3926 Series
Monitoring Receiver

3926B/E/H/L

(8 kHz – 8/26.5/50/67 GHz)

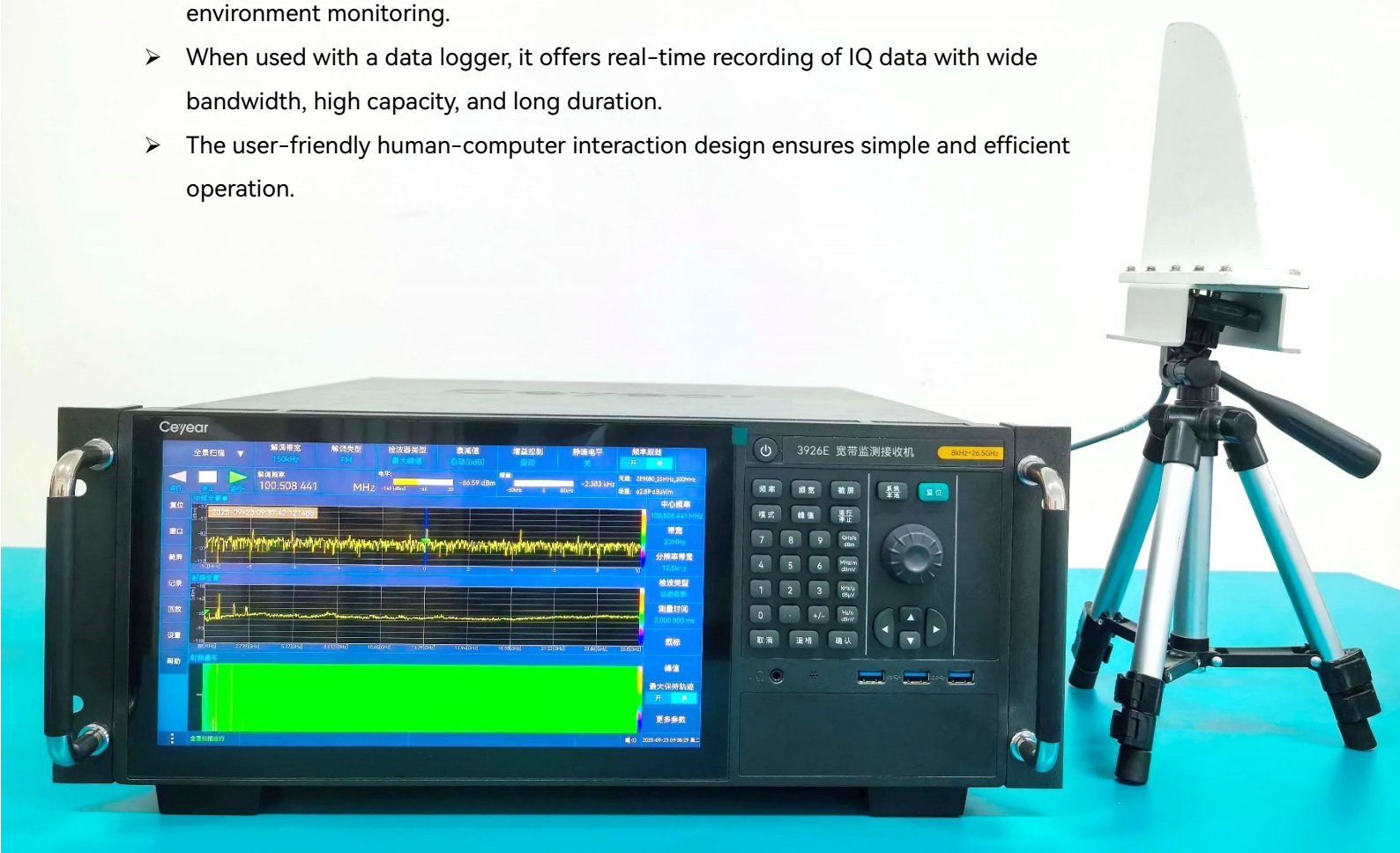
Ceyear Technologies Co., Ltd

Product Overview

3926 series broadband monitoring receivers cover a frequency range from 8kHz to 67GHz, featuring excellent RF performance, high dynamic range, and extremely fast scanning speed. They also integrate multiple functions such as signal identification, demodulation, and analysis, making them widely applicable in the field of high-performance radio spectrum monitoring, and meeting the construction requirements of national Class I and Class II radio monitoring stations. Its rich monitoring and analysis functions help you effectively monitor, record, process and analyze the RF and microwave signals.

