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Model No. : KP1838M1F1-5022	Revision No.	1.0
	Drawing No.	KFC5022

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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 :  $\Phi 18$  mm
- 2.2 Height : 4.0mm
- 2.3 Weight : 2.00gr.
- 2.4 Operating Temperature range:  
-20~+70 $^{\circ}$ C without loss of function
- 2.5 Store Temperature range:  
-40~+85 $^{\circ}$ C without loss of function

## 3. Electrical and Acoustic Characteristics.

Test condition : 15 ~ 35  $^{\circ}$ C , 25% ~ 85% RH, 860~1060 mbar

	Items	Specification
1	Impedance	8 $\Omega$ $\pm$ 15%(at 1Vrms,1.5kHz)
2	Sound Pressure Level	88dB $\pm$ 3dB( 1kHz/0.1W/0.1M )
3	Resonance Frequency	1000Hz $\pm$ 20%
4	Frequency Range	F <sub>0</sub> ~ 20kHz
5	Input Power	Rated 0.5W / Max. 0.8W
6	Distortion	<10% Max. at 2kHz/0.1W
7	Buzz and Rattle	Should not be audible buzzes,rattles when the 0.5W sine wave signal swept at frequency range.

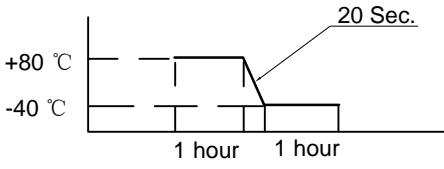
### 3.2 Receiver

	Items	Specification
1	Impedance	8 $\Omega$ $\pm$ 15%(at 1Vrms,1.5kHz)
2	Sound Pressure Level	120dB $\pm$ 3dB( 1kHz/100mV )
3	Frequency Range	300~3400Hz
4	Input Power	Rated 10mW / Max. 30mW
5	Distortion	<3% Max. at 1kHz/1Vrms
6	Buzz and Rattle	Should not be audible buzzes,rattles when the 0.28V sine wave signal swept at frequency range.

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## 4. Reliability Test

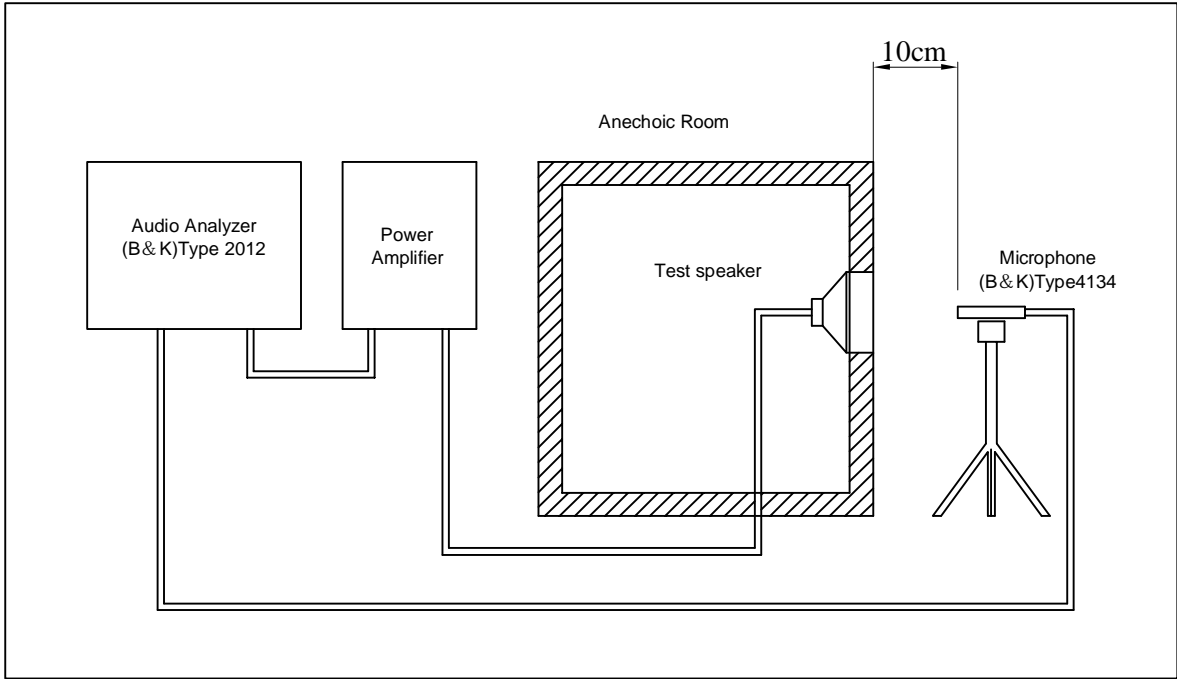
After test(1~7item), the speaker S.P.L . difference shall be within  $\pm 3\text{dB}$ , and the appearance not exist any change to be harmful to normal operation(e.g. cracks,rusts,damages and especially distortion).

