Edge Gateway 600 Mk2 Series

Version:
v1.0.1

Date:
15.08.2025

Contents

1 Copyright

2 Regulatory Compliances

2.1 Complies with the following EU directives

Radio Equipment Directive (2014/53/EU) only applies to devices containing radio module EM05-G.

No	Short Name
2014/35/EU	Low Voltage Directive (LVD)
2014/53/EU	Radio Equipment Directive (RED)
2014/30/EU	Electromagnetic Compatibility (EMC)
2011/65/EU	Restriction of the use of certain hazardous substances in electrical and electronic equipment Directive (RoHS2)
2015/863/EU	Amendment to Annex II in Directive 2011/65/EU regards the list of restricted substances (RoHS3)

2.2 References of standards applied

Standard	Reference	Issue
EN 18031-1	Common security requirements for radio equipment - Part 1: Internet connected radio equipment	2024
EN 55032	Electromagnetic compatibility of multimedia equipment - Emission Requirements	2015+A11:2020+A1:2020
EN 55035	Electromagnetic compatibility of multimedia equipment - Immunity requirements	2017+A11:2020
EN (IEC) 61000-3-2	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions	2014 2019+A1:2021
EN 61000-3-3	Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems	2013 2013+A2:2021+AC:2022
EN 61000-4-2	Electromagnetic compatibility (EMC). Testing and measurement techniques. Electrostatic discharge immunity test	2009
EN 61000-4-3	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	2006+A1:2008+A2:2010
EN 61000-4-4	Electromagnetic compatibility (EMC) - Part 4-4 : Testing and measurement techniques - Electrical fast transient/burst immunity test	2012
EN 61000-4-5	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test	2014+A1:2017
EN 61000-4-6	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	2014+AC:2015
EN 61000-4-8	Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test	2010
EN IEC 61000-4-11	Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests	2004+A1:2017
EN 301 489-1 (module)	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements; Harmonised Standard for ElectroMagnetic Compatibility	V2.2.3
EN 301 489-52 (module)	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 52: Specific conditions for Cellular Communication User Equipment (UE) radio and ancillary equipment; Harmonised Standard for ElectroMagnetic Compatibility	V1.2.1
Draft EN 301 489-19 (module)	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services - Part 19: Specific conditions for Receive Only Mobile Earth Stations (ROMES) operating in the 1,5 GHz band providing data communications and GNSS receivers operating in the RNSS band (ROGNSS) providing positioning, navigation and timing data	V2.2.0
ETSI EN 301 908-1	IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 1: Introduction and common requirements Release 15	V15.1.1

2.3 FCC PART 15 VERIFICATION STATEMENT

WARNING

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Notice: The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

May Contain transmitter module:

- XMR2021EM05G
- RYK-WHFQ262ACNIBT

2.4 ICES-003 ISSUE 7 VERIFICATION STATEMENT

CAN ICES3(A)/NMB3(A)

This device complies with CAN ICES-003 Issue 7 Class A. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Cet appareil est conforme à la norme CAN ICES-003 Issue 7 Class A. Le fonctionnement est soumis auxdeux conditions suivantes : (1) cet appareil ne doit pas causer d'interférences nuisibles et (2) cet appareil doit accepter toute interférence reçue, y compris les interférences pouvant opération indésirable.

May Contain transmitter module:

- 6158A-FQ262ACNIBT
- 10224A-2021EM05G

3 Safety Instructions

Please read these instructions carefully and retain them for future reference.

