



# R5030

Industrial 5G Wi-Fi 6 Router

5 x ETH + 2 x Dual-band Wi-Fi 6 + 1 x GNSS +  
1 x DI + 1 x DO

robustOS



## INTRODUCTION

The R5030 is an industrial-grade 5G router that provides cutting-edge wireless connectivity with dual-band Wi-Fi 6 support. It is powered by our proven high-performance CPU platform and **RobustOS**—an operating system independently developed by Robustel. This OS features enterprise-grade security that has been validated through comprehensive third-party penetration testing. Compliant with 3GPP Release 15/16 standards, the R5030 is designed for the following applications:

**Passenger Wi-Fi Solutions:** Delivering seamless onboard connectivity to enhance passenger experience through high-density mobile access

- **Advanced Captive Portal:** Enables secure user authentication and customized service delivery for public transit networks.
- **High-Speed Connectivity:** Ensures reliable internet access via concurrent 5G NSA/SA and Wi-Fi 6, ideal for streaming, work, and communication on the go.

**Enterprise Networking Applications:** Empowering businesses with robust connectivity solutions.

- **Broadband Failover:** Configurable for primary internet via Ethernet or Wi-Fi, with automatic failover to 5G/4G during outages, ensuring uninterrupted service.
- **Primary Broadband:** Provides the flexibility to leverage 5G wireless internet, offering significant technical and commercial advantages by eliminating reliance on wired infrastructure.

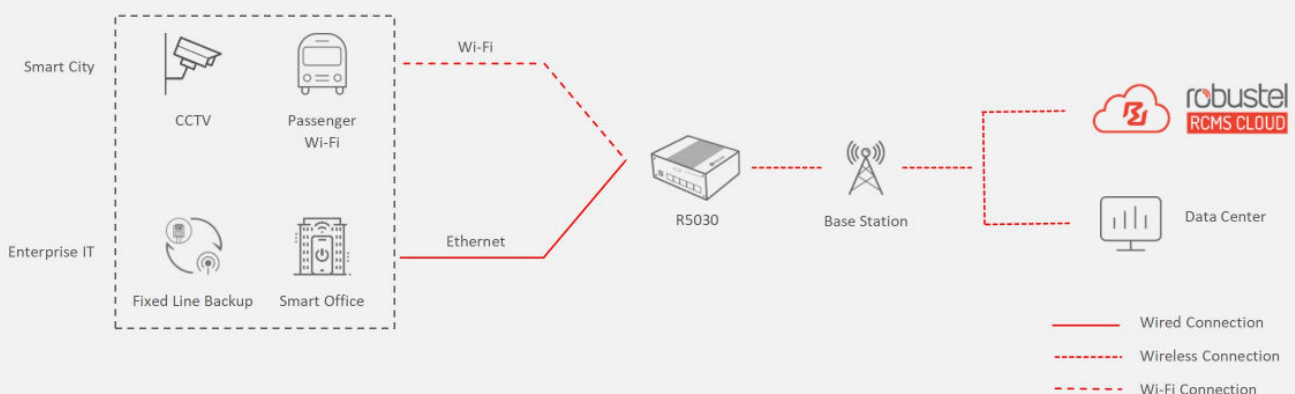
The **Robustel Cloud Manager Service (RCMS)** is a unified cloud-based platform designed for real-time monitoring and centralized management of industrial IoT devices. Fully compatible with Robustel routers and gateways, RCMS delivers an interactive geospatial dashboard that enables users to visualize device locations and track critical metrics such as data usage, signal strength, and network status. To ensure seamless operations, the platform facilitates over-the-air (OTA) updates for firmware, configurations, and applications, minimizing downtime while optimizing system performance. Experience robust, cloud-native device management by registering at: <https://rcms-cloud.robustel.net>

## KEY FEATURES

- Industrial 5G router
- 5G/4G/3G cellular connections
- Supports Ethernet, Wi-Fi and 5G/4G internet with auto-failover
- Dual-band Wi-Fi 6 supported in both AP and Client mode
- Dedicated GNSS
- Captive portal support
- Fully programmable operating system with a well-documented SDK
- Multiple VPN options available including DMVPN, IPsec, and more
- Free cloud management platform (RCMS)
- Robust metal enclosure with a compact design for DIN-rail and wall mounting



## APPLICATION EXAMPLE



## SPECIFICATIONS

### Hardware System

|       |                                   |
|-------|-----------------------------------|
| CPU   | Dual-core ARM Cortex A53, 1.0 GHz |
| RAM   | 512 MB                            |
| Flash | 8 GB eMMC                         |

