



Example Configurations

DOC TYPE:	Example Configurations
BOARD REFERENCE:	WM8524-6228-DT16-M
BOARD TYPE:	Customer Mini Board
WOLFSON DEVICE(S):	WM8524
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INTRODUCTION

The WM8524-6228-DT16-M Customer Mini Board is compatible with the 6228-EV1 customer evaluation board and together these provide a complete hardware platform for evaluation of the WM8524. The WM8524 Customer 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 any performance data will be based on the Wolfson "system" with 6228-EV1 customer main board. Configurations covered are listed below:

- **Default Setting** – USB Power, Electrical S/PDIF Input, I²S format
- External Supply, Optical Input, I²S format
- External Supply, 24-bit RJ Format

The above configurations do not have mute selected.

This document should be used as a starting point for evaluation of WM8524 but it will not cover every possible configuration.

Assumptions:

1. The user is familiar with the 6228-EV1 customer main board and that the board is configured correctly for the path of interest (see related documents below)

Related documents:

1. WM8524-6228-DT16-M Schematic & Layout
2. 6228-EV1 Schematic & Layout
3. WM8524 Datasheet (latest revision available from www.wolfsonmicro.com)

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BOARD CONFIGURATION STAND-ALONE

The WM8524 Customer 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 device.

CONNECTION DIAGRAM

Figure 1 below shows the connections required to power-up and control the WM8524 Customer Mini Board.

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

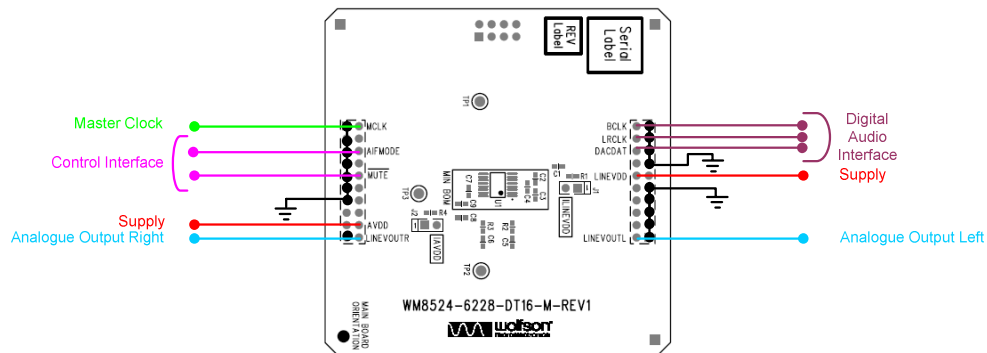


Figure 1 Stand-Alone Board Configuration

I/O TABLE

SIGNAL	BOARD REFERENCE	IMPORTANT NOTES
Voltage Supplies		
LINEVDD	H2[12]	2.97 – 3.63V
AVDD	H1[18]	2.97 – 3.63V
Ground		
LINEGND		Analogue and digital grounds must always be within 0.3V of each other
AGND		
Control Interface		
AIFMODE	H1[6]	Low (LINEGND) = 24-bit Left Justified High (LINEVDD) = 24-bit I ² S Unconnected = 24-bit Right Justified
MUTE	H1[10]	Low (LINEGND) = Mute enabled High (LINEVDD) = Mute disabled
Master Clock		
MCLK	H4 [2]	Clock should swing between LINEVDD and LINEGND
Audio Interface		
BCLK	H2 [20]	Audio interface signals should swing between LINEVDD and LINEGND.
LRCLK	H2 [18]	
DACDAT	H2 [16]	
Analogue Outputs		
LINEVOUTL	H2 [2]	Ground referenced line driver output
LINEVOUTR	H1 [20]	Ground referenced line driver output

Table 1 I/O Configuration

BOARD CONFIGURATION WITH 6228-EV1 CUSTOMER MAIN BOARD

This section focuses on evaluation of the WM8524-6228-DT16-M Customer Mini Board in combination with the 6228-EV1 customer main board. This “system” is the reference platform for any measurement data contained in this document. Please note that only a limited number of usage modes will be covered. The WM8524 is a Hardware only device and is only configurable in Slave Mode.

DEFAULT SETTING - USB POWER, ELECTRICAL S/PDIF INPUT, I²S FORMAT

BOARD CONFIGURATION

The customer test system as shown in Figure 2 below is configured to derive supply for the WM8524 from the USB supply. Alternatively an external supply values can be applied via 4mm sockets (J1-J2) and moving the jumper link on J3 from pins 2-3 to 1-2. Please note that the board requires a +5V supply for normal operation.

