



MOST150 Slim Board Family User's Guide

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**Object of Declaration: OS81118 USB Application Board, OS81119 USB Application Board,
Slim Microphone Board, Slim Auxiliary I/O Board, Slim Amplifier Board, Power Injector Box**

EU Declaration of Conformity

This declaration of conformity is issued by the manufacturer.

The development/evaluation tool is designed to be used for research and development in a laboratory environment. This development/evaluation tool is not intended to be a finished appliance, nor is it intended for incorporation into finished appliances that are made commercially available as single functional units to end users. This development/evaluation tool complies with EU EMC Directive 2004/108/EC and as supported by the European Commission's Guide for the EMC Directive 2004/108/EC (8th February 2010).

This development/evaluation tool complies with EU RoHS2 Directive 2011/65/EU.

This development/evaluation tool, when incorporating wireless and radio-telecom functionality, is in compliance with the essential requirement and other relevant provisions of the R&TTE Directive 1999/5/EC and the FCC rules as stated in the declaration of conformity provided in the module datasheet and the module product page available at www.microchip.com.

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Signed for and on behalf of Microchip Technology Inc. at Chandler, Arizona, USA.


Derek Carlson

VP Development Tools

11-NOV-16
Date

MOST150 Slim Board Family

NOTES:

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Preface

NOTICE TO CUSTOMERS

All documentation becomes dated, and this manual is no exception. Microchip tools and documentation are constantly evolving to meet customer needs, so some actual dialogs and/or tool descriptions may differ from those in this document. Please refer to our web site (www.microchip.com) to obtain the latest documentation available.

Documents are identified with a “DS” number. This number is located on the bottom of each page, in front of the page number. The numbering convention for the DS number is “DSXXXXXA”, where “XXXXX” is the document number and “A” is the revision level of the document.

INTRODUCTION

This chapter contains general information that will be useful to know before using a Slim Board. Topics discussed in this chapter include:

- [Intended Use](#)
- [Scope of Delivery](#)
- [Document Layout](#)
- [Term Definitions](#)
- [Recommended Reading](#)
- [Customer Support](#)
- [Document Revision History](#)

INTENDED USE

This Microchip product is intended to be used for developing, testing, or analyzing MOST® based multimedia products and systems by persons with experience in developing multimedia devices.

Note: The operation of this Microchip product is only admitted with original Microchip devices.
Do not interfere with the product's original state. Otherwise user safety, faultless operation and electromagnetic compatibility are not guaranteed.
To avoid electric shocks and short circuits use this device only in an appropriate environment.
This open device may exceed the limits of electromagnetic interference.
Electromagnetic compatibility can be only achieved if the equipment is built into an appropriate housing.

MOST150 Slim Board Family

SCOPE OF DELIVERY

The delivery includes the following parts:

- One Slim Board
- Two coax cables

The slim board can be identified by the label affixed on the bottom side of the board. The first five digits represent the part number.



Check your shipment for completeness.

If you have any complaints, direct them to your local Microchip sales and service office, listed on the last page of this document. Providing the delivery note number eases the handling.

DOCUMENT LAYOUT

This user's guide describes how to use a Slim Board and the Power Injector Box. The document is organized as follows:

- [Chapter 1, Introduction](#) – This chapter introduces the MOST150 Slim Board Family and shows a case of application.
- [Chapter 2, OS81118 USB Application Board](#); [Chapter 3, OS81119 USB Application Board](#); [Chapter 4, Slim Microphone Board](#); [Chapter 5, Slim Auxiliary I/O Board](#) and [Chapter 6, Slim Amplifier Board](#) – For each Slim Board these chapters start with a description of a typical use case. They show an image of the board, list product features and provide a functional description. Furthermore, they explain board details, show the assembly plans and mechanical dimensions.
- [Chapter 7, Power Injector Box](#) – This chapter describes the Power Injector Box.

TERM DEFINITIONS

This user's guide uses the following term definitions:

Term	Description
ALSA	Advanced Linux [®] Sound Architecture
cPHY	Coaxial Physical Layer
GND	Ground
I ² C	Inter-Integrated Circuit
I ² S [™]	Inter-IC Sound
INIC	Intelligent Network Interface Controller
LED	Light Emitting Diode
MCU	Micro Controller Unit
MEMS	Micro-Electro-Mechanical Systems
MOST	Media Oriented System Transport
NC	Not Connected
PoC	Power over Coax
RMS	Root Mean Square
SoC	Silicon on Chip
USB	Universal Serial Bus

RECOMMENDED READING

This user's guide describes how to use a Slim Board. Other useful documents are listed below. To obtain documents, contact: support-ais-de@microchip.com.

- [1] OS81118 Hardware Data Sheet
- [2] OS81118 INIC API User's Guide
- [3] Microchip Automotive Target Manager User's Guide
- [4] MOST Linux Driver User's Guide

CUSTOMER SUPPORT

Users of Microchip products can receive assistance through several channels:

- Distributor or Representative
- Local Sales Office
- Field Application Engineer (FAE)
- Technical Support

Customers should contact their distributor, representative or field application engineer (FAE) for support. Local sales offices are also available to help customers. A listing of sales offices and locations is included in the back of this document.

Technical support is available through support-ais-de@microchip.com.

DOCUMENT REVISION HISTORY

Revision A (April 2016)

- Initial release of this document.

Revision B (December 2016)

- Renamed 'USB Application Board' to 'OS81118 USB Application Board'
- Added OS81119 USB Application Board
- [Section 2.2](#): added "Coaxial interface runs in dual simplex mode"
- [Section 4.2](#):
 - changed group address from '0x0375...0x0378' to '0x0375'
 - added "Coaxial interface runs in dual simplex mode"
- [Section 5.2](#): added "Coaxial interface runs in dual simplex mode"
- [Section 6.2](#): added "Coaxial interface runs in dual simplex mode"

Chapter 1. Introduction

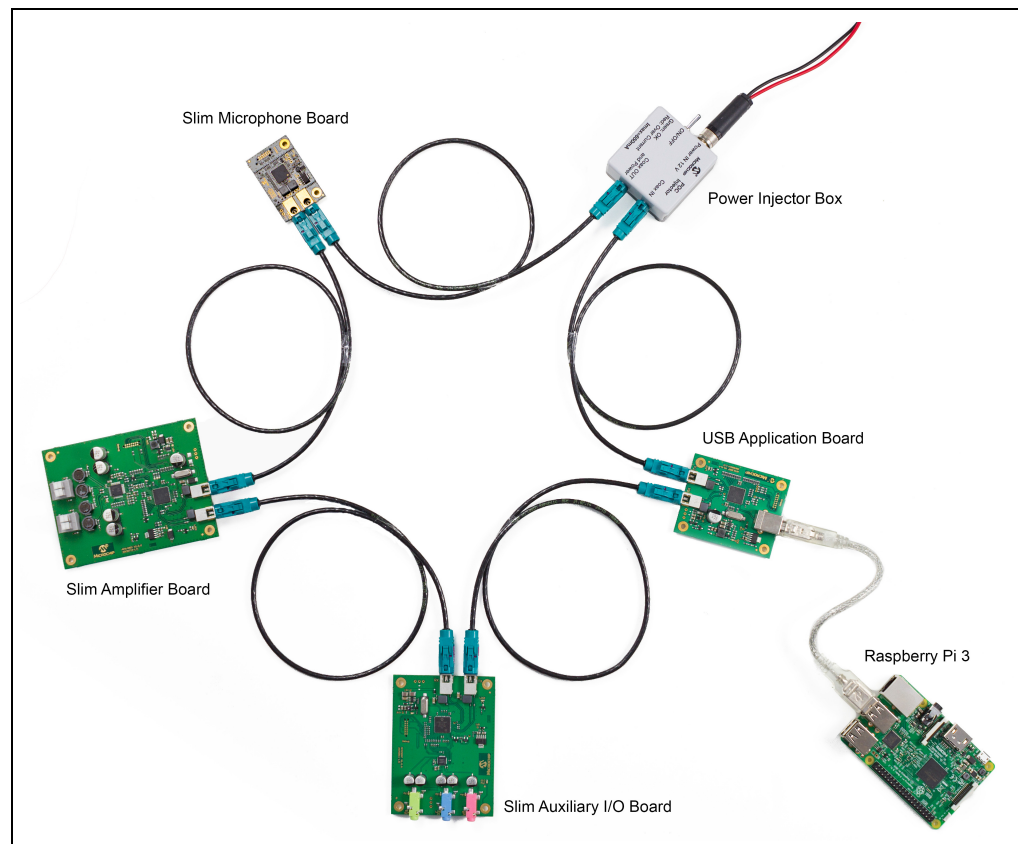
The MOST150 Slim Board Family is a powerful set of different demonstration boards that have been designed to showcase a variety of application-specific use cases, such as the operation of several audio instances.

Available demonstration boards are the:

- [OS81118 USB Application Board](#)
- [OS81119 USB Application Board](#)
- [Slim Auxiliary I/O Board](#)
- [Slim Microphone Board](#)
- [Slim Amplifier Board](#)

[Figure 1-1](#) shows a powerful and low-cost example setup that uses Slim Boards; a Raspberry Pi 3 is running Linux. The [Power Injector Box](#) is required for powering the Slim Boards.

FIGURE 1-1: EXAMPLE SETUP



MOST150 Slim Board Family

The idea behind the *Slim* design pattern is to avoid an [MCU](#) running on all but one of the devices in the network. However, a controlling instance is needed to allow a wide variety of use cases. This instance is the USB Application Board, which connects via [USB](#) to an [MCU](#) or [SoC](#).

For Kernel driver and application examples for Linux contact:
support-ais-de@microchip.com.

