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# PRELIMINARY SPECIFICATION

## Receiver

Part Number	OWR-4007T-32C
Note	This item was compliance with the following requirements: 1. RoHS directive 2. REACH
Customer P/N	

Ole Wolff	Signature / Date	Prepared	Checked	Approved
		Ena Wang 2021.11.04	Nathan Chen 2021.11.04	Ryan Li 2021.11.04

Customer	Signature / Date	Confirmation		

### REVISION NOTES:

Date	Rev.	Description of Revision
2021.09.09	00	Initial version; Use the crease-resistant diaphragm.
2021.11.04	01	Corrected the marking information on page 7.

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## 1. SCOPE

THIS SPECIFICATION IS APPLIED FOR A DYNAMIC RECEIVER FOR HEADPHONE.

## 2. TEST CONDITIONS

TEMPERATURE : 24°C ~ 27°C

HUMIDITY : 65% +/-5% (R.H.)

ATMOSPHERE : 860 ~ 1060 hPa

## 3. GENERAL REQUIREMENTS

OPERATING TEMPERATURE RANGE: -25° C ~ 60° C

STORAGE TEMPERATUR RANGE: -25° C ~ 60° C

## 4. MECANICAL LAYOUT & DIMENSIONS

DIMENSIONS : SHOWN IN FIGURE.8

NET WEIGHT: 12.3g+/-10%

## 5. ELECTRICAL AND ACOUSTICAL CHARACTERISTICS

1	Impedance on IEC 318	36Ω ± 10% at 100Hz with 0.190V/1mW																																								
2	Sound Pressure Level on IEC318 coupler	117.6±3 dB at 100Hz and 117.0±3 dB at 1000Hz with input 0.190V/1mW (0dB=20μPa) Measure setup as shown in Fig.1																																								
		<table border="1"> <thead> <tr> <th>Group</th> <th>100Hz</th> <th>1000Hz</th> <th>Dot mark</th> </tr> </thead> <tbody> <tr> <td>A1</td> <td>120.6~119.11dB</td> <td>120.0 ~118.51dB</td> <td>PURPLE</td> </tr> <tr> <td>A2</td> <td>120.6~119.11dB</td> <td>118.5~115.5dB</td> <td>SLIVERY</td> </tr> <tr> <td>A3</td> <td>120.6~119.11dB</td> <td>115.49~114.0dB</td> <td>WHITE</td> </tr> <tr> <td>B1</td> <td>119.1~116.1dB</td> <td>120.0 ~118.51dB</td> <td>RED</td> </tr> <tr> <td>B2</td> <td>119.1~116.1dB</td> <td>118.5~115.5dB</td> <td>BLUE</td> </tr> <tr> <td>B3</td> <td>119.1~116.1dB</td> <td>115.49~114.0dB</td> <td>YELLOW</td> </tr> <tr> <td>C1</td> <td>116.09~114.6dB</td> <td>120.0 ~118.51dB</td> <td>GREEN</td> </tr> <tr> <td>C2</td> <td>116.09~114.6dB</td> <td>118.5~115.5dB</td> <td>BLACK</td> </tr> <tr> <td>C3</td> <td>116.09~114.6dB</td> <td>115.49~114.0dB</td> <td>GOLD</td> </tr> </tbody> </table>	Group	100Hz	1000Hz	Dot mark	A1	120.6~119.11dB	120.0 ~118.51dB	PURPLE	A2	120.6~119.11dB	118.5~115.5dB	SLIVERY	A3	120.6~119.11dB	115.49~114.0dB	WHITE	B1	119.1~116.1dB	120.0 ~118.51dB	RED	B2	119.1~116.1dB	118.5~115.5dB	BLUE	B3	119.1~116.1dB	115.49~114.0dB	YELLOW	C1	116.09~114.6dB	120.0 ~118.51dB	GREEN	C2	116.09~114.6dB	118.5~115.5dB	BLACK	C3	116.09~114.6dB	115.49~114.0dB	GOLD
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3	Resonance frequency on IEC 318 coupler	3100±15%Hz with input 0.190V/1mW																																								
4	Frequency response on IEC 318 coupler	Typical performance as shown in Fig.3. (Test input 0.190V/1mW)																																								
5	Total Harmonic Distortion on IEC 318 coupler	THD as shown in Fig.3 (Test input 0.190/1mW)																																								
6	Input Power	(Nom./Max.): 0.01W /0.03W																																								
7	Rub & Buzz	Speaker must be free of audible noise at 0.6v sine wave between 50Hz-10KHz																																								

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## 6. RELIABILITY TEST REQUIREMENTS

Sensitivity difference at 1000Hz shall be within  $\pm 3\text{dB}$  from initial value after each test. The measurement shall be done after minimum 1hour and maximum 2 hours with conditioning of  $24^\circ\text{C} \sim 27^\circ\text{C}$ .

