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# SPECIFICATION FOR APPROVAL

## Speaker

Part Number	OWS-111535TA-8A
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 2020.09.15		

Customer	Signature / Date	Confirmation		

### REVISION NOTES:

Date	Rev.	Description of Revision
2020.09.15	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 TEMPERATURE RANGE: -40 °C ~ 85 °C

## 4. MECHANICAL 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.

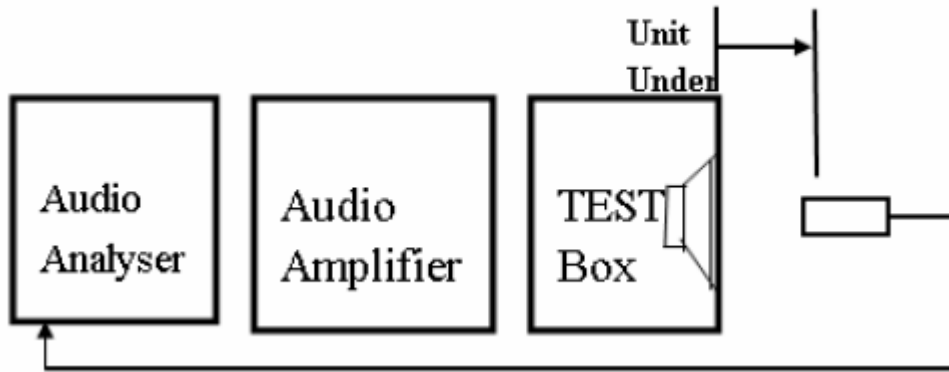
No.	ITEMS	TEST CONDITION
1.	High temp. Test	Temperature: $+70\text{ }^{\circ}\text{C} \pm 3^{\circ}\text{C}$ Duration: 96 hours
2.	Low temp. Test	Temperature: $-30\text{ }^{\circ}\text{C} \pm 3^{\circ}\text{C}$ Duration: 96 hours
3.	Humidity Test	Temperature: $+40\text{ }^{\circ}\text{C} \pm 3^{\circ}\text{C}$ Relative Humidity: 90-95% RH Duration: 96 hours (recovery 6 hours)
4.	Thermal cycle test.	Low temperature: $-30\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$ , 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

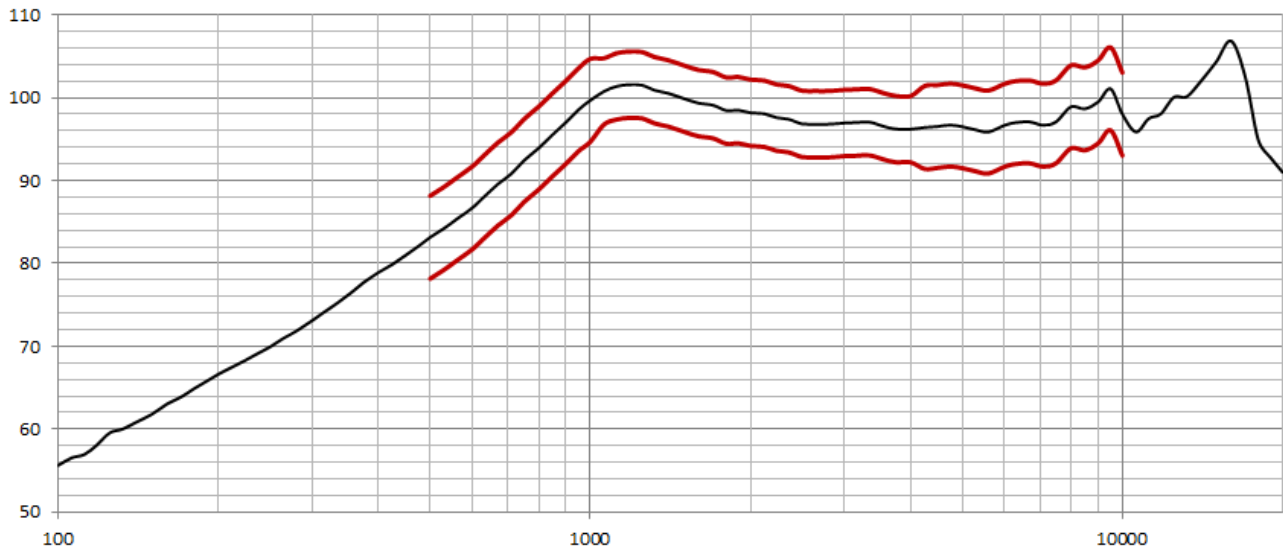
NO	EQUIPMENT	REMARKS
1.0	UNIT UNDER TEST	SPEAKER
2.0	TEST BOX	OLE WOLFF STANDARD BOX
3.0	AUDIO POWER AMPLIFIER	CRATE AUDIO SPA300
4.0	ANALYZER	LISTEN SOUNDCHECK

