

Specification for Speaker	Page	2/9
	Revision No.	1.1
Model No. : KP2036SP3-E990-4219	Drawing No.	KFC4219

CONTENTS

1. Scope
2. General
3. Electrical and Acoustic Characteristics.
4. Reliability Test
5. Measurement Block Diagram & Response curve
6. Structure
7. Dimensions
8. Packing
9. Revision

Specification for Speaker		Page	3/9
		Revision No.	1.1
Model No. : KP2036SP3-E990-4219		Drawing No.	KFC4219

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 : 20 mm

2.2 Height : 3.8 mm

2.3 Weight : 2 g

2.4 Operating Temperature range:

-20~+70℃ without loss of function

2.5 Store Temperature range:

-30~+70℃ without loss of function

3. Electrical and Acoustic Characteristics.

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

No	Items	Specification
1	Impedance	8 Ω ± 15% (1Vrms at 1KHz)
2	Sound Pressure Level	90 dB ± 3dB (0.1W/0.1M at 1kHz)
3	Resonance Frequency	700 Hz ± 20%
4	Frequency Range	Fo ~20KHz
5	Input Power	Rated 0.5 W / Max. 1 W
6	Distortion	<10% Max. at 2kHz/2Vrms
7	Buzz and Rattle	Should not be audible buzzes,rattles when the 2V sine wave signal swept at frequency range.
8	Polarity	When supplied plus D.C. voltage to (+) terminal, the cone diaphragm must move to forward.

Specification for Speaker

Page

4/9

Revision No.

1.1

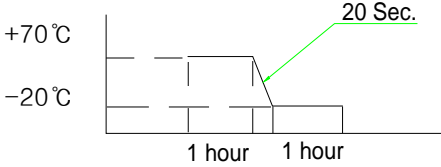
Model No. : KP2036SP3-E990-4219

Drawing No.

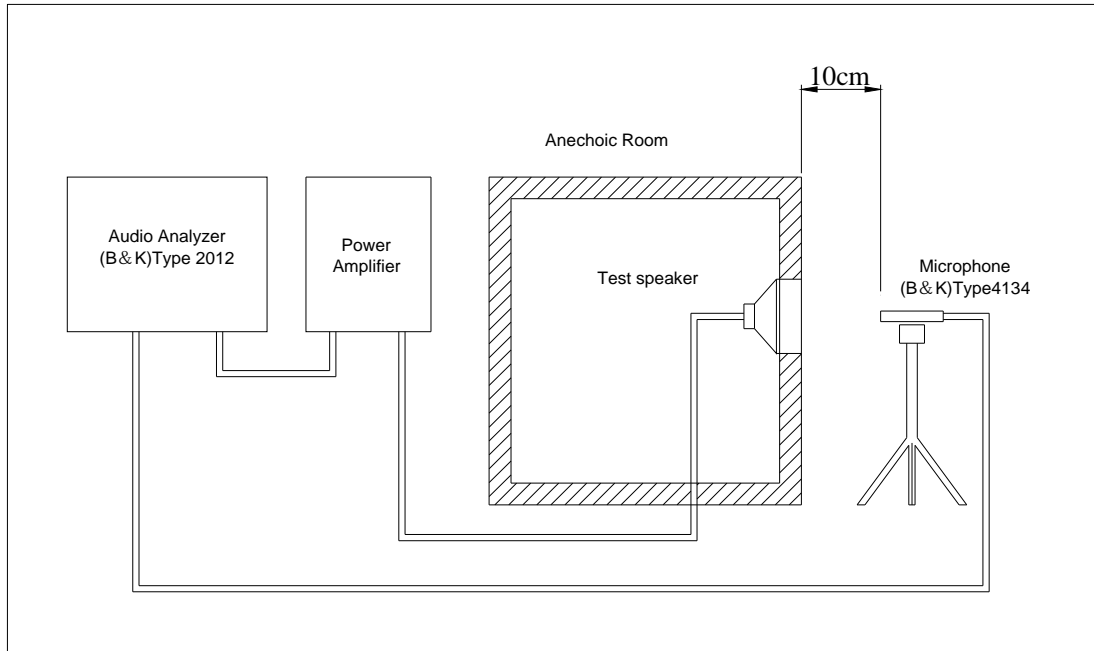
KFC4219

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).

