



Telink

Telink Semiconductor

TLSR9518A Generic Starter Kit Hardware
Guide

2020-08

Telink Confidential

General description

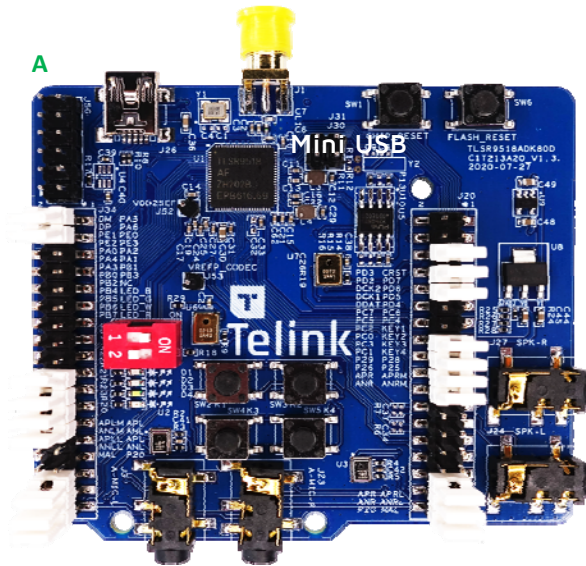
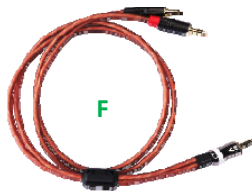
- General description

- The guide introduces how to get started with the Kit.TLSR9518A Generic Starter Kit is a hardware platform which can be used to verify TLSR9x series chipset and develop 2.4G protocol application.

Material list

- The ordering name of TLSR9518A Generic Starter Kit is TLSR9518ADK80D-KIT. Main materials in the kit are listed here.
 - ▣ 1x TLSR9518ADK80D - A
 - ▣ 1x TLSR9 DEV KEY, including DuPont wires - B
 - ▣ 1x Telink Burning Board, including DuPont wires - C
 - ▣ 1x USB cable -D
 - ▣ 1x audio cable, 3.5mm female jack to 2 male 3.5mm audio plug -E
 - ▣ 1x audio cable, 3.5mm male plug to 2 male 3.5mm audio plug - F
 - ▣ 2x audio cable, 3.5mm audio plug to Canon plug - G
 - ▣ 2x audio cable, 3.5mm audio plug to Canon jack - H
 - ▣ 1x Whip Antenna - I

