CM6317A
USB Audio Controller Evaluation Board

User Manual

Ver. 1.1
Mar. 21, 2011

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RELEASE NOTE

Revision	Date	Description
0.90	2010/05/04	First release
1.0	2010/09/02	Remove Power Consumption Selector
1.1	2011/03/21	Modify Availabilities For CM6317A.

1 Overview

1.1 Introduction

1.1介绍CM6317A是Cmedia的新音频SOC IC。 它包含高性能立体声ADC，并具有各种接口，如I2C，允许各种微处理器或DSP通信。 特别是在USB麦克风或先进的VOIP应用中。 CM6317A可以为您提供低噪声、高质量的语音输入解决方案。 因此，当涉及到会议或公开演讲时，这对你来说是一个很好的选择。

此外，CM6317A集成了所有基本的模拟，2-CHADC，PLL，调节器，USB收发器，与EEPROM定制您自己的产品字符串，PID和VID。 CM6317A支持8K/11.025K/16K/22.05K/32K/44.1K/48KHz采样率、高质量的16位分辨率和友好的通用输入和输出，用于定制功能。 此外，有许多功能可以编程与外部EEPROM和单片机。 外部MCU/EEPROM可以通过HID软件接口轻松控制。

CM6317A is a Cmedia's new Audio SOC IC. It contains high performance Stereo ADC and has various interfaces like I2C, allowing all kinds of Microprocessor or DSP to communicate. Especially in USB Microphone or advanced VOIP application. CM6317A could give you low noise and high quality speech input solution. Thus, when it comes to conference or public speech, it would be wonderful choice for you.

Also, CM6317A integrates all essential analog, 2-CH ADC, PLL, regulator, USB transceiver, with EEPROM to customize your own product string, PID and VID. CM6317A supports 8K/11.025K/16K/22.05K/32K/44.1K/48 KHz sampling rate, high quality 16-bit resolution and friendly General purpose inputs and outputs for customized functions. Also, there are many features could be programmable with external EEPROM and MCU. External MCU / EEPROM could be easily controlled via HID software interface.

1.2 USB Audio Controller EVM Architecture

Cmedia CM6317A USB audio controller EVM board is a development tool for testing and controlling of various peripheral components. A block diagram of this EVM system is shown in Figure 1-1.

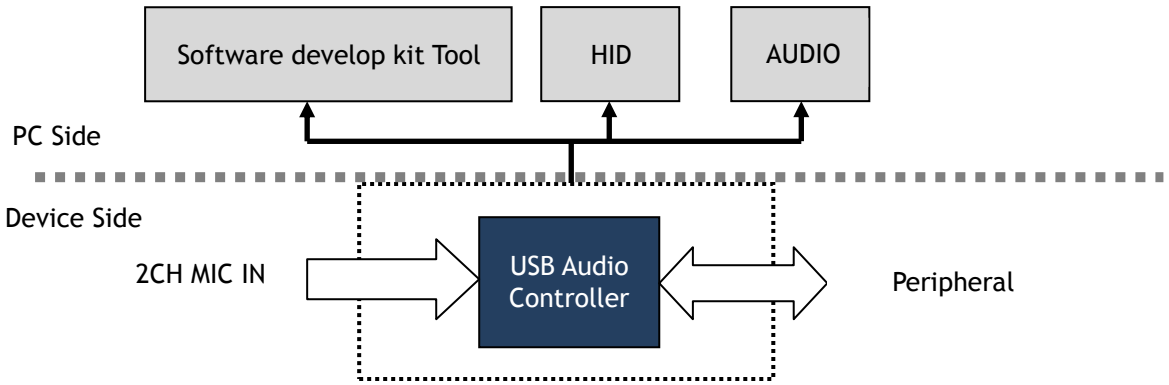

Figure 1-1. Block diagram of EVM system

1.3 Evaluation Board Contents

The CM6317A USB Audio controller evaluation board has the following hardware features. You can find the placement clearly by just seeking the corresponding number in Figure 1-2.

