

Compact 5G Wi-Fi Router for Smart Meter/Sensor Applications

WR222-WLAN+5G/LTE/NB1 and WR212-WLAN Industrial Compact 5G/LTE/NB-IoT WLAN Serial Router

The IIoT router WR222-WLAN+5G/LTE/NB1 brings serial and wireless LAN data to the cellular network. Featuring 5G RedCap, it delivers power-efficient connectivity across 5G SA Sub-6 bands. It supports 5G/LTE/NB-IoT to wireless LAN redundancy and 5G/LTE/WLAN auto offload to optimize network performance. The RS232/422/485 port connects to meters, sensors, or Modbus RTU devices to send data to the remote cloud center over the cellular or WLAN network by Modbus TCP or secured MQTT(MQTTS). To safeguard cybersecurity, security features such as Firewall, IPSec, OpenVPN, GRE tunnel are supported. The embedded MQTT and RESTful API enables instant public cloud integration such as AWS or Azure. The private cloud platform ThingsMaster and ThingsMaster OTA can also be set up for an instant and secured access to receive data or manage devices remotely.



Dual Radio 5G/4G/LTE/NB-IoT + Wi-Fi Wireless Network

- **Model with 5G: WR222-WLAN+5GRC**
3GPP Rel-17 RedCap SA
5G SA Sub-6: 226 Mbps (DL) / 120 Mbps (UL)
LTE Cat.4 2x2 MIMO, 150 Mbps (DL) / 50 Mbps (UL)
- **Model with 4G Cat 4: WR222-WLAN+LTE**
LTE Cat.4, 2T2R MIMO provides 150M downlink and 50M uplink
4G/3G/2G full cellular network compatibility
- **Model with LTE Cat 1/ Cat1bis: WR222-WLAN+LTE1**
LTE Cat1, 10Mbps DL/5MB UL
- **Model with NB-IoT/M1: WR222-WLAN+NB2+M1**
Support NB-IoT and Cat.M1,
- **Model with NTN Satellite NB-IoT/M1 : WR222-WLAN+NTN**
- Cellular to Ethernet-WAN redundancy
- **All models with WiFi IEEE 802.11b/g/n**
2.4G 2T2R MIMO delivers up to 300Mbps throughput

Serial Communication & High Throughput Data Switching

- RS232/422/485 full functions for serial over LTE/Wi-Fi/Ethernet data switching
- 2-port Ethernet supports routing and bridging mode
- Dashboard-like Web GUI shows the latest serial status/ data value and router status in main page
- Support Save Modbus Log to SD card

Rugged Design for Wayside Surveillance, ITS Application

- Effective heat dissipation design for operating in -40~70°C environments
- CE Marking
- IEC61000-6-2/IEC61000-6-4 heavy industrial EMC compliance

Enhanced Cyber Security & Redundancy

- Support Firewall for inbound/outbound traffic
- OpenVPN (server/client), IPSec
- Support L2TP with PPP, PAP, CHAP(LCP, IPCP)
- Support GRE tunnel
- HTTPs/SSH secure login
- Support TACACS+ multi-user authentication for privileged user management

Industrial IoT LAN & Cloud Management

- Various configuration paths, including CGI WebGUI, CLI, SNMP and RMON*
- 1:1 NAT, port forwarding and NATP for local traffic protection
- ARP response over 802.2 LLC SNAP
- Support SNMPv3 and entity-MIB (RFC4133), MIB II (RFC1213)
- NTP v3 time management
- WoMaster Software Utilities
 - NetMaster**: Network Management System
 - ViewMaster**: Configuration Management
 - ThingMaster**: Interactive monitoring dashboard by Modbus Tag to collect data from Modbus devices
 - ThingMaster OTA**: Realtime map showing the status, signal strength, location of the remote devices, over-the-air batch device registration, configuration and firmware upgrade*, alerts on critical events to prevent downtime
- Support MQTT protocol, ready to use AWS/Azure and Private Cloud Agent for cloud management
- USB for easy field configuration and firmware update
- Diagnostic tool includes Ping, TFTP, SNMP Trap, E-mail Alert and System Log

