



CABLE MODEM

SMC8414-2P-SIP
EZ Connect™ 2-Port VoIP eMTA Cable Modem



OVERVIEW

The new EZ Connect SMC8414-2P-SIP is a voice-enabled cable modem which provides high-speed Internet connection and high performance VoIP telephone service. The SMC8414-2P-SIP supports two telephone lines with RJ-11 connectors. It provides one 10/100 Base-T Ethernet port and one USB port for connection to the computer and IP network. The SMC8414-2P-SIP is DOCSIS1.1/2.0 and which ensures interoperability with existing cable and telephony systems.

Easy installation is one of its main features: DHCP and TFTP clients allow it to automatically obtain its IP address and configuration data from network servers, without the intervention of the user or installer. Extensive SNMP management support allows service providers to do remote configuration, making it easy to monitor from a management station to complete all the provision.

The SMC8414-2P-SIP provides high speed Internet access, It supports Network Call Signaling (NCS) and Session Initiation Protocol (SIP) protocols. Quality of Service (QoS) is also supported to ensure that data access does not affect the voice quality. Easy-to-read LEDs clearly display network status and activity in its front panel. In addition, plug-and-play installation makes it all user-friendly. The SMC8414-2P-SIP is a cost-effective solution which combines voice and data service in one network. It is a convenient, intelligent, high performance EMTA aiming to increase the added value of home networking services.

FEATURES	BENEFITS
Complies with DOCSIS 1.1/2.0	Fully interoperable with all DOCSIS cable networks
2 Voice Ports, SIP Based, Battery Backup MTA	Enable the delivery of up to 2 lines of full-featured telephone service (i.e. caller ID, call waiting, 3-way calling, etc.)
Supports Voice Codec G. 168, G.711, G. 723.1, G. 729A, G. 729E, T.38	Allows Echo cancellation, Voice Activity Detection (VAD), Fax & Fax Relay over IP, DTMF detection and support all class services (caller ID, call waiting & three way calling)
DHCP and TFTP clients	Automatically obtain its IP address and configuration data from network servers, without the intervention of either the user or installer
Extensive SNMP management support	Allows the service providers to do remote management. All DOCSIS required MIBs are supported.
Browser-based configuration and management	Makes it easy for diagnostics and troubleshooting.



TECHNICAL SPECIFICATIONS

SMC8414-2P-SIP

HARDWARE FEATURES

- Compliant to MCNS DOCSIS 1.1/2.0 specifications
- F type RF connector for cable network interface
- One RJ-45, 10/100 Ethernet connector for LAN
- Two RJ-11 connector for voice
- One USB B connector
- One 12V power supply

SOFTWARE FEATURES

- Compliant to MCNS DOCSIS 1.1/2.0 specifications
- Supports UDP, IP, ARP, ICMP, DHCP, TFTP, SNMP, HTTP
- Support G.711(A-Law, Mu-Law), G.723.1, G.729A, G.729E voice compression
- Voice Activity Detection(VAD) with Comfort Noise Generation to save bandwidth consumption
- Support Auto-Jitter buffer adjustment to adapt with the jitter of Internet traffic
- Keep alive intervals and backup support to reconnect to redundant server
- DHCP,TFTP,and ToD clients, provide device auto configuration
- Support G.168 Echo Cancellation up to 16ms
- Support caller ID generation for USA, Japan and China
- No need to have fixed IP
- Provide regional profile to accommodate the regulation for different country
- Support standard SNMP, MIB-II, Ethernet-like MIB, Bridge MIB, RF Interface MIB, Cable Device MIB, Baseline privacy Interface MIB
- Supports TFTP software download
- Power on self-diagnostic
- Browser-based configuration and management
- Easy to install and friendly to user, just plug and play

COMPLIANT STANDARD

- DOCSIS 1.1
- DOCSIS 2.0

INTERFACES

- WAN Interface
 - F type female 75
- Telephony Interface
 - 2 lines; RJ-11
- Clint Interface
 - USB1.1 Slave
 - RJ-45 10/100Mbps Ethernet (No Auto-MDI/MDIX)