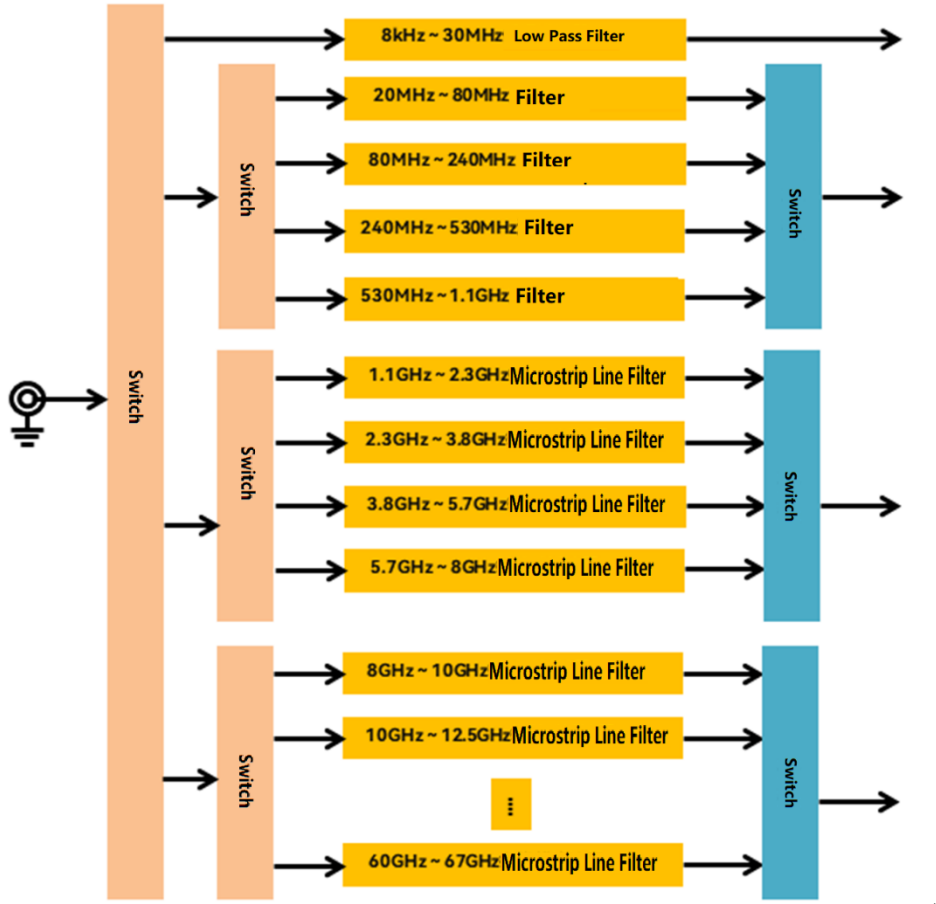
Main Features

- Supports ITU-recommended multi-mode scanning: fixed-frequency reception, panoramic scanning, frequency scanning, and list scanning.
- Monitoring frequency range: 8kHz–67GHz, maximum monitoring bandwidth: 2GHz, scanning speed up to 500GHz/s@25kHz.
- Multi-channel parallel operation enables simultaneous spectrum measurement, level field strength measurement, and signal demodulation.
- Supports analog demodulation functions such as AM, FM, and PM, enabling real-time monitoring of analog signals.
- Supports digital demodulation functions, capable of demodulating PSK, QAM, FSK, MSK, and ASK signals.
- Supports pulse signal analysis functions; combined with the 2GHz bandwidth, it can monitor ultra-wideband signals.
- Supports digital fluorescence spectrum analysis, enabling the detection of transient signals.
- Features digital modulation pattern recognition, providing enhanced data support for electromagnetic environment monitoring.
- When used with a data logger, it offers real-time recording of IQ data with wide bandwidth, high capacity, and long duration.
- The user-friendly human-computer interaction design ensures simple and efficient operation.