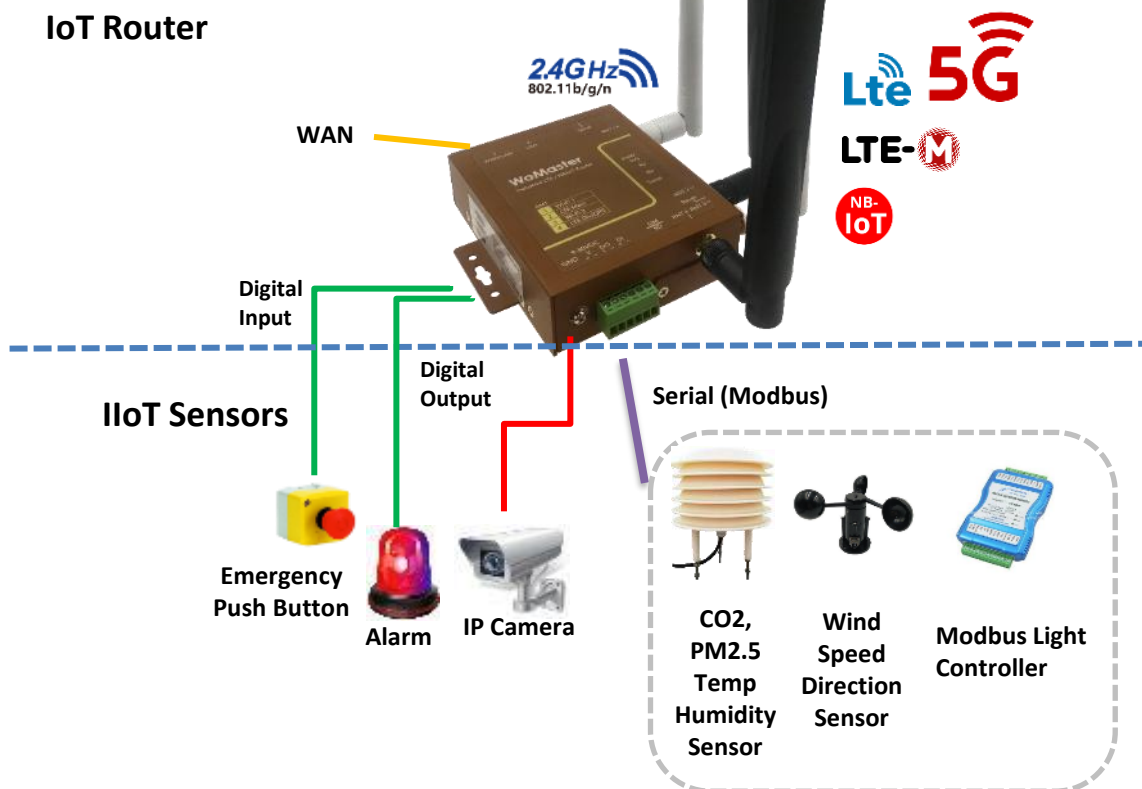


✓ Ready Total Solution for IoT

Cloud Service



IoT Router



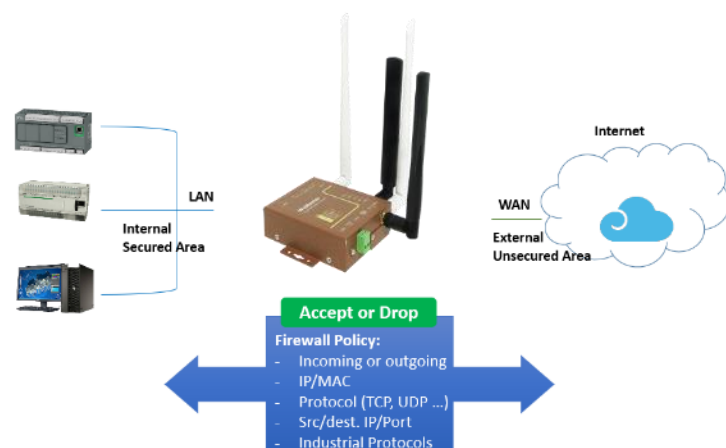
✓ Secured Remote Access by VPN

WR222 can act as VPN server for data encryption and dynamic remote access. Multiple VPN protocols are supported such as OpenVPN, GRE, and L2TP. The channels between multiple networks, ex. private/public/hybrid networks are fully secured and with authentication features.



✓ Cyber Security Guard

The stateful firewall can monitor the status of connection at all time. Multiple industrial fieldbus protocols, ex. Modbus TCP*, EtherNet/IP* are also supported for factory automation applications.





Secure IoT Modbus Tags

Tag-based data acquisition with MQTT support

MQTT client acting as publisher and subscriber

The latest TLS encryption and X.509 authentication

Selectable serial port and data type. Sensor alive check and display sensor value.

Home > IoT > Modbus Device

AWS IoT Azure IoT Private IoT Modbus Device RMS

Modbus Logging

Modbus Logging

☒ Enable

Name

Serial

Slave ID

PLC Address

Function

Data Type

// Tag Name

// Slave Address

// Data Address, Register Address

Modbus RTU Slave Tag List

Select	Name	Serial	Slave ID	Address	Function Code	Data Type	Edit	Alive	Value
☐	PM1	1	4	1	03	int16	Edit	Yes	10
☐	PM2_5	1	4	2	03	uint16	Edit	Yes	13
☐	PM10	1	4	3	03	uint16	Edit	Yes	13
☐	CO2	1	1	562	03	uint16	Edit	Yes	1107
☐	Temperature	1	1	564	03	int16	Edit	Yes	255
☐	Humidity	1	1	566	03	int16	Edit	Yes	629
☐	Temperature_f	1	1	1	03	float	Edit	Yes	25.490820

[Delete Selected](#) [Delete All](#) [Refresh](#)

