Product Outline

Xilinx® Zynq® as well as other Xilinx FPGAs are well suited for completing the processing tasks associated with sound, and by extension voice recognition. Although Zynq is an ideal candidate, this does not preclude use of other development platforms.

The seven (7) microphones are strategically spaced to support directionality applications associated with the human voice.

Microphone System
- Seven (7) PDM Knowles SPH0641LM4H-1 microphones
- Four (4) Analog Devices' ADAU7002 support stereo PDM-to-TDM or I^{2}S conversion
- Multiplexer enables PDM data to be directly passed to the FMC connector, bypassing TDM/I^{2}S conversion
- Three (3) microphone end fire array structure
- Strategic spacing for directionality applications
- An LED placed near each microphone can be used to visually indicate source or microphone activity level

Connectors
- LPC FMC connector
- Designed for compatibility with VITA 57.1 specification (wide range of carrier card support)
- Headers for test and debug or desktop access

Power Requirements
- Main rails: 3.3V
- Wide range VADJ support: 1.2 to 3.3V
- FMC as well as Desktop operation supported

Board Dimension
- Similar to Single width, air-cooled, LPC FMC

With seven (7) strategically spaced microphones this FMC enables sound directionality and voice Recognition developments

Features

- 7x PDM microphones
  - Selectable onboard PDM-to-TDM/I^{2}S conversion
  - 3x microphone end fire array structure
- Supports both FMC and desktop operation[1]
- Compatible with FMC Specification (VITA 57.1)
- Designed for electrical compatibility with most carrier cards[2]

[1] Desktop operation requires cabling of unit to a host system
[2] Verify your target mainboard with us prior to ordering

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Function Block Diagram
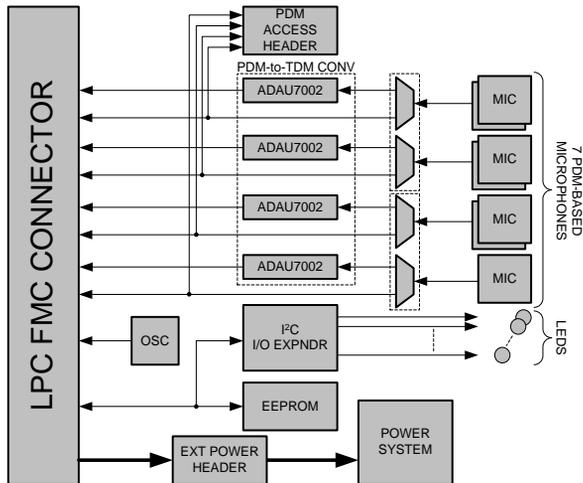
Available References

Design Package (available under license)
- Schematics, PCB Layout, Artwork, Bill of Materials

FPGA Reference Designs
- Downloadable .bit file examples
- Licensable source (some blocks netlist encrypted)

Sales and Support

For additional information, questions or request for quotation visit: www.fidus.com

Customize your TB-FMCL-7MIC

Speak with our Design Services Group on how to accelerate your custom design:
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About Fidus

Fidus Systems, founded in 2001, specializes in leading-edge electronic product development with offices in Ottawa and Waterloo Ontario, and San Jose, California. Our hardware, software, FPGA and signal integrity teams architect, design and deliver next-generation products for clients in emerging technology markets. We build long-term relationships by consistently exceeding expectations.

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