



WOS4000 Optical Communication Platform

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1. WOS4000 Optical Communication Platform Rack

1. Product Overview

The WOS4000 optical communication platform is the brand-new 3rd generation product launched by Prevail based on professional experience in development, manufacturing, and sales of CATV transmission equipment over 20 years. It provides powerful function and flexible configuration in HFC optical data transmission solutions. The standard 4RU metal rack contains sixteen compact slots and each can be installed any functional module able to perform hot plug. Built-in dual-power hot backup, efficient fan cooling and appropriate redundant backup of functional modules contribute to carrier-class reliability. The CMM management unit provides a friendly HMI with LCD displays the operating status of each module in real time and convenient parameter setting. The network management software conforming to the SNMP protocol is offered to achieve remote management and automatic monitoring.

2. Performance Characteristics

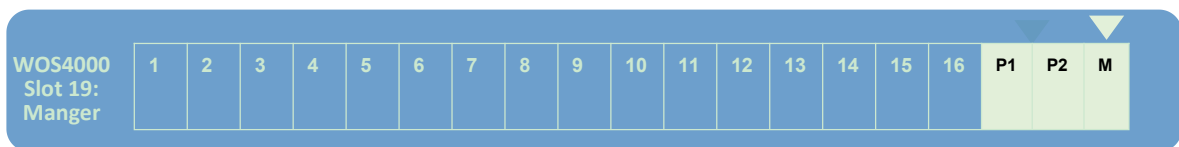
- Compact slots to reduce space occupation.
- Support hot swap, plug and play.
- Advanced heat dissipation for excellent thermal stability.
- Dual power hot backup and multiple power supply options.
- LED status display in the front panel.
- All electronic control, no accessories.
- Powerful network management software.

3. Rack Composition Description

The standard configuration of WOS4000 rack includes:

- One metal chassis with 16 plug-in slots. 4U total in height.
- Two power supply modules. (AC220V or DC48V optional).
- One CMM management unit. LCD display and operation buttons.
- One network transponder with an RS232 interface and a LAN interface.
- Seven on site replaceable fans.

Under the standard configuration, the display screen shows as follows after power on: P1, P2 (for power supply modules) and M (for CMM management unit) are highlighted, i.e. the 3 modules are online.



4. Operation Instructions for the Display Menu

▲ ▼ Up and down keys: Press buttons to move the cursor up, down, left and right. The selected module or menu is highlighted.

Enter key: Press the Enter key to enter the submenu or parameter settings. Press Enter to confirm the setting.

ESC key: Exit or return to the previous menu.

4.1 Submenu Description of M (CMM management unit)

After entering the submenu, the following parameters can be seen:

FanNO.1 ON	Control of Fan 1, ON/OFF can be set	ON: Automatic mode, default fan on temperature is +15°C. OFF: Manually turn off the fan.
FanNO.2 ON	Control of Fan 2, ON/OFF can be set	
FanNO.3 ON	Control of Fan 3, ON/OFF can be set	
FanNO.4 ON	Control of Fan 4, ON/OFF can be set	
FanNO.5 ON	Control of Fan 5, ON/OFF can be set	
FanNO.6 ON	Control of Fan 6, ON/OFF can be set	
FanNO.7 ON	Control of Fan 7, ON/OFF can be set	
Key Sound ON	Key sound control, ON/OFF can be set	
IP Address	IP address setting	
Gateway	Gateway setting	
Net Mask	Subnet mask setting	
Trap Addr1/2	Trap1/Trap2 address setting	
NTP Addr1/2	NTP1/NTP2 address setting	
UTC +0:00	Universal Time Coordinated	
MAC Addr	MAC address setting	
DevTemp °C	Internal temperature	
SN	Serial number	
Version	Version number	
WorkTime	Total operating hours of the CMM unit.	

4.2 Submenu Description of P (power supply module)

After entering the submenu, the following parameters can be seen:

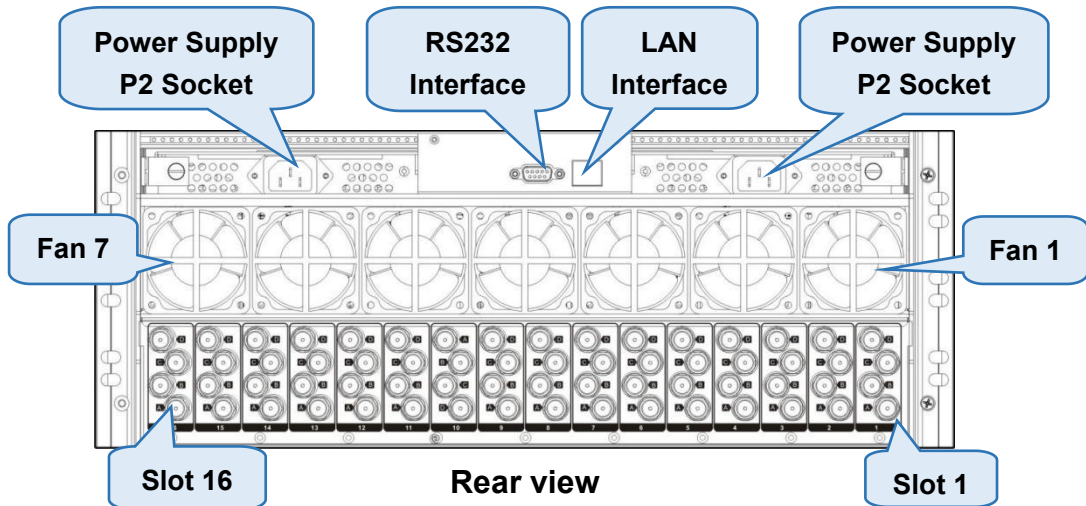
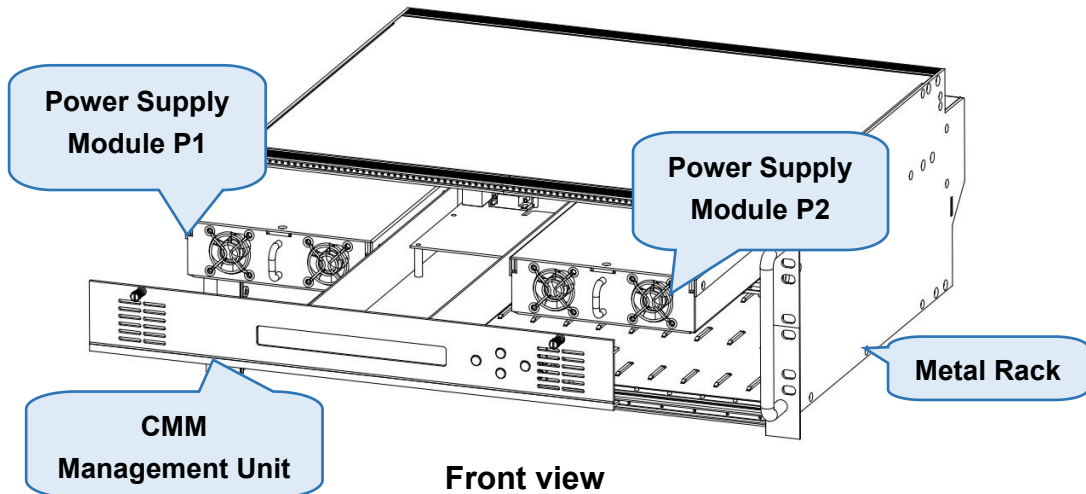
+5V	+5V actual voltage
-5V	-5V actual voltage
+24V	+24V actual voltage
FanOn Temp °C	Automatic fan on temperature inside the module, can be set
DevTemp °C	Real-time temperature inside the module
SN	Serial number
Version	Version number
Work Time	Total operating time of the power supply module

5. Performance Specifications

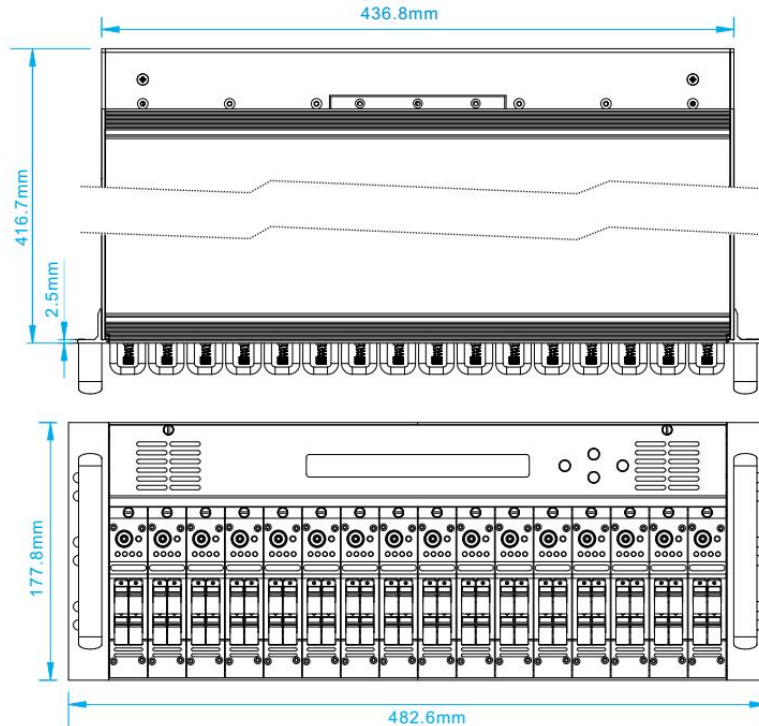
Item	Parameter
Dimension	483 x 417 x 178mm, W (including the handles in both sides) x D x H (4U in height)
Weight	12kg (including the rack, two power supply modules and CMM management unit)
AC220V input voltage	AC100V~AC260V50Hz±10%
DC48V input voltage	DC 40V - 60V
+24V output	14A, 340W, ripple: <100mV Vpp
-5V output	5A , 25W, ripple: <50mV Vpp

