

Product Introduction

- ◆ The **high-end vehicle-mounted 5G/4G+WiFi router** (or 5G/4G gateway) is a device with 1 gigabit WAN port and 4 gigabit LAN ports, and supports both WiFi LAN (802.11a/b/g/n/ac) communication and 5G/4G wireless communication functions. The device supports multiple VPNs and has the security and authentication functions of WiFi LAN transmission. It can realize the seamless connection between wireless LAN and wireless WAN and provide users with high-speed, safe and reliable mobile network services.
- ◆ The whole machine is designed at the industrial level, and supports the power supply of car power extraction and 110V (customized) power supply. The system is equipped with the watch-dog WDT protection. In addition, the SWP (System Watch Protect) is loaded. The product has a patented technology to maintain the stability of the system to ensure that the device is always online.
- ◆ The whole device is FCC, CE, RoHS, E-mark approved and all the wireless modules have passed the GCF (Global), FCC, CE and other oversea certification. After strict design, testing and more than 15yrs of practical application, the product performance is stable and reliable.



Model No.

	CM520-61F	CM520-62F	CM520-64F	CM520-65F	CM520-67F	CM520-68F
Feature Parameters						
Network	LTE-FDD/HSPA+/UMTS/HSDPA/HSUPA/WCDMA/EDGE/GSM					
GPS	-	-	√	√	-	√
SSD	Optional	Optional	Optional	Optional	Optional	Optional
Cellular	Single Module	Single Module	Single Module	Single Module	Double Module	Double Module
2.4G Wi-Fi	√	√	√	√	√	√
5.8G Wi-Fi	√	-	√	-	√	√
RS232	√	√	√	√	√	√
RS485	√	√	√	√	√	√
I/O	Optional	Optional	Optional	Optional	Optional	Optional
2 SIM Card Slots	√	√	√	√	√	√
Vehicle-mounted	√	√	√	√	√	√

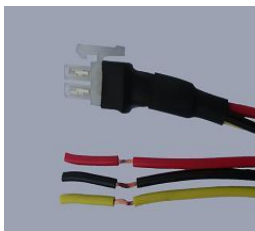



* This series also supports for 5G network, the model No. is CM520-6XFS.

