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Bottom-Port I^{2}S Output MEMS Microphone Evaluation Board User Guide

GENERAL DESCRIPTION

The EVAL-ADMP441Z-FLEX is a simple evaluation board that allows quick evaluation of the performance of the ADMP441 MEMS microphone. The small size and low profile of the flexible PCB enables direct placement of the microphone into a prototype or an existing design for an in situ evaluation. The EVAL-ADMP441Z-FLEX consists of an ADMP441 microphone soldered to a flexible PCB. The only other component on the board is a 0.1 µF supply bypass capacitor.

The flex PCB is designed to mate to a ZIF connector with 1.0 mm pin spacing. The Molex 52610-1071 connector is included in the kit with the flex PCB. The flex PCB can be mated to the connector by first pulling out the connector's tan clamp, inserting the flex PCB, and then pushing the clamp closed. Wires can be soldered directly to this connector's pins or it can be mounted directly on a rigid PCB for evaluation. It is recommended to use 28 AWG or smaller wire for soldering to this connector's pins. The PCB thickness at the pin edge is 0.3 mm.

TABLE 1. PIN FUNCTION DESCRIPTIONS

Pin Numbers	Microphone Pin	Description
1	GND	Ground
2	SD	Serial digital output signal for I^{2}S interface
3	SCK	Serial clock for I^{2}S interface
4	WS	Word select for I^{2}S interface
5	L/R	Left/right channel select
6	GND	Ground
7	VDD	Power supply (1.5 V DC to 3.3 V DC and 2 mA maximum)
8	GND	Ground
9	CHIPEN	Chip enable
10	GND	Ground

EVALUATION BOARD CIRCUIT

Figure 1 shows the schematic of the EVAL-ADMP441Z-FLEX, and Figure 2 shows the layout of the EVAL-ADMP441Z-FLEX. Note that only C2, the 0.1 µF capacitor, is populated on the board. See the ADMP441 data sheet for a complete description and specifications of the microphone.
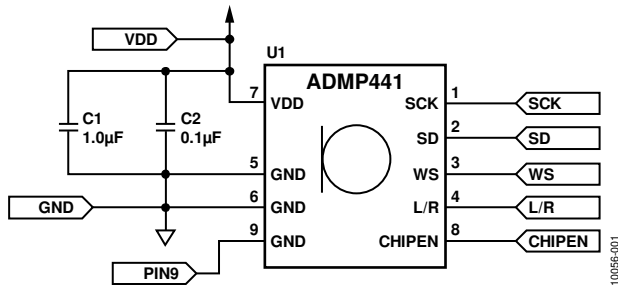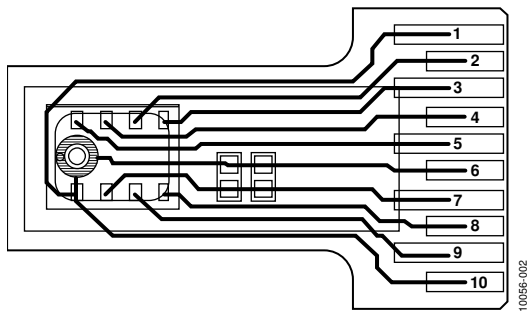

Figure 1. Evaluation Board Schematic
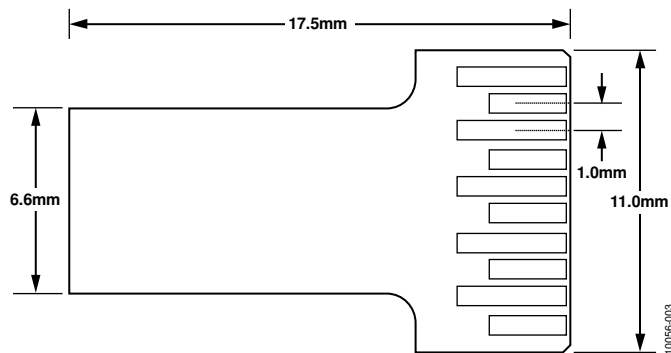

Figure 2. Evaluation Board Layout (Top View)

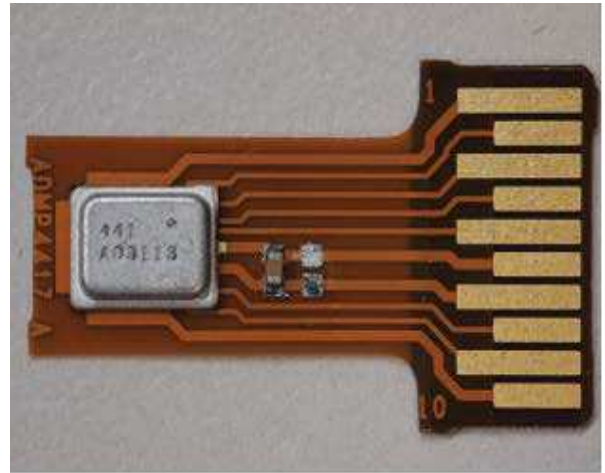**Figure 3. Evaluation Board Dimensions in Millimeters (Wires Not Included)**

EVALUATION BOARD PHOTOGRAPH

Figure 4. Top View
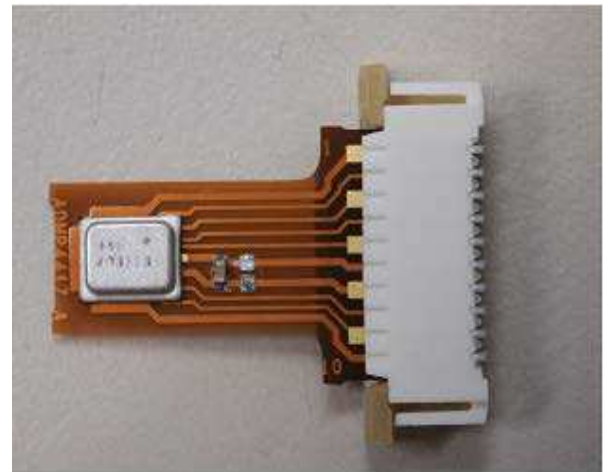
Figure 5. Flex PCB with Molex ZIF Connector
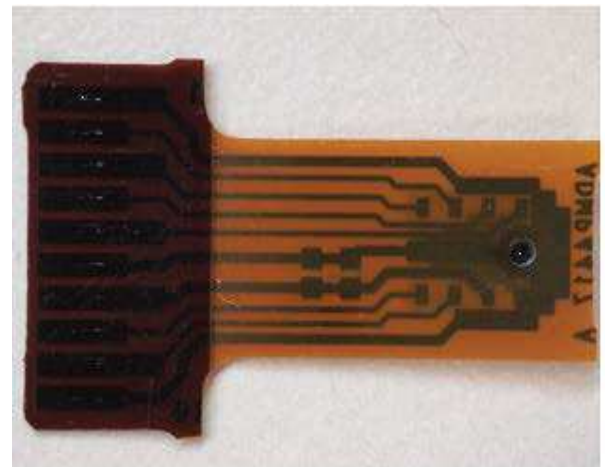
Figure 6. Bottom View

Compliance Declaration Disclaimer:

InvenSense believes this compliance information to be correct but cannot guarantee accuracy or completeness. Conformity documents for the above component constitutes are on file. InvenSense subcontracts manufacturing and the information contained herein is based on data received from vendors and suppliers, which has not been validated by InvenSense.

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