

**BID**

Believe in dreams

# SPECIFICATION

---

## SHEET FOR APPROVAL

(Revision: X2)

**CUSTOMER:**

**PRODUCT:** DYNAMIC Earphone Receiver

**SUPPLIER PART NUMBER:** E11C28BP-01

**CUSTOMER PART NUMBER:**

**TITLE:**  $\phi$  11×H2.8 16 ohms/ROHS/PAD

	PREPARED	CHECKED	APPROVED	R&D CHOP
SIGNATURE (CHOP)				
DATE				

**CUSTOMER COMMENT:**

**SIGNATURE:** \_\_\_\_\_

**DATE:** \_\_\_\_\_

常州星启电子科技有限公司

BID ELECTRONIC TECHNOLOGY CO.,LTD.

ADD:NO 201 ZOUXIN ROAD,ZHONGLOU ZONE CHANGZHOU CITY,JIANGSU PROVINCE,

FAX:(86-519)83337596



## Contents

<b>1 Scope.....</b>	<b>1/8</b>
<b>2 Environmental Requirement.....</b>	<b>1/8</b>
<b>3 Electrical Requirements.....</b>	<b>1/8</b>
<b>4 Acoustical Requirements.....</b>	<b>1/8</b>
<b>5. Polarity Requirements.....</b>	<b>4/8</b>
<b>6. Test Climatic Condition.....</b>	<b>4/8</b>
<b>7. Test Method.....</b>	<b>5/8</b>
<b>8. General Requirements.....</b>	<b>5/8</b>
<b>9. General Reliability.....</b>	<b>6/8</b>
<b>10. Mechanical Layout and Dimensions.....</b>	<b>8/8</b>
<b>11. Packaging .....</b>	<b>8/8</b>
<b>12. Application Notes.....</b>	<b>8/8</b>

<b>SPECIFICATION</b>		<b>PART NUMBER</b>	<b>E11C28BP-01</b>	<b>- 1 -/8</b>
<b>ISSUED DATE</b>	<b>2021-12-11</b>			
<b>REVISION</b>	<b>X2</b>			

## 1. SCOPE

This document contains required, electrical, acoustic, mechanical, package and reliability test requirements.

## 2.Environmental Requirement

This Earphone Receiver including all components, soldering joints and glue must be halogen free, in ROHS requirements and other banned or restricted substances according to customer's requirements.

## 3.Electrical Requirements

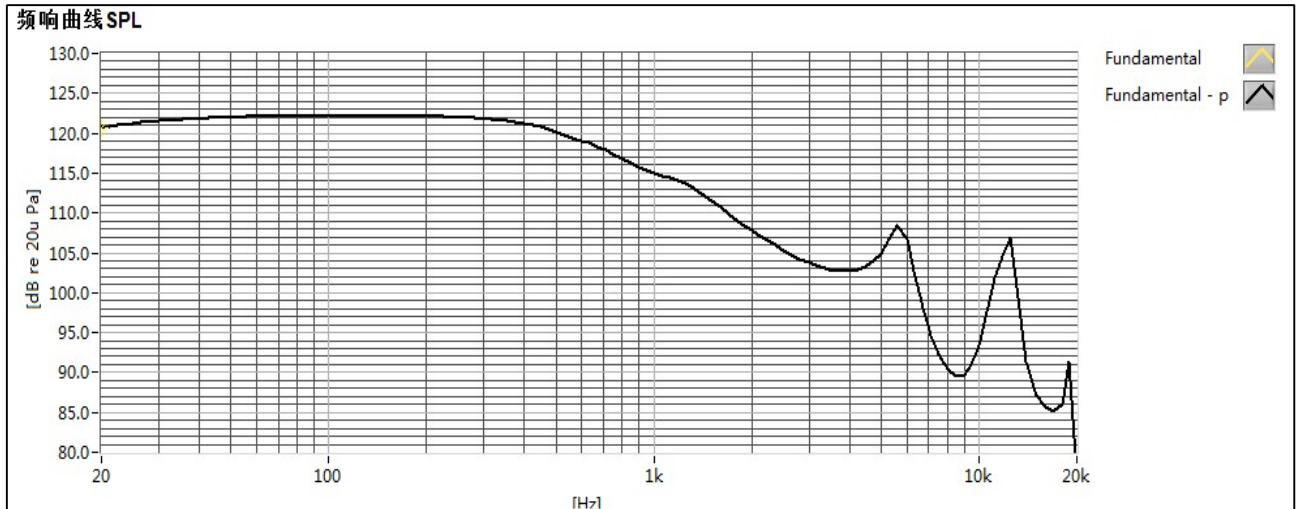
3.1 DC Resistance	15.0±10% ohms
3.2 Rated Impedance	16 Ω ± 10% @ 1KHz, 0.126 Vrms
3.3 Power Rating	5mW
3.4 Short Term Max. Power	10mW