Technical Parameters

Device Interface Diagram



CM520-6X Accessories

			
Power Connector	Ethernet Cable	Serial Port Cable	Antenna

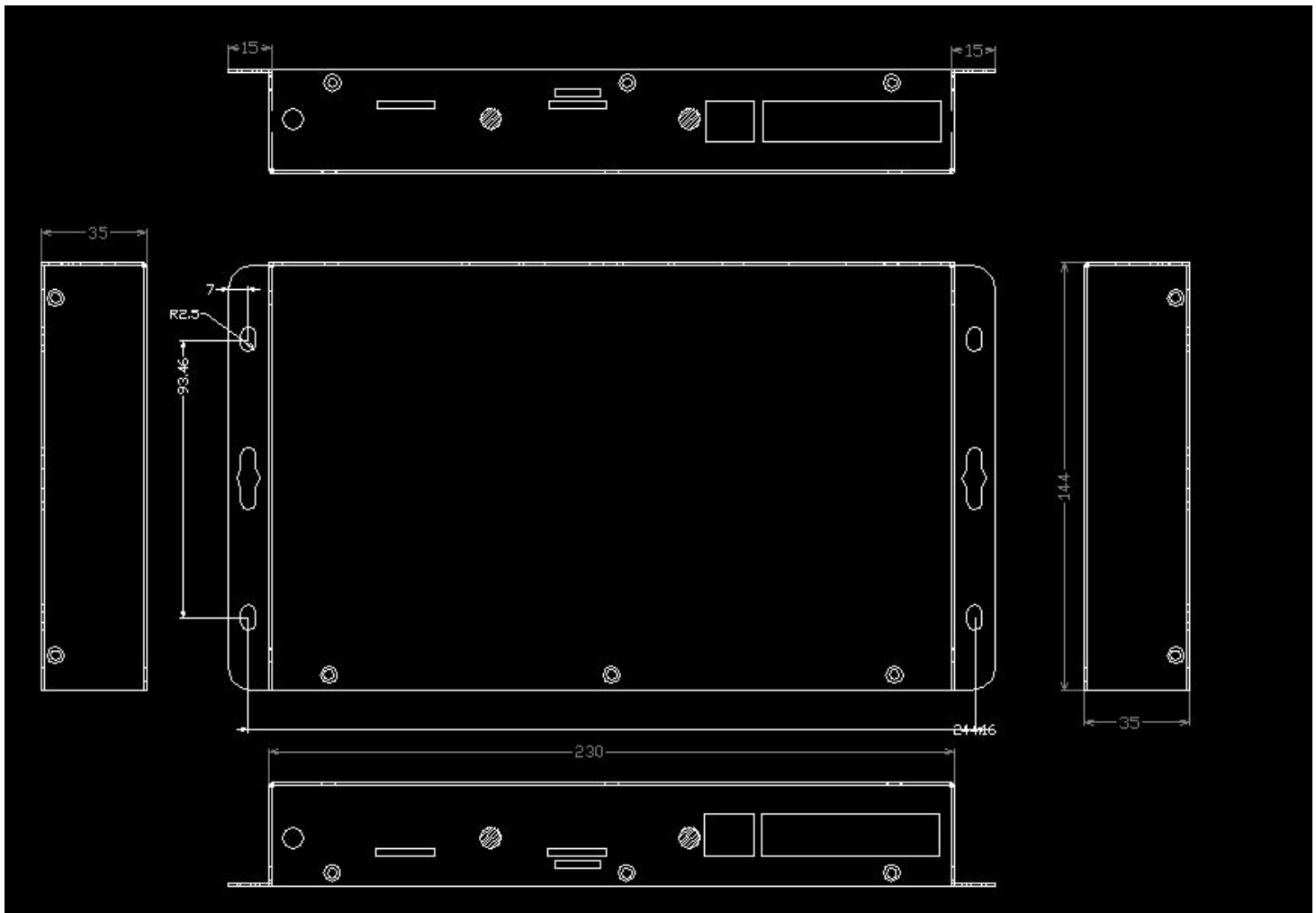
Model NO.	CM520-6X	
Cellular Parameters		
Network	LTE-FDD/HSPA+/UMTS/HSDPA/HSUPA/WCDMA/EDGE/GSM	
Standards and Frequency Bands	EGSM 900 Power Class 4 2 W, 33 dBm	
	GSM 1800 / 1900 Power Class 1 1 W, 30 dBm	
	EDGE Power Class for 900MHz Class E21 27 dBm, 0.5 W	
	EDGE Power Class for 1800 / 1900MHz Class E21 26 dBm, 0.4 W	
Coding Scheme	HSPA+/ DC-HSPA+ / GPRS / EDGE	
Communication Bandwidth	100 Mbps DL within 20 MHz bandwidth (Peak DL data rate in 10 MHz bandwidth: 70 Mbps (approx.) for Cat 3 device)	
	50 Mbps UL within 20 MHz bandwidth	
Transmit Power	<24dBm	
Receiver Sensitivity	<-109dBm	
Cellular Parameters		
Network	5G NR/LTE/HSPA+	
Wireless Module	Adopt industrial-grade wireless module	
Standards and Frequency Bands	5G NR:n1/n2/n3/n5/n7/n8/n20/n28/n41/n66/n71/n77/n78/n79	
	LTE:b1/b2/b3/b4/b5/b7/b8/b12/b13/b14/b17/b20/b25/b26/b28/b29/ b30/b38/b39/b40/b41/b42/b43/b46/b48	
Theoretical bandwidth	5G NR: DL 3.4Gbps, UL: 350Mbps	
	LTE Cat20: DL 2.0Gbps, UL: 150Mbps	
	HSPA+: DL 42Mbps, UL: 5.76Mbps	
Transmit Power	<23dBm	
Receiver Sensitivity	<-97dBm	
Advanced Features		
Working Mode	PPPoE / SIM(support APN/VPDN) / SWITCH / DHCP Client / Wi-Fi Client	
Wi-Fi	Mode	2.4G WiFi / 5.8G WiFi
	Encryption	WEP / WPA-PSK(TKIP/AES) / WPA2-PSK(TKIP/AES)
DDNS	Dyndns / 88ip / Oray	
Filter	IP Filter / Application Filter(media/music/URL)	

