

MESSRS.

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SPECIFICATION FOR APPROVAL

承 认 书

<i>Product</i>	<i>DYNAMIC SPEAKER</i>
<i>Part No.</i>	<i>ESP-1530MN-R08W0.3A</i>
<i>Customer</i>	
<i>Customer Part No.</i>	

<i>Approved By</i>	<i>Checked By</i>	<i>Made By</i>
<i>SAM DUAN</i> <i>JAN-20-2017</i>	<i>WU SHAO CHANG</i> <i>JAN-20-2017</i>	<i>LITAO</i> <i>JAN-20-2017</i>

宁波声尔科电子有限公司

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EDITION:1.2

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<i>ITEM</i>		<i>SPECIFICATIONS</i>	
01	<i>Type</i>	<i>Dynamic speaker</i>	
02	<i>Dimension</i>	<i>External diameter 15 mm</i>	
03	<i>Rated Input Power</i>	<i>0.3W</i>	
04	<i>Max. Input Power</i>	<i>0.5W for 1 minute</i>	
05	<i>Impedance</i>	<i>8 ohm ± 15% at 1V,1.5KHz.</i>	
06	<i>Resonance Frequency (Fo)</i>	<i>900Hz ± 20% at Fo, 1V</i>	
07	<i>Sensitivity (S.P.L.)</i>	<i>88dB (0.1W / 0.1m) ± 3 dB</i>	<i>at AVE 1.0K,1.2K,1.5K,2.0KHZ</i>
		<i>92 dB (0.3W / 0.1m) ± 3 dB</i>	
08	<i>Frequency Range</i>	<i>Fo – 20KHz</i>	
09	<i>Total Harmonics Distortion</i>	<i>Max 10 % at 1.5 KHz,0.3W</i>	
10	<i>Voice Coil</i>	<i>Diameter 7.3mm</i>	
11	<i>Magnet</i>	<i>Rare earth permanent (Nd-Fe-B) magnet <math>\phi</math>8*1.0mm</i>	
12	<i>Weight</i>	<i>1.2g ± 5%g</i>	
13	<i>Appearance</i>	<i>Should not exist any obstacle to be harmful to normal operation; damages, cracks, rusts and distortions, etc.</i>	
14	<i>Operation Test</i>	<i>Must be normal at program source – 0.3W</i>	
15	<i>Buzz, Rattle, etc.</i>	<i>Should not be audible at 1.55V sine Wave between Fo to 20KHz</i>	
16	<i>Polarity</i>	<i>When positive voltage is applied to the terminal marked (+), diaphragm should move to the front.</i>	
17	<i>Terminal Strength</i>	<i>Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection.</i>	
18	<i>Temperature</i>	<i>Operating temperature: -20°C to +85°C Storage temperature: -20°C to +85°C</i>	

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## 2. Test Condition

### STANDARD

Temperature : 15 ~ 35°C

Relative humidity : 25% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar.

