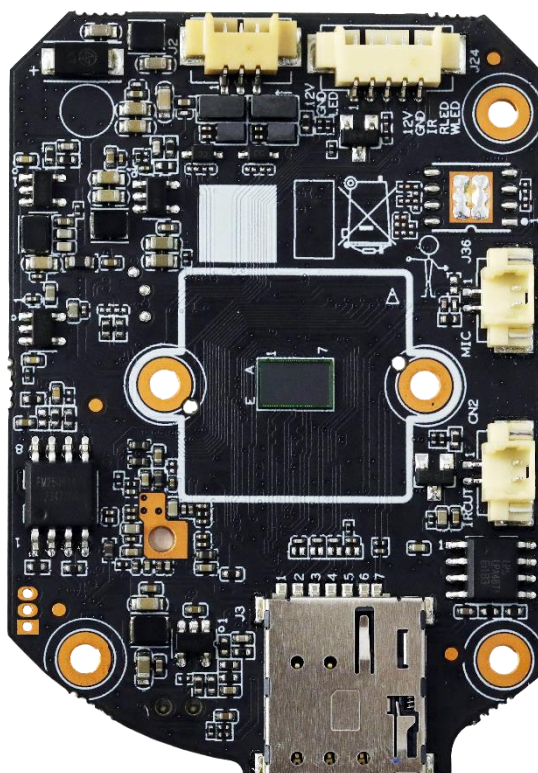


# IPG-G3-4GQC-S Module Specification

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## Introduction

IPG-G3-4GQC-S is a 3MP 4G PT camera module developed by our company, which supports 4G network transmission of video and audio data, and is mainly used in high-definition video surveillance cameras.

## Main Features

- |                                                                                                     |                                                                                                        |                                                                                                           |                                                                                                       |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
|  4G Connection   |  HD Picture Quality |  PT Control            |  Human Detection |
|  Two-way Talk    |  Mobile Remote      |  Infrared Night Vision |  Regional Alert  |
|  TF Card Storage |  Cloud Storage      |  H.265AI               |                                                                                                       |

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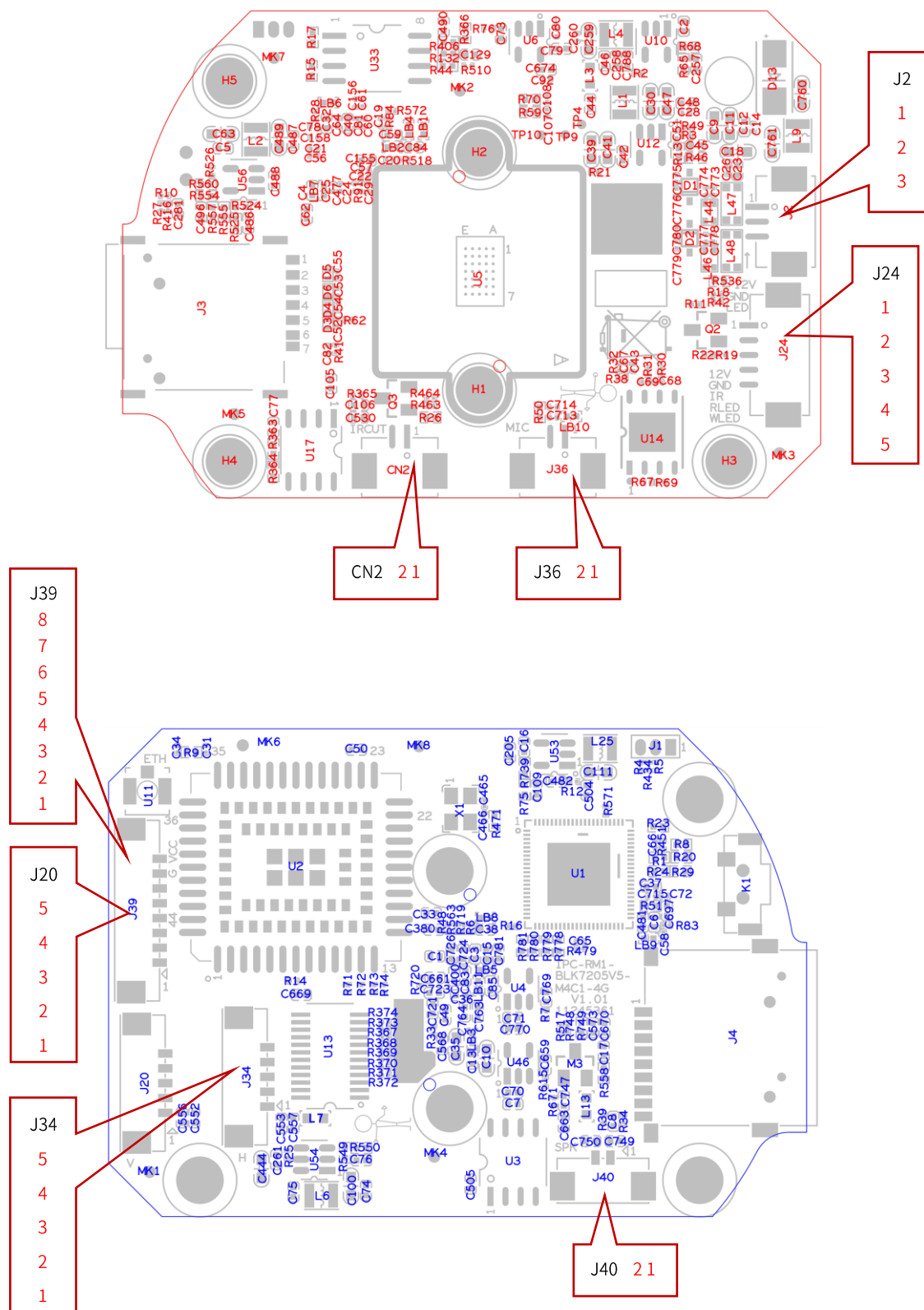
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## 1. Product Parameters

