

MESSRS.

SPECIFICATION FOR APPROVAL
承 认 书

Product	DYNAMIC SPEAKER
Part No.	HDK-3604BB-4C (RoHS)
Customer Approval	

Approved By	Checked By	Made By
王台平 DEC-25-2016	曹丽萍 DEC-25-2016	LILY DEC-25-2016

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1. Specification

HDK-3604BB-4C (RoHS)

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 36 mm	
03	Rated Input Power	1.0 W	
04	Max. Input Power	2.0W	
05	Impedance	4 ohm \pm 15% at 1500Hz.	
06	Resonance Frequency (Fo)	650Hz \pm 20% at Fo, 1V	
07	Sensitivity (S.P.L.)	90dB (0.1W / 0.1m) \pm 3 dB	at AVE1.0KHz.
		97dB (1.0W / 0.1m) \pm 3 dB	
08	Waterproof Standards	IP65	
09	Frequency Range	Fo - 10KHz	
10	Total Harmonics Distortion	Max 8 % at 1 KHz, 1.0W.	
11	Voice Coil	Diameter 13.3 mm	
12	Magnet	Rare earth permanent (Nd-Fe-B) magnet Φ 12.5x 1.5 mm	
12	Weight	10.0g \pm 0.2g	
13	Appearance	Should not exist any obstacle to be harmful to normal operation; damages, cracks, rusts and distortions, etc.	
14	Operation Test	Must be normal at program source - 1.0W	
15	Buzz, Rattle, etc.	Should not be audible at 2.0V sine Wave between Fo to 20KHz	
16	Polarity	When positive voltage is applied to the terminal marked (+), diaphragm should move to the front.	
17	Terminal Strength	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection.	
18	Temperature	Operating temperature: -20°C to +60°C	
		Storage temperature: -30°C to +70°C	

2-1. Test Condition

Standard

Temperature : 15 ~ 35°C

Relative humidity : 25% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar.

