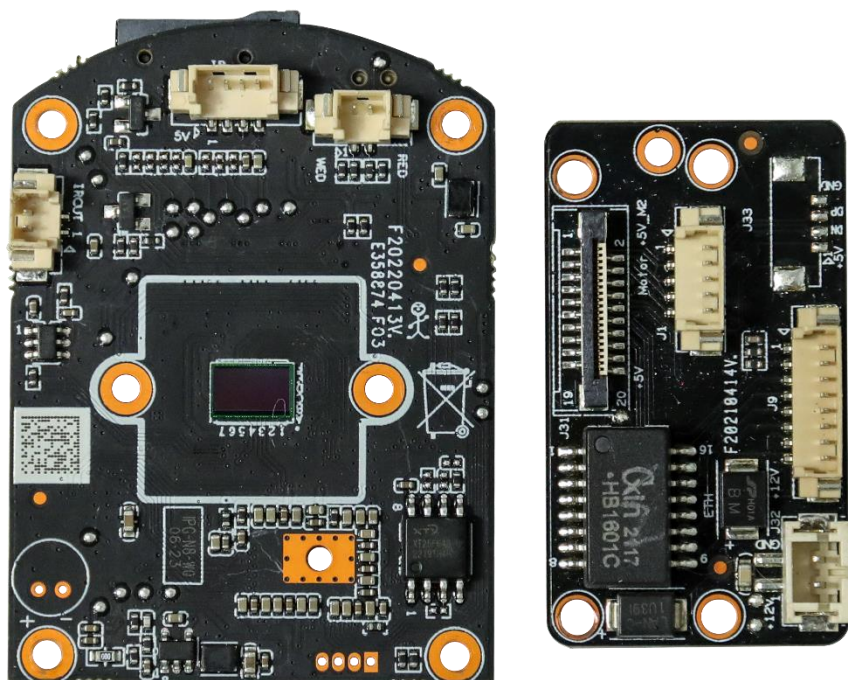


IPG-N8-WQ Module Specification

Document Version : 202301218



Introduction

IPG-N8-WQ-BL is an 8MP Wi-Fi dome camera module developed by our company, which supports Bluetooth network configuration, mainly applied to HD video surveillance cameras.

