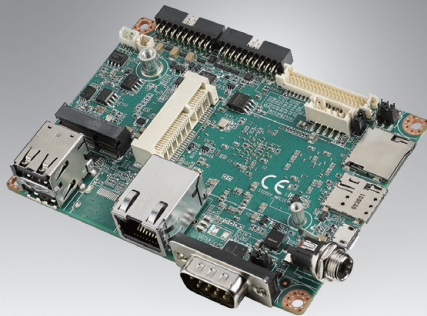


# RSB-3730

## NXP iMX 8M Mini Cortex-A53 2.5" SBC

Preliminary



### Features

- NXP i.MX 8M Mini Cortex-A53 Quad core up to 1.8GHz
- Onboard LPDDR4 2/4 GB
- 1 HDMI or 1 Dual Channel 24 bit LVDS by bom option
- Up to 5 USB2.0, 1 USB OTG, 2 RS232, 1 RS232/485, 8 GPIO, 1 I2C
- 1 GbE, 1 Mini-PCIE , 1 M.2
- Supports Yocto and Andorid
- Support I/O Expansions by UIO40-Express I/O boards, please refer to page #3 for more information



### Introduction

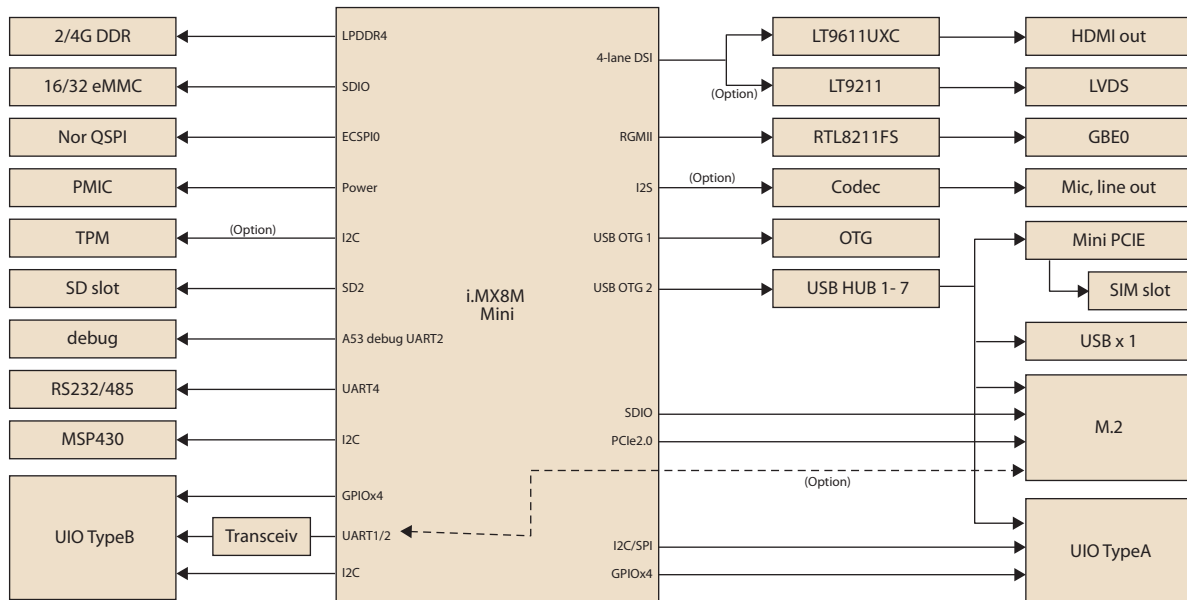
RSB-3730 is a RISC 2.5" single board computer (SBC) powered by aNXP iMX 8M Mini Cortex-A53 Quad high performance processor. It offers both rich display as HDMI/LVDS and rich IO as 1 GbE/3 serials/5 USB/8GPIOs. RSB-3730 also features Mini-PCle for LTE and M.2 for WiFi/BT solution. It is an ideal solution for healthcare, security, IOT gateway and Vending machine application.



