

# RSB-3720

## NXP i.MX8M Plus Cortex®-A53 2.5" SBC with UIO40-Express

**NEW**



### Features

- NXP Arm® Cortex®-A53 i.MX8M Plus Quad/Dual up to 1.8 GHz
- Onboard LPDDR4 4 GB/ 6 GB, 4000MT/s memory
- HDMI 1920x1080 at 60Hz, 1 Single or 1 Dual Channel 24 bit LVDS (or 1 4-Lane MIPI-DSI by BOM Option)
- 1 4-wire RS-232/422/485, 1 USB3.2 Gen1 By 1, 1 USB2.0, 1 Micro SD, 1 Mic. in / Line out
- 1 mini-PCIe for 3G/4G, 1 M.2 2230 Key E Slot
- Supports Yocto Linux and Android
- Support I/O Expansions by UIO40-Express I/O boards, please refer to page #3 for more information

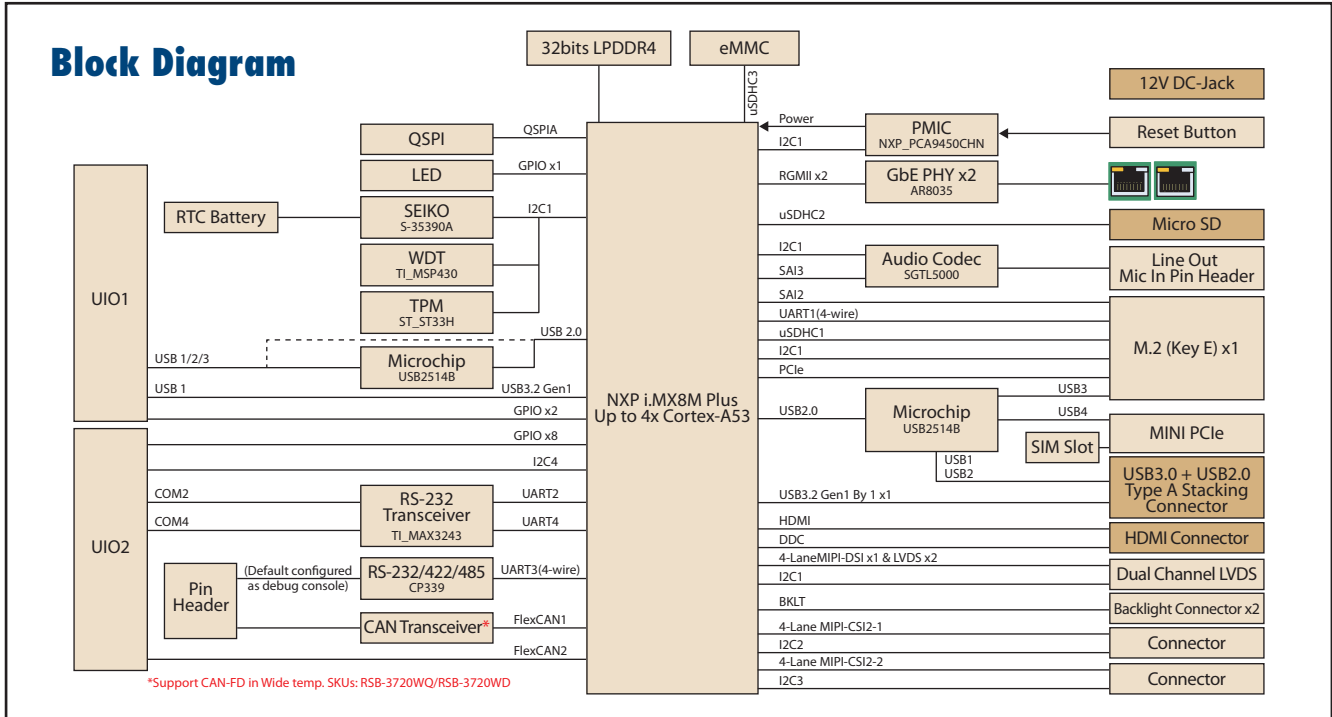


### Specifications



Form Factor		2.5" SBC with UIO40-Express for I/O Expansions
Processor System	CPU	NXP i.MX8M Plus Cortex-A53 Quad/Dual core (up to 1.8GHz)
Memory	Technology	LPDDR4 4000MT/s
	Capacity	On-board 4 GB / 6 GB
	Flash	16 GB eMMC Flash for O.S. and 8 MB QSPI NOR Flash for board information
NPU	NPU	2.3 TOP/s Neural Network Performance (Support AI models based on Tensorflow Lite and armNN Framework)
Graphics	HDMI	1 HDMI 2.0a, up to 3840 x 2160 at 30Hz
	LVDS	1 Single Channel or 1 Dual Channel 24 Bit LVDS, Backlight power, 5/12V, Max. 1A
	MIPI-DSI	1 4-Lane MIPI-DSI (shared with LVDS connector) by BOM option
	Graphics Engine	GC7000UL with 2D/3D Graphic Acceleration supporting 1G Pixel/s, OpenVG 1.1, Open GL ES3.1, Vulkan, and Open CL 1.2 FP.
	H/W Video Codec	Decoder: 1080p60 HEVC/H.265 Main, VP9 Profile 0/2, VP8, AVC/H.264 Baseline/Main/High Encoder: 1080p60 AVC/H.264, HEVC/H.265
Ethernet	Chipset	NXP i.MX8M Plus integrated RGMII
	Speed	2 10/100/1000 Mbps
WatchDog Timer	WatchDog Timer	1~6553s, power on/off 4s