Main Features



Bluetooth Network Configuration



HD Picture Quality



PT Control



Human Detection



Two-way Talk



Mobile Remote



Infrared Night Vision



Regional Alert



TF Card Storage



Cloud Storage



H.265AI

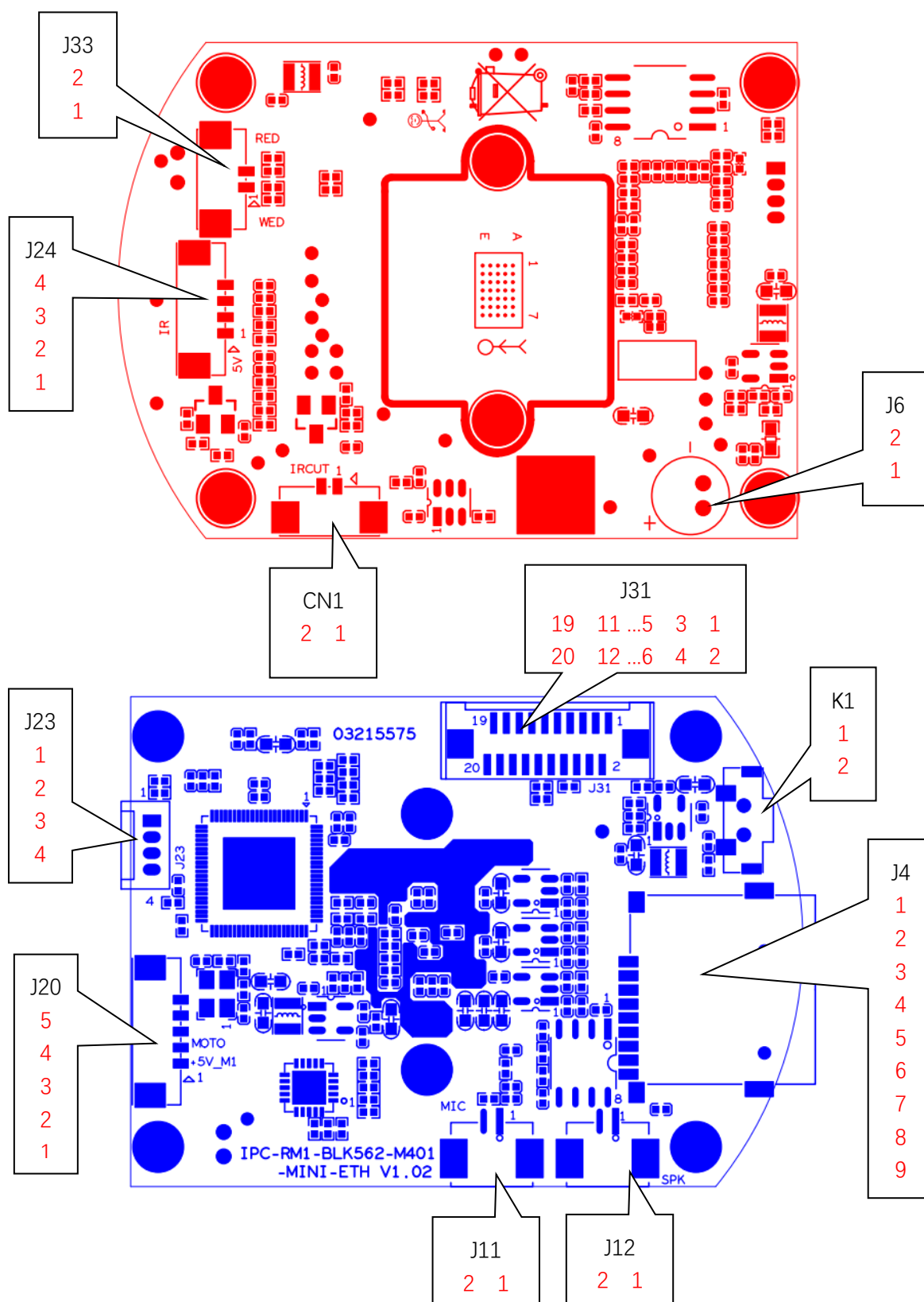
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1. Product Parameters

