MESSRS.

SPECIFICATION FOR APPROVAL

承 認 書

Product	DYNAMIC SPEAKER
Part No.	AK-1808A-1
Customer Approval	
Customer Part No.	

Approved By	Checked By	Made By
工程部 SKY ZHAO OCT-9-2013	工程部 JEFF FANG OCT-9-2013	工程部 SUNNY CHEN OCT-9-2013

Advanced Acoustic Technology Corporation

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EDITION:1.1

ISO 9001 Certified

ISO 14001 Certified

QS9000 Certified

RoHS

ADVANCED ACOUSTIC TECHNOLOGY CORP.
昊 宬 股 份 有 限 公 司

REVISIONS			
PRODUCT			DYNAMIC SPEAKER
PART NO.			AK-1808A-1
REV.	REVISER	DATE	DESCRIPTION
1	SUNNY	2013-10-9	Creating new drawing SPEC.

RoHS

1. SPECIFICATION

AK-1808A-1

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 18 mm	
03	Rated Input Power	0.5 W	
04	Max. Input Power	1.0 W for 1 minute	
05	Impedance	8Ω± 15% at 2KHz 1V	
06	Resonance Frequency (Fo)	600 Hz ± 20% at Fo, 1V	
07	Sound pressure level	81 dB(0.1W/0.1M) ± 3 dB	at AVE 0.6K,0.8K,1.0,1.2KHz.
		87 dB(0.5W/0.1M) ± 3 dB	
08	Frequency Range	Fo –20 K Hz	
09	Total Harmonics Distortion	Max 10 % at 1 KHz, 2.0V.	
10	Voice Coil	Diameter Φ10.2mm	
11	Magnet	Rare earth permanent (Nd-Fe-B) magnet Φ9.6×1.2mm	
12	Weight	2.2g ± 0.6g	
13	Appearance	Should not exist any obstacle to be harmful to normal operation; damages, cracks, rusts and distortions, etc.	
14	Operation Test	Must be normal at program source 0.5W	
15	Buzz, Rattle, etc.	Should not be audible at 2.0V sine wave between Fo to 20KHz	
16	Polarity	When positive voltage is applied to the terminal marked (+), diaphragm should move to the front.	
17	Terminal Strength	Capable of withstand 1kg load for 15 seconds without resulting in any damage or rejection.	
18	Temperature	Operating temperature: -20℃ to +60℃ Storage temperature: -30℃ to +70℃	

