# MESSRS. Blume

# SPECIFICATION FOR APPROVAL

| | |
|---|---|
| Product | DYNAMIC SPEAKER |
| Part No. | AKR-1511N0810-PM1 |
| Customer Approval | |
| Customer Part No. | |

| Approved By | Checked By | Made By |
|---|---|---|
| Engineering Dept. ERIC CHEN MAY-24-2022 | Engineering Dept. ZACK KUO MAY-24-2022 | Engineering Dept. HANK CHEN MAY-24-2022 |


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ISO 9001 Certified

ISO 14001 Certified

RoHS

# ADVANCED ACOUSTIC TECHNOLOGY CORP.

| REVISIONS | | | |
|---|---|---|---|
| PRODUCT | | DYNAMIC SPEAKER | |
| PART NO. | | AKR-1511N0810-PM1 | |
| REV. | REVISER | DATE | DESCRIPTION |
| 1 | HANK | 2022-05-24 | Releasing new drawing SPEC. |
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# 1. SPECIFICATION

**AKR-1511N0810-PM1**

| ITEM | | SPECIFICATIONS | |
|---|---|---|---|
| 01 | Type | Dynamic speaker | |
| 02 | Dimension | External diameter 15 x 11 x 3.5t mm | |
| 03 | Rated Input Power | 1.0 W in 1 c.c. box | |
| 04 | Max. Input Power | 1.2 W for 1 minute in 1 c.c. box | |
| 05 | Impedance | 8Ω ± 15% at 2KHz 1V | |
| 06 | Resonance Frequency (Fo) | 1000 Hz ± 20% at Fo, 1V | |
| 07 | Sound pressure level | 96 dB(1.0W/0.1m) ± 3 dB | at AVG 0.8, 1.0, 1.5, 2.0 KHz. |
| 08 | Frequency Range | Fo – 20 K Hz | |
| 09 | Total Harmonics Distortion | Max 10 % at 1 KHz, 1.0 W. | |
| 10 | Magnet | Rare earth permanent ( NdFeB ) magnet | |
| 11 | Weight | 1.7g ± 0.1g | |
| 12 | Appearance | Should not exist any obstacle to be harmful to normal operation; damages, cracks, rusts and distortions, etc. | |
| 13 | Operation Test | Must be normal at program source 1.0W | |
| 14 | Buzz, Rattle, etc. | Should not be audible at 2.83V sine wave between Fo to 2KHz | |
| 15 | Polarity | When positive voltage is applied to the terminal marked (+), diaphragm should move to the front. | |
| 16 | Terminal Strength | Capable of withstand 1kg load for 15 seconds without resulting in any damage or rejection. | |
| 17 | Temperature | Operating temperature: -20℃ to +60℃<br>Storage temperature: -30℃ to +70℃ | |

