

I²S interface board

Quick start guide

About this document

Scope and purpose

The I²S interface board is an add-on board intended for use with the EVAL_AUDIO_MA12040P and EVAL_AUDIO_MA12070P boards. The I²S interface board converts either analog or digital S/PDIF audio into I²S format matching the default settings of EVAL_AUDIO_MA1240P/MA12070P boards. The I²S interface board should be used when the user has no I²S source for the EVAL_AUDIO_MA1240P/MA12070P boards.

Intended audience

Audio amplifier design engineers, audio system engineers and audio software engineers.

Table of contents

About this document	1
Table of contents	1
1 Board block diagram and schematic	2
2 PCB board overview	4
3 Step-by-step user guide	5
Revision history	7

1 Board block diagram and schematic

The I²S interface board is an add-on board for the EVAL_AUDIO_MA12040P/MA12070P boards. A block diagram of the board is shown in **Figure 1**. The board will get 3.3 V supply from the **board-to-board** connector when connected to an EVAL board, and no other supply voltage is needed to operate the board.

The triple-Pole Dual-Throw (3PDT) **switch** selects between the analog and the digital input.

To use the **analog to I²S converter** connect an audio source via the 3.5 mm jack connector.

To use the **S/PDIF to I²S converter** connect a digital audio source from either the RCA or the optical connector.

The **jumper** selects between the **RCA connector** and the **optical input** signal.

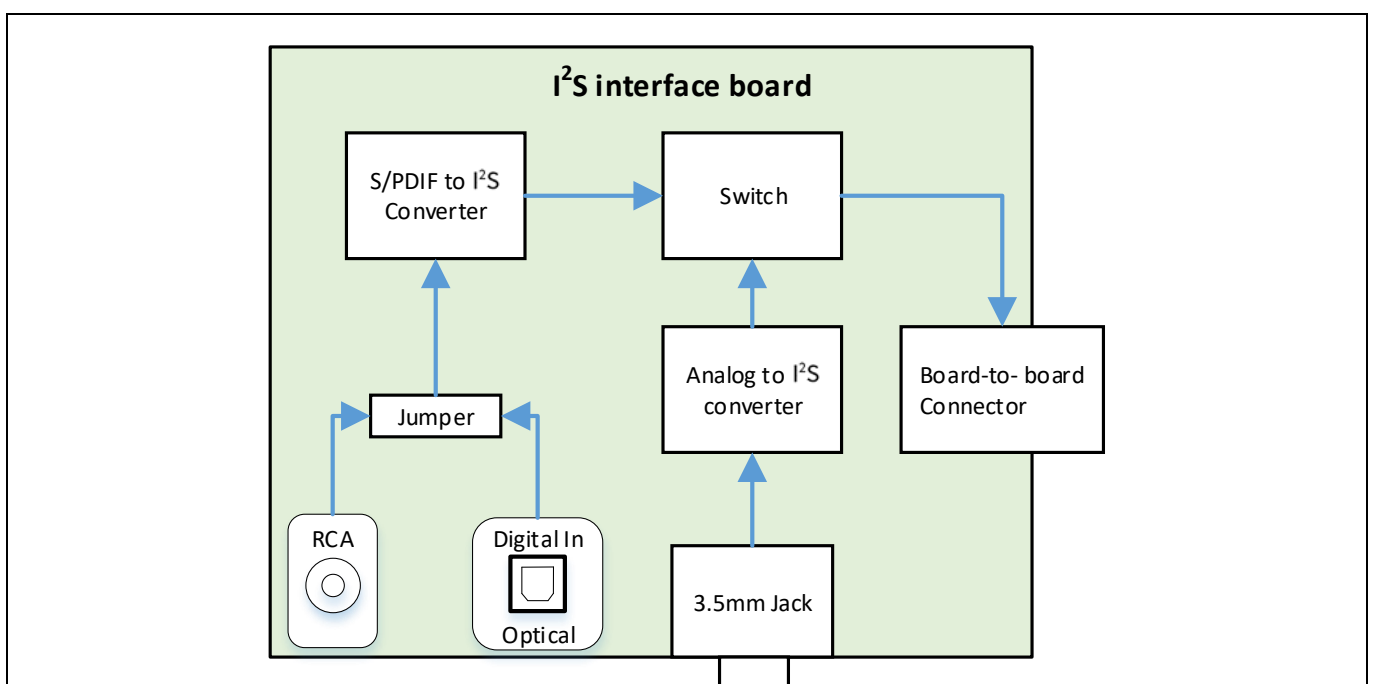


Figure 1 I²S interface board block diagram

For a schematic of the I²S interface board see **Figure 2**.