RECEIVER

- Demodulation
 - 64/256QAM
- Max Speed
 - over 33Mbps
- Frequency Range
 - 91 to 857 MHz \pm 30 kHz (Center) DOCSIS
- Bandwidth
 - 6MHz (DOCSIS)
- Signal Level
 - -15dBmV to +15dBmV
 - (Automatically Gain Controlled by CM)
 - The max composite input power (47 - 862MHz) without causing damage shall be at least 96 dBuV

TRANSMITTER

- Modulation
 - 64/256QAM
 - TDMA: QPSK, 8QAM, 16QAM, 32QAM, 64QAM
 - S-CDMA: QPSK, 8QAM, 16QAM, 32QAM, 64QAM, 128QAM
- Max Speed
 - over 16Mbps
- Frequency Range
 - 5 to 42MHz (edge to edge) DOCSIS

- Bandwidth
 - 0.2, 0.4, 0.8, 1.6, 3.2MHz
 - TDMA: 200, 400, 800, 1600, 3200 and 6400 kHz
 - S-CDMA: 1600, 3200 and 6400 kHz
- Signal Level
 - +8dBmV to +58dBmV (QPSK)
 - +8dBmV to +55dBmV (16QAM)
- TDMA:
 - +8 to +54 dBmV (32QAM, 64QAM)
 - +8 to +55 dBmV (8QAM, 16QAM)
 - +8 to +58 dBmV (QPSK)
- S-CDMA:
 - +8 to +53 dBmV (all modulations)
 - (Output level of CM can automatically controlled by CMTS through power ranging function), Step: 1dB
- Output Return Loss
 - > 6 dB (5-42 MHz) and (91-857 Mhz)

TELEPHONY

- Supervisory Voltage
 - 48V dc nominal
- Maximum Loop Length
 - 1500 ft (457M) of 26 AWG (0.4 mm) wire
- Ringing Load Capacity
 - 5 REN per line
- Programmable Interface for Worldwide
 - Select by country code and modem config file
- Protocol
 - SIP RFC3261
- CODEC
 - G.711A, G.726, G.728, G.729E, T.38
- Fax Support & Fax Relay over IP: T.38

MAX. NUMBER OF CPES

- 32 (32 MAC addresses)

FILTERING

- LLC
- 16
- IP
- 32

FREQUENCY SEARCH

- Frequency Cache
 - 4 entries Frequency
- Channel Plan
 - 6MHz step (DOCSIS)

POWER

- Input DC
 - DC 12V
- Consumption
 - 3W (Standby), 8W (operation)

OSS

- Protocol
 - ICMP/SNMP V1, V2c, V3
- MIB
 - MIB II / MCNS MIB/Hitron Proprietary MIB
 - PKT-SP-MIB-EXSIG1.5-I01-050128 *

ENVIRONMENT

- Operating temperature
 - Regular Model 32 F (0 C) to 104 F (40 C)
- Operating humidity
 - 10% to 90% (Non condensing)
- Storage temperature
 - -4 F (-40 C) to 140 F (80 C)
- Surge Protection
 - On RF Input shall sustain at least 4.5 kV
 - On Ethernet RJ-45 shall sustain at least 3KV.

BATTERY BACK UP WITH LITHIUM BATTERY CELLS

- 2200mAh - 4hrs
- 4400mAh - 7hrs

REGULATORY

- UL 60950
- FCC Part 15 Class B

LED

- Power, Diag, USB, Cable Modem (Cable, Receive, Send), (Link/Act, Full/Col, 100Mbps) on Ethernet port, (Ringout/Hook off) for voice port 1 and 2, AC Fail, Battery Low, Battery Missing, Replace Battery

WEIGHT

- 560g (Approximately)

DIMENSIONS (W X L X H)

- 230 x 152 x 55 mm
- 9.1 x 5.9 x 2.2 in

WARRANTY

- Limited Lifetime

*Optional software module available for Service Providers

** Most countries

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