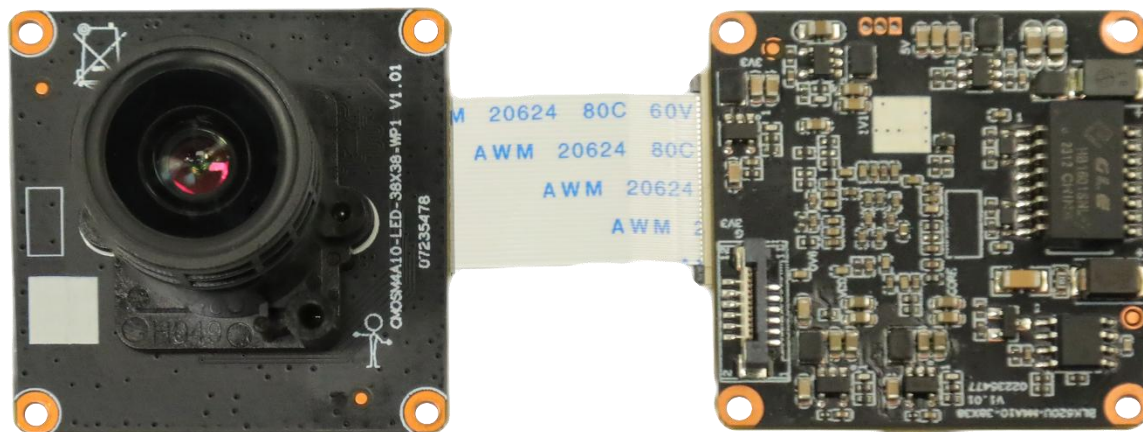


# IVG-A8-P40 Module Specification

Version:20230710



## Introduction

IVG-A8-P40 is a 4K Ultra HD Blacklight AI Intelligent IP Camera Module, 4K image, all noise free, full color at night, support human shape detection, face detection, car shape detection, support H.265AI coding, mainly used in night vision Ultra HD video surveillance camera.

## Main Features



AI Blacklight



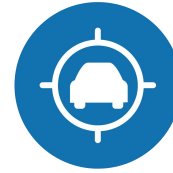
Human Detection

H.265AI



Face Detection

AI Noise Reduction



Vehicle Detection



4K UHD



NPU



Lightning Protection

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# Content

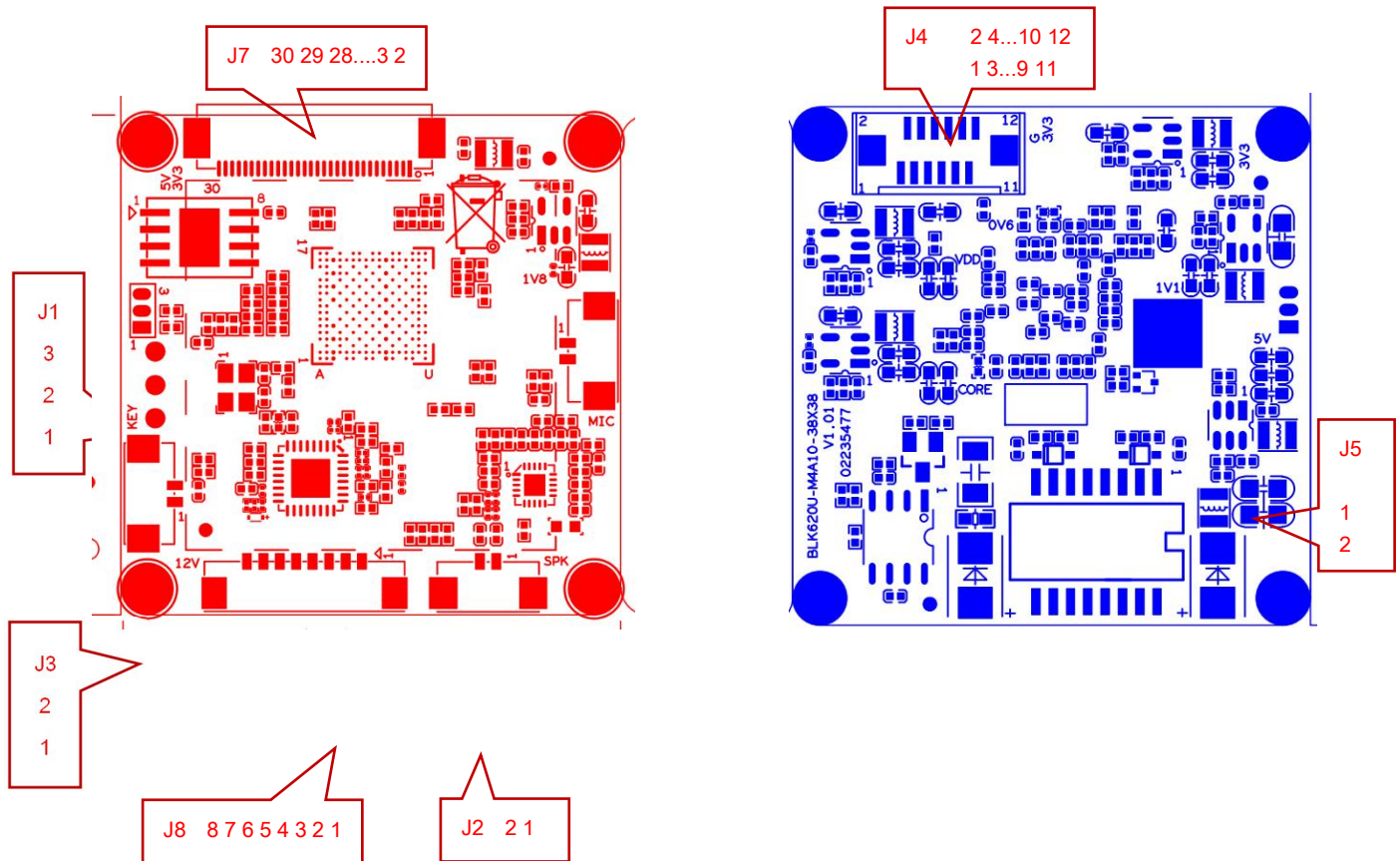
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## 1. Product Parameters