I2S interface board

Quick start guide

Board block diagram and schematic

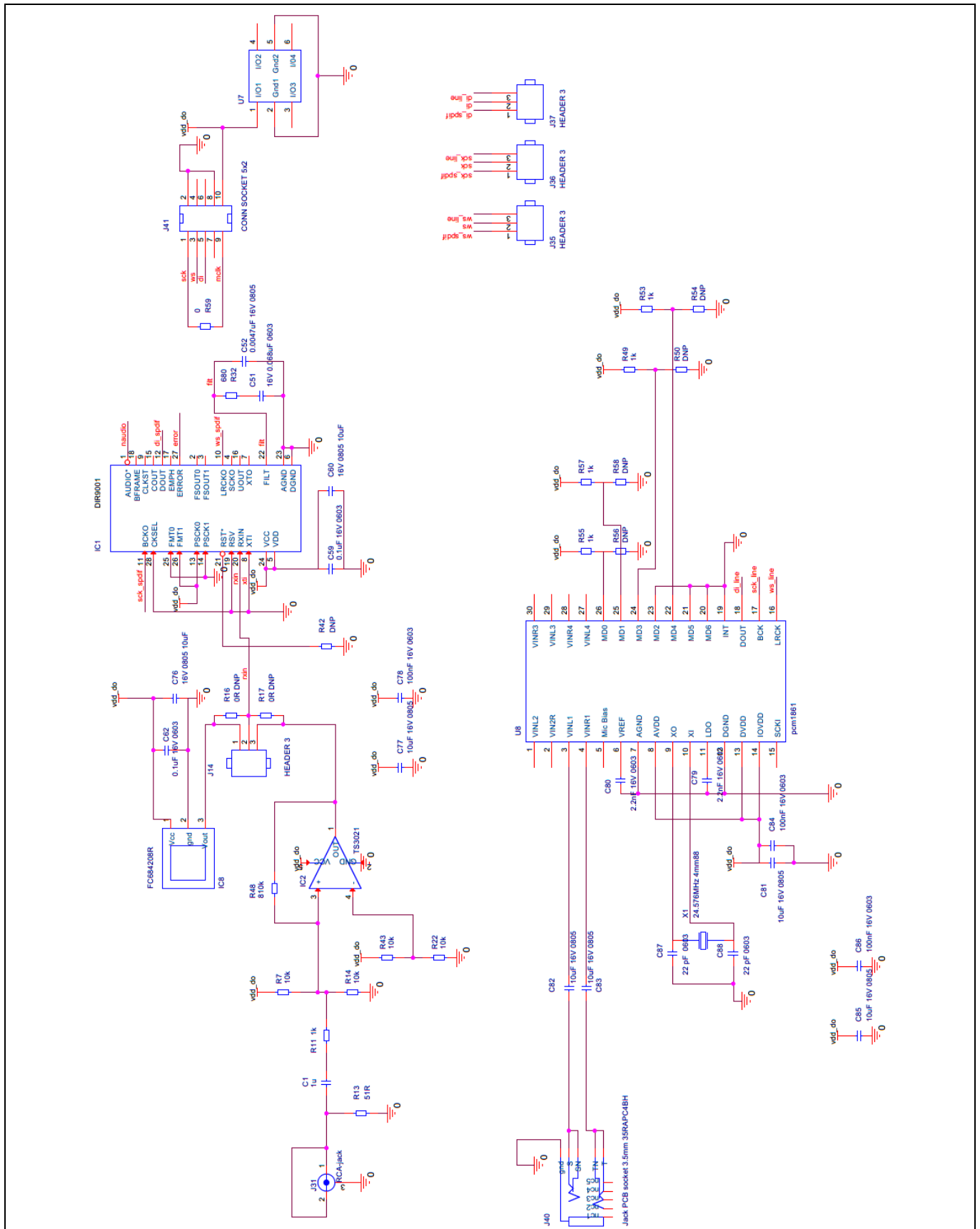


Figure 2 I²S interface board schematic

2 PCB board overview

For an overview of the PCB see [Figure 3](#).

