

**MODEL:** DEVKIT-MEMS-004 | **DESCRIPTION:** MICROPHONE DEVELOPMENT KIT**FEATURES**

- 4 detachable evaluation boards
- analog MEMS
- top port & bottom port
- plated through hole I/O terminals for multiple testing options

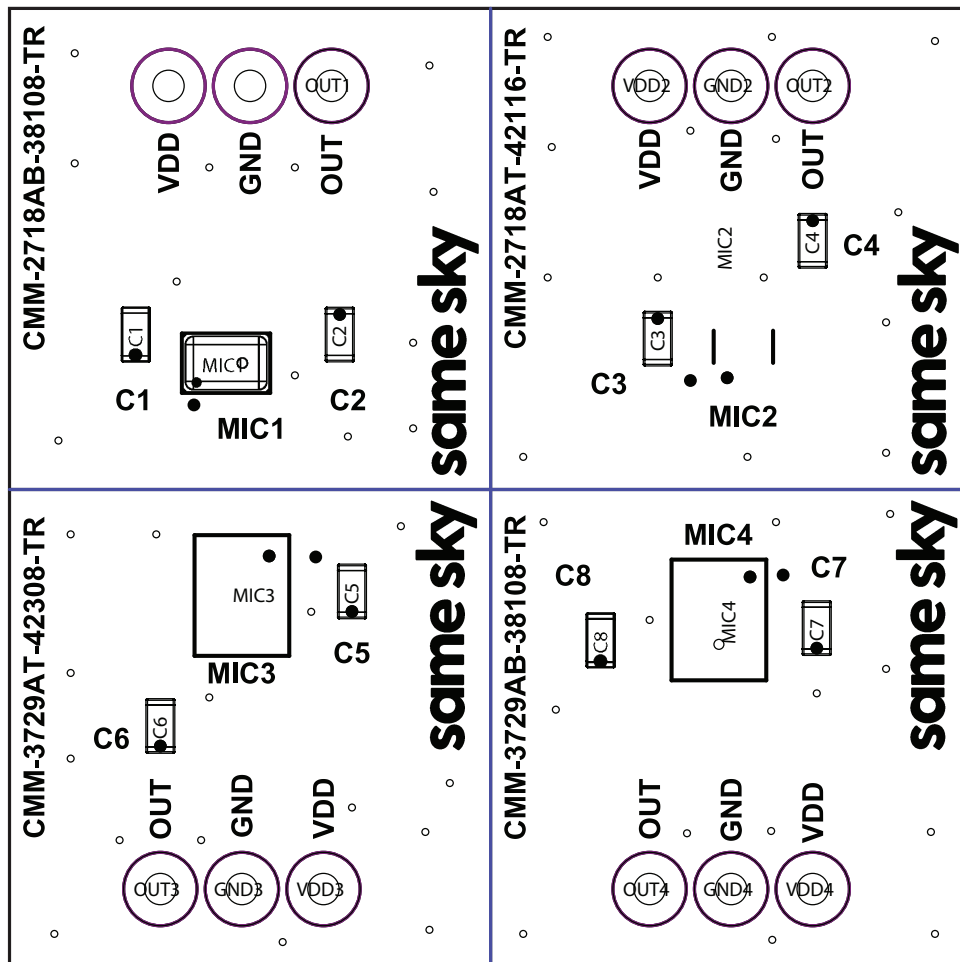
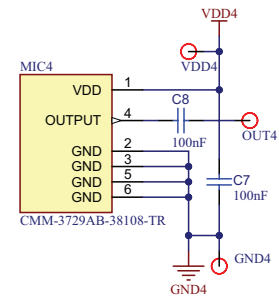
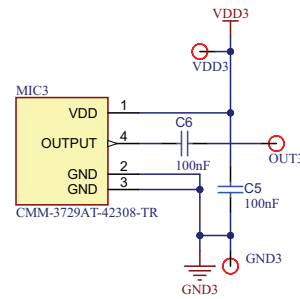
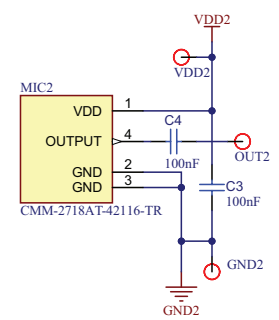
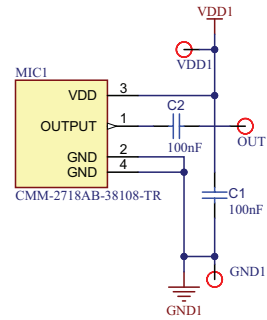
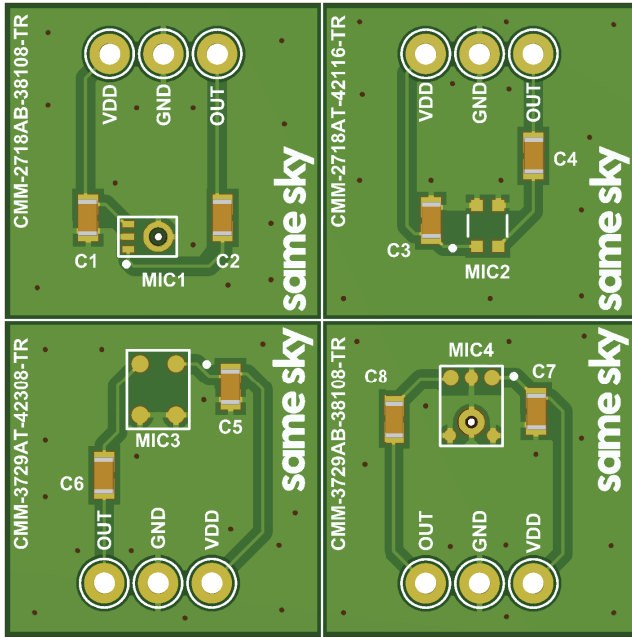
**EVAL BOARD**