### BASIC

Temperature : 20±3°C

Relative humidity : 60% ~ 70%,

Atmospheric pressure : 860mbar to 1060mbar

### Standard Test Fixture

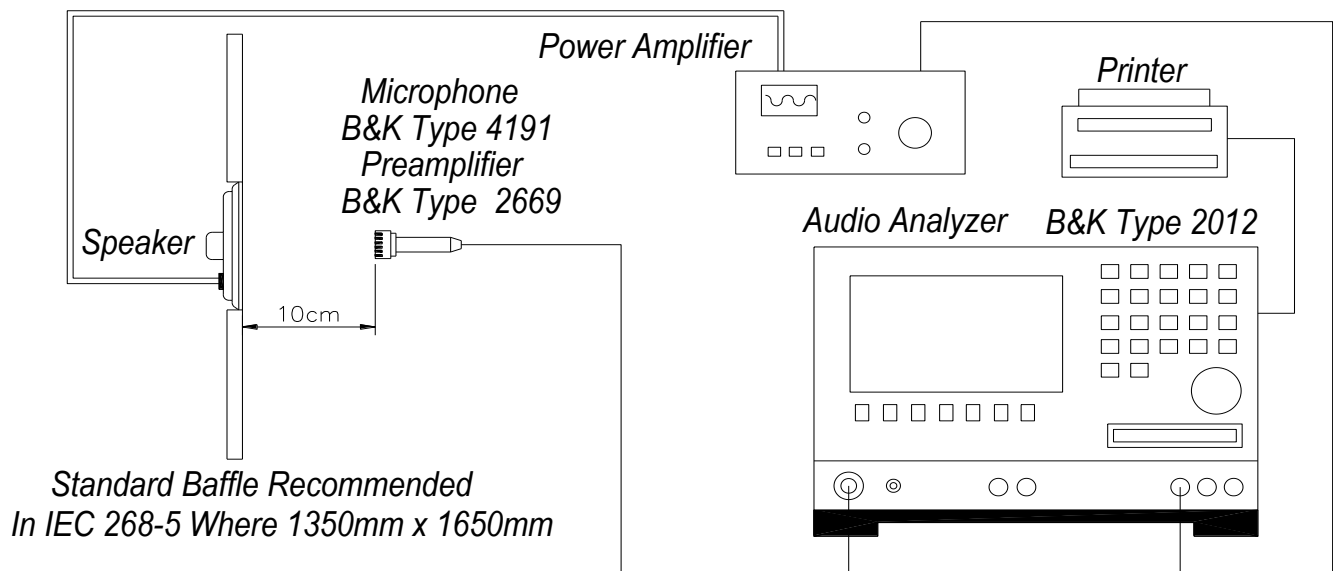
1. Input Power : 0.5W ( 2.0V )