No	Items	Specification
1	High Temperature Test	After being placed in a chamber with $+70\pm 3\text{ }^\circ\text{C}$ 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 $-30\pm 3\text{ }^\circ\text{C}$ 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 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 $+70^\circ\text{C}$ for 1 hour, then speaker shall be placed in a chamber at -20°C for 1 hour(1 cycle is the below diagram). 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	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 $1\text{ M}\Omega$

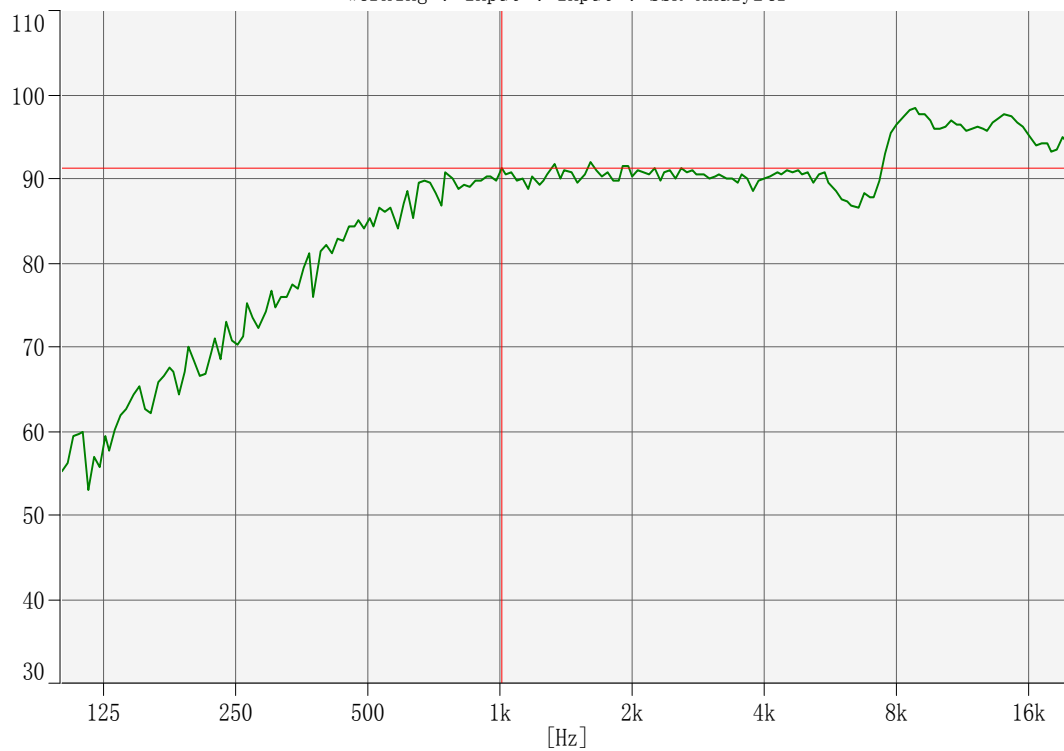
5. Measurement Block Diagram & Response curve



[dB/20.0u Pa]

Output Response(Signal 1) - Input (Magnitude)

Working : Input : Input : SSR Analyzer



Specification for Speaker

Page

6/9

Revision No.

