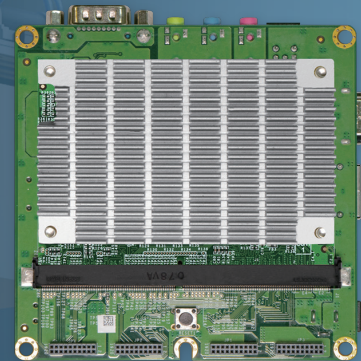


# Wandboard-IMX6

- low cost open source community development board



## Specifications

### Core System

|                          |                                                        |
|--------------------------|--------------------------------------------------------|
| Processor                | NXP i.MX6 Solo<br>NXP i.MX6 DualLite<br>NXP i.MX6 Quad |
| Architecture             | ARM Cortex-A9                                          |
| PMIC                     | NXP MMPF0100                                           |
| Memory                   | Up to 2GB DDR3                                         |
| Storage                  | MicroSD                                                |
| Board-to-Board Connector | EDM connector (314-pin MXM3)                           |
| System on Module         | EDM SOM                                                |
| Debug Interface          | JTAG Interface by Through-hole                         |

### Connectivity

|             |                                                                       |
|-------------|-----------------------------------------------------------------------|
| Network LAN | 1x Realtek RTL8211                                                    |
| Wi-Fi       | Qualcomm Atheros QCA9377<br>Wi-Fi 5 – 802.11 a/b/g/n/ac<br>(optional) |
| Bluetooth   | Qualcomm Atheros QCA9377<br>Bluetooth (optional)                      |
| Antenna     | MHF4 connector (optional)                                             |

### Signaling

|     |                                                                                          |                                                                                            |
|-----|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| I/O | HDMI<br>LVDS<br>RGB TTL<br>LAN<br>MIPI CSI<br>MIPI DSI<br>PCIe<br>SATA<br>USB<br>USB OTG | I <sup>2</sup> S<br>SPDIF<br>SDIO<br>CAN<br>UART<br>SPI<br>I <sup>2</sup> C<br>PWM<br>GPIO |
|-----|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|

### Video

|              |                                                                                                                 |
|--------------|-----------------------------------------------------------------------------------------------------------------|
| GPU Engine   | Vivante GC2000 (Quad)<br>Vivante GC320 (2D Composition)<br>Vivante GC520L (2D)<br>Vivante GC880 (Solo/DualLite) |
| Video decode | 1080p30 + D1 (Solo/DualLite)<br>1080p60 H.264 (Quad)                                                            |
| Video encode | 1080p30 H.264                                                                                                   |
| Camera       | MIPI CSI (4 lanes)                                                                                              |

### Audio

|                  |                                                                                                                 |
|------------------|-----------------------------------------------------------------------------------------------------------------|
| Audio Codec      | On carrier board                                                                                                |
| Audio Interface  | I <sup>2</sup> S (2 channel)<br>S/PDIF                                                                          |
| Audio Connectors | 1x 3.5mm jack Microphone<br>1x 3.5mm jack Stereo Audio in<br>1x 3.5mm jack Stereo Audio out<br>S/PDIF (optical) |

### Power Specifications

|                   |                            |
|-------------------|----------------------------|
| Power Input       | 5V DC +/-5%                |
| Power Consumption | Depending on Configuration |
| Power Connector   | DC Jack                    |

## Operation Systems

|                  |                                     |
|------------------|-------------------------------------|
| Standard Support | Linux<br>Yocto<br>Android<br>Ubuntu |
| Extended Support | Commercial Linux                    |

## External Connectors

|                  |                                   |
|------------------|-----------------------------------|
| External Display | 1x HDMI                           |
| Network          | 1x RJ45                           |
| USB              | 1x USB 2.0 Host<br>1x USB 2.0 OTG |
| Serial Port      | 1x RS-232                         |
| Buttons          | 1x Reset                          |
| SD Cardslot      | 1x MicroSD Card Slot              |