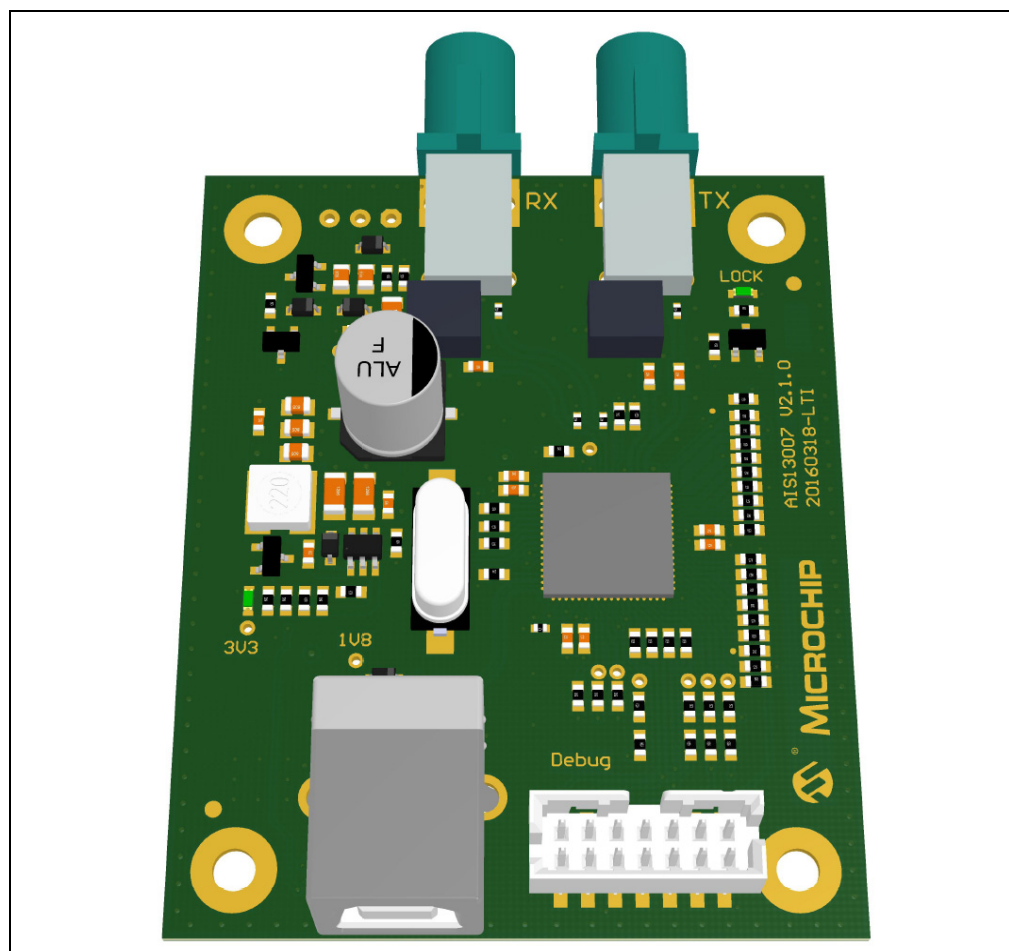
Chapter 2. OS81118 USB Application Board

2.1 OVERVIEW

The OS81118 USB Application Board is used to interface a controlling instance to the MOST network. In many cases this will be a single board computer or a laptop running Linux. This board is the interface to configure any Slim Board on the network and to feed and receive audio streams to/from the network. If the MOST Linux Driver [4] is used, a record or playback [ALSA](#) interface can be utilized for this purpose.

An image of the board is shown in [Figure 2-1](#).

FIGURE 2-1: OS81118 USB APPLICATION BOARD



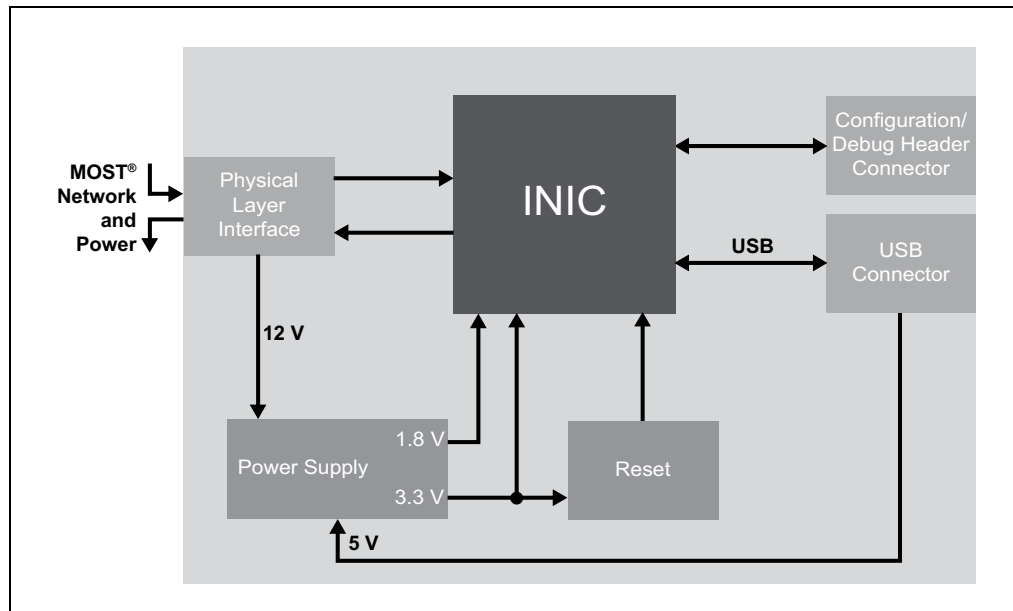
2.2 PRODUCT FEATURES

- Detached interface between application hardware and MOST network
- Supports a MOST network speed grade of 150 Mbits/s
- Available for coaxial physical layer (cPHY) applications
 - Coaxial interface runs in dual simplex mode
- Configuration/Debug Header Connector
- Offers connection capabilities to the USB port
- Lock detection
- Is identified in the network by its group address 0x0311

2.3 FUNCTIONAL DESCRIPTION

Figure 2-2 gives an overview of the board's main components.

FIGURE 2-2: BLOCK DIAGRAM



The OS81118 USB Application Board provides a coaxial Physical Layer (cPHY) interface to the MOST network. The coaxial interface is implemented with passive front-end components [1]. If the board is connected with the Power Injector Box, the 12 V of the box are used to feed the on-board power supply, which provides 1.8 V INIC core supply and 3.3 V for INIC I/Os and other components. As long as the output voltage of the power supply is not stable, the INIC will be hold in reset.

The [Configuration/Debug Header Connector](#) is used to read, load or customize the INIC's initial start-up configuration data.

The USB connector is used to connect the board to USB applications. For more information refer to the OS81118 hardware data sheet [1]. If the Power Injector Box is not connected, the board can also be powered via the USB connector.

2.4 BOARD DETAILS

2.4.1 Electrical Characteristics

Parameter	Min.	Typ.	Max.	Unit
Board Current Consumption at Board Operating Voltage	9	90 12	15	mA V
USB Connector Current at USB Connector Voltage	4.75	150 5	5.25	mA V

2.4.2 Connectors

All connectors are mounted on the top side of the Slim Board.

2.4.2.1 CONFIGURATION/DEBUG HEADER CONNECTOR

The Configuration/Debug Header [1] connector is used as an interface between the INIC and the INIC Explorer Interface Box. In combination with the Microchip Automotive Target Manager [3], initial configuration data [2] can be loaded into the INIC.

Type:	87832-1420, from Molex®
Suitable counter-piece:	87568-1493, from Molex

The connector pins are described in [Table 2-1](#).

TABLE 2-1: CONFIGURATION/DEBUG HEADER – PIN DESCRIPTION

Pin	Description
1, 3, 13	NC
2, 5, 10	GND
4	Error/Boot
6, 9	3.3 V
7	TDI/DSDA
8	TCK/DSCL
11	TDO/DINT
12	Reset
14	TMS

2.4.2.2 COAXIAL CONNECTOR (CPHY)

The coaxial interface connectors are used as an interface to the MOST network.

Type:	59S2AQ-40MT5-Z, FAKRA, right angle plug code Z water-blue, from Rosenberger®
Suitable counter-piece:	59Z061-000, FAKRA, plastic housing jack, from Rosenberger

2.4.2.3 USB CONNECTOR

The OS81118 USB Application Board provides a USB connector to connect to a USB device.

Type:	614 004 161 21, standard type B, female, from Würth®
Suitable counter-piece:	CAUBLKAB-2M, USB Cable Type A male/Type B male, from L-COM®

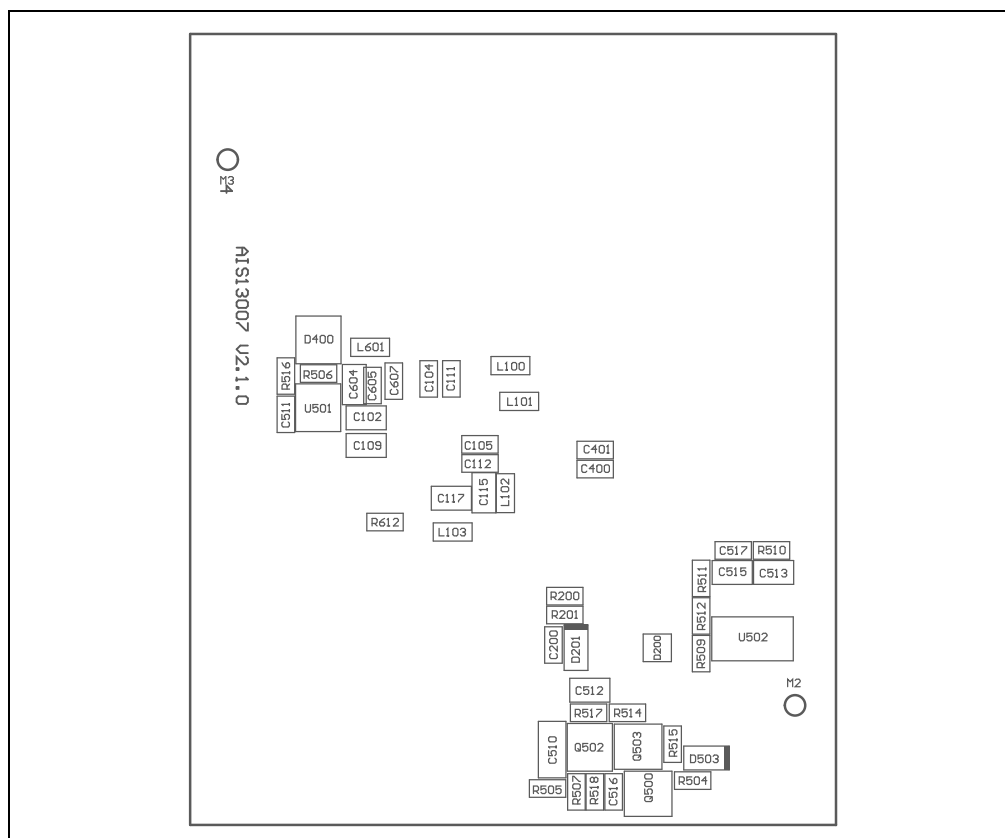
2.4.3 LEDs

All LEDs are mounted on the top side of the Slim Board.

The table below gives an overview of the LEDs and the states they signal.

Name	State	Description
3V3 (Power)	Off	The Slim Board is not powered.
	On (green)	The Slim Board is powered.
Lock	Off	The INIC is not locked to the MOST network.
	On (green)	The INIC is locked to the MOST network.

