

MESSRS.

---

## SPECIFICATION FOR APPROVAL

### 承 认 书

Product	DYNAMIC SPEAKER BOX
Part No.	HDK-261004ZA-BOX1 (D712P)
Customer Approval	

Approved By	Checked By	Made By
王台平 Mar-06-2021	刘中明 Mar-06-2021	曹丽萍 Mar-06-2021

常州华龙电子有限公司

DRAGONSTATE ELECTRONIC CORPORATION

中国江苏省常州市新区电子园新四路 36 号

Tel: +86-519-85110078. 86-519-85106698,      Fax: +86-519-85101081

EDITION:1.1



## *Dragonstate Electronic Corporation*

## History change record

## 1. Specification

HDK-261004ZA-BOX1 (D712P)

ITEM		SPECIFICATIONS
01	Type	Dynamic Speaker BOX
02	Rated Input Power	2W (in 1cc Box)
03	Max. Input Power	2.5W for 1 minute (in 1cc box)
04	Impedance	$4\Omega \pm 15\%$
05	Resonance Frequency	1100Hz $\pm 20\%$ (in 1cc box)
06	Sensitivity (S.P.L.)	96 $\pm 3$ dB (2.0W / 0.1m) at 0.8-2.0KHz in 1cc box on baffle
07	Frequency Range	F0 – 20KHz
08	Total Harmonics Distortion	Max10% (at 1.0KHz)
09	Weight	4.2g $\pm 10\%$
10	Appearance	Should not exist any obstacle to be harmful to normal operation; damages, cracks, rusts and distortions, etc.
11	Operation Test	Must be normal at program source – 2.0W
12	Buzz & Rattle	Must be normal at 2.83Vrms(in 1cc box) sine-wave from 300 -5KHz
13	Polarity	When positive voltage is applied to the terminal marked (+), diaphragm should move to the front.
14	Terminal Strength	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection.
15	Temperature	Operating temperature: -25°C to +60°C Storage temperature: -25°C to +60°C

## 2. Measuring Method

### 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

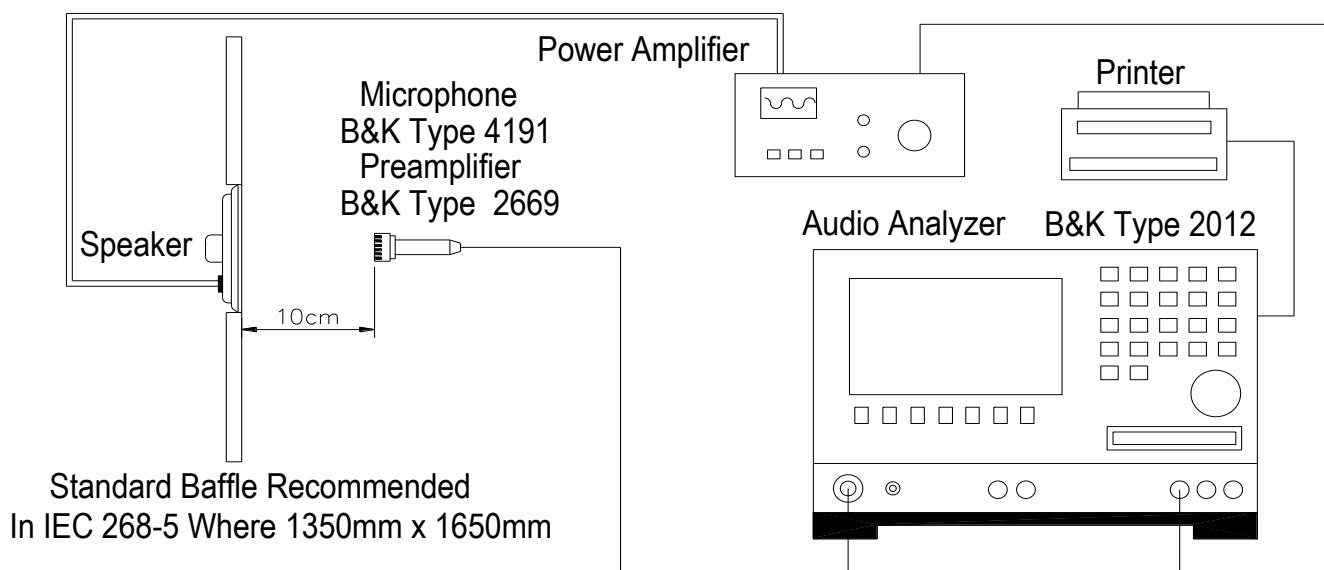
1. Input Power : 2.0W (2.83V)