Conversion efficiency	>85%
Power factor	>0.9
Operating temperature	-25℃~55℃
Storage temperature	-30℃~70℃
Operating humidity	95%max, non-condensing
Operating atmospheric pressure	66kPa~106kPa
Static	8KV
Surge (1.2/50uS)	4KV (peak) with varistor. When doing surge tests, the power supply is without overvoltage protection
Impact voltage withstand	6KV input to output, positive and negative 10 times each
Safeguard	Protection for input overvoltage, overcurrent, output overload and short circuit

6. Structure Description



7. Dimension

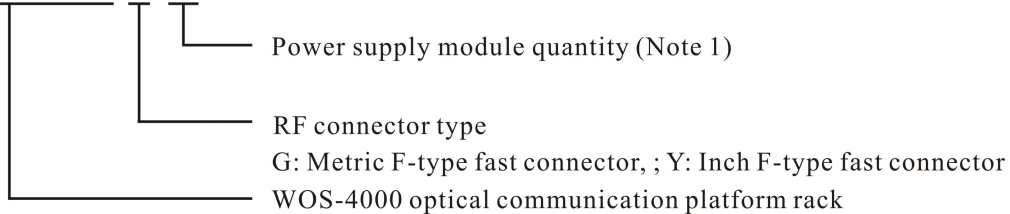


8. Installation

- Installation should be done by professionals.
- Before installing any module, check whether the row pins on the rear of the module are bent.
- Tighten the fixing screws after installing any module.
- Install the power supply module before the CMM unit. Remove the CMM unit before the power supply module.
- Check whether the cable on the power supply module is removed when removing the module.
- When installing multiple optical platforms in the same cabinet, it is recommended that 1RU space be reserved between the optical platforms to facilitate heat dissipation.

9. Naming Specification

WOS-4000-JK-G-1P



Note 1:

- 1P-A220: AC 220V single power supply
- 1P-D48: DC 48V single power supply
- 2P-A220: AC 220V dual power supplies
- 2P-D48: DC 48V dual power supplies
- 2P-A220+D48: AC 220V+DC 48V dual power supplies

Note 2: The power cord type is a national standard three-pin plug. Other requirements, please specify in the order.

2. 1550nm EDFA Module WOS-WE-1550-4K

1. Product Overview

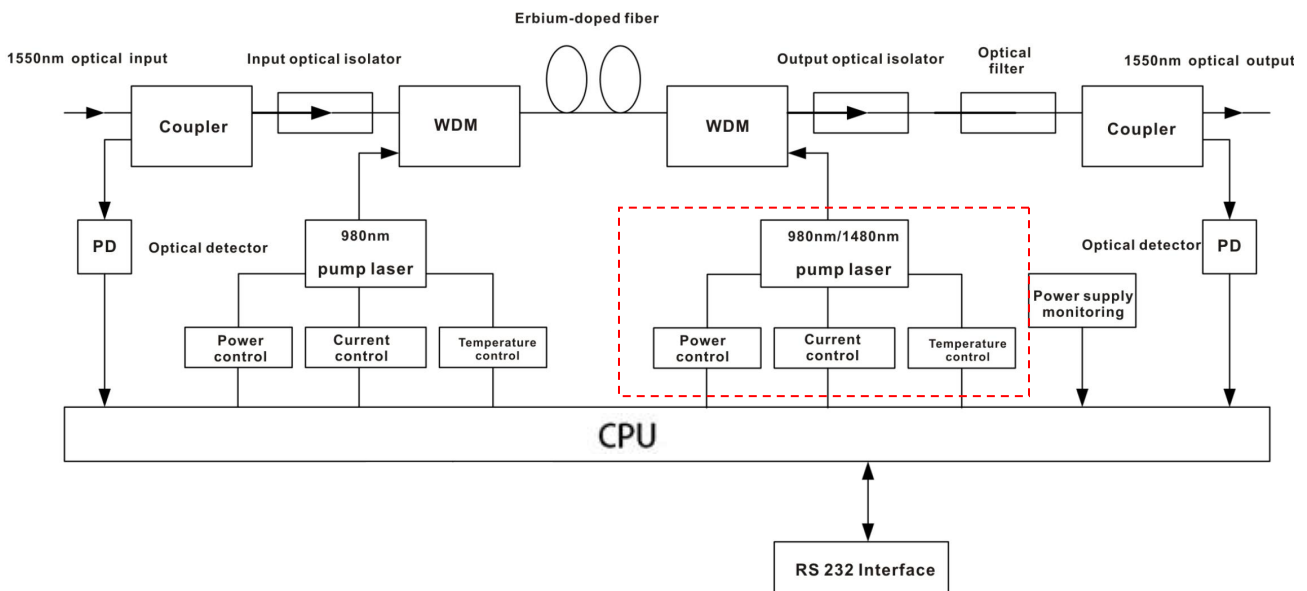
Optical fiber amplifier (EDFA) is an important optical transmission device in 1550nm optical fiber communication system. This module uses imported high-performance erbium-doped fiber, low-noise pump laser and well-designed embedded automatic monitoring system to ensure the excellent index. Each EDFA module contains optical power detection components on input and output ports to automatically adjust the laser pump and keep the output power stable. The internal control circuit accurately maintains the output power and temperature of the laser; the parameters can be set and displayed through CMM management unit.



2. Performance Characteristics

- Support hot swap.
- Optional CWDM.
- Optical power input and output status indicator.
- Adjustable attenuator for output from 0~4dB, 0.1dB stepping.
- Pump temperature, bias current, and cooling current are detected in real time.
- Wide input optical power range: -5 ~ +10 dBm.

3. Block Diagram



Note: The above figure is a block diagram of two pumps. The type with single pump doesn't have the components in the dashed box.

4. Technical Parameters

Item	Unit	Technique Parameter	
EDFA			
Operating bandwidth	nm	1535 - 1565	
Input optical power range	dBm	-5 - +10	0 - +5dBm recommended
Output optical power	dBm	13 - 24	
Output power stability	dBm	±0.5	
Noise figure	dB	≤ 5.0	Input optical power 0dBm
Return loss	dB	≥ 45	
CNR	dB	≥ 52	550MHZ 59CH analog signal 77dBuV/CH
CTB	dB	≥ 63	550-870MHZ 40CH digital signal 67dBuV/CH
CSO	dB	≥ 63	Optical receiving power is -1dBm
Pump leakage power	dBm	≤ -30	
Optical connector type		SC/APC	
CWDM			
Wavelength	nm	1310±10, 1490±10, 1550±10	
Maximum input power	mw	500	
Insertion loss	dB	≤0.6	
Optical connector type		SC/APC or SC/UPC	
Optical isolation	dB	≥15: Com-PON ≥30: Com-CATV	
Others			
Operating temperature range	℃	-5 - +55	
Storage temperature range	℃	-30 - +70	
Maximum power consumption	W	≤20	
Weight	Kg	1	

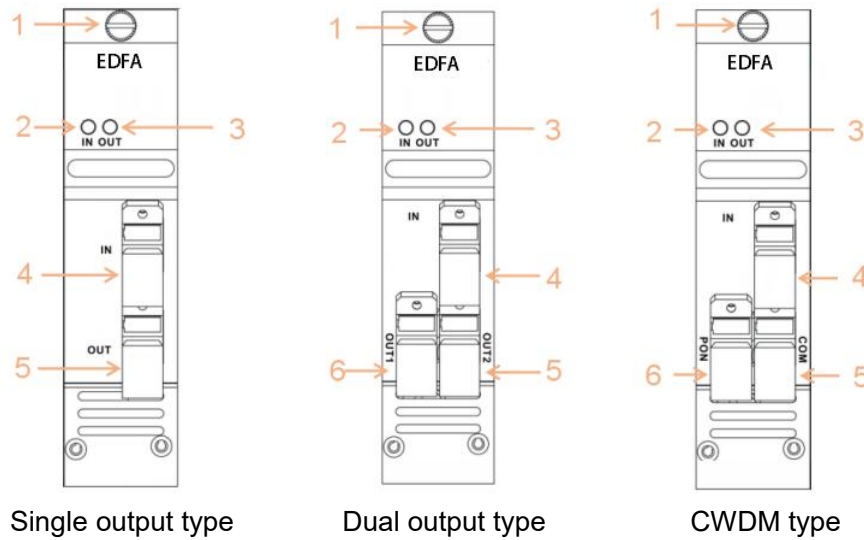
5. Operation Instructions of the Display Menu

Once the module is installed, the corresponding slot in the display menu will highlight.

After entering the submenu, the following parameters can be seen:

InPower XX.XdBm	Input optical power
InputPowerLoXX.XdBm	Alarm threshold of the low input optical power, can be set
OutPowerXX.XdBm	Output optical power
OptATTX.XdB	Output optical power attenuation, 0~4dB, 0.1dB stepping
Pump1 TempXX.X℃	Pump 1 internal temperature
Pump1 BiasXXmA	Pump 1 bias current
Pump1 TECXXmA	Pump 1 cooling current
PumpCtrlON	Pump switch, "ON" is on, "OFF" is off
DevTempXX.X℃	Module internal temperature
SN	Serial number
Version	Version number
WorkTime	Total operating hours of the equipment

6. Structure Description



	Single output type	Dual output type	CWDM type	Note
1	Module fixing screw	Module fixing screw	Module fixing screw	Used to fix the module
2	Optical power input indicator	Optical power input indicator	Optical power input indicator	Green: between the low threshold and +10dBm Red: lower than the low threshold or more than +10dBm
3	Optical power output indicator	Optical power output indicator	Optical power output indicator	Green: within rated output power range from -2dB to +1dB Red: outside rated output power range from -2dB to +1dB
4	Optical power input	Optical power input	CATV optical power input	
5	Optical power output	Optical power output 1	Optical power output	
6		Optical power output 2	PON optical power input	

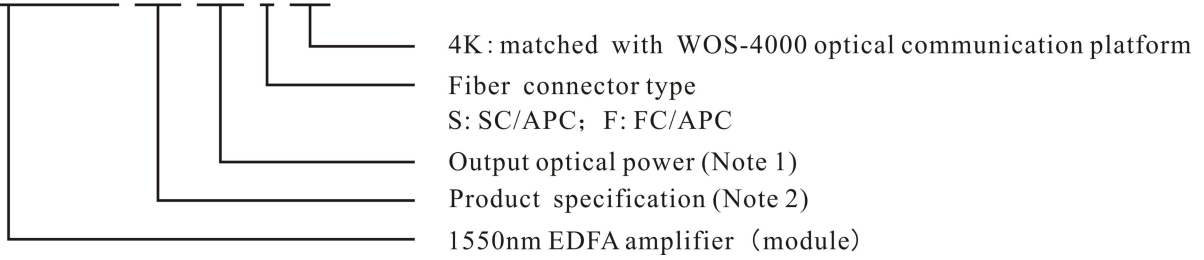
7. Installation

- This module can be installed in slots from 1-16 and can be fully configured.
- Check if the pins on the rear of the module are bent.
- Install the module in place along the guide and tighten the screws.
- When the module is installed and powered, the optical output port must be connected to a fiber or other optical receiving device before the optical input is connected.
- First connect the input, then the output, or the output fiber tip may be burned.
- Avoid direct observation and contact with the fiber tip. You must confirm the equipment is off when cleaning the port.