Firmware Upgrade	Local / Remote	
VPN	PPTP / IPSEC / L2TP / N2N / OPENVPN	
Protocol	TCP/IP UDP ICMP HTTP SMTP SSH SCP	
SSD	Optional. 64G / 128G / 256G / 512G	
Dual SIM Card	√	
Bandwidth Binding	√	
VLAN	√	
NAT	√	
DMZ	√	
QoS	√	
Flow Control	√	
Remote Config	√	
Restart Timer	√	
Firewall	√	
Web Config	√	
System Log	√	
Console	√	
Vehicle Mounted	√	
AD Playing	√	
Switch Time Zone	√	
Hardware System		
CPU	Industrial high performance embedded processing CPU, main frequency is 1.4GHz(dual-core), sub frequency is 733MHz(dual-core)	
MMU	CPU with MMU memory management unit, can prevent memory overflow	
FLASH	NOR FLASH 32MB	
DDR3	32bit DDR3 512MB-2GB	
Operation System		
OS	OpenWRT	
Capacity Parameters		
Table Capacity	MAC Table	1000
	ARP Table	1000
	Routing Table	256
	NAT Session Number	20000
Service Capacity	Maximum number of wireless subscribers	100(each frequency point)
	Concurrent users	254
	Routing forwarding (no NAT enabled)	90Mbps
	Routing forwarding (NAT enabled)	70Mbps
Interface Parameters		
WAN	1 10/1000M adaptive WAN port. Built-in isolation, support Auto MDI/MDIX, support PPPoE	
LAN	4 10/1000M adaptive LAN ports. Support Auto MDI/MDIX, built-in 1.5kv electromagnetic isolation protection	
Serial Port	1 RS232	
	Data Bit	7/8
	Stop Bit	1/2
	Parity Bit	NONE / ODD / EVEN
	Baud Rate	300bps ~ 115200bps

	Flow Control	NONE Flow Control	
I/O	(Optional) Support 3 I/O ports. It can be applied to vehicle detection and control.		
Indicator Light	Power	On	Normal power supply
		Off	No power supply
	SYS	Blink	Program is running
		Off	No program is running
	Online1	On	SIM1 is online
		Off	SIM1 is offline
	Online2	On	SIM2 is online
		Off	SIM2 is offline
	Signal1	Both indicators are off	The signal value of SIM card 1 is less than 12
		Only one indicator is on	The signal value of SIM Card 1 is between 12 and 25
		Both indicators are on	The signal value of SIM Card 1 is more than 25
	Signal2	Both indicators are off	The signal value of SIM card 2 is less than 12
Only one indicator is on		The signal value of SIM Card 2 is between 12 and 25	
Both indicators are on		The signal value of SIM Card 2 is more than 25	
Antenna	Standard SMA female interface, 50 Ohm. An extension cord of 1M/3M/5M/10M can be selected		
UIM	1.8V/3V/5V standard putter user card interface, built-in 15KV ESD protection.		
Power	Standard 3-core locomotive power outlet		
Reset Button	Reset button to restore factory settings		
Power Supply			
Supply Voltage	DC6V-32V. Over-voltage protection, power reverse protection		
Standard Power Supply	DC9V/1500mA		
Communication Current	Average Communication Current: 390mA@+9VDC		
	Communicating Instantaneous Peak Current: 1.0A@+9VDC		
Standby Current	<56mA@+9VDC		
Physical Features			
Shell	Metal shell: metal case, anti-radiation, anti-interference; shell and system security isolation, lightning protection design; meet the power requirements of safety regulations; protection rating IP31; particularly suit for harsh industrial control environments.		
Product Dimension	228mm*35mm*144mm(Antenna and fixer are not included)		
Weight	1.02kg		
Wi-Fi Parameters			
Module	802.11b/g/n Dual-band 3×3 MIMO(450Mbps) 802.11 ac Dual-band 3×3 MIMO(1.3Gbps)		
Operating Frequency	802.11b/g/n 2.412 ~ 2.472GHz , 13 channels 802.11a/n 5.180 ~ 5.825 GHz		
Output Power	23dBm		
MTBF	≥ 100,000 hours		
Number of Users	Single Band	150	
	Dual Band	253	
Security Parameters	64/128bits WEP WPA-PSK/WPA2-PSK TKIP/CCMP/AES		