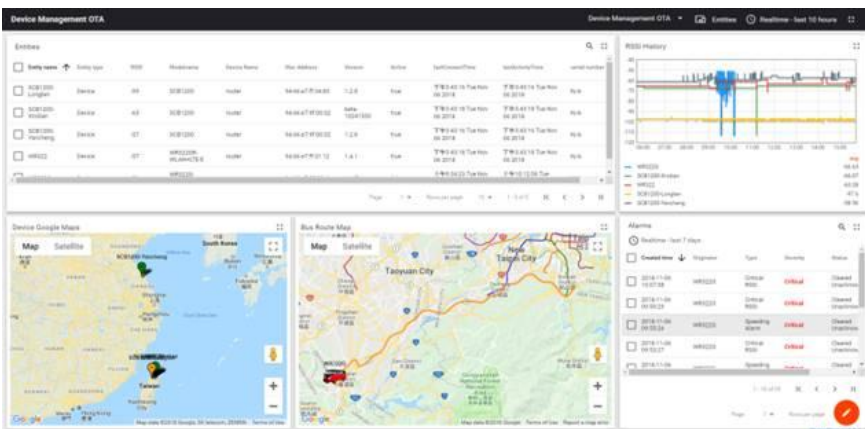
Secured Multi-sites Management

N to N VPN

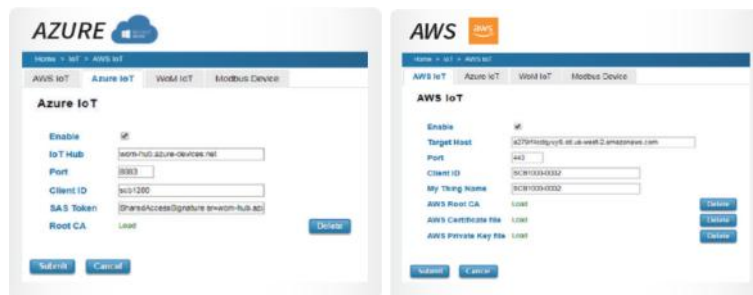
Latest TLS encryption and X.509 authentication

ThingsMaster OTA (device management over the air)

The OTA agent embedded in WR222 upgrades device management over the air, anywhere you are and any time you want over your mobile devices. ThingsMaster OTA is a secured local OTA software that can be installed in a private or public server or even QNAP NAS (network attached storage). With OTA, all device information such as location, warning event can be shown in real time. The maintenance such as configuration reload, or device reboot can also be run by group.



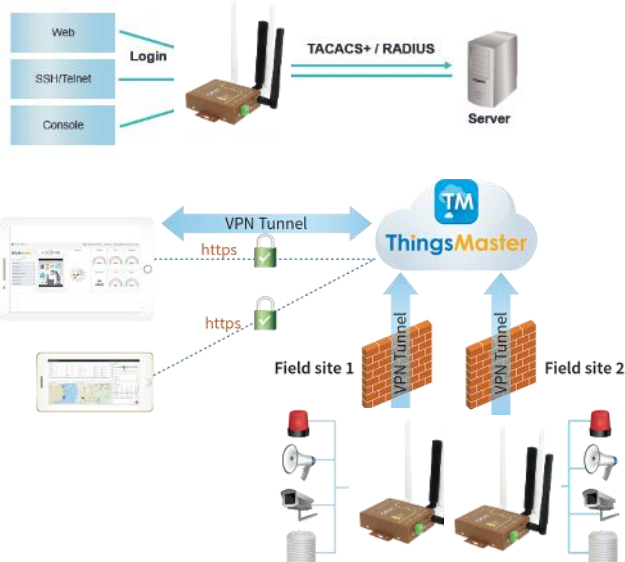
Built-in Microsoft Azure and Amazon AWS agent



Multi-Level User Passwords

Different centralized authentication servers are supported such as RADIUS and TACACS+. Using a central authentication server simplifies account administration, when you have more than one switches in the network.

Authentication Chain is also supported. An authentication chain is an ordered list of authentication methods to handle more advanced authentication scenarios. For example, you can create an authentication chain which first contacts a RADIUS server, and then looks in a local database if the RADIUS server does not respond.



Batch Configuration and Reboot OTA





Interfaces

System LED

- 1 x Power
- 1 x System Status
- 1 x Serial Status
- 2 x Radio Status LED (Ra/Rb)

Serial Communication

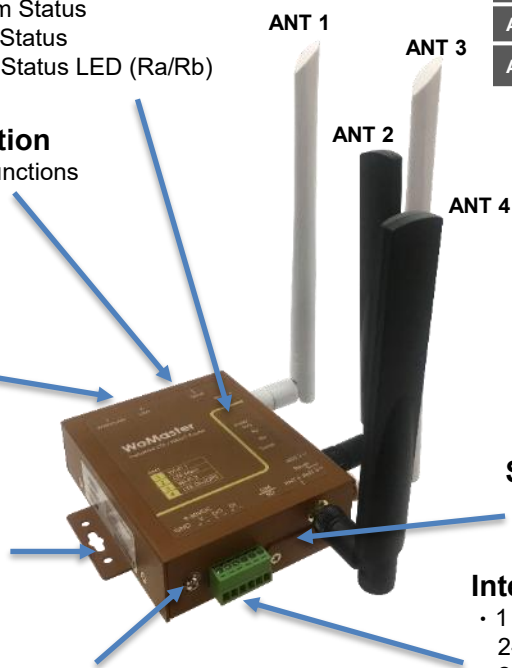
- RS232/422/485 Full functions
- DB9 female

Ethernet Network

- 2-port 10/100M RJ45
- 1 WAN + 1 LAN

Wall/DIN Mounting Clip (Both Sides)

Ground



	WR222-WLAN-5GRC	WR222-WLAN-LTE	WR222-WLAN+NB1+M1
ANT 1	Wi-Fi 1	Wi-Fi 1	Wi-Fi 1
ANT 2	LTE-Main	LTE-Main	LTE-NB1oT/M1
ANT 3	Wi-Fi 2	Wi-Fi 2	Wi-Fi 2
ANT 4	LTE-DIV	LTE-DIV/GPS	GPS

- The antenna definitions are as follows: ANT 1/3 are for Wi-Fi, while ANT 2/4 are for different cellular types.
- WR222-WLAN+5GRC-EUSR does not support GPS feature
- WR212-WLAN only support ANT 1/3.

