

EPR2320 Cable Modem Product Specification

Product Overview

EPR2320 Cable Modem is an Euro-DOCSIS 1.0/1.1/2.0 and CableHome 1.0 compliant cable residential gateway that provides high-speed connectivity to residential, commercial, and education subscribers on public and private networks via an existing cable infrastructure. The EPR2320 Cable Modem is equipped with Ethernet, USB and IEEE802.11 g Wireless interfaces. EPR2320 Cable Modem uses the advanced PHY (A-TDMA/S-CDMA) technologies to support higher bandwidth in the upstream. EPR2320 Cable Modem can inter-operate with any Euro-DOCSIS and CableHome compliant headend equipment. It provides access to local area networks and word wide Internet as well as the rich management features of CableLabs CableHome 1.0. The data security secures upstream and downstream communications.

Features

General

- F-Connector for the cable interface
- Standard RJ-45 connector for 10/100BaseT Ethernet with auto-negotiation function and auto-media dependent interface crossover (MDIX)
- USB Connector for USB (12Mbps) interface
- IEEE802.11 g Wireless Access Point
- Clear LED Display
- Plug and Play

tComLabs EURO-DOCSIS 1.0/1.1/2.0 Standard Compliant

- Up to 42.88 Mbps downstream and up to 30.72 Mbps upstream
- Frequency agility
- Transparent bridging for IP traffic
- Transparent bridging between CPE and RF interface
- Transparent bridging between Ethernet and USB interface
- Packet Filtering: CPE MAC filters, LLC filters, IP filters
- Multiple users/CPE supported
- Security with X.509 Authentication / RSA protected

	Key Exchange / 56 bits DES Data Encryption
Two-Way Cable Residential Gateway	<ul style="list-style-type: none">• Interoperable with any EURO-DOCSIS compatible headend equipment• Supports IPv4 Routing• Supports Network Address Translation of multiple CPE devices (NAT/NAPT)• ALG supports for over 20 popular applications• DHCP Client/Server• IPSEC / L2TP / PPTP pass through
Wireless	<ul style="list-style-type: none">• Fully 802.11g Compatible• Fully 802.11b Compatible• Up to 54 Mbps Data Rate• Seamless Link Quality Around Home & Business Office• Support Efficient Power Management• 64/128 bit WEP Encryption for Wireless Security• Support Wi-Fi Protected Access (WPA)• Support Temporal Key Integrity Protocol (TKIP)• IEEE 802.1x Port-Based Authentication with RADIUS Client, support MD5, TLS, TTLS• Support Authentication: Open System, Shared Key• Wireless LAN MAC Filtering• Association Control List (ACL) for Wireless Clients Management
Firewall	<ul style="list-style-type: none">• IP Filtering• Full function Stateful Packet Inspection• Flexible Parental Control including:<ul style="list-style-type: none">Content Filtering: Cookies, URLs, Java, Active-X, Pop-Up windowsDomain BlockingTime of Day AccessTrusted Computer Bypass• Configurable Access Policy• Supports Ports Forwarding and Triggering• Web-Based User Interface Management and Administration• DMZ support

CableLabs CableHome 1.0
Standard Compliant

- Support Multiple Provisioning Mode
- Address Portal (CAP) – NAT/NAPT
- Management Portal (CMP)
- DHCP Portal (CDP) – DHCP Client/Server
- Naming Portal (CNP) – DNS
- Testing Portal (CTP) – ICMP & ECHO
- Security Portal (CSP) –Diffie-Hellman / Kerberos Authentication
- Firewall Function

Management & Maintenance

- Support Web pages and private DHCP server for status monitoring
- SNMP v1/v2c/v3 Management
- Remote secured operating firmware downloading
- Reset To Default Settings by RESET Push Button
- Syslog (Remote)
- Event Log (Local)

Specifications

Cable RF:

