

SPECIFICATION

FOR APPRONAL

Customer : _____

Product Name : Dynamic Speaker _____

Model Name : VS3648R16F600P1WP _____

Drawing No. : VS20200717012 _____

Signature of Voise

| Approved by | Checkde by | Issued by | Date |
|-------------|------------|-----------|------|
| | | | |



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| | | Revision No. | 1.0 |
| Model No.: | VS3648R16F600P1WP | Drawing No. | VS20200717012 |

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1. Revision

| Rev.No. | Date | Page | Description of Revision |
|---------|-----------|------|-------------------------|
| 1.0 | 2020/7/17 | | Preliminary |
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2. Scope

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

3. General Characteristics

- 2.1 Out-Diameter : 36 mm
- 2.2 Height : 4.8 mm
- 2.3 Weight : 8 g
- 2.4 Operating Temperature : -30~+60°C without loss of function
- 2.5 Store Temperature : -30~+70°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 2KHz) |
| 2 | Sound Pressure Level | 90 dB ± 3dB (0.1m/0.1w at 1kHz) |
| 3 | Resonance Frequency(f_0) | 600 Hz ± 20% at 1V |
| 4 | Frequency Range | f_0 ~7KHz |
| 5 | Input Power | Rated 1 W / Max. 1.2 W |
| 6 | Distortion | Less than 10% at 1kHz 1W |
| 7 | Buzz and Rattle | Should not be audible buzzes, rattles when the 4V sine wave signal swept at frequency range. |
| 8 | Polarity | When a positive DC current is applied to the voice coil terminal marked (+), the diaphragm shall move to forward. |
| 9 | Waterproof | IP65 |

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5. Reliability Test

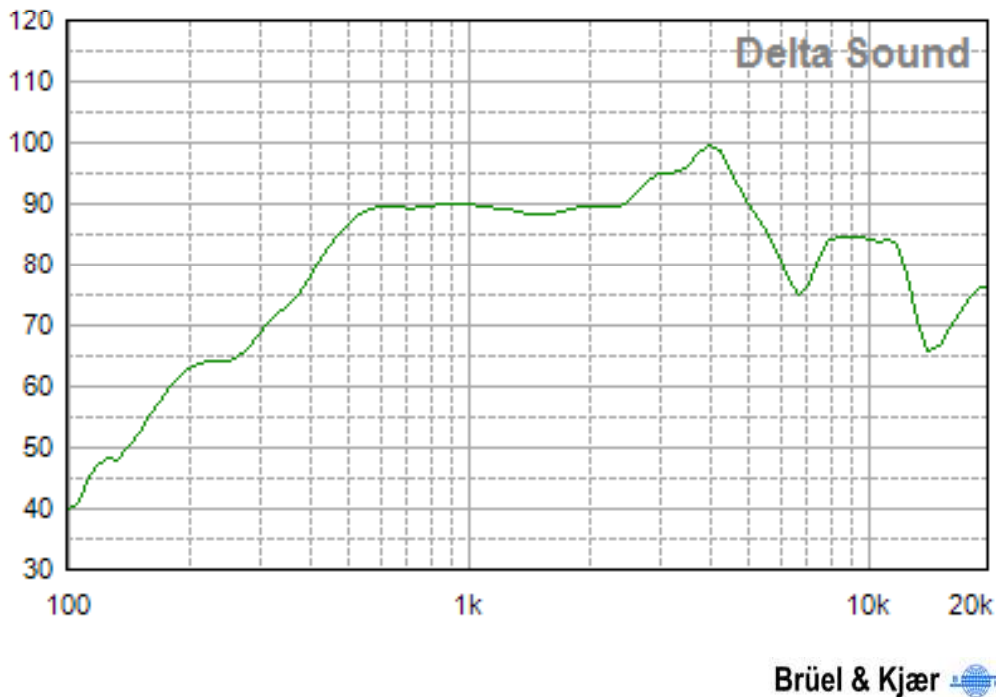
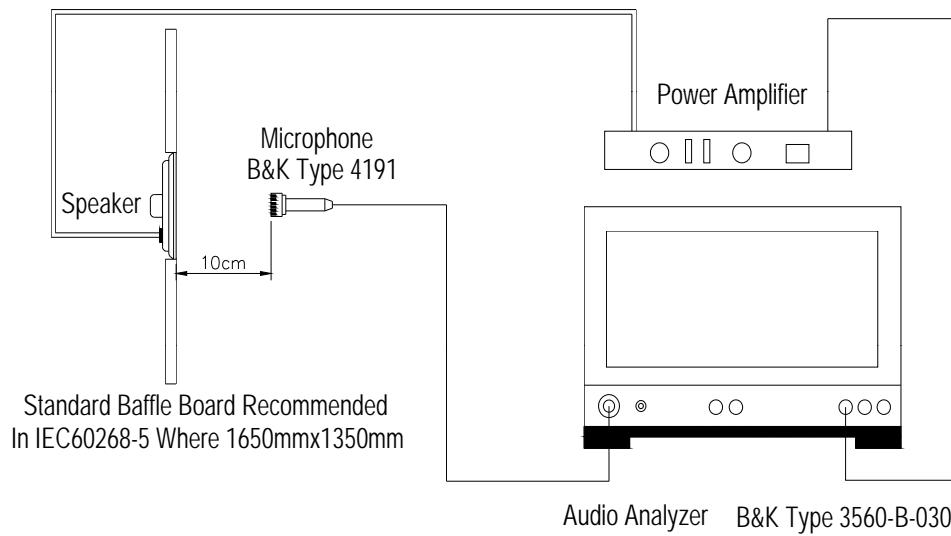
After test(1~7item), the speaker S.P.L . difference shall be within $\pm 3\text{dB}$, and the appearance not exist any change to be harmful to normal operation

| No | Items | Specification |
|----|--------------------|---|
| 1 | High Temp. Test | Keep 100 hours at $+60\pm 3\text{ }^\circ\text{C}$, and leave 100 hours in normal temperature and then check. |
| 2 | Low Temp. Test | Keep 100 hours at $-30\pm 3\text{ }^\circ\text{C}$, and leave 100 hours 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 hours 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 2 hours at $+60\pm 3\text{ }^\circ\text{C}$, and followed by 2 hours 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 from 1.5 meter height to a board 20mm thick hard wood board. and be nothing mechanical damage. total 15 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 Ω |

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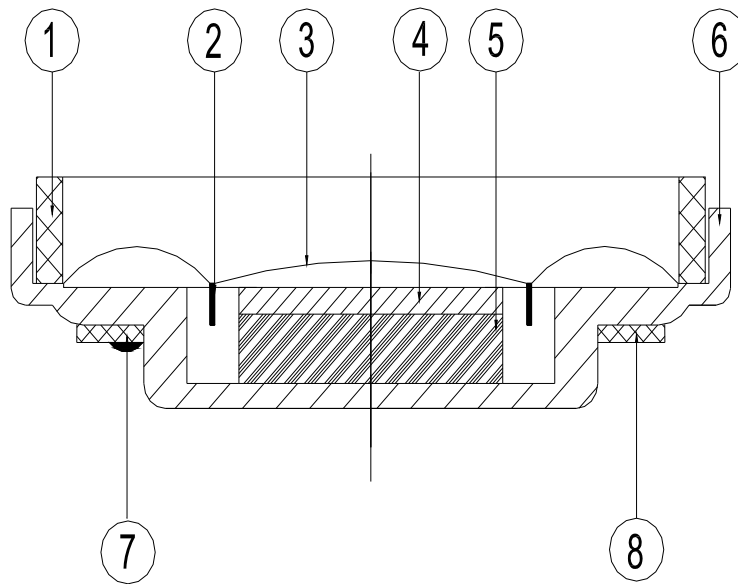
6. Measurement Method & Frequency Response curve

Standard test condition of speaker



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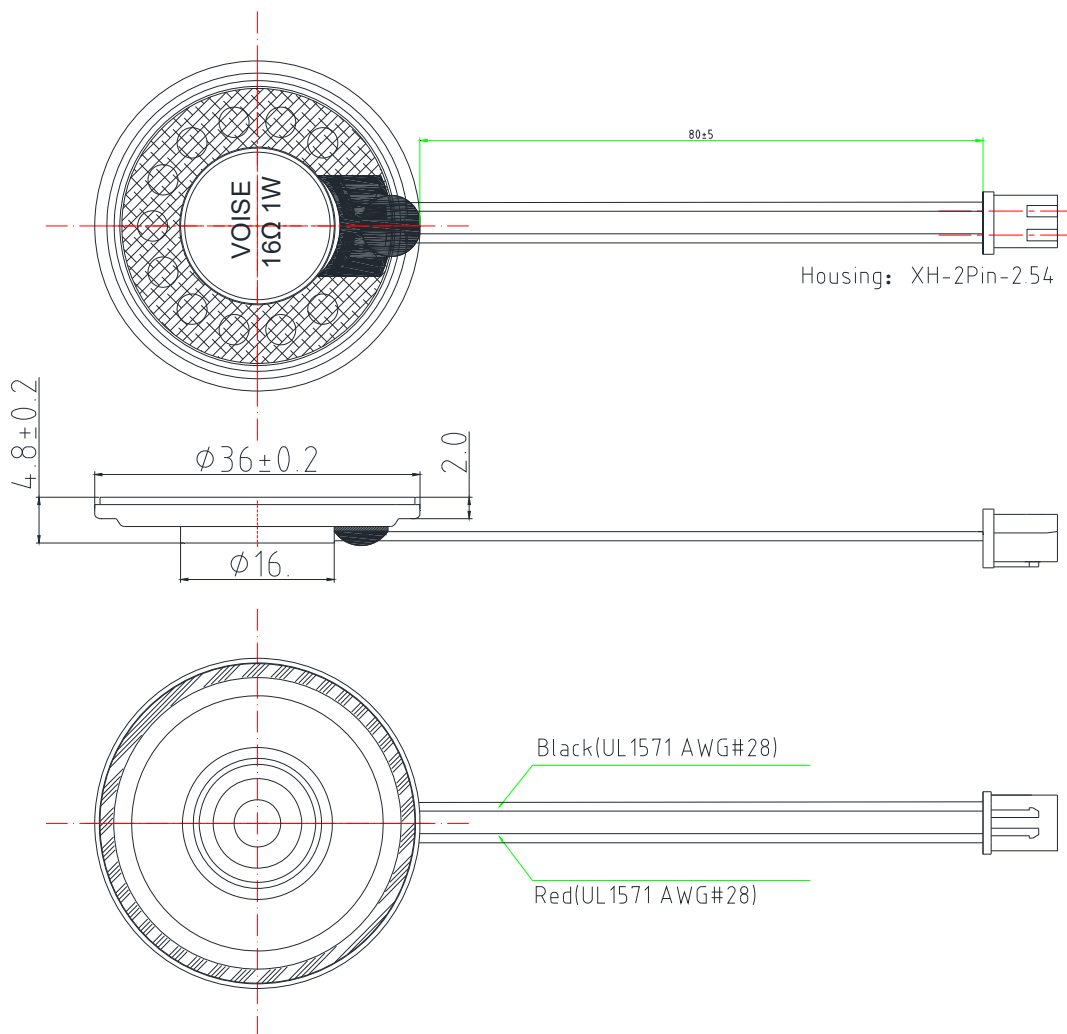
7. Mechanical layout



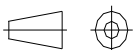
| No. | Part Name | Q'ty | Material | Remarks |
|-----|------------|------|----------------|---------|
| 8 | Screen | 1 | Unwoven fabric | |
| 7 | Terminal | 1 | Epoxy Fr-4 | |
| 6 | Frame | 1 | SPCC | |
| 5 | Plate | 1 | SPCC | |
| 4 | Magnet | 1 | Nd-Fe-B | |
| 3 | Diaphragm | 1 | Mylar | |
| 2 | Voice Coil | 1 | Copper | |
| 1 | Gasket | 1 | Plastic | |

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8. Dimensions



FIRST ANGLE PROJECTION



UNIT : mm

Tolerance : ±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.