soberton inc.

SP DYNAMIC SPEAKER UNIT

Acoustic Product Specification

Product Number: SP-4510

Release | Revision: D/2018

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Speaker Electroacoustic Characteristics

Sound Pressure Level

82±3dB SPL @0.6, 0.8, 1.0 and 1.2KHz on average (0dB SPL=20μPa)
Measuring condition: 1W (Sine wave) 10cm measured with baffler shown in Fig 1

Frequency Range

F0 Hz ~ 6KHz

Response Frequency

700±20%Hz

Input Power (Nominal and Maximum)

Rated Noise Power: 0.3W

Short Term Maximum Power: 3.0W must be normal at a white noise for one minute

Buzzer and Rattles

Should not be audible at 1.09 V sine wave between F0 ~ 20KHz

Polarity

When positive voltage is applied to the terminal marked (+), diaphragm should move to the front.

Distortion

Less than 10% @1KHz, 0.1M, 1.0W, frequency range, input level up to 2.0 Vrms

General Specifications

Operating Temperature Range

-30℃~+70℃

Storage Temperature Range

-40℃~+85℃

Standard Test Conditions

Temperature 17℃~25℃

Relative Humidity 45%~80%(RH)

Impedance

4±15%Ω

Weight

15.5g±8%

Dimension

45.0 x 10.0mm

IP Level

No rating

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Reliability Tests

After these test, the change of S.P.L shall be within ±3 dB

High Temperature Test

High Temperature +70±3℃

Duration 96 hours

Low Temperature Test

Low Temperature -30±3℃

Duration 96 hours

Humidity Test

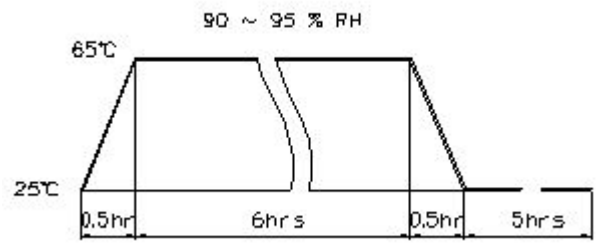
Temperature +30±3℃

Relative Humidity 92%~95%

Duration 96 hours

Temperature/Humidity Cycle Test

The part will be subjected 5 cycles. One cycle shall be 6 hours and consist of



Drop Test

Drop the speakers contained in normal box onto the board 40mm thick 10 times from the height of 75cm.

Vibration Test

10Hz ~ 55Hz ~ 10Hz sine-wave sweep 15min. 5G (constant)
X, Y, Z 3 direction, 2 hours each, a total 6 hours.

Load Test

Rated Power White-Noise is applied for 96hours at room temp

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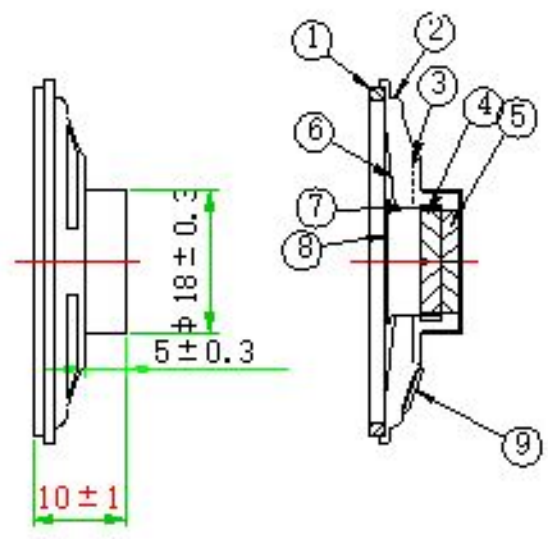
Dimensions

Tolerance: ±0.5 (unit: mm)



No.	Part Name	Material	Quantity
1	Gasket	Paper	1
2	Frame	SPCC	1
3	Damper	Cloth	1
4	Plate	SPCC	1
5	Magnet	Nd Fe B	1
6	Cone	PET	1
7	Voice coil	PL+Cu	1
8	Dust cap	PET	1
9	Terminals	Paper + steel	1