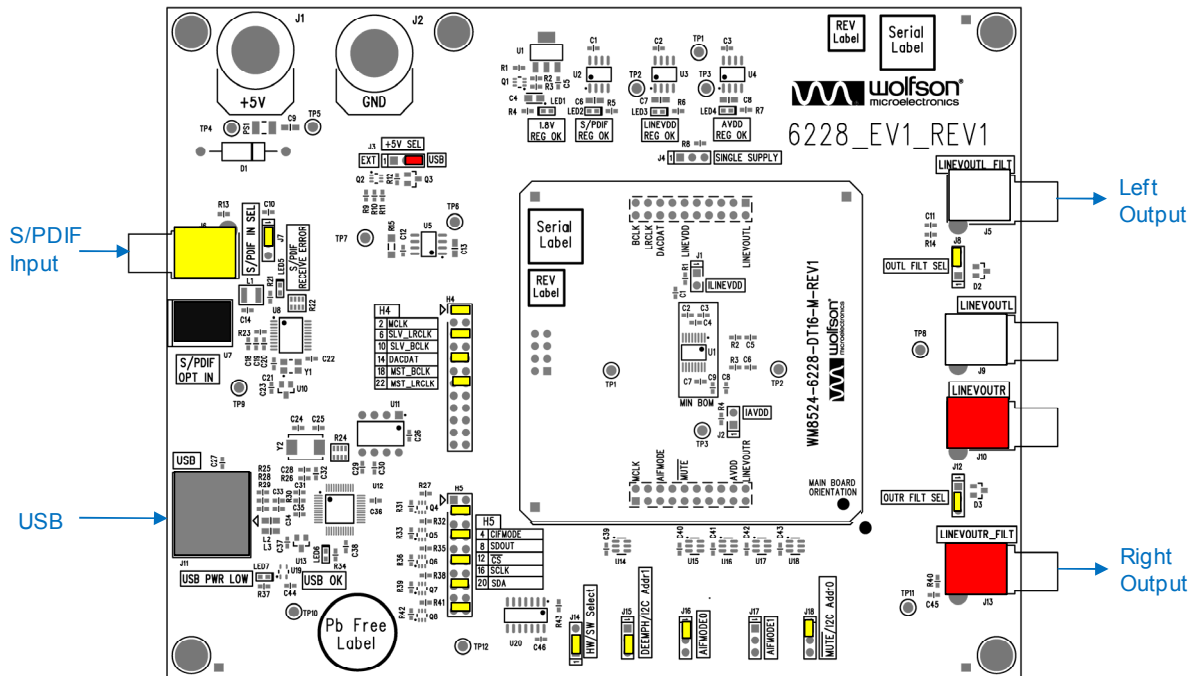


Figure 2 USB power, electrical S/PDIF input, filtered outputs

EXTERNAL SUPPLY WITH OPTICAL INPUT, I²S FORMAT

BOARD CONFIGURATION

The customer test system as shown in Figure 3 below is configured to derive the supply for the WM8524 from an external +5V power supply. This configuration also shows the WM8524 taking an optical S/PDIF input, using I²S formatting and the analogue outputs are not filtered using the on-board passive low pass filter.

