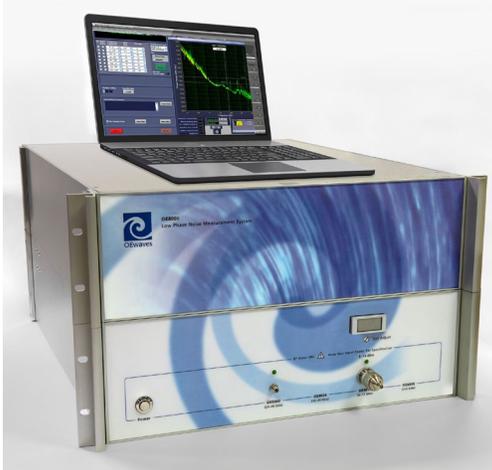
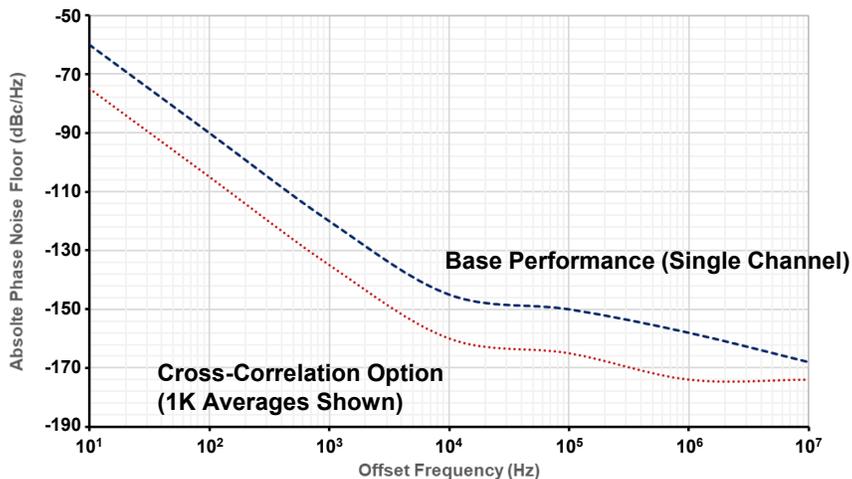


HI-Q<sup>®</sup> Microwave Phase Noise Analyzer utilizes microwave photonics techniques for automated measurement of ultra-low phase noise oscillators.



HI-Q<sup>®</sup> Microwave Phase Noise Analyzer is fast and fully automated and yields the spectral density of the phase noise of an RF or microwave signal source at any operating frequency in the specified bands.

This homodyne-based system is unique in wide frequency band measurement without requiring another low noise reference source or down-converter, as required in conventional heterodyne approaches. The system operates with ease, speed, and precision using a simple graphic user interface via a notebook PC. The cross-correlation performance of the system shown in the figure below has been calibrated through a comparison with the measurement system at NIST.



## FEATURES

- Ultra-Low Phase/Frequency Noise Measurement
- Fast Real-Time Measurement
- Fully Automated
- Cross-Correlation Homodyne Capability
- No Low Noise Reference Source Required
- User Friendly Interface
- Simple PC-based Operation
- 6U x 19" Rack System
- Customizable Configurations, Upgrades, and Options

## OPTIONAL CONFIGURATION

- Dual Channel Cross-Correlation Measurements
- Extended Input and Offset Frequency Range Measurements
- Two Port Residual Phase Noise Measurement
- AM Noise Measurements
- Extended Input Power Range
- Optical Input
- Performance Level and Frequency Range Options and Upgrades

# HI-Q<sup>®</sup> MICROWAVE PHASE NOISE ANALYZER

# OE8000



## SPECIFICATIONS

| Phase Noise Offset                             | 10 Hz  | 1 kHz       | 100 kHz   | 10 MHz      |
|--|--|-------------|---|-------------|
| ▪ Absolute Phase Noise Floor @ 1.5 – 3 GHz     | -72 dBc/Hz   | -132 dBc/Hz | -162 dBc/Hz   | -174 dBc/Hz |
| ▪ Absolute Phase Noise Floor @ 3 – 6 GHz       | -66 dBc/Hz   | -126 dBc/Hz | -156 dBc/Hz   | -172 dBc/Hz |
| ▪ Absolute Phase Noise Floor @ 6 – 12 GHz      | -60 dBc/Hz   | -120 dBc/Hz | -150 dBc/Hz   | -168 dBc/Hz |
| * Consult for other frequency ranges           |  |             |   |             |
| RMS Timing Jitter Sensitivity – Single Channel | 5 fs (100 Hz – 10 MHz)   |             |   |             |
| Input Power Range                              | +5 to +15 dBm  |             |   |             |
| Spurious (Max)                                 | -50 dBc (<1 kHz offset)<br>-80 dBc (>1 kHz offset)                 |             |   |             |
| Measurement Types                              | Raw Data<br>Homodyne<br>Spurious<br>RMS Jitter                     |             | Cross-correlation Option<br>AM Noise Option<br>2-Port Residual Phase Noise Option<br><i>(External Signal Source Required)</i> |             |
| Averaging (Max)                                | 99,999 (Cross-correlation Option)                                  |             |   |             |
| Display Functions                              | Spectrum / Spectral Density / Markers / Spurious Contents          |             |   |             |
| Data Storage and I/O                           | HDD / USB Port / 100 Ethernet Port                                 |             |   |             |
| Resolution Bandwidth                           | 0.1 Hz – 200 kHz   |             |   |             |
| Operating Temperature Range                    | 15°C to 35°C   |             |   |             |
| Power  | 110 / 120 V <sub>ac</sub> or 220 / 240 V <sub>ac</sub>             |             |   |             |
| Size   | 19" Rack Mount (Height depends on performance and feature options) |             |   |             |

## OPTIONS

|   |   |
|---|---|
| Extended Frequency Offset Measurement   | 0.1 Hz < f <sub>offset</sub> < 320 MHz (Customer to specify range)    |
| Extended Input Power                    | -10 to +15 dBm / +10 to +20 dBm                                       |
| Extended Temperature Range              | 10°C to 40°C  |
| Custom Input Frequency Range            | RF – Millimeter Wave  |
| AM Noise Measurements                   | Customer to specify requirements                                      |
| Phase Noise Performance Level           | Customer to specify requirements                                      |
| 2-Port Residual Phase Noise Measurement | Customer to specify requirements / External signal source is required |

**NOTE:** These specifications are subject to change without notice due to OEwaves ongoing development cycle. This product line is covered by one or more of the following U.S. patents: 8,155,913; 8,155,914. Other patents pending.

For ordering or other inquiries contact:



+1.626.351.4200  
sales@oewaves.com  
www.oewaves.com

RIDE THE WAVE OF INNOVATION

465 N. Halstead Street, Suite 140 Pasadena, CA 91107

PDS-0010\_D