# USB 1.1 CMOS CIF Camera

Reference Design Kit

USA • China • Japan • Taiwan • UK• Italy • Belgium • Netherlands • Israel • Korea • Singapore

## Sales Offices

WIS Technologies, Inc. (U.S. Headquarters)
2805 Mission College Blvd.
Santa Clara, CA 95054
t| 408.625.1200
f| 408.625.1299

WIS Technologies Co., Ltd. (Taiwan)
Rm 602, 6F, No.129, Sec.3 Min Shen East Road
Taipei, Taiwan
t| +886.2.27131212
f| +866.2.25453777

WISchip International Ltd. (Japan)
Da Vinci Ginza 2F, 6-2-1, Ginza
Chuo-Ku, Tokyo 104-0061, Japan
t| +81.3.5537.5080
f| +81.3.6215.9856

WISchip International Ltd. (Korea)
Rehoboth #1215, Downtown 12F
22-3, Sunae, Bundang, Seongnam,
Kyunggi, Korea 463-825
t| +82.17.243.5758
f| +82.31.717.5630

WISchip International Ltd. (United Kingdom)
t| +44.1253.312847 or +1.408.907.2742
m| +44.7881.828435

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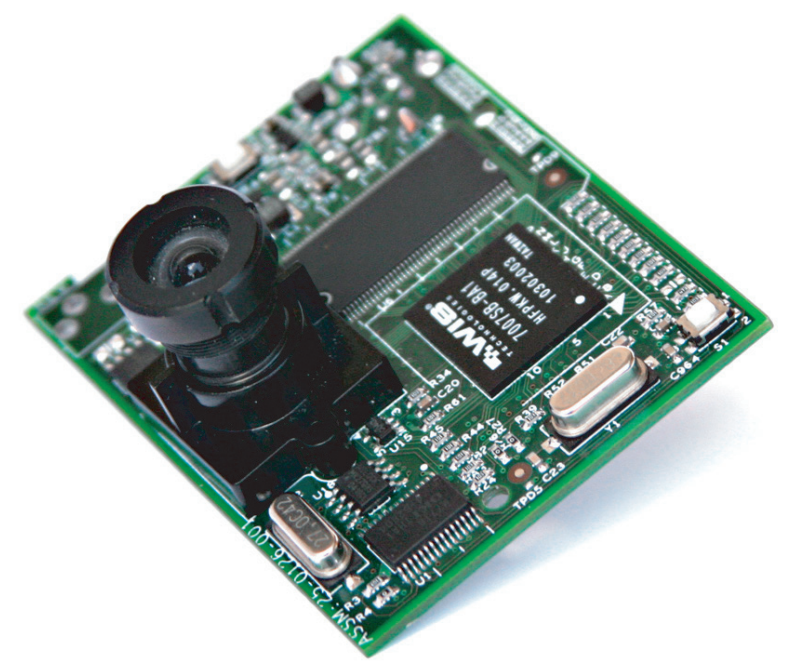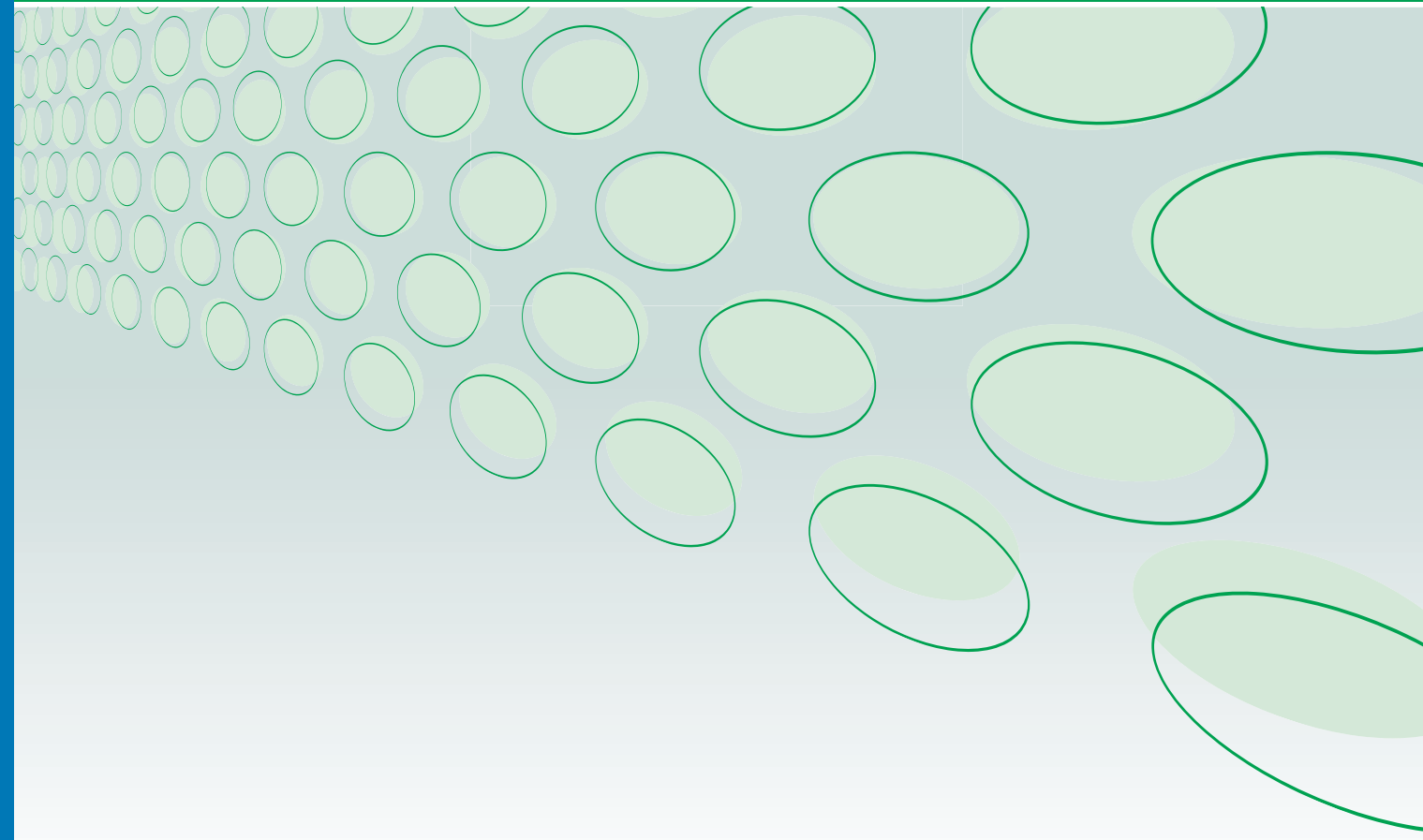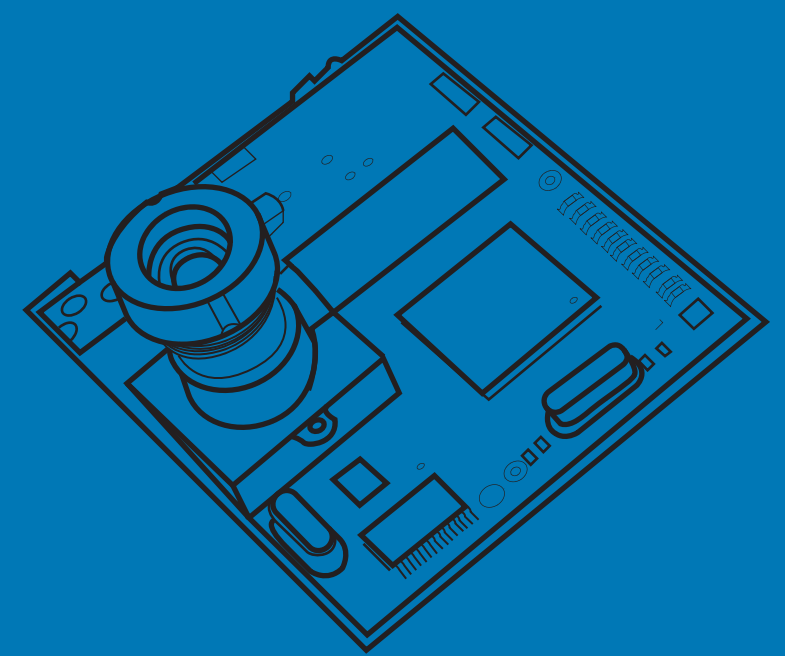
WISchip International Ltd. Headquarters
2805 Mission College Blvd.
Santa Clara, CA 95054
t |408.625.1200
f | 408.625.1299
e | sales@wischip.com
www.wischip.com

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Based on WISchip's 7007SB multi-format video encoder, the USB 1.1 CCD Camera is a bus powered reference design that uses the OmniVision OV6650 CMOS Sensor.  This CMOS sensor supports CIF (352 x 288) resolution and full-motion video up to 30fps.  The reference design also supports an onboard microphone for audio input.  Tthe USB Camera reference design provides a wide variety of settings for video input format, resolution, frame rate, and video compression format.  It has a wide range of encoding applications from surveillance systems to web application using IP cameras.