I/O	USB	1 USB3.2 Gen1 By 1 Host, 1 USB2.0 Host
	Audio	1 Mic. in / Line out by pin header
	CAN	1 CANbus for RSB-3720CQ/CD or 1 CAN-FD for RSB-3720WQ/WD by COM1 pin header*
	Serial Port	1 4-wires RS-232/422/485 by COM1 pin header* (default configured as debug console)
	Camera Input	2 4-Lane MIPI-CSI2
	UIO40-Express	1 USB3.2 Gen1 By 1, 3 USB2.0, 10 GPIO, 2 UART (one shared with debug console), 1 CANbus, 1 I2C
Indicator	LED	1 Power LED
		1 Programmable LED
Expansion	Mini PCIe	1 Full Size Mini PCIe Slot (USB Signal Only)
	M.2	1 M.2 2230 Key E Slot (USB/PCIe/SDIO/UART/I2S)
	SD Socket	1 Micro SD Socket
	SIM Slot	1 Nano SIM Slot
Power	Power Supply Voltage	+12 V
	Power Type	Lockable DC-Jack (2pin type connector by BOM option)
	Power Consumption	7.13W
Environment	Operating Temperature	0 ~ 60 °C / -40 ~ 85 °C
	Operating Humidity	5%~95% Relative humidity, non-condensing
Mechanical	Dimensions	100 x 72 x 19 mm
	Weight	0.05kg
Operation System		Yocto Linux & Android
Certifications		CE/FCC Class B

\*COM1 pin header shared by serial port and CANbus



## Ordering Information

Part No.	CPU	Memory	Flash Memory	HDMI	LVDS	LAN	USB Host	SD	CANbus	Operating Temperature
RSB-3720CD-BCA1E	NXP i.MX8M Plus Dual 1.8 GHz	4 GB	16 GB	1	2	2	2	1	2	0 - 60 °C
RSB-3720WD-BCA1E	NXP i.MX8M Plus Dual 1.6 GHz	4 GB	16 GB	1	2	2	2	1	2 (1 with CAN-FD)	-40 - 85 °C
RSB-3720CQ-ACA1E	NXP i.MX8M Plus Quad 1.8 GHz	6 GB	16 GB	1	2	2	2	1	2	0 - 60 °C
RSB-3720WQ-ACA1E	NXP i.MX8M Plus Quad 1.6 GHz	6 GB	16 GB	1	2	2	2	1	2 (1 with CAN-FD)	-40 - 85 °C

## Packing List

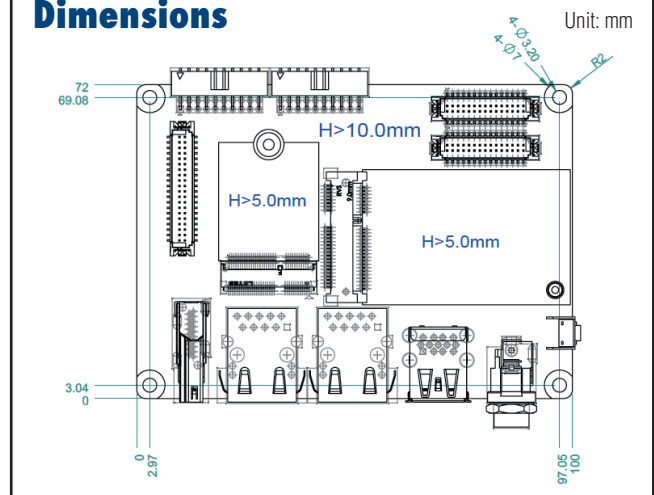
Part Number	Description
RSB-3720	RSB-3720 2.5" SBC with Heat Sink

