

MESSRS.

SPECIFICATION FOR APPROVAL**承 认 书**

Product	动态式扬声器 DYNAMIC SPEAKER
Part No.	HDK-241508EA-1W11 (RoHS)
Customer	
Customer Part No.	QR50

Approved By	Checked By	Made By
王台平 JAN-26-2018	曹丽萍 JAN-26-2018	LILY JAN-26-2018

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EDITION:1.1

1.Specification

HDK-241508EA-1W11 (RoHS)

ITEM		SPECIFICATIONS	
01	Type 属性	Dynamic speaker 动态式扬声器	
02	Dimension 尺寸	External diameter 24*15mm 外径 24*15mm	
03	Rated Input Power 额定输入功率	0.8W	
04	Max. Input Power 最大输入功率	1.0W for 1 minute 1.0W 在内 1 分钟	
05	Impedance 阻抗	8 ohm $\pm$ 15% at 2000Hz 1.0V	
06	Resonance Frequency (Fo) 谐振频率	750Hz $\pm$ 20% at Fo 1V	
07	Sensitivity (S.P.L.)灵敏度	96dB (0.8W / 0.1m) $\pm$ 3 dB	at AVE 0.8K,1.0K,1.2K,1.5KHz
08	Frequency Range 频率范围	Fo – 20KHz	
09	Total Harmonics Distortion 谐波失真	Max 8 % at 1 KHz,0.8W.	
10	Voice Coil 音圈	Diameter 8.5 mm	
11	Magnet 磁铁	Rare earth permanent (Nd-Fe-B) magnet Φ 8.0*1.0mm 钕铁硼材质外径 Φ 8.0*1.0 mm	
12	Weight 重量	2.8g $\pm$ 0.2g	
13	Appearance 外观	Should not exist any obstacle to be harmful to normal operation; damages, cracks, rusts and distortions, etc. 沒有會影響功能的:損壞,裂痕,鏽跡,變型等	
14	Operation Test 工作测试	Must be normal at program source – 0.8W 测试的工作功率為 0.8W	
15	Buzz, Rattle, etc.异音测试	Should not be audible at 2.83V sine Wave between Fo to 20KHz 加電壓 2.53V 频率 Fo D 到 20KHz 的正旋波時不會聽到任何杂音	
16	Polarity 极性	When positive voltage is applied to the terminal marked (+), diaphragm should move to the front. 正電壓接至(+)極時,音膜振動是朝向喇叭前方	
17	Terminal Strength 端子强度	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection. 能夠承受 1kg 負載達 30 秒不會造成任何損壞	
18	Temperature 温度	Operating temperature: -20°C to +60°C 工作溫度 : -20°C to +60°C Storage temperature: -30°C to +70°C 儲存溫度 : -30°C to +70°C	

2-1. Test Condition 测试条件

Standard 标准测试

Temperature 温度 : 15 ~ 35°C

Relative humidity 相对湿度 : 25% ~ 85%,

Atmospheric pressure 大气压力 : 860mbar to 1060mbar.

