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		Revision No.	1.2
Model No.	KP50X50SP2R8C100-5166	Drawing No.	KFC5166

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## 1. Scope

This specification is applied to the dynamic speaker which is used all of the electrical acoustic product.

- compact, rich sound
- applications: mobile phone, PDA, notebook computer, etc. ..

## 2. General

- 2.1 Out-Diameter : 50X50 mm
- 2.2 Height : 17 mm
- 2.3 Weight : 50±5 g
- 2.4 Operating Temperature range:
  - 20 ~+60 °C without loss of function
- 2.5 Store Temperature range:
  - 25 ~+65 °C without loss of function

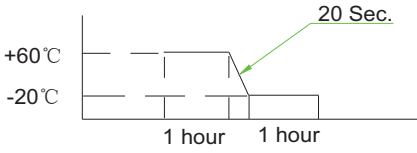
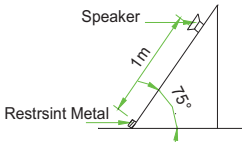
## 3. Electrical and Acoustic Characteristics.

Test condition : 15 ~ 35 °C, 25% ~ 85% RH, 860~1060 mbar

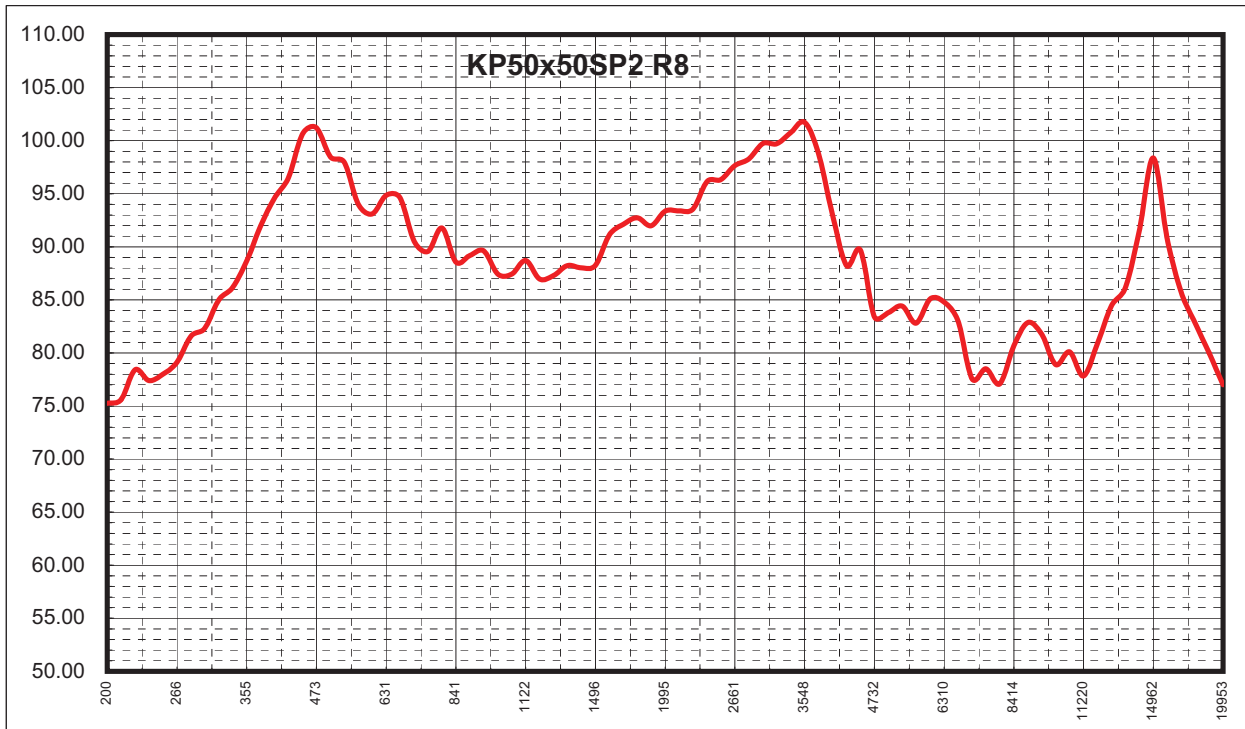
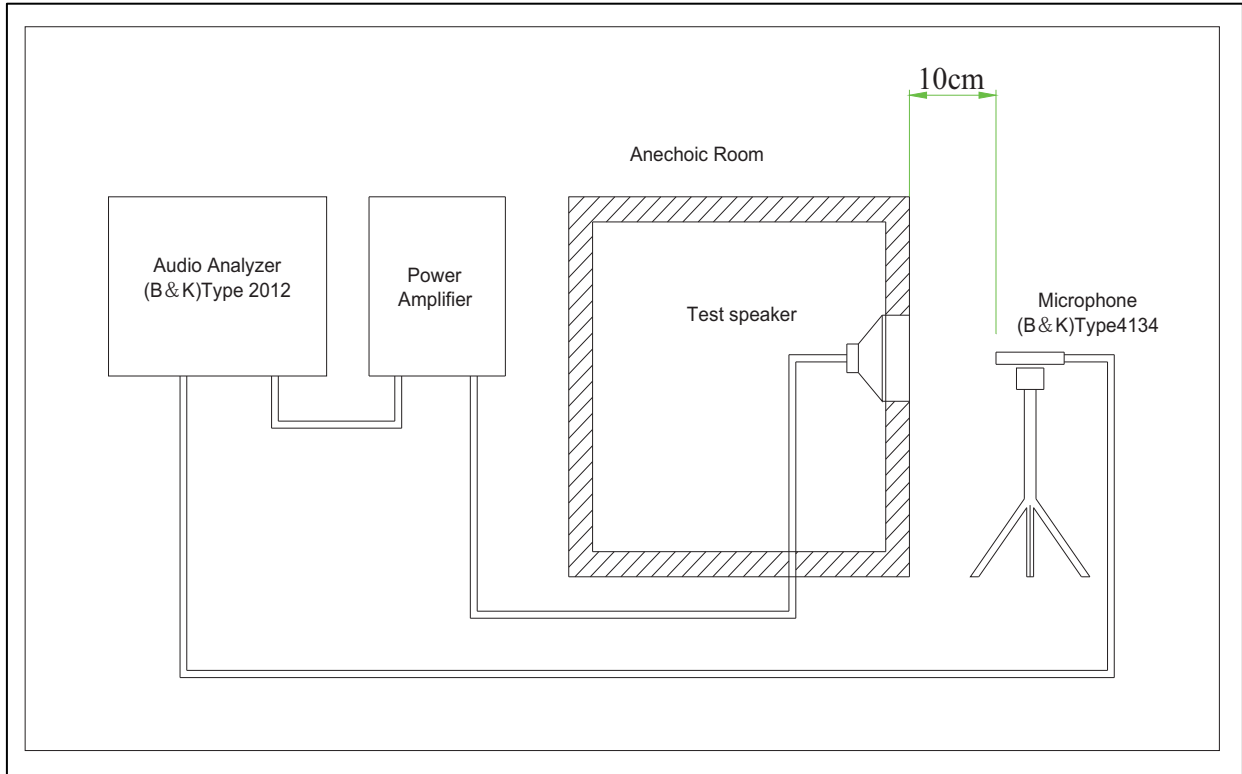
No	Items	Specification
1	Impedance	8 Ω ± 15% (1Vrms at 800KHz)
2	Sound Pressure Level	90 dB ± 3dB (at0.1W/0.1M Average at 500,0.8,1.2,1.5KHz) B&K or LMS
3	Resonance Frequency	450 Hz ± 20% LMS
4	Frequency Range	200 ~5.5KHz
5	Input Power	Rated 0.5 W / Max. 1 W
6	Distortion	<5% Max. at 1kHz/0.89Vrms
7	Buzz and Rattle	Should not be audible buzzes,rattles when the 2.0V sine wave signal swept at frequency range.
8	Polarity	When supplied plus D.C. voltage to (+) terminal, the cone diaphragm must move to forward.