|                |                       |                                                                                                                                                                                                                                    |
|----------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | Model                 | IVG-A8-P40                                                                                                                                                                                                                         |
| Module         | System structure      | Embedded RTOS,dual-core 32bit DSP,pure hard compression ,watch dog                                                                                                                                                                 |
|                | Sensor                | 8.0M 1/1.8" black light CMOS sensor, color 0.0001Lux@F1.2, black/white 0.0001Lux@F1.2                                                                                                                                              |
|                | Video compression     | H.265+(Compatible with H.265/H.264), support dual stream, AVI;0.1M~10Mbps variable;1~30f/s variable                                                                                                                                |
|                | Image output          | Main stream: 8MP 3840*2160@20fps ; 5MP 2880*1616@25fps ; 4MP 2560*1440@25fps ; 2MP 1920*1080@25fps ; ; sub-stream: 800*448@25fps;                                                                                                  |
|                | Shutter               | 1/50(1/60) s to 1/10,000s                                                                                                                                                                                                          |
|                | Lens                  | Professional M16 lens with 4mm focal length                                                                                                                                                                                        |
|                | Day and night         | Support IR-CUT, IR-CUT coil has an internal resistance of 20 ohms, the power-on time is less than 200ma, and the voltage is 3.5V-6V                                                                                                |
| Image          | Noise reduction       | Support 2D/3D                                                                                                                                                                                                                      |
|                | Wide dynamic          | Support digital                                                                                                                                                                                                                    |
|                | Auto iris             | N/A                                                                                                                                                                                                                                |
| Interface      | Audio compression     | G.711, support bidirectional talk,audio&video synchronization                                                                                                                                                                      |
|                | Audio interface       | 1ch input, level:2Vp-p,impedance:1kΩ,support sound pick-up input;1ch output,impedance:16Ω,30mw,support microphone                                                                                                                  |
|                | Network interface     | 1*RJ45 10/100M adaptive Ethernet port; support RTSP/FTP DHCP/NTP/UPnP etc                                                                                                                                                          |
|                | Extension interface   | SD card slot,WIFI                                                                                                                                                                                                                  |
|                | Singal interface      | One photo resistance interface,one IR-CUT interface ,support photo resistance signal and IR-CUT links to IR                                                                                                                        |
|                | PTZ                   | N/A                                                                                                                                                                                                                                |
|                | Motor interface       | N/A                                                                                                                                                                                                                                |
|                | Alarm I/O             | N/A                                                                                                                                                                                                                                |
|                | WIFI interface        | N/A ( Extended support )                                                                                                                                                                                                           |
|                | Reset interface       | Support                                                                                                                                                                                                                            |
|                | SD Card               | N/A ( Extended support )                                                                                                                                                                                                           |
| Intelligence   | Intelligence analysis | Supporting Human shape detection, face detection, face capture, license plate recognition, passenger flow statistics, and support to customize other intelligent functions                                                         |
| Other function | Other function        | Support WEB,OSD,live video transmission, motion detect and IO alarm, front-end storage/playback/download, and center reminder and image linkage, support FTP capture ; united remote client monitoring software、MYEYE;perfect SDK; |
|                | ONVIF                 | Support                                                                                                                                                                                                                            |
|                | Mobile monitoring     | Support multiple mobile monitoring ( iOS , Android )                                                                                                                                                                               |
| General        | Reliability           | Comprehensive lightning protection, 7 * 24 hours -10℃ ~ 65℃high temperature stable and reliable testing                                                                                                                            |
|                | Power                 | DC12V/2A input, power consumption: ≤3W                                                                                                                                                                                             |
|                | Dimension             | 38mm*38mm+38mm*38mm                                                                                                                                                                                                                |
|                | Other                 | Support POE power supply                                                                                                                                                                                                           |

