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# SPECIFICATION FOR APPROVAL

## Dynamic Speaker

Model Name	OWR-06944T-16B
Note	<b>RoHS and HF Compliant</b>

<p>APPROVED BY:</p>  <p>2013.09.12</p> <p>Customer name / Stamp / sign / date</p>
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### REVISION NOTES:

Date	revision	Description of Revision
2010-10-20	A	
2010-10-27	B	3M adhesive D9495
2010-11-25	C	Blue adhesive mark / Update THD limit / Dir 6.0mm +0.2/-0.1 tolerance
2011-6-27	D	3M adhesive D9629FL
2013-07-11	E	<b>RoHS and HF Compliant</b>
2013-07-11	F	Update weight information

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## 1. SCOPE

THIS SPECIFICATION IS APPLIED FOR RECEIVER UNIT FOR A HEADSET.

## 2. TEST CONDITIONS

TEMPERATURE : 18° ~ 22°C

HUMIDITY : 60° ~ 70°C (R.H.)

ATMOSPHERE : 860 ~ 1060 hPa

## 3. GENERAL REQUIREMENTS

OPERATING TEMPERATURE RANGE : -20° ~ 55°C

STORAGE TEMPERATURE RANGE : -25° ~ 60°C

## 4. MECHANICAL LAYOUT & DIMENSIONS

DIMENSIONS : SHOWN IN FIGURE 4.

UNIT WEIGHT : 0.6g +/-0.1g

## 5. ELECTRICAL AND ACOUSTICAL CHARACTERISTICS

1.	IMPEDANCE	16 Ω ± 15% (at 126mV 1KHz)
2.	SOUND PRESSURE LEVEL	98.8 dB ± 3 dB At 1mW/2CC Coupler @ 1KHz
2.A	SPL - SPECIAL SORTING (dot marking : positive polarity)	Group A: 101.8 ~ 100.3dB dot marking = Purple Group B: 100.29~ 98.8dB dot marking = Blue Group C: 98.79 ~ 97.3 dB dot marking = Red Group D: 97.29 ~ 95.8 dB dot marking = Black
3.	RESONANCE FREQUENCY	3100Hz ± 15%
4.	FREQUENCY RANGE	20Hz ~ 20 KHz. Figure 2.
5.	RATED INPUT POWER	(Nominal ./Maximum) : 5mW / 10mW , 0.28V / 0.4V
6.	DISTORTION	Please see below under point : FREQUENCY RESPONSE & THD CURVES (FIG. 2)

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7.	BUZZ AND RATTLES	MUST BE NORMAL SINE WAVE FROM 50Hz TO 10kHz. Rated input power 5mW,0.28V Hearing test. Speaker in vertical position. Free air.
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## 6 QUALIFICATION TESTS

-	<b>AFTER TEST</b> Sensitivity difference at 1.0 KHz shall be with $\pm 3$ dB from initial value.
-	<b>LOAD TEST</b> Signal test : White noise Power test : 5m W (0.28V) Duration : 96 Hrs
-	<b>HIGH TEMPERATURE TEST</b> High temperature : $55^{\circ}\text{C} \pm 3^{\circ}\text{C}$ Duration : 96 Hours then left 6 hours in a room
-	<b>LOW TEMPERATURE TEST</b> Low temperature : $-20^{\circ}\text{C} \pm 3^{\circ}\text{C}$ Duration : 96 Hours then left 6 hours in a room
-	<b>HUMIDITY TEST</b> Temperature : $40 \pm 2^{\circ}\text{C}$ Humidity : 90 % (R.H.) Duration : 96 Hours then left 6 hours in a room
-	<b>VIBRATION TEST</b> Vibration : 10 ~ 55 Hz / min Amplitude : 1.5 mm Duration : 1 hour each plan
-	<b>DROP TEST</b> Height : 1m Drop face : Hardwood Floor Duration : 10 cycles
-	<b>TEMPERATURE CYCLE TEST</b> Temperature : $-20^{\circ}\text{C} \pm 2^{\circ}\text{C}$ (2 hours) $\leftrightarrow$ $+ 55^{\circ}\text{C} \pm 2^{\circ}\text{C}$ (2 hours) Cycles : 5 cycles
	Maximum power test 10 mWatts (at least 10 minutes without damage but not guarantee for no rattling)