# 2. MEASURING METHOD

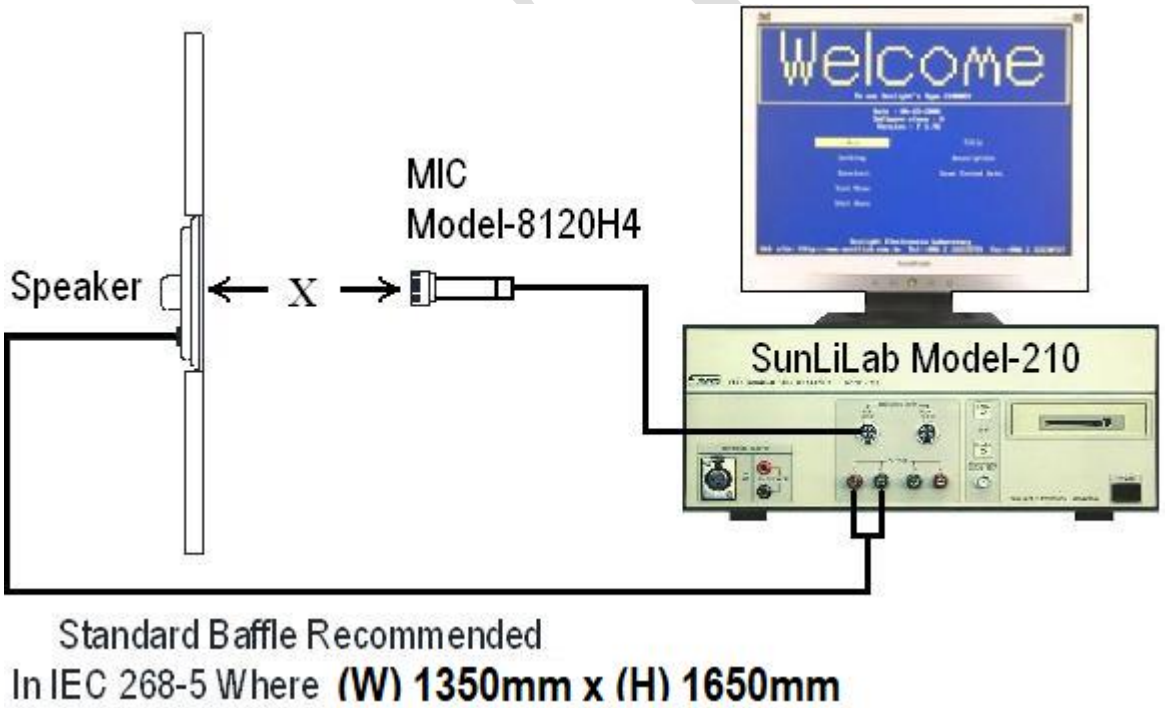
## 2-1 .Test Condition

STANDARD
Temperature : 15 ~ 35℃
Relative humidity: 45% ~ 85%,
Atmospheric pressure: 860mbar to 1060mbar.

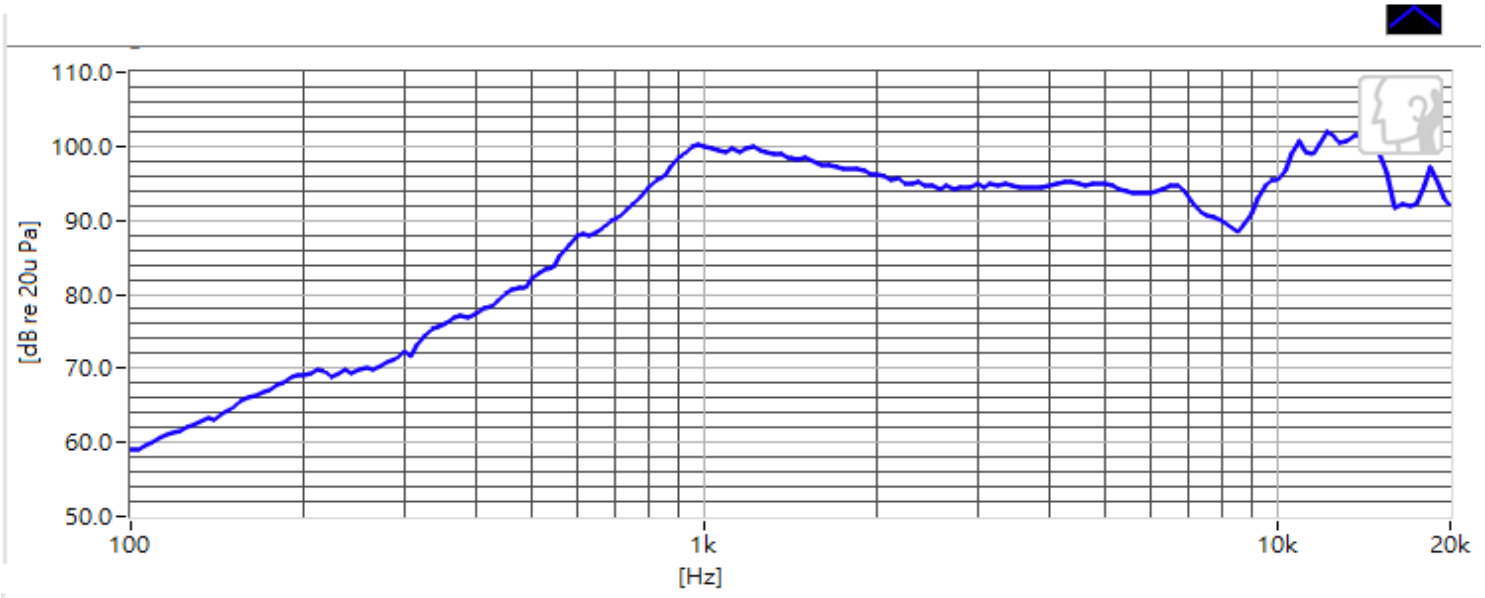
JUDGEMENT
Temperature : 20±3℃
Relative humidity: 60% ~ 70%,
Atmospheric pressure: 860mbar to 1060mbar

