

High-Speed Connectivity, Smart on the Go



5G Compact Router CR602

· 5G

· Wi-Fi 7

· 10000mAh Battery

· Cloud Management

1. Product Overview

The CR602 is an innovative 5G compact router designed as a high-performance mobile network access device for retail stores, small businesses, temporary work sites, outdoor activities, and home entertainment scenarios. It integrates advanced 5G cellular technology, Wi-Fi 7 wireless technology, and a large-capacity battery into a compact form factor, providing users with high-speed network connectivity anytime, anywhere.

The CR602 features an all-in-one compact design supporting triple-SIM (dual Nano + pre-provisioned eSIM) intelligent switching, equipped with a high-performance 5G module and Wi-Fi 7 wireless technology to deliver high-speed stable network connectivity for various indoor and outdoor scenarios. The device supports InCloud cloud management platform for remote device management and O&M, significantly reducing operational costs.

Core Features and Benefits

Core Feature	Detailed Specifications	Customer Value
5G Ultra-High Performance	Downlink/Uplink peak rates 7.01 Gbps/2.5 Gbps; 300 MHz NR bandwidth; Sub-6 Carrier Aggregation DL 4CA/UL 2CA	Industry-leading 5G performance for smooth 4K/8K video playback and fast large file downloads
Wi-Fi 7 Next-Generation Wireless	BE3000 dual-band concurrent (2.4GHz + 5GHz); up to 32 clients; 160MHz channel width; 4K QAM modulation	Multiple devices online simultaneously without lag, share high-speed network with whole family, meet smart home demands
Triple SIM Intelligent Switching	Dual Nano-SIM + pre-provisioned eSIM; Primary/Backup1/Backup2 priority configurable; second-level failover switching	Network redundancy backup, critical business never offline, flexible carrier selection
eSIM Factory Pre-activated	Ready to use out of box, no waiting for physical SIM card delivery	Ready to use out of box, quick deployment, save time cost

Core Feature	Detailed Specifications	Customer Value
10000mAh Large Battery	Up to 15 hours continuous operation in 5G mode; supports USB-C, power bank and other charging methods	All-day normal use without charging, worry-free for outdoor work and travel
Compact All-in-One Design	Compact body (167×102×36.5mm); foldable external antenna; IP30 protection rating	Compact and portable, easy to store, carry for business travel
InCloud Cloud Management	Unified cloud platform management, mobile APP anytime anywhere O&M	No on-site maintenance needed, remote monitoring device status, worry-free

Typical Application Scenarios

Application Scenario	Scenario Description	Typical Applications
Small Business Office	Network solution for small offices and startups	Office network, remote work access, branch rapid deployment, temporary office network support
Chain Stores	Network connectivity for chain retail, food & beverage, service stores	Retail shops, restaurants & cafes, beauty salons, gyms, education & training, mobile vendor network coverage
Outdoor Travel	Mobile network support for outdoor travel and business trips	RV camping, road trips, business travel, outdoor weddings/events/exhibitions network support
Temporary Work	Temporary network coverage for construction sites, event exhibitions	Construction site temporary network (video surveillance, equipment management), exhibitions/performances/sports events, emergency communication support



Application Scenario	Scenario Description	Typical Applications
Remote Areas	Areas with poor network coverage such as rural, mountainous, island regions	Remote area network access, temporary base (field exploration/research), emergency communication, telemedicine support
Home Entertainment	Home backup network or temporary network upgrade	4K/8K video streaming, online gaming, temporary network during renovation/relocation, up to 32 devices online simultaneously