SIM Card & SD

- 1x SIM
- 1x MicroSD

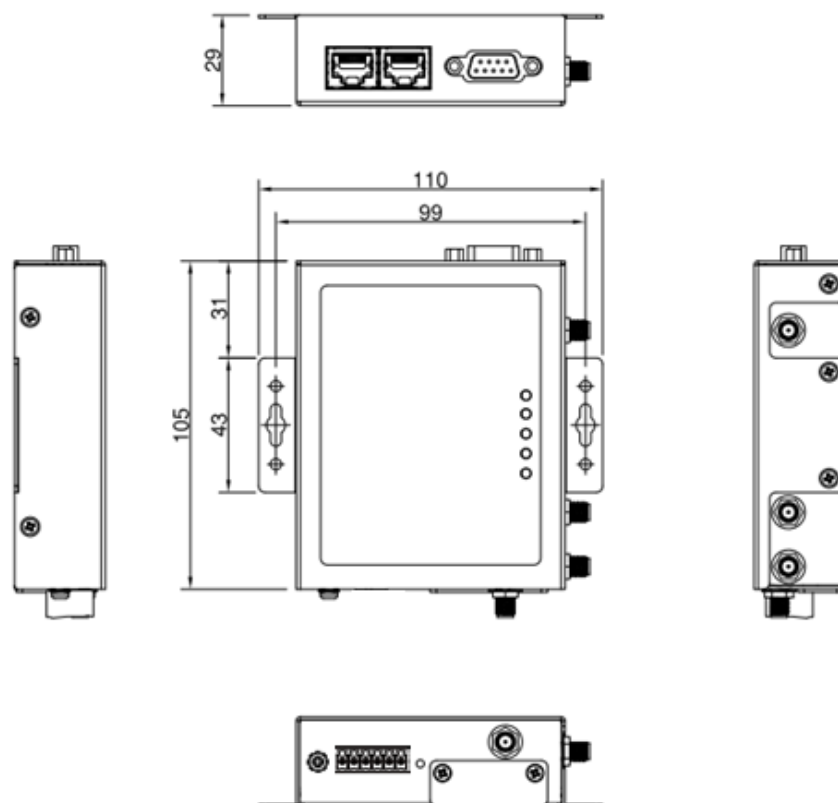
Integrated Power Connector

- 1 x 6-pin terminal block for
 - 2-pin for 12V power input
 - 2-pin for DI
 - 2-pin for DO



Dimensions

(mm)



Technology																																								
Standard	3GPP Release 11 Long Term Evolution, fallback 3GPP Release 7,8,9 for HSPA/UMTS																																							
	3GPP Release 13 NarrowBand IoT																																							
	IEEE 802.11b/g/n for Wireless LAN																																							
	IEEE 802.11i for Wireless Security																																							
	IEEE 802.3 10Base-T Ethernet																																							
	IEEE 802.3u 100Base-TX Fast Ethernet																																							
Interface																																								
Ethernet Port	2 x 10/100Base-TX RJ45, Auto Negotiation, Auto MDI/MDI-X Router Mode: 1 WAN + 1 LAN, Bridge Mode: 2 LAN																																							
System LED	1 x Power: Green ON 1 x SYS: Ready: Green On, Firmware Updating: Green Blinking 1 x Ra: 4G connection: Green On, 2/3G connection: Green Blinking, disconnected: Off 1 x Rb: AP mode: Green On, Station mode connected: Green Blinking, Station mode/radio disable: Off 1 x Serial Port: Activity: Green Blinking																																							
Reset	System Reset(2~6 Seconds) / Default Settings Reset(over 7 Seconds)																																							
SMA Socket	2x RP-SMA for WLAN, 2x SMA-Female for Cellular (Y2022) (4 x RP-SMA Female before Y2022) ANT1/3 for WLAN(Main/Div.), ANT2/4 for LTE (Main, Div/GPS)																																							
SIM Socket	1x Nano SIM																																							
MicroSD	1x for field diagnostic data logging																																							
Serial	1x RS232/422/485, DB9 Female																																							
	DB9 Female  <table><tr><th>Pin</th><th>RS232</th><th>RS485-4w/422</th><th>RS485-2w</th></tr><tr><td>1</td><td>DCD</td><td>TX-</td><td>Data-</td></tr><tr><td>2</td><td>TXD</td><td>RX+</td><td>-</td></tr><tr><td>3</td><td>RXD</td><td>TX+</td><td>Data+</td></tr><tr><td>4</td><td>DSR</td><td>-</td><td>-</td></tr><tr><td>5</td><td>GND</td><td>GND</td><td>GND</td></tr><tr><td>6</td><td>DTR</td><td>RX-</td><td>-</td></tr><tr><td>7</td><td>CTS</td><td>-</td><td>-</td></tr><tr><td>8</td><td>RTS</td><td>-</td><td>-</td></tr><tr><td>9</td><td>RI</td><td>-</td><td>-</td></tr></table>	Pin	RS232	RS485-4w/422	RS485-2w	1	DCD	TX-	Data-	2	TXD	RX+	-	3	RXD	TX+	Data+	4	DSR	-	-	5	GND	GND	GND	6	DTR	RX-	-	7	CTS	-	-	8	RTS	-	-	9	RI	-
Pin	RS232	RS485-4w/422	RS485-2w																																					
1	DCD	TX-	Data-																																					
2	TXD	RX+	-																																					
3	RXD	TX+	Data+																																					
4	DSR	-	-																																					
5	GND	GND	GND																																					
6	DTR	RX-	-																																					
7	CTS	-	-																																					
8	RTS	-	-																																					
9	RI	-	-																																					
Power Input Digital Input/Digital Output	6-Pin Removable Terminal Block Connector 2 Pin for Power (V+,V-) 2 Pins for DI with isolation High: DC 2~30V Low: DC 0~1V 2 Pins for 1x DO: 0.1A/30V with isolation																																							
5G RedCap																																								
WR222-WLAN+5GRC																																								
WR222-WLAN+5GRC-EUSR	Multi-Band 5G NR/LTE-FDD/LTE-TDD, supports 3GPP R17 NR RedCap and LTE Cat.4, 2x2 MIMO Bandwidth: NR SA sub-6 20MHz, LTE 20MHz Max. 5GNR Peak Data Rate: FDD:220Mbps(DL)/120Mbps(UL) TDD:200Mbps(DL)/100Mbps(UL) LTE Peak Data Rate: FDD/TDD:150Mbps(DL)/50Mbps(UL) 5G RedCap: n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n71/n77/n78 LTE-FDD: B1/B3/B5/B7/B8/B20/B28/B71 LTE-TDD: B38/B40/B41/B42/B43																																							
WR222-WLAN+5GRC-E	5G RedCap: n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n71/n77/n78 LTE-FDD: B1/B3/B5/B7/B8/B20/B28 LTE-TDD: B38/B40/B41/B42/B43 GNSS L1/L5, supports GPS, GLONASS, Galileo, NavIC, and Beidu																																							
WR222-WLAN+5GRC-G	5G SA: n1/n2/n3/n5/n7/n8/n12/n13/n14/n18/n20/n25/n26/n28/n30/n38/n40/n41/n48/n66/n70/n71/n77/n78 FDD LTE : B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B30/B66/B71 TDD LTE: B34/B38/B39/B40/B41/B42/B43/B48 GNSS L1/L5, supports GPS, GLONASS, Galileo, NavIC, and Beidu																																							
4G LTE Cat 4																																								
WR222-WLAN+LTE																																								
Standard	LTE 3GPP Release 11 UMTS/HSPA 3GPP Release 8, GSM/GPRS/EDGE 3GPP Release 6																																							
Data Rate	LTE Cat.4: LTE-FDD: DL: Max. 150 Mbps, UL: Max. 50 Mbps, 2x2 DL MIMO LTE-TDD: DL: Max. 130 Mbps, UL: Max. 35 Mbps, 2x2 DL MIMO HSPA: DL: Max. 42 Mbps, UL: Max. 5.76 Mbps GPRS: DL: Max. 85.6 kbps, UL: Max. 85.6 kbps, EDGE: DL: Max. 236.8 kbps, UL: Max. 236.8 kbps																																							
WR222-WLAN+LTE-EUX/ECGA	LTE: FDD B1/B3/B7/B8/B20/B28A TDD: B38/40/41 (LTE-EUX) WCDMA: FDD B1/B8, GSM: B3/B8																																							

