

AWA14523-S04E 1/2" Free-field Infrasonic Broadband Microphone set



Features

Key Parameters

Sensitivity: 31.6 mV/Pa

Frequency Range: 0.5 Hz~40 kHz

Dynamic Range: 21 dBA – 139 dB

Typical Applications

Infrasound testing

Free-field testing

Electroacoustic testing

Noise testing

Standards

IEC 61094-4:1995 Measurement microphones – Part 4: Specifications for working standard microphones

SJ/T 10724-2013 Electroacoustics – General specifications for measurement condenser microphones

Main Components

AWA14523 Measurement Microphone

AWA14604E Preamplifier

Brief Introduction

The AWA14523-S04E is a set comprising a free-field, wide-band infrasound microphone and a preamplifier. Designed for scenarios ranging from infrasound to ultrasound measurement—while also capable of standard acoustic measurements—it comes with an individual calibration certificate and is suitable for acoustic environments that are either anechoic or involve sound waves incident from specific directions (such as anechoic or semi-anechoic chambers). Featuring a high-precision capacitive microphone, the unit offers an ultra-wide frequency range of 0.5 Hz to 40 kHz, high sensitivity, and excellent stability. It is compatible with mainstream acoustic analysis instruments and is widely used in applications such as infrasound measurement, noise source localization, acoustic performance testing of equipment, and architectural acoustics assessment.

Product Highlights

Applications of the Free-Field Infrasonic Broadband Microphone set

The free-field infrasonic broadband microphone set features a wide frequency measurement range, extending down to 0.5 Hz. It is suitable for various measurement scenarios, including infrasound and sonic boom measurements. Additionally, it is compatible with conventional acoustic and certain ultrasonic signal measurements, making it ideal for fields such as acoustic research, noise monitoring, and sound system testing.

Compatibility

The AWA14523-S04E free-field infrasonic broadband microphone unit requires an external constant-current power supply module capable of providing a current of 2 mA to 20 mA and an open-circuit voltage of 24 V. Different manufacturers may use various names for such constant-current power modules and their supply modes, such as IEPE (Integrated Electronics Piezo-Electric), ICP (Integrated Circuit Piezoelectric), CCP (Constant Current Power), or CCLD (Constant Current Line Drive).

TEDS Measurement Microphone set

The set supports TEDS (Transducer Electronic Data Sheet) and is programmed in accordance with the IEEE 1451.4 standard (V1.0 format). It is compatible with smart microphone technology, facilitating the integration and automated management of microphone information.

Calibration

Each infrasonic microphone set is calibrated at the factory using traceable calibration equipment,

and a calibration certificate is provided with every set. Annual recalibration is recommended.

Quality and Warranty

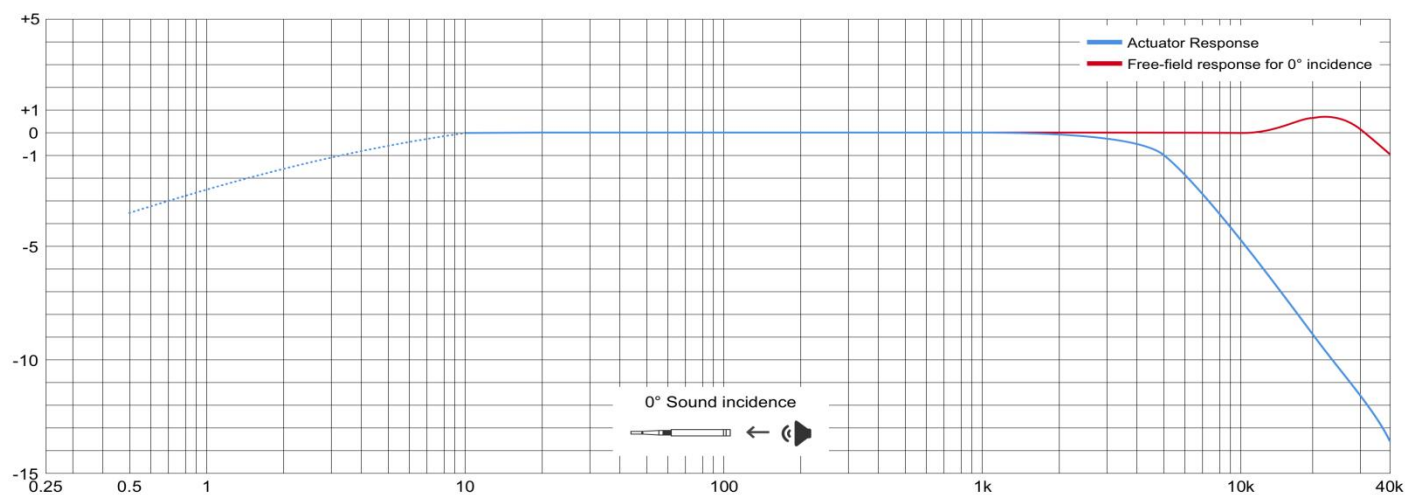
All Aihua infrasonic microphones feature second-generation alloy diaphragms, high-strength protective grids, and synthetic corundum insulators, ensuring exceptional stability and reliability. Compared to traditional nickel or stainless steel, these alloy diaphragms offer superior corrosion resistance, high-temperature stability, impact resistance, and specific strength. To ensure the highest quality, all sensors are assembled and tested in a Class 1000 cleanroom. The infrasonic microphone set come with a one-year warranty, backed by comprehensive after-sales support.

