

## **Gain-flattened dual-stage L-band EDFA by using pump power distribution**

### **ABSTRACT**

An L-band erbium doped fiber amplifier (EDFA) with dual-stage architecture was proposed that gives a considerably flatten wavelength response of less than 3 dB gain variations. Gain of 25 dB was achieved throughout the L-band region (1570 nm - 1605 nm) and noise figure of less than 4.5 dB was obtained when the pump power was distributed equally to two different stages with different length of erbium-doped fiber (EDF). Without applying any gain equalizing filters, this architecture able to demonstrate a flat gain spectrum when the input signal power was varied from -30 dBm to -15 dBm.