|                     | circuit | technology | output | acoustic<br>port | size<br>[mm] | sensitivity<br>typ<br>[dB] | current<br>max<br>[μA] |
|---------------------|---------|------------|--------|------------------|--------------|----------------------------|------------------------|
| CMM-2718AB-38108-TR | MIC1    | MEMS       | analog | bottom           | 2.75 x 1.85  | -38                        | 150                    |
| CMM-2718AT-42116-TR | MIC2    | MEMS       | analog | top              | 2.75 x 1.85  | -42                        | 250                    |
| CMM-3729AT-42308-TR | MIC3    | MEMS       | analog | top              | 3.76 x 2.95  | -42                        | 250                    |
| CMM-3729AB-38108-TR | MIC4    | MEMS       | analog | bottom           | 3.76 x 2.95  | -38                        | 250                    |

**OPERATIONAL INSTRUCTIONS**

This Same Sky MEMS microphone evaluation board consists of four independent analog microphone evaluation circuits. Top and bottom sound port options are provided. External bypass capacitors are included on the power supply rails of the evaluation boards and DC blocking capacitors are placed in the analog output signal paths. A DC power supply of 1.6~3.6 Volts should be connected between the VDD and GND pins of the board to be evaluated. Please refer to the respective data sheets for proper connections to the remaining signal pins.