FIGURE 2-4: ASSEMBLY PLAN – BOTTOM VIEW



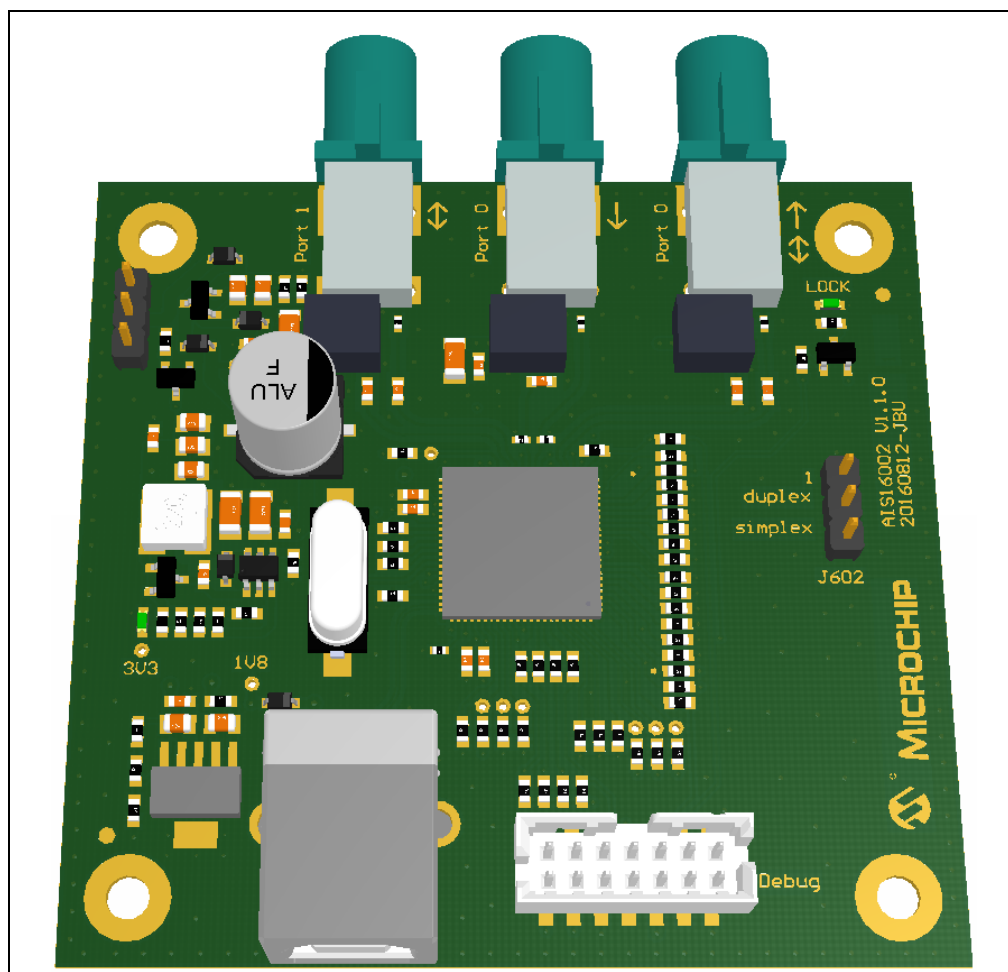
Chapter 3. OS81119 USB Application Board

3.1 OVERVIEW

The OS81119 USB Application Board is used to interface a controlling instance to the MOST network. In many cases this will be a single board computer or a laptop running Linux. This board is the interface to configure any Slim Board on the network and to feed and receive audio streams to/from the network. If the MOST Linux Driver [4] is used, a record or playback [ALSA](#) interface can be utilized for this purpose.

An image of the board is shown in [Figure 3-1](#).

FIGURE 3-1: OS81119 USB APPLICATION BOARD



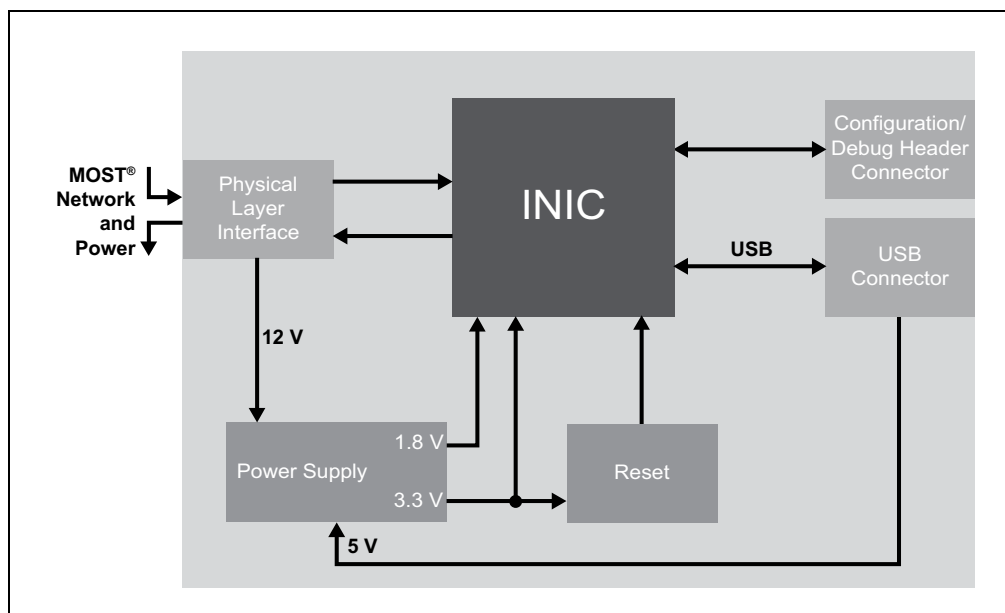
3.2 PRODUCT FEATURES

- Detached interface between application hardware and MOST network
- Supports a MOST network speed grade of 150 Mbits/s
- Supports two MOST network ports
- Available for coaxial physical layer (cPHY) applications
 - Coaxial interface can be run in dual simplex or full duplex mode
- Configuration/Debug Header Connector
- Offers connection capabilities to the USB port
- Lock detection
- Is identified in the network by its group address 0x0311

3.3 FUNCTIONAL DESCRIPTION

Figure 3-2 gives an overview of the board's main components.

FIGURE 3-2: BLOCK DIAGRAM



To the MOST network, the OS81119 USB Application Board provides two coaxial Physical Layer (cPHY) interfaces, which are the MOST Port 0 and the MOST Port 1. MOST Port 0 is capable to run either in dual simplex mode or in full duplex mode, while MOST Port 1 supports the full duplex mode, see Figure 3-1. The mode to be used on MOST Port 0 can be selected by a jumper, see Section 3.4.3.

The coaxial interface is implemented with passive front-end components [1]. If the board is connected with the Power Injector Box, the 12 V of the box are used to feed the on-board power supply, which provides 1.8 V INIC core supply and 3.3 V for INIC I/Os and other components. As long as the output voltage of the power supply is not stable, the INIC will be hold in reset.

The Configuration/Debug Header Connector is used to read, load or customize the INIC's initial start-up configuration data.

The USB connector is used to connect the board to USB applications. For more information refer to the OS81119 hardware data sheet [1]. If the Power Injector Box is not connected, the board can also be powered via the USB connector.

3.4 BOARD DETAILS

3.4.1 Electrical Characteristics

Parameter	Min.	Typ.	Max.	Unit
Board Current Consumption at Board Operating Voltage	9	100 12	15	mA V
USB Connector Current at USB Connector Voltage	4.75	170 5	5.25	mA V

3.4.2 Connectors

The OS81119 USB Application Board provides the following connectors:

- Three coaxial connectors
 - Connectors J600 and J601, Port 0, are enabled per default, for operation refer to [Section 3.4.3](#)
 - Connector J700, Port 1, needs to be enabled via the INIC configuration sting, operates only in full duplex mode
- One USB connector
- One Configuration/Debug Header connector

For information on the connectors refer to [Section 2.4.2](#).

3.4.3 Coaxial Interface Jumper

If the jumper J602 (see [Figure 3-3](#)) is positioned on pins 2-3 during start-up, the coaxial interface connectors work in dual simplex mode. This means, J601 operates as Tx and J600 as Rx.

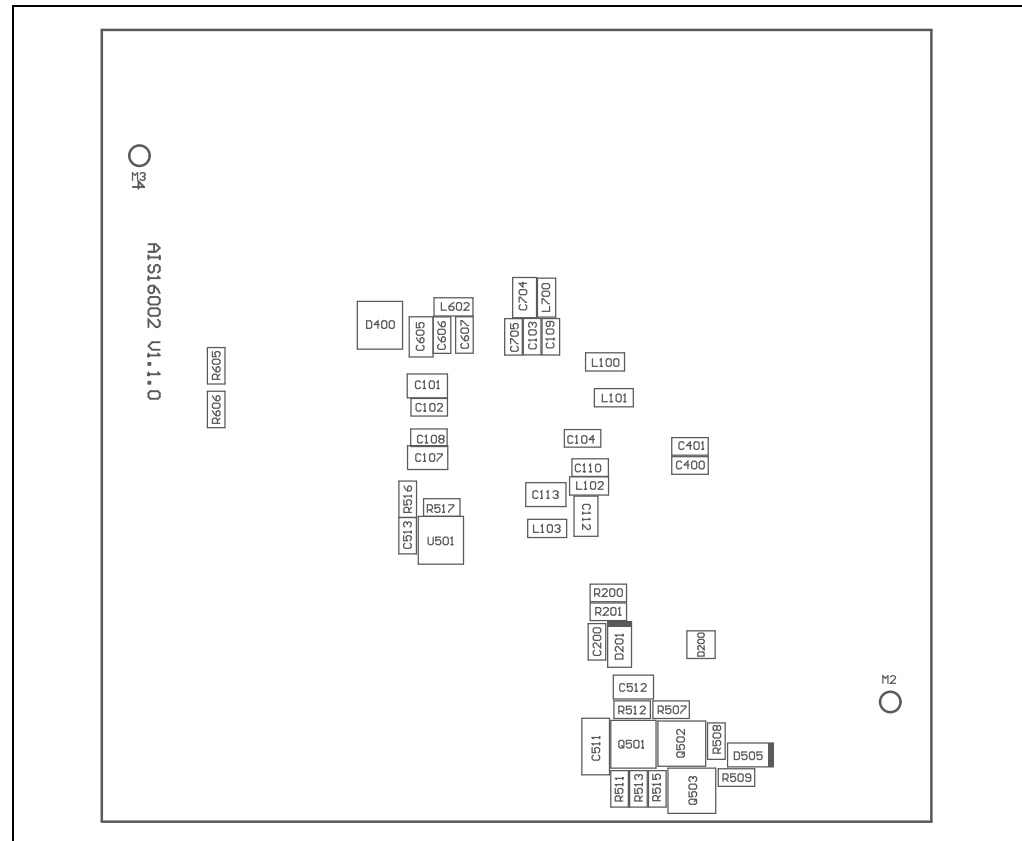
If the jumper is positioned on pins 1-2 during start-up, J601 operates in full duplex mode, as Tx and Rx. J600 is not applicable in this mode.