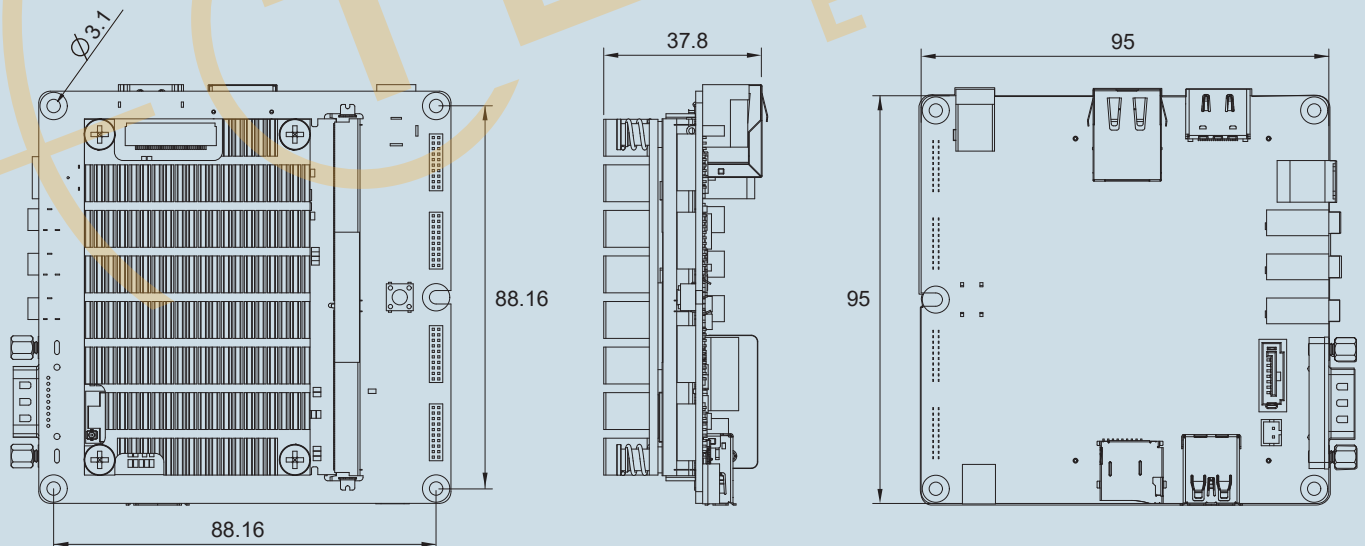
## Environmental and Mechanical

|                       |                               |
|-----------------------|-------------------------------|
| Form Factor           | EDM Type 1                    |
| Dimensions            | 95 (W) x 95 (H) x 37.8 (D) mm |
| Relative Humidity     | 10 to 90 %                    |
| MTBF                  | 100,000+ Hours                |
| Shock                 | 15G half-sine 11 ms duration  |
| Operation Temperature | Commercial: 0° to +60° C      |
| Vibration             | 1 Grms random 5-500Hz hr/axis |
| Weight                | 75 grams                      |