RoHS

2. MEASURING METHOD

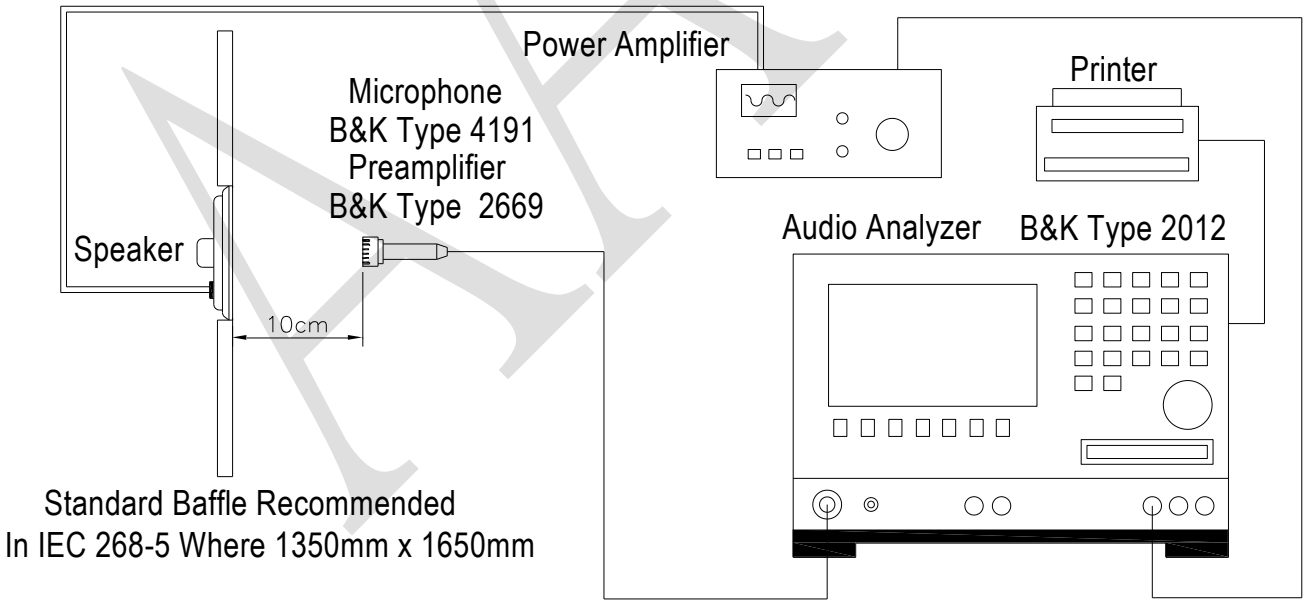
2-1 .Test Condition

STANDARD
Temperature : 15 ~ 35℃
Relative humidity: 45% ~ 85%,
Atmospheric pressure: 860mbar to 1060mbar.

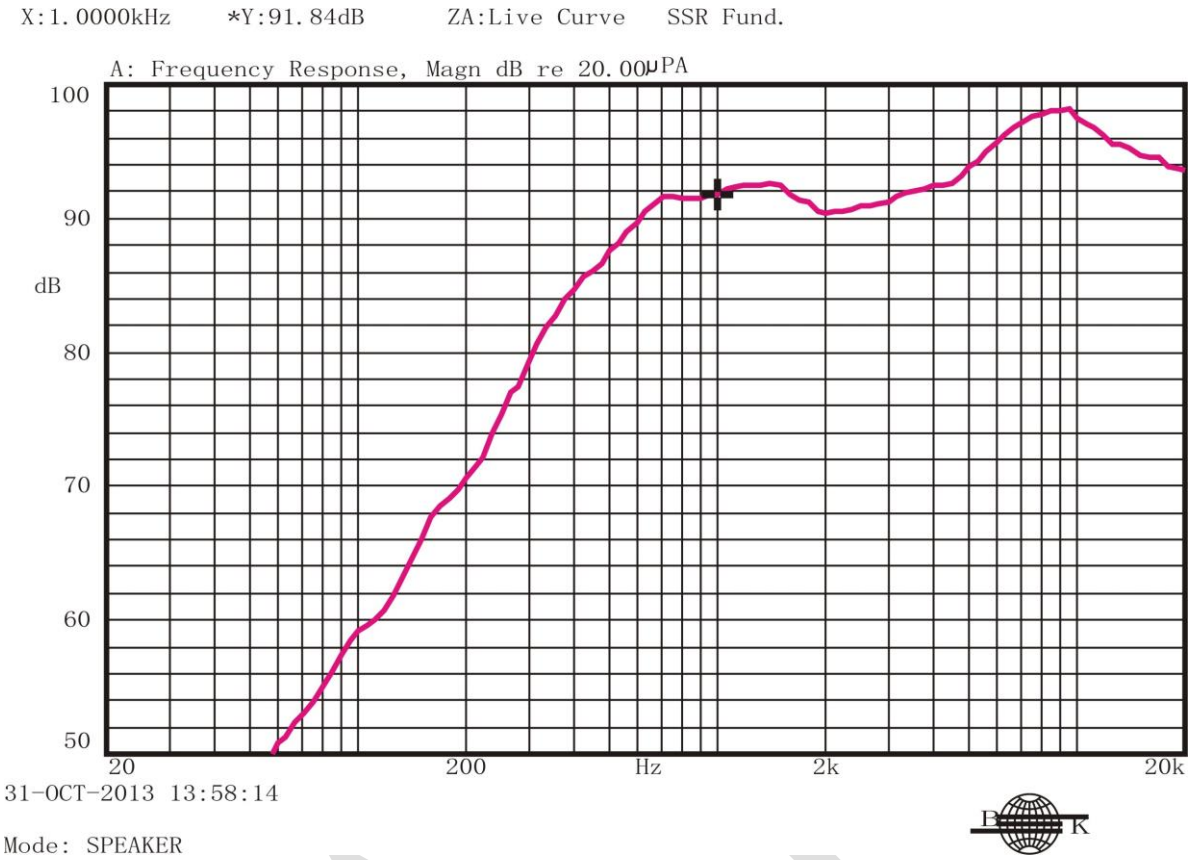
JUDGEMENT
Temperature : 20±3℃
Relative humidity: 60% ~ 70%,
Atmospheric pressure: 860mbar to 1060mbar

