UCY-I5200

AX3000 Industrial Grade 5G WIFI6 Wireless Router

Product Specifications

- Gigabit Ethernet/serial port transparent transmission
- Dual-mode 5G network hot standby, load balancing
- Support DC wide voltage power supply optional
- 3000Mbps dual-band WIFI6
- Support platform management and upgrade

Product Description

UCY-I5200 is an industrial-grade dual-mode dual-standby 5G router with dual -band WiFi6 , suitable for outdoor areas that require wireless coverage, such as computer room monitoring , power monitoring , environmental monitoring , and outdoor areas. UCY-I5200 supports 2T2R 802.11ax, and the maximum concurrent connection rate of dual-band can reach 3000Mbps, which can build a stable and high-speed wireless network for users. UCY-I5200 has high-performance wireless indicators, can obtain a larger wireless coverage area and better wall penetration performance , supports the access of up to hundreds of wireless terminals, and meets the application scenario requirements of high-density wireless terminals. At the same time, UCY-I5200 also has good compatibility and supports the access of most wireless terminals on the market. Users can easily connect using mobile phones, tablets or laptops.

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

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 1.5KV 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
- Backward compatible with 4G Cat18 (uplink) & Cat20 (downlink) or Cat12 (uplink) & Cat13 (downlink)
- 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	I5200
Overall dimensions	180*134*40
weight	615 g
Installation	Ear-mounted or rail-mounted installation
Indicator Lights	PWR / WAN / LAN / 2.4GHz / 5.8 GHz / Data / Cellular / Signal
interface	5 x 1GbE RJ45 (1WAN, 4LAN) 2 x male RF interface (WIFI) 8 x female RF interface (mobile network) 1 x Drawer-type dual SIM card holder
Input voltage	9V~36V Recommended input 12V2A
Power consumption	20W (full load)
Environmental indicators	
Ambient temperature	Working temperature: -30℃～+ 60 ℃; Storage temperature: -40℃～+85℃
Relative humidity of working environment	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

<table>
<tr><td rowspan="2">Maximum output power</td><td>2.4GHz radio: 20± 2dBm@MCS0</td></tr>
<tr><td>5GHz radio: 20±2 dBm@MCS0</td></tr>
<tr><td rowspan="2">Supported rate</td><td>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)</td></tr>
<tr><td>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 HE40/HE80/HE160: MSC0 ~ MCS11 (400/ 800ns GI)</td></tr>
<tr><td rowspan="4">Receiving sensitivity</td><td>802.11g: -92dBm@6Mbps
-76dBm@54Mbps</td></tr>
<tr><td>802.11n:
<table>
<tr><td></td><td>HT20</td><td>HT40</td></tr>
<tr><td>MCS0/8/16</td><td>- 89 dBm</td><td>- 87 dBm</td></tr>
<tr><td>MCS7/15</td><td>- 73 dBm</td><td>- 71 dBm</td></tr>
</table></td></tr>
<tr><td>802.11a: -92dBm@6Mbps
-76dBm@54Mbps</td></tr>
<tr><td>802.11ac:
<table>
<tr><td></td><td>VHT20</td><td>VHT40</td><td>VHT80</td></tr>
<tr><td>MCS0</td><td>- 90 dBm</td><td>-87dBm</td><td>-84dBm</td></tr>
<tr><td>MCS8</td><td>- 70 dBm</td><td>-6 8 dBm</td><td>-5 9 dBm</td></tr>
</table></td></tr>
</table>

5G Wireless Parameters

Wireless access technology	5G: 3GPP Release 15 NSA/SA operation, Sub-6 GHz CN & EA LTE: Downlink Cat 12, Uplink Cat 13 GL: Downstream Cat 16/ Upstream Cat 18		
Frequency band support	**CN(domestic)**	**EA (Europe, Africa, Latin America)**	**GL (Global)**
	NSA: n41/n78/n79 **SA:** n1/n28/n41/n77/n78/n79 **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/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/B28A/B28B/B66 **LTE-TDD:** B38/B40/B41 **WCDMA:** B1/B2/B5/B8	**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/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
Uplink and downlink peak rates	**5G NSA Sub-6:** Max. 2.6Gbps(DL)/Max. 650Mbps(UL) **5G NSA Sub-6:** Max. 2Gbps(DL)/Max. 1Gbps(UL) **LTE:** Max. 600Mbps (DL) / Max. 150Mbps (UL) **WCDMA:** Max. 42 Mbps (DL) / Max. 11 Mbps (UL)		**5G NSA Sub-6:** Max. 2.5Gbps(DL)/Max. 650Mbps(UL) **5G NSA Sub-6:** Max. 2.1Gbps(DL)/Max. 900Mbps(UL) **LTE:** Max. 1G bps (DL) / Max. 200Mbps (UL) **WCDMA:** Max. 42 Mbps (DL) / Max. 11 Mbps (UL)
Antenna Type	External antenna		
Antenna gain	3Dbi		

Ordering Information

Product Model	Product Packaging
UCY-I5200	Product complete machine, 12 V 2A power adapter , 2.4&5.8 dual-band wifi antennas * 2 , 5G antennas * 8 , installation accessories, network cable