



ComIn V5000

Vehicle 5G Wi-Fi 6 Wireless Router

- Gigabit Ethernet / Serial Port Transparent Transmission
- Dual-mode 5G Network Hot Standby, Load Balancing
- Support DC Wide Voltage Power Supply Optional
- 3000Mbps Dual-band Wi-Fi 6
- Support Standalone Precision GPS Tracking (Optional)

Product Description

ComIn V5000 is an integrated device that combines multiple functions including Wi-Fi transmission, local resource sharing, cellular mobile internet access, precise positioning, and remote backend management. It offers superior processing performance compared to standard routers and enhances the passenger experience while delivering marketing value for vehicle operators and advertisers. This contributes to improved service quality and brand reputation across the industry.

Designed for diverse public transportation scenarios, the product enables passengers to access Wi-Fi connectivity during transit as well as locally stored content such as videos, music, games, and travel information. It effectively addresses passenger demands for both short- and long-distance internet access and on-board entertainment.

Main Features

Wi-Fi 6 (802.11ax) Standard

- As the latest generation of IEEE 802.11 Wi-Fi standard, 802.11ax can improve user access capacity and bandwidth in high-density access scenarios, reduce service latency, and enhance user experience;
- Supports 2.4GHz and 5GHz dual-band UL/DL MU-MIMO, enabling AP to send data to multiple terminals at the same time, doubling the utilization of wireless spectrum resources;
- Supports 1024QAM modulation, and data transmission efficiency is increased by 40% compared to 802.11ac (256QAM);
- Support UL/DL OFDMA technology, using different subcarriers to transmit data to multiple terminals at the same time, reducing delay and improving network efficiency;
- Supports spatial multiplexing technology, and through the BSS coloring mechanism, APs and terminals can distinguish overlapping BSSs (basic service sets) to minimize co-channel interference;
- Supports the target wake time* mechanism, allowing the AP and terminals to negotiate sleep and wake time, reducing conflicts and unnecessary wake-up times between terminals, saving terminal power and improving battery life.

Uplink and Downlink Multi-user - Multiple Input Multiple Output (MU-MIMO)

Supports MU-MIMO technology, supporting up to 4 spatial streams, 2.4GHz band supports 2 spatial streams, and 5GHz band supports 2 spatial streams. Through DL/UL MU-MIMO technology, AP can send data to multiple terminals at the same time, and the utilization rate of wireless spectrum resources is doubled, which increases the number of access users and bandwidth, and improves the user experience in high-density access scenarios .

High-speed Access

It supports 160M bandwidth. The increase in bandwidth brings about an increase in available data subcarriers and expands the transmission channel. In addition, the use of 1024QAM modulation, MU-MIMO and other technologies makes the 5G single-band rate reach 2.4Gbps and the whole device rate reach 3Gbps.

5GHz Priority

The AP supports dual-band access of 2.4GHz and 5GHz at the same time. By controlling the terminal to access the 5GHz band first, dual-band terminal users in the 2.4GHz band are migrated to the 5GHz band, reducing the load and interference on the 2.4GHz band and improving the user experience.

Industrial Application Design

- Wide input voltage design: 9 ~ 36 V
- Industrial-grade software and hardware watchdog design, trouble-free and reliable operation in power stations, transportation, and industrial control environments
- Industrial-grade EMC electromagnetic compatibility and radiation performance, passed GB/T17626.5-2008 Level 4 test standard
- Industrial grade components, operating temperature: -30 ~ 60 ° C
- Industrial housing, suitable for extreme environments
- Adopt fanless cooling technology to effectively reduce the failure rate of equipment
- Meet the requirements for trouble-free and reliable operation in vibration and impact environments

Stable and Reliable

- Adopt a complete anti-dropout mechanism to ensure that the data terminal is always online
- The whole machine passes the EMC test requirements
- Ethernet interface has built-in 1.5KV electromagnetic isolation protection, GB/T17626.5-2008 level 4
- SIM/UIM interface has built-in 15KV ESD protection, GB/T17626.5-2008 level 4
- The power interface has built-in reverse phase protection and overvoltage protection

Mobile Network

- Support dual-channel 5G SA/NSA network
- Support lock Band, lock base station
- Support PIN code lock card
- Supports locked network mode
- Support dual-channel hot backup
- Support load balancing

