

Telink

Soundbar 6p1 EVB 用戶指南

TLSR9517C+TLSC9805A

Telink Internal Only

2021-11-29



1. 产品介绍

■ 1.1 通用介绍

- 这篇文档介绍了TLSR9517C-Soundbar套件。这个套件适用于验证各种Soundbar系列方案，适用于1p1/2p1/4p1/6p1等多种方案Demo。

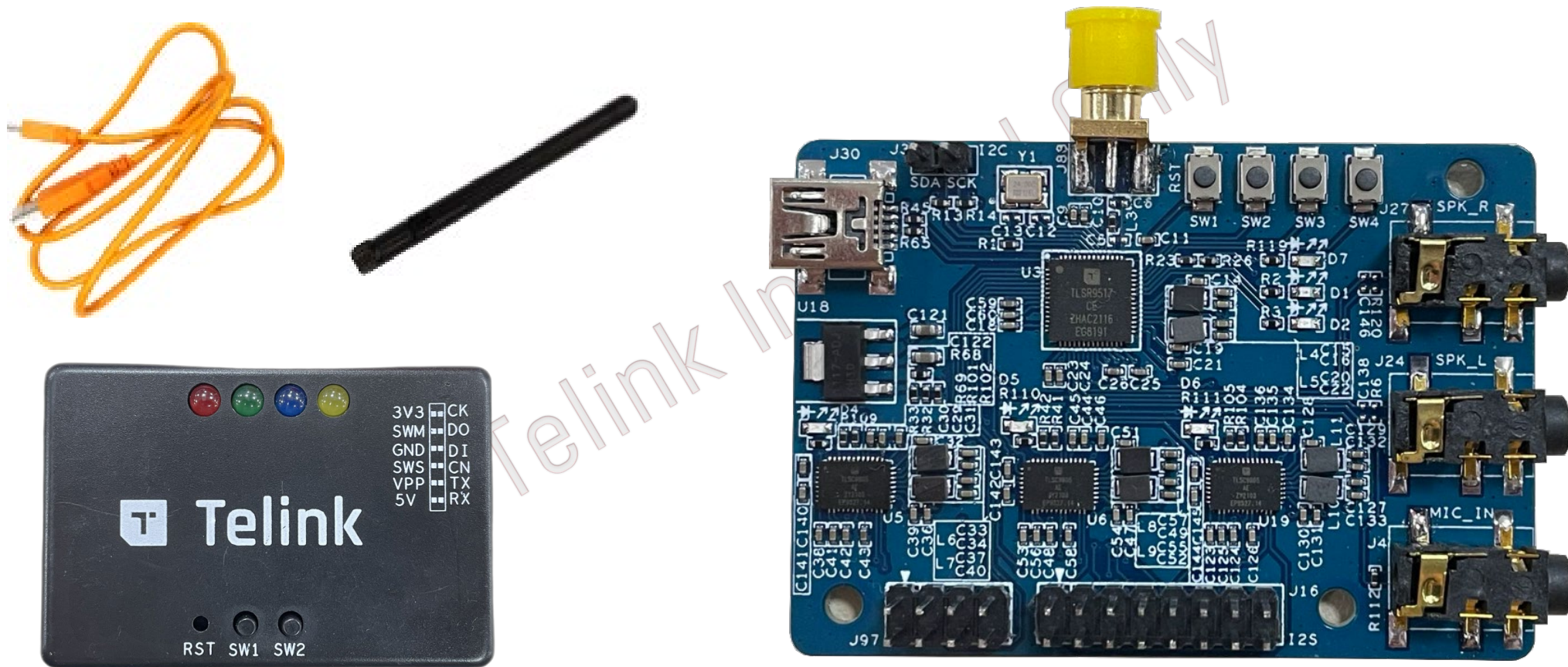
■ 1.2 套装材料清单

- TSLR9517C-Soundbar套件的下单名字是TSLR9517CBAR56D。套件中的材料列在这里：
 - ▶ 1x TSLR9517CBAR56D;
 - ▶ 1x TSLR9 DEV KEY，包括杜邦线;
 - ▶ 1x USB线;
 - ▶ 1x 鞭状天线。



