AIMA-FT5E

- **DOCSIS 3.1 Compatible with operating bandwidth up to 1218 MHz**
- **Plug-and-play AIMA3000 platform, forward-path optical transmitter module**
- **High quality 1550 nm low-chirp analog DFB laser**
- **RF amplifier gain blocks with advanced GaAs technology for better performance**
- **Conforms to ITU wavelength DWDM standards**
- **Frequency response of 45 MHz to 1218 MHz for both broadcast and narrowcast applications**
- **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**
- **Fully FCC, CE, and RCM compliant**

Overview

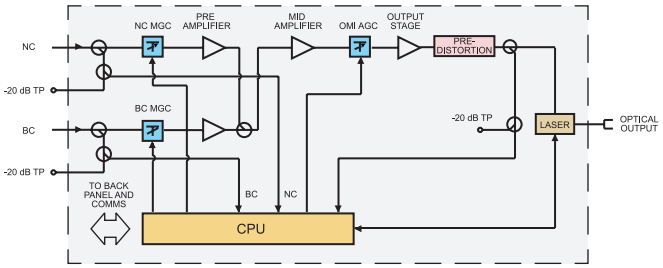
The 1550 nm Forward Transmitter - Enhanced (FT5E) is designed to plug into Technetix latest Advanced Intelligent Multi-services Access platform - the AIMA3000.

Technetix AIMA3000 FT5E series features full-spectrum enhanced forward transmitters engineered for multi-services operators (MSOs) to increase network capacity to satisfy an ever-growing subscriber demand for bandwidth. The module's operating wavelength conforms to ITU standards and works with Technetix Erbium Doped Fiber Amplifier Module (EDFA). It allows for full-spectrum analog/digital broadcast and narrowcast channels, providing the utmost flexibility for MSOs during the transition to all-digital.

The FT5E employs an advanced RF circuit design and a high quality / low-chirp laser. The module offers a superior frequency response, as well as low distortion and noise characteristics. 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 optic networks.

All FT5E models can also be conveniently monitored and controlled through a computer connected to one of the Ethernet ports via the ASMM module. All module settings are retained in non-volatile memory to ensure trouble-free operation.

Block diagram



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Specifications

Optical Performance

Optical wavelength	ITU standard wavelength
Optical outputs	1
Output power	8 ~15 dBm
Optical connector	SC/APC[1], FC/APC, LC/APC, E2000/APC
Laser RIN	<-155 dB/Hz

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
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 [3]
Alarms and laser status	Front-panel LEDs, SNMP Traps

Link Performance

	NTSC [4]	**CENELEC (42) [5]**
CNR	> 50 dB	> 50 dB
CSO	> 55 dB	> 62 dB
CTB	> 60 dB	> 62 dB
MER	> 39 dB	-
BER	< 1E-9	-

General

Power supply	Powered via AIMA3000 backplane
Power consumption	< 8.0 W
Operating temperature	-5oC to +55 oC
Storage temperature	-40 oC 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:

1. Standard option. Contact a Technetix sales representative for availability of other options.
2. dBuV=60+dBmV
3. Three mini-SMBs on front panel: one each for BC and NC inputs and one for laser RF level.
4. CNR,CSO,CTB are loaded with 77 NTSC CW channels (55.25MHz~ 547.25MHz). MER and BER are tested with 117 QAM256. All parameters are measured using a Technetix reference receiver,10 km fiber, and 0 dBm receive level.
5. CNR,CSO,CTB are loaded with 42 CENELEC channels (40 MHz~ 862 MHz). All parameters are measured using a Technetix reference receiver,10 km fiber, and 0 dBm receive level.

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