## 4.Acoustical Requirements

4.1 Sound Pressure Level	115±3dB@ 1KHz, 0.126Vrms, IEC711Ear
4.2 Frequency Response	See Figure1

<b>SPECIFICATION</b>		<b>PART NUMBER</b>	<b>E11C28BP-01</b>	<b>- 2 -/8</b>
<b>ISSUED DATE</b>	<b>2021-12-11</b>			
<b>REVISION</b>	<b>X2</b>			

**Typical frequency response**



**Figure 1**

Frequency [hz]	Upper limit	Lower limit

**Table1, Test Limit for FR**

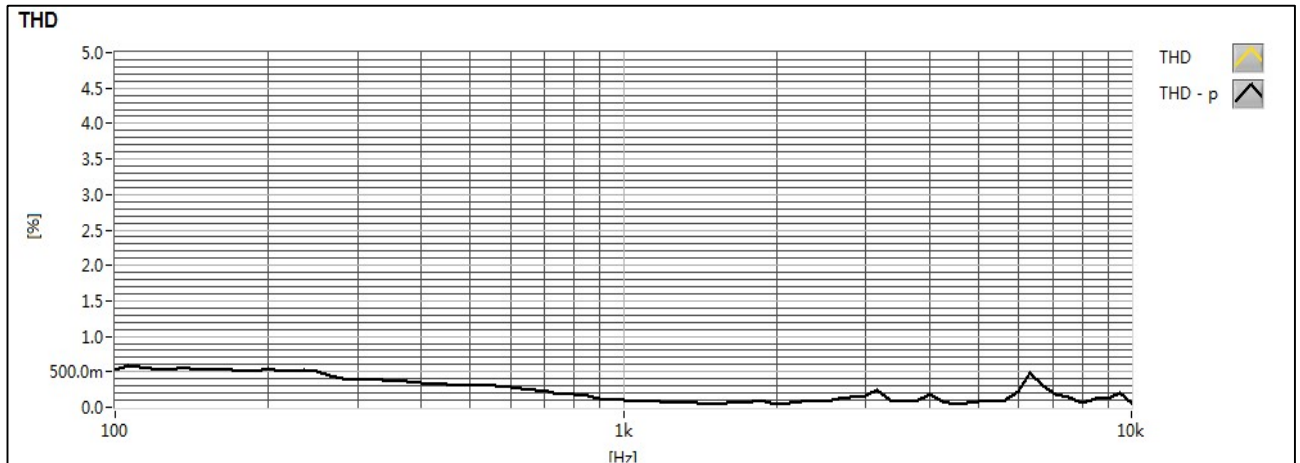
- Grading principle :(grading with 1KHZ sensitivity)

Grading	<b>A</b> ( Upper limit )	<b>B</b> (Middle limit )	<b>C</b> ( Lower limit )	Due to machine and test errors range, two adjacent grading are allowed to shift, with a maximum of 1dB
Sensitivity range of 1KHZ (dB)	<b>118~116</b>	<b>115.9~114</b>	<b>113.9~112</b>	

<b>SPECIFICATION</b>		<b>PART NUMBER</b>	<b>E11C28BP-01</b>	<b>- 3 -/8</b>
<b>ISSUED DATE</b>	<b>2021-12-11</b>			
<b>REVISION</b>	<b>X2</b>			

**4.3 Total Harmonic Distortion(THD):**

**Typical THD response(See Figure 2)**



**Figure 2 ,Typical THD Response**

<b>Frequency[hz]</b>	<b>Upper limit[%]</b>
<b>100</b>	
<b>999</b>	
<b>1000</b>	
<b>1001</b>	
<b>10000</b>	

**Table2, Test Limit for THD**

<b>SPECIFICATION</b>		<b>PART NUMBER</b>	<b>E11C28BP-01</b>	<b>- 4 -/8</b>
<b>ISSUED DATE</b>	<b>2021-12-11</b>			
<b>REVISION</b>	<b>X2</b>			

#### **4.4 Rub & Buzz**

A sine sweep among 20-5K Hz at short term max power will not result in any buzzing or extraneous sound.

#### **5.Polarity Requirements**

When a DC source's "+" polarity is attached to Earphone Receiver's "+"polarity,"-"polarity is attached receiver's "-"polarity, the membrane will move forward.