## CIRCUIT DIAGRAMS &amp; BOARD LAYOUTS



CMM-2718AB-38108-TR

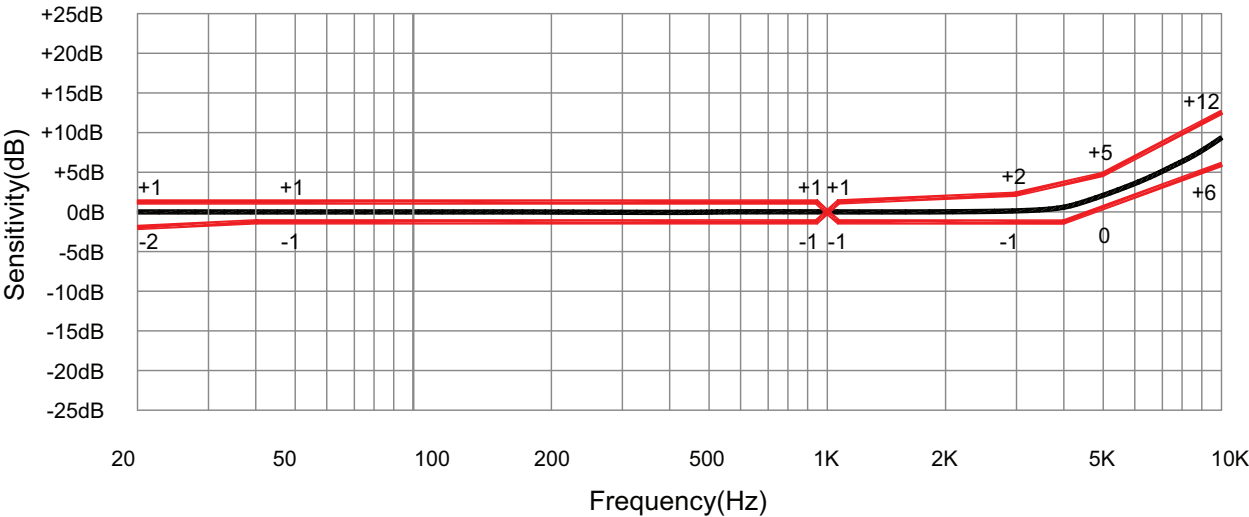
WWW.SAMESKYDEVICES.COM/PRODUCT/RESOURCE/CMM-2718AB-38108-TR.PDF

ELECTRICAL

| parameter                               | conditions/description                                  | min | typ  | max    | units  |
|-----------------------------------------|---------------------------------------------------------|-----|------|--------|--------|
| directivity                             | omnidirectional                                         |     |      |        |        |
| sensitivity [S]                         | at 94 dB SPL, 1 kHz                                     | -39 | -38  | -37    | dB     |
| supply voltage [V <sub>DD</sub> ]       |                                                         | 1.6 | 2.0  | 3.6    | V      |
| current consumption [I <sub>oss</sub> ] | V <sub>DD</sub> = 2.0 V                                 |     | 75   | 150    | μA     |
| frequency [f]                           |                                                         | 100 |      | 10,000 | Hz     |
| signal to noise ratio [S/N]             | at 94 dB SPL, 1 kHz [A-weighted]                        |     | 65   |        | dBA    |
| total harmonic distortion [THD]         | at 94 dB SPL, 1 kHz                                     |     | 0.15 |        | %      |
| acoustic overload point [AOP]           | at 10% THD, 1 kHz                                       |     | 130  |        | dB SPL |
| output impedance [Z <sub>out</sub> ]    | at 1 kHz                                                |     |      | 400    | Ω      |
| PSRR                                    | 200 mVp-p sine wave @ 1 kHz, V <sub>DD</sub> = 2.0 V    |     | 60   |        | dB     |
| PSR                                     | 100 mVp-p square wave @ 217 Hz, V <sub>DD</sub> = 2.0 V |     | -90  |        | dBV[A] |

Notes: 1. All specifications measured at 23±2°C, humidity at 55±20%, unless otherwise noted.

