NETWORK AMPLIFICATION

Rack DWDM optical power boosters

Gain-flattened launch amplifiers with separate C-band, extended-band and L-band operating points.

Applications to discuss: Optical network integration; Fibre-link engineering.

Selection points
Five launch configurations / 24-30 dBm maximum outputs / Wavelength-specific gain-flatness conditions

Configuration options

Configuration	Optical wavelength range	Maximum output power
C-band 24 dBm	1530-1565 nm	24 dBm
C-band 26 dBm	1530-1565 nm	26 dBm
Tilt-adjusted C-band 30 dBm	1529-1569 nm	30 dBm
Extended C-band 30 dBm	1524 - 1572 nm	30 dBm
L-band 30 dBm	1570-1608 nm	30 dBm

Each row is a separate configuration. Limits from different rows must not be combined.

Technical details

Parameter	Specification or condition
Output range for gain-flat operation	C-band 24 dBm: 18-24 dBm; C-band 26 dBm: 20-26 dBm
Input range for gain-flat operation	C-band 24 dBm: 3-9 dBm; C-band 26 dBm: 5-11 dBm; Tilt-adjusted C-band 30 dBm, Extended C-band 30 dBm, L-band 30 dBm: -13 to +7 dBm
Gain flatness, peak-to-peak at optimum gain	C-band 24 dBm: 1.0 dB; C-band 26 dBm: 1.5 dB
Supervisory-channel wavelength	C-band 24 dBm, C-band 26 dBm, Tilt-adjusted C-band 30 dBm: 1574 nm; Extended C-band 30 dBm: 1576 nm; L-band 30 dBm: 1610 nm
Supervisory-channel optical budget	C-band 24 dBm, C-band 26 dBm: 85 dB; Tilt-adjusted C-band 30 dBm, Extended C-band 30 dBm, L-band 30 dBm: 84 dB
Gain tilt at optimum gain and +30 dBm output	Tilt-adjusted C-band 30 dBm: 6-16 dB; L-band 30 dBm: -6 to +3 dB
Gain ripple, 27-30 dBm output, optimum gain, -11 dB tilt	Tilt-adjusted C-band 30 dBm: 1.5 dB max.
Gain ripple, 27-30 dBm output at optimum gain	Extended C-band 30 dBm: 1.5 dB max.
Gain ripple, 27-30 dBm output, optimum gain, zero tilt	L-band 30 dBm: 1 dB max.

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Integration and delivery

Item	Configuration detail
Format	2U rack subsystem
Control	Ethernet, web interface and SNMP; command and management interfaces to confirm
Fibre integrity	Supervisory-channel monitoring with automatic shutdown/restart features

Conditions and configuration notes

• A value in dBm describes optical power; a value in dB describes gain, loss or an optical budget. A link budget is not a distance in kilometres.

• Performance depends on channel loading, fibre losses and the selected operating point; family limits do not automatically apply together.

• The gain-flatness and ripple entries are stated at particular gain, tilt and output conditions; retain those conditions when specifying acceptance.

Configuration review

• Target wavelength or passband and input/output power

• Gain, noise, timing and polarization requirements

• Optical connections, control interface and installation conditions