

MESSRS.

SPECIFICATION FOR APPROVAL

承 認 书

Product	DYNAMIC SPEAKER
Part No.	HDK-151108ZA-BOX55 (RoHS)
Customer	
Customer Part No.	

Approved By	Checked By	Made By
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EDITION:1.1

[illegible]

2. Specification

HDK-151108ZA-BOX55(RoHS)

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker with box	
02	Dimension	Speaker unit external diameter 15*11*2.5 mm	
03	Rated Input Power	1.0W In Box	
04	Max. Input Power	1.2W In Box For 1 Minute	
05	Rate Impedance	8±15% ohms at 2000Hz/DC7±15% ohms	
06	Resonance Frequency (Fo)	850Hz ± 20% at Fo, 1V	
07	Sensitivity (S.P.L.)	95dB (1.0W/0.1m) ±3dB	at AVE 1.0 ,1.2,1.5,2.0KHz
08	Total Harmonics Distortion	Max 10 % at 1 KHz,1.0W.	
09	Appearance	Should not exist any obstacle to be harmful to normal operation; damages, cracks, rusts and distortions, etc.	
10	Operation Test	Must be normal at program source – 1.0W	
11	Buzz, Rattle, etc.	Should not be audible at 2.83V sine Wave between 300 to 5KHz	
12	Polarity	When positive voltage is applied to the terminal marked (+), diaphragm should move to the front.	
13	Terminal Strength	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection.	
14	Temperature	Operating temperature: -20℃ to +70℃ Storage temperature: -30℃ to +70℃	

3-1.Test Condition

Standard

Temperature : 15 ~ 35℃

Relative humidity : 25% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar.

Basic

Temperature : 23±2℃

Relative humidity : 60% ~ 70%,

Atmospheric pressure : 860mbar to 1060mbar.

3-2.Standard Test Fixture

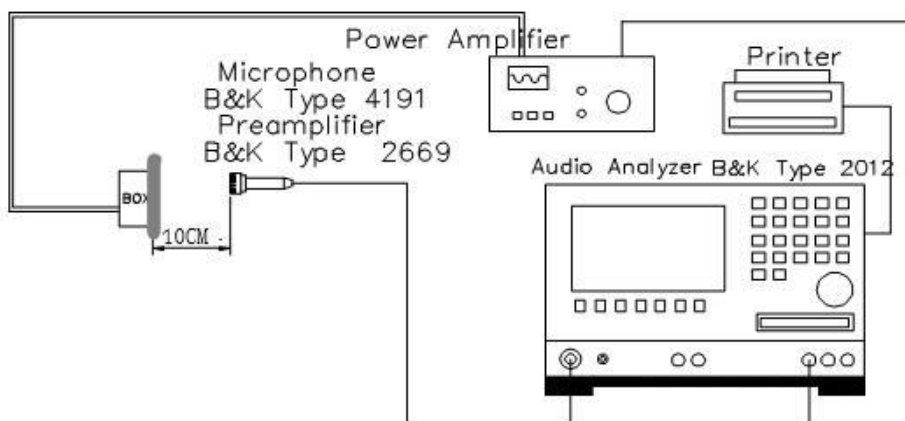
1.Input Power : 1.0W (2.83V)

