

TWO-MICROPHONE FAR-FIELD VOICE PROCESSOR

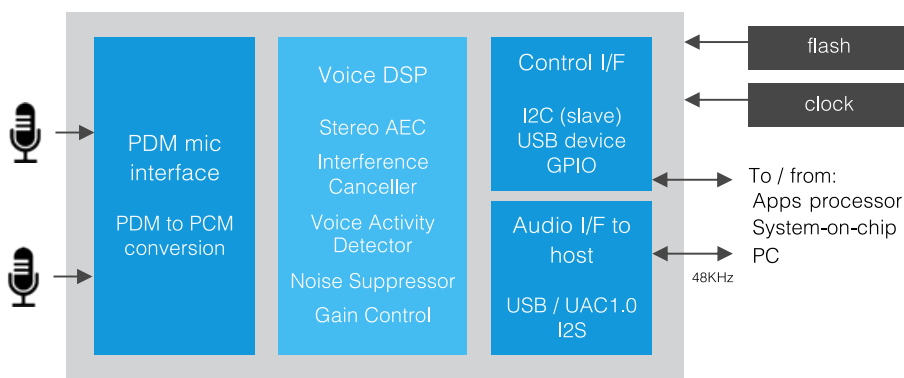
In our increasingly connected world, voice-control delivers a more natural, engaging conversation with technology, transforming how people can enjoy content through their devices.

The VocalFusion XVF3510 enables far-field voice capture with close range precision. It's a turnkey solution for developers who want to embed far-field voice control into smart TVs and set-top boxes. XMOS algorithms are purpose-designed to deliver accurate voice capture from across the room, even in noisy environments, and when content is streaming through the device. Requiring just 2-microphones, the XVF3510 delivers compelling performance in a BOM efficient package.

Our Interference Canceller works intelligently to 'scan' the soundscape of the room, and 'ignore' typical noises in the surrounding space. Acoustic Echo Cancellation algorithms enable barge-in, while Noise Suppression removes general background noise to isolate and capture a clear voice command before it is sent to the Automatic Speech Recognition service.

Our Adaptive Delay Estimator dynamically adjusts audio reference signal latency, ensuring the Acoustic Echo Cancellation algorithms work correctly for a smooth, real-time experience. Plus, the XVF3510 comes with a choice of I2S or USB connectivity for ease of integration.

FUNCTIONAL BLOCK DIAGRAM



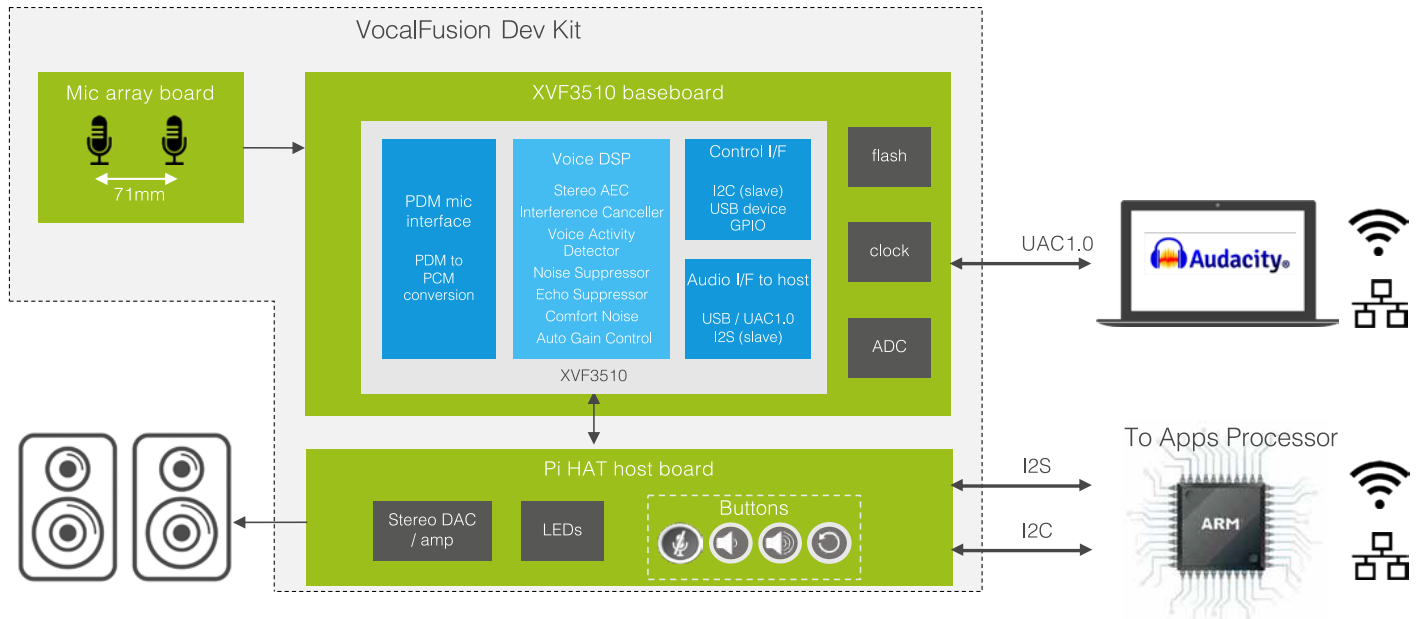
XVF3510 FEATURES

- Far-field voice processing
 - Full duplex stereo Acoustic Echo Cancellation (AEC) with barge-in
 - Adaptive Delay Estimator
 - Interference Canceller
 - Noise Suppression
- Microphone interface
 - 2-ch digital PDM microphone interface
 - Dual microphone array, 71mm spacing
- Audio interfaces
 - High speed USB2.0 compliant device supporting USB Audio Class 1.0 at 48kHz sample rate
 - I2S audio interface, 48kHz sample rate
- System control options
 - I2C serial control interface
 - USB control interface
- 60-pin QFN package

APPLICATIONS

- Smart TVs
- Set-top boxes
- TV accessories

VOCALFUSION DEV KIT



- XVF3510 processor base board
 - Micro-USB connector for power and USB device connectivity
 - Line-in port
 - XTAG interface for JTAG debug
- Dual microphone array daughter board
 - 2x Infineon IM69D130 MEMS mics
 - 71mm inter-mic spacing
- Raspberry Pi HAT adapter board
 - I2S audio and I2C connectivity
 - 24-bit stereo DAC
 - 4 user controlled buttons and two LED

MORE INFORMATION AND AVAILABILITY

To learn more about the XVF3510 voice processor and VocalFusion Dev Kit , please visit: xmos.com/xvf3510. The XVF3510 and VocalFusion Dev Kit will be available through XMOS distribution Q3 2019.

Part number	Description
XVF3510-QF60	VocalFusion XVF3510 voice processor
XK-VF3510-L71	VocalFusion Dev Kit

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