FREQUENCY RESPONSE CURVE



CMM-2718AT-42116-TR

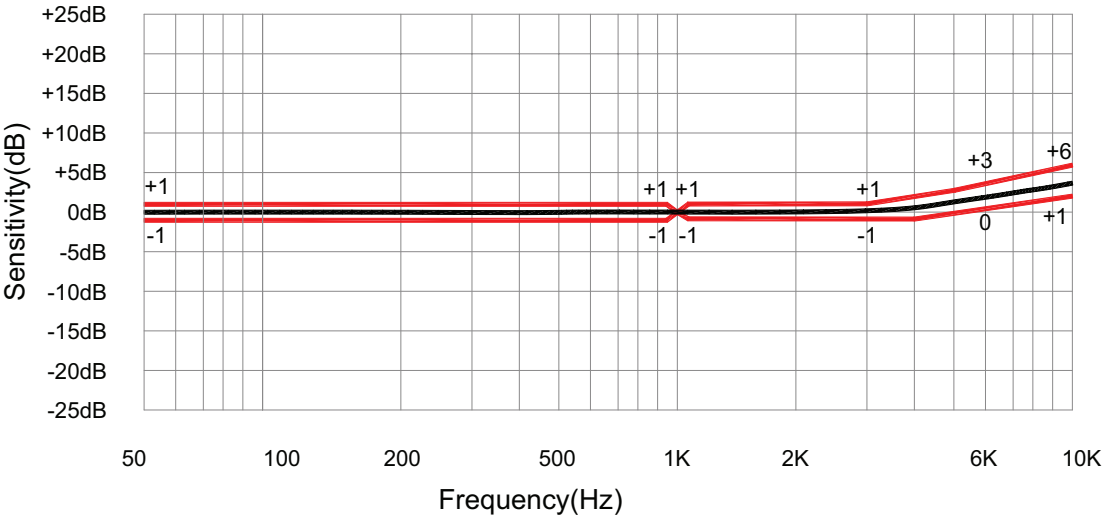
[WWW.SAMESKYDEVICES.COM/PRODUCT/RESOURCE/CMM-2718AT-42116-TR.PDF](http://WWW.SAMESKYDEVICES.COM/PRODUCT/RESOURCE/CMM-2718AT-42116-TR.PDF)

ELECTRICAL

| parameter                                | conditions/description                                  | min | typ  | max    | units  |
|------------------------------------------|---------------------------------------------------------|-----|------|--------|--------|
| directivity                              | omnidirectional                                         |     |      |        |        |
| sensitivity [S]                          | at 94 dB SPL, 1 kHz                                     | -43 | -42  | -41    | dB     |
| supply voltage [V <sub>DD</sub> ]        |                                                         | 1.6 | 2.0  | 3.6    | V      |
| current consumption [I <sub>loss</sub> ] | V <sub>DD</sub> = 2.0 V                                 |     |      | 250    | μA     |
| frequency [f]                            |                                                         | 50  |      | 10,000 | Hz     |
| signal to noise ratio [S/N]              | at 94 dB SPL, 1 kHz [A-weighted]                        |     | 57   |        | dBA    |
| total harmonic distortion [THD]          | at 94 dB SPL, 1 kHz                                     |     | 0.10 |        | %      |
| acoustic overload point [AOP]            | at 10% THD, 1 kHz                                       |     | 130  |        | dB SPL |
| output impedance [Z <sub>out</sub> ]     | at 1 kHz                                                |     |      | 300    | Ω      |
| PSRR                                     | 200 mVp-p sine wave @ 1 kHz, V <sub>DD</sub> = 2.0 V    |     | 75   |        | dB     |
| PSR                                      | 100 mVp-p square wave @ 217 Hz, V <sub>DD</sub> = 2.0 V |     | -102 |        | dBV[A] |

Notes: 1. All specifications measured at 23±2°C, humidity at 55±20%, unless otherwise noted.

