



深圳市兴华鑫电子科技有限公司

Shenzhen xinghuaxin Electronic Technology Co., Ltd

# 承認書

## SPECIFICATION FOR APPROVAL

客戶 (Customer):

客戶料號 (Customer P/N):

興華鑫型號 (Supplier P/N):

XHxDZ-3013-8  $\Omega$  1W

產品名稱 (Description):

喇叭 (Speaker)

產品規格 (Specification):

指纹锁喇叭

|                                                |                                        |     |     |
|------------------------------------------------|----------------------------------------|-----|-----|
| 客戶承認欄<br>(Customer Authorization<br>Signature) | 深圳市興華鑫電子科技有限公司 承認欄<br>(Supplier Audit) |     |     |
|                                                | 審核                                     | 檢查  | 制作  |
|                                                | 唐国兴                                    | 唐玉来 | 吴银娟 |
|                                                | 日期: 2022 年 04 月 19 日<br>版次: A          |     |     |

# 声音让生活更精彩!

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## 1. ELECTRICAL AND ACOUSTICAL SPECIFICATION

|      | Item                      | Specifications                                                                                                    |
|------|---------------------------|-------------------------------------------------------------------------------------------------------------------|
| 1-1  | Dimension                 | Φ 30 × 12H                                                                                                        |
| 1-2  | Rated Input Power         | 1.0W                                                                                                              |
| 1-3  | Max Input Power           | 1.5W                                                                                                              |
| 1-4  | Rated Impedance           | 8 ± 15% Ω /2KHz/2.8V                                                                                              |
| 1-5  | Resonance Frequency(f0)   | 1000 ± 20% Hz/2.8V                                                                                                |
| 1-6  | Sound Pressure Level      | 98 ± 3 dB at (AVG 0.8,1.0,1.2,1.5 )KHz<br>0.1W/0.1m baffle board (IEC)                                            |
| 1-7  | Frequency Range           | FOHZ ~ 15KHz                                                                                                      |
| 1-8  | Total Harmonic Distortion | 10%MAX. at 1KHz,0.15W                                                                                             |
| 1-9  | Polarity                  | When a positive DC Current is applied to the voice coil terminal marked +or red ,the diaphragm shall move forward |
| 1-10 | Operation Test            | Must be normal at sine wave and program source 1.0W.                                                              |
| 1-11 | Buzz, Rattle, etc.        | Should not be audible at 2.83V sine wave between (FO Hz ~ 5kHz)                                                   |
| 1-12 | Weight                    | 15 g                                                                                                              |
| 1-13 | Voice Coil Diameter       | φ 13.28 mm                                                                                                        |
| 1-14 | Magnet (NdFeB)            | Φ 10.5 × 1.5mm                                                                                                    |
| 1-15 | Appearance                | Should not exist any obstacle to be harmful to normal operation; damages, cracks, rusts and distortions, etc.     |
| 1-16 | Operating Temp. Range     | -20℃ ~ +60℃                                                                                                       |
| 1-17 | Storage Temp. Range       | -30℃ ~ +60℃                                                                                                       |

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## 2.ENVIRONMENTAL TEST

|      | Item                   | Specifications                                                                                                                                                                        |
|------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2-1  | 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                                                                   |
| 2-2  | 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                                                                   |
| 2-3  | 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.                                          |
| 2-4  | Thermal cycle test.    | Low temperature: $-30^{\circ}\text{C} \pm 3^{\circ}\text{C}$ , temperature: $+60^{\circ}\text{C} \pm 3^{\circ}\text{C}$ , cycle: 1 hour/cycle each, and then keep 5 cycles in a room. |
| 2-5  | Vibration              | 10~55~10Hz sin-wave sweep 15min. 5G(constant) X, Y, Z 3 direction. 2 hours each, total 6 hours.                                                                                       |
| 2-6  | Drop test              | Free drop from 100cm height to a board of 20mm thick x, y, z 6 direction. 1 time each, total 6 times.                                                                                 |
| 2-7  | Load test              | Rated Power white noise is applied for 96 hours                                                                                                                                       |
| 2-8  | Max Power test         | Max power 1 min on – 2 min off 10 cycles.                                                                                                                                             |
| 2-9  | Terminal strength test | Capable of withstand 1kg load for 15seconds without resulting in any damage or rejection.                                                                                             |
| 2-10 | Waterproof grade       | IP45                                                                                                                                                                                  |

PASS CRITERION :

After these test , the change of S.P.L shall be within  $\pm 3\text{ dB}$  .

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## 3.MEASURING METHOD(SPEAKER MODE)

### 3-1 .Test Condition

STANDARD

Temperature : 15 ~ 35℃

Relative humidity : 45% ~ 85%,

Atmospheric pressure: 860mbar to 1060mbar.