Basic

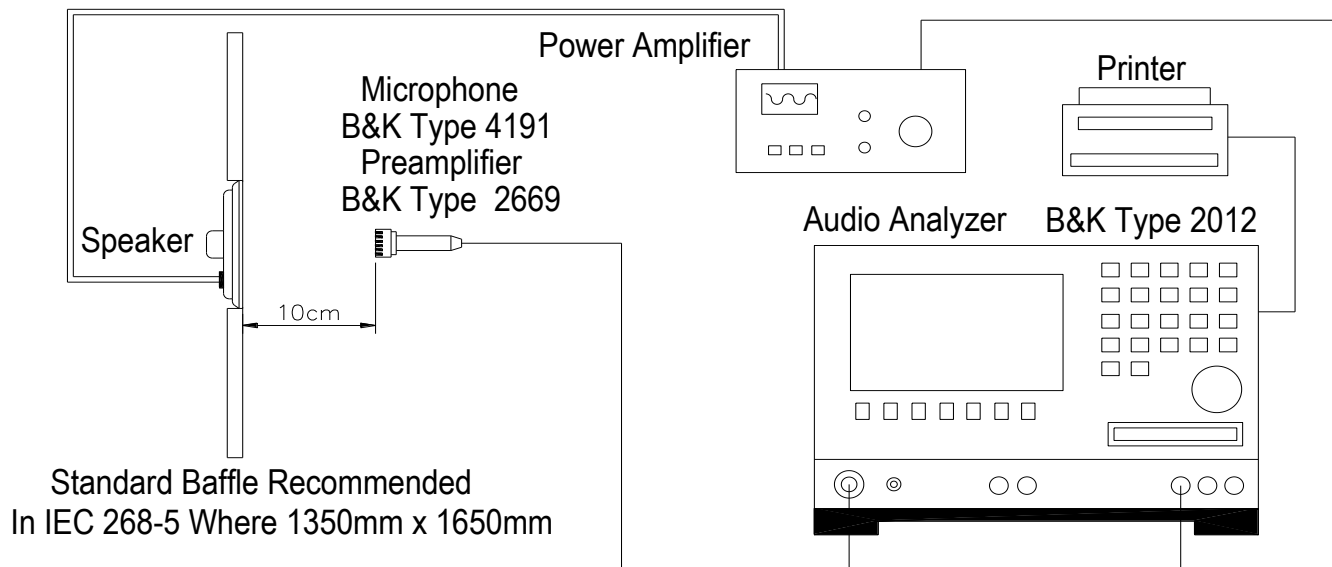
Temperature : 20±3°C

Relative humidity : 60% ~ 70%,

Atmospheric pressure : 860mbar to 1060mbar

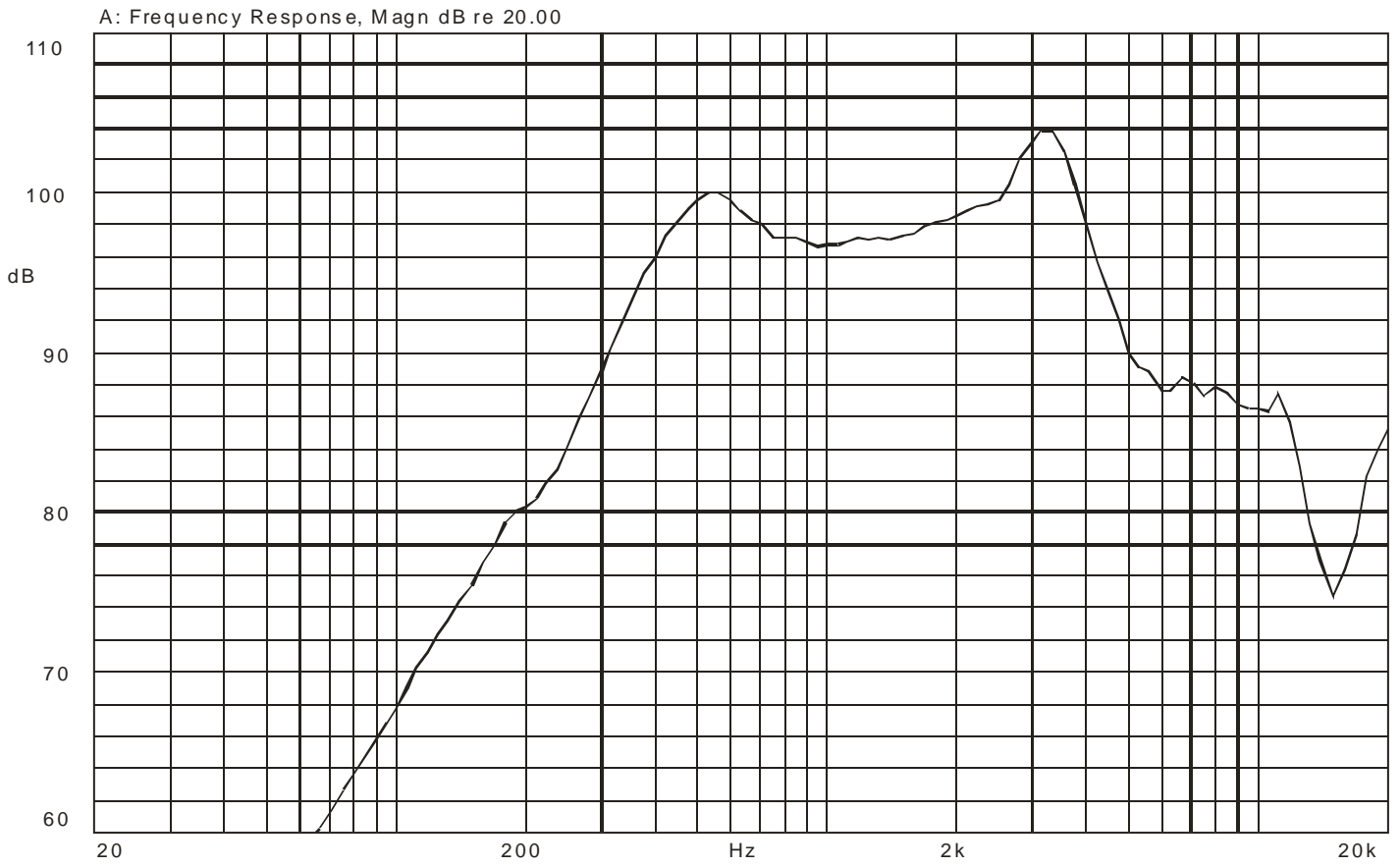
2-2. Standard Test Fixture

1. Input Power : 1.0W (2.0V)
