Product name	Confidentiality level
E5172As-22 C209SP100	Secret
Product version	Total 15 pages
V200R001	

E5172As-22 C209SP100 Release Notes

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Revision record

Date	Revision version	FW Version	HW Version	change Description	Author
2013-10-17	V1.0	C209SP100	Ver.B		Guoxiaofei

Contents

Main Feature

E5172As-22 supports the following standards:

- Support network environments. The E5172As-22 supports LTE FDD Band 1(2100MHz) /Band 3(1800MHz) /Band 7(2600MHz) /Band 8(900MHz)/Band 20(800MHz)、LTE TDD Band38(2600MHZ)、UMTS FDD Band8(900 MHz)/Band 1(2100MHz)、GSM 850 MHz /900 MHz /1800 MHz /1900MHz.
- High speed experience. Supports maximum throughput of 150 Mbps in the downlink and 50 Mbps in the uplink.
- Built-in DHCP Server and NAT. Provides high-speed routing capability.
- Comprehensive and robust security services. Provides instant protection to block potential security risks and intrusion attempts.
- Supports Windows XP, Windows Vista, Windows 7, linux, MAC. Compatible with Browser include Internet Explorer, Firefox, Chrome, Safari, Opera.
- Intuitionist and convenient Web-based management.
- Ultrathin and artful appearance.
- Built-in LTE and WLAN high gain antenna. Ensured performance and easy portability. It is optional to select a pair of external antenna, which is to ensure the normal use when the signal strength is weak.
- User-friendly design of LED indicator. Easy to observe the status of equipment.

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Technical Specifications

2.1 Hardware Specifications

Version Description

Hardware version: Ver.B

Platform & Chipset : Hi6920

Hardware specifications

Table 2-1 Technical specifications of the E5172As-22

Item	Description	
Technical standard	WAN: LTE/UMTS/GSM	
	LAN: IEEE 802.3/802.3u	
	WLAN: IEEE 802.11b/g/n	
Working frequency band	LTE: FDD 800/900/1800/2100/2600 MHz, TDD 2600 MHz	
	UMTS: 900/2100 MHz	
	EDGE/GPRS/GSM: 850/900/1800/1900 MHz	
	WLAN: 2.401–2.483 GHz	
Memory	Flash 512 MB, DDR 256 MB	
Maximum transmit power	LTE	FDD 800 MHz: 22.6 (±2) dBm
		FDD 900 MHz: 22.6 (±2) dBm
		FDD 1800 MHz: 22.5 (±2) dBm
		FDD 2100 MHz: 22.4 (±2) dBm
		FDD 2600 MHz: 22.3 (±2) dBm
		TDD 2600 MHz: 22.3 (±2) dBm

Item	Description	
	UMTS	900 MHz: 23.6 (+1/-3) dBm
		2100 MHz: 23.5 (+1/-3) dBm
	WLAN	802.11n: 17 dBm
		802.11g: 17 dBm
		802.11b: 17 dBm
Receiving sensitivity	LTE	FDD 800 MHz: -94 dBm@10 MHz
		FDD 900 MHz: -94 dBm@10 MHz
		FDD 1800 MHz: -94 dBm@10 MHz
		FDD 2100 MHz: -97 dBm@10 MHz
		FDD 2600 MHz: -95 dBm@10 MHz
		TDD 2600 MHz: -97 dBm@10 MHz
	UMTS	900 MHz: ≤ -108.5 dBm@3.84 MHz
		2100 MHz: ≤ -108.4 dBm@3.84 MHz
	WLAN	802.11n: -64 dBm@65 Mbit/s
		802.11g: -65 dBm@54 Mbit/s
		802.11b: -76 dBm@11 Mbit/s
Power consumption	≤ 15 W (adapter powered)	
AC/DC power supply	AC: 100–240 V, 50/60 Hz	
	DC: 12 V, 2 A	
Battery (Optional)	Type: Ni-MH battery (rechargeable)	
	Capacity: 3.6 V, 1500 mAh	
	Charge cycles: < 500 times	
	Maximum talk time: 2 hours	
	Maximum standby time: 6 hours	
External interfaces and buttons	1 Ethernet interface	
	1 POTS interface	
	1 Power interface	
	1 USIM card interface	
	1 External antenna interface	
	1 Reset button	