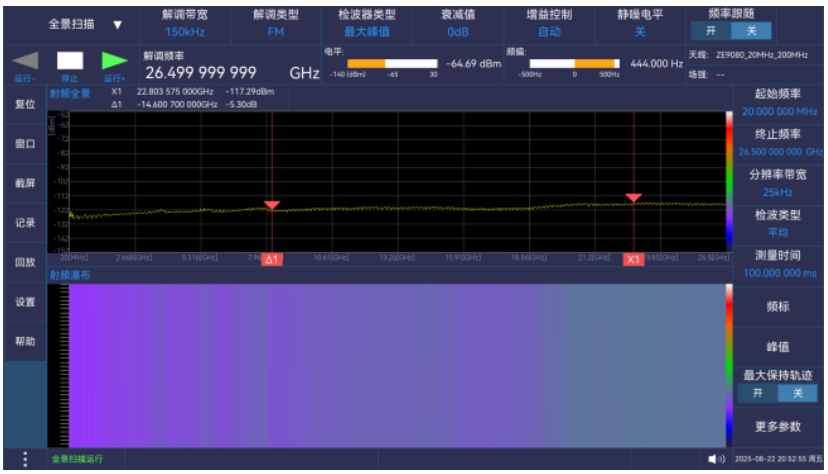
High-end configuration with full-band pre-selective filtering

- More than 20 filter combinations across the entire frequency band
- Filtering is placed at the RF front end to ensure receiver linearity
- High-Q filter design to suppress out-of-band interference



Superior RF reception performance

- Phase noise better than -130dBc/Hz (1GHz carrier, 10kHz frequency offset)
- Noise figure as low as 12dB in the 20MHz to 8GHz band
- Noise figure as low as 15dB (typical) in the 8GHz to 26.5GHz band



High-bandwidth, real-time, high-speed scanning

- 160MHz Standard real-time bandwidth, optional to 1GHz or 2GHz
- Minimum measurement time: 100μs; maximum measurement capacity: 10,000 measurements per second
- Scanning speed up to 500GHz/s at 25kHz resolution;
- Scanning speed up to 5THz/s at 1.25MHz resolution.

Multiple scanning modes

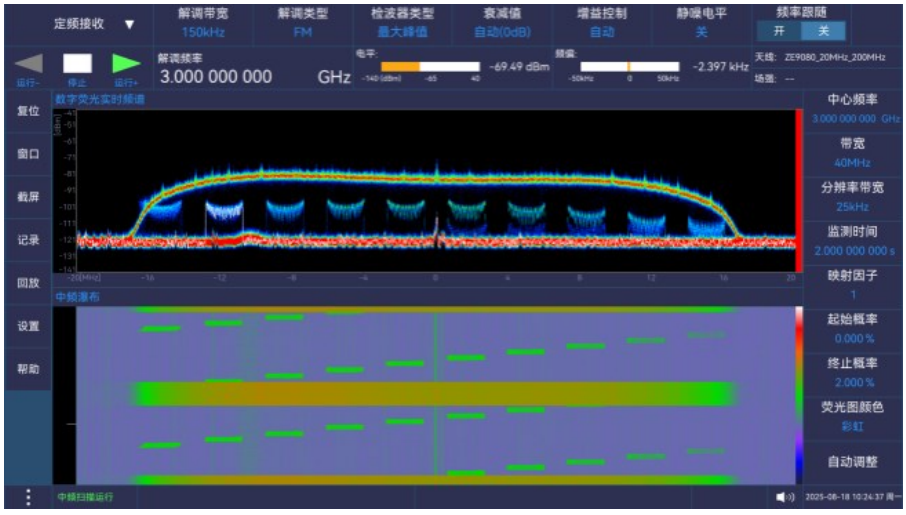
- Supports fixed-frequency reception, panoramic scanning, frequency scanning, and list scanning
- Supports storage tables and suppression tables