2. Zero Level : -dB
3. Mode : SPEAKER
4. potentiometer Range : 50dB
5. Sweep Time : 0.5sec



2-3. Frequency Response Curve 1W/10cm

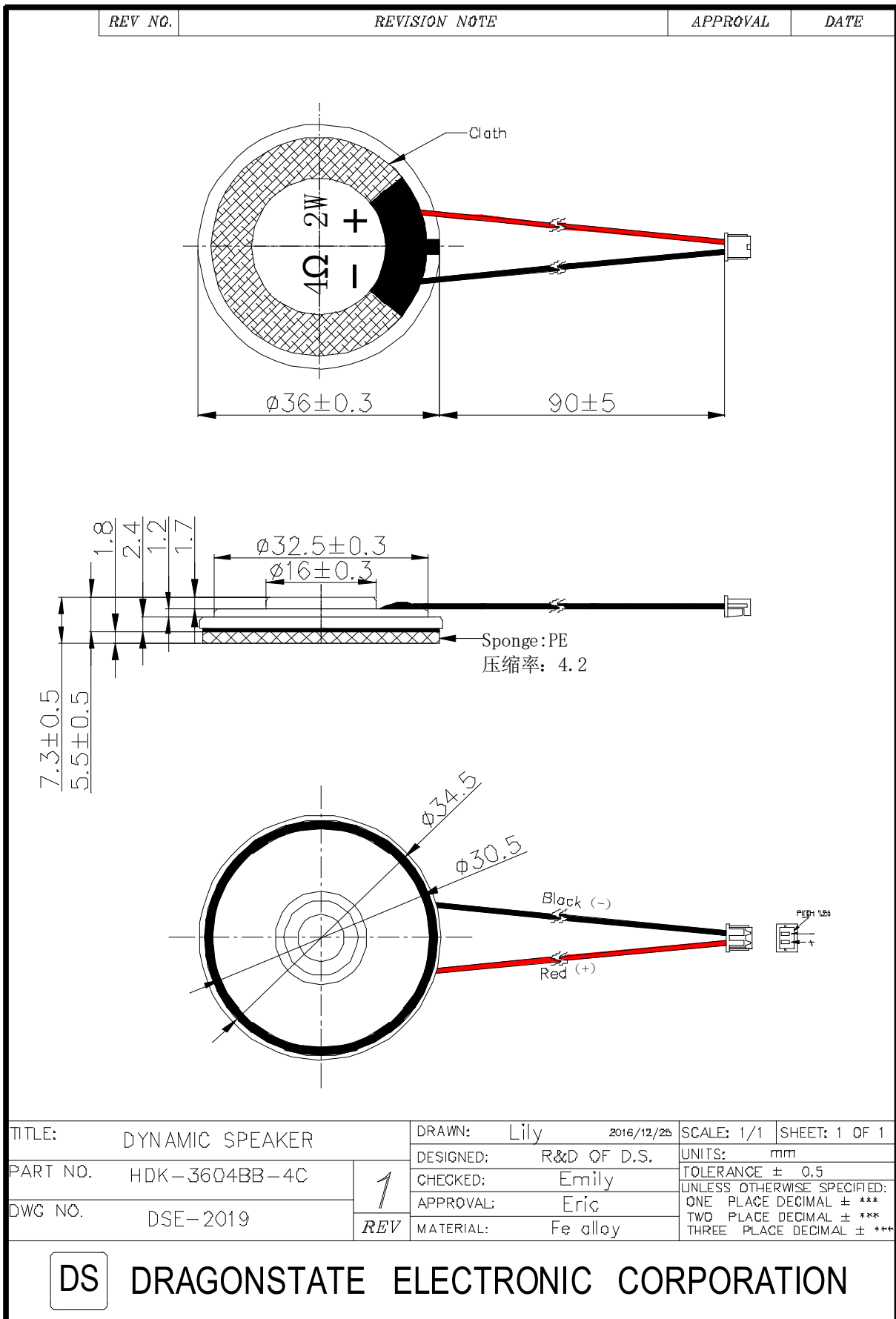
X:1.2500kHz *Y:97.11dB ZA:Live Curve SSR Fund.



