Dynamic loudspeaker

15×8×2.5 mm

With IPX8

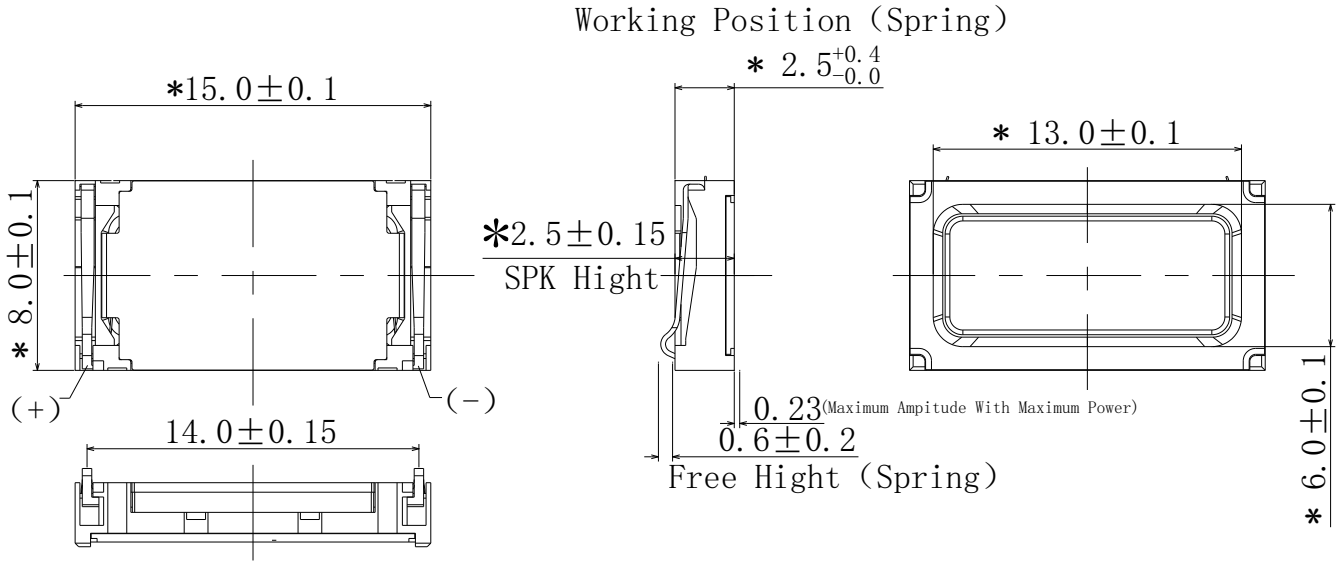
LR1508L025YN8WP

Revision

Date	Version	Status	Changes	Approver
2021/10/12	V0.1	Draft	First release	AX

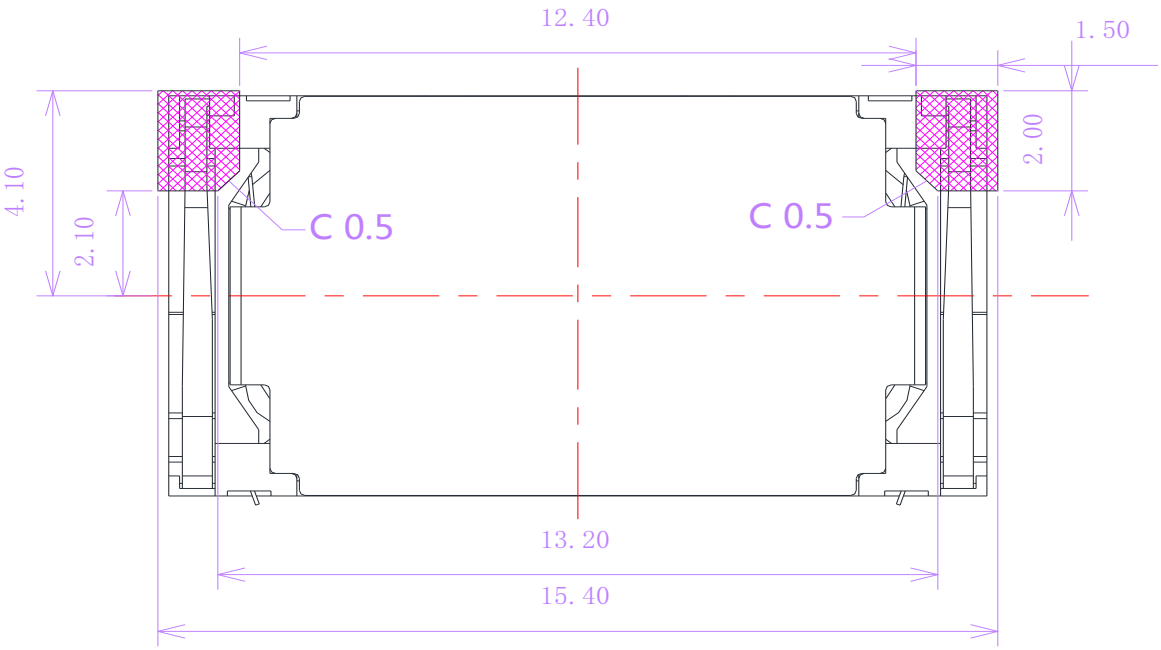
1. Mechanical Layout and Dimensions

1.1 Main Dimensions (Unit: mm)



The * dimension is an important management dimension

1.2 Recommended PAD Dimension (Unit: mm)



Tolerance general unless otherwise noted ±0.15mm

2. Electrical and Acoustical Specifications

2.1 Electrical Characteristics

a) Rated noise power (in 0.8cc close box)	0.5W
b) Rated noise power (in 0.8cc close box)	1.0W
c) Rated impedance Averaged at 2K Hz in 0.5W	8 Ω ±15%
