CAM8200-U
Digital Camera Module

User Manual

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Revision History:

Version	Date	Description
1.0	2014-6-30	Original Version

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Chapter 1 Product Overview

1.1 Brief Introduction

CAM8200-U is a new 5-megapixel USB camera module designed by Embest Technology and featured with automatic focus, white balance, exposure control and gain control. This module is currently compatible with the Freescale i.MX 6 processors-based evaluation boards of Embest: RIoTboard, MarS Board and SABRE Lite. It also can work with PCs installed with Windows 2000\Windows XP\Windows 7 system (the driver required will be installed automatically under Windows systems). CAM8200-U has an USB 2.0 OTG interface, connect to an evaluation board with a Mini USB cable for implementing the function of image capture.

1.2 Packing List

- CAM8200-U Module×1
- Mini USB Cable×1

1.3 Product Features

- Module Dimensions: 43mm×43mm×5.88mm
- Operating Temperature: -20 ℃ ~ 70 ℃
- Operating Temperature for Stable Imaging: 0 ℃ ~ 50 ℃
- Focus: Auto
- Object Distance: 30cm ~ ∞
- Resolution: 600LW/PH (Center)
- Interface: USB 2.0

- Power Consumption: 150mW (VGA), 200 mW (QSXGA)

- Active Array Size: 2592×1944

- Pixel Size: 1.4μm×1.4μm

- Max Image Transfer Rate: 15 fps (QSXGA)

- AGC/AEC/White Balance: Auto

- Compatible Boards: MarS Board, RIoTboard and SABRE Lite (can also work with a PC installed with Windows 2000\Windows XP\Windows 7)

Chapter 2 Interface Definition

This chapter lists the pin definitions of the OTG interfaces on CAM8200-U:

Table 2-1 USB 2.0 Interface

Pin	Signal	Function
1	VBUS	+5V
2	DN	USB Data-
3	DP	USB Data+
4	ID	USB ID
5	GND	GND

Figure 2-1

Chapter 3 Use of CAM8200-U

This chapter contains the lists of hardware and software that are required to allow CAM8200-U function properly, an illustration that shows hardware connections, and operations under Android to activate CAM8200-U camera module.

3.1 Hardware/Software Requirements

1） Hardware Requirements;

- An evaluation board installed with Android system (RIoTboard/MarS Board/SABRE Lite)
- A CAM8200-U camera module
- A Mini USB **Cable**
- A TF card (optional)
- A 5V power adapter
- A display device (HDMI monitors or LCD8000-97C/LCD8000-43T/LCD8000-70T display modules /VGA8000 conversion module)
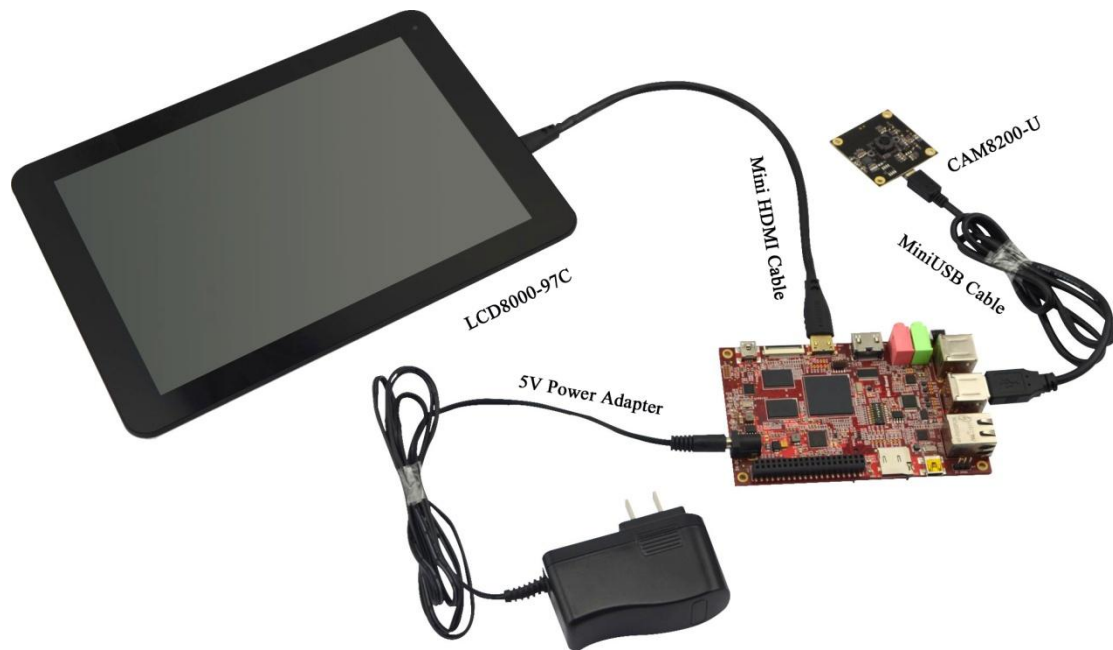
2） Software Requirements;