FREQUENCY RESPONSE CURVE



CMM-3729AT-42308-TR

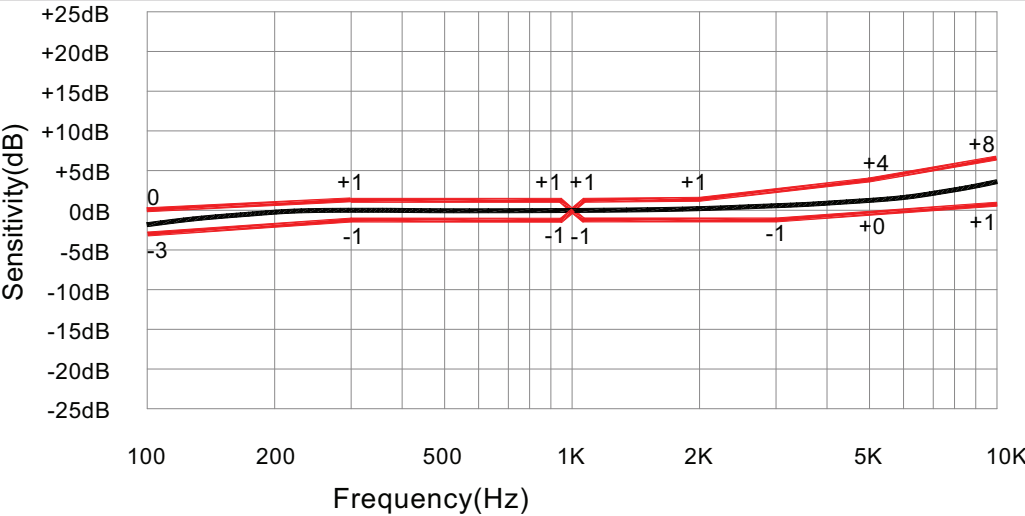
WWW.SAMESKYDEVICES.COM/PRODUCT/RESOURCE/CMM-3729AT-42308-TR.PDF

ELECTRICAL

| parameter                                | conditions/description                                               | min | typ  | max    | units  |
|------------------------------------------|----------------------------------------------------------------------|-----|------|--------|--------|
| directivity                              | omnidirectional                                                      |     |      |        |        |
| sensitivity [S]                          | at 94 dB SPL, 1 kHz                                                  | -45 | -42  | -39    | dB     |
| supply voltage [V <sub>DD</sub> ]        |                                                                      | 1.6 | 2.0  | 3.6    | V      |
| current consumption [I <sub>loss</sub> ] | V <sub>DD</sub> = 2.0 V                                              |     | 155  | 250    | μA     |
| frequency [f]                            |                                                                      | 100 |      | 10,000 | Hz     |
| signal to noise ratio [S/N]              | at 94 dB SPL, 1 kHz [A-weighted]                                     |     | 58   |        | dBA    |
| total harmonic distortion [THD]          | at 94 dB SPL, 1 kHz                                                  |     | 0.1  |        | %      |
| acoustic overload point [AOP]            | at 10% THD, 1 kHz                                                    |     | 132  |        | dB SPL |
| output impedance [Z <sub>out</sub> ]     | at 1 kHz                                                             |     |      | 300    | Ω      |
| PSRR                                     | 200 mVp-p sine wave @ 1 kHz, V <sub>DD</sub> = 2.0 V                 |     | 75   |        | dB     |
| PSR                                      | 100 mVp-p square wave @ 217 Hz, V <sub>DD</sub> = 2.0 V [A-weighted] |     | -105 |        | dBV[A] |

Notes: 1. All specifications measured at 23±2°C, humidity at 55±20%, unless otherwise noted.