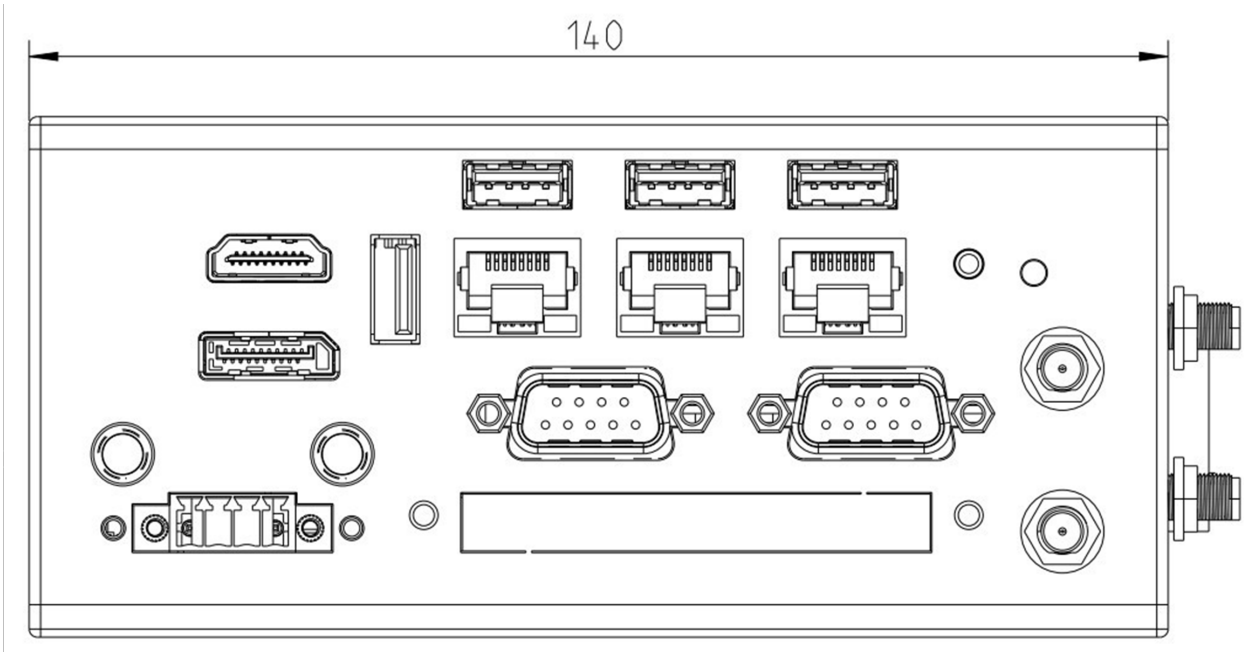
1. Disconnect this equipment from the power outlet before cleaning. Do not use liquid or sprayed detergent for cleaning. Use a moist cloth or sheet.
2. Keep this equipment away from humidity.
3. Ensure the power cord is positioned to prevent tripping hazards and do not place anything on top of it.
4. Pay attention to all cautions and warnings on the equipment.
5. If the equipment is not used for an extended period, disconnect it from the main power to avoid damage from transient over-voltage.
6. **Prolonged usage with less than 12V may damage the PSU or destroy the mainboard.**
7. Never pour any liquid into openings as this could cause fire or electrical shock.
8. Have the equipment checked by service personnel if:
    - The power cord or plug is damaged.
    - Liquid has penetrated the equipment.
    - The equipment has been exposed to moisture in a condensation environment.
    - The equipment does not function properly, or you cannot get it to work by following the user manual.
    - The equipment has been dropped and damaged.
9. Do not leave this equipment in an unconditioned environment, with storage temperatures below -20 degrees or above 60 degrees Celsius for extended periods, as this may damage the equipment.
10. Unplug the power cord when performing any service or adding optional kits.
11. Lithium Battery Caution:
    - Risk of explosion if the battery is replaced incorrectly. Replace only with the original or an equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.
    - Do not remove the cover, and ensure no user-serviceable components are inside. Take the unit to a service center for service and repair.

