

Distributed CCAP DOCSIS 3.1 Indoor Node



Product

TopVision Distributed CCAP DOCSIS 3.1 Indoor Node

Features

- /// Compatible with DOCSIS 3.1 / 3.0 / 2.0 / EuroDOCSIS / C-DOCSIS
- /// Supports RMD Controller centralized Management
- /// Remote Operation and Management
- /// High Bandwidth: 10 Gigabit Level Access
- /// Supports PacketCable / PacketCable Multimedia (PCMM), and Multi-Service Applications including Internet, Video and interactive VOD Application
- /// End-to-End QoS Support
- /// Redundant Power Supply

Technical Data

TopVision

Distributed CCAP DOCSIS 3.1 Indoor Node

Currently, the technical data describes the Option vD31 (Distributed CCAP DOCSIS 3.1 Indoor Node), the differences to the technical data of Option vDE and of Option vD30 will be explained in a future version of this spec sheet

Power Supply

Number of Power Supply Modules	1	(standard)
	2	(with Option PSM220V)
Supply Voltage	100...240 V AC	
Power Consumption	70 W	

General Specifications

Size	19"	(483 mm) Width,
	1.73"	(44 mm) Height (1 RU),
	11.81"	(300 mm) Depth
Weight	~5.5 kg	
Operating Temperature	-10...+55 °C (+14...+131 °F)	
Operating Humidity	10...95 % (non-condensing)	

Number of RF Ports

US Ports	4
DS Ports	1
Monitor Ports	1 (DS)

RF Specifications

Impedance, Connectors	75 Ohm, precision F (f)
Return Loss	≥13 dB
Monitor Port	-20±1 dB
Maximum QAM output level ¹	34 dBmV @ 160 channels
	37 dBmV @ 128 channels
	41 dBmV @ 64 channels
	45 dBmV @ 32 channels
	48 dBmV @ 16 channels
	52 dBmV @ 8 channels
	55 dBmV @ 4 channels
	59 dBmV @ 2 channels
	63 dBmV @ 1 channel

MER ²

DOCSIS 3.1

87...600 MHz	≥48 dB (any single subcarrier)
	≥50 dB (average over a whole OFDM channel)
600...1002 MHz	≥45 dB (any single subcarrier)
	≥47 dB (average over a whole OFDM channel)
1002...1218 MHz	≥43 dB (any single subcarrier)
	≥45 dB (average over a whole OFDM channel)

DOCSIS 3.0

	≥35 dB (equalizer off)
	≥43 dB (equalizer on)

Interface Specifications

Standards	DOCSIS 3.1
	DOCSIS / EuroDOCSIS 3.0
	DOCSIS / EuroDOCSIS 2.0
	C-DOCSIS
SNI (Service Node Interface)	1 * 10GE SFP+
Management Interface	1 * GE RJ-45 management interface
	1 * RJ-45 console interface

Technical Data (cont.)

Interface Specifications (cont.)		
Number of Cable Modems	≤300 ≤1000	(DOCSIS 3.1 cable modems) (DOCSIS 3.0 & DOCSIS 2.0 cable modems)
Communication Protocol	OFDMA SCDMA / ATDMA	(DOCSIS 3.1) (DOCSIS 3.0)
Working Channels	Downstream (DS)	Upstream (US)
Channel Frequency Range		
DOCSIS 3.1	54/87/108/258...1218 MHz	5...42/65/85/204 MHz
DOCSIS 3.0	54/87/108...1003 MHz	5...42/65/85 MHz
Working Channels		
DOCSIS 3.1	6	2 * 2
DOCSIS 3.0	96 (64 DOCSIS + 32 NC)	2 * 12 (DOCSIS)
Channel Width		
DOCSIS 3.1	24...192 MHz	6.4...96 MHz
DOCSIS 3.0	6/8 MHz	1.6/3.2/6.4 MHz
Modulation		
DOCSIS 3.1	OFDM (16...4096 QAM)	OFDMA (BPSK, QPSK, 16...2048 QAM)
DOCSIS 3.0	64...1024 QAM	QPSK, 16...256 QAM
Reception Level Range (US)		
DOCSIS 3.1	N/A	-4...+10 dBmV @ 6.4 MHz -7...+10 dBmV @ 3.2 MHz -10...+10 dBmV @ 1.6 MHz
DOCSIS 3.0	N/A	-7...+23 dBmV @ 6.4 MHz -10...+20 dBmV @ 3.2 MHz -13...+17 dBmV @ 1.6 MHz
System Functions		
IP Version Support	IPv4 and IPv6 dual-stack	
DHCP Support	DHCP relay / snooping; DHCP bundle; DHCP lease query; According to Option 60 to identify equipment type; Insert Remote-ID, Interface-ID, CMTS capabilities, and CM MAC	
DHCPv6 Support	DHCPv6 relay / snooping; DHCPv6 bundle; DHCPv6 lease query; DHCPv6-PD; According to Option 60 to identify equipment type; Insert Remote-ID, Interface-ID, CMTS capabilities, and CM MAC	
VLAN & L2VPN Support	802.1ad / 802.1q; Service flow-based VLAN addition or deletion; VLAN addition according to device type; L2VPN; VLAN conversion	
MAC Domain Management Support	MDD & MDF enable and disable; MTC & MRC enable and disable; UDC enable and disable; Upstream automatic frequency hopping; Piggyback, shared-secret, channel bonding	
Multicast Support	Multicast authentication; Static multicast; IGMP V2 / V3 snooping; MLD V1 / V2	
Load Balance Support	RLBG / GLBG; Load balance priority	
QoS Support	Static / dynamic service flow; Service class; Best effort, UGS, UGS-AD, RTPS, NRTPS; DOCSIS 3.0 USCB scheduling; PowerBoost	
PacketCable Support	PacketCable 1.5/2.0 & PCMM; DQoS	
Management & Monitoring		
Cable Modem (CM) Management Support	CM status review; CM steer; CM blacklist; Remote query; Flap list; Admission control	
CPE Management Support	CPE query and clear	
Network Management Support	SSH/Telnet; SNMP V1/V2/V3; SYSLOG; Graphical standalone WEB management; RMD Controller centralized management; NM3000 graphical EMS centralized management; NM3000 mobile APP management; NMS integration	