PUIaudio

Data Sheet AS02008MR-7

The **AS02008MR-7** is designed for applications such as hand-held devices, portable devices, and devices that value compact design.

Features:

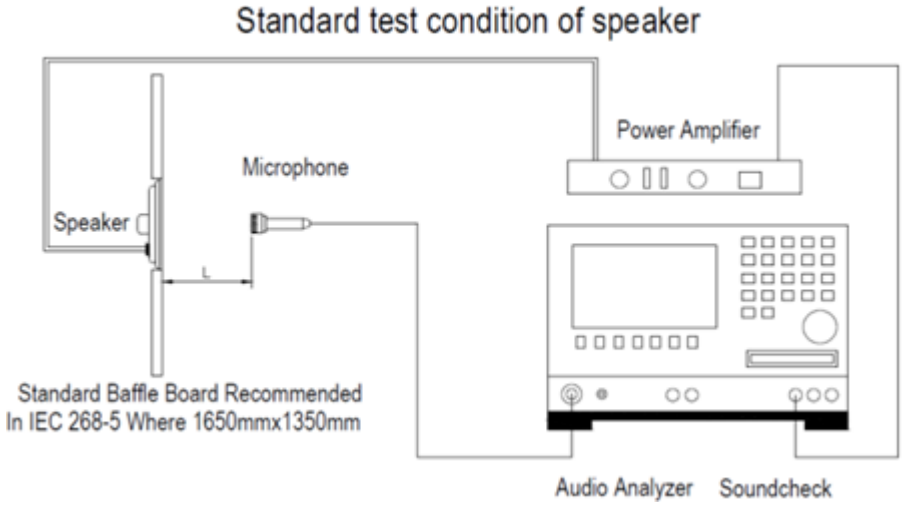
- 71dBSPL: P_{DRIVE} = 0.3W, distance = 0.5m
- 0.3W continuous dissipation
- 580Hz free-air resonance
- 20mm diameter x 2.45mm dimensions

Specifications

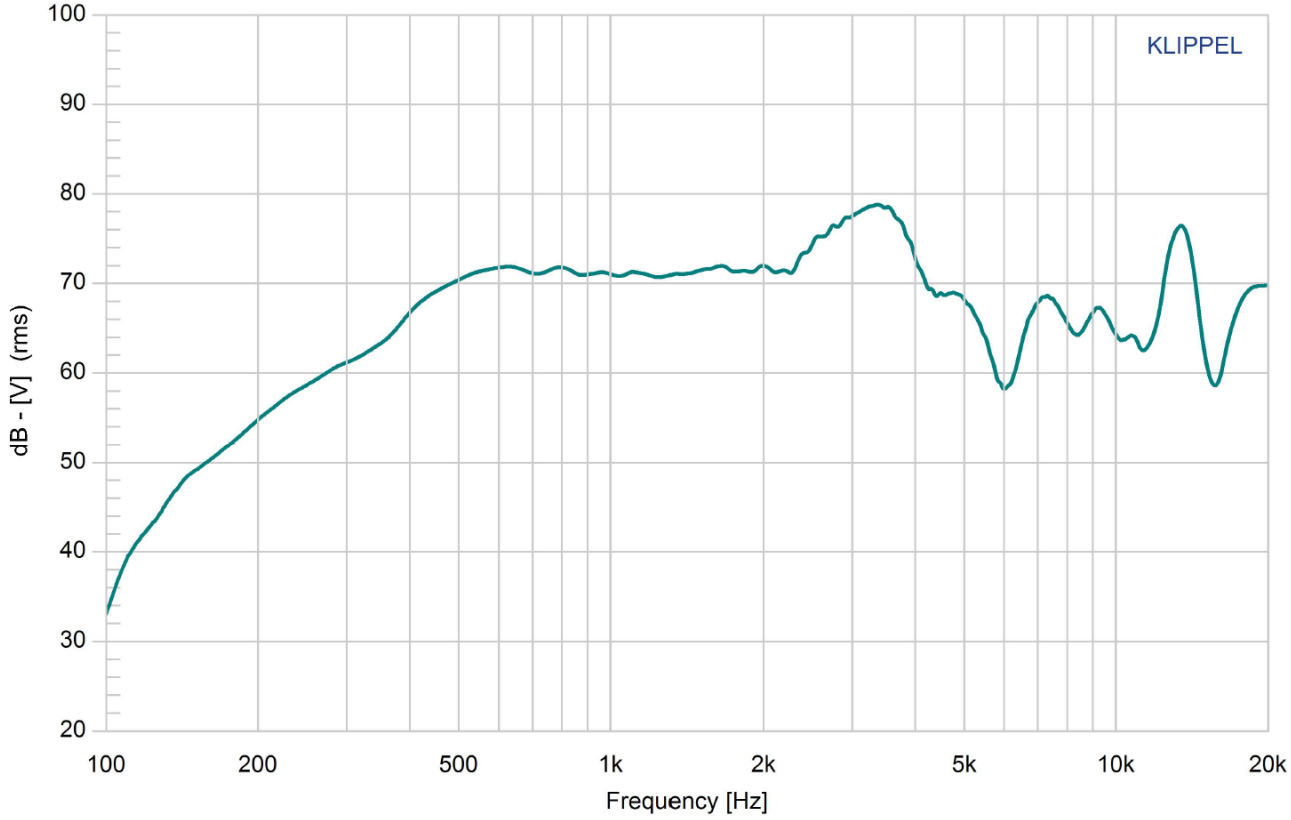
(Specifications measured with following conditions: ambient temperature; 15°C ≤ T_A ≤_35°C, relative humidity; 25% ≤ RH_A ≤ 75%, according to standard GB/T9396-1996, unless otherwise stated. Judgement Condition: ambient temperature; 20 ±2°C; relative humidity; 63% ≤ RH_A ≤ 67%. Product shelf life valid for 12 months.