- OS: Android

Note:
📖 CAM8200-U can only work under Android systems temporarily.

3.2 Hardware Connections

As shown in the following image, please use the Mini USB cable to connect CAM8200-U camera module to the USB interface of an evaluation board (RIoTboard is taken as an example here), then connect a display device (LCD8000-97C is used here) and a power
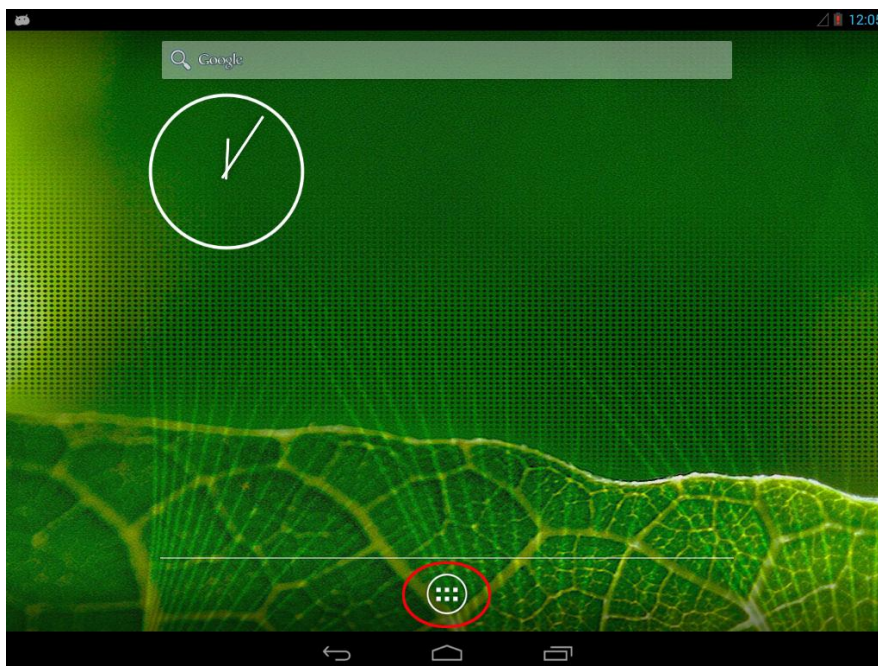
adapter to the board.