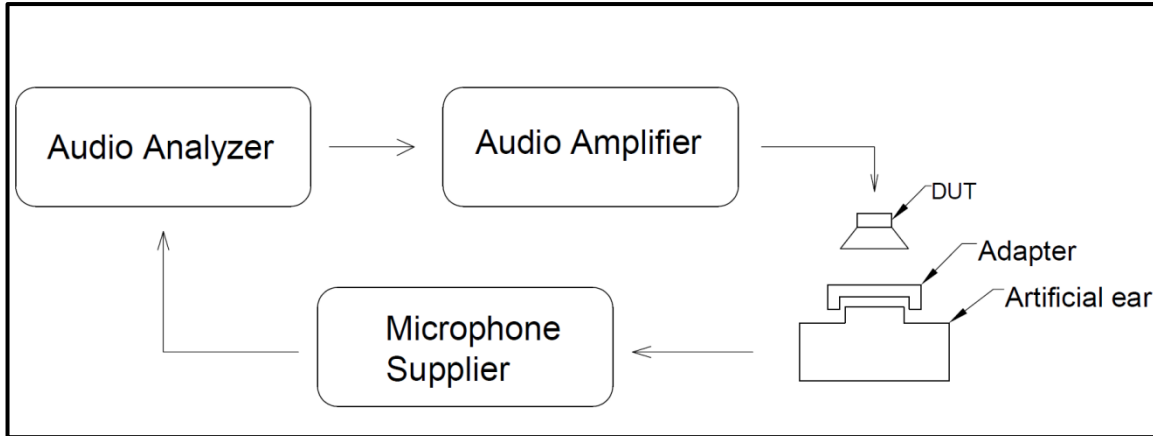
No.	ITEMS	TEST CONDITION	
1	HIGH TEMPERATURE TEST STORAGE	Temperature	$60 \pm 3^\circ\text{C}$
		Duration	96hrs
2	LOW TEMPERATURE TEST STORAGE	Temperature	$-25 \pm 3^\circ\text{C}$
		Duration	96hrs
3	HIGH TEMPERATURE HUMIDITY TEST	Temperature	$40 \pm 3^\circ\text{C}$
		Humidity	90%--95%(RH)
		Duration	96hrs
4	DROP TEST	Height	With protector grill 0.75m to concrete
		Total times	10 times
5	TEMPERATURE CYCLE TEST	Temperature	$-25 \pm 3^\circ\text{C} \leftrightarrow 60 \pm 3^\circ\text{C}$
		Duration	2hours, 5mins, 2hours
		Cycles	5 cycles
6	SHORT TERM MAX INPUT TEST	Test signal and Temperature	Pink noise / $25^\circ\text{C}$
		Test input power	0.03W/1.04Vrms
		Cycles	1sec On, 1min Off, 60cycles
7	LONG TERM MAX INPUT TEST	Test signal and Temperature	Pink noise / $25^\circ\text{C}$
		Test input power	0.03W/1.04Vrms
		Cycles	1min On/ 2min Off, 10 cycles
8	RATED POWER TEST	Test signal and Temperature	Pink Noise / $25^\circ\text{C}$
		Test input power	0.01W/0.6Vrms
		Duration	96hrs