2.Zero Level : -dB

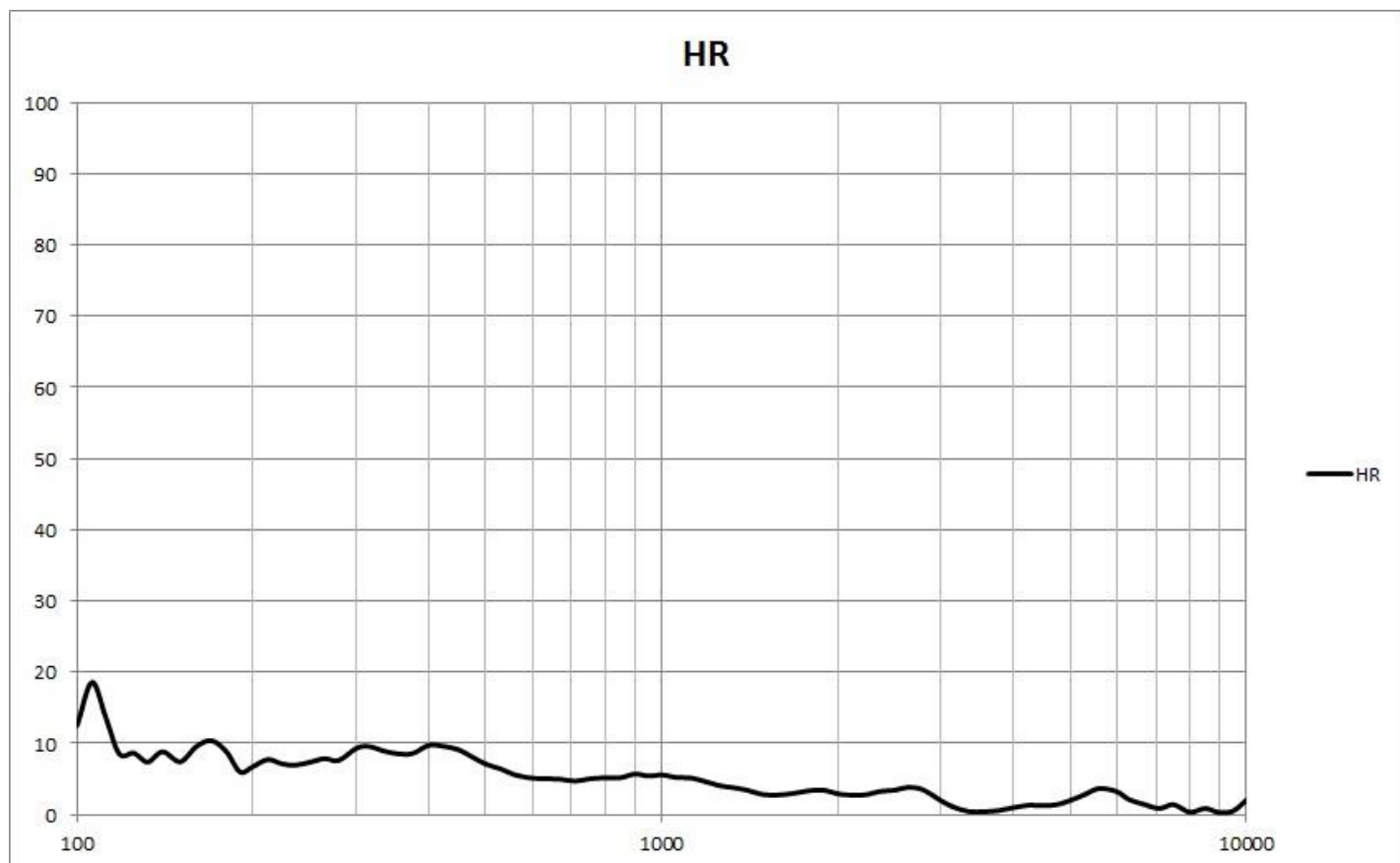