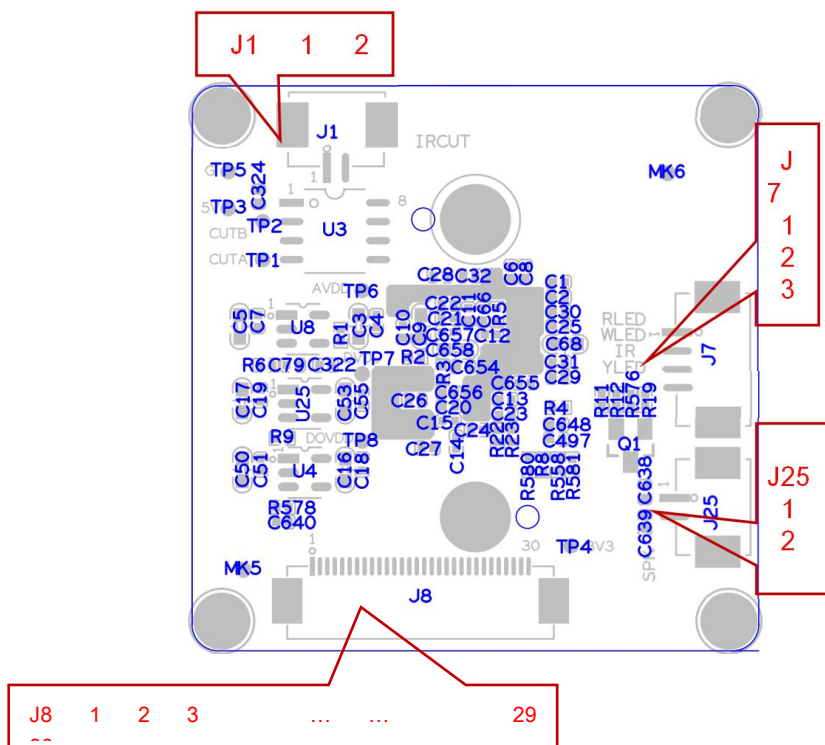
## 2. Interface Description

Dimension:38mm\*38mm+38mm\*38mm



| printing number | Pin number | pin assignment   | Function         |
|-----------------|------------|------------------|------------------|
| J3              | 1          | KEY              | RESET            |
|                 | 2          | GND              | GND              |
| J1              | 1          | UART0_RXD        | Debug UART       |
|                 | 2          | UART0_TXD        | Debug UART       |
|                 | 3          | GND              | GND              |
| J8              | 1          | ETH_LINK_ACT_LED | LED/PHY_AD0      |
|                 | 2          | ETH_LINK_STA_LED | LED/PHY_AD1      |
|                 | 3          | ETH_TX+          | Ethernet signal+ |
|                 | 4          | ETH_TX-          | Ethernet signal- |
|                 | 5          | ETH_RX+          | Ethernet signal+ |
|                 | 6          | ETH_RX-          | Ethernet signal- |
|                 | 7          | GND              | GND              |
|                 | 8          | 12V 输入           | 12V INPUT        |
| J5              | 1          | MIC_N1           | MIC              |
|                 | 2          | MIC_P1           |                  |
| J2              | 1          | SPKN             | SPK              |
|                 | 2          | SPKP             |                  |
| J4              | 1          | SDIO0_CCLK_OUT   | SDIO0_CCLK_OUT   |
|                 | 2          | SD_DATA0         | SD_DATA0         |
|                 | 3          | SD_DATA1         | SD_DATA1         |