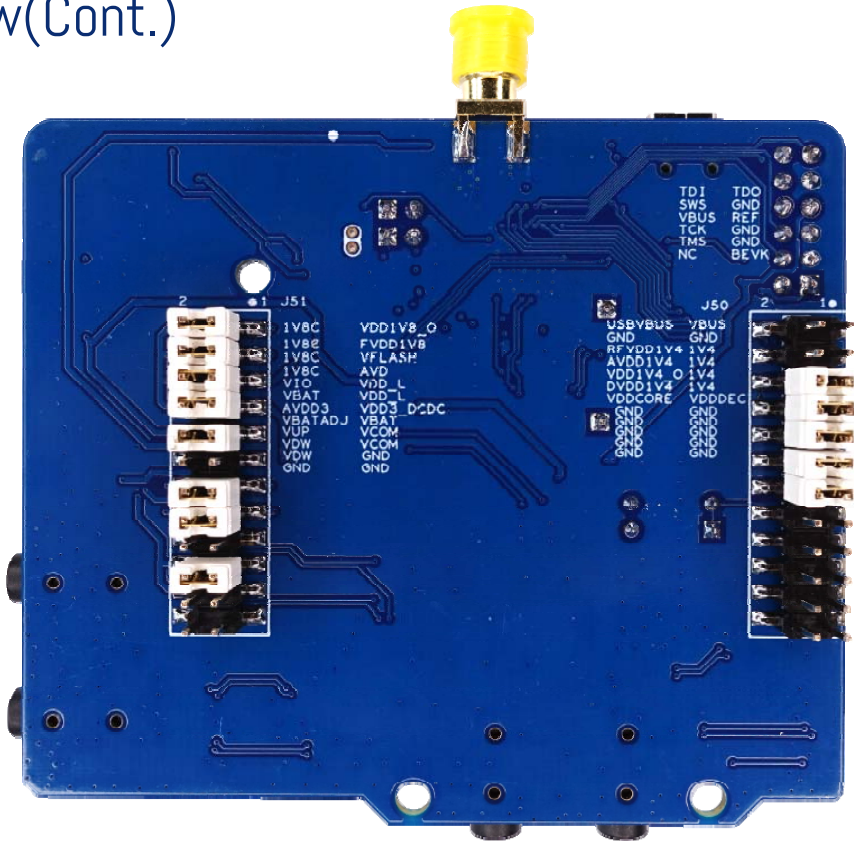
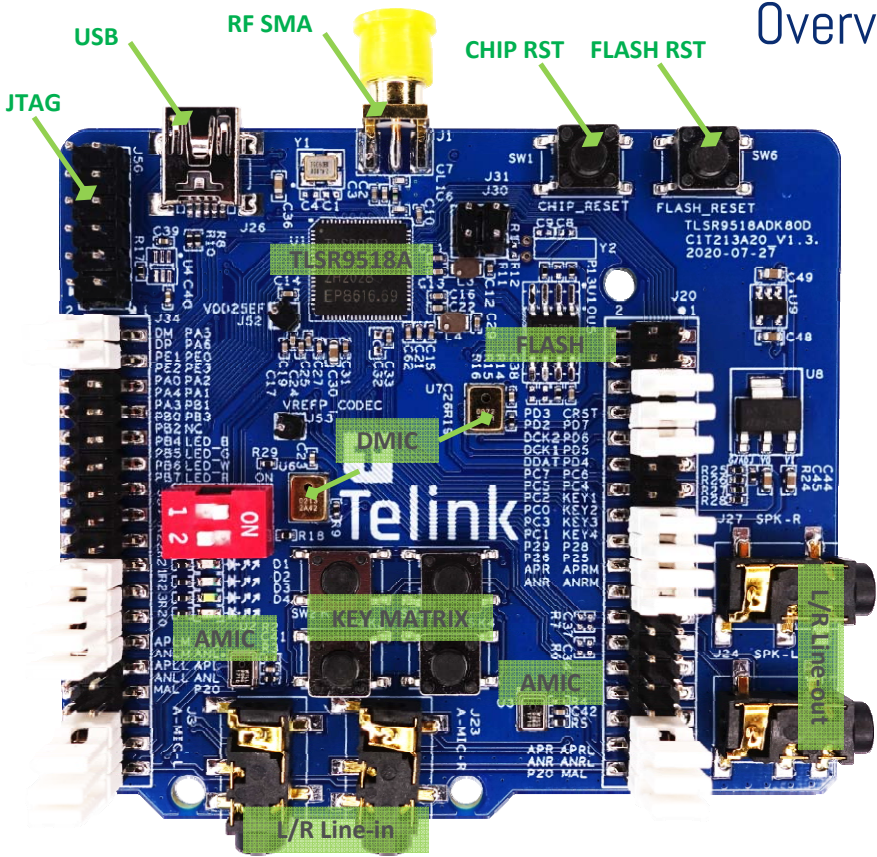
Material list (Cont.)