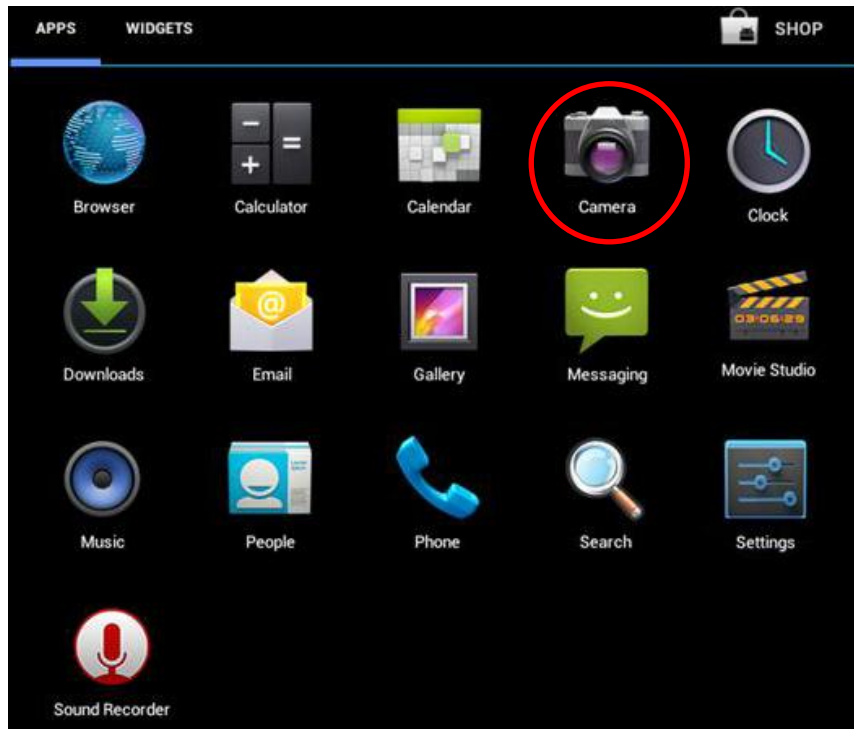**Figure 3-1**   Hardware Connections

3.3 Using CAM8200-U

1） After Android system boots up, use your finger to touch the icon at the bottom of

Android home interface as shown blow to enter application list.

Figure 3-2   Android Home Interface

2） Touch the Camera icon in the application list as shown below; The images captured by the camera module will be displayed on your screen.

Figure 3-3   Run Camera Application

Note:
📖 Taking pictures at a resolution of 2 megapixels or higher with CAM8200-U is temporarily not supported when working under Android 4.3,

Technical Support and Warranty

Technical Support

Embest Technology provides its product with one-year free technical support including:

- Providing software and hardware resources related to the embedded products of Embest Technology;

- Helping customers properly compile and run the source code provided by Embest Technology;

- Providing technical support service if the embedded hardware products do not function properly under the circumstances that customers operate according to the instructions in the documents provided by Embest Technology;

- Helping customers troubleshoot the products.

The following conditions will not be covered by our technical support service. We will take appropriate measures accordingly:

- Customers encounter issues related to software or hardware during their development process;

- Customers encounter issues caused by any unauthorized alter to the embedded operating system;

- Customers encounter issues related to their own applications;

- Customers encounter issues caused by any unauthorized alter to the source code provided by Embest Technology;

Warranty Conditions

1） 12-month free warranty on the PCB under normal conditions of use since the sales of the product;

2） The following conditions are not covered by free services; Embest Technology will charge accordingly:

- Customers fail to provide valid purchase vouchers or the product identification tag is damaged, unreadable, altered or inconsistent with the products.

- Products are damaged caused by operations inconsistent with the user manual;

- Products are damaged in appearance or function caused by natural disasters (flood, fire, earthquake, lightning strike or typhoon) or natural aging of components or other force majeure;

- Products are damaged in appearance or function caused by power failure, external forces, water, animals or foreign materials;

- Products malfunction caused by disassembly or alter of components by customers or, products disassembled or repaired by persons or organizations unauthorized by Embest Technology, or altered in factory specifications, or configured or expanded with the components that are not provided or recognized by Embest Technology and the resulted damage in appearance or function;

- Product failures caused by the software or system installed by customers or inappropriate settings of software or computer viruses;

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- Warranty (including verbal and written) that is not made by Embest Technology and not included in the scope of our warranty should be fulfilled by the party who committed. Embest Technology has no any responsibility;

3） Within the period of warranty, the freight for sending products from customers to Embest Technology should be paid by customers; the freight from Embest to customers should be paid by us. The freight in any direction occurs after warranty period should be paid by customers.

4） Please contact technical support if there is any repair request.

Note:
 Embest Technology will not take any responsibility on the products sent back without the permission of the company.

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