

2018



Company Presentation



Mission

Our mission is to advance optics technologies and facilitate their engineering applications by delivering our photonics instrumentation and integrated solutions with high quality and reliability and meeting application demands of our customers

Vision

Our vision is to be a unique world leader of photonics instrumentation and integrated solutions provider with our brand recognised for product quality and customer centricity

Company Background

Founded by a group of experienced technologists in fiber optic communication and optical sensing industries in year 2002 in Hong Kong

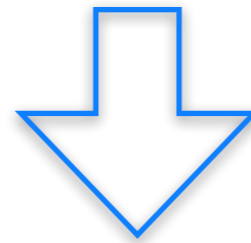
Design & manufacture optical fiber amplifiers and optical fiber lasers

Focus Areas

- High Power Pulsed amplifiers
- Optical Burst Mode amplifiers for NGN
- Nano / Pico second pulsed fiber lasers

Core Competencies

- Strong technology background
- Embedded Control
- Manufacturing competence
- Fast response, professional customer service



Target Markets

- Telecommunications
- CATV / FTTH
- LIDAR, Remote sensing
- Precise laser machining



Optical Amplifier /

- ▼ Microprocessor controlled full function **MSA WDM / single channel variable gain EDFA module**, providing drop-in replacement software and hardware compatibility to line cards



1.55 μ m Amplifier

- ▶ CW EDFA, up to +43dBm Output Power (PM & Non-PM)
- ▶ Pulse EDFA, up to 10kW Peak Power (PM & Non-PM)
- ▶ +15 to +23dBm Optical Burst Mode EDFA
- ▶ Booster, In-line, Pre-amp EDFA (PM & Non-PM, C, L, C+L band)

1.0 μ m Amplifier

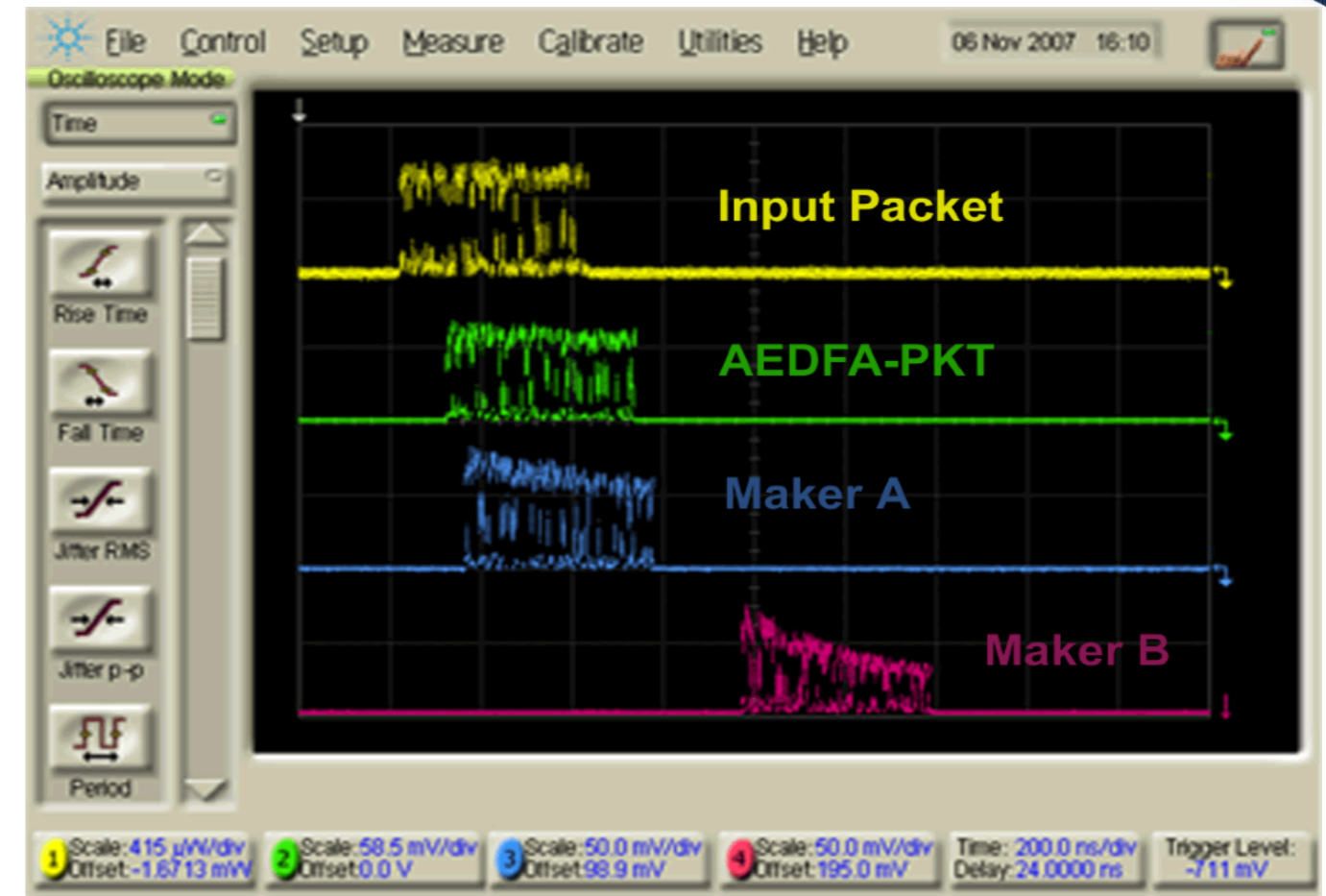
- ▶ CW YDFA, up to +47dBm Output Power (PM & Non-PM)
- ▶ Pulse YDFA, up to 10kW Peak Power (PM & Non-PM)

Raman Amplifier

- ▶ 20dB gain C-band operation
- ▶ 10dB gain C+L band operation
- ▶ Hybrid Raman / EDFA
- ▶ 1100nm to 1650nm Raman amplifier

