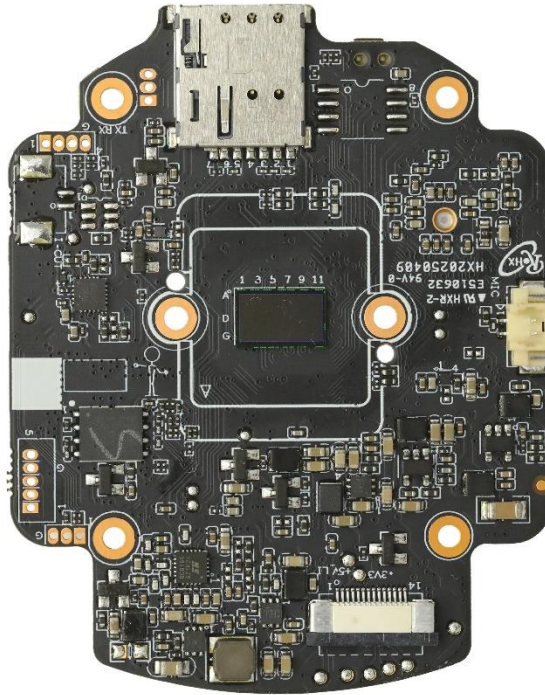


LPG-R4S-4GQ-V2 Module Specification

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Introduction

LPG-R4S-4GQ-V2 is a 4MP 4G AOV PT camera module developed by our company, featuring a 1/1.8" large sensor, large-aperture lens, and AI-ISP technology to deliver full-color night vision without supplemental lighting. It supports dual SIM (single standby) with one removable slot and one embedded China Telecom SIM (lifetime free 4G data), offers 1fps recording in AOV mode and full frame rate when awake, and works on domestic and select Southeast Asian 4G bands (see frequency list for details).

Main Features



4G Connection



Ultra Black Full-Color



All-day Recording



Battery Powered



Remote Wake-up



PT Rotation



Human Detection



Human Tracking



Two-way Talk



zoom tracking



TF Card Storage



Cloud Storage

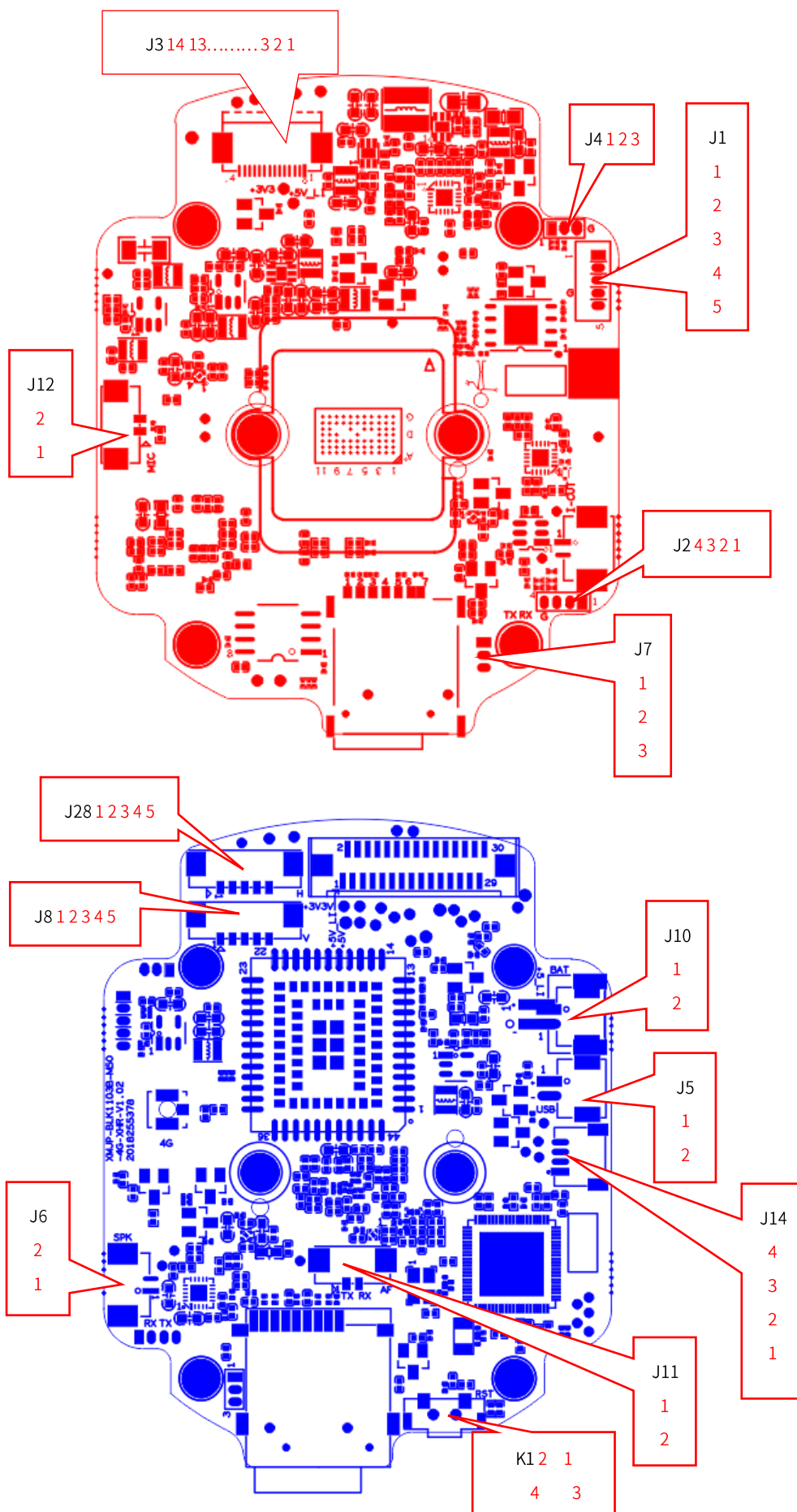
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1. Product Parameters