- 1) S/PDIFF to I²S converter
- 2) Switch to select analog or digital input
- 3) Board-to-board connector
- 4) Jumper to select RCA or optical connector
- 5) Analog to I²S connector
- 6) RCA connector
- 7) Optical connector
- 8) 3.5 mm jack connector

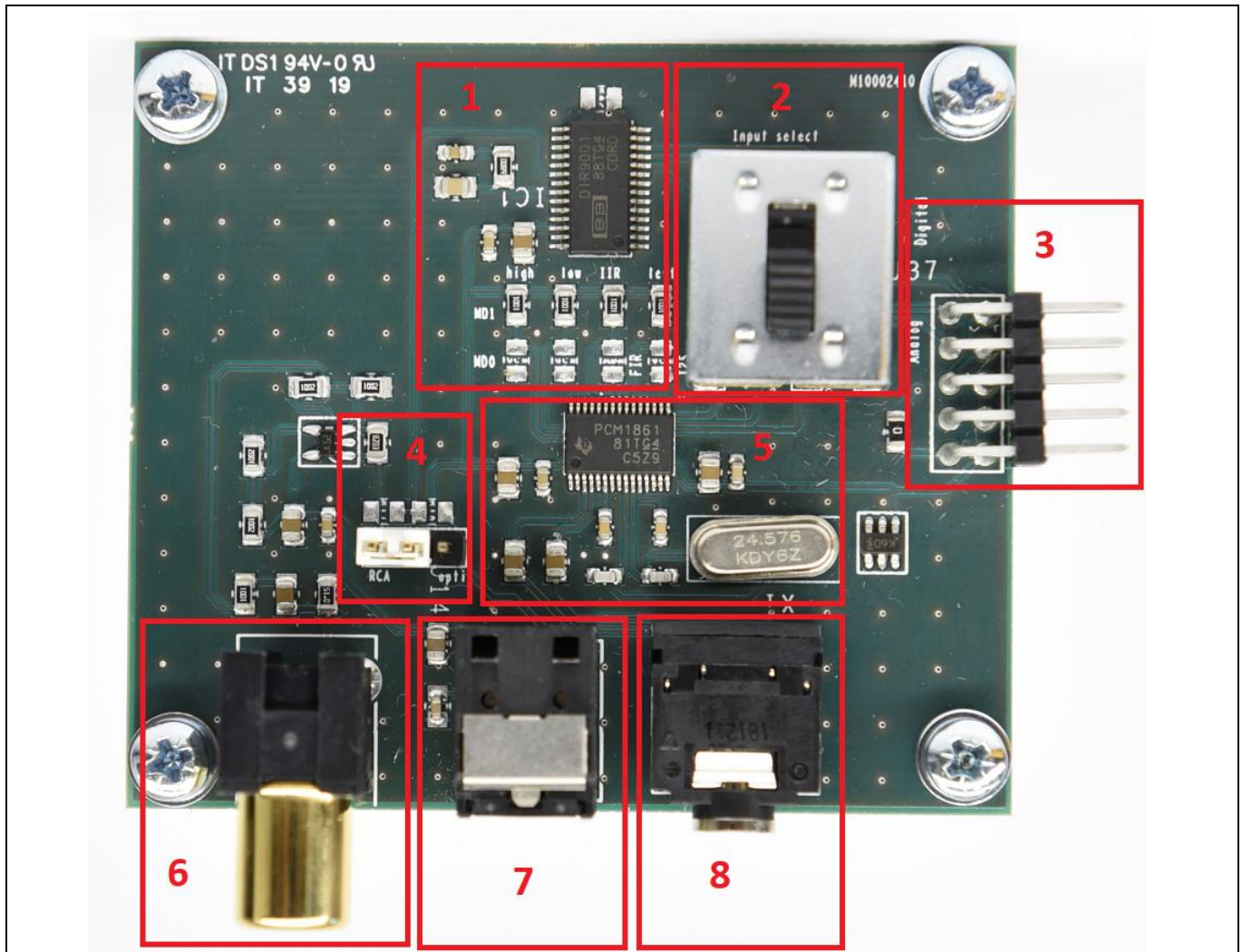


Figure 3 PCB board overview

3 Step-by-step user guide

- 1) Connect the power supply cables and speaker cables to the EVAL_AUDIO_MA12040P/MA12070P board. Do not turn on the power supply yet.
- 2) Disable and mute the MA12040P/MA12070P amplifier.
- 3) Connect the I²S interface board to an EVAL_AUDIO_MA12040P/MA12070P, see [Figure 4](#).