Overview

- The diagram below illustrates main components and default jumper setting on TLR9518ADK80D when user gets it. It supports functions listed here in default setting.
 - ▣ RF conducted test
 - ▣ External Flash with reset button
 - ▣ Chip reset button
 - ▣ Mini USB interface
 - ▣ 2-wire JTAG, default.
 - ▣ 4 led, Key matrix up to 4 keys
 - ▣ 2 line-in function (Dual Analog microphone supported when switching jumper from microphone path)
 - ▣ Dual Digital microphone
 - ▣ Stereo line-out

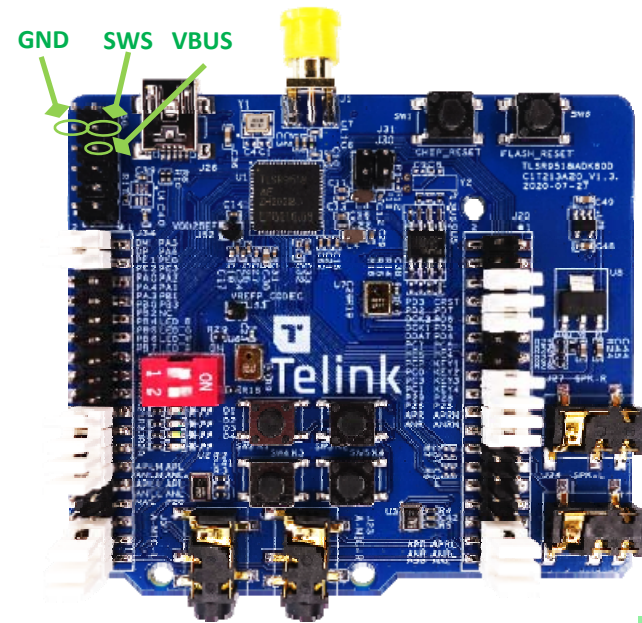
Overview(Cont.)





Power connection method with Telink Burning Board

- TLSR9518A supports a easy debug method. Only three wires are needed.
 - 5V from Telink Burning Board is connected to VBUS from TLSR9518ADK80D.
 - SWM from Telink Burning Board is connected to SWS form TLSR9518ADK80D.
 - GND from Telink Burning Board is connected to GND form TLSR9518ADK80D.



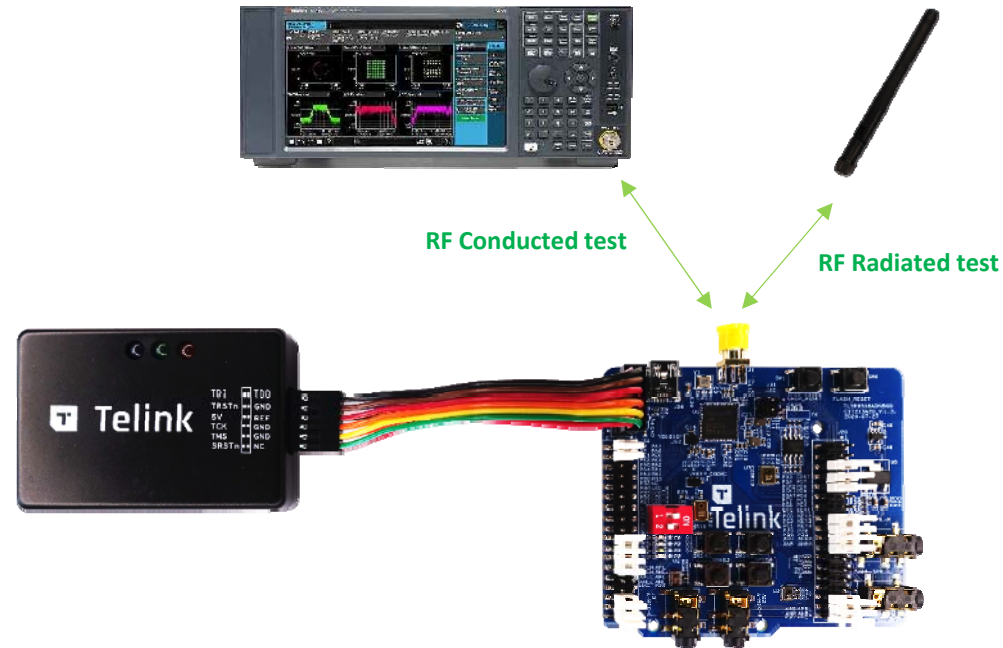
Power connection method with TLSR9 DEV KEY