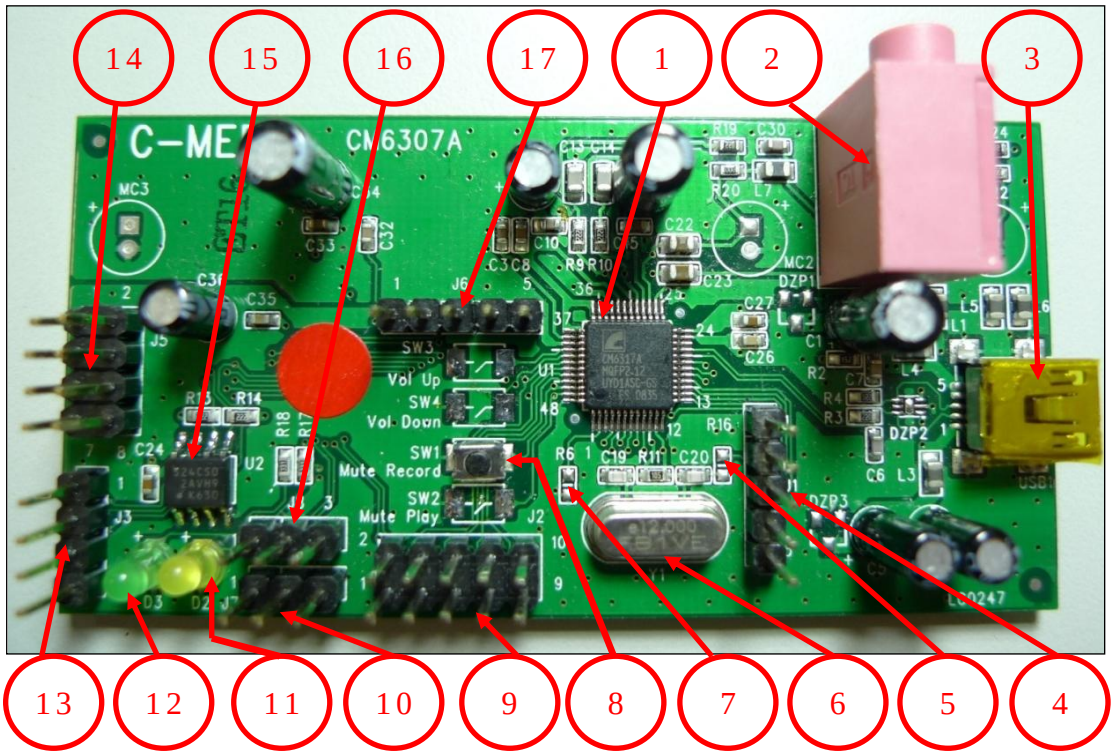

Figure 1-2. CM6317A USB Audio Controller EVM board

1. U1: CM63x7A USB Microphone USB Audio Controller.
2. J4: Analog Microphone Input Jack.
3. USB1: Mini B Type USB Connector.
4. J1: 5-Pin Male Header. (Do not apply on CM6317A).
5. R16: HID_ENB Function.
6. Y1: 12MHz Crystal, For CM6317A USB Audio Controller.
7. R6: Power Consumption. (Do not apply on CM6317A).
8. SW1: HID Button, Mute Record Function.
9. J2: 10-Pin Male Header, For GPIOs Interface.
10. J7: 3-Pin Male Header. (Do not apply on CM6317A).
11. D2: LED, For USB ON/OFF Status.
12. D3: LED, For Record Mute Status.
13. J3: 4-Pin Male Header, For I2C Interface.
14. J5: 8-Pin Male Header. (Do not apply on CM6317A).
15. U2: EEPROM, For Value Setting (via SDK).
16. J8: 3-Pin Male Header. (Do not apply on CM6317A).
17. J6: 5-Pin Male Header. (Do not apply on CM6317A).