2. Zero Level : -dB

3. Mode : SPEAKER

4. potentiometer Range : 50dB

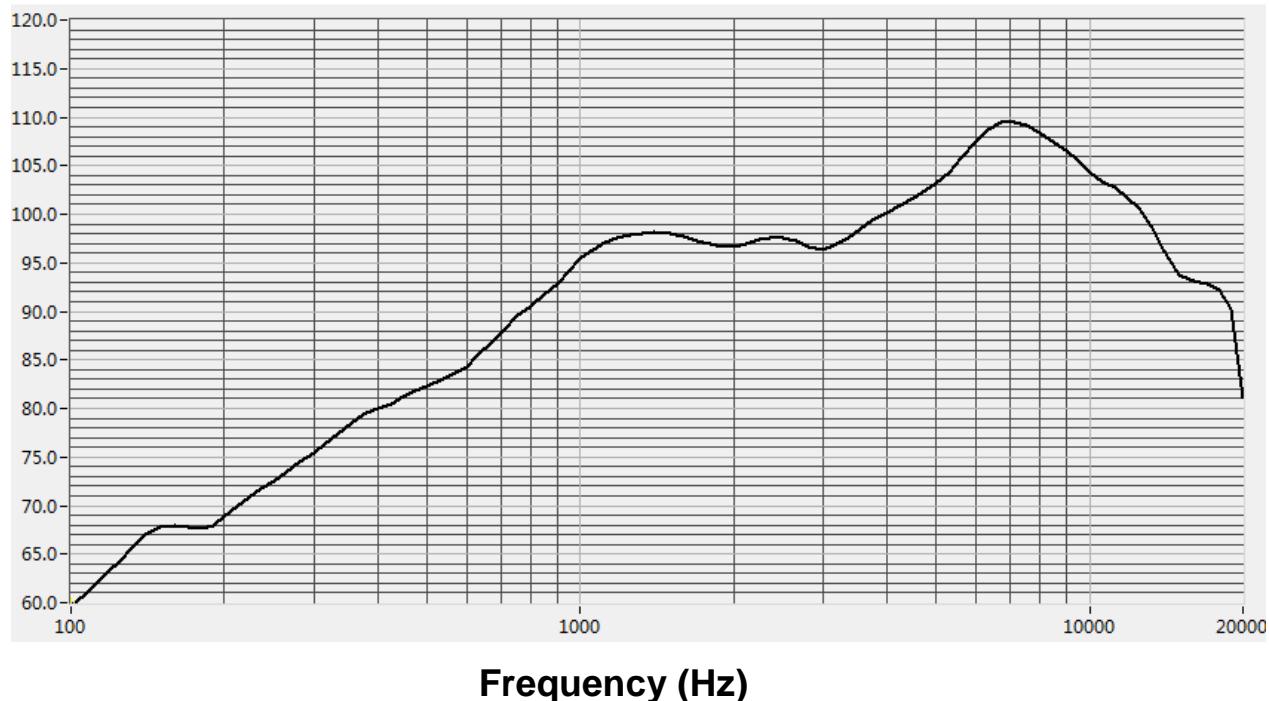
