



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-4040 方形-4R5W

產品名稱 (Description):

喇叭 (Speaker)

產品規格 (Specification):

40\*40MM 方形

|                                                |                                        |     |     |
|------------------------------------------------|----------------------------------------|-----|-----|
| 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!

地址: 深圳市宝安区新安街道新乐社区新乐路 88 号厂房四层

TEL: 0755-27892904 13652428659

QQ: 438730351 2993501458

E-mail: [xhxdzsound@163.com](mailto:xhxdzsound@163.com)

Http: [www.jsxhxdz.com](http://www.jsxhxdz.com)

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## ELECTRICAL AND ACOUSTICAL SPECIFICATION

|      | Item                      | Specifications                                                                                                            |
|------|---------------------------|---------------------------------------------------------------------------------------------------------------------------|
| 1-1  | Dimension                 | 40mm×40mm                                                                                                                 |
| 1-2  | Rated Input Power         | 5W                                                                                                                        |
| 1-3  | Max Input Power           | 6W                                                                                                                        |
| 1-4  | Rated Impedance           | $3.2 \pm 15\% \Omega$ /2KHz/1Vrms input                                                                                   |
| 1-5  | Resonance Frequency(f0)   | $170 \pm 20\%$ Hz/1V                                                                                                      |
| 1-6  | Sound Pressure Level      | $90 \pm 3\text{dB}$ (at 1M 1W 500,600,800,1000Hz average)                                                                 |
| 1-7  | Frequency Range           | f0HZ ~20KHz                                                                                                               |
| 1-8  | Total Harmonic Distortion | 5% MAX. at 1000~5KHz, 3w                                                                                                  |
| 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 | OperationTest             | Must be normal at sine wave and program source 3W.                                                                        |
| 1-11 | Buzz,Rattle,etc.          | Must be free audible noise (buzzes and rattles)( 145Hz ~ 20KHz frequency range ,input level up to 1.0Vrms, while testing) |
| 1-12 | Weight                    | 48 g                                                                                                                      |
| 1-13 | Appearance                | Should not exist any obstacle to be harmful to normal operation; damages, cracks, rusts and distortions, etc.             |
| 1-14 | Storage temperature       | -20℃~+65℃                                                                                                                 |
| 1-15 | Operation temperature     | -10℃~+55℃                                                                                                                 |
| 1-16 | Operation temperature     | -10℃~+55℃                                                                                                                 |
|      |                           |                                                                                                                           |

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# SPECIFICATIONS

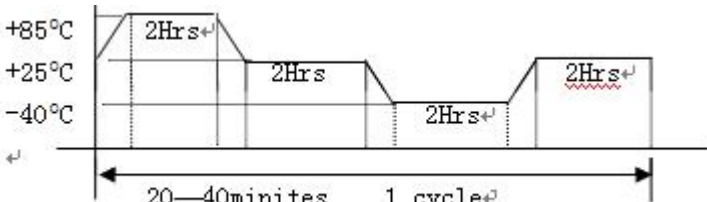
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## 2.ENVIRONMENTAL TEST

|     | Item                   | Specifications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2-1 | High temp. Test        | emperature: $+65^{\circ}\text{C} \pm 3^{\circ}\text{C}$<br>Duration: 96 hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2-2 | Low temp. Test         | Temperature: $-20^{\circ}\text{C} \pm 3^{\circ}\text{C}$<br>Duration: 96 hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 2-3 | Humidity test          | Temperature: $+40^{\circ}\text{C} \pm 3^{\circ}\text{C}$<br>Relative Humidity: 90%~95%RH<br>Duration: 96 hours (recovery 6 hours)                                                                                                                                                                                                                                                                                                                                                                                                             |
| 2-4 | Thermal cycle test.    | Temperature: $-20^{\circ}\text{C} \pm 3^{\circ}\text{C}$ $\longleftrightarrow$ $+65^{\circ}\text{C} \pm 3^{\circ}\text{C}$ Cycle: 12 cycles<br> <p>The diagram illustrates a thermal cycle test waveform. It shows a series of temperature cycles between three levels: +85°C, +25°C, and -40°C. Each level is maintained for 2 hours (2Hrs). The transitions between levels are labeled '20-40minites' and '1 cycle'. The cycle is repeated 12 times.</p> |
| 2-5 | Vibration              | Frequency: 10~55~10Hz Oct/min Amplitude: 1.5mm<br>Duration: 2H 2 hours in each 3axes                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 2-6 | Drop test              | Height: 1.5m Cycle: 6 cycles<br>( be mounted in a 100g fixture, drop samples 1.5m 2 drops on side(2*6), , 2 drops on each corner(2*4). Total 20 drops total 18 times                                                                                                                                                                                                                                                                                                                                                                          |
| 2-7 | Load test              | Input power: 2W, Pink noise 100 hours.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 2-8 | TERMINAL STRENGTH TEST | Load : 1.0Kg<br>Duration: 15sec. (Shall be normal)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

PASS CRITERION :

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

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## 3.MEASURING METHOD(SPEAKER MODE)

### 3-1 .Test Condition

#### STANDARD

Temperature : 15 ~ 35℃

Relative humidity : 25% ~ 75%,

Atmospheric pressure : 860mbar to 1060mbar.

