TRANSCOM INSTRUMENTS
Product Brochure

TRANSCOM
INSTRUMENTS

A6 Vector Signal Analyzer

Overview

A6 is a vector signal analyzer with compact design. With excellent testing performance and measurement sensitivity, A6 satisfies the testing requirements of the majority of RF signals. A6 satisfies the needs of general spectrum test, signal demodulation of GSM, WCDMA, LTE and NB-IoT signals. In terms of system integration, PCB version module product is available and API library is provided for secondary development.

Key Facts

- Frequency range: 10MHz to 6000MHz (10MHz to 4200MHz)
- Signal demodulation: FM, AM, GSM, WCDMA, LTE and NB-IoT signal
- DANL: -168 dBm @1GHz (Sensitivity set to High, normalized to 1Hz)
- Resolution bandwidth: 10Hz to 5MHz
- Signal storage depth of 1Gbit for signal capture and analysis
- API library is provided for secondary development
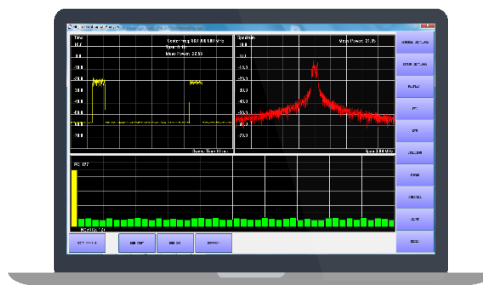
Innovative Features & Benefits

Product features

- Precise measurement performance
- Small size
- Easy to integrate
- Support secondary development

Typical applications

Signal demodulation

- FM/ AM demodulation
- GSM, WCDMA, LTE demodulation
- NB-IoT signal demodulation

General test in laboratory, factory, school, etc.

- General spectrum analysis
- Display waterfall plot
- Easy installation and set-up

System integration

- General spectrum analysis
- Secondary development
- Small size and low power consumption

Radio fans

- Help to understand the spectrum
- Facilitate testing
- Simplified manipulation

Solution Highlights

LTE signal demodulation

General spectrum analysis.

Display in waterfall plot

Easy installation and set-up

Signal demodulation

A6 can do GSM, WCDMA and LTE signal demodulation. FM/AM demodulation are supported. NB-IoT signal demodulation is also supported.

General test in laboratory, factory, school, etc.

General spectrum analysis

A6 has the broadband spectrum test function, including frequency test, power test, stray test, etc.

Display waterfall plot

Waterfall plot test facilitating testing, observation and analysis.

Easy installation and set-up

A6 is small and lightweight. Spectrum test can be carried out with one computer. It only occupies small space which allows users to carry by hand or in the pocket or tool box.

System integration

General spectrum analysis

Integrated A6 can directly provides the broadband spectrum test results for the integrated system to analyze the spectrum.

Secondary development

Users can perform secondary development via the API function library provided by Transcom. With 1GB data storage, it meets the basic signal capture needs, so that users can analyze the collected signals. This feature can also be applied in the monitoring field.

Small size and low power consumption

Premium industrial design supports Micro-Rx to have competitive advantage in integration. Tiny size, low power consumption (less than 10W) and light weight provide convenient operation for users.

Radio fans

Help to understand the spectrum analysis

A6 is a good choice for beginner in the spectrum analysis field. With A6, users can have a preliminary understanding of spectrum analysis. When applied in spectrum test, A6 will provide new views for all users.