Multi-channel parallel processing

- Three parallel processing channels: spectrum channel, level channel, and demodulation channel
- The spectrum channel's real-time bandwidth is configurable from 1kHz to 160MHz (up to 2GHz with options), and the resolution bandwidth is selectable from 0.625Hz to 2MHz.
- The level channel features 42 filters, with demodulation bandwidth covering 10Hz to 80MHz.
- The demodulation channel supports real-time demodulation of AM, FM, PM, CW, LSB, USB, ISB, PULSE, and IQ.

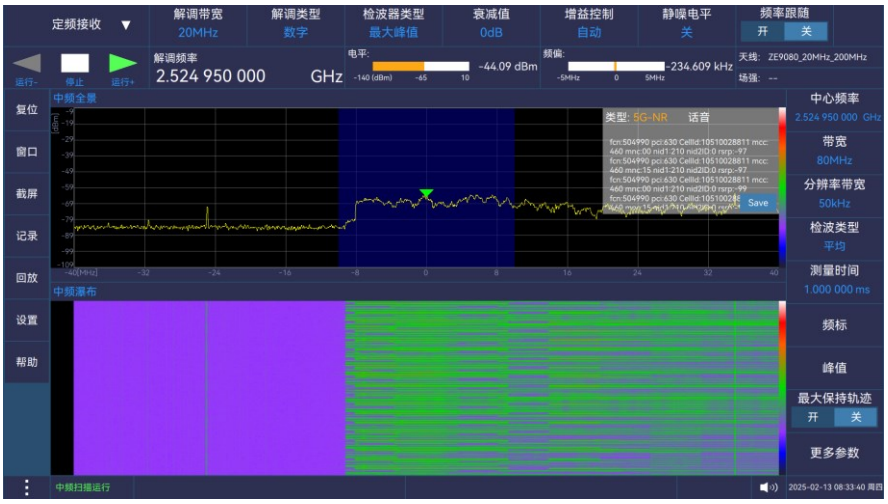
Digital fluorescence real-time spectrum analysis function

- Digital fluorescence real-time spectrum analysis with a maximum bandwidth of 2 GHz
- 100% probability of intercept (POI) with a minimum signal duration better than 150 ns, which can be used to capture and measure transient burst signals such as pulse signals and intermittent signals.



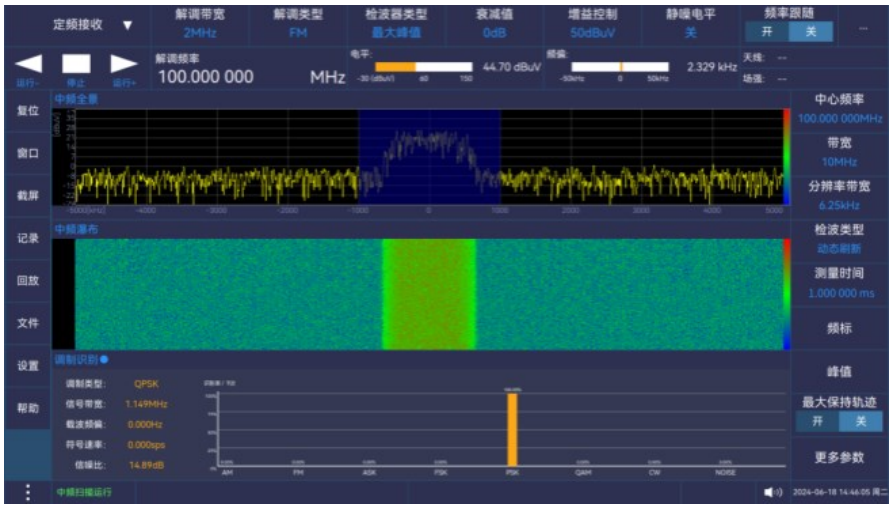
Automatic Transmission Protocol Identification and Resolution Function

- Real-time detection, identification, and resolution of common transmission protocols
- Supported protocol types: CDMA, GSM, WCDMA, TDD-LTE, FDD-LTE, 5G NR, DMR, TETRA, PDT, NXDN, dPMR, P25, DRM, DTMB, WIFI, LoRa, AIS, ADS-B.



