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## SPECIFICATION FOR APPROVAL

### Speaker

Part Number	OWS-111535W50A-8
Note	This item was compliance with the following requirements: 1. RoHS directive 2. REACH
Customer P/N	


Ole Wolff	Signature / Date	Prepared	Checked	Approved
		HOUZHIJIE 2022.12.01		

Customer	Signature / Date	Confirmation		

#### REVISION NOTES:

Date	Rev.	Description of Revision
2022.12.01	00	Initial Release

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## 1. SCOPE

THIS SPECIFICATION IS APPLIED FOR A DYNAMIC SPEAKER.

## 2. TEST CONDITIONS

TEMPERATURE : 15°C ~ 35°C

HUMIDITY : 45%~85% (R.H.)

ATMOSPHERE : 860 ~ 1060 hPa

## 3. GENERAL REQUIREMENTS

OPERATING TEMPERATURE RANGE: -20° C ~ 70° C

STORAGE TEMPERATUR RANGE: -40° C ~ 85° C

## 4. MECANICAL LAYOUT & DIMENSIONS


DIMENSIONS : SHOWN IN FIGURE.4

NET WEIGHT: approx 1.85g

## 5. ELECTRICAL AND ACOUSTICAL CHARACTERISTICS

1	IMPEDANCE	$8 \pm 15\% \Omega$
2	SOUND PRESSURE LEVEL	99±3 dB(1W/10cm, in 1cc box) at 0.8,1.0,1.5,2.0KHz average, MEASUREMENT AS SHOWN IN FIGURE.1
3	FREQUENCY RESPONSE CURVE	SHOW IN FIGURE 2
4	RESONANCE FREQUENCY	1000 ±20% Hz in 1cc box at 2.83Vrms
5	TOTAL HARMONIC DISTORTION (THD)	SHOW IN FIGURE 3 < 5% at 1KHz
6	BUZZ & RATTLE	DYNAMIC SPEAKER MUST BE FREE AUDIBLE NOISE AT 2.83Vrms, SINE WAVE BETWEEN 200Hz AND 2KHz FREQUENCY RANGE(in 1cc box).
7	INPUT POWER	(Nom./Max.): 1 W / 1.3W

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## 6. RELIABILITY TEST REQUIREMENTS.

After any following tests the S.P.L should not deviate more than  $\pm 3\text{dB}$  from initial value.

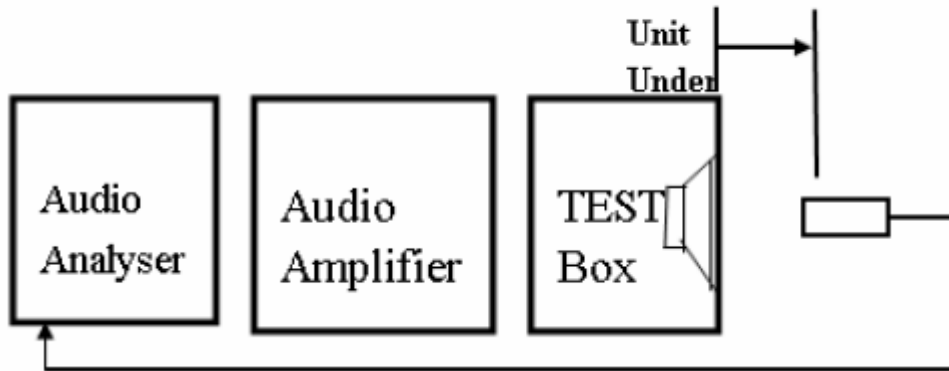
No.	ITEMS	TEST CONDITION
1.	High temp. Test	Temperature: $+70\text{ }^{\circ}\text{C} \pm 3^{\circ}\text{C}$ Duration: 96 hours
2.	Low temp. Test	Temperature: $-30\text{ }^{\circ}\text{C} \pm 3^{\circ}\text{C}$ Duration: 96 hours
3.	Humidity Test	Temperature: $+40\text{ }^{\circ}\text{C} \pm 3^{\circ}\text{C}$ Relative Humidity: 90-95% RH Duration: 96 hours (recovery 6 hours)
4.	Thermal cycle test.	Low temperature: $-30\text{ }^{\circ}\text{C} \pm 3^{\circ}\text{C}$ , temperature: $+70\text{ }^{\circ}\text{C} \pm 3^{\circ}\text{C}$ , cycle: 1 hour/cycle each, and then keep 10 cycles in a room.
5.	Vibration	10~55~10Hz sin-wave sweep 15min. 5G(constant) X, Y, Z 3 direction. 2 hours each, total 6 hours.
6.	Drop Test	Height: 1.5m 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
7.	Load test	Input power: 1W, White noise 96hours in 1cc box.
8.	Terminal Strength	Load: 1.0 Kg Duration: 15sec.(Shall be normal)