2. Zero Level : -dB

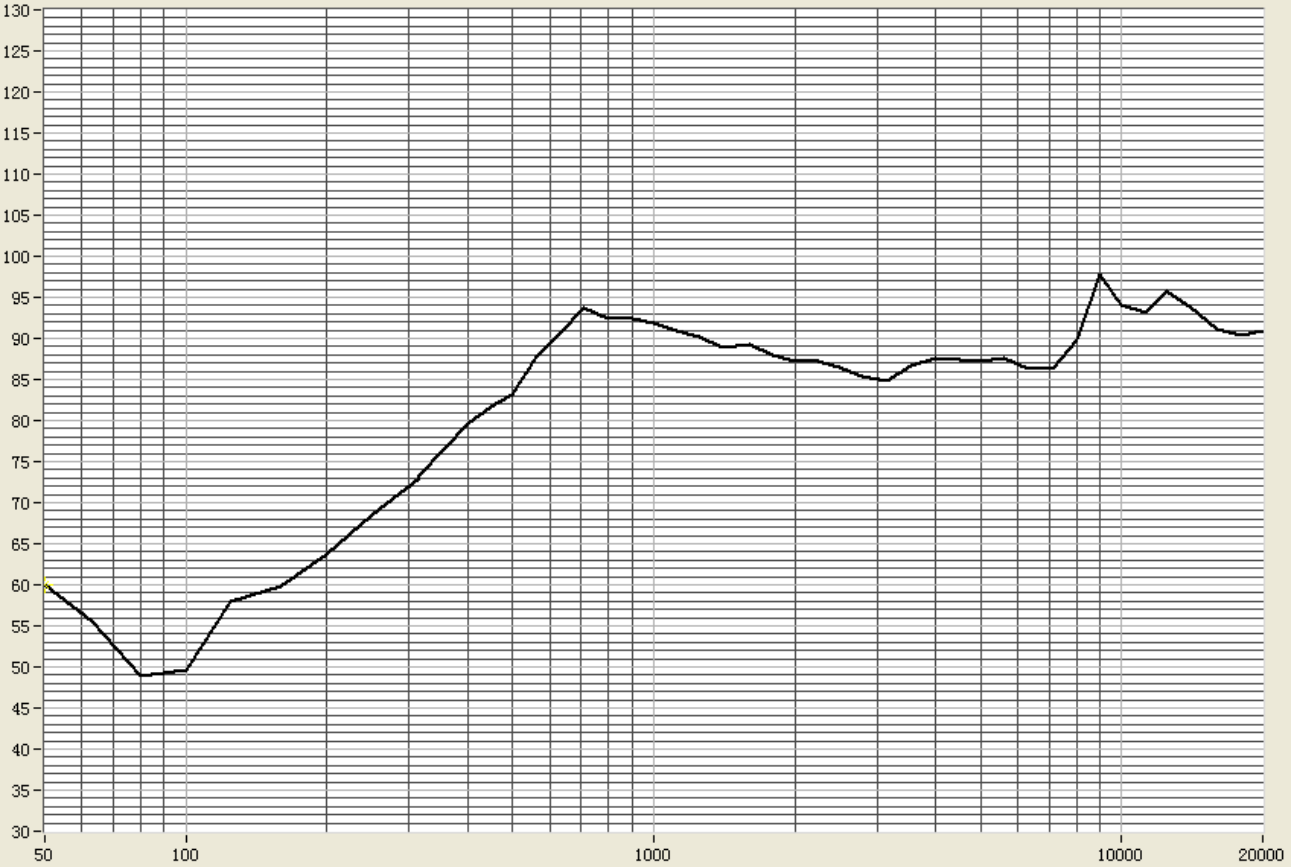
3. Mode : SPEAKER

4. potentiometer Range : 50dB

5. Sweep Time : 0.5sec

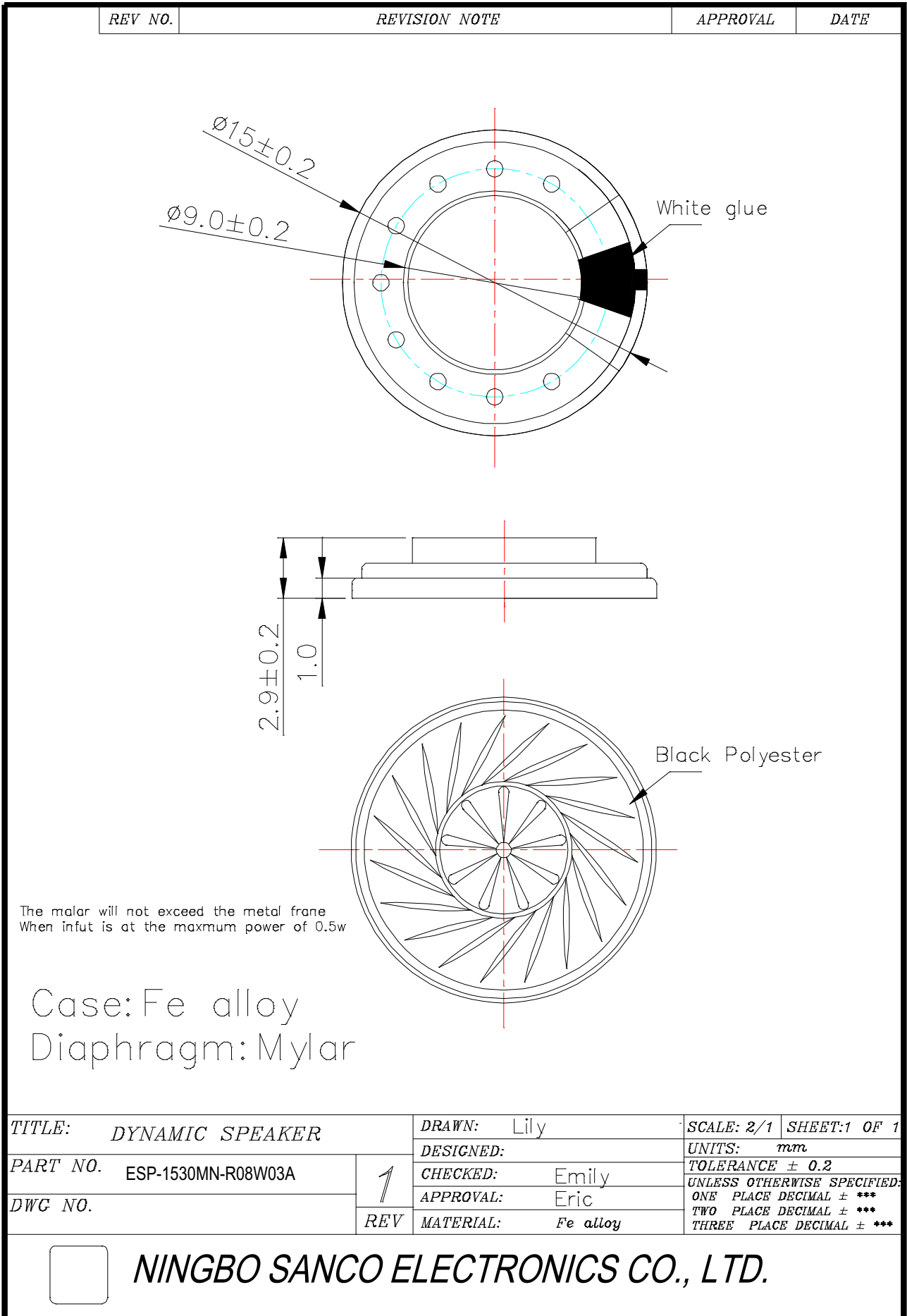


3. Frequency Response Curve



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4. Dimension



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### 5. Reliability Test

Items.		Specifications
01	High temp. Test	Keep 96 hours at $+85^{\circ}\text{C}\pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
02	Low temp. Test	Keep 96 hours at $-20^{\circ}\text{C}\pm 3^{\circ}\text{C}$ 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>
05	Thermal cycle test.	Low temperature: $-20^{\circ}\text{C}\pm 3^{\circ}\text{C}$ , temperature: $+85^{\circ}\text{C}\pm 3^{\circ}\text{C}$ , 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	Rated Power 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.



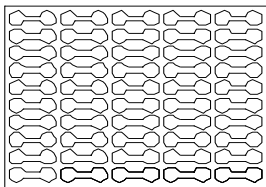
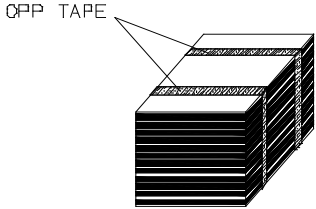
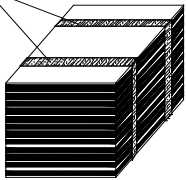