|                      |                                                                                                                                                                                                           |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model                | IPG-G3-4GQC-S                                                                                                                                                                                             |
| System Structure     | dual-core 32-bit DSP, pure hard compression ,watch dog                                                                                                                                                    |
| Sensor               | 1/3" Low illumination CMOS Sensor                                                                                                                                                                         |
| Min. Illumination    | Color: 0.01Lux @(F1.2,AGC ON); 0 Lux with IR<br>Black/White: 0.001 Lux @ (F1.2,AGC ON),0 Lux with IR                                                                                                      |
| Video Compression    | H.265AI                                                                                                                                                                                                   |
| Image Output         | Main stream: 2304*1296@12fps; sub-stream: 800*448@12fps                                                                                                                                                   |
| Shutter              | 1/50(1/60)s to 1/10,000s                                                                                                                                                                                  |
| Day&Night            | Support IR-CUT(Recommended:5V standard voltage IR-CUT)                                                                                                                                                    |
| DNR                  | Support 2D/3D noise reduction                                                                                                                                                                             |
| WDR                  | Support                                                                                                                                                                                                   |
| Audio Process        | G.711A codec standard, support dual voice talkback, audio and video synchronization                                                                                                                       |
| Audio Interface      | 1 channel input, support microphone input(MIC: selection range -28dB~-36dB, -33dB specification recommended); 1 channel output, support speaker output playback(speaker: 8Ω 2W specification recommended) |
| Network Interface    | 1*self-pop-up SIM card holder, supporting 4G CAT1 network                                                                                                                                                 |
| Signal Interface     | 1*photoresistor interface, 1*IR-CUT driver interface, support photoresistor input signal and IR-CUT,IR lamp linkage                                                                                       |
| Motor Interface      | 1* horizontal motor interface, 1*vertical motor interface                                                                                                                                                 |
| Reset Interface      | 1*reset interface                                                                                                                                                                                         |
| Storage Mode         | Local TF card, up to 256G; cloud storage                                                                                                                                                                  |
| Reliability          | Comprehensive lightning protection, in line with national and international standards;<br>3*24 hours high-temperature test stability and reliability                                                      |
| Smart Alarm          | Supporting human detection , support to customizing other intelligent functions                                                                                                                           |
| Value-added Services | It supports value-added services such as cloud storage and scene AI (outdoor security), which need to be activated at your own expense on the APP side                                                    |
| Mobile Monitoring    | Support (iOS, Android)                                                                                                                                                                                    |
| Power Supply         | DC12V                                                                                                                                                                                                     |
| Dimension            | 41mm*58mm                                                                                                                                                                                                 |

