PREVAIL

4. 1310nm Optical Transmitter Module WOS-WT-1310-4K

1. Product Overview

The downstream 1310 optical transmitter is mainly used for optical fiber transmission of downstream analog television signals, digital television signals and CMTS data signals in HFC network. Two input signals with high-isolation can be used to meet various inserted signals. It has patented pre-distortion circuit, high CNR and low distortion.

2. Performance Characteristics

➢ Support hot swap.

➢ 47M ~ 1.2G band.

➢ AGC and MGC gain control modes are optional.

➢ DFB coaxial or butterfly-typed laser is available.

➢ The maximum output power is up to 31mW.

➢ Pre-distortion patent technology, CNR, CSO, CTB indicators are high.

➢ Two inputs with isolation up to 50dB.

3. Block Diagram
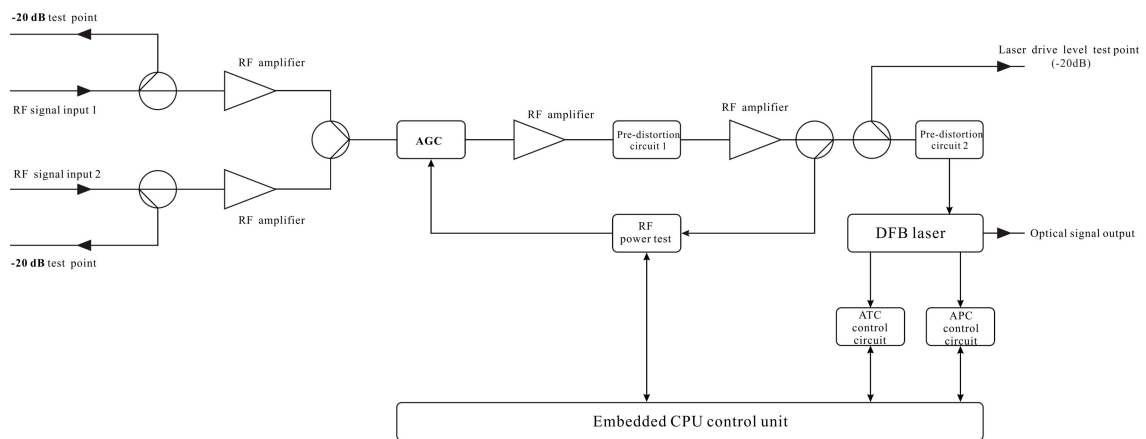
4. Technique Parameters

Item	Unit	Parameter
Optical Part		
Output optical wavelength	nm	1310 ± 20
Output optical power	mW	4 ～ 31
Laser type	—	DFB laser
Optical modulation mode	—	Direct optical intensity modulation
Optical connector type	—	SC/APC or FC/APC

Optical return loss	dB	> 45
	RF Part	
Frequency range	MHz	47 ～ 870/1003/1218
Flatness in band	dB	± 0.75
RF input impedance	Ω	75
Input test port	dB	-20±1
Laser drive level test port	dB	-20±1
Input return loss	dB	≥ 16
Input port isolation	dB	≥ 50
C/N	dB	≥ 52
C/CTB	dB	≥ 67
C/CSO	dB	≥ 62
RF input level	dBuV	77±5
Adjusting range under AGC mode	dB	± 5
MGC attenuation range	dB	0 ～ 20
	Others	
Operating temperature	℃	-5 ～ + 55
Storage temperature	℃	-30 ～ + 70
Maximum power consumption	W	≤10
Weight	Kg	1

(C/N, C/CTB, C/CSO note): 550MHZ 59CH analog signal 77dBuV/CH 550-870MHZ 40CH digital signal 67dBuV/CH -1dBm optical receiving power, 0KM fiber

5. Operation instructions of the display menu

Once the module is installed, the corresponding slot in the display menu will highlight the module which is online. After entering the submenu, the following parameters can be seen:

Out Power XX.XdBm	Optical output power
RFLevel XX.XdBuV	Laser drive level
LaserTemp XX.X℃	Laser temperature
LaserBias XXmA	Laser bias current
Laser Tec XXmA	Laser cooling current
CurRFMode AGC	AGC or MGC is optional
AGCOffset XdB	AGC offset, adjustable range ±5 dB
MGCAtt XdB	MGC attenuation, adjustable range 0～15dB
ChanNum 84	Channel number, range 0~100
Wavelength 1550	Output wavelength
LaserCtrl ON	Laser operating switch, "ON" —the laser is on, "OFF" —laser is off.
DevTemp XX.X℃	Internal module temperature
SN	Serial number
Version	Software version number
WorkTime	Total operating hours of the equipment

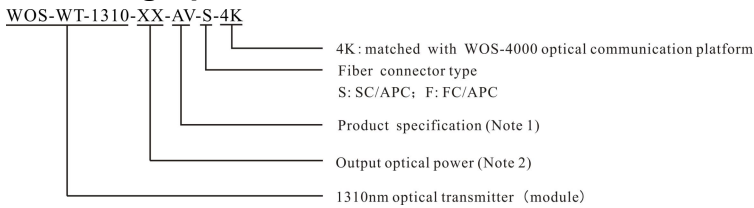## 6. Structure Description
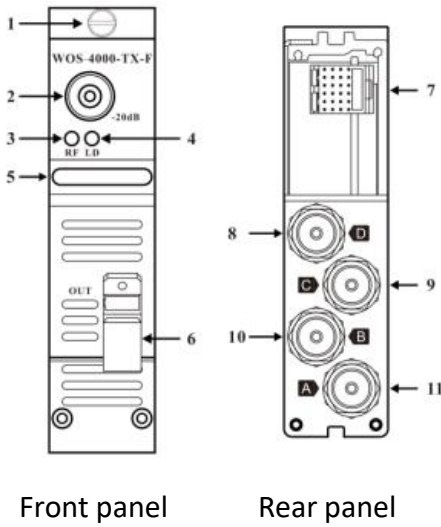
1	Module fixing screw	
2	Laser drive level test port	-20dB
3	Laser drive level indicator	Green: 60～120dBuV Red: outside the range
4	Laser operating indicator	Green: laser on Red: laser off
5	Module handle	
6	Optical power output	
7	Module socket	
8	RF input 2 test port	-20dB
9	RF input 1 test port	-20dB
10	RF signal input 2	
11	RF signal input 1	

Front panel   Rear panel

7. Installation

➢ This module can be installed in slots 1-16 and can be fully configured.

➢ Check whether the pins on the rear of the module are bent.

➢ Install the module in place along the guide and tighten the screws.

➢ Avoid direct observation and contact with the fiber tip. You must confirm the equipment is off when cleaning the port.

LASER RADIATION

8. Naming Specification

WOS-WT-1310-XX-AV-S-4K

4K：matched with WOS-4000 optical communication platform
Fiber connector type
S: SC/APC；F: FC/APC
Product specification (Note 1)
Output optical power (Note 2)
1310nm optical transmitter（module）

Note 1:

AV: Coaxial laser, 1.2G, RF insertion with high isolation, full GaAs MMIC circuit, maximum 16mW (12dBm).

BV: Butterfly-typed laser, 1.2G, RF insertion with high isolation, full GaAs MMIC circuit, maximum 31mW (15dBm).

Note 2:

The number means the output optical power mW.

Coaxial lasers are recommended for 16mW (12dBm) and below, and models below 10mW (10dBm) are not recommended, combined to 10mW (10dBm).

Note 3: If there are special requirements for laser materials and brands, please indicate in the order.