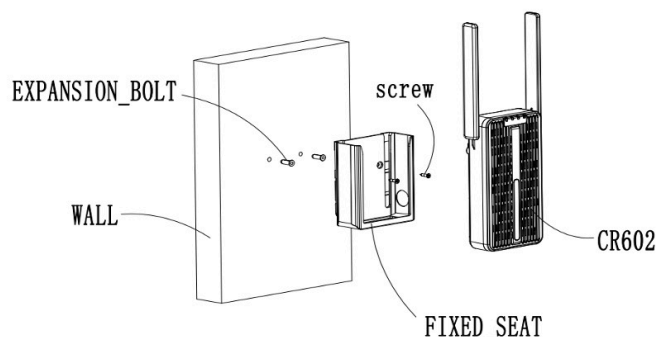
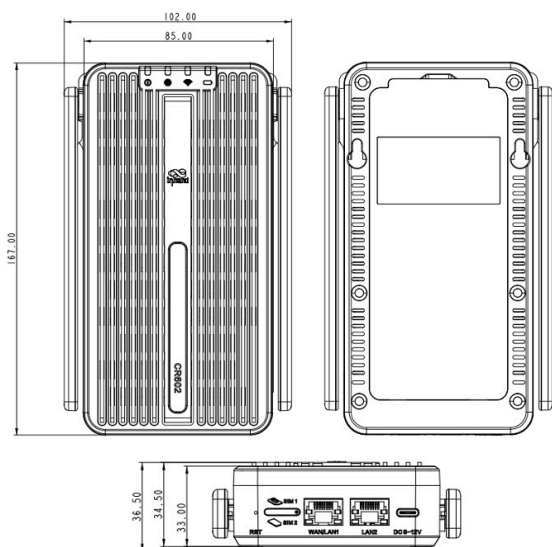
2. Product Design Highlights

Design Highlight	Design Description	Technical Features
Large Capacity Battery	10000mAh large battery provides extended runtime, supports removal and replacement	Up to 15 hours continuous operation in 5G mode; removable and replaceable battery; smart power management; fast charging support; overcharge/discharge protection; USB-C/power bank and other charging methods
Wi-Fi 7 Next-Generation Wireless	Wi-Fi 7 BE3000 delivers ultimate wireless experience	2.4GHz + 5GHz dual-band concurrent, total rate up to 3000Mbps; 5GHz supports 160MHz channel width; 4K QAM modulation technology; supports up to 32 devices simultaneously
High-Performance Antenna Design	Dual design of external foldable and built-in LDS antenna ensures stable signal	External antenna foldable design, convenient storage; built-in high-performance LDS antenna, 6× cellular antenna + 3× Wi-Fi antenna; smart antenna switching optimizes signal quality
Smart SIM Management	Dual Nano SIM + eSIM triple-card design provides flexible connectivity	Triple-card hot standby, second-level failover switching; eSIM factory pre-activated, online upon power-on; flexible triple-card priority configuration; smart switching strategy (dial failure/link detection/traffic threshold)



Design Highlight	Design Description	Technical Features
Reliable Thermal Design	Built-in metal heatsink combined with smart temperature control ensures long-term stable operation	Built-in metal heatsink for efficient heat conduction; smart temperature control mechanism, dynamic power adjustment; passive cooling design, quiet and disturbance-free; -10°C~+40°C wide temperature operation
Compact All-in-One	Compact design for easy carrying	Compact body size (167×102×36.5mm); foldable external antenna design; all interfaces centrally designed; supports desktop placement, fixed installation; IP30 protection rating

3. Dimensions and Installation



Dimensions : 167*102*36.5(mm)
6.57 × 4.02 × 1.44 (in)

Note:

1. All dimensions are in millimeters (mm).
2. Illustrated dimensions are approximate values, **for reference only**.
3. Dimensions in the drawing **shall not be used directly for production**.
4. Actual dimensions must meet component and process tolerance requirements.
5. Dimensions are subject to change without prior notice.

4. Hardware Specifications

Specification Item	Parameters
Processor	Quad-core Cortex-A55 (2.2 GHz)
Memory	2GB DDR4
Storage	4GB eMMC
5G Module	RG620T
SIM Card Slot	2× Nano-SIM + 1× Built-in eSIM (GSMA Consumer specification)
Ethernet Ports	2× 2.5G Gigabit RJ45, WAN/LAN adaptive
USB Interface	1× USB-C (supports charging)

Specification Item	Parameters
Wi-Fi	Wi-Fi 7 (802.11be) dual-band BE3000
5G Antenna	2× External foldable high-performance cellular antenna + 6× Built-in high-performance cellular antenna
Wi-Fi Antenna	3× Built-in antenna
Battery	Built-in 10000mAh lithium battery
Power Supply	USB-C power supply or battery power
Power Consumption	≤20W
Reset Button	1× Reset button
Power Button	1× Power button
Indicators	Power indicator, network indicator, Wi-Fi indicator, battery level indicator
Cooling Method	Passive cooling design
Protection Rating	IP30
Housing Material	High-strength engineering plastic
Device Color	Black
Operating Temperature	-10°C ~ +40°C
Storage Temperature	-20°C ~ +60°C
Relative Humidity	5%~95% non-condensing
Dimensions	167 × 102 × 36.5 mm (6.57 × 4.02 × 1.44 in)
Weight	Approx. 550g (with battery)

LED Indicator Definition

The CR602 is equipped with multiple LED indicators to intuitively display device operation status:

- **Power Indicator:** Shows device power status (on/off status)
- **Network Indicator:** Shows network connection status and activity
- **Wi-Fi Indicator:** Shows Wi-Fi operation status
- **Battery Indicator:** Shows remaining battery level (color indicates level)

The LED indicator layout is concise and intuitive, allowing users to quickly understand device operation status and battery level.

