Tunable Laser

The tunable laser modules incorporate a novel monolithic InP chip that integrates a tunable MG-Y (Modulated Grating Y-branch) laser with a Semiconductor Optical Amplifier (SOA). The MG-Y laser is an electronically tuned device that can address any wavelength in the C-Band. Since no mechanical or thermal adjustments are necessary, channel switching is fast with straightforward control circuitry. The SOA facilitates flexible control of the output power and acts as a shutter when reverse biased, enabling dark tuning between channels. The integrated chip has been optimized to improve the power efficiency. The devices are packed into a compact, low-profile hermetically sealed package, with an internal optical isolator and a wavelength locker.

The locker monitors both output power and frequency of the light emitted from the front facet of the chip, enabling a closed loop control that guarantees stability of the frequency and output power over life, within the requirements of 50GHz ITU grid spacing applications. The tunable laser is provided with polarization maintaining fiber for use with an external modulator.

Features:
- Full C-Band tuning (89 channels at 50GHz spacing)
- High, flexibly adjustable output power, from 9 to 13dBm
- Low power dissipation, typically < 2.2W at 75°C
- High side-mode suppression ratio > 40dB
- Independent power and wavelength control
- Dark tuning by reverse biasing the integrated optical amplifier (> 40dB suppression)
- Compact, low-profile, hermetic laser package with internal optical isolator
- Integral wavelength locker, allowing stabilization to within ±2.5GHz over life, compatible with 50GHz ITU grid spacing
- Polarization-maintaining fiber pigtail

Applications:
- DWDM transmission systems
- Tunable DWDM transponders and transceivers
- Dynamic provisioning and wavelength routing in metro DWDM systems
- Reconfigurable optical add/drop multiplexers (ROADM)
- Optical packet or burst-mode switching
- Test and measurement

Integrable Tunable Laser Assembly (ITLA)

The ITLA (Integrable Tunable Laser Assembly) is a high performance continuous wave (CW) tunable laser source for use in the C-band. Based on the OIF-ITLA-MSA, the laser and control electronics are pre-mounted on a dedicated circuit board for easy production installation. Comprehensive control and system reporting is provided over the RS232 interface. For easy testing and qualification, Agilecom can supply a host board with all necessary functions. A detailed description of the laser can be found in section “Tunable Laser” above.