

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

Product	DYNAMIC SPEAKER
Part No.	HDK-171208ZA-BOX23 (RoHS)
Customer	
Customer Part No.	

Approved By	Checked By	Made By
Niko 2021.5.6	Lily 2021.5.6	Tim 2021.5.6

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EDITION:1.1

1. Specification

HDK-171208ZA-BOX23 (RoHS)

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 67.03*18.53 mm	
03	Rated Input Power	1W In Box	
04	Max. Input Power	1.5W In Box For 1 Minute	
05	Impedance	8 ohm $\pm$ 15% at 2000Hz.	
06	Resonance Frequency (Fo)	880Hz $\pm$ 20% (in box)	
07	Sensitivity (S.P.L.)	96 $\pm$ 3 dB /1W/0.1m at AVE 0.8,1.0,1.2,1.5 KHz	
08	Frequency Range	Fo –5KHz	
09	Total Harmonics Distortion	Shown in Fig 2-4	input 1W
10	Weight	4.2g $\pm$ 5%g	
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 –1W	
13	Buzz, Rattle, etc.	Must be normal at sine wave 2.83Vrms from 300~3.4KHz	
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℃ to +60℃ Storage temperature: -30℃ to +70℃	

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

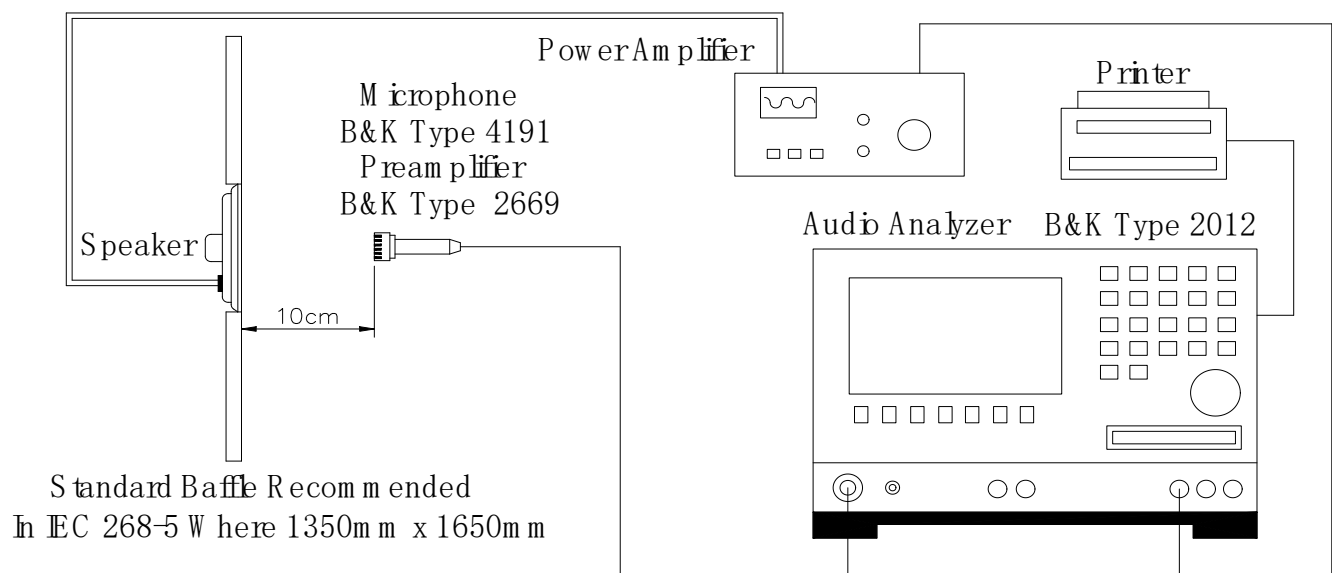
1.Input Power : 1W (2.83V)

