## http://www.digilentinc.com/Data/Products/PMOD-MIC/PmodMIC-obl-400.jpg

## Exercise 1: Sound Measurement

Goals

* Use the LabVIEW FPGA Toolkit and the NI SPI API to communicate to the microphone
* Simulate the SPI communication before compiling to verify functionality
* Plug the acquisition code into the CompactRIO Waveform Library FPGA Template to handle scaling and data communication between the FPGA and LabVIEW Real-Time

### Part A – Application Description

In this exercise, use LabVIEW and the System on Module to acquire data from a microphone reference board over a SPI bus. Use the build in

### Part B – Code Implementation

#### 1. Step 1

#### 2. Step 2

#### 3. Step 3

## Exercise 2: Acquire and Process Data

Goals

* Use the CompactRIO Waveform Library to acquire the microphone data from the FPGA
* Use the Sound and Vibration toolkit to obtain meaningful data from the microphone sensor

### Part A – Application Description

### Part B – Code Implementation

#### 1. Step 1

#### 2. Step 2

#### 3. Step 3

## Exercise 3: Create a Thin Client

Goals

* Create a LabVIEW webservice to publish the processed data to web server
* Display the processed data to the user with a browser based thin client

### Part A – Application Description

### Part B – Code Implementation

#### 1. Step 1

#### 2. Step 2

#### 3. Step 3