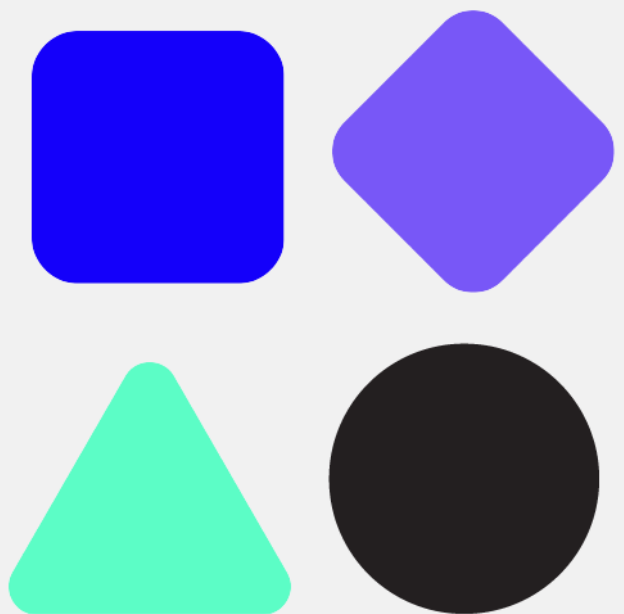


mistywest

# MistyCarrier Board Product Brief

*MW-V2L-G2L-I-WWB-V0*

*Last Updated: Oct 27, 2023*



## Overview

The **MistyCarrier** board (MW-V2L-G2L-I-WWB-V0) is built as an accessory to **MistySOM-G2L** (MW-V2L-E32G-D2G-I-WX-V0) and **MistySOM-V2L** (MW-G2L-E32G-D2G-I-WX-V0) in order to provide a platform that allows easy accessibility to a variety of interfaces.

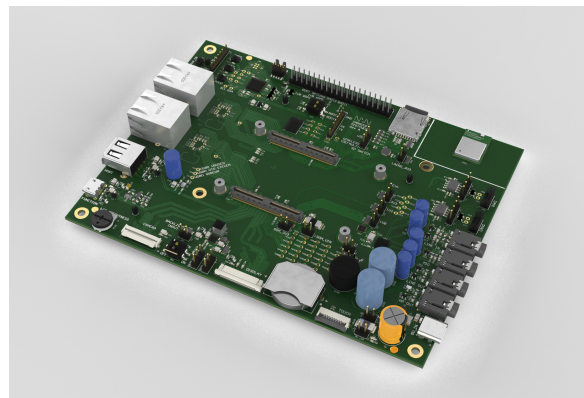
The MistyCarrier board enables a simple, quick and cost effective way to start development of customized solutions without taking risks associated with the spin-up of tailor-made development platforms. Designed with low power in mind, it includes sense resistors for measuring system currents and jumpers to disable interfaces.