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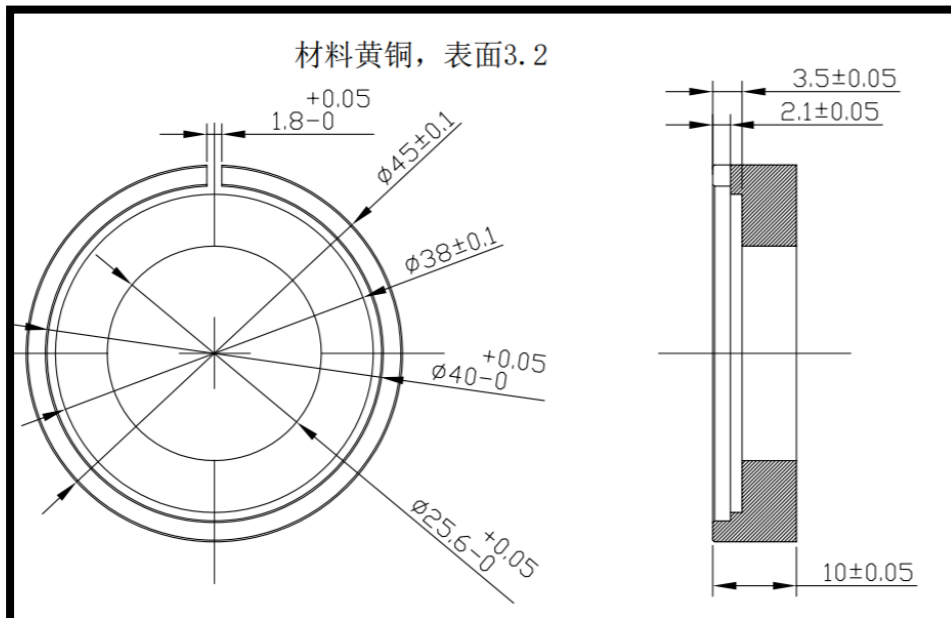
## 7. TEST SETUP AND TEST JIG FOR IEC318 COUPLER

### 7.1 IEC 318 MEASUREMENT CIRCUIT FOR DYNAMIC SPEAKER (Fig.1)



NO	EQUIPMENT	REMARKS
1	DUT	Receiver
2	Adapter	As shown on Fig.2
3	Audio Analyzer	LISTEN SOUNDCHECK
4	Audio Amplifier	LEM DPA300
5	Artificial ear	GRAS 43AA
6	Microphone supplier	GRAS 12AX