### 3.1 Thiele and Small parameter.

Max Impedance	Zmax	18.2 Ω	Sensitivity 0.1W,0.1m <sup>c</sup>	SPL	91.83dB	Effettive Piston area	Sd	0.0013mm <sup>2</sup>
DC resistance	Re	7.4Ω	Mechanical factor Q	Qms	10.8	Effettive Moving Mass	Mms	1.2 g
Resonant Frequency	FO	481.2Hz	Electrical factor Q	Qes	2.6	Mechanical compliance of suspension	Cms	1.6mm/N
Half-space efficiency	Eff	0.05%	Total factor	Qts	2.1			
BL factor	BL	0.6 T.m	Equivalent Cas air load	Vas	0.38 L			

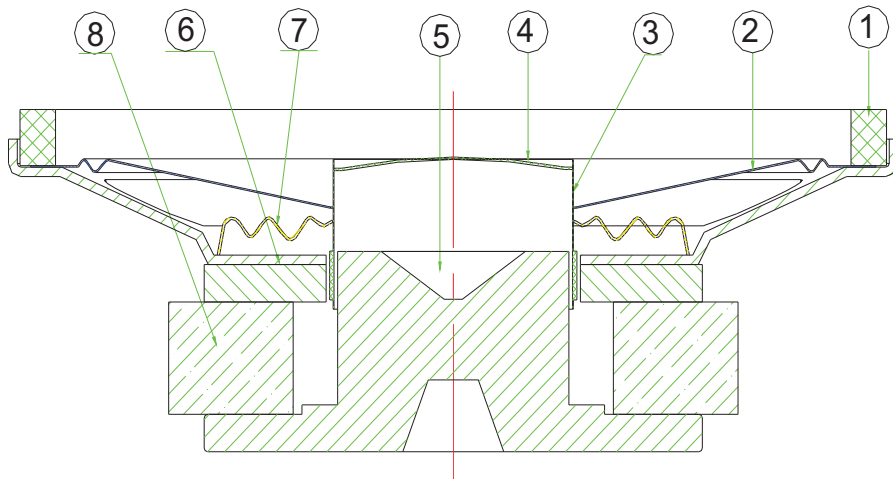
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<h3>4. Reliability Test</h3> <p>After test(1~7item), the speaker S.P.L . difference shall be within <math>\pm 3\text{dB}</math>, and the appearance not exist any change to be harmful to normal operation (e.g. cracks,rusts,damages and especially distortion).</p>			
No	Items	Specification	
1	High Temperature Test	After being placed in a chamber with $+60\pm 3\text{ }^\circ\text{C}$ for 96 hours and then being placed in natural condition for 1 hour, speaker shall be measured.	
2	Low Temperature Test	After being placed in a chamber with $-20\pm 3\text{ }^\circ\text{C}$ for 96 hours and then being placed in natural condition for 1 hour, speaker shall be measured.	
3	Humidity Test	After being placed in a chamber with $85\pm 5\%\text{R.H.}$ at $+40\pm 5\text{ }^\circ\text{C}$ for 96 hours and then being placed in natural condition for 1 hour, speaker shall be measured.	
4	Thermal Shock Test	<p>After being placed in a chamber at <math>+60\text{ }^\circ\text{C}</math> for 1 hour, then speaker shall be placed in a chamber at <math>-20\text{ }^\circ\text{C}</math> for 1 hour(1 cycle is the below diagram).</p> <p>After 10 above cycles, speaker shall be measured after being placed in natural condition for 1 hc</p> 	
5	Vibration Test	After being applied vibration of amplitude of 1.5mm with 10 to 55Hz band of vibration frequency to each of 3 perpendicular directions for 1 hour, then placed in natural condition for 1 hour, speaker shall be measured.	
6	Drop Test	<p>A speaker is dropped from 1m in length on <math>75^\circ</math> inclination and a magnetic circuit of speaker is hitted to the restraint metal.</p> <p>After the test, magnetic circuit should not drop off and speaker should be met the item 11,12.</p> 	
7	Load test	After being applied loading white noise with input power 0.5W(2Vrms.) for 96 hours, then placed in natural condition for 1 hour, speaker shall be measured.	
8	Insulation test	When they are measured with DC 100V the insulation resistance between v.c. terminal and frame must be more than 1 MΩ	