1. 产品介绍 - 续

■ 1.2 套装材料清单 - 续



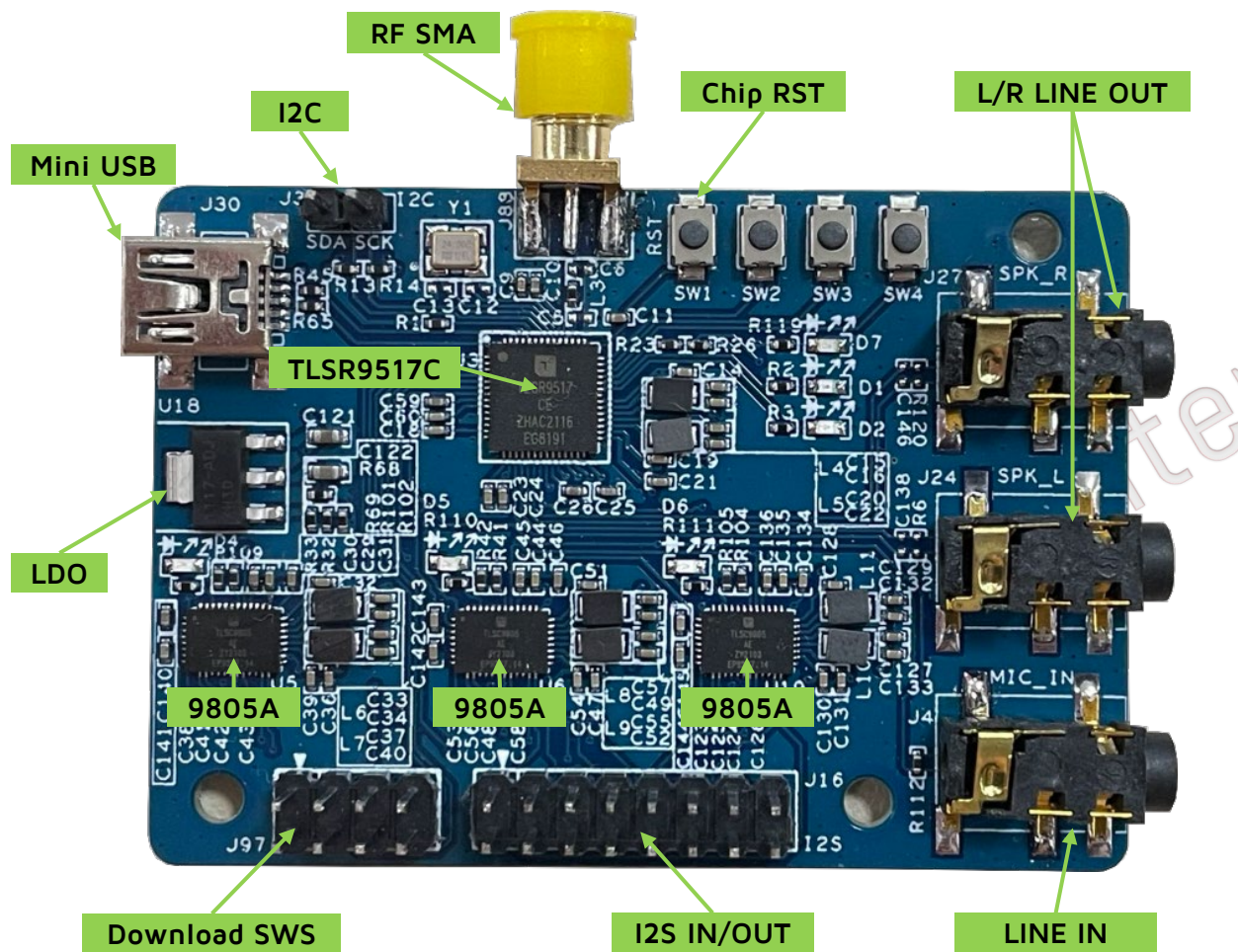


2. 核心板介绍

■ 2.1.1 Soundbar 6p1 开发板介绍

- ▣ Soundbar 6p1 EVB是基于TL9517C作为主芯片，三个TL9805A作为从芯片进行设计的一款支持6p1声道的Soundbar音频开发板，该EVB有如下特点：
 - ▶ 集成32位RISC-V MCU;
 - ▶ 支持6.1声道输出;
 - ▶ 支持Line in / Line out测试;
 - ▶ 支持I2S IN / I2S OUT输入输出测试;
 - ▶ USB 供电，方便调试以及测试。

2. 核心板介绍 - 续





2. 核心板介绍 - 续

■ 2.1.2 开发板名称

- ▣ Soundbar 6p1 EVB对外售卖名称为TL5R9517CBAR56D，客户以此名字提交订单进行采购；
- ▣ Soundbar 6p1 EVB在板子上有串号进行版本区分，如下图是V1.1版本的串号。Soundbar 6p1 EVB最新版本是V1.1。





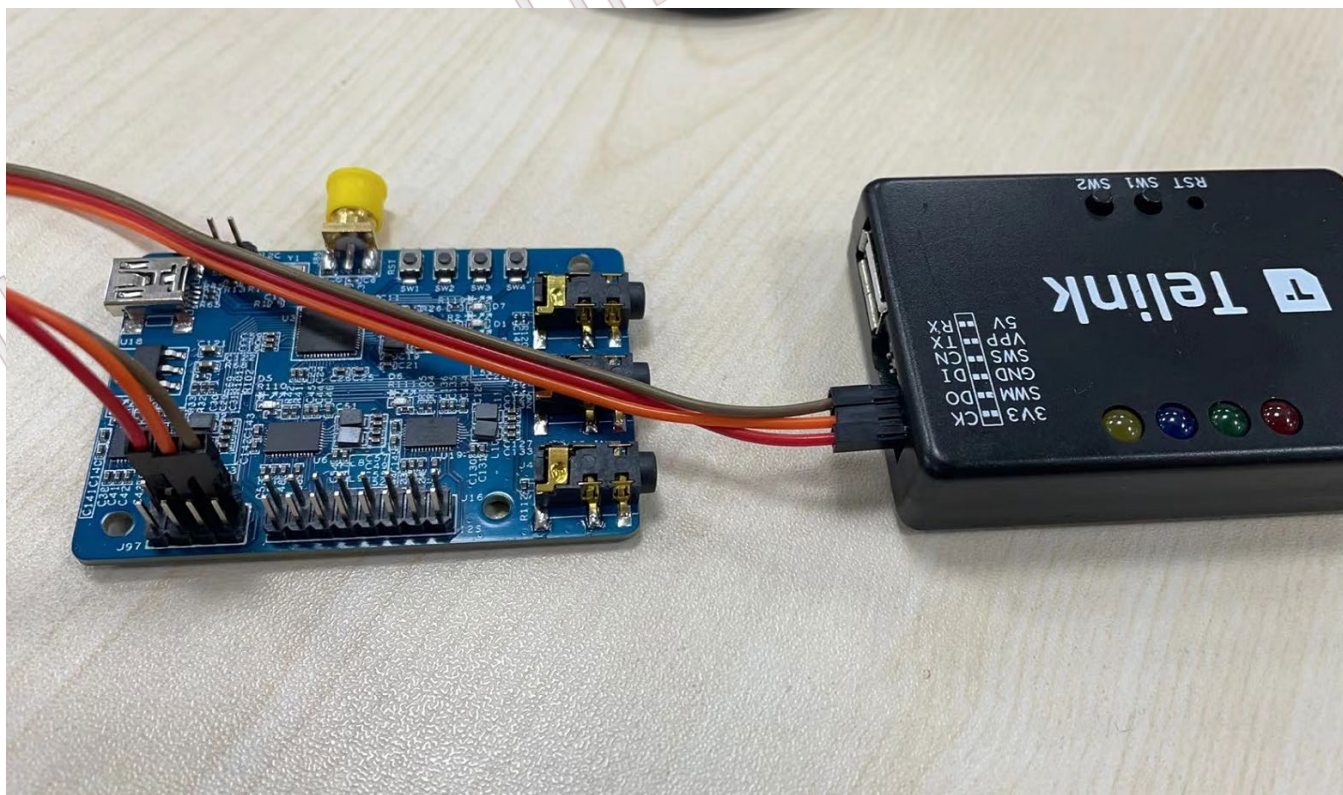
2. 核心板介绍 - 续

2.1.3 Download以及Debug接口

- Soundbar 6p1 EVB采用SWS进行软件烧录，使用BDT工具配合Burning-EVK进行烧录，硬件连接方式如下；
- PB2/PB3可分别作为UTX/URX，可用于Debug或者串口通讯。