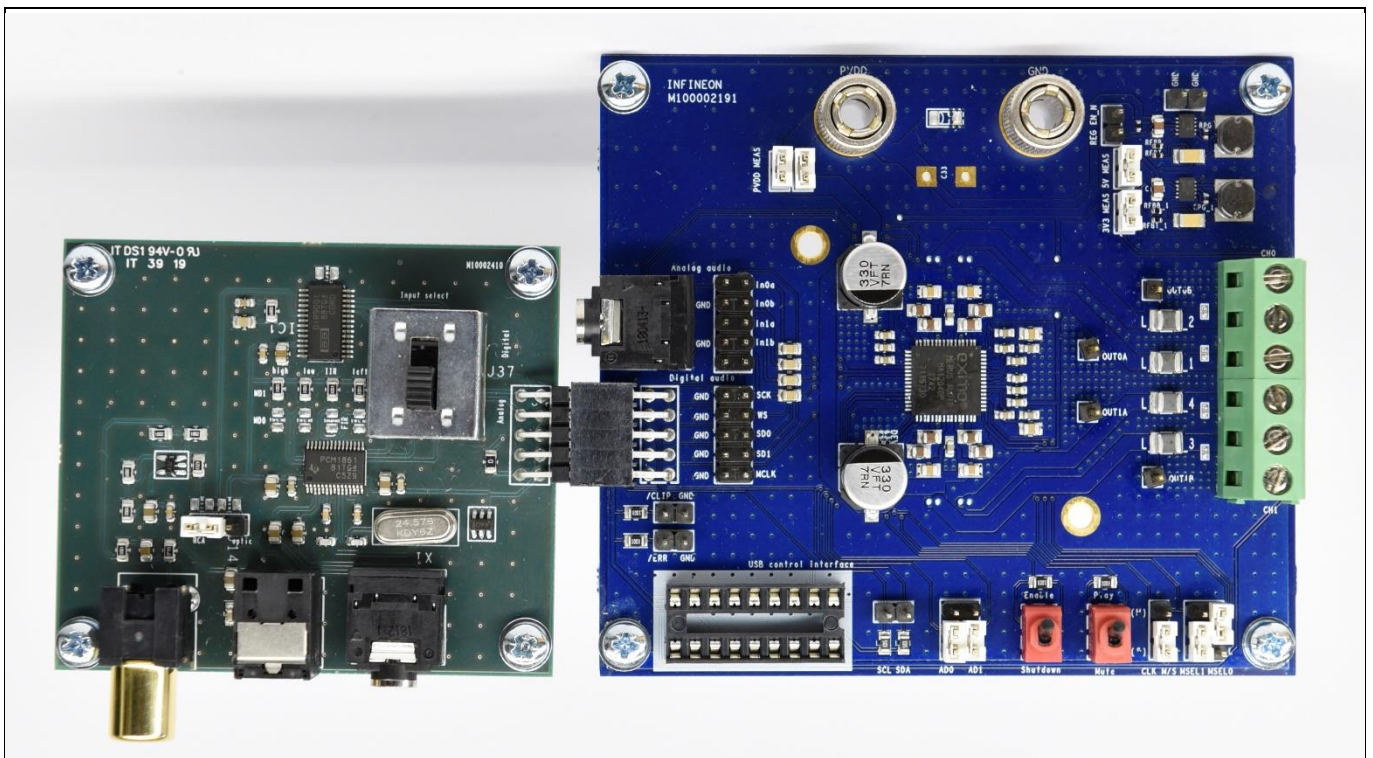


Figure 4 Step 3: connect the I²S interface board to the EVAL_AUDIO_MA12040P/MA12070P

- 4) Connect the preferred audio input source: either RCA (S/PDIF), optical (S/PDIF) or analog (3.5 mm jack).
- 5) Use the switch to select analog or digital input. See [Figure 5](#).
- 6) Use the jumper to select between RCA or optical cable.
- 7) Apply power to the EVAL_AUDIO_MA12040P/MA12070P.
- 8) Enable and unmute the EVAL_AUDIO_MA12040P/MA12070P.