Item	Description
	1 WLAN button
	1 WPS button
	1 Power button
LED indicator	1 Power indicator
	1 WLAN indicator
	1 WPS indicator
	1 LAN indicator
	1 Voice indicator
	1 signal strength indicator
Antenna	Built-in LTE/UMTS/GSM antenna
	Built-out LTE/UMTS antenna (optional)
	Built-in WLAN antenna
Dimensions (H x W x D)	173 mm x 124 mm x 31.5 mm
Weight	About 500 g
Temperature	• Working temperature: 0°C to +40°C • Storage temperature: -20°C to +70°C
Humidity	10% to 95%
Placement	Vertical

2.2 Software Specifications

Version Description

Firmware version: C209SP100

Table 2-2 Software specifications

Item	Description
Gateway	Router: Support the default routing. You can set the WAN connection to the default routing to generate default routing table items.
	Support ARP

Item	Description
	Support DNS
	Support ICMP
	NAT: • Support NAT, NAPT (compliant with RFC2663, RFC3022 and RFC3027) • Support fragment message identification for normal NAT
	DHCP Server: • The default IP addresses of the DHCP server is from 192.168.1.1 to 192.168.1.254. The default gateway address is 192.168.1.1 • The default DHCP lease time is 24 hours • The DHCP Server can be enabled or disabled • The address pool of the DHCP server can be configured • The lease can be configured • The IP address status can be displayed, such as the host name, MAC address, IP address, and remaining lease • Support static IP reserve
Data service	• Downlink FDD LTE packet data service of up to 150 Mbit/s • Uplink FDD LTE packet data service of up to 50 Mbit/s • Downlink TDD LTE packet data service of up to 80 Mbit/s (configuration 1) • Uplink TDD LTE packet data service of up to 20 Mbit/s (configuration 1) • Downlink TDD LTE packet data service of up to 112 Mbit/s (configuration 2) • Uplink TDD LTE packet data service of up to 10 Mbit/s (configuration 2)
Voice service	• CS voice
SMS	• SMS over SGs
LAN	10 Mbit/s and 100 Mbit/s auto-negotiation
	MDI/MDIX auto-sensing
	IEEE802.3/802.3u is compatible
WLAN	Broadcast and hide the SSID

Item	Description
	Authentication: • Open System and shared key authentication • 64/128-digit WEP encryption • 256-digit WPA-PSK/ WPA2-PSK encryption • TKIP ciphering algorithm • AES ciphering algorithm • TKIP and AES ciphering algorithm synchronously
	MAC address authentication: up to 8 MAC address items
	Ratio adjustment: • Automatically • Manually(Except for 802.11n)
	STA management: support limit of access users (up to 32 users)
Access Device Management	Management access device
Upgrade	Auto http upgrade and local upgrade
SIM	PIN Management, SIM card Authentication
Dial-up	Support automatic, manual connect
Configuration import and export	Encryption backup current settings and restore the backup settings
SNTP	Support DST(Daylight Saving Time)
Maintenance	Export current diagnosis results and operation logs
System requirement	CPU: Pentium 500 MHz or above Memory: 128 MB RAM or above Hard disk: 50 MB free disk space OS: Windows XP/Windows Vista/ Windows 7/ linux/Mac Display resolution: 800 × 600 or above (1024 × 768 is recommended) Internet Explorer: IE7.0,8.0/firefox3.6/safari5.0/opera10/chrome8 or above

2.3 Improvement in the previous version

2.3.1 Version: C209SP100

No.	Description
1	New requirements

2.4 User Interface Parameters

Table 2-3 describes user interface parameters

Table 2-3 User interface parameters

Item	Description	
Gateway	Parameter configuration	LAN: • DHCP • IP address
		WLAN: • Wireless status • SSID • Mode (802.11 b/g/n) • Channel • Hidden SSID • Authentication (Open System and Shared Key) • Security (WEP, WPA and WPA2) • Access list (MAC) • Country
		WAN: • WAN connection profile, such as user name, password, APN • Network searching mode • Dial-up connection type

