

# EMSCOPE

## A DUAL FFT BASED MODAL EMI RECEIVER

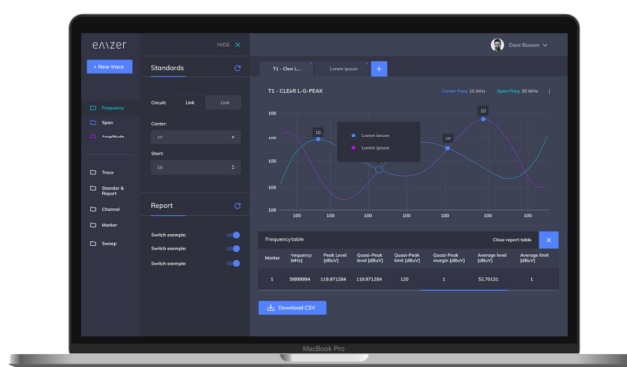


**EMSCOPE** is a new CISPR-16-1-1 compliant EMI-Test Receiver with an integrated 16-A LISN that fully embodies the measurement of **common- and differential-mode conducted emissions**

EMSCOPE is the new EMZER's **instrument for EMI measurements** that combines an EMI-Test Receiver with a 16-A single-phase dual-port V-network Line Impedance Stabilization Network (LISN) and a Transient Limiter. EMSCOPE has been optimally designed and manufactured to be compliant to CISPR 16-1-1 and CISPR 16-1-2 International Standards for measurements of conducted electromagnetic interference.

EMSCOPE integrates the **peak, quasi-peak and average detectors fully compliant to CISPR 16-1-1**, which can be run in parallel and real time, considerably reducing the measurement time when compared to any other option. Additionally, it is possible to simultaneously measure the line and neutral emissions, or the common-mode and differential-mode (modal) emissions with the three detectors. Modal-emission measurements are fundamental to know the dominant mode and to implement the suitable power-line filter accordingly, **using fewer components and getting a cheaper design.**

EMSCOPE can be connected to LAN using the supplied optical fibre, and **it is remotely controlled using a friendly web-based application.**



The included LISN presents an impedance of  $(50\mu\text{H}+50\Omega)/50\Omega$ , as defined in CISPR 16-1-2 and suited for AC and DC conducted-emission measurements. For hand-held devices, an artificial hand connector is provided at the front panel with an impedance of  $510\Omega + 220\text{pF}$ . Several ground connectors can be found in both front and rear panels (including a large grounding bar).

## Technical Specifications

Standard for EMI Test Receiver / LISN	Fully compliant to CISPR 16-1-1 / 16-1-2 standards
Conducted-Emissions Frequency range	9 kHz – 30 MHz / 9kHz – 110 MHz
Detectors	Peak, quasi-peak and average
Type of measurements	Physical (line and neutral) and modal (common and differential mode) conducted emissions
Full spectrum measurement time	Equal to the measurement dwell time, which is totally configurable from 10 ms to 15 s
Resolution Bandwidth Filters	200 Hz, 9 kHz, 120 kHz (CISPR); 1 kHz, 10 kHz (MIL)
Integrated circuits	Pre-amplifier and pulse limiter
AMN impedance / Pre-filter Choke	50 $\Omega$    (50 $\mu$ H + 5 $\Omega$ ) / 250 $\mu$ H
Maximum Continuous Current / Voltage	16 A @250 VAC / 300 VAC - 400 VDC
Power-Supply Operating Frequency	DC to 60 Hz
Artificial hand / connector type	510 $\Omega$ + 220 pF / 4 mm banana
Connector for EUT / mains	Schuko socket (Type F) / IEC C20

## Physical Specifications

Height	195 mm
Width	252 mm
Depth	438 mm
Weight	8.5 kg

## Related Products

### LIZN

- 16-A single-phase dual-port V-network LISN to measure line-conducted interference.
- Fully compliant to CISPR16-1-2 standard
- Simultaneous measurements of line and neutral

