



Distributed access

## DAN300

# COMPACT REMOTE PHY DEVICE WITH RF OVERLAY

Teleste DAN300 is a compact DOCSIS® 3.1 capable RPD. It is designed to provide operators with a smooth way to deploy distributed architecture in their networks. A true alternative for operators eager to take a quantum leap and build networks having substantially higher capacity.

The DAN300 is designed and optimized for distributed access networks and meets CableLabs® specifications ensuring interoperability with different CCAP cores. It converts a 10 gigabit IP connection into 1.2 GHz full spectrum, high-quality coax-based data transmission and makes it possible for operators to address consumers' increasing demands for faster broadband connectivity. The device underpins the forward path with an optional RF overlay functionality supporting legacy solutions. The DAN300 utilises full DOCSIS 3.1 spectrum downstream and upstream directions allowing maximum of 6 OFDM- and 2 OFDMA-channels. This makes DAN300 a future-proof investment for operators who are looking for a reliable solution for network transformations.

**TELESTE**

# DAN300 COMPACT REMOTE PHY DEVICE WITH RF OVERLAY

The DAN300 represents the latest addition to our portfolio, in which high capacity, extensive interoperability with CCAP cores and flexibility towards future needs have been taken into account from scratch.

#### Housing can host an RF overlay module

This feature allows operators to start with traditional centralized video distribution and move to all IP architectures when required.

#### High reliability

An efficient mechanical design favours both the environment and the operator. Excellent and fully passive cooling design lowers power consumption which increases reliability.

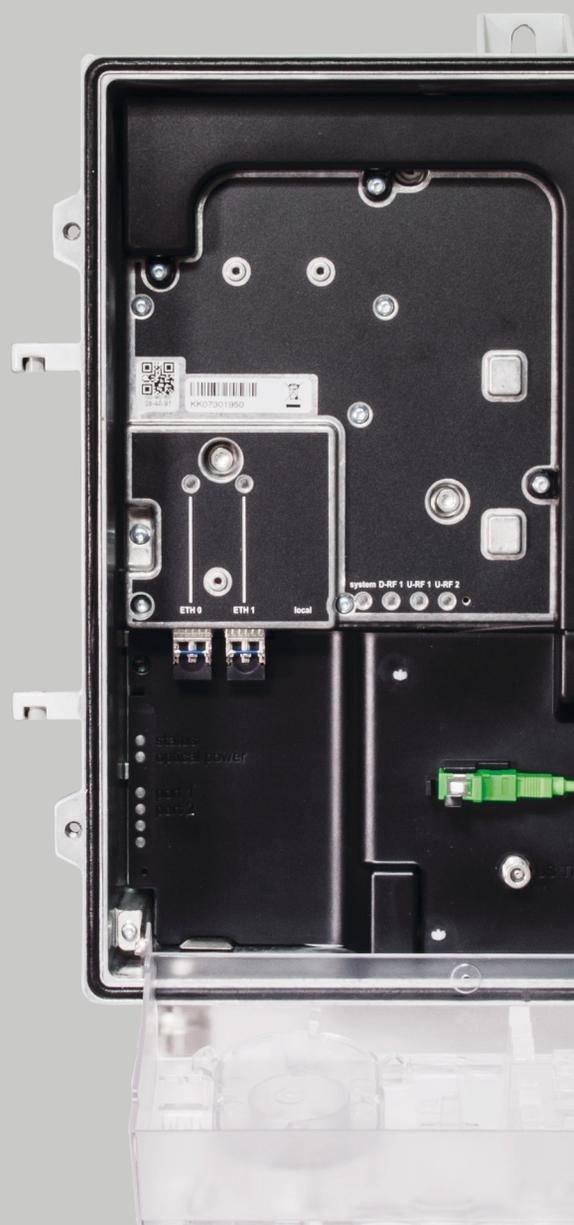
#### Security

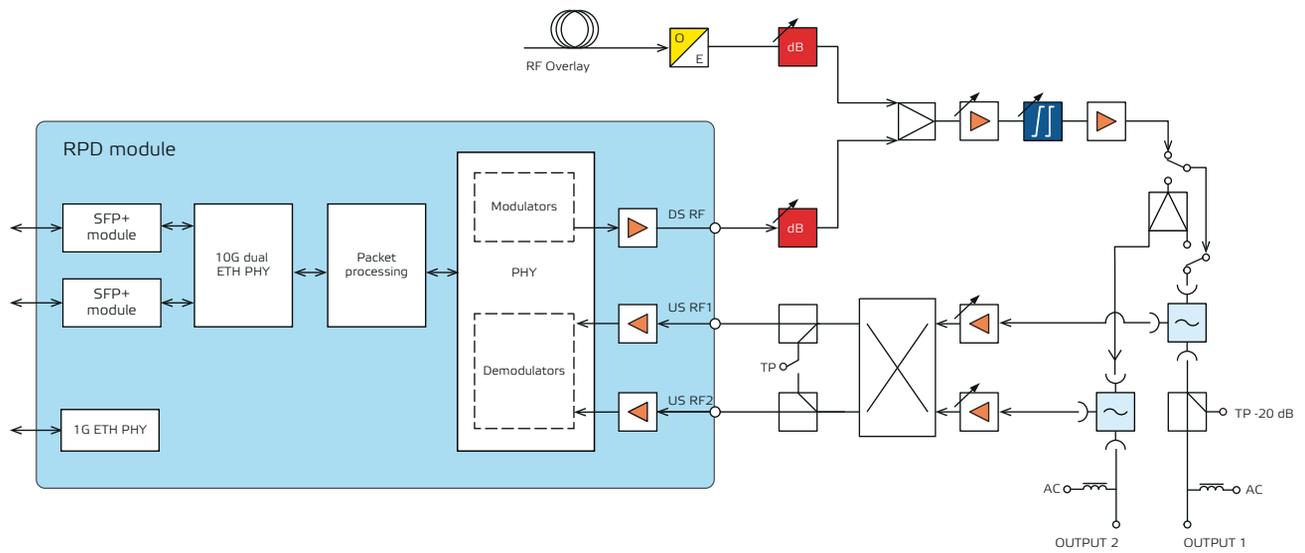
Management traffic between CCAP service card and DAN300 is secured by IPSec. All traffic is received via two SFP modules supporting 10 GbE protocols.