### 7.2 IEC 318 TEST JIG (Fig.2)

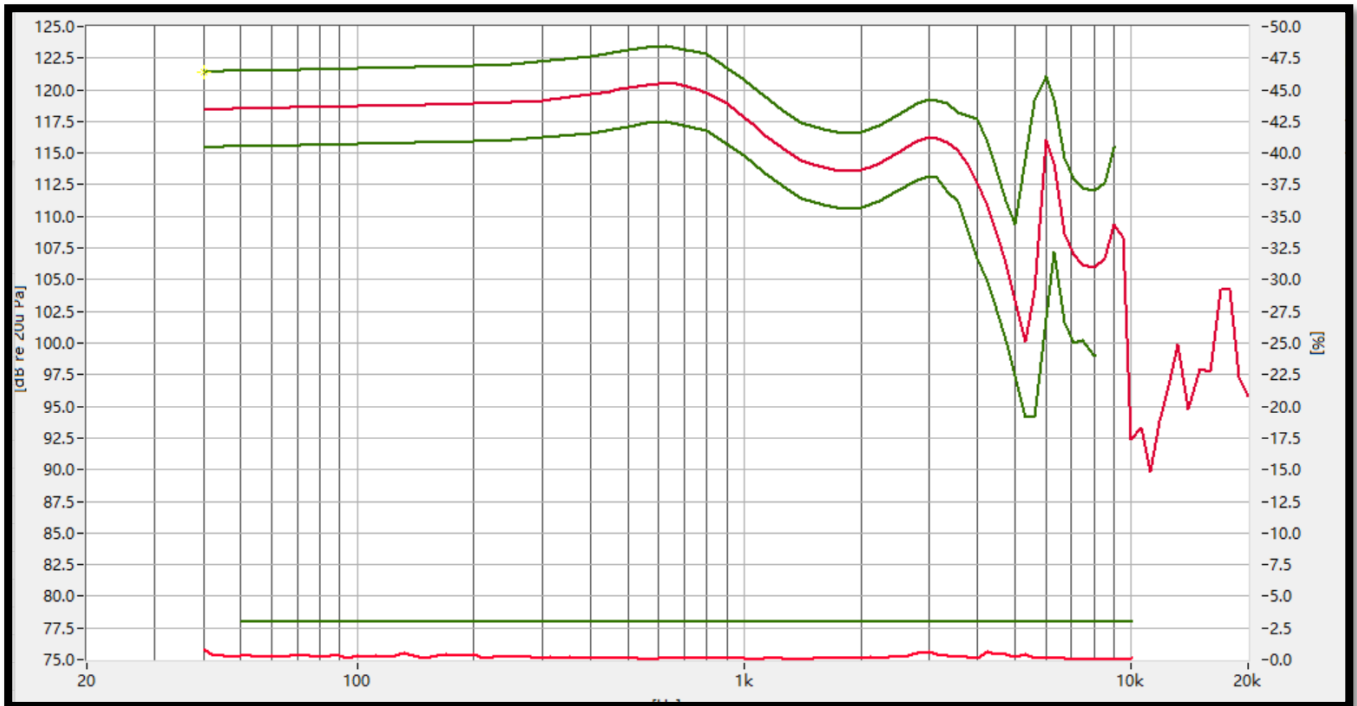


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### 8. Standard Frequency Response Curve & Standard THD (Fig.3)

Test input 0.190V (IEC 318), 1/12oct. Soundcheck stimulus step size 8 min cycles and 5ms min duration.

The following tolerances are offset values. Limit is absolute value based on the golden sample offset.



#### FR limit

F.POINT	40	45	56	63	71	80	100	200	250	400	500	560	630	800	Hz
Upper limit	3	3	3	3	3	3	3	3	3	3	3	3	3	3	dB
Lower limit	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	dB

F.POINT	1000	1120	1250	1400	1600	1800	2k	2.24k	2.5k	2.8k	3k	3.15k	3.35k	3.55k	Hz
Upper limit	3	3	3	3	3	3	3	3	3	3	3	3	3	3	dB
Lower limit	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-4	-4	dB

F.POINT	4k	4.25k	4.5k	4.75k	5k	5.3k	5.6k	6k	6.3k	6.7k	7.1k	7.5k	8k	8.5k	Hz
Upper limit	5	5	5	5	6	-	15	5	5	6	6	6	6	6	dB
Lower limit	-6	-7	-8	-8	-7	-6	-10	-	-7	-7	-7	-6	-7	-	dB

F.POINT	9k	Hz
Upper limit	6	dB
Lower limit	-	dB

#### THD limit

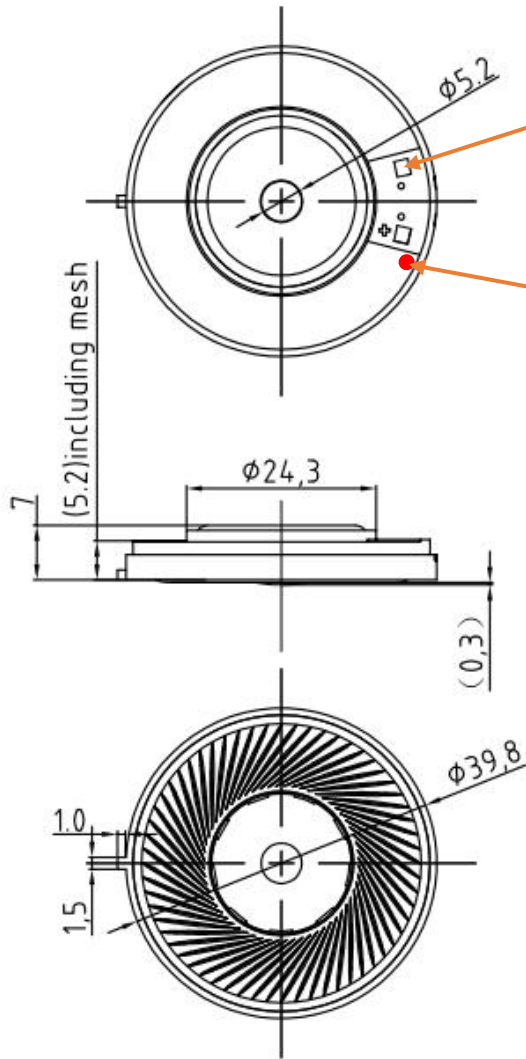
F.POINT	50	100	180	500	1k	10k	Hz
Upper limit	3	3	3	3	3	3	%

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### 9.DIMENSION (Fig.4)

