

# SPECIFICATION

## FOR APPRONAL

Customer : \_\_\_\_\_

Product Name : Dynamic Speaker \_\_\_\_\_

Model Name : VS3650R16F500P1C50 \_\_\_\_\_

Drawing No. : VS20220815014 \_\_\_\_\_

### Signature of Voise

Approved by	Checkde by	Issued by	Date

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### 1. Revision

Rev.No	Date	Page	Description of Revision
1.0	2022/8/15		Preliminary

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## 2. Scope

This document contains required environmental,electrial,acoustic,mechanical,package and reliability test requirement

## 3. General Characteristics

- 2.1 Out-Diameter : 36 mm
- 2.2 Height : 5 mm
- 2.3 Weight : 8 g
- 2.4 Operating Temperature : -30~+70°C without loss of function
- 2.5 Store Temperature : -40~+85°C without loss of function

## 4. Electrical and Acoustic Characteristics.

Test condition :15 ~ 35 °C Temp., 25% ~ 75% RH,86~106 kPa Refer to IEC60268-1

No	Items	Specification
1	Impedance	16 Ω ± 15% (1Vrms at 1KHz)
2	Sound Pressure Level	90 dB ± 3dB (0.1m/1w at 0.8,1.0,1.2,1.5kHz Average)
3	Resonance Frequency(fo)	500 Hz ± 20% at 1V
4	Frequency Range	fo ~20KHz
5	Input Power	Rated 1 W / Max. 1.2 W
6	Distortion	Less than 5% at 1kHz 0.5W
7	Buzz and Rattle	Should not be audible buzzes,rattles when the 4V sine wave signal swept at frequency range.
8	Polarity	When a ppsitive DC current is applied to the voice coil terminal marked (+) , the diaphragm shall move to forward.

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## 5. Reliability Test

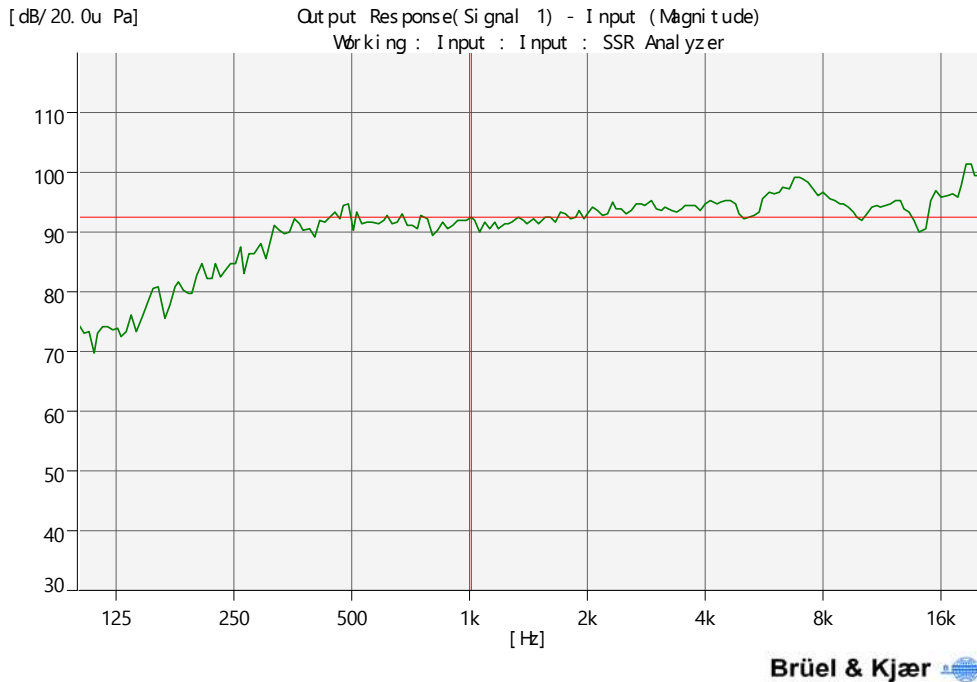
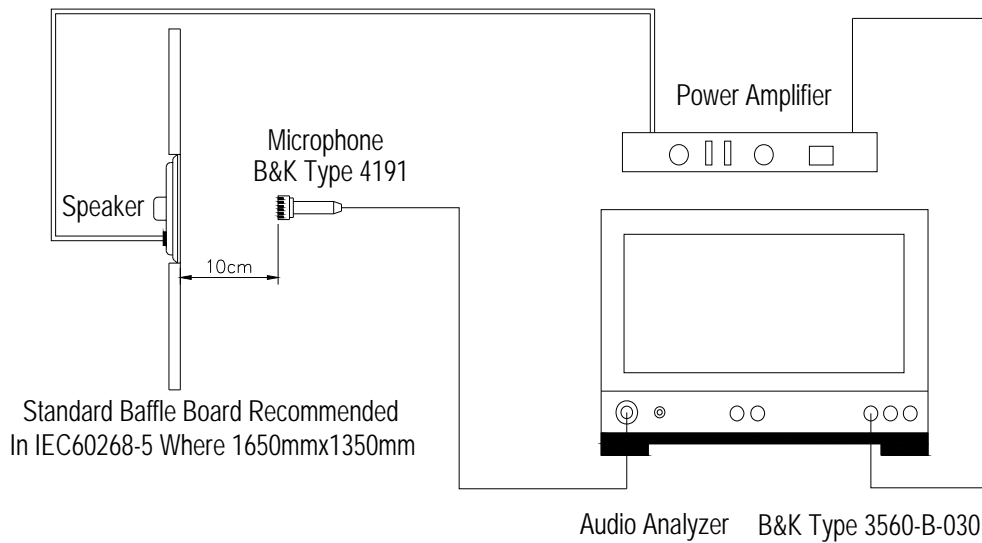
After test(1~7item), the speaker S.P.L . difference shall be within  $\pm 3\text{dB}$ , and the appearance not exist any change to be harmful to normal operation