### Cellular Interface

|                    |                               |
|--------------------|-------------------------------|
| Number of antennas | 4 (ANT0 + ANT1 + ANT2 + ANT3) |
| Connector          | SMA-K                         |
| SIM                | 2 x Mini SIM (2FF)            |

### Ethernet Port

|                             |  |
|-----------------------------|--|
| Number of ports             | 5 x 10/100/1000 Mbps<br>1 x WAN + 4 x LAN, or 5 x LAN optional |
| PoE-PD                      | ETH0 Port, compliance with IEEE802.3at                         |
| Magnet isolation protection | 1 KV   |

### Wi-Fi Interface

|                    |   |
|--------------------|---|
| Number of antennas | 2   |
| Connector          | RP-SMA-K  |
| Standards          | 802.11a/b/g/n/ac/ax, 2 x 2 MIMO<br>Supports AP and Client modes           |
| Frequency bands    | 2.412 - 2.484 GHz (2.4 GHz ISM band)<br>5.18 - 5.825 GHz (5 GHz ISM band) |
| Security           | WPA, WPA2, WPA3   |
| Encryption         | AES, TKIP   |

### Digital Input/Output Port

|                      |   |
|----------------------|---|
| Number of ports      | 1 x DI + 1 x DO, wet contact                                  |
| Connector            | 4-pin Micro-Fit socket<br>(Together with Power supply )       |
| Absolute maximum VDC | +30 V DC (DI), +30 V DC (DO)                                  |
| Absolute maximum ADC | 100 mA (DO)   |
| Signal definition    | DI, DO, -<br>(Power Minus is also referred to as DI/DO Minus) |

### GNSS Interface

|                    |   |
|--------------------|---|
| Number of antennas | 1   |
| Connector          | SMA-K   |
| GNSS frequency     | GPS: L1, L5<br>QZSS: L1, L5<br>Galileo: E1, E5a<br>GLONASS: L1OF<br>BDS: B1 |

### Others

|                |  |
|----------------|--|
| Reset button   | 1 x RST  |
| USB port       | 1 x USB 2.0 (host), 500 mA   |
| LED indicators | 1 x RUN, 1 x MDM, 1 x RSSI, 1 x USR, 1 x 2.4G Wi-Fi,<br>1 x 5G Wi-Fi |
| Watchdog       | External   |

### Software (Basic features of RobustOS)

|                   |   |
|-------------------|---|
| Network protocols | PPP, PPPoE, TCP, UDP, DHCP, ICMP, NAT, HTTP, DNS, NTP, SMTP, Telnet, VLAN, HTTPs, ARP, SSH2, DDNS, etc. |
| VPN tunnels       | IPsec, OpenVPN, GRE, Wireguard  |
| Firewalls         | DMZ, anti-DoS, Filtering (IP/Domain name/MAC address), Port Mapping, Access Control                     |
| Remote management | Web, CLI, SMS   |
| Others            | Smart Roaming V3  |

### SDK

|                                 |        |
|---------------------------------|--------|
| Supported programming languages | C, C++ |
| Flash available for SDK         | 6.5 GB |
| RAM available for SDK           | 256 MB |

### App Center (Available Apps for RobustOS)

|       |  |
|-------|--|
| Apps* | PPTP, DMVPN, VRRP, SNMP, Language, RCMS, Captive Portal, WLAN Multi AP, Edge2Cloud |
|-------|--|

\*Request on demand. For more Apps please visit [www.robustel.com](http://www.robustel.com).

### Cloud Platform

|                        |   |
|------------------------|---|
| Robustel Cloud Manager | RobustLink, RobustVPN, Operation Console, |
| Service (RCMS)         | Portal Management                         |

### Power Supply and Consumption

|                          |  |
|--------------------------|--|
| Connector                | 4-pin Micro-Fit socket   |
| Input voltage            | 12/24 V DC, 9 ~ 36 V DC<br>Reverse polarity protection, surge protection |
| Power consumption        | Idle: 6 W@24 V<br>Max: 16.32 W@24 V                                      |
| Recommended power supply | 24 V DC/1.5 A power adapter  |
| PoE-PD (ETH0)            | 42.5 ~ 57 V DC   |

### Physical Characteristics

|                       |  |
|-----------------------|--|
| Ingress protection    | IP30   |
| Housing & Weight      | Metal, 580 g                                       |
| Dimensions            | 49 x 105 x 128 mm                                  |
| Installations         | Desktop, wall mounting and 35 mm DIN rail mounting |
| Operating temperature | -25 ~ +70 °C                                       |
| Storage temperature   | -40 ~ +85 °C                                       |
| Relative humidity     | 5 ~ 95% RH (non-condensing)                        |