	<u><i>Downstream</i></u>	<u><i>Upstream</i></u>
Operating Frequency Range	112-858MHz	5-65MHz
Frequency Channel	Step size 250KHz	
Frequency Selection	Auto Scanning	Controlled by Headend
Bandwidth	8MHz (ITU-T J.83A)	Programmable (200*N KHz) N=1, 2, 4, 8, 16
Characteristic Impedance	75Ω Nominal	75Ω Nominal
Signal Level Range	-15 to +15dBmV/64QAM -15 to +15dBmV/256QAM	+8 to +58dBmV/QPSK +8 to +55dBmV/16QAM
Modulation	64QAM/256QAM	QPSK/16QAM
Modulation Rate	6.952 Msym/sec	160/320/640/1280/2560 Ksym/sec
Maximum Bit Rate	55.616Mbps/256QAM 41.712Mbps/64QAM	10.24Mbps/16QAM 5.12Mbps/QPSK
Forward Error Correction (FEC)	RS(128,122)/Trellis	Reed Solomon
Signal to Noise Ratio (SNR)		>30

Bit Error Rate (BER)	1×10^{-8} @ C/N=23.5dB, 64QAM with FEC
	1×10^{-8} @ C/N=30dB, 256QAM with FEC, received power = -6dBmV to +15dBmV
	1×10^{-8} @ C/N=33dB, 256QAM with FEC, received power = -15dBmV to -6dBmV

Physical & Hardware :

Dimensions	<ul style="list-style-type: none">• L = 174 mm• W = 134 mm• H = 40 mm
Weight	<ul style="list-style-type: none">• TBD
Ports	<ul style="list-style-type: none">• Ethernet Port (RJ-45)• USB port (Type B)
Antenna	<ul style="list-style-type: none">• Single External Antenna
LEDs (Green)	<ul style="list-style-type: none">• Power LED• RECEIVE LED (DATA)• SEND LED (DATA)• CABLE LED• Ethernet/USB LED (PC)• Wireless LED (PC)
Reset Button	<ul style="list-style-type: none">• Restore Factory Default Settings
Power Supply Adapter (Output)	<ul style="list-style-type: none">• 12VDC, 1A

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| Power Consumption | <ul style="list-style-type: none">• Less than 8W |
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Wireless:

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| Media Access Control | <ul style="list-style-type: none">• CSMA/CA with ACK for unicast data frames• CSMA/CA with ACK for broadcast data frames and management frames |
| Data Rate | <ul style="list-style-type: none">• 802.11g<ul style="list-style-type: none">➤ 54, 48, 36, 24, 18, 12, 9, 6 Mbps• 802.11b<ul style="list-style-type: none">➤ 11, 5.5, 2, 1 Mbps |
| Frequency Range | <ul style="list-style-type: none">• 2.4 GHz ~ 2.4835 GHz ISM Band |
| Modulation | <ul style="list-style-type: none">• 802.11g<ul style="list-style-type: none">➤ OFDM• 802.11b<ul style="list-style-type: none">➤ Barker (1Mbps, 2Mbps)➤ CCK (5.5Mbps, 11Mbps) |
| Receiver Sensitivity | <ul style="list-style-type: none">• -80 dbm @ 11Mbps |
| Output Power | <ul style="list-style-type: none">• 11b: 14 dBm• 11g: 14 dBm |

Standards & Protocols:

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| Standards | <ul style="list-style-type: none">• EURO-DOCSIS 1.0/1.1/2.0 Compliant• CableHome 1.0 Compliant• IEEE 802.11g• IEEE 802.11b• IEEE 802.3• IEEE 802.3u• IEEE 802.1x• USB v1.1 |
| Protocols | <ul style="list-style-type: none">• UDP/TCP/IP• DHCP• TP• ICMP• ARP• SNMP v1/v2c/v3 |

- Syslog
- HTTP
- TFTP
- NAT
- RIP
- WPA

MIB Support:

- MIB 2
- RFC2786
- RFC2669
- CableLabs Private MIBs

Environment :

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| Operating Temperature | • 32°F ~ 104°F (0°C to 40°C) |
| Storage Temperature | • -4°F ~ 158°F (-20°C to 70°C) |
| Humidity | • 20% ~ 90% Non-condensing |

Certification:

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|-----------|----------------------------------|
| Standards | • EURO-DOCSIS / CableHome / WHQL |
| Safety | • UL 1950 |
| EMC | • FCC Part 15 Class B |
| | • CE Class B |
| | • VCCI Class B |
| Wireless | • Wi-Fi Compliant |

Front View:



Rear View:



- ANTENNA: External Wireless Antenna
- 12VDC: Power connector
- RST: Reset-to-Default push button
- ETHERNET: Ethernet 10/100BaseT RJ-45 connector
- USB: USB Connector
- CABLE: F-Connector