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ComIn I5800

Industrial Grade 5G WiFi6 Dual Band Wireless Router

Product Specifications

- Support 5G NR Sub-6 Cellular Network
- Qualcomm WIFI6 Chipset Solution, up to 100 devices
- Rugged Industrial Enclosure, Anti-Interference, External Antenna
- Gigabit Ethernet Ports and Serial Interface with pass-through
- Standard 48V PoE Power / 12V DC Power Input
- 3000Mbps Dual Band WIFI6 802.11ax
- Support Remote Management and Upgrade

Product Description

ComIn I5800 is an industrial grade 5G WIFI6 dual-band wireless router, that integrates multiple functions such as new 5G cellular broadband Internet access, high speed WIFI transmission, serial port pass-thru transmission, and backend remote management. It is based on Qualcomm IPQ5018 chipset solution with 2x2 802.11ax that support data transfer rate up to 3000Mbps and enable to build a stable high-speed wireless network. In addition, ComIn I5800 has high-performance wireless characteristics, which can obtain larger wireless coverage area and better wall penetration performance. ComIn I5800 supports the wireless access of up to hundreds of wireless terminals that satisfy with the application scenario requirements of high-density wireless terminals. At the same time, ComIn I5800 also has good compatibility and supports the access of most wireless terminals on the market. Users can use mobile phones, tablets or laptops to connect conveniently. It provides more processing performance, richer interfaces and higher network connection speed than ordinary industrial routers.

This product is suitable for different application scenarios, such as vehicle WIFI, video transmission, PLC remote control, intelligent express cabinet, video surveillance, 5G coverage, etc.

Product Features

Wi-Fi6 (IEEE 802.11ax) Standard

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

Multi-User Uplink and Downlink-multiple Input and Multiple Output Technology (MU-MIMO)

Support MU-MIMO technology, support up to 4 spatial streams, 2.4GHz frequency band supports 2 spatial streams, 5GHz frequency band supports 2 spatial streams, through DL/UL MU-MIMO technology, AP can send data to multiple terminals at the same time, The utilization rate of wireless spectrum resources has been doubled, increasing the number of access users and bandwidth, and improving user experience in high-density access scenarios.

High-Speed Access

Supports 160MHz bandwidth. The increase in bandwidth has increased the available data sub-carriers and expanded the transmission channel; in addition, the use of 1024QAM modulation, MU-MIMO and other technologies makes the 5GHz single frequency band rate up to 2.4Gbps, and the whole machine rate is up to 3Gbps.

5GHz Priority

The AP supports both 2.4GHz and 5GHz dual-band access. By controlling the terminal to preferentially access the 5GHz frequency band, dual-frequency end users in the 2.4GHz frequency band are migrated to the 5GH frequency band, reducing the load and interference on the 2.4GHz frequency band, and improving user experience.

Industrial Design

- Based on Qualcomm IPQ5018 Chipset Solution
- Wide voltage input design: 12 ~ 18V
- Industrial grade software and hardware watchdog design, trouble free and reliable operation in power station, transportation, and industrial control environment application
- Industrial grade EMC electromagnetic compatibility and radiation performance, passed the GB/T17626.5-2008 Level 4 test standard
- Industrial grade components, working temperature: -40 ~ +55°C
- Industrial enclosure, suitable for extreme environments
- Fan-less heat dissipation technology effectively reduces the failure rate of the equipment
- SIM card protection design
- Meet the trouble-free and reliable operation under vibration and shock environment

Rugged, Stable and Reliable

- Apply complete anti-disconnection mechanism that to ensure the end data terminal is always online
- The product passed EMC test requirements
- The Ethernet interface built-in 1.5KV electromagnetic isolation protection GB/T17626.5-2008 (Level 4)
- SIM/UIM interface built-in 1.5KV ESD protection GB/T17626.5-2008 (Level 4)
- Built-in reserve phase protection and overvoltage protection for the power interface

High Speed Cellular Network

- Support 5G SA (Standalone) and NSA (Non-Standalone) network
- Backward compatible with 4G Cat18(UL)/Cat20(DL) or Cat12(UL)/Cat13(DL)*
- Support Band Lock, Base Station Lock
- Support SIM PIN Code Lock
- Support Network Mode Lock

