

# SW9000\_5G



- Industrial 5G CPE
- Integrates Qualcomm 4 core 1.8GHZ CPU, 8Gb RAM, 4Gb EMMC, 2x2 MIMO WIFI6, 4x1000M Ethernet
- 5G supports SA, NSA networking mode, providing users with high reliability and high-speed 5G network access services
- IP67 protection level



The actual appearance is subject to the final configuration.

## Specifications

<b>MODEL</b>	SW9000_5G		
<b>Support OS</b>	LINUX /OpenWRT		
<b>CPU</b>	Model	Qualcomm Quad-core CPU/ 1.8GHZ	
<b>RAM</b>	DDR3	8 GB	
<b>eMMC</b>	Capacity	4 GB	
<b>INTERFACE</b>	LAN / WAN Ports	4x 10/100/1000M LAN/WAN ports, M12-X Model Connector	
	Antennas	GPS Antenna- FAKRA interface (50Ω)	
		2 x 2.4G&5.8G WIFI Antennas -FAKRA interface (50Ω)	
		ANT0-5G Main Antenna -FAKRA interface (50Ω)	
		ANT1-5G DIV Antenna- FAKRA interface (50Ω)	
		ANT2-5G MIMO1 Antenna -FAKRA interface (50Ω)	
	ANT3-5G MIMO2 Antenna -FAKRA interface (50Ω)		
	LED	SYS LED: System booting SYS Led blink, SYS LED ON system booting finished	
SIM Card Slot	Nano-SIM card slot, supported e-SIM card		
Reset	1x Reset, Restore Factory Setting Press 10s release		
<b>CELLULAR BAND</b>	Chipset QualcommX62, 3GPP Release 16		
	Band Supported EN-RT990-AE (Europe Asia, Australia)	5G Sub-6G SA	N1/3/5/7/8/20/28/38/40/41/75/76/77/78
		5G Sub-6G NSA	N1/3/5/7/8/20/28/38/40/41/77/78
		LTE FDD	Band 1/3/5/7/8/20/28/32
		LTE TDD	Band 38/40/41/42/43/46(LAA)
		WCDMA	Band 1/5/8
	Band Supported EN- RT990-NA (North American)	5G Sub-6G SA	N2/5/12/14/25/30/41/48/66/70/71/77
		5G Sub-6G NSA	N2/5/12/25/30/41/66/71/77
		LTE FDD	Band 2/4/5/12/13/29/30/66/71
		LTE TDD	Band 41/48/46(LAA)

<b>CELLULAR BAND</b>	Bandwidth	NR SA: 2.47Gbps(DL) / 900Mbps(UL)		
		NR ENDC: 3.47Gbps(DL) / 660Mbps(UL)		
		LTE: 1.6Gbps(DL) / 211Mbps(UL)		
		WCDMA: 42Mbps(DL) / 5.76Mbps(UL)		
		Note: The actual network speed and bandwidth depends on the local carrier network and signal.		
<b>Standalone GPS</b>	Multi-GNSS engine	GPS, GLONASS, BeiDou, Galileo and QZSS		
	LNA	Built-in LNA for better sensitivity		
	Supported Bands	GPS L1 C/A: 1575.42 MHz	Galileo E1: 1575.42 MHz	
		QZSS L1: 1575.42 MHz	GLONASS L1: 1602.5625 MHz	
		BeiDou B1: 1561.098 MHz		
	Channel	Tracking: 48	Fast Acquisition: 2	
	Horizontal Position Accuracy	Autonomous: < 1.5 m CEP		
	Velocity Accuracy	Without Aid: < 0.1 m/s		
	Acceleration Accuracy	Without Aid: < 0.1 m/s <sup>2</sup>		
	TTFF (without AGNSS)	Cold Start: < 32 s Warm Start: < 25 s Hot Start: < 2 s		
	Sensitivity	Acquisition: -145 dBm Tracking: -162 dBm Reacquisition: -152 dBm		
Protocols	NMEA 0183			
Interface	TCP server(LAN port IP)+Port 3030,default bps :115200bps, max supported 921600bps Update Rat:1HZ(default),Max10HZ			
<b>WiFi Performance</b>	WiFi supported			
	Wireless	High power WiFi performance		
		On-board 2x2 2.4GHz 802.11b/g/n, max 21dBm per chain @-35dB DEVM		
		On-board 2x2 5GHz 802.11a/n/ac/ax/max 20dBm per chain @-40dB DEVM		
	Frequency	2.412GHz to 2.472GHz and 5.150GHz to 5.825GHz, simultaneous dual band		
	WiFi Rate	2 x 2 MU-MIMO On-board WiFi 2.4GHz radio, up to 574Mbps physical data rate, TCP data up to 400Mbps		
2 x 2 MU-MIMO On-board WiFi 5GHz radio, up to 1201Mbps physical data rate, TCP data rate up to 800Mbps				
Modulation Techniques	802.11b: DSSS (DBPSK / DQPSK / CCK)	802.11a/g: OFDM (BPSK / QPSK / 16-QAM / 64-QAM)		
	802.11ac/n: OFDM (BPSK / QPSK / 16-QAM / 64-QAM / 256-QAM)	802.11ax:OFDM 1024QAM		
<b>Router Characteristics</b>	Firewall	Network Address Translation (NAT)	State full Packet Inspection (SPI)	
	Media Access Control	CSMA/CA with ACK		
	WiFi	AP, Client		
	VPN protocol	PPTP,L2TP ,OpenVPN Client, EASYNET VPN Client Wireguard		
	DHCP	Build-in DHCP (Dynamic Host Configuration Protocol)		
	Others protocol	Supported PPP,PPOE,DDNS,ICMP,VRRP etc		
	Management protocol	SNMP V1,V2,V3,TR069		
<b>Power Interface</b>	Default power	DC 12V/2A power adapter (US, EU etc stander option)		
	Power connector	M12-3PIN(DC+,DC-,ACC power control)		
	Input VDC	10~36VDC		
	Power Consumption	24W (Max)		

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<b>Physical Property</b>	Temperature	Storage Temperature: -40°C to 85°C	
		Operating Temperature: -40°C to 85°C	
	Relative Humidity	95%	
	Channel	Tracking: 48	Fast Acquisition: 2
	Protection class	IP 67	
	Velocity Accuracy	Without Aid: < 0.1 m/s	
<b>Regulation</b>	EMC	CE, FCC, RoHS	

## Packing List

Default Items	Qty
SW9000_5G Unit	1
1x 12V/2A Power adapter	1
EN-M12X-8-RJ45-1M cable	1
VESA Mount	1
Power Cord	1
User Manual	1

## Optional internal modules for unit

Optional Items	Max Qty	Description
EN-M12X-8-RJ45- Length	1	M12-X Model Male to RJ45 Male Cable, length Option
EN-M12X-8-M12X-8- Length	1	M12-X Model Male to M12-X Model Male Cable, length Option
EN-M12-3-Power- Length	1	M12-3Pin Male Connector Power Cable, length Option