|    |    |                  |                           |
|----|----|------------------|---------------------------|
|    | 4  | SD_DATA2         | SD_DATA2                  |
|    | 5  | SD_DATA3         | SD_DATA3                  |
|    | 6  | SD_CMD           | SD_CMD                    |
|    | 7  | WIFI_PDN         | WIFI_PDN                  |
|    | 8  | GND              | GND                       |
|    | 9  | WIFI_DN          | WIFI_DN                   |
|    | 10 | GND              | GND                       |
|    | 11 | WIFI_DP          | WIFI_DP                   |
|    | 12 | 3V3              | 3V3                       |
| J7 | 1  | I_MIPIDATA1N_D8  | Connected to sensor board |
|    | 2  | I_MIPIDATA1P_D9  |                           |
|    | 3  | I_MIPIDATA2N_D4  |                           |
|    | 4  | I_MIPIDATA2P_D2  |                           |
|    | 5  | I_MIPIDATA3N_D5  |                           |
|    | 6  | I_MIPIDATA3P_D3  |                           |
|    | 7  | I_MIPIDCLKP_D7   |                           |
|    | 8  | I_MIPIDCLKN_D6   |                           |
|    | 9  | I_MIPIDATA0P_D10 |                           |
|    | 10 | I_MIPIDATA0N_D11 |                           |
|    | 11 | GND              |                           |
|    | 12 | ADC1_IN          |                           |
|    | 13 | SEN0_MCLK        |                           |
|    | 14 | GND              |                           |
|    | 15 | SENSOR_SDA       |                           |
|    | 16 | SENSOR_SCL       |                           |
|    | 17 | IRCUT_A          |                           |
|    | 18 | IRCUT_B          |                           |
|    | 19 | SENSOR_RST       |                           |
|    | 20 | NC               |                           |
|    | 21 | NC               |                           |
|    | 22 | GND              |                           |
|    | 23 | NC               |                           |
|    | 24 | NC               |                           |
|    | 25 | WLED             |                           |
|    | 26 | RLED             |                           |
|    | 27 | YLED             |                           |
|    | 28 | GND              |                           |
|    | 29 | DVDD_3V3         |                           |
|    | 30 | 5V               |                           |



| printing number | Pin number | pin assignment | Function                 |
|-----------------|------------|----------------|--------------------------|
| J8              | 1          | D1N            | Connected to motherboard |
|                 | 2          | D1P            |                          |
|                 | 3          | D2N            |                          |
|                 | 4          | D2P            |                          |
|                 | 5          | D3N            |                          |
|                 | 6          | D3P            |                          |
|                 | 7          | CLKP           |                          |
|                 | 8          | CLKN           |                          |
|                 | 9          | D0P            |                          |
|                 | 10         | D0N            |                          |
|                 | 11         | GND            |                          |
|                 | 12         | ADC1_IN        |                          |
|                 | 13         | SEN0_MCLK      |                          |
|                 | 14         | GND            |                          |
|                 | 15         | SDA            |                          |
|                 | 16         | SCL            |                          |
|                 | 17         | IRCUT_A        |                          |
|                 | 18         | IRCUT_B        |                          |
|                 | 19         | RST            |                          |
|                 | 20         | /              |                          |
|                 | 21         | /              |                          |
|                 | 22         | GND            |                          |
|                 | 23         | SPKP           |                          |
|                 | 24         | SPKN           |                          |
|                 | 25         | WLED           |                          |
|                 | 26         | RLED           |                          |

|     |    |         |                         |
|-----|----|---------|-------------------------|
|     | 27 | YLED    |                         |
|     | 28 | GND     |                         |
|     | 29 | 3V3     |                         |
|     | 30 | 5V      |                         |
| J7  | 1  | RLED    | RLED                    |
|     | 2  | WLED    | WLED                    |
|     | 3  | ADC1_IN | ADC1_IN                 |
|     | 4  | YLED    | YLED                    |
| J25 | 1  | SPKN    | Spk(Reserved interface) |
|     | 2  | SPKP    |                         |
| J1  | 1  | AOUT    | IRCUT                   |
|     | 2  | BOUT    |                         |

### 3. Electrical Parameters

#### 3.1 Absolute Electrical Parameters

| Parameter                                      | Description          | Min | Max  | Unit |
|------------------------------------------------|----------------------|-----|------|------|
| Ts                                             | Storage temperature  | -40 | 150  | ℃    |
| VCC                                            | Power supply voltage | 9.6 | 14.4 | V    |
| Static electricity discharge voltage (Air)     | TAMB-25℃             | -4  | 4    | KV   |
| Static electricity discharge voltage (Contact) | TAMB-25℃             | -4  | 4    | KV   |

#### 3.2 Working Conditions

| Parameter | Description          | Min  | Max  | Unit |
|-----------|----------------------|------|------|------|
| Ta        | Working temperature  | -20  | 65   | ℃    |
| VCC       | Power supply voltage | 10.8 | 13.2 | V    |