WR222-WLAN+LTE-LA	FDD LTE : B1/B2/B3/B4/B5/B7/B8/B28/B66 TDD LTE: B40 WCDMA : B1/B2/B4/B5/B8 GSM/GPRS/EDGE : B2/B3/B5/B8
WR222-WLAN+LTE-AUX	LTE: FDD B1/B2*/B3/B4/B5/B7/B8/B28 LTE: TDD B40 WCDMA: FDD B1/B2/B5/B8, GSM: B2/B3/B5/B8
WR222-WLAN+LTE-G/GH	LTE: FDD B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28 LTE: TDD B38/B39/B40/B41 WCDMA: FDD B1/B2/B4/B5/B6/B8/B19, GSM: B2/B3/B5/B8 LTE-GH support additional LTE B66, TDD B34
LTE Cat 1 / Cat 1bis	
WR222-WLAN+LTE1	
Standard	LTE 3GPP Release 13/17
Data Rate	Downlink: 10Mbps ; Uplink: 5Mbps
WR222-WLAN+LTE1-E	LTE : B1/B3/B7/B8/B20/B28 GSM : B3/B8
Satellite+CatM1+NB2	
WR222-WLAN+NTN	
IoT NTN (Skylo)	L: B255; S: B256, B23 250kbps DL/200kbps UL
LTE CatM1	B1/2/3/4/5/8/12/13/18/19/20/25/26/27/28/66 Max.589kbps DL, 1119kbps UL
LTE NB2	B1/2/3/4/5/8/12/13/18/19/20/25/26/28/66 NB2: Max.127kbps DL, 158.5kbs UL
GNSS	GPS/GLONASS/BeiDou/Gallileo/QZSS
NB-IoT/M1	
WR222-WLAN+NB2+M1	
Standard	LTE 3GPP Release 14
Data Rate	Data Rate: Cat M1: Max. 588kbps(DL), Max. 1119Kbps(UL), Cat NB2: Max. 127kbps(DL), Max. 158.5Kbps(UL) EDGE: Max. 296Kbps (DL), Max. 236.8Kbps (UL), GPRS: Max. 107Kbps (DL), Max. 85.6Kbps (UL)
Band Information	Cat M1: LTE-FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85 Cat NB2: LTE-FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B66/B71/B85 EGPRS: 850/900/1800/1900MHz
Wi-Fi Properties	
Standard	IEEE 802.11b/g/n, Up to 2T2R MIMO
Data Rate	802.11b: 11Mbps / 802.11g: 54Mbps / 802.11n: MCS0 ~ 15, max. 300Mbps Check detail TX/RX information in User Manual
Frequency	ISM Band, 2.412GHz ~ 2.462GHz (CH1~11), programmable by regional regulation
RSSI	17.67db (Max. output power: 15.17dbm/802.11b, 12.66dbm/802.11g, 12.42dbm/802.11n20M, 11.48dbm/802.11n40M + 2.5dBi default antenna) Check detail TX/RX information in User Manual or contact us
Antenna (Default in package)	
LTE Default Antenna	Frequency: 690~960/1710~2700 MHz
	Peak Gain: 3.15dBi 690MHz: 1.36dBi, 960MHz: 1.37dBi, 1710MHz: 3.12dBi, 1800MHz: 1.29dBi 1900MHz: 2.63dBi, 2100MHz: 1.47dBi, 2170MHz: 1.14dBi, 2500MHz: 3.15dBi 2600MHz: 2.46dBi, 2700MHz: 1.89dBi
	Direction: Omni
	Connector: SMA Male
	Dimension: 158x17.6xΦ13 mm
Wi-Fi Default Antenna	Frequency: 2400~2500/5150~5850MHz
	Peak Gain: 2.4G: 3.55dBi, 5GHz: 5.28dBi 2400~2500MHz: 2.4~3.55dBi 5150~5850MHz: 3.41~5.28dBi
	Direction: Omni-directional
	Connector: SMA Male Reverse
	Dimension: 200xΦ13 mm
Power Requirement	
Input Voltage	24V (9~30VDC)
Reverse Polarity Protect	Yes
Input Current	WR222-WLAN+LTE: 0.18A@24V
Power Consumption	WR222-WLAN+LTE: Max 4.32W@24VDC full traffic, suggest to reserve 15% tolerance