1. U1：CM63x7A USB麦克风USB音频控制器。
2. 模拟麦克风输入插孔。
3. USB1：迷你B型USB连接器。
4. J1：
5-Pin公头。（不适用于CM6317A)。
5. R16：HID_ENB功能。
6. Y1：12MHz晶体，用于CM6317A USB音频控制器。
7. R6：电力消耗。（不适用于CM6317A)。
8. SW1：HID按钮，静音记录功能。
9. J2：10英寸耳机，用于GPIO接口。
10. J7：3-Pin公头。（不适用于CM6317A)。
11. D2：LED，用于USB开关状态。
12. D3：LED，用于记录静音状态。
13. J3：4-Pin耳机，用于I2C接口。
14. J5：8-Pin公头。（不适用于CM6317A)。
15. U2：EEPROM，用于值设置(通过SDK)。
16. J8：3英寸公头。（不适用于CM6317A)。
17. J6：5-Pin公头。（不适用于CM6317A)

2 Getting Started

2.1 Board As USB Audio Device

2.1.1 Plug in the EVM board to the host

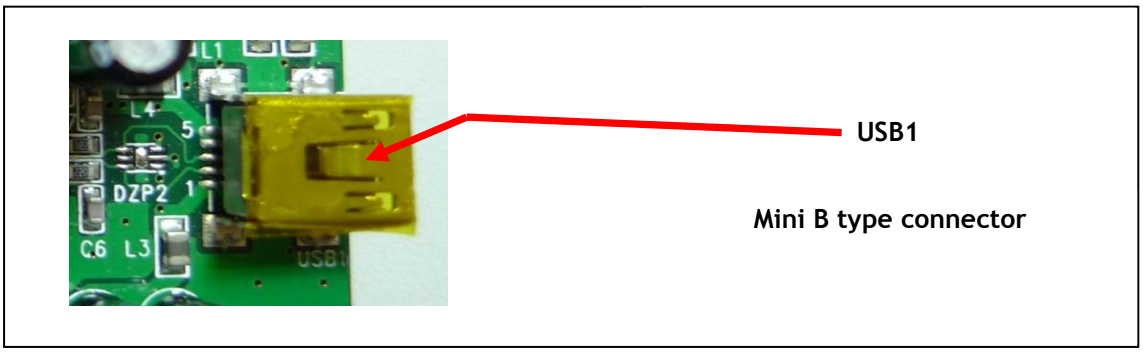

Figure 2-1. USB connector

2.1.1 Check LED D2 for power on and current status

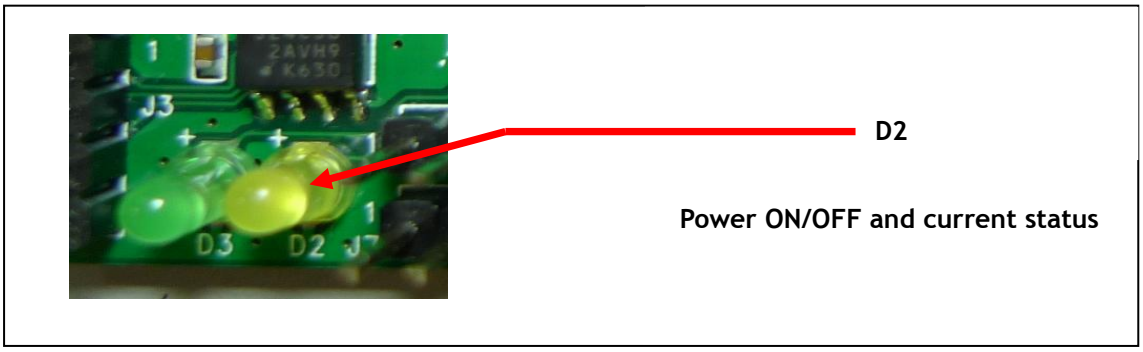

Figure 2-2. LED indicator

2.1.2 Recording Functions

CM6317A have recording functions for Stereo and Mono Microphone-in. ADC sampling rate from 8K/ 11.025K/ 22.05K/ 32K / 44.1K /48K with 16-bit resolution.