#### **6. Test Climatic Condition**

Standard Test Condition :

- a) Temperature : +15 ~ +35°C
- b) Humidity : 45-85%
- c) Pressure : 860-1060mbar

Judgement Test Condition

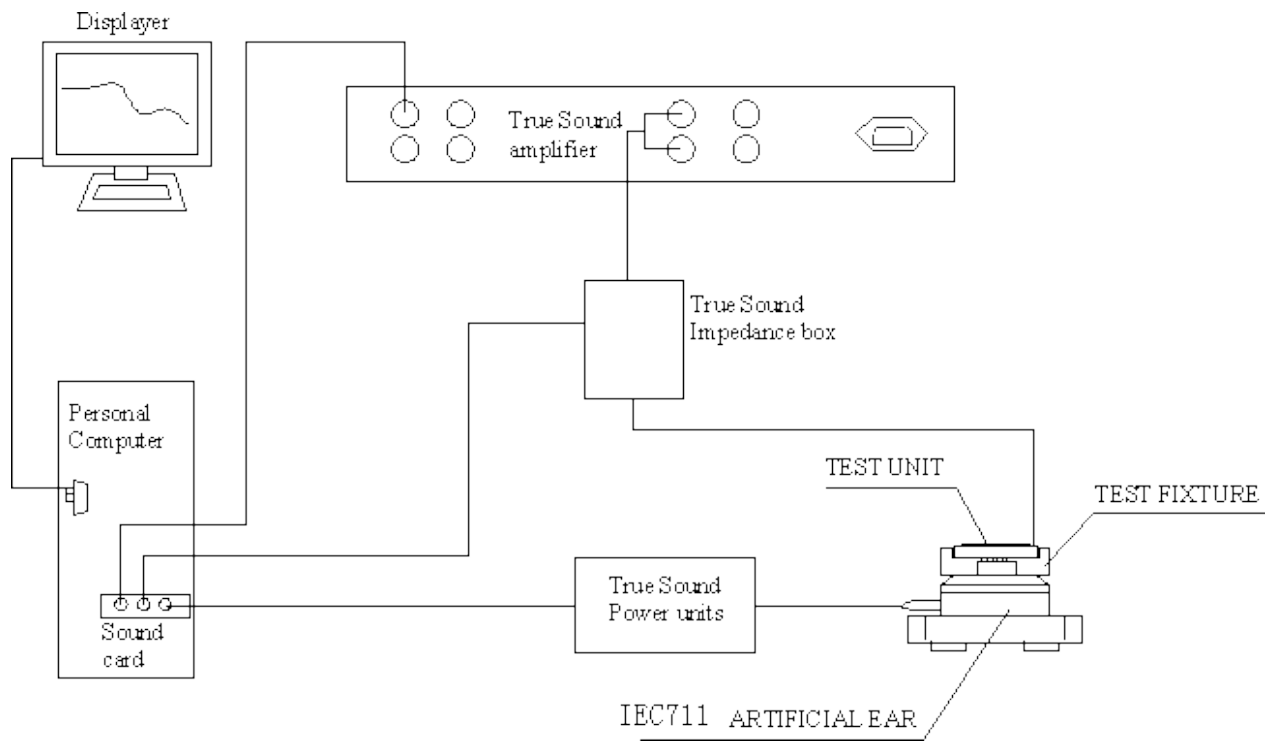
- a) Temperature : +20 ± 3°C
- b) Humidity : 60-70%
- c) Pressure : 860-1060mbar

<b>SPECIFICATION</b>		<b>PART NUMBER</b>	<b>E11C28BP-01</b>	<b>- 5 -/8</b>
<b>ISSUED DATE</b>	<b>2021-12-11</b>			
<b>REVISION</b>	<b>X2</b>			

**7. Test Method**

**7.1 Sensitivity and Frequency Response Curve:**

The Earphone Receiver shall be mounted in a fixture. And the recommended acoustic measuring devices are shown below in fixture3. The swept sine-wave frequency range is 20Hz~10kHz. (Input126mVrms).



**Figure3 Earphone Receiver testing setup**

**8. General Requirements**

**8.1 Operation temperature range: -20°C to +60°C**

**8.2 Storage temperature range: -30°C to +65°C**

SPECIFICATION		PART NUMBER	E11C28BP-01	- 6 -/8
ISSUED DATE	2021-12-11			
REVISION	X2			
9. General Reliability				
9	9-1 Operation life test	Ear phone Receiver input rated power, carry out 96H continuous power and white noise signal; Test SPL curve and listening before and after comparison; Number of tests: 10pcs		
	9-2 Vibration test	Ear phone Receiver was subjected to random vibration test of 10HZ~200HZ for 3H, SPL curve and listening before and after comparison; Number of tests: 10pcs		
	9-3 Drop test	Ear phone Receiver drop samples 1m high, 3 times in each direction, total 9 times. SPL curve and listening before and after comparison; Number of tests: 10pcs		1, after the test of the product, can not appear
	9-4 Drum test	1m, 78cycle/min,10 times a curve test and listening; fixed Ear phone Receiver movement with fixture during the test; Number of tests: 10pcs		no sound, noise, small sound problems;
	9-5 Cold and hot shock test	No power at -30°C~65°C cycle test, low temperature for 30 minutes, high temperature for 30 minutes, a total of 15 cycles. After being stored at room temperature for 4H; SPL curve and listening before and after comparison; Number of tests: 10pcs		2. The difference of 1KHZ sensitivity before and after the test was
	9-6 cold operation	-20°C, white noise, rated power, 72H. After Store at room temperature for 4H after test; SPL curve and listening before and after comparison; Number of tests: 10pcs		within 3dB;