- Authentication 802.1x
- Device Certificate as in CM-SP-R-PHY
- Secure SW download as in CM-SP-R-PHY
- MACSec Product option

#### Integrated fiber compartment

The integrated fiber management provides secure storing location for fiber-optic cables and fiber splices.





DAN300 simplified block diagram



#### Highlights

- Meets CableLabs specifications, ensuring multivendor interoperability
- Support for both DOCSIS 3.1 and DOCSIS 3.0 modems
- Supports legacy and out-of-band services and applications
- Power save technology allows significant power savings
- Compact and energy efficient

#### Features

- Full spectrum Downstream capacity up to 1.2 GHz
- Return path supports 204 MHz bandwidth
- Support DOCSIS 3.1 and DOCSIS 3.0 channels
- 2 x 10 Gbe SFP+, 2nd for redundancy
- Up to 10 Gbps Downstream throughput
- Up to 2 Gbps Upstream throughput
- Out of Band-systems support using NDF/NDR-channels
- Pilot-tone generation
- 3rd generation GaN amplifier
- Electrical level and slope controls
- Efficient surge and ESD protection

## DAN300 / COMPACT REMOTE PHY DEVICE WITH RF OVERLAY

DOWNSTREAM SIGNAL PATH		UPSTREAM SIGNAL PATH	
Light wavelength	1290...1610 nm	Frequency range	2 x 5...204 MHz
Rx input power range	-7...0 dBm	Input level	56...85 dBuV (-4...25 dBmV)
Frequency range (RDP)	85...1218 MHz	Return loss	18 dB
Frequency range (RF overlay)	85...870 MHz	Feed through loss/gain	-15...+5 dB
Level control	-25...0 dB	Test point	-20 dB
RF overlay offset control	-10...+6 dB	<b>10 GBIT ETHERNET INTERFACES</b>	
Slope control	10...23 dB	Number of ports	2 x SFP+ module slot
Gain limited output level	119 dBuV (59 dBmV)	Standard	IEEE 802.3-2008, Section 4 10GBASE-SR, 10GBASE-LR, 10GBASE-ZR
Maximum output level	58 dBmV (188 QAM chs, @ 1.2 GHz)	Timing	IEEE-1588
Umax	116.0 dBuV (138 QAM chs, @ 1.2 GHz)	<b>RPD DOWNSTREAM OFDM</b>	
<b>RPD DOWNSTREAM</b>		<b>RPD DOWNSTREAM OFDM</b>	
Standard	CM-SP-DFRI Annex D CM-SP-PHYv3.1	Standard	CM-SP-DFRI Annex D CM-SP-PHYv3.1
Number of SC-QAM chs	120 pieces of 8 MHz channels	Number of OFDM chs	6 x 192 MHz
Frequency range	108...1006 MHz	Frequency range	108...1218 MHz
Modulation order	Up to 1024 QAM	Modulation order	Up to 16k QAM
All SC-QAM channels can be used flexibly for video or DOCSIS			
<b>RPD UPSTREAM</b>		<b>RPD UPSTREAM OFDM</b>	
Standard	CM-SP-PHYv3.1	Number of OFDM chs	2 x 96 MHz
Number of SC-QAM chs	12 x 256 QAM ATDMA	Frequency range	5...204 MHz
Frequency range	5...85 MHz	Modulation order	Up to 4k QAM
<b>OOB SUPPORT</b>		<b>LOCAL MANGEMENT INTERFACE</b>	
Downstream frequency range	50...1000 MHz and 85...1218 MHz	Connector	RJ45
Number of NDF channels	3, Mode 0...7	Standard	1000BASE-T
Number of NDR channels	3 per segment, Mode 0...6		
Standard	CM-SP-R-OOB		
<b>GENERAL CHARACTERISTICS</b>			
Power consumption	54...68 W	Dimensions (h x w x d)	360 mm x 350 mm x 140 mm (14"x14"x5.5")
Supply voltage	28...65 V AC / 100...253 V AC	Weight	10 kg (22.1 lb)
Max current feed trough	12 A / port	Operating temperature	-40...+60 °C (-40...+140 °F)
Hum modulation	70 dB	Class of enclosure	IP67 (IP54 if the pressure plug is removed)
Optical connectors	SC/APC, E-2000	EMC compatibility	EN 50083-2
Output ports	PG11	ESD, Surge	4 kV, 6 kV (EN 60728-3)



TELESTE CORPORATION  
www.teleste.com

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