Facilitate testing

Spectrum analysis and test can be done with just one computer, one A6 and one data wire.
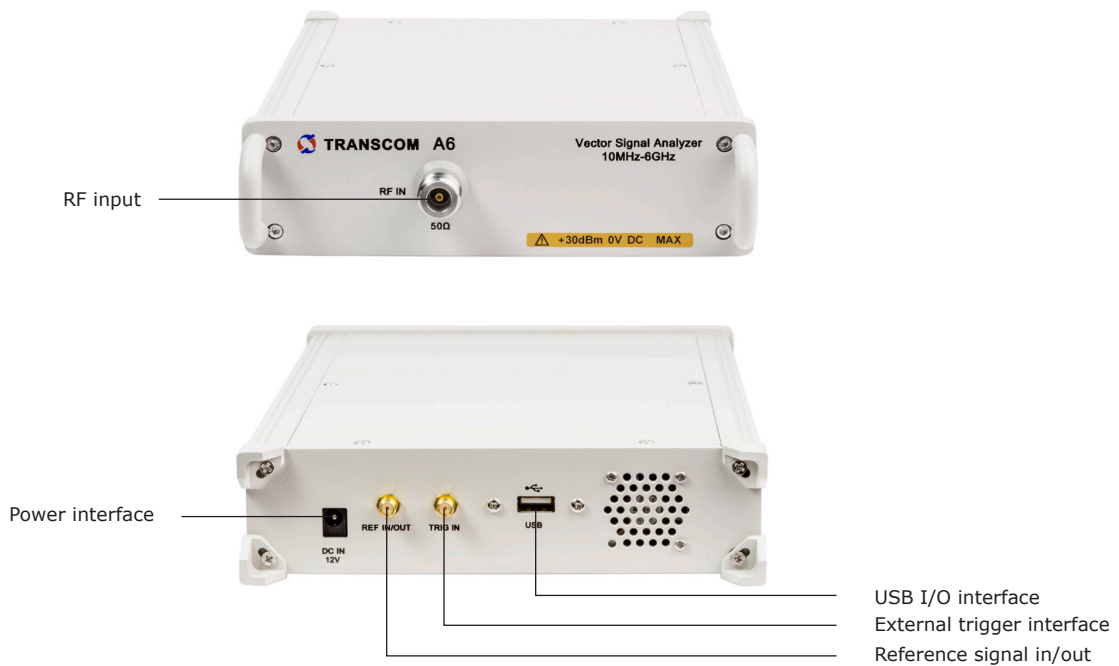
In-depth understanding and development

User can customize the spectrum analysis function via the open API function library.

Internet of Things

We provide optional software to test NB-IoT (Narrow bandwidth Internet of Things).This optional software based on our spectrum module can satisfy users' NB-IoT transmission ending test.

• Surport NB-IoT test

• Optional software

Control Elements

RF input

Power interface

USB I/O interface
External trigger interface
Reference signal in/out

Specifications

Function	
Sensitivity	Low, Medium and High

Frequency	
Frequency Range	A4: 10MHz to 4.2GHz A6: 10MHz to 6.0GHz
Frequency Reference	Aging rate: ±1ppm
Frequency Readout Accuracy	±((readout frequency + 1GHz) x Frequency Reference + Frequency Span Accuracy x Span)
Frequency Span Accuracy	±1%
Sweep Time	1.1ms to 1600s 2.69ms to 1600s, zero span

Resolution bandwidth	
RBW Range	10Hz to 5MHz, (1-2-3-5-10 Sequence)
RBW Accuracy	RBW≥1MHz, ±10% RBW < 1MHz,±2%