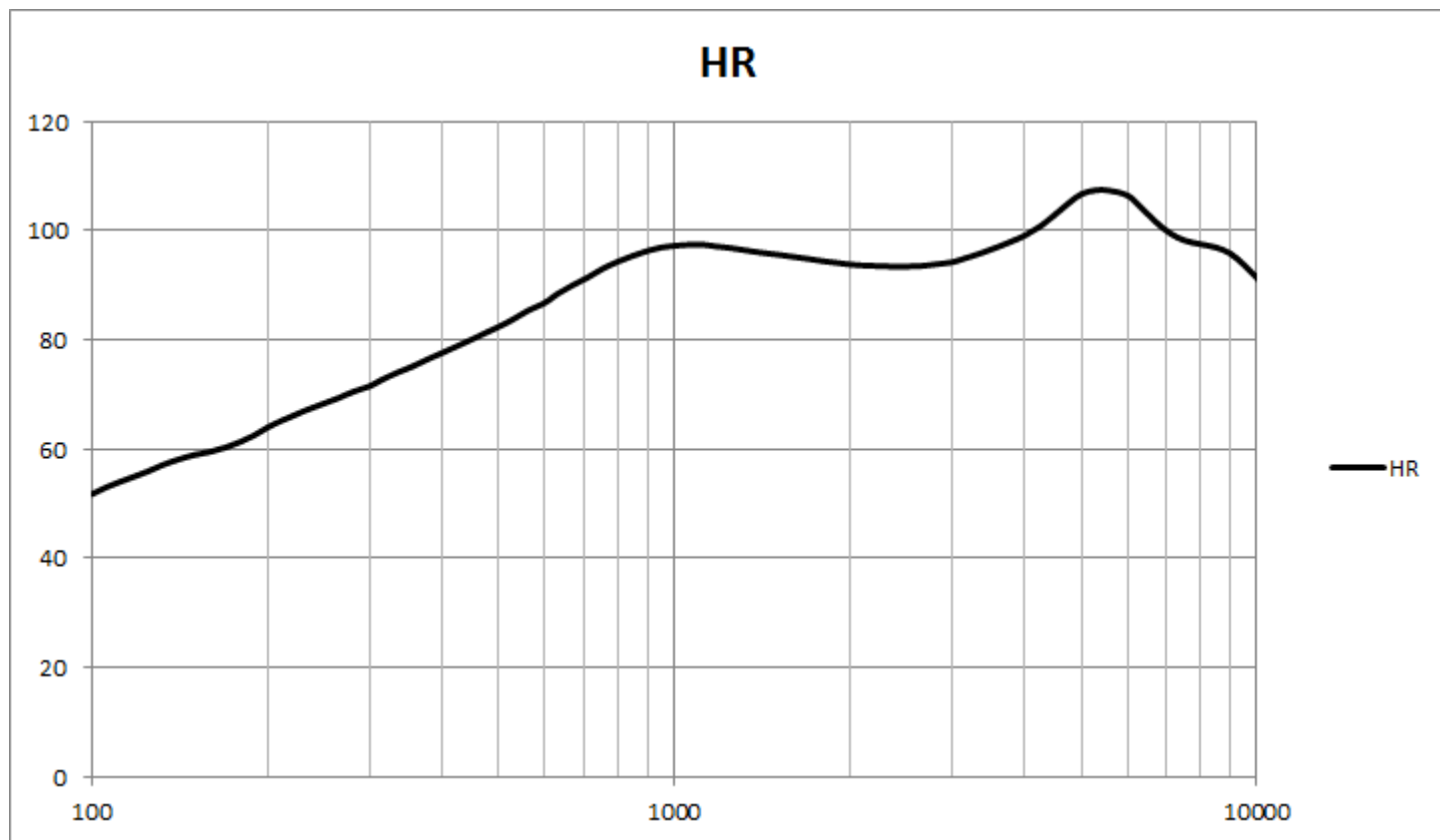
3.Mode : SPEAKER