	Item	Specification
1	High Temperature Test	After being placed in a chamber with $+85\pm 3\text{ }^\circ\text{C}$ 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 $-40\pm 3\text{ }^\circ\text{C}$ 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 to 90%R.H. at $+40\pm 2\text{ }^\circ\text{C}$ 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>+80\text{ }^\circ\text{C}</math> for 1 hour, then speaker shall be placed in a chamber at <math>-40\text{ }^\circ\text{C}</math> for 1 hour(1 cycle is the below diagram).</p> <p>After 6 above cycles, speaker shall be measured after being placed in natural condition for 1 hour.</p> 
5	Vibration Test	After being applied vibration of amplitude of 1.5mm with 10 to55Hz 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	The speaker when mounted in the jig which weight 85g~100g, shall with stand 15 times random drops from a height of 1.5 meter to a concrete floor faced with 5mm thick hard wood board.and be nothing mechanical damage.
7	Load test	After being applied loading white noise with input power 0.5W 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 $\text{M}\Omega$

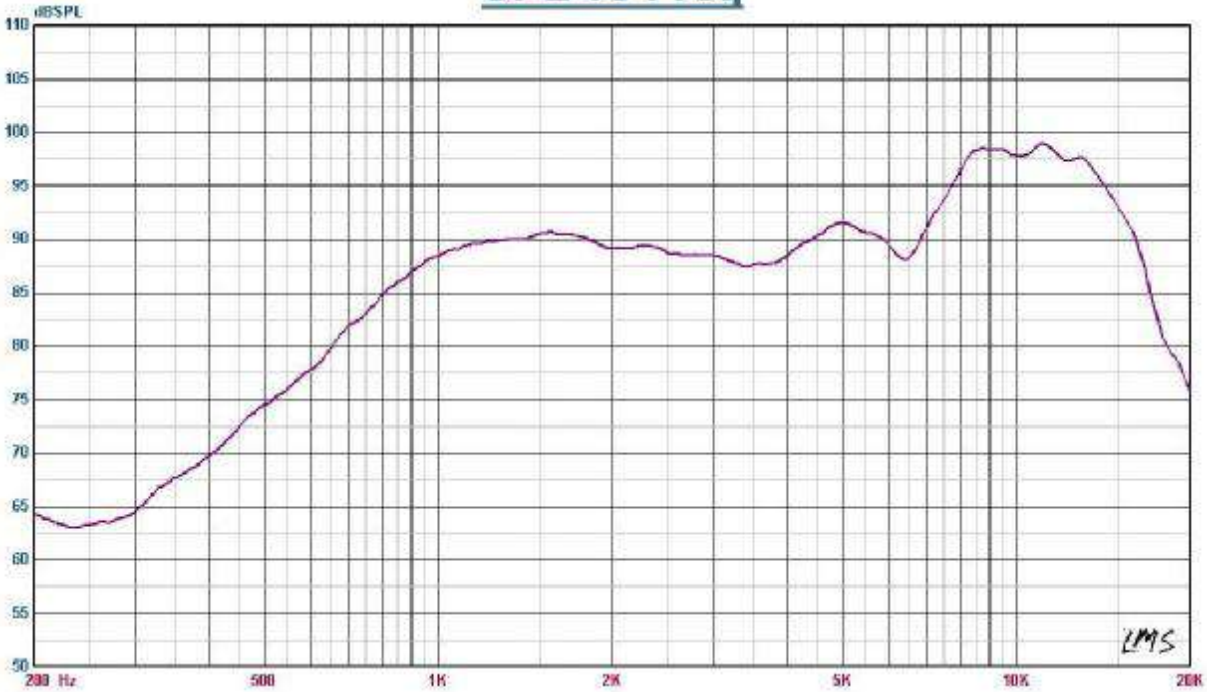
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## 5. Measurement Block Diagram & Response curve

