



# NINGBO KLS ELECTRONIC CO.,LTD.

## C、适用范围 SCOPE

This specification applies speaker, KLS3-ZSW01-2415MM

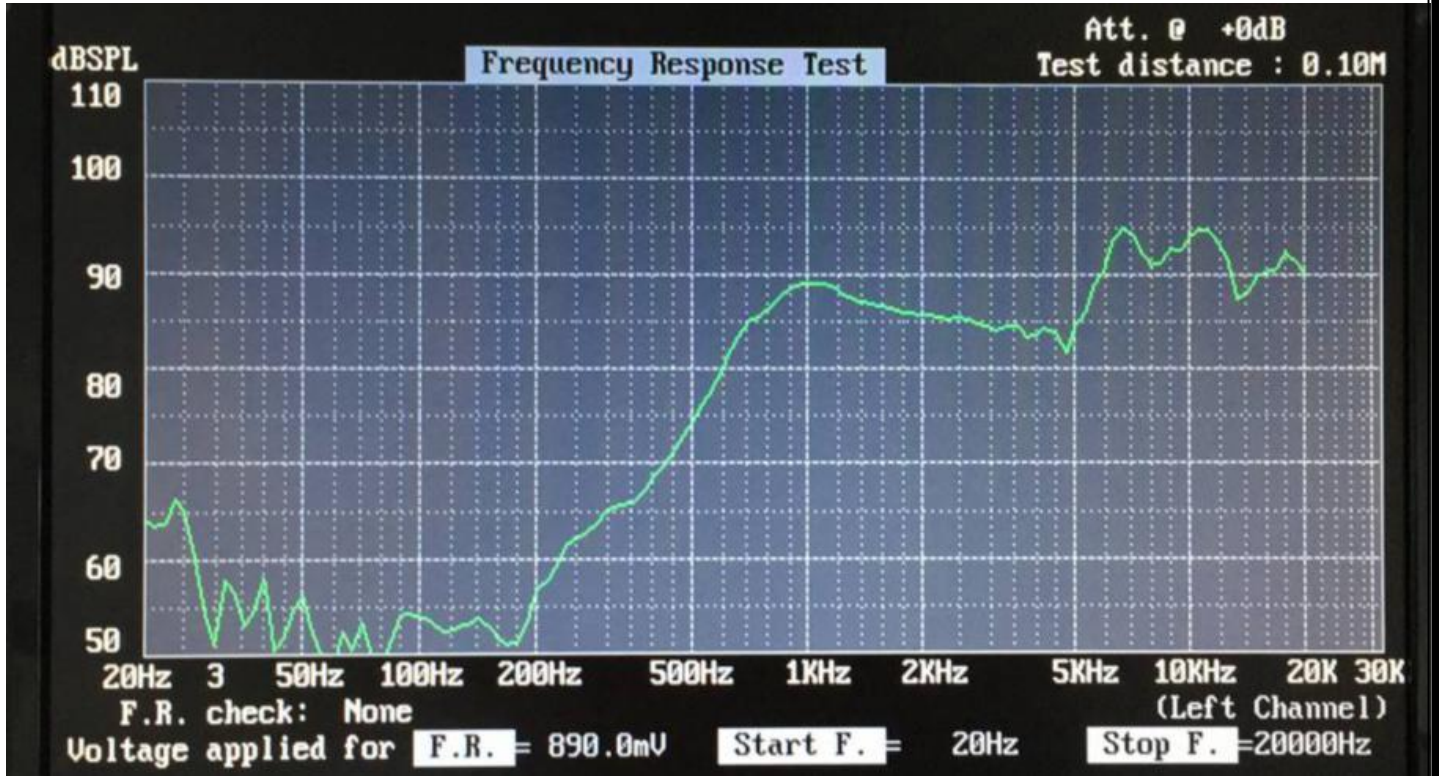
## D、GENERAL SPECIFICATIONS 一般规格

NO.	Item	Symbol	Unit	Specification	Condition
1	Dimension 尺寸		mm	15×24×4.8H	
2	Rate/Max Power Rating 额定/最大功率		W	Rate 1/Max.1.0	Max. Power: IEC-60268-5 Filter 60s On/120s Off 10 Cycles (Room TEMP.)
3	Impedance 阻抗	$\Omega$	Ohm	8.0±15%	
4	Resonance Frequency 谐振频率	Fo	Hz	880±20%	At 1.0V
5	Output S.P.L 输出音压	S.P.L	dB	88±3dB	0.1m/0.1W at 1.0K, 1.2K, 1.5K, 2.0KHz average
6	Frequency Rang 有效频宽		Hz	Fo—20KHz	Output S. P. L -10dB 输出音压-10dB
7	Max Distortion 最大失真		%	7%	At 1.0KHz 0.1m/0.1W
8	Magnet Material 磁铁材质		mm	Nd-Fe-B	
9	Storage temp 贮存温度		°C	-20~+ 55°C	
10	Operate temp 工作温度		°C	-20~+ 55°C	
11	Buzze&Rattle 异常音				Not be audible at 2.83V sine wave between Fo~4.0KHz 输入 2.83V 正 弦波 Fo 到 4.0KHz 之间无异 常音
12	Protection Regulation 环保法规			RoHS	