5. Network Connectivity

5.1 5G/4G Cellular Network

- **Network Standards:**
 - 5G: NR SA/NSA, Sub-6 GHz, 3GPP Release 16
 - 4G: LTE-FDD/LTE-TDD, Cat.19
- **5G Performance Specifications:**
 - **Rate Specification:** Downlink 7.01Gbps / Uplink 2.5Gbps
 - **NR Bandwidth:** Up to 300MHz NR bandwidth
 - **Carrier Aggregation:** Sub-6 CA up to DL 4CA / UL 2CA
- **4G Performance Specifications:**
 - 4G CAT19: Downlink 1.6Gbps / Uplink 200Mbps

Network Type	Supported Bands
5G NR	n2/n5/n7/n12/n13/n14/n25/n26/n29/n30/n38/n41/n48/n66/n70/n71/n77/n78
4G LTE	B2/B4/B5/B7/B12(B17)/B13/B14/B25/B26/B29/B30/B38/B41/B42/B43/B46/B48/B66/B70/B71

5.2 SIM Card Management

5.2.1 Triple SIM Slot Hardware Configuration

- **Physical Form:** 2× Nano-SIM + 1× Built-in eSIM (GSMA Consumer specification, factory pre-provisioned fixed carrier profile)

- **Operation Mode:** Single card online, others as hot standby, second-level failover switching
- **eSIM Advantages** (based on pre-provisioned carrier profile):
 - **No plug/unplug, no waiting:** Factory pre-activated, online upon power-on, no waiting for physical SIM card delivery and activation
 - **High reliability:** No mechanical contacts and card slots, vibration and corrosion resistant, suitable for mobile and outdoor scenarios
 - **High integration:** Saves card slot space, frees up space for battery capacity and antenna layout optimization
 - **Enhanced protection:** Reduces card slot openings, better dust and moisture protection
 - **Simplified production:** Eliminates SIM card assembly and power-on testing processes, improves factory consistency
 - **Remote parameter O&M:** Although dynamic profile switching is not supported, parameters such as APN / network priority / roaming policy can be remotely updated via InCloud cloud platform

5.2.2 Flexible SIM Priority Configuration

Supports custom roles and priorities for three SIMs, three slots can be **arbitrarily assigned** as Primary / Backup 1 / Backup 2:

Role	Description
Primary	Preferred dialing SIM, used by default after power-on / reboot
Backup 1 (Secondary)	First switch target when Primary is abnormal
Backup 2 (Tertiary)	Final fallback when Backup 1 is still unavailable

- **Three configuration entry points:** Web local configuration, mobile APP, InCloud cloud batch deployment
- **Priority dynamic switching** (e.g., switch to carrier B after primary card A traffic warning)

5.2.3 SIM Switching Trigger Conditions

Any triggered condition switches to next available SIM by priority:

Trigger Category	Trigger Condition	Configurable Parameters
Dial Failure	SIM card abnormal, PDP activation failure, etc.	
Link Detection	ICMP detection continuously times out 3 times	Target address, timeout threshold
Traffic Threshold	Monthly used traffic reaches set upper limit	Traffic limit, measurement period, alert advance

5.2.4 Per-Card Independent Configuration

- Independent APN / username / password / authentication type (Auto / PAP / CHAP)
- Independent network protocol stack (IPv4 / IPv6 / IPv4&IPv6)
- Independent network mode preference (5G SA / 4G&5G / 4G / Auto)
- Independent roaming switch and roaming network restrictions
- Independent traffic usage statistics and limit alerts

5.3 Wired Network

- **Ethernet Interface:** 2× 2.5G Gigabit RJ45, supports WAN/LAN adaptive
- **USB Interface:** 1× USB-C 2.0, supports charging and firmware upgrade
- **IPv6 Support:** Supports IPv6 protocol
- **Data Throughput:** Maximum 2Gbps

