Doc. No. 78-5489-01

Update to the Cisco uBR904 Cable Modem Installation and Configuration Guide

Product Number: uBR904

This document describes the tests performed, test results, and caveats related to the Multimedia Cable Network Partners, Ltd. (MCNS) Data Over Cable Service Interface Specification (DOCIS) compatibility for the Cisco uBR904 cable modem.

Cisco uBR904 MCNS DOCSIS Compatibility

Table 1 lists the test results that were used to confirm MCNS DOCIS compatibility of the uBR904.

Note All adjacent channel interference results are measured both at the downstream receiver (demodulator) and before the tuner (at the cable plant) of Cisco uBR904 cable modems.

Corporate Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA

Copyright © 1998
Cisco Systems, Inc.
All rights reserved.

Table 1 CIsco uBR904 MCNS DOCSIS Compatibility Test Matrix

	MCNS DOCSIS Compatibility Testing (BER[1] < or = 1 x 10^{-8})					
	Tests Performed		Results			
	PHY (RF)	End-to-End	SNR[2] at Downstream Receiver			
			SNR		Adjacent Channel Interference	
Data Rate			MCNS Specification	Actual Results	MCNS Specification	Actual Results
Downstream						
256 QAM[3] (5.360 Msps[4], alpha 0.12)	X	–	30 dB	33 dB	30 dB[5] 30.5 dB[6] 31 dB[7]	33 dB[5] 33.5 dB[6] 34 dB[7]
64 QAM[3] (5.057 Msps[4], alpha 0.18)	X	X	23.5 dB	23.5 dB	23.5 dB[8] 23.7 dB[7]	23.5 dB[8] 23.7 dB[7]
Upstream						
16 QAM[3] (1.280 Msps[4], alpha 0.25)	X	–	30 dB	30 dB	–	–
QPSK[9] (1.280 Msps[4], alpha 0.18)	X	–	30 dB	30 dB	–	–

1. BER = bit error rate.
2. SNR = signal-to-noise ratio.
3. QAM = quadrature amplitude modulation.
4. Msps = Megasymbols per second. A symbol is the basic unit of modulation.
5. Analog or digital adjacent channel, 0 decibels relative to carrier (dBc) located at 6MHz from the desired channel.
6. Analog adjacent channel, 10 dBc located at 6MHz from the desired channel.
7. Digital adjacent channel, 10 dBc located at 6MHz from the desired channel.
8. Analog adjacent channel (10 dBc) or digital adjacent channel (0 dBc) located at 6MHz from the desired channel.
9. QPSK = quadrature phase shift keying.

Cisco Connection Documentation

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Documentation CD-ROM, a member of the Cisco Connection Family, is updated monthly. Therefore, it might be more current than printed documentation. To order additional copies of the Documentation CD-ROM, contact your local sales representative or call customer service. The CD-ROM package is available as a single package or as an annual subscription. You can also access Cisco documentation on the World Wide Web at http://www.cisco.com, http://www-china.cisco.com, or http://www-europe.cisco.com.

If you are reading Cisco product documentation on the World Wide Web, you can submit comments electronically. Click **Feedback** in the toolbar and select **Documentation**. After you complete the form, click **Submit** to send it to Cisco. We appreciate your comments.

Cisco Connection Online

Cisco Connection Online (CCO) is Cisco Systems' primary, real-time support channel. Maintenance customers and partners can self-register on CCO to obtain additional information and services.

Available 24 hours a day, 7 days a week, CCO provides a wealth of standard and value-added services to Cisco's customers and business partners. CCO services include product information, product documentation, software updates, release notes, technical tips, the Bug Navigator, configuration notes, brochures, descriptions of service offerings, and download access to public and authorized files.

CCO serves a wide variety of users through two interfaces that are updated and enhanced simultaneously: a character-based version and a multimedia version that resides on the World Wide Web (WWW). The character-based CCO supports Zmodem, Kermit, Xmodem, FTP, and Internet e-mail, and it is excellent for quick access to information over lower bandwidths. The WWW version of CCO provides richly formatted documents with photographs, figures, graphics, and video, as well as hyperlinks to related information.

You can access CCO in the following ways:

- WWW: http://www.cisco.com
- WWW: http://www-europe.cisco.com
- WWW: http://www-china.cisco.com
- Telnet: cco.cisco.com
- Modem: From North America, 408 526-8070; from Europe, 33 1 64 46 40 82. Use the following terminal settings: VT100 emulation; databits: 8; parity: none; stop bits: 1; and connection rates up to 28.8 kbps.

For a copy of CCO's Frequently Asked Questions (FAQ), contact cco-help@cisco.com. For additional information, contact cco-team@cisco.com.

If you are a network administrator and need personal technical assistance with a Cisco product that is under warranty or covered by a maintenance contract, contact Cisco's Technical Assistance Center (TAC) at 800 553-2447, 408 526-7209, or tac@cisco.com. To obtain general information about Cisco Systems, Cisco products, or upgrades, contact 800 553-6387, 408 526-7208, or cs-rep@cisco.com.

This document is to be used in conjunction with the *Cisco uBR904 Cable Modem Installation and Configuration Guide* publication.

AccessPath, AtmDirector, the CCIE logo, CD-PAC, Centri, the Cisco Capital logo, *CiscoLink*, the Cisco Net*Works* logo, the Cisco Powered Network logo, the Cisco Press logo, ClickStart, ControlStream, DAGAZ, Fast Step, FireRunner, IGX, JumpStart, Kernel Proxy, LoopRunner, MGX, Natural Network Viewer, NetRanger, NetSonar, *Packet*, PIX, Point and Click Internetworking, Policy Builder, RouteStream, Secure Script, SMARTnet, SpeedRunner, Stratm, StreamView, *The Cell*, TrafficDirector, TransPath, VirtualStream, VlanDirector, Workgroup Director, and Workgroup Stack are trademarks; Changing the Way We Work, Live, Play, and Learn and Empowering the Internet Generation are service marks; and BPX, Catalyst, Cisco, Cisco IOS, the Cisco IOS logo, Cisco Systems, the Cisco Systems logo, Enterprise/Solver, EtherChannel, FastHub, FastPacket, ForeSight, FragmentFree, IPX, LightStream, MICA, Phase/IP, StrataSphere, StrataView Plus, and SwitchProbe are registered trademarks of Cisco Systems, Inc. in the U.S. and certain other countries. All other trademarks mentioned in this document are the property of their respective owners.

Copyright © 1998, Cisco Systems, Inc.
All rights reserved. Printed in USA.
9805R