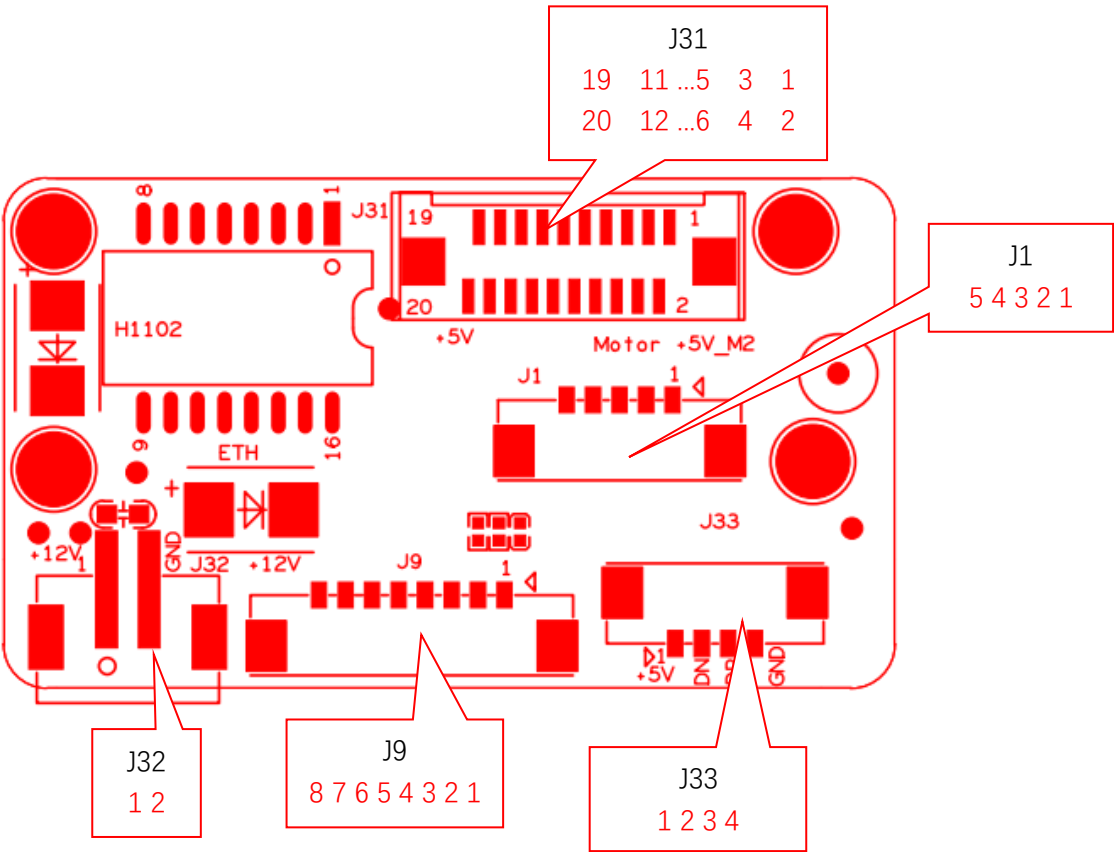
Model	IPG-N8-WQ-BL
System Structure	dual-core 32-bit DSP (NT98566) ,pure hard compression ,watch dog
Sensor	1/2.7" High performance CMOS sensor
Min. Illumination	Color : 0.01Lux @(F1.2,AGC ON); 0 Lux with IR Black/White: 0.001 Lux @ (F1.2,AGC ON),0 Lux with IR
Video Compression	H.265AI
Image Output	Main stream: 3840*2160@12fps; sub-stream:600*360@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
Network Interface	1 RJ45 Ethernet interface, 10/100M adaptive
	1*Wi-Fi 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
Reset Interface	1*reset interface
Storage Mode	Local TF card(up to 128G); cloud storage
Reliability	Comprehensive lightning protection, in line with national and international standards; 3*24 hours high-temperature test stability and reliability
Smart Alarm	Support 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	DC12V
Dimension	38mm*54mm+24mm*42mm

2. Interface Description



Silk Screen Number	Pin Number	Pin Definition	Function
J33	1	WLED	White light control port
	2	RLED	Infrared light control port
J24	1	5V	5V
	2	GND	GND
	3	ADC1_IN	Photosensitive signal acquisition port
	4	GP	indicator light
CN1	1	IRCUT_B	IRCUT signal 2
	2	IRCUT_A	IRCUT signal 1
J6 (reserve)	1	MIC_IN	Microphone signal input
	2	MIC_G	GND
J23	1	GND	GND
	2	UART0_TXD	Serial port sending
	3	UART0_RXD	Serial port receiving
	4	X	Empty
J20	1	+5V_M1	Horn signal
	2	OUT1	Vertical motor signal
	3	OUT2	
	4	OUT3	
	5	OUT4	
J11	1	MIC_IN	Microphone signal input
	2	MIC_G	GND
J12	1	SPKN	Horn signal
	2	SPKP	
J4	1	SD_DATA2	TF card data signal
	2	SD_DATA3	
	3	SD_CMD	
	4	3V3_SD	3.3V power supply
	5	SD_CLK	TF card clock signal
	6	GND	GND
	7	SD_DATA0	TF card data signal
	8	SD_DATA1	
	9	SD_CDTCT	TF card detection signal
K1	1	GND	GND
	2	KEY_SET	Key reset
J31 (Docking board interface)	1	OUT1	Horizontal motor signal
	2	OUT2	
	3	OUT3	
	4	OUT4	
	5	GND	GND
	6	KEY_SET	Interface board reserved reset button