Parameters	Values	Units
Rated Input Power	0.3	Watts
Max Input Power	0.5	Watts
Impedance	8 ±15%	Ohms
Sensitivity P_{DRIVE} = 0.3W, distance = 0.5m f = ave. 0.8kHz, 1.0kHz, 1.2kHz, 1.5kHz	71 ±3	dB
Resonant Frequency (f_0)	580 ±20%	Hz
Frequency Range (-10 dB)	350 ≤ f ≤ 6,000	Hz
Total Harmonic Distortion f = 1 kHz, P_{DRIVE} = 0.3W	< 5	%
Frame Material	Iron	-
Magnet Material	NdFeB	-
Diaphragm Material	PET	-
Weight	2.1	gm
Buzz, Rattle, etc.	Not audible with P_{DRIVE} = 0.3W, sine wave	-
Polarity	Diaphragm moves forward with positive dc current applied to "+" terminal	-
Operating Temperature Range	-25 ≤ T_O ≤ 50	°C
Storage Temperature Range	-25 ≤ T_S ≤ 60	°C
Environmental Compliance	RoHS/REACH	-

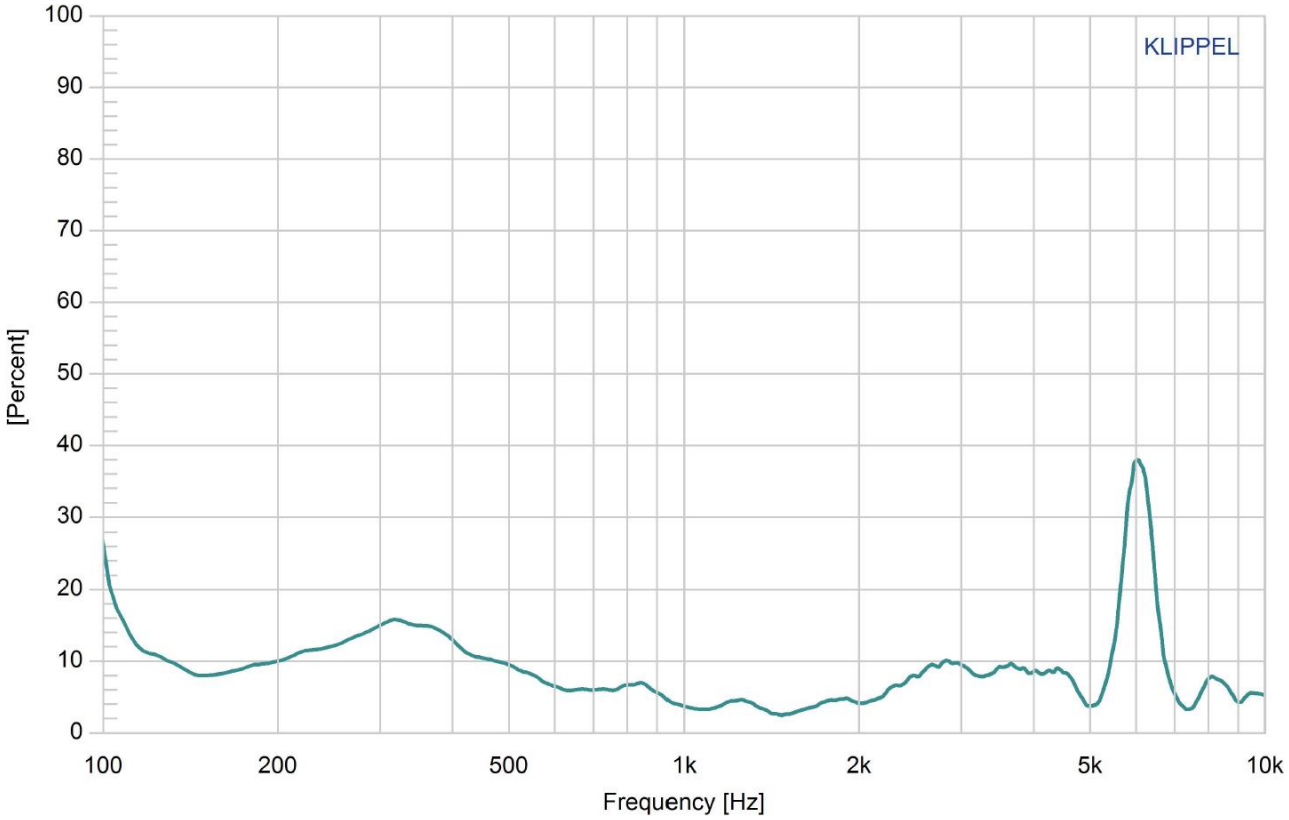
Measurement Method (measured with P_{DRIVE} = 1.0W, distance = 0.5m)



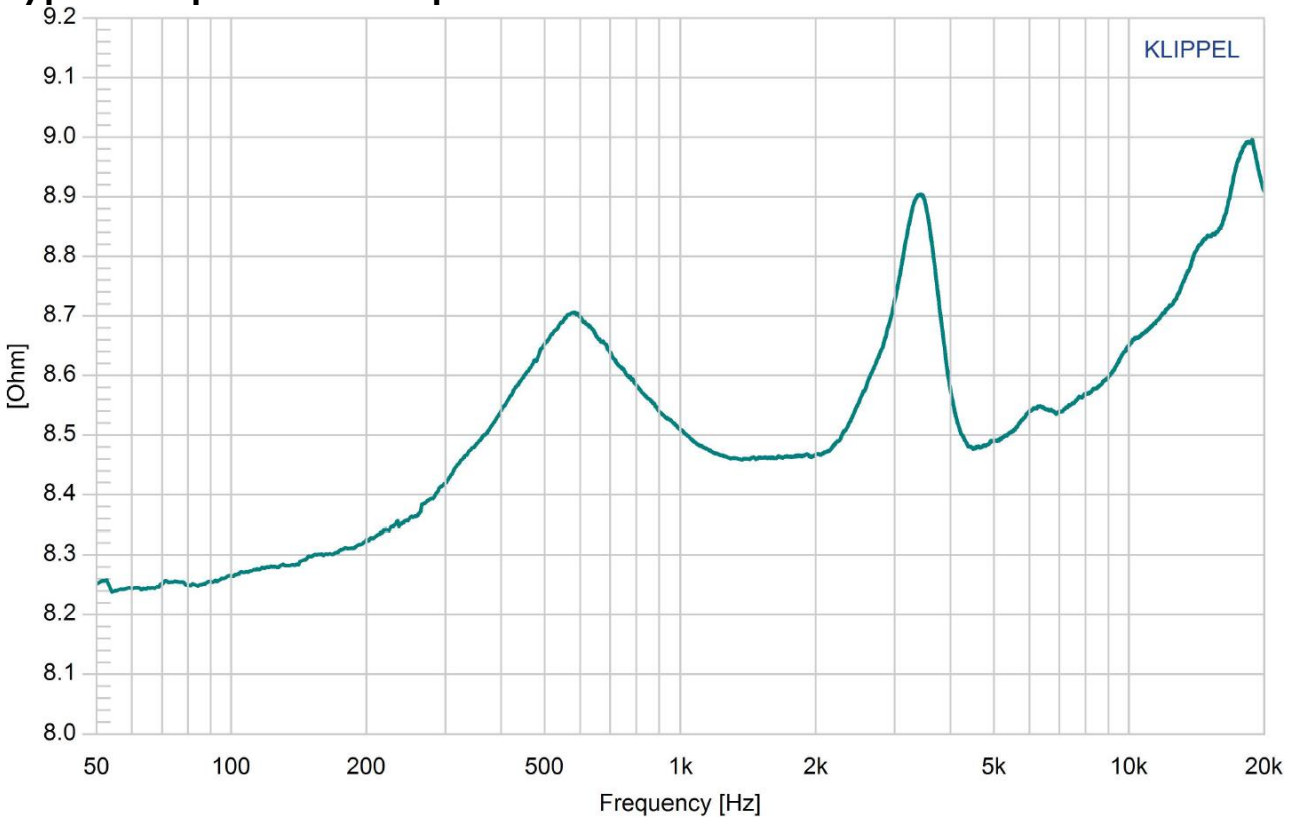
Typical Frequency Response (P_{DRIVE} = 0.3W, distance = 0.5m)