### Specifications

|                  |                       |                                                                                                    |
|------------------|-----------------------|----------------------------------------------------------------------------------------------------|
| Form Factor      |                       | 2.5" SBC                                                                                           |
| Processor System | CPU                   | NXP i.MX 8M Mini Cortex-A53 Quad core up to 1.8GHz                                                 |
| Memory           | Technology            | LPDDR4 1333MHz                                                                                     |
|                  | Capacity              | On-board 2/4 GB                                                                                    |
|                  | Flash                 | 16GB of eMMC NAND Flash for OS and Advantech's boot loader                                         |
| NPU              | NPU                   | -                                                                                                  |
| Graphics         | HDMI                  | 1 HDMI 2.0                                                                                         |
|                  | LVDS                  | 1 Dual Channel 18/24 Bit LVDS, Backlight power, 5/12V, Max. 1A (shared with HDMI, default as HDMI) |
|                  | Graphics Engine       | Vivante GC320, GC NanoUltra 3D GPU<br>Support OpenGL ES 2.0, VG 1.1                                |
|                  | H/W Video Codec       | Decoder: 1080p60 H265, VP9;1080p60 H264, VP8<br>Encoder: 1080p60 H.264, VP8                        |
| Ethernet         | Chipset               | RTL8211FS                                                                                          |
|                  | Speed                 | 1 10/100/1000 Mbps                                                                                 |
| WatchDog Timer   | WatchDog Timer        | Yes                                                                                                |
| I/O              | USB                   | 2 x USB2.0 by typeA, 1 x USB OTG                                                                   |
|                  | Audio                 | 1 Mic. in / Line out by pin header (option)                                                        |
|                  | CAN                   | -                                                                                                  |
|                  | Serial Port           | 1 x RS232 for debug<br>1 x RS232/485                                                               |
|                  | Camera Input          | -                                                                                                  |
|                  | UIO40-Express         | 3 USB2.0, 2 RS232, 2 I2C, 8 GPIOs                                                                  |
| Indicator        | LED                   | 1 Power LED                                                                                        |
| Expansion        | Mini PCIe             | 1 Full Size Mini PCIe Slot (with USB)                                                              |
|                  | M.2                   | 1 E-Key 2230, w/ SDIO & UART&PCIE &USB signal                                                      |
|                  | 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     | TBD                                                                                                |
| 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 |                       | Yocto3.0, and Android                                                                              |
| Certifications   |                       | CE/FCC Class B                                                                                     |

## Block Diagram



## Ordering Information

| Part No.         | CPU                    | Memory | Flash Memory | HDMI | LVDS | LAN | USB Host | SD | CANbus | Operating Temperature |
|------------------|------------------------|--------|--------------|------|------|-----|----------|----|--------|-----------------------|
| RSB-3730CO-XNA1E | iMX8M Mini Quad 1.8GHz | 2 GB   | 16 GB        | 1    | -    | 1   | 5        | 1  | -      | 0 ~ 60 °C             |
| RSB-3730WO-XNA1E | iMX8M Mini Quad 1.6GHz | 2 GB   | 16 GB        | 1    | -    | 1   | 5        | 1  | -      | -40 ~ 85 °C           |

## Packing List

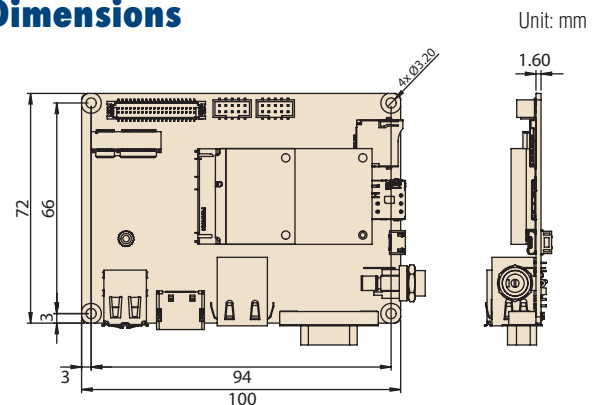
| Part Number | Description       |
|-------------|-------------------|
| RSB-3730    | RSB-3730 2.5" SBC |

## Optional Accessories

| Part Number      | Description                                   |
|------------------|-----------------------------------------------|
| 96PSA-A36W12R1-3 | ADP A/D 100-240V 36W 12V C6 DC PLUG 90° 62368 |
| 1700031429-01    | Line out cable                                |
| 1700026878-01    | Mic. in cable                                 |
| 1702002605       | Power Cord 3P EU 10A 250V 183cm               |
| 1700008921       | Power Cord 3P PSE 183cm                       |
| 1702031801       | Power Cord 3P UK 10A 250V 183cm               |
| 1702002600       | Power Cord UL 3P 10A 125V 183cm               |
| 1700009652       | Power Cord CCC 3P 10A 250V 187cm              |
| SQF-MSDM1-8G-21C | SQF MICRO SD C10 MLC 8G (-25 ~ 85 °C)         |

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

## Dimensions



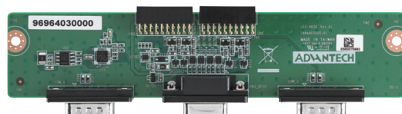
## Front I/O on RSB-3730



# Compatible I/O Expansion Boards

## UIO-4030

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



CE FCC

## UIO-4032

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



CE FCC

## UIO-4034

1 x CAN bus  
2 x RS-232



CE FCC

### 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 |

### 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 |

### 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.