d) Sound pressure level Averaged at 2K Hz in 0.5W/0.1M, 0.8cc	88.5± 2.5dB
e) Resonance frequency (f0) In 0.8cc close box	850Hz ±15%
f) Typical Frequency curves	according to Fig 2
g) Distortion	according to Fig 3
h) R&B curves	according to Fig 4
i) Waterproof water to the front of speaker for 30mins)	IPX8(1.5m deep
j) Operation Temperature	-20℃ to +60℃
k) Storage Temperature	-40℃ to +85℃

3. Standard Test Condition

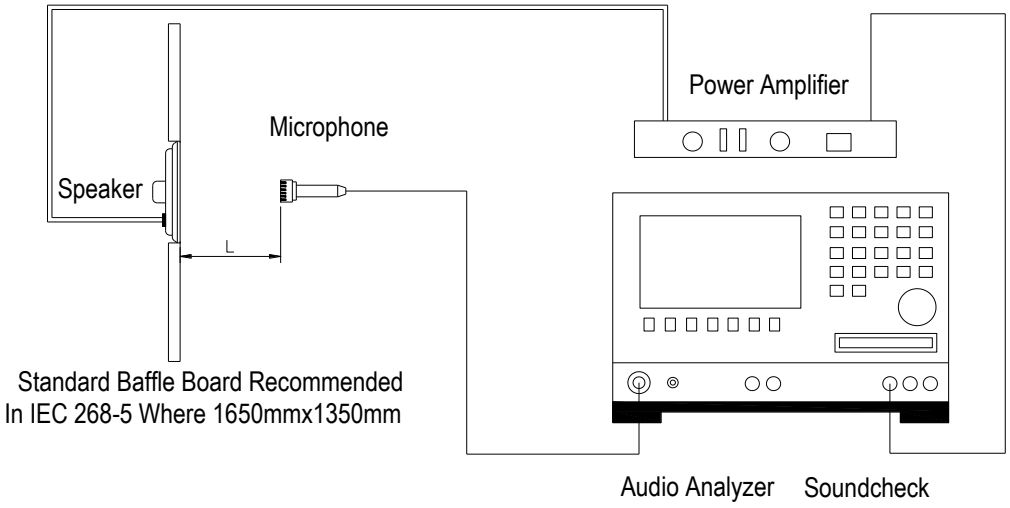
Unless otherwise specified, the tests shall be made under the standard conditions. (IEC60268-1)

Temperature : 15℃ ~ 35℃ (Standard : 20℃)

Relative humidity: 25% ~ 85%RH (Standard: 65%)

Atmosphere: 860hPa ~ 1060hPa (860mbar ~ 1060mbar) (Standard: 1013hPa)