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## 7. ELECTRICAL CHARACTERISTICS MEASUREMENT (FIGURE.1)


MEASUREMENT CIRCUIT FOR DYNAMIC SPEAKER



MEASURING EQUIPMENT

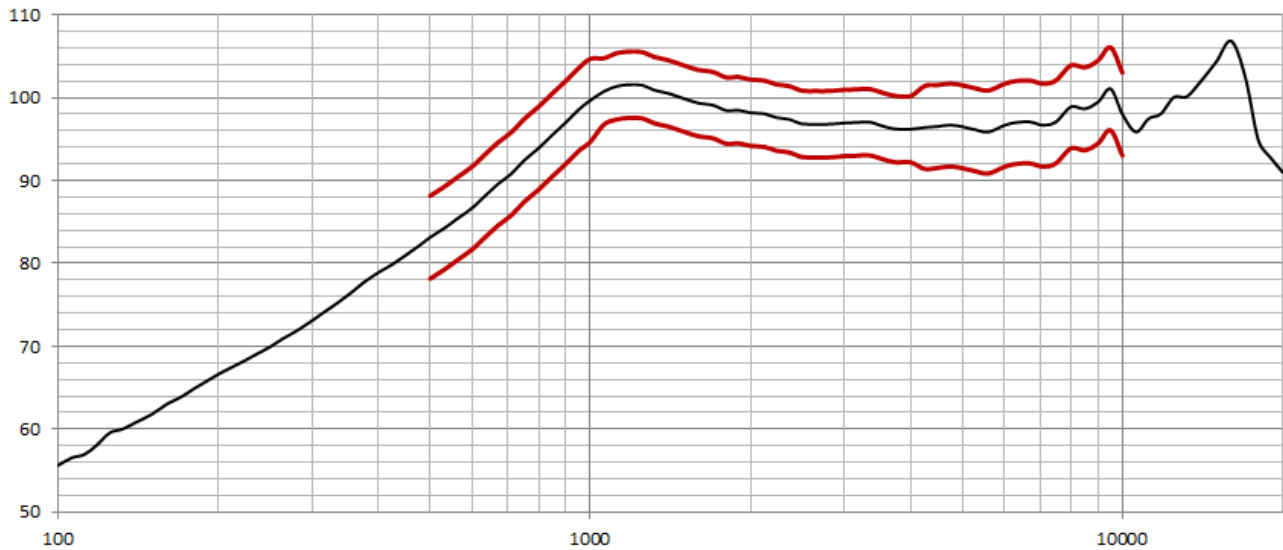
NO	EQUIPMENT	REMARKS
1.0	UNIT UNDER TEST	SPEAKER
2.0	TEST BOX	OLE WOLFF STANDARD BOX
3.0	AUDIO POWER AMPLIFIER	CRATE AUDIO SPA300
4.0	ANALYZER	LISTEN SOUNDCHECK

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## 8. STANDARD FREQUENCY RESPONSE CURVE(FIGURE.2)