PATENTED

Amonics' **Burst-mode EDFA** shows excellent gain transient suppression

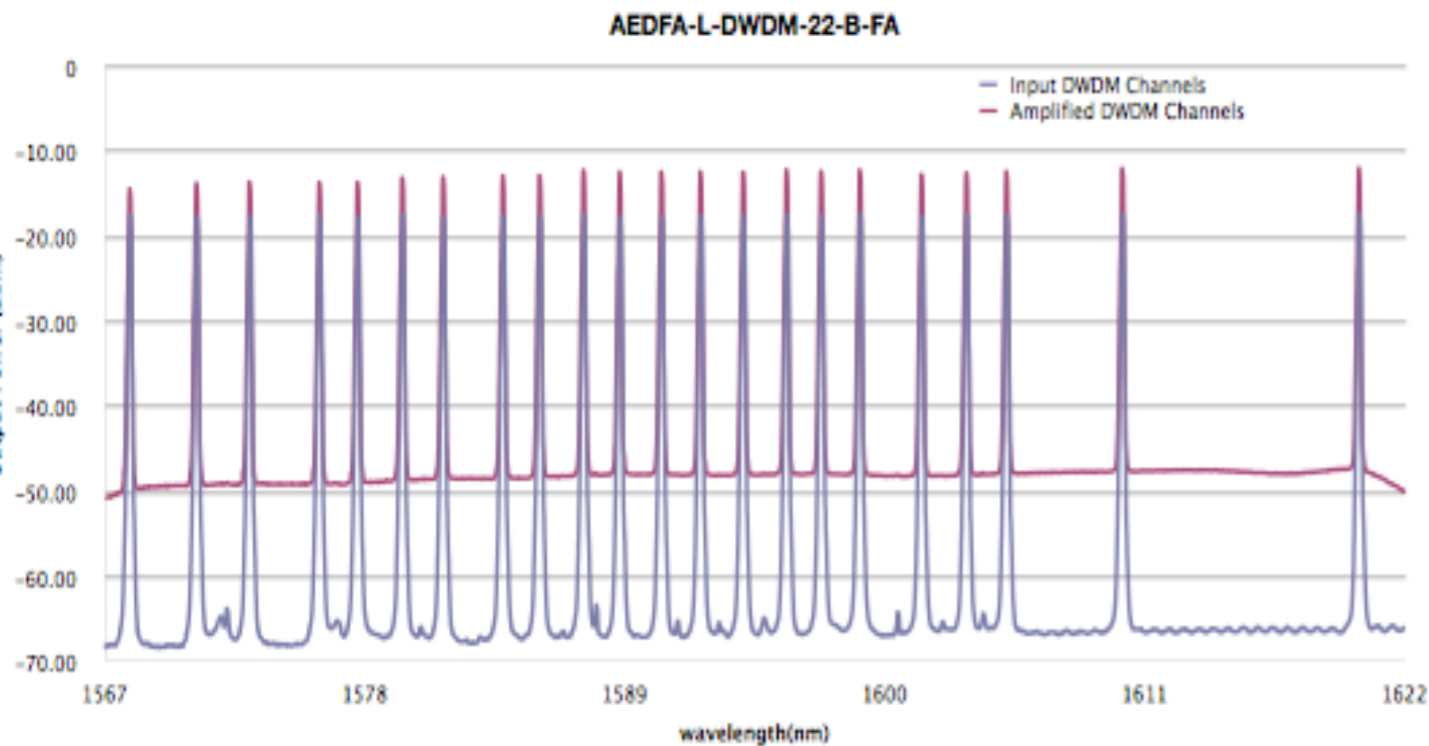


**PENDING
PATENT
PENDING**

← Amonics' **Emergency Alternative EDFA system** is a handheld battery-powered Bi-directional Packet Switching DWDM EDFA module. It is designed for instant reconnecting fractured telecommunication system under emergency condition

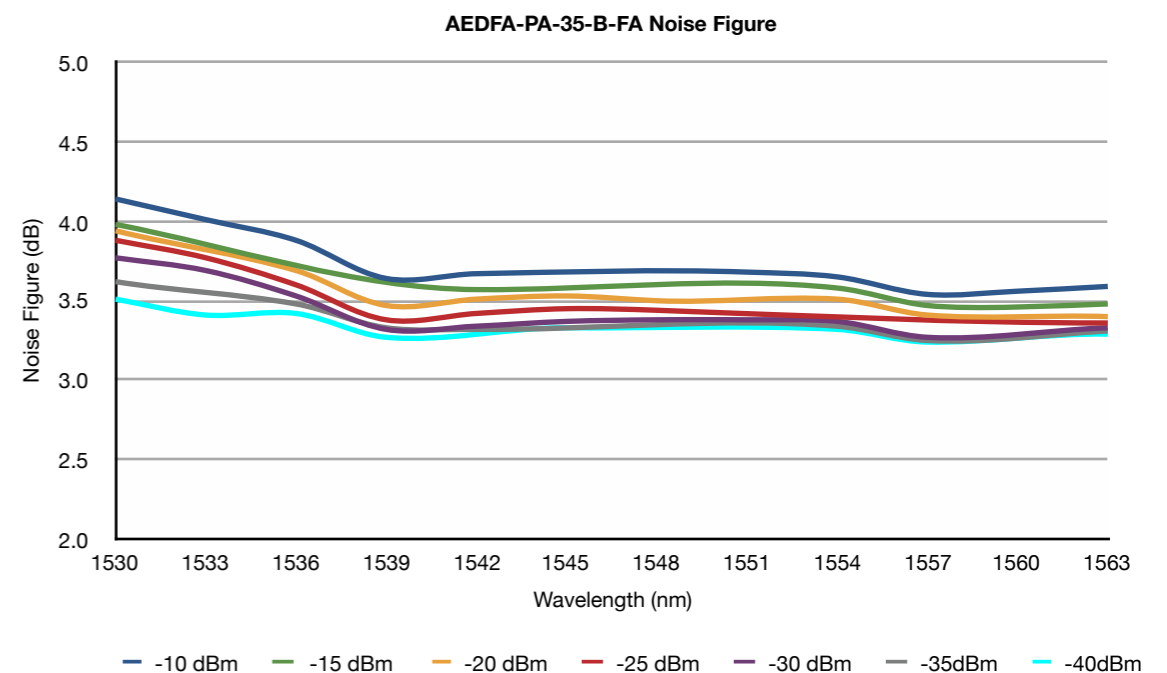
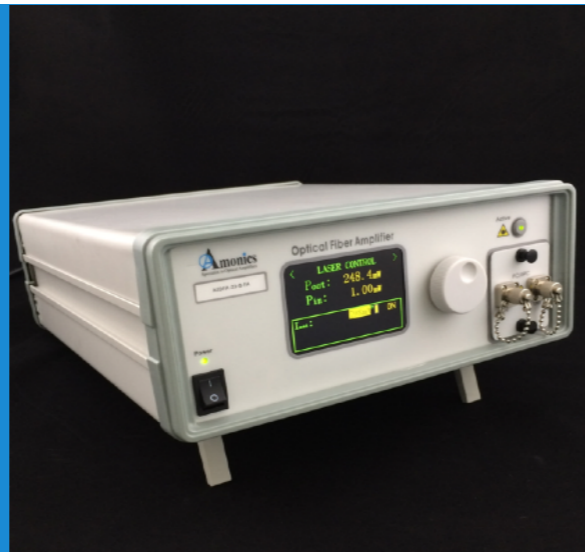
Extended C & L band DWDM EDFA