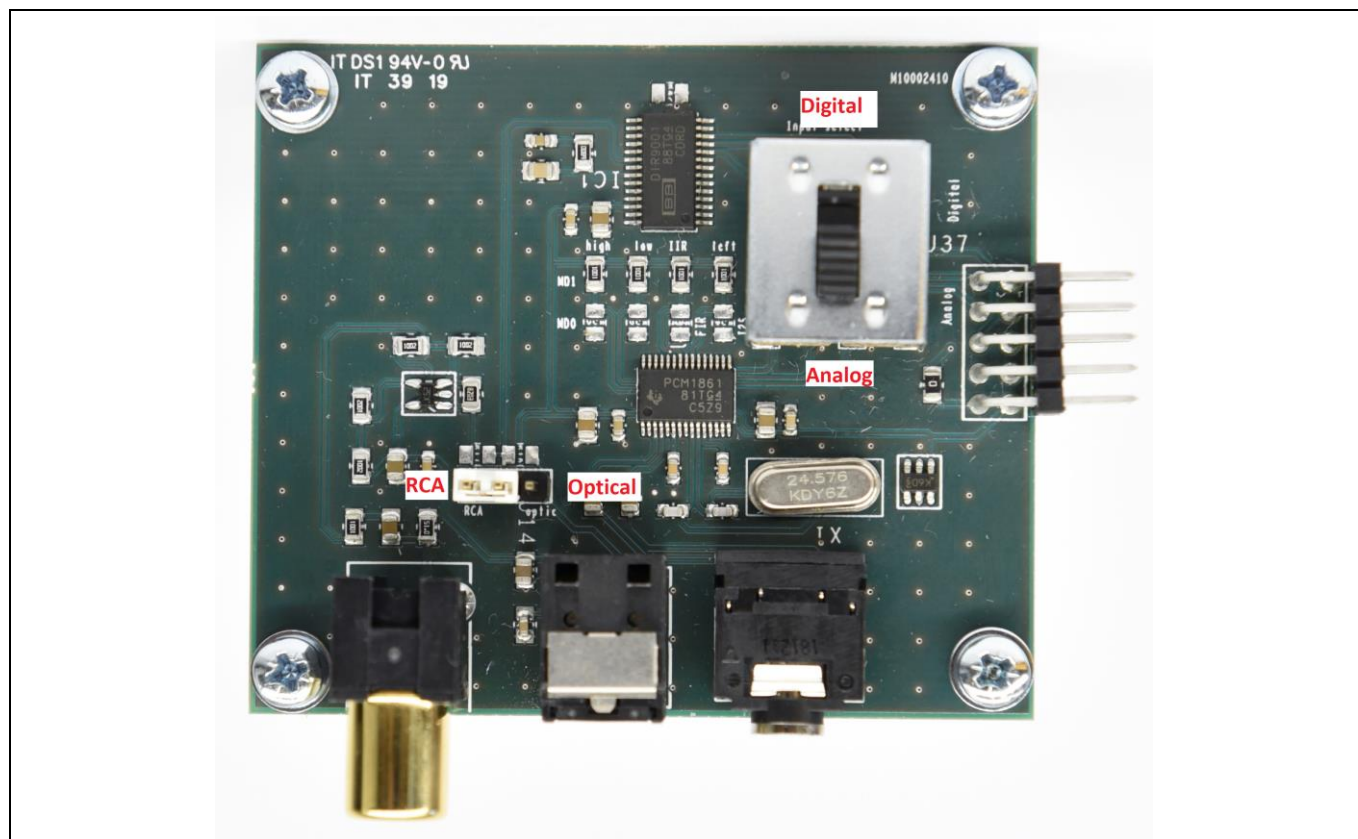


Figure 5 Switch and jumper select

Revision history

Document version	Date of release	Description of changes
V 1.0	2020-03-17	First release

Trademarks

All referenced product or service names and trademarks are the property of their respective owners.

Edition 2020-03-17

Published by

Infineon Technologies AG

81726 Munich, Germany

© 2020 Infineon Technologies AG.

All Rights Reserved.

Do you have a question about this document?

Email: erratum@infineon.com

Document reference

UM_2002_PL88_2003_100604

IMPORTANT NOTICE

The information contained in this application note is given as a hint for the implementation of the product only and shall in no event be regarded as a description or warranty of a certain functionality, condition or quality of the product. Before implementation of the product, the recipient of this application note must verify any function and other technical information given herein in the real application. Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind (including without limitation warranties of non-infringement of intellectual property rights of any third party) with respect to any and all information given in this application note.

The data contained in this document is exclusively intended for technically trained staff. It is the responsibility of customer's technical departments to evaluate the suitability of the product for the intended application and the completeness of the product information given in this document with respect to such application.

For further information on the product, technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies office (www.infineon.com).

WARNINGS

Due to technical requirements products may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies office.

Except as otherwise explicitly approved by Infineon Technologies in a written document signed by authorized representatives of Infineon Technologies, Infineon Technologies' products may not be used in any applications where a failure of the product or any consequences of the use thereof can reasonably be expected to result in personal injury.