## 2-2. Standard Test Fixture

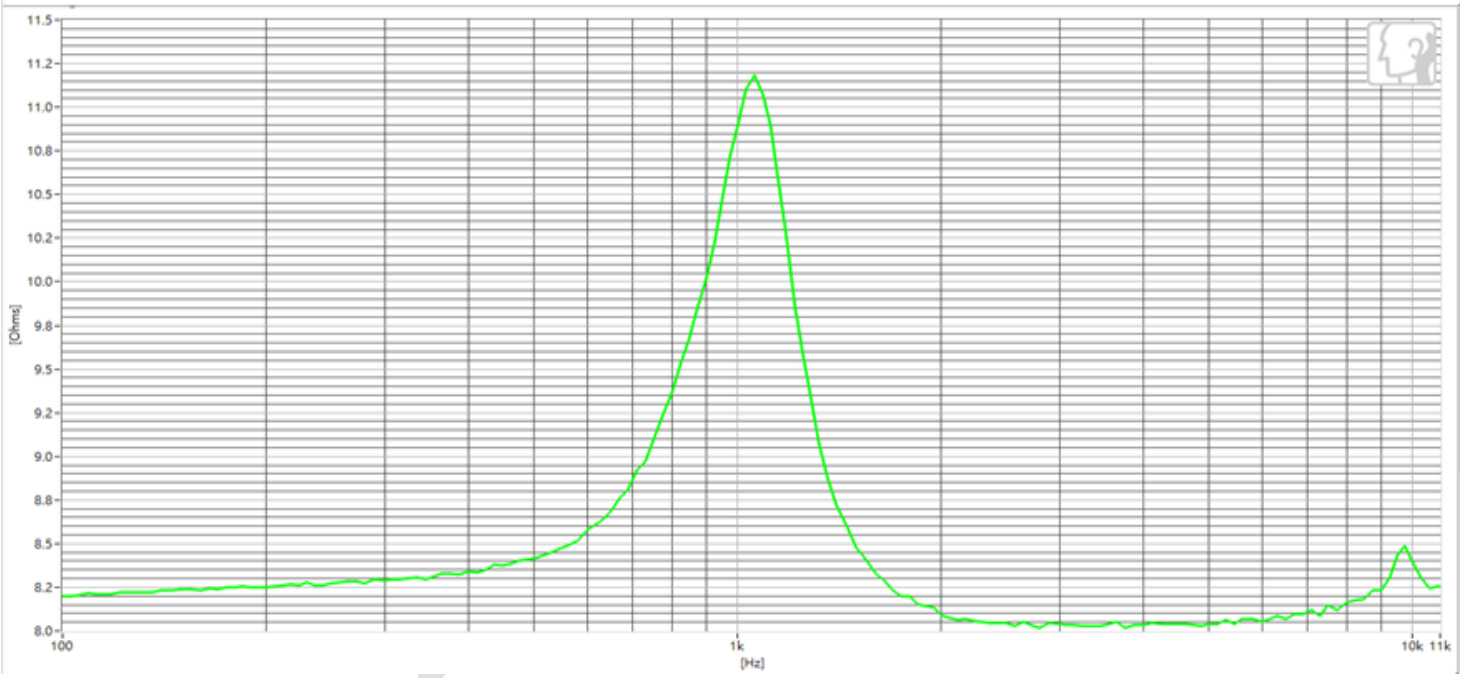
1. Input Power: 1.0 W ( 2.83 V)
2. Mode: SPEAKER
3. Distance: X=10 cm