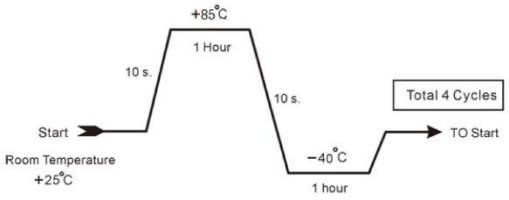
Typical THD vs. Frequency (P_{DRIVE} = 0.3W)



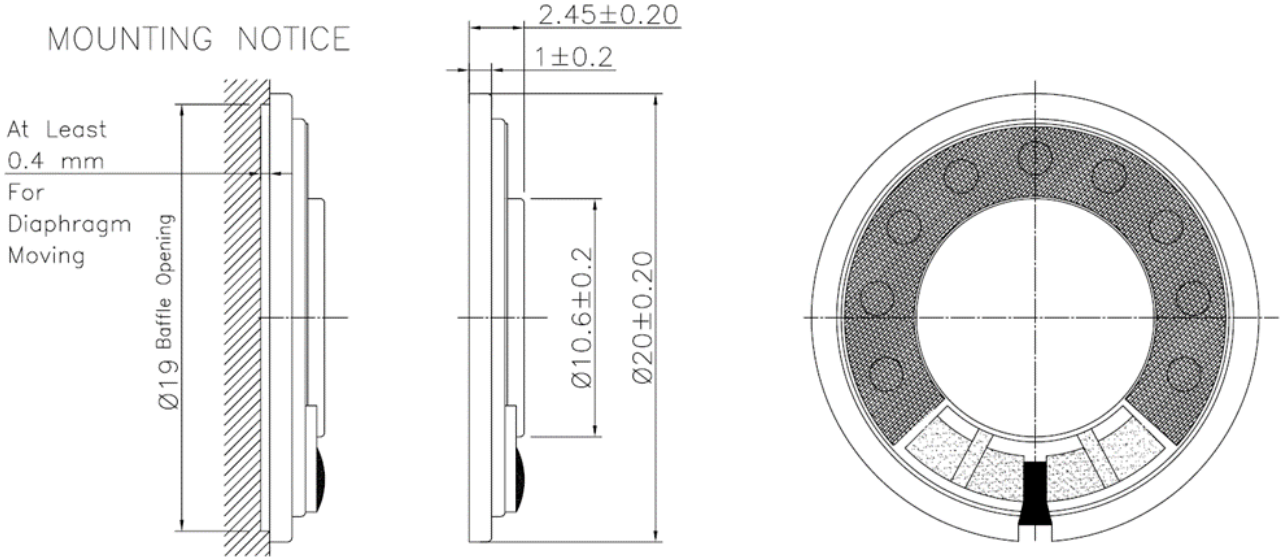
Typical Impedance Response



Reliability Testing

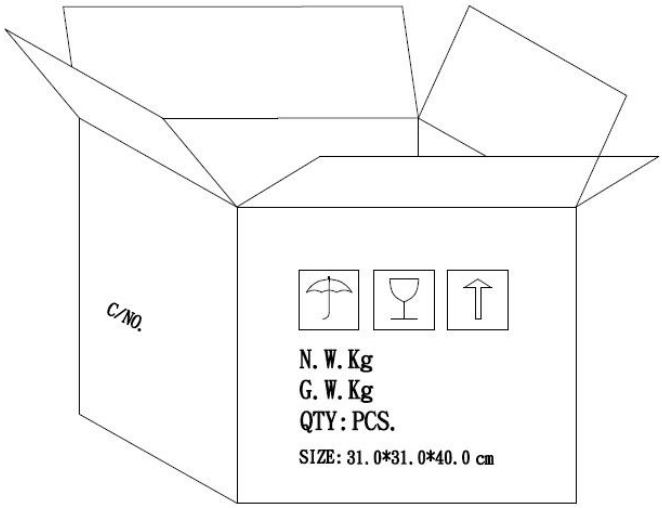
Type of Test	Test Specifications	Judgement
High Temperature Test GB2423.2-81	96 hours at +85°C ± 2°C followed by one hour in normal room temperature	SPL shall not deviate by ±3dB. Resonant frequency shall not deviate by ±50Hz. (compared with pre-test measurement)
Low Temperature Test GB2423.1-81	96 hours at -40°C ± 2°C followed by one hour in normal room temperature	
Humidity Test GB5170.18-87	96 hours at +40°C ± 2°C with relative humidity between 90% and 95% followed by 6 hours in normal room temperature	
Temperature Cycle Testing GB5170.18-87		SPL shall not deviate by ±4dB. Resonant frequency shall not deviate by ±80Hz. (compared with pre-test measurement)
Vibration Test GB11606.8-89	Frequency 30±15 Hz, Amplitude 1.5 mm for 3 Hours	SPL shall not deviate by ±3dB. (compared with pre-test measurement)
Drop Test GB2423.8-81	75 cm free falling on concrete floor, 10 times.	
Load Test GB/T12060.5-2011	Speaker should not fail after applying 20Hz ~ 20kHz pink noise with HPF rated power input (RMS), 96 hours.	

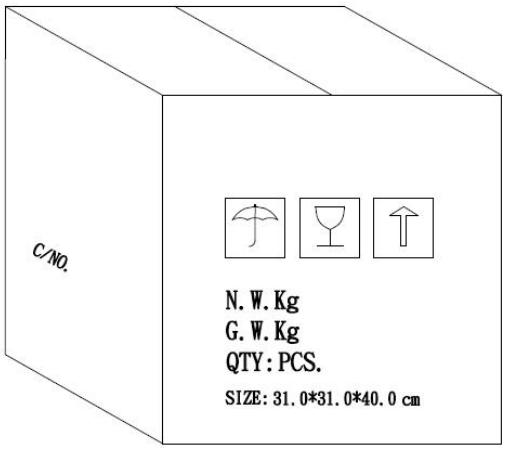