### 5.1 Speaker

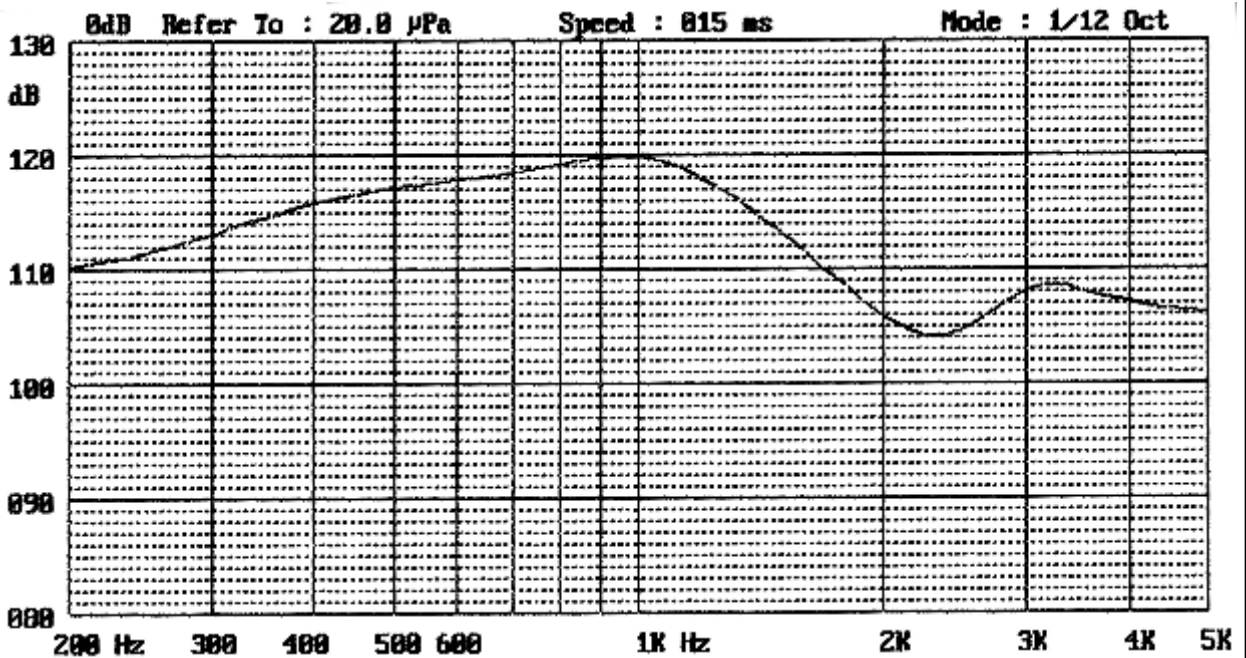
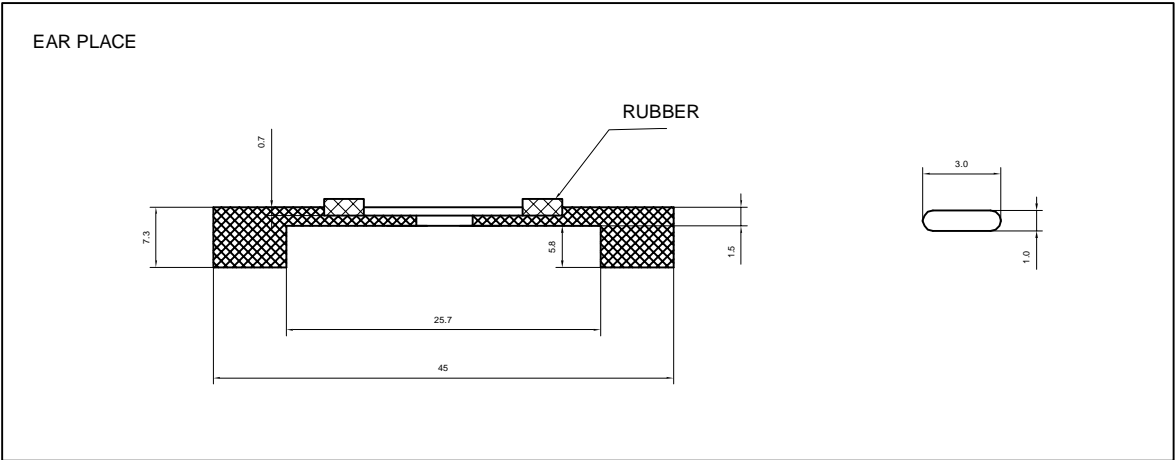
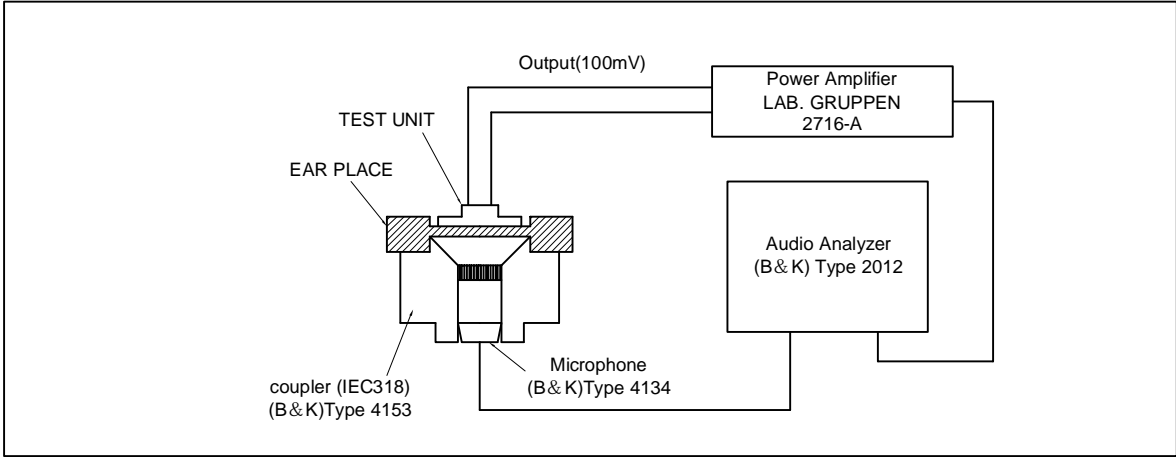