FREQUENCY RESPONSE CURVE



CMM-3729AB-38108-TR

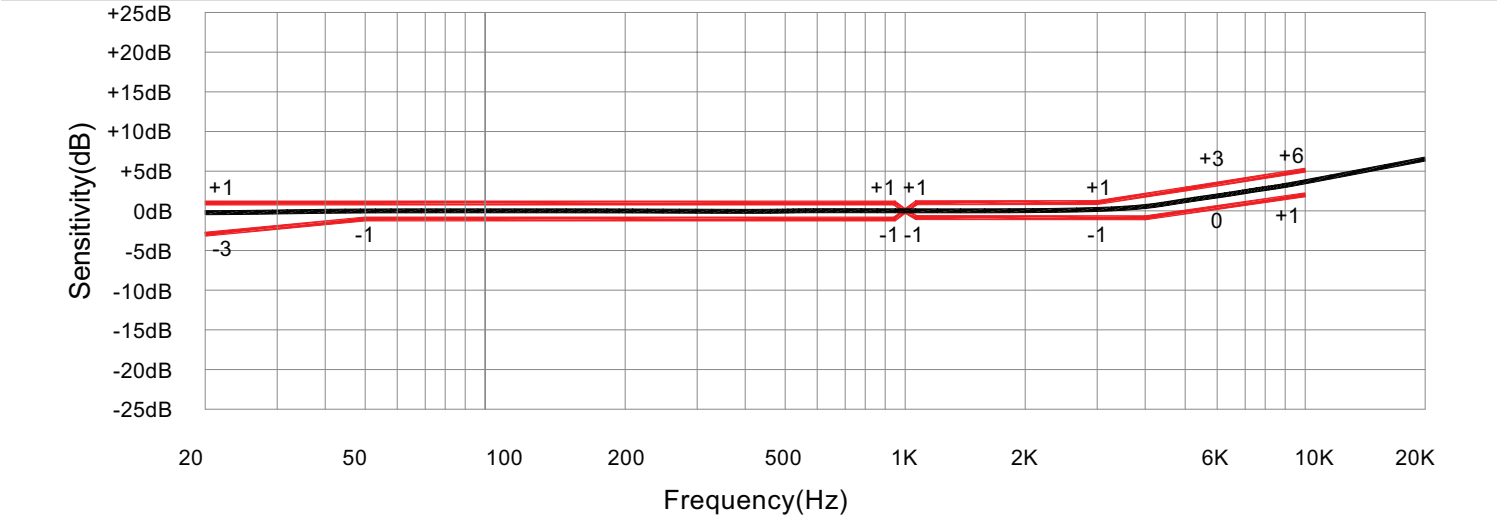
[WWW.SAMESKYDEVICES.COM/PRODUCT/RESOURCE/CMM-3729AB-38108-TR.PDF](http://WWW.SAMESKYDEVICES.COM/PRODUCT/RESOURCE/CMM-3729AB-38108-TR.PDF)

ELECTRICAL

| parameter                                | conditions/description                                               | min | typ  | max    | units  |
|------------------------------------------|----------------------------------------------------------------------|-----|------|--------|--------|
| directivity                              | omnidirectional                                                      |     |      |        |        |
| sensitivity [S]                          | at 94 dB SPL, 1 kHz                                                  | -39 | -38  | -37    | dB     |
| supply voltage [V <sub>DD</sub> ]        |                                                                      | 1.6 | 2.0  | 3.6    | V      |
| current consumption [I <sub>loss</sub> ] | V <sub>DD</sub> = 2.0 V                                              |     |      | 250    | μA     |
| frequency [f]                            |                                                                      | 20  |      | 20,000 | Hz     |
| signal to noise ratio [S/N]              | at 94 dB SPL, 1 kHz [A-weighted]                                     |     | 64   |        | dBA    |
| total harmonic distortion [THD]          | at 94 dB SPL, 1 kHz                                                  |     | 0.15 |        | %      |
| acoustic overload point [AOP]            | at 10% THD, 1 kHz                                                    |     | 128  |        | dB SPL |
| output impedance [Z <sub>out</sub> ]     | at 1 kHz                                                             |     |      | 300    | Ω      |
| PSRR                                     | 200 mVp-p sine wave @ 1 kHz, V <sub>DD</sub> = 2.0 V                 |     | 75   |        | dB     |
| PSR                                      | 100 mVp-p square wave @ 217 Hz, V <sub>DD</sub> = 2.0 V [A-weighted] |     | -105 |        | dBV[A] |

Notes: 1. All specifications measured at 23±2°C, humidity at 55±20%, unless otherwise noted.

FREQUENCY RESPONSE CURVE



REVISION HISTORY

| rev. | description     | date       |
|------|-----------------|------------|
| 1.0  | initial release | 12/17/2025 |

The revision history provided is for informational purposes only and is believed to be accurate.



Same Sky offers a one (1) year limited warranty. Complete warranty information is listed on our website.

Same Sky reserves the right to make changes to the product at any time without notice. Information provided by Same Sky is believed to be accurate and reliable. However, no responsibility is assumed by Same Sky for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

Same Sky products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

**sameskydevices.com**