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

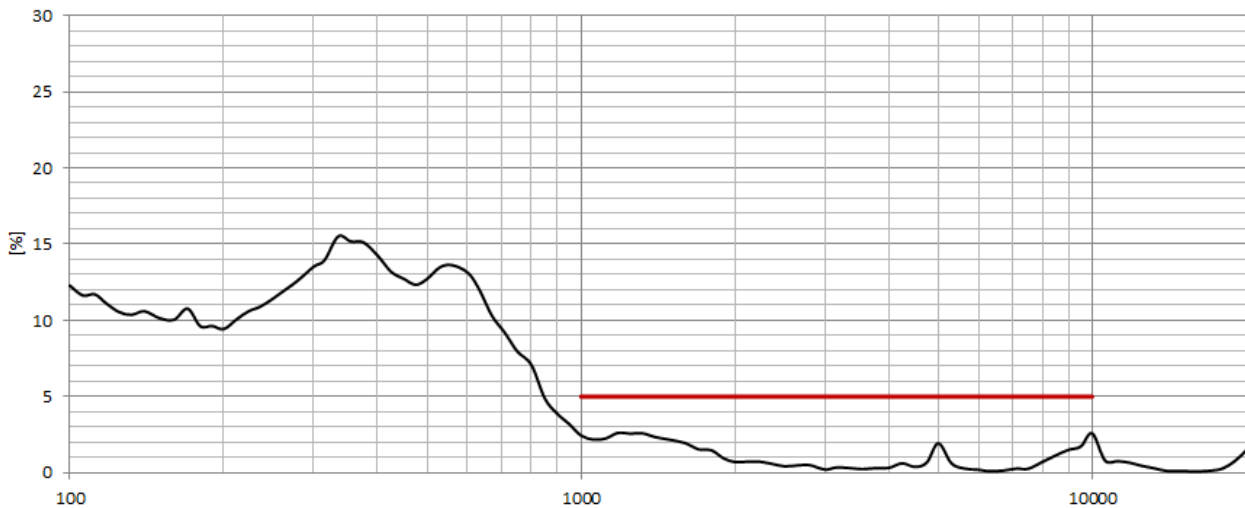
2.83Vrms /10cm in 1cc BOX



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

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

2.83Vrms /10cm in 1cc BOX



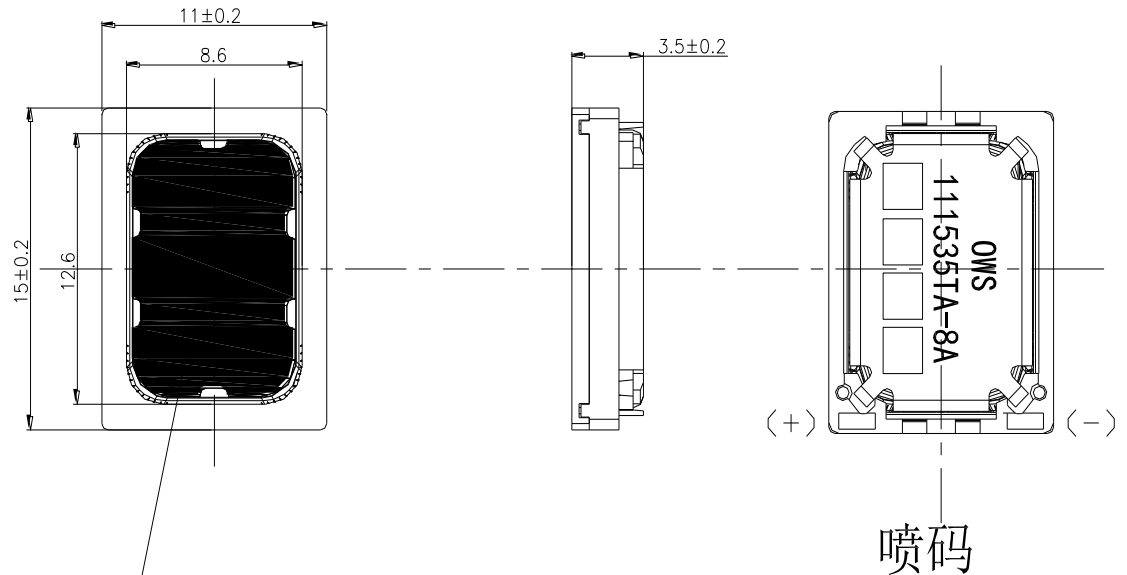
Hz	1000	10000
THD	5	5

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## 10. OUTVIEW (FIGURE.4)