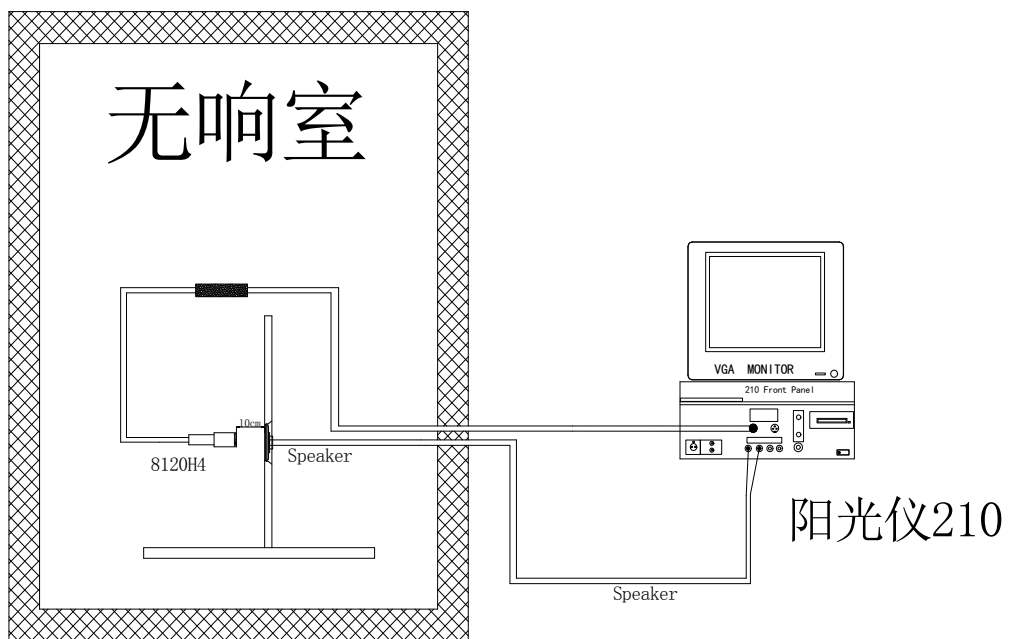


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## E、TYPICAL FREQUENCY RESPONSE CURVE 频率响应曲线



## F、MEASUREMENT CIRCUIT 测量线路



5. 5M\*5. 5M\*H3M(长宽高)

## G、MECHANICAL CHARACTERISTICS 机械特性

NO	Item	Test condition	Evaluation standard
1	Vibration Test 振动测试	Speaker shall be measured after being applied vibration of amplitude of 1.5mm with 10 to 55Hz band of vibration frequency to each of 3 per-pendicular directions for 2 hours. 振动周波数 10~55Hz, 全振幅 1.5mm 于 X, Y, Z 3 个方向各 2 个小时	No obstacle to be harmful to normal operation ; Damages,cracks,rusts and distortions. Should not be audible at 2.83V sinewave between FO~4.0KHz
2	Drop Test 跌落测试	Drop the speakers contained in normal box onto the board 40mm thick 10 times from the height of 75cm 将扬声器置于盒中, 自 75 公分高度落在 40mm 的木板上共 10 次	测试后无任何障碍防碍正常操作, 且在输入 2.83V 正弦波从 Fo 到 4.0KHz 之间无异常音。
3	Solderability 焊锡附着性 (connector excepted) 端子类不适合用此项	Stripped wire of lead wire are immersed in rosin For 5 seconds and then immersed in solder bath Of $270 \pm 5^{\circ}\text{C}$ for $3 \pm 0.5$ seconds. 裸线部分浸入松香溶液 5 秒后, 再浸入 $270 \pm 5^{\circ}\text{C}$ 熔融焊锡槽 $3 \pm 0.5$ 秒,	90% min. stripped wires shall Be wet with solder.( Except the edge of terminal). 浸入裸线部分附着焊锡 90% 以上。(末端断面不算)
4	Lead Wire Pull Strength 线材拉力	The pull force shall be applied to double lead wire: Horizontal: 3.0N(0.306KG) for 30 seconds; Vertical: 2.0N(0.204KG) for 30 seconds. 双线材水平方向施以 3.0N(0.306KG) 的力量; 垂直方向施以 2.0N(0.204KG) 的力量, 各 30 秒	No damage and cutting off 线材不松动, 不脱落