# BID

Believe in dreams

SPECIFICATION		PART NUMBER	E11C28BP-01	- 7 -/8
ISSUED DATE	2021-12-11			
REVISION	X2			
9-7 Hot operation	Test at 60°C, white noise, rated power, 72H. After being stored at room temperature for 4H; SPL curve and listening before and after comparison; Number of tests: 10pcs			3, the structure part without separation, deformation, dispensing part without glue;
9-8 Low-temperature storage	No power storage at -20°C. After being stored at room temperature for 4H; SPL curve and listening before and after comparison; Number of tests: 10pcs			
9-9 High-temperature storage	No power storage at 65°C. After being stored at room temperature for 4H; SPL curve and listening before and after comparison; Number of tests: 10pcs			
9-10 Salt Spray Test	Test time: 24H; Ambient temperature: 30°C; Humidity: >=70%; Experimental temperature requirements: brine temperature 35°C, experimental chamber temperature: 35°C, compressed air temperature: 47°C; Experimental salt water requirements: USING JIS-S-8150 sodium chloride solution concentration 5% plus or minus 1, where the PH value is 6.5~7.2; Number of tests: 10pcs			

<b>SPECIFICATION</b>		<b>PART NUMBER</b>	<b>E11C28BP-01</b>	<b>- 8 -/8</b>
<b>ISSUED DATE</b>	<b>2021-12-11</b>			
<b>REVISION</b>	<b>X2</b>			

- 10. Mechanical Layout and Dimensions
  - 10.1 Mechanical layout for Earphone Receiver (see Figure 4)

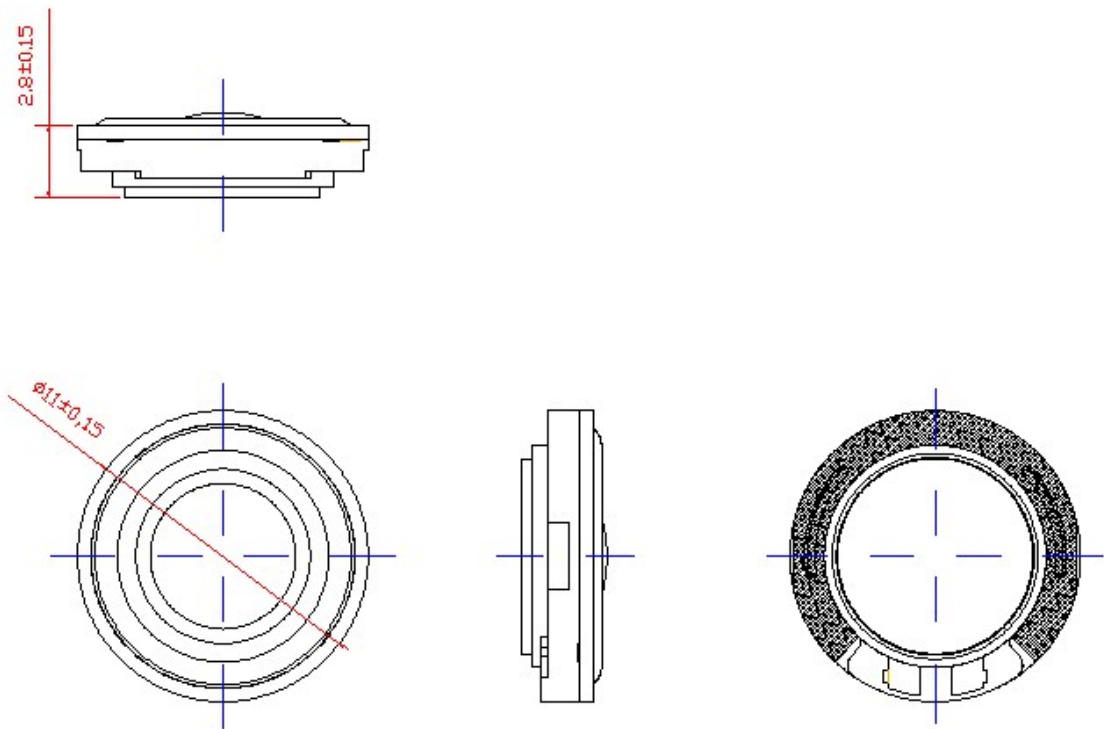


Figure4, Earphone Receiver layout profile

Note:1、 General unless otherwise noted :  $\pm 0.2\text{mm}$

11. Package: TBD

Application Notes: TBD