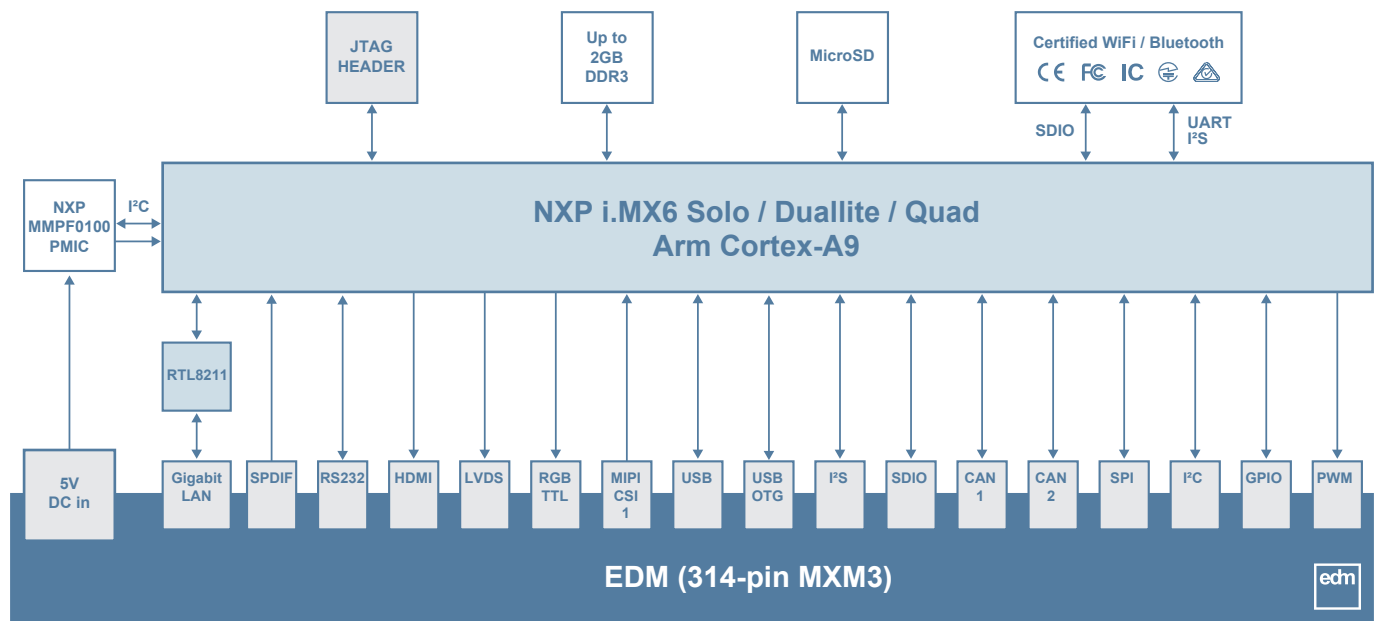
## Certification and Compliance

|                       |                                                               |
|-----------------------|---------------------------------------------------------------|
| USA                   | FCC ID: 2AKZA-QCA9377                                         |
| Canada                | IC: 22364-QCA9377                                             |
| European Union        | EN 300 328 v2.2.2<br>EN 301 893 v2.1.1<br>EN 55032 / EN 55024 |
| Japan                 | TELEC: 201-180629                                             |
| Australia/New Zealand | RCM Compliant                                                 |
| Bluetooth Logo        | QDID 150839 (Bluetooth 4.2)<br>QDID 193238 (Bluetooth 5)      |
| Certification         | Compliant with RoHS / REACH directives                        |

## Dimensions (units in mm)



## Block Diagram



## Ordering Information

| Model Name    | Description              |
|---------------|--------------------------|
| WB-IMX6S-9377 | Wandboard i.MX6 Solo     |
| WB-IMX6U-9377 | Wandboard i.MX6 DualLite |
| WB-IMX6Q-9377 | Wandboard i.MX6 Quad     |
| WBENCLOSURE   | Wandboard enclosure      |
| WBANTENNAKIT  | Wandboard antenna kit    |
| CAM-OV5645    | Camera module            |

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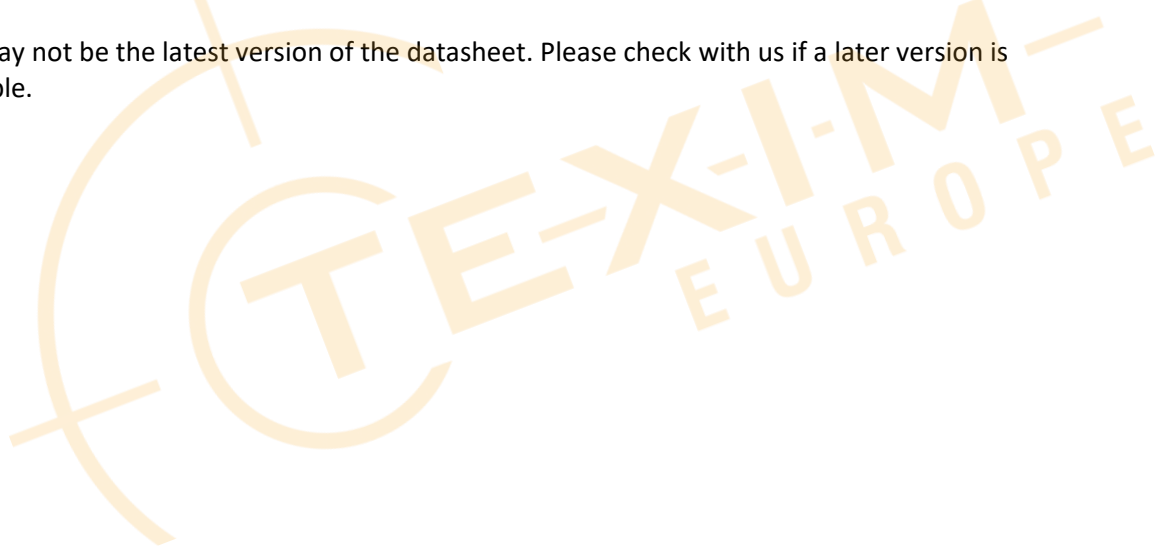
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Please contact us if you have any questions about the contents of the datasheet.

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