

MESSRS.

SPECIFICATION FOR APPROVAL

承 認 書

Product	DYNAMIC SPEAKER
Part No.	AK-2808BB-16
Customer Approval	
Customer Part No.	

Approved By	Checked By	Made By
 <p>工程 ERIC CHEN MAY-14-2021</p>	 <p>工程 HANK CHEN MAY-14-2021</p>	 <p>工程 ZACK KUO MAY-14-2021</p>



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RoHS

1. SPECIFICATION

AK-2808BB-16

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 28 mm	
03	Rated Input Power	1.5 W	
04	Max. Input Power	2.0 W for 1 minute	
05	Impedance	$8\Omega \pm 15\%$ at 2 KHz 1V	
06	Resonance Frequency (Fo)	500 Hz \pm 20% at Fo, 1V	
07	Sound pressure level	81 dB(1.0W/0.5M) \pm 3 dB	at AVG 1.0, 1.2, 1.5, 2.0 KHz.
		95 dB(1.0W/0.1M) \pm 3 dB	
		98 dB(1.5W/0.1M) \pm 3 dB	
08	Frequency Range	Fo – 20 K Hz	
09	Total Harmonics Distortion	Max 10 % at 1 KHz, 1.5 W.	
10	Magnet	Rare earth permanent (NdFeB)	
11	Weight	7 g \pm 0.5 g	
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 1.5 W	
14	Buzz, Rattle, etc.	Should not be audible at 3.46 V 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°C to +60°C	
		Storage temperature: -30°C to +70°C	

2. MEASURING METHOD

2-1 .Test Condition

STANDARD

Temperature : 15 ~ 35°C

Relative humidity: 45% ~ 85%,

Atmospheric pressure: 860mbar to 1060mbar.

JUDGEMENT

Temperature : 20±3°C

Relative humidity: 60% ~ 70%,

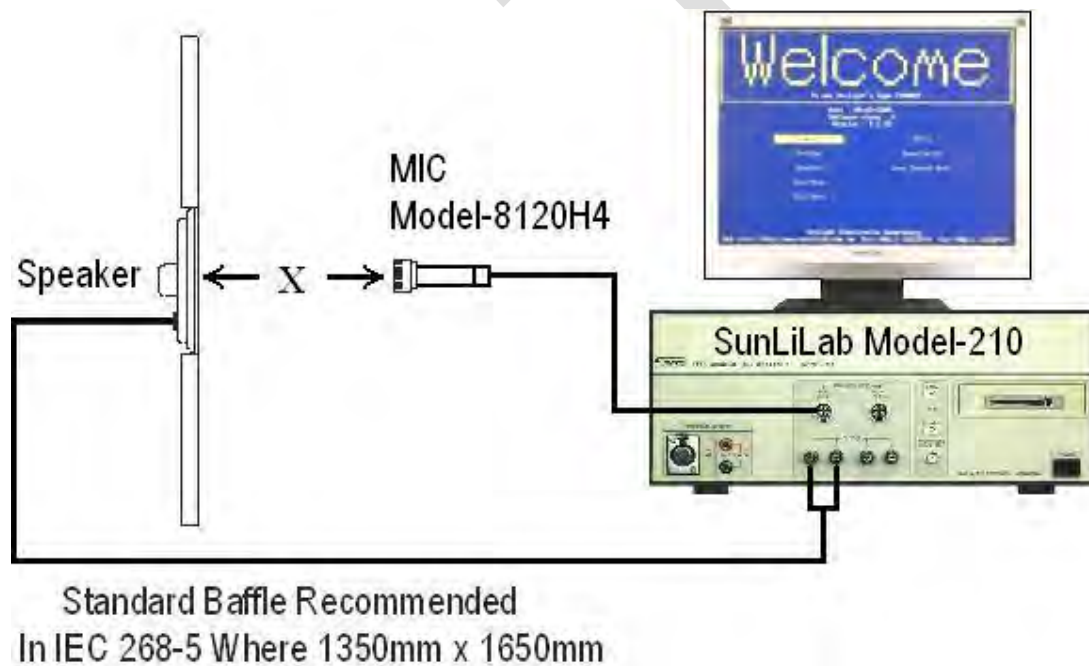
Atmospheric pressure: 860mbar to 1060mbar