5.4 Wi-Fi 7 Wireless Access

- **Standard Protocol:** IEEE 802.11be (Wi-Fi 7)
- **Operating Band:** 2.4GHz + 5GHz dual-band concurrent
- **Wireless Specification:** BE3000
- **Maximum Wireless Clients:** 32 devices
- **Coverage Distance:** Wi-Fi effective coverage distance 50 meters (unobstructed reference value)
- **MIMO Technology:** 3×3 MIMO
- **Channel Width:** 5GHz supports 20/40/80/160MHz; 2.4GHz supports 20/40MHz
- **Modulation Technology:** Supports 4K QAM
- **Security Encryption:** WPA3-PSK/WPA2-PSK

5.5 Access Capacity

Access Type	Maximum Concurrent Clients	Description
Wireless Access (Wi-Fi)	≤ 32 devices	2.4 GHz + 5 GHz dual-band concurrent, constrained by Wi-Fi 7 BE3000 specification limit
Wired Access	≤ 96 devices	Extended via 2× 2.5G Ethernet ports connected to switch
Total Device Capacity	≤ 128 devices	Constrained by DHCP address pool and NAT session limits

Actual concurrent capacity is affected by individual terminal traffic characteristics, application type and wireless channel quality. It is recommended to reserve margin based on business model.

6. Local Network Services

6.1 Interface Management

- **Interface Configuration:** Supports VLAN sub-interface, bridge mode
- **Interface Status:** Real-time display of interface UP/DOWN status
- **Flexible Enable:** Enable/disable interfaces on demand

6.2 DHCP Service

- **DHCP Server:** Supports multiple address pool configuration
- **Lease Management:** Flexible IP lease configuration

6.3 DNS Service

- **DNS Proxy:** Local DNS caching and forwarding
- **DNS Filtering:** Malicious domain blocking
- **Custom DNS:** Supports configuring multiple DNS servers

6.4 Static Address Assignment

- **IP-MAC Binding:** Static address assignment
- **Address Reservation:** Reserve IP addresses for specific devices
- **Conflict Detection:** Automatic IP address conflict detection

6.5 Static Routing

- **Routing Entries:** Supports multiple static route configuration
- **Route Priority:** Flexible routing priority configuration
- **Route Monitoring:** Real-time routing status display

6.6 Dynamic DNS (DDNS)

- **Multiple Service Provider Support:** Supports mainstream DDNS service providers
- **Automatic Update:** Automatic domain resolution update on IP change

6.7 IP Passthrough

- **Bridge Mode:** Cellular network IP passthrough
- **Flexible Configuration:** Supports IPPT for dialing port and WAN port
- **Mode Selection:** Multiple passthrough modes available

7. Link Management and Backup

7.1 Intelligent Link Backup

- **Backup Mode:** Primary/backup mode, load balancing mode
- **Detection Mechanism:** ICMP/TCP/DNS multiple detection methods
- **Switching Strategy:**
 - Immediate Switch: Millisecond-level switching on link failure
 - Delayed Switch: Configurable delay time to avoid frequent switching
 - No Switch Mode: Alert only without switching
- **Load Balancing:** Multi-link traffic balancing, improved bandwidth utilization

7.2 Link Quality Monitoring

- **Real-time Monitoring:** Real-time display of link status, latency, packet loss, network jitter
- **Quality Curve:** Historical link quality trend chart

- **Health Check:** Automated link health assessment
- **Alert Notification:** Immediate alert on link abnormality

8. Security Features

8.1 Firewall

- **State Detection:** Connection-based packet inspection
- **Inbound Rules:** Refined inbound access control
- **Outbound Rules:** Outbound traffic policy management
- **Port Forwarding:** Supports port mapping and NAT traversal
- **NAT Function:** SNAT/DNAT, supports NAPT
- **MAC Filtering:** MAC address-based access control
- **Domain Filtering:** Domain name-based content filtering
- **LAN Firewall:** East-west traffic security isolation

8.2 Policy Routing

- **Smart Splitting:** Policy routing based on source/destination address, port, protocol
- **Forced Routing:** Specific traffic forced to designated link
- **Domain Routing:** Smart routing selection based on domain names

8.3 Traffic Shaping

- **Bandwidth Limit:** Interface-level bandwidth control
- **Traffic Shaping:** Queue-based refined traffic management
- **QoS Guarantee:** Priority guarantee for critical business traffic

