

Cisco DOCSIS®/EuroDOCSIS™ Transponder for GainMaker Node

The Cisco DOCSIS®/EuroDOCSIS™ transponder offers monitoring and control capabilities for Cisco GainMaker Nodes deployed in DOCSIS/EuroDOCSIS networks.

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

The transponder supports the HMS MIB, enabling operators to continue to seamlessly integrate 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 GainMaker Node.

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 DOCSIS/EuroDOCSIS parameters and control/monitor certain settings of the connected GainMaker Node.

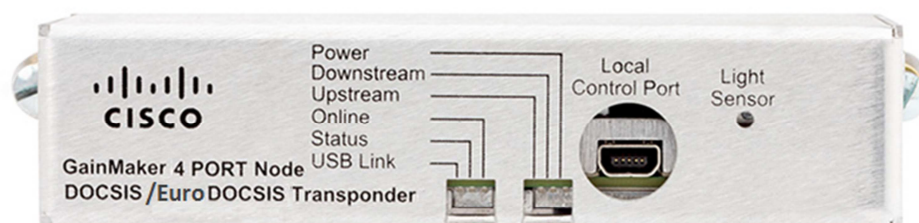
Set-Up and Adjustment

The transponder is contained in a metal housing and the core module is temperature hardened to be used in outdoor GainMaker nodes.

The transponder is a true plug-in module and it can be plugged directly into the available socket of GainMaker Node. 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 DOCSIS®/EuroDOCSIS™ Transponder for GainMaker Node



Features

- **Network Environment:** Works in DOCSIS/EuroDOCSIS 2.0 networks, and also works in DOCSIS/EuroDOCSIS 1.0, 1.1, and 3.0 environments.
- **Network Management:** Complies with the DOCSIS/EuroDOCSIS 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 DOCSIS/EuroDOCSIS 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:** Lower than 3 W power consumption for whole transponder.

Product Specifications

See the tables below for product specifications.

Table 1. Transponder for GainMaker Transmitter Section (Upstream)

Transponder for GainMaker 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 DOCSIS	TDMA: 8-58 dBmV(QPSK) 8-64 dBmV(32QAM,64QAM) 8-65 dBmV(8QAM,16QAM) SCDMA: 8-53 dBmV
EuroDOCSIS	TDMA: 68-118 dBμV(QPSK) 68-114 dBμV(32QAM,64QAM) 68-115 dBμV(8QAM,16QAM) SCDMA: 68-113 dBμV

Table 2. Transponder for GainMaker Receiver Section (Downstream)

Transponder for GainMaker Receiver Section	
Item	Specification
Carrier Frequency	86 - 1002 MHz
Downstream Input Level DOCSIS	-15 - +15 dBmV
Euro DOCSIS	+43 - +73 dBμV (64QAM) +47 - +77 dBμV (256QAM)

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, V2.0 and V3.0

Table 4. Signaling Specifications

Signaling Specifications	
Item	Description
LED	Power - Power LED Downstream - Status of the Downstream scanning and synchronization Upstream - Status of the Upstream scanning and synchronization Online - Status of the IP Initialization USB - Status of the USB connection Status - Status of the specifications and properties of the transponder

Table 5. General and Environmental Specifications

General and Environmental Specifications	
Item	Specification
Power Consumption	≤ 3.0 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	41.4 x 124.1 x 25.4 mm 1.6 x 4.9 x 1.0 inch.
Weight	70 g 2.5 oz
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 GainMaker Nodes.

Ordering Information

See the table below for ordering information.

Table 8. Ordering Information

Description	Part Number
DOCSIS®/EuroDOCSIS™ Transponder for GainMaker Nodes	
DOCSIS®/EuroDOCSIS™ Transponder for GainMaker 4-Port Node	4039676
DOCSIS®/EuroDOCSIS™ Transponder for all other GainMaker Nodes	4039677

Note: The transponder type 4039677 can be available for ordering by the beginning of year 2013. Contact your customer consultant for any change for product availability.



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Cisco Systems, Inc.
800 722-2009 or 678 277-1120
www.cisco.com

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