5. Sweep Time : 0.5sec



## 2.3 Frequency Response Curve

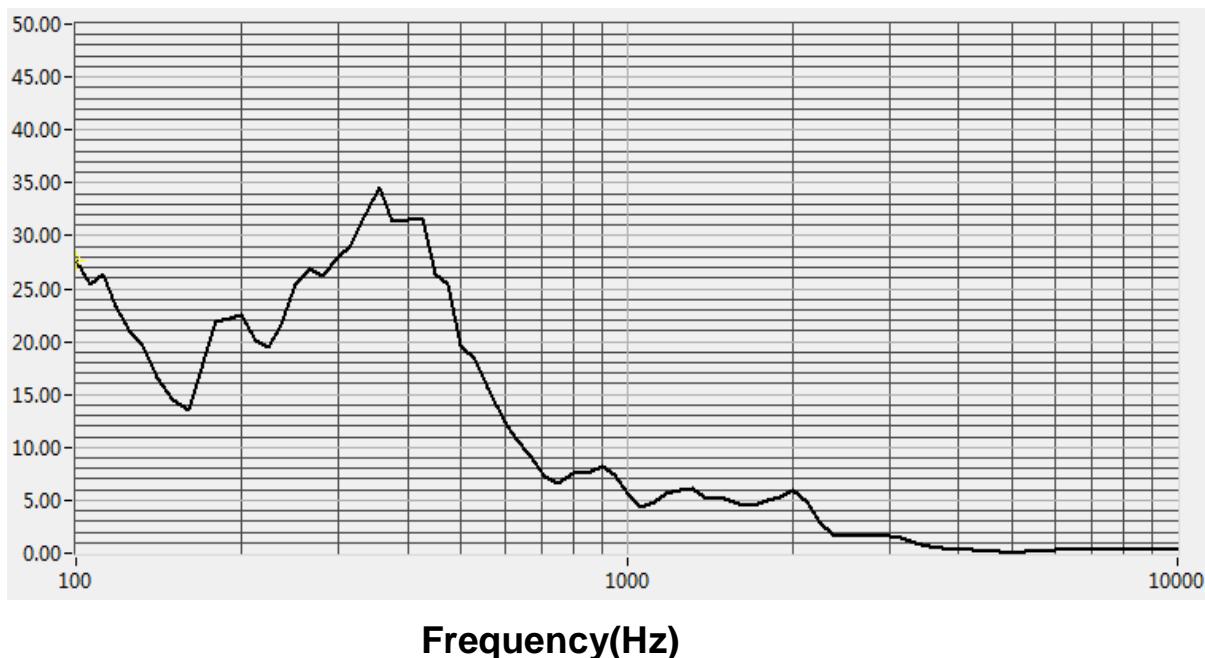
BOX SPL Curve (2.0W/0.1m)