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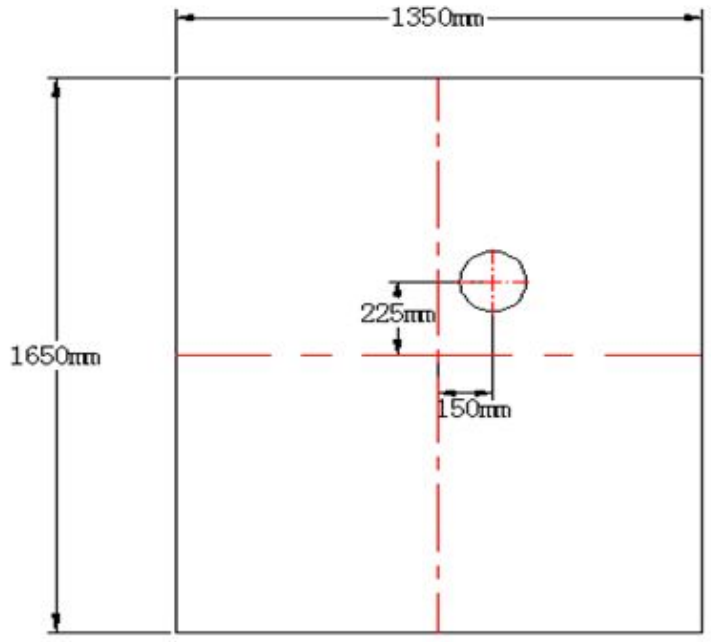
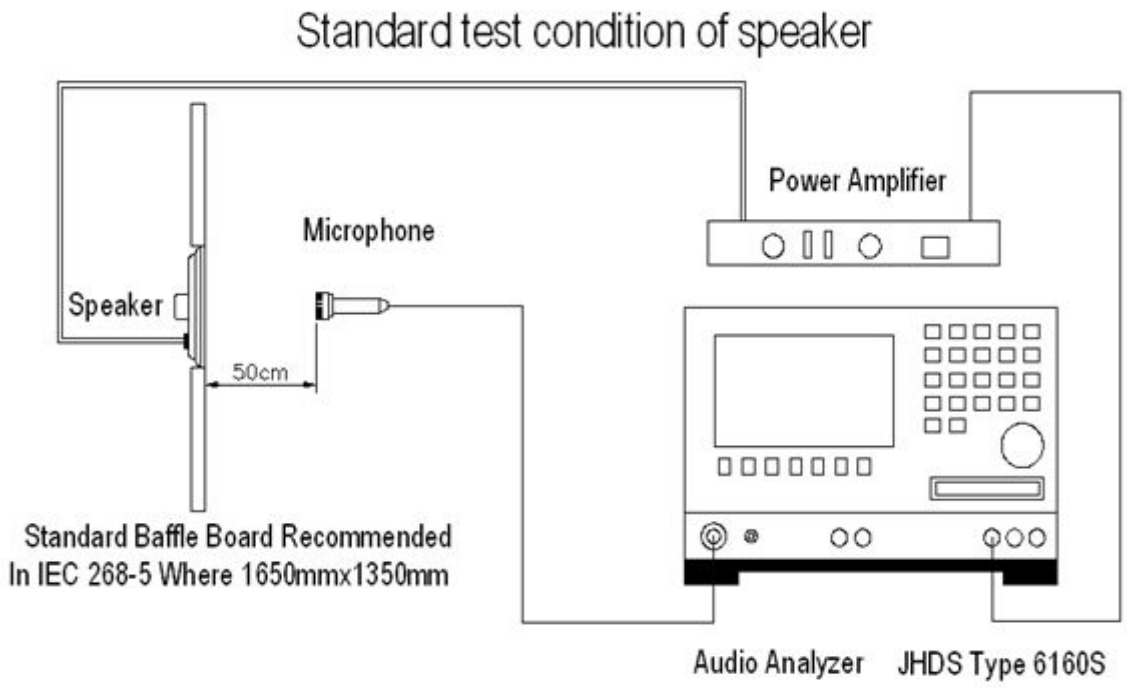
Measuring Method (Fig.1)



Block Diagram For Measurement Method



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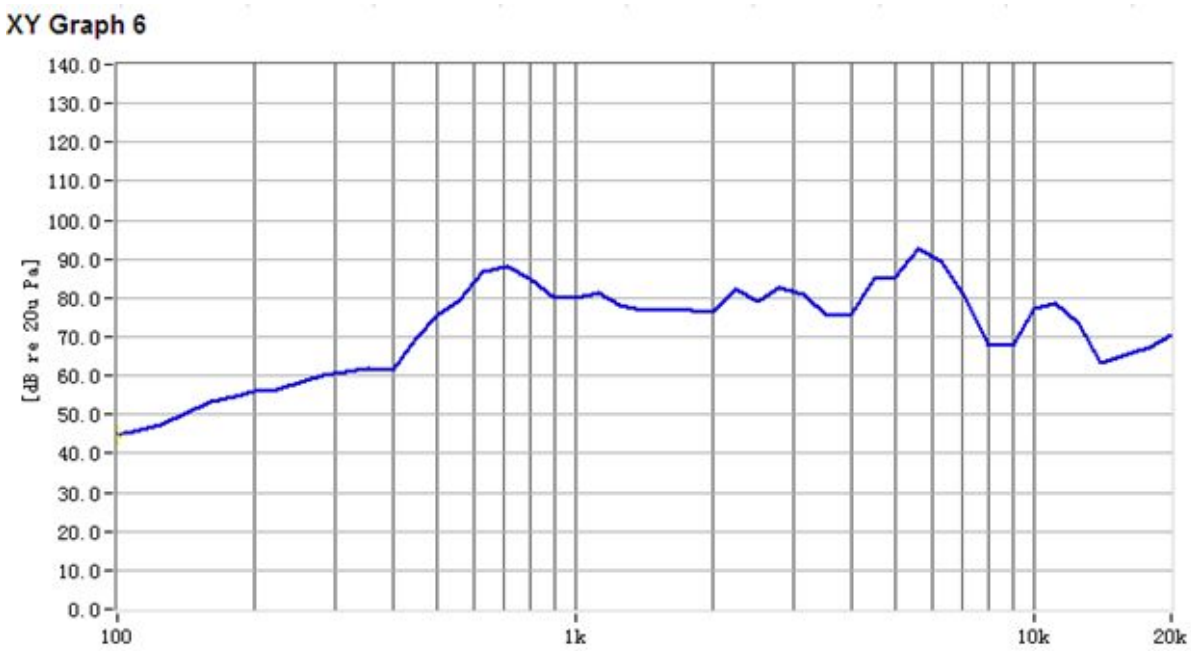
Frequency Response Curve (Fig. 2)

