TCG300 EuroDocsis 3.0 Cable Modem

Concurrent dual band Wireless Gateway

Enjoy a new experience with a Full-Band Capture Front End Cable modem and Wireless concurrent Gateway based on DOCSIS 3.0 latest Broadcom chipset generation.

The TCG300 is fully compliant with EuroDOCSIS 3.0 and is offering backwards compatibility with previous DOCSIS Version networks to provide high-speed Internet access over residential, commercial, and education subscribers on public and private networks, via the existing CATV infrastructure. A wireless 802.11ac/b/g/n device within 2x2 and 3x3 MIMO design provides a concurrent WiFi access point via both 2.4GHz and 5GHz simultaneously. With concurrent WiFi, users can benefit from smooth multimedia content streaming, internet TV, high performance gaming and excellent Quality of Service. The high performance 4 Giga Ethernet switch allows to expand your local LAN and to support a small office, which makes the TCG300 the ideal solution for cable operators to expand their service offerings. Advanced features include firewall and VPN (virtual private network).

EuroDOCSIS 3.0 Cable Modem enables service providers to offer the highest speed on a HFC network. The cost-effective TCG300 bonds 24 downstream channels along with 8 upstream channels to deliver usable downstream data rates up to 1.2 Gbps (theorical) with 240 Mbps (theorical) upstream (speed is also depending on your cable modem service). The TCG300 supports IPv4 and IPv6 to expand network addressing capabilities.

Home Networking

Set-top box

Smart grid

Access Gateways

www.siligence-sas.fr

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SPECIFICATIONS

Physical

- Operating Temperature 0 ~ 40°C - Storage Temperature -20 to 70° C
- Operating Humidity 20 ~ 90% (non-condensing)
- On/Off switch button, Reset button and WPS button
- LEDs : Power - DS - US - Online - Ether 1/2/3/4 - WIFI
- Dimensions 192mm x 138mm x 45mm

Interfaces

- 2x IEEE 802.11ac/b/g/n WiFi (2.4GHz & 5GHz concurrent)
- 4x RJ45 Giga Ethernet 10/100/1000 Base T
- F-type Female Connector 75 Ohm
- Input Voltage: 100~264VAC, 50 to 60 Hz

Regulatory Approvals and Compliance

- EuroDOCSIS 3.0 backwards compatible with previous DOCSIS versions
- RoHS, CE, CB, WEEE, ITU- K.21 (6KV)

Wireless

- Protocol 802.11n/ac (2.4GHz/5GHz)
- 2x2 (2.4GHz) and 3x3 (5GHz) Internal MIMO antenna array
- Wireless Security: WPA-PSK, WEP-64/128, WPA, WPA2, Radius 802.1x
- Multiple SSIDs
- Wireless QoS (WMM)
- WMM U-APSD power saving mode

Networking

- Network protocol : IP/TCP/UDP/ARP/ICMP/DHCP/FTP/TFTP/SNMP/HTTP/Syslog/Telnet/SSH.
- Multiple Client Support: 254 (router) 32 (Bridge)
- Bridge: Transparent Bridging between CPE and RF interface
- Virtual Network: VPN Tunneling (Pass-through)
- Network addressing : IPv4 and IPv6

Features

- Low Power Consumption with Advanced Power Management
- Support Multiple Provisioning Mode
- SNMP Network Management Support
- Online diagnostics and configuration
- User-Friendly WiFi protected setup (WPS) for connection with WPS compatible device
- Easy to Setup and Use: Plug and Play installation

RF Specifications

	Downstream	Upstream
Frequency Range (MHz)	108-1002 EuroDOCSIS	5-85 DOCSIS
Bonded Channels	up to 24 channels	up to 8 channels
Frequency selection	Auto Scanning	Controlled by headend
Bandwidth	8MHz EuroDocsis	Programmable N*200KHz (N = 1, 2, 4, 8, 16, 32)
Characteristic impedance	75 Ohm	75 Ohm
Signal Level Range	-17/+13dBmV/64QAM -13/+17dBmV/256QAM	TDMA(1xUpstream) Pmin to +57dBmV (32,64 QAM) Pmin to +58dBmV (8,16 QAM) Pmin to +61dBmV (QPSK) S-CDMA(1xUpstream) Pmin to +56dBmV (All modul.) where Pmin =+17dBmV (1280 kHz Modulation rate) Pmin =+20dBmV (2560 kHz Modulation rate) Pmin =+23dBmV (5120 kHz Modulation rate)
Modulation	64 QAM/256 QAM	TDMA : QPSK,8,16,32,64 QAM S-CDMA TCM Off : QPSK,8,16, 32,64 QAM S-CDMA TCM On : QPSK,8,16, 32,64,128 QAM
Forward Error Correction	RS (128, 122)	Reed Solomon
Max Down/Up Data rate	41.71/55.61 Mb/s (QAM64/QAM256) EuroDOCSIS	Max 5.12/10.24 Mb/s (QPSK/QAM16) Max 30.720 Mb/s (QAM64)
Return Loss	<-6dB/108MHz-1006MHz	<-6dB/5MHz-85MHz
Bit Error Rate (BER) post-FEC	$< 10^{-8}$ @ C/N>=25.5dB, 64 QAM $< 10^{-8}$ @ C/N>=31.5dB , 256 QAM received power = -6dBmV to +17dBmV $< 10^{-8}$ @ C/N>=34.5dB, 256 QAM received power = -13dBmV to -6dBmV	

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