

Microphone Array OEM Customization Specification Checklist

Use this working checklist to prepare an initial engineering discussion. It helps define the required module, acoustic performance targets, integration path and prototype scope. Final specifications are confirmed against the agreed hardware, enclosure and test conditions.

Product and application

■ Target device, use case and expected user position	Notes / target:
■ Pickup distance, pickup zone, speaker position and target microphone count	Notes / target:
■ Primary acoustic risks: noise sources, reflected surfaces, public-space use or multi-speaker use	Notes / target:

Host platform and audio path

■ Main DSP or SoC, operating system and software integration owner	Notes / target:
■ Preferred interface: USB Audio Class 1.0/2.0, I2S, PDM, SPI or I2C control	Notes / target:
■ Required audio output: raw channels, processed mono, beamformed stream or role-separated channels	Notes / target:

Acoustic targets

■ Target far-field pickup distance and test environment	Notes / target:
■ AEC, noise suppression, beamforming, DOA, AGC and dereverberation requirements	Notes / target:
■ Acceptance criteria, test material and any reference device or competitive benchmark	Notes / target:

Mechanical and industrial design

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| ■ PCB envelope, mounting points, acoustic port direction and enclosure material | Notes / target: |
| ■ Speaker location, vibration isolation path, silicone boot and acoustic cavity constraints | Notes / target: |
| ■ Mesh, water resistance, dust protection, LED indication, camera alignment and production assembly requirements | Notes / target: |

Program and production

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| ■ Prototype target date, validation plan, certification needs and annual volume estimate | Notes / target: |
| ■ Production test needs, firmware update method, quality checkpoints and change-control process | Notes / target: |

Technical note

Performance targets such as far-field pickup distance, echo return loss enhancement, noise suppression and DOA accuracy depend on the selected DSP platform, microphone layout, speaker system, enclosure and test environment. Confirm acceptance criteria before tooling release.