchip RK3399K	2GB	16GB	2	1	1	2	6	-	6	-	1	-	-20 ~ 85 °C
RSB-4710CO-XLA1E	Rockchip RK3399	2GB	16GB	1	1	-	1	2	-	6	-	1	-	0 ~ 60 °C
RSB-4710WO-XLA1E	Rockchip RK3399K	2GB	16GB	1	1	-	1	2	-	6	-	1	-	20 ~ 85 °C

Packing List

Part Number	Description
RSB-4710	RSB-4710 3.5'' SBC with heatsink (PN 1970004538T011)

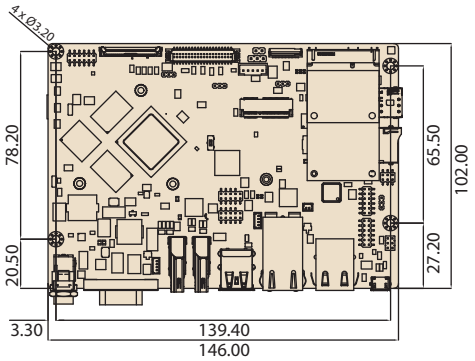
Optional Accessories

Part Number	Description
96PSA-A36W12R1-3	ADP A/D 100-240V 36W 12V C6 DC PLUG 90°
1702002605	Power Cord 3P EU 10A 250V 183cm
1702031801	Power Cord 3P UK 10A 250V 183cm
1702002600	Power Cord UL 3P 10A 125V 183cm
1700000237	Power Cord 3P PSE 183cm
1700009652	Power Cord CCC 3P 10A 250V 187cm
1700021565-01	Debug cable
1750007965-01	Antenna Cable R/P SMA (M) to MHF4, 300mm
1750008671-01	Dipole Ant.SMA/M-R 2.4/5G 2.5/4dBi BLK 109mm
EWM-W188M201E	WiFi 802.11ac/abgn 2T2R and BT4.2
EWM-C117FL06E*	LTE 4G,3G WCDMA/DC-HSPA+, 2G module, MPCI-L280H
968AD00479*	4G module LTE Cat 4 for China
1750006264	Antenna cable SMA(F)/MHF 15cm
1750008303-01	Antenna AN0727-64SP6BSM
SQF-MSDM1-8G-21C	SQF MICRO SD C10 MLC 8G (-25 ~ 85 °C)
IDK-1107WR-40WVA1E	7" LED PANEL 400N with 4WR touch, 800x480(G)
IDK-1121WR-30FHA1E	21.5",1920x1080,300nit,Part No. 97.21G01.001-S03
XUTC-B156XTN07.1	AUO 15.6", 1366 x 768, 220nits, for UTC project
1700031071-01	LVDS cable for IDK-1107WR
1700031103-01	DP cable for XUTC-B156XTN
1700031060-01	M cable D-SUB 9P(M)*2/2*6P, RS232/485x2
1700028482-01	F CABLE 2*6P, RS232 X2
1700031092-01	A cable 1*10P-1.0/D-SUB 9P(F), GPIO
1700031093-01	A cable 2*5P-2.0/JACK*2, line out & Mic
1700002172	A Cable 2*5P-2.0/USB-A 4P(F)*2, USBx2

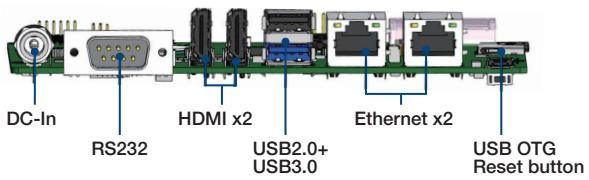
* Please contact us to get suitiable celluar module for your region.

Dimensions

Unit: mm



External I/O



Embedded Linux Support and Design-in Services

Hardware Certified Ubuntu and Yocto with Eco Partner Services

Linux is the most popular embedded OS for transportation, outdoor services, factory automation, and mission critical applications. Its open source and kernel reliability features ease security updates, and make it particularly adaptable to new AI and Edge computing technology. Advantech has cooperated with Canonical and other software partners to provide hardware certified Ubuntu image and Yocto BSP as Linux offerings. The Advantech, Embedded Linux, and Android Alliance (ELAA) delivers local software services and consultation.

Features

Certified OS and BSP	Licensed Services	Numerous AI and Edge Resources	Local Partner Alliance
• Platform compatibility tests • Preloaded functional driver and software stacks	• License authorized Canonical delivers 10-years of bug fixes and security updates • In-house bundled service	• Containerized technology for service provision and deployment • AI resources from Caffe, TensorFlow, and mxnet	• Embedded Linux and Android Alliance (ELAA)

WISE-DeviceOn

Massive IoT Device Management Utility

IoT deployment and management typically involves numerous disparate devices installed on multiple sites. These devices require effective monitoring, managing, and tracking. Advantech's easy-to-use WISE-DeviceOn interface enables users to remotely monitor device health, troubleshoot problems, and send software/firmware updates over-the-air (OTA). In sum, DeviceOn empowers quick real-time responsiveness to emerging problems.

Features

Comprehensive Management	Remote Access	Efficient Operations
• Devices status • Peripherals/firmware • Open for extension	• Real-time monitoring • Remote controls • Troubleshooting	• Zero-touch on-boarding • OTA updates • Batch control

Product Highlights

SOM-6883
High-performance 11th Gen Intel® COMe Type 6 Module

MIO-5375
Compact 11th Gen Intel® Outdoor Focused 3.5" SBC

EPC-B5587
10th Gen Intel® Xeon® based Edge server

EPC-R3220
Arm based IoT Edge Gateway