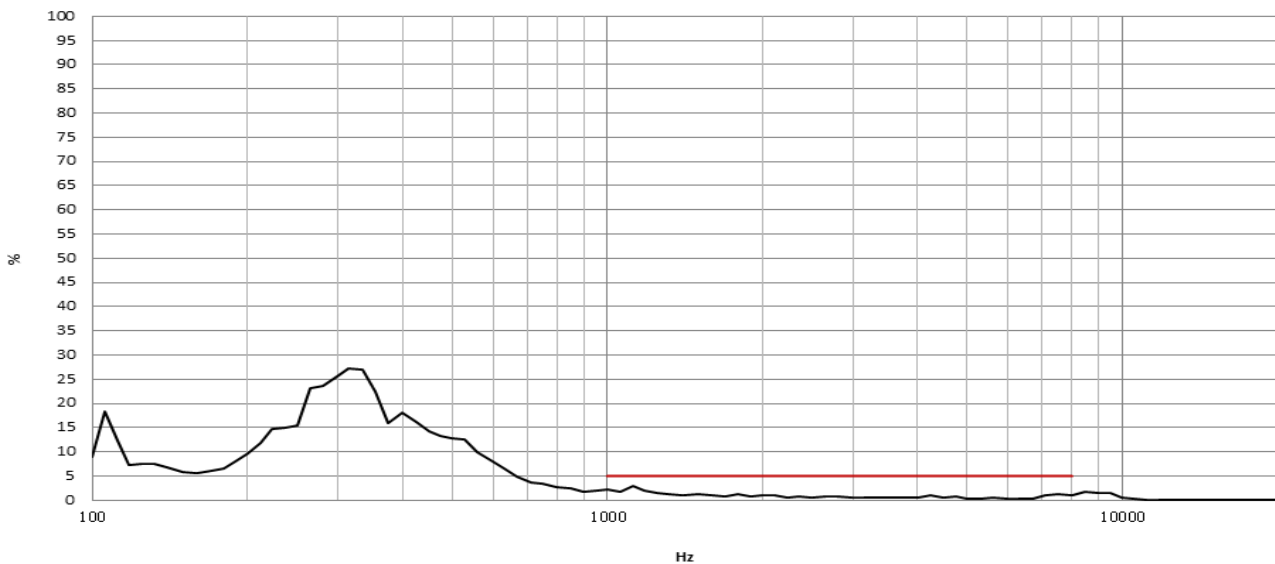
2.83Vrms /10cm in 1cc BOX



Hz	500~1000	1060~4000	4250~10000
dB	±5	±4	±5


## 9. STANDARD THD CURVE (FIGURE.3)

2.83Vrms /10cm in 1cc BOX



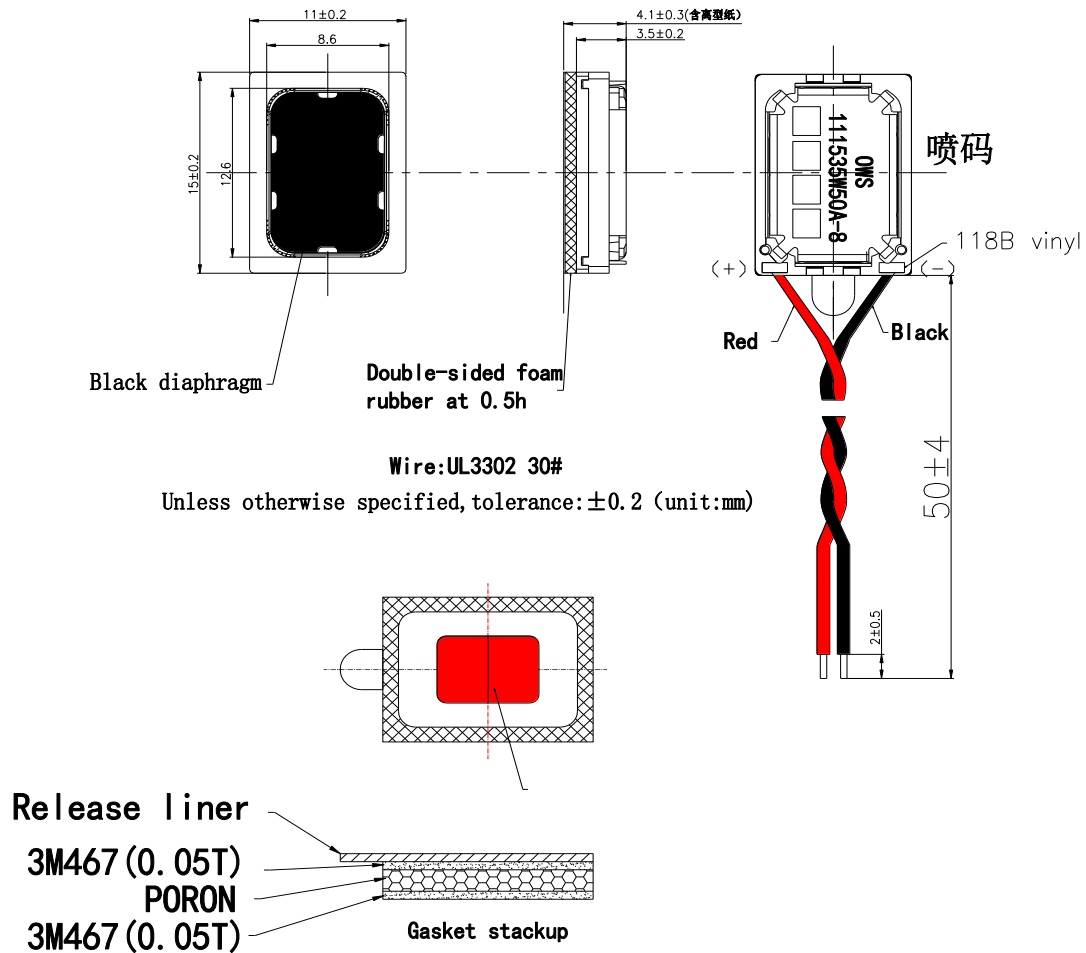
Hz	1000	8000
THD	5	5

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## 10. OUTVIEW (FIGURE.4)

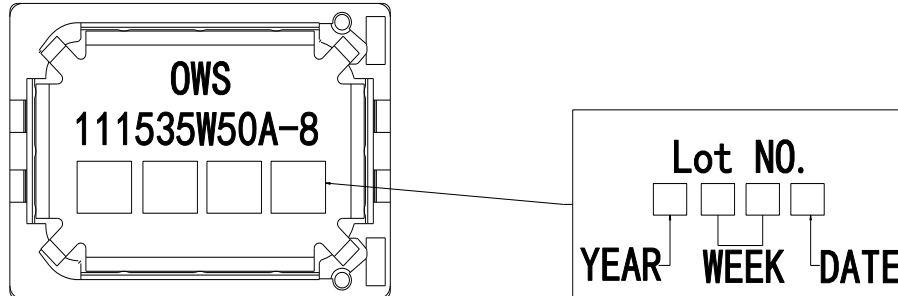
Unless otherwise specified, tolerance:  $\pm 0.2$  (unit: mm)



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### 11. MARKING(FIGURE.5)