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**7 MEASUREMENT METHOD FOR DYMANIC SPEAKER (FIG. 1)**

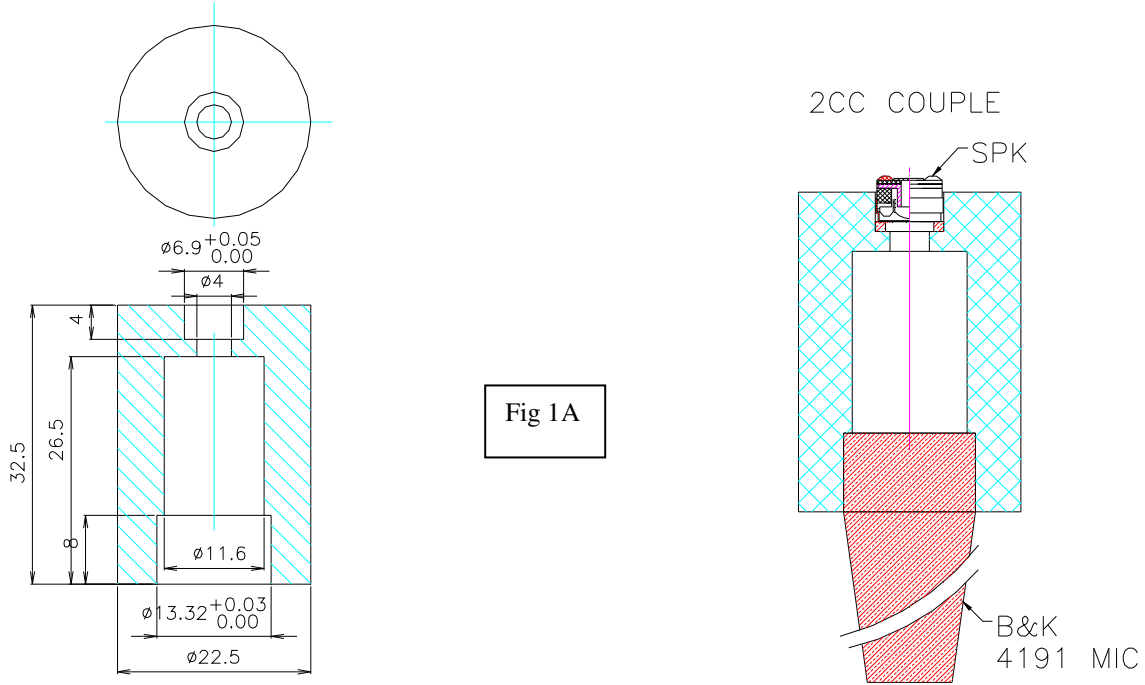


Fig 1A

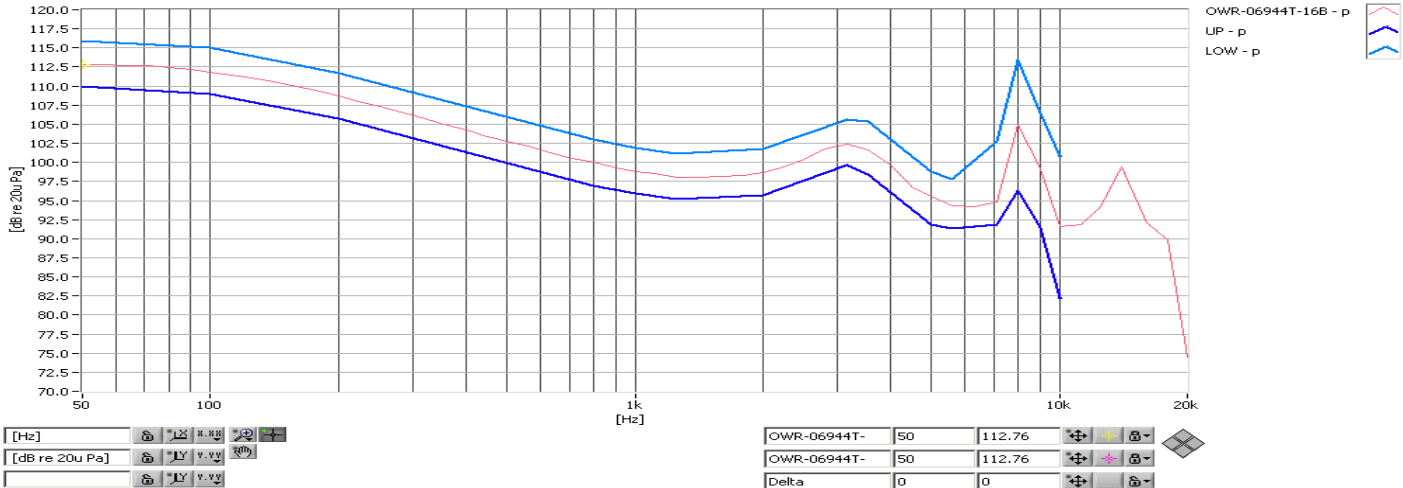
NO	EQUIPMENT	REMARKS
1.	TEST JIG	FIG. 1A
2.	MICROPHONE	½ INCH Microphone
3.	MICROPHONE HOLDER	
4.	DAMPING MATERIAL	FOAM RUBBER
5.	BOX	
6.	Test distance measured from front of speaker frame to front of test microphone	2CC Coupler

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## 8. FREQUENCY RESPONSE & THD CURVES (FIG. 2)

XY Graph 1



Frequency	50	80	100	315	500	800	1K	2K	Hz
Upper Limits	116.79	116.65	114.64	108.83	105.77	103	<b>101.8</b>	102.29	dB
Lower Limits	108.19	108.05	108.64	102.33	99.27	96.5	<b>95.8</b>	95.29	dB
delta +/-	4.3	4.3	3	3.25	3.25	3.25	<b>3</b>	3.5	dB

