

RAK5422AC

WAPI Wireless Access Point

Product Introduction

802.11a/b/g/n/ac -1.7 Gbps

Introduction



RAK5422AC is a wireless access point (AP) with high security and high reliability. By using WAPI security technology, the AP can effectively guarantee the security of wireless link layer. The security of accessing the whole network is protected, and the malicious attacks from illegal user are prevented. The AP has a built-in high security module, which makes security embedded in hardware, so that the AP runs more securely.

Features

◆ Secure Connection at Wireless Link Layer

Using WAPI-Cert and WAPI-PSK encryption authentication mechanism to prevent unauthorized wireless access, and ensure the security of user data at wireless link layer.

◆ Built-in High Security Module

To guarantee private key and characteristic data not being stolen or tampered, AP uses built-in high security module to store private key, and ensure the private key stays in the security module during signature operation.

Security module starts before CPU, and checks the CPU boot code. The initial security of the system will be protected effectively. Security module is the starting point of equipment security trust.

◆ WAPI-EC

No need for complicated configuration, and one key to connect WAPI.

◆ WAPI-CS

Conveniently obtain WAPI certificates by authorized users.

◆ Independent Hardware Watchdog

By using independent hardware watchdog, system will be reliably reset when system crashes after startup, also works when system crashes during the startup process, to ensure uninterrupted running.

General Parameters

Physical Parameters	
Size	164mm(L)×152mm(W)×64mm(H)
LED Indicators	Power/SYS /CHECK/USER/NET1/NET2/WLAN1/WLAN2 LAN1/LAN2/LAN3/LAN4/WAN/WAPI
Port	6 ports (WAN, LAN) self-adapting Ethernet 10/100/1000 Base-T
Environmental Parameters	
Operating Temperature	-40°C~85°C
Storage Temperature	-40°C~85°C
Operating Humidity	5%~95% (non-condensing)
Storage Humidity	5%~95% (non-condensing)
Protection Degree	IP51
Power Parameters	
Power input	48V DC 0.6A
POE	IEEE 802.3af/at

RF Parameters

Antenna Type	Built-Out dual band combined antenna
Antenna Gain	6xR-SMA 2.4G/5.8G 3dBi

Number of Users	≤256
Modulation	DSSS/CCK/OFDM
TX Power (max)	20dBm Note: Actual transmit power depends on local laws and regulations.
Receiver Sensitivity	<p>2.4 GHz GB15629.1102 (CCK):-102dBm @ 1 Mb/s;-92dBm @ 11Mb/s</p> <p>2.4 GHz GB15629.1104 (non-HT20): -95 dBm @ 6 Mb/s; -81 dBm @ 54 Mb/s</p> <p>2.4 GHz WAPI Enhanced(HT20): -95 dBm @ MCS0; -73 dBm @ MCS15</p> <p>2.4 GHz WAPI Enhanced (HT40): -91 dBm @ MCS0; -71 dBm @ MCS15</p> <p>5 GHz GB15629.1101 (non-HT20): -94 dBm @ 6 Mb/s; -81 dBm @ 54 Mb/s</p> <p>5 GHz WAPI Enhanced (HT20): -94 dBm @ MCS0; -73 dBm @ MCS15</p> <p>5 GHz WAPI Enhanced (HT40): -91 dBm @ MCS0; -69 dBm @ MCS15</p>
Data Rate	<p>GB15629.1102: 11Mbps</p> <p>GB15629.1104: 54Mbps</p> <p>GB15629.1101: 54Mbps</p> <p>WAPI Enhanced (HT20): 144.4Mbps</p> <p>WAPI Enhanced (HT40): 300Mbps</p>
Working	5.725~5.85GHz: 5 Channels

Channels

2.4~2.4835 GHz: 13 Channels

Characteristics**WLAN**

Compiled with GB15629.1101、GB15629.1102、GB15629.1104、WAPI Enhanced (HT20)、WAPI Enhanced (HT40)

Peak speed 1.733 Gbps

4x4 MIMO Configuration

Wave-2 802.11ac MU-MIMO

Maximum Ratio Combining (MRC)

Cyclic Delay / Cyclic Shift Diversity (CCD/CSD)

Maximum-Likelihood Detection (MLD)

Data Package Aggregation, including A-MPDU (Tx/Rx) and A-MSDU (Rx only)

802.11 Dynamic Frequency Selection (DFS)

Automatic data rate adjustment

WLAN Channel management and channel data rate adjustment

Automatic channel scanning and automatic interference avoidance

Service Set Identifier (SSID) hiding, support for SSIDs in Chinese, (UTF-8 encoding)

WAPI Roaming

Network

Complies with IEEE 802.3u

Auto-negotiation of the rate and duplex mode and, auto MDI/MDI-X

Maximum of 8 Virtual APs (VAPs) for each radio frequency

DHCP client obtaining IP addresses through DHCP

	<p>Tunnel forwarding and direct forwarding</p> <p>Isolation between wireless STA in the same VLAN</p> <p>Link Layer Discovery Protocol</p> <p>IPv4/IPv6 dual support</p> <p>QoS</p>
Security	<p>WAPI-Cert and WAPI-PSK authentication and encryption</p> <p>WAPI-EC</p> <p>WAPI-CS</p> <p>WAPI-MFP Protected Management Frames</p> <p>Timer protection Watchdog in the built-in high security module</p>
Maintenance	<p>Remote management (WEB)</p> <p>Remote upgrade</p> <p>Real-time configuring, monitoring and fast fault location</p>

Standard Compliance

WLAN Standard	GB 15629.11-2003, GB 15629.1102-2003, GB 15629.1101-2006, GB 15629.1104-2006, GB 15629.11-2003/XG1-2006, GB/T 15629.1103-2006
TNA Standard	ISO/IEC 9798-3:1998/Amd.1:2010 GB/T 28455-2012
Algorithm	GM/T 0002-2012、GM/T 0003-2012、GM/T 0004-2012