The swept sine-wave frequency response of a loudspeaker should ideally not deviate more than indicated.



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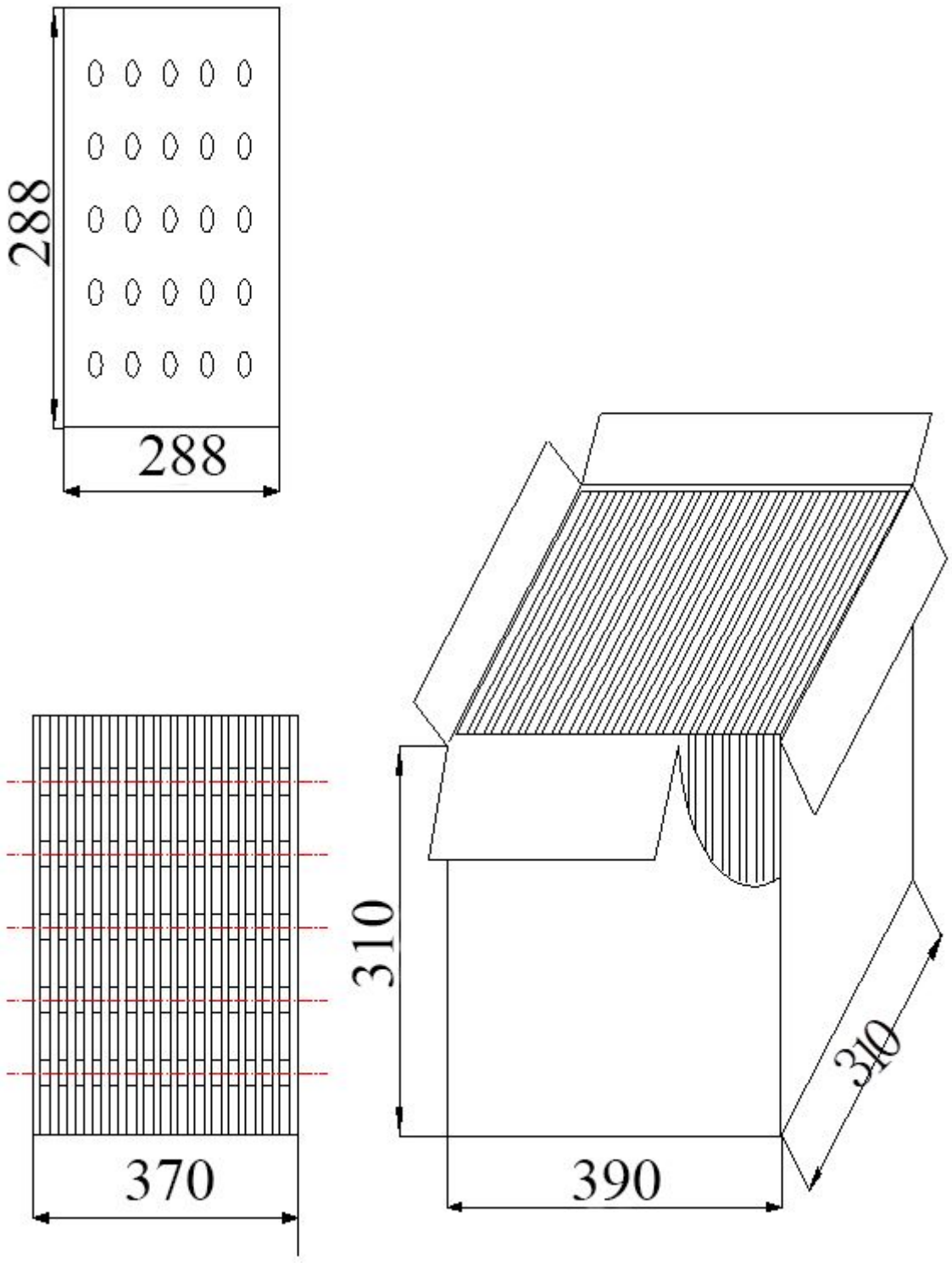

Remark:

1.) Each clap board: 25pcs

2.) Each carton: 28pcs clap board

3.) Each carton: 700pcs/carton

4.) N.W: 9.8KG, G.W: 11.8KG

5.) Carton size: 390 x 310 x 310mm 1pcs