#### JUDGEMENT

Temperature :  $20 \pm 3^{\circ}\text{C}$

Relative humidity : 60% ~ 70%,

Atmospheric pressure : 860mbar to 1060mbar

### 3-2 . Standard Test Fixture

1.Input Power : 2.0V

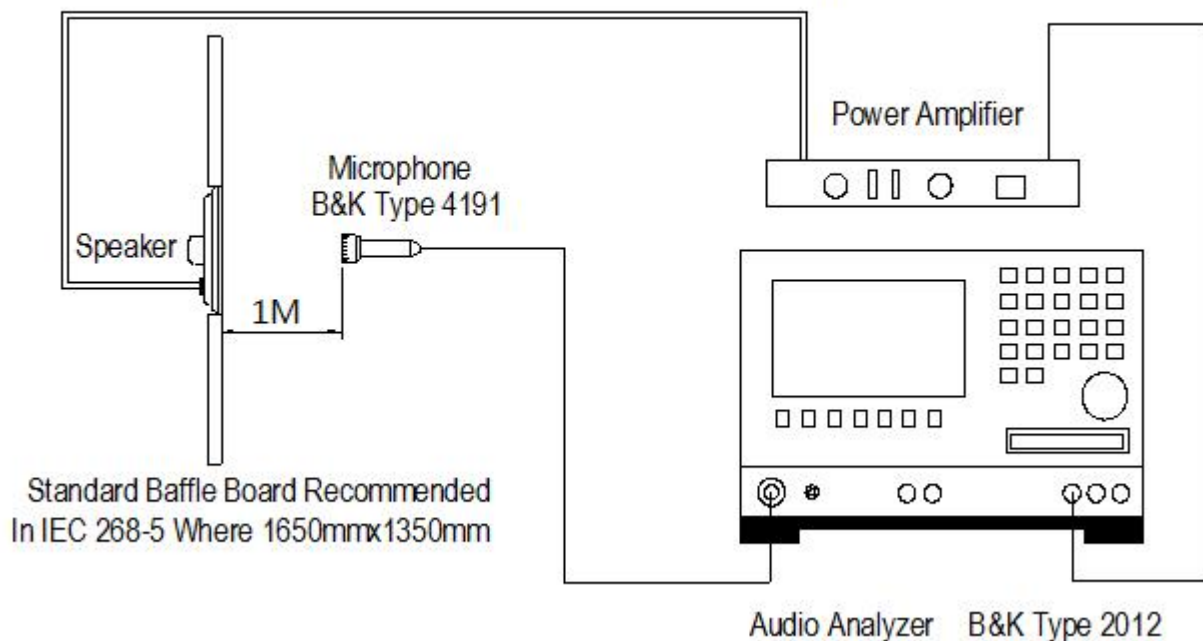
2.Zero Level : -dB

3.Mode : TSR

4.potentiometer Range : 50dB

5.Sweep Time : 0.5sec

### Standard test condition of speaker



(fig.1)

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4.FREQUENCY RESPONSE CURVE(fig.2)

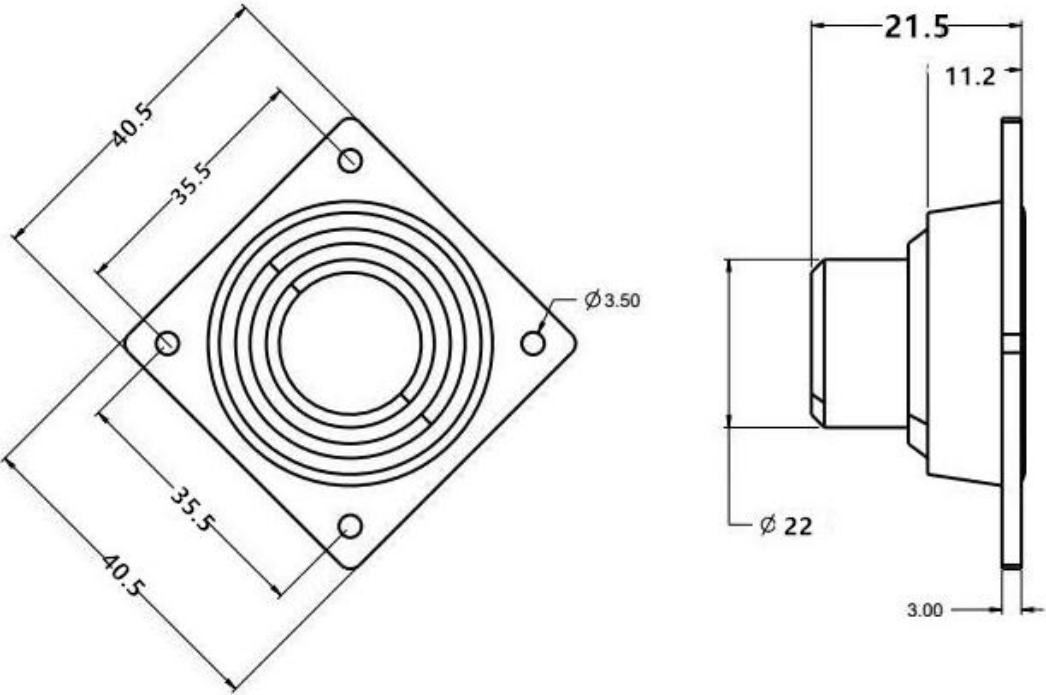
测试条件:1.0 W/1.0 M



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7. DIMENSIONS(fig.5)



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