3.4.4 LEDs

The OS81119 USB Application Board provides a Power LED and a Lock LED.

For LED states and a description refer to [Section 2.4.3](#).

FIGURE 3-4: ASSEMBLY PLAN – BOTTOM VIEW



MOST150 Slim Board Family

NOTES:

Chapter 4. Slim Microphone Board

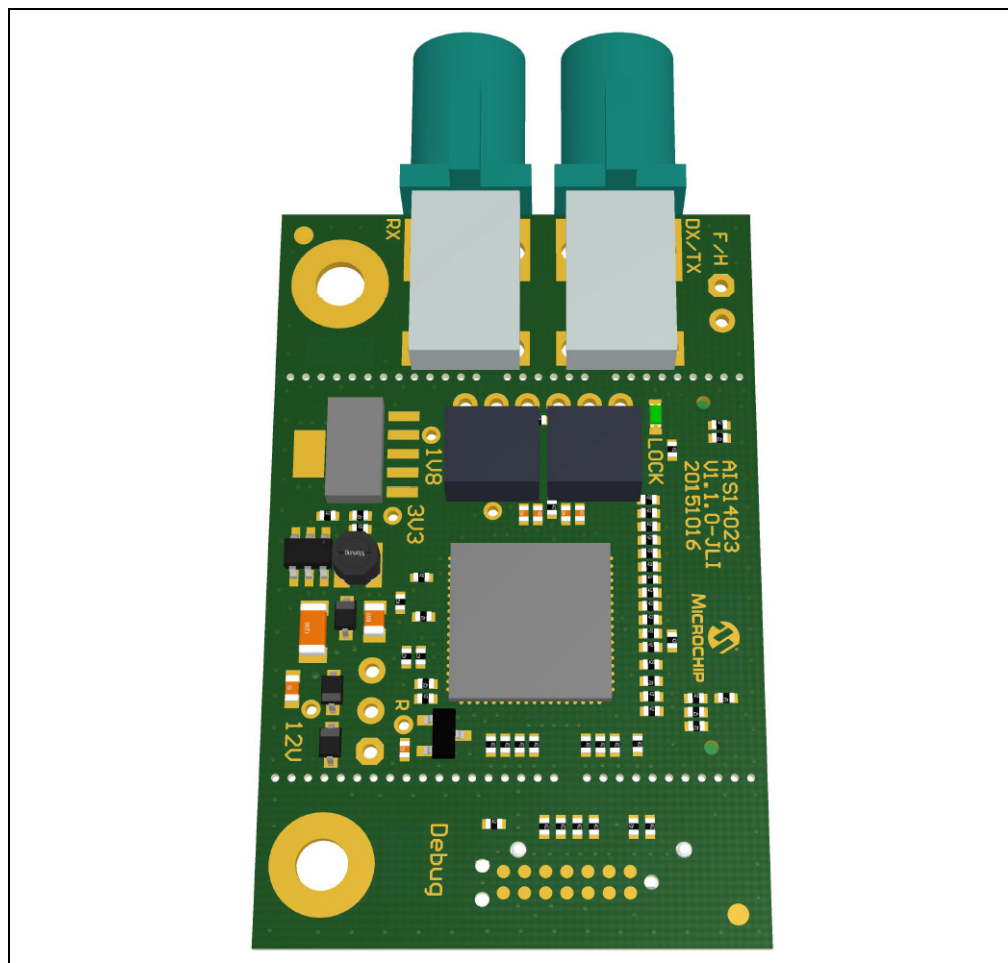
4.1 OVERVIEW

The Slim Microphone Board can serve as a stereo audio source feeding the MOST network. The data can be routed to a Slim Auxiliary I/O Board and a Slim Amplifier Board to make it audible again.

For recording or further processing, the audio data can also be routed to a OS81118 USB Application Board.

An image of the board is shown in [Figure 4-1](#).

FIGURE 4-1: SLIM MICROPHONE BOARD



MOST150 Slim Board Family

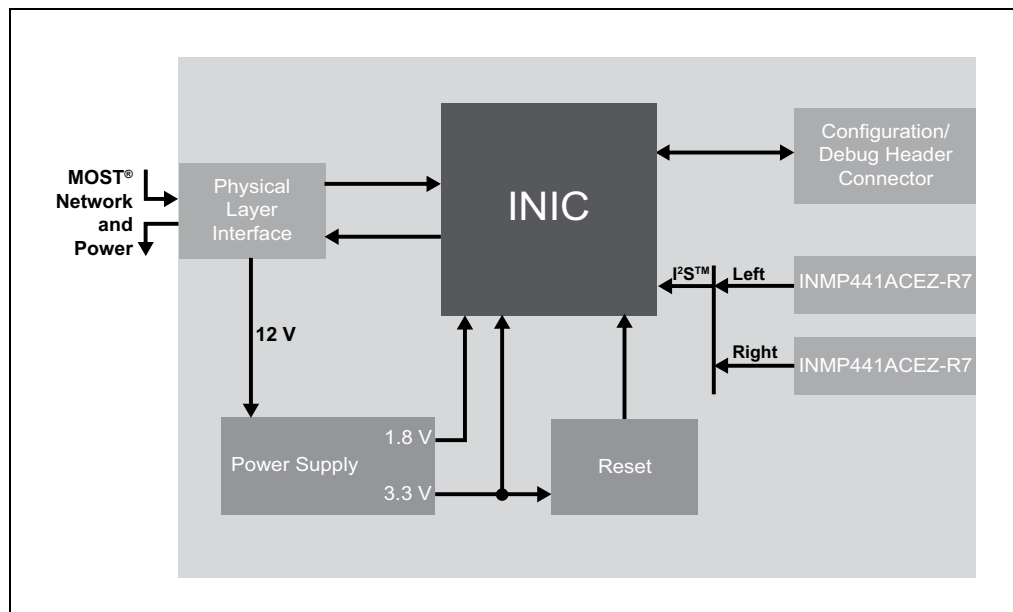
4.2 PRODUCT FEATURES

- Supports a MOST network speed grade of 150 Mbits/s
- Available for coaxial physical layer (cPHY) applications
 - Coaxial interface runs in dual simplex mode
- Configuration/Debug Header Connector
- One streaming port
- Lock detection
- Is identified in the network by its group address 0x0375

4.3 FUNCTIONAL DESCRIPTION

Figure 4-2 gives an overview of the board's main components.

FIGURE 4-2: BLOCK DIAGRAM



The Slim Microphone Board provides a coaxial Physical Layer (cPHY) interface to the MOST network. The coaxial interface is implemented with passive front-end components [1]. The Power Injector Box provides 12 V that are used to feed the on-board power supply, which provides 1.8 V INIC core supply and 3.3 V for INIC I/Os and other components. As long as the output voltage of the power supply is not stable, the INIC will be hold in reset.

The [Configuration/Debug Header Connector](#) is used to read, load or customize the INIC's initial start-up configuration data.

The two on-board omni-directional [MEMS](#) microphones are connected to the INIC via one I²S port. Together, they provide a stereo microphone input.

4.4 BOARD DETAILS

4.4.1 Electrical Characteristics

Parameter	Min.	Typ.	Max.	Unit
Board Current Consumption at		75		mA
Board Operating Voltage	9	12	15	V

4.4.2 Connectors

The Slim Microphone Board provides the following connectors:

- Two coaxial connectors
- One Configuration/Debug Header connector

For information on the connectors refer to [Section 2.4.2](#).

4.4.3 LED

The Slim Microphone Board provides a Power LED and a Lock LED.

For LED states and a description refer to [Section 2.4.3](#).

4.5 ASSEMBLY PLAN AND MECHANICAL DIMENSIONS

4.5.1 Top View and Mechanical Dimensions

The mechanical dimensions shown in [Figure 4-3](#) are in [mm].