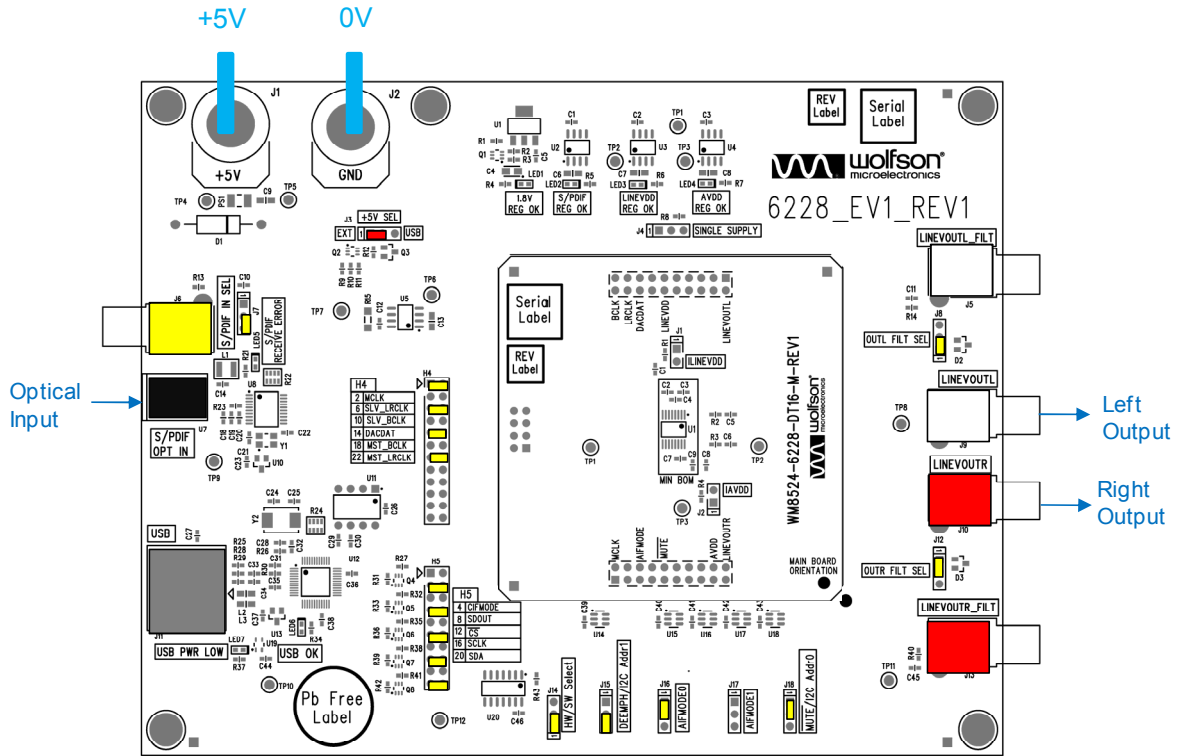


Figure 3 External power, optical S/PDIF input, unfiltered outputs

EXTERNAL SUPPLY, 24-BIT RJ FORMAT

BOARD CONFIGURATION

The customer test system as shown in Figure 4 below is configured to derive supply for the WM8524 from an external +5V supply and uses 24-bit RJ formatting with the analogue outputs being passed through the on-board passive low pass filter.

Note: AIFMODE is a tri-state pin and J16 must be left unconnected to leave AIFMODE floating to enable the 'Z' state to be selected in order to use the 24-bit RJ format.

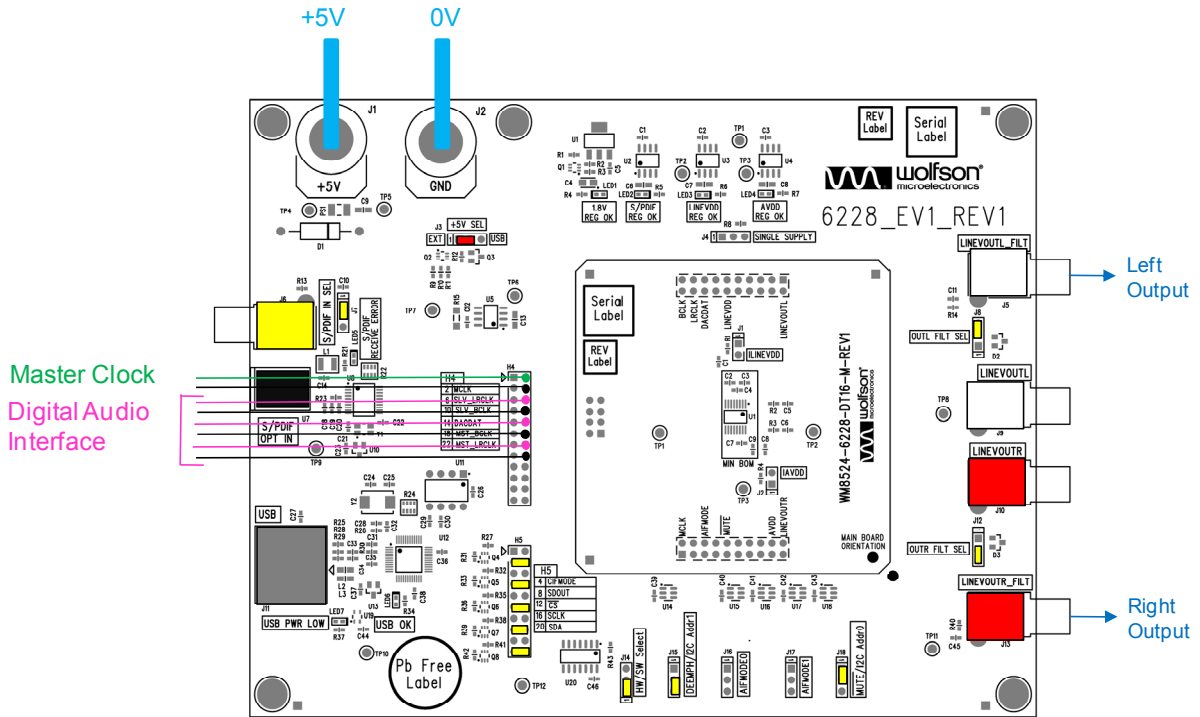


Figure 4 External power, optical S/PDIF input, unfiltered outputs

APPLICATION SUPPORT

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