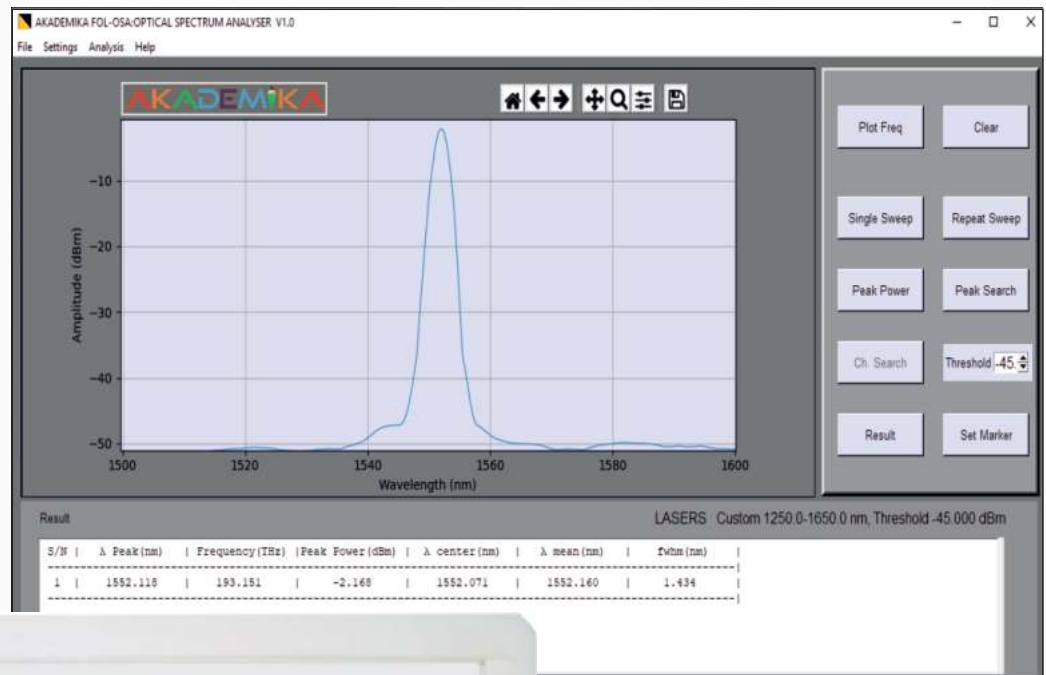# FOL-OSA

OPTICAL SPECTRUM ANALYZER

AKADEMIKA

- S, C and C+L Band Wavelength Ranges
- High wavelength repeatability
- Excellent wavelength accuracy: +/- 0.3 nm
- No mechanical wear-outs
- Channel Power Measurement
- Channel Threshold Detection
- Multiple traces viewed simultaneously
- User-friendly GUI for Measurement and Analysis

Optical Spectrum Analyzer

Optical Spectrum Analyzer consists of a narrow-band tunable optical filter, a photo-detector and low noise, high-dynamic range electronics, as schematically shown in Fig 1.

When a wide band spectrum is incident to the tunable filter, it allows a narrow band out of input light centred at a given wavelength to pass through the filter.