	Model	LPG-R4S-4GQ-V2
Module	System structure	dual-core 32-bit DSP, pure hard compression ,watch dog
	Sensor	4MP 1/1.8" High performance CMOS Sensor
	Min. Illumination	Color: 0.001Lux @(F1.0, AGC ON), 0 Lux with light
	Video compression	H.265AI
	Image output	Main stream: 2560*1440@12fps; Sub-code stream: 640*360@12fps
	Shutter	1/50(1/60) s to 1/10,000s
	Lens	N/A
	Day and night	Support AI-ISP black light full-color night vision
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	1 input, MIC: Selection range -28dB~-36dB, -33dB is recommended. 1 Output, Speaker: 8Ω2W is recommended.
	Network interface	1 SIM card slot (supports CAT1), 1 embedded fixed SIM card
	Signal Interface	N/A
	Motor Interface	1* horizontal motor interface, 1*vertical motor interface
	Antenna interface	1* antenna interface
	Reset interface	1*reset button
	Storage	Local TF card, up to 512G; cloud storage
Intelligence	Intelligence analysis	Supporting human detection,zoom tracking,support to customizing other intelligent functions
General	Reliability	Comprehensive lightning protection, in line with national and international standards; 3*24 hours high-temperature test stability and reliability
	Mobile monitoring	Support multiple mobile monitoring (iOS, Android)
	Power	4.2V lithium battery power supply
	Dimension	52mm*66mm
	Other	N/A

2. Interface Description



Silk Screen Number	Pin Number	Pin Definition	Function
J3	1	+5V_LI	Battery Voltage 3.3-4.2V
	2	+5V_LI	Battery Voltage 3.3-4.2V
	3	VCC_3.3V	3.3V photosensitive power supply
	4	+5V_POWER	+5V_POWER charging voltage
	5	GND	GND
	6	GND	GND
	7	WLED_EN	White light signal
	8	BWLED_EN	Fill light signal
	9	GND	GND
	10	ADC_IN	Light-sensitive signal
	11	MCU_LED1	Blue light distribution network indicator signal
	12	LED1	Red light low battery indicator signal
	13	--	NC
	14	NC	NC
J4	1	DBG_RXD_1V8	4G module debugging RX serial port
	2	DBG_TXD_1V8	4G module debugging TX serial port
	3	GND	GND
J7	1	GND	GND
	2	UART_TXD	Master Debug Serial Port
	3	UART_RXD	Master Debug Serial Port
J11	1	UART2_TX	Docking AF Module
	2	UART2_RX	Docking AF Module
J12	1	MICIN_N	MIC-Signal
	2	MICIN_P	MIC+ Signal
J10	1	+5V_LI	Battery voltage 3.3-4.2V
	2	GND	GND
K1	2	SW_ON/OFF	Reset button
J14	1	+5V_POWER	+5V_POWER charging voltage
	2	BAT_EN	Charge Enable
	3	BAT_ADC	Battery Voltage
	4	CHG	Charge detection signal
J1	1	+3.3V_MCU	+3.3V WIFI power supply
	2	PC7_SWDDIO	MCU Debug Burn-in Port
	3	PD1_SWDDCLK	Microcontroller debug burn-in port
	4	GND	GND
	5	NRST	MCU debug burn-in port
J5	1	+5V_USB	+5V USB input power
	2	GND	GND
J28	1	+5V_M2	Horizontal motor power supply

	2	4C	Horizontal motor signal
	3	3C	
	4	2C	
	5	1C	
J8	1	+5V_M1	Vertical motor power supply
	2	V_MOTO8	Vertical motor signal
	3	V_MOTO7	
	4	V_MOTO6	
	5	V_MOTO5	
J6	1	VOP	Horn Signal
	2	VON	Horn Signal
J2	1	LED1	MCU Debug Port
	2	UART1_RXD	MCU Debug Serial Port
	3	UART1_TXD	MCU debug serial port
	4	GND	MCU Debug Serial Port

3. Electrical Parameters

3.1 Absolute Electrical Parameters

Parameter	Description	Min	Max	Unit
Ts	Storage temperature	-40	90	℃
VCC	Power supply voltage	-0.3	4.2	V
Static electricity discharge voltage (Air)	TAMB-25℃	-6	6	KV
Static electricity discharge voltage (Contact)	TAMB-25℃	-3	3	KV

3.2 Working Conditions

Parameter	Description	Min	Max	Unit
Ta	Working temperature	-20	65	℃
VCC	Power supply voltage	3.3	4.2	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 +-2.7dB	<-39dBm
LTE TDD B34/B38/B39/B40/B41	23dBm +-2.7dB	<-39dBm

4.2 RF Conduction Sensitivity

Frequency Band	RX Sensitivity
LTE FDD B1(10M)	< -97dBm
LTE FDD B3(10M)	< -97.8dBm
LTE FDD B5(10M)	< -98.6dBm
LTE FDD B8(10M)	< -100dBm
LTE TDD B34(10M)	< -100dBm
LTE TDD B38(10M)	< -98.3dBm
LTE TDD B39(10M)	< -100dBm
LTE TDD B40(10M)	< -99.3dBm
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	2555~2675	2555~2675	MHz