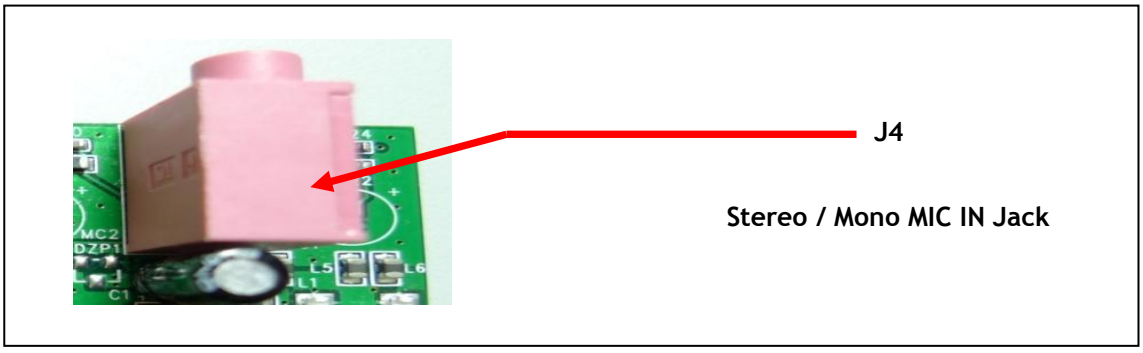

Figure 2-3. Microphone input Jack

2.2 EVM Board with Peripheral Control

CM6317A embedded GPIOs and I2C for external peripheral control and function enable/disable pins. The CM6317A USB audio controller EVM board demonstrates simple peripheral functionality:

- GPIOs Input / Output.
- I2C Interface.
- HID Function Enable/Disable.

用于外部外围控制和功能启用/禁用引脚的CM6317A嵌入式GPIO和I2C。
CM6317A USB音频控制器EVM板演示了简单的外围功能：

GPIO输入/输出。
-I2C接口。
HID函数Enable/Disable。

2.2.1 General Purpose Inputs/Outputs

The CM6317A USB provides 8 GPIOs. Figure 2-4 describes the location of GPIO pins.

