

OVNA-P100X



Description

The Ephoox OVNA-P100X upgrades the functionality of an vector network analyzer (VNA), enabling it to carry out measurements and characterization of the S-parameters of a variety of components and devices such as electro-optic modulators (EOMs), optical amplifiers, radio over fiber subsystems (RoF subsystems) and any other passive or active, photonic, opto-electronic or electro-optical devices and systems. This external instrument is compatible with VNAs from any manufacturer. It features a modulation bandwidth of 20/40 GHz and is ready for using either fixed (centered @ 1550 and 1310 nm) or tunable optical sources.

Some of the potential OVNA applications:

- Transmission system test
- Components characterization (Electro-Optical, Optical-Optical and Optical-Electro)
- Receiver frequency test
- R&D laboratories

The main measurement capabilities are the following:

- 3 dB cut-off frequency (S21)
- Responsivity (S21)
- Electrical reflection (S11 or S22)
- Group Delay vs. frequency
- Insertion Loss (IL)
- Transmission bandwidth
- All electrical S-parameter measurements

Key Features

Operation frequency up to 40 GHz, including 1550 and 1310 nm as internal optical sources and the possibility of an external optical input

The OVNA-P100X solution is available in 20GHz and 40GHz options, allowing different levels of optical power inputs for DUT testing

Complete interoperability with market VNAs

The OVNA-P100X must be integrated with a VNA to provide the whole OVNA solution for evaluating E-O, O-O and O-E devices. In order to achieve a successful integration, it's necessary to include the desired VNA (certain electrical parameters and specs) within OVNA Software. Ephoox guarantees the update of its VNA repository if the target is not included

Protection system for electronic and optical internal components

In order to guarantee the safety of internal devices and subsystems of the instrument, a protection system is implemented in the instrument. Warnings and messages will be shown in the visual user interface that will help the user to proceed cor-rectly in the configuration process of a measurement in case of a wrong procedure

Amplitude and delay characterization as a function of wavelength (using a tunable optical source)

Uncertainty reduction in measurements of linear DUTs and proper addressing of measurements for non-linear DUTs

Technical Specifications

Connector Type

Optical source input	FC-APC / Polarization Maintaining Fiber
Optical output	FC-APC / Polarization Maintaining Fiber
Optical input	FC-APC / Single Mode Fiber
RF ports	1.85mm male
Maximum safe input level at port A or B	+20 dBm

Optical Tx Specs

Optical modulation index (OMI)	>27% @ +5 dBm RF Power >47% @ +10 dBm RF Power
Optical output	FC-APC / Polarization Maintaining Fiber
Output wavelength	(1310 ± 20) nm (1550 ± 20) nm
Average output power range	-40 ¹ dBm to +3 dBm -40 ¹ dBm to +0 dBm
Average output power stability, 15 min (typical)	± 0.1 dBo

¹Using attenuator option

External Optical Source Input

Recommended optical input power	+3 to +16 dBm
Optical input power damage level	+17 dBm
Typical loss at quadrature bias point	8.5 dB
Operating wavelength range	1260 nm to 1650 nm

Operating Conditions

Operation frequency range	OVNA P100-X-40: 10 MHz to 40 GHz OVNA P100-X-20: 10 MHz to 20 GHz
Operating temperature	+10°C to +35°C
Storage temperature	-40 °C to +65°C
Temperature range	+20°C to +26°C

Ordering Info

OVNA-P100-X-20-APC/PC	10 MHz to 20 GHz
OVNA-P100-X-40-APC/PC	10 MHz to 40 GHz



More info

info@ephoox.es

www.ephoox.es