Telink EVK TL7218H-EVK94D User Manual

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Revision History

Version	Change Description
V0.1.0	Initial release.

Table of Contents

1. Product Introduction

This is a user manual for Telink Audio EVK TL7218H-EVK94D .

1.1 General description

The Telink EVK TL7218H-EVK94D, which is based on Telink TL7218H chip.

The TL7218H supports standards and industrial alliance specifications including Bluetooth 5.2, LE, and BLE Mesh, The   TL7218H   combines   the   features and   features needed   for   high   quality   wireless   audio equipment into a single SoC .

1.2 Key features

1.2.1 RF Features

1. Bluetooth

2. Bluetooth LE 1 Mbps and 2 Mbps

3. Rx Sensitivity: -96 dBm @ Bluetooth LE 1 Mbps (-95.5 dBm @ Low power mode), -93 dBm @ Bluetooth

LE 2 Mbps mode, -104.5 dBm @

4. TX output power: up to +10dBm @ GFSK modulation

5. 50 Ω matched single-pin antenna input

6. RSSI monitoring with +/-1dB resolution

7. High accuracy distance measurement options with I/Q data samples available for customized extensions

(Channel Sounding)

11. Auto acknowledgment, retransmission and flow control

12. Supports full-function Bluetooth LE location features

13. Supports PTA (Packet Traffic Arbitrator) for Wi-Fi co-existence

1.2.2 Power Management Features

Features of power management module include:

1. Power supply

• VDD (battery): 1.8 V ˜ 4.3 V

• VBUS (USB): 4.5 V ˜ 5.5 V

2. Embedded LDO and DCDC

• DCDC for 1.8 V Flash with bypass LDO

• DCDC for chip with bypass LDO

3. Battery monitor for low battery voltage detection

4. Brownout detection/shutdown and Power-On-Reset

5. Supports power reduction in different Clock Scenarios

6. IO power supply configurable of 1.8 V or 3.3 VDatasheet for Telink TL721 8 H

7. Low power consumption:

• Whole chip, BLE Receive: 1.45 mA @ BLE Rx 4.2 V; 1.8 mA @ BLE Rx 3.3 V DCDC mode, 4.9 mA

@BLE Rx LDO mode

• Whole chip, BLE Transmit: 2.0 mA @ BLE Tx 4.2 V; 2.5 mA @ BLE Tx 0dBm, 3.3 V DCDC mode, 6.8

mA @ BLE Tx 0dBm LDO mode

• Deep sleep with external wakeup (without SRAM retention): 0.7 µA

• Deep sleep with RTC and SRAM retention: 1.9 µA (with 32 KB SRAM retention)

1.2.3 Audio Mode Features

1. Differential Input DirectDrive Line Drivers/Headphone Amplifiers

2. Support Audio input/output of 8-pin Audio Jack and support input for instrument testing of 8-pin Audio Jack

3. Two onboard A-MIC, support audio input

4. Mode switch, which can support three different modes

2. User manual

2.1 Supply power

The TL7218H-EVK94D supports supply power via USB or other 3.3V power.

As shown in figure 2-1, the marker is the USB port. Power can be supplied when USB is plugged in.

Figure 2-1 USB power supply

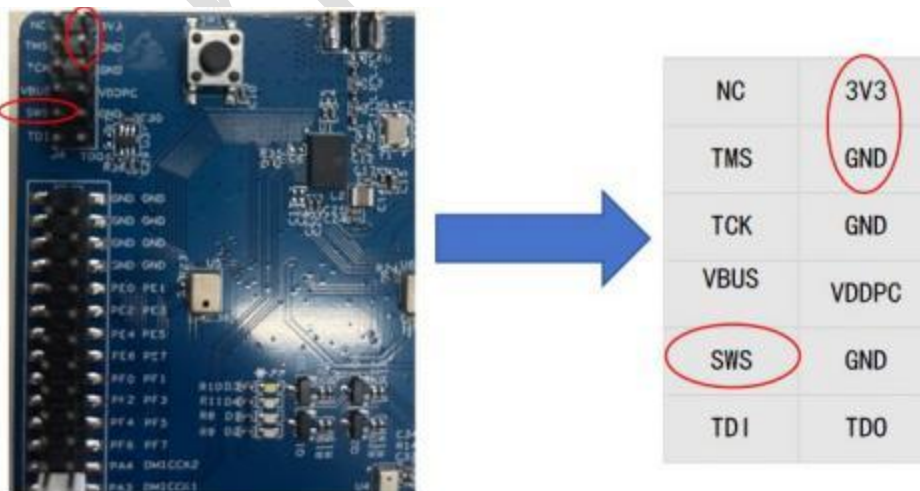As shown in figure 2-2, the marker is the 3.3V and GND port. 3.3V power can be supplied through the two ports.