VBUS	VBAT	SWS	GND
GND	GND	PB3	PB2

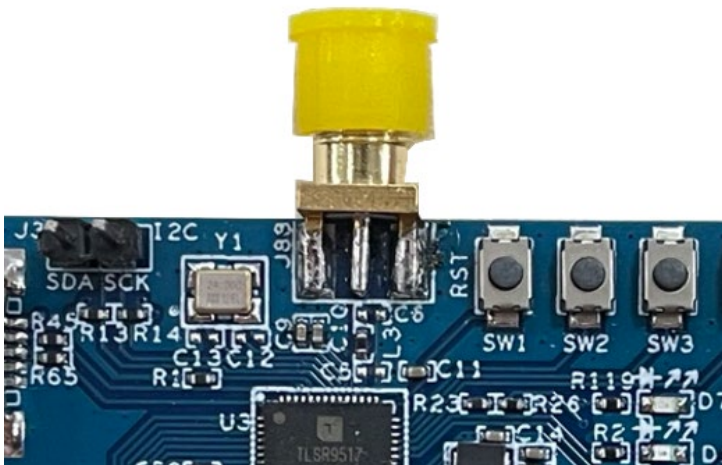




2. 核心板介绍 - 续

■ 2.1.5 RF接头

- Soundbar 6p1 EVB的RF接口是3.5mm SMA插头。因此支持直接连接到仪器进行射频性能测试，也支持连接鞭状天线进行辐射测试。

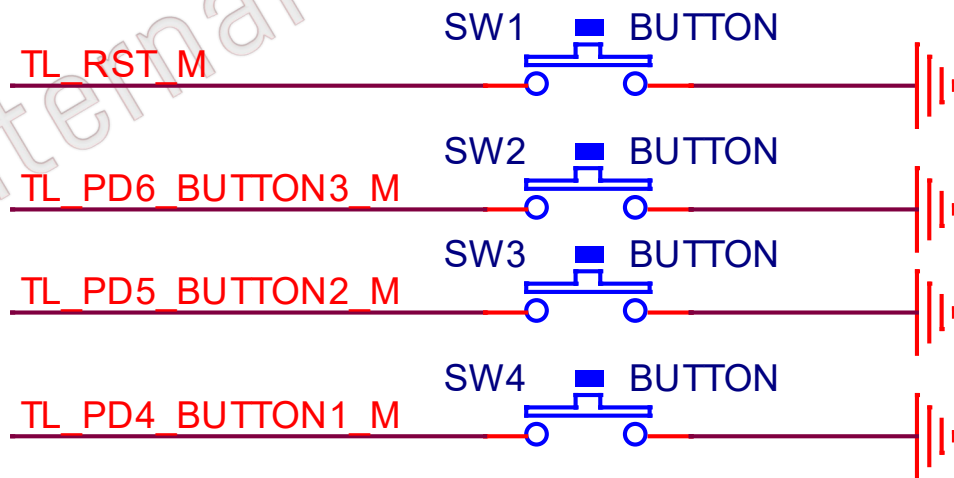




2. 核心板介绍 - 续

■ 2.1.6 按键

- 考虑到开发中用户使用demo需要用到复位功能，预留了复位按键SW1;
- 预留了三个IO按键用于UI功能设计。

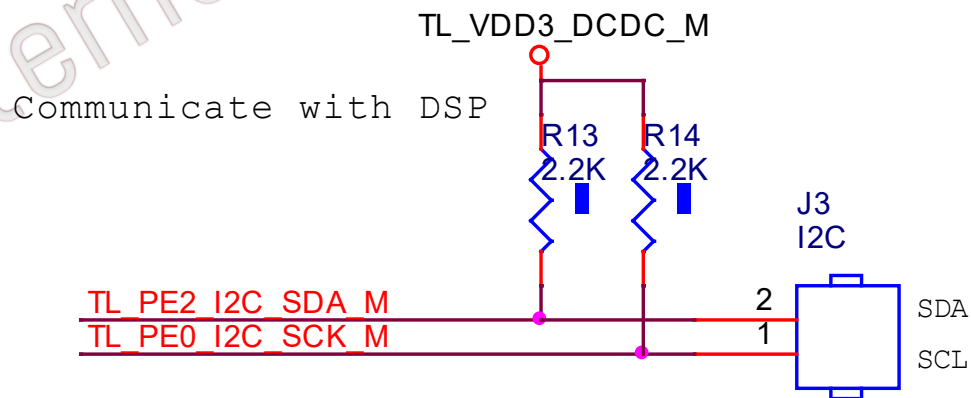




2. 核心板介绍 - 续

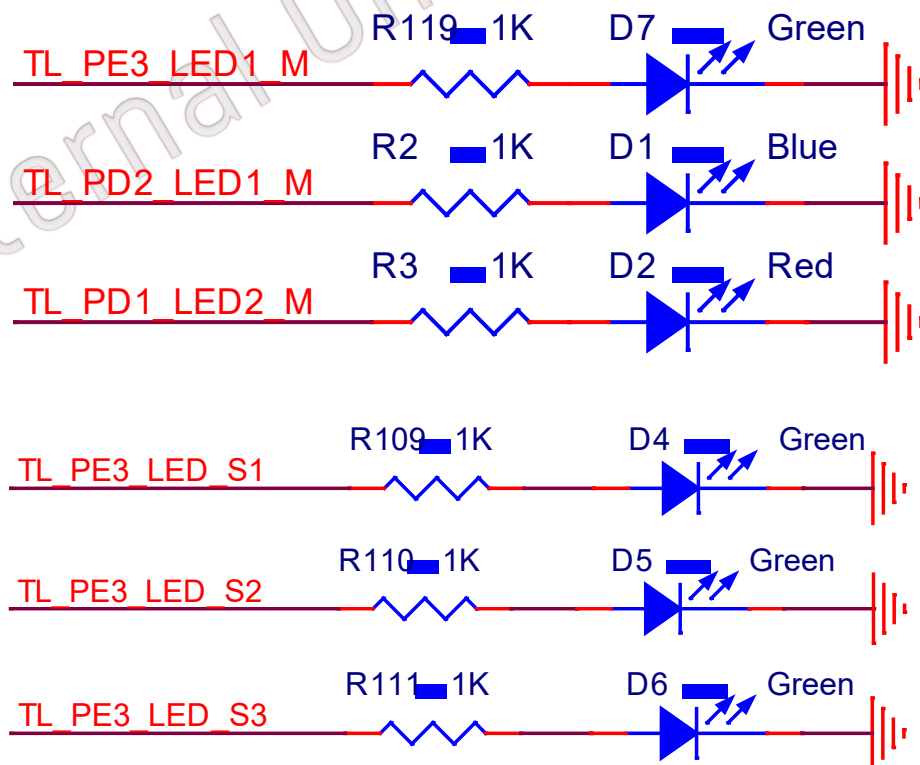
■ 2.1.7 I2C接口

- Soundbar 6p1 EVB预留了一路I2C接口，方便在做Solution时候与外部DSP进行一些控制信息的交互。



■ 2.1.8 LED灯

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- This image shows a close-up of the main board of the TL9000. The central component is the TL9000 chip, which is a 28-pin DIP package. It is labeled with 'TL9000', 'CE', 'ZHAC2116', and 'EG8191'. Surrounding the chip are various other components, including capacitors (C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C56, C57, C58, C59, C60, C61, C62, C63, C64, C65, C66, C67, C68, C69, C70, C71, C72, C73, C74, C75, C76, C77, C78, C79, C80, C81, C82, C83, C84, C85, C86, C87, C88, C89, C90, C91, C92, C93, C94, C95, C96, C97, C98, C99, C100), resistors (R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100), and other components (SW1, SW2, SW3, SW4, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12, D13, D14, D15, D16, D17, D18, D19, D20, D21, D22, D23, D24, D25, D26, D27, D28, D29, D30, D31, D32, D33, D34, D35, D36, D37, D38, D39, D40, D41, D42, D43, D44, D45, D46, D47, D48, D49, D50, D51, D52, D53, D54, D55, D56, D57, D58, D59, D60, D61, D62, D63, D64, D65, D66, D67, D68, D69, D70, D71, D72, D73, D74, D75, D76, D77, D78, D79, D80, D81, D82, D83, D84, D85, D86, D87, D88, D89, D90, D91, D92, D93, D94, D95, D96, D97, D98, D99, D100). The board is populated with many other components, including capacitors, resistors, and integrated circuits, all of which are labeled with their respective values and part numbers.

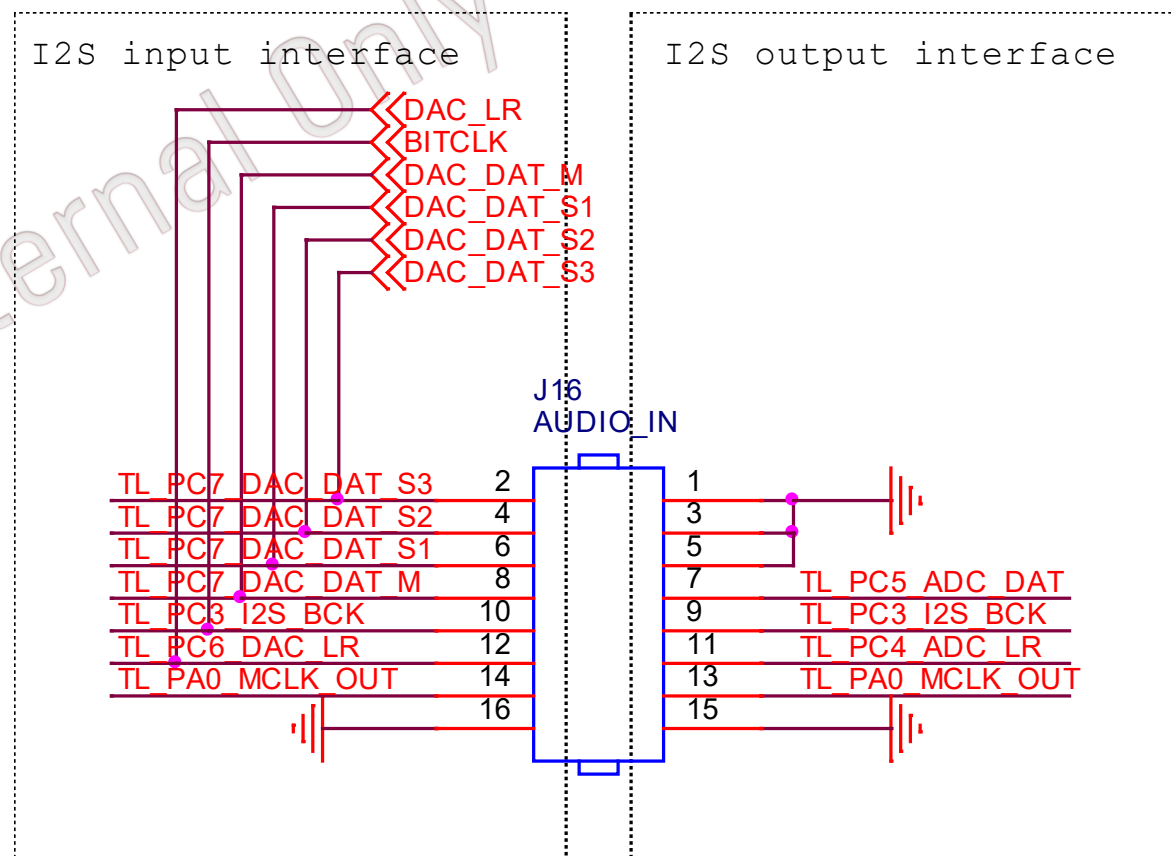
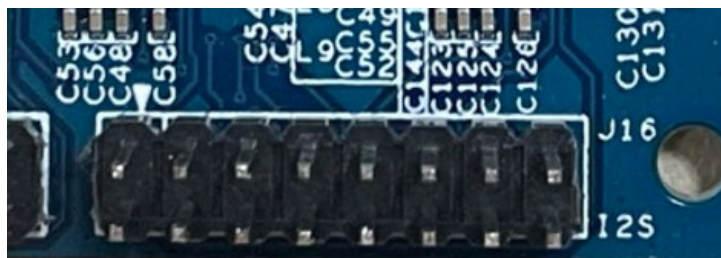