Product Specifications

Product Model	V5000
Overall Dimensions	180*134*40mm
Weight	625g
Installation	Ear-mounted or rail-mounted installation
Indicator Lights	<ul style="list-style-type: none"> 1 x PWR 1 x SYS 1 x WAN 4 x LAN 1 x 2.4GHz 1 x 5.8 GHz 1 x SIM1 1 x SIM2 3 x SIM1 Signal 3 x SIM2 Signal
Interface	<ul style="list-style-type: none"> 5 x 1GbE RJ45 (1WAN, 4LAN) 2 x male RF interface (Wi-Fi) 8 x female RF interface (mobile network) 1 x Drawer-type dual Nano SIM card holder(4FF) 1 x 5 PIN 3.5mm phoenix terminal (RS232 or RS485) 1 x 2 PIN 3.5mm phoenix terminal (DC Input) 1 x DC interface 1 x TF Card
Phoenix Terminal	<p>Specifications: 5 x 3.5mm</p> <ul style="list-style-type: none"> RX (RS232) TX (RS232) GND (RS232) B (RS485 B-) A (RS485 A+) <p>Specifications: 2 x 3.5mm</p> <ul style="list-style-type: none"> VIN (DC Input V+) GND(DC Input V-)
Input Voltage	9V~36V Recommended input 12V/2A
Power Consumption	20W (full load)

Environmental Indicators	
Ambient Temperature	Working temperature: -30°C ~ + 60 °C
Relative Humidity of Working Environment	Storage temperature: -40°C ~ +85°C
	5% ~ 95% (non-condensing)
Air Pressure	86kPa ~ 106kPa Altitude
Certification	3C , other certifications can be completed according to customer requirements
Main Chip Solution	
CPU	MTK MT7981BA+MT7976CN+MT7531AE
Flash	32 MB SPI Flash
DDR	256MB DDR3L memory
Wi-Fi Features	
Working Frequency Band	2.4GHz radio:2.412GHz~2.472GHz
	5GHz radio: 5.180~5.825 GHz
Maximum Output Power	2.4GHz radio: 21± 2dBm@MCS0
	5GHz radio: 21±2 dBm@MCS0
Supported Rate	2.4G Radio: 802.11b: 1, 2, 5.5, and 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, and 54Mbps 802.11n HT20/HT40: MCS0~MCS15 (400/ 800ns GI) 802.11ax HE20/HE40: MCS0 ~ MCS11 (400/ 800ns GI)
	5G Radio: 802.11a: 6, 9, 12, 18, 24, 36, 48 and 54Mb/s 802.11n HT20/ HT40: MCS0~MCS15 (400/ 800ns GI) 802.11ac VHT20/VHT40/VHT80: MCS0 ~ MCS9 (400/ 800ns GI) 802.11ax HE20/HE40/HE80/HE160: MCS0 ~ MCS11 (400/ 800ns GI)

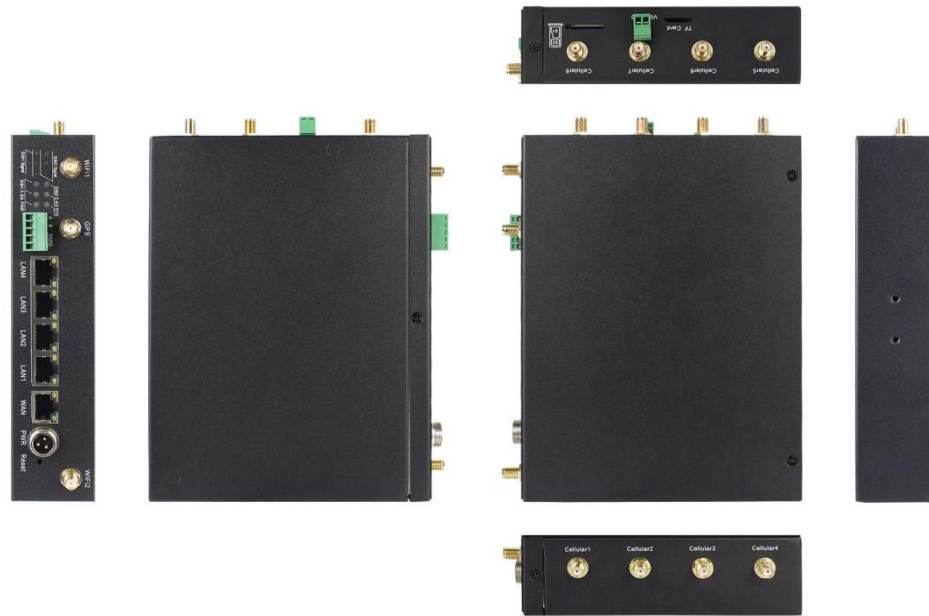
Receiving Sensitivity	802.11g: -92dBm@6Mbps -76dBm@54Mbps		
	802.11n:		
		HT20	HT40
	MCS0/8/16	- 89 dBm	- 87 dBm
	MCS7/15	- 73 dBm	- 71 dBm
	802.11a: -92dBm@6Mbps -76dBm@54Mbps		
	802.11ac:		
	VHT20	VHT40	VHT80
MCS0	- 90 dBm	-87dBm	-84dBm
MCS8	- 70 dBm	-68 dBm	-59 dBm