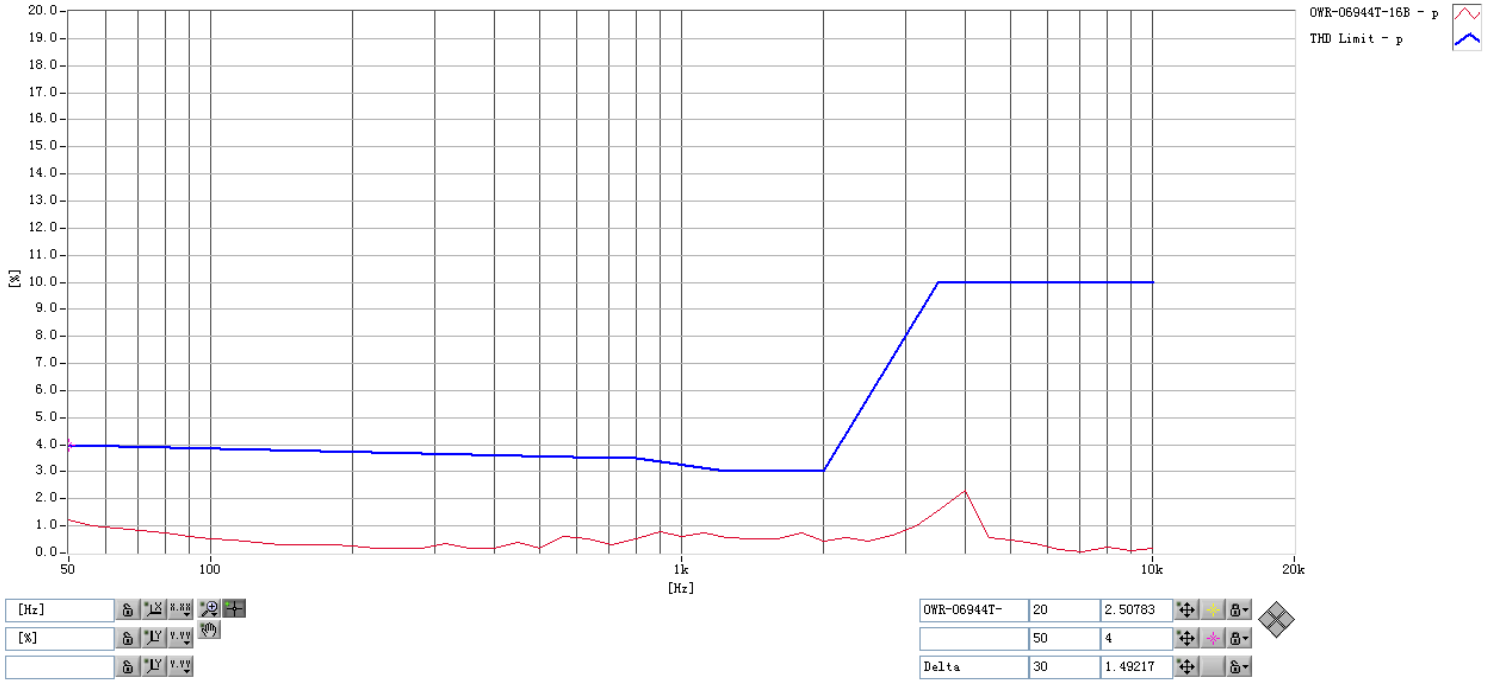
  

Frequenc	3.15K	3.55k	4K	5K	6.3K	7.1K	10K	Hz
Upper Limits	106.54	105.72	103.4	98.85	97.19	101.02	99.65	dB
Lower Limits	98.54	97.72	95.4	91.85	91.19	89.02	83.65	dB
delta +/-	4	4.0	4.0	3.5	3	6	8	dB

