

5G Fronthaul Transmission Passive WDM System

The 5G fronthaul transmission passive WDM system launched by Guangzhou Sintai Communication Co., Ltd. is mainly used to solve the problem of lack of optical cable resources in the optical fiber remote transmission between DU-AAU in C-RAN architecture. By deploying passive WDM on DU and AAU side, and replacing the original white optical module on wireless equipment with matching color optical module, it can provide different wavelength service optical signals and passive WDM on both sides. The service optical signals of different wavelengths are multiplexed on one core optical fiber for two-way transmission, instead of optical cable laying, providing a low-cost and high-performance optical fiber expansion solution for operators.

Product Feature

- Support CPRI 1~10 and eCPRI (10G/25G), compatible with STM-1/4/16/64, GE/10GE/25GE and other multi service unified bearing, transparent transmission, and maximize the value of fronthaul transmission network
- Without changing the network structure, the physical channel of pure transparent transmission is extended without delay and jitter
- Modular configuration, 1:6/12/18 optional, can achieve multi-directional multi-level convergence, and large-scale optical fiber saving
- It can provide a variety of color optical modules, support CWDM 18 waves, MWDM 12 waves, meet the requirements of various line power budget
- Pure passive working environment, less fault points, plug and play, no configuration, simple maintenance
- The passive wavelength division multiplexer is compact and light, and supports rack type, wall hanging, holding pole and other installation methods

Product Picture



Product specification

Item of Passive Mux-Demux	CWDM			MWDM	
Channel Number	6	12	18	6	12
Central wavelength (nm)	1271~1371	1271~1491, 1271~1371 & 1471~1571	1271~1611	1267.5~1314.5	1267.5~1374.5
Maximum channel insertion loss	≤1.5	≤2.0	≤2.2	≤1.5	≤2.0

Item of Passive Mux-Demux	CWDM	MWDM
Center wavelength deviation (nm)	±1.5	±1.0
1dB channel bandwidth (nm)	≥13	≥5
Flatness of passband (dB)	≤0.5	
Isolation of adjacent channels (dB)	≥30	
Isolation of non-adjacent channels (dB)	≥40	
Wavelength thermal stability (nm)	≤0.005	
Insertion loss thermal stability (dB)	≤0.007	
Polarization dependent loss (dB)	≤0.15	
Return loss (dB)	≥40	
Protection switching time	<50ms	
Working temperature (°C)	-40 ~ +70	
Storage temperature (°C)	-40 ~ +85	

Item of Optical Module	CWDM		MWDM
Transmission rate	10G	25G	25G
Working wavelength (nm)	1271 ~ 1611	1271 ~ 1371&1471 ~ 1571	1267.5 ~ 1374.5
Target distance (km)	10	10	10
Transmitting optical power range (dBm)	1 ~ 7	1.5 ~ 7	2 ~ 7
Receiving optical power range (dBm)	-13.5 ~ 2(PIN) -18.5 ~ -4(APD)	-13 ~ 2(PIN) -18 ~ -4(APD)	-13 ~ 2(PIN) -18 ~ -4(APD)