Basic 基本测试

Temperature 温度: 20±3°C

Relative humidity 相对湿度: 60% ~ 70%,

Atmospheric pressure 大气压力: 860mbar to 1060mbar

2-2. Standard Test Fixture 标准测试设备

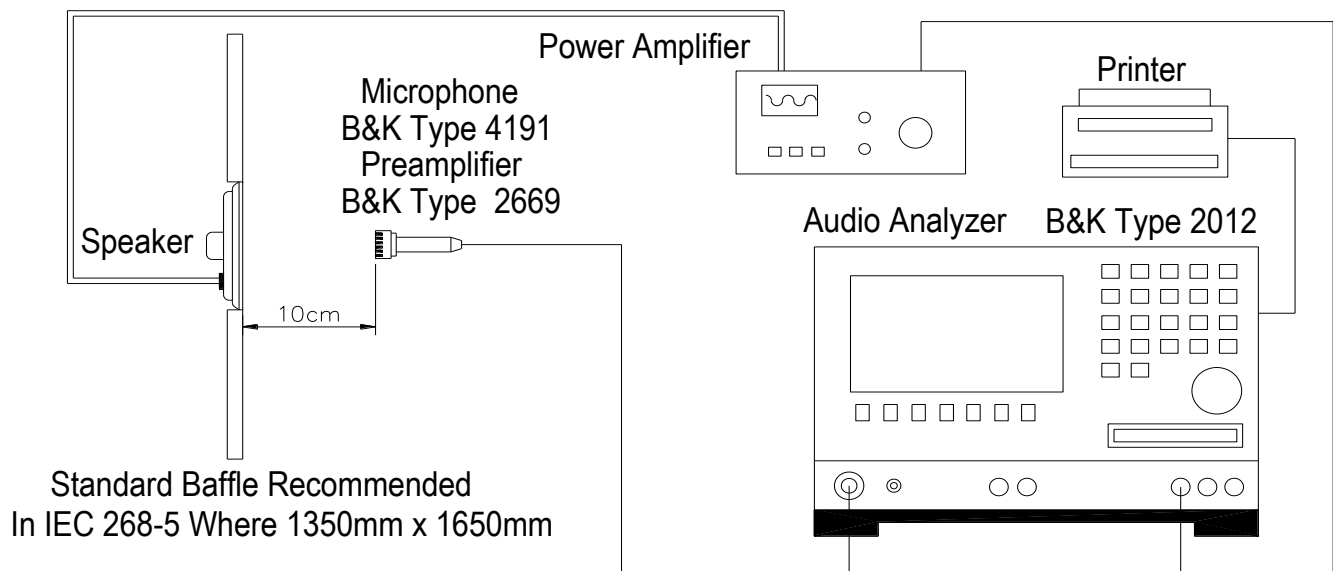
1. Input Power 输入功率: 0.8W (2.53V)