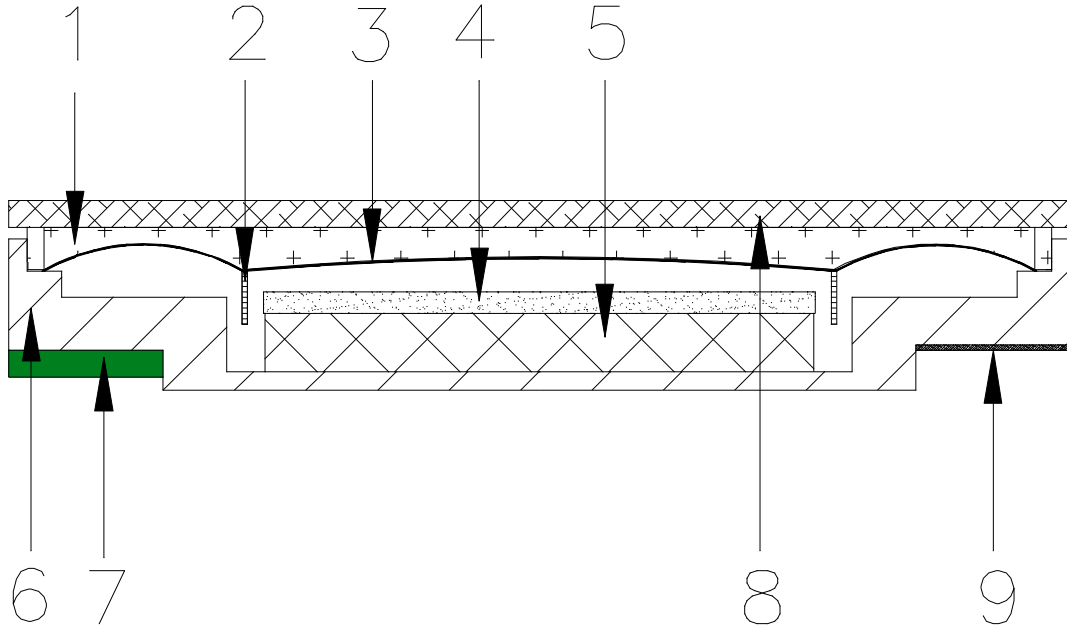
Mode: SPEAKER



3. Dimension

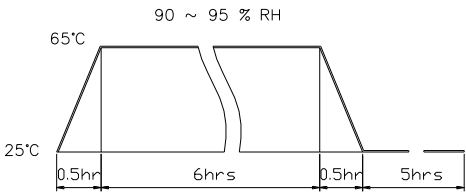


4. Material and Structure



NO	PART NAME	MATERIAL	Q`TY
1	WASHER	PLASTIC	1
2	VOICE COIL	COPPER	1
3	DIAPHRAGM	PET	1
4	WASER	SPCC	1
5	MAGNET	Nd-Fe-B	1
6	FRAME	SPCC	1
7	TERMINAL	UL1571 AWG28	1
8	GASKET	PE	
9	ACOUSTIC CLOTH	UNWOVEN FABRIC	1



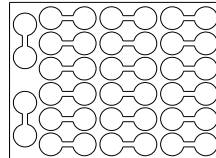
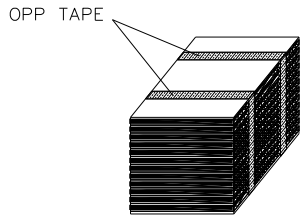

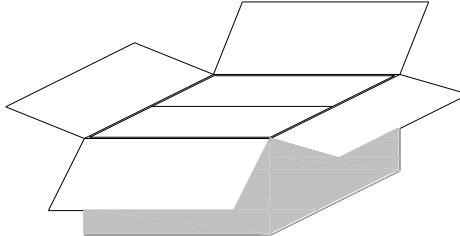

5. Reliability Test

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	<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: $+70^{\circ}\text{C} \pm 3^{\circ}\text{C}$, cycle: 1 hour/cycle each, and then keep 5 cycles in a room.
06	Vibration	$10 \sim 200 \sim 10\text{Hz}$ 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 white 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 ± 3 dB .</p>		

SOLDERING CONDITION

Recommend using constant branding iron in $15 \sim 30\text{W}$, and in temperature range 350°C .
 Soldering time not over 3 seconds.

6. Packing

REV NO.	REVISION NOTE	APPROVAL	DATE
	 <p>Cover(330*250*5mm) Material: Paper</p>		
			
	 <p>Box(330*250*16mm) 40pcs Material: Paper+Epe</p>		
	 <p>OPP TAPE</p> <p>Middle(330*250*160mm) 440pcs Material: Paper+Epe</p>		
			
	 <p>Outer Box(490*350*360mm) 1800pcs(3*440+480pcs) Material: Paper</p>		
单位: mm			
TITLE: packing		DRAWN: Lily	2014/06/09
PART NO.		DESIGNED: R&D OF D.S.	SCALE: 2:1
DWC NO.		CHECKED: Emily	SHEET: 1 of 1
REV		APPROVAL: Eric	UNITS: mm
		MATERIAL: ***	TOLERANCE
			20~11 ± 0.3
			10~5 ± 0.2
			<4 ± 0.1
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