- A RISC-V core is embedded in TLSR9518A, so TLSR9518A support JTAG debug.
- The 2x6 connector on the left of mini USB interface is JTAG interface. At the beginning, user connect TLSR9 DEV KEY to the JTAG interface using DuPont wires one by one. Then, user can use Telink IDE tool to download FW. Right now, please check if DIP button is under the right setting. It supports 2-wire JTAG interface when "1" button is on, "2" button is off. On the other side, it supports 4-wire JTAG interface when "1" button is off, "2" button is on.
- There is a 5V LDO on TLSR9 DEV KEY, so if connecting TLSR9 DEV KEY with TLSR9518ADK80D through DuPont wires, it is not necessary to plug in USB cable. Only when using USB function, user need to plug in USB cable.



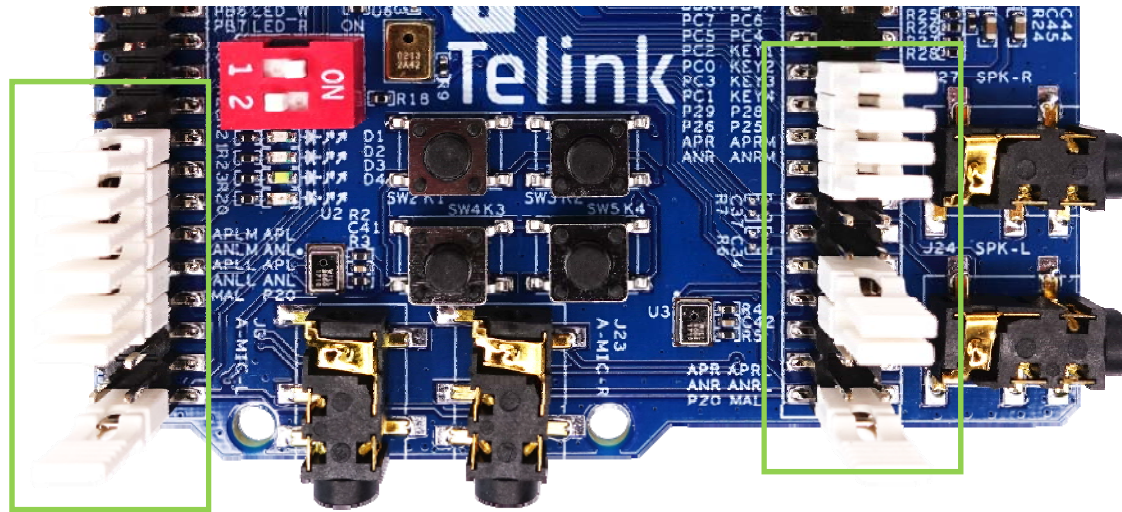
RF test

- Power on firstly, then connect RF SMA through cable to equipment or through whip antenna when verifying chipset or develop function. The corresponding tool is EMI tool which can be gotten from wiki.