## Key Features

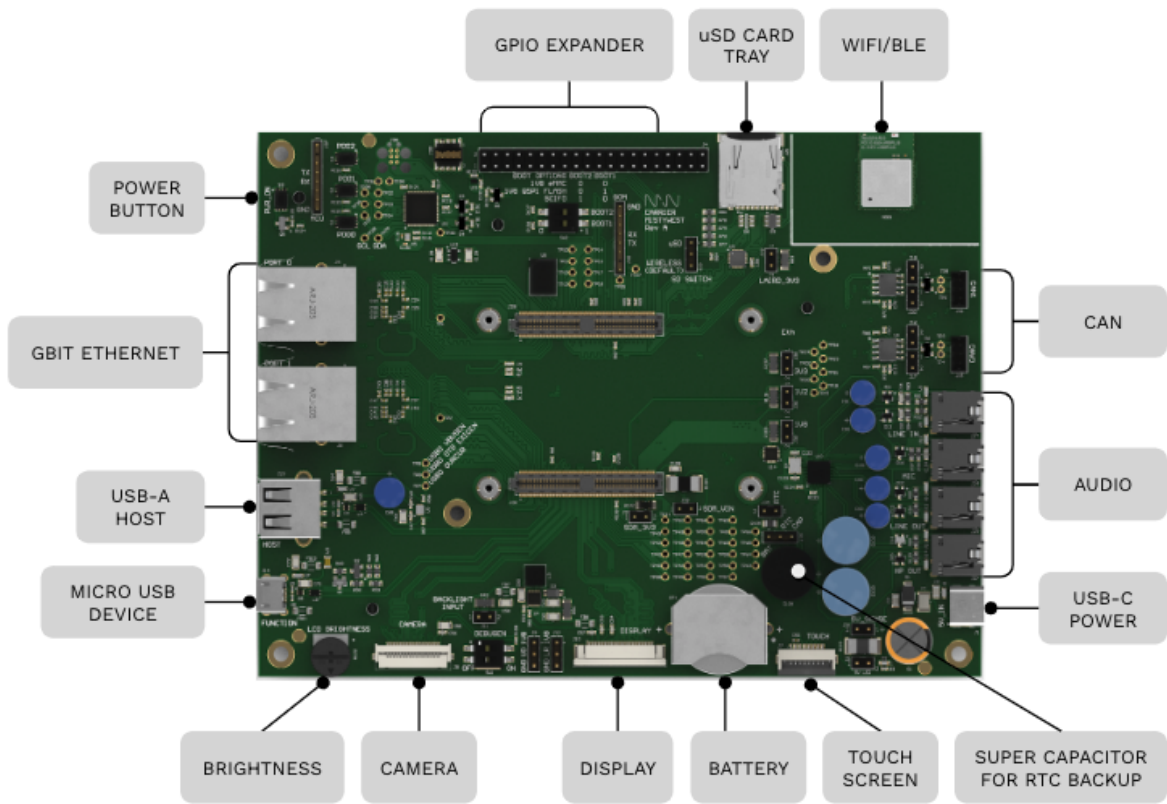
Rated for industrial temperature ratings, the MistyCarrier board features a 5V USB-C connector to supply power to MistySOM that plugs-in via high speed board-to-board connectors on top. A variety of interfaces are exposed and easily accessible via connectors or standardized 2.54mm headers.

Due to the high quiescent current of the PMICs on the SOM, an MCU was added to MistyCarrier to allow a true low power sleep state for the whole system. The platform should be at or below the self discharge rate of standard lithium batteries.

Get started with [the MistySOM Wiki](#). Altium design files are available upon request.



