




# MESSRS.

## SPECIFICATION FOR APPROVAL

### 承 認 書

Product	Dynamic speaker		
Part No.	AK-1508EA-6W		(RoHS)
Approved By	Checked By	Made By	
			

Customer Approval Result	
--------------------------	--



**Advanced Acoustic Technology Corporation**

**笠翔科技 // 常州笠翔电子有限公司**



ISO 9001 Certified

ISO 14001 Certified

QS9000 Certified

Head Office / 2F, No.207, Sec. 6, Chung Shan N. Rd., Taipei, Taiwan

Tel: +886-2-8866-5255 Fax: +886-2-8866-5250

大陸總公司 / 中國江蘇省常州市新北區龍虎塘工業園新苑四路 89 號

Tel: +86-519-8511-1583 Fax: +86-519-8510-0908

http:// [www.aatc.com.tw](http://www.aatc.com.tw) [www.aatc.com.cn](http://www.aatc.com.cn)

EDITION:1.2

# 1.SPECIFICATION

AK-1508EA-6W (RoHS)

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 15 mm	
03	Rated Input Power	0.5W.	
04	Max. Input Power	0.8W.	
05	Impedance	8 ohm $\pm$ 15% at 1K Hz	
06	Resonance Frequency (Fo)	850 Hz $\pm$ 20% at Fo, 1V	
07	Sensitivity (S.P.L.)	86dB(0.1W/0.1m) $\pm$ 3 dB	at AVE 1.2K,1.6K,2.0K,2.5K Hz.
08	Frequency Range	Fo – 10K Hz	
09	Total Harmonics Distortion	Max. 10% at 1K Hz ,0.5W.	
10	Voice Coil	Diameter $\Phi$ 8.5 mm	
11	Magnet	Rare earth permanent ( Nd-Fe-B ) magnet $\Phi$ 8.0 x 1.0 mm	
12	Weight	1.4g $\pm$ 0.2g	
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 2.0 V sine Wave between Fo to 10KHz	
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 30 seconds without resulting in any damage or rejection.	
18	Temperature	Operating temperature: -20 $^{\circ}$ C to +60 $^{\circ}$ C Storage temperature: -30 $^{\circ}$ C to +70 $^{\circ}$ C	

# 1. MEASURING METHOD

## 2-1 .Test Condition

### STANDARD

Temperature : 15 ~ 35°C

Relative humidity : 45% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar.

### JUDGEMENT

Temperature : 20±3°C

Relative humidity : 60% ~ 70%,

Atmospheric pressure : 860mbar to 1060mbar

## 2-2 . Standard Test Fixture

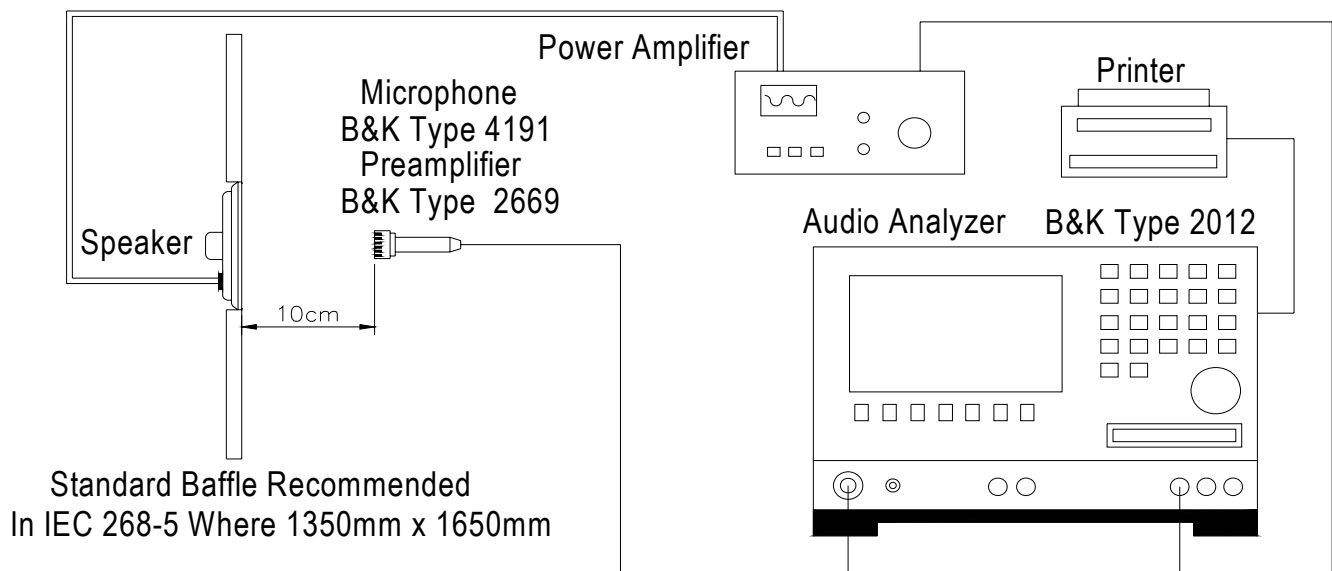
1.Input Power : 0.5W(2.0V)

