



EN93010SDK c.LINK™ Access Software Development 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, and 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 Software Development Kit (SDK) provides the software and hardware design files that enable developers to incorporate reliable, effective c.LINK Access technology into fast and reliable broadband services delivered by service providers to the home and apartment. Supporting a Linux OS, the kit provides c.LINK driver source code that developers can compile, build and integrate into their own designs.

For those who wish to assess c.LINK Access technology, an Evaluation Kit (EVK), enabling developers to quickly set up, control and use a high-speed coaxial backbone, is also available.

SDK components

- Complete c.LINK driver source code for Linux OS
- Three c.LINK mPCI software development boards
- Two c.LINK ECBs
- Software developers reference guide
- API reference documentation
- Coax access wiring system
- Complete mPCI and ECB reference design
- Example HTML GUI source code
- Example test harness source code

Benefits

- Start software development prior to target hardware availability
- Quickly build demonstrations and implement field trials
- Enable porting of the c.LINK driver to other operating systems
- Create and integrate c.LINK-based applications
- Rapidly move products into manufacturing and accelerate time-to-market

Ethernet-to-Coax Bridge Reference Design

The ECB reference design is a 4-port Ethernet bridge, which quickly enables you to begin sending standard Ethernet traffic over an access coax cable network using Entropic's EN1010 Coaxial Network Interface IC and the EN3010/3030 Access Network Controller/Client IC. It provides software diagnostic tools, a data logger and a convenient GUI for configuring the c.LINK Access coax network. The ECB reference design is ideal for evaluating the c.LINK technology and for use as a controlled node for embedded development. The ECB reference design material includes schematics, bill of materials and PCB layout files, which will allow the developer to easily manufacture or integrate this design.

mPCI Reference Design

The Entropic mPCI reference design board has a standard mPCI interface to allow easy integration into many host development platforms and is powered by the c.LINK chipset, which includes the EN1010 Coaxial Network Interface IC and the EN3010/3030 Access Network Controller/Client IC. The mPCI is ideal for developing embedded software prior to incorporating it into the host device. The reference design material includes schematics, bill of materials and PCB layout files, which will allow the developer to easily manufacture or integrate this design.

Access Coax Wiring Kit

This kit is a self-contained coax wiring network that emulates the cabling system found in home segment of a typical Access Network. The coax wiring kit is constructed using standard coax cables, splitters, adapters and wall outlets and is housed in a heavy-duty plastic case with outlets exposed for easy connection.

Secure Web Access

The purchase of an SDK entitles you to access our secure website where you will find the latest application notes, datasheets and white papers to help you avoid design pitfalls and assist in the development of your device.

Product Reference Information

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