Fig:1

By altering the central wavelength of pass band of the tunable filter, the whole input spectrum can be scanned at high-speed and spectrum information of incident signal is detected sequentially. The photo detector converts the light passing through the filter into electrical current. The data processing unit process the data and then outputs the processed spectrum to the computer for further data analysis and measurements .
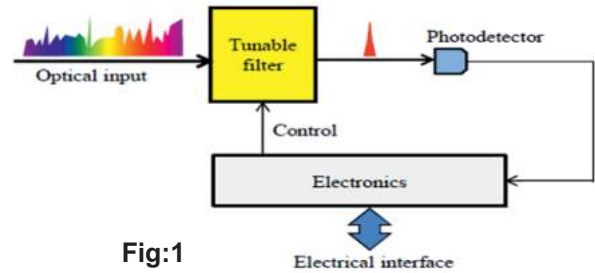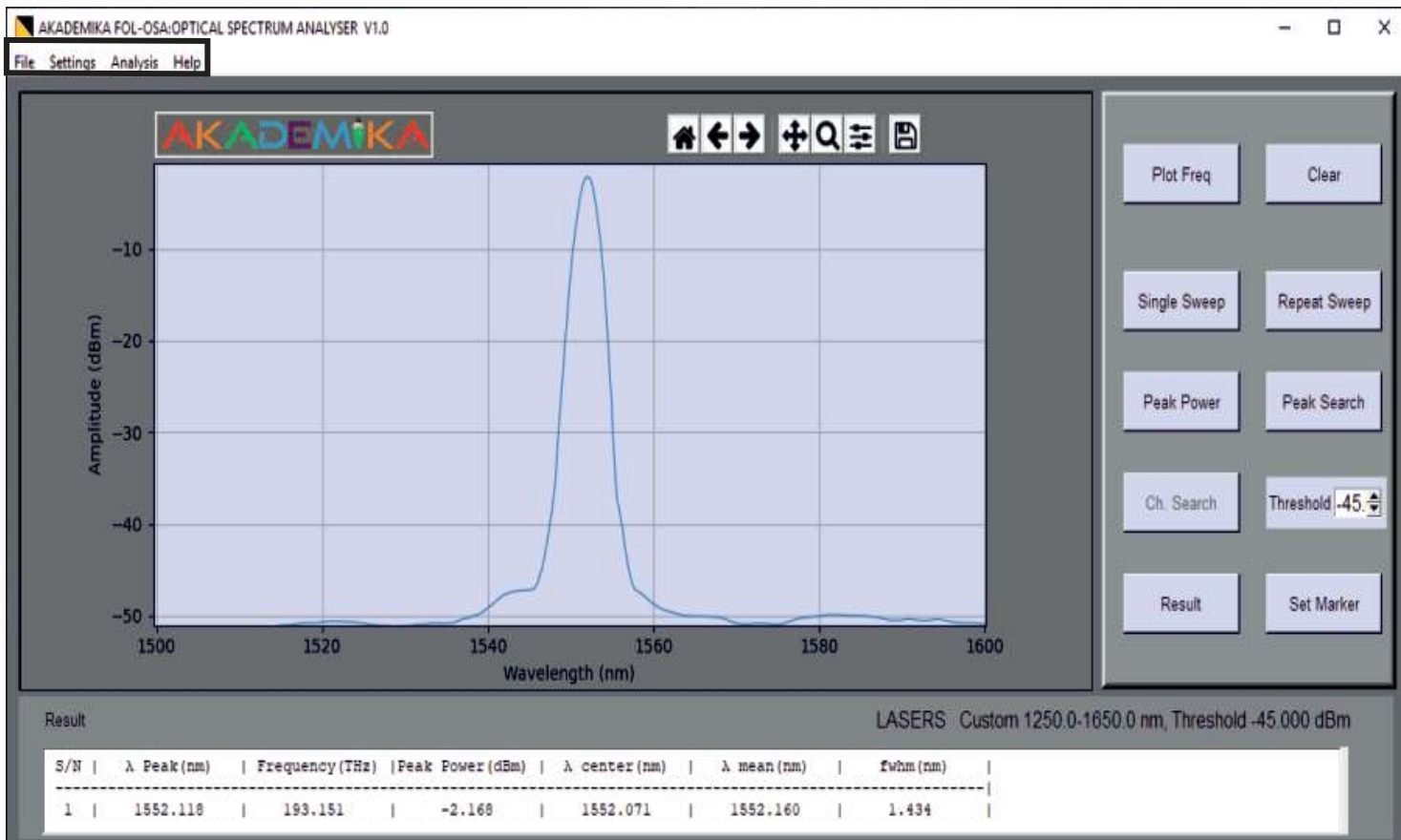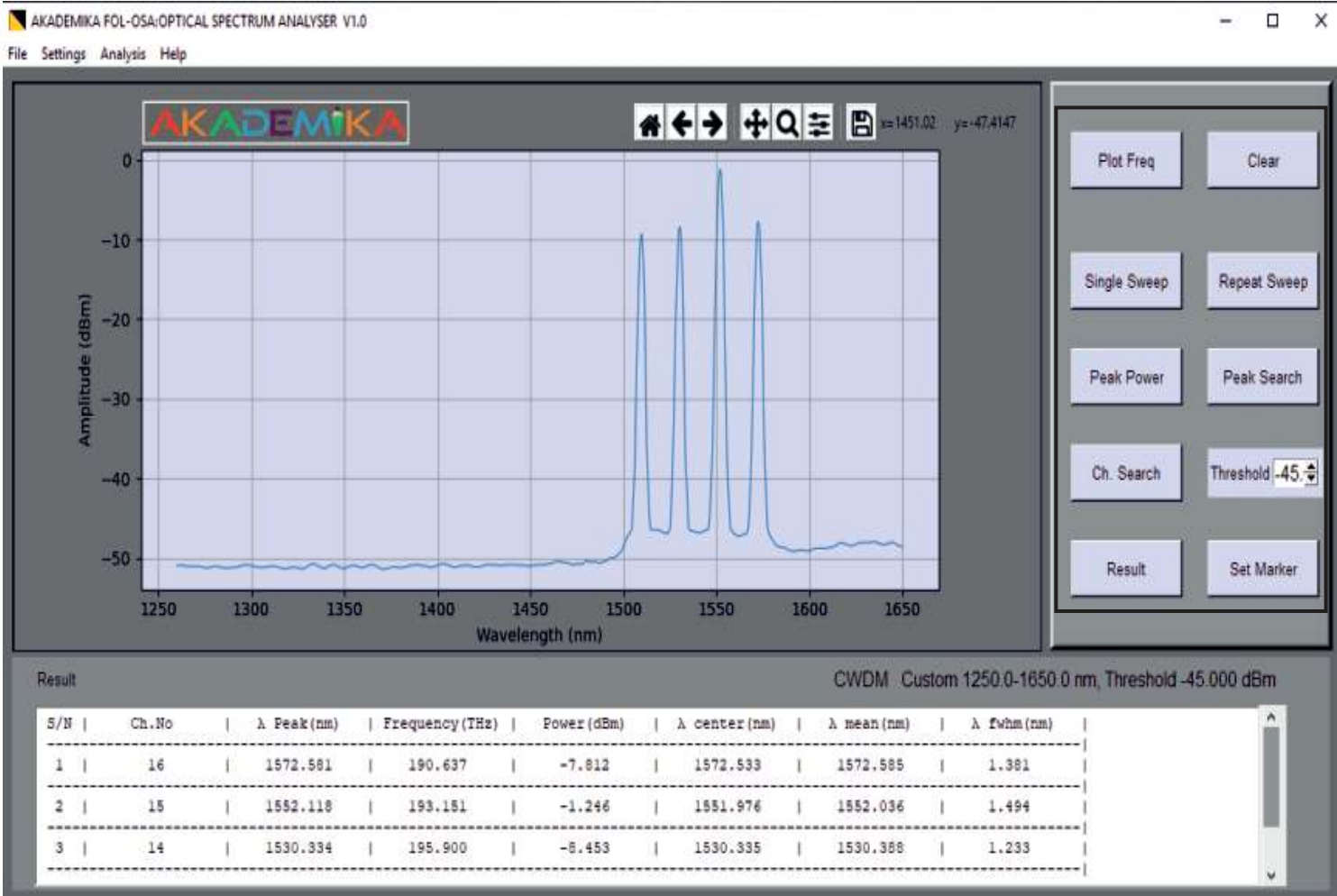
SOFTWARE APPLICATION

