

## Specification of Microphone

LinkMems P/N: LO6027YA332E2N63-L20B

| Designed by | Checked by | Approved by |
|-------------|------------|-------------|
| Ethan       | Thomas     | Kevin       |

### Customer Approval

Approved by: \_\_\_\_\_



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## Electret Condenser Microphone

### 1. Introduction

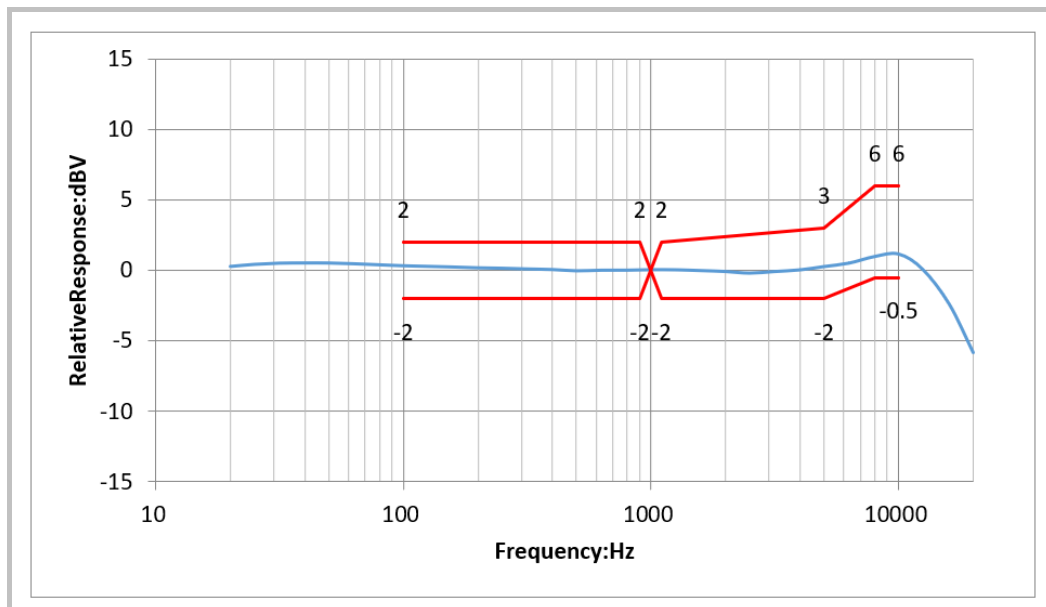
This document is the technical specification of electret condenser (ECM) Omni-Directional Microphone.

### 2. Electrical Characteristics

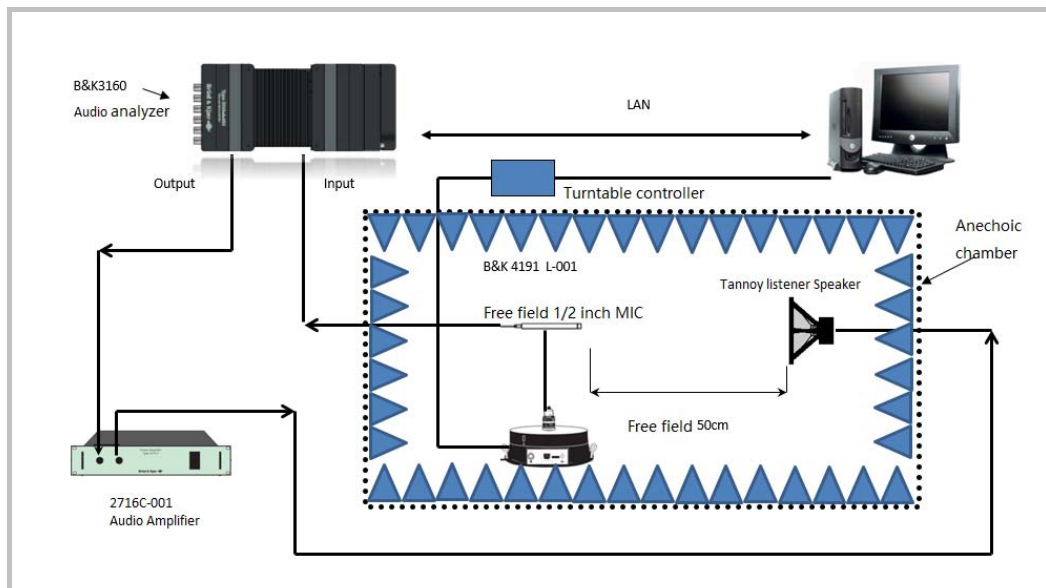
Test Condition:  $V_{DD}=2.0V$ ,  $R_L=2.2\text{ k}\Omega$ ,  $23\pm 2^\circ\text{C}$ ,  $55\pm 20\%\text{R.H.}$ , unless otherwise specified.

