Cisco Euro-DOCSIS/DOCSIS Transponder

The Cisco Euro-DOCSIS/DOCSIS transponder offers monitoring and control capabilities for Cisco compact amplifiers and nodes deployed in Euro-DOCSIS/DOCSIS networks.

The transponder provides services via a web interface (HTML) and Simple Network Management Protocol (SNMP). The transponder is designed for Euro-DOCSIS/DOCSIS networks and thus can co-exist into networks serving modems of different versions of Euro-DOCSIS/DOCSIS Standards.

The transponder supports the HMS MIB, enabling operators to continue to integrate seamless Cisco products into existing or new HFC networks monitored by HMS-compliant network management systems.

Configuration and Monitoring

The transponder can be controlled either remotely or locally via a web interface allowing fast diagnosis and control of the parameters of the transponder as well as the HFC devices.

The transponder module is equipped with a Mini USB port, which facilitates local access through a web browser. It allows the user to monitor the Euro-DOCSIS/DOCSIS parameters and control all settings of the connected HFC device.

Set-Up and Adjustment

The transponder is temperature hardened do that it can be used in outdoor amplifiers or nodes.

The transponder is a true plug-in module and it can be plugged directly into the available transponder socket of nodes and amplifiers[1]. It registers automatically to the network. The transponder utilizes the internal nonvolatile memory for storage of the important operational parameters including the unit address.

The transponder can be plugged in without interrupting service. No special mounting kit or cable is required, and all test points remain fully accessible at all times.

Figure 1. Cisco Euro-DOCSIS/DOCSIS Transponder
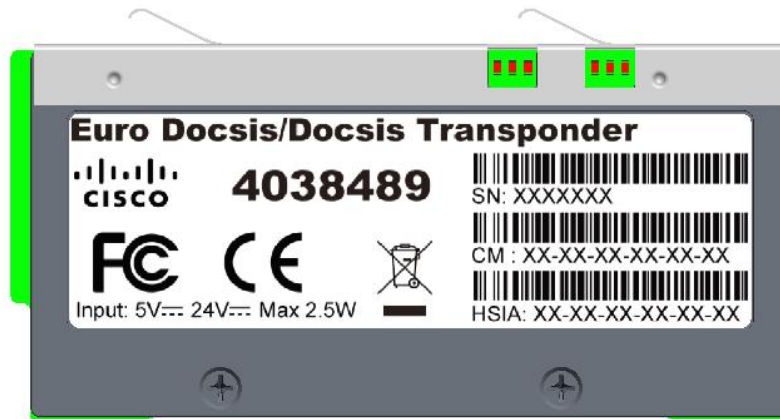
Note 1: For Cisco Compact Segmentable Node, a mounting bracket is used to fasten the transponder in place. Remove the bracket before mounting.

Figure 2. Cisco Euro-DOCSIS/DOCSIS Transponder

Features

- **Network Environment:** Works in Euro-DOCSIS/DOCSIS 2.0 networks, and also works in Euro-DOCSIS/DOCSIS 1.0 and 1.1 environments.
- **Network Management:** Complies with the Euro-DOCSIS/DOCSIS Standard to monitor the devices in a CATV network.
- **Firmware Upgrade:** Supports firmware download for new features and applications, either locally or remotely.
- **Configurable:** Supports local control of the transponder parameters via an embedded web server.
- **Compatible with Other Transponders**: Complies with SCTE's HMS standard for monitoring devices in HFC networks and allows seamless integration with existing HMS management systems. Upgrade of existing deployments with Euro-DOCSIS/DOCSIS transponders is fully supported.
- **Hot-pluggable:** Supports hot-plugging during system operation.
- **LED Indications:** Supports full indications of power, upstream/downstream active, online, USB and status with 6 LEDs.
- **High Performance:** Fully-integrated broadband tuner is optimized for high performance data application in a DOCSIS network. The transponder is temperature-hardened allowing for operation in outdoor conditions.
- **Power-saving:** Only 2.5-W power consumption for whole transponder.

Product Specifications

See the tables below for product specifications.

Table 1. Transponder Transmitter Section (Upstream)

Transponder Transmitter Section	
Item	**Specification**
Carrier Frequency	5-65 MHz
Modulation Type	A-TDMA, S-TDMA covering QPSK, 8-QAM, 16-QAM, 32-QAM, 64-QAM, 128QAM
Symbol Rate	TDMA: 160, 320, 640, 1280, 2560, 5120 kSym/s SCDMA: 1280, 2560, 5120 kSym/s

Upstream Output Level
    Euro-DOCSIS
 	
    DOCSIS
	TDMA：
	68-118 dBuV(QPSK)
	68-114 dBuV(32QAM,64QAM)
	68-115 dBuV(8QAM,16QAM)
	SCDMA：
	8-53 dBuV
	
	TDMA：
	8-58 dBmV(QPSK)
	8-64 dBmV(32QAM,64QAM)
	8-65 dBmV(8QAM,16QAM)
	SCDMA：
	8-53 dBmV

Table 2. Transponder Receiver Section (Downstream)

Transponder Receiver Section	
Item	**Specification**
Carrier Frequency	86 - 1002 MHz

Downstream Input Level
    Euro DOCSIS
 	
    DOCSIS
	+43 - +73 dBuV (64QAM)
	+47 - +77 dBuV (256QAM)
	
	-15 - +15 dBmV

Table 3. Monitoring Protocols

Monitoring Protocols Complied	
Item	**Specification**
SCTE's HMS Monitoring Protocol	SNMP V1, V2 and V3
DOCSIS Monitoring Protocol	DOCSIS V1.0, V1.1, and V2.0

Table 4. Signaling Specifications

Signaling Specifications	
Item	**Specification**
LED	Power Downstream Upstream Online USB Status

Table 5. General and Environmental

General and Environmental	
Item	**Specification**
Power Consumption	2.5 W
Operating Temperature Range	-40 to +85 °C
ESD Susceptibility	4 KV

Table 6. Mechanical Specifications

Mechanical Specifications	
Item	**Specification**
Dimensions H x W x D	38.6 x 78.1 x 12.6 mm (4038498)
Weight	70 g
Local Craft Interface	Mini USB (Type A or Type B)

Table 7. Compliance Specifications

Compliance Specifications	
Item	**Specification**
Safety	IEC60065:2001+A1:2005 EN60065:2002+A1:2006
EMC	EN50083-2: 2006 EN61000-3-2:2006 EN61000-3-3:1995/+A1: 2001/+A2: 2005 47 CFR Part 15: 2008 47 CFR Part 76: 2008 ICES-003: 2004 ANSI C63.4: 2003
RoHS	EU RoHS 6/6

Note: The above compliance specifications are tested in Cisco compact amplifiers and nodes.

Ordering Information

See the table below for ordering information.

Table 8.   Accessories

Description	Part Number
Euro-DOCSIS/DOCSIS Transponder	
Euro-DOCSIS/DOCSIS Transponder for Cisco Compact Amplifiers and Nodes	4038498

Cisco Systems, Inc.
800 722-2009 or 678 277-1120   Part Number 7021141 Rev A
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