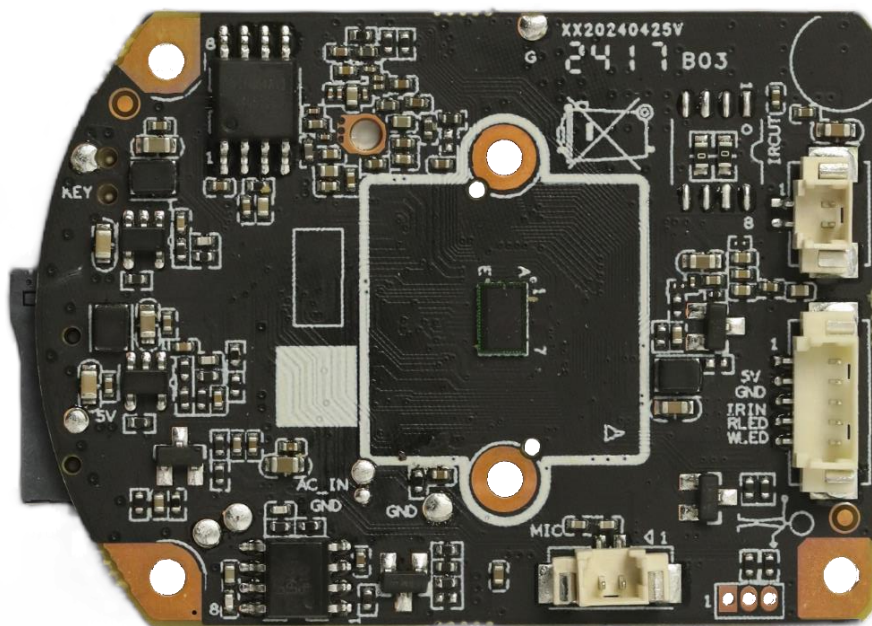


IPG-G2-WR Module Specification

Document Version : 20240623



Introduction

IPG-G2-WR is a 2MP Wi-Fi Pan & Tilt camera module developed by our company, which supports Bluetooth fast network configuration, and is mainly used in high-definition video surveillance cameras.