4.potentiometer Range : 50dB

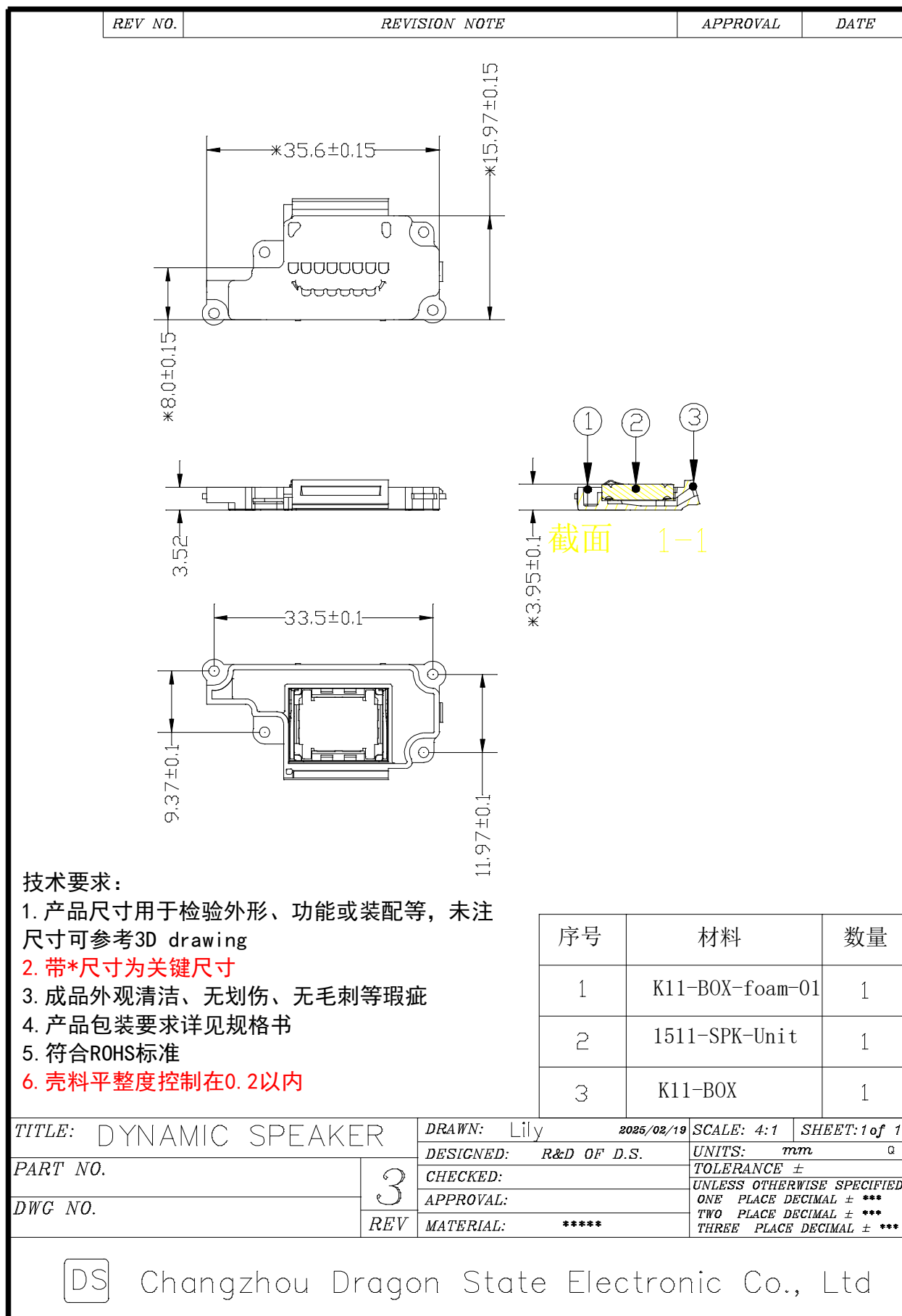
5.Sweep Time : 0.5sec



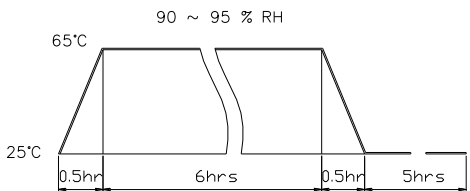
4. Electro-acoustic Characteristics



5.Dimension



6. 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 $+60^{\circ}\text{C}\pm 3^{\circ}\text{C}$ 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: 0.5 hour/cycle each, and then keep 10cycles 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. 3times each, total 18 times. (Load 200g)
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 $\pm 3\text{dB}$.		

Soldering Condition

Recommend using constant branding iron in **15 ~ 30W**, and in temperature range **$350\pm 10^{\circ}\text{C}$** .

Soldering time not over **3** seconds.