FFigure 2-2 3.3V power supply

2.2 Download firmware

There are also two ways to download firmware, **USB burning** or **SWS burning**. But need another burning tool **Telink Burning EVK** . **Telink Burning EVK have USB port and 3.3V/SWS/GND port** . When using **USB** download firmware, just plug **EVKUSB in Burning EVK**. When using **SWS** download firmware, connect **3.3V/SWS/GND** of **EVK**to **3.3V/SWM/GND of Burning EVK** .

2.3 Functions of each module

As shown in figure 2-3, The functions of each module on the board have been marked.

There are **LED, key, ANT and debug port on board. The LED lights can indicate what status the TL7218H-EVK94D is in. The key allow us to control TL7218H-EVK94D. We** can use debug port to debug **TL7218H-EVK94D**.

The **TL7218H-EVK94D** support audio line-in/out and mic-in functions . Realize this functions according to different software configurations.
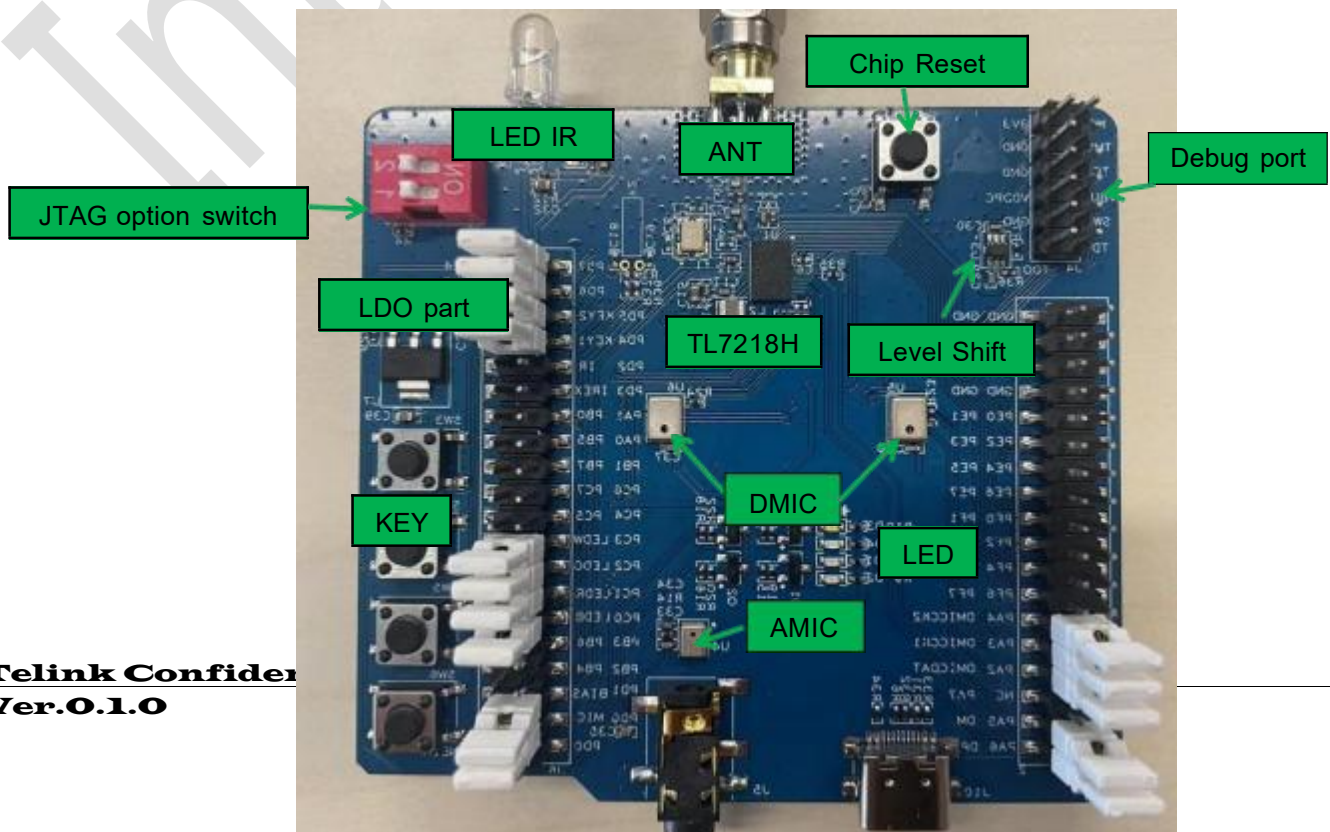
USB

Audio Jack

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FCC Statement:

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try correct the interference by one or more of the following measures:

- Reorient the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into and outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

The distance between user and products should be no less than 20cm

The EUT is In door use only