3.1 Condition of acoustic performance as Loud Speaker



L=10cm

Fig 1

4. Frequency Response Curve

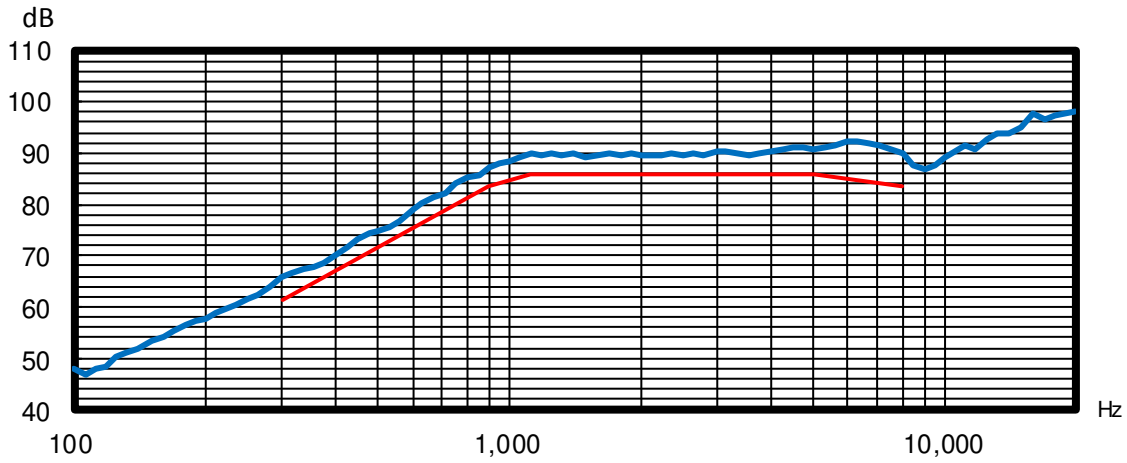


Fig 2 Frequency Resonance

Measuring Conditions

Measuring system:	Sound Check 13.0 Mic: G.R.A.S. 46BE
Input:	2.0 Vrms (0.5W)
Sweep time rate:	1/12 Oct
Mic distance:	0.1m
Measurement BOX:	0.8cc
Measurement Method:	Free air

Tolerance Limits Data for Frequency Resonance

Frequency (Hz)	300	900	1120	5000	8000			
LOWER LIMIT(dB)	61.5	83.5	86	86	83.5			

5. THD Curve

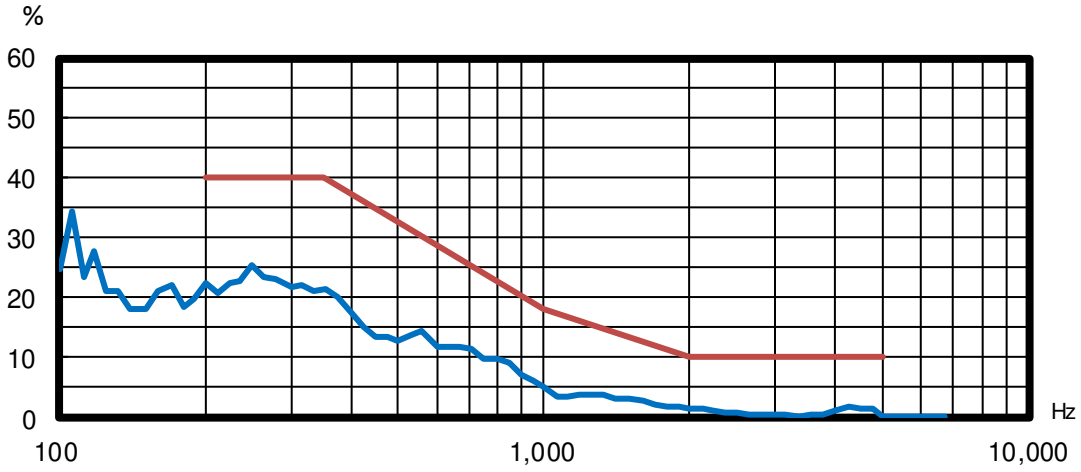


Fig 3 THD

Measuring system:	Sound Check 13.0 Mic: G.R.A.S. 46BE
Input:	2.0 Vrms (0.5W)
Sweep time rate:	1/12 Oct
Mic distance:	0.1m
Measurement BOX:	0.8cc
Measurement Method:	Free air