FIGURE 4-3: ASSEMBLY PLAN – TOP VIEW AND MECHANICAL DIMENSIONS

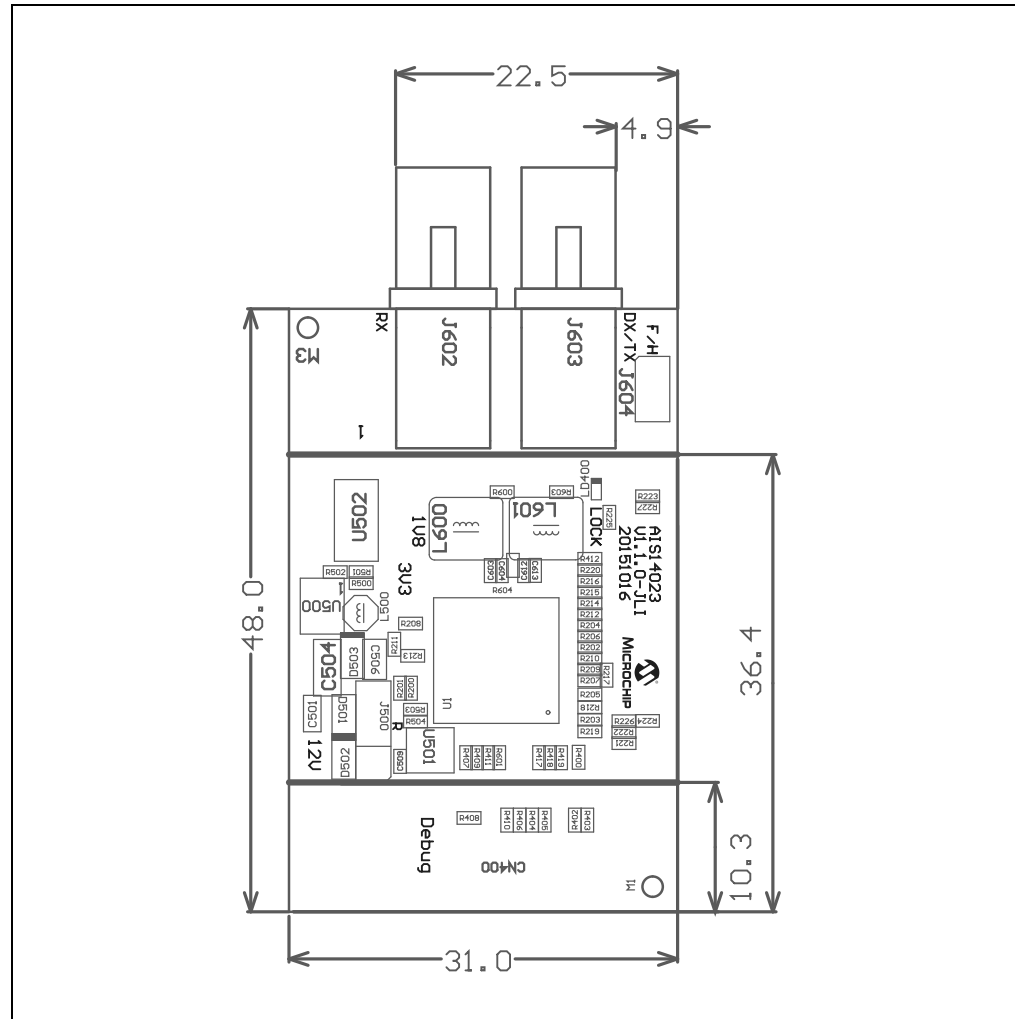
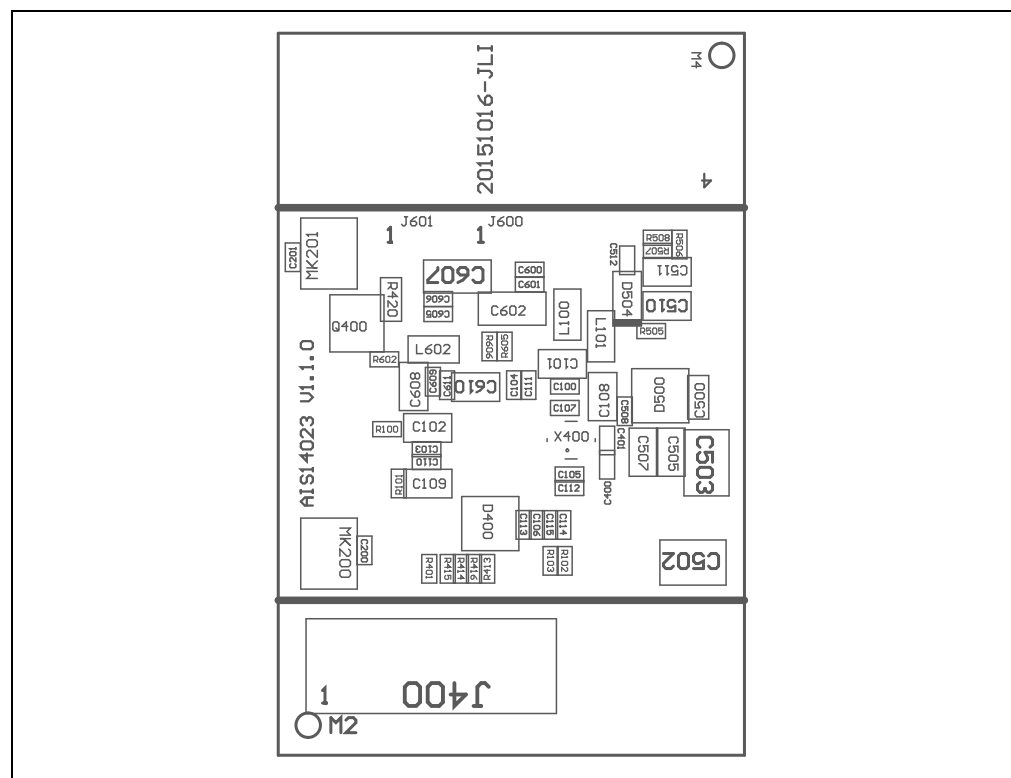


FIGURE 4-4: ASSEMBLY PLAN – BOTTOM VIEW



MOST150 Slim Board Family

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Chapter 5. Slim Auxiliary I/O Board

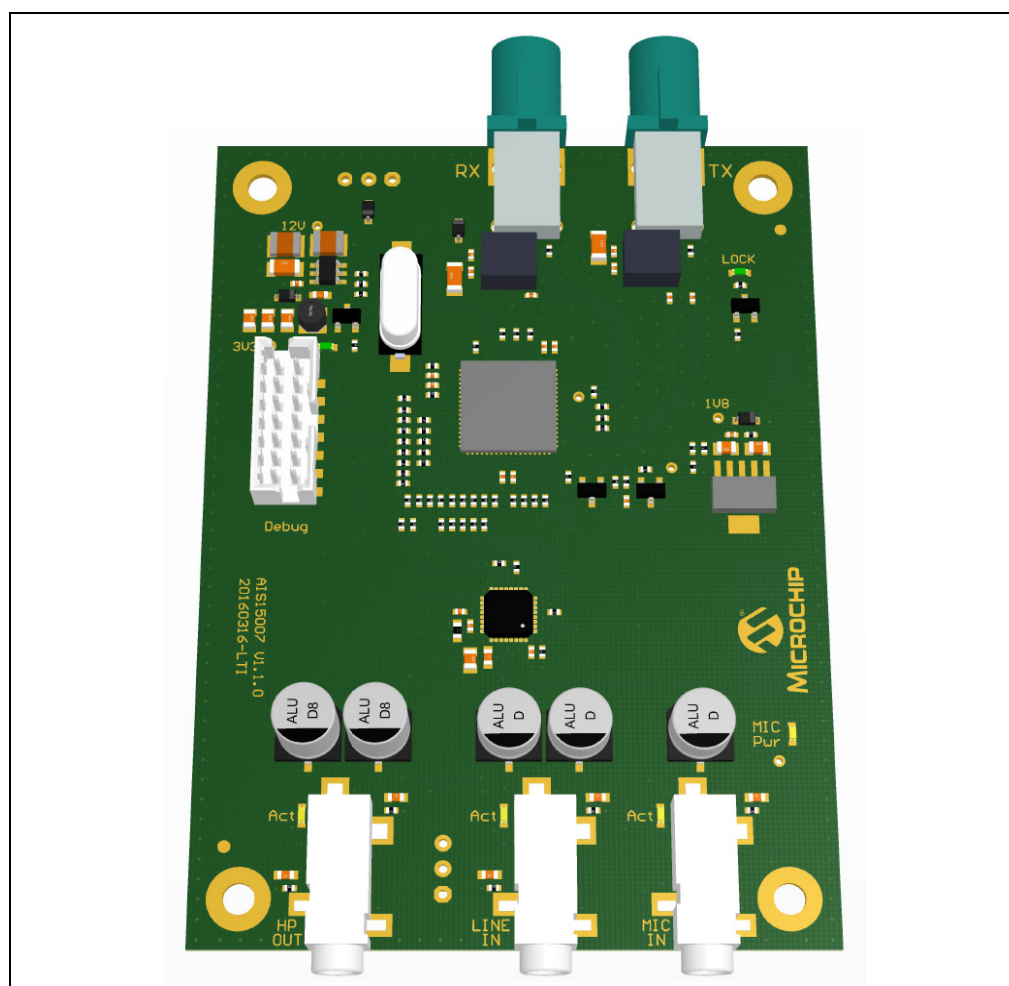
5.1 OVERVIEW

The Slim Auxiliary I/O Board is used to sink and source stereo audio streams from and to the MOST network. It is able to deliver a stereo audio label sourced by the OS81118 USB Application Board, Slim Microphone Board or another Slim Auxiliary I/O Board to its headphone jack to make it audible on a connected headphone.

In parallel an audio stream from the microphone or Line In can be sourced to the network and routed to a Slim Auxiliary I/O Board and a Slim Amplifier Board to make it audible again. For recording or further processing, the audio data can also be routed to a OS81118 USB Application Board.

An image of the board is shown in [Figure 5-1](#).

FIGURE 5-1: SLIM AUXILIARY I/O BOARD



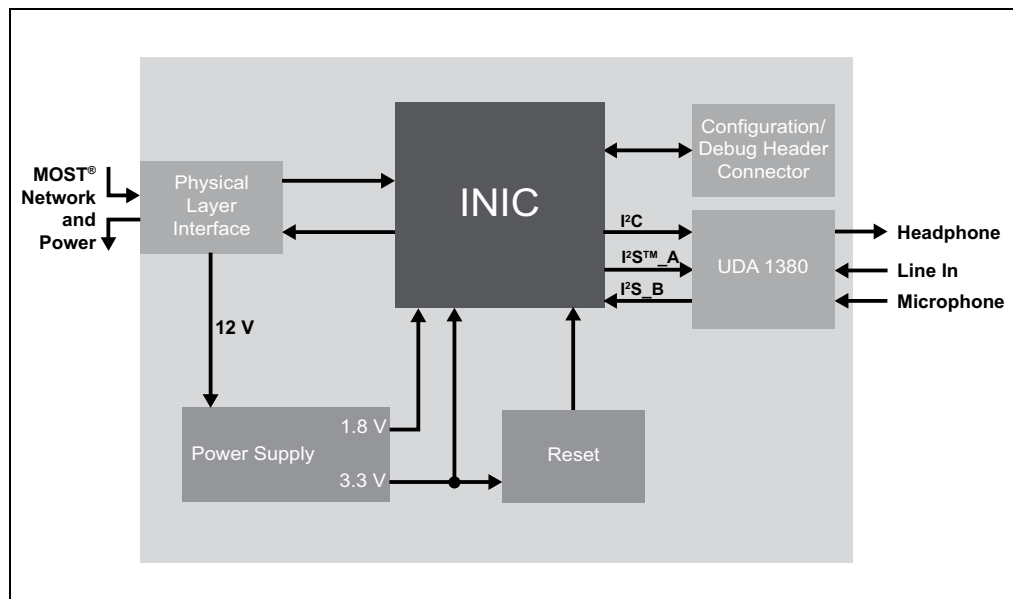
5.2 PRODUCT FEATURES

- Supports a MOST network speed grade of 150 Mbits/s
- Available for coaxial physical layer (cPHY) applications
 - Coaxial interface runs in dual simplex mode
- Configuration/Debug Header Connector
- Lock detection
- Active jack indication (for noise cancellation; audio sockets are only active when jack is plugged-in)
- Microphone input (with phantom power)
- Line input
- Headphone output
- Is identified in the network by its group address 0x0324

5.3 FUNCTIONAL DESCRIPTION

Figure 5-2 gives an overview of the board's main components.

FIGURE 5-2: BLOCK DIAGRAM



The Slim Auxiliary I/O Board provides a coaxial Physical Layer (cPHY) interface to the MOST network. The coaxial interface is implemented with passive front-end components [1]. The Power Injector Box provides 12 V that are used to feed the on-board power supply, which provides 1.8 V INIC core supply and 3.3 V for INIC I/Os and other components. As long as the output voltage of the power supply is not stable, the INIC will be hold in reset.

