

# PRODUCT SPECIFICATION

## 產品規格書

客 戶

Customer

產品名稱

5.0M Camera Module With LED Flashlight

Product name .

威聚型號

UM-53

WEICHU Part No.

樣品數量

Sample Quantity

送樣日期

Sample Date

製表人

Tony

Prepared By

審核

Checkedy



說明：一、謹致執事者：茲提供敝公司產品之有關詳細規格及圖面資料，敬請給予辦理測試認定手續。同時敬請送返一份附有貴公司簽認之測試認定後之樣品認定書。

We are sending you our specification and drawings for your approval. Please return to us one copy "For Approval " with your approved signatures.

承認欄

Customer Approval Stamp.

Date:     /     /

## 1. GENERAL DESCRIPTION

UM-53-V1.0

is an USB Video Class (UVC) compliant camera module designed for portable notebook PC image applications. It is a highly integrated system that provides a cost-effective and performance solution for video capture application. It shall be a reliable device that is embedded in notebook PC to transfer video data through USB interface to notebook PC.

## 2. Features

- Compliant USB Video Class
- Support snapshot button and still image capture
- Automatic image control:
  - ◆Automatic Exposure Control (AEC)
  - ◆Automatic White Balance (AWB)
  - ◆Automatic Gain Control (AGC)
- Support for LED Flashlight
- Support for Still Image resolution: 2592x1944
- Platform Support: Windows XP, Vista, Win7 ,Win8

## Hardware Specification

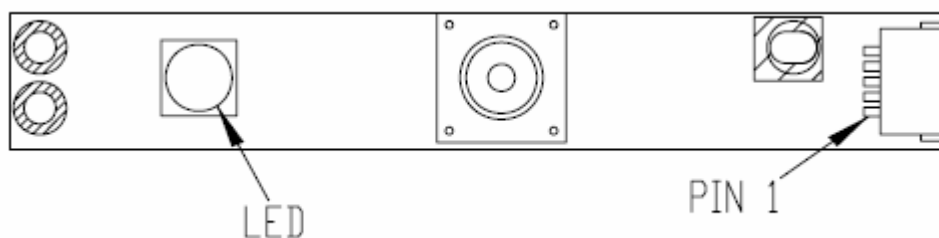
| Module Specification      |                        |           |        |
|---------------------------|------------------------|-----------|--------|
| CMOS sensor Active Pixels | 2592(H) x 1944(V)      |           |        |
| Dimension (mm)            | 62.0mm x 9.0mm x 5.4mm |           |        |
| Power Supply              | +4.75V ~ +5.25V        |           |        |
| Color Filter Array        | RGB Bayer Pattern      |           |        |
| Output Interface          | USB2.0 (480Mbit/sec)   |           |        |
| Operating Temperature     | 0℃ to +55℃             |           |        |
| Compatibility             | USB Video Class        |           |        |
| Power Consumption         |                        |           |        |
|                           | Min                    | Type      | Max    |
| Input Supply Voltage      | –                      | 5.0V DC   | –      |
| Un-configured Current     | –                      | 42 mA     | –      |
| Operating Current         | 176 mA                 | 185 mA±5% | 194 mA |
| Suspend Current           | –                      | 0.5 mA    | –      |

| DSP Specification |                                                            |
|-------------------|------------------------------------------------------------|
| Type              | Controller IC : EM23                                       |
| Support Sensor    | Most popular CMOS sensors                                  |
| Compatibility     | USB 2.0 Video Class Compliant, Microsoft WHQL<br>Certified |