2-2. Standard Test Fixture

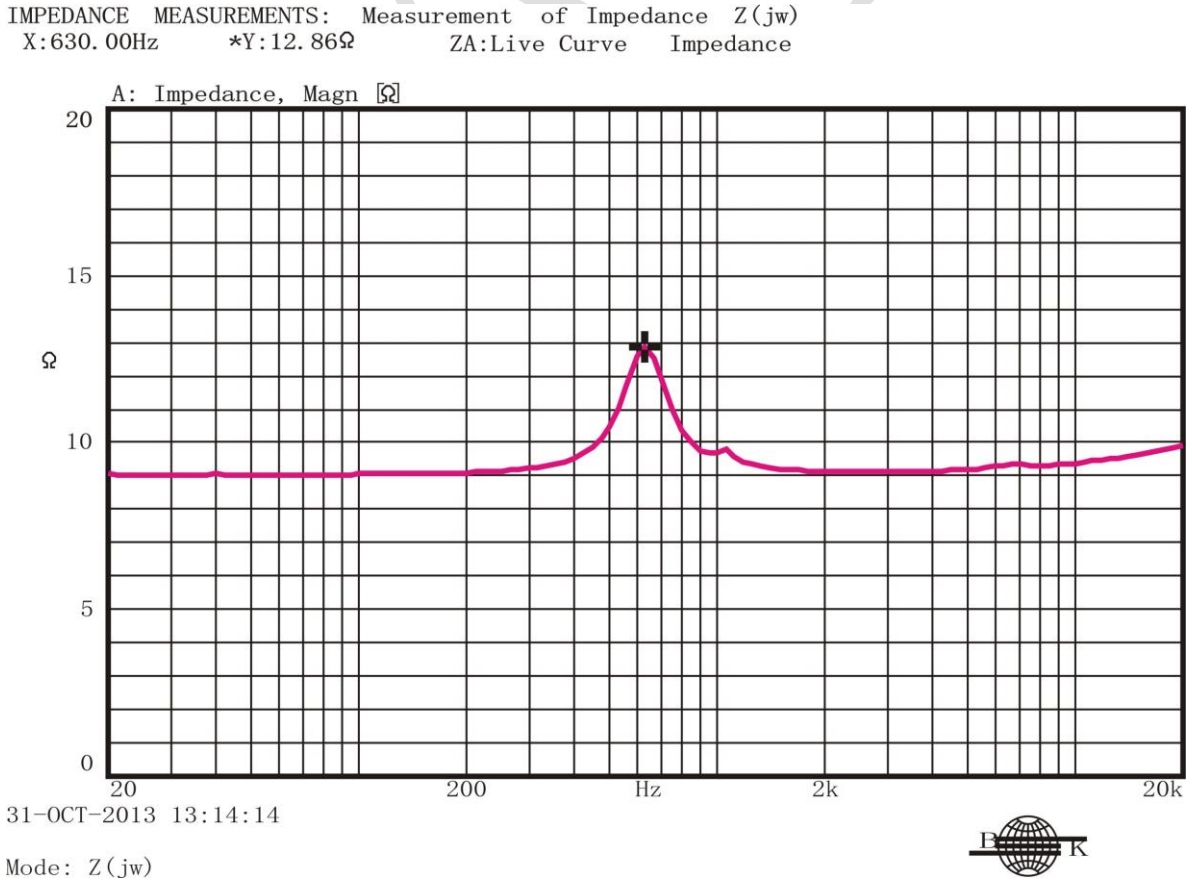
1. Input Power: 0.5W (2.0 V)
2. Zero Level : -dB
3. Mode: SPEAKER
4. Potentiometer Range: 50dB
5. Sweep Time: 0.5sec



