1550nm Directly Modulated Optical Transmitter

OP-OTDM15D1

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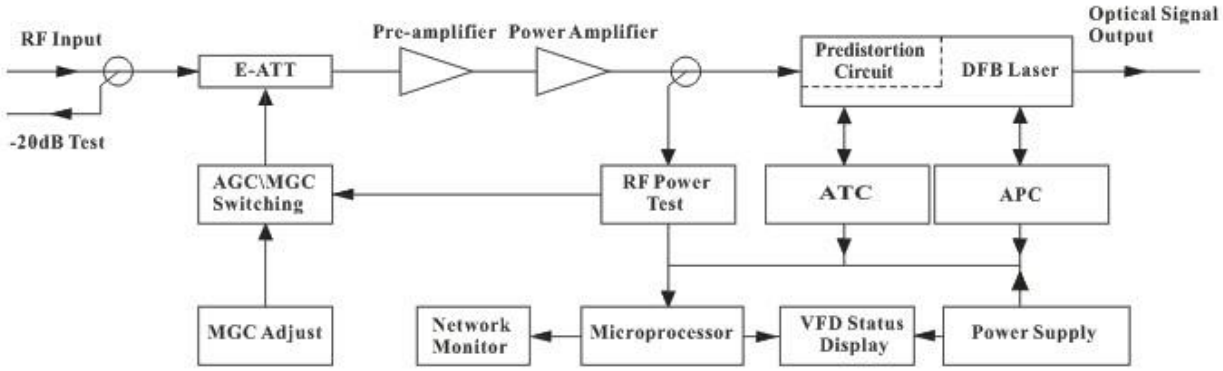
1. Summary

1550nm Direct Modulation Optical Transmitter of OP-OTDM15D1 series mainly used in overlay inter cut system. It adopts 1550nm Directly modulated Laser only used in Dense Wavelength Division Multiplexing (DWDM) system. The output optical wavelength is the standard ITU wavelength. RF Pre-distortion Circuit developed and operated by us is used in the part of RF Driver. Improved Microcomputer Automatic Control System is built in it to ensure the excellent performance.

2. Performance Characteristics

- Use 1550nm Directly Modulated Lasers only used in Dense Wavelength Division Multiplexing (DWDM) system, output optical wavelength is the standard ITU wavelength.
- The section of RF driver uses Digital Automatic Processing of RF power developed independently by us. It will adjust the RF drive power automatically according to the level and numbers (15 ~ 84 channels) of input RF signal, to make sure C / CSO, C / CTB and C / N Index always at their best. So the performance can be ensured and optical receiving output level of optical receiver can de steady.
- Advanced multi-frequency RF predistortion with GaAs devices, improve the C / CTB and C / CSO Index the most important part of CATV efficiently, extremely improve the C/N and MER Index at the same time.
- Built-in perfect microcomputer automatic control circuit, monitor a variety of working conditions of output power and laser in real time, to make sure the optical output power is steady and extend the working life of the laser.
- Blue VFD Display displaying the operating parameters and fault information accurately and GB Class II Transponder monitoring the network by Ethernet are built in 19”1U Rack.

3. Block Diagram



1550nm Direct Mode Optical Transmitter Block Diagram

4. Technique Parameters

Items	Unit	Technique Parameters			
Output Optical Power	mW	4	6	8	10
Optical Wavelength	nm	1550±10 or ITU wavelength			
Laser Type		DFB Laser			
Optical Modulating Mode		Directly Optical Intension Modulation			
Optical Connector Type		FC/APC or SC/APC			
Frequency Range	MHz	47～862			
Input Level	dBμV	72～88			
Flatness in Band	dB	±0.75			
Input Impedance	Ω	75			
Input Return Loss	dB	≥16（47～550）MHz；≥14（550～750/862MHz）			
C/CTB	dB	≥65			
C/CSO	dB	≥60			
C/N	dB	≥51			
AGC Controlled Range	dB	±8			
MGC Controlled Range	dB	0~10			
Supply Voltage	V	AC 160V～250V（50 Hz）			
Power Consumption	W	30			
Operating Temperature	℃	0 ～+45			
Storage Temperature	℃	-20 ～+65			
Relative Humidity	%	Max 95%No Condensation			
Dimension	mm	483（L）X 380（W）X 44（H）			

★Special Notice:

The performance parameters of this manual according to GY/T 143-2000 <Specifications and methods of measurement on AM optical transmitter and receiver used in CATV system> .We get it under the following testing environment.

Testing Environment:

Together with 10km standard optical fiber, optical passive attenuator and standard optical transmitter make the testing circuit .Set with 59 PAL-D analog TV channel signal at range of 550MHz in the fixed index loss of circuit, transmit digital TV signal at rang of 550MHz~862MHz, the level of (8 MHz bandwidth) digital signal is 10dB lower than analog signal of carrier level. When the input optical power of optical receiver is -1dBm, measure C/CTB, C/CSO, C/N.