8. Naming Specification

WOS-WE-1550-HD-XX-S-4K



Note 1:

15: 15dBm output, maximum 24

2X17: Two 17dBm outputs, maximum 2X20

Note 2:

HD: Standard type

HD-CW: Standard + built-in WDM. The default is 1310/1490/1550.

3. 1550nm Directly Modulated Optical Transmitter Module WOS-WT-1550-4K

1. Product Overview

In accordance with the planning of the Next Generation Broadcasting Network (NGB) and various PON standards, 1550nm is defined as the transmission wavelength for HFC downstream.

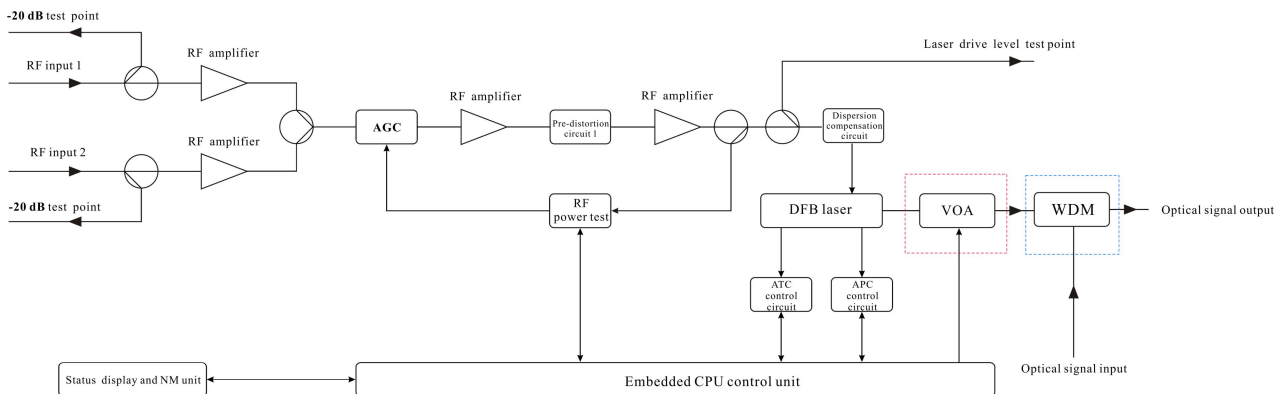
The high cost of 1550nm external modulated transmitter and dispersion effects of 1550nm directly modulated transmitter make network transformation difficult. Thus we create the 1550nm directly modulated optical transmitter with electronically controlled dispersion compensation. It supports up to 1.2GHz band and DOCSIS 3.1 system. Two RF inputs, high isolation, QAM and IPQAM available. Support a transmission distance of 50KM with electronically controlled dispersion compensation. Built-in CWDM is optional for multi-wavelength networking.



2. Performance Characteristics

- Support hot swap
- 1.2GHz band, support DOCSIS 3.1 system
- Two RF inputs with high isolation
- High-quality RF insertion capability
- Optional CWDM for external optical input
- Electronically controlled dispersion compensation, support a transmission distance of 50KM
- Low cost solution and external modulation capable
- Optional ITU standard wavelength

3. Block Diagram

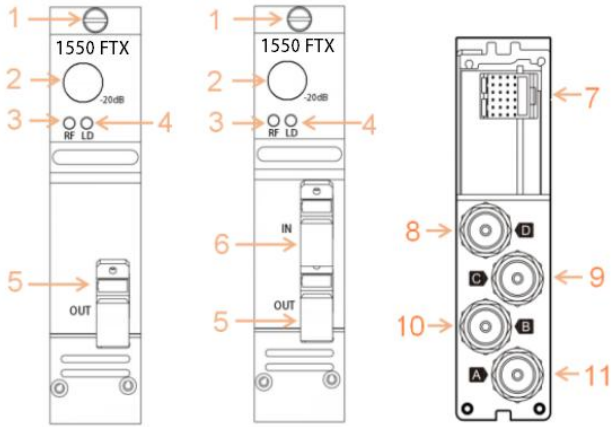


Note: The optical attenuator in the red dashed box and the wavelength division multiplexer in the blue dashed box are optional.

4. Technique Parameters

Item	Unit	Parameter	
Optical part			
Optical wavelength	nm	ITU wavelength	
Laser type		Butterfly-typed DFB laser	
Optical modulation mode		Direct optical intensity modulation	
Optical connector type		FC/APC or SC/APC	
Output optical power	mW	10	The insertion loss of the VOA and CWDM is excluded.
Laser signal input (main channel)	dBm	-5~10	
RF part			
Frequency range	MHz	47~870/1003/1218	
RF input level	dBuV	77±5	
Flatness in band	dB	±0.75	
Input return loss	dB	≥16	
RF AGC control range	dB	±5	
RF MGC adjustable range	dB	0~20	
RF input isolation	dB	≥50	Isolation between two RF inputs
RF input test port	dB	-20±1	
Laser drive level test port	dB	-20±1	
Electronically controlled optical attenuator tolerance	dB	≤1: ATT 0-15dB	
		≤3: ATT 16-20dB	
CNR	dB	≥48	550MHZ 59CH analog signal 77dBuV/CH
C/CSO	dB	≥58	550-870MHZ 40CH digital signal 67dBuV/CH
C/CTB	dB	≥63	25 Km, -1dBm input
CNR	dB	≥46	550MHZ 59CH analog signal 77dBuV/CH
C/CSO	dB	≥55	550-870MHZ 40CH digital signal 67dBuV/CH
C/CTB	dB	≥63	50Km, -1dBm input
MER	dB	≥40	25 Km, -1dBm input, 96CH digital 77dBuV/CH
		≥39	50 Km, -1dBm input, 96CH digital 77dBuV/CH
Others			
Maximum power consumption	W	≤10	
Operating temperature	°C	-5 ~ + 55	
Storage temperature	°C	-30 ~ + 70	
Weight	Kg	1	

5. Structure Description



Standard type front panel WDM type front panel Rear panel

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

6. 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	Laser output power	
RFLevel XX.XdBuV	Laser drive level	
LaserTemp XX.X°C	Laser temperature	
LaserBias XXmA	Laser bias current	
Laser Tec XXmA	Laser cooling current	
InPutPowerXX.XdBm	External input optical power	
OutPwrAfAtt XX.XdBm	The power of the laser after being attenuated	Matched with the type with optical attenuator
OpAttCtrl Auto	Optical signal attenuation mode: Auto, Manual	Matched with the type with optical attenuator
AutoThreshold XXdB	Difference between the external input optical signal and the laser signal before passing WDM	Valid when OpAttCtrl selects Auto
ManualATT XXdB	Manually set the attenuation value of the laser signal	Valid when OpAttCtrl selects Manual
CurRFMode AGC	AGC, MGC optional	
AGCOffset XdB	AGC offset, adjustable range: ±5dB	Valid when CurRFMode selects AGC

MGCAtt	XdB
ChanNum	84
Wavelength	1550
LaserCtrl	ON
Set Fiber Length	XX KM
DevTemp	XX.X°C
SN	
Version	
WorkTime	

MGC attenuation, adjustable range 0~15dB
Number of transmission channels, 1 to 100
Wavelength
Laser switch, ON, OFF
Set dispersion compensation distance, 0-50KM, 1KM stepping
Module internal temperature
Serial number
Software version number
Total operating hours of the equipment

Valid when CurRFMode selects MGC

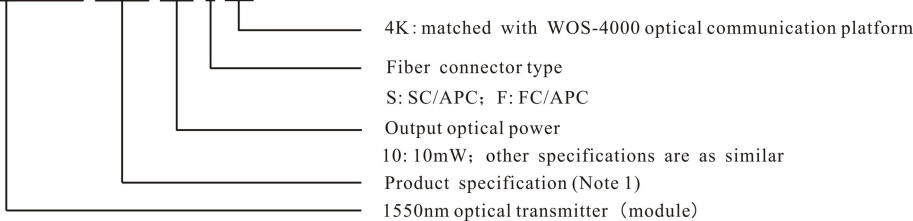
7. Installation

- 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

WOS-WT-1550-DM-I-XX-S-4K



Standard 10mW (10dBm), other power is not recommended.

Note 1:

DM-I: standard type, 1.2G, support RF insertion with high isolation, electric dispersion compensation.

(Not distinguish between 860M, 1G, 1.2G)

DM-II: Standard + built-in WDM wavelength division multiplexer.

DM-III: Standard + built-in VOA (electrically controlled Variable Optical Attenuator).

DM-IV: Standard + built-in WDM + built-in VOA.

Note 2:

The output of I to IV models can use ITU standard wavelengths. Please specify the wavelength in the order.

Note 3: When selecting a WDM model, please specify the WDM parameters in the order.