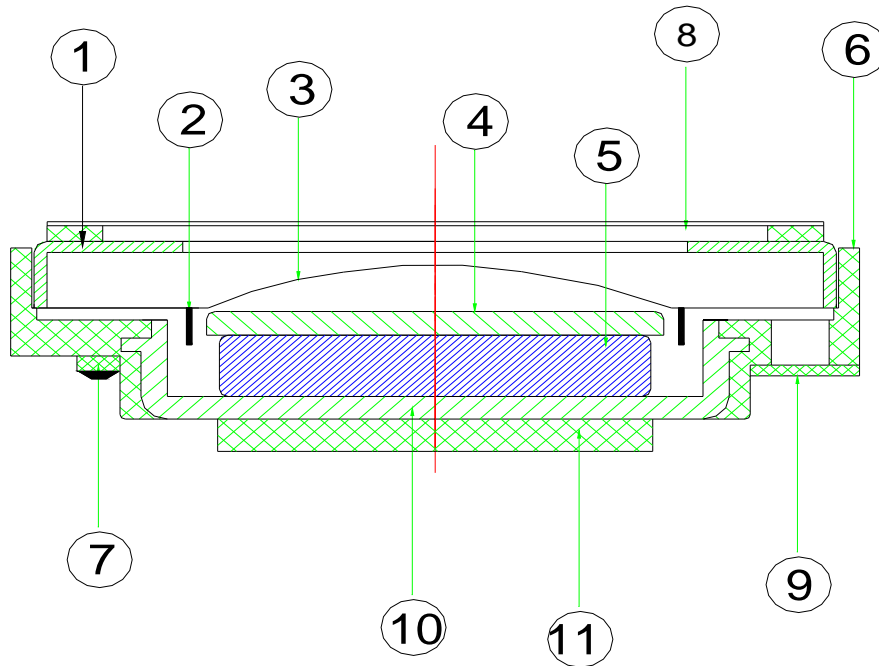
1.1

Model No. : KP2036SP3-E990-4219

Drawing No.

KFC4219

6. Structure



11	Cushion	1	paper	800+PSR0.2+800
10	Yoke	1	SPC	
9	Screen	1	3B	
8	Gasket	1	unwoven fabric	800+2B+800+PSR0.3+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	Voice Coil	1	Copper	
1	Cap	1	SUS304	
No.	Part Name	Q'ty	Material	Remarks

Specification for Speaker

Page

7/9

Model No. : KP2036SP3-E990-4219

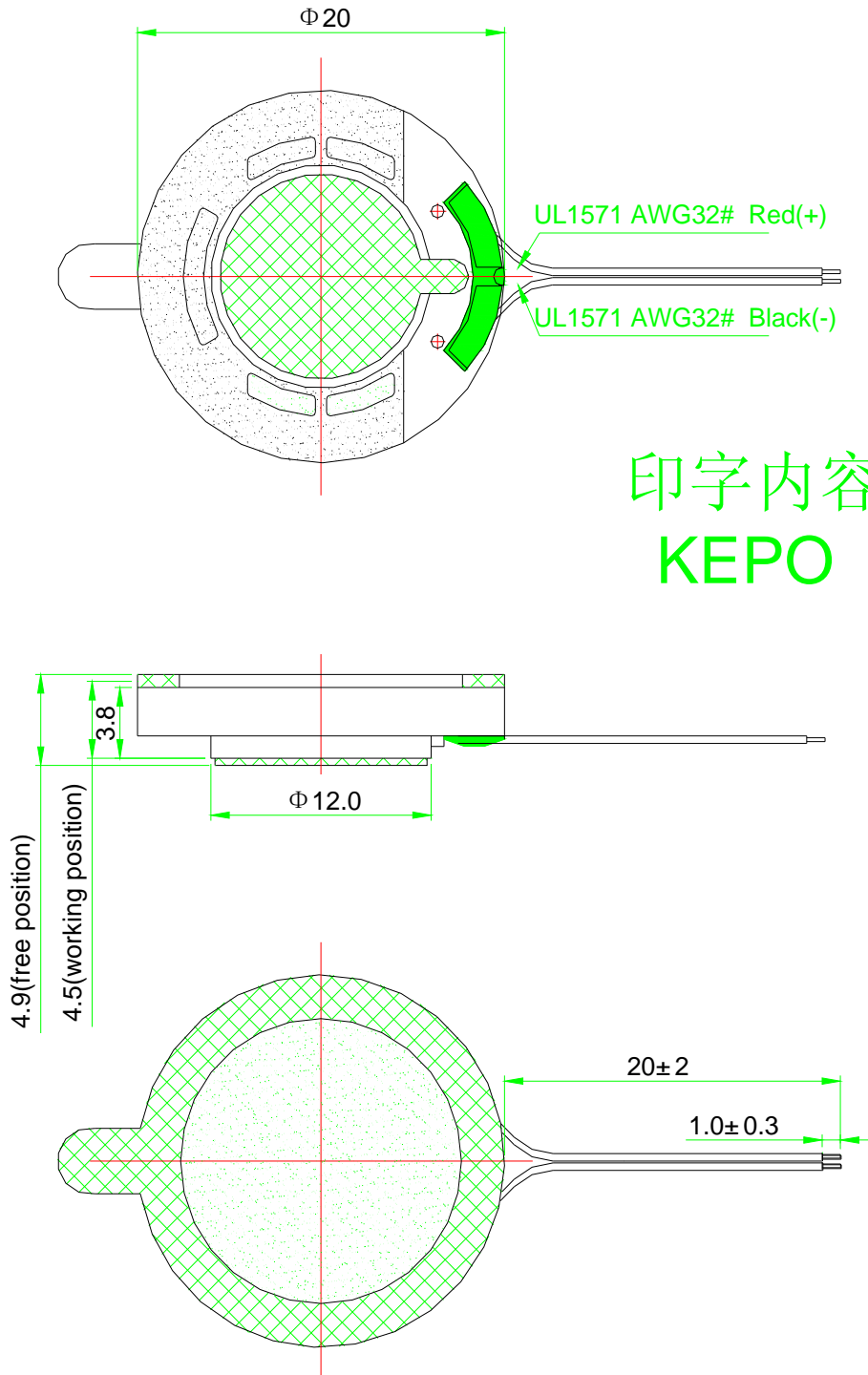
Revision No.