## 2-3. Frequency Response Curve

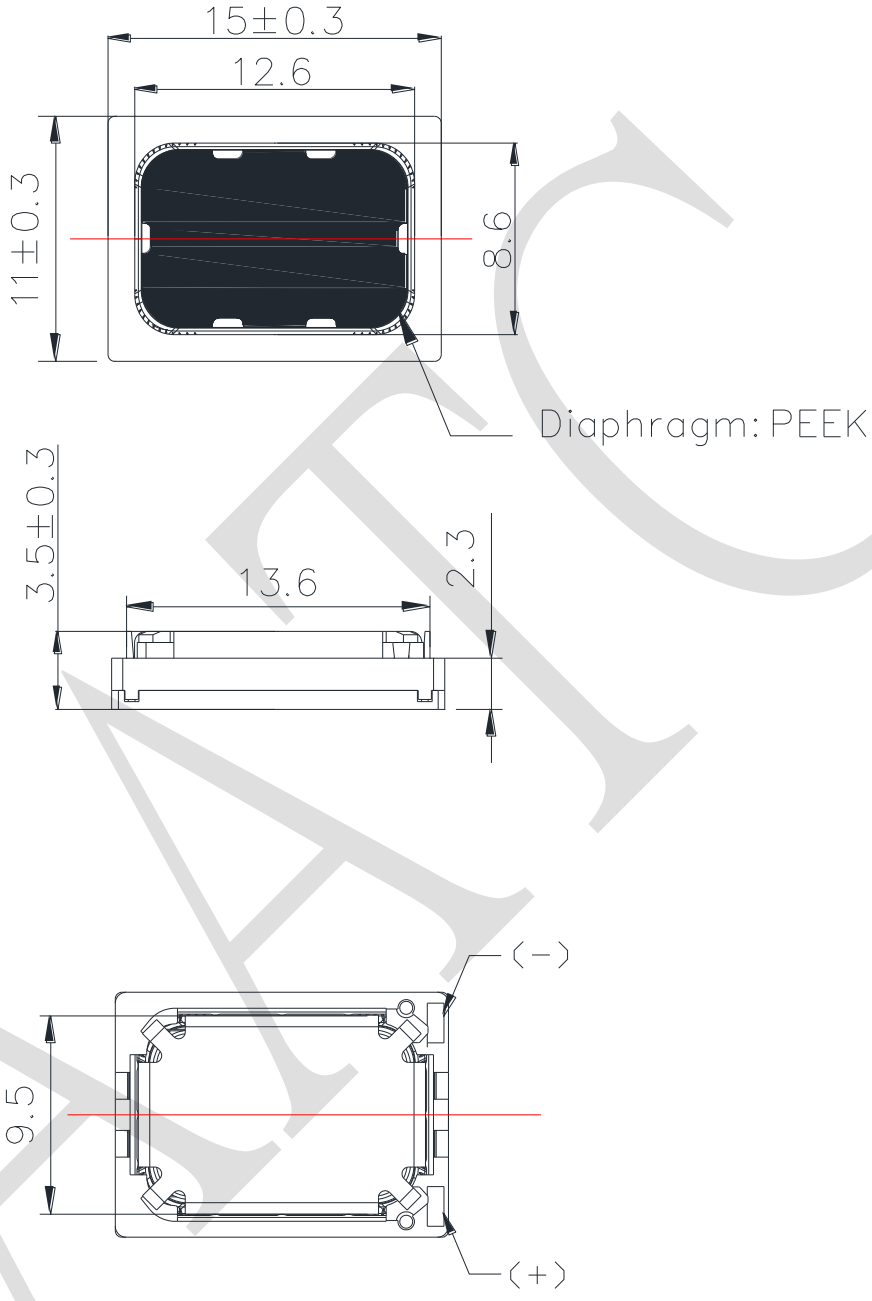



## 2-4. Impedance Curve



# 3. DIMENSIONS

| REV NO. | REVISION NOTE | APPROVAL | DATE |
|---|---|---|---|

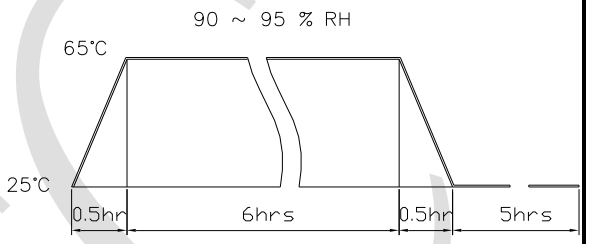



RoHS

| | | | |
|---|---|---|---|
| TITLE: DYNAMIC SPEAKER | DRAWN: Hank 2022/05/16 | SCALE: 2:1 | SHEET: 1:1 |
| PART NO. AKR-1511N0810-PM1 | DESIGNED: R&D OF AAT | UNITS: mm | |
| DWC NO. UGSP111508-37BW-01 | CHECKED: | TOLERANCE ± 0.3 | |
| REV 1 | APPROVAL: | FIRST ANGLE PROJETION | |
| | MATERIAL: PPA | | |

**ADVANCED ACOUSTIC TECHNOLOGY CORPORATION**

## 4. RELIABILITY TESTS

| Items. | | Specifications |
|---|---|---|
| 01 | **High temp. Test** | Keep 96 hours at +70℃±3℃ and leave 3 hours in normal temperature and then check |
| 02 | **Low temp. Test** | Keep 96 hours at -30℃±3℃ and leave 3 hours in normal temperature and then check |
| 03 | **Humidity test** | Keep 96 hours at + 40℃±3℃ relative humidity 95% and leave 3 hours in normal temperature and then checked. |
| 04 | **Temp./Humidity cycle** | The part shall be subjected 5 cycles. One cycle shall be 12 hours.   |
| 05 | **Thermal cycle test.** | Low temperature: -30℃±3℃, temperature:+70℃±3℃, cycle: 1 hour/cycle each, and then keep 5 cycles in a room. |
| 06 | **Vibration** | 10~55~10Hz sin-wave sweep 15min. 5G(constant) X, Y, Z 3 direction. 2 hours each, total 6 hours. |
| 07 | **Free drop test** | Free drop from 100cm height to the concrete floor X, Y, Z 6 direction. 1 time each, total 6 times. |
| 08 | **Load test** | Rated power white noise is applied for 96 hours |
| 09 | **Max Power test** | Max power 1 min. on - 2 min. off 10 cycles. |
| 10 | **Terminal strength test** | Capable of withstand 1kg load for 15 seconds without resulting in any damage or rejection. |