2-2. Standard Test Fixture

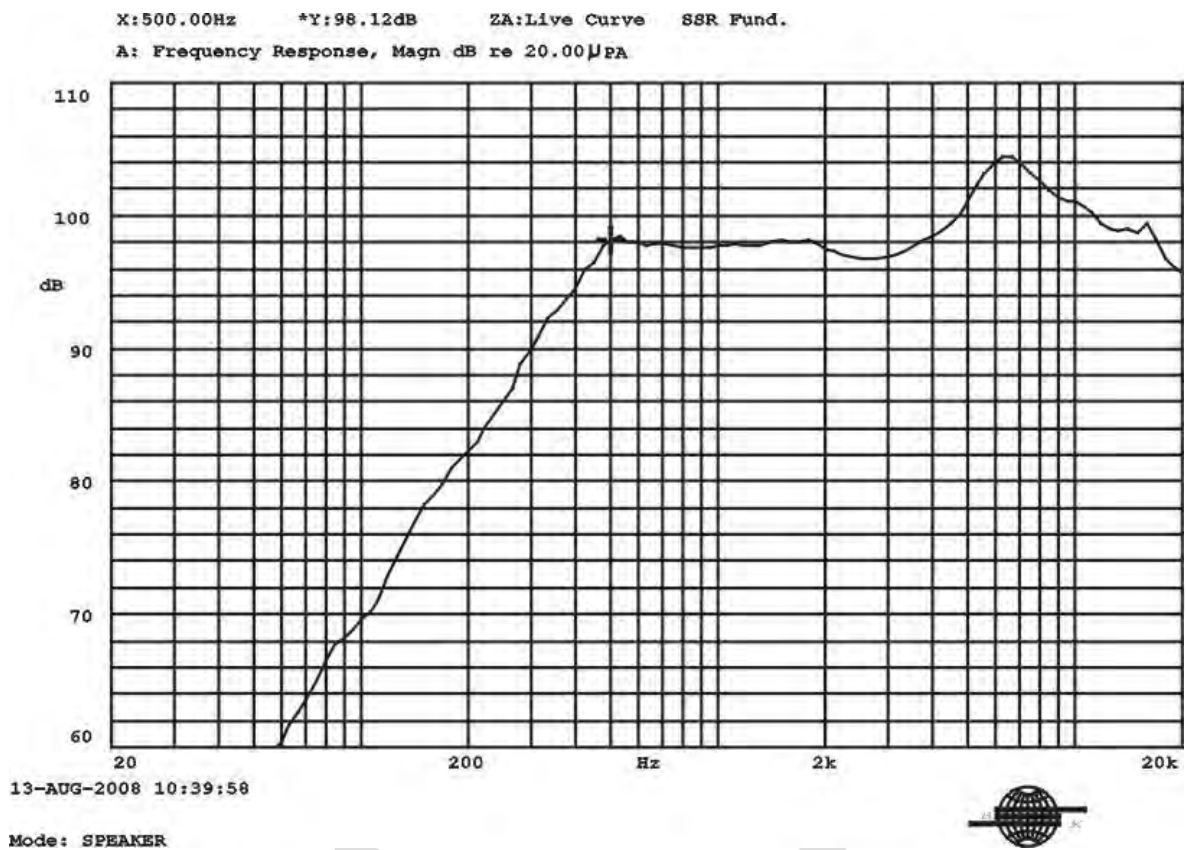
1. Input Power: 1.5 W (3.46 V)