## 2. Interface Description



| Marking | Silk Screen Number | Pin Number | Pin Definition                 |
|---------|--------------------|------------|--------------------------------|
| CN2     | 1                  | IRCUTA     | IR-CUT driver                  |
|         | 2                  | IRCUTB     | IR-CUT driver                  |
| J36     | 1                  | GND        | GND                            |
|         | 2                  | MIC_P      | MIC Signal                     |
| J2      | 1                  | 12V        | 12V Power Supply               |
|         | 2                  | GND        | GND                            |
|         | 3                  | LED        | Indicator Light Control Signal |
| J24     | 1                  | 12V        | 12V Power Supply               |
|         | 2                  | GND        | Ground                         |
|         | 3                  | ADC1_IN    | Hard Light Sensor Input Signal |
|         | 4                  | RLED       | IR Light Control Signal        |
|         | 5                  | WLED       | White Light Control Signal     |
| J39     | 1                  | KEY_SET    | Reset                          |
|         | 2                  | NET_ACT    | Network Indicator Light        |
|         | 3                  | ETHTX+     | Ethernet Data TX+              |
|         | 4                  | ETHTX-     | Ethernet Data TX-              |
|         | 5                  | ETHRX+     | Ethernet Data RX+              |
|         | 6                  | ETHRX-     | Ethernet Data RX-              |
|         | 7                  | GND        | GND                            |
|         | 8                  | VCC        | 12V Power Supply               |
| J20     | 1                  | 5V_M       | 5V Motor Power Supply          |
|         | 2                  | OUT1       | Vertical Motor Drive Signal    |
|         | 3                  | OUT2       |                                |
|         | 4                  | OUT3       |                                |
|         | 5                  | OUT4       |                                |
| J34     | 1                  | 5V_M       | 5V Motor Power Supply          |
|         | 2                  | OUT1       | Horizontal Motor Drive Signal  |
|         | 3                  | OUT2       |                                |
|         | 4                  | OUT3       |                                |
|         | 5                  | OUT4       |                                |
| J40     | 1                  | SPKN       | Speaker Signal+                |
|         | 2                  | SPKP       | Speaker Signal-                |

### 3. Electrical Parameters

#### 3.1 Absolute Electrical Parameters

| Parameter                                         | Description          | Min | Max  | Unit |
|---------------------------------------------------|----------------------|-----|------|------|
| Ts                                                | Storage temperature  | -40 | 90   | ℃    |
| VCC                                               | Power supply voltage | 9.6 | 14.4 | V    |
| Static electricity discharge voltage<br>(Air)     | TAMB-25℃             | -6  | 6    | KV   |
| Static electricity discharge voltage<br>(Contact) | TAMB-25℃             | -3  | 3    | KV   |

#### 3.2 Working Conditions

| Parameter | Description           | Min | Max  | Unit |
|-----------|-----------------------|-----|------|------|
| Ta        | Working temperature   | -20 | 65   | ℃    |
| VCC       | Power supply voltage  | 9.6 | 14.4 | V    |
| VOL       | I/O low-level output  | 0   | 0.7  | V    |
| VOH       | I/O high-level output | 2.5 | 3.6  | V    |

### 4. RF parameters

#### 4.1 RF Output Power

| Frequency Band              | Max       | Min      |
|-----------------------------|-----------|----------|
| LTE FDD B1/B3/B5/B8         | 23dBm±2dB | < -39dBm |
| LTE TDD B34/B38/B39/B40/B41 | 23dBm±2dB | < -39dBm |

#### 4.2 RF Conduction Sensitivity

| Frequency Band   | RX Sensitivity |
|------------------|----------------|
| LTE FDD B1(10M)  | < -98.5dBm     |
| LTE FDD B3(10M)  | < -98.7dBm     |
| LTE FDD B5(10M)  | < -98.5dBm     |
| LTE FDD B8(10M)  | < -97.5dBm     |
| LTE TDD B34(10M) | < -100.2dBm    |
| LTE TDD B38(10M) | < -100dBm      |
| LTE TDD B39(10M) | < -99.3dBm     |
| LTE TDD B40(10M) | < -100dBm      |
| LTE TDD B41(10M) | < -99dBm       |

### 4.3 Working Frequency

| 3GPP Band   | TX        | RX        | Unit |
|-------------|-----------|-----------|------|
| LTE FDD B1  | 1920~1980 | 2110~2170 | MHz  |
| LTE FDD B3  | 1710~1785 | 1805~1880 | MHz  |
| LTE FDD B5  | 824~849   | 869~894   | MHz  |
| LTE FDD B8  | 880~915   | 925~960   | MHz  |
| LTE TDD B34 | 2010~2025 | 2010~2025 | MHz  |
| LTE TDD B38 | 2570~2620 | 2570~2620 | MHz  |
| LTE TDD B39 | 1880~1920 | 1880~1920 | MHz  |
| LTE TDD B40 | 2300~2400 | 2300~2400 | MHz  |
| LTE TDD B41 | 2496~2690 | 2496~2690 | MHz  |