- Extended L band: 50nm wavelength coverage from 1570 to 1620nm
- Extended C band: 39nm wavelength coverage from 1528 to 1567nm
- Up to +22dBm output power
- Available in both PM & Non-PM operation



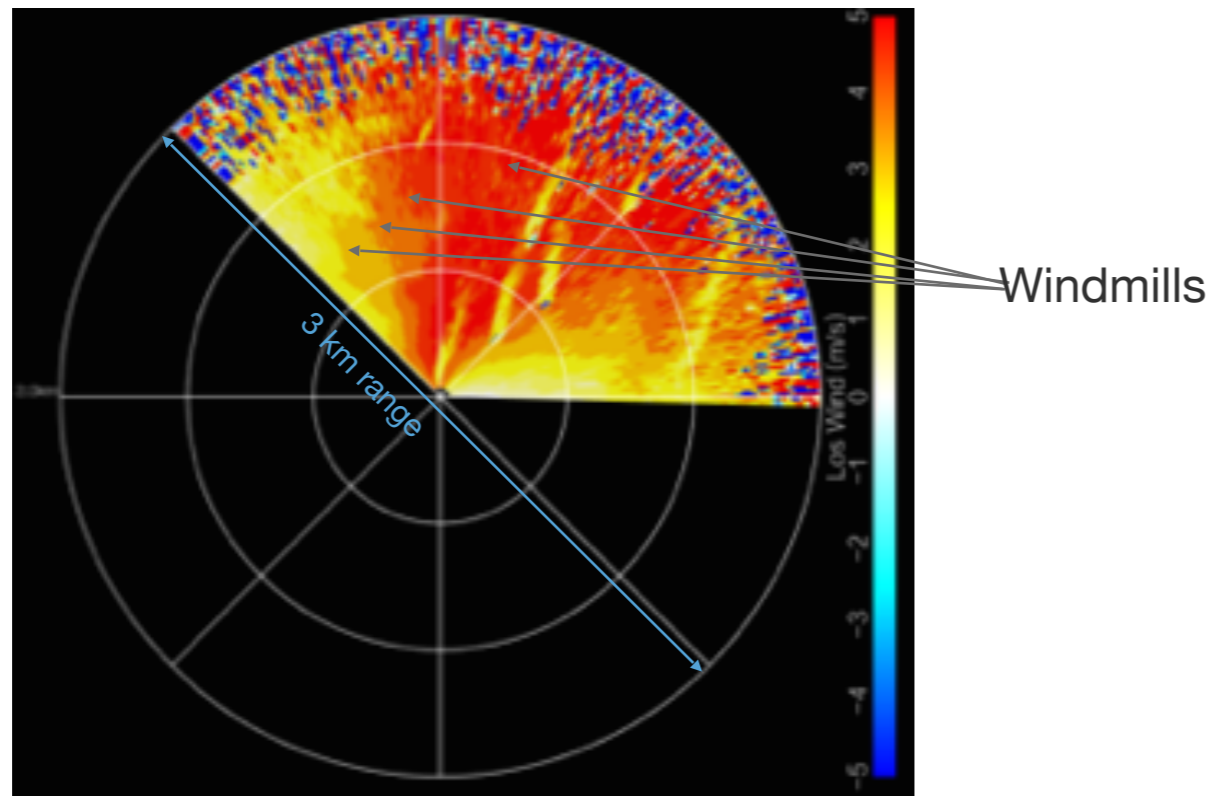
High gain & Low noise pre-amp EDFA

- 1530 to 1565nm C-band operation
- < 3.5dB @ 1550nm
- > 40dB gain @ -20dBm 1550nm input signal
- -40 to -10dBm large input power range (-50dBm input power is available at fixed wavelength operation)



Fiber Laser /

Case Study: Wind Velocity Measurement with Amonics' ALiDAR-150-M-FA



▲ The wind velocity measurement taken in a real-life wind electric power plant

1.55 μ m Fiber Laser

- ▶ 150 μ J pulse energy LIDAR 1550nm PM nano-second pulsed laser
- ▶ High power narrow linewidth (< 3kHz) laser
- ▶ 1W to 50W CW fiber laser (PM & Non-PM)
- ▶ 10kW Peak power nano-second fiber laser
- ▶ Pico-second & Femto-second fiber laser

1.0 μ m Fiber Laser

- ▶ 1W to 50W CW fiber laser (PM & Non-PM)
- ▶ 10kW Peak power nano-second fiber laser
- ▶ High power narrow linewidth (< 3kHz) laser

Raman Fiber Laser

- ▶ 1100 to 1650nm selectable operation range with 1 to 5W output power

Amonics' Nano-second Pulsed Laser

Features

- ▶ High pulse energy, up to 150 μ J @ 200ns pulse duration & 10kHz repetition rate
- ▶ Eye-safe 1550nm linear polarization operation
- ▶ 100dB pulse extinction ratio
- ▶ < 3kHz narrow laser linewidth
- ▶ Wide operation temperature range from -10°C to +65°C
- ▶ Adjustable pulse duration from 100 to 1,000ns
- ▶ Adjustable pulse repetition rate from 10kHz to 20kHz

