



EN93010EVK c.LINK™ Access Evaluation Kit

As demand for higher speed broadband access continues, operators struggle to deploy faster ways to connect their deep, fast fiber networks to their subscribers. Telco's ongoing migration to VDSL-based solutions has driven demand for faster broadband access and pressured cable MSOs to keep pace.

Entropic's c.LINK Access platform offers operators the ability to deliver greater than 100 Mbps broadband service over existing coaxial (coax) cable in the last few yards to the home or apartment.

Fiber is deployed FTTH (home), FTTB (basement) and FTTC (curb), but requires a broadband technology to connect the system to the consumer premises. c.LINK can sit in the optical network termination and create a mini coax broadband distribution system. This solution allows MSOs to deploy fast and reliable triple play services (voice, video, data) and increases the availability and penetration of broadband to the home and apartment.

The c.LINK Access MAC protocol is designed to be a scheduled and contention-free network. This is achieved through the use of a central or network coordinator (NC) that schedules all transmissions on the medium. c.LINK is designed to also achieve greater than 100 Mbps of net throughput. The Access Mode of the MAC allows for a point-to-multi-point topology that supports 31 client nodes with a single NC.

The system has been designed with advanced control and bandwidth management mechanisms similar to those implemented in the DOCSIS cable modem specification. These include baseline privacy encryption, connection/admission control, guarantees for bandwidth (including rate limiting and rate guarantees) and MIB support for SNMP control.

c.LINK Access effectively competes against next generation VDSL solutions from Telcos by allowing cable operators to provide faster and more consistent broadband service over coax. Unlike XDSL, the c.LINK Access Network:

- Requires no terminating network interface device (NID)
- Terminates in any room, or multiple rooms, at coax outlets and can be moved or consumer installed
- Requires fewer IC's in the gateway device (VDSL: 1:1 Gateway chipset/subscriber, c.LINK chipset is shared by 31+ subscribers)
- Uses c.LINK, the only alternative technology to deliver >100 Mbps
- Provides configurable bandwidth management for both upstream and downstream data rate
- Doesn't reside in a noisy frequency band; c.LINK signal band is 770-1032MHz



The c.LINK Access Evaluation Kit (EVK) is a complete coax cable access system. It offers the user a simple way to verify the performance of Entropic's c.LINK chipset for coax network applications and includes one Access Network Coordinator and seven Access Client Ethernet-to-Coax Bridges (ECBs) powered by Entropic's c.LINK chipset. The ECBs are easily installed into an access coax network; they do not require changes to the existing home wiring and do not interfere with existing CATV and broadband services.

The bridges are installed using conventional coax cable and can be set up in an access network within minutes, enabling the delivery of broadband services from the optical network to each home or apartment. Each bridge comes equipped with an HTML setup utility. This setup utility configures parameters such as RF frequency, IP address and passwords for each ECB on the network. Remote monitor tools are also available to test the access network physical layer data rate.

Once an evaluation is complete and a c.LINK technology choice made, developers can acquire a c.LINK Access Software Development Kit (SDK). This kit provides all the hardware and software material necessary to incorporate c.LINK technology into your design.

Features

- > 100 Mbps application data rate
- Bandwidth management
- Web-based network management
- User selectable RF channel
- Remote network monitor tools
- Field upgradeable software
- Password protection for access control

Benefits

- c.LINK coexists with all broadband services
- Easily create a High Speed Multimedia coax access system for the home
- Easily install into existing access coax network without changing existing wires
- Costeffective way to assess c.LINK technology
- Reduce up front development costs

Ethernet-to-Coax Bridge

The c.LINK ECB enables you to quickly begin sending standard Ethernet traffic over your home coax cable access network using Entropic's EN1010 Coaxial Network Interface IC and the EN3010 Access Network Controller IC. It provides a convenient GUI for configuring the c.LINK access coax network and is ideal for evaluating the c.LINK technology or for use as a controlled node for embedded development.

EVK Components

- One Access Network Controller ECB
- Seven Access Client ECB
- ECB user manual
- Coax network adapters and cables
- Ethernet cables

Specifications

- 250 Mbps physical data rate per channel and greater than 100Mbps effective data rate
- 800 to 1500 MHz operation
- 50 MHz wide channel band
- 29 RF channels available
- Up to thirty-two bridges (one NC and thirty-one clients) supported per RF channel
- 75 dB dynamic range

Product Reference Information

Number	Description
EN93010EVK	c.LINK Access Network Evaluation Kit (EVK)
EN93010SDK	c.LINK Linux Access Network Software Development Kit (SDK)
EN1010	Coaxial Network Interface RF Integrated Circuit
EN3010	Access Network Controller Integrated Circuit
EN3030	Access Client Integrated Circuit