Shenzhen Huachuangyilian Electronics Co.,Ltd.

3KM Outdoor Wireless Bridge

Model: HC503

Simple Introduction

HC503 is a high-performance enterprise-class outdoor bridge product that supports 802.11ac technology in the 5G band. The unique tube matching technology can easily complete the pairing of point-to-point and point-to-multipoint (within 8 points) devices without computer configuration. 5G 802.11ac wireless processing speed up to 300Mbps. The power supply mode is flexible, supporting 24V PoE network cable power supply and 12V 1A DC local power supply. The power supply distance of network cable can reach 50-70 meters (related to the network cablematerial). The outdoor IP65 water-proof, rain-proof, dust-proof and sun-proof enclosure design is adopted to easily adapt to various harsh outdoor environments. Built-in 14dBi high-gain, wide-angle directional plate antenna, easy and fast installation. It has the characteristics of high performance, high gain, high receiving sensitivity and high bandwidth, which greatly enhances the wireless transmission performance and stability, Wi-Fidistance up to 3km.

Hardware Feature

* High cost-effective hardware configuration

Enterprise-class host chip with industrial-grade circuit design supports IEEE802.11a/n/ac protocol, which can

provide 300Mbps wireless access speed and 10/100Mbps Ethernet switching processing speed. Excellent

anti-high and low temperature design fully guarantees that user network data can be transmitted in real time,

long-term, stable and high performance in extreme environment to enhance user experience.

* Powerful wireless transmission capability

High power and high receiving sensitivity circuit design with high gain directional plate antenna greatly enhances

the distance of wireless transmission and improves the performance and stability of wireless transmission.

* Simple and efficient setup

No computer to setup, easy to dial the code and adjust the master and slave device digital tube to the same value

to complete the point-to-point, point-to-multipoint (within 8 points) pairing work.

* Flexible power supply

HC503 not only support the power supply method of PoE remote network cable power supply, but also supports

the power supply method of 12V 1A DC local connection power supply to meet the needs of various scenarios,

reduce the construction cost and choose the power supply method flexibly.

* ABS waterproof, dust proof and sunscreen shell, temperature adaptive and board protective

HC503 with ABS waterproof, dust proof and sunscreen shell, avoid the damage from dust, thunderstorm weather.

Meantime, it adaptive to various environment, the working temperature can be normal at -40℃ to 55℃. Suit for

any country, with flexible and simple installation method, with wall hanging, holding rod fixed installation method,

on the basis of not affecting the original design, greatly reducing the construction difficulty of the construction

personnel, improve the construction efficiency.

Software Feature

* Simple overview of equipment

WEB browser to log into the device to view the connection system status, bridge status, interface status

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information in real time, a simple and clear interface, so that users know the device work status in real time.

* Simple quick setup & powerful wireless optimization

Users do not need to know too much about wireless, no need too much professional knowledge, a few simple steps to achieve point-to-point, point-to-multipoint (up to 8 points) device pairing. Wireless optimization can be completed with simple settings, easily improving link transmission quality and usage.

* Always protect the user's network security

The device bridging signals all adopt advanced WPA-PSK & WPA2-PSK encryption policy, which masks the bridging signals by default to protect users' network from hackers' attacks at all times and ensure users' data security.

* Simple and efficient system configuration functions

Access password change, restore factory configuration, local upgrade, simple and straightforward functions allow you to easily complete the system setup of your device and improve its robustness.

Product Datasheet

Product Parameter	
Hardware Feature	
Model	HC503
Chipset	High Performance Enterprise Chipset AR9344
Main frequency	580MHz MIPS® 24KEc™ CPU
Wireless technology	5G:450M 802.11a/n/ac 1T1R
Memory	64MByte DDR2
Flash	8MB
Network interface	2*10/100Mbps Auto adaptiveRJ45 port
Button	1*Tube button/Resetbutton, Short press on the digital tube to display the value

	plus one, press for 5 seconds will recovery to factory setting
	Master-slave dipswitch: master for access point mode, slave for client mode
Indicator	Power, LAN1, LAN2, Wifi Signal Strength
Power	24V 0.5A PoE power adapter
	DC 12V 1A(optional)
	Power consumption<10W
Workingenvironment	Temperature: -30°C to +55°C (working), -40°C to +70°C (storage)
	Humidity (non-condensing): 10% to 90% (working), 5% to 95% (storage)**)**
Antenna	Built-in high gain 14dBi directional panel antenna (horizontal wave half-angle 60°, vertical wave half-angle 15°)

RF Characteristics	
Frequency range	ISM band: 4.900GHz ~ 5.850GHz
Wifichannel	5G：36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 149, 153, 157, 161, 165
Modulation method	OFDM = BPSK,QPSK,16-QAM,64-QAM,256-QAM;DSSS = DBPSK,DQPSK,CCK
Outputpower	11a @54M:20±2dB, @6M:23±2Db
	11n 20MHz：@MCS9:20±2dB, @MCS0:23±2dB
	11n 40MHz：@MCS9:20±2dB, @MCS0:23±2dB
	11ac 40MHz @MCS9:20±2dB, @MCS0:23±2dB
	11ac 80MHz @MCS9:20±2dB, @MCS0:23±2Db
Reception sensitivity	11a: < -72dbm@54Mbps, < -89dbm@6Mbps
	11n 20MHz: < -71dbm@MCS8, < -89dbm@MCS0
	11ac 40MHz：< -66dbm@MCS9, < -84dbm@MCS0
	11ac 80MHz: < -63dBm@MCS9 < -81dBm@MCS0
EVM	802.11n: ≤-28 dB 802.11a: ≤-25 dB
Frequency Deviation	< ±20ppm

Software Feature	
Working mode	Master AP (bridge access point), slave AP (bridge client), switch by dip switch
Networking method	Point-to-point, point-to-multipoint (up to 8 points)

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Bridge Configuration	Wireless mode: Bridge access point, bridge client switching Bridge access point. Bridge SSID, encryption method (WPA2-PSK, WPA-PSK, no encryption), bridge password, wireless protocol Wireless bandwidth, wireless channel, wireless power (100%, 75%, 50%, 25%, 10%, 5%) Bridge client. Bridge SSID, encryption method (WPA2-PSK, WPA-PSK, no encryption), bridge password, MAC address lock at the other end, wireless channel, wireless power (100%, 75%, 50%, 25%, 10%, 5%)
Network	Static IP/Dynamic IP
System	Login password change, recovery factory setting, local upgrade