2.Zero Level : -dB

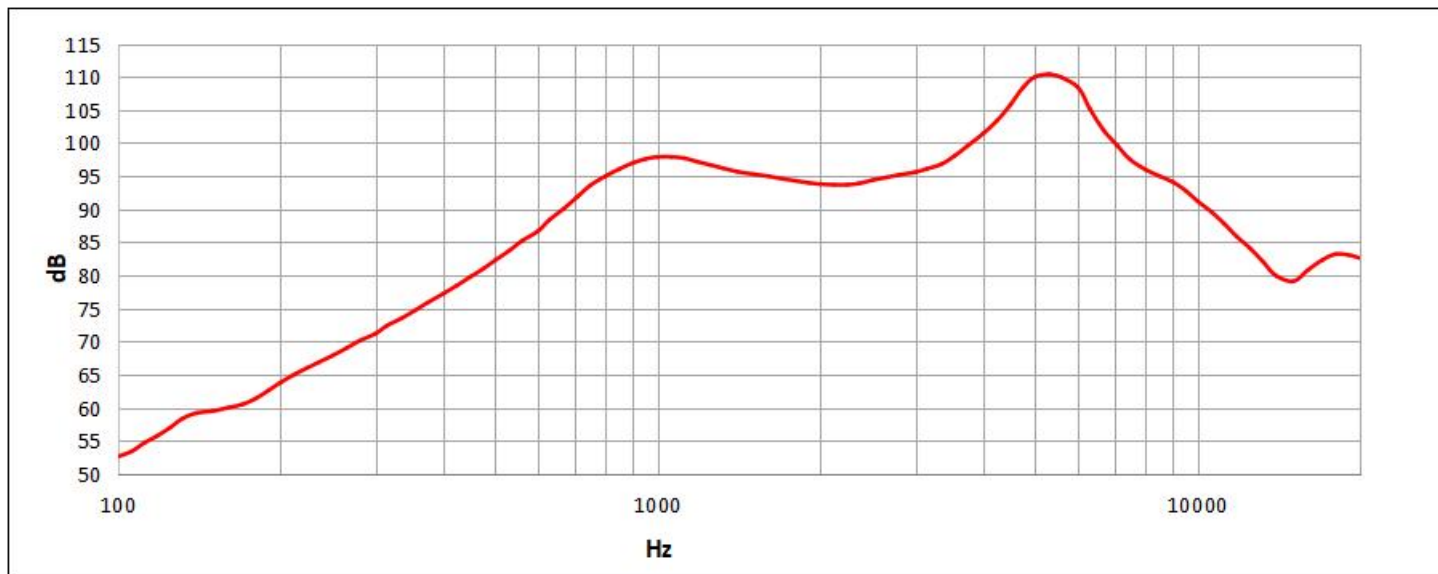
3.Mode : SPEAKER

4.potentiometer Range : 50dB

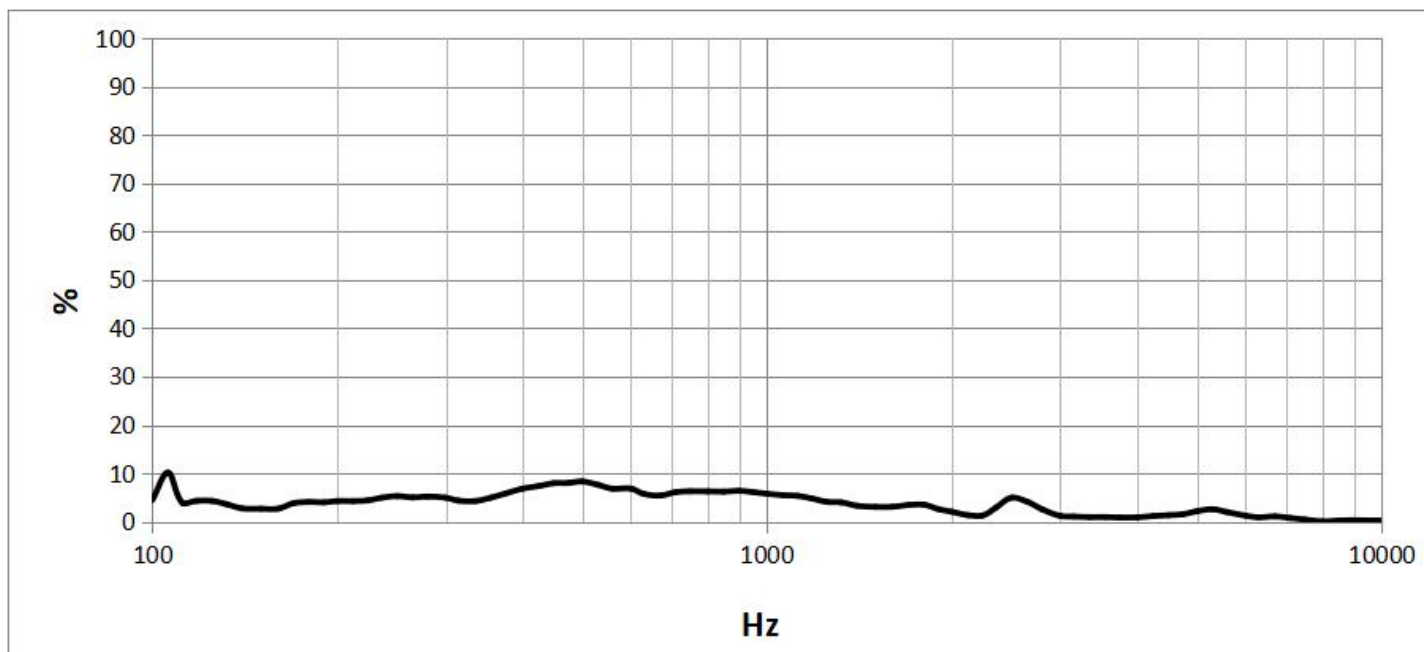
5.Sweep Time : 0.5sec



2-3. Frequency Response Curve

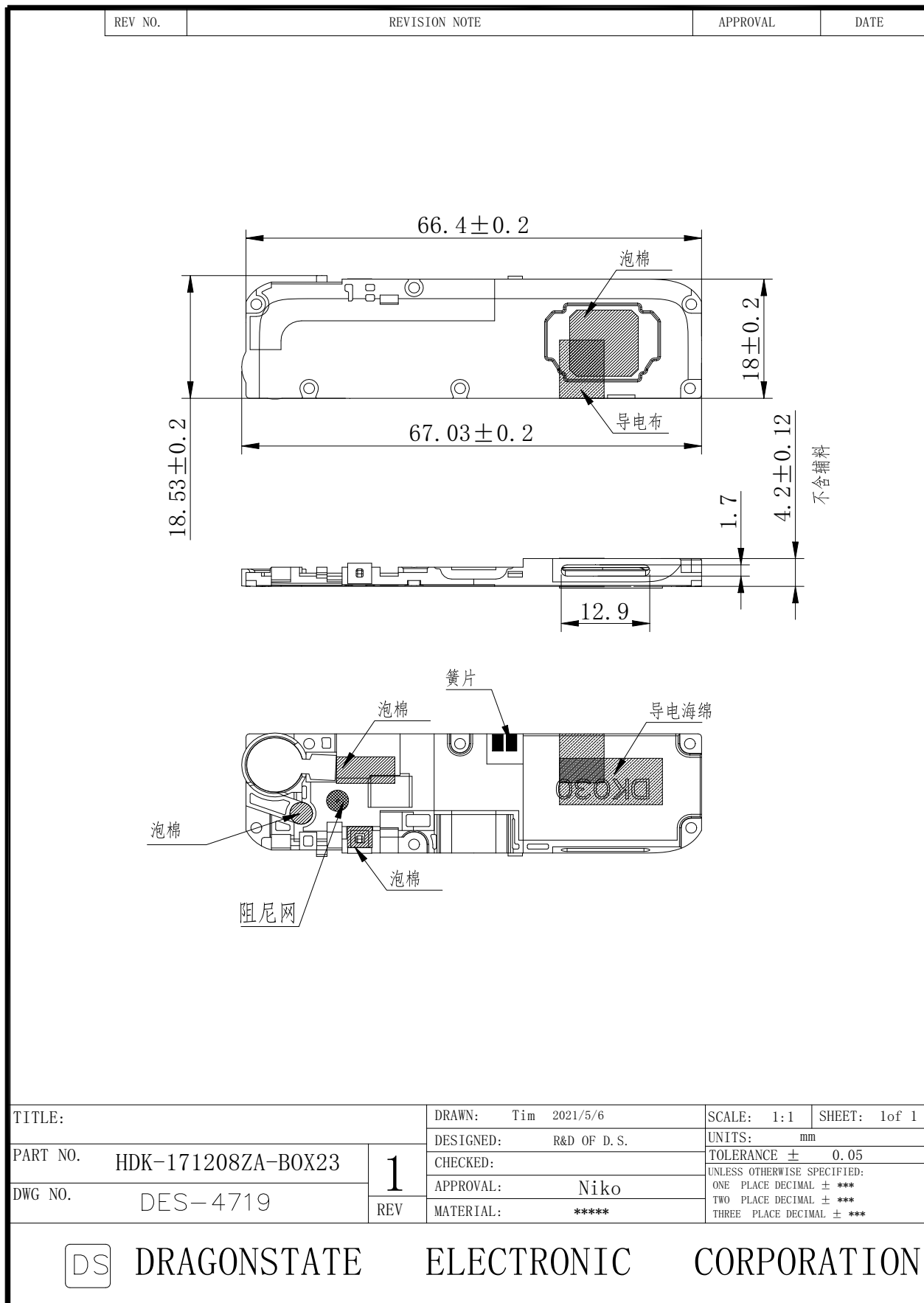


2-4. THD Frequency Response Template

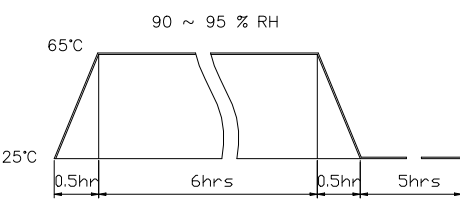


Frequency (Hz)	100~200	200~300	300~800	800~1KHz	1KHz~4KHz
THD (%)	<60	<40	<20	<15	<10

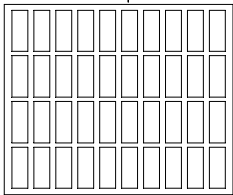
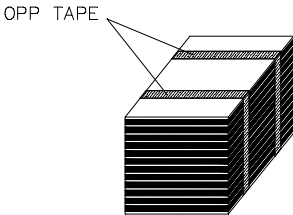
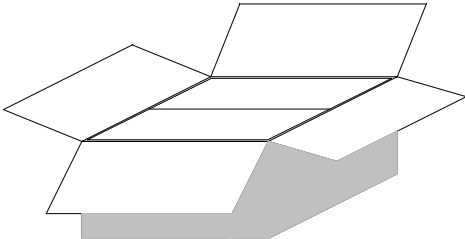
3.Dimension



4. Reliability Test

Items.		Specifications
01	High temp. Test	Keep 96 hours at $+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$ 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	The part shall be subjected 5 cycles. One cycle shall be 12 hours and consist of; 
05	Thermal cycle test.	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.
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 152cm 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.
Criterion: After these test , the change of S.P.L shall be within ± 3 dB .		

5.Packing

REV NO.	REVISION NOTE	APPROVAL	DATE
 Cover(350*285*5mm) Material: Paper			
 Box(350*285*10mm) 40pcs Material: Paper+Epe			
 Middle(350*285*120mm) 400pcs(10*40pcs) Material: Paper+Epe			
 Outer Box(590*360*405mm) 1600pcs(4*400pcs) Material: Paper			
单位: mm			
TITLE: packing		DRAWN: Lily 2016/10/10	
PART NO.		DESIGNED: R&D OF D.S.	
DWG NO.		CHECKED: Emily	
1		APPROVAL: Eric	
		MATERIAL: ***	
		SCALE: 2:1	SHEET: 1 of 1
		UNITS: mm	
		TOLERANCE	
		20~11	± 0.3
		10~5	± 0.2
		<4	± 0.1
DS Changzhou Dragon State Electronic Co., Ltd			