### 5. Measurement Block Diagram & Response curve



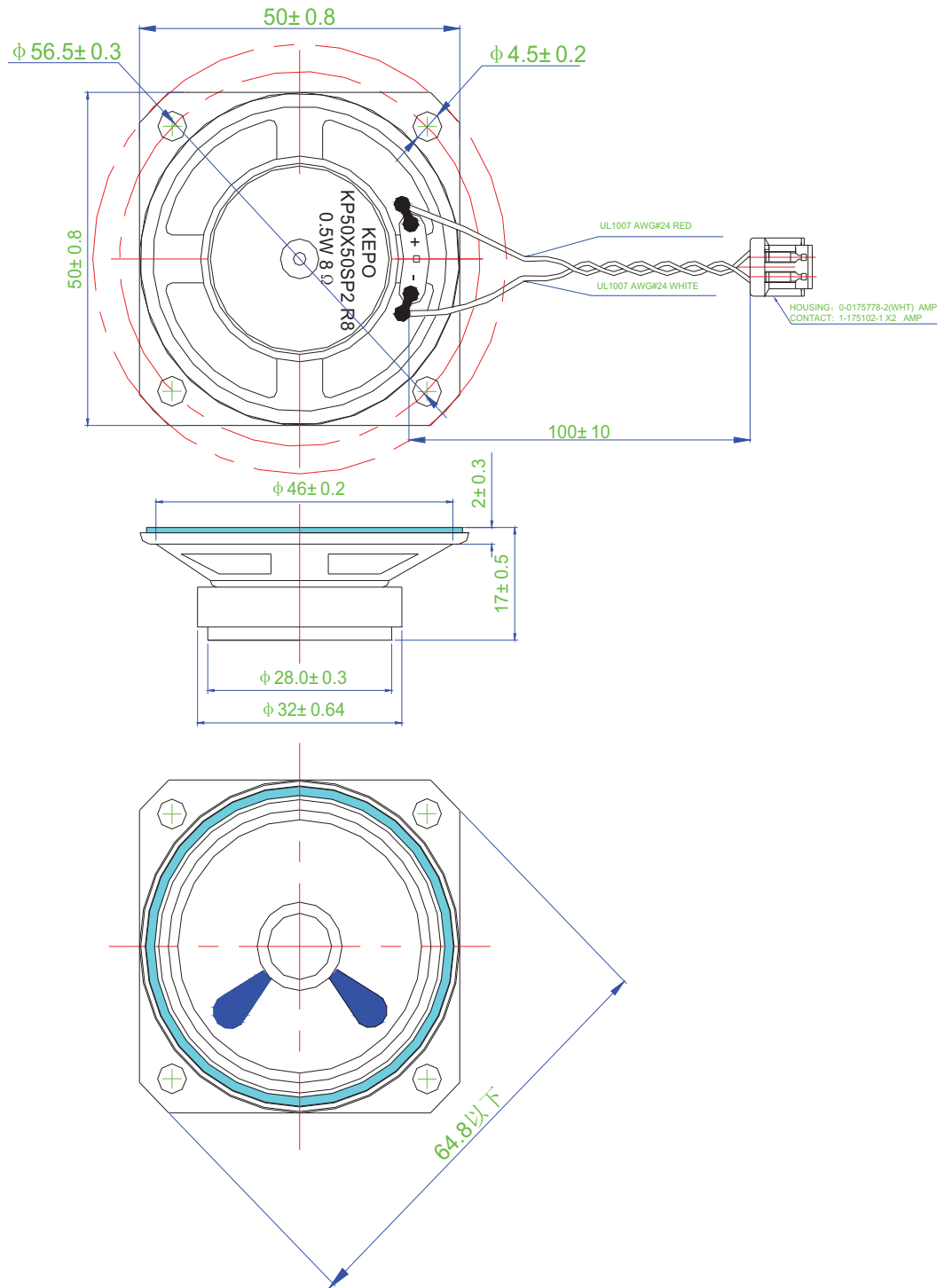
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## 6. Structure

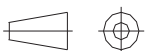


8	magnet	1	Y30	
7	spider	1	Cotton Yarn	
6	Frame and top plate	1	SPCC	
5	back plate	1	spcc	
4	dust cap	1	paper	
3	voice coil	1	PL	
2	paper Cone	1	paper	
1	Gasket	1	Paper	
No.	Part Name	Q'ty	Material	Remarks

### 7. Dimensions



FIRST ANGLE PROJECTION



备注：根据客户要求进行丝印。

UNIT : mm

Tolerance :  $\pm 0.2$