The [Configuration/Debug Header Connector](#) is used to read, load or customize the INIC's initial start-up configuration data.

The stereo audio codec UDA1380 is connected to the INIC through one I²C port and two I²S ports. It provides a headphone output, a stereo line input and a mono microphone input.

Note: Use of microphone and line input at the same time is not supported.

5.4 BOARD DETAILS

5.4.1 Electrical Characteristics

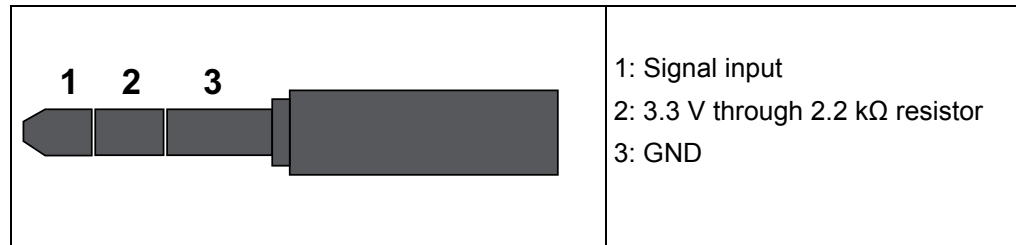
Parameter	Min.	Typ.	Max.	Unit
Board Current Consumption at Board Operating Voltage	9	95 12	15	mA V
Headphone Output Power	30	35	40	mW (RMS)
Line In Voltage			1	V (RMS)
Microphone Input Voltage			35	mV (RMS)
Microphone DC Bias		3.3 ¹		V

Note 1: Through 2.2 kΩ resistor. For details refer to [Section 5.4.2](#).

5.4.2 Microphone Power

The Slim Auxiliary I/O Board supports standard electret microphones that need a bias voltage. [Figure 5-3](#) shows the pin assignment on the 3.5 mm stereo plug.

FIGURE 5-3: PIN ASSIGNMENT OF STEREO PLUG



5.4.3 Connectors

The Slim Auxiliary I/O Board provides the following connectors:

- Two coaxial connectors
- One Configuration/Debug Header connector
- Three audio sockets

For information on the coaxial and Configuration/Debug Header connectors refer to [Section 2.4.2](#). The audio socket connectors are described in [Section 5.4.3.1](#).

5.4.3.1 AUDIO SOCKET

The Slim Auxiliary I/O Board provides the following audio socket connectors:

Headphone socket type:	SJ-3524-SMT-TR-GR, standard jack, stereo, 3.5 mm, green, from CUI Inc.
Line In socket type:	SJ-3524-SMT-TR-BE, standard jack, stereo, 3.5 mm, blue, from CUI Inc.
Microphone socket type:	SJ-3524-SMT-TR-PI, standard jack, stereo, 3.5 mm, pink, from CUI Inc.
Suitable counter-piece:	SP-3501, stereo plug, 3.5 mm male, from CUI Inc.

5.4.4 LEDs

All LEDs are mounted on the top side of the Slim Board.

The table below gives an overview of the LEDs and the states they signal.

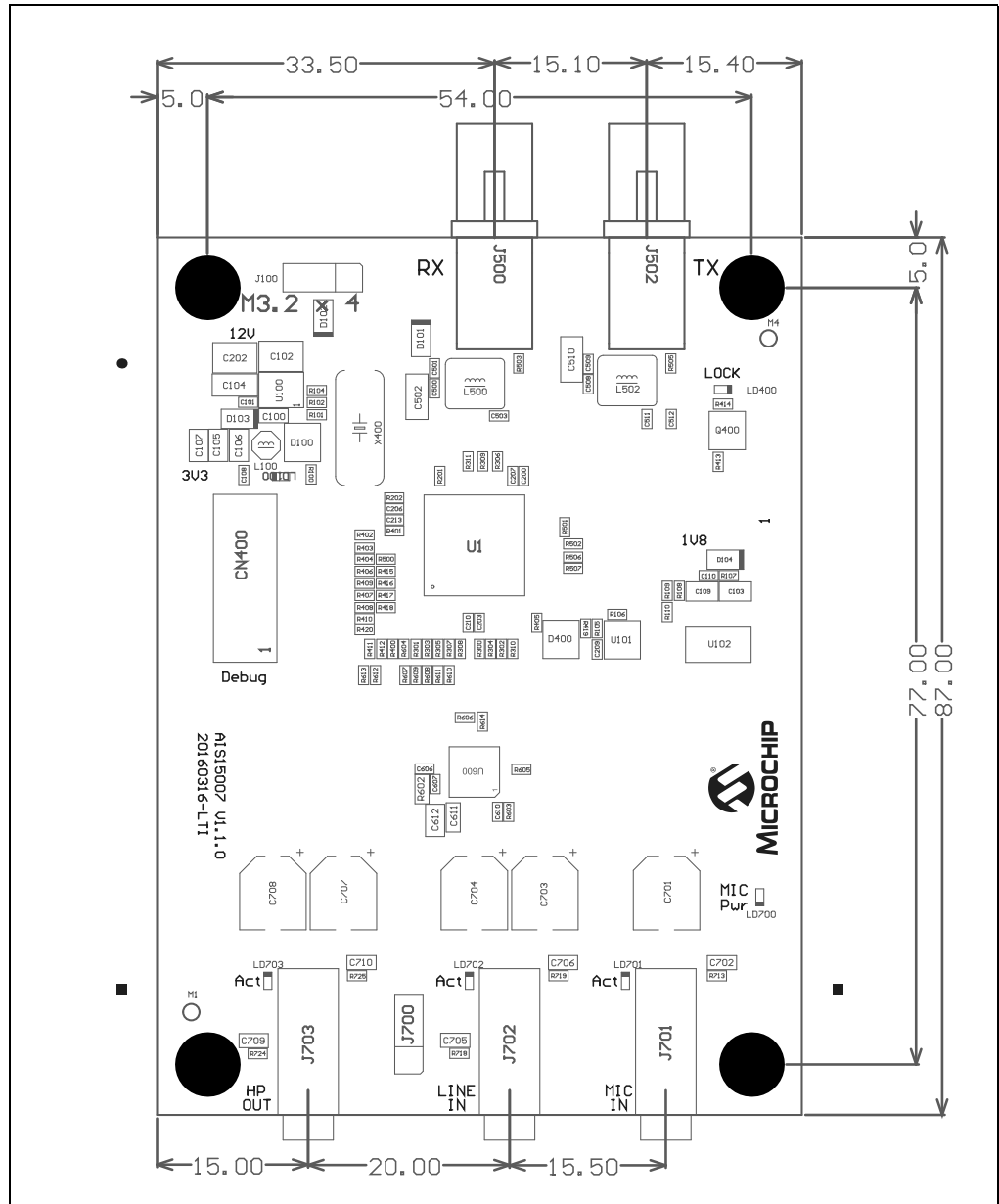
Name	State	Description
Power		See Section 2.4.3
Lock		
Headphone Activity	Off	Headphone port is inactive.
	On (yellow)	Headphone port is active (jack is plugged-in).
Line In Activity	Off	Line In port is inactive.
	On (yellow)	Line In port is active (jack is plugged-in).
Microphone Power	Off	Microphone is not powered.
	On (yellow)	Microphone is powered (with phantom power).
Microphone Activity	Off	Microphone port is inactive.
	On (yellow)	Microphone port is active (jack is plugged-in).

5.5 ASSEMBLY PLAN AND MECHANICAL DIMENSIONS

5.5.1 Top View and Mechanical Dimensions

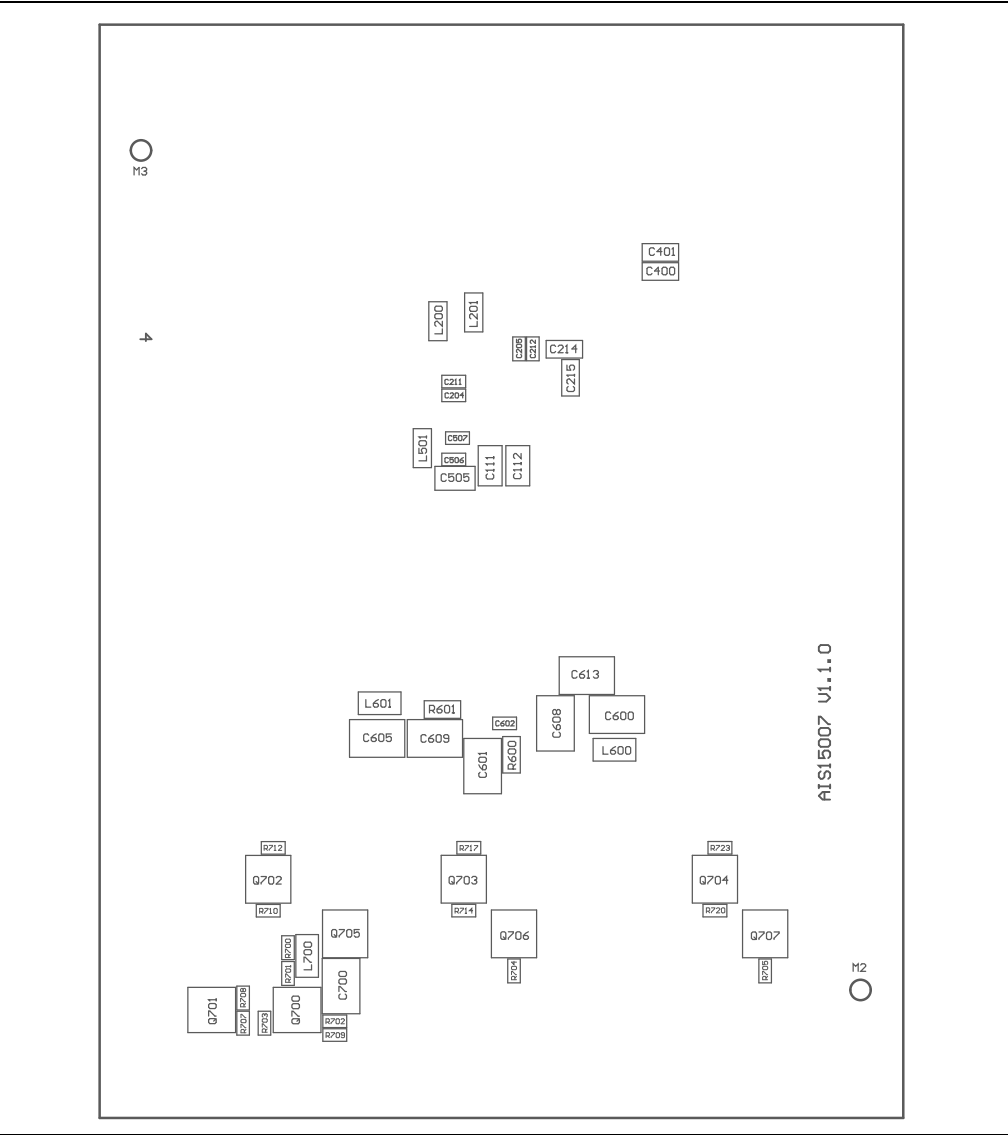
The mechanical dimensions shown in Figure 5-4 are in [mm].

