



Model	MMG-4203
Technology	
Standard	3GPP Release 11 Long Term Evolution (LTE), fallback 3GPP Release 7,8,9 for HSPA/UMTS
	IEEE 802.11b/g/n for Wireless LAN
	IEEE 802.11i for Wireless Security
	IEEE 802.3 10Base-T Ethernet
Interface	IEEE 802.3u 100Base-TX Fast Ethernet
Ethernet Port	2 x 10/100Base-TX RJ45, Auto Negotiation, Auto MDI/MDI-X
System LED	Router Mode: 1 WAN + 1 LAN, Bridge Mode: 2 LAN
	1 x Power: Green ON
	1 x SYS: Ready: Green On, Firmware Updating: Green Blinking
System LED	
	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	Up to 4 x RP-SMA Female (without Nylok)
	ANT1/3 for Wi-Fi 2T2R, ANT2/4 for LTE 2T2R (Main/Div)
SIM Socket	1x Nano SIM
Micro SD	1x for field diagnostic data logging
	6-Pin Removable Terminal Block Connector
	2 Pin for Power (V+,V-)
	2Pins for DI with isolation
	High: DC 2~30V
	Low: DC 0~1V
	2 Pins for 1x DO: 0.1A/30V with isolation
Serial	1x RS232/422/485, DB9 Female
Cellular Properties (LTE CAT.4)	
	GSM/GPRS/EDGE 3GPP Release 6
Standard	UMTS/HSPA 3GPP Release 8
	LTE 3GPP Release 11
	LTE Cat.4:
	GPRS: DL: Max. 85.6 kbps, UL: Max. 85.6 kbps
	EDGE: DL: Max. 236.8 kbps, UL: Max. 236.8 kbps
	HSPA: DL: Max. 42 Mbps, UL: Max. 5.76 Mbps
	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
	LTE: FDD B1/3/7/8/20/28A
Band Information: LTE-E	WCDMA: FDD B1/B5/B8 (2100/850/900MHz)
	GSM: B3/B8 (1800/900MHz)
	LTE:FDD B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28
	LTE: TDD B38/B39/B40/B41

Band Information: LTE-G	
	WCDMA: FDD B1/B2/B4/B5/B6/B8/B19
	GSM: B2/B3/B5/B8
LTE Default Antenna	Frequency: 704~960/1710~2690 MHz
	Gain: 2 dBi
	Dimension: 161x Φ 13 mm
Cellular Properties (NB IoT+CAT M1)	
Standard	EGPRS 3GPP Release 6
	LTE 3GPP Release 13
Data Rate	Cat M1: Max. 375Kbps (DL), Max. 375Kbps (UL)
	Cat NB1: Max. 32Kbps (DL), Max. 70Kbps (UL)
	EDGE: Max. 296Kbps (DL), Max. 236.8Kbps (UL)
	GPRS: Max. 107Kbps (DL), Max. 85.6Kbps (UL)
Band Information	Cat M1/Cat NB1:
	LTE FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28
	LTE TDD: B39 (For Cat M1 Only)
	EGPRS: 850/900/1800/1900MHz
WiFi 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
Frequency	ISM Band, 2.412GHz ~ 2.462GHz (CH1~11), programmable by regional regulation
RSSI	≤ 20 db, compliant with CE request
Wi-Fi Default Antenna	Frequency: 2400~2500/ 4900~5900 MHz
	Gain: 2.4GHz: 2.5 dBi, 5GHz: 3dBi
	Dimension: 196x Φ 13 mm
Software	
Management Interface	CGI WebGUI, Command Line Interface (CLI), IPv4/IPv6*, Telnet, SNMP v1/v2c/v3, DDNS, DHCP server/client, DHCP Relay, TFTP, FTP(active/passive), System Log, SMTP, ARP response over 802.2 LLC SNAP, Proxy ARP, DNS (client/proxy), PPPoE*
Traffic Management	Flow Control*, Traffic shaping
User Management	Radius client, TACACS+, local database
Time Management	NTPv3, SNTP, Cellular Time

IoT Industrial Protocol	Serial to MQTT Conversion, Modbus RTU to MQTT Conversion, Modbus RTU to TCP Conversion, MQTTS, CoAP, RESTful API
Meter Protocol	DLMS/COSEM*
Network Management	IPv4, SNMP v1/v2c/v3/Trap, MIB II, Entity MIB, DHCP server/client, DHCP relay, TFTP, ARP response over 802.2 LLC SNAP, Proxy ARP, DNS (client/proxy), private MIB
Traffic Management	1:1 NAT, NAPT(SNAT/DNAT), Port Forwarding
Redundancy Protocol	WAN/LTE Redundancy
WAN/Routing/NAT/Firewall/VPN	Routing: Static Route
	NAT: 1-1 NAT, NAPT(SNAT/DNAT)), Port Forwarding, DMZ
	Firewall: Stateful Inspection firewall, IP/Port Filter, MAC ACL
	VPN: OpenVPN,L2TP, GRE
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),), MAC Filter
Serial Communication	TCP Server/TCP Client/UDP mode, TCP Alive check, Force TX Delimiter/Timeout/interval/length, Long Distance Termination
VPN	OpenVPN (server/client), L2TP, GRE
Private Cloud	ThingsMaster, ThingMaster OTA
Public Cloud	AWS Agent, Azure Agent
Location	Google map, Baidu map
Cellular Configuration	Radio on/off, 2G, 3G and 4G modes configurable, SIM Security, Connection Status, Cellular to Eth-WAN Redundancy, Backup SIM Retry
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
Utility	ViewMaster, NetMaster, Ping, Traceroute
MIB	MIB-II, Entity MIB, WoMaster Private MIB
Wi-Fi Max. Client	Up to 20
Power Requirement	
Input Voltage	24V (9~30VDC)
Reverse Polarity Protect	Yes
Input Current	WR224-WLAN+LTE: 0.18A@24V
Power Consumption	WR224-WLAN+LTE: Max 4.32W@24VDC full traffic, suggest to reserve 15% tolerance
Mechanical	
Installation	Wall Mount/DIN Rail (DIN bracket not included)
Enclosure Material	Steel Metal

Dimension	86 x 105 x 29mm(W x D xH) / 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	
Safety	EN60950-1 Compliance
EMC	EN61000-6-2/EN61000-6-4
EMI	CISPR 22, FCC part 15B Class A
EMS	EN61000-4-2 ESD, EN61000-4-3 RS, EN61000-4-4 EFT,EN61000-4-5, EN61000-4-6 CS,EN61000-4-8 Magnetic Field
Radio	RED Compliance
	Safety: EN 62368-1
	EN 50385/EN62311 MPE assessment
	EN 301 489-1/17/19, EN 55032/55024
	EN 300 328
	EN 301 908-1
	FCC Part 15B