## Features

### Video Encoder Formats

- MPEG-4 Simple Profile @ L3 plus B-frame support, Microsoft® and Sigma Design® compatible, and progressive
- MPEG-2 MP @ LL, and progressive
- MPEG-1
- H.263

### Video Input

- RGB Bayer 8-bit Omnivison OV6650 Sensor
- Maximum input size: CIF 352 x 288
- Resolution from 64 x 64 to 352 x 288 (16-pixel increments)
- Frame rate: from 1 fps to 30fps
- OSD support

### Audio Input/Output

- OKI/PCM audio interface
- PCM audio stream output

### Video Quality and Features

- High quality 40 Kbps QCIF video for low bandwidth communication
- Dynamically adjustable bit rate and frame rate to fit variable bandwidths (for Internet communication applications)
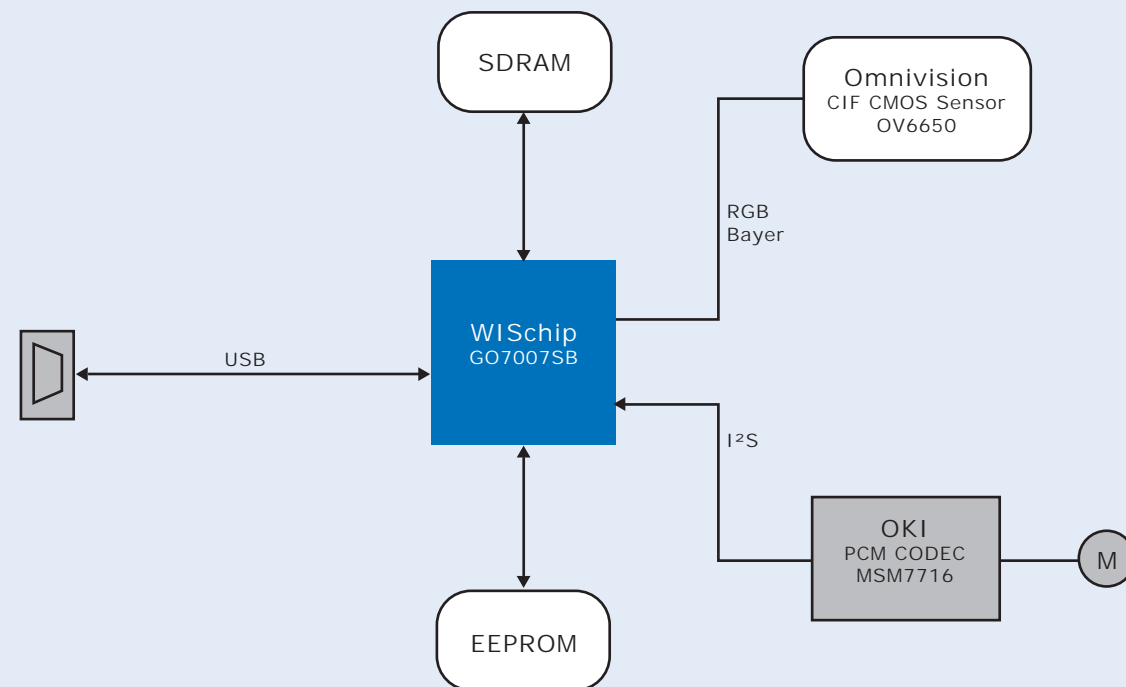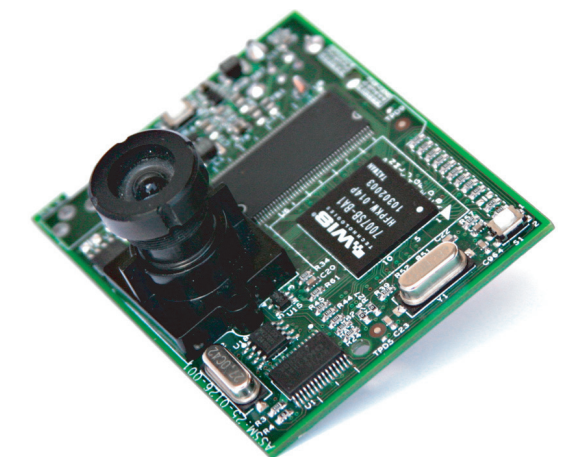
### Electrical and Mechanical Specification

- Board size: 2.76" x 2.76"
- USB 1.1 device
- OV6650 OnmiVision CMOS CIF Sensor
- On board Microphone

## Deliverables

- Hardware Design
  - Board Schematics
  - Gerber files
  - Bill of materials
- Evaluation Board
  - I-Robot USB 1.1 CMOS CIF Sensor PC-camera Board
- Software
  - Windows® XP/2000 WDM drivers
  - WISchip™ Firmware
  - WISchip™ sample application (GoCap)
- Documents
  - 7007SB Datasheet
  - 7007SB Users Manual



SDRAM

Omnivision
CIF CMOS Sensor
OV6650

RGB Bayer

WISchip
GO7007SB

USB

I²S

OKI
PCM CODEC
MSM7716

M

EEPROM

**USB 1.1 CMOS CIF Camera**