| Specification             | Symbol     | Test Conditions                       | Min.             | Typ. | Max. | Unit             |
|---------------------------|------------|---------------------------------------|------------------|------|------|------------------|
| Directivity               |            |                                       | Omni-directional |      |      |                  |
| Sensitivity Range         | S          | 94dBSPL @1kHz                         | -35              | -33  | -31  | dB               |
| Output Impedance          | $Z_{out}$  | 94dBSPL @1kHz                         |                  |      | 2.2  | $\text{k}\Omega$ |
| Current Consumption       | I          | $V_S=2.0V$ $R_L=2.2\text{ k}\Omega$   |                  |      | 450  | $\mu\text{A}$    |
| S/N Ratio                 | SNR        | 94dBSPL @1kHz<br>A-Weighted           |                  | 70   |      | dB(A)            |
| Operating Voltage         | $V_S$      |                                       | 1.0              | 2.0  | 10.0 | V                |
| Sensitivity vs. Voltage   | $\Delta S$ | 94dBSPL @1kHz<br>$V_S=2.0V$ to $1.5V$ |                  |      | -3   | dB               |
| Total Harmonic Distortion | THD        | 115dBSPL@1kHz                         |                  | 3    |      | %                |
| Acoustic Overload Point   | AOP        | 10% THD @1kHz                         |                  | 122  |      | dBSPL            |