5G Wireless Parameters

Wireless Access Technology	5G: 3GPP Release 15 NSA/SA operation, Sub-6 GHz CN LTE: Downlink Cat 12, Uplink Cat 13 GL&EU: Downstream Cat 19/ Upstream Cat 18		
Frequency Band Support	CN	EU	GL
	NSA: n41/n78/n79 SA: n1/n28/n41/n77/n78/n79 MIMO DL 4 × 4 MIMO: n1/ 41/ 77/ 78/ 79 UL 2 × 2 MIMO : n41/ 77/ 78/ 79 DL 2 × 2 MIMO: n28 LTE Category : DL Cat 12, UL Cat 13 LTE-FDD: B1/B2/B3/B5/B7/B8/B20/ B28 LTE-TDD: B34/B38/B39/B40/B41 WCDMA: B1/B2/B5/B8	NSA: n1/n3/n5/n7/n8/n20/n28/ n38/n40/n41/n71/n75/n7 6/ n77/n78 SA: n1/n3/n5/n7/n8/n20/n28/ n38/n40/n41/n71/n75/n7 6/n77/n78 LTE-FDD: B1/B3/B5/B7/B8/B20/B2 8/B32/B71 LTE-TDD: B38/B40/B41/B42/B43 WCDMA: B1/B5/B8	5G NR (NSA): n1/2/3/5/7/8/12/13/14/18/20/25/26/28 /29/30/38/40/41/48/66/70/71/75/76/7 7/78/79 5G NR (SA): n1/2/3/5/7/8/12/13/14/18/20/25/26/28 /29/30/38/40/41/48/66/70/71/75/76/7 7/78/79 LTE-FDD: B1/2/3/4/5/7/8/12/13/14/17/18/19/20/ 25/26/28/29/30/32/66/71 LTE-TDD: B34/38/39/40/41/42/43/48 LAA: B46 WCDMA: B1/2/4/5/8/19

<p>Uplink and Downlink Peak Rates</p>	<p>5G SA Sub-6: Max. 2Gbps(DL)/Max. 1Gbps(UL) 5G NSA Sub-6: Max. 2.2Gbps(DL)/Max. 575Mbps(UL) LTE: Max. 600Mbps (DL) / Max. 150Mbps (UL) WCDMA: Max. 42 Mbps (DL) / Max. 11 Mbps (UL)</p>	<p>5G SA Sub-6: Max. 2.4Gbps(DL)/Max. 900Mbps(UL) 5G NSA Sub-6: Max. 3.4Gbps(DL)/Max. 550Mbps(UL) LTE: Max. 1.6G bps (DL) / Max. 200Mbps (U L) WCDMA: Max. 42 Mbps (DL) / Max. 5.76 Mbps (UL)</p>
<p>Antenna Type</p>	<p>External antenna</p>	
<p>Antenna Gain</p>	<p>3Dbi</p>	

Product View



Ordering Information

Product Model	Product Packaging
V5000	Product complete machine , 2.4&5.8 dual- band Wi-Fi antennas * 2 , 5G antennas * 8 , installation accessories, network cable, 1-meter aviation plug power cord, Magnetic GPS Antenna (Optional)

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