FIGURE 5-4: ASSEMBLY PLAN – TOP VIEW AND MECHANICAL DIMENSIONS



5.5.2 Bottom View

FIGURE 5-5: ASSEMBLY PLAN – BOTTOM VIEW



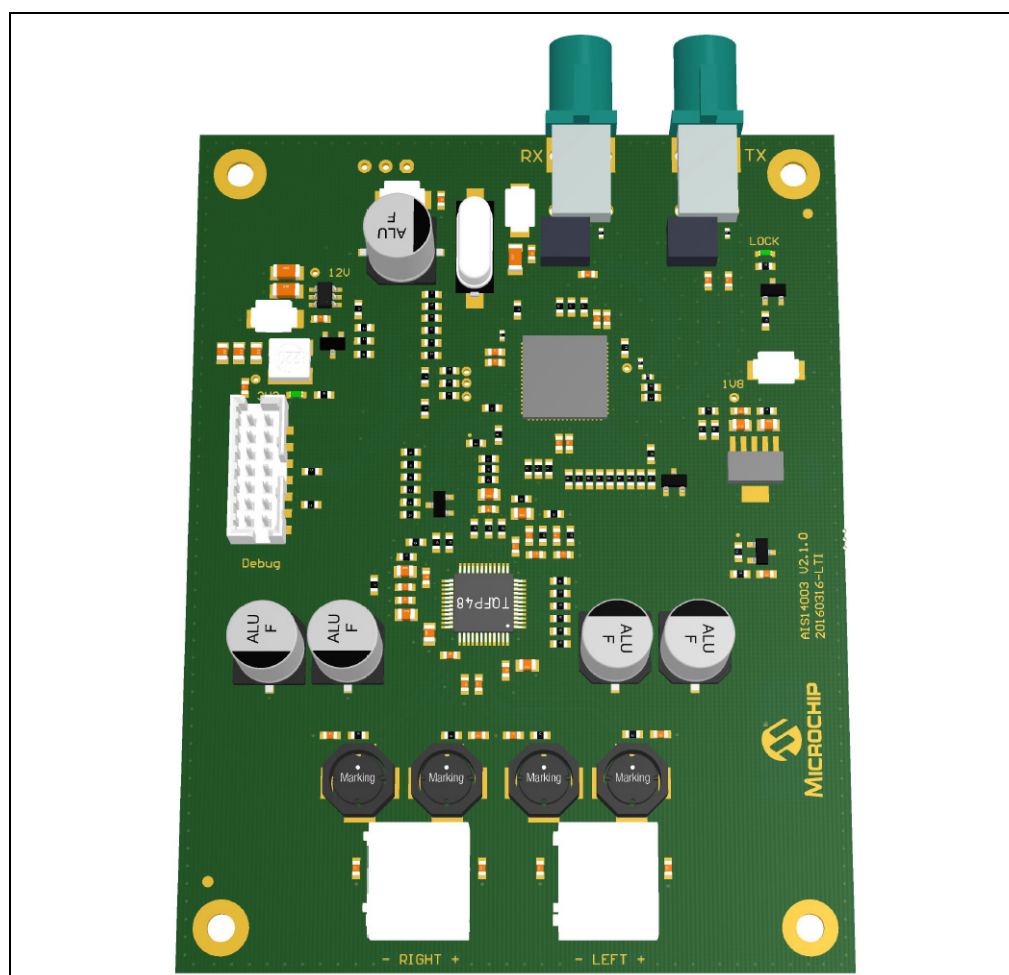
Chapter 6. Slim Amplifier Board

6.1 OVERVIEW

The Slim Amplifier Board is used to sink a stereo audio stream from the MOST network. It is able to deliver a stereo audio label sourced by the OS81118 USB Application Board, Slim Microphone Board or another Slim Auxiliary I/O Board to its loudspeaker terminals to make it audible through a connected loudspeaker.

An image of the board is shown in [Figure 6-1](#).

FIGURE 6-1: SLIM AMPLIFIER BOARD



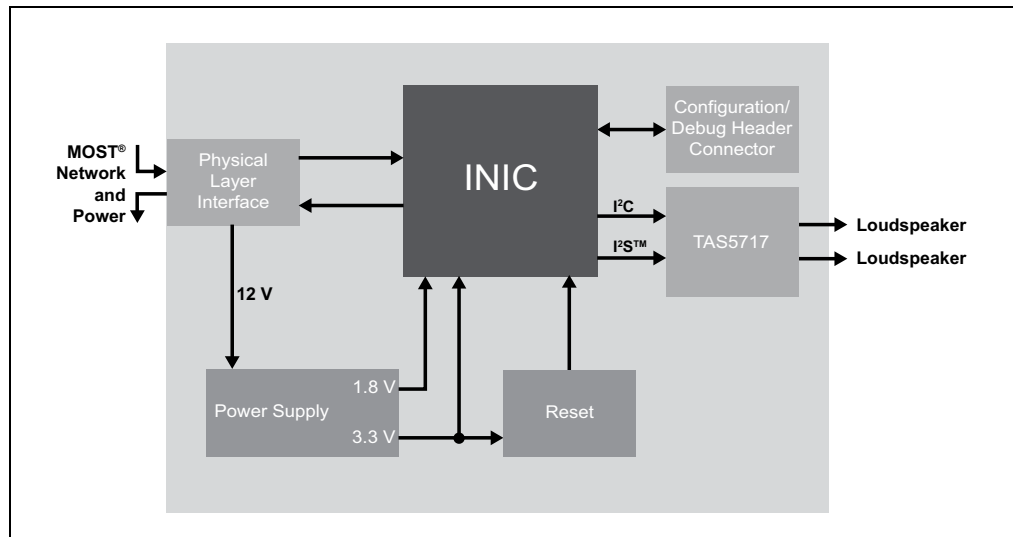
6.2 PRODUCT FEATURES

- Supports a MOST network speed grade of 150 Mbits/s
- Available for coaxial physical layer (cPHY) applications
 - Coaxial interface runs in dual simplex mode
- Configuration/Debug Header Connector
- Lock detection
- Power indication
- Loudspeaker power output
- Is identified in the network by its group address 0x0370

6.3 FUNCTIONAL DESCRIPTION

Figure 6-2 gives an overview of the board's main components.

FIGURE 6-2: BLOCK DIAGRAM



The Slim Amplifier Board provides a coaxial Physical Layer (cPHY) interface to the MOST network. The coaxial interface is implemented with passive front-end components [1]. The Power Injector Box provides 12 V that are used to feed the on-board power supply, which provides 1.8 V INIC core supply and 3.3 V for INIC I/Os and other components. As long as the output voltage of the power supply is not stable, the INIC will be hold in reset.

The [Configuration/Debug Header Connector](#) is used to read, load or customize the INIC's initial start-up configuration data.

The stereo amplifier TAS5717 is connected to the INIC through a I²C port and a I²S port. It can provide 2 x 10 W Output on 8 Ω loudspeakers.

6.4 BOARD DETAILS

6.4.1 Electrical Characteristics

Parameter	Min.	Typ.	Max.	Unit
Board Current Consumption at Board Operating Voltage	9	125 12	15	mA V
Audio Output Power:			2 x 10	W
Load Impedance:	4	8		Ω

6.4.2 Connectors

The Slim Amplifier Board provides the following connectors:

- Two coaxial connectors
- One Configuration/Debug Header connector
- Two terminal blocks

For information on the coaxial and Configuration/Debug Header connectors refer to [Section 2.4.2](#). The terminal blocks are described in [Section 6.4.2.1](#).

6.4.2.1 TERMINAL BLOCKS

The terminal blocks are used to output stereo audio data.

Type: 691 411 710 002B, from Würth

6.4.3 LEDs

The Slim Amplifier Board provides a Power LED and a Lock LED.

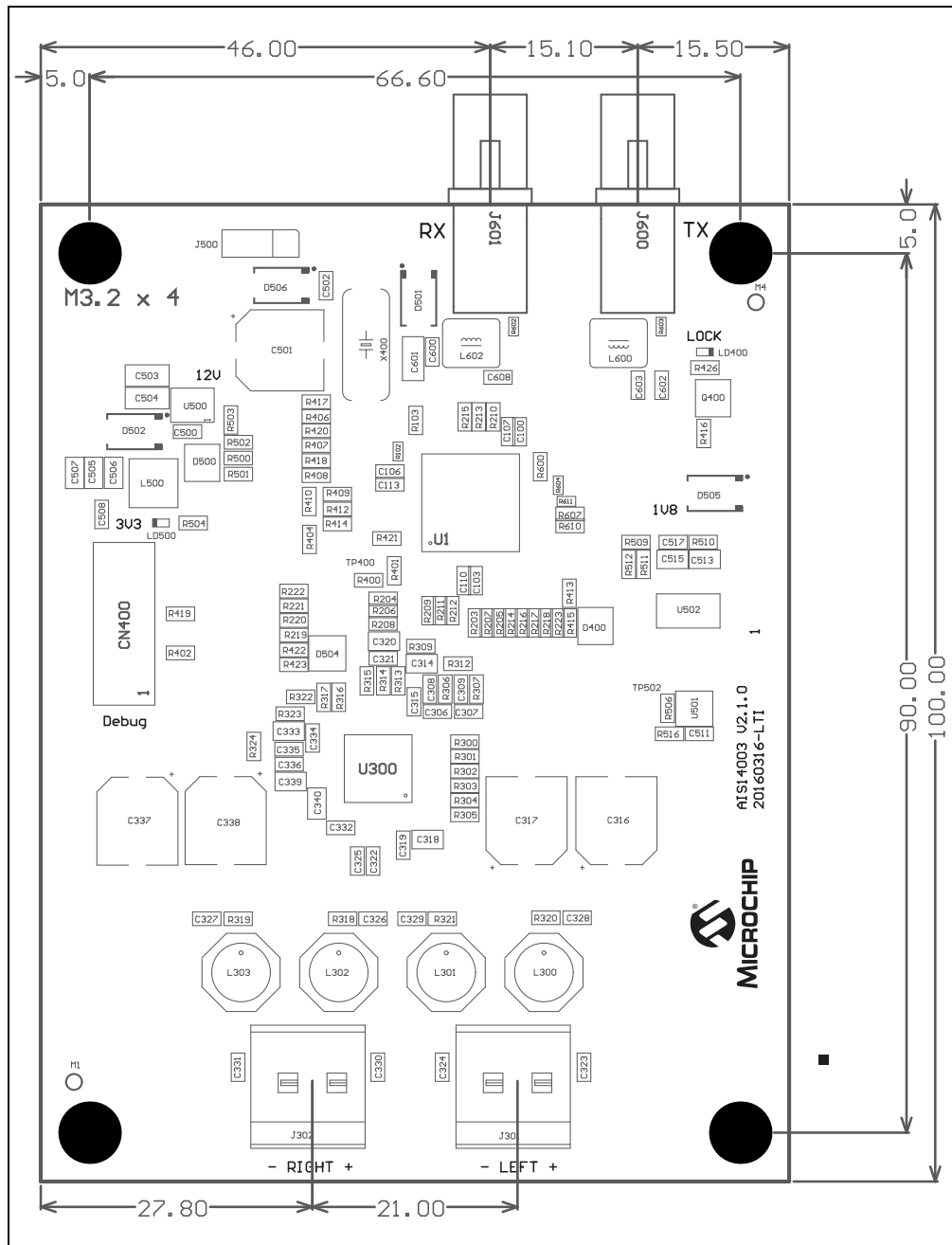
For LED states and a description refer to [Section 2.4.3](#).

