

## iG-RainboW-G50G

# Edge Industrial Gateway

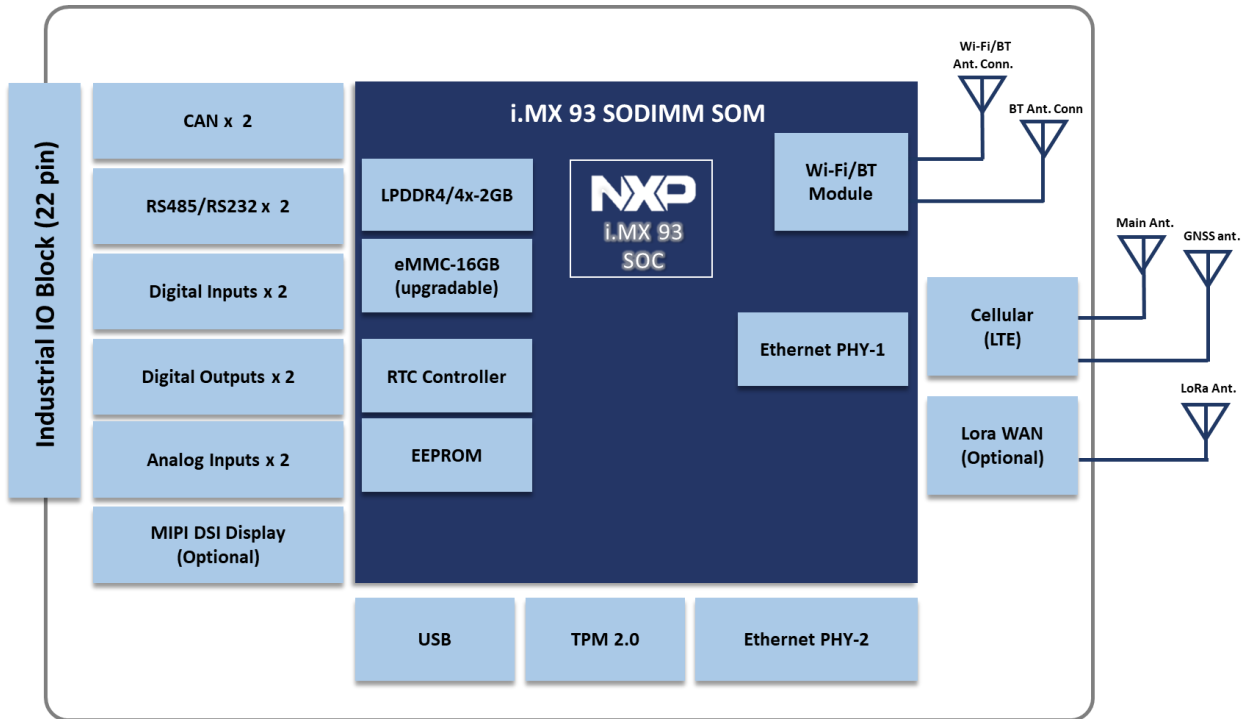
i.MX93-based Edge Industrial Gateway is an ideal solution for industrial applications, offering a rich set of features including dual gigabit Ethernet ports, software configurable RS232/RS485, dual CAN, and various wireless connectivity options such as LTE, Wi-Fi, all complemented by an integrated hardware secure element. It also supports the development of customized software tailored to specific needs. Powered by the high-performance i.MX93 processor, the Gateway Device runs a robust Linux kernel, providing APIs for seamless integration with various peripherals, sensors, and connectivity modules.



## Highlights

- ❖ i.MX 93 Dual with 64bit ARM v8.2-A architecture
- ❖ Wide range of connectivity options: LTE Cat 1/Cat 4, Wi-Fi6
- ❖ CAN, RS232/RS485
- ❖ Analog Inputs and UART
- ❖ High accuracy GNSS support
- ❖ Dual Gigabit Ethernet ports
- ❖ 8 Channel LoRaWAN Gateway
- ❖ Industrial protocols supported: Modbus, CAN
- ❖ Robust Enclosure with external Antennas

# Block Diagram



# Technical Specifications

CPU	i.MX 93, 2 x Cortex-A55 @1.7GHz
Memory	2GB LPDDR4X 16GB eMMC Flash µSD Card Slot 2Kbit EEPROM
Interfaces	<ul style="list-style-type: none"> <li>Dual Gigabit Ethernet Ports</li> <li>CAN x 2</li> <li>USB Host x 1</li> <li>RS232/RS485 x 2 (Full/Half duplex)</li> <li>Digital Input &amp; Digital Output x 2</li> <li>Analog Input x 2, RGMII x 2</li> <li>UART w/o Flow Control x 2</li> </ul>
GNSS	High precision GNSS, GPS
Industrial protocols support	Modbus, CAN, LoRaWAN <sup>1</sup>
Wireless Communication	<ul style="list-style-type: none"> <li>Cellular: LTE Cat 1/Cat 4<sup>4</sup></li> <li>Wi-Fi 802.11a/b/g/n/ac/ax</li> <li>8 Channel LoRaWAN Concentrator (865/915 MHz)<sup>1</sup></li> <li>Bluetooth 5.3<sup>3</sup></li> </ul>

Other Features	<ul style="list-style-type: none"> <li>TPM 2.0</li> <li>RTC Connector</li> <li>Debug Port</li> <li>LED Indicator: 1 x Power LED (Red), 3 x General Purpose LED (RGB)</li> <li>MIPI DSI Interface (4 Lane) x 1<sup>1</sup></li> </ul>
Antenna	4 SMA Connectors: 1 x LTE main, 1 x GNSS, 1 x Wi-Fi, 1 x BT <sup>3</sup>
Software	Operating System: Ubuntu 22.04.5 Network Communication: MQTT, CoAP, HTTP/HTTPS, FTP, UDP, BLE, Wi-Fi, Cellular (LTE), Ethernet
Security Suite	Secure Boot/ Storage Wi-Fi Security
Temperature Support	-40°C to +70°C (Operating Temperature)
Power Input	Power: 24V DC , 7.4V, 1000mAh Rechargeable Battery Back-Up
Enclosure	Protecting Class: IP20 Mounting Options: 50 x 50 VESA mount, M3 screws Dimension: 126 x 86 x 27 mm (Without Antenna)

<sup>1</sup> Optional Features: For more information, please contact the iWave sales team at [mktg@iwavesystems.com](mailto:mktg@iwavesystems.com).

<sup>2</sup> RS485 & RS232 are software selectable. Either RS485 or RS232 is supported.

<sup>3</sup> Bluetooth support can be provided with a single Ethernet configuration, as the UART and RGMII lines are multiplexed

<sup>4</sup> LTE Cat 4 can be supported by changing the part number

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[mktg@iwave-global.com](mailto:mktg@iwave-global.com)

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