Easy to use zooming capabilities and Quick translation of the signal trace

- 3 Modes for Analysis
  LASERS : To characterize a DFB Laser source for λ (central,peak,mean), Peak Power, Frequency and FWHM
  CWDM : To Analyse CWDM Channels. Displays the Channel No. based on ITU Standards
  EDFA : To Analyze an EDFA System

- Sweep Band Selection in Custom Mode or ITU Band

- Displays the Plot in Frequency or Wavelength

- Save the graph in JPEG format

- Save the scanned data in excel format

- Save the extracted Results.

- Load Data to Software

- Compare multiple graphs with different colour codes.

SOFTWARE APPLICATION

S/N	Ch.No	λ Peak(nm)	Frequency(THz)	Power(dBm)	λ center(nm)	λ mean(nm)	λ fwhm(nm)
1	16	1572.581	190.637	-7.812	1572.533	1572.585	1.381
2	15	1552.118	193.151	-1.246	1551.976	1552.036	1.494
3	14	1530.334	195.900	-8.453	1530.335	1530.388	1.233

Result — CWDM Custom 1250.0-1650.0 nm, Threshold -45.000 dBm

Button	Description
Plot Freq	Plots the Wavelength or Frequency v/s Amplitude Trace
Clear	Clears all previous Data.
Single Sweep	Scans for the Wavelength or Frequency once
Repeat Sweep	Scans for the Wavelength or Frequency repeatedly every 1 sec.
Peak Power	Measures the Peak Power in dB
Peak Search	Displays the parameters of the selected wavelength with highest peak
Threshold -45.	Displays all the results, above the set threshold value in the Result window
Set Marker	Two set of Markers to measure the (λ),(Δλ), power and Δ power.
Ch. Search	Identify the CWDM Channel No (as per ITU Standards),
Result	Displays all results

SPECIFICATIONS

PARAMETERS	UNIT	SPECIFICATION
Operating wavelength range	nm	1250 ~ 1650 (CWDM)
Input power range	dBm	-50 ~ +15
Max input power	dBm	30
Wavelength resolution (FWHM)	nm	2.5
Absolute wavelength accuracy	nm	± 0.3
Wavelength linearity	nm	0.05
Wavelength repeatability	nm	±0.1
Absolute power accuracy	dB	± 0.8
Relative power accuracy	dB	± 0.6
Power repeatability	dB	± 0.1
PDL	dB	0.5
Noise floor	dBm	-55
Optical rejection ratio (at 20 nm offset)	dB	> 40
Optical return loss	dB	> 40
Response time	s	> 1
Power consumption	W	< 2.0
Electrical interface		USB

MEASUREMENTS

☞ Peak Power
☞ Peak Search
☞ Identify the CWDM Channel No (as per ITU Standards)
☞ Peak Wavelength in nm
☞ Central Wavelength in nm
☞ Mean Wavelength in nm
☞ Power in dB

DELIVERABLES

☞ FOL-OSA: Optical Spectrum analyzer
☞ USB Cable
☞ Optical Measurement and Analysis Software
☞ Operating Manual

AKADEMIKA

15/8/1, Kruti Industrial Estate,
Karve Road, Kothrud, Pune - 411038

+ 91 7447438443 / +91 9820093389
+ 919004904462

info@akademika.in

www.akademika.in

DISTRIBUTOR