Unit: mm

Tolerance: +/-0.2



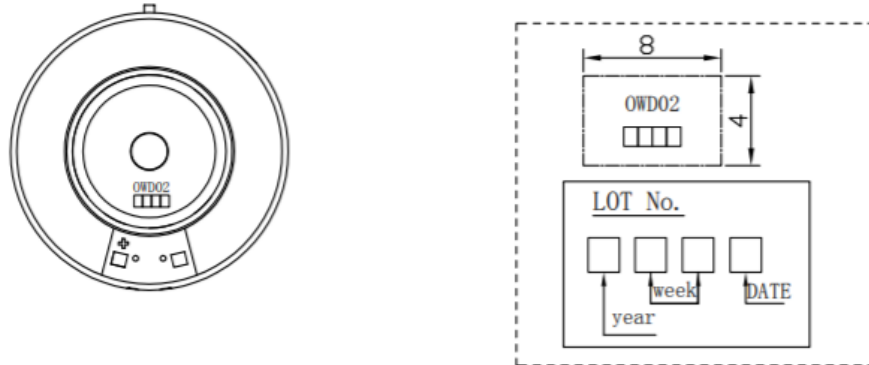
Soldering temperature 370-390° C  
Soldering duration less than 2.5s

Binning Marking:  
Bin A1 = Purple dot,  
Bin A2 = Silver dot,  
Bin A3 = White dot,  
Bin B1 = Red dot,  
Bin B2 = Blue dot,  
Bin B3 = Yellow dot,  
Bin C1 = Green dot,  
Bin C2 = Black dot,  
Bin C3 = Gold dot,

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### 10. Marking (Fig.5)

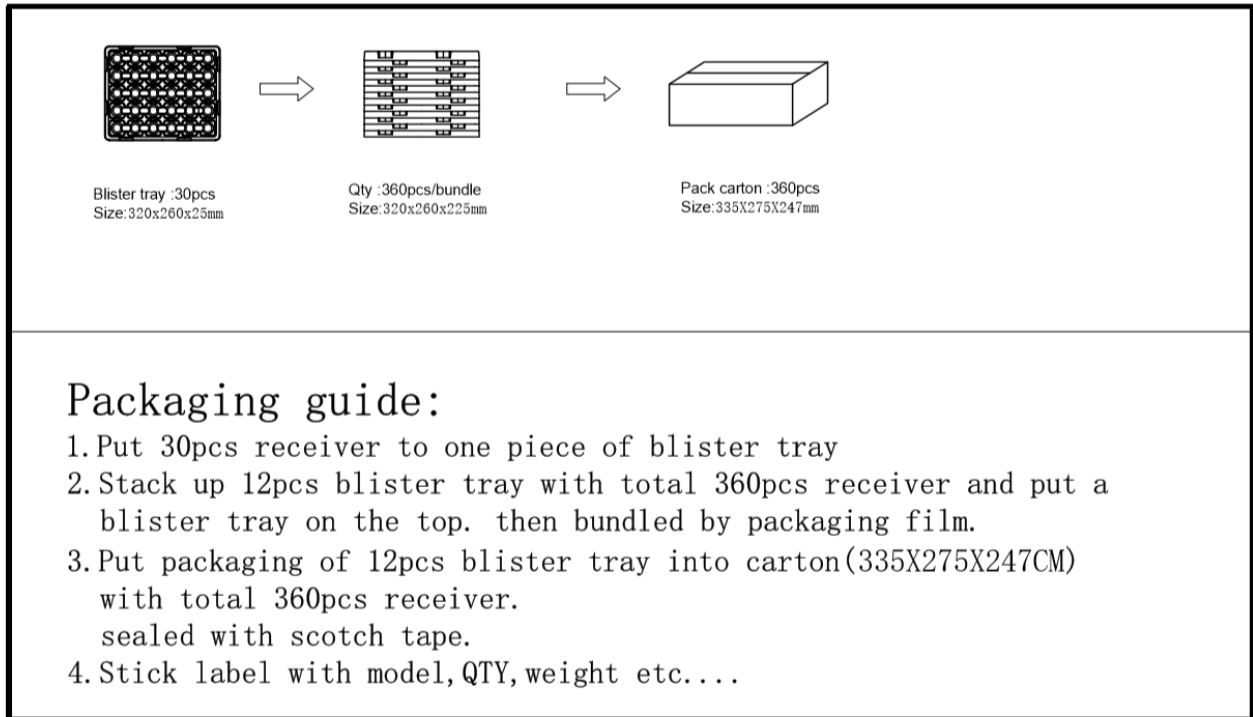


YEAR		WEEK		DATE	
year	marking	week	marking	date	marking
2020	0	1	01	MON	1
2021	1	2	02	TUE	2
2022	2	3	03	WED	3
2023	3	↓	↓	↓	↓
		52	52	SUN	7

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## 11.Packing (Fig.7)



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