4 Product Specifications

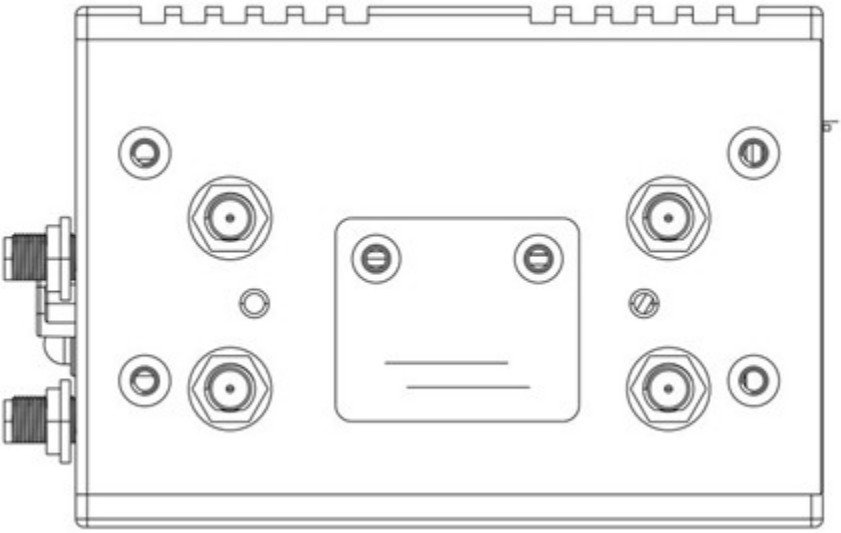
Feature	Specification	Details
Processor	CPU	Intel Atom® x6413E Quad-Core Processor, 1.5/3.0 GHz
Memory	RAM	8 GB DDR4 (expandable up to 32 GB)
Storage Options	NVMe	x1 NVMe slot
	SATA	x1 SATA slot
Security	TPM	TPM 2.0
I/O Ports	DisplayPort	x1
	HDMI	x1
	Gigabit Ethernet	x3 RJ45
	USB 3.0	x3
	USB 2.0	x1
	Serial Ports	x2 RS232/RS485
Connectivity	Cellular (EG603L only)	4G LTE / 5G
	WLAN	Optional Wi-Fi
Expansion	SIM Slot	x1 Nano-SIM
Environmental	Operating Temperature	-20°C to 70°C
	Storage Temperature	-20°C to 80°C
	Humidity	5% to 95% non-condensing
Power	Supply	12 - 36 V DC (+/-10 % tolerance)
	Connector	Terminal Block or DC Jack
Mounting	Options	DIN-Rail mounting kits available
Operating System	Compatibility	Welotec egOS
Physical Build	Material/Color	Steel / Aluminum
	Ingress Protection	IP20
	Dimensions	64 x 140 x 92 mm
	Weight	800 g