Software	
Management Interface	CGI WebGUI, Command Line Interface (CLI), IPv4/IPv6*, Telnet, SNMP v1/v2c/v3, DDNS, DHCP server/client, DHCP Relay, TFTP, System Log, SMTP, ARP response over 802.2 LLC SNAP, Proxy ARP, DNS (client/proxy)
Traffic Management	Flow Control*, Traffic shaping
Security	IEEE 802.1X/RADIUS, TLS v1.2, HTTPS/SSH, First login password management WLAN AP Security: Share Key, WPA/WPA2-PSK(Pre-Shared Key), WPA/WPA2 Enterprise Encryption: 64/128-bit WEP(Wired Equivalent Privacy), TKIP(WPA-PSK), AES(WPA2-PSK)
Advanced Security	TACACS+, Multiple-user authentication
Time Management	NTP, SNTP, Cellular Time
Redundancy Protocol	WAN/LTE Redundancy
WAN/Routing/NAT/Firewall/VPN	Routing: Static Route NAT: 1-1 NAT, NATP(SNAT/DNAT), DMZ Firewall: Stateful Inspection firewall, IP/Port Filter, MAC Filter VPN: OpenVPN, L2TP, GRE, IPSec(<i>Note: IPSec is a new feature after firmware V1.5.6, requiring higher flash/ram support. Please note that the serial number must be after Apr. 2025. If you purchased an earlier version, please contact the sales department to purchase a new product.</i>)
IIoT Industrial Protocol	Modbus RTU, MQTT/MQTTS, RESTful API
Private Cloud	ThingsMaster, ThingMaster OTA
Public Cloud	AWS Agent, Azure Agent
Location	Google map, Baidu map
MIB	MIB-II, Entity MIB, WoMaster Private MIB
Utility	ViewMaster, NetMaster, Ping, Traceroute
Serial communication	TCP Server/TCP Client/UDP mode, TCP Alive check, Force TX Delimiter/Timeout/interval/length, Long Distance Termination, Serial to MQTT conversation, Modbus RTU to MQTT conversation
Cellular Configuration	Radio on/off, 2G, 3G and 4G modes configurable, SIM Security, Connection Status, Cellular to Eth-WAN Redundancy, GPS positioning, Backup SIM Retry (1-10 times)
WLAN Configuration	WLAN Basic Settings: Radio on/off, AP/client mode, 2.4G 11n Band and Frequency selection, SSID/Multi-SSID configuration, SSID broadcast, Cellular to WLAN Auto Offload and advanced WLAN settings, 802.1X
Wi-Fi Max. Client	Up to 20
Mechanical	
Installation	Wall Mount/DIN Rail (DIN bracket not included)
Enclosure Material	Steel Metal
Dimension	86 x 105 x 29mm(W x D x H) / without mounting Clip
Ingress Protection	IP30
Weight	Around 350g without package/antenna
Environmental	
Operating Temperature & Humidity	-40°C~70°C , 5%~95% Non- Condensing
Storage Temperature	-40°C~85°C
MTBF	>200,000 hours
Warranty	5 years
Approval	
CE	RED Compliance Safety: EN 62368-1 (EN60950-1 Compliance and Replacement) EN 62311 MPE assessment EN 301 489-1/17/52, EN 55032/55024 includes EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11 EN 300 328* EN 301 908-1*
FCC	FCC part 15B Class A Compliance, FCC Approved LTE/WLAN Module
EMC	EN61000-6-2/EN61000-6-4 includes EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8 and CISPR 22/16