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

1. Product Overview

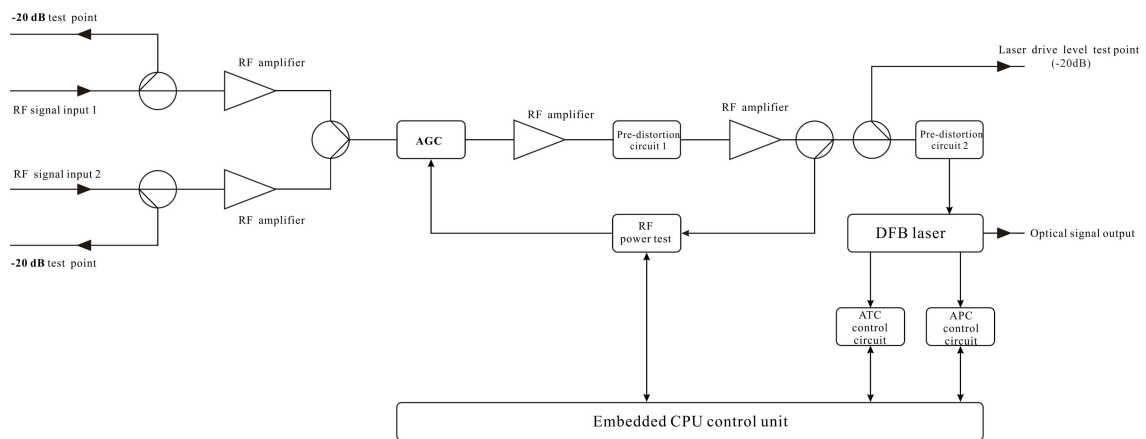
The downstream 1310 optical transmitter is mainly used for optical fiber transmission of downstream analog television signals, digital television signals and CMTS data signals in HFC network. Two input signals with high-isolation can be used to meet various inserted signals. It has patented pre-distortion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

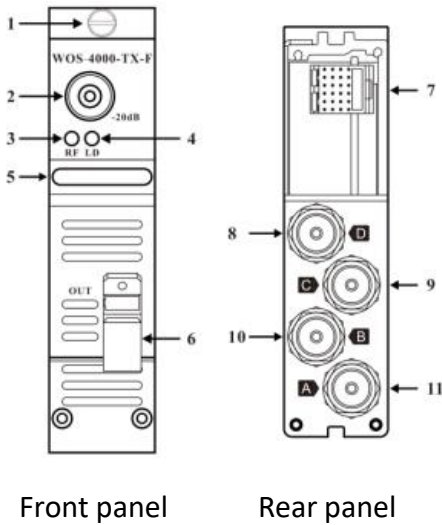
Optical return loss	dB	> 45	
RF Part			
Frequency range	MHz	47 ~ 870/1003/1218	
Flatness in band	dB	± 0.75	
RF input impedance	Ω	75	
Input test port	dB	-20±1	
Laser drive level test port	dB	-20±1	
Input return loss	dB	≥ 16	
Input port isolation	dB	≥ 50	
C/N	dB	≥ 52	550MHZ 59CH analog signal 77dBuV/CH
C/CTB	dB	≥ 67	550-870MHZ 40CH digital signal 67dBuV/CH
C/CSO	dB	≥ 62	-1dBm optical receiving power, 0KM fiber
RF input level	dBuV	77±5	
Adjusting range under AGC mode	dB	± 5	
MGC attenuation range	dB	0 ~ 20	
Others			
Operating temperature	°C	-5 ~ + 55	
Storage temperature	°C	-30 ~ + 70	
Maximum power consumption	W	≤10	
Weight	Kg	1	

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°C	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°C	Internal module temperature
SN		Serial number
Version		Software version number
WorkTime		Total operating hours of the equipment

6. Structure Description



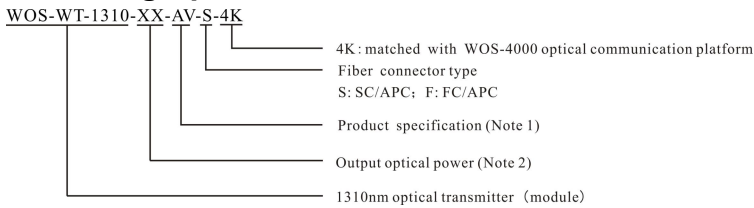
1	Module fixing screw	
2	Laser drive level test port	-20dB
3	Laser drive level indicator	Green: 60~120dBuV Red: outside the range
4	Laser operating indicator	Green: laser on Red: laser off
5	Module handle	
6	Optical power output	
7	Module socket	
8	RF input 2 test port	-20dB
9	RF input 1 test port	-20dB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

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



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.

5. Forward Optical Receiver Module WOS-WR-1002-4K

1. Product Overview

The forward one-way optical receiver module provides an optical input port and a RF output port. It is mainly used for optical fiber transmission of downstream analog TV signals, digital television signals and CMTS data signals in HFC networks.

The optical receiving part adopts a high-response PIN tube or optoelectronic integrated module with up to 1 GHz band.

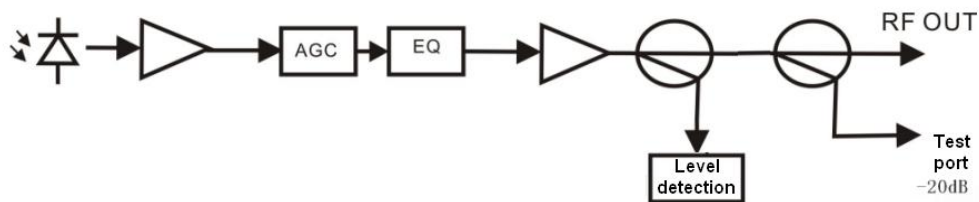
The AGC or MGC can be switched and low noise amplifying components are selected to offer high CNR and low distortion.



2. Performance Characteristics

- Support hot swap.
- 870M/1002M band is optional.
- The AGC and MGC gain control modes are optional.
- PIN tube and photoelectric integrated module are optional.

3. Block Diagram



4. Technique Parameters

Item	Unit	Technique parameter
Optical Part		
Optical return loss	dB	>45
Optical receiving wavelength	nm	1100 ~ 1600
Optical connector type		SC/APC
Fiber type		Single mode
RF Part		
Optical AGC range	dBm	-8 ~ +2
Optical AGC control point	dBm	-8/-7/-6/-5/-4/-3/-2 adjustable
Frequency range	MHz	45 ~ 862/1003
Flatness in band	dB	±0.75
Max output level	dBμV	≥ 104
Output return loss	dB	≥16

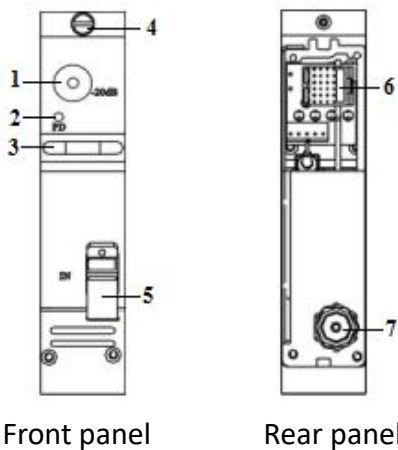
Electronic control EQ range	dB	0~15
Electronic control ATT range	dB	0~15 : PIN diode 0~10: Integrated module
C/N	dB	≥ 51
C/CTB	dB	≥ 67
C/CSO	dB	≥ 62
Others		
Operating temperature	°C	-5 ~ + 55
Storage temperature	°C	-30 ~ + 70
Maximum power consumption	W	≤18
Weight	Kg	1

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:

RecvPower XX.XdBm	Optical receiving power
OutRFLevel XX.XdBuV	Output level
Set AGC XXdBm	Set the AGC control range
ATT XXdB	Attenuation, type I: 0~15dB, type II:0~10dB
EQ XXdB	Equilibrium, range 0~15dB
ChanNum XX	Channel numbers, range 0~100
DevTemp XX.X°C	Module temperature
SN	Serial number
Version	Version number
WorkTime	Equipment total operating hours

6. Structure Description



1	RF output test port	-20dB
2	Optical power indicator	Green: -10dBm ≤ optical receiving power ≤ +3dBm Red: <-10dBm or >+3dBm
3	Module handle	
4	Module fixing screw	Used to fix the module
5	Optical signal input	
6	Module socket	Used to connect module and rack
7	RF signal output	Correspond to A channel F-type RF connector on the rear panel of the rack.

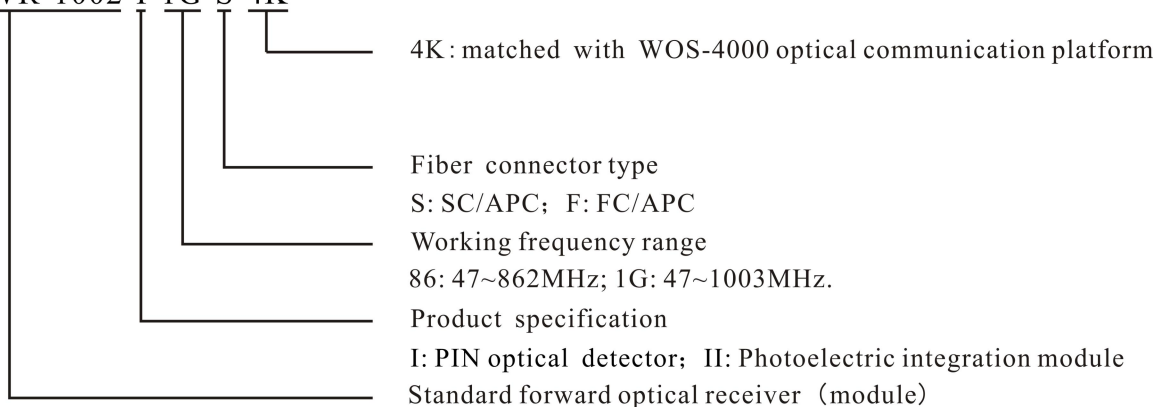
7. Installation

- 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

WOS-WR-1002-I-1G-S-4K



Note 1: This model is single optical signal input and single RF signal output.

Note 2: If the customer has special requirements for key components such as RF amplification module, please indicate in the order.