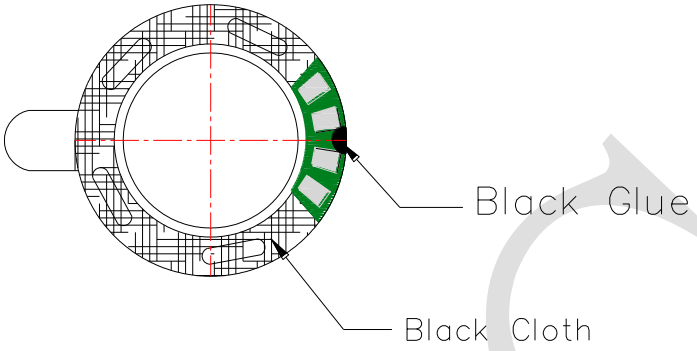
2-3. Frequency Response Curve

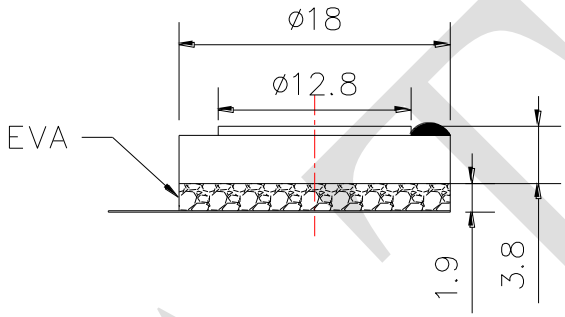


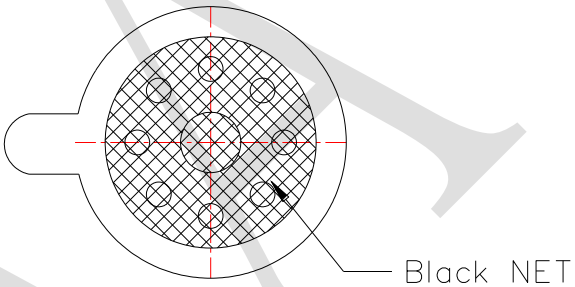
2-4. Impedance Curve



REV NO.	REVISION NOTE	APPROVAL	DATE







Diaphragm: PET

RoHS

TITLE: DYNAMIC SPEAKER		DRAWN: Sunny 2013-10-09	SCALE: 2:1	SHEET: 1:1
PART NO. AK-1808A-1	1	DESIGNED: R&D OF AAT	UNITS: mm	
DWG NO. CA-K13100903	REV	CHECKED:	TOLERANCE ± 0.5	
		APPROVAL:	UNLESS OTHERWISE SPECIFIED: ONE PLACE DECIMAL ± *** TWO PLACE DECIMAL ± *** THREE PLACE DECIMAL ± ***	
		MATERIAL: PBT		

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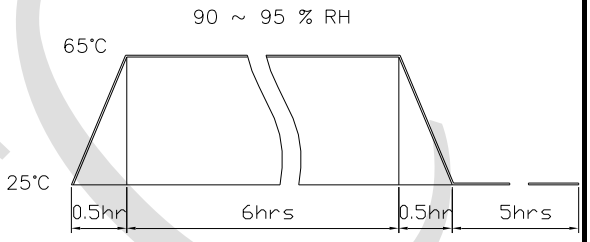
4. RELIABLITY TESTS

Items.		Specifications
01	**High temp. Test**	Keep 96 hours at +70℃±3℃ and leave 3 hours in normal temperature and then check
02	**Low temp. Test**	Keep 96 hours at -30℃±3℃ and leave 3 hours in normal temperature and then check
03	**Humidity test**	Keep 96 hours at + 40℃±3℃ relative humidity 95% and leave 3 hours in normal temperature and then checked.
04	**Temp./Humidity cycle**	The part shall be subjected 5 cycles. One cycle shall be 12 hours and consist of 
05	**Thermal cycle test.**	Low temperature: -30℃±3℃, temperature:+70℃±3℃, cycle: 1 hour/cycle each, and then keep 5 cycles in a room.
06	**Vibration**	10~55~10Hz sin-wave sweep 15min. 5G(constant) X, Y, Z 3 direction. 2 hours each, total 6 hours.
07	**Fix drop test**	Fix on jig. Then drop from 152cm height to the concrete floor X, Y, Z 6 direction. 5 times each, total 30 times.
08	**Free drop test**	Free drop from 100cm height to the concrete floor X, Y, Z 6 direction. 1 time each, total 6 times.
09	**Load test**	Rated power white noise is applied for 96 hours
10	**Max Power test**	Max power 1 min. on - 2 min. off 10 cycles.
11	**Terminal strength test**	Capable of withstand 1kg load for 15 seconds without resulting in any damage or rejection.

Criterion :

1. **After testing any of the above reliability test items, the change of S.P.L shall be within ±3 dB.**
2. **If you need more information, please contact our technology department, thank you.**

SOLDERING CONDITION

Recommend using constant searing-iron in temperature range **360±5°C**.
Soldering time **2** seconds.