

***MESSRS.*****SPECIFICATION FOR APPROVAL**  
**承 認 书**

Product	DYNAMIC SPEAKER
Part No.	HDK-1420R08W1.0-1 (RoHS)
Customer	
Customer Part No.	

Approved By	Checked By	Made By
王台平 JUL-04-2025	曹丽萍 JUL-04-2025	LILY JUL-04-2025

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EDITION:1.1



## 1. Specification

HDK-1420R08W1.0-1 (RoHS)

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 20×14 mm	
03	Rated Input Power	1.0W	
04	Max. Input Power	1.2W for 1 minute	
05	Impedance	8 ohm $\pm$ 15% at 2000Hz 1.0V	
06	Resonance Frequency (Fo)	920Hz $\pm$ 20% at Fo 1V	
07	Sensitivity (S.P.L.)	97dB (1.0W / 0.1m) $\pm$ 3 dB	at AVE 0.8K, 1.0K, 1.2K, 1.5KHz.
08	Frequency Range	Fo - 20KHz	
09	Total Harmonics Distortion	Max 10% at 1 KHz, 1.0W.	
10	Weight	1.5g $\pm$ 0.2g	
11	Appearance	Should not exist any obstacle to be harmful to normal operation; damages, cracks, rusts and distortions, etc.	
12	Operation Test	Must be normal at program source - 1.0W	
13	Buzz, Rattle, etc.	Should not be audible at 2.83V sine Wave between 300 to 3.4KHz	
14	Polarity	When positive voltage is applied to the terminal marked (+), diaphragm should move to the front.	
15	Terminal Strength	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection.	
16	Temperature	Operating temperature: -20°C to +70°C Storage temperature: -30°C to +80°C	

## 2-1. Test Condition

### Standard

Temperature : 15 ~ 35°C

Relative humidity : 25% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar.

### Basic

Temperature : 20±3°C

Relative humidity : 60% ~ 70%,

Atmospheric pressure : 860mbar to 1060mbar

## 2-2. Standard Test Fixture

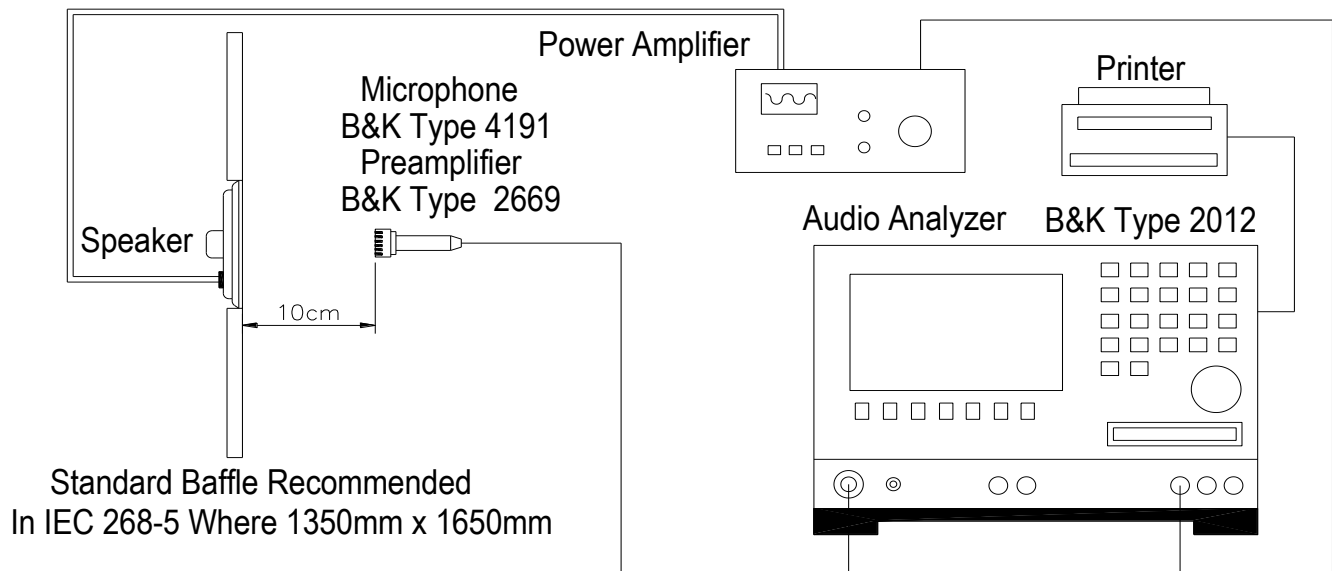
1. Input Power : 1.0W (2.83V )

