



PN: D0057004NM330AR

DWG#: DB20-014 Rev0.6

SPECIFICATION

PRODUCT: Loudspeaker

STETRON PART NUMBER: D0057004NM330AR

DESCRIPTION: $\phi 57\text{mm} \times 17.5\text{mm}$ / 4ohms / High SPL / RoHS / Mylar cone / Outdoor

RFQ: QG20027

STETRON APPROVALS	PREPARED BY	CHECKED BY	APPROVED BY
SIGNATURE	<i>RS</i>	<i>CS</i>	
DATE	1-Nov-2021	1 Nov-2021	

CUSTOMER APPROVAL	SIGNATURE	DATE

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REVISION HISTORY

Rev Level	Date	Description	Page #	Changed By
0.0	22-April-2020	Original (from DB18-034 Rev0.7)	All Pages	YL
0.1	13-Aug-2020	Added lead wires	Pg. 6	RS
0.2	13-May-2021	Updated Lead Wire length, Reliability	Pgs. 5,6	CS
0.3	18-Aug-2021	Updated connector type and lead wires	Pg. 6	RS
0.4	30-Aug-2021	Removed preliminary stamp	All pages	RS
0.5	22-Sept-2021	Updated items 6.6 and 6.7	Pg. 5	RS
0.6	1-Nov-2021	Updated item 6.7	Pg. 5	RS

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**1. Scope**

This document contains the required electrical, acoustic, mechanical and reliability information for a loudspeaker.

2. Environmental Requirements

This loudspeaker including all components, solder joints and glue must be RoHS compliant and meet the customer's known requirements for banned or restricted substances.

3. Test Conditions

	Standard Conditions	Preferred Conditions
Temperature	15 to 35°C	20 ± 2°C
Humidity	25 to 75%	63 to 67%
Air Pressure	86 to 106kPa	86 to 106kPa

*Note: Above atmospheric test conditions are for acoustic parameters only

4. Electrical Requirements**4.1 Rated Impedance**

4 ± 15% Ω (1.0KHz/1Vrms)

4.2 Rated Power

2.0W (RMS)

4.3 Max Power

3.0W (RMS)

4.4 Polarity

When a positive DC current is applied to the speaker terminal marked "+" the diaphragm shall move forward.

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5. Acoustical Requirements

5.1 Sound Pressure Level

>91.2dB (on IEC 268-5 Baffle in anechoic chamber @ 520Hz, 1W/1m)

5.2 Resonant Frequency (Fo)

510 Hz $\pm$ 20% @ 1Vrms constant voltage – free air

5.3 Frequency Range

Fo to 4 kHz (SPL-10dB) @ 1W/1m

5.4 Buzz and Rattle

No audible buzzing shall occur at ≥ 0.3 m distance when 2.0Vrms sine wave from 510 Hz to 4 kHz is applied to the speaker.

5.5 Total Harmonic Distortion (THD)

Max 10% from 708Hz to 4476Hz @2.0W/1.0m

*See Test circuit (Fig 1), Typical Frequency Response (Fig 2) and Typical Impedance Curve (Fig 3) below.