	7	GND	GND
	8	WIFI_PD_N	WiFi signal detection port
	9	WIFI_DN	WiFi signal
	10	WIFI_DP	
	11	GND	GND
	12	TPTX -	Network port send signal negative
	13	TPTX+	Network port sending signal positive
	14	GND	GND
	15	TPRX+	Network port sending signal positive
	16	TPRX -	
	17	GND	GND
	18	1V8	1.8V
	19	+5V	5V
	20	+5V	



Silk Screen Number	Pin Number	Pin Definition	Function
J32	1	+12V	12V
	2	GND	GND
J9	1	KEY_SET	Reset button of tail line belt
	2	+3.3V	3.3V
	3	ETHTX+	Network port sending signal positive
	4	ETHTX -	Network port send signal negative
	5	ETHRX+	Network port sending signal positive
	6	ETHRX -	Network port send signal negative
	7	GND	GND
	8	12V	12V
J33 (Reserved 4G module interface)	1	+5V_3V3	5V
	2	WIFI_DN	4G module signal
	3	WIFI_DP	4G module signal
	4	GND	GND
J1	1	+5V_M2	5V
	2	OUT1	Horizontal motor signal
	3	OUT2	Horizontal motor signal
	4	OUT3	Horizontal motor signal
	5	OUT4	Horizontal motor signal
J31 (Docking motherboard)	1	OUT1	Horizontal motor signal
	2	OUT2	Horizontal motor signal
	3	OUT3	Horizontal motor signal
	4	OUT4	Horizontal motor signal
	5	GND	GND
	6	KEY_SET	Reset button of tail line belt
	7	GND	GND
	8	WIFI_PDN	WiFi signal detection port
	9	WIFI_DN	WiFi signal
	10	WIFI_DP	WiFi signal
	11	GND	GND
	12	TPTX -	Network port send signal negative
	13	TPTX+	Network port sending signal positive
	14	GND	GND
	15	TPRX+	Network port sending signal positive
	16	TPRX -	Network port send signal negative
	17	GND	GND
	18	1V8	1.8V
	19	+5V	5V
	20	+5V	5V

3. Electrical Parameters

3.1 Absolute Electrical Parameters

Parameter	Description	Min	Max	Unit
Ts	Storage temperature	-40	150	°C
VCC	Power supply voltage	9.6	14.4	V
Static electricity discharge voltage (Air)	TAMB-25°C	-6	6	KV
Static electricity discharge voltage (Contact)	TAMB-25°C	-3	3	KV

3.2 Working Conditions

Parameter	Description	Min	Max	Unit
Ta	Working temperature	-20	65	°C
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	2.6	3.3	V

4. RF Parameters

4.1 Basic Wi-Fi Performance

Parameter	Description
Wi-Fi standard	IEEE 802.11 b/g/n/ax
Frequency Range	2.412 GHz ~ 2.484 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

4.3 Wi-Fi RF Performance

4.3.1 Wi-Fi TX Performance

Mode	Rate	Power	EVM
802.11b	1Mbps	18dBm±2dB	≤-25dB
	11Mbps	18dBm±2dB	≤-25dB
802.11g	6Mbps	17dBm±2dB	≤-25dB
	54Mbps	15dBm±2dB	≤-30dB
802.11n	HT40/MCS7	14dBm±2dB	≤-30dB
	HT20/MCS7	14dBm±2dB	≤-30dB
802.11ax	HE20/MCS0	17dBm±2dB	≤-25dB
	HE40/MCS0	17dBm±2dB	≤-25dB
	HE20/MCS11	13dBm±2dB	≤-35dB
	HE40/MCS11	13dBm±2dB	≤-35dB

4.3.2 Wi-Fi RX Performance

Mode	Rate	RX Sensitivity(Min)
802.11b	1M	-97.5dBm
	11M	-90dBm
802.11g	6M	-93.5dBm
	54M	-76.5dBm
802.11n	HT40/MCS7	-74dBm
	HT20/MCS7	-71dBm
802.11ax	HE20/MCS11	-64dBm
	HE40/MCS11	-60.5dBm