

PREVAIL

WR-1201-JKCH-TD RFoG OBI-Free Node



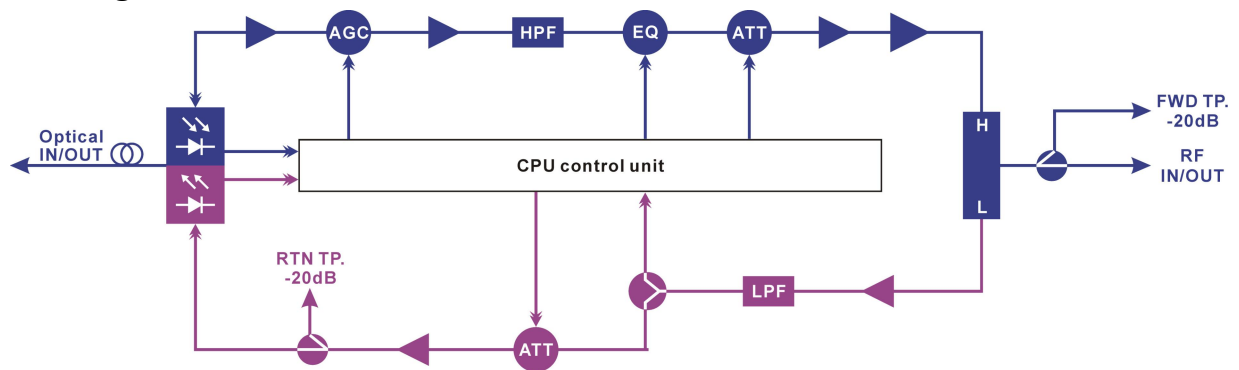
1. Product Overview

WR-1201-JKCH-TD-4CH FTTB Node is mainly used for RFoG network. Its return path laser can work under burst mode. In upstream channel, it can adjust 4 output optical wavelengths (0.5nm stepping). 4 different basic CWDM wavelengths as a group (16 units in total for each carton); the same basic CWDM wavelength is applied to four equipment, set the output wavelength of these equipment with 0.5 stepping accordingly (from 1~4 CH), which can effectively realize OBI free.

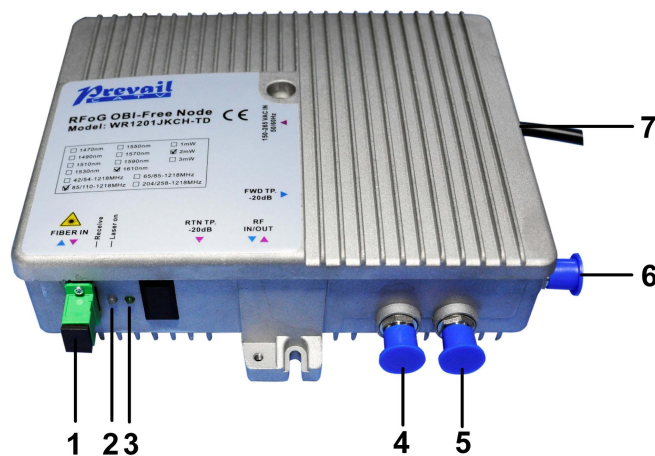
2. Performance Character

- Operating frequency: 5~85/110-1218MHz; support smoothly update on the spot (5~204/258-1218MHz).
- Support optical AGC downstream, whose control range is 0~-5/-6/-7/-8dBm adjustable.
- Adopt electric adjusting mode for both EQ and ATT circuit, using LED displaying screen to modify directly.
- Output wavelength of the return path is adjustable, 4 wavelengths settable with 0.5nm stepping.
- RFoG can be set as burst mode or continuous mode.
- Support DOCSIS 3.1 system and OBI Free.

3. Block Diagram



4. Structure Description



1	Optical output/input	2	Input optical power indicator	3	Laser output indicator
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4	Laser iutput level test port	5	RF output/input	6	Forward path RF output test port
7	220VAC input port				