ALiDAR-150-M-FA

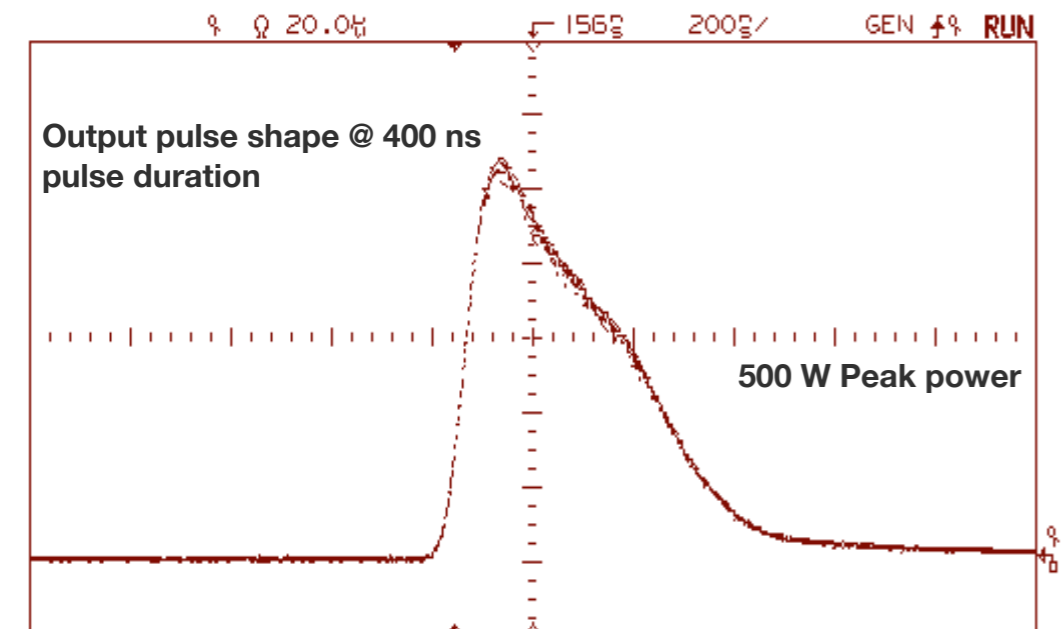
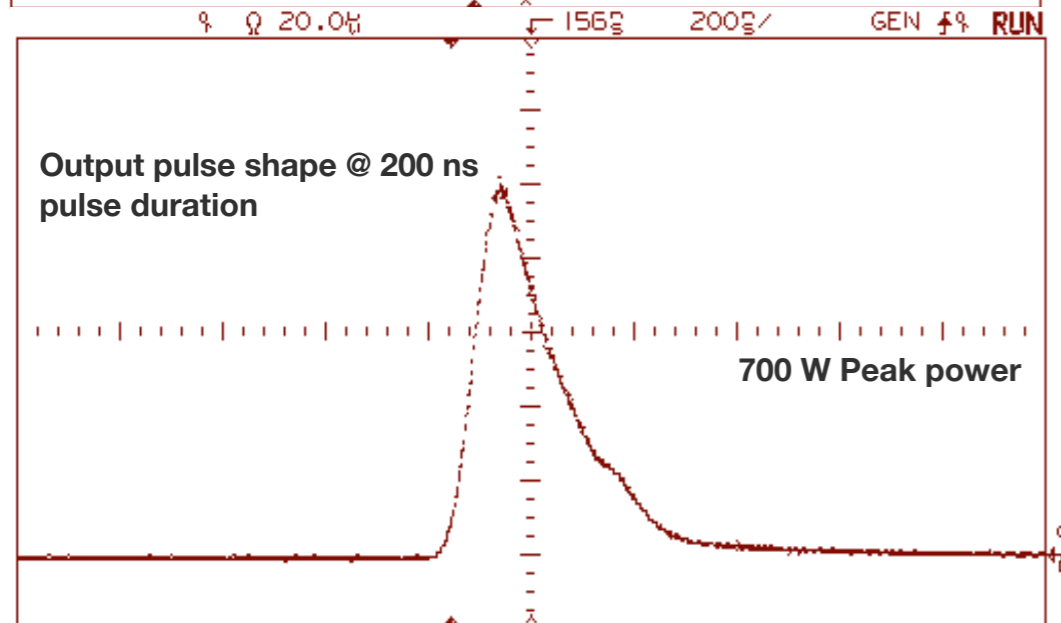
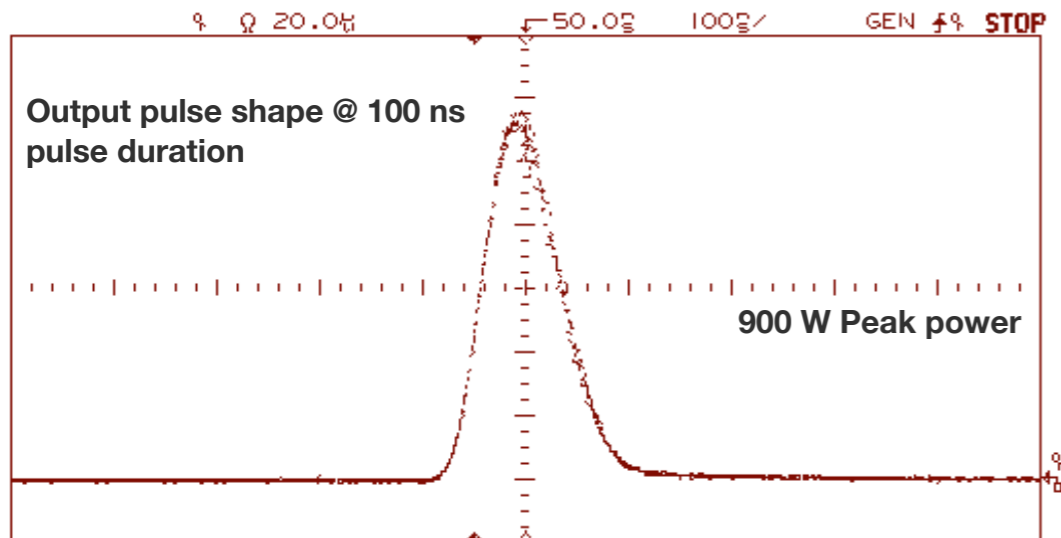