Amplitude		
Measuring Range	Display average noise level to +20dBm	
Input Attenuator Range	0-30dB, 1dB Step	
Maximum Safe Input Level	Sensitivity: +30dBm (Low) Sensitivity: 0dBm (Medium) Sensitivity: -20dBm (High)	
Reference Level Range	-140 dBm to +20dBm -190dBm to +70dBm (Ref level offset: ON)	
Amplitude Accuracy	ATT set to 0 dB, input signal: -5 to -30 dBm; detector set to Positive,Sensitivity set to Low; RBW auto-coupled ,all other settingsauto-coupled, 23±5℃ Half hour warm-up required. ±1.5dB	
RBW Switching Uncertainty	±0.3dB	
Input Attenuator Uncertainty	±0.6dB	
Accuracy of Reference Level	Reference level: ≥-60dBm, ±0.8dB	
Display Average Noise Level (DANL) @1GHz	Input Terminated,Detector set to Positive,Trace Average set to 1000,Span set to 50kHz,Ref set to -100dBm,all other settings auto-coupled, 23±5℃ . Normalized to 1 Hz RBW	
	Sensitivity: Low	-131dBm/Hz (typically -133dBm/Hz)
	Sensitivity: Medium	-151dBm/Hz (typically -153dBm/Hz)
	Sensitivity: High	-168dBm/Hz (typically -169dBm/Hz)
Residual Response	-75dBm	
Input-Related Response	10M to 1.285G, 3.22G to 3.7G 10MHz to 1.285GHz, 3.22GHz to 3.7GHz	<-70dBc
	1.625GHz to 1.775GHz	<-55dBc
	1.285GHz to 1.625GHz, 1.775GHz to 2.35GHz, 2.71GHz to 3.22GHz	<-42dBc
	3.22GHz to 4.2GHz	<-50dBc
	4.2GHz to 6.0GHz	<-55dBc
Second Harmonic Distortion	1.6GHz -70dBc	
Third-Order Intercept (TOI)	-10dBm tones, 1MHz apart, Sensitivityset to low,Ref set to -10 dBm +15dBm	
P1dB	+5dBm (nominal)	
Phase Noise @1GHz	-96dBc/Hz, @10kHz (typically -98dBc/Hz) -118dBc/Hz, @1MHz (typically -120dBc/Hz)	

Storage	
Maximum storage depth	1Gbit
Data format	I/Q two-way, 16bit
Demodulation	FM, AM, GSM, WCDMA, TD-LTE, FDD-LTE, NB-IoT

General	
OS	WindowsXp, Windows7, Windows8, and Windows10
Connectors	RF input: N-type, female, 50Ω USB: USB type C Power interface: DC12V
Operating environment	Operating temperature: 0°C to 50°C Storage temperature: -20°C to 70°C
Dimension	180mm×50mm×290mm
Weight	0.8kg

Technical specifications

This technical specifications include the influence of probability distribution, measurement uncertainty and environmental factors on the instrument performance. It guarantee the performance under the following conditions.

• The instrument is ON and warmed up for 30min.

• The instrument internal reference signal is applied.

Testing temperature is 23±5 ºC, unless other specific condition applied.

Typical value

Additional description does not cover all performance information of the product guarantee. Unless otherwise specified, the typical value refers to the indicator or technical specification with which more than 80% of products comply under 23 ± 5 ºC. The measurement uncertainty is excluded. A6 should be within the calibration period.

Nominal value

The nominal value refers to the characteristic description or design range. It is not tested or covered by the product. A6 should be within the calibration period.

Ordering List

Model	Description
A4	A4 signal analyzer (10MHz to 4200MHz)
A6	A6 signal analyzer (1MHz to 6000MHz)
Accessories Model	**Description**
MRX-AS001	Power adapter
MRX-AS002	Power cable(China standard)
MRX-AS003	Power cable(US standard)
MRX-AS004	USB disk
Options	
MRX-S001	NB-IoT analysis software

Keep innovating for excellence!

About us

Transcom Instrument Co., Ltd. founded in 2005 and headquartered in Shanghai, is a leading manufacturer and provider of RF and wireless communication testing instruments and overall solutions in China. Based on its independent brands and a wide range of core patented technologies, Transcom became national high-tech enterprise with independent intelligent property rights and has been listed into Shanghai Enterprise Recognition Award for High Growth SMEs in Technology.

Transcom is backed by a experienced and dedicated research team in mobile communication, radio frequency and microwave, and network optimization testing instrument. Through "Industry-University-Research" cooperation with universities, Transcom founded Southeast University-Transcom Electronic Measurement Technology Center at Southeast University to futher ensure technology and talent reserve, and secure future visionary and sustainable technology development.

Transcom's product portfolios focus 4 areas: cellular network critical communication planning/maintenance/optimization, Manufacturing testing solution, educational instrument/ equipment, spectrum monitoring sensor for system integration.

ISO14001   ISO9001

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Company Profile