6.5 ASSEMBLY PLAN AND MECHANICAL DIMENSIONS

6.5.1 Top View and Mechanical Dimensions

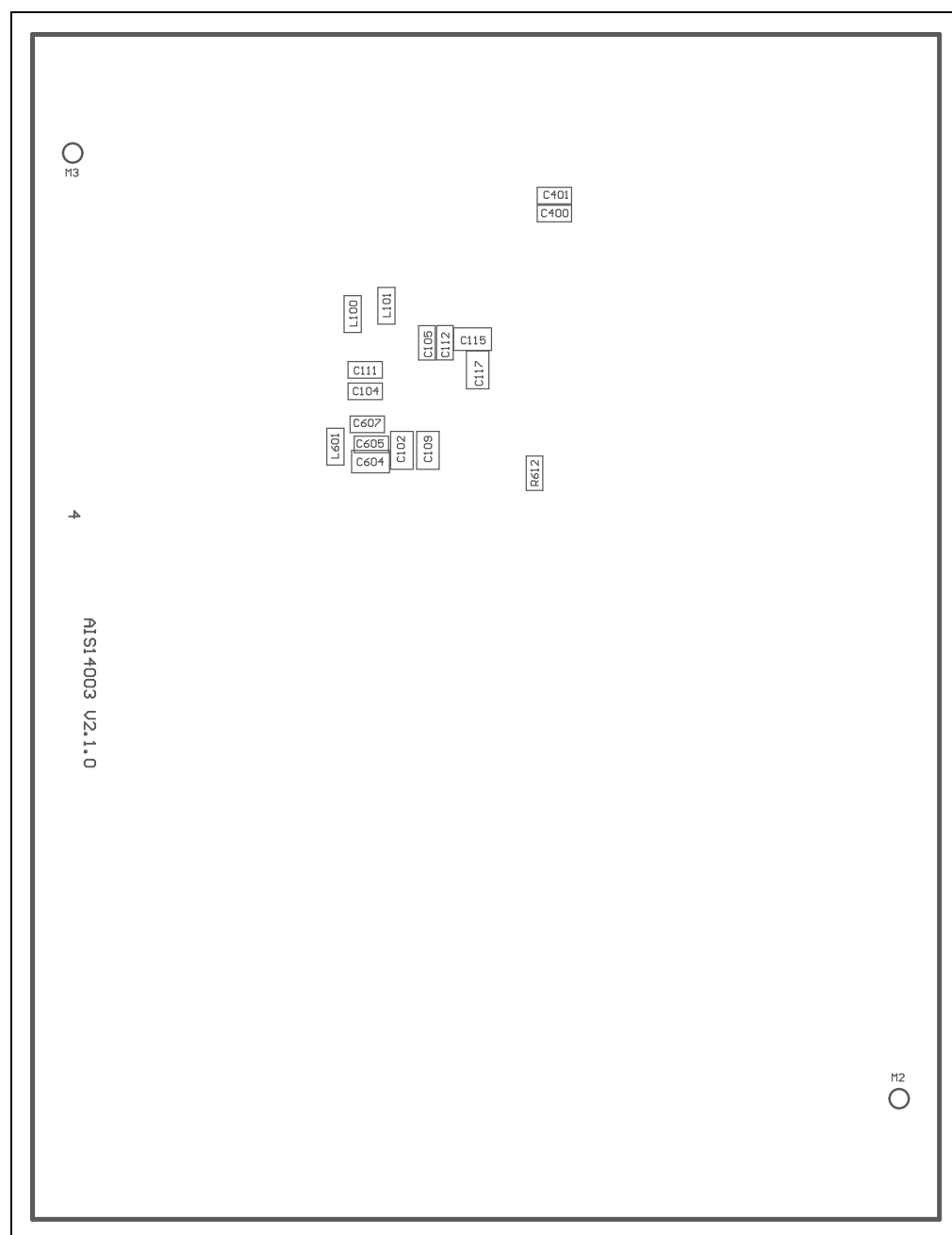
The mechanical dimensions shown in [Figure 6-3](#) are in [mm].

FIGURE 6-3: ASSEMBLY PLAN – TOP VIEW AND MECHANICAL DIMENSIONS



6.5.2 Bottom View

FIGURE 6-4: ASSEMBLY PLAN – BOTTOM VIEW



MOST150 Slim Board Family

NOTES:

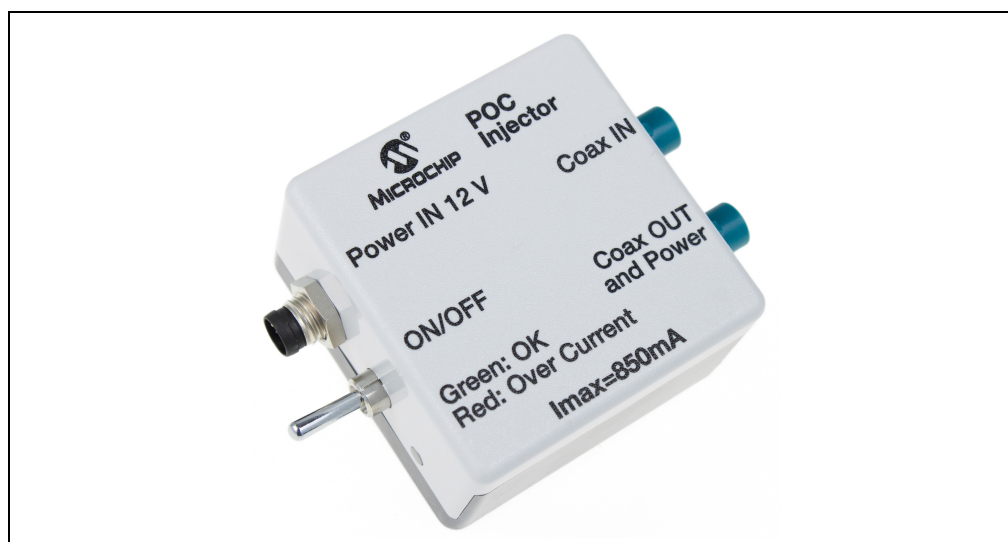
Chapter 7. Power Injector Box

7.1 OVERVIEW

The Power Injector Box is used to power the Slim Boards.

A photo of the box is shown in [Figure 7-1](#).

FIGURE 7-1: POWER INJECTOR BOX



7.2 ELECTRICAL CHARACTERISTICS

Parameter	Min.	Typ.	Max.	Unit
Power In Voltage	9	12	15	V
Output Current			850	mA

7.3 ON/OFF SWITCH

The on/off switch is used to switch on/off the Power Injector Box.

MOST150 Slim Board Family

7.4 CONNECTORS

7.4.1 MOST150 Network Coaxial Connector (cPHY)

The coaxial connector cables of the Power Injector Box are connected to the Slim Boards as shown in [Figure 1-1](#). The Coax OUT provides the power for the boards.

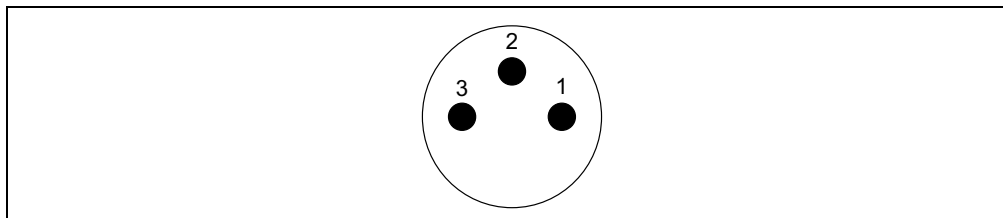
Type:	59S22B-40MT5-Z, FAKRA, plastic housing jack, from Rosenberger
Suitable counter-piece:	59Z061-000, FAKRA, plastic housing jack, from Rosenberger

7.4.2 Power Connector

The power connector must be connected to a 12 V DC power supply.

The connector pins are illustrated in [Figure 7-2](#).

FIGURE 7-2: POWER CONNECTOR



The pin assignment is as described in [Table 7-1](#).

TABLE 7-1: POWER CONNECTOR - PIN DESCRIPTION

Pin Number	Signal	Description
1	12 V DC	Power supply
2	NC	-
3	GND	Ground

Type:	09-3419-82-03, sensor connector series 718, 3 pole, from Binder
Suitable counter-piece:	99 3400 100 03, M8, IP67, series 768, 3 pole, from Binder

7.5 POWER LED

The power LED indicates different power states:

Name	State	Description
Power	Off	Device is not powered.
	On (green)	Device is powered.
	On (red)	Over current condition has been detected, or the input power is out of the permitted range.

Note 1: If an over current condition has been detected, the output power of the Power Injector Box will be turned off. To restart the Power Injector Box, the input power must be recycled.

7.6 TECHNICAL SPECIFICATIONS

Parameter	Value	Unit
Dimensions (W x D x H)	50 x 50 x 30	mm
Dimensions incl. connectors and switch (W x D x H)	75 x 50 x 30	
Ambient Temperature Range	0-70	°C

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