8.4 VPN Support

- IPsec VPN
- L2TP VPN

9. System Management and Maintenance

9.1 Device Management

- **Web Management:** Intuitive Web configuration interface
- **Configuration Import/Export:** Configuration file backup and recovery
- **Factory Reset:** One-key factory settings restoration
- **Firmware Upgrade:** Web/cloud/manual multiple upgrade methods
- **Module Upgrade:** Independent cellular module firmware upgrade

9.2 Logging and Diagnostics

- **System Logs:** Detailed system operation logs
- **Event Logs:** Device event recording and query
- **Log Filtering:** Filter logs by level and module
- **Log Export:** Local/cloud log download
- **Diagnostic Tools:**
 - Ping: Network connectivity test
 - Traceroute: Route tracing
 - Packet Capture: Network data packet capture analysis
 - Domain Monitoring: Monitor domain traffic usage

9.3 Alert Management

- **Alert Rules:** Configurable alert trigger conditions
- **Alert Types:** Link alerts, signal alerts, temperature alerts, etc.
- **Alert Notification:** Real-time alert push notification
- **Alert Events:** Alerts automatically recorded as events

9.4 Scheduled Tasks

- **Scheduled Reboot:** Timed automatic reboot
- **Auto Reboot:** Automatic reboot recovery on exception
- **Clock Synchronization:** NTP time synchronization, supports custom server

9.5 Battery Management

- **Power Monitoring:** Real-time display of remaining battery
- **Power Saving Mode:** Automatic entry into low-power state to extend runtime
- **Charging Management:** Smart charging control, protects battery life
- **Charging Status:** Real-time display of charging status and battery temperature
- **Power Alert:** Timely alert notification for power switch, power failure and recovery

9.6 Account Security

- **Password Policy:** Password strength and change management
- **Login Timeout:** Automatic Web login timeout exit
- **Access Control:** Login access control

10. Cloud Management and O&M

The CR602 is equipped with InCloud Manager cloud management platform for full lifecycle remote device management.

10.1 Core Cloud Management Features

- **Device Monitoring:** Real-time monitoring of device status, traffic, signal
- **Remote Configuration:** Batch configuration deployment, improved deployment efficiency
- **Firmware Upgrade:** Remote firmware upgrade, reduced O&M cost
- **Fault Diagnosis:** Remote fault diagnosis, quick problem location
- **Alert Management:** Real-time alert information push, timely response
- **Batch Management:** Supports batch device management, improved O&M efficiency

10.2 Mobile APP Management

- **Device Addition:** Quick device addition via QR code scan
- **Uplink Configuration:** APP configure cellular network parameters
- **Status Viewing:** Real-time view of device status and traffic data
- **Alert Push:** Alert push notification via APP
- **Remote O&M:** Device management anytime, anywhere

10.3 Location Services

- **Base Station Location:** Rough location based on cellular base stations
- **Location Tracking:** Cloud-based device location tracking

11. Ordering Information

11.1 Model Description



Model	Description	Target Market
CR602-CNNR	China Version	China mainland market
CR602-EUNR	Europe Version	European market
CR602-NANR	North America Version	North America (USA, Canada, etc.)

11.2 Package Contents

- CR602 main unit × 1
- USB-C charging cable × 1
- USB-C power adapter × 1
- RJ45 Ethernet cable × 1
- Quick Start Guide × 1
- Warranty card × 1
- Portable protective case × 1

11.3 Optional Accessories

- Spare battery
- Fixed mounting kit
- Extended Ethernet cable

12. Reliability Standards and Certifications

12.1 Protection Rating

- **IP Rating:** IP30
- **Protection Features:** Protection against solid objects, suitable for indoor environments

12.2 Mechanical Reliability

- **Vibration:** Complies with IEC60068-2-6 standard
- **Free Fall:** Complies with IEC60068-2-32 standard
- **Shock:** Complies with IEC60068-2-27 standard

12.3 Battery Safety

- **Battery Protection:** Overcharge, over-discharge, over-current, short circuit protection
- **Temperature Protection:** High and low temperature automatic protection
- **Safety Certification:** Complies with UN38.3 transport safety certification

12.4 Compliance Certifications

Certification Type	Europe Version	North America Version
Mandatory Certification	CE	FCC/IC
Environmental Certification	RoHS/REACH	RoHS
Battery Certification	CE	UL
Carrier Certification		Verizon/AT&T/T-Mobile

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