2.Zero Level : -dB

3.Mode : SPEAKER

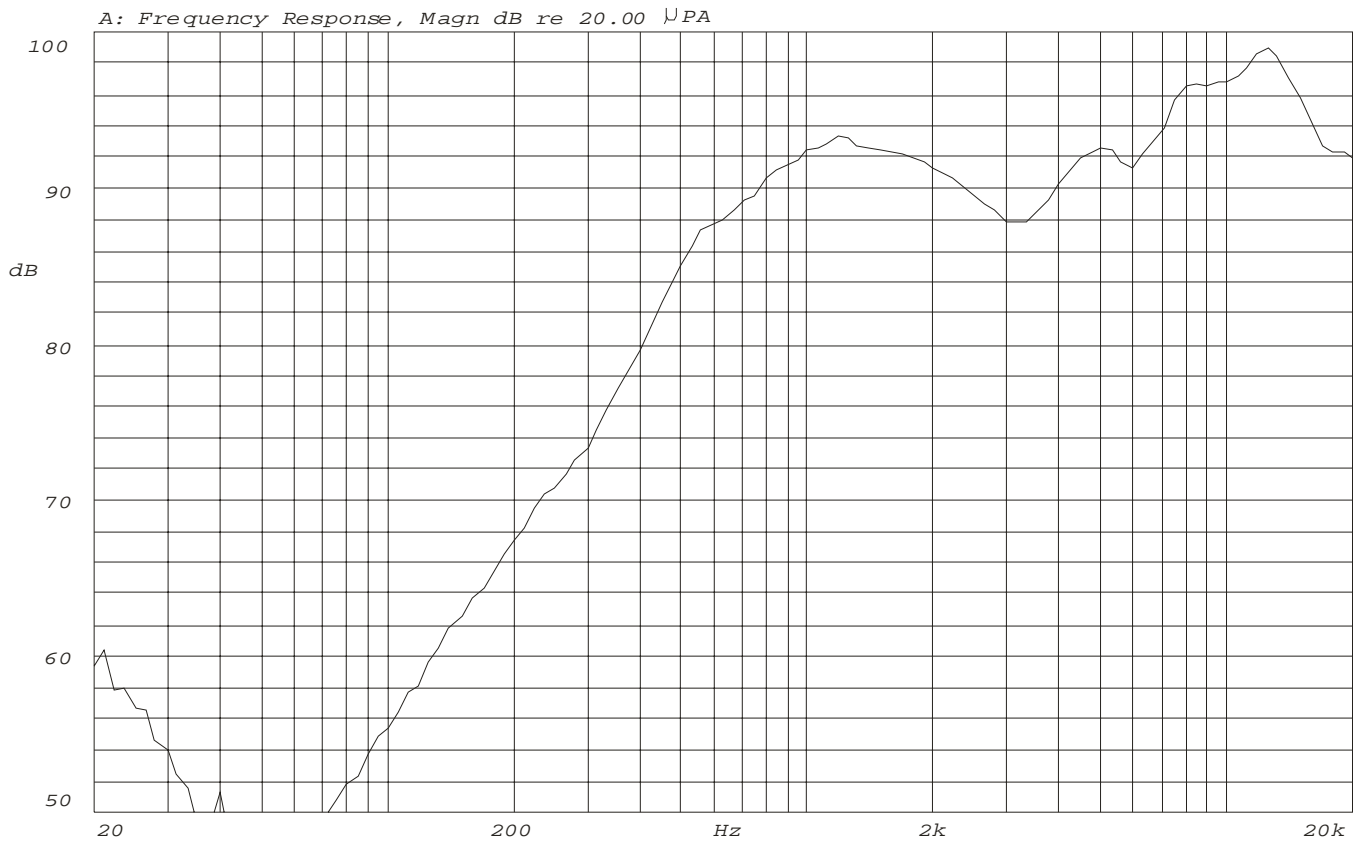
4.potentiometer Range : 50dB

5.Sweep Time : 0.5sec

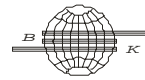


## 2-3. Frequency Response Curve

X:2.5000kHz \*Y:89.53dB ZA:Live Curve SSR Fund.