2. 核心板介绍 - 续

■ 2.1.9 I2S输入输出接口

- Soundbar 6p1 EVB预留了I2S输入输出接口，输入接口支持4路Data输入；
- I2S输出接口作为RX使用，一路data输出。





2. 核心板介绍 - 续

■ 2.1.9 I2S输入输出接口

- Soundbar 6p1 EVB一般用于I2S输入输出模式进行音频指标测试，与AP测试仪器连接方式如下；
- 详细测试方法介绍详见文档“AP525音频指标测试方法”中I2SIN/I2SOUT章节。

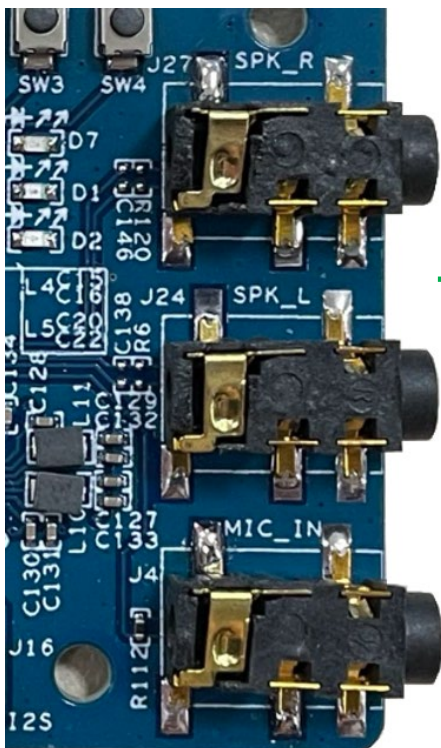




2. 核心板介绍 - 续

2.1.10 音频输入输出接口

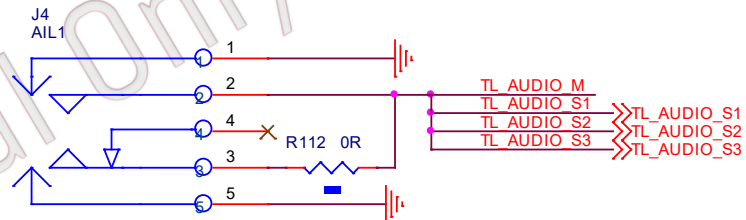
- Soundbar 6p1 EVB预留一路line-in麦克风输入，两路左右声道音频输出，方便直接用于Solution方案演示；
- 该连接方式仅适用于音频演示，不得用于音频指标测试；



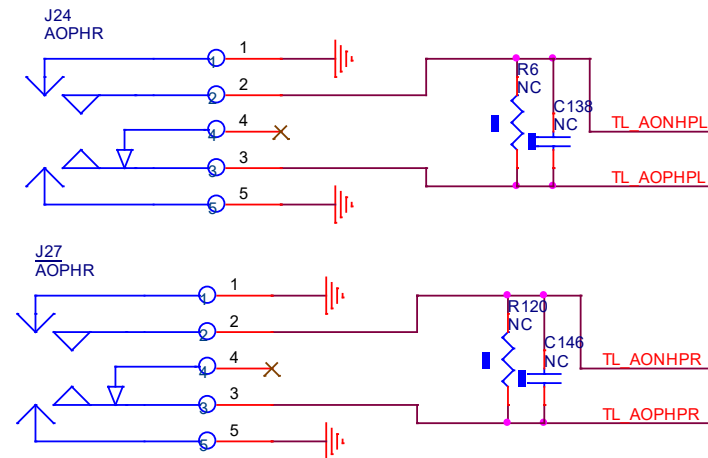
Earphone

Audio in

Audio line in

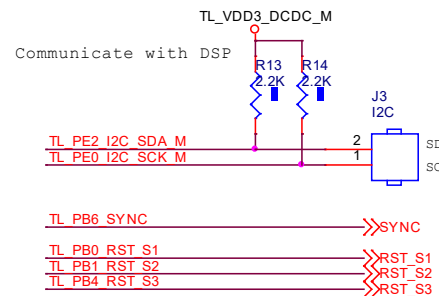
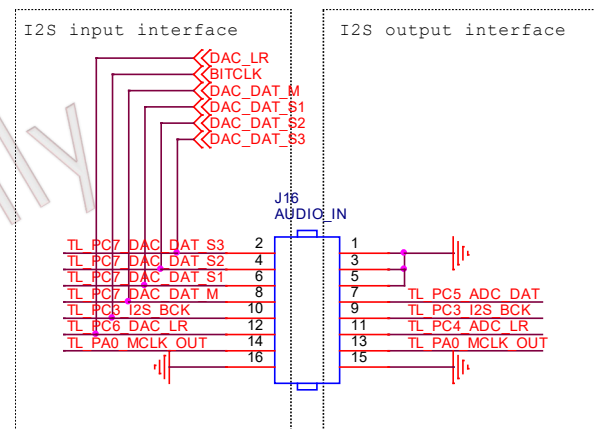
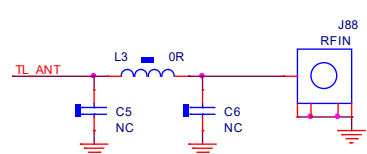


Audio line out

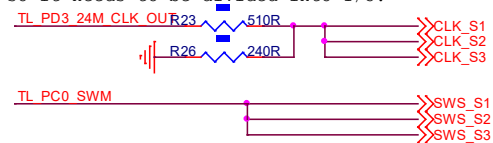


■ 3.1 Soundbar 6p1 EVB V1.1原理图

Master



The master provides a 24M clock for the slave.
The slave terminal receives about 1.2V,
and the IO voltage is 3.3V,
so it needs to be divided into 1/3.