Hardware Specifications

Model	I5800
Dimension	183mm x 128mm x 45mm (Excluding Antenna)
Weight	698g
Installation	Hanging-Ear or Din-Rail Installation
LED Indicators	PWR / WAN / LAN / 2.4GHz / 5.8GHz / Data / Cellular / Signal
Interfaces	2 x 1GbE RJ45 Port (1 WAN and 1 LAN) 4 x SMA-MALE Antenna Connector (WIFI) 4 x SMA-FEMALE Antenna Connector (Cellular)
Power Input	12V~18V/1.5A
Environment	
Operating Temperature	-30°C to +55°C
Storage Temperature	-40°C to +85°C
Operating Humidity	5% - 95% (non-condensing)
Air Pressure	86kPa ~ 106kPa Altitude
Safety Certification	CCC, can do according to the customer's request
Stability	
Annual Failure Rate	AFR < 1.5% (Continuous Operation Status)
Chipset Solution	
CPU	Qualcomm IPQ5018 + QCA8337N + QCN6122
Flash	32MB SPI NOR Flash + 128MB NAND Flash
RAM	512MB DDR3L Memory
Wi-Fi Characteristics	
Wi-Fi Standards	2.4GHz: 802.11b/g/n/ax 5GHz: 802.11a/n/ac/ax
Max Speed Rate	2.4GHz: Max. 574Mbps 5GHz: Max. 2400Mbps
Antenna	2 x 5dBi Dipole Antenna (Each Radio)
Working Frequency	2.4GHz Radio: 2.412GHz ~ 2.472GHz
	5GHz Radio: 5.180 ~ 5.825GHz

Max. Transmit Power	2.4GHz Radio: 24dBm@MCS0, 21dBm@MCS7 5GHz Radio: 24dBm@MCS0, 21dBm@MCS7				
Data 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: MSC0 ~ 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: MSC0 ~ MCS11(400/ 800ns GI)				
2.4GHz Reception Sensitivity	802.11g	54M	-76dBm	6M	-92dBm
	802.11n HT20	MCS7	-87dBm	MCS0	-89dBm
	802.11n HT40	MCS7	-71dBm	MCS0	-73dBm
5GHz Reception Sensitivity	802.11a	54M	-76dBm	6M	-92dBm
	802.11ac HT20	MCS7	-70dBm	MCS0	-90dBm
	802.11ac HT40	MCS7	-68dBm	MCS0	-87dBm
	802.11ac HT80	MCS9	-59dBm	MCS0	-84dBm

5G/4G/3G/2G Technical Specifications

Cellular Technology	5G: 3GPP Release 15 NSA/SA operation, Sub-6 GHz CN & EA Version: LTE DL Cat12, UL Cat13 GL Version: LTE DL Cat16, UL Cat18		
Frequencies	CN (China Mainland)	EA (European/LATAM)	GL (Global)
	NSA: n41/n78/n79 **SA:** n1/n28/n41/n77/n78/n79 **LTE-FDD:** B1/B2/B3/B5/B7/B8/ B20/B28	**NSA:** n1/n3/n7/n38/n40/n41/ n77/n78/n79 **SA:** n1/n3/n7/n8/n20/n28/n38/ n40/n41/n77/n78/n79 **LTE-FDD**: B1/B2/B3/B4/B5/B7/B8/B20	**NSA:** n38/n41/n77/n78/n79 **SA:** n1/n2/n3/n5/n7/n8/n12/ n20/n25/n28/n38/n40/n41/ n48/n66/n71/n77/n78/n79 **LTE-FDD:** B1/B2/B3/B4/B5/B7/B8/B12/

	LTE-TDD: B34/B38/B39/ B40/B41 **WCDMA:** B1/B2/B5/B8	/B28A/B28B/B66 **LTE-TDD:** B38/B40/B41 **WCDMA:** B1/B2/B5/B8	B13/B14/B17/B18/B19/B20/ B25/B26/B28/B29/B30/B32/ B66/B71 **LTE-TDD:** B34/B38/B39/B40/B41/B42/ B43/B48 **LTE-LAA:** B46 **WCDMA:** B1/B2/B3/B4/B5/B8/B19
Data Rate	**5G NSA Sub 6:** Max 2.6Gbps DL / Max 650Mbps UL **5G SA Sub 6:** Max 2Gbps DL / Max 1Gbps UL **LTE:** Max 600Mbls DL / Max 150Mbps UL **WCDMA:** Max 42Mbps DL / Max 11Mbps UL		**5G NSA Sub 6:** Max 2.5Gbps DL / Max 650Mbps UL **5G SA Sub 6:** Max 2.1Gbps DL / Max 900Mbps UL **LTE:** Max 1Gbps DL / Max 200Mbps UL **WCDMA:** Max 42Mbps DL / Max 11Mbps UL
Antenna Type	External Antenna		
Antenna Gain	3dBi		

Product Views

Order Information

Product Model	Product Description
ComIn I5800	Complete Product Unit including 1 x I5800 5G WIFI6 Wireless Router Unit 1 x 12V/1.5A DC Power Adapter, European Standard Plug 4 x Dual Band WIFI Antenna (2.4GHz and 5GHz WIFI) 4 x Spring Magnetic Antenna (5G Cellular) 1 x Installation Accessories 1 x Network Cable

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深圳星恒讯科技有限公司

SHENZHEN MOVINGCOMM TECHNOLOGY CO., LTD.

Addr: 4F, No. 5 Building, TongFuKang ShuiTian Industrial Zone, ChangCheng Road, ShuiTian Community, ShiYan, BaoAn District, 518108 ShenZhen, GuangDong, China

Tel: 86-755-23125215

Fax: 86-755-23125215-802

Email: sales@movingcomm.com

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