Tolerance Limits Data for Frequency Resonance

Frequency (Hz)	200	350	1000	2000	5000			
Upper Limit(dB)	40	40	18	10	10			

6. R&B Curve

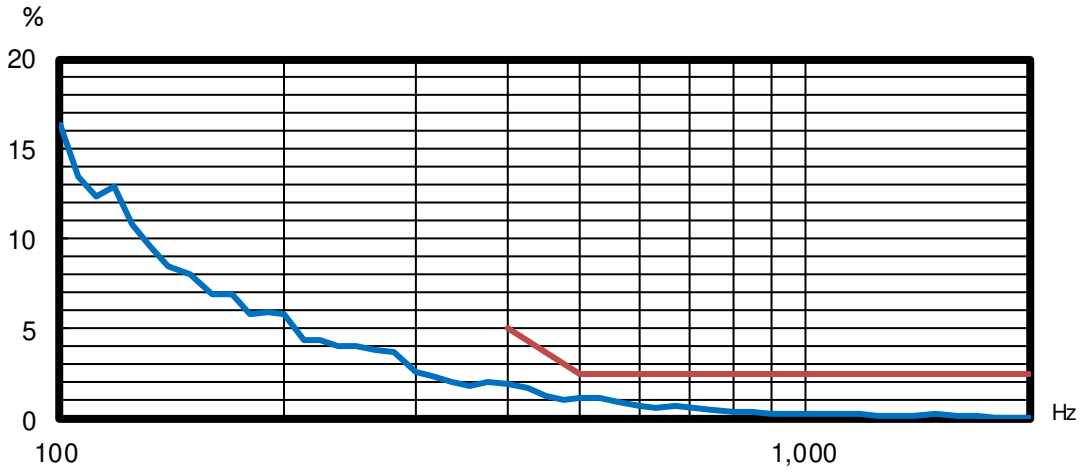


Fig 4 R&B curves

Measuring system:	Sound Check 13.0 Mic: G.R.A.S. 46BE
Input:	2.0 Vrms (0.5W)
Sweep time rate:	1/12 Oct
Mic distance:	0.1m
Measurement BOX:	0.8cc
Measurement Method:	Free air

Tolerance Limits Data for Frequency Resonance

Frequency (Hz)	400	500	1000	2000				
Upper Limit(dB)	5	2.5	2.5	2.5				

7. Reliability Test

All above the following items after test.

Judgment = Finished tests so leaving 24 hour in standard condition. Make a comparative test

Electrical characteristics shall be satisfied with after tests.

TEST SIGNAL = Refer to IEC 268-5

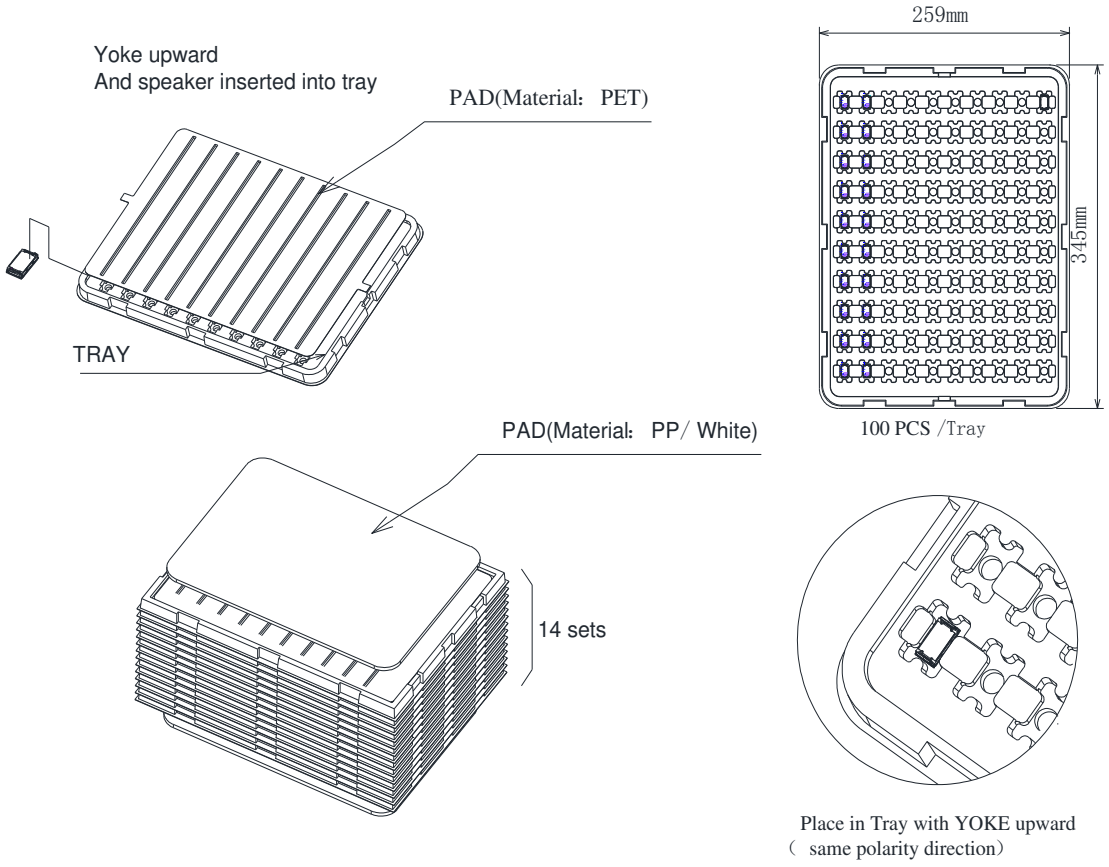
In reference test, the status of loudspeaker after test shall be match with data sheet.