Main Features



Bluetooth network configuration



Human detection



Human tracking



Pan & Tilt



Two-way audio



Full-color night vision



Wi-Fi connection



Mobile remote



TF card storage



Cloud storage

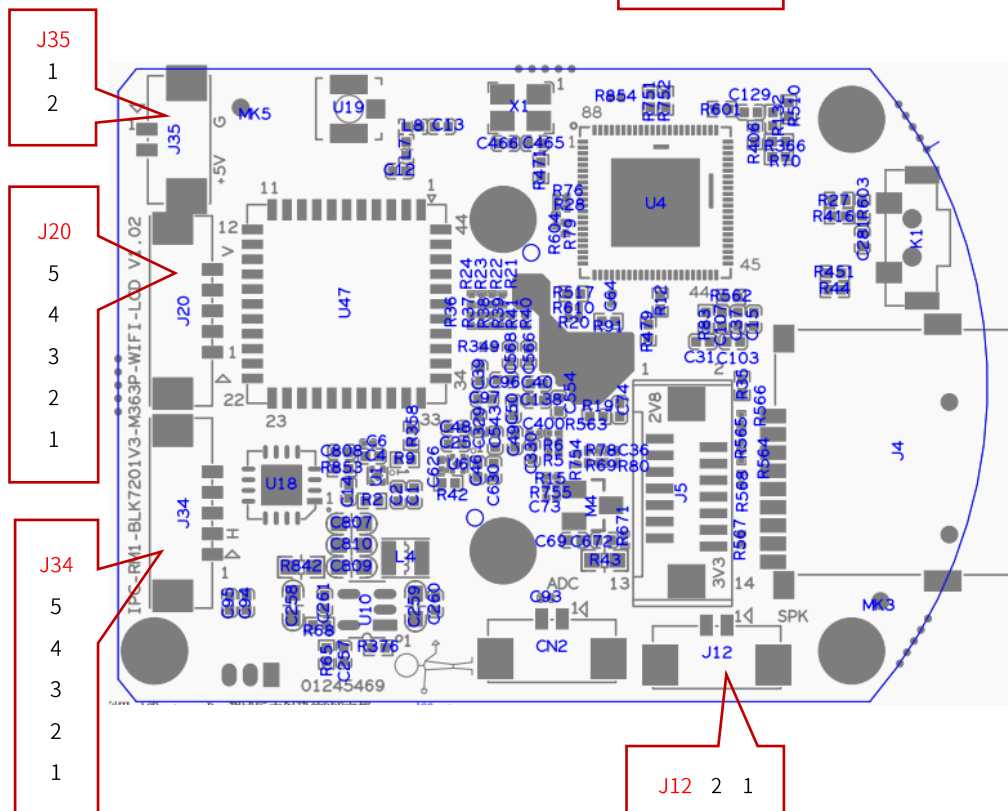
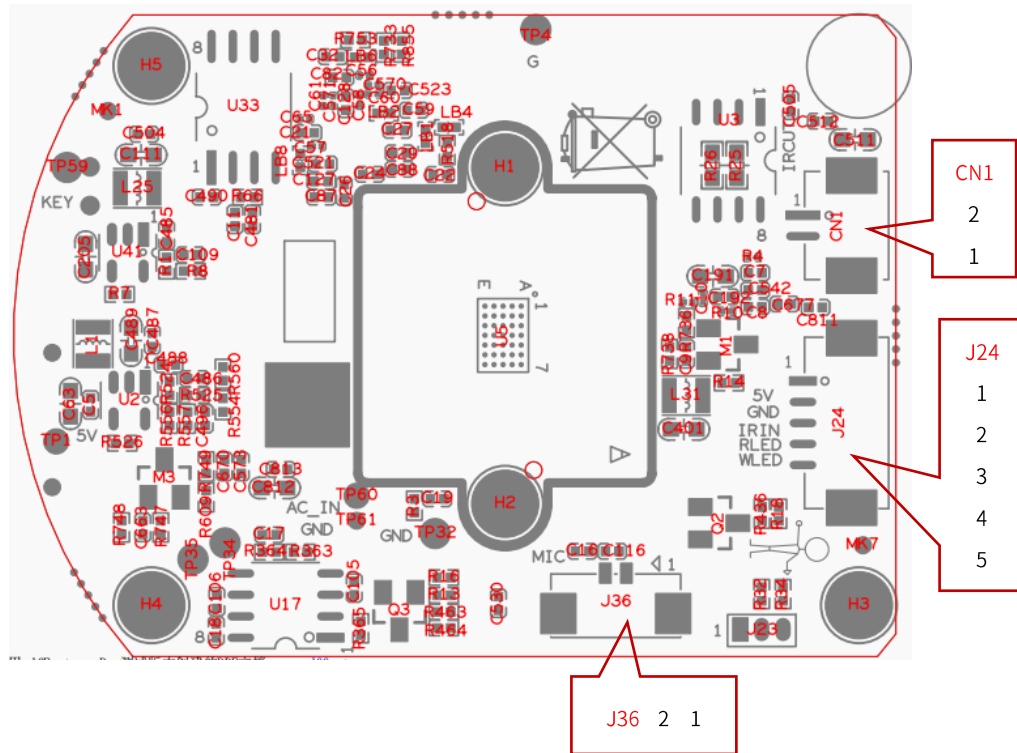
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1. Product Parameters

Model	IPG-G2-WR
System Structure	Dual-core 32-bit DSP (GK7201V300) ,pure hard compression ,watch dog
Sensor	1/4" Low illumination CMOS Sensor
Min. Illumination	Color : 0.01Lux @(F1.2,AGC ON); 0 Lux with IR Black/White: 0.001 Lux @ (F1.2,AGC ON),0 Lux with IR
Video Compression	H.265AI
Image Output	Main stream: 1920*1080@12fps; Sub-code stream:800*448@12fps
Shutter	1/50(1/60)s to 1/10,000s
Day&Night	Support IR-CUT
DNR	Support 2D/3D noise reduction
WDR	Support
Audio Compression	G.711A codec standard, support dual voice talkback, audio and video synchronization
Audio Interface	1 channel input, support microphone input; 1 channel output, support speaker output playback
TF Card Interface	1*TF card interface
Network Interface	1*WiFi antenna interface to support wireless network connection
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 512G; cloud storage
Reliability	Comprehensive lightning protection, in line with national and international standards; 3*24 hours high-temperature test stability and reliability
Smart Alarm	Supporting human detection support to customizing other intelligent functions
Functions	It supports remote monitoring of mobile client, push message after alarm of human detection, and supports MJPEG capture;
ONVIF	support
Mobile Monitoring	Support (iOS, Android)
Power Supply	DC5V
Dimension	38mm*54mm