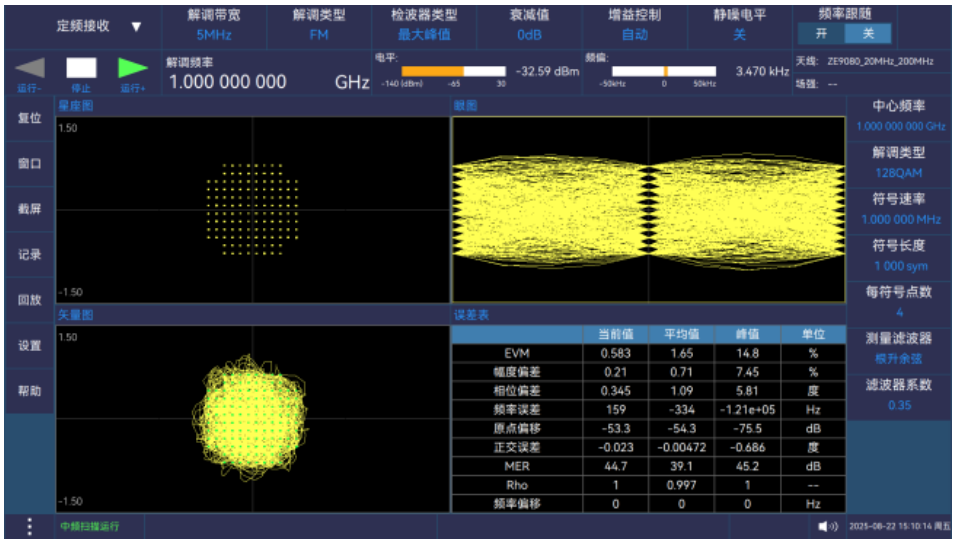
Automatic Identification of Signal Modulation Parameters

- Based on intelligent algorithms and high-order spectral analysis technology, the identification accuracy rate is higher than 90%.
- Supported modulation types: AM, FM, 2FSK, 4FSK, 8FSK, 16FSK, 16QAM, 32QAM, 64QAM, 128QAM, 256QAM, BPSK, QPSK, 8PSK, 16PSK, OQPSK, π/4QPSK, ASK, MSK



Digital demodulation function

- Supports digital modulation types such as PSK, FSK, QAM, and ASK
- Supports multiple filter types: root-raised cosine, Gaussian, edge, IS95, and rectangular
- Supports adjusting filter coefficients