Applications

- ▶ Wind Speed Measurement
- ▶ Range Finding
- ▶ 3D Mapping
- ▶ Target Characterisation

Amonics' Nano-second Pulsed Laser

ALiDAR-150-M-FA



Broadband / Source



ASE Source

- ▶ C-band ASE, +10dBm to +33dBm output power
- ▶ C+L band ASE, +10dBm to +25dBm output power
- ▶ 1 μ m range ASE, +10dBm to +33dBm output power

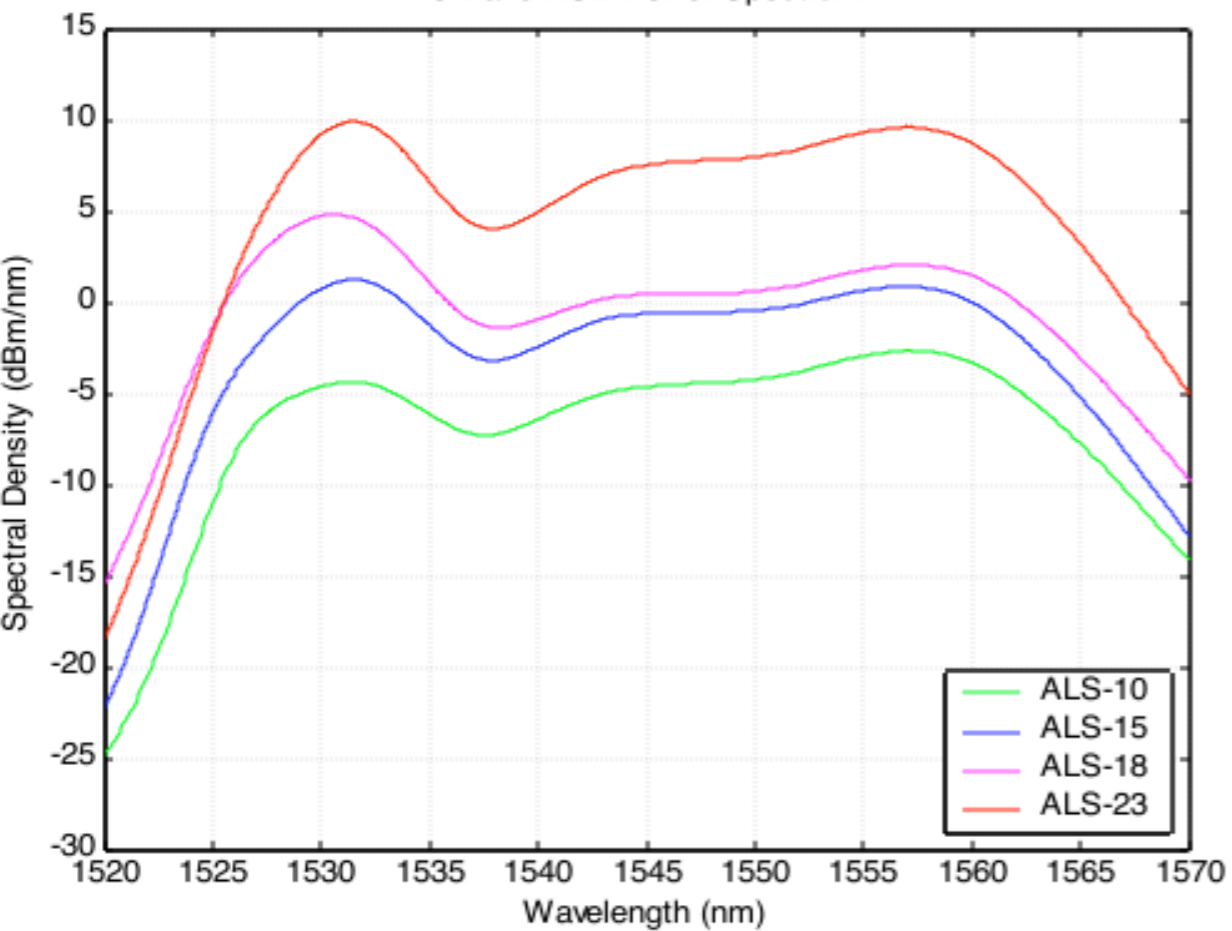
Superluminescent Diode (SLD)

- ▶ 650 ~ 1650nm wavelength coverage
- ▶ OCT SLD with ~190nm wavelength coverage from 890 to 1080nm, 1mW output power
- ▶ CWDM SLD with ~400nm wavelength coverage from 1250 to 1650nm, 10mW output power