2. Zero Level : -dB

3. Mode : SPEAKER

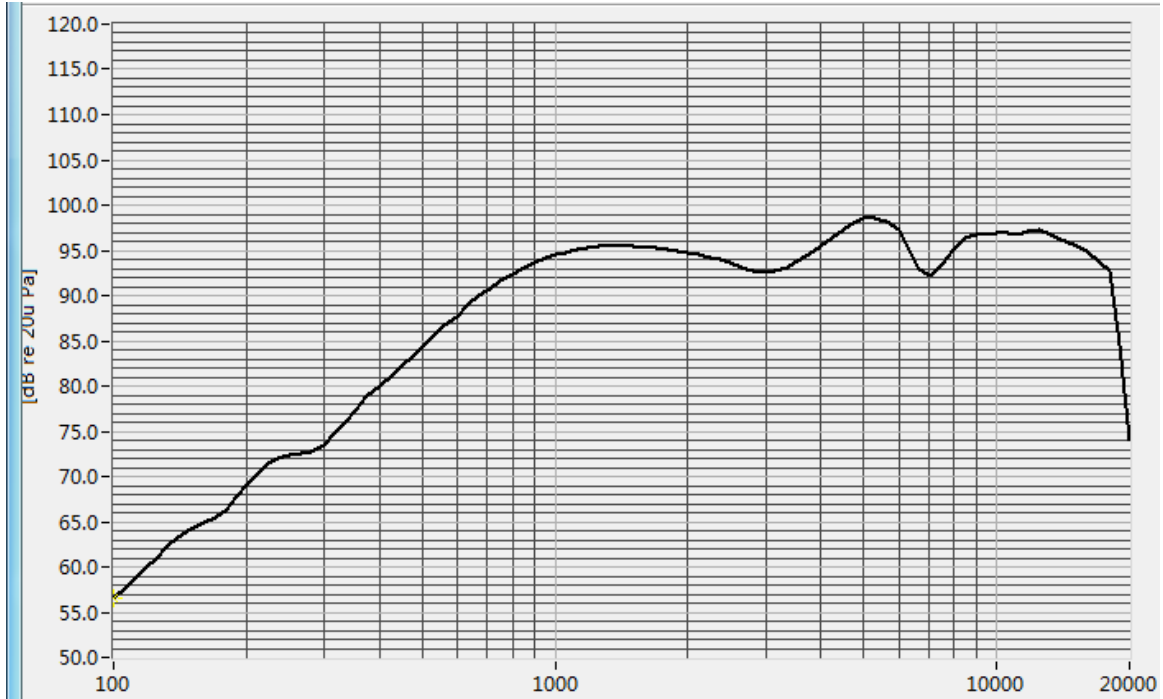
4. potentiometer Range : 50dB

5. Sweep Time : 0.5sec

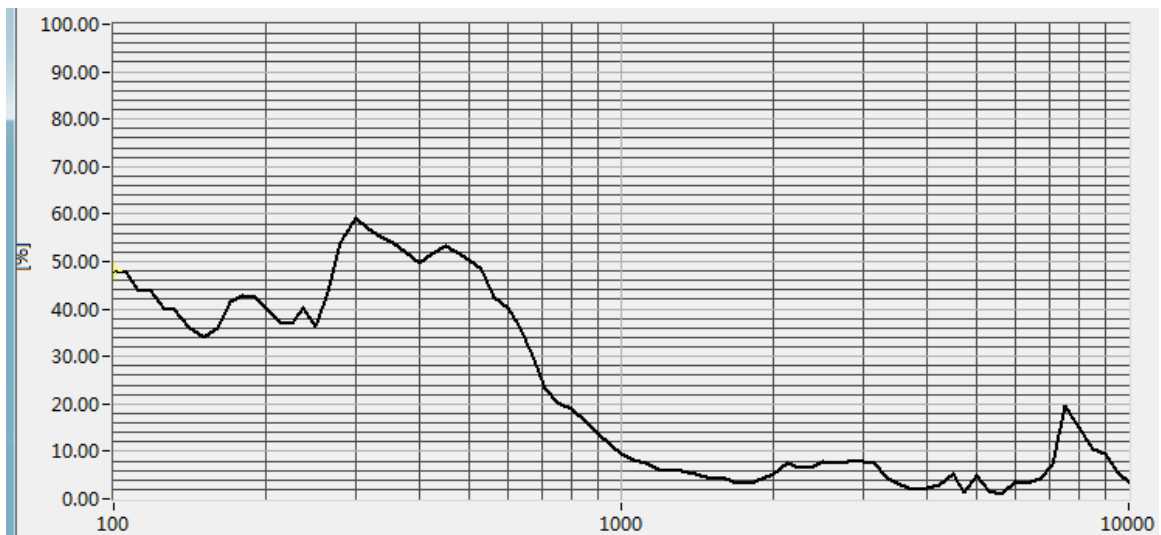


### 2-3. Frequency Response Curve

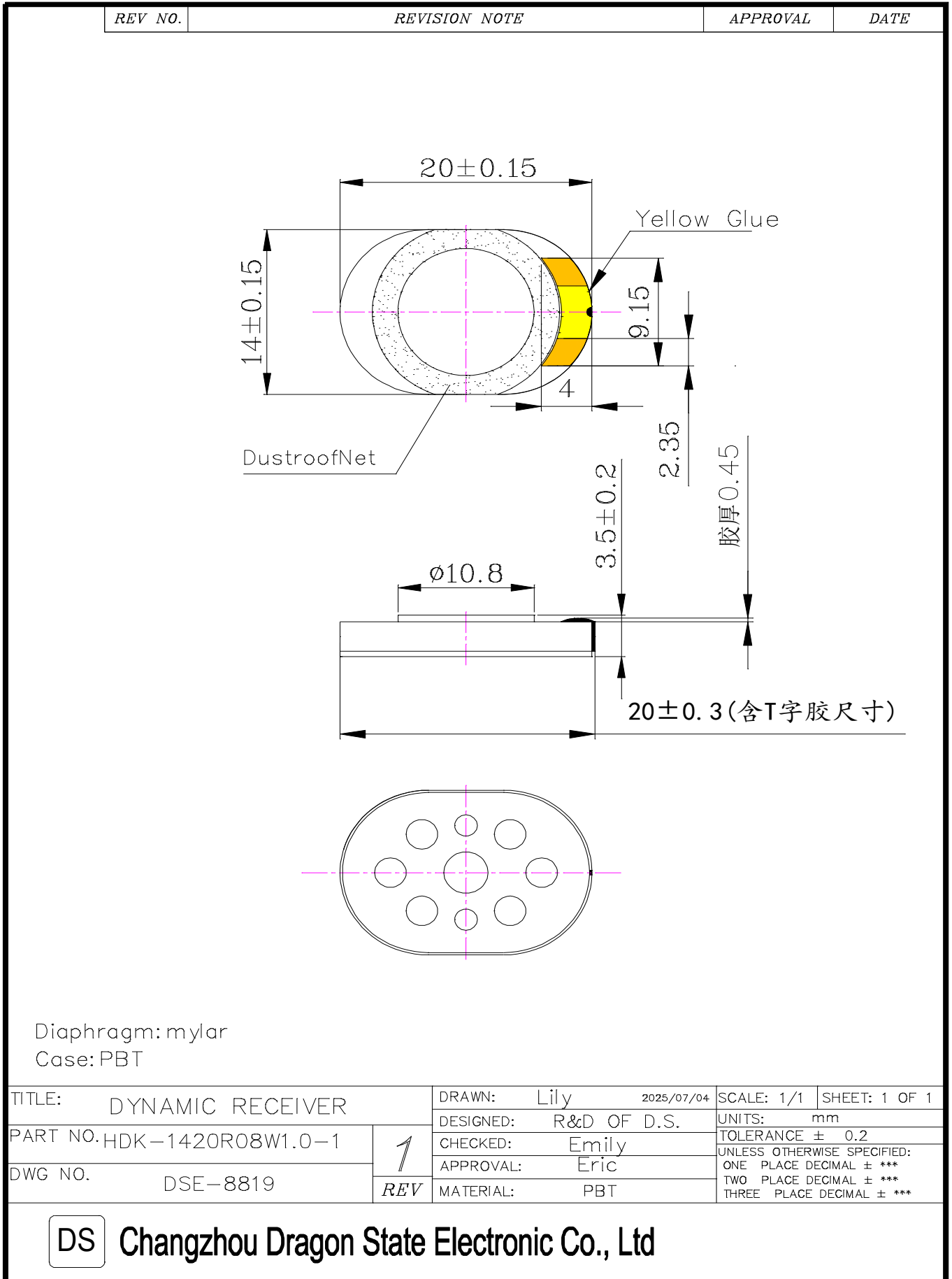
FR 1.0W (2.83V) 10 cm



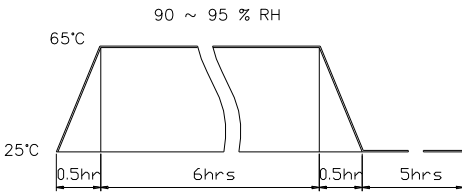
THD 1.0W (2.83V) 10 cm





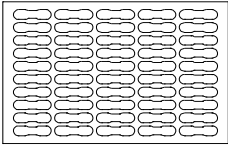

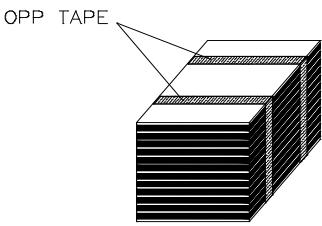

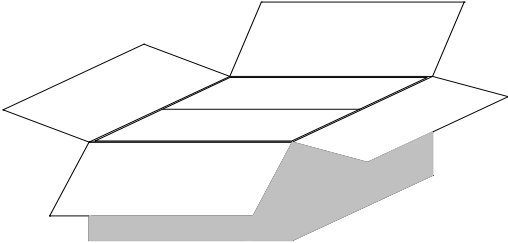

### 3. Dimension



## 4. Reliability Test

Items.		Specifications
01	High temp. Test	Keep 96 hours at $+80^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
02	Low temp. Test	Keep 96 hours at $-30^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
03	Humidity test	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.