JUDGEMENT

Temperature : 20±3℃

Relative humidity : 60% ~ 70%,

Atmospheric pressure : 860mbar to 1060mbar

### 3-2. Standard Test Fixture

1.Input Power : 0.1W(0.89V)

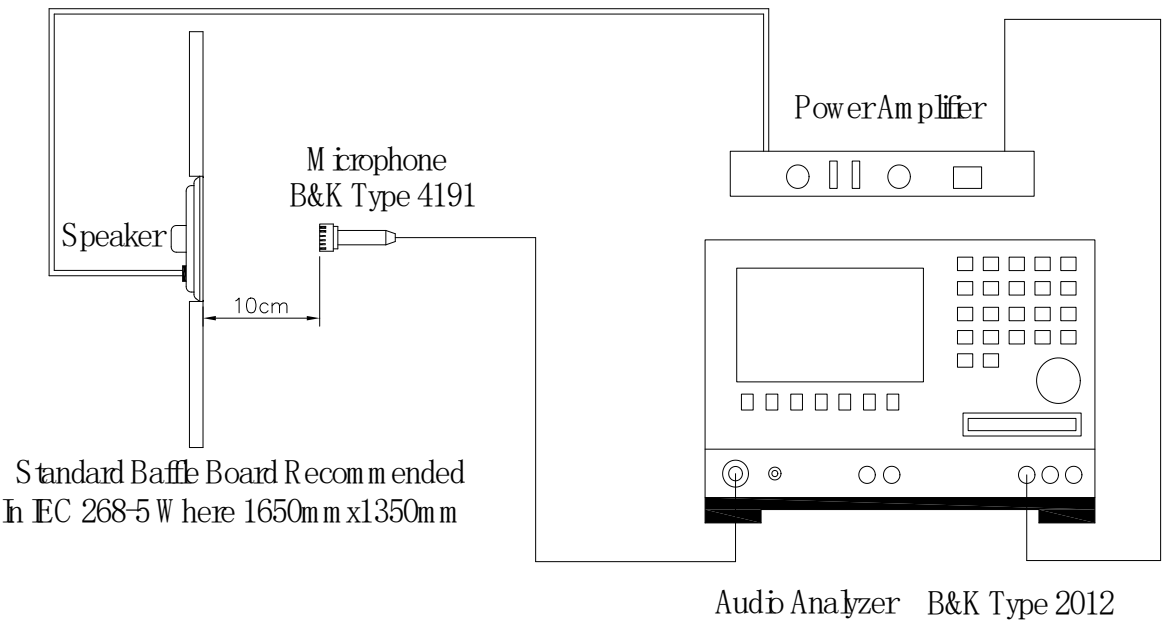
2.Zero Level : -dB

3.Mode : TSR

4.potentiometer Range : 50dB

5.Sweep Time : 0.5sec

### Standard test condition of speaker

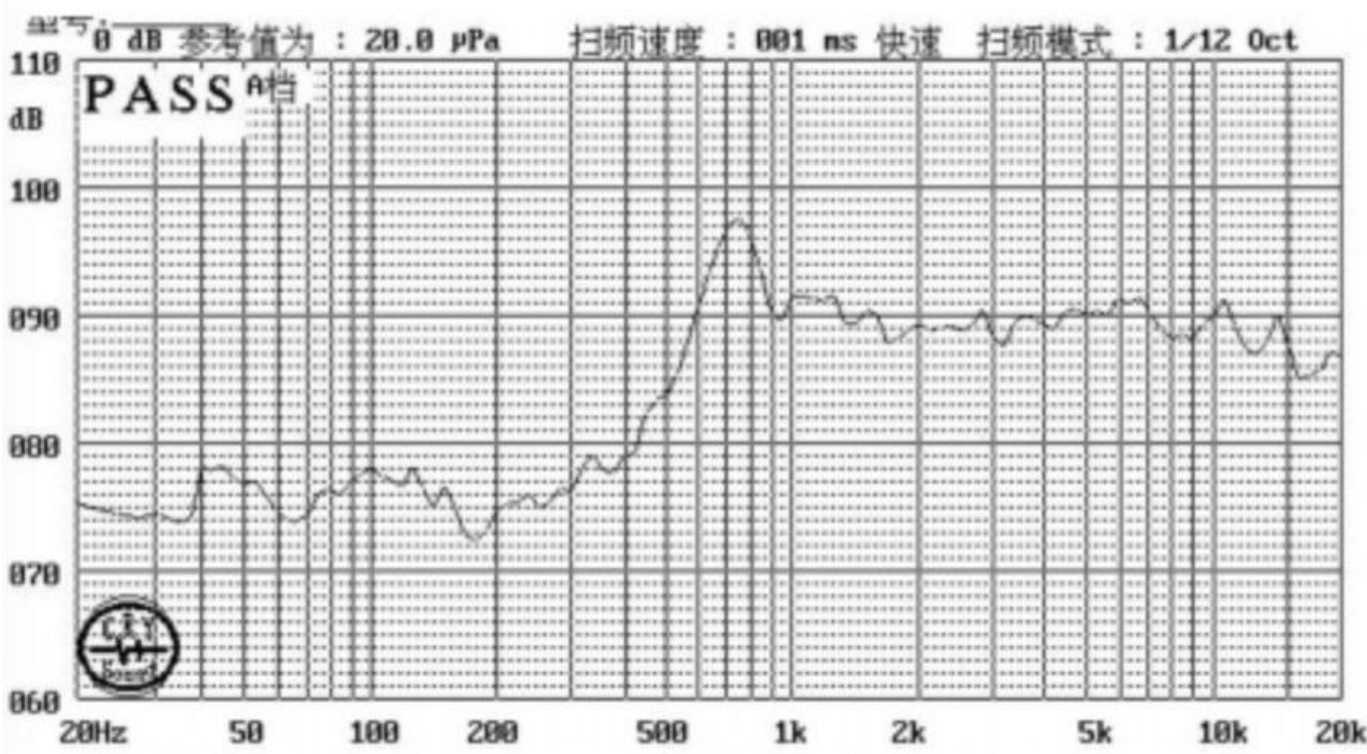


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4.FREQUENCY RESPONSE CURVE



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## 5.DIMENSIONS

Unless otherwise specified, tolerance:  $\pm 0.3$ (unit: mm)