## Optional Accessories

Part Number	Description
96PSA-A36W12W7-5	ADP A/D 100-240V 36W 12V C6 LOCK DC JACK 62368
1700001524	Power Cord 3P UL 10A 125V 180cm
170203183C	Power Cord 3P Europe (WS-010+WS-083) 183cm
170203180A	Power Cord 3P UK 2.5A/3A 250V 1.83M
1700008921	Power Cord 3P PSE 183cm
1700009652	Power Cord CCC 3P 10A 250V 187cm
TBD	UIO20 extending cable of RSB-3720 for 3USB&2GPIO
1700030307-01	UIO40 extending cable of RSB-3430, 3COM&8GPIO
1700031429-01	Line out cable
1700026878-01	Mic. in cable
1700100250	Debug Cable 10P-2.0/D-SUB 9P(M) 25CM
1700019474	RS-232 Cable DB9 female to DB9 female
96LEDK-A070VW40NB1	LVDS 7" Panel G070VW01 V0 (VDD: 3.3V, Backlight Power: 12V)
1700021883-01	LVDS Cable
1700032155-01	LVDS BKLK Cable
EWM-W163M201E	802.11 a/b/g/n/ac, QCA6174A, 2T2R, w/BT4.1, M.2 2230
1750008717-01	Dipole Ant. D.B 2.4/5G WIFI 3dBi SMA/M-R BLK
1750007965-01	Antenna Cable R/P SMA (M) to MHF4, 300mm
EWM-C117FL06E*	LTE 4G,3G WCDMA/DC-HSPA+, 2G module, MPC1-L280H
1750008303-01	Antenna AN0727-64SP6BSM
1750006009	Antenna Cable SMA (F) to MHF 1.32 25cm

\* Please contact us to get suitable cellular module for your region.

## Dimensions



## Front I/O on RSB-3720



# Compatible I/O Expansion Boards

## UIO-4030

1 x RS-485  
1 x RS-232  
1 x 4 DIs & 4 DOs



CEFC

### Specifications

General	
USB	–
RS-232	1 x 2 wires RS-232
RS-485	1 x RS-485
GPIO	4 DIs, 4 DOs (2.5-24V)
CAN Bus	–
GbE	–
Dimension	146 x 31 x 22 mm
Environment	
Weight	180g
Operating Humidity	5 ~ 95% relative humidity, non-condensing
Operating Temperature	-40 ~ 85 °C
Storage Temperature	-40 ~ 85 °C and 60 °C @ 95% RH Non-Condensing

### Ordering Information

P/N	Description
UIO-4030	UIO-4030, 1 RS232, 4 DIs, 4 DOs, 1 RS-485

## UIO-4032

1 x GbE  
2 x USB2.0  
2 x RS-232



CEFC

### Specifications

General	
USB	2 x USB 2.0
RS-232	2 x 2 wires RS-232
RS-485	–
GPIO	–
CAN Bus	–
GbE	1 x GbE
Dimension	146 x 31 x 22 mm
Environment	
Weight	200g
Operating Humidity	5 ~ 95% relative humidity, non-condensing
Operating Temperature	-40 ~ 85 °C
Storage Temperature	-40 ~ 85 °C and 60 °C @ 95% RH Non-Condensing

### Ordering Information

P/N	Description
UIO-4032	UIO-4032, 1 GbE, 2 USB, 2 RS-232

## UIO-4034

1 x CAN bus  
2 x RS-232



CEFC

### Specifications

General	
USB	–
RS-232	2 x 2 wires RS-232
RS-485	–
GPIO	–
CAN Bus	1 x CAN bus 2.0B, 1 Mbps
GbE	–
Dimension	146 x 31 x 22 mm
Environment	
Weight	180g
Operating Humidity	5 ~ 95% relative humidity, non-condensing
Operating Temperature	-40 ~ 85 °C
Storage Temperature	-40 ~ 85 °C and 60 °C @ 95% RH Non-Condensing

### Ordering Information

P/N	Description
UIO-4034	UIO-4034, 1 CAN, 2 RS-232

## Compatible Main Boards

Part No.	Description
RSB-3430XD-PXA1E*	RSB-3430 NXP i.MX6 Series 2.5" UIO Main Board
RSB-3720XX-XCA1E*	RSB-3720 NXP i.MX8M Plus Series 2.5" UIO Main Board
RSB-3710XX-XXA1E*	RSB-3710 Rockchip RK3399 Series 2.5" UIO Main Board

\*X indicates different configurations, please refer to each main board's datasheet for complete P/N to order.

# UIO-4036

4 x GbE



## Specifications

General	
USB	–
RS-232	–
RS-485	–
GPIO	–
CAN Bus	–
GbE	4 x GbE
Dimension	146 x 31 x 20 mm
Environment	
Weight	200g
Operating Humidity	5 ~ 95% relative humidity, non-condensing
Operating Temperature	-40 ~ 85 °C
Storage Temperature	-40 ~ 85 °C and 60 °C @ 95% RH Non-Condensing

## Ordering Information

P/N	Description
UIO-4036	UIO-4036, 4 GbE

## Compatible Main Boards

Part No.	Description
RSB-3430XD-PXA1E*	RSB-3430 NXP i.MX6 Series 2.5" UIO Main Board
RSB-3720XX-XCA1E*	RSB-3720 NXP i.MX8M Plus Series 2.5" UIO Main Board
RSB-3710XX-XXA1E*	RSB-3710 Rockchip RK3399 Series 2.5" UIO Main Board

\*X indicates different configurations, please refer to each main board's datasheet for complete P/N to order.