Software (EC OS Version, OpenWRT, WR222-WLAN+LTE-GH-EC series)	
Applied Model	WR222-WLAN+LTE-GH-EC
OS	OpenWRT 21.02
Web Server	luCI Web Interface
Terminal Server (SSH)	Secure encrypted communications between two untrusted hosts over an insecure network
Kernel	GNU/Linux kernel v5.4.171
Internet Protocol Suite	TCP, UDP, IPv4, IPv6, ICMP, ARP, HTTP, DHCP, NTP, SSH, PPP, SFTP, SSL, SCP
Internet Security Suite	IPSec(by configure file), Netfilter/iptables
Network Control Protocol	Router mode (1xWAN+1xLAN), NAT/PAT, VLAN, QoS, NTP client/server, IGMP, PPP, PPPoE, SSL, port forwarding
Network Security	HTTPS, SSH, VPN tunnels, SFTP, DMZ, firewall (IP filtering, MAC address filtering, inbound/outbound port filtering)
Cryptographic	AES, SHA, OpenSSL, random generator
Cellular Networking	Features: Cellular Configuration Radio on/off, 2G/3G and 4G modes configurable, Enter PIN code for SIM Security, Connection status, display module info, Modem manager: uQMI(user QMI) for talking to WWAN modems and devices that speak the Qualcomm MSM Interface (QMI) protocol.
Serial	Ser2net bridge/proxy
Time Management	NTP
Watchdog	Periodic Reboot, Ping watchdog for keep-Alive connection monitoring, Restart interface for mobile modem
Web GUI Management	Based on LuCI WebGUI System Setting, NTP Setting, Router Password setting with strength check, SSH Access and Key upload, HTTPS, init script startup setting, configuration backup/restore, firmware upgrade, system reboot, watchcat(watchdog), ser2net, Interface configuration, Wi-Fi interface setting, DHCP server/client, DHCP Relay, DNS, firewall setting, static router, Diagnostic Ping, traceroute, Nslookup, Device Status and Mobile Information
WLAN Configuration (Model with WLAN module)	Support Wi-Fi AP/Client mode (Default is Disable) WLAN Basic Settings: Radio on/off, Master(AP) or Client mode, Operation Frequency Mode configuration, SSID, Hide SSID, Wireless Security encryption includes WPA2-PSK/WPA-PSK/Open, advanced WLAN settings, WLAN MAC Filter Note: Client mode support wireless wan(also known as client router mode) connectivity.

Note: The model is by MoQ request. Support Wi-Fi AP/Client mode (Default is Disable)



Ordering Information

Model Name	Description
WR212-WLAN	Industrial Wireless IIoT Field Router, 2FE+1 Serial, DI+DO, SD, 802.11b/g/n WLAN
WR222-WLAN+5GRC-EUSR	Industrial Wireless IIoT Field Router, 2FE+1 Serial, DI+DO, SD+1SIM, 802.11b/g/n WLAN, 5GRC-EUSR
WR222-WLAN+5GRC-E	Industrial Wireless IIoT Field Router, 2FE+1 Serial, DI+DO, SD+1SIM, 802.11b/g/n WLAN, 5GRC-E
WR222-WLAN+5GRC-G	Industrial Wireless IIoT Field Router, 2FE+1 Serial, DI+DO, SD+1SIM, 802.11b/g/n WLAN, 5GRC-G
WR222-WLAN+LTE-G	Industrial Wireless IIoT Field Router, 2FE+1 Serial, DI+DO, SD+1SIM, 802.11b/g/n WLAN, LTE-G
WR222-WLAN+LTE-LA	Industrial Wireless IIoT Field Router, 2FE+1 Serial, DI+DO, SD+1SIM, 802.11b/g/n WLAN, LTE-LA
WR222-WLAN+LTE-EUX	Industrial Wireless IIoT Field Router, 2FE+1 Serial, DI+DO, SD+1SIM, 802.11b/g/n WLAN, LTE-EUX
WR222-WLAN+LTE-E	Industrial Wireless IIoT Field Router, 2FE+1 Serial, DI+DO, SD+1SIM, 802.11b/g/n WLAN, LTE-E
WR222-WLAN+LTE1-E	Industrial Wireless IIoT Field Router, 2FE+1 Serial, DI+DO, SD+1SIM, 802.11b/g/n WLAN, LTE1-E
WR222-WLAN+NTN-S	Industrial Wireless IIoT Field Router, 2FE+1 Serial, DI+DO, SD+1SIM, 802.11b/g/n IoT NTN, LTE CAT M1, LTE NB2, GNSS
WR222-WLAN+NB2+M1	Industrial Wireless IIoT Field Router, 2FE+1 Serial, DI+DO, SD+1SIM, 802.11b/g/n WLAN, NB2+M1
WR222-WLAN+LTE-GH-EC (By MoQ request)	Industrial Wireless IIoT Field Router, 2FE+1 Serial, DI+DO, 1SIM, EC OS , 802.11b/g/n WLAN, LTE-GH
	*GPS support by request(When GPS is supported, one Wi-Fi receive antenna SMA will be removed.) *5GRC-EUSR/LTE-E doesn't support GPS feature *LTE-GH-EC: The model doesn't support Serial port and SD card. *LTE-GH-EC: The model is equipped with SIMCOM 7600G-H LTE module for project need. *NTN: NB2+M1+NTN by request
	Package List 1 x Product Unit 1 x 6-pin Removable Terminal Connector 1 x Din Clip Mounting Kit Default Enclosed Antennas: WR212-WLAN/ WR212A-WLAN: 2 x WLAN Antennas, White WR222-WLAN+NB1+M1/ WR222A-WLAN+NB1+M1: 1xLTE Antennas, Black+2xWLAN Antennas, White WR222-WLAN+5GRC: 2x5G Antennas, Black+ 2xWLAN Antennas, White WR222-WLAN+LTE: 2xLTE Antennas, Black+ 2xWLAN Antennas, White 1 x Quick Installation Guide
5G NR/RC	(5G New Radio/5G RedCap)
5G NR Antenna for 5G radio (A-5G NR-5-SM)	Frequency: 700~5000 MHz Gain: 4.12dBi @ 3500MHz 690~960MHz: 0.73~3.04dBi, 1700~1900MHz: 2.2~3.11dbi, 3300~3800MHz: 4.12~5.95dBi, 4000~5000MHz: 3.16~5.97dbi Direction: Omni Connector: SMA Male Dimension: 220x27mmΦ13mm
Optional Accessory	Description
AD-DB9M-TB10	ADAPTER DB9 MALE TO TERMINAL BLOCK 10PIN 
A-LTE_WLAN_G-5_5-RSM-1M	Combo Outdoor Antenna, LTE NB-IoT Cat M1 WW 5dBi, Wi-Fi 2.4 Omni-directional 5dBi, GPS 1561-1670MHz 28dBi, RP-SMA male, 1M 