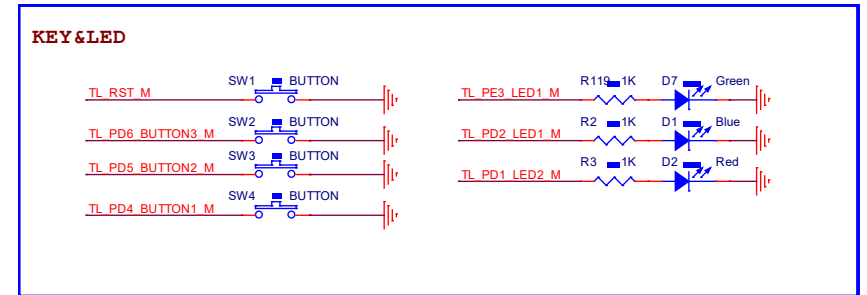
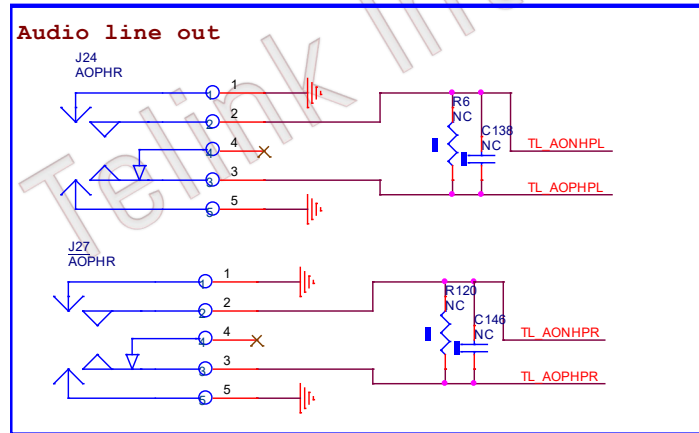
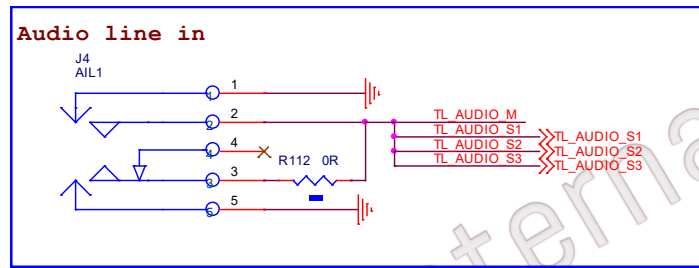
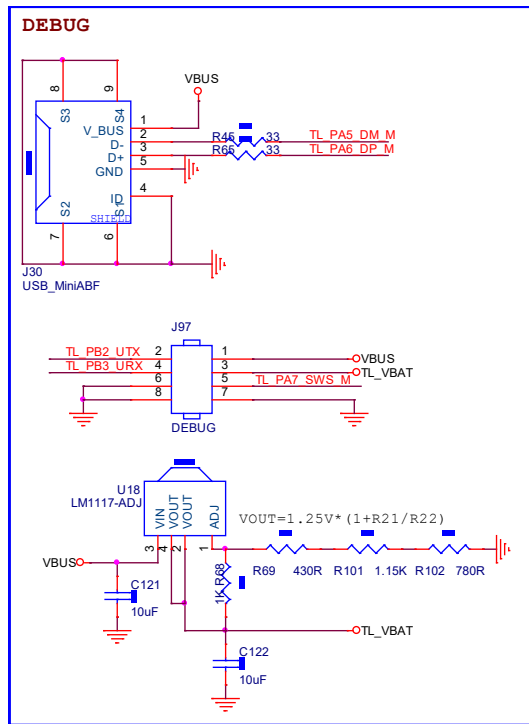