Technical Specifications

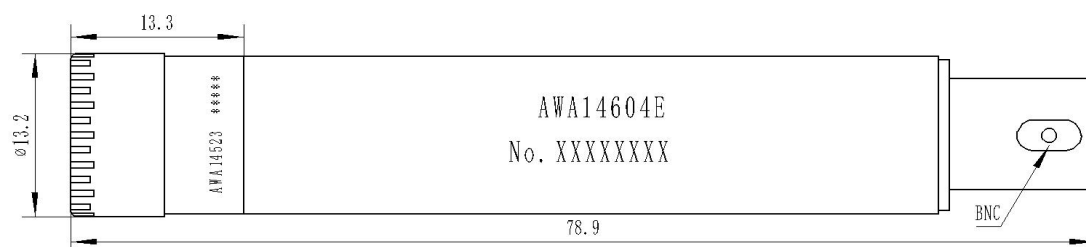
AWA14523-S04E 1/2" Free-field Infrasonic Broadband Microphone set			
Sound Field Type	Free field	Pressure Equalization	Lateral pressure equalization
Diameter	1/2 inch	Operating Temperature (°C)	-30 to +80
Dimensions Standard (IEC 61094)	WS2F	Temperature Coefficient (dB/°C) (@250 Hz)	-0.01 (-10°C to 50°C)
Power Supply	IEPE (2 mA to 20 mA)	Static Pressure Coefficient (dB/kPa)	-0.01
Sensitivity (mV/Pa) (@250 Hz ±2.0 dB)	31.6	Input Impedance/Capacitance	≥10 GΩ / ≤0.5 pF
Frequency Range (Hz)	0.5~40k	Output Voltage	≥5 Vrms @ 24 V supply
Polarization Voltage (V)	0	Output Impedance	≤50 Ω
Dynamic Range	21 dBA~139 dB	TEDS	Standard
Noise Floor (dBA)	≤21	Output Connector	BNC

Frequency response

Test conditions: Temperature 23 °C, Relative humidity 50 %RH



Specifications and Dimensions



Ordering Information

Optional Accessories

Microphone test clip	1/2" microphone test clip
Preamplifier power supply	AWA1710
Cable	AWA8740

Related Products:

AWA14404-S00E 1/2" Pressure-field working standard microphone set
12.6 mV/Pa, 3.15 Hz–20 kHz, 24 dBA–160 dB

AWA14403-S00E 1/2" Free-field working standard microphone set
14.1 mV/Pa, 3.15 Hz–40 kHz, 23 dBA–159 dB

AWA14423-S04E 1/2" Free-field measurement microphone set
50.0 mV/Pa, 3.15 Hz–20 kHz, 17 dBA–135 dB

AWA14423C-S01C 1/2" Free-field infrasound microphone set
39.8 mV/Pa, 0.1 Hz–20 kHz, 21 dBA–137 dB

AWA14424C-S01C 1/2" Pressure-field infrasound microphone set
21.1 mV/Pa, 0.2 Hz–16 kHz, 28 dBA–143 dB

AWA14434-S14E 1/4" Pressure-field high-SPL measurement microphone set
0.63 mV/Pa, 3.15 Hz–40 kHz, 61 dBA–173 dB

AWA14435-S14E 1/4" Free-field High-SPL Measurement microphone set
4.0 mV/Pa, 5 Hz – 20 kHz, 43 dBA – 160 dB

AWA14436-S14E 1/4" Pressure-Field Wideband High-SPL measurement microphone set
1.0 mV/Pa, 3.15 Hz~70 kHz, 57 dBA~171 dB

AWA14431-S14E 1/4" Free-field Wideband Measurement Microphone set
4.0 mV/Pa, 3.15 Hz – 80 kHz, 43 dBA – 160 dB

AWA14411-S04E 1-inch free-field low-noise measurement microphone set
100.0 mV/Pa, 10 Hz–16 kHz, 11.5 dBA–129 dB