**SPL vs Freq**



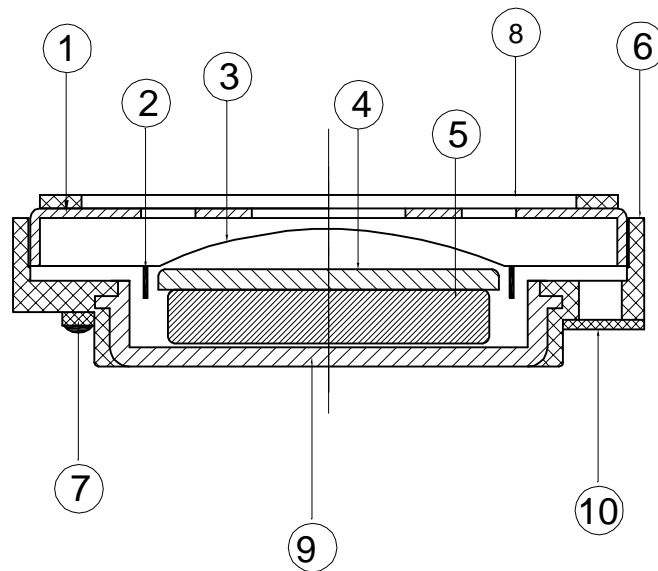
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## 5.2 Receiver



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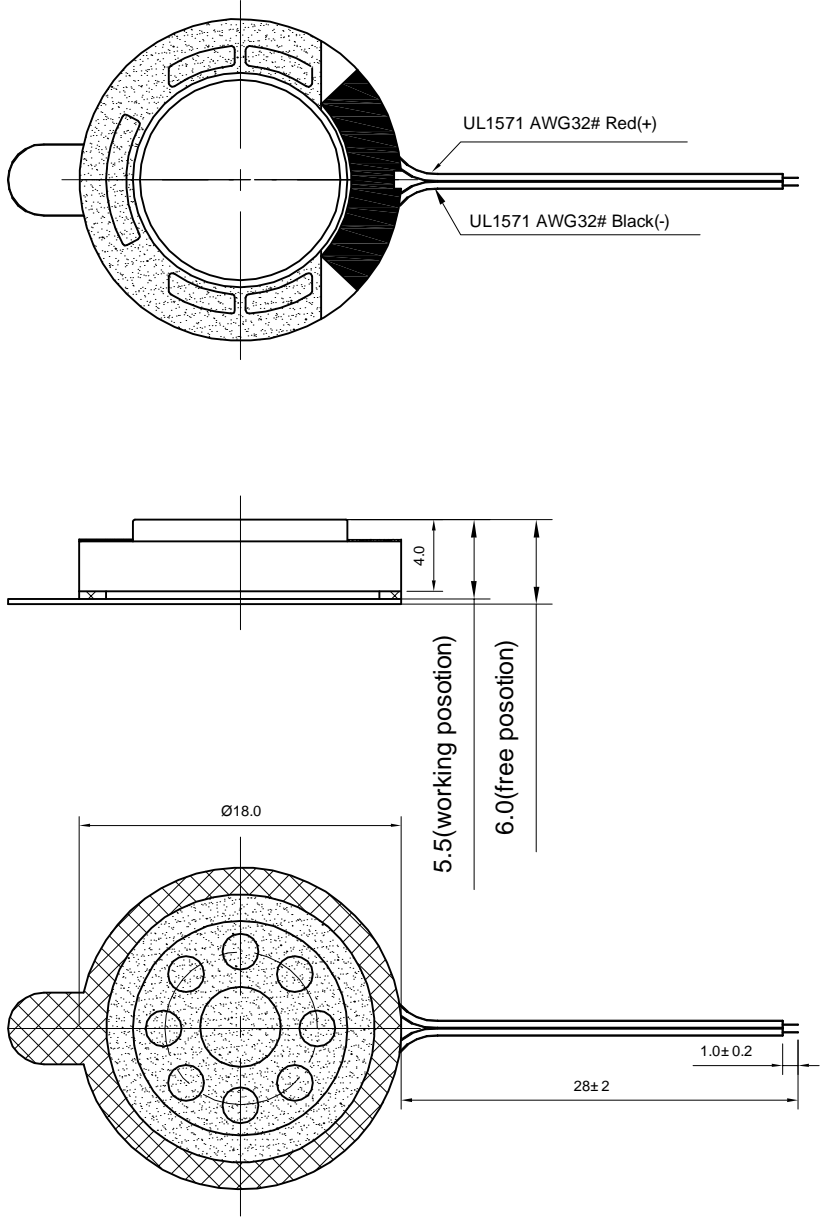
## 6. Structure