3. 附件- 续

■ 3.1 Soundbar 6p1 EVB V1.1原理图

Master

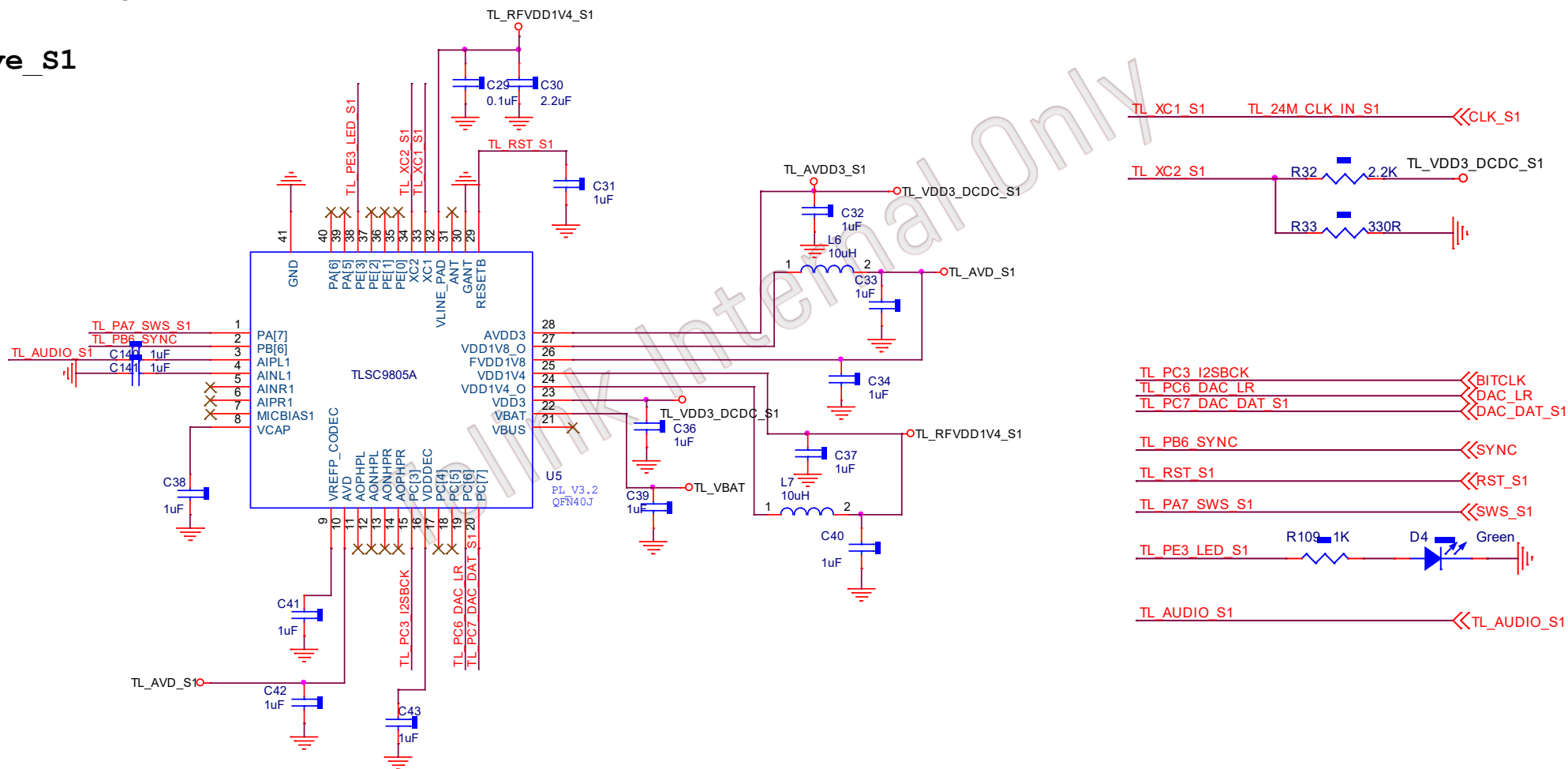




3. 附件- 续

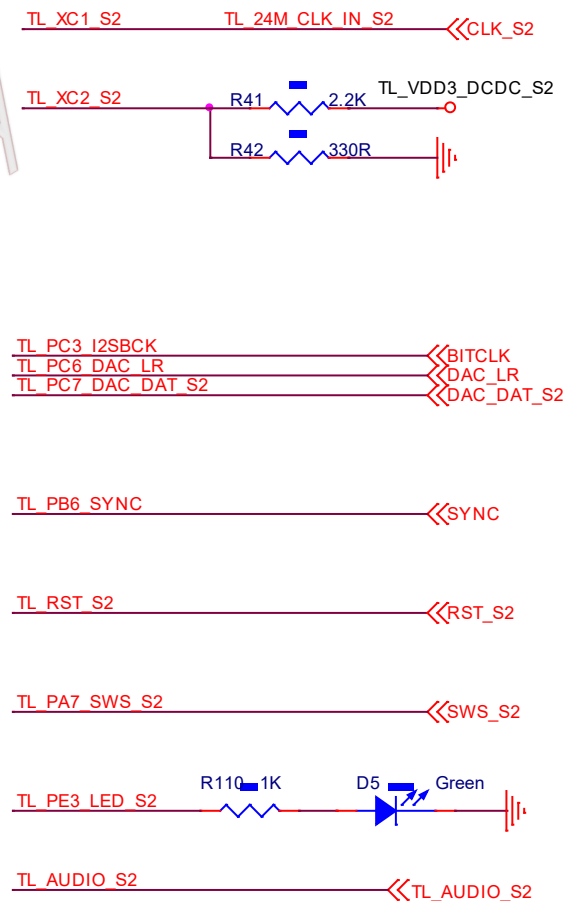
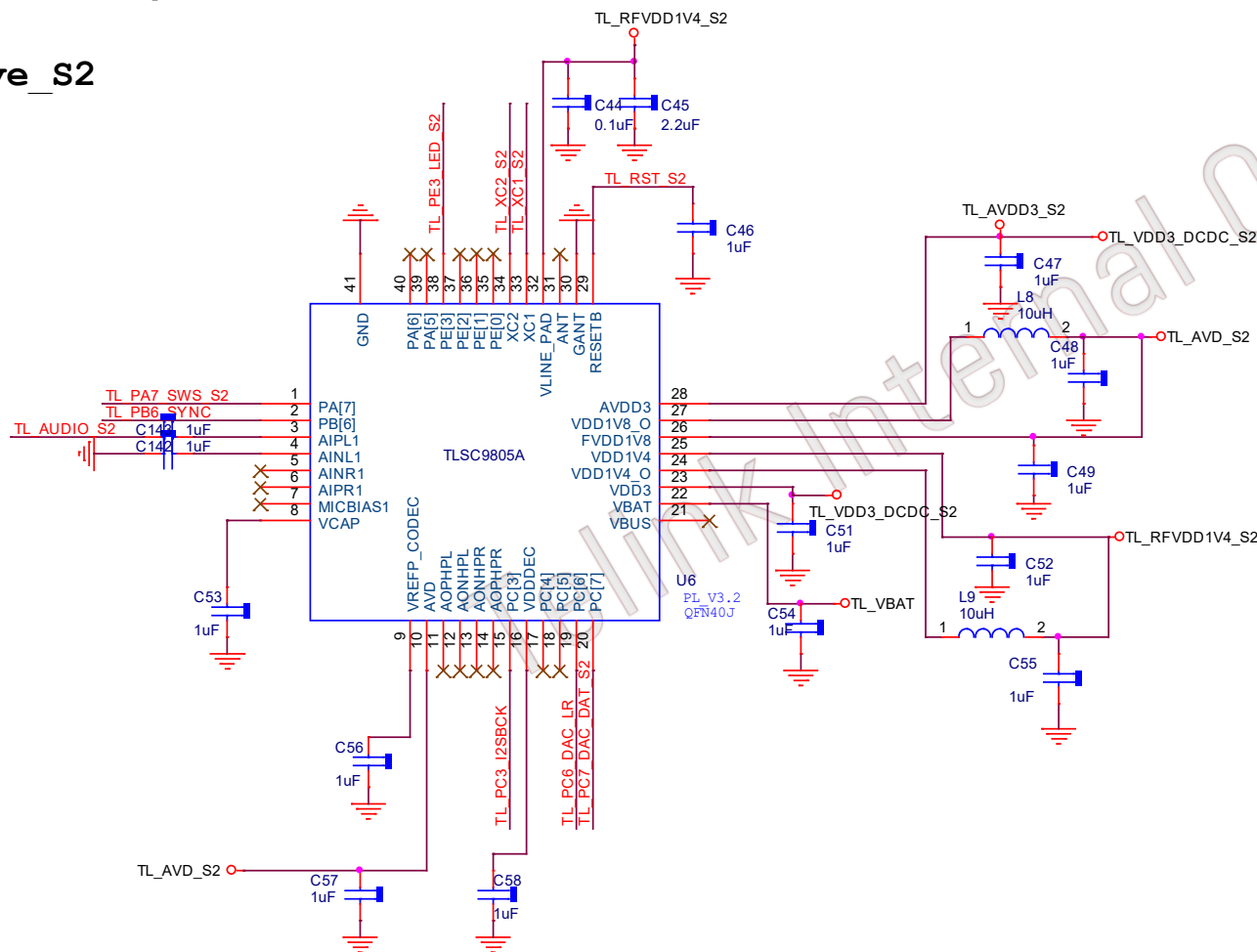
3.1 Soundbar 6p1 EVB V1.1原理图