2. Mode: SPEAKER

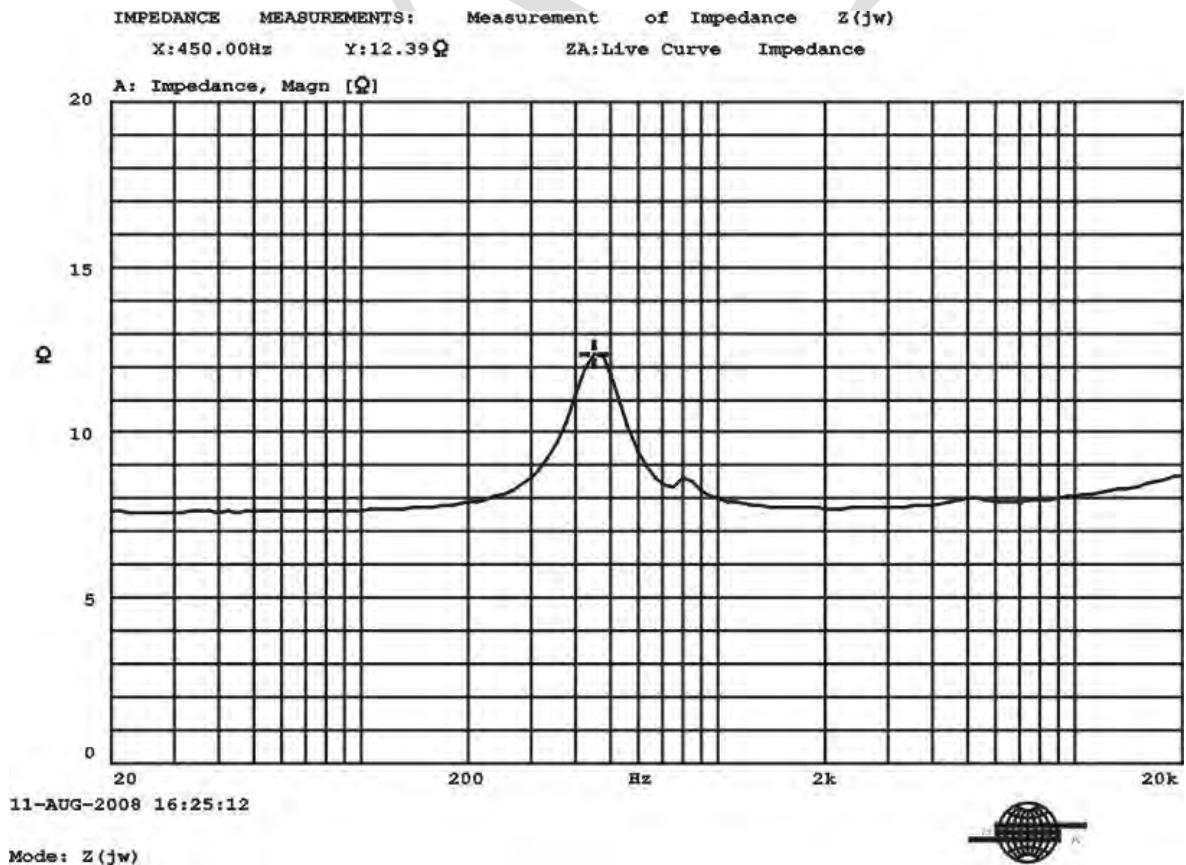
3. Distance: X=10 cm



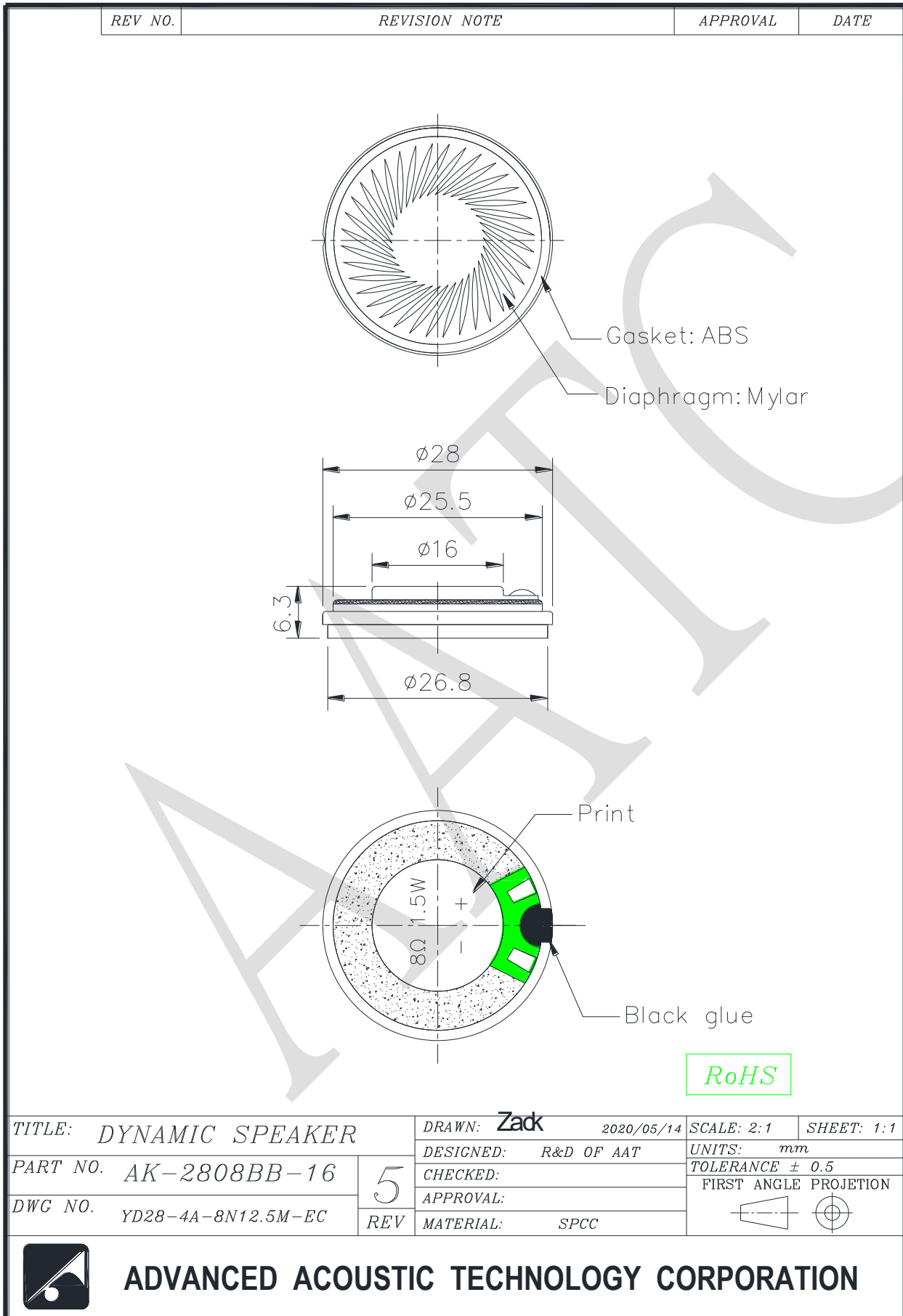
2-3. Frequency Response Curve



2-4. Impedance Curve



3. DIMENSIONS



4. RELIABILITY TESTS

Items.		Specifications
01	High temp. Test	Keep 96 hours at $+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
02	Low temp. Test	Keep 96 hours at $-25^{\circ}\text{C}\pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
03	Humidity test	Keep 96 hours at $+40^{\circ}\text{C}\pm 3^{\circ}\text{C}$ relative humidity 95% and leave 3 hours in normal temperature and then checked.
04	Temp./Humidity cycle	<p>The part shall be subjected 5 cycles. One cycle shall be 12 hours.</p>
05	Thermal cycle test.	Low temperature: $-25^{\circ}\text{C}\pm 3^{\circ}\text{C}$, temperature: $+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$, 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 :

- After testing any of the above reliability test items, the change of S.P.L shall be within ± 3 dB.**

在測試上述任何可靠性測試項目後，S.P.L 的變化應在 ± 3 dB 內。
- 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.**

材料可能由於環境法規，物料及製程工藝精進而發生變動，AATC 保證相同的規格，並有權保留更改產品材料的權利，恕不另行通知。
- If you need more information, please contact our technology department, thank you.**

如您需要更多信息，請聯繫我們的技術部門，謝謝。

SOLDERING CONDITION

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

Soldering time **2** seconds.

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