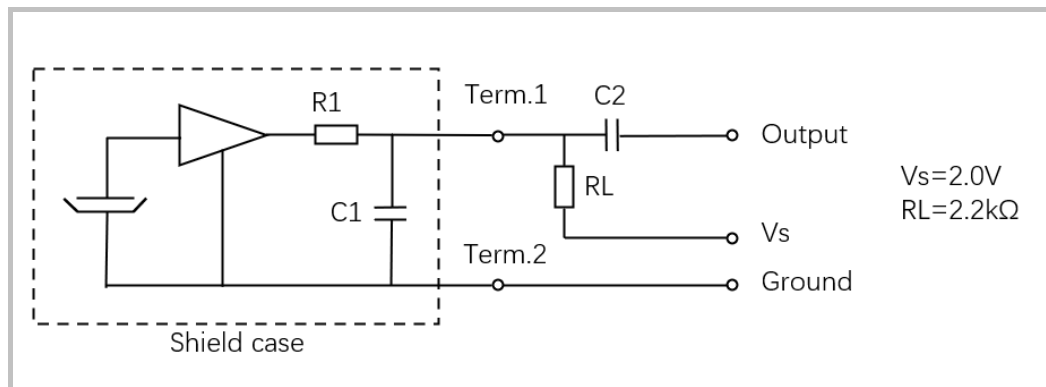
### 3. Frequency Response Curve



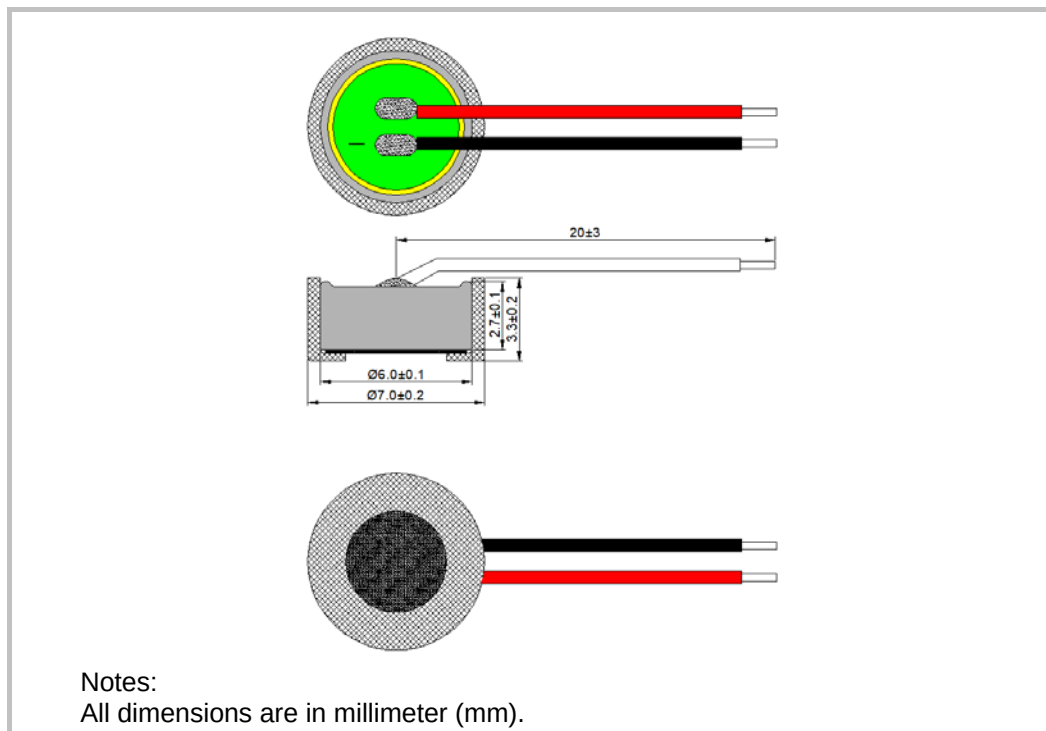
#### 4. Test Setup (Sensitivity Test in Anechoic Room)



#### 5. Measurement Circuit



#### 6. Mechanical Characteristics



## 7. Special Cautions

### 7.1 Environmental Condition

7.1.1 Storage Condition:-40°C~+80°C.

7.1.2 Operating Condition:-30°C~+70°C.

7.1.3 Arbitration Condition:20±1°C, R.H.63~67%, Air pressure:86~106Kpa.

### 7.2 Storage Condition

7.2.1 Keep ECM in warehouse with humidity less than 75%R.H. and without sudden temperature change, acid air, any other harmful air or strong magnetic field.

7.2.2 Please protect products against moist, shock, sunburn and pressure.

7.2.3 MSL Please take proper measures against ESD in the process. Please use the shipment package for long-term storage.

## 8. Packaging Information

TBD

## 9. Reliability Test

The samples should be placed in the room with  $20\pm 2^{\circ}\text{C}$ ,  $65\pm 5\%\text{R.H.}$  for 3 hours at least before final measurement, unless otherwise specified.

| Item                  | Detail                                                                                                                                                                                      | Standard          |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| High temperature Test | After exposure at $+80^{\circ}\text{C}$ for 200 hours.                                                                                                                                      | $\pm 3\text{ dB}$ |
| Low temperature Test  | After exposure at $-30^{\circ}\text{C}$ for 200 hours.                                                                                                                                      | $\pm 3\text{ dB}$ |
| Humidity & Heat Test  | After exposure at $+40^{\circ}\text{C}$ and 93% relative humidity for 200 hours.                                                                                                            | $\pm 3\text{ dB}$ |
| Thermal Shock         | After exposure at $-25^{\circ}\text{C}$ for 30 minutes, at $20^{\circ}\text{C}$ for 10 minutes, at $+70^{\circ}\text{C}$ for 30 minutes, at $20^{\circ}\text{C}$ for 10 minutes, 32 cycles. | $\pm 3\text{ dB}$ |
| Vibration Test        | To be no interference in operation after vibrations, 10-55Hz for 2 hours at three axes with 2mm-high amplitude                                                                              | $\pm 3\text{ dB}$ |
| Drop Test             | The microphone without packaged must be subjected to each 3 drops from the height of 100cm to 1cm thick ceramic tile.                                                                       | $\pm 3\text{ dB}$ |
| Soldering Heat Shock  | After soldering heat shock temperature $300\pm 5^{\circ}\text{C}$ for $3\pm 1$ seconds.                                                                                                     | $\pm 3\text{ dB}$ |

## Specification Revisions

| Revision | Description          | Approved | Date       |
|----------|----------------------|----------|------------|
| 1.0      | New Version Released | Kevin    | 24/08/2026 |
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