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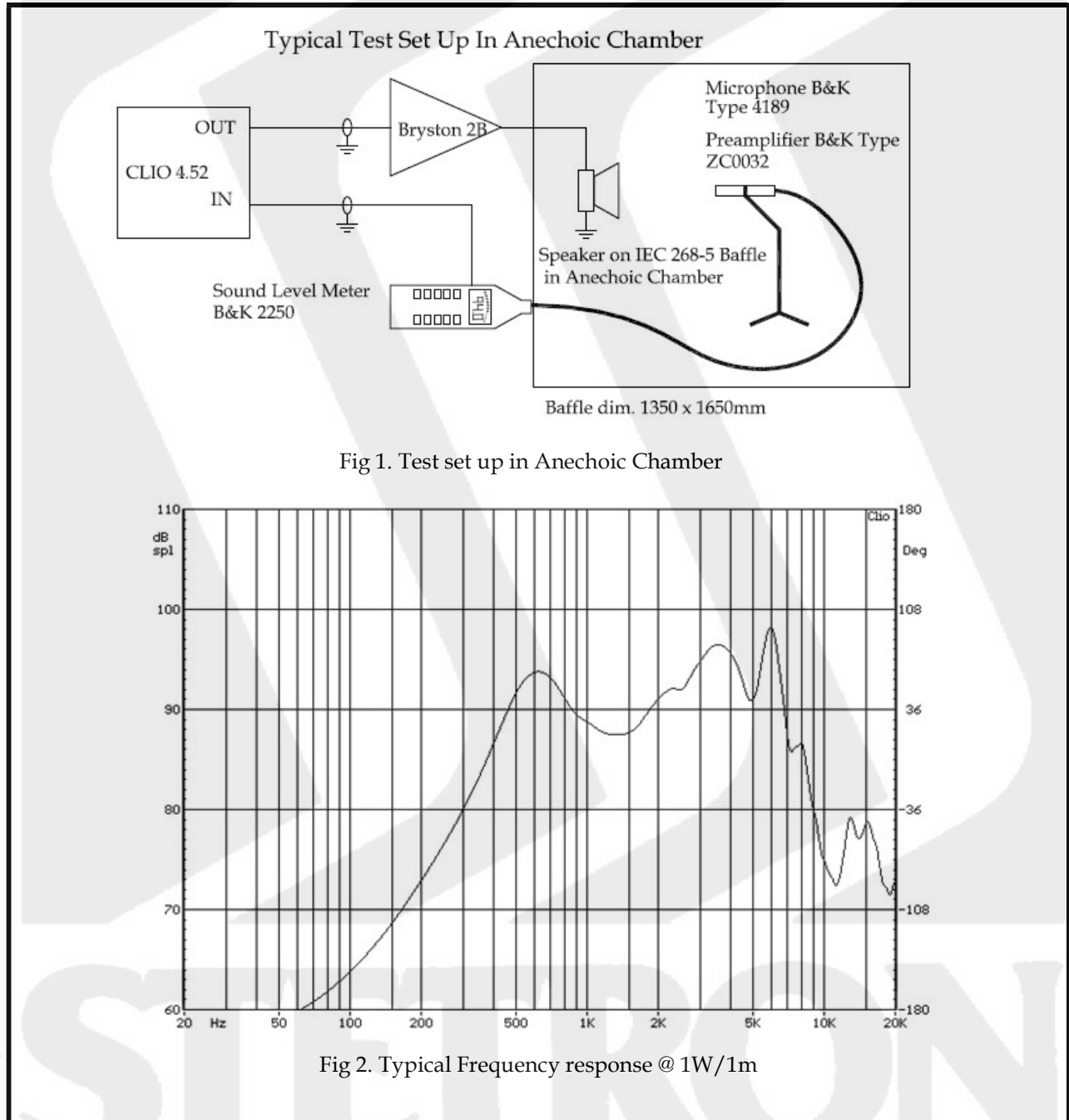
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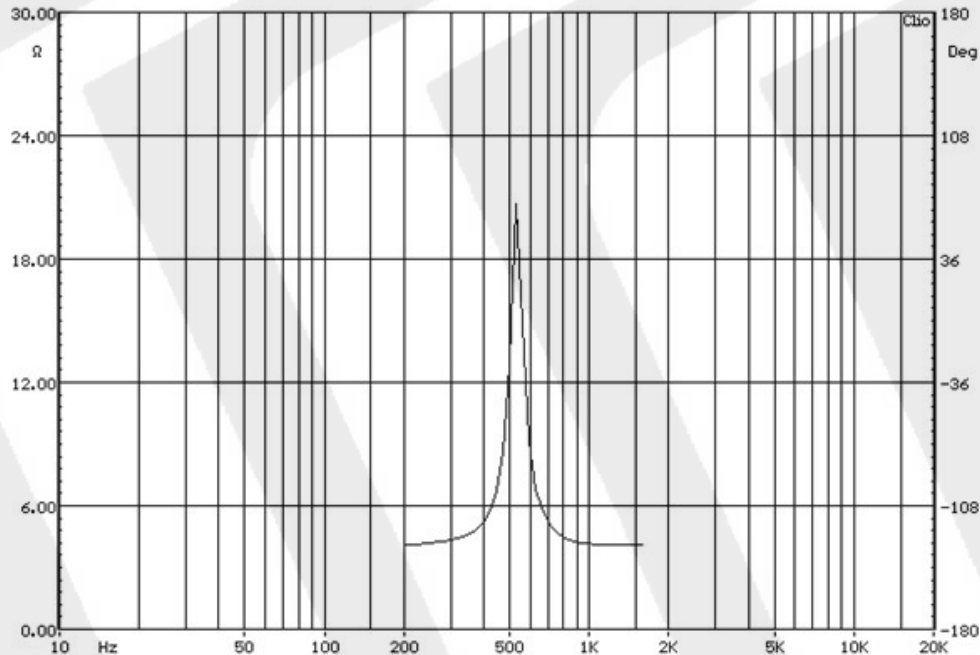