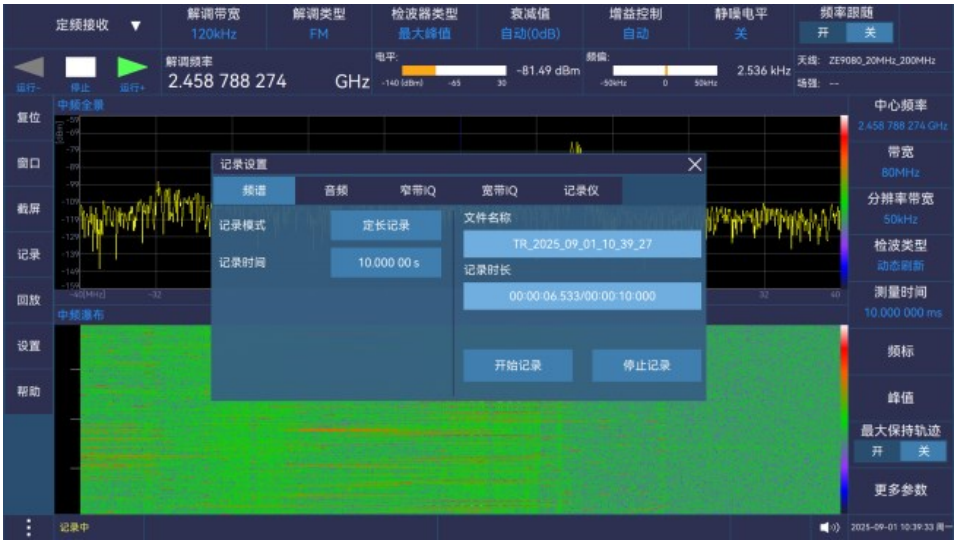


Automatic Pulse Signal Analysis Function

- Supports analysis of pulse parameters such as pulse width, pulse period, pulse rise and fall time, peak power, pulse amplitude, and frequency offset.
- Supports multi-domain image display: frequency domain curves, time domain curves, parameter tables, etc.

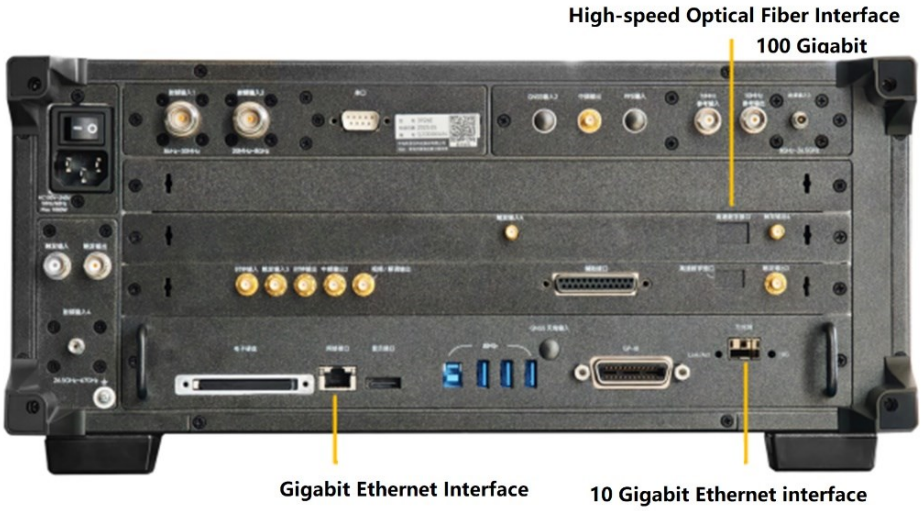
Recording and playback functions

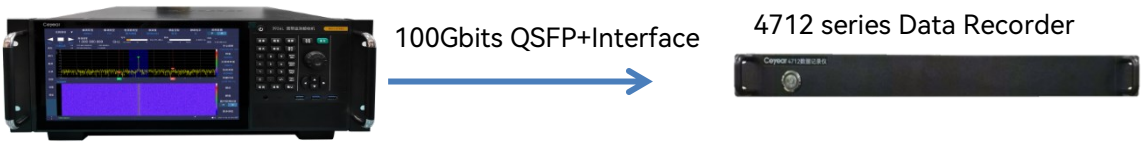
- Supports real-time output and recording of spectrum, IQ, and audio
- Supports real-time playback and analysis of spectrum, IQ, and audio
- Supports external high-capacity data recorder, up to 8, 16, 32 or 64 TB.



High-speed data transmission interfaces:

- Supports Gigabit Ethernet interface (standard configuration)
- Supports 10 Gigabit Ethernet interface (optional)
- Supports high-speed fiber optic interface (optional), enabling real-time IQ data stream output with bandwidths of 160MHz, 1GHz, and 2GHz.