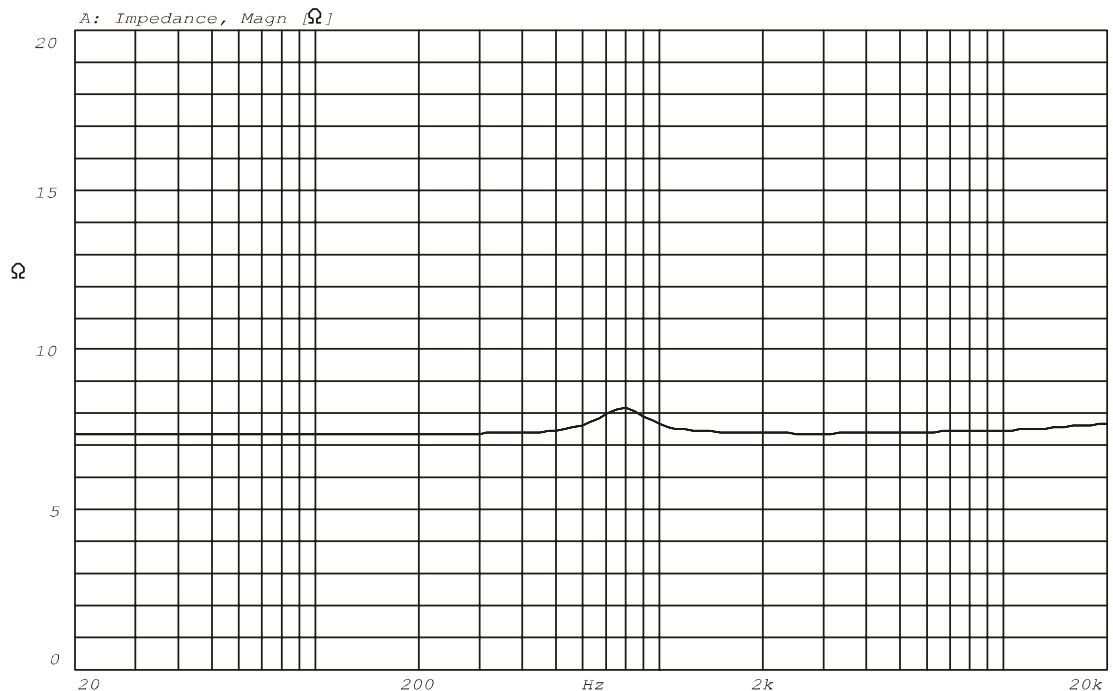


Mode: SPEAKER



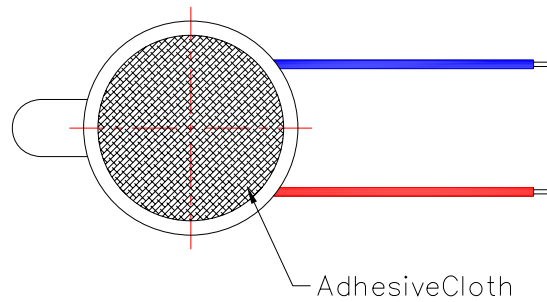
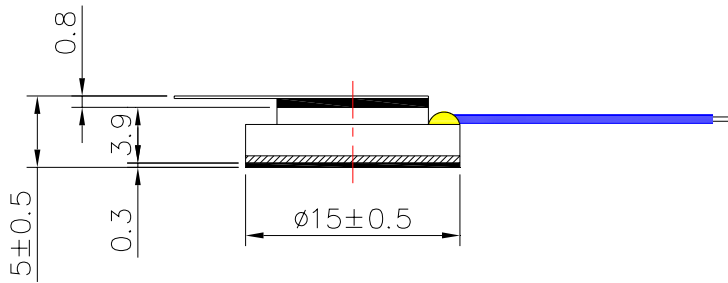
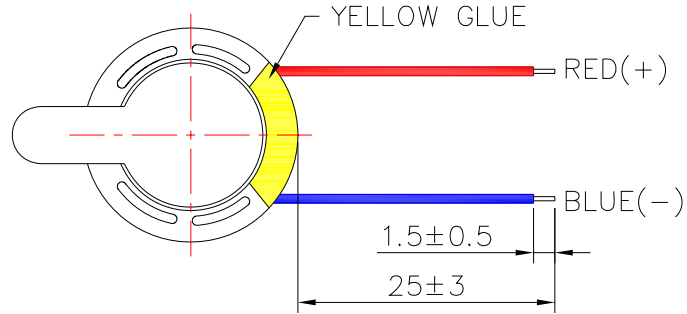
## 2-4. Impedance Curve

IMPEDANCE MEASUREMENTS: Measurement of Impedance  $Z(j\omega)$   
ZA:Live Curve Impedance  $\Omega$



Mode:  $Z(j\omega)$





WIRE: UL1571, AWG32#  
CASE: LCP  
DIAPHRAGM: MYLAR

TITLE: DYNAMIC SPEAKER		DRAWN: Lemon 2008-8-21	SCALE: 2:1	SHEET: 1 of 1
PART NO. AK-1508EA-6W		DESIGNED: R&D OF AAT	UNITS: mm	
DWG NO. AEK-08082101	1 REV	CHECKED:	TOLERANCE ± 0.2	
		APPROVAL:	UNLESS OTHERWISE SPECIFIED: ONE PLACE DECIMAL ± *** TWO PLACE DECIMAL ± *** THREE PLACE DECIMAL ± ***	
		MATERIAL: *****		



笠翔科技股份有限公司  
ADVANCED ACOUSTIC TECHNOLOGY CORPORATION

### 3. RELIABILITY TESTS

Items.		Specifications
01	High temp. Test	Keep 96 hours at $+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
02	Low temp. Test	Keep 96 hours at $-30^{\circ}\text{C}\pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
03	Humidity test	Keep 96 hours at $+60^{\circ}\text{C}\pm 3^{\circ}\text{C}$ relative humidity 95% and leave 3 hours in normal temperature and then checked.
04	Temp./Humidity cycle	<p>The part shall be subjected 5 cycles. One cycle shall be 12 hours and consist of;</p> <p style="text-align: center;"> <math>65^{\circ}\text{C}</math>  <math>90 \sim 95 \% \text{ RH}</math>  <math>25^{\circ}\text{C}</math>  <math>0.5\text{hr}</math>   <math>6\text{hrs}</math>   <math>0.5\text{hr}</math>   <math>5\text{hrs}</math> </p>
05	Thermal cycle test.	Low temperature: $-30^{\circ}\text{C}\pm 3^{\circ}\text{C}$ , temperature: $+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$ , cycle: 1 hour/cycle each, and then keep 5 cycles in a room.
06	Vibration	10~200~10Hz 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 times 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 30 seconds without resulting in any damage or rejection.
<p>Criterion :</p> <p>After these test , the change of S.P.L shall be within <math>\pm 3 \text{ dB}</math></p>		

### SOLDERING CONDITION

Recommend using constant branding iron in 30W, and in temperature range  $350\pm 10^{\circ}\text{C}$ .

Soldering time 2 seconds.