10	Screen	1	3B	
9	U YOKE	1	SPC	
8	Gasket	1	unwoven fabric	800+2B+800+PSR1.5+800
7	Terminal	1	Epoxy PCB	
6	Frame	1	PBT	
5	Magnet	1	Nd-Fe-B	
4	Plate	1	SPC	
3	Diaphragm	1	PEN	
2	Coil	1	Copper	
1	Cap	1	SUS304	
No.	Part Name	Q'TY	Material	Remarks

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### 7. Dimensions

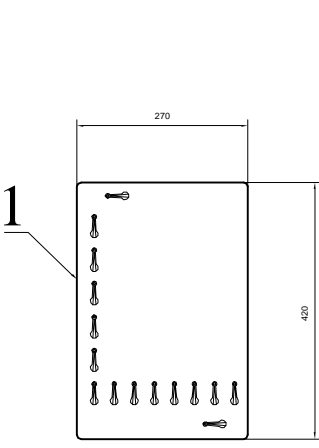


FIRST ANGLE PROJECTION

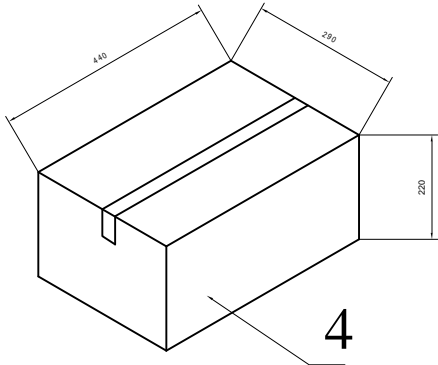
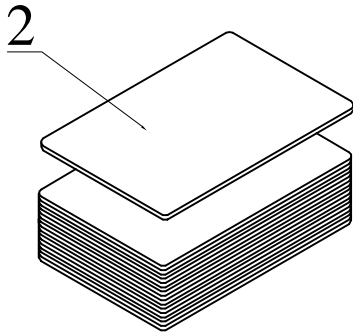
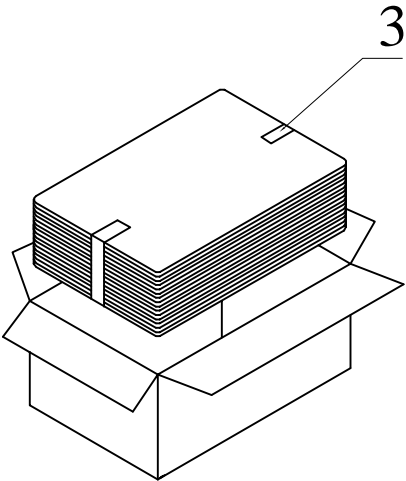
UNIT : mm  
Tolerance :  $\pm 0.2$

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### 8. Packing



100Pcs



QTY: 2000Pcs  
440 x290 x220



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### 9. Revision

Rev. No.	DATE	PAGE	DESCRIPTION	BOM
1.0	2009.06.12		Primary	