5. Technical Parameter

5.1 Forward Path

Item	Unit	Technical Parameter	
Optical Receiving Power	dBm	-8 ~ 0	
Optical AGC Control Range	dBm	-5/-6/-7/-8~ 0(default as -6~0)	
Optical Return Loss	dB	>45	
Optical Receiving Wavelength	nm	1540~1560	
Optical Connector		SC/APC	
Optical Fiber Type		Single mode	
Frequency Range	MHz	110 ~1218	
Flatness in Band	dB	110-862 MHz(+/-) 1 dB ; 862-1218 MHz(+/-) 1,5dB	
Rated Output Level	dBμV	≥ 108(-6~0dBm)	
Maximum Output Level	dBμV	≥ 110@AGC= -5~0dBm	
Output Return Loss	dB	>16dB, -1.5dB/oct.	
Attenuator Range	dB	0 ~ 18	
Equalizer Range	dB	0 ~ 15	
Equivalent Noise Current		<6 pA/rt(Hz)	
Photo-diode Sensitivity		>0,8A/W	
C/N	dB	≥ 44 (@Pin=-5dBm)	CENELEC 42 kanal, EQ=6dB, Output level=108dBμV@860MHz, OMI=3.5%.
C/CTB	dB	≥ 60 (@Pin=0dBm)	
C/CSO	dB	≥ 60 (@Pin=0dBm)	
MER	dB	≥40@Pin=-5~0dBm	* FN RF Output Level : 108 dBuV/ch
BER	—	-10 ⁻⁹ post-FEC@Pin=-5~0dBm	* EQ:8 db. 100dBuV at 254 MHz and 108dBuV at 1218MHz * Full Digital Load 254-1218 MHz QAM256
US OMI LEVEL			
OMI values will be given at intervals of 1 dB for between 71-82 dBμV by provider.			
RF Input Level for 15% OMI (RF input level must be < 76dBμV for15% OMI level)		75dBuV	
NPR TEST - DYNAMIC RANGE /NPR			
Dynamic Range		≥16 dB @36 dB CNR, BER=10 ⁻⁹ post-FEC	
US OBI FREE TEST			
US CER (Codeword error rate)		<% 0.01	
US SNR		>35 dB	

During the test, the wavelengths will be monitored by the Optical Spectrum Analyser. Difference between wavelengths must be during the test.	Min.165 pm
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5.2 Return Path

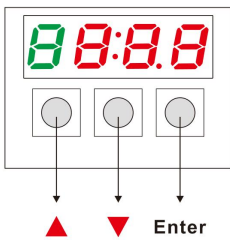
Item	Unit	Technical Parameter
Optical Transmitting Wavelength	nm	1450-1470-1510-1610nm, Each of the above-mentioned wavelengths have four sub-wavelengths
Upstream Transmitter		DFB laser with Burst mode.
Output Optical Power	dBm	3±1
Optical Connector		SC/APC
Maximum Time from Application of RF to 90% Optical Power (Ready to Late-side Mask)	us	≤1.3
Maximum 10%- 90% Optical Power Rise Time (Ready from Late-side Mask 10% to Early-side Mask 90%)	us	≤1.0
Minimum 10%- 90% Optical Power Rise Time (Ready from Late-side Mask 10% to Early-side Mask 90%)	ns	≥100
Maximum Time from Removal of RF to the Time the Optical Carrier Falls to 10% of its Steady-state Amplitude (Ready to Late-side Mask)	us	≤1.6
Maximum 90- 10% Optical Power Fall Time	us	≤1.0
Minimum 90- 10% Optical Power Fall Time	ns	≥100
Frequency Range	MHz	5 ~ 85
Flatness in Band	dB	±0.75
Output Impedance	Ω	75
Return Loss	dB	>16dB
Laser Turn on Level	dBμV	68±1
Laser Turn off Level	dBμV	58±1
Attenuator Range	dB	0 ~ 18
Adjustable Wavelength Number	—	4
Wavelength Adjusting Stepping	nm	0.5

5.3 General Character

Item	Unit	Technical Parameter
Power Voltage	V	AC (150~265)V
Protection Class		IP41
RF Return Loss		EN 50083/3 Chart 1 Class B
Rf Connector		F-Female
Test Points Flatness		±1.5 dB
Optical Connectors		SC/APC
Surge protection RF Ports		>2kV (EN61000-4-5, 1,2/50 μs pulse)
Operating Temperature	°C	-20~55
Storage Temperature	°C	-40~65
Relative Humidity	%	Maximum 95% (no-condensing)
Power Consumption	VA	<18W
Dimension	mm	200 (L)* 175 (W)* 60 (H)

6. Function Display and Operating Instruction

Optical receiver settings. The following is the instructions of LED digital display tube and control button.



- Enter Key: cyclical page turning and input validation.
- ▲ Up key: press this button for 3s to enter into the adjust mode.
- ▼ Down key: press this button for 3s to enter into the adjust mode.

The following is the detailed menu instructions:

