

SPECIFICATION

FOR APPRONAL

Customer : _____

Product Name : Dynamic Speaker _____

Model Name : VS3648R50F600P1WP _____

Drawing No. : VS20200717011 _____

Signature of Voise

Approved by	Checkde by	Issued by	Date



Office Add:Haoyangguang B-302# No.968 Baizhang Road,Ningbo China
Factory add: Shishan Industrial Park Moushan Town Yuyao City China
Tel:86-0574-87471601 Fax:86-0574-87471600 P.C.315040
Http://www.nbvoise.com E-mail:sales@nbvoise.com

Specification for Dynamic Speaker		Page	2/8
		Revision No.	1.0
Model No.:	VS3648R50F600P1WP	Drawing No.	VS20200717011

Table of contents

1. Revision
2. Scope
3. General Characteristics
4. Electrical and Acoustic Characteristics.
5. Reliability Test
6. Measurement Method & Frequency Response curve
7. Mechanical layout
8. Dimensions
9. Packing

1. Revision

Rev.No.	Date	Page	Description of Revision
1.0	2020/7/17		Preliminary

Specification for Dynamic Speaker		Page	3/8
		Revision No.	1.0
Model No.:	VS3648R50F600P1WP	Drawing No.	VS20200717011

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	50 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 7.07V 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

Specification for Dynamic Speaker		Page	4/8
		Revision No.	1.0
Model No.:	VS3648R50F600P1WP	Drawing No.	VS20200717011

5. Reliability Test

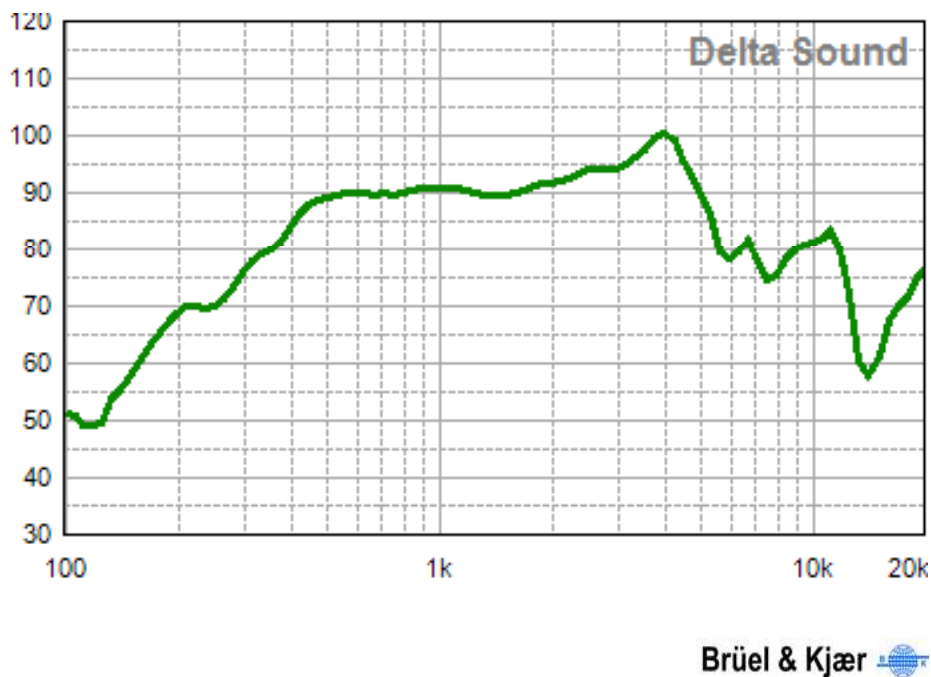
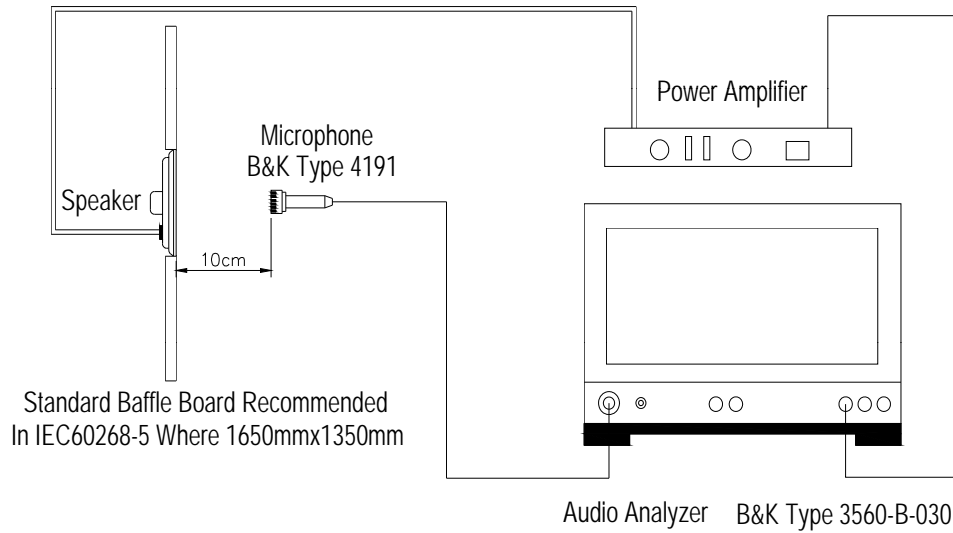
After test(1~7item), the speaker S.P.L . difference shall be within $\pm 3\text{dB}$, and the appearance not exist any change to be harmful to normal operation

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

Specification for Dynamic Speaker		Page	5/8
		Revision No.	1.0
Model No.:	VS3648R50F600P1WP	Drawing No.	VS20200717011

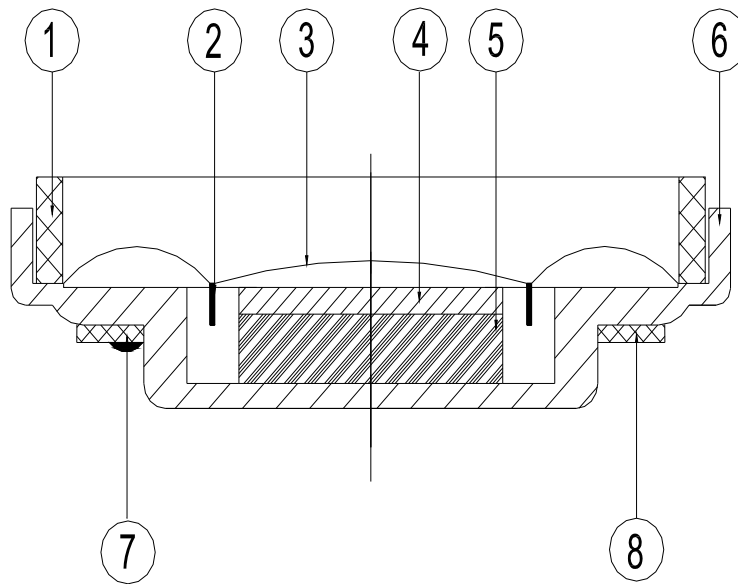
6. Measurement Method & Frequency Response curve

Standard test condition of speaker



Specification for Dynamic Speaker		Page	6/8
		Revision No.	1.0
Model No.:	VS3648R50F600P1WP	Drawing No.	VS20200717011

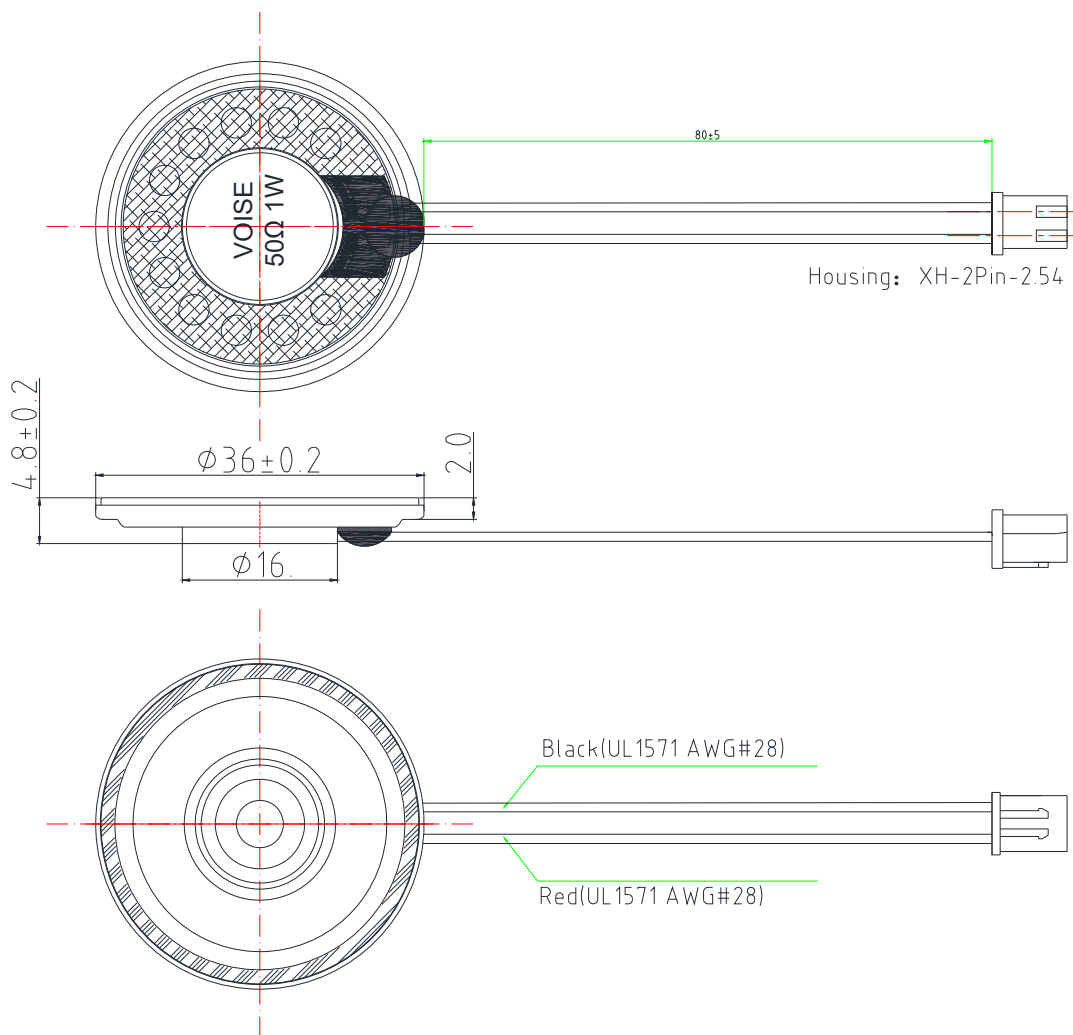
7. Mechanical layout



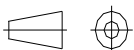
No.	Part Name	Q'ty	Material	Remarks
8	Screen	1	Unwoven fabric	
7	Terminal	1	Epoxy Fr-4	
6	Frame	1	SPCC	
5	Plate	1	SPCC	
4	Magnet	1	Nd-Fe-B	
3	Diaphragm	1	Mylar	
2	Voice Coil	1	Copper	
1	Gasket	1	Plastic	

Specification for Dynamic Speaker		Page	7/8
		Revision No.	1.0
Model No.:	VS3648R50F600P1WP	Drawing No.	VS20200717011

8. Dimensions



FIRST ANGLE PROJECTION



UNIT : mm
 Tolerance : ±0.2

Specification for Dynamic Speaker		Page	8/8
		Revision No.	1.0
Model No.:	VS3648R50F600P1WP	Drawing No.	VS20200717011

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.