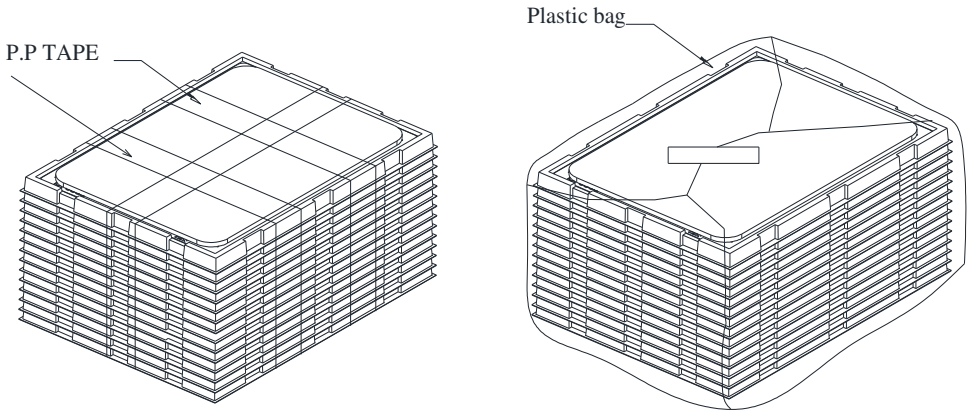
	Items	Input	Condition	Criteria
1	Maximum power test t	2.83Vrms	According to the specification, imposed on the sample maximum voltage, maximum power frequency sweep signal, Frequency sweep signal is the effective frequency range, 1 sec. On , 59 sec. Off , 60 Cycle.	After the test sample don't appear these phenomenon such as :voice coil damage, stub, Short circuit, diaphragm rupture, burning-out and so on
2	Nominal power test	2.0Vrms	Under the rated power, IEC268-5 signal（ White noise）work 96 hours continuously，recovery 2h with Ambient temperature ,then test. .	After test SPL sensitivity cannot exceed 3 dB than the original value, THD/f0 within specifications, Operation test without noise
3	High temperature storage test	---	Placed in to 65℃+2℃ & 20~40%Rh constant temperature box after 96h, recovery 2h with Ambient temperature ,then test.	After test, SPL sensitivity cannot exceed 3 dB than the original value, THD/f0 within specifications, Operation test without noise
4	Low temperature storage test	---	Placed in to -30℃+2℃ constant temperature box after 96h, recovery 2h with Ambient temperature ,then test.	After test, SPL sensitivity cannot exceed 3 dB than the original value, THD/f0 within specifications, Operation test without noise
5	High Wet storage test	---	Put in the constant temperature box which is 40+2℃ & 90~95% Rh for 96h recovery 2h before test.	After test, SPL sensitivity cannot exceed 3 dB than the original value, THD/f0 within specifications, Operation test without noise