Slave_S1



■ 3.1 Soundbar 6p1 EVB V1.1原理图

Slave s2

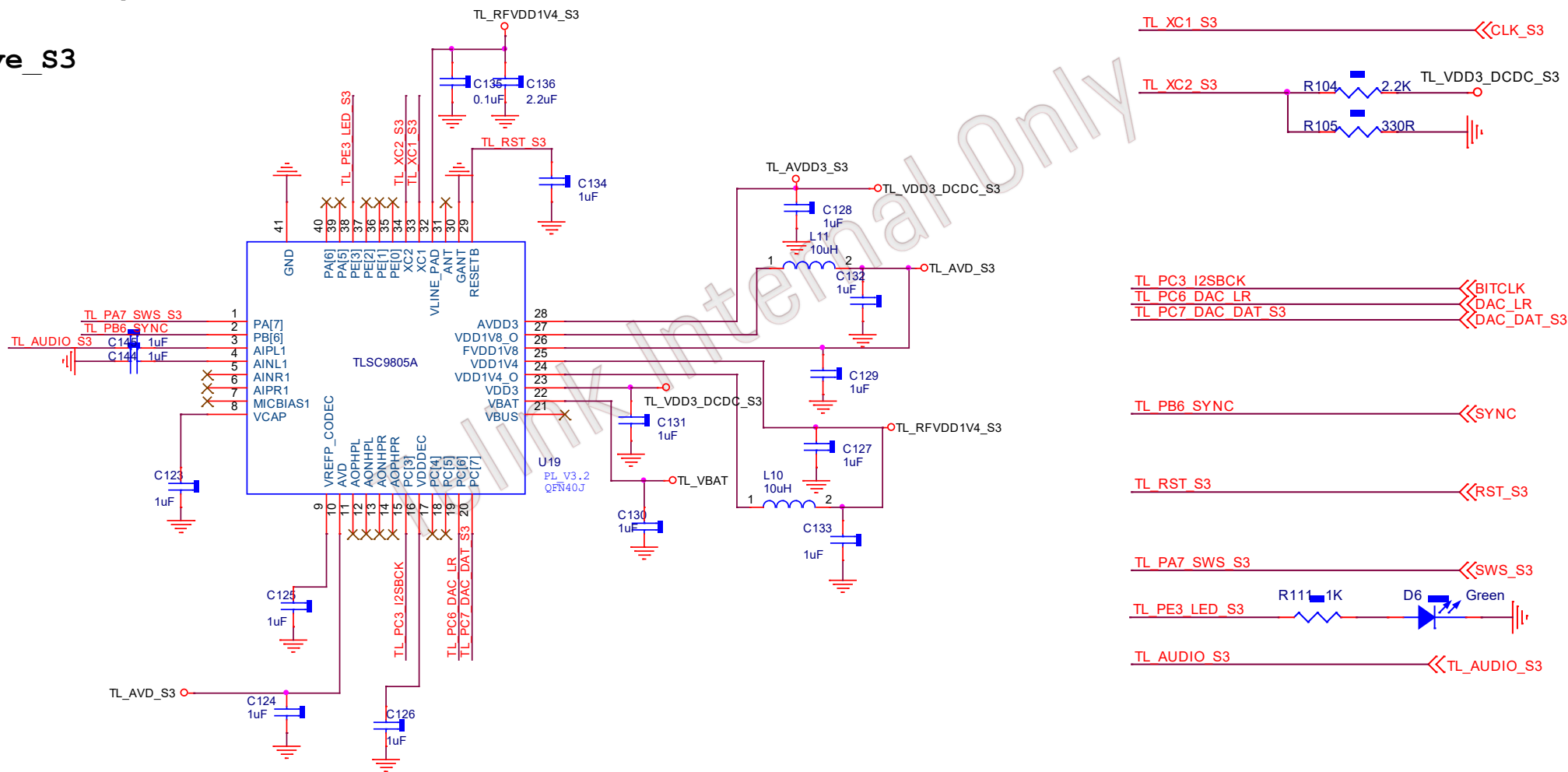




3. 附件- 续

3.1 Soundbar 6p1 EVB V1.1原理图

Slave_S3



3. 附件- 续

■ 3.2 Soundbar 6p1 Solution

Soundbar 1 to 6.1 Solution

