



IBTP Koschuch e.U.

XC-8752A-50-A 50 Ω

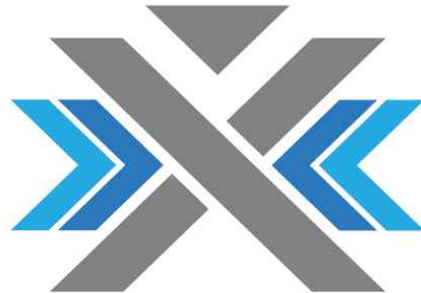
**Vector Network Analyzer
1 Hz - 1000 MHz**

Data Sheet, Rev.1.1

**www.ibtp-koschuch.com
www.avalancheradar.com**



Vector Network Analyzer XC-8752A-50 50 Ω



The XC-8752A two-port Vector Network Analyzer offers superior performance in a very small form factor. Through its fully DC coupled active VSWR bridges, measurements down to 1Hz are possible without sacrificing accuracy. A rich set of software utilities like spectrum analyzer or oscilloscope make this instrument a versatile helper in development or test applications. (6 GHz Calibration kit included)

1 Hz to 1000 MHz bandwidth.

With a bandwidth ratio of 1 : 1000000000 the instrument covers measurement applications from audio to RF frequencies. The excellent port return loss of better than -25 dB at 1 GHz allows measurements with less distortion.

Small Size

Through the instruments small size of 200 mm x 130 mm, fan less operation, USB connection and external power supply, it will fit on the smallest workbench

Full two port configuration.

Since the instrument uses four independent measurement channels simultaneously, more accurate and faster two port measurements become possible.

Utilities

A wide set of additional Utilities like spectrum analyzer, EMI analyzer, oscilloscope or RF Voltmeter, further extend the instruments capabilities.

Powerful software.

An unlimited number of rectangular- and smith-diagrams and over 50 built in measurement functions like time domain measurements allow a detailed DUT analysis.

Utility Overview

- Signal generator DC - 1 GHz with 1 Hz resolution.
- Two channel 60 MHz digital oscilloscope with 125 Ms/s and 12 bit resolution.
- DC - 1 GHz spectrum analyzer, with an unambiguous frequency range of DC - 60 MHz and an active sideband suppression for spurious-free signal measurements up to 1 GHz (under certain conditions).
- EMI analyzer with quasi-peak and average measurements.
- Power sweep measurements.
- Wideband Power/Voltage measurements.
- THD analyzer.
- Phase noise analyzer.
- General noise and bode measurements.

Specifications

Specifications describe the instrument's warranted performance over the temperature range of 0 °C to 55 °C. Supplemental characteristics are intended to provide information useful in applying the instrument by giving supplemental, but not warranted performance parameters. These are denoted as "typical."

VNA specifications:

Measured Parameters	S_{11} , S_{12} , S_{21} , S_{22}
Measurement Channels	Four parallel receiver chains
Data Traces	Arbitrary number of traces and diagrams
Memory traces	4 full S-parameter memory slots
Data display formats	Rectangular and smith diagram, over 50 trace functions, including time domain and group delay.
Sweep type	Linear and Logarithmic
Measured points per sweep	2 - 2048
Power Settings	-15 dBm to -80 dBm in 0.1 dB steps
Sweep Trigger	Continuous, Single, Hold
Trace Math	Normalization, Magnitude, Phase, log, Real, Imag, Complex, Delay
De-Embedding	Port Extension with loss, delay and Z_0 adjustment, full de-embedding.
Calibration	SOLT (short, open, load, through), normalization
Calibration Types	1-port or 2-port
Measurement bandwidth	1 Hz - 200 kHz adjustable
Frequency range	1 Hz - 1000 MHz
Frequency resolution	1 Hz
Setups	Arbitrary number of pre-defined setups
Output signal amplitude accuracy (typ.)	+/- 2 dB @ -15 dBm to -25 dBm +/-2.5 dB @ -25 dBm to -40 dBm +/-3 dB @ -40 dBm to -80 dBm
Trace noise (typ.)	+/- 3 mdB
Measurement speed (typ.)	1.5 ms / frequency point
Frequency accuracy	+/- 25 ppm
Operating temperature	0°C - 55°C ambient
Operating humidity	0% to 80% rel. humidity
Power consumption	15 Watt max.
Power requirements	+12V / 2A
Connection	USB 2.0, Full-Speed

Table 1.1 VNA specifications

Spectrum analyzer, EMI analyzer and Phase Noise analyzer utility

Frequency range	10 Hz - 1000 MHz
Resolution bandwidth	10 Hz - 200 kHz
Frequency resolution	1 Hz
Frequency accuracy	+/-25 ppm
Amplitude accuracy	+/- 1.5 dB typ.
Unambiguous frequency range	10 Hz - 60 MHz
Low spurs technology (sideband suppression)	Multi frequency sampling
Frequency points	Arbitrary
Display functions	RMS, Minimum, Maximum and Average
Maximum linear input power	19 dBm
Phase noise (low noise mode) @ 300 MHz	< -90 dBc @ 100 Hz offset
	< -115 dBc @ 1kHz offset
	< -115 dBc @ 10kHz offset
	< -115 dBc @ 100kHz offset
	< -125 dBc @ 1MHz
Quasi Peak	Following CISPR 16-1-1 (9 kHz - 1 GHz)
Input noise voltage	< 30 nV/Sqrt(Hz) @ f > 10 kHz