Transmission Distance	Outdoor coverage can reach 150 meters(with an open environment)
GPS Parameters	
Module	Industrial grade GPS/ Beidou module is adopted
Receiver Type	Receive GPS, 50 channels, L1 frequency, 1.023 MHZ chip speed, C/A code 1.023 MHZ chip speed; Support SBAS: WAAS and EGNOS, MSAS Compatible with GALILEO
Location Accuracy	Position: 2.5m CPE SBAS: 2.0m CPE
Speed Accuracy	< 0.01 m/s(high speed) < 0.01°(heading), 50% (@ 30 m/s)
Timing Accuracy	1 ms to synchronize GPS time
Capture Time	Cold start: 27S; Auxiliary start :<3 seconds; Hot start: <1 second
Data Format	NMEA-1083, SiRD Binary
Input Information	NMEA, SiRF Binary. Height/Position/Date/Time
Output Information	NMEA-0183,SiRF Binary. GGA GSA GSV RMC VTG GLL
Pulse Output	1pps. ±1us
Navigation Data Update Speed	5Hz
Sensitivity	Tracking: - 162dbm; Cold start: -147dbm; Hot start: -156dbm
Other Parameters	
Operating Temperature	-25°C ~ +65°C
Extended Operating Temperature	-35°C ~ +75°C
Storage Temperature	-40°C ~ +85°C
Operating Humidity	5% ~ 95%(No condensation)
Storage Humidity	0% ~ 100%(No condensation)

Installation Dimension



Product Application

1. WIFI application on buses



Typical application

WIFI coverage application:

- ◆ Bus WIFI coverage, wireless Internet advertising push and equipment management
- ◆ Taxi WIFI coverage, wireless Internet advertising push and equipment management
- ◆ Long-distance bus WIFI coverage, wireless Internet advertising push and equipment management
- ◆ Hotel WIFI coverage, wireless Internet advertising push and equipment management
- ◆ WIFI coverage in public places, wireless Internet advertising push and equipment management
- ◆ WIFI coverage in tourist attractions, wireless Internet advertising push and equipment management

Corporate Qualification

Item	Content
Corporate Honor	<p>2011, it was rated as "the best supplier for customer satisfaction in China's industrial control industry"; the company's GPRS DTU product was rated as "innovative product award".</p> <p>2012, the company became a member of "China Quality Travel".</p> <p>2013, the company became a member of the "Technical Innovation Strategic Alliance of Intelligent Power Transmission and Distribution Equipment Industry".</p> <p>2014, it was rated as an innovative pilot enterprise .</p> <p>2014, the company's Zhanjiang Wi-Fi coverage project was awarded the "Sample Engineering Award" by the 13th China Automation Annual Conference.</p> <p>2015, its video products were rated as "Top Ten Video Transmission Enterprises" by China's industrial control industry.</p> <p>2015, the noise monitoring project was awarded the "Sample Project Award" by the 14th China Automation Annual Conference.</p> <p>2015, its video products were rated as "Top Ten Video Transmission Enterprises" by Huaqiang Security Network.</p> <p>2016, the video products was rated by Huaqiang Security Network as "2015-2016 High-quality Supplier in China's Security Industry".</p> <p>2016, it was rated as the "best supplier of charging equipment parts" by charging pile communication equipment.</p> <p>2016, won the " Product Gold Award of 2016 7th Guangzhou International New Energy Automobile Industry Exhibition ".</p> <p>2016, The 3rd China Good Wi-Fi Organizing Committee awarded Caimore "2016 Best Wi-Fi Industry Application Solution Provider".</p> <p>2018, the company's industrial router was rated as "China's Top Ten Industrial Router Brands", and DTU was rated as "China's DTU Top Ten Brands"</p> <p>2018, it was rated as a key listed reserve enterprise in Xiamen City.</p> <p>2019, it was rated as a key listed reserve enterprise in Xiamen City.</p> <p>2019, it was rated as a key listed reserve enterprise in Fujian Province.</p> <p>2019, Shortlisted for China Telecom Corporation Limited, DICT solution partner of Shanghai branch</p> <p>2020, Selected as a key listed reserve company in Xiamen</p>
High-tech Enterprise	2009, it was recognized as a high-tech enterprise by the country
Double-soft	2010, it was recognized as a double-soft enterprise by the country

Enterprise	
Occupational Health and Safety Management System Certification	ISO9001:2015 quality management system conforms to the standard ISO14001:2015 environmental management system conforms to the standard ISO45001:2018 occupational health and safety management system conforms to the standard
Copyright	The company has 7 patented technology certificates to maintain equipment stability and 31 software copyright certificates.
Offices	Nine regional offices have been established nationwide to provide customers with close and considerate services.
Registered Capital	The company has a registered capital of 20.58 million; it is a key high-tech enterprise supported by Xiamen City.
Historical Accumulation	18 years of industry R&D accumulation and industry application test.