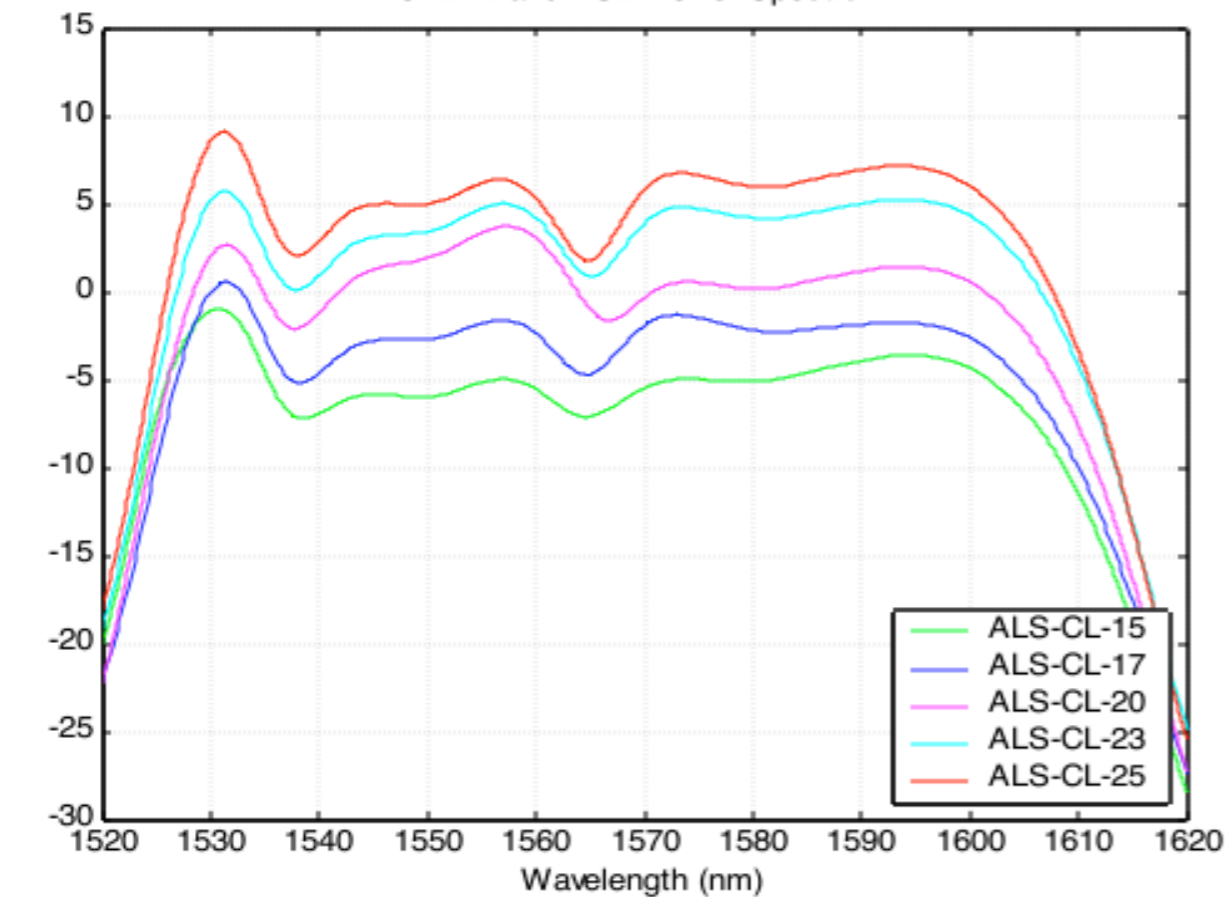
DFB Laser

- ▶ C & L band ITU grid DFB laser, 10~40 mW output power
- ▶ 1064nm DFB laser
- ▶ Other wavelength are also available