1.1

Drawing No.

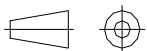
KFC4219

7. Dimensions



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FIRST ANGLE PROJECTION



UNIT : mm

Tolerance : ± 0.2

Specification for Speaker

Page

8/9

Model No. : KP2036SP3-E990-4219

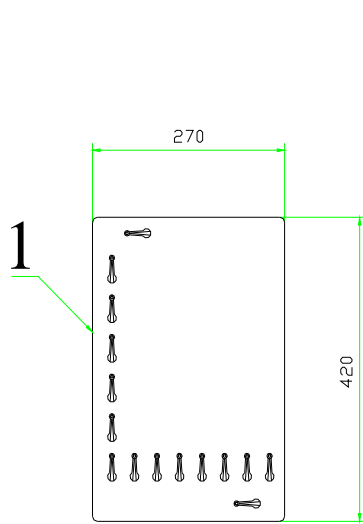
Revision No.

1.1

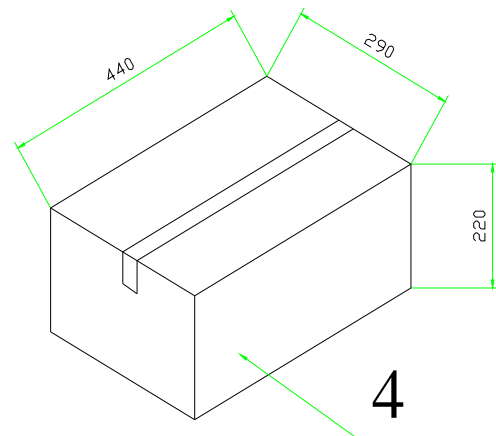
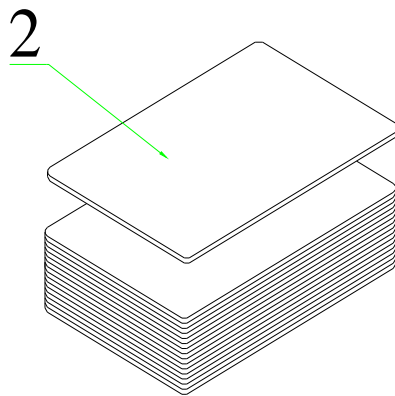
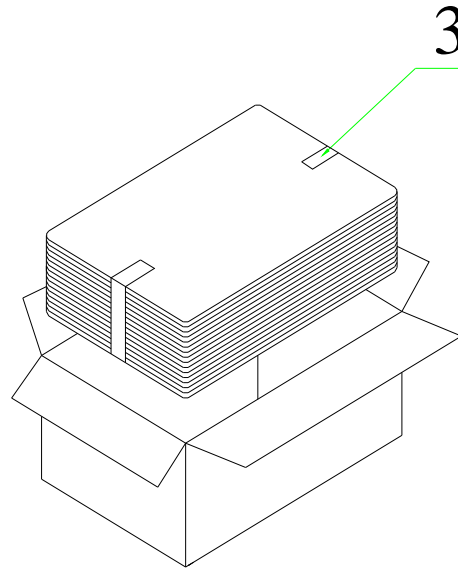
Drawing No.

KFC4219

8. Packing



100Pcs



QTY: 2000Pcs

440 x290 x220