

TRANSCOM INSTRUMENTS

Product Brochure

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A6 Vector Signal Analyzer

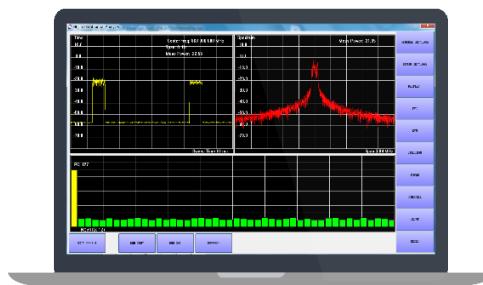
Overview

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, it supports signal demodulation like FM, Digital Signals, and LTE. AM, GSM, WCDMA, and NB-IoT signal demodulation will be supported in the future. In terms of system integration, PCB version module product is available and API library is



Key Facts

- Frequency range: 1MHz to 6000MHz
- Signal demodulation: Digital signal, FM, and LTE (AM, GSM, WCDMA, and NB-IoT signal will be supported in the future)
- DANL: -166 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

- Digital Signal, FM, and LTE demodulation
- GSM, WCDMA, and NB-IoT will be supported in the future

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
- IQ Data recording

Radio fans

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

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

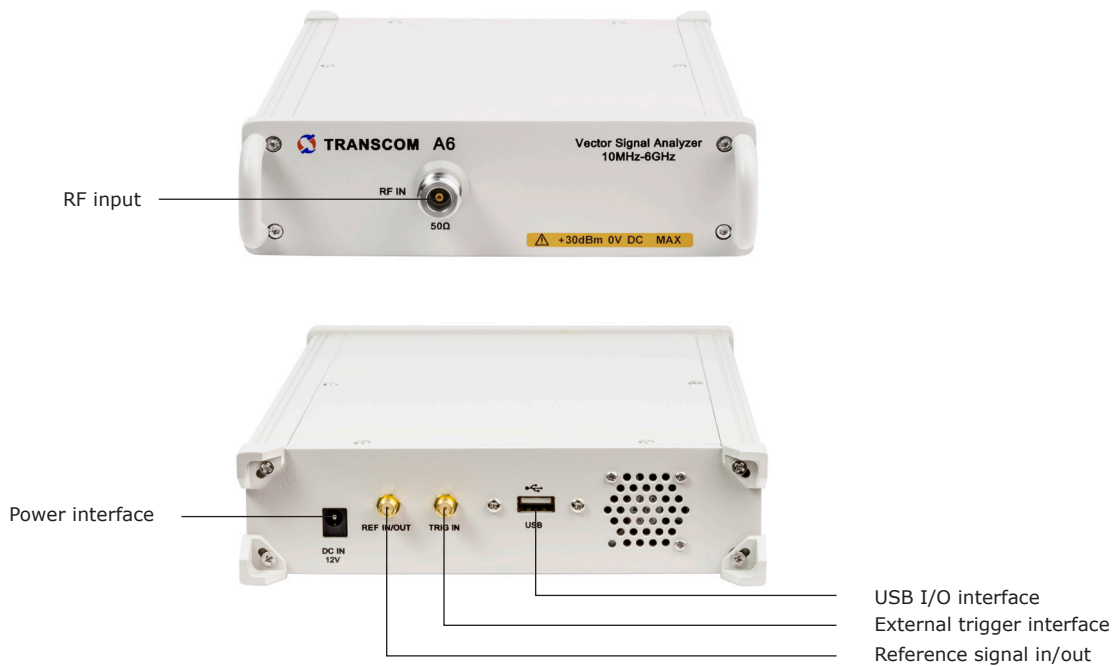
User can customize the spectrum analysis function via the open API function library.

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.

- Support NB-IoT test
- Optional software (will be released soon)

Control Elements



Specifications

| Function | | |
|--|--|-----------------------------------|
| Sensitivity | Low, Medium and High | |
| Demodulator | Digital signals, FM, and LTE (AM, GSM, WCDMA, and NB-IoT will be supported in the future) | |
| Frequency | | |
| Frequency Range | 1MHz 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 | 1.2ms to 1600s 3.99ms 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 settings auto-coupled, 23±5°C 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°C . Normalized to 1 Hz RBW | |
| | Sensitivity: Low | -129dBm/Hz (typically -132dBm/Hz) |
| | Sensitivity: Medium | -149dBm/Hz (typically -152dBm/Hz) |
| Residual Response | Sensitivity: High | -166dBm/Hz (typically -168dBm/Hz) |
| | 10MHz to 1.1GHz | <-70dBc |
| | 1.1GHz to 1.85GHz, 2.9GHz to 2.97GHz | <-41dBc |
| Input-Related Response | 1.85GHz to 2.9GHz, 2.97GHz to 3.11GHz, 3.7GHz to 5.6GHz | <-50dBc |
| | 5.2GHz to 5.8GHz | <-45dBc |
| | 3.11GHz to 3.7GHz, 5.6GHz to 6.0GHz | <-39dBc |
| | 1.6GHz | -70dBc |
| Second Harmonic Distortion | 1.6GHz -70dBc | |
| Third-Order Intercept (TOI) | -10dBm tones, 1MHz apart, Sensitivity set to low, Ref set to -10 dBm +15dBm | |
| P1dB | +5dBm (nominal) | |
| Phase Noise @1GHz | -95dBc/Hz, @10kHz (typically -98dBc/Hz) -115dBc/Hz, @1MHz (typically -120dBc/Hz) | |
| Storage | | |
| Maximum storage depth | 1Gbit | |
| Bandwidth | 2.5MHz, 5MHz, 10MHz, 20MHz | |
| Sampling rate | 30.72MHz, 15.36MHz, 7.68MHz, and 3.84MHz | |
| Data format | I/Q two-way, 16bit | |

| 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 | 1.8kg |

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 °C, 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 °C. 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 |
|-------------------|---|
| A6 | A6 Vector 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 | FM Demodulation License |
| MRX-S002 | TDD-LTE Demodulation License |
| MRX-S003 | FDD-LTE Demodulation License |
| MRX-S004 | Digital Demodulation License |

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