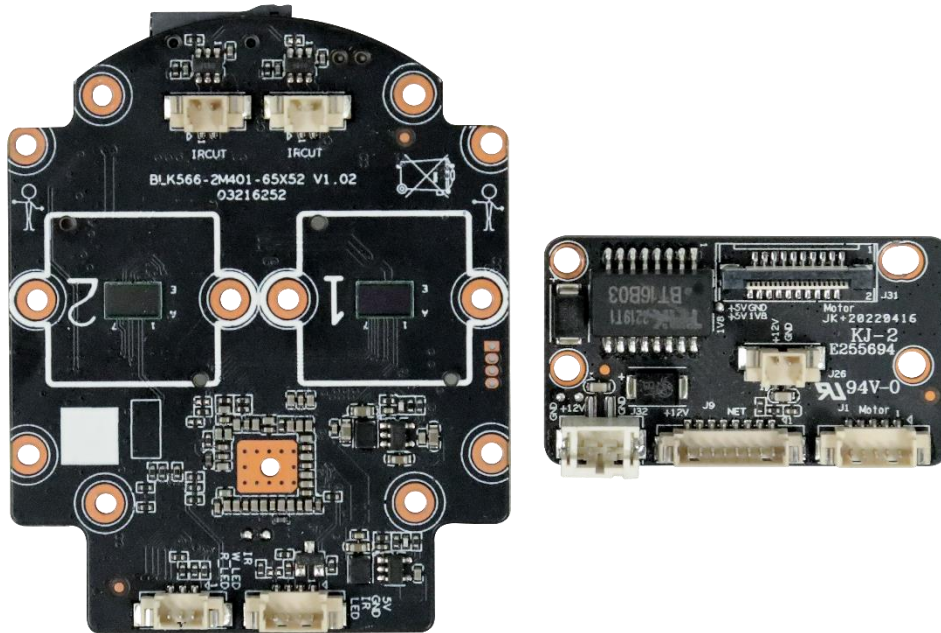


IPG-N4C-WQ2-M Module Specification

Document Version : 20230715



Introduction

IPG-N4C-WQ2-M is an 4MP Dual-lens zoom dome module developed by our company, which supports 8x hybrid zoom and is mainly applied to HD video surveillance cameras.

Main Features



8x Zoom



Dual-screen
Preview



Human Detection



Human Tracking



PT Control



Point and See



Two-way Talk



H.265AI



Mobile Remote



Cloud Storage



TF Card Storage