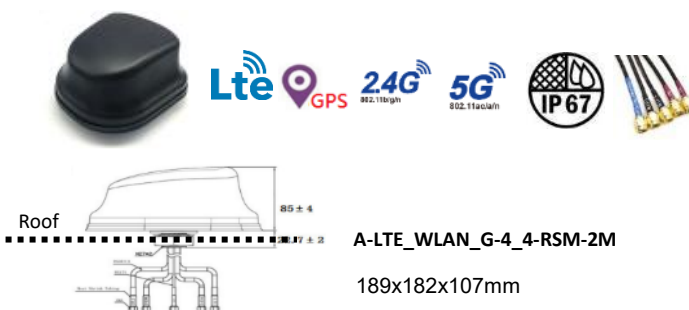
Ordering Information

A-LTE_WLAN_G-4_4-RSM-2M	Combo IP67 Antenna, LTE WW 4dBi, Wi-Fi 2.4/5GHz dual band Omni-directional 4/4dBi, GPS 1561-1670MHz 28dBi, RP-SMA male, 2M
A-LTE_WLAN_G-3_2-RSM-2M	Combo IP67 Antenna, LTE WW 3dBi, Wi-Fi 2.4/5GHz dual band Omni-directional 2/2dBi, GPS 1575-1610MHz 28dBi, RP-SMA male, 2M
A-LTE-3-NM	LTE Antenna, LTE WW 3dBi, N-type male
A-WLAN-6-NM	Wi-Fi Antenna, Wi-Fi 2.4/5GHz dual band Omni-directional 4/6dBi, N-type male
A-GPS-27-RSM-3M	GPS Antenna, GPS 1575MHz 27dBi, RP-SMA male, 3M
C-RF-R-RSF_RSM-1M	RF cable, RP-SMA female to RP-SMA male, 1M
C-RF-C2-NF_RSM-2M	RF cable, N-type female to RP-SMA male, CFD200, 2M

Outdoor Vehicle Combo Antenna

A-LTE_WLAN_G-4_4-RSM-2M

- 5 RF cables, LTE MIMO, WIFI MIMO, GPS/GLONASS/GALILEO/BEIDOU
- 4dBi gain for LTE and 4dBi gain for 2.4G/5G WIFI RF
- High WLAN gain is perfect for train to ground vehicle application
- 5 x 2-meter cables in RP SMA male connector
- Outdoor high gain, IP67 waterproof and -40°~85°C wide temperature design
- 189x182x107mm

**A-LTE_WLAN_G-3_2-RSM-2M**

- 5 RF cables, LTE MIMO, WIFI MIMO, GPS&GLONASS
- 3dBi gain for LTE and 2dBi gain for 2.4G/5G WIFI
- Suitable for in-vehicle, roadside box and short-range coverage WLAN to LTE communication environment
- 5 x 2-meter cables in RP SMA male connector
- Outdoor IP67 waterproof and -40°~85°C wide temperature
- 110x110x80mm slim size



	Model	Type	Frequency (MHz)	Gain (dBi)	Connector	Dimension (mm)	Cable (M)	Operating Temp.	Application
	A-LTE_WLAN_G-4_4-RSM-2M	Omni	LTE: 698~960/1710~2690/2900~3600 WLAN: 2400~2483.5/4900~5825 GNSS: 1561.1~1610 (GPS/GLONASS/GALILEO/BEIDOU)	4 4 28	5x RP SMA Male	189x182x107	2	-40°C~85°C	Outdoor
	A-LTE_WLAN_G-3_2-RSM-2M	Omni	LTE: 698~960/1710~2690 WLAN: 2400~2483.5/4900~5825 GNSS: 1575.42~1610 (GPS/GLONASS)	3 2 28	5x RP SMA Male	110x110x80	2	-40°C~85°C	Outdoor

LTE Antenna

	Model	Type	Frequency (MHz)	Gain (dBi)	Connector	Dimension (mm)	Cable (M)	Operating Temp.	Application
	A-LTE-2-RSM	Omni	704~960/1710~2690	2	RP SMA Male	161xΦ13	-	-20°C~ 65°C	Indoor
	A-LTE-3-NM (require RF cable)	Omni	704~960 1710~2700	2 3	N-Type Male	187xΦ20	-	-20°C~ 65°C	Outdoor

WLAN Antenna

	Model	Type	Frequency (MHz)	Gain (dBi)	Connector	Dimension (mm)	Cable (M)	Operating Temp.	Application
	A-WLAN-3-RSM	Omni	2400~2500 4900~5900	2.5 3	RP SMA Male	196xΦ13	-	-40°C~ 65°C	Indoor
	A-WLAN-6-NM (require RF cable)	Omni	2400~2500 5150~5850	4 6	N-Type Male	187xΦ20	-	-20°C~ 65°C	Outdoor

GPS Antenna (optional)

	Model	Type	Frequency (MHz)	Gain (dBi)	Connector	Dimension (mm)	Cable (M)	Operating Temp.	Application
	A-GPS-27-RSM-3M	Omni	1575.42	27	RP SMA Male	36x36x13.9	3	-20°C~ 65°C	Indoor