# MistyCarrier Board Connectors



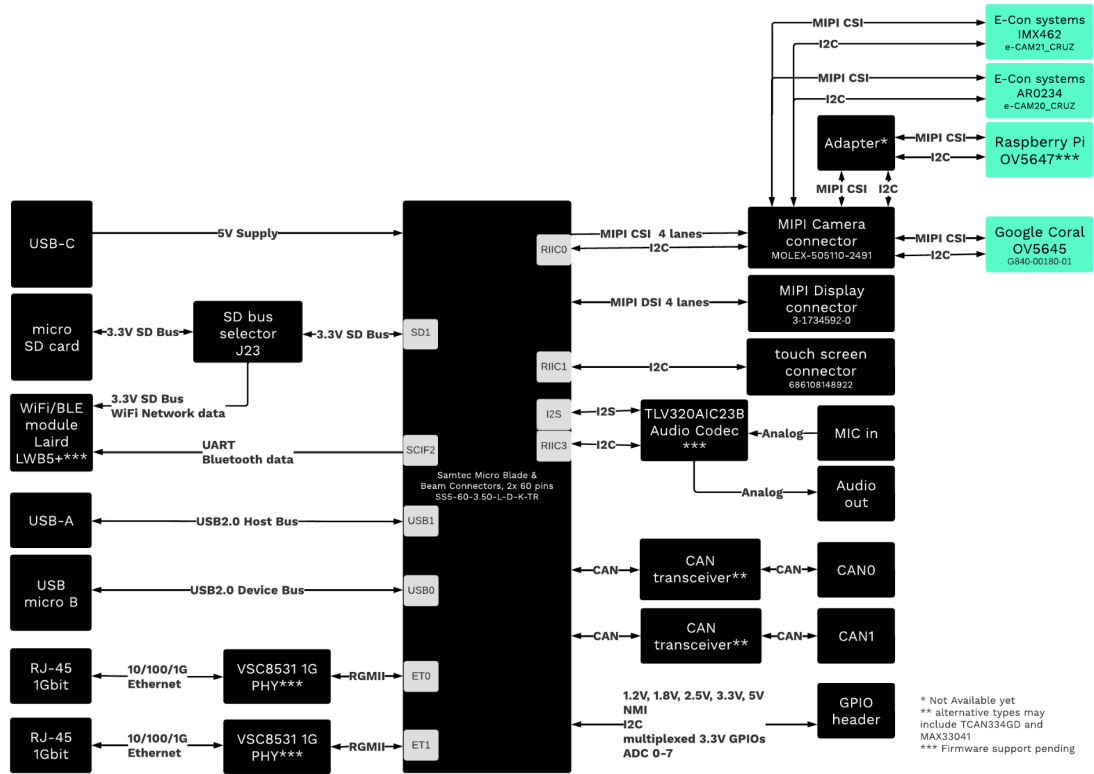
# MW-V2L-G2L-I-WWB-V0 Specifications

Type	Specification
Temp. Range	-40 to 85°C
Dimensions	160 x 120 x 19.7 mm
Ethernet	2x Ethernet PHY 10M/100M/1G
USB	USB-A (USB 2.0) Host Micro USB, Type B (USB2.0) Device
Wireless	WiFi 5 (802.11a/b/g/n/ac 2.4GHz, 5GHz) and Bluetooth® v5.0
SD Card	MicroSD™ Card Connector
Headers	40 pin 2.54mm GPIO header
Video	MIPI-CSI for camera MIPI-DSI for display 8 pin FPC connector for touch screen
CAN-FD	2x 3 pin 3.5mm, 3 side shrouded PCB Molex headers
Audio	Can be added on request
Power	5V over USB-C (comp. with RaspberryPi 4 power adapters)*

## Environmental Specifications

Type	Specification
Power in	15W, 5V/3A over USB-C (comp. with RaspberryPi 4 power adapters)
Temperature Rating	Industrial -40 - +85C