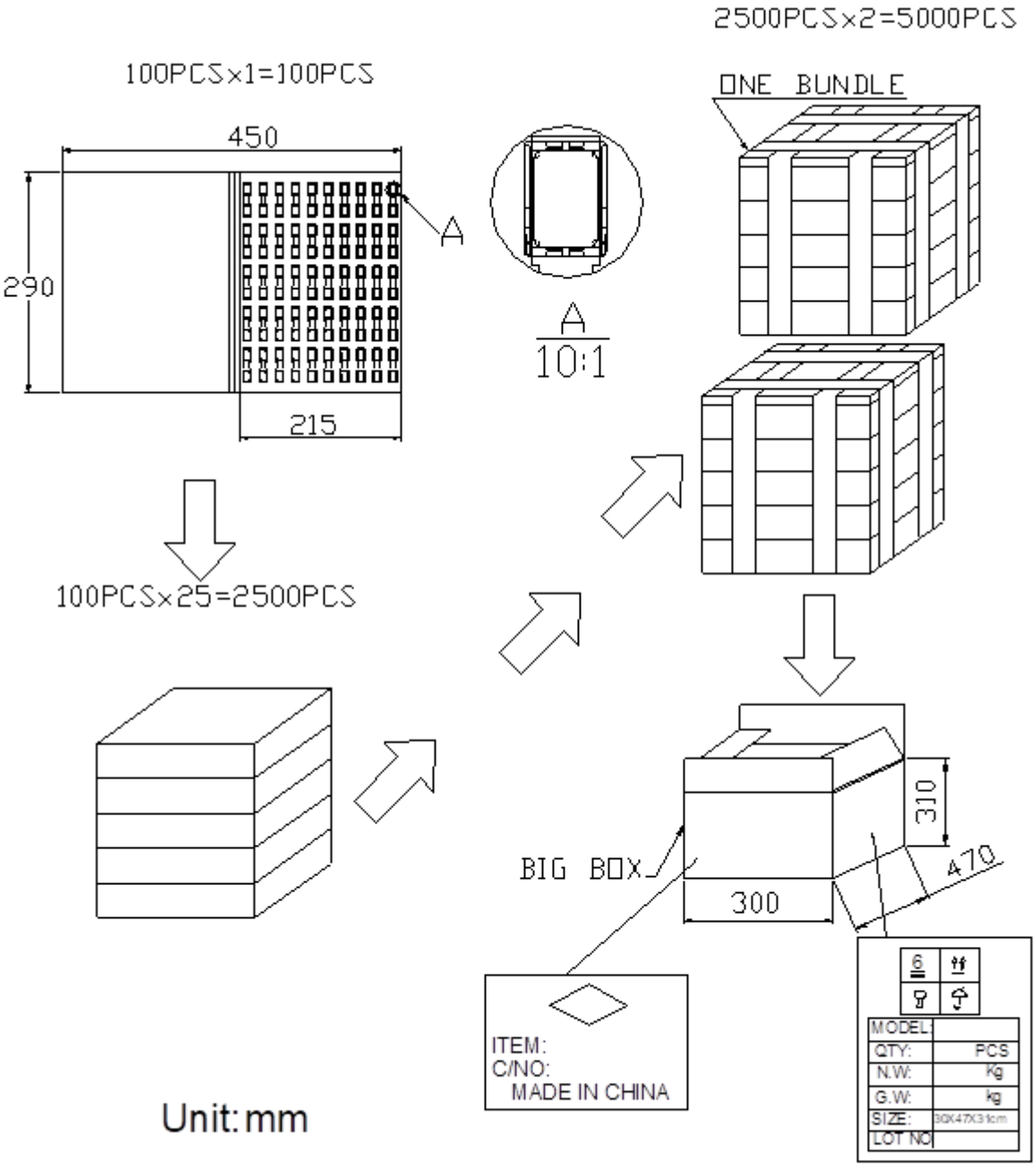
**Criterion :**

1. **After testing any of the above reliability test items, the change of S.P.L shall be within ±3 dB.**
2. **AATC reserves the right to change product material without prior notice, guaranteeing the same specification. Materials are subject to change due to environmental regulations, sourcing, and process improvements.**
3. **If you need more information, please contact our technology department, thank you.**

## SOLDERING CONDITION

Recommend using constant searing-iron in temperature range **360±5°C**.
Soldering time **2** seconds.

# 5. PACKING


2500PCS×2=5000PCS
100PCS×1=100PCS
ONE BUNDLE
450
290
215
A
A
10:1
100PCS×25=2500PCS
310
470
300
BIG BOX
ITEM:
C/NO:
MADE IN CHINA
MODEL:
QTY: PCS
N.W: kg
G.W: kg
SIZE: 30X47X31cm
LOT NO:
Unit: mm