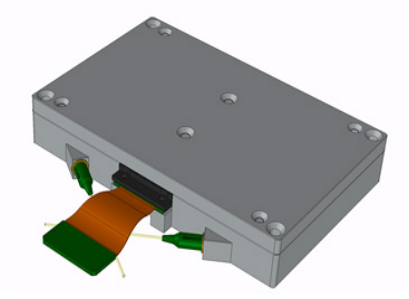
OPTICAL AMPLIFIER

# IXS-LNOA-C-X-RAD

## Low Noise Optical Amplifier

This Low Noise Optical Amplifier provides excellent optical performances specifically at very low input power either for single or multi-channel configuration for space applications with very low power consumption and light weight.
Optical components selected in this amplifier are space qualified.
The LNOA design is based on iXblue ASE sources for Fiber Optic Gyroscopes already deployed in space as well as 15 years of experience in radiation resistant optical fibers.
With this ready-to-fly optical amplifier, users can accelerate space development and save on NRE – Non-Recurrent Engineering - cost. Volume pricing is competitive for large deployments.



### FEATURES

- > 40 dB gain with -50 dB input power
- Compact and low power consumption
- < 4 dB Low Noise Figure
- COTS to FM versions
- Ready to fly unit

### APPLICATIONS

- Telecommunication for satellite constellations
- Low signal amplification on Rx side

### OPTIONS

- Wavelength customization possible

### RELATED EQUIPMENTS

- Optical Channel Receiver Module, OCR
- Optical Channel Emitter Module, OCE

### Optical Characteristics

| Parameter | |
|---|---|
| Wavelength range | 1550 nm - 1560 nm |
| Output power @ -20 dBm | > 5 dBm |
| Input power range | -50 dBm to -20 dBm |
| Small Signal Gain @ -40 dBm, 1550 nm | > 40 dB |
| Signal To Noise ratio @ -40 dBm, 1550 nm | > 9 dB |
| Noise Figure @ -40 dBm, 1550 nm | < 4 dB |
| Gain Flatness @ -40 dBm, 1540nm-1550 nm | < 1 dB |
| PER (Linear Polarization is optional) | > 23 dB |
| RIGV OFF @ 10 kRad | Available upon request |
| RIGV ON @ 10 kRad | Available upon request |
| Pump current derating | > 50 % |

### Other characteristics

| Parameter | |
|---|---|
| Power consumption | 0.5 Watt |
| Operating temperature range | 0 °C to +60 °C |
| Storage temperature range | -40 °C to +85 °C |
| Dimensions | 110 mm x 70 mm x 18.5 mm |
| Mass | < 250 g |