6. Dual Forward Optical Receiver Module WOS-WR-1002-JDS-4K

1. Product Overview

The dual forward optical receiver module has two optical input ports and a RF output port. The two optical inputs are redundant backups for each other, which can be automatically switched by settings or manually switched. The product is mainly used for optical fiber transmission of downstream analog TV signals, digital television signals and CMTS data signals.

It can be used to build a highly reliable transmission network with the two way backup feature. The optical receiving part adopts a high-response PIN tube or optoelectronic integrated module with up to 1 GHz band.

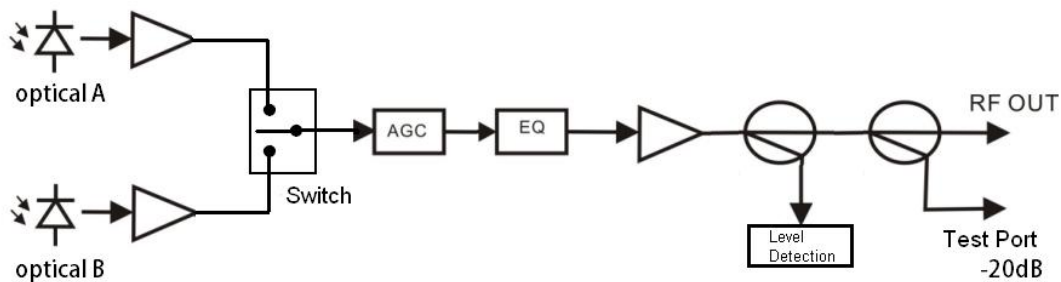
The AGC or MGC can be switched and low noise amplifying components are selected to offer high CNR and low distortion.



2. Performance Characteristics

- Support hot swap.
- Two redundant backups, which can be switched automatically or manually.
- 870M/1002M band is optional.
- The AGC and MGC gain control modes are optional.
- PIN tube and photoelectric integrated module are optional.
- Optical receiving isolation of the two channels is > 60dB.

3. Block Diagram



4. Technique Parameters

Item	Unit	Technique parameter
Optical Part		
Optical return loss	dB	>45
Optical receiving wavelength	nm	1100 ~ 1600
Optical connector type		SC/APC
Fiber type		Single mode
RF Part		
Optical AGC range	dBm	-8 ~ +2
Optical AGC control range	dBm	-8/-7/-6/-5/-4/-3/-2 adjustable

Frequency range	MHz	45 ~862/1003
Flatness in band	dB	±0.75
Max output level	dBμV	≥ 104
Output return loss	dB	≥16
AB channel isolation	dB	>60
Electronic control EQ range	dB	0~15
Electronic control ATT range	dB	0~15 : PIN diode 0~10: Integrated module
C/N	dB	≥ 51
C/CTB	dB	≥ 67
C/CSO	dB	≥ 62
Others		
Operating temperature	℃	-5 ~ + 55
Storage temperature	℃	-30 ~ + 70
Maximum power consumption	W	≤18
Weight	Kg	1

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:

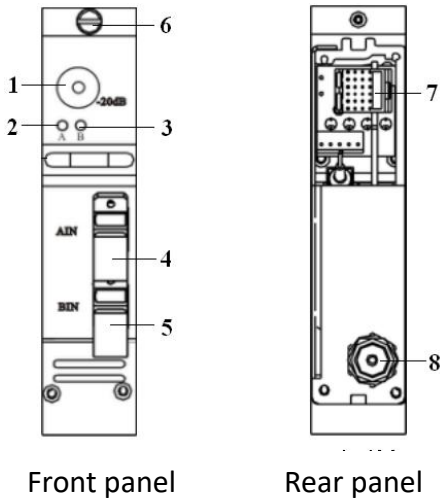
ARecvPower	-xx.xdBm	Optical receiving power of A channel
BRecvPower	-xx.xdBm	Optical receiving power of B channel
OutRFLevel	xx.xdBuV	Output level
WorkChan	A	The working channel
SWCtrlMode	A	Channel switching mode: A—forced to A channel manually; B—forced to B channel manually;
SwitchThreshold	x.xdBm	Automatic switching threshold of A/B channel, SWCtrlMode is valid when AF or BF is selected
SetAGC-A	-xdBm	Set the AGC control point of A channel
SetAGC-B	-xdBm	Set the AGC control point of B channel
XATT	xdB	Attenuation, type I: 0~15dB, type II:0~10dB
EQ	xdB	Equilibrium, range 0~15dB
ChanNum	xx	Channel numbers, range 0~100
DevTemp	xx.x℃	Module temperature
SN	xxxxxx	Serial number
Version	x.xx	Software version number
WorkTime	x.xHour	Total operating hours of the equipment

Note 1: For example, SWCtrlMode selects AF and SwitchThreshold is set to -6dBm.

When the A channel receives optical power > -6dBm, A channel is valid.

When the A channel receives optical power <-6dBm, it automatically switches to the B channel.

6. Structure Description



1	RF output test port	-20dB
2	Optical power indicator of A channel	Green: $-10\text{dBm} \leq \text{optical receiving power} \leq +3\text{dBm}$ Red: $<-10\text{dBm}$ or $>+3\text{dBm}$
3	Optical power indicator of B channel	Green: $-10\text{dBm} \leq \text{optical receiving power} \leq +3\text{dBm}$ Red: $<-10\text{dBm}$ or $>+3\text{dBm}$
4	A channel optical signal input	
5	B channel optical signal input	
6	Module fixing screw	Used to fix the module
6	Module socket	Used to connect module and rack
7	RF signal output	Correspond to A channel F-type RF connector on the rear panel of the rack

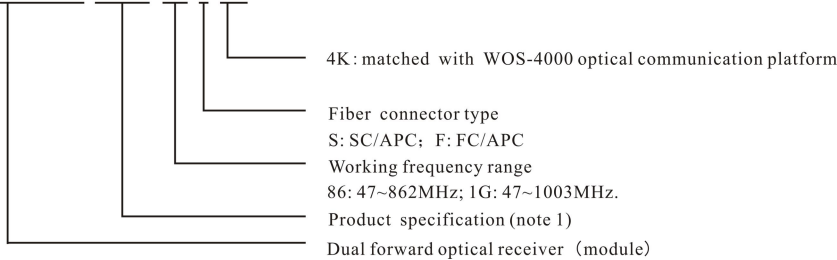
7. Installation

- 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

WOS-WR-1002-JDS-I-1G-S-4K



Note 1: This model is with two optical signal inputs and one RF signal output

JDS-I: PIN optical detector + photoelectric integrated module.

JDS-II: Dual optoelectronic integrated module.

Note 2: If the customer has special requirements for key components such as RF amplification module, please indicate in the order.

7. Quadruple Reverse Optical Receiver Module WOS-WR-2004-4K

1. Product Overview

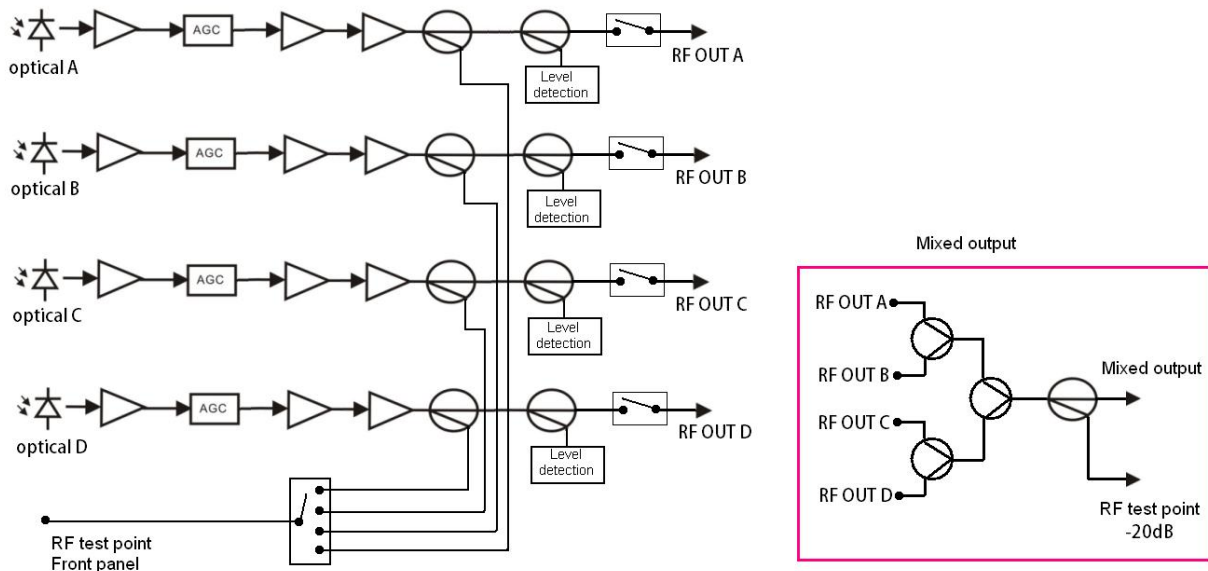
The return path optical receiver module is designed with a high-density 4-way return path receiving circuit to provide 4 independent outputs or mixed output. High output type or low output type is optional. Optical input power is as low as -21dBm. It has output level detection on the front panel and RF output independent shutdown for each channel. AGC or MGC level control mode is available. 204MHz bandwidth is fully compatible with Docsis3.1 standard and can be used to form HFC bidirectional network, especially for fiber transmission of CMTS return path signals.



2. Performance Characteristics

- Support hot swap.
- Four independent output, four mixed output and two mixed output are optional.
- The 5-204MHz band supports the Docsis 3.1 standard.
- The optical AGC and MGC gain control modes are optional.
- -21dBm ultra low power reception.
- Each RF output has an independent shutdown function.
- Internal temperature detection and monitoring functions.

3. Block Diagram



Note: The red box is a 4-in-1 mixed output form.