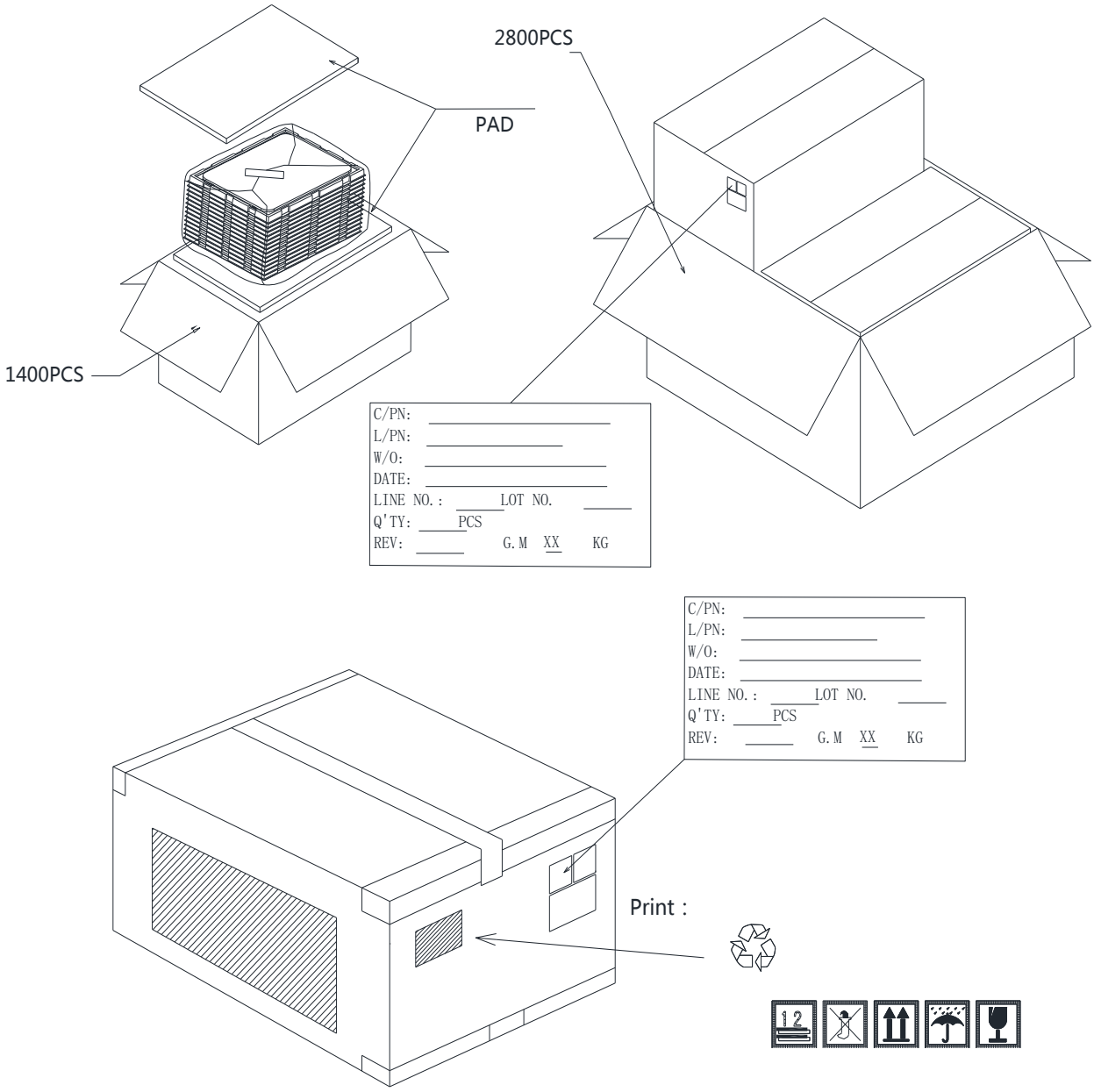
7.2. Mechanical Test

	Items	Input	Condition Criteria
1	Free Fall Test 1.5m	Put a speaker by double face tape in a dummy phone with 150g weight. Dropped the dummy phone from 1.5m height on the concrete 3time by 6 surfaces	After test, SPL sensitivity cannot exceed 3 dB than the original value, THD/f0 within specifications, Operation test without noise
2	Free Fall Test for master box	For the tray case:4pcs/tray(4 corner)x3(Top ,center, bottom);need to adjust weight(e.g. Add weight plate for equalizing of 100% quantities From 1.0m high; 6 faces 1corner 3 edges 1 time	No damage on appearance after test. No change storage status in the tray or tape & reel after test.

8. Packing







Outer Carton Size：L*W*H=575*373*226mm
Gross Weight：Approximately 7.79±3%KG
Net Weight： Approximately 3.22KG