# MW-V2L-G2L-I-WWB-V0 BLOCK DIAGRAM

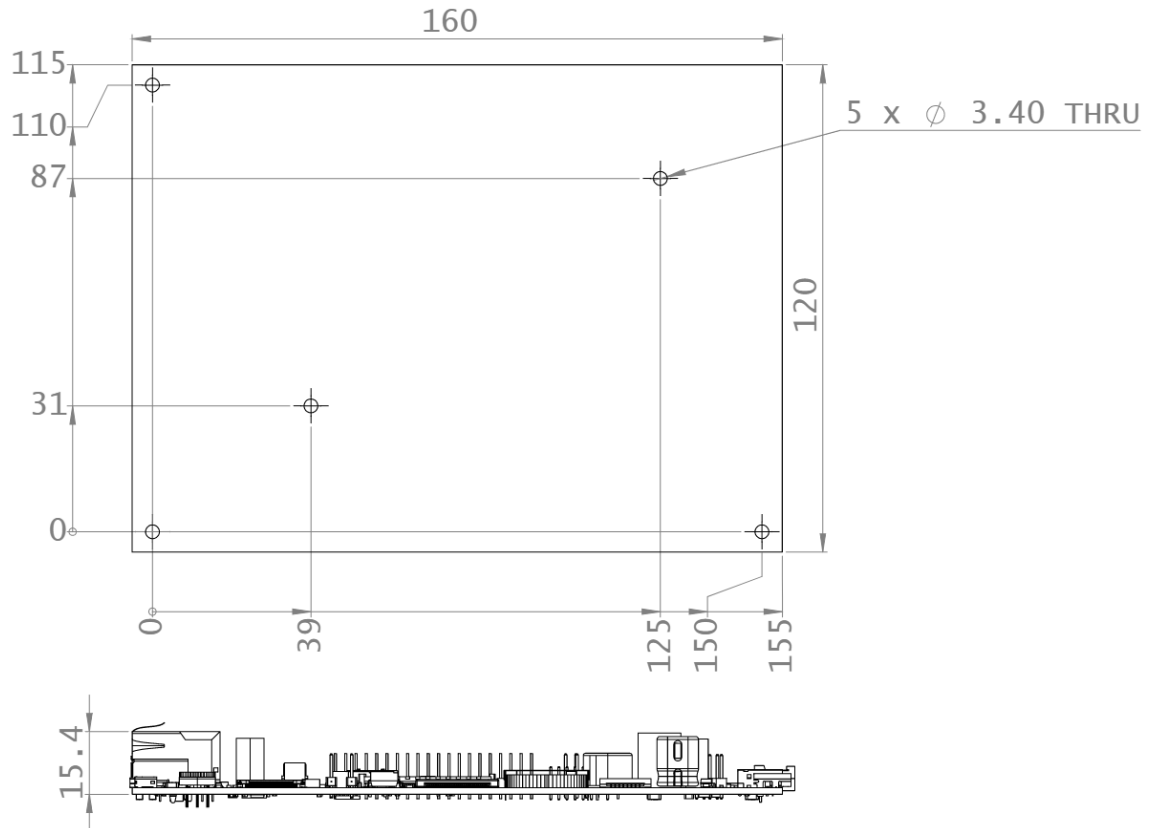


# Connectors and Interfaces

Type	Specification
<b>Ethernet</b>	2x RJ-45 connector
<b>Audio</b>	1x 3.5mm Microphone 1x 3.5mm Headphone 1x 3.5mm line-in (not populated by default) 1x 3.5mm line-out (not populated by default)
<b>CAN</b>	2x 3 pin 3.5mm, 3 side shrouded PCB Molex headers
<b>USB</b>	USB-A (USB 2.0) Host Micro USB, Type B (USB 2.0) Device
<b>SD Card</b>	Micro SD Memory Card Connector
<b>Headers</b>	40 pin 2.54mm GPIO headers, featuring multiplexed functionalities including: <ul style="list-style-type: none"> <li>• 13x 3.3V GPIO</li> <li>• 8x dedicated analog inputs (12 bit ADC)</li> <li>• 1x NMI (non maskable interrupt)</li> <li>• 2x I<sup>2</sup>C (1x shared with touch screen - when used)</li> <li>• 1x SPI</li> <li>• 3x UART (1x shared with BLE module)</li> </ul>
<b>debug pad (IOs)</b>	28 pin debug pads featuring multiplexed functionalities: <ul style="list-style-type: none"> <li>• 24 bit Parallel LCD bus interface</li> <li>• 28x 3.3V GPIO</li> <li>• 5x IRQ inputs (IRQ7 shared with Power Management MCU)</li> </ul>
<b>Video</b>	24 pin MIPI-CSI FPC Connector (comp. with Google Coral cam) 30pin MIPI-DSI FPC Connector 8 pin touch screen connector (shares RIIC1 I <sup>2</sup> C interface)
<b>Debug</b>	<ul style="list-style-type: none"> <li>• 2mm 8 pin UART debug header</li> </ul>
<b>Jumpers</b>	<ul style="list-style-type: none"> <li>• To activate/deactivate the power LED</li> <li>• To vertically flip the image on the LCD</li> <li>• To horizontally flip the image on the LCD</li> <li>• To switch between active WiFi/BLE or SD Card module</li> <li>• To enable standby power from a lithium battery (when populated) or the default super capacitor</li> <li>• Multiple measurement points at key locations to probe power consumption</li> </ul>
<b>Dip Switches</b>	<ul style="list-style-type: none"> <li>• Boot selector, used to select the active boot device <ul style="list-style-type: none"> <li>- eMMC</li> <li>- QSPI</li> <li>- SCIF</li> </ul> </li> </ul>

# Physical Specifications

Above: Size and mounting holes of MistySOM Carrier board (in mm)  
(NOTE: INNER HOLE POSITIONS SUBJECT TO CHANGE BEFORE START OF OFFICIAL CAMPAIGN)



# Learn More

## Distribution

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More information about ordering MistyCarrier can be found [on GroupGets](#).



## Media

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- [Surviving the Semiconductor Shortage on SoMs](#) - Embedded Computing Design
- [MistySOM Renesas RZ/G2L or RZ/V2L SoM and devkit goes for \\$112 and up](#) - CNX Software
- [MistySOM: The Ultimate Low Power Computer Vision SOM by MistyWest](#) - GroupGets (YouTube)
- [How to Cross The Embedded Computing Valley of Death](#) - IoT One / Industrial IoT Spotlight
- [Embedded Vision and Connected Intelligence for IoT](#) - Industry40TV (YouTube)

## Get In Touch

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