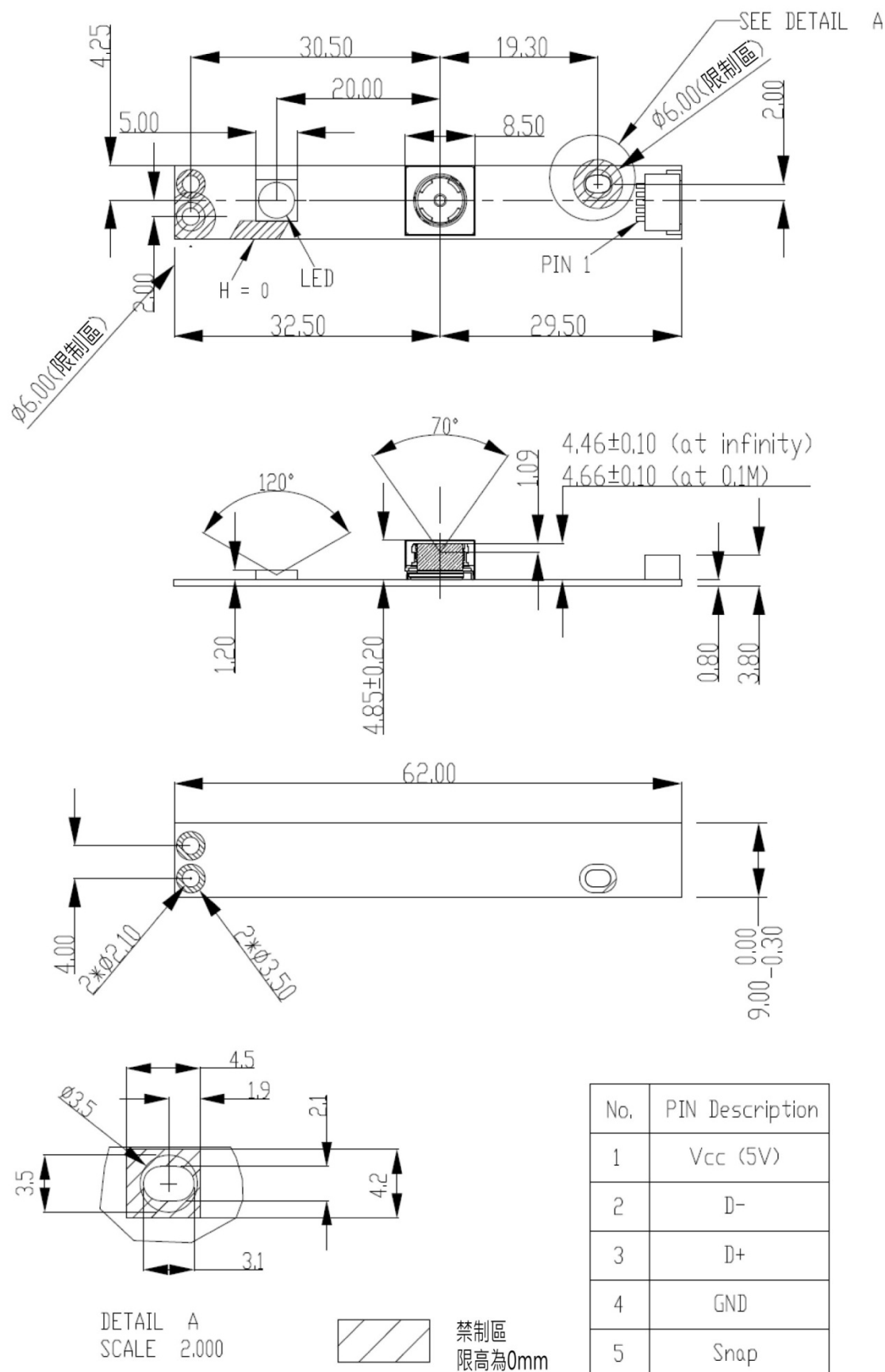
| Sensor Specification |                       |
|----------------------|-----------------------|
| Optical format       | CMOS 1/4 inch, OV5640 |
| Pixel size           | 1.4μm x 1.4μm         |
| Maximum Image        | 2592x1944             |

| Lens Specification      |           |
|-------------------------|-----------|
| Element                 | 4P+ IR    |
| F Number                | 2.8±5%    |
| Field of view(Diagonal) | 70°       |
| Focus Range             | 10 cm ~ ∞ |

| LED Flashlight Specification |      |          |                       |
|------------------------------|------|----------|-----------------------|
| Luminous Flus                |      | 37 lm    |                       |
| Efficiency                   |      | 75 lm/W  |                       |
| View Angle $2\theta_{1/2}$   |      | 120°     |                       |
| Pin Description              |      |          |                       |
| Pin Number                   | Name | Pin Type | Function Description  |
| 1                            | VCC  | Power    | USB Power Supply +5V  |
| 2                            | D-   | Data Pin | USB Data Transmission |
| 3                            | D+   | Data Pin | USB Data Transmission |
| 4                            | GND  | GND      | System Ground         |
| 5                            | SNAP | GPIO     | Snap, Low active      |



## Mechanical Drawing



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## Reliability Test

| No | ITEM                        | Test                                                                                                                                |
|----|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| 1  | High Temp. storage          | 65±2℃, 72Hrs                                                                                                                        |
| 2  | Low Temp. storage           | -20±2℃, 72Hrs                                                                                                                       |
| 3  | High Temp. & High Humidity  | 60±2℃, 90%RH, 120Hrs                                                                                                                |
| 4  | Thermal Shock               | 1. Temp. : -10±3℃, +65±3℃<br>2. Soak Time : 30min<br>The cycles is repeated 100 times                                               |
| 5  | ESD                         | HBM : 2.0KV<br>MM : 150V                                                                                                            |
| 6  | Vibration Test              | Sinusoidal vibration, Frequency 10~2000Hz<br>Max. Acceleration : 1.5mm, 2G<br>X, Y, Z time : 20min/ each (45hrs)                    |
| 7  | Drop Test                   | 150cm Height free fall<br>Surface : concrete or steel<br>Number of drop : 3 times                                                   |
| 8  | Vibration Test<br>(packing) | Air Frequency 2~300Hz, Max. Acceleration : 1.48G<br>Truck Frequency 1~200Hz, Max. Acceleration : 0.73G<br>X, Y, Z time : 1 Hr/ each |
| 9  | Drop Test<br>(packing)      | 1100cm Height free fall<br>Surface : concrete or steel<br>Number of drop : 10 times<br>Number of drop : 10 times                    |