Figure 1: Typical Frequency Response Curve  
**Frequency Response**



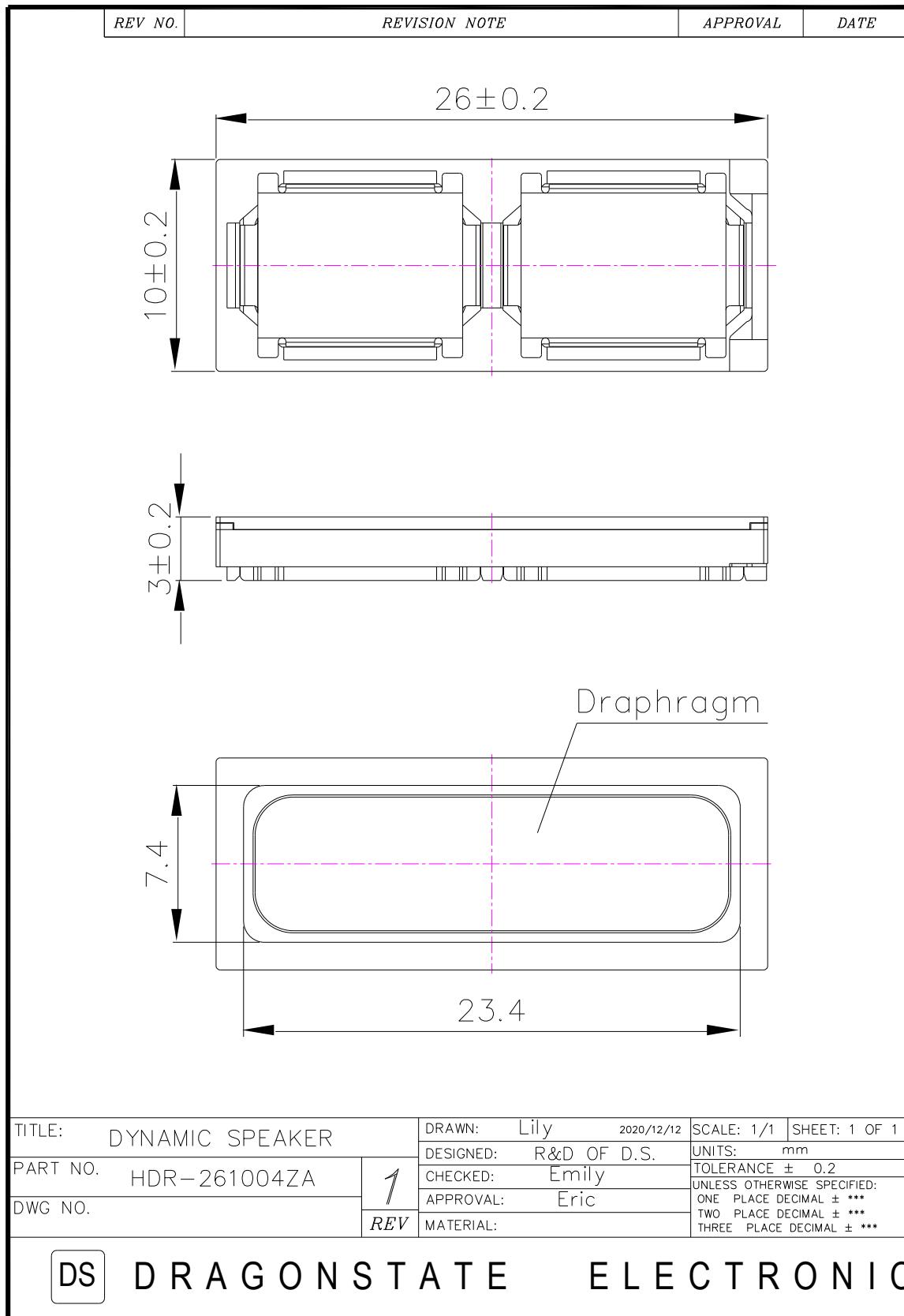
BOX THD Curve (2.0W/0.1m)

