

# EveryWord™ Audio Front End (AFE) Module

FAR-FIELD VOICE AUDIO FRONT END (AFE) POWERED BY CIRRUS LOGIC TECHNOLOGY

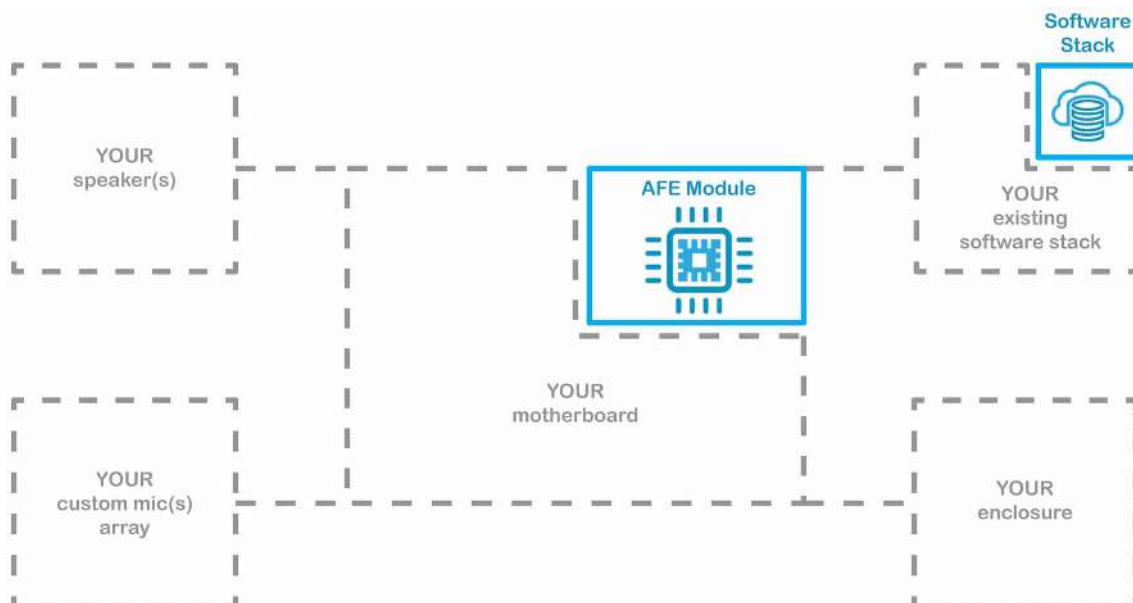
## ADVANCED PERFORMANCE & PRODUCTION-READY

ArkX ultra far-field solutions significantly outperform existing OEM far-field technology while reducing your development costs, risks and time-to-market.



## EveryWord™ AFE Module

The AFE Module can transform any existing product into a voice enabled product.



## Clear Performance Advantages

- Captures voice commands:
  - from across the room (**>9 meters**)
  - in noisy and reverberative environments
  - during loud music/movies
- Unique ability to discriminate and suppress speech from TV
- Flexible placement: wall, in-wall, ceiling, dashboard
- Highly-integrated production-ready module
  - Works with most existing mic array designs
  - **Amazon AVS qualified (2 to 4 mics)**
- Ultra-low power battery operation for wake-on-word

## Features Overview

- Cirrus Logic's SoundClear FlexArray™ voice technology
- 7 to 9 mic performance using only 3 to 4 mics
- Exceptional capture range of (**>9 meters**)
- H/W accelerated royalty-free Amazon wake-word engine
- Compatible with most PDM mic arrays
- Flexible mic array spacing and orientation (2D, 3D, vertical, horizontal)
- Onboard clocking
- For applications leveraging existing host/computer board
- ArkX host F/W for integration
- Eliminates need for high density PCB
- **Amazon AVS qualified (both 2 and 4 mics)**

## Technical Overview

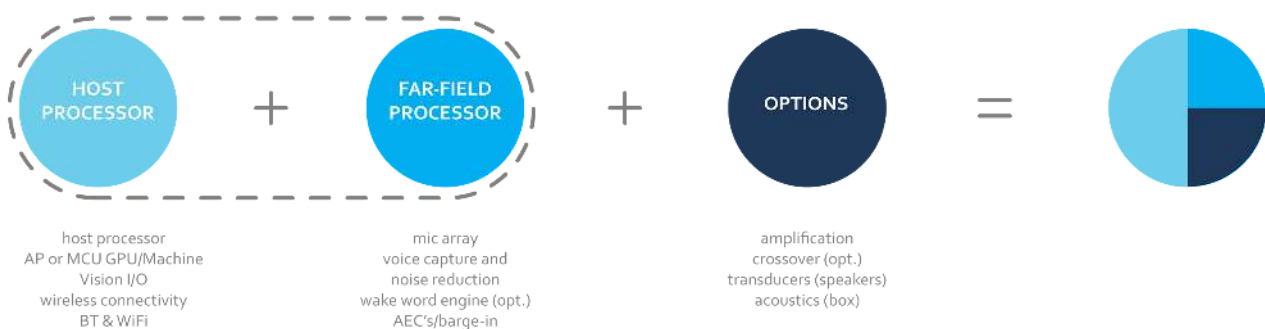
- Supports linear, Y, square, triangular and 3D mic array geometries
- Proprietary 3D audio processing technology significantly outperforms beam-forming solutions
- Full-duplex far-field voice communication
- Does not require source ducking for reliable interaction
- Concurrent voice service and voice communication
- Multiple user tracking
- 2D & 3D GPU; 4-Lane MIPI DSI and CSI
- 4x bidirectional I<sup>2</sup>S/TDM audio ports
  - 2x host to AFE
  - 2x available for external connection
- 12 AECs for superior barge-in and multichannel audio
- AEC support from mono to 5.1 channel surround
- USB Host, USB OTG, USB Audio
- GPIO, SPI and I<sup>2</sup>C connectivity
- Web server-based console

## AFE Quick Development Solution for Existing Platforms

**OUR** production-ready  
*EveryWord™* Voice Module

**WE** provide custom-designed  
audio playback solutions

**YOUR** custom solution



# EveryWord™ AFE Module System Overview