Item	Description	
		Firewall: • Firewall Switch • LAN MAC Filter • IP Filter • SPI filter • URL Filter • DMZ • Port Forward • Service Access Control
	Status	• Signal strength • Network type • Network connection status • SIM card status
	Other functions	Network connection settings: • Automatic network registration • Manual network registration
		Selection of network connection types
		PIN management: Enable/Disable PIN verification

Technical References

3.1 Standards and Communication Protocols

3.1.1 Standards and Communication Protocols of the Products

Table 3-1 Standards and communication protocols of the DATACOM products

Item	Description
Physical layer	RFC894
ARP	RFC826
IP	RFC791, RFC1122, RFC1071, RFC1141, RFC1624, RFC792, RFC950, RFC1256
ICMP	RFC792, RFC950, RFC1256
TCP	RFC793
UDP	RFC768
DHCP	RFC1531, RFC1533
NAT	RFC1631

3.1.2 Standards and Communication Protocols of the Wireless Uu Interface

FDD-LTE R9

WCDMA/HSDPA R5

HSUPA R6

HSPA+ R7

DC-HSPA+ R8

GSM/GPRS/EGPRS R6

Table 3-2 Standards and communication protocols of the wireless Uu interface

Item	Description
Layer1 Specifications (Physical)	3GPP TS 36.211, "Physical channels and modulation" 3GPP TS 36.212, "Multiplexing and channel coding" 3GPP TS 36.213, "Physical layer procedures" 3GPP TS 36.214, "Physical layer; Measurements"
Layer 2 Specifications (MAC/RLC/PDCP)	3GPP TS 36.321, "Medium Access Control (MAC) protocol specification" 3GPP TS 36.322, "Radio Link Control (RLC) protocol specification" 3GPP TS 36.323, "Packet Data Convergence Protocol (PDCP) "specification
Layer 3 Specifications (RRC)	3GPP TS 36.331, "Radio Resource Control (RRC); Protocol specification"
Layer 3 NAS/Core Network (MCM)	3GPP TS 24.301, "Non-Access-Stratum (NAS) protocol for Evolved Packet System (EPS)"
General Specifications	3GPP TS 36.201, "LTE physical layer; General description" 3GPP TS 36.300, "Overall description"
Performance/Test Specifications	3GPP TS 36.508, "Common test environments for User Equipment (UE) conformance testing" 3GPP TS 36.509, "Special conformance testing functions for User Equipment (UE)" 3GPP TS 36.521-1, "User Equipment (UE) conformance specification; Radio transmission and reception; Part 1: Conformance testing" 3GPP TS 36.521-2, "User Equipment (UE) conformance specification; Radio transmission and reception; Part 2: Implementation Conformance Statement (ICS)"
USIM Specifications	3GPP TS 31.102, "Characteristics of the Universal Subscriber Identity Module (USIM) application"

Acronyms and Abbreviations

LTE	Long Term Evolution
A	
AC	Alternating Current
ARP	Address Resolution Protocol
AP	Access Point
APN	Access Point Name
D	
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name Server
DL	Down Link, Downlink
H	
HLR	Home Location Register
I	
IP	Internet Protocol
ICMP	Internet Control Message Protocol
L	
LAN	Local Area Network
LED	Light Emitting Diode
N	
NAT	Network Address Translation
R	
RTT	Radio Transmission Technology
S	
SOHO	Small Office Home Office

SCP	Service Control Point
SDRAM	Synchronous Dynamic Random Access Memory
T	
TKIP	Temporal Key Integrity Protocol
U	
UMTS	Universal Mobile Telecommunications System
UL	Up Link, Uplink
W	
WAN	Wide Area Network
Wi-Fi	Wireless Fidelity