

AIMA-FT3S



- DOCSIS 3.1 Compatible with operating bandwidth up to 1218 MHz
- Plug-and-play with the AIMA3000 platform
- High-quality 1310 nm, isolated MQW DFB laser with advanced RF driver circuitry
- RF amplifier gain blocks with advanced GaAs technology for better performance
- Supports CENELEC and NTSC standards up to 110 channels (both analog and digital)
- Frequency response of 45 MHz to 1218 MHz for both broadcast and narrowcast applications
- Can be locally managed through an Ethernet port
- Automatic gain control (AGC) for a consistent optical modulation index (OMI)
- Automatic thermo-cooler control (ATC) for a consistent laser temperature
- Automatic power control (APC) for a consistent optical output power
- Available in single and dual transmitter configurations
- Up to 64 transmitters in a 4RU chassis
- Fully FCC, CE, and RCM compliant

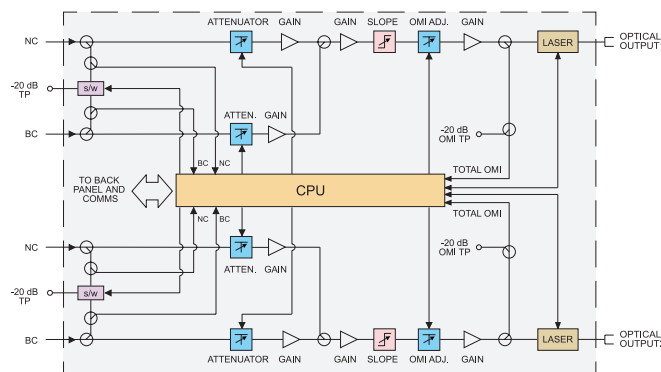
Overview

The 1310 nm Forward Transmitter Module - Standard series (FT3S) is designed to plug into Technetix latest generation Advanced Intelligent Multi-services Access platform - the AIMA3000.

Technetix AIMA3000 FT3S series advanced forward transmitter is available in single and dual port configurations. It is designed for multi-services operators (MSOs) to increase network capacity to satisfy an ever-growing subscriber demand for more bandwidth. The FT3S Multi Quantum Well (MQW) Distributed Feedback (DFB) laser transmitter module allows for full-spectrum analog/digital broadcast and narrowcast channels over the entire 1218 MHz space, which provides utmost flexibility for MSOs during the all-digital transition.

The laser transmitter module is available in optical power levels from 2 dBm to 15 dBm (1.6 mW to 31 mW). The module offers a superior frequency response, as well as an extremely low distortion profile and low noise characteristics. The FT3S incorporates specialized circuitry to deliver the best possible CTB and CSO performance of up to 1218 MHz. It employs the latest in broadband linear amplifier technology. In addition, it has a cutting-edge optoelectronic design for the delivery of high-quality transmissions, in both analog and digital formats, over passive fiber-optical networks.

Block diagram



Specifications

Optical Performance

Optical wavelength	1310 nm ± 10 nm
Optical outputs	1 or 2
Output power	2 dBm to 15 dBm
Optical connector	SC/APC ⁽¹⁾ , FC/APC, LC/APC, E2000/APC

RF Performance

RF bandwidth	45 MHz to 1218 MHz
RF flatness	± 0.75 dB
RF input return loss	> 18 dB
RF input level, NC nominal ⁽²⁾	25~35 dBmV per channel
RF input level, BC nominal ⁽²⁾	15~25 dBmV per channel
AGC range	± 3 dB
Isolation of NC and BC	> 50 dB
RF impedance	75 Ω
RF test point relative to RF input port	-20 dB ± 1 dB
Isolation between transmitters	> 60 dB
RF input connectors	Single: 2 x GSK-type female (1 for NC, 1 for BC) Dual: 4 x GSK-type female (2 for NC, 2 for BC)
RF test points	Single: 3 x Mini-SMB ⁽³⁾ Dual: 4 x Mini-SMB ⁽⁴⁾
Alarms and laser status	Front-panel LEDs, SNMP Traps

Link Performance

	Optical wavelength	Optical wavelength
CNR (5 MHz NBW)	> 53 dB	> 51 dB
CSO	> 65 dB	> 62 dB
CTB	> 70 dB	> 69 dB
MER	> 39 dB	-
BER	< 1E-9	-

General

Power supply	Powered via AIMA3000 backplane
Power consumption	Single: < 8.0 W Dual: < 15.0 W
Operating temperature	-5 oC to +55 oC
Storage temperature	-40oC to +70 oC
Operating humidity	90% (non-condensing)
Storage humidity	90% (non-condensing)
Dimensions (WxDxH)	24.6 x 410 x 152.5 mm
Weight	0.88 kg

Note:

- Standard option. Contact a Technetix sales representative for availability of other options.
- (2) dBuV=60+dBmV.
- (3) Three mini-SMB connectors on front panel: one each for BC and NC inputs and one to measure RF input before the laser.
- (4) Four mini-SMB connectors on front panel: BC and NC inputs test ports (user switchable) and two to measure RF input before the laser.
- (5) Four mini-SMB connectors on front panel to measure RF input before the laser.
- (6) CNR, CSO, CTB and MER are loaded with 30 NTSC+124 QAM256 or 30 PAL D/K+85 QAM256. All are measured with Technetix referenced optical receiver with 10km single-mode optical fiber 0 dBm.
- (7) CNR, CSO and CTB are loaded with 42 CENELEC. All are measured with Technetix referenced optical receiver with 10km single-mode optical fiber 0 dBm.