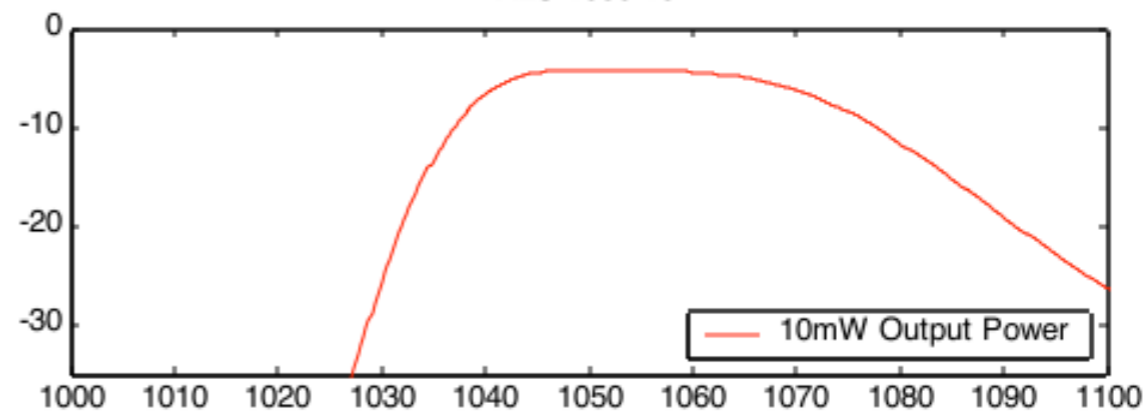
C-Band ASE Power Spectrum



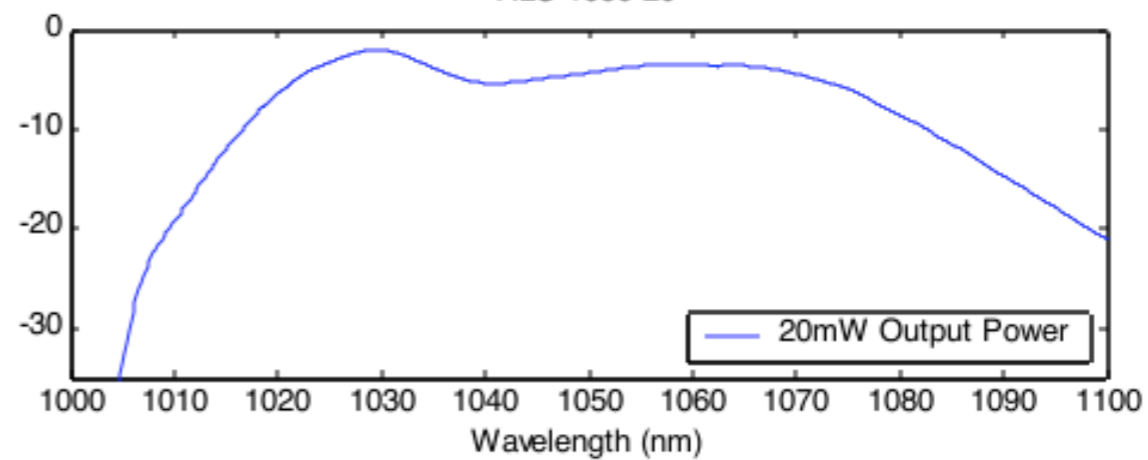
C+L - Band ASE Power Spectrum



ALS-1050-10



ALS-1050-20



~ Optical Communication Platform

~ Waveform analyzer

~ 1480nm High Power Raman Laser

~ 1310nm Raman Amplifier

Optical Communication Platform



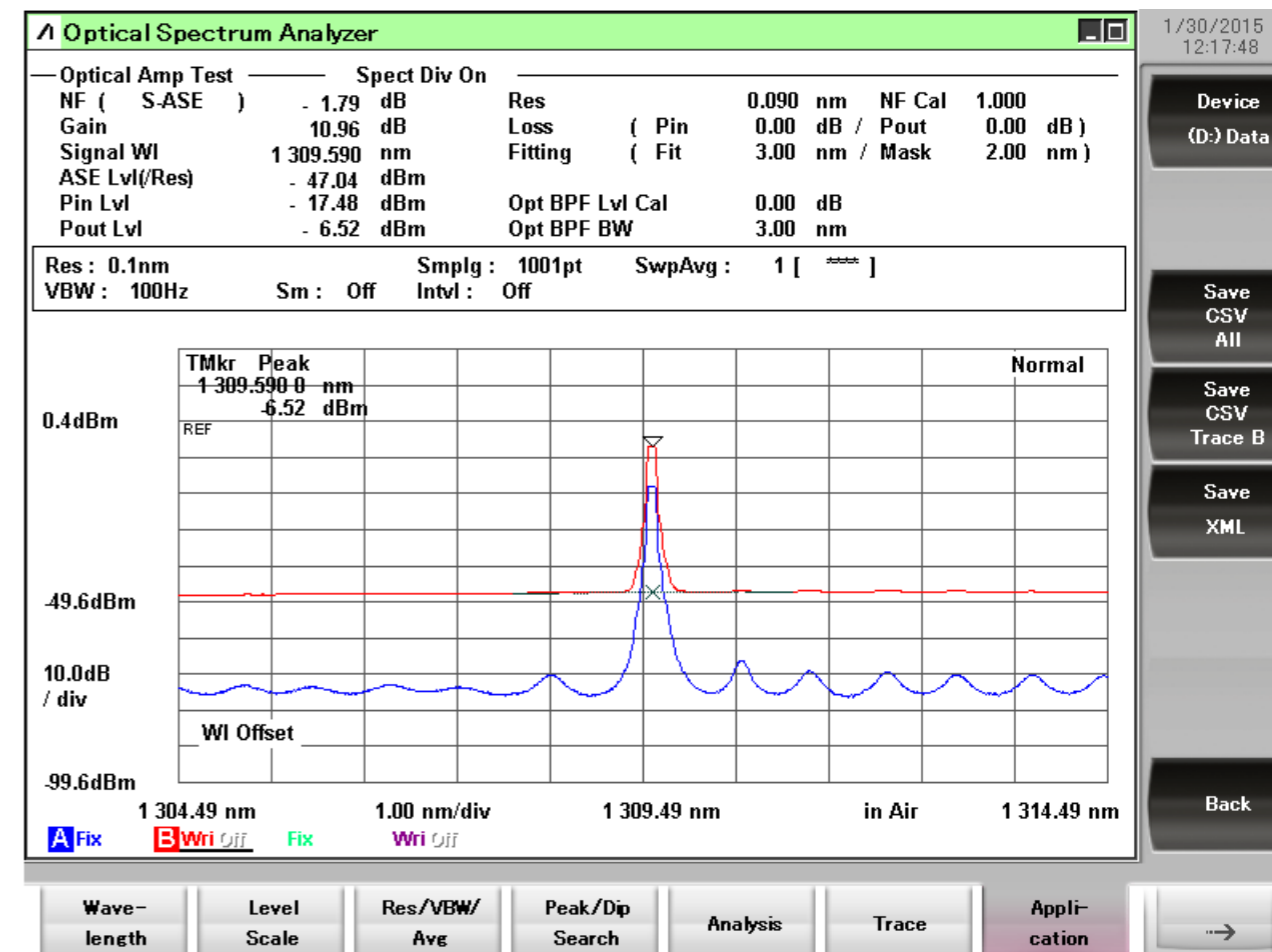
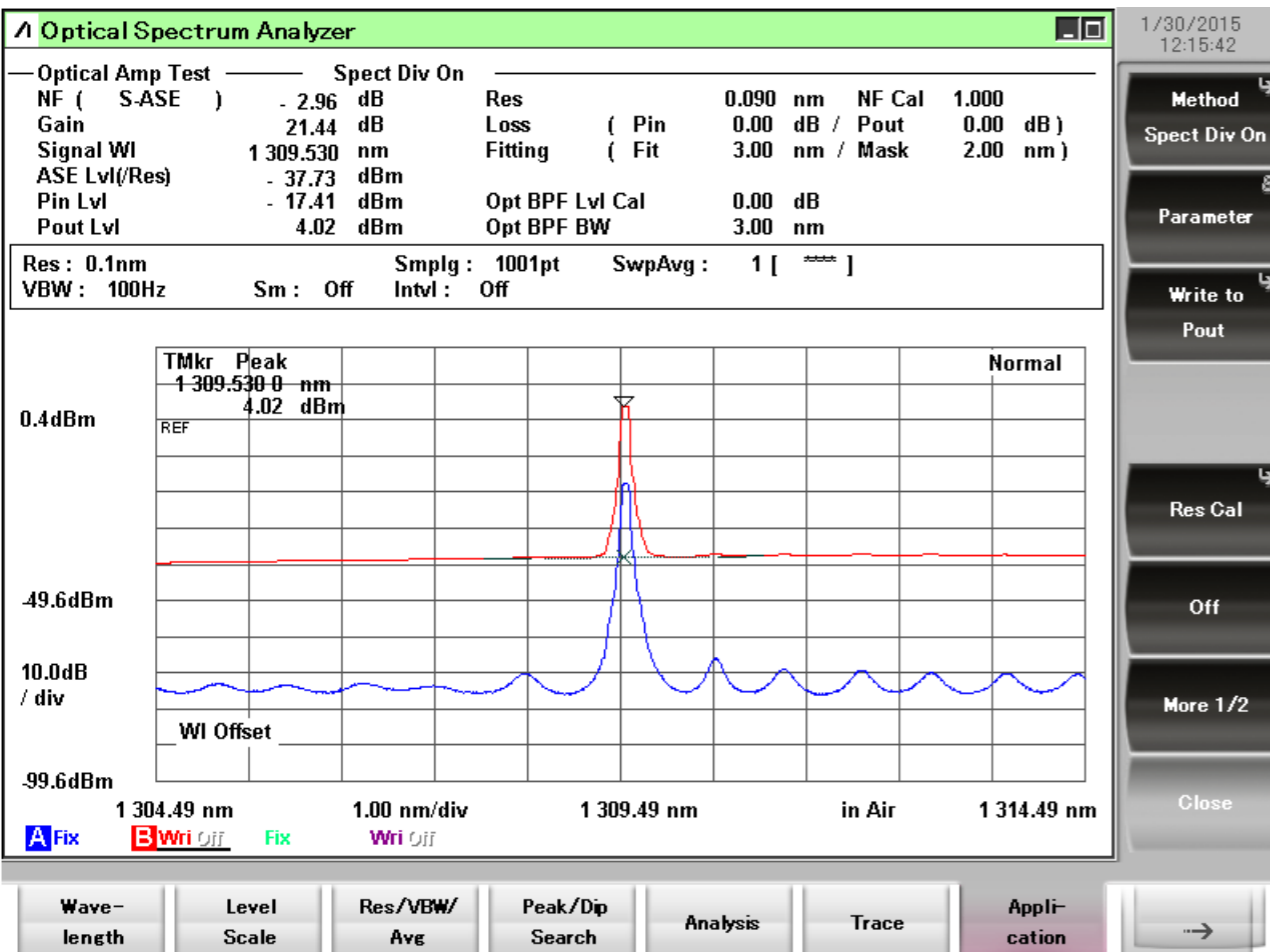
Sub-Modules

