# TFN FAT100 Handheld Spectrum Analyzer

Portable, cost-effective, entry-level RF test solution


**Product Overview**

The FAT100 series spectrum analyzer is a portable spectrum analyzer designed for educational research, corporate R&D, and industrial field testing. Featuring wide bandwidth coverage from 9kHz to 1.6GHz, high sensitivity, and excellent phase noise performance, it is widely used in wireless communications, RF component testing, signal monitoring, and educational experiments. With its compact design, rich interface configuration, and user-friendly interface, it provides users with an efficient and accurate spectrum analysis experience.



**Core Feature Highlights**

- Accurate signal analysis

Wide frequency range: 9kHz ~ 1.6GHz, covering common communication and RF bands.
High sensitivity: The displayed average noise level (DANL) is as low as 135dBm (typical), supporting weak signal detection.
Low phase noise: 80dBc/Hz @10kHz offset, ensuring signal purity and measurement accuracy.

- Flexible operation and settings

Multiple scanning modes: supports full span, zero span, manual step and other scanning modes.
Four-trace display: supports multiple trace modes such as clear write, maximum hold, and minimum hold, facilitating signal comparison and analysis.
Cursor and peak search: supports multiple cursor modes such as normal, difference, and difference pair, and one-click peak search to quickly locate signal features.

- Rich interfaces and scalability

Multi-interface configuration: LAN, USB Host/Device, SD card slot are standard, supporting data export and remote control.
Tracking generator option (FAT100 - B): Built-in tracking generator (5MHz1.6GHz), supports frequency response testing.

External trigger and reference input: supports 10MHz external reference signal to improve system synchronization capability.

- Intuitive user experience

5.7-inch high-definition color LCD screen with a resolution of 600×480, clear images and intuitive operation.
Multi-language interface: supports switching between Chinese and English to adapt to different user habits.
One-touch Auto Tune: Quickly locate the signal and optimize parameter settings.

**Customer Pain Points & Solutions**

1. The equipment is bulky and not portable : It is compact (260×220×75mm) and light (about 2.9kg), suitable for field and mobile testing.
2. Complex operation and high learning cost : intuitive menu design and one-button Auto/Preset function make it easy to get started
3. Low-level signals are difficult to capture : High sensitivity (135dBm DANL) + preamplifier, easily detect weak signals
4. Low test efficiency : Peak search, trace averaging, cursor tracking and other functions improve test efficiency
5. Remote control and data export are inconvenient : Supports LAN, USB, SD card and multiple data interfaces, and the supporting PC software supports remote control



**Product Parameters**

| Item | Specification |
|---|---|
| Frequency range | 9kHz ~ 1.6GHz |
| Displayed Average Noise Level (DANL) | -135dBm (typical value, preamplifier on) |
| Phase noise | -80dBc/Hz @10kHz offset |
| Resolution Bandwidth (RBW) | 10Hz ~ 1MHz (1-3-10 sequence) |
| Video Bandwidth (VBW) | 1Hz ~ 1MHz |
| Amplitude accuracy | <1.5dB |
| Input attenuation range | 0 ~ 51dB (1dB step) |
| Reference level range | -100dBm ~ +30dBm |
| Screen | 5.7-inch TFT-LCD, 600×480 |
| Communication interface | LAN, USB Host/Device, SD card slot |
| power supply | DC 12-17V / AC adapter |
| Operating temperature | -10℃ ~ +50℃ |

**Applicable Scenarios**

- Educational experiments: Communication principles, RF circuit teaching
- R&D debugging: wireless module and RF device performance verification
- Production testing: testing of passive/active components such as filters and amplifiers
- On-site maintenance: signal coverage detection, interference troubleshooting

**Why choose FAT100 series?**

The FAT100 series offers professional-grade performance at an entry-level price. Whether you're in lab R&D or field debugging, it helps you quickly and accurately complete spectrum analysis tasks.