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XY Graph 1

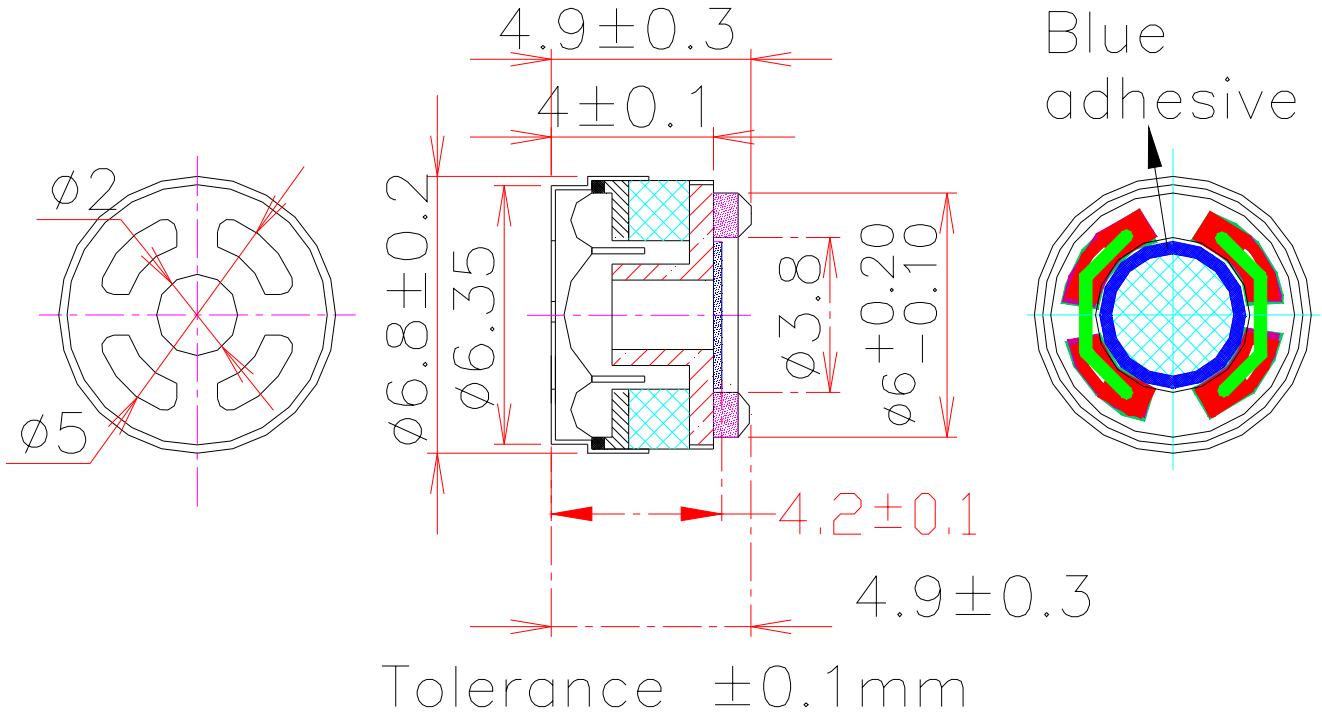


Freq	50	750	800	1.2K	1.25K	2K	3.5K	9.5K	10K
THD	4%	3.5%	3.5%	3.5%	3%	3%	10%	10%	10%

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**9. DIMENSIONS (FIG. 3)**



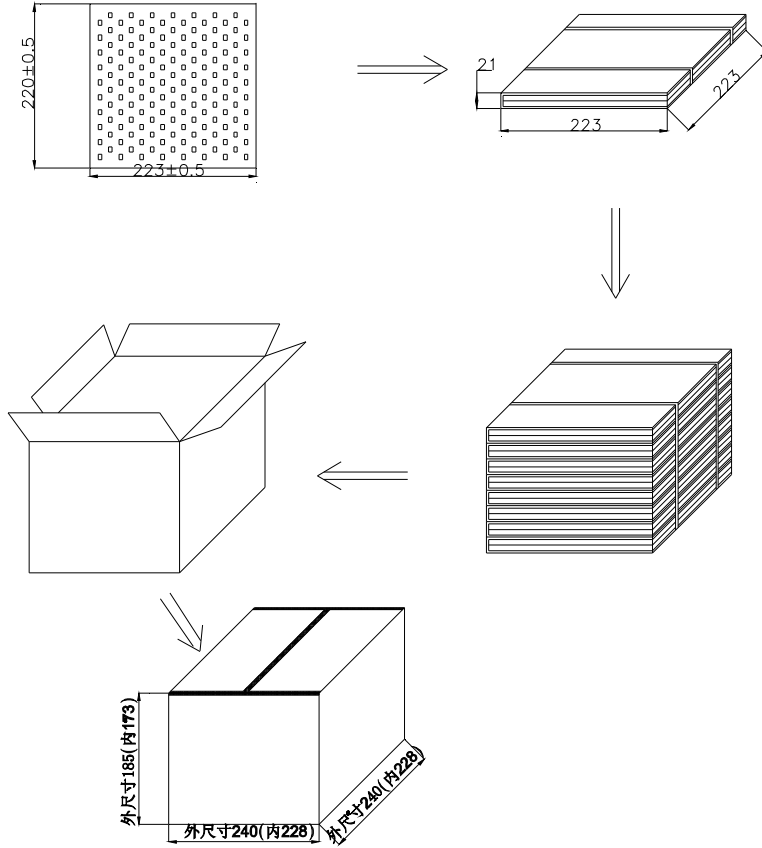
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## 10. PACKAGING

### PACKAGING

1. Foam tray: 220 x 220 x 18mm  
150 pcs per layer--- 10 layers/Box
2. Box : 230 x 230 x 205 mm  
Total: 1500pcs/ Carton box
3. Paper board: 220 x 220 x 3mm



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