

# Industrial IoT Gateway

## IOT-GATE-iMX8PLUS

Datasheet v.1



**IOT-GATE-iMX8PLUS is a powerful Industrial IoT Gateway PC based on the iMX8M Plus processor designed for IOT control and monitoring applications.**

Designed for versatility and with 24/7 operation in mind, IOT-GATE-iMX8PLUS features extensive connectivity including 4G/LTE modem, WiFi 802.11ax, Ethernet, DVI and LVDS ports, USB2/3, RS485/RS232, and CAN.

This impressive Gateway PC has an extended temperature range of -40°C to 80°C and a wide input voltage range of 8V to 36V. It also features a fanless design in aluminum with shock, vibration, dust and humidity resistance. Features secure boot, implemented with i.MX8M Plus HAB module and AI NPU engine for enhanced edge analytics.

### Key Features:

- NXP iMX8M Plus, quad core Cortex-A53, 1.8GHz
- Up to 8GB RAM, 128GB eMMC
- LTE/4G modem, WiFi 802.11ax, Bluetooth 5.3
- 2 x LAN, USB 3.0, 2 x USB 2.0 and CAN Bus
- Up to 3 x RS485/RS232 and digital I/O
- Input voltage range of 8V to 36V, PoE client support
- Industrial temperature range of -40°C to +80°C
- Debian Linux and Yocto Project



# IOT-GATE-iMX8PLUS Datasheet v.1

## CPU Core, Memory and Network

Note:

- "Option" column specifies the configuration code required to have the particular feature.
- "+" means that the feature is always available

Feature	Specification	Option
<b>CPU</b>	NXP i.MX8M Plus QuadLite, quad-core ARM Cortex-A53, 1.8GHz	C1800Q
	NXP i.MX8M Plus Quad, quad-core ARM Cortex-A53, 1.8GHz	C1800QM
<b>NPU</b>	AI/ML Neural Processing Unit, up to 2.3 TOPS	C1800QM
<b>Real-time Co-Processor</b>	ARM Cortex-M7, 800Mhz	+
<b>Display Output</b>	DVI-D, up to 1080p60	+
<b>GPU &amp; Video</b>	GC7000UL GPU 1080p60 HEVC/H.265, AVC/H.264	C1800QM
<b>RAM</b>	1GB – 8GB, LPDDR4	D
<b>Storage</b>	16GB – 128GB eMMC flash, soldered on-board	N
<b>LAN</b>	2x 1000Mbps Ethernet ports, RJ45 connectors	+
<b>WiFi &amp; Bluetooth</b>	802.11ax WiFi and Bluetooth 5.3 BLE Implemented with Intel WiFi 6E AX210 module 2x 2.4GHz / 5GHz rubber duck antennas	WB
<b>Cellular</b>	4G/LTE CAT4 cellular module, Quectel EC25-E (EU bands)	JEC25E
	4G/LTE CAT4 cellular module, Quectel EC25-A (US bands)	JEC25A
	SIM card socket	+
	Cellular rubber duck antenna	JEC25x
<b>GNSS</b>	GPS Implemented with Quectel EC25 module	JEC25x

# IOT-GATE-iMX8PLUS Datasheet v.1

## I/O

Feature	Specification	Option
USB	2x USB2.0 ports, type-A connectors (back panel)	+
	1x USB3.0 port, type-A connector (front panel)	+
RS485/RS232	Up-to 3x RS485 (half-duplex)   RS232 ports Isolated, terminal-block connector	FxRS4 / FxRS2
CAN	1x CAN bus port Isolated, terminal-block connector	+
Digital I/O	4x digital outputs + 4x digital inputs Isolated, 24V compliant with EN 61131-2, terminal-block connector	FDIO
Debug	1x serial console via UART-to-USB bridge, micro-USB connector	+
	Support for NXP SDP/UUU protocol, micro-USB connector	+
Expansion Connector	Expansion connector for add-on boards LVDS, SDIO, USB, SPI, I2C, GPIOs	+

## System

Feature	Specification	Option
Security	Secure boot, implemented with i.MX8M Plus HAB module	+
RTC	Real time clock operated from on-board coin-cell battery	+
Watchdog	Hardware watchdog	+
LEDs	2 x general purpose dual colour LEDs	+
PoE	Support for PoE (powered device)	POE

# IOT-GATE-iMX8PLUS Datasheet v.1

## Electrical, Mechanical and Environmental Specifications

Feature	Specification
Supply Voltage	Unregulated 8V to 36V
Dimensions	132 x 84 x 25 mm
Enclosure Material	Aluminium housing
Cooling	Passive cooling, fanless design
Weight	550 gram
Compliance	FCC/CE, RoHS-II
MTTF	> 200,000 hours
Operating temperature	Commercial: 0° to 60° C Industrial: -40° to 80° C.
Storage temperature	-40° to 85° C
Relative humidity	10% to 90% (operating) 05% to 95% (storage)

## Compliance




Feature	Specification
Regulatory	CE,FCC
EMC	EN 55032/5, EN 61000-6-2, EN 61000-6-3
Safety	EN/UL/IEC 62368-1

## Software

Feature	Specification
BSP	Full Board Support Package and ready-to-run images
OS Support	Debian Linux and Yocto

# IOT-GATE-iMX8PLUS Datasheet v.1

## Mounting Options

Option	Specification
	<p><b>Wall / VESA mounting bracket</b> A highly versatile bracket for mounting IOT-GATE-iMX8MPLUS on a surface</p>
	<p><b>DIN-rail mounting kit</b> Snap-on DIN-rail mounting bracket for installing IOT-GATE-RPi in equipment racks and cabinets</p>
	<p><b>Side DIN-rail mounting kit</b> Snap-on DIN-rail bracket for side mounting the iOT-GAT iMX8MPLUS in equipment racks and cabinets</p>

# IOT-GATE-iMX8PLUS Datasheet v.1

## IOT-GATE-RPi Evaluation Kit

### Hardware

- IOTG-iMX8MPLUS-C1800QM-D4-N32-WB-JEC25E-FARS4-FBRS2-FDIO-POE-PS-XL-TIC
- Extra 2 RS485 I/O modules
- Extra 2 RS232 I/O modules
- DIN-rail mounting bracket
- Wall mounting bracket
- DC terminal block adapter
- DC Y-cable
- USB cable

### Technical Support

- Technical support for 12 months.
- 45-day trial period. Evaluation Kit will be accepted for refund if the user finds the product not suitable for their needs.