Table 1.2 Spectrum Analyzer specifications

Signal Generator utility

Frequency range	1 Hz - 1GHz
Frequency resolution	1 Hz
Output power range	-15 dBm to -75 dBm (1Hz to 500 MHz)
	-15 dBm to < -90 dBm (500 MHz to 1GHz)
Output signal amplitude accuracy (typ.)	+/- 2 dB @ -15 dBm to -25 dBm
	+/-2.5 dB @ -25 dBm to -40 dBm
	+/-3 dB @ -40 dBm to <-80 dBm
Phase noise (low noise mode) @ 300 MHz	<-90 dBc @ 100 Hz offset
	< -115 dBc @ 1kHz offset
	< -115 dBc @ 10kHz offset
	< -115 dBc @ 100kHz offset
	< -125 dBc @ 1MHz

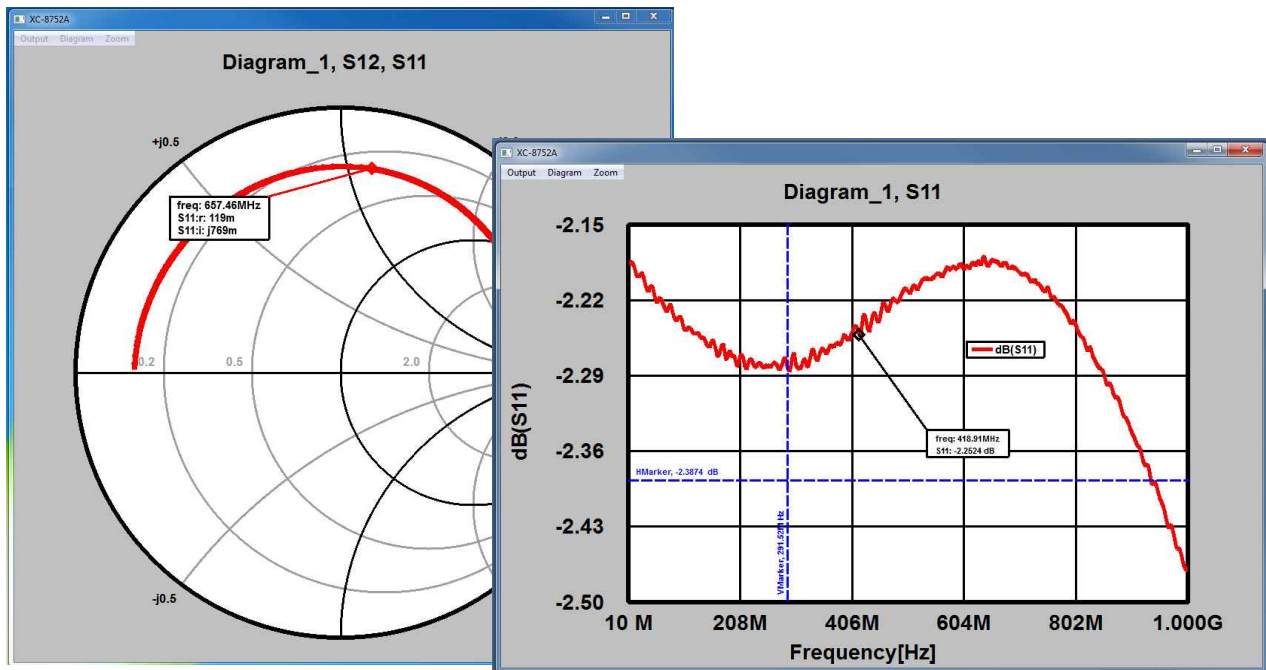
Table 1.3 Signal Generator specifications

Oscilloscope, Voltmeter

Resolution	12 Bit (up to 16Bits with CIC Filter)
Input range	Max. +/- 3V
Memory	Max. 2048 points
Lowpass Filter	CIC type, adjustable
Sampling range (real)	15 S/s - 125 MS/s
Sampling range (Sin(x)/x)	250 MS/s - 4 GS/s
Bandwidth	60 MHz (Nyquist), 500 MHz (real)
Protocol analyzer	SPI, I2C, RS232
Measurement functions	24 measurement functions like RMS, period..
Trigger Modes	Edge Trigger, Pulse Trigger, Manual, Auto, A->B
Trigger Delay	0 - 508 samples
Input	50 Ohms single ended, 100 Ohms differential
Special	Trigger aperture and HF Suppression filters

Table 1.4 Oscilloscope specifications

Software Overview



- Unlimited number of diagrams.
- Over 50 different measurement functions.
- Symbolic equations as trace function.
- Unlimited number of traces per diagram.
- Linear and logarithmic view in horizontal or vertical direction.
- Smith diagram
- Unlimited number of markers
- Delta Markers
- Horizontal line or vertical line marker.
- Many marker functions.
- Single and dual port operation and calibration.
- Printing and Clipboard support.
- Unlimited number of measurement setups.
- Easy loading of setups via direct access.
- Single and continuous measurement.
- Port Extension and full de-embedding.
- Time domain lowpass and bandpass support.
- Selectable measurement bandwidth



IBTP Koschuch e.U.

Manufacturer:

© XERXES electronics GmbH 2010 – 2019

**Product specifications and descriptions in this document,
Subject to change without notice.**

**Austria, 24. 2. 2019
XC-8752A-50_DS**

Distributor:

**www.ibtp-koschuch.com
IBTP Koschuch e.U.
Ingenieurbüro für Technische Physik**

**Langegg 31
A-8463 Leutschach an der Weinstraße
+ 43/699 18448542
office@ibtp-koschuch.com**

**www.ibtp-koschuch.com
www.avalancheradar.com**