4. Technique Parameters

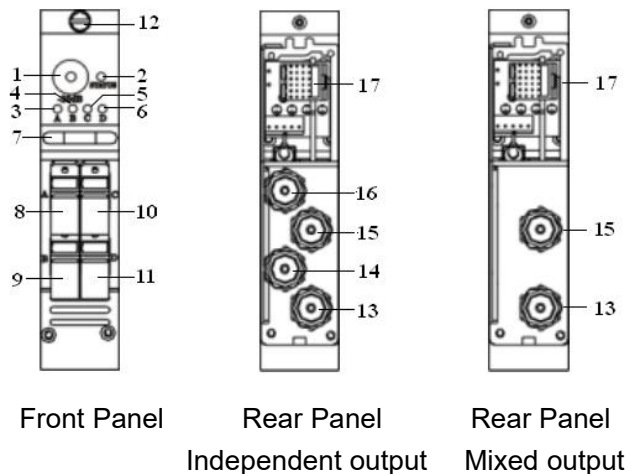
Item	Unit	Parameter
Optical Part		
Optical return loss	dB	>45
Input optical wavelength	nm	1100 ~ 1600
Optical connector type		SC/APC
Fiber type		Single mode
RF Part		
Input optical power range	dBm	-21 ~ +1
Optical AGC range	dBm	-10 ~ 0
Frequency range	MHz	5 ~ 204
Flatness in band	dB	±0.75
Output return loss	dB	≥16
Maximum output level (in optical AGC range)	dBμV	≥ 112: High level independent output
		≥ 104: High level mixed output
		≥ 100: Low level independent output
		≥ 92: Low level mixed output
Output shutdown isolation	dB	>60
Adjustable attenuation range	dB	0~10: OptAGCEn: Enable 0~30: OptAGCEn: Disable
NPR dynamic range	dB	≥20 (NPR≥30)
Test point	dB	-20±1
Others		
Operating temperature	°C	-5 ~ + 55
Storage temperature	°C	-30 ~ + 70
Maximum power consumption	W	≤7
Weight	Kg	1

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:

ARecvPower	-xx.xdBm	Optical input power of A, B, C, D channels, can set high and low alarm value.
BRecvPower	-xx.xdBm	Press "Enter" to enter the next menu "Set RecvPower"
C RecvPower	-xx.xdBm	Alarm-LO: Low optical power alarm threshold, can be set: -30dBm~3dBm
D RecvPower	-xx.xdBm	Alarm-HI: Optical power high alarm threshold, can be set: -30dBm~5dBm
A OutRFLevel	xx.xdBuV	Output level of A, B, C, D channels, can set high and low alarm value.
B OutRFLevel	xx.xdBuV	Press "Enter" to enter the next menu "Set Out RF Level"
C OutRFLevel	xx.xdBuV	Alarm-LO: Output level low alarm threshold, can be set to range: 60dBuV~120dBuV
D OutRFLevel	xx.xdBuV	Alarm-HI: Output level high alarm threshold, can be set to range: 75dBuV~130dBuV
AOptAGCEn	Enable	Optical AGC settings of A, B, C, D channels:
B OptAGCEn	Enable	Enable: Optical AGC is on
C OptAGCEn	Enable	Disable: Optical AGC is off
D OptAGCEn	Enable	
ARFSwMode	Auto	RF shutdown mode settings of A, B, C, D channels:
B RFSwMode	Auto	Auto: Auto mode, Manual: Manual mode.
C RFSwMode	Auto	In the Auto mode, the optical receiving power low threshold and output low threshold are the conditions for shutdown, and the RF output will be automatically turned off if any condition is satisfied.
D RFSwMode	Auto	
ARFSwStaus	ON	RF Output switch status of A, B, C, D channels
B RFSwStaus	ON	ON: output is on, OFF: output is off
C RFSwStaus	ON	When RFSwMode is in Auto, it cannot be manually switched.
D RFSwStaus	ON	When RFSwMode is in Manual, press "Enter" to enter the next setting menu.
A ATT	xdB	RF attenuation of A, B, C, D channels
B ATT	xdB	OptAGCEn: In the Enable mode, the attenuation range is 0~10dB.
C ATT	xdB	OptAGCEn: In the Disable mode, the attenuation range is 0~30dB.
D ATT	xdB	
ChanNum	xx	Channel numbers, range 0~100
DevTemp	xx.x℃	Module temperature
SN	xxxxxx	Serial number
Version	x.xx	Software version number
WorkTime	x.xHour	Total operating hours of the equipment

6. Structure Description



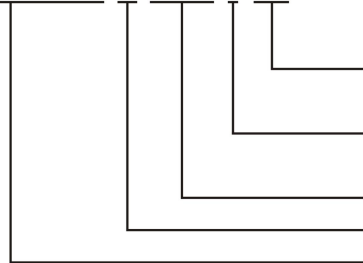
	Independent output	Mixed output	Note
1	RF output test port (on the front panel)	RF output test port (on the front panel)	-20dB
2	Select button for RF output detection	Select button for RF output detection	Cycle, the indicator of the selected channel flashes
3	Optical input indicator of A channel	Optical input indicator of A channel	Indicator on: Input optical power \geq -26dBm Indicator off: Input optical power $<$ -26dBm Flashing: used for RF test
4	Optical input indicator of B channel	Optical input indicator of B channel	
5	Optical input indicator of C channel	Optical input indicator of C channel	
6	Optical input indicator of D channel	Optical input indicator of D channel	
7	Module handle	Module handle	Used to plug the module
8	Optical power input A	Optical power input A	
9	Optical power input B	Optical power input B	
10	Optical power input C	Optical power input C	
11	Optical power input D	Optical power input D	
12	Module fixing screw	Module fixing screw	Used to fix the module
13	A channel RF signal output	Mixed signal output	Correspond to the F connector of A channel on the rear panel of rack
14	B channel RF signal output		Correspond to the F connector of B channel on the rear panel of rack
15	C channel RF signal output	Mixed signal test point (-20dB)	Correspond to the F connector of C channel on the rear panel of rack
16	D channel RF signal output		Correspond to the F connector of D channel on the rear panel of rack
17	Module socket	Module socket	

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.

8. Naming Specification

WOS-WR-2004-JI-4D-H-S-4K



4K: matched with WOS-4000 optical communication platform

Fiber connector type

S: SC/APC; F: FC/APC

Product specification (note 1)

Product specification (note 2)

Quadruple reverse optical receiver (module)

Note 1: 4D-H: Four-way independent outputs, high level type.

4D-L: Four-way independent outputs, low level type.

4M-H: Four-way mixed output, high level type.

4M-L: Four-way mixed output, low level type.

Note 2: JI: Optical receiving power range: +1~-21dBm, AGC control range: 0 ~ -10dBm, support RF shutdown function.

8. Optical Switch Module WOS-WS-1524J-4K

1. Product Overview

This product is designed for fiber routing and backup switching; automatic and manual switching is optional.

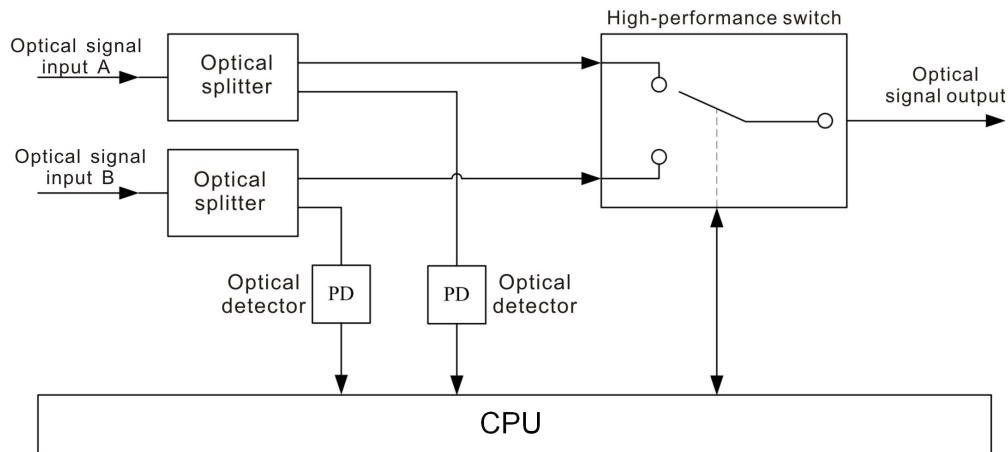
When automatic switching is selected, after the switching condition is set, it will automatically switch to the spare path if the signal in the main path fails, thereby improving the transmission security of the network. It supports a wide range of the wavelength from 1200nm to1600nm.



2. Performance Characteristics

- Support hot swap.
- The switching mode is manual and automatic.
- Long life expectation: > 10 million times.
- Two independent optical input power detection.
- Wide wavelength range, 1200nm-1600nm
- Internal temperature detection and monitoring functions.

3. Block Diagram



4. Technique Parameters

Item	Unit	Parameter	Note
Operating wavelength	nm	1200 – 1600	
Insertion loss	dB	≤1.3	Test at 1310nm and 1550nm
Switching time	ms	≤ 500	
Return loss	dB	≥ 55	
Max input optical power	mW	500	
Switching times		≥ 10,000,000	
Optical connector		FC/APC or SC/APC	
Maximum power consumption	W	≤ 2	
Operating temperature	°C	-5 - +55	
Storage temperature	°C	-30 - +70	
Weight	Kg	1	

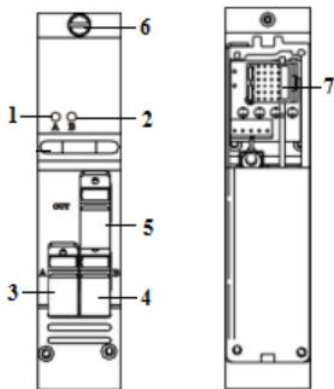
5. Operation instructions of the display menu

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:

AInPower	x.xdBm	Optical receiving power of A channel, main channel.
BInPower	x.xdBm	Optical receiving power of B channel, auxiliary channel.
SWCtrlMode	Manual	Current switching mode: "Auto"—automatic mode, "Manual"—manual mode.
WorkChan	A	The current working channel: A—the current working channel is A channel, B—the current working channel is B channel.
SwitchPower	x.xdBm	The switching threshold under automatic switching mode, settable value: -15~+24dBm, 0.1dB stepping
Wavelength	1550nm	Working wavelength, 1310nm, 1550nm optional.
DevTemp	xx.x°C	Module temperature
SN	xxxxxx	Serial number
Version	x.xx	Software version number
WorkTime	x.xHour	Total operating hours of the equipment

Note: When the main channel optical power is greater than the threshold, the main channel is selected. When the main channel optical power is less than the threshold, the auxiliary channel is selected.