04	Temp./Humidity cycle	<p>The part shall be subjected 5 cycles. One cycle shall be 12 hours and consist of;</p> 
05	Thermal cycle test.	Low temperature: $-30^{\circ}\text{C} \pm 3^{\circ}\text{C}$ , temperature: $+80^{\circ}\text{C} \pm 3^{\circ}\text{C}$ , cycle: 1 hour/cycle each, and then keep 5 cycles in a room.
06	Vibration	10~200~10Hz sin-wave sweep 15min. 5G(constant) X, Y, Z 3 direction. 2 hours each, total 6 hours.
07	Fix drop test	Fix on jig. Then drop from 150cm height to the concrete floor X, y, z 6 direction. 5 times each, total 30 times.
08	Free drop test	Free drop from 100cm height to the concrete floor X, y, z 6 direction. 1 times each, total 6 times.
09	Rated Power test	Rated Power Pink noise is applied for 96 hours
10	Max Power test	Max power 1 min on - 2 min off 10 cycles.
11	Terminal strength test	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection.
<p>Criterion: After these test , the change of S.P.L shall be within <math>\pm 3</math> dB .</p>		

## 5. Packing

REV NO.	REVISION NOTE	APPROVAL	DATE
	 <p>Cover(320*215*5mm) Material: Eps</p>		
			
	 <p>Box(320*215*13mm) 100pcs Material: Eps</p>		
			
	 <p>Middle(320*215*130mm) 1000pcs Material: Eps</p>		
			
	 <p>Outer Box(360*270*280mm) 2000pcs Material: Paper</p>		
			单位: mm
TITLE:	packing	DRAWN: Lily	2023/4/15
PART NO.	1	DESIGNED: R&D OF D.S.	SCALE: 2:1
DWG NO.		CHECKED: Emily	SHEET: 1 of 1
		APPROVAL: Eric	UNITS: mm
		MATERIAL: ***	TOLERANCE
			20~11 ± 0.3
			10~5 ± 0.2
			<4 ± 0.1
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