4.1 Dimensions

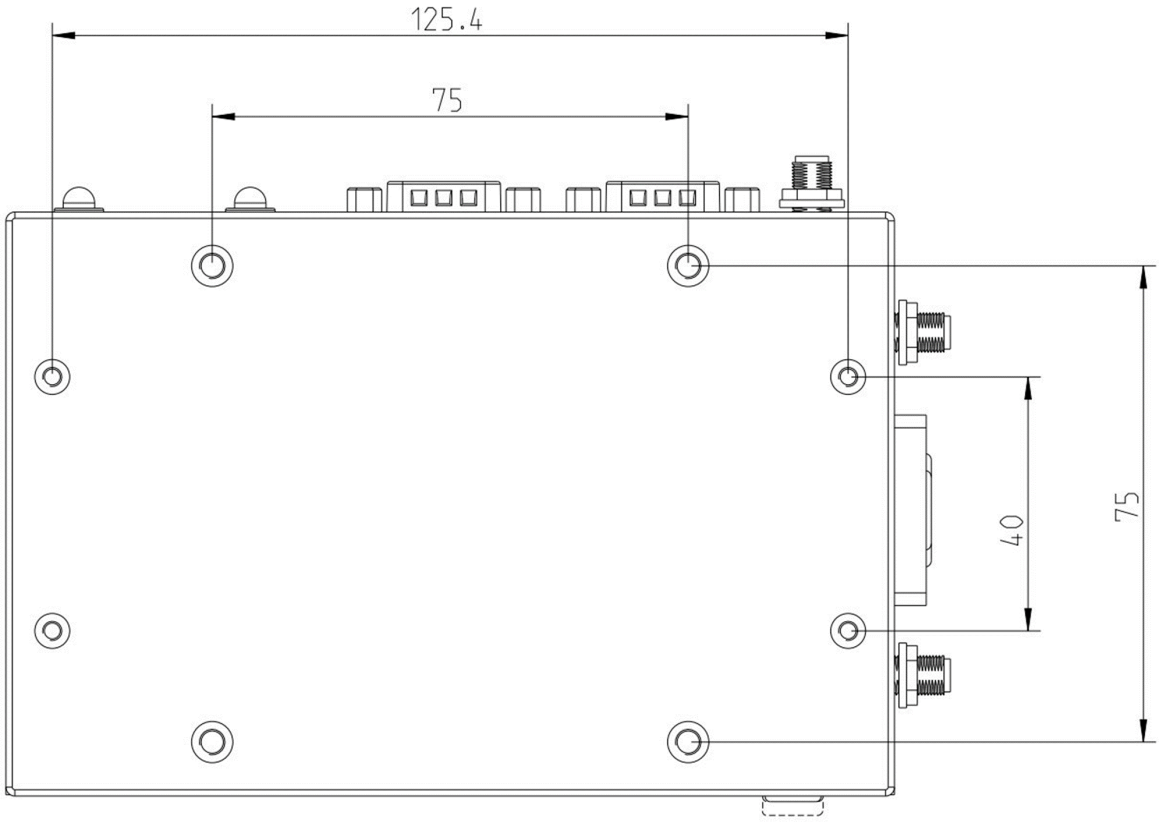
4.1.1 System Drawing



Top site



Rear site



4.1.2 Antenna Configurations

	ANT1	ANT2	ANT3	ANT4	ANT5	ANT6
LTE			Diversity	Main	GNSS	
5G		Diversity*	Diversity	Main	GNSS	Diversity
WiFi	X	(X)*				

*with 5G Antenna allocation is dependent on customer requirements

5 Power Supply

⚠ Please ensure no external voltage is applied to PSW! This could cause damage.

The EdgeGateway can be powered using a **terminal block** or a **DC jack**, supporting a voltage range of **9–36V DC** for versatile connectivity.

Pin	Description
Pin 0 – VCC (left)	V+ (9–36V DC)
Pin 1 & 2 – PSW	External power switch
Pin 3 – GND (right)	Ground

6 Power Consumption

Component	Specification
CPU	Atom® x6413E
RAM	DDR4 8GB 2400MHz
Operating System	Windows 10 IoT 2019 LTSC
Test Program	Passmark
Storage	64GB NVMe