6. Structure Description



Front Panel Rear Panel

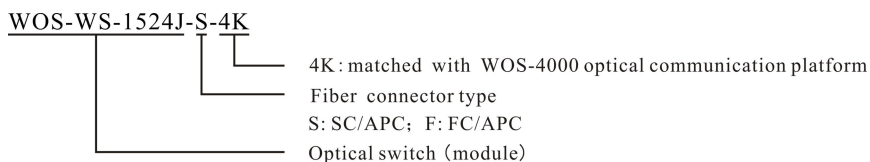
No.	Component Description	Note
1	A channel operating indicator	Green: -15~+24dBm
2	B channel operating indicator	Red: <-15dBm or >+24dBm
3	A channel optical signal input	
4	B channel optical signal input	
5	Optical signal output	
6	Module fixing screw	Used to fix the module
7	Module socket	Used to connect module and rack

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



9. RF Switch Module WOS-WS-1000-4K

1. Product Overview

This product is designed for backup switching of HFC RF signal, automatic and manual switching is optional.

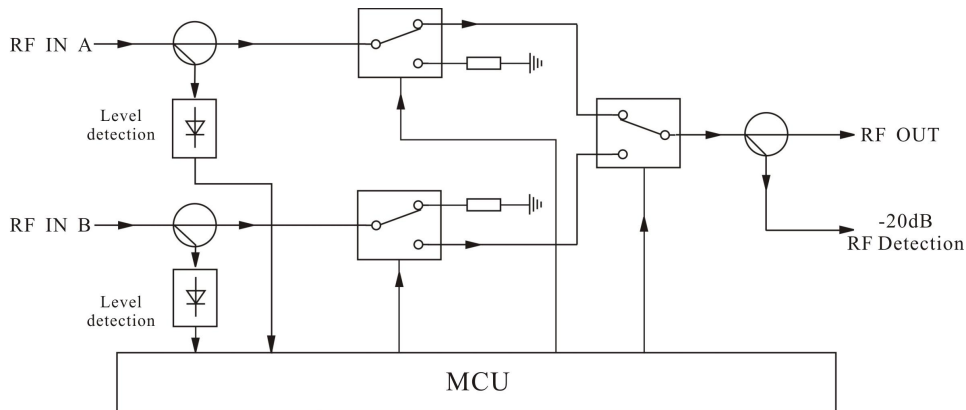
When automatic switching is selected, after the switching condition is set, it will automatically switch to the spare path if the RF signal in the main path fails, thereby improving the transmission security of the network. The two-stage RF switching maintains high isolation of the two input signals in the full frequency band.



2. Performance Characteristics

- Support hot swap.
- Frequency range: 5-1003MHZ.
- The switching mode is manual and automatic optional.
- Two independent RF input power detection.
- Two RF input isolations, up to 70dB.
- Internal temperature detection and monitoring functions.

3. Block Diagram



4. Technique Parameters

Item	Unit	Parameter
Frequency band	MHz	5~1003
Insertion loss	dB	≤2
Flatness in band	dB	±0.75
Isolation of A/B channel	dB	70
Input return loss	dB	≥16
Output return loss	dB	≥16
Switching time	mS	≤15
Test point	dB	-20±1
Maximum power consumption	W	≤ 2
Operating temperature	°C	-5 - +55
Storage temperature	°C	-30 - +70
Weight	Kg	1

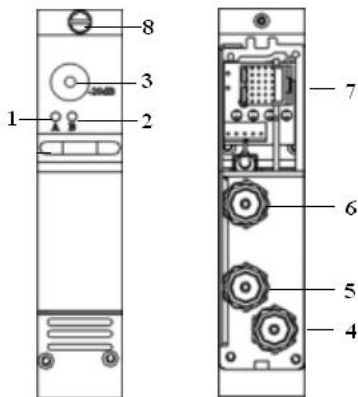
5. Operation instructions of the display menu

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:

A RF level	x.xdBuV	Input level of A channel, main channel.
B RF level	x.xdBuV	Input level of B channel, auxiliary channel.
SWCtrlMode	Manual	Switching mode: "Auto"—automatic mode, "Manual"—manual mode.
WorkChan	A	The current working channel: A—A channel, B—B channel
SW Level	x.xdBuV	The switching threshold under automatic switching mode. (Note)
ChanNum	xx	Channel numbers, range 0~100
DevTemp	xx.x℃	Module temperature
SN	xxxxxx	Serial number
Version	x.xx	Software version number
WorkTime	x.xHour	Total operating hours of the equipment

Note: When the main channel level is greater than the threshold, the main channel is selected. When the main channel level is less than the threshold, the auxiliary channel is selected.

6. Structure Description



No.	Component Description	Note
1	RF IN A signal indicator	Green: input level 65~115dBuV
2	RF IN B signal indicator	Red: outside the range
3	RF output test port (on the front panel)	-20dB
4	RF IN A (main channel)	Correspond to the F connector of A channel on the rear panel
5	RF IN B (auxiliary)	Correspond to the F connector of B channel on the rear panel
6	RF signal output	Correspond to the F connector of D channel on the rear panel
7	Module socket	Used to connect module and rack
8	Module fixing screw	Used to fix the module

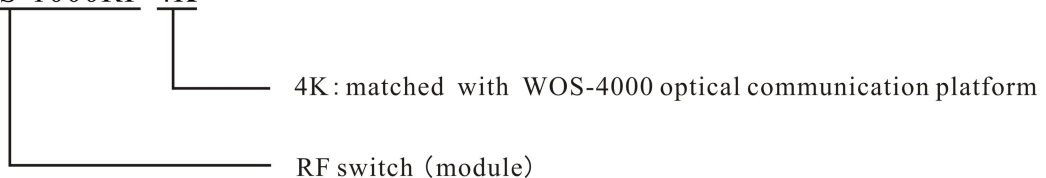
7. Installation

- 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.

8. Naming Specification

Front Panel Rear panel

WOS-WS-1000RF-4K



10. Forward RF Amplifier Module WOS-WA-1200PR-4K

1. Product Overview

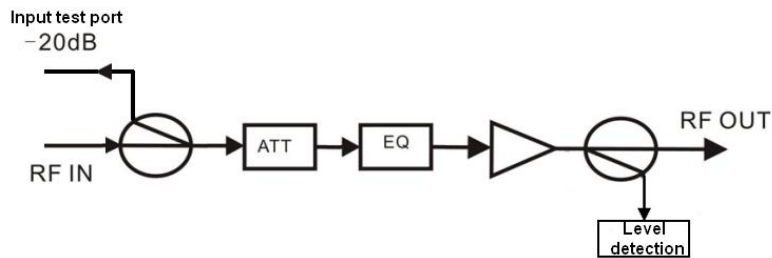
This product can be used as the amplification of gain or RF signal after the combination of multi-RF signals combining in the front-end system. It has 0-20dB adjustable equalization and 0-20dB adjustable attenuation.



2. Performance Characteristics

- Support hot swap.
- Frequency range: 5-1003MHz.
- Front panel RF input test port.
- RF output power detection.
- Internal temperature detection and monitoring functions.

3. Block Diagram



4. Technical Parameters

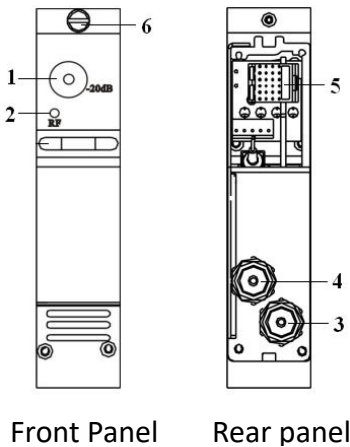
Item	Unit	Parameter	
Frequency range	MHz	45~870/1003	
Rated gain	dB	≥20	
Flatness in band	dB	±0.75	
Return loss	dB	>16	
Rated input level	dBμV	78	
Rated output level	dBμV	98	
Gain adjustment range	dB	0~15, 1dB stepping	
Equalization adjustment range	dB	0~15, 1dB stepping	
Noise figure	dB	≤10	
C/CTB	dB	≥74	84CH analog signal, output 98dBuV, EQ: 6dB
C/CSO	dB	≥70	
Test point	dB	-20±1	
Maximum power consumption	W	≤10	
Operating temperature	℃	-5~+55	
Storage temperature	℃	-30~+70	
Weight	Kg	1	

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:

RFOutput	xx.xdBuV	Output level
RF-ATT	xdB	Attenuation, range: 0~15, 1dB stepping
RF-EQ	xdB	Equilibrium, range : 0~15, 1dB stepping
ChanNum	xx	Channel numbers, range 0~100
DevTemp	xx.x°C	Module temperature
SN	xxxxxx	Serial number
Version	x.xx	Software version number
WorkTime	x.xHour	Total operating hours of the equipment

6. Structure Description



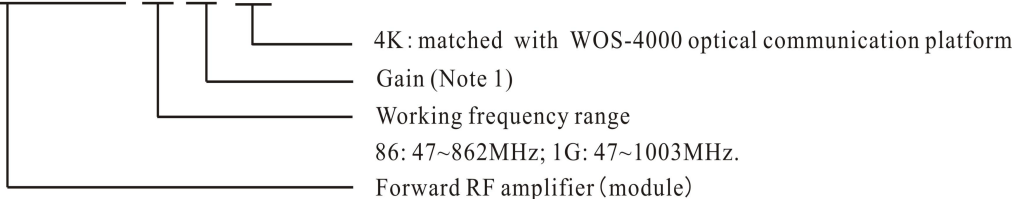
1	RF input test port	-20dB
2	RF output indicator	Green: output level 80~105dBuV Red: outside the range
3	RF signal input	Correspond to the F connector of A channel on the rear panel of rack
4	RF signal output	Correspond to the F connector of B channel on the rear panel of rack
5	Module socket	Used to connect module and rack
6	Module fixing screw	Used to fix the module

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.