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



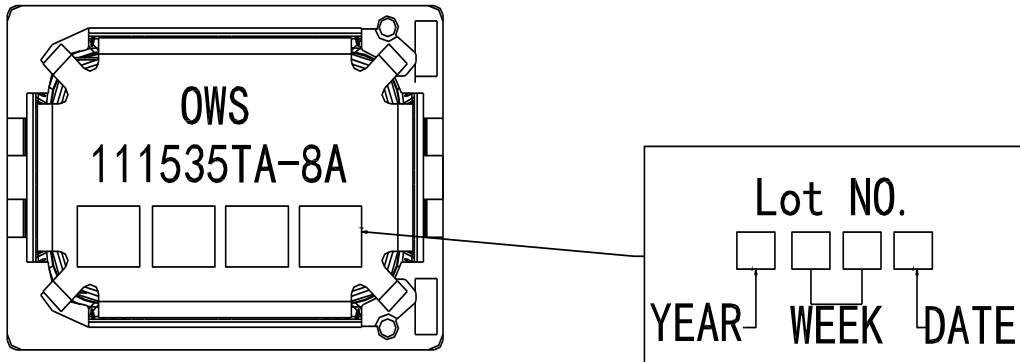
Black diaphragm

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

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### 11. MARKING(FIGURE.5)

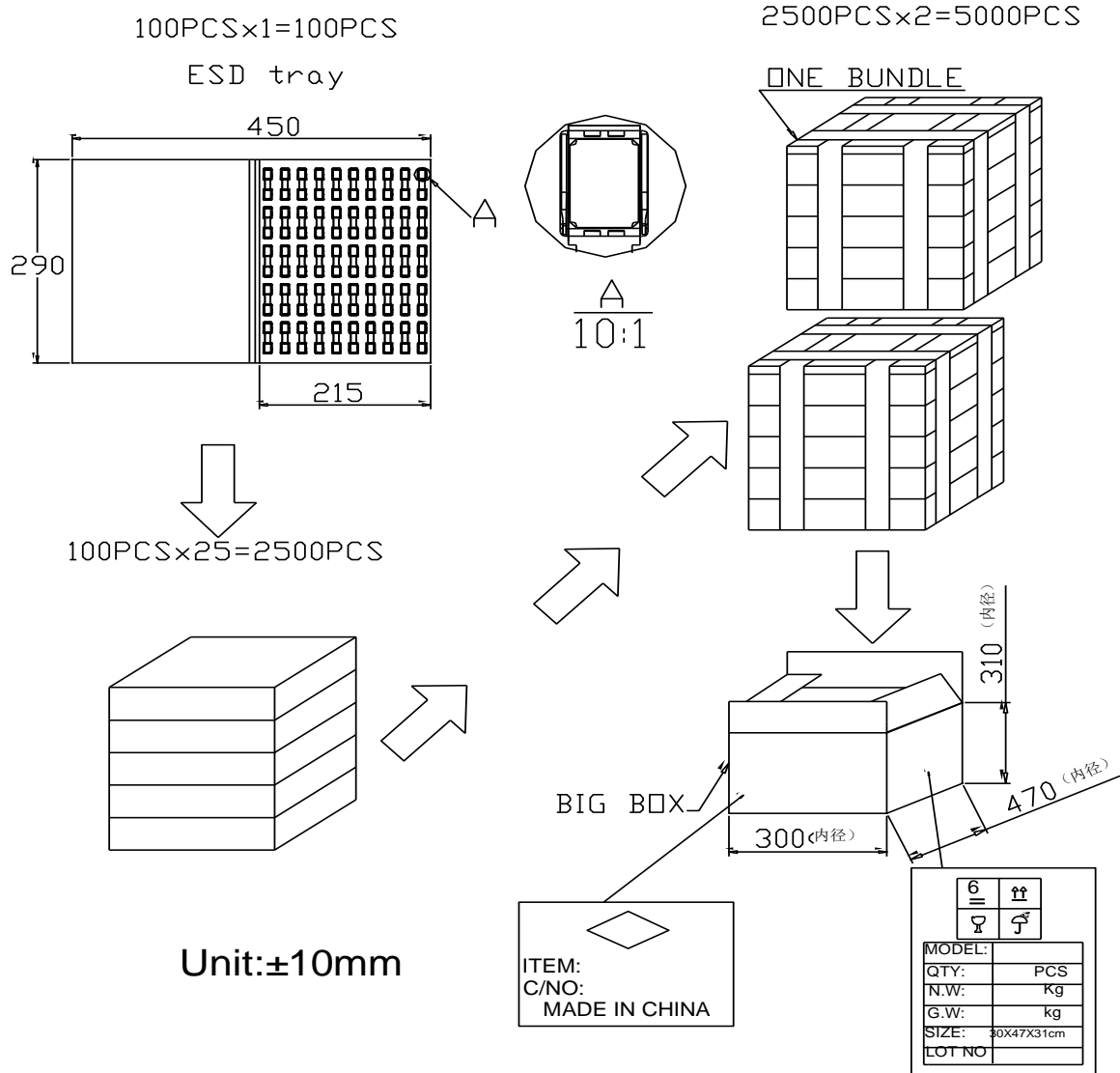


Y (YEAR)		WW (WEEK)		D (DATE)	
year	marking	week	marking	date	marking
2019	9	1	01	MON	1
2020	0	↓	↓	TUE	2
2021	1			WED	3
2022	2			THU	4
2023	3	50	50	FRI	5
		51	51	SAT	6
		52	52	SUN	7
		53	53		

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## 12. PACKING(Figure.6)



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