### Regulatory and Type Approvals

|               |   |
|---------------|---|
| Environmental | RoHS2.0   |
| Testing       | IEC 60068-2-27 (Mechanical Shock)<br>IEC 60068-2-64 (Random Vibration)  |
| EMI           | EN 55032 Conducted Emission Class B<br>EN 55032 Radiated Emission Class B   |
| EMS           | EN 61000-4-2 (ESD) Contact Level 2, Air Level 3<br>EN 61000-4-3 (RS) Level 2<br>EN 61000-4-4 (EFT) Level 2<br>EN 61000-4-5 (Surge) Level 2<br>EN 61000-4-6 (CS) Level 2<br>ISO 7637-2 (Surge) Level 3 |

## ORDERING INFORMATION

| Model                         | Order Code | Frequency Bands <sup>1</sup>  | Country /Region <sup>2</sup> | Certification (*In progress)    | Package Contains   |
|-------------------------------|------------|---|------------------------------|---------------------------------|--|
| R5030-A-5G-A30EU              | A015400001 |   |                              |                                 | 1 x R5030 Router (B Code: B015400001)<br>1 x Wall Mounting Kit<br>1 x Power Plug Converter   |
|                               | A015400002 | 5G:<br>NR SA/NSA:<br>n1/3/5/7/8/20/28/38/40/41/71/75/76/77/78<br><br>4G:<br>LTE FDD: B1/3/5/7/8/20/28/29/32/71<br>LTE TDD: B38/40/41/42/43  |                              | CE*<br>UKCA*<br>RCM*<br>E-Mark* | 1 x R5030 Router (B Code: B015400001)<br>1 x Wall Mounting Kit<br>4 x Cellular Antenna<br>2 x Wi-Fi Antenna<br>1 x GNSS Antenna<br>1 x Power Adapter |
| R5030-B-5G-A30EU <sup>3</sup> | A015400003 | 3G:<br>WCDMA: B1/5/8  | EMEA+APAC                    |                                 | 1 x R5030 Router (B Code: B015400002)<br>1 x Wall Mounting Kit<br>1 x Power Plug Converter   |
|                               | A015400004 |   |                              |                                 | 1 x R5030 Router (B Code: B015400002)<br>1 x Wall Mounting Kit<br>4 x Cellular Antenna<br>2 x Wi-Fi Antenna<br>1 x GNSS Antenna<br>1 x Power Adapter |
| R5030-A-5G-A43EA              | A015400005 | 5G:<br>NSA: n1/3/7/28/38/40/41/77/78<br>SA: n1/3/5/7/8/20/28/38/40/41/66/77/78<br><br>4G:<br>LTE FDD: B1/2/3/4/5/7/8/20/28/66<br>LTE TDD: B38/40/41<br><br>3G:<br>WCDMA: B1/2/5/8   |                              | CE*<br>UKCA*<br>RCM*            | 1 x R5030 Router (B Code: B015400003)<br>1 x Wall Mounting Kit<br>1 x Power Plug Converter   |
|                               | A015400006 |   |                              |                                 | 1 x R5030 Router (B Code: B015400003)<br>1 x Wall Mounting Kit<br>4 x Cellular Antenna<br>2 x Wi-Fi Antenna<br>1 x GNSS Antenna<br>1 x Power Adapter |
| R5030-A-5G-A25GL <sup>4</sup> | A015400007 | 5G:<br>NR SA/NSA:<br>n1/2/3/5/7/8/12/13/14/18/20/25/26/28/29/30/38/40/41/48/66/70/71/75/76/77/78/79<br><br>4G:<br>LTE FDD:<br>B1/2/3/4/5/7/8/12/13/14/17/18/19/20/25/26/28/29/30/32/66/71<br>LTE TDD: B34/38/39/40/41/42/43/48<br>LAA: B46 (only supports 2 x 2 MIMO) | Global                       |                                 | 1 x R5030 Router (B Code: B015400004)<br>1 x Wall Mounting Kit<br>1 x Power Plug Converter   |
|                               | A015400008 | 3G:<br>WCDMA: B1/2/4/5/8/19   |                              | -                               | 1 x R5030 Router (B Code: B015400004)<br>1 x Wall Mounting Kit<br>4 x Cellular Antenna<br>2 x Wi-Fi Antenna<br>1 x GNSS Antenna<br>1 x Power Adapter |

**Note:**

- For more information about frequency bands in different countries, please contact your Robustel sales representative.
- Region: APAC (excluding China and Japan); EMEA (excluding Russia and Belarus).
- The R5030-B-5G-A30EU is designed for vehicle applications and operates on different Wi-Fi bands compared to R5030-A-5G-A30EU.
- The R5030-A-5G-A25GL certification is currently on hold. FCC and Anatel certifications will be triggered as needed.

## Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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