Chipsmall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

xCORE Array Microphone

HIGH PERFORMANCE, MULTICHANNEL MICROPHONE AGGREGATION

FEATURES

- **XUF216-512-TQ128 device**
  - 16 logical cores
  - Up to 2000MIPS or 1000MMACS
  - 512KB RAM and 2MB flash

- **Digital microphone array**
  - 7 MEMS microphones with PDM output
    - Akustica AKU441(63dB SNR)
  - Extendable up to 32 microphones

- **Backhaul**
  - High speed USB2.0 compliant device
    - Multichannel USB Audio Class 2.0
  - Easily replaced with TDM or Ethernet

- **Microphone interface library**
  - PDM to PCM format conversion
    - Four channel decimator
  - Programmable output sample rate
    - 8, 12, 16, 24 or 48kHz
    - 7.35, 11.025, 14.7, 22.05 or 44.1 kHz
  - Up to 100dB dynamic range
  - Microphone gain compensation
  - Optional delay line per microphone
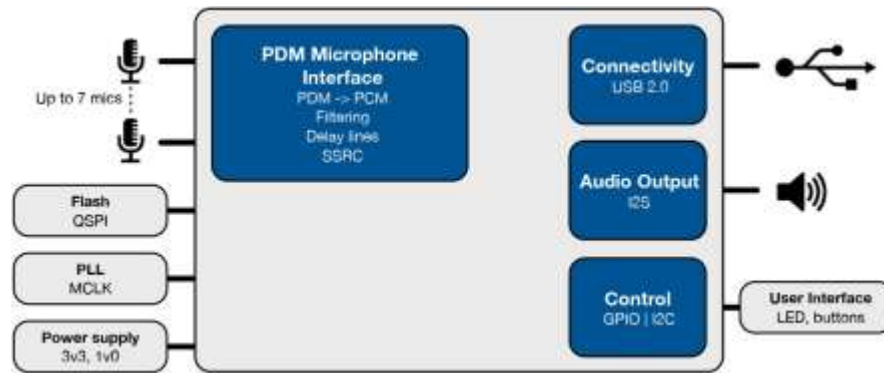   - 1.3us resolution
  - Supplied as source code

The xCORE Array Microphone offers a scalable and flexible hardware and software solution for high performance, low cost multi-channel USB microphone aggregators and array microphones. Built around the xCORE-200 series of multicore microcontrollers, it provides direct interfacing to seven PDM (Pulse Density Modulation) microphones and a high speed USB2.0 device.

Each captured PDM input is converted into a PCM audio stream and transferred to the host PC or processor via USB Audio Class protocol. The system can be configured to generate PCM output at sample rates from 7.35kHz to 48kHz, making it simple to interface to a range of hosts including Applications Processors or standalone Digital Signal Processors.

The microphone interface library is highly configurable and enables designers to customize the functionality of the system to meet their specific requirements. It is supplied as source code and accompanied by application notes which show examples of how to modify the code.

Getting started with xCORE-200 couldn't be easier thanks to the xTIMEcomposer™ development tools which provide a feature-rich software development environment with quick and easy customization for customer specific, product differentiating features.

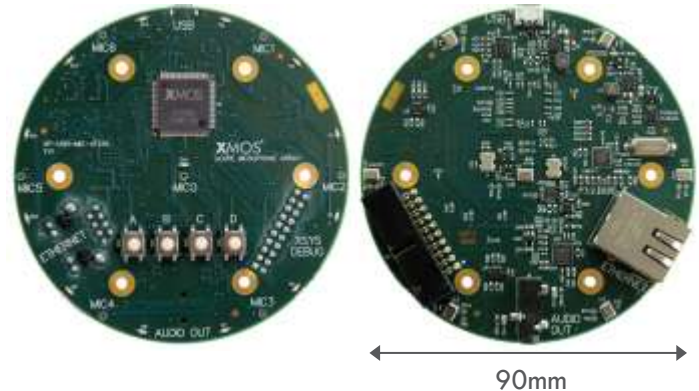## FUNCTIONAL BLOCK DIAGRAM: xCORE Array Microphone

APPLICATIONS

- Microphone aggregation
- Multi-channel USB microphones
- Array microphones
- Personal home robots and VDAs

- Smart TVs and soundbars
- Smart home security devices
- Camera direction control
- Conferencing

EVALUATION BOARD

Features

- XUF216 multicore microcontroller
- 7 PDM MEMS microphones
- 3.5mm headphone jack
- Connectivity options
  o USB device (micro-B)
  o 10/100Mbps Ethernet
- User interface: 4 buttons, 13 LEDs
- xTAG interface for JTAG debug

90mm

DEVELOPMENT TOOLS

The xTIMEcomposer™ tool suite provides everything you need to write, debug and test applications for xCORE-200 multicore microcontrollers. Including xSCOPE logic analyzer and XMOS Timing Analyzer (XTA), which let you get the best performance from the deterministic xCORE architecture. With our library of peripherals and function blocks, it's easy to deliver xCORE applications.

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

ORDERING INFORMATION

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

Part number	Contents
XK-USB-MIC-UF216	Microphone array evaluation board, xTAG debugger, USB cable x2