2. Zero Level : -dB

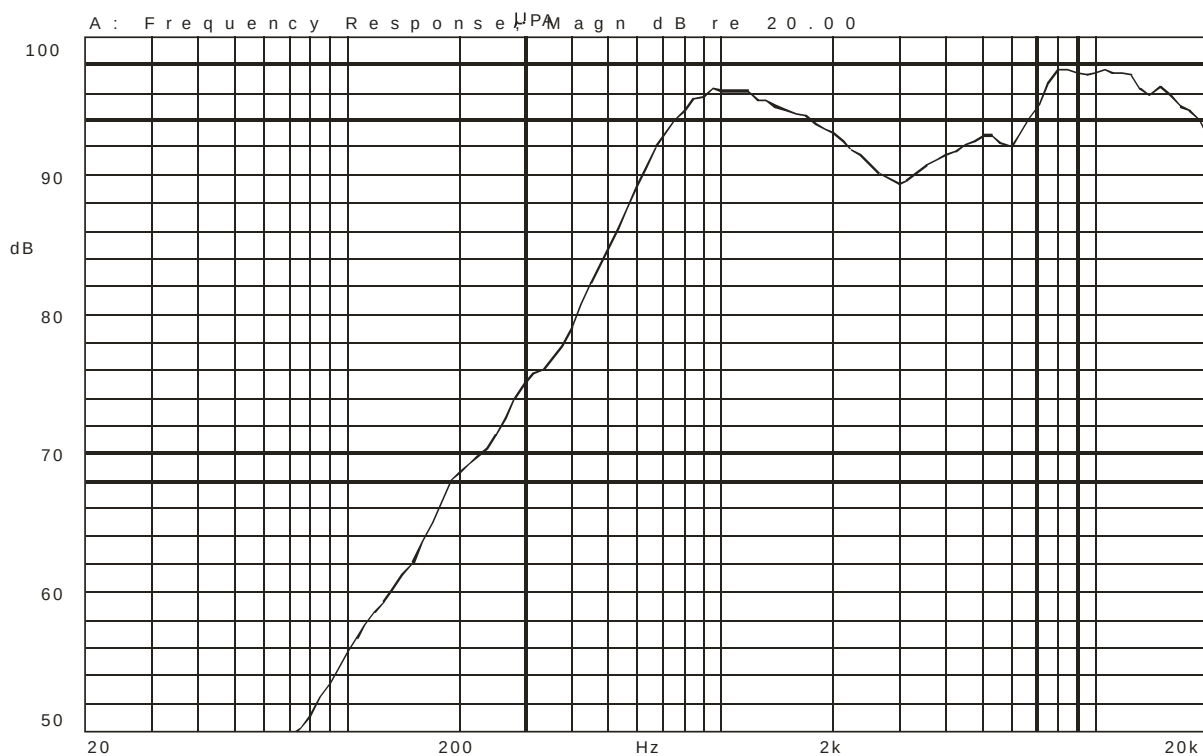
3. Mode 模式: SPEAKER 喇叭

4. potentiometer Range : 50dB

5. Sweep Time 扫描时间: 0.5sec



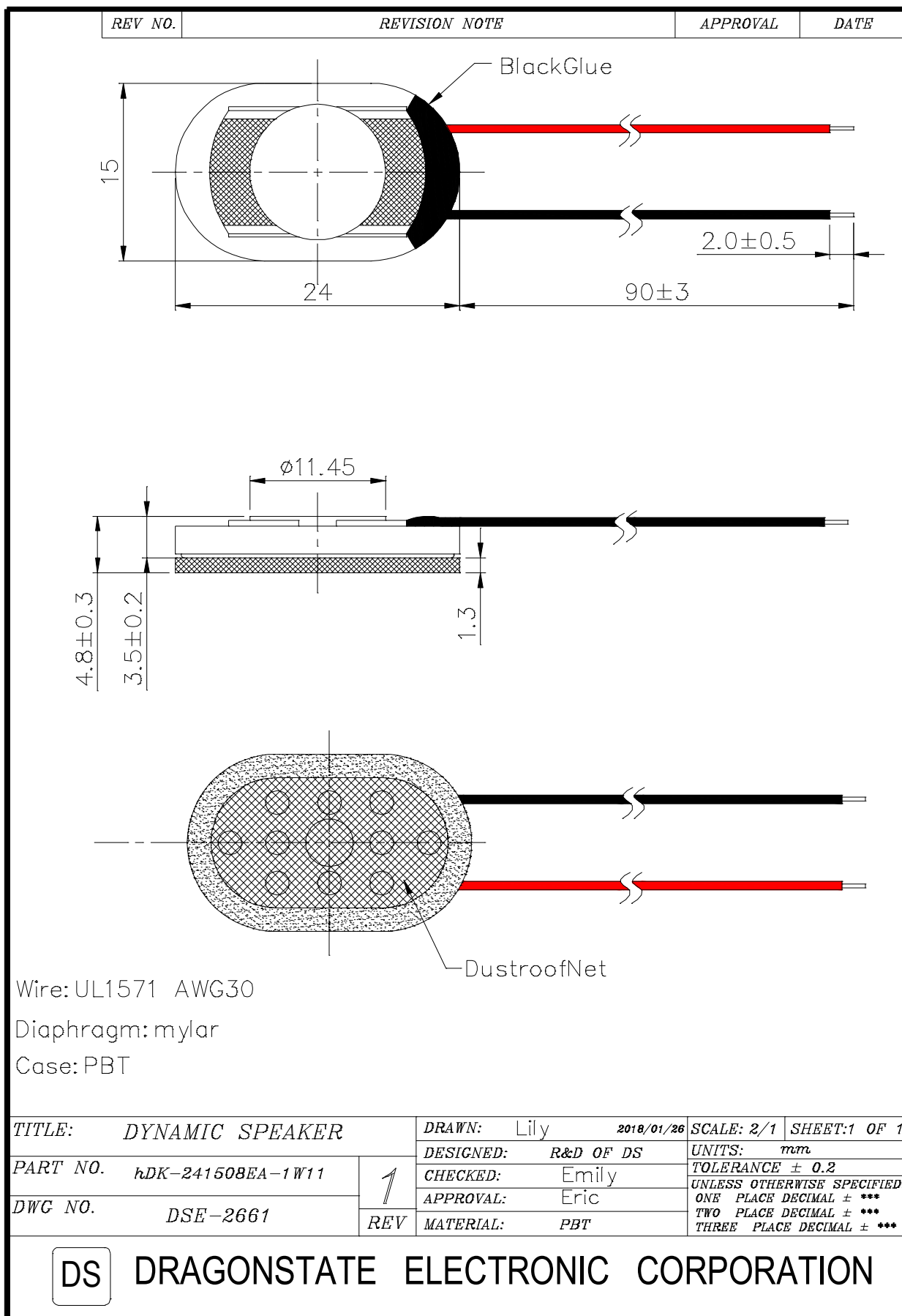
2.3 Frequency Response Curve 频响曲线



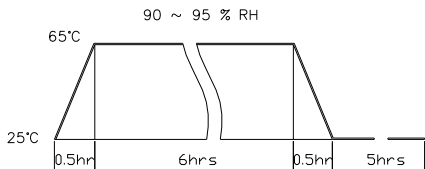
M o d e : S S R



3.Dimension 尺寸



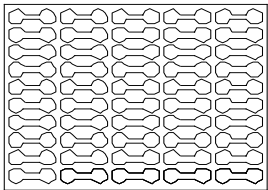
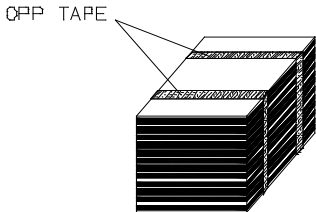
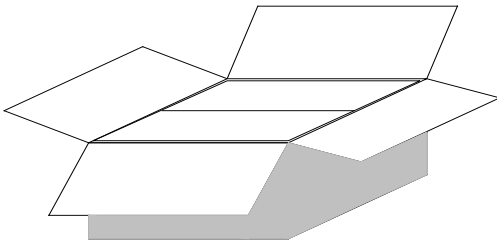
4. Reliability Test 可靠性测试

