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| Model No. : KP2209SP1-5581 | Revision No. | 1.0 |
| | Drawing No. | KFC5581 |

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1. Scope

This specification is applied to the two mode 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 : 22x09 mm
- 2.2 Height : 3.7 mm
- 2.3 Weight : 1.3gr.
- 2.4 Operating Temperature range:
-20~+70℃ without loss of function
- 2.5 Store Temperature range:
-40~+85℃ without loss of function

3. Electrical and Acoustic Characteristics.

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

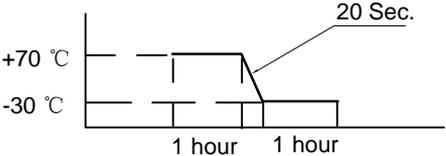
3.1 Speaker

| | Items | Specification |
|---|----------------------|---|
| 1 | Impedance | 8 Ω ± 15%(at 1Vrms,1.5kHz) |
| 2 | Sound Pressure Level | 87dB ± 3dB(1kHz/0.1W/0.1M) |
| 3 | Resonance Frequency | 900Hz ± 20% |
| 4 | Frequency Range | F _o ~ 20.0kHz |
| 5 | Input Power | Rated 0.5W / Max. 1.0W |
| 6 | Distortion | <10% Max. at 2kHz/2Vrms |
| 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. |

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4. Reliability Test

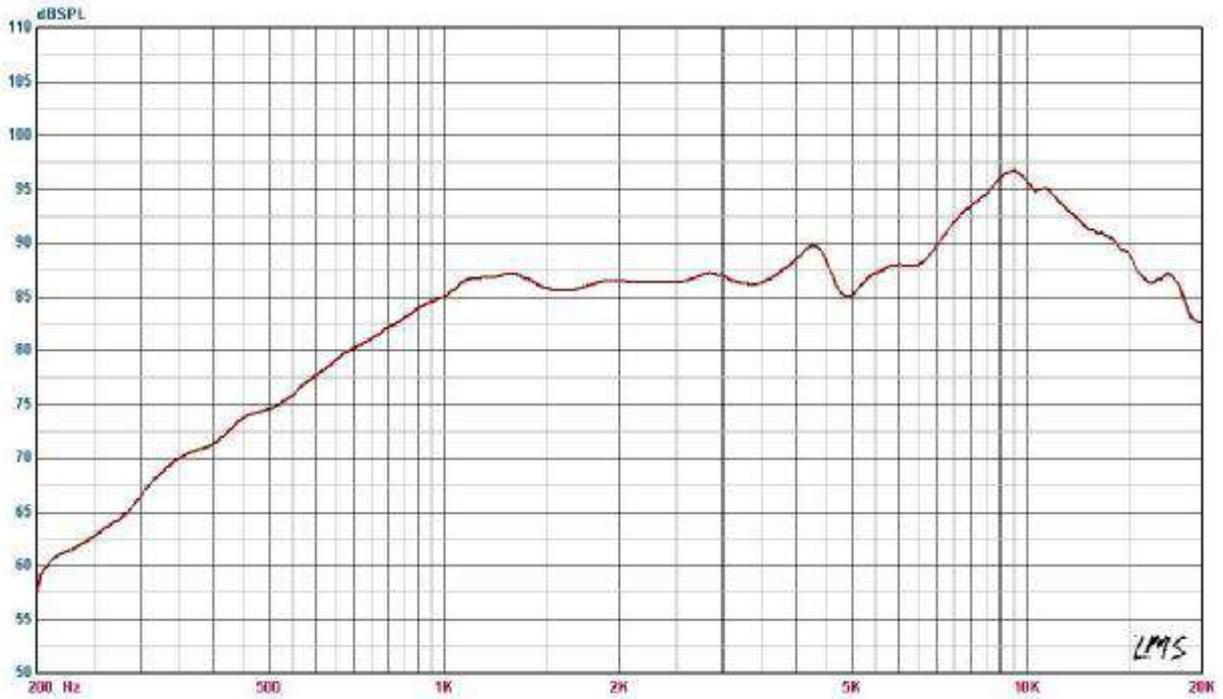
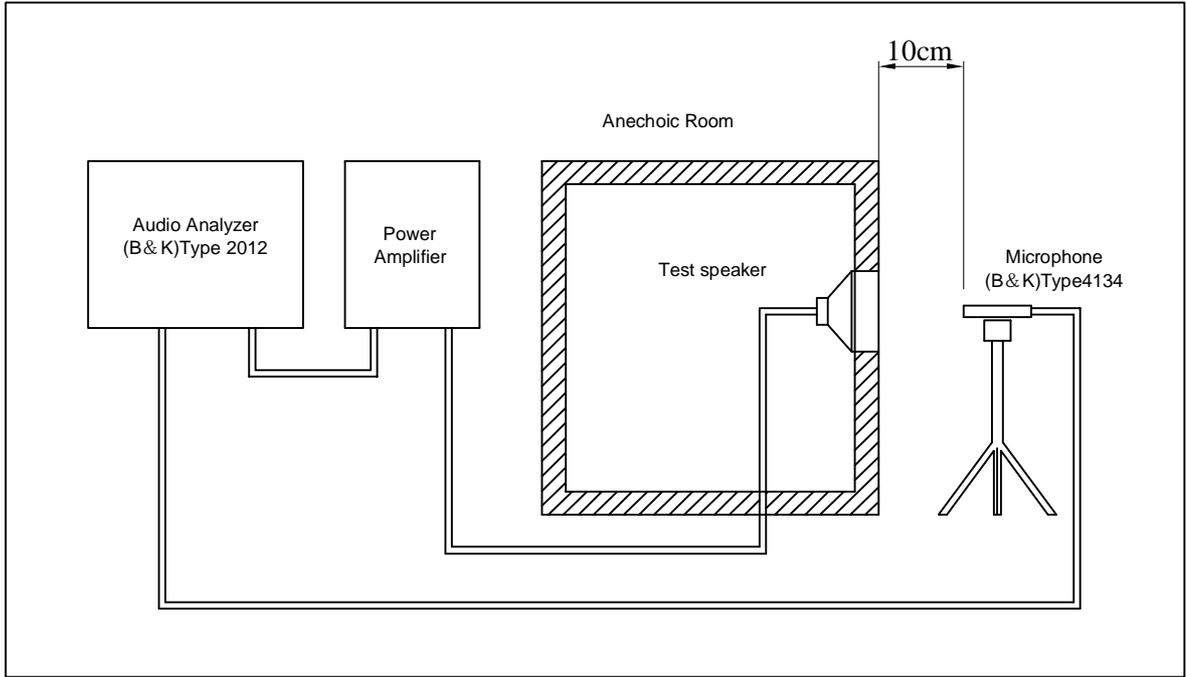
After test(1~7item), the speaker S.P.L . difference shall be within $\pm 3\text{dB}$, and the appearance not exist any change to be harmful to normal operation(e.g. cracks,rusts,damages and especially distortion).