Figure 2: Typical THD Curve  
**Total Harmonic Distortion**

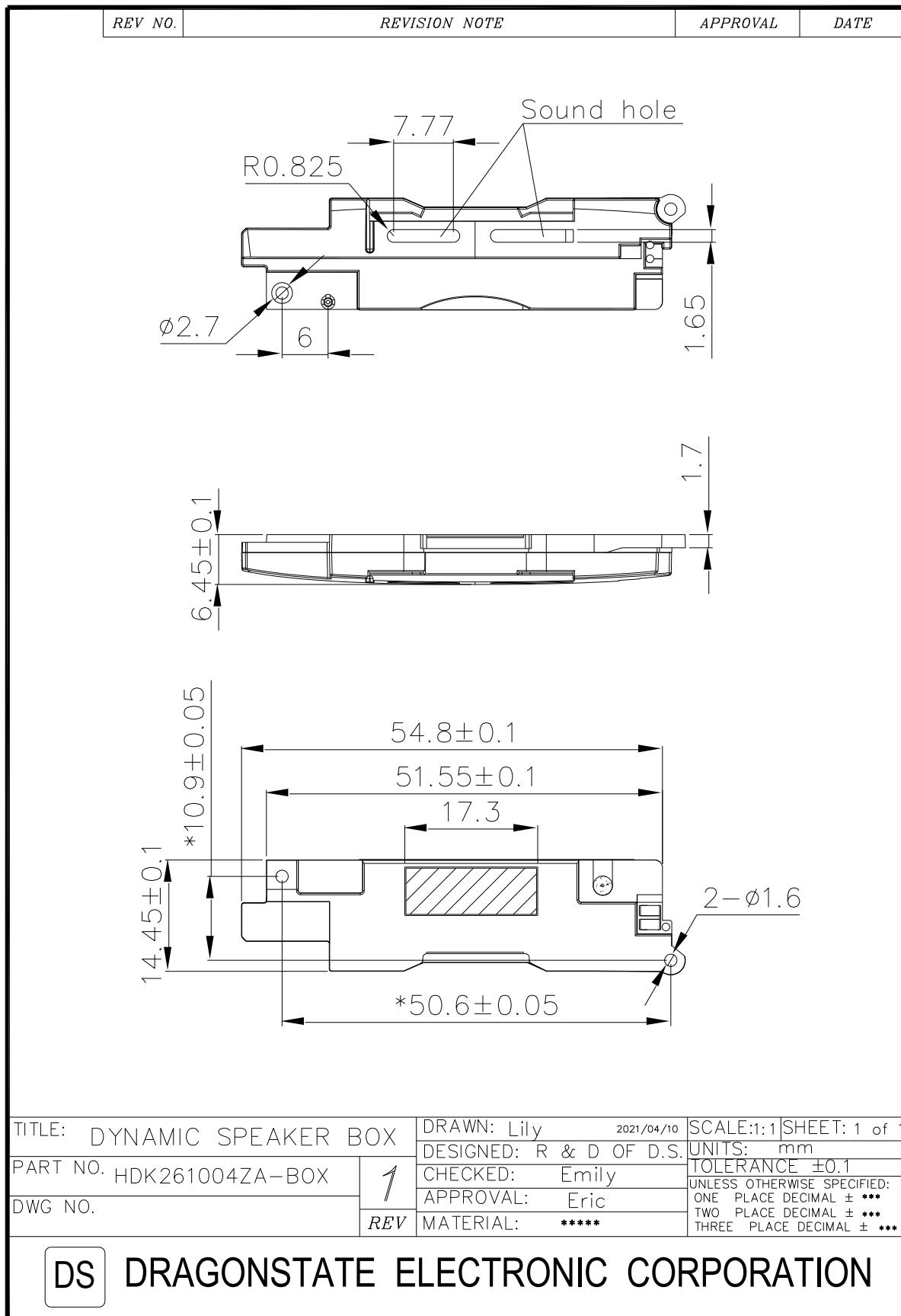


### 3. Dimension

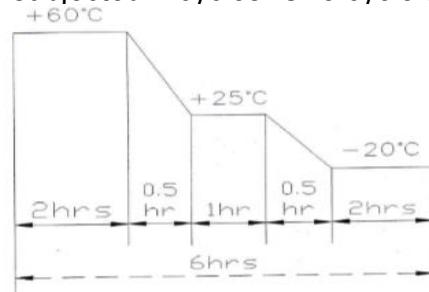
#### SPK Unit Dimension



BOX Dimension



#### 4. Reliability Tests

Items.		Specifications
01	High temp. Test	Keep 96 hours at $+60^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
02	Low temp. Test	Keep 96 hours at $-25^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
03	High temp/Humidity test	Keep 48 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 4 cycles. One cycle shall be 6 hours and consist of; 
05	Thermal cycle test.	Low temperature: $-20^{\circ}\text{C} \pm 3^{\circ}\text{C}$ , High temperature: $+60^{\circ}\text{C} \pm 3^{\circ}\text{C}$ , cycle: 1 hour/ each cycle , 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 100cm height to the concrete floor x, y, z 6 direction. 5 times each, total 30 times.
08	Free drop test	Free drop from 75cm 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 for 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 SPL shall be within $\pm 3$ dB .		

## 5 .Packing