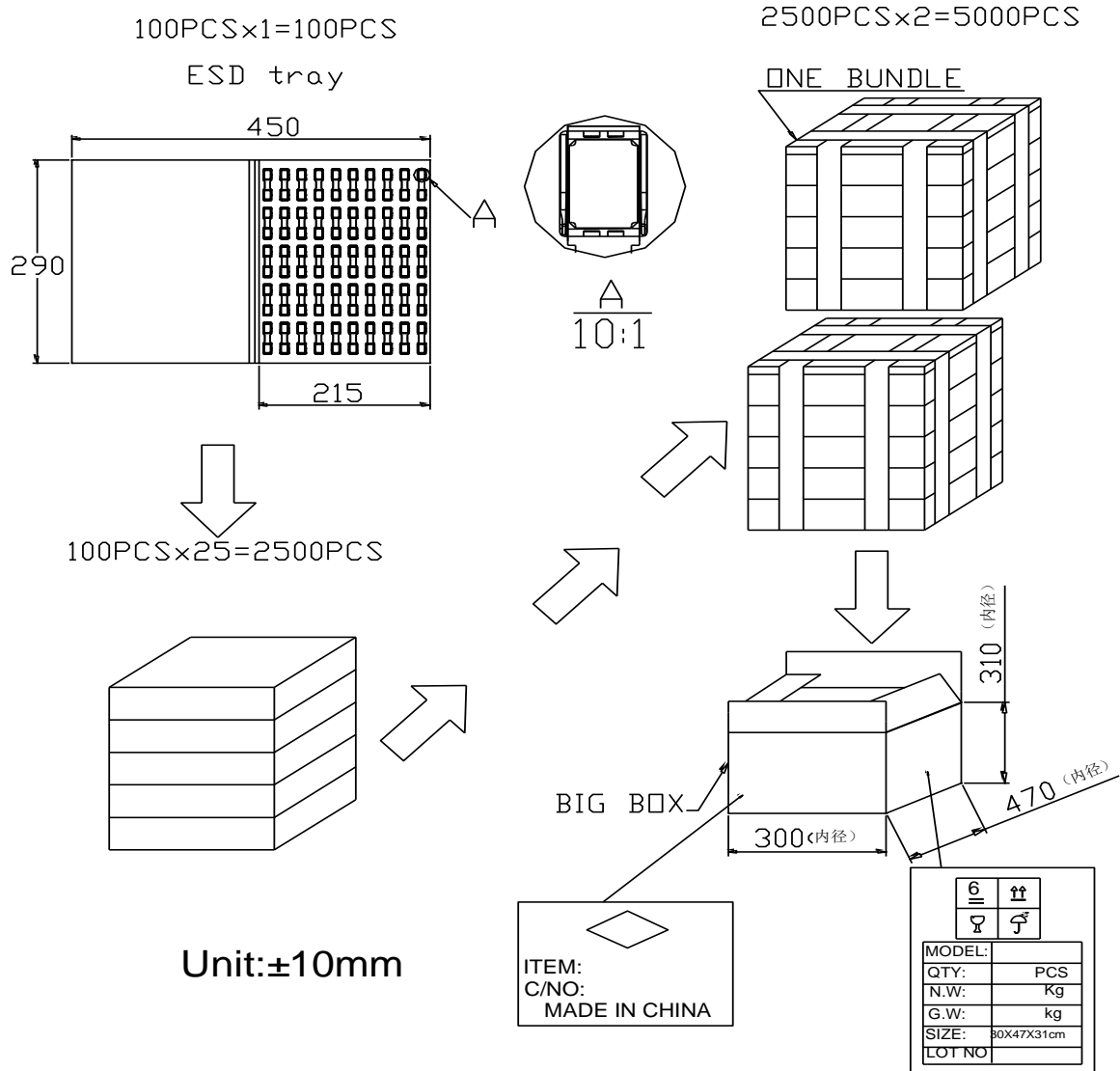


Y (YEAR)		WW (WEEK)		D (DATE)	
year	marking	week	marking	date	marking
2019	9	1	01	MON	1
2020	0	↓	↓	TUE	2
2021	1			WED	3
2022	2			THU	4
2023	3	50	50	FRI	5
		51	51	SAT	6
		52	52	SUN	7
		53	53		

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## 12. PACKING(Figure.6)



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