| | 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 $+70\text{ }^\circ\text{C}$ for 1 hour, then speaker shall be placed in a chamber at $-30\text{ }^\circ\text{C}$ 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 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 | 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 | The speaker after being applied loading white noise with input power 0.5W(2.0Vrms.) 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 M Ω |

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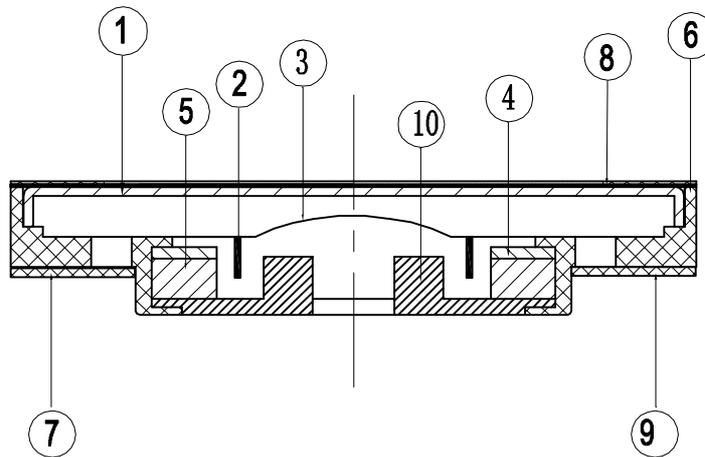
5. Measurement Block Diagram & Response curve

5.1 Speaker



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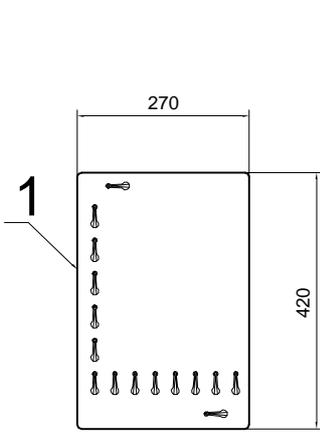
6. Structure



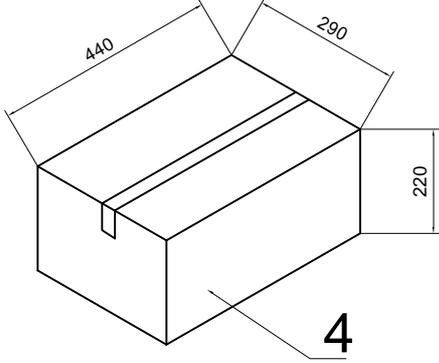
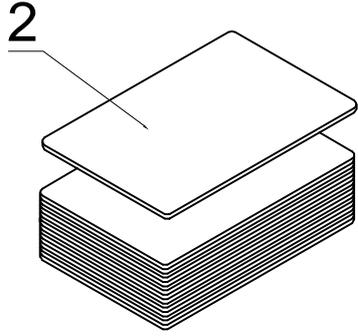
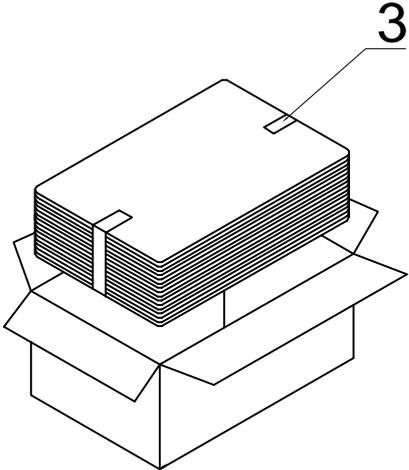
| 10 | Yoke | 1 | SPC | |
|-----|-----------|------|----------------|------------|
| 9 | Screen | 1 | NET | |
| 8 | Gasket | 1 | unwoven fabric | 800+2B+800 |
| 7 | Terminal | 1 | Epoxy PCB | |
| 6 | Frame | 1 | PBT | |
| 5 | Magnet | 1 | Nd-Fe-B | |
| 4 | Plate | 1 | SPC | |
| 3 | Diaphragm | 1 | PEN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

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8. Packing



100Pcs



QTY: 2000Pcs
440 x290 x220