8. Naming Specification

WOS-WA-1200-RP-1G-XX-4K



Note 1: The rated gain is 20dB.

Note 2: This model has only 1 RF signal output.

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

1. Product Overview

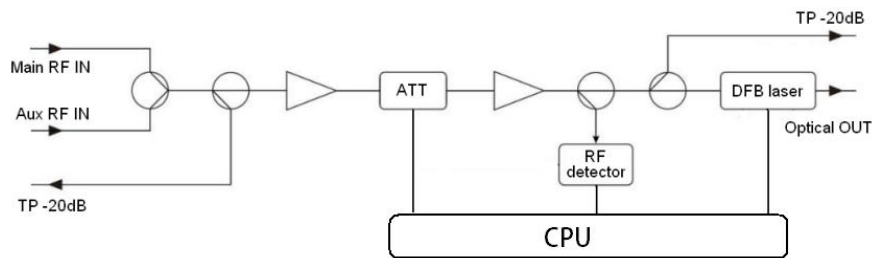
The upstream optical transmitter module is mainly applied to the relay transmission of the upstream optical link in the HFC network. The main features are as following: frequency range is 5 ~ 300MHz; meet DOCSIS 3.1 standards; high performance DFB laser; ITU wavelength is optional; WDM application is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

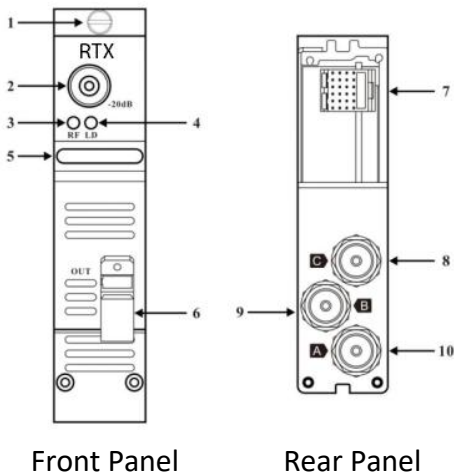
Note 1: When measuring the NPR dynamic range, the test bandwidth of the NPR dynamic range is 60MHz.

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



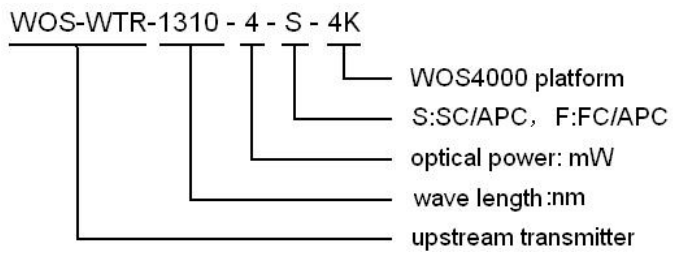
1	Module fixing screw	
2	Laser drive level test port	-20dB
3	RF signal indicator	
4	Output power indicator	
5	Module handle	
6	Optical signal output	
7	Module socket	
8	RF signal input test port	-20dB
9	RF input 1	
10	RF input 2	

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



12. Dual Forward Optical Receiver Module WOS-WR-1002-JDS-1G2-4K

1. Product Overview

The dual forward optical receiver module has two optical input ports and a RF output port. The two optical inputs are redundant backups for each other, which can be automatically switched by settings or manually switched. The product is mainly used for optical fiber transmission of downstream analog TV signals, digital television signals and CMTS data signals.

It can be used to build a highly reliable transmission network with the two way backup feature. The optical receiving part adopts a high-response PIN tube or optoelectronic integrated module with up to 1.2GHz band.

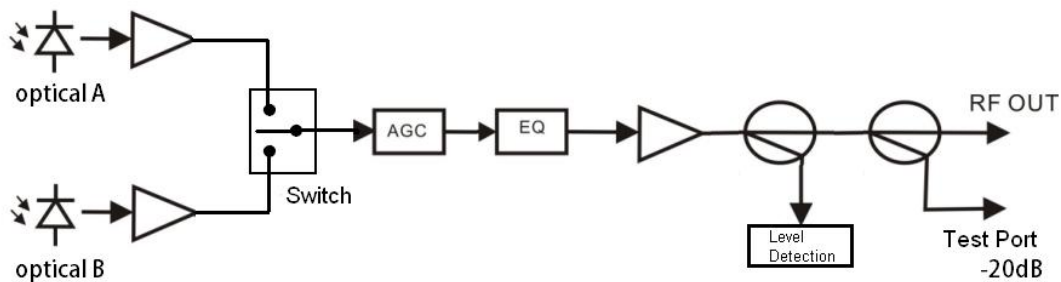
The AGC or MGC can be switched and 1.2GHz amplifying components are selected to offer high CNR and low distortion.



2. Performance Characteristics

- Support hot swap.
- Two redundant backups, which can be switched automatically or manually.
- 1.2GHz band.
- The AGC and MGC gain control modes are optional.
- PIN tube and photoelectric integrated module are optional.
- Optical receiving isolation of the two channels is > 60dB.

3. Block Diagram



4. Technique Parameters

Item	Unit	Technique parameter
Optical Part		
Optical return loss	dB	>45
Optical receiving wavelength	nm	1100 ~ 1600
Optical connector type		SC/APC or specified by the user
Fiber type		Single mode or specified by the user
RF Part		
Optical AGC range	dBm	-8 ~ +2
Optical AGC control range	dBm	-8/-7/-6/-5/-4/-3/-2 adjustable

Frequency range	MHz	45 ~1200	
Flatness in band	dB	±0.75	
Max output level	dBμV	≥ 104	
Output return loss	dB	≥16	
AB channel isolation	dB	>60	
Electronic control EQ range	dB	0~15	
Electronic control ATT range	dB	0~15 : A channel 0~10: B channel	
C/N	dB	≥ 51	Optical receiving power: -1dBm 84 analog signals with an output level of 98 dBμV
C/CTB	dB	≥ 67	
C/CSO	dB	≥ 62	
Others			
Operating temperature	°C	-5 ~ + 55	
Storage temperature	°C	-30 ~ + 70	
Maximum power consumption	W	≤18	
Weight	Kg	1	

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:

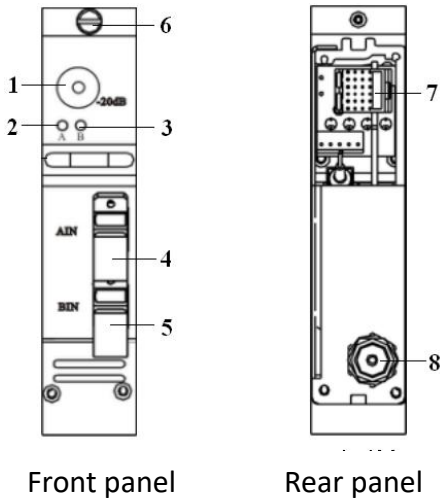
ARecvPower	-xx.xdBm	Optical receiving power of A channel
BRecvPower	-xx.xdBm	Optical receiving power of B channel
OutRFLevel	xx.xdBuV	Output level
WorkChan	A	The working channel
SWCtrlMode	A	Channel switching mode: A—forced to A channel manually; B—forced to B channel manually;
SwitchThreshold	x.xdBm	Automatic switching threshold of A/B channel, SWCtrlMode is valid when AF or BF is selected
SetAGC-A	-x.xdBm	Set the AGC control point of A channel
SetAGC-B	-x.xdBm	Set the AGC control rpoint of B channel
XATT	x.xdB	Attenuation, A channel: 0~15dB, B channel: 0~10dB
EQ	x.xdB	Equilibrium, range 0~15dB
ChanNum	xx	Channel numbers, range 0~100
DevTemp	xx.x°C	Module temperature
SN	xxxxxx	Serial number
Version	x.xx	Software version number
WorkTime	x.xHour	Total operating hours of the equipment

Note 1: For example, SWCtrlMode selects AF and SwitchThreshold is set to -6dBm.

When the A channel receives optical power > -6dBm, A channel is valid.

When the A channel receives optical power < -6dBm, it automatically switches to the B channel.

6. Structure Description



1	RF output test port	-20dB
2	Optical power indicator of A channel	Green: $-10\text{dBm} \leq \text{optical receiving power} \leq +3\text{dBm}$ Red: $< -10\text{dBm}$ or $> +3\text{dBm}$
3	Optical power indicator of B channel	Green: $-10\text{dBm} \leq \text{optical receiving power} \leq +3\text{dBm}$ Red: $< -10\text{dBm}$ or $> +3\text{dBm}$
4	A channel optical signal input	
5	B channel optical signal input	
6	Module fixing screw	Used to fix the module
6	Module socket	Used to connect module and rack
7	RF signal output	Correspond to A channel F-type RF connector on the rear panel of the rack

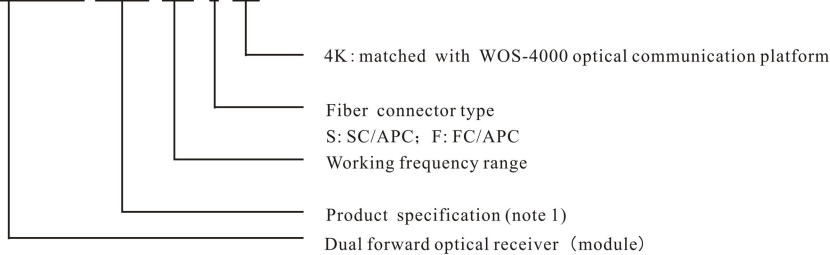
7. Installation

- 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

WOS-WR-1002-JDS-I-1G2-S-4K



Note 1: This model is with two optical signal inputs and one RF signal output

JDS-I: PIN optical detector + photoelectric integrated module.

JDS-II: Dual optoelectronic integrated module.

Note 2: 1G2: 45~1200MHz

Note 3: If the customer has special requirements for key components such as RF amplification module, please indicate in the order.

Hangzhou Prevail Communication Technology Co., Ltd

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