Items.		Specifications
01	High temp. Test 高温测试	Keep 96 hours at $+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check $+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$ 持续 96 小时, 在常温下存放 3 小时后测试
02	Low temp. Test 低温测试	Keep 96 hours at $-20^{\circ}\text{C}\pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check $-30^{\circ}\text{C}\pm 3^{\circ}\text{C}$ 持续 96 小时, 在常温下存放 3 小时后测试
03	Humidity test 湿度测试	Keep 96 hours at $+40^{\circ}\text{C}\pm 3^{\circ}\text{C}$ relative humidity 95% and leave 3 hours in normal temperature and then checked. $+40^{\circ}\text{C}\pm 3^{\circ}\text{C}$ 相对湿度 95%持续 96 小时, 在常温下存放 3 小时后测试
04	Temp./Humidity cycle 温湿度循环测试	The part shall be subjected 5 cycles. One cycle shall be 12 hours and consist of; 在以下条件 5 次循环, 每次 12 小时, 在常温下存放 3 小时后测试 
05	Thermal cycle test. 热循环测试	Low temperature: $-30^{\circ}\text{C}\pm 3^{\circ}\text{C}$, temperature: $+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$, cycle: 1 hour/cycle each, and then keep 5 cycles in a room. 低温 $-30^{\circ}\text{C}\pm 3^{\circ}\text{C}$ 高温 $+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$ 一小时一个周期, 同一个试验箱 5 个周期
06	Vibration 振动测试	10~200~10Hz sin-wave sweep 15min. 5G(constant) X,Y, Z 3 direction. 2 hours each, total 6 hours. 10~200~10Hz 正弦波振动 15 分钟, X,Y, Z 三个面, 2 小时一次, 共 6 小时
07	Fix drop test 固定跌落测试	Fix on jig. Then drop from 152cm height to the concrete floor X, y, z 6 direction. 5 times each, total 30 times. 固定夹具中, 152cm 跌落水泥地, X,Y, Z 六个面, 每面 5 次, 共 30 次
08	Free drop test 自由跌落测试	Free drop from 100cm height to the concrete floor X, y, z 6 direction. 1 times each, total 6 times. 100cm 跌落水泥地, X,Y, Z 六个面, 每面 1 次, 共 6 次
09	Rated Power test 额定功率测试	Rated Power white noise is applied for 96 hours 额定功率白噪声持续 96 hours
10	Max Power test 最大功率测试	Max power 1 min on – 2 min off 10 cycles. 最大功率 1 分钟通, 停 2 分钟, 10 次循环
11	Terminal strength test 拉力测试	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection 1kg 拉力 30 秒, 没有导致产品损坏
Criterion: After these test, the change of S.P.L shall be within ± 3 dB. 所有试验后, 音压都在 ± 3 dB 之内		

Soldering Condition 焊接条件

Recommend using constant branding iron in **15 ~ 30W**, and in temperature range **$350\pm 10^{\circ}\text{C}$** . Soldering time not over **3** seconds.

5.Packing 包装

REV NO.	REVISION NOTE	APPROVAL	DATE
	 Cover(325*245*5mm) Material: Paper		
	 Box(325*245*13mm) 100pcs Material: Paper+Epe		
	 Middle(325*245*155mm) 1000pcs(10*100pcs) Material: Paper+Epe		
	 Outer Box(490*360*350mm) 4000pcs(4*1000pcs) Material: Paper		
单位: mm			
TITLE: packing		DRAWN: Lily 2016/08/25	
PART NO.		DESIGNED: R&D QF D.S.	
		CHECKED: Emily	
DWG NO.		APPROVAL: Eric	
		MATERIAL: ***	
1 REV		SCALE: 2:1	
		SHEET: 1 of 1	
		UNITS: mm	
		TOLERANCE	
		20~11 ± 0.3	
		10~5 ± 0.2	
		<4 ± 0.1	
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