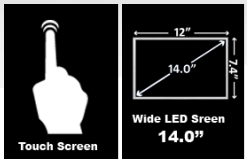
NOISE XT Pulsed and Residual Phase Noise !

NXA-50

50 GHz Phase Noise Analyzer



The NXA is a highly advanced Phase Noise analyzer that measures Residual Phase Noise on CW or Pulsed signals, an ideal fit for Defense and Space applications where Radar signals going through AESA antenna T/R modules need to be tested for challenging noise floor and ultra low spurious detection.

Its unique architecture integrates 2 phase noise analyzers and 2 low noise wideband synthesizers coupled with a proprietary 2D cross-correlation algorithm (patent pending) to reject its internal noise. This reliable combination enables absolute or residual phase noise measurements down to the thermal noise. The 26 GHz optimized Amplitude noise internal detectors also benefit from this cross-correlation improvement achieving guaranteed performance.

An intuitive user interface based on a large 14 inch touchscreen simplifies the operation, focusing the user on the measurement result itself instead of the measurement technique. Experts can always access advanced settings if needed.

With its frequency resolution of a few millihertz, the NXA can accurately detect spurs not usually detected by traditional analyzers and offer a frequency offset starting at only 0.01 Hz up to 40 MHz. If the frequency range is a challenge, the NXA can be connected to external phase detectors extending the frequency range to your needs.

Quick and easy phase noise plots can be obtained without any training so any manufacturing technician can operate the NXA. The NXA is the result of our 20 years of continuous experience in testing state of the art devices in the USA, Europe and Asia.

Thanks to its internal synthesizers, the user have the choice of simplicity or, when ultimate performance is required, the capability to use external reference sources like ultra low noise crystal oscillators, OCSAWs or SLCOs to push the instrument noise floor down to the state of the art.

ISO 9001:2008
BUREAU VERITAS
Certification

NXA-50 Phase Noise Analyzer

Product specifications and descriptions in this document subject to change without notice.

Typical Phase Noise Floor

Low Frequency Band:

Input Frequency: 5 MHz to 1.3 GHz
RF Input Power: -10 to +20 dBm
LO Input Level: +5 to +20 dBm
Nominal Conditions: Kphi=0.600 V/rd or +20dBm Input Power at 100 MHz

Typ. dBc/Hz vs Offset (Hz)	1	10	100	1k	10k	100k	1M	10M
External Source Noise Floor	-150	-160	-170	-178	-187	-188	-193	-195
100 MHz Internal Noise Floor		-102	-138	-166	-175	-174	-179	-189

Improved noise floor can be obtained by increasing the number of cross-correlations

High Frequency Band:

Input Frequency: 1.3 GHz to 50 GHz
RF Input Power: 0 to +20 dBm
LO Input Level: +7 to +15 dBm
Nominal Conditions: Kphi=0.300 V/rd or +15dBm Input Power at 2 GHz

Typ. dBc/Hz vs Offset (Hz)	1	10	100	1K	10K	100K	1M	10M
External Source Noise Floor	-125	-135	-150	-160	-175	-183	-188	-188
4 GHz Internal Noise Floor		-70	-106	-134	-143	-142	-147	-157
12 GHz Internal Noise Floor		-60	-96	-124	-133	-132	-137	-147
24 GHz Internal Noise Floor		-54	-90	-118	-127	-126	-131	-141
48 GHz Internal Noise Floor		-48	-84	-112	-121	-120	-125	-135

Improved noise floor can be obtained by increasing the number of cross-correlations

Averaging configuration used in specifications:

Offset (Hz)	1	10	100	1K	10K	100K	1M	10M
# of cross correlations	10	10	100	100	1k	1k	10k	10k

Please add +5dB for specifications

Signal Processing

Measurement Units: Noise in dBc/Hz, Spurs in dBc.
Cross-correlation: 1D or 2D mode, 1 to 100,000 depending on offsets
Display functions: Smooth, spec-line, frequency & level markers, spurs list
Data Computation: A - B, N * A, A : N, A + N*B, A + NdB
Integrated power: in dBc, rad rms, rad², deg rms, deg², Hz rms, Hz²
Jitter: Secrms ,Secpp ,UIpp
Spectrum: Variable FFT windows, spurious detection algorithms
Real RBW: 3mHz to 146kHz for spurious detection and speed tuning

General Specifications

Weight: 35 Kgs
Size: 6U, 19" rack mountable (260 x 570 x 445mm)
Operating Voltage: 100-240 VAC 50/60Hz 4A max

Functional Specifications

Input Frequency: 2 MHz to 50 GHz (wider range with external detectors)
2 channels baseband inputs DC to 40 MHz
Signal Type: CW or Pulsed for absolute or residual phase noise
Offset analysis: 0.01 Hz to 40 MHz
Accuracy: +/- 2dB 1 kHz to 1 MHz offset, +/-3 dB above
Operating mode: Manual or Remote scripting control (ATE over Ethernet)
Input RF Connector: 2.92 mm Type
Tuning Voltage Connectors: 2 BNC-F for external references DC-FM control
External Ref. Sources: SMA-F Type