- ▶ EDFA
- ▶ Tunable Laser (C, L Band) Sources
- ▶ DFB or SLED Laser Source
- ▶ Optical Power Meter
- ▶ Optical Switches
- ▶ Custom - Made



1310nm Raman Amplifier

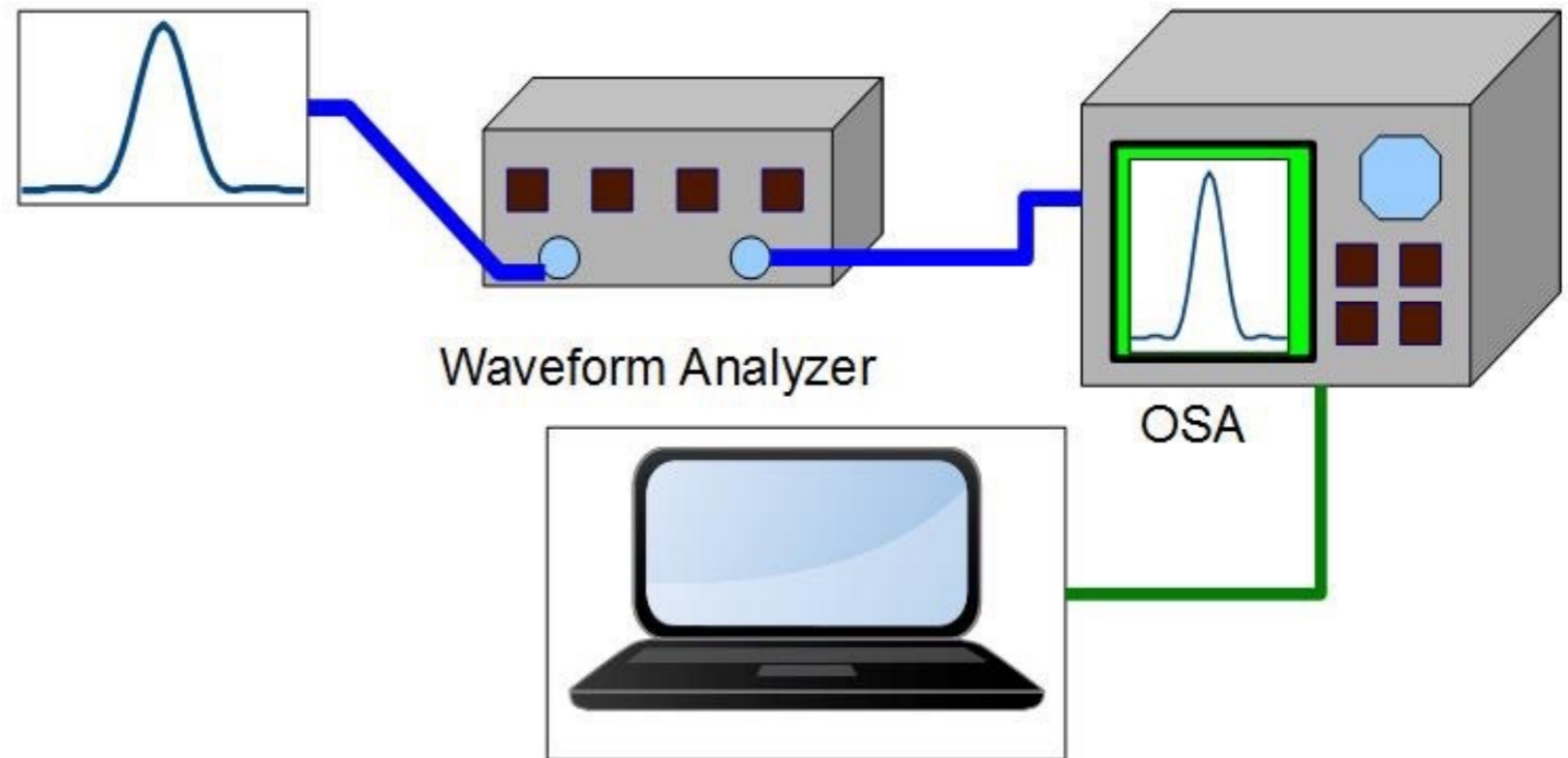
Parameter	Unit	Specification	
Product Code	-	ARA-1310-500-M-FA	ARA-1310-800-M-FA
Operation Wavelength	nm	1300 to 1320	
Optical Gain (ON/OFF)	dB	Min. 10 (at 50km SMF-28 fiber) *	Min. 20 (at 50km SMF-28 fiber) *
Gain Flatness	dB	Typ. 1.0, Max 2.0	
Total Power	mW	Min. 400	Min. 800
Effective Noise Figure	dB	Max. -1.0	
Signal Isolation Loss	dB	Max. 0.7	
Degree of Polarization	%	Typ. 5.0, Max. 10.0	



Waveform Analyzer /

Features:

- ▶ **Fast Measurement**
- ▶ Real Pulse Shape
- ▶ Measure Asymmetric Pulses





Thank you