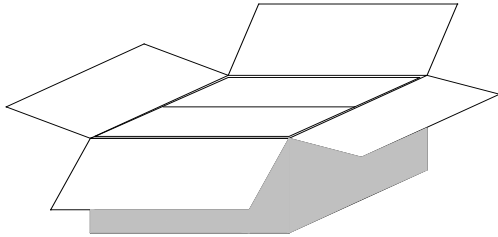

Criterion: After these test , the change of S.P.L shall be within  $\pm 3$  dB .

#### SOLDERING CONDITION

Recommend using constant branding iron in 15 ~ 30W, and in temperature range  $350\pm 10^{\circ}\text{C}$ . Soldering time not over 3 seconds.

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## 6. Packing

REV NO.	REVISION NOTE	APPROVAL	DATE
	 <p>Cover(325*245*5mm) Material: Paper</p>		
			
	 <p>Box(325*245*13mm) 100pcs Material: Paper+Epe</p>		
	 <p>OPP TAPE</p>		
	 <p>Middle(325*245*155mm) 1000pcs(10*100pcs) Material: Paper+Epe</p>		
			
	 <p>Outer Box(490*360*350mm) 5000pcs(5*1000pcs) Material: Paper</p>		
单位: mm			
TITLE: packing		DRAWN: Lily	
PART NO.		DESIGNED:	
DWG NO.		CHECKED: Emily	
<div style="border: 1px solid black; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;">1</div>		APPROVAL: Eric	
		MATERIAL: ***	
		SCALE: 2:1	SHEET: 1 of 1
		UNITS: mm	
		TOLERANCE	
		20~11	± 0.3
		10~5	± 0.2
		<4	± 0.1
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