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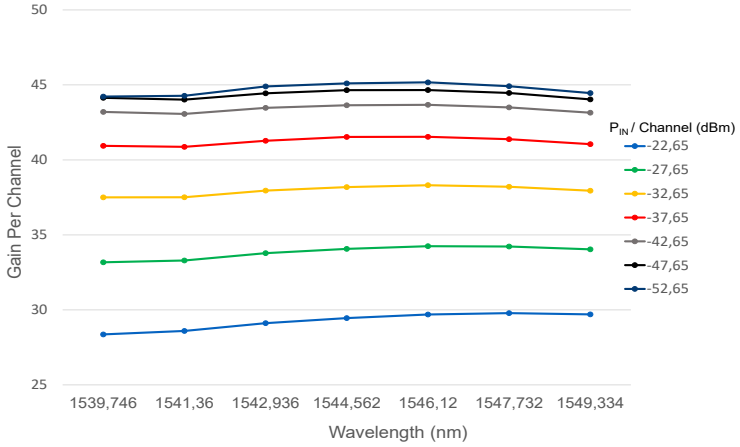
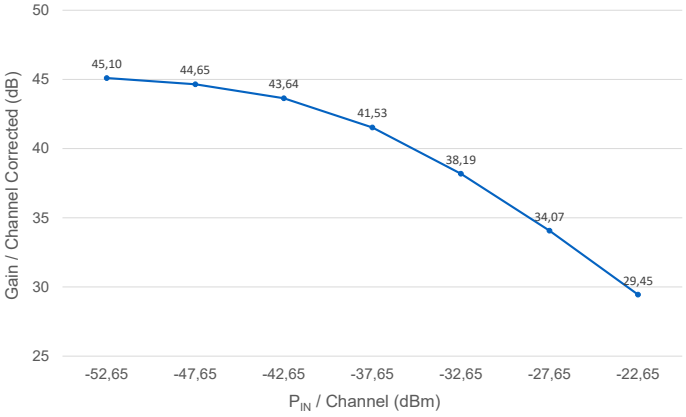
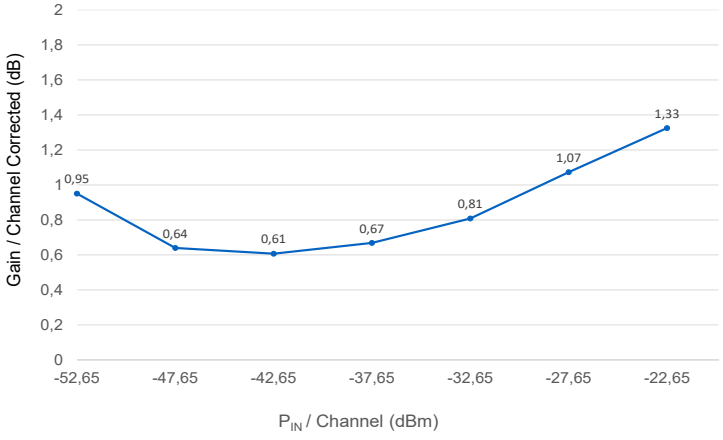
### Optical gain spectrum



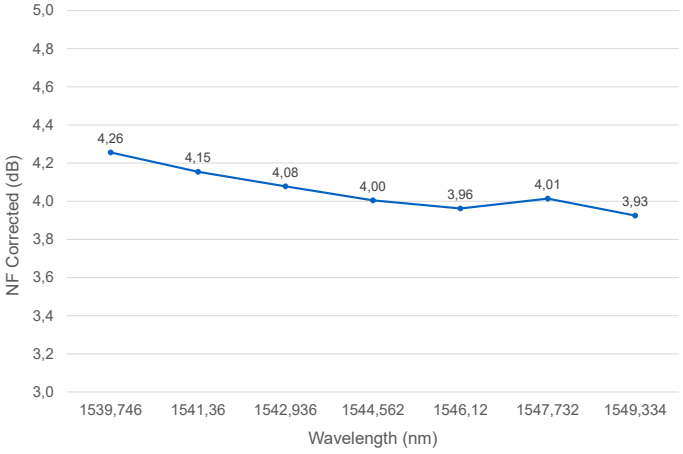

### Gain vs input power per channel (@25 °C)



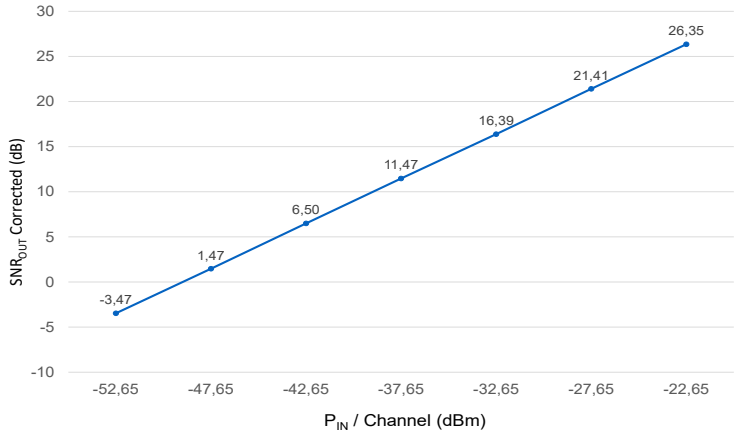

### Flatness vs input power channel (@25 °C)




### Noise Figure at -40dBm (@25 °C)




### Signal to Noise Ratio @1550nm (@25 °C)




### Output power per channel @1550nm (@25 °C)