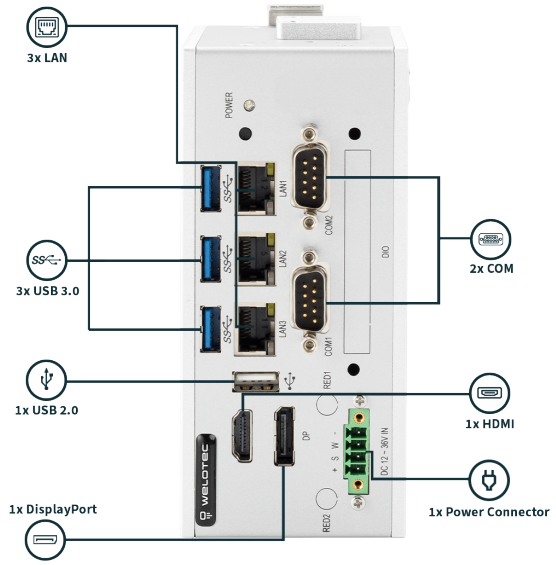
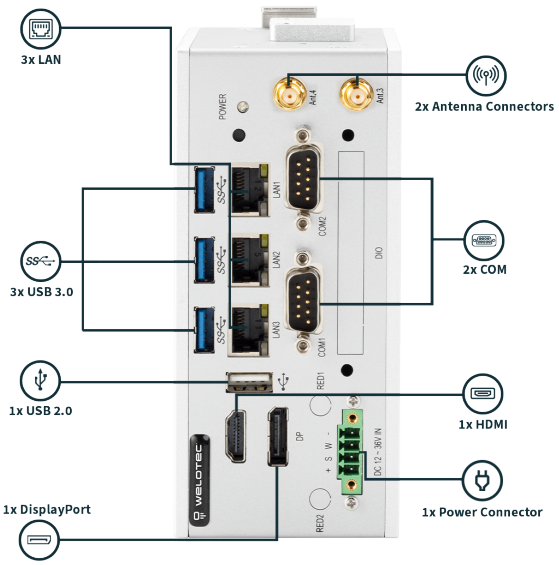
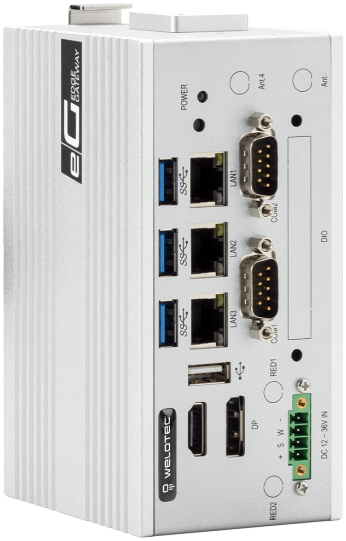
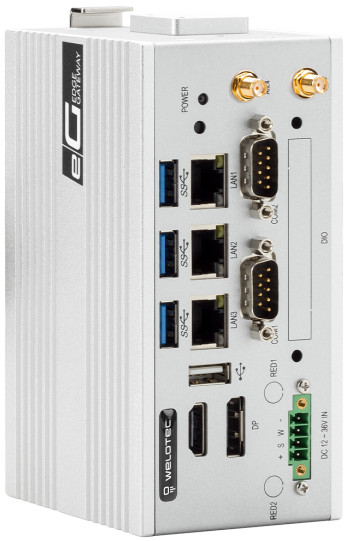
Note: Results are provided for reference and may vary depending on configuration and workload.

Voltage	Power Off	Startup (Max)	Startup (Stable)	Burn-in (Max)	Shutdown
12V	0.14A	0.95A	0.62A	1.10A	0.82A
24V	0.09A	0.50A	0.32A	0.57A	0.42A

Disclaimer: Actual power consumption is influenced by hardware configurations, installed software, and operational conditions.

7 Interfaces and Connections

7.1 EG600 Mk2 Series

EG600W Mk2	EG600L Mk2 (with Radio Module)
	
	
	

8 Radio Modules (only relevant with optional LTE/WiFi Modules)

The EG600 Mk2 may contain the following RF Modules:

- Quectel EM05-G
- SparkLAN WZ-WNFQ-262ACNI(BT)

8.1 LTE

Quectel EM05-G	Supported Bands
LTE	FDD B1/ B2/ B3/ B4/ B5/ B7/ B8/ B12/ B13/ B14/ B18/ B19/ B20/ B25/ B26/ B28/ B66/ B71 TDD B38/ B39/ B40/ B41
WCDMA	B1/ B2/ B4/ B5/ B6/ B8/ B19

8.2 WiFi

8.2.1 SparkLAN WZ-WNFQ-262ACNI(BT)

WiFi Output Power & Sensitivity

IEEE Standard	Data Rate	Tx ± 2dBm	Rx Sensitivity
802.11b	11Mbps	18dBm	-85dBm
802.11g	54Mbps	14,5dBm	-71dBm
802.11n / 2.4GHz (HT20)	MCS7	14dBm (1TX)17dBm (2TX)	-67dBm
802.11n / 2.4GHz (HT40)	MCS7	13.5dBm (1TX)16.5dBm (2TX)	-65dBm
802.11a	54Mbps	14dBm	-75dBm
802.11n / 5GHz (HT20)	MCS7	13dBm (1TX)16dBm (2TX)	-71dBm
802.11n / 5GHz (HT40)	MCS7	13dBm (1TX)16dBm (2TX)	-67dBm
802.11ac (VHT80)	MCS9	11dBm (1TX)14dBm (2TX)	-57dBm

Notes

- **Down/RX:** Refers to the downlink frequency range.
- **Up/TX:** Refers to the uplink frequency range.
- **Max Transmission Power:** Maximum power at which the device transmits.