



xCORE-VOICE Smart Microphone

HIGH PERFORMANCE DIRECTIONAL MICROPHONE



USB SMART MICROPHONE FEATURES

- **xCORE-VOICE XVSM-2000 processor**
 - Programmable multicore microcontroller
 - Integrated microphone and voice DSP
 - Beamforming with configurable beam width and non-stationary noise suppression (up to 20dB attenuation)
 - Echo cancellation (up to 80dB att.)
 - Stationary noise suppression (up to 20dB att.)
 - De-reverb (up to 20dB att.)
- **Backhaul**
 - High speed USB2.0 compliant device
 - Multichannel USB Audio Class 2.0
 - Optional TDM (time division multiplexed) interface
- **Voice capture**
 - Up to 16 element PDM microphone array
 - Up to 100dB SNR
- **Audio output options**
 - I2S mono/stereo output
 - DSP options: compressor, limiter
- **System control options**
 - Industry's most flexible GPIO
 - Extensive general purpose libraries

xCORE-VOICE Interface processors with high-performance DSP and flexible IO provide the ideal platform for smart microphones in far-field applications.

The xCORE-VOICE USB Smart Microphone (XVSM-2000) combines high performance microphone aggregation with advance DSP technology and xCORE's industry leading control and communications flexibility.

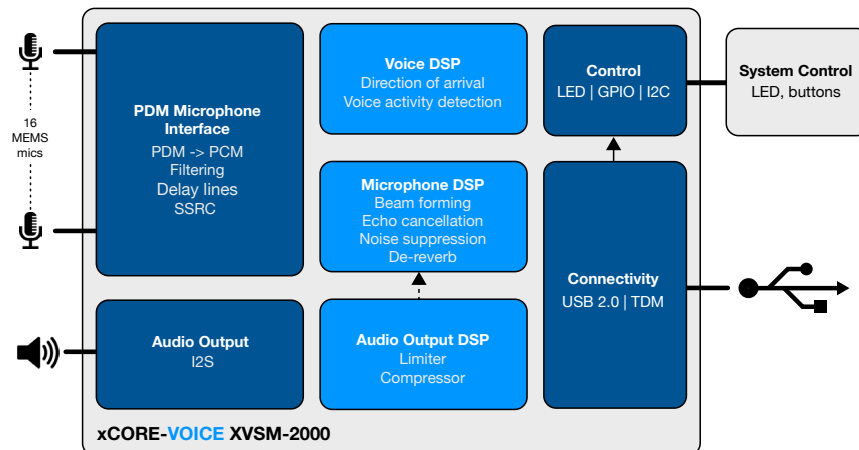
The XVSM-2000 can be used stand-alone as a USB conferencing solution, or embedded with an Applications Processor to provide a high-integrity voice interface for applications such as voice controlled IoT devices.

Offering advanced DSP capabilities including beamforming, acoustic echo cancellation and de-reverb ensure that voice sources can be delivered with the highest possible quality, guaranteeing the best user-experience. Audio output processing enables full-duplex communication, either with conference participants, or speech recognition systems.

Getting started with xCORE-VOICE couldn't be easier thanks the xTIMEcomposer™ development tools which provide a feature-rich software development environment with quick and easy customization for customer specific, product differentiating features.



FUNCTIONAL BLOCK DIAGRAM: xCORE-VOICE USB Smart Microphone



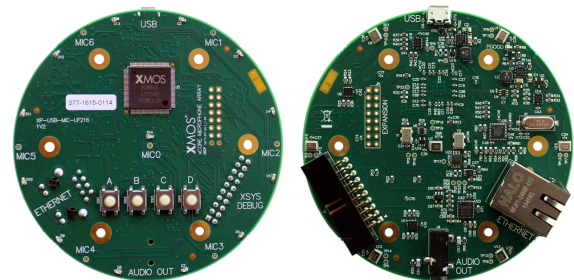
APPLICATIONS

- Voice and audio capture
- Personal home robots and VDAs
- Conferencing systems
- Smart TVs and soundbars

EVALUTION BOARD

Features

- xCORE-VOICE XVSM-2000 processor
- 7 PDM MEMS microphones
- Connectivity options
 - USB device (micro-B) or optional TDM interface
- 3.5mm headphone jack
- User interface: 4 buttons, 13 LEDs
- xTAG interface for JTAG debug



DEVELOPING WITH xCORE-VOICE

The xTIMEcomposer™ tool suite provides everything you need to write, debug and test applications for xCORE-VOICE processors. A rich set of optimisation parameters are available to ensure that the best results are achieved for the individual acoustics of the end product. These parameters include adjustment to: beam focus, noise and reverb attenuation, gain control and compression as well as numerous optimisations for echo cancellation.

For more information and to download xTIMEcomposer go to <http://www.xmos.com/tools>.

ORDERING INFORMATION

For a list of X MOS distributors, please visit www.xmos.com/support/distributors.

Part number	Contents
XK-USB-VSM-2000	xCORE-VOICE smart mic evaluation board, xTAG debugger, USB cable x2

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Contents are subject to change.



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