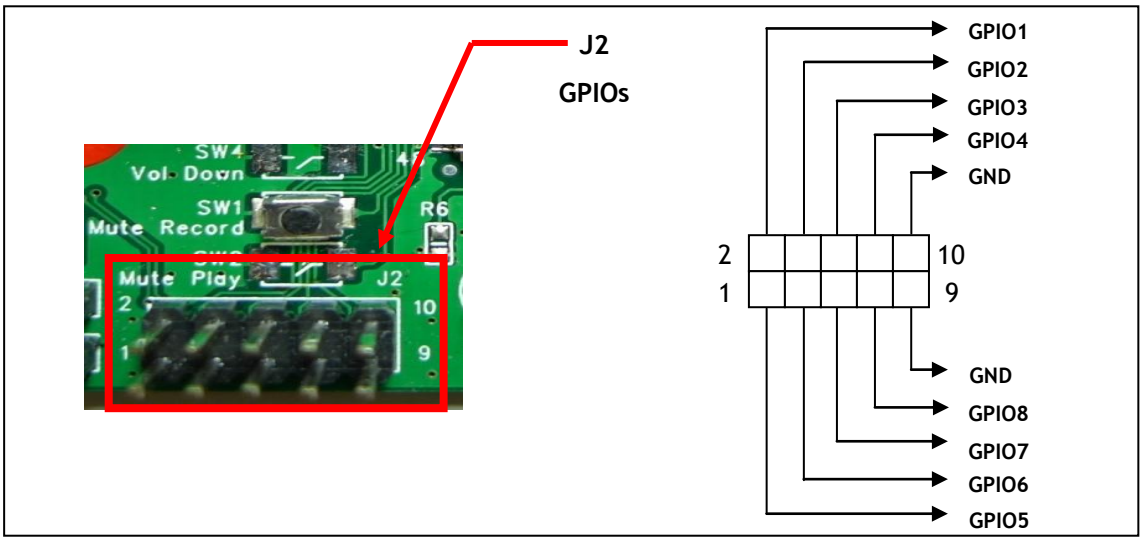

Figure 2-4. GPIOs Input / Output

2.2.2 I2C Interface

CM6317A USB音频控制器EVM板提供I2C接口。 使用I2C接口在CM6317A和外部控制器之间传输控制数据。

The CM6317A USB audio controller EVM board provides I2C interface. I2C interface is used to transfer control data between the CM6317A and external controller.

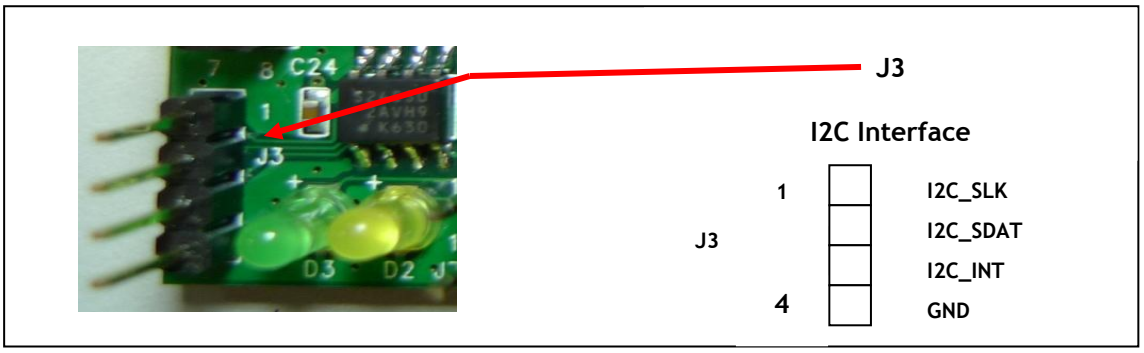

Figure 2-5. I2C interface

2.2.3 HID Function Enable

CM6317A支持Microsoft HID函数；您可以通过将HID ENB拉高来启用HID函数。

CM6317A supports Microsoft HID functions; you can enable HID function by just pulling HID_ENB to high.

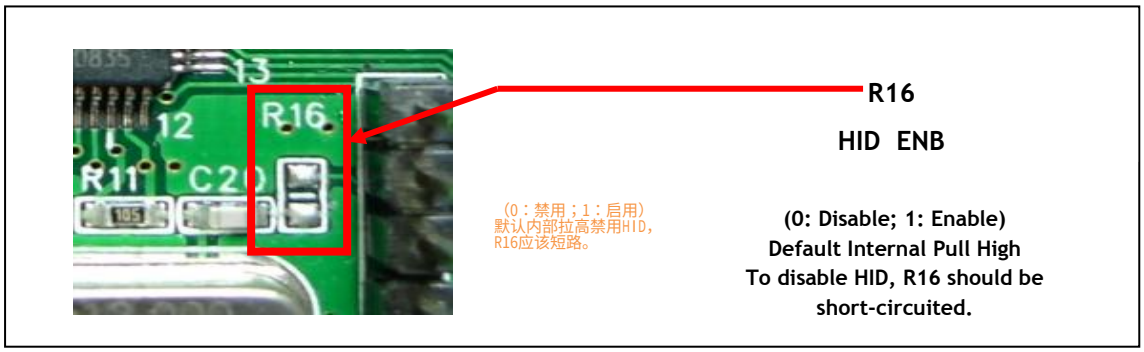

Figure 2-6. HID Function Enable

—End of Specifications—

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