FT5S

Forward Transmitter 1550 nm Single Module

The Forward Transmitter 1550 nm Single module (FT5S) is designed to plug into PBN's next generation Advanced Intelligent Multi-services Access platform (AIMA3000).

PBN AIMA3000 FT5S series full-spectrum advanced forward transmitters are designed for multi-services operators to increase network capacities to satisfy ever-growing subscriber demand for more high definition programs and high-speed data services. The module whose operating wavelength conforms to the ITU wavelength standard works with EDFA, and allows full-spectrum analogue/digital broadcast and narrowcast channels, which provides utmost flexibility for MSOs during the all-digital transition.

The FT5S employs advanced RF circuit design and the laser with high-quality and low-chirp effect. The module offers constant optical modulation index (OMI) and ensures high-index optical power output. In addition, it is a leading-edge optoelectronic design for the delivery of high-quality transmission, in both analogue and digital formats, over fiber-optic networks.

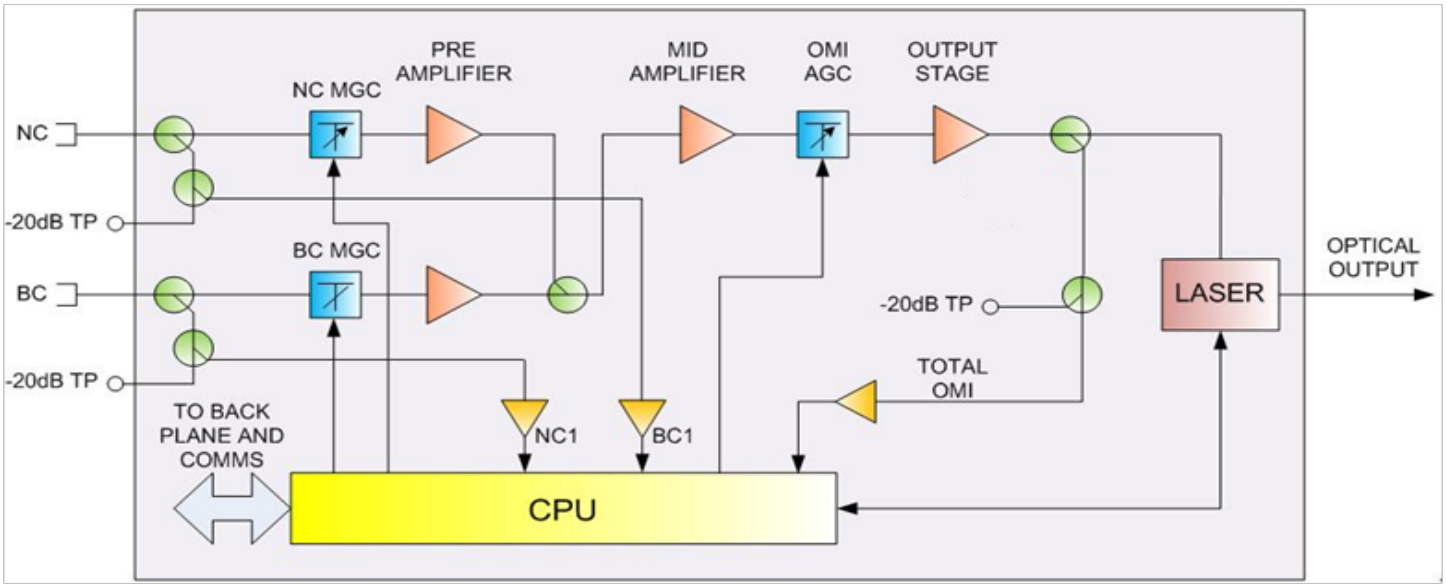
Microprocessor-based status monitoring and control requires an ASMM module in slot 0 of the chassis.

The FT5S can be controlled through a netbook or laptop connected to one of the Ethernet ports or the USB port on the AIMA3000's ASMM module. Remote control and monitoring by network operating centers is possible via SNMP and HTTP.

Key Features and Functions

- Plug-and-play AIMA3000 platform, forward-path optical transmitter module
- High quality 1550 nm cooled, isolated low-chirp analogue DFB laser
- RF amplifier gain blocks with advanced GaAs technology for better performance
- Conforms to the ITU wavelength DWDM standard
- Frequency response of 45 MHz to 1000 MHz for both broadcast and narrowcast applications
- Local laser shutdown via laptop or optical hand-held controller(AHHC)
- Alarm monitoring via network management system
- Automatic gain control (AGC) for constant optical modulation index (OMI)
- Automatic thermo-cooler control (ATC) for constant laser temperature
- Automatic power control (APC) for constant optical output power
- Fully RoHS and CE compliant

Block Diagram



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Specifications

Optical Performance

Optical wavelength	1550 nm ±5 nm or ITU wavelength
Optical outputs	1
Output power	8dBm、9dBm、10dBm
Optical return loss	> 60 dB
Optical connector	SC/APC [1] , E2000, FC/APC
Laser RIN	<-155 dB/Hz
SBS Suppression	19dB

RF Performance

RF bandwidth	45 MHz to 1000 MHz
RF flatness	± 0.75 dB
RF input return loss	>16 dB
RF input level, NC nominal	75~85dBuV
RF input level, BC nominal	70~85dBuV
AGC range	± 3 dB
RF impedance	75 Ω
RF test point relative to RF input port	-20 dB ± 1 dB
Isolation between BC and NC inputs	> 50 dB
RF input connectors	2 x GSK-type female
RF test points	3 x Mini-SMB [2]
Alarms and laser status	Front-panel LEDs, SNMP traps

Link Performance [3]

CNR (4 MHz NBW)	> 53 dB
CSO	> 58 dB
CTB	> 67 dB

General

Power supply	Powered via AIMA3000 backplane
Power consumption	< 8.0 W
Operating temperature	-5 °C to +55 °C
Storage temperature	-25°C to +70 °C
Dimensions (WxDxH)	24.6 x 410 x 152.5 mm
Weight	0.88 kg
Network management	NMS3 via AIMA3000 ASMM

Notes

(1) Standard option. Contact a PBN Sales Representative for availability of other options.

(2) Three mini-SMBs on front panel: one each for BC and NC inputs and one for laser RF level.

(3) Loaded with 77NTSC, measured with PBN referenced optical receiver with 5 km single-mode optical fiber 0 dBm.

Order Details

AIMA-FT5S-[X]-[Y]-[Z] Forward Transmitter 1550 nm Single Module

Options:

X Optical Output Power

- **08** 8 dBm (6 mW) optical power
- **09** 9 dBm (8 mW) optical power
- **10** 10 dBm (10 mW) optical power

Y ITU standard optical channel(21,23,25...35 39,41...53)

- **21** 192.1 THz (1560.61 nm)
- **23** 192.3 THz (1558.98 nm)
- **25** 192.5 THz (1557.36 nm)
- **27** 192.7 THz (1555.75 nm)
- **29** 192.9 THz (1554.13 nm)
- **31** 193.1 THz (1552.52 nm)
- **33** 193.3 THz (1550.92 nm)
- **34** 193.4 THz (1550.12 nm)
- **35** 193.5 THz (1549.32 nm)

Z Optical Connector Type

- **S** SC/APC *
- **E** E2000
- **F** FC/APC

** Standard option. Contact a PBN Sales Representative for availability of other options.*

Pacific Broadband Networks
Offices: China, Beijing: +86-10-5791-0655 Americas, Florida: +1-703-579-6777 Oceania, Melbourne: +61-3-8561-1400 EMEA, Netherlands: +31-36-536-8011
www.pbnglobal.com
info@pbnglobal.com