

iROAD™ INTEGRATED RECONFIGURABLE OPTICAL ADD DROP MULTIPLEXER MODULE

The iROAD™ provides a flexible, integrated solution for multi-channel reconfigurable optical add/drop multiplexer (ROADM) with power monitoring and automatic channel balancing at low cost, small size and low power dissipation. The key building block for the iROAD™ module is an integrated 2x1 switch-VOA-tap array based on Enablence's library of proven optical building blocks and planar lightwave circuit (PLC) integration technology.



BENEFITS

- Number of channels: 16 to 40
- Channel spacing: 200, 100, 50 GHz
- Position and number of power monitors and VOA's can be varied (Enablence's VOA has excellent attenuation accuracy in open-loop operation, eliminating the need for feedback monitors for most applications)
- RS-232, I²C, DPRAM, SPI, USB, TCP/IP

FEATURES

- C or L band
- Channel power monitoring
- Automatic channel balancing
- Low cost
- Flat-top Mux/Demux
- 24 node concatenation at 10 Gbps
- East/West separation architecture
- Low power consumption
- Low loss, low PDL
- Fast actuation
- Small footprint
- No moving parts
- Telcordia GR-1209/GR-1221 qualified
- Add and Drop in separate modules
- Customizable design

APPLICATIONS

- Long haul DWDM networks
- Metro DWDM networks
- CWDM networks
- Optical Ethernet networks

The iROAD™ is ideal for intelligent optical networks aimed at reducing operating expenses (OPEX) by automatically shuffling and balancing channels as wavelengths are configured, making it possible to remotely control network elements.

Parameter	Unit	iROAD1600	iROAD 4000
Operating Band	nm	1528 ~ 1610	1528 ~ 1610
Channel Count	ch	16	40
Channel Spacing	GHz	100	100
ITU Passband	GHz	±12.5	±12.5
0.5-dB Bandwidth	nm	0.25	0.25
1-dB Bandwidth	nm	0.3	0.3
3-dB Bandwidth	nm	0.45	0.45
Passband Ripple	dB	0.3	0.3
Insertion Loss Express-In to Line-Out	dB	10.5	10.5
Insertion Loss Line-In to Express-Out (70/30 Tap Coupler)	dB	2.2	2.2
Insertion Loss Line-In to Tap-Out (70/30 Tap Coupler)	dB	5.5	5.5
Insertion Loss Add to Line-Out	dB	7.0	7.0
Insertion Loss Tap-In to Drop	dB	4.5	4.5
PDL Express-In to Line-Out @ Min Attenuation	dB	0.3	0.3
PDL Express-In to Line-Out @ Max Attenuation	dB	0.7	0.7
PDL Line-In to Express-Out	dB	0.1	0.1
PDL Line-In to Tap-Out	dB	0.1	0.1
PDL Add to Line-Out @ Min Attenuation	dB	0.2	0.2
PDL Add to Line-Out @ Max Attenuation	dB	0.6	0.6
PDL Tap-In to Drop	dB	0.2	0.2
Ripple Express-In to Line-Out	dB	0.4	0.4
Tap Ratio	%	30	30
Tap Monitor Absolute Power Accuracy	dB	±0.4	±0.4
Tap Monitor Responsivity	mA/W	40 ~ 70	40 ~ 70
VOA Attenuation Range	dB	0 ~ 20	0 ~ 20
VOA Open-Loop Attenuation Accuracy	dB	+/-0.5	+/-0.5
VOA Setting Resolution	dB/step	0.1	0.1
VOA Response Time (0-20 dB)	ms	3	3
Switch Response Time	ms	3	3
Extinction Ratio	dB	35	35
Return Loss	dB	40	40
Chromatic Dispersion	ps/nm	±10	±20
Polarization Mode Dispersion	ps	0.7	1
Power Dissipation	W/ch	0.5	0.5
Operating Temperature Range	°C	-5 ~ 60	-5 ~ 60
Storage Temperature Range	°C	-40 ~ +85	-40 ~ +85
Relative Humidity Range	%	0 ~ 95	0 ~ 95
Module Dimensions	mm	Add: 220 x 135 x 36, Drop: 150 x 65 x 16	Add: 220 x 135 x 36, Drop: 150 x 65 x 16

For more information
visit www.enablence.com