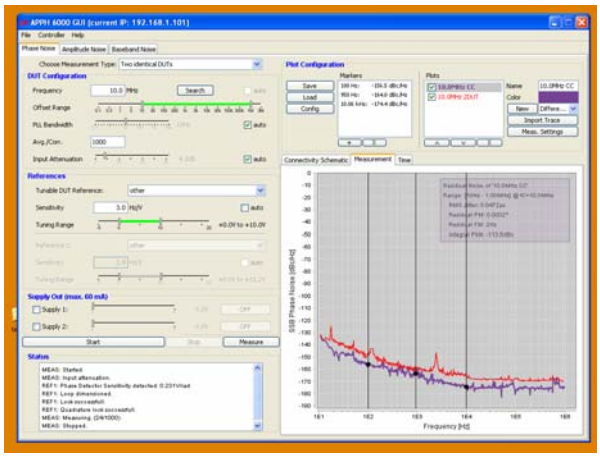
Analog High-Speed Products

Product Brief

10 MHz to 6200 MHz Signal Analyzer APPH6000

The APPH6000 signal analyzer is a single instrument solution with an indispensable set of measurement functions for evaluating RF signal sources such as crystal oscillators, VCOs, PLL synthesizers, and LO circuits.
The APPH6000 provides fast and accurate measurements of SSB phase noise, amplitude noise, or baseband noise.
Applying proven measurement procedures and self-calibration routines, reproducible, and accurate measurements are obtained even under changing environmental conditions.
Automated frequency and level detection and self-calibration greatly simplify use and applicability.
The instrument can be configured to meet user requirements: selectable internal or external reference source, phase detector models, and frequency offset ranges. Two channel cross correlation is also supported for lowest noise measurements.
It is a compact and powerful instrument available with LAN (VXI-11), USB or with GPIB (optionally). Platform independent intuitive graphical user interface (GUI), API library, and powerful SCPI command language set is available.



Graphical User Interface

Features

- **All-in-one compact measurement system**
- **Measurements down to -190 dBc/Hz**
- **One-click measurement**
- **Selectable internal or external Reference**
- **Powerful graphical user interface**
- **Remote control via USBTMC and LAN**

Applications

- **General purpose phase noise tests**
- **Crystal oscillator and VCO testing**
- **PLL synthesizer locking and characterization**
- **Supply noise verification**
- **Automated production testing**

Options

- ***HP:*** **High power model with improved sensitivity (frequency range 10 MHz to 2500 MHz)**
- ***CC*****: Cross-Correlation**
- ***IS*****: Internal Signal Source (10 MHz to 6200 MHz)**
- ***IS400*** **Internal Signal Source (1 MHz to 380 MHz)**
- ***EO*****: Extended frequency offset range (40 MHz+)**
- ***B3: operation with internal rechargeable battery module***

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Key Specifications

The specifications in the following pages describe the warranted performance of the signal analyzer for 25 ± 10 °C after a 30 minute warm-up period. Typical specifications describe expected, but not warranted performance. Min and Max specifications are warranted.

Parameter	Value	Notes
RF Frequency range	5 to 6200 MHz	
Input Power Range	-5 to + 13 dBm	+3 dBm typical
Input impedance VSWR	50 Ohms < 2	
Offset analysis range	0.1 Hz to 2 MHz	APPH20G goes to 40 MHz
Measurement Accuracy	±4 dB ±3 dB ±2 dB	< 10 Hz offset < 1 kHz offset > 1 kHz
Residual Phase Noise (1 GHz)		
10 Hz 1 kHz 10 kHz	-150 dBc/Hz -174 dBc/Hz -185 dBc/Hz	Correlation = 1 Correlations = 1000
Residual spurious level		
Meas. time per average 1 Hz (Start) 10 Hz 100 Hz 1 kHz	 10 sec 2 sec 1 sec 0.05 sec	
Optional Internal Reference		
Frequency Range	10 to 6200 MHz	
Resolution	0.001 Hz	
Spurious level	-75 dBc	
Temperature stability	±100 ppb	0 to 50 degC
Loop bandwidth Internal reference External reference	 1 Hz to 25 kHz gain dependent	
Tuning voltage output	-5 to +22 V	
Voltage noise density	<10 nV/√Hz	> 30 Hz
Baseband input range Input Impedance Voltage noise density	-12 to +12 V 1 kΩ 1.2 nV√Hz	 DC coupled Input shorted, f> 10 Hz
Supply Voltage range	-5 to +15 V	
Output current	< 120 mA	
Noise Density	<10 nV/√Hz	> 30 Hz
AM noise measurement		
RF input range	10 MHz to 7 GHz	
Offset range	2 Hz to 1 MHz	
1 kHz 10 kHz noise floor	-145 dBc/Hz -156 dBc/Hz -170 dBc/Hz	+10 dBm input power Correlations=1000