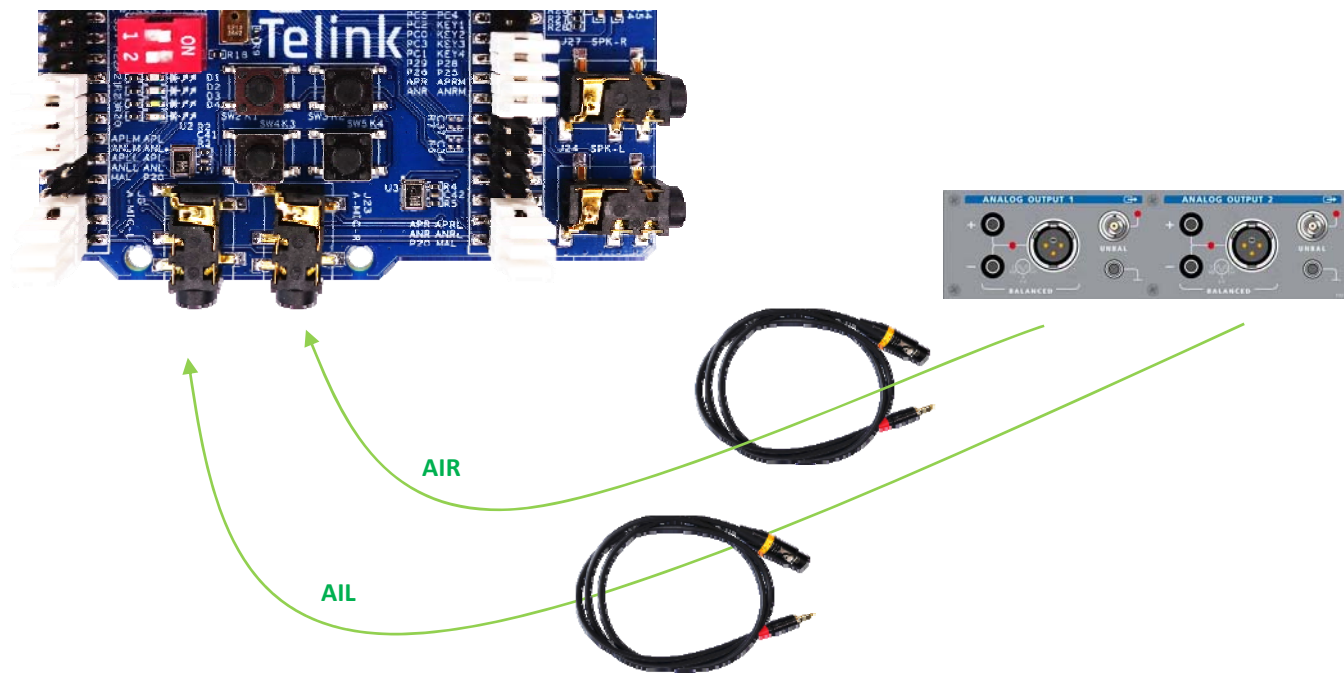
Dual analog microphone function

- Dual analog microphone function is enable when following the jumper setting as below.



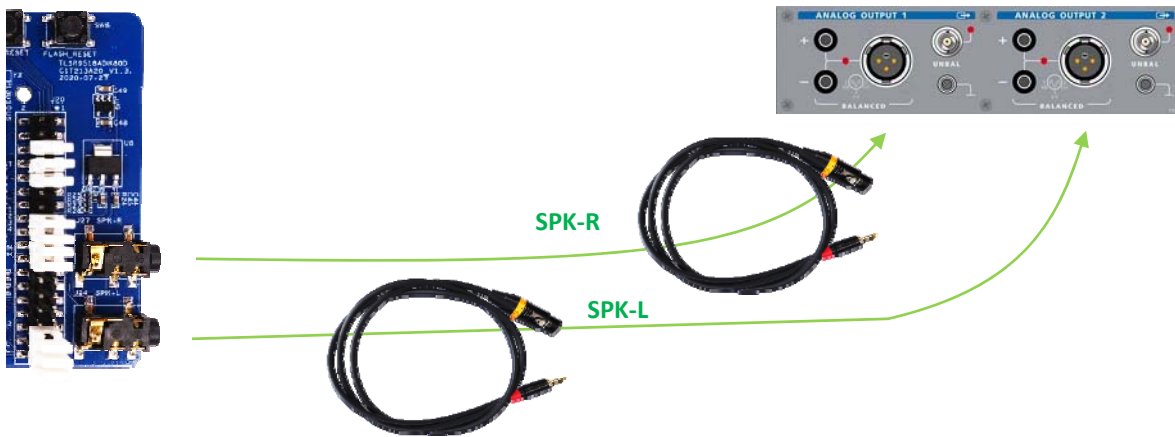
Audio input path test

- Dual analog microphone function is enable under default setting. When testing audio input path, please change jumper setting as below, the others which are not showed are kept in their original position. Some audio analyzer can be used for testing, such as APx525.