Dimensions (All dimensions in mm; tolerance is +0.2mm, unless otherwise stated.)



Packaging

NOTE
100 PCS per Layer
Total 20 Layer per box
Total 2000 PCS per box
31.0*31.0*40.0 cm
HF+ROHS 2





Measurement & Standard Reference

Abstract from GB/T 9396-1996 and IEC 268-5:1989: methods of measurement for main characteristics of loudspeakers.

5.1 Rated sine voltage.

A sinusoidal signal voltage specified by the manufacturer which makes the speaker work continuously in the rated frequency range, without causing electrical or mechanical damage to the speaker. The continuous voltage time is 1 hour.

5.2 Rated sine power.

The rated sine power corresponding with the rated sine voltage defined by: U_S^2/R, where U_s indicates the rated sin voltage and R indicates the rated impedance of the speaker.

5.3 Rated noise power.

The rated sine power corresponding with the rated sine voltage defined by: U_n^2/R, where U_n indicates the rated sin voltage and R indicates the rated impedance of the speaker.

Specifications Revisions

Revision	Description	Date	Approved
A	Datasheet released from Engineering	03/08/2024	KH

Note:

1. Unless otherwise specified:
   A. All dimensions are in millimeters.
   B. Default tolerances are ±0.5mm and angles are ±3°, unless otherwise specified.
2. Specifications subject to change or withdrawal without notice.