Easy system integration

- Four RF input in the rear panel to cover up to 50GHz.
- Supports standard programmable instrument commands (SCPI standard)
- Open remote-control interface, universal data format
- Standard 4U structure, equipped with rack handle

Main Specifications

Model	3926B	3926E	3926H	3926L
Frequency	8kHz ~ 8GHz	8kHz ~ 26.5GHz	8kHz ~ 50GHz	8kHz ~ 67GHz
Analysis Bandwidth	160MHz（Standard），1GHz（Option H01），2GHz（Option H02）			
Scan Speed	≥500GHz/s (25kHz Resolution) ≥5THz/s（1.25MHz Resolution，with 1GHz analysis bandwidth, Start Frequency≥750MHz）			
Frequency Accuracy	≤ 1×10^{-7}			
Frequency Resolution	1Hz			
Phase Noise	< -130dBc/Hz（10kHz offset, carrier 1GHz) < -105dBc/Hz（10kHz offset, carrier 18GHz）			
Noise Figure (Low Noise Mode)	≤12dB (20MHz≤f≤8GHz) ≤14dB (8GHz < f≤18GHz) ≤19dB (18GHz < f≤26.5GHz) ≤22dB (26.5GHz < f≤40GHz) ≤35dB (40GHz < f≤50GHz) ≤40dB (50GHz < f≤67GHz)			
Third-Order Interception Point (Low Distortion Mode)	≥30dBm (20MHz≤f≤8GHz) ≥20dBm (8GHz < f≤26.5GHz) ≥10dBm (26.5GHz < f≤67GHz)			
Second-Order Interception Point (Low Distortion Mode)	≥65dBm (20MHz≤f≤8GHz) ≥60dBm (8GHz < f≤26.5GHz) ≥55dBm (26.5GHz < f≤67GHz)			
Image Frequency Rejection	≥90dB (20MHz≤f≤40GHz) ≥80dB (40GHz < f≤67GHz)			
IF Rejection	≥90dB (20MHz≤f≤40GHz) ≥80dB (40GHz < f≤67GHz)			
Residual Response	≤-105dBm			
Amplitude Accuracy	±3.0dB (20MHz≤f≤8GHz) ±3.5dB (8GHz < f≤40GHz) ±4.0dB (40GHz < f≤67GHz)			
Maximum Input Power	15dBm (20MHz≤f≤8GHz) 10dBm (8GHz < f≤40GHz) 5dBm (40GHz < f≤67GHz)			
Demodulation Mode	AM，FM，PM，CW，LSB，USB，ISB，PULSE，IQ			
Temperature Range	Storage temperature: -40℃ ~ +70℃ Operating temperature: 0℃ ~ 50℃			
Power Consumption	≤300W（Stardard），≤450W（Full options）			
Reliability	MTBF(θ_0) ≥ 5000h			
Dimensions (Width × Height × Depth)	Dimensions: (482±4)mm × (193±2.5)mm × (517±4)mm Dimensions: (426±2)mm × (177±1.2)mm × (450±2)mm (excluding the main external dimensions of handles, feet, rear frame, wheels, rubber buttons, side carrying straps, buckles, screws, grounding posts, fiber optic cages, jumpers, input/output connectors, and other protruding structural parts)			
Weight	≤30kg（Different optional configurations result in different weights）			

Ording Information

3926 series Mointoring Receiver		Model
Main Unit		
1	Mointoring Receiver：8kHz ~ 8GHz	3926B
2	Mointoring Receiver：8kHz ~ 26.5GHz	3926E
3	Mointoring Receiver：8kHz ~ 50GHz	3926H
4	Mointoring Receiver：8kHz ~ 67GHz	3926L
Options		
1	1GHz Analysis Bandwidth	3926-H01
2	2GHz Analysis Bandwidth	3926-H02
3	GNSS	3926-H03
4	10 Gigabit Network	3926-H04
5	1GHz bandwidth fiber optic digital interface	3926-H05-1000
6	2GHz bandwidth fiber optic digital interface	3926-H05-2000
7	160MHz bandwidth fiber optic digital interface	3926-H06
8	Local storage space expansion（2TB）	3926-H07-2T
9	Local storage space expansion（4TB）	3926-H07-4T
10	Communication protocol identification and demodulation functions	3926-H08
11	Automatic signal modulation parameter identification	3926-S01
12	Signal demodulation	3926-S02
13	Pulse signal analysis	3926-S03
14	Real-time digital fluorescence spectrum analysis	3926-S04
15	Signal recording and playback	3926-S06
Stardard Accessories		
1	Power cord	
2	User manual	
3	Product quality certificate	

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