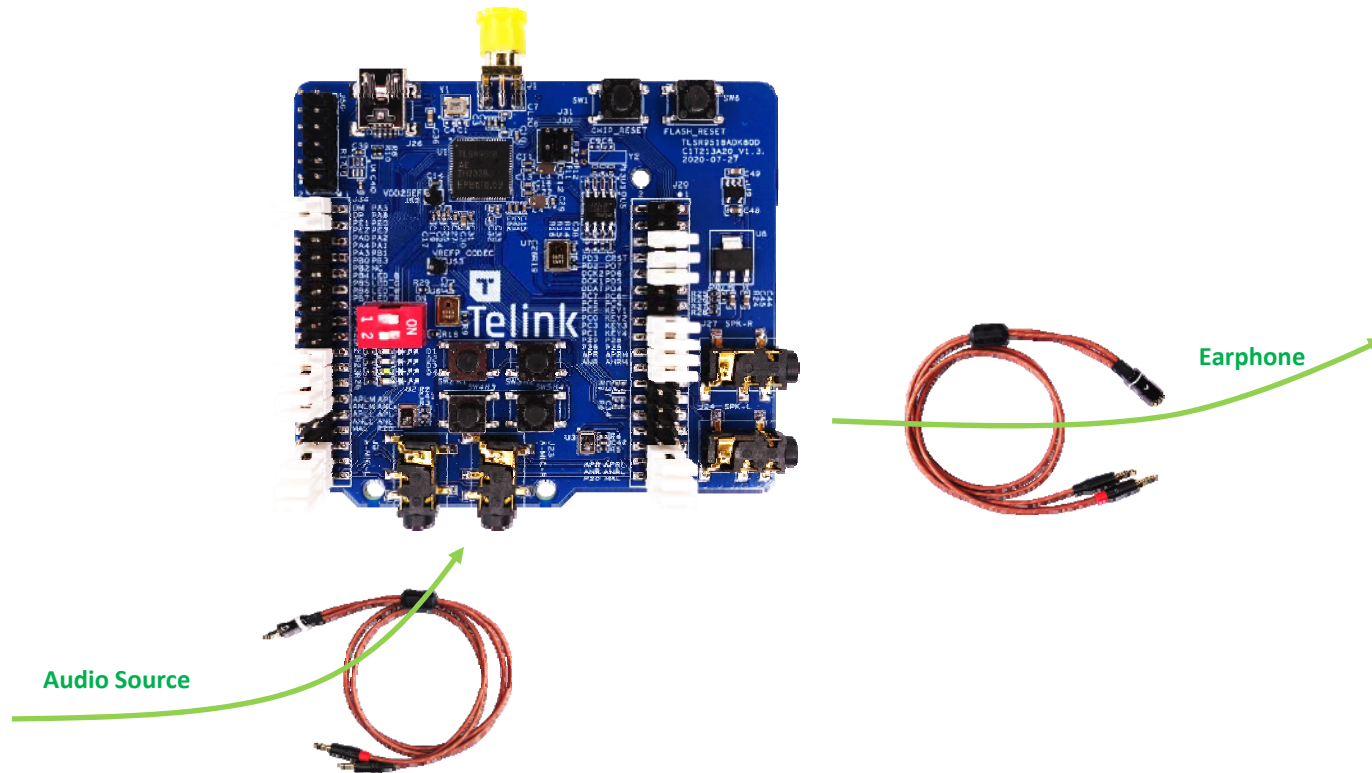
Audio output path test

- All jumpers are kept in default setting, and the connection of audio output path is as below. Some audio analyzer can be used for testing, such as APx525.



Audio input/output path demo

- Sometimes, user wants to listen to music directly in development stage. Then, the connection is as below.



GPIO test

- All of GPIOs of TLSR9518A have been connected to PINs. Then user can ready corresponding schematic and test all GPIOs.

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