OTC212NCWmm/CWmmXnn-FA

Dual Optical O-Band CWDM ForwardTransmitter

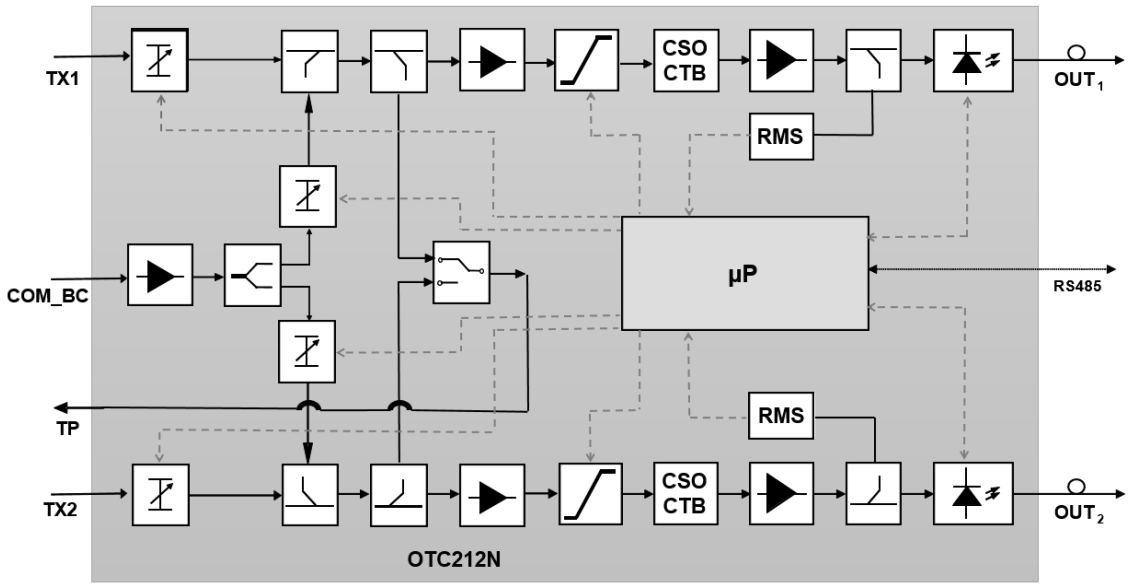
Application

- Electrical to optical conversion of multi-channel CATV signals like AM-VSB, FM and QAM signals
- O-Band CWDM Downstream Transmission in HFC networks

Features

- Low noise cooled DFB laser with pre-distortion technology, four O-Band (1310nm) CWDM channel wavelengths
- Optical output power +12.0 dBm
- Pre-distortion technology for optimum CSO & CTB performance
- Pre-chirping technology
- Ultra-broad bandwidth of up to 1218 MHz
- Dual optical forward transmitter with two individual Narrowcast inputs, one common Broadcast input and one testport
- All-electronically adjustments: slope, gain, output power, OMI, pre-chirping etc
- Automatic load control (ALC) for constant OMI_{totrms}
- RS485 control interface
- Front panel optical input and output
- Very compact, modular 2G6-type housing
- SC/APC or E2000 connector as standard

Block Diagram



General Technical Data

OTC212NCWmmXnn Mnemonic	
Direct Modulated Optical Transmitter	OTC212N
Wavelength CWmm	CW02: 1291 nm CW03: 1311 nm CW04: 1331 nm CW05: 1351 nm
Optical output power Xnn	X12: 12.0 dBm

General Performance Data	
Frequency range	110 ... 1218 MHz
Frequency response flatness 110 ... 1006 MHz 1006 ... 1218 MHz	 ±0.75 dB ±1.0 dB
Impedance	75 Ω
Min. BC input level (OMI = 5%)	75 dBµV
BC Gain adjustment	-3 ... +5 dB
Slope adjustment	-0 ... +10 dB (cable equalization)
Min. NC Input level (OMI = 5%)	80 dBµV
NC Gain adjustment	-17 ... +0 dB
Isolation between BC_{IN} and NC_{IN}	> 50 dB
RF return loss 110 ... 1218 MHz	 > 18 dB (@ 110MHz) – 1 dB/okt, min. 15 dB
Decoupling between transmitter parts 110 ... 1006 MHz 1006 ... 1218 MHz	 ≥ 60 dB ≥ 55 dB
Min. Testpoint level (OMI = 5%)	50 dBµV
Output power X12 version	(see section "Available Types" for availability) 12.0 dBm (-0.5 ... +0.5 dB)
Optical wavelength adjustment range	-100 ... +100 GHz (C- and O-band)
Wavelength accuracy	±0.1 nm
Optical return loss	> 40 dB
Laser relative intensity noise (RIN)	< -155 dB/Hz
Optical output connector (front panel)	SC/APC, E2000
Power consumption	≤ 11 W
Dimensions	Module width 1 slot for 2G6-FA mechanics
Weight	~1.5 kg

Transmission Performance Data

Version ccc, channel allocation plan	**C42**
Channel allocation plan (number of carriers)	Cenelec (42)
Optical modulation index OMI	4.1%
Noise bandwidth	5 MHz

30km SMF Application[1])	
CNR	≥ 50.0 dB
CSO [2])	≥ 58 dB
CTB	≥ 62 dB

Version ccc, channel allocation plan	**Customer specific**
Channel allocation plan	119,25–311,25 MHz Analog TV PALBG 318-534 MHz 256QAM Digital TV channels (27x8 MHz) 534-834 MHz 256QAM Downstream (50x6 MHz) 834-1218 MHz OFDM(2x192MHz)

30km SMF Application[1])	
MER	38 dB
BER	$< 10^{-9}$

Test Conditions

[1]) 30 km non-dispersion shifted (standard single mode) fiber, optical attenuator and optical receiver with $P_{opt,in}$= 0 dBm, I_{eq}= 5.0 pA/√Hz and η=0.85 A/W used

[2]) Fiber length (chirp) compensation adjustment set to actually connected fiber length

Available Types

OTC212NCWmm/CWmmX12	nn= 02, 03, 04, 05