Fig 3. Typical Impedance Curve in Free Air @ 1Vrms input

6. Reliability

6.1 High Temperature

Speakers are exposed to $70^{\circ}\text{C} \pm 3^{\circ}\text{C}$, R.H. random for 96 hrs.

6.2 Humidity

Speakers are exposed to $40^{\circ}\text{C} \pm 3^{\circ}\text{C}$, R.H. 90 - 95% for 96 hrs.

6.3 Low Temperature

Speakers are exposed to $-40^{\circ}\text{C} \pm 3^{\circ}\text{C}$, R.H. random for 96 hrs.

6.4 Rated Power

Speakers are exposed continuously to 130% rated power (2.6W RMS) pink noise (400 ~ 4K Hz) for 24 hrs.

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**6.5 Max Power**

Speakers are fed with 3W (3.46Vrms) white noise (20 ~ 20K Hz) for 1min.

6.6 Transportation and Storage Range

+ 70°C to - 40°C for 96 Hrs

*Note: After any of the above tests (6.1 to 6.6) leave speakers for 1 hr at room temperature and speakers must meet items 5.1 and 5.3.

6.7 Operational Temperature Range

Tmax = + 70°C, Tmin = - 40°C

At Tmax and Tmin, speakers are tested with an input of 2W pink noise (Fo to 4kHz) for 24 Hrs. After test SPL should not exceed -3dB from the baseline. Note: These tests are to be conducted on different sets of samples.

6.8 Drop Test

Speakers properly packaged in their shipping carton are dropped on each side of the carton except the top from a height of 80cm (Carton GW ≤ 10 kg) or 60 cm (10 kg < Carton GW ≤ 25 kg). After test there shall be no audible buzz or rattle and the speakers shall not exhibit any physical damage.

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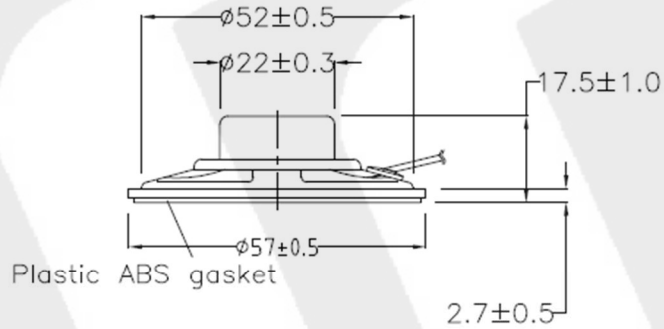
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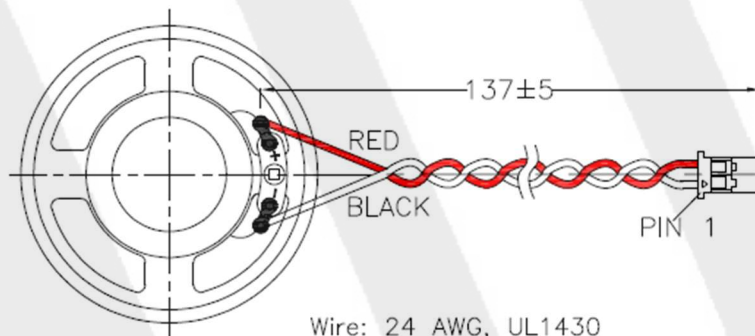
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7. Mechanical Layout and Dimensions



Speaker Marking:
DB20-014
YYWWD



Wire: 24 AWG, UL1430
Connector Housing: A2007-H02, housing-1x2P
Connector Terminal: A2002-TP2, terminals with tin coating
Manufacturer: Shenzhen Longway Electronics Co., Ltd

All dimensions in mm

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