

11. Upstream Optical Transmitter Module WOS-WTR-1310-4K

1. Product Overview

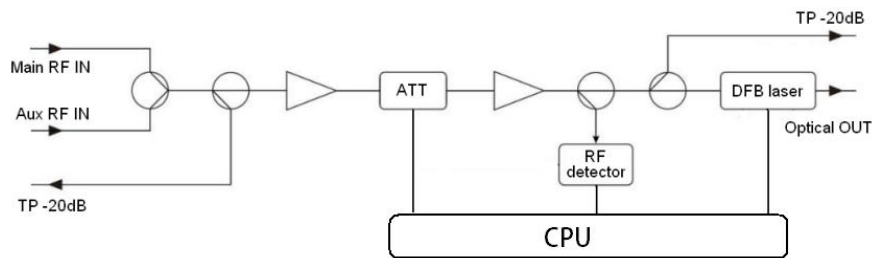
The upstream optical transmitter module is mainly applied to the relay transmission of the upstream optical link in the HFC network. The main features are as following: frequency range is 5 ~ 300MHz; meet DOCSIS 3.1 standards; high performance DFB laser; ITU wavelength is optional; WDM application is available.



2. Performance Characteristics

- Support hot swap.
- Adopt high performance DFB laser.
- CWDM standard wavelength is optional.
- Frequency range: 5~300MHz; meet DOCSIS 3.1 specification.
- Internal temperature detection and monitoring.

3. Block Diagram



4. Technique Parameters

Item	Unit	Parameter
Optical Performance		
Output optical power	dBm	1~4
Output optical wavelength	nm	CWDM standard wavelength is optional.
Laser type		DFB laser
Optical modulation mode		Direct optical intensity modulation
Fiber connector type		SC/APC or FC/APC
Optical return loss	dB	> 45
Laser working mode		continual mode
RF Performance		
Operating frequency range	MHz	5~300
Suggested input level	dBμV	80
Input level range	dBμV	75~ 85
Flatness in band	dB	± 0.75
Return loss	dB	≥ 16

Input level adjusting range	dB	0~30
NPR dynamic range	dB	≥10 (NPR≥30 dB) (Note 1)
Input level test port	dB	-20 ± 1
Laser drive level test port	dB	-20 ± 1
General Characteristics		
Maximum power consumption	W	≤3
Operating temperature	°C	-5~+55
Storage temperature	°C	-30~+70
Weight	Kg	1

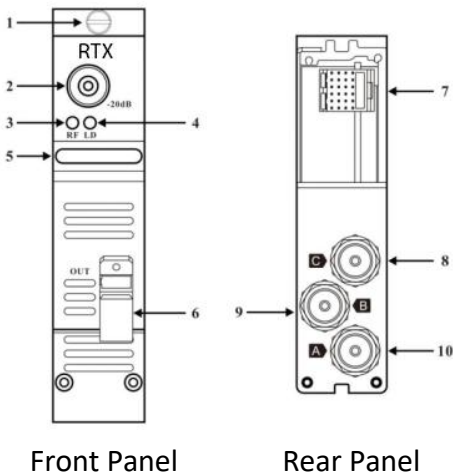
Note 1: When measuring the NPR dynamic range, the test bandwidth of the NPR dynamic range is 60MHz.

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:

OutPower	dBm	Optical output power
RFLevel	dBuV	Laser drive level
Laser Temp	°C	Laser temperature
Laser Bias	mA	Laser bias current
RF ATT	dB	RF attenuation, adjustable range: 0~30dB
Chan Num	XX	Channel numbers, range 1~100
Wavelength	nm	Output optical wavelength
Laser Ctrl	ON	Laser switch, ON/OFF can be set.
Dev Temp	°C	Module temperature
SN		Serial number
Version		Software version number
Work Time		Total working hours of the device

6. Structure Description



1	Module fixing screw	
2	Laser drive level test port	-20dB
3	RF signal indicator	
4	Output power indicator	
5	Module handle	
6	Optical signal output	
7	Module socket	
8	RF signal input test port	-20dB
9	RF input 1	
10	RF input 2	

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.



8. Naming Specification