2. Interface Description



Silk Screen Number	Pin Number	Pin Definition	Function
J35	1	GND	GND
	2	5V	5V Power Supply
J20	1	5V	Vertical Motor Interface
	2	OUT8	
	3	OUT7	
	4	OUT6	
	5	OUT5	
J34	1	5V	Horizontal Motor Interface
	2	OUT1	
	3	OUT2	
	4	OUT3	
	5	OUT4	
J12	1	SPKN	Speaker Interface
	2	SPKP	
	2	GND	
	3	LCD_RST	
	4	LCD_CS	
	5	GND	
	6	LCD_SCL	
	7	GND	
	8	LCD_SDA	
	9	GND	
	10	LCD_TE	
	11	LCD_RS	
	12	LEDK-	
	13	LEDA+	
	14	3V3	
J36	1	GND	MIC
	2	MIC_IN	
CN1	1	OUTA	IRCUT
	2	OUTB	
J24	1	5V	Lamp Board Power Supply
	2	GND	GND
	3	IR	Hard photosensitive input signal
	4	RLED	Infrared Lamp Control Signal
	5	WLED	White light control signal

3. Electrical Parameters

3.1 Absolute Electrical Parameters

Parameter	Description	Min	Max	Unit
Ts	Storage temperature	-40	150	℃
VCC	Power supply voltage	4.5	5.5	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	4.5	5.5	V
VOL	I/O low-level output	0	0.7	V
VOH	I/O high-level output	2.6	3.3	V

4. RF parameters

4.1 Basic RF Performance

Parameter	Description
Wi-Fi standard	IEEE 802.11 b/g/n Wi-Fi compliant
Frequency Range	2.400 GHz ~ 2.4835 GHz (2.4 GHz ISM Band)
Number of Channels	2.4GHz: Ch1 ~ Ch14
Antenna Type	External IPEX interface

4.2 Basic Bluetooth Performance

4.2.1 General Performance

Parameter	Description
Bluetooth standard	BLE 5.0 of 1Mbps
Frequency Range	2402 MHz ~ 2480 MHz
Number of Channels	39 channels

4.2.2 RF Performance

Parameter	Min(dBm)	Typical(dBm)	Max(dBm)
Transmit power (Class 1)	2	5	8
Sensitivity @ BER=0.1% for GFSK (1Mbps)	/	-90	-70
Maximum Input Level	GFSK (1Mbps): -20dBm		

4.3 Wi-Fi RF Performance

4.3.1 Wi-Fi TX Performance

Mode	Rate	Power	EVM
802.11b	11Mbps	18dBm±2dB	≤-10dB
802.11g	54Mbps	15dBm±2dB	≤-25dB
802.11n	MCS7	15dBm±2dB	≤-28dB

4.3.2 Wi-Fi RX Performance

Working State	Rate	RX Sensitivity (Test Value)	RX Sensitivity (Standard Value)
(802.11b, 20MHz) @8%PER	1M	-94dBm	≤-83dBm
	2M	-92dBm	≤-80dBm
	5.5M	-91dBm	≤-79dBm
	11M	-88dBm	≤-76dBm
802.11g, 20MHz) @10% PER	6M	-89dBm	≤-85dBm
	9M	-88dBm	≤-84dBm
	12M	-87dBm	≤-82dBm
	18M	-84dBm	≤-80dBm
	24M	-81dBm	≤-77dBm
	36M	-78dBm	≤-73dBm
	48M	-73dBm	≤-69dBm
	54M	-71dBm	≤-68dBm
802.11n, 20MHz) @10% PER	MCS0	-89dBm	≤-85dBm
	MCS1	-86dBm	≤-82dBm
	MCS2	-84dBm	≤-80dBm
	MCS3	-80dBm	≤-77dBm
	MCS4	-77dBm	≤-73dBm
	MCS5	-72dBm	≤-69dBm
	MCS6	-71dBm	≤-68dBm
	MCS7	-70dBm	≤-67dBm
802.11n, 40MHz) @10% PER	MCS0	-89dBm	≤-82dBm
	MCS1	-85dBm	≤-79dBm
	MCS2	-83dBm	≤-77dBm
	MCS3	-80dBm	≤-74dBm
	MCS4	-76dBm	≤-70dBm
	MCS5	-71dBm	≤-66dBm
	MCS6	-70dBm	≤-65dBm
	MCS7	-68dBm	≤-64dBm