## H、RELIABILITY TEST 信赖性试验

NO	Item	Test conditions	Evaluation standard
1	Load test 连续负荷	0.8W white noise is applied for 24 hours,at room temp. 在室温下，输入功率 0.8W，白杂音连续操作 24 小时	Being placed for 1 hours at +25 °C ,speaker shall be measured,No obstacle to be harmful to normal operation;damages,cracks,rusts,etc.should not be audible at 2.53V sine wave between Fo~4.0KHz.Fo should meet intial one.S.P.L.deviation of unit should be within ±3dB 经测试后，静置于+25℃环境中 1 小时后，测试无任何障碍妨碍正常操作，且在输入 2.53V 正弦波从 Fo 到 4.0KHz 之间无异常音，Fo 与原规格值相同，输出音压变化量在 ±3dB

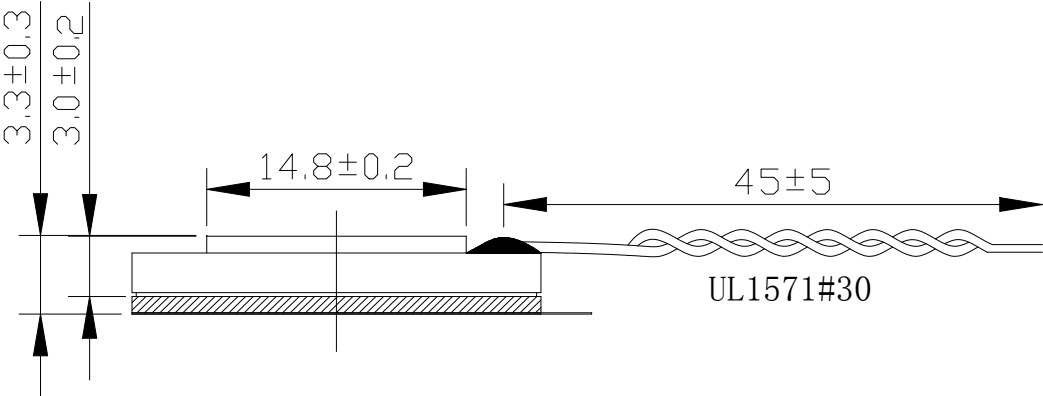
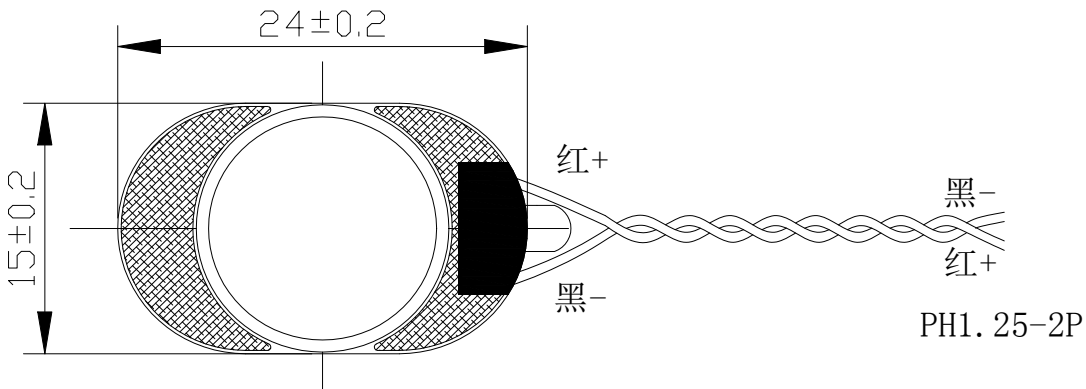
## I、ENVIRONMENTAL TEST 环境试验

No.	Item	Test conditions
1	High temp. test 高温测试	After being placed in a chamber at +55°C for 48 hours. 置于+55℃环境中 48 小时
2	Low temp. test 低温测试	After being placed in a chamber at - 20°C for 48 hours. 置于-20℃环境中 48 小时
3	Humidity test 相对湿度测试	After being placed in a chamber at +40°C and 90±5% relative humidity for 48 hours.置于+40℃，相对湿度 90±5%环境中 48 小时
4	Temp. cycle test 温度循环测试	Low temperature -20 °C ±2°C (2 hour ) / high temperature +55 ±2°C (2 hour ) : 1 cycle , total 10 cycles. Being placed for 6 hours at +25 °C ,receiver shall be measured. No obstacle to be harmful to normal operation ;damages, cracks, rusts and distortions, should not be audible at 2.53Vsine wave between Fo~4.0KHz. S. P. L. deviation of unit should be within ±3dB. 低温 (-20±2℃) 2 小时/高温 (55±2℃) 2 小时，1 次循环，10 个周期； 经测试后，静置于+25℃环境中 6 小时后，测试后无任何障碍妨碍正常操作，在输入 2.53V 正弦波从 Fo 到 4.0KHz 之间无异常音，Fo 与原规格值相同，输出音压变化量在 +3dB 内。



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## J、 APPEARANCE DRAWING 外观尺寸图



Unit: mm