No	Items	Specification
1	High Temp.Test	Keep 100 hours at $+70\pm 3\text{ }^{\circ}\text{C}$ ,and leave 4 houres in normal temperature and then check.
2	Low Temp.Test	Keep 100 hours at $-30\pm 3\text{ }^{\circ}\text{C}$ ,and leave 4 houres in normal temperature and then check.
3	Humidity Test	Keep 100 hours at $-30\pm 3\text{ }^{\circ}\text{C}$ ,relative humidity 85 to 90% and leave 4 houres in normal temperature and then check.
4	Thermal Shock Test	Each temperature cycle shall consist of 2 hours at $+25\pm 3\text{ }^{\circ}\text{C}$ followed by 2hours at $+70\pm 3\text{ }^{\circ}\text{C}$ ,and followed by 2hours at $-30\pm 3\text{ }^{\circ}\text{C}$ with a 20 to 40 minutes transition time between each 2 temperature extremes. The test duration is for 10 cycle.
5	Vibration Test	Being applied vibration of amplitude of 1.5mm with 10-55-10Hz band of vibration frequency,X.Y.Z.3 direction.2 hours each, total 6 hours.
6	Drop Test	Free drop fram 1.0 meter height to a board 20mm thick hard wood board. and be nothing mechanical damage. tatol 6 times.
7	Load test	Loading white noise with input rate power for 100 hours, then placed in natural condition for 1 hour and then check.
8	Insulation test	When they are measured with DC 100V the insulation resistance between v.c. terminal and frame must be more than 1 M $\Omega$

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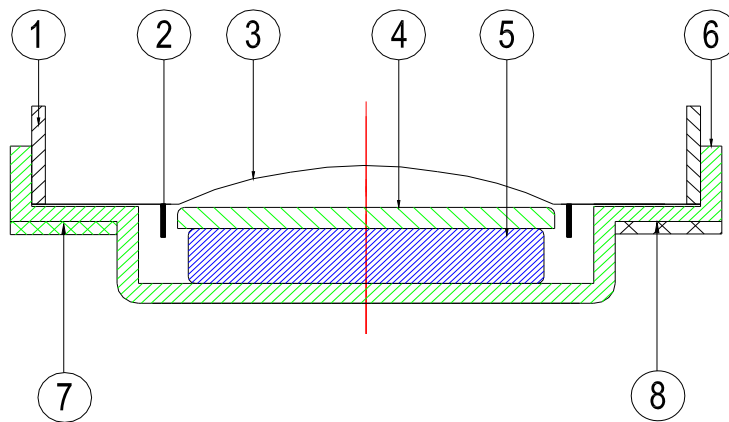
## 6. Measurement Method & Frequency Response curve

### Standard test condition of speaker



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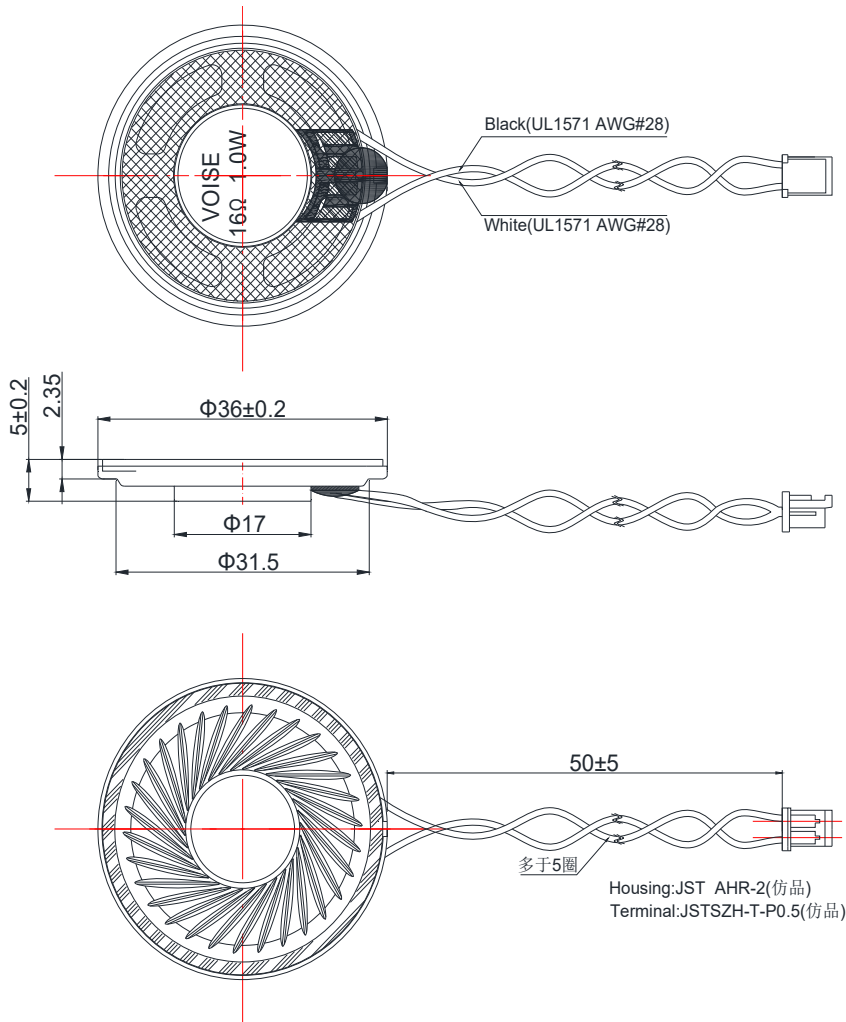
## 7. Mechanical layout



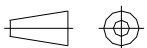
8	Screen	1	unwoven fabric	
7	Terminal	1	FR-4	
6	Frame	1	SPCC	
5	Magnet	1	Nd-Fe-B	
4	Plate	1+1	SPCC	
3	Diaphragm	1	PEN	
2	Voice Coil	1	Paper+Copper	
1	Gasket	1	ABS	
No.	Part Name	Q'ty	Material	Remarks

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## 8. Dimensions



FIRST ANGLE PROJECTION



UNIT : mm

Tolerance :  $\pm 0.2$

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## 9. Packing

Each minimum package unit of products shall be in a carton box and it shall be clearly marked with Part Number ,quantity and outgoing inspection number.

There shall be no mechanical damage on products during in storage.