



WM8737-6097-FL32-M

Example Configurations

| | |
|---------------------------|-------------------------|
| DOC TYPE: | EXAMPLE CONFIGURATIONS |
| BOARD REFERENCE: | WM8737-6097-FL32-M-REV1 |
| BOARD TYPE: | Customer Mini Board |
| WOLFSON DEVICE(S): | WM8737 |
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INTRODUCTION

The WM8737-6097-FL32-M mini-board is compatible with the 6097-EV1 customer evaluation board and together provide a complete hardware platform for evaluation of the WM8737. The WM8737 mini-board can also be used independently and connected directly to a processor board using flying wires or appropriate headers. This document will cover both, but performance data will be based on the Wolfson "system" with 6097-EV1 motherboard. Configurations covered are listed below:

- Analogue bypass (bypass MIC Preamp) from L/RINPUT1 to ADC

This document should be used as a starting point for evaluation of WM8737. It will not cover every possible usage mode.

Assumptions:

1. The user is familiar with the 6097-EV1 motherboard and that the board is configured correctly for the path of interest (see related documents below)
2. The user has setup RegWrite or WISCE as per instruction and has control of the DUT (register settings provided in this document)

Related documents:

1. WM8737-6097-FL32-M Schematic and Layout.pdf
2. 6097-EV1 Schematic and Layout.pdf
3. WISCE Quick Start Guide.pdf

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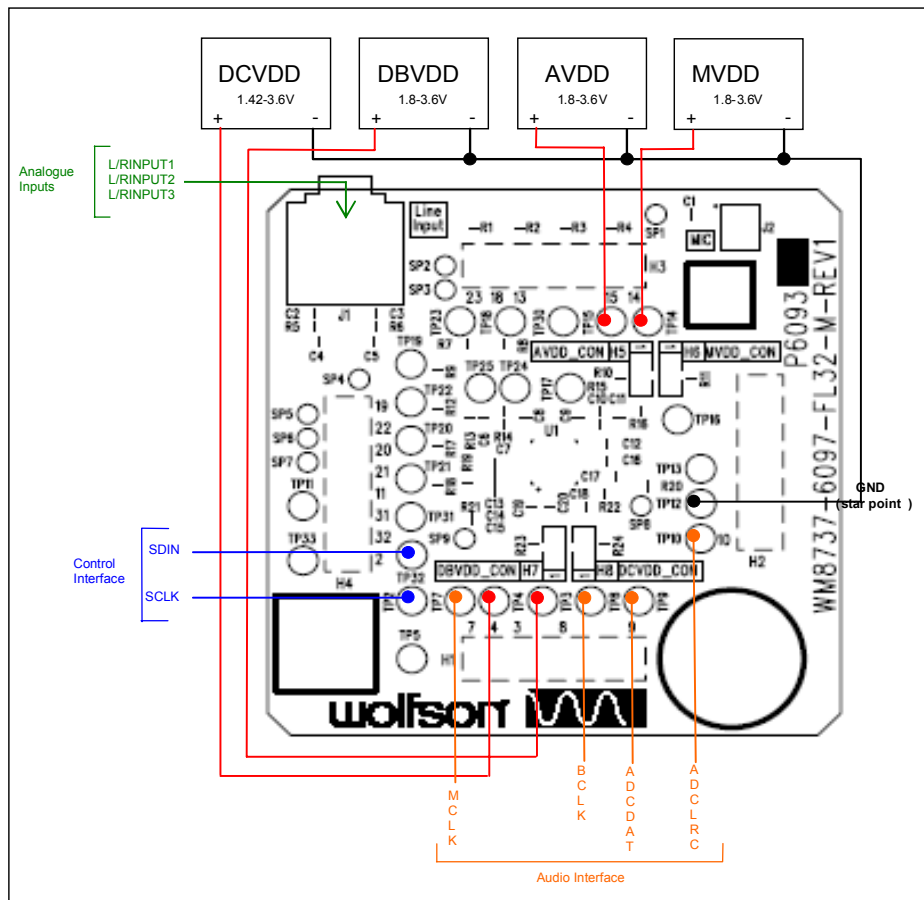
BOARD CONFIGURATION STAND-ALONE

The WM8737 mini board can be used a stand-alone module for direct connection to a processor board via flying leads or dedicated headers. This section will detail important considerations and provide all information required to do this without risking damage to the CODEC.

CONNECTION DIAGRAM

The diagram below shows the connections required to power-up and control the WM8737 mini board. LINPUT1 can be configured to use the onboard silicon MIC or as a line input.

Please refer to the table 1 for further detail on external I/O connections.



I/O TABLE

| SIGNAL | BOARD REFERENCE | IMPORTANT NOTES |
|--------------------------|--------------------------------------|---|
| Voltage Supplies | | |
| AVDD | TP15 | AVDD=1.8V to 3.6V |
| MVDD | TP14 | MVDD=1.8V to 3.6V |
| DCVDD | TP4 | DCVDD=1.42V to 3.6V |
| DBVDD | TP3 | DBVDD=1.8V to 3.6V |
| Ground | | |
| AGND | Common GND on any of TP5, 12, 30, 33 | Analogue and digital grounds must always be within 0.3V of each other |
| MGND | | |
| DGND | | |
| GND_PADDLE | | |
| Control Interface | | |
| MODE | Controlled via SP8 | 2-wire (default): MODE to GND via R20 3-wire: MODE to DBVDD via SP8 |
| CSB | Controlled via SP9 | 2-wire address 0x34h (default): CSB to GND via R21 2-wire address 0x36h: CSB to DBVDD via SP9 |
| SDIN | TP32 | All control interface signals should swing between DGND and DBVDD |
| SCLK | TP2 | |
| Master Clock | | |
| MCLK | TP7 | Signal should swing between DGND and DBVDD |
| Audio Interface | | |
| BCLK | TP8 | All audio interface signals should swing between DGND and DBVDD |
| ADCDAT | TP9 | |
| ADCLRC | TP10 | |
| Analogue Inputs | | |
| LINPUT1 | TP21 | Full scale swing should not exceed AVDD/3.3 Vrms. Can also be connected to onboard MIC via shorting point SP1 (MICBIAS must be enabled for correct operation) |
| RINPUT1 | TP20 | Full scale swing should not exceed AVDD/3.3 Vrms |
| LINPUT2 | TP22 | Full scale swing should not exceed AVDD/3.3 Vrms |
| RINPUT2 | TP19 | Full scale swing should not exceed AVDD/3.3 Vrms |
| LINPUT3 | TP23 | Full scale swing should not exceed AVDD/3.3 Vrms |
| RINPUT3 | TP18 | Full scale swing should not exceed AVDD/3.3 Vrms |

Table 1 I/O Configuration

BOARD CONFIGURATION WITH 6097-EV1 MAIN BOARD

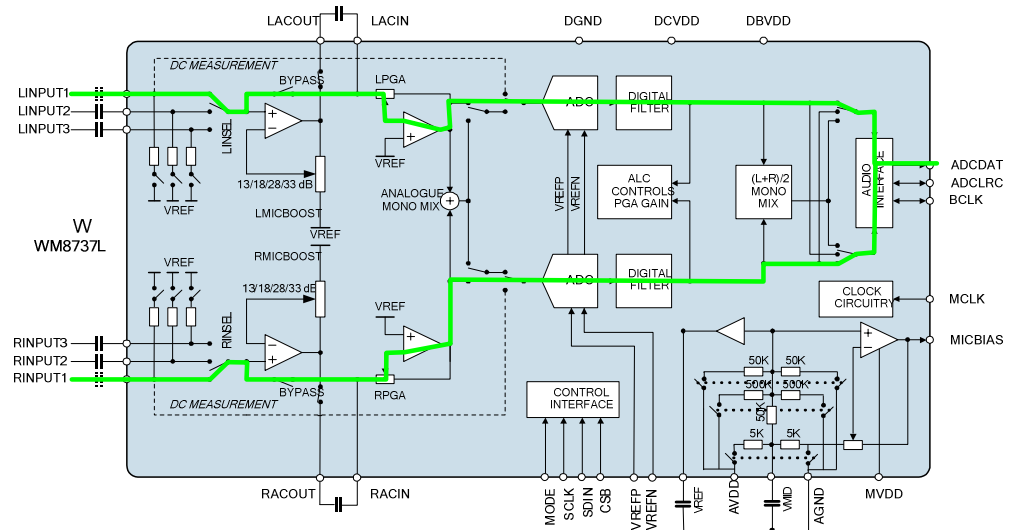
This section focuses on evaluation of the WM8737 mini board in combination with the 6097-EV1 main board. This "system" is the reference platform for measurement data contained in this document. Please note that only a limited number of usage modes will be covered.

ANALOGUE BYPASS FROM L/RINPUT1 TO ADC BYPASSING MIC PREAMPS

The following section details board configuration for L/RINPUT1 to ADC with MIC preamplifier bypassed (line-in-to-ADC-bypass) and PGA gain fixed at 0dB.

Note: L/RINPUT1 inputs are located on the 6097-EV1 motherboard.

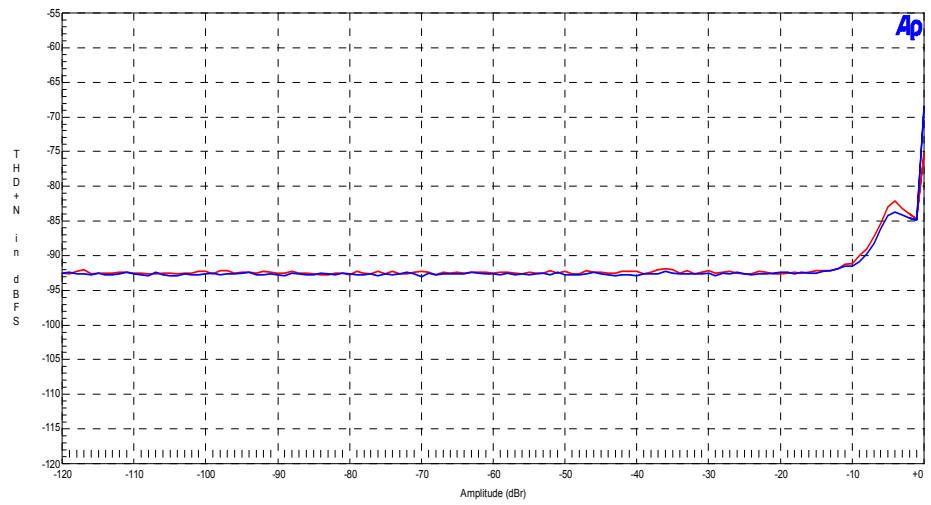
EVALUATION BOARD SETUP



THD+N V AMPLITUDE PERFORMANCE CURVE

Wolfson Microelectronics plc

THD+N v Amplitude (A-Weighted)



| Sweep | Trace | Color | Line Style | Thick | Data | Axis | Comment |
|-------|-------|-------|------------|-------|-----------------------|------|----------------------|
| 1 | 1 | Red | Solid | 2 | DSP Anlr:THD+N Ampl A | Left | Left channel - Red |
| 1 | 2 | Blue | Solid | 2 | DSP Anlr:THD+N Ampl B | Left | Right channel - Blue |

Input Signal: 1kHz BW filter: 22Hz to 20kHz Additional Filtering: A-weighted 0dB = 1Vrms
 Digital Signal: 24bit 48kHz Digital Signal Source: SPDIF
 AP2 Generator Zout: 20 Ohms Detection: RMS Device Input: Single-ended

APPLICATION SUPPORT

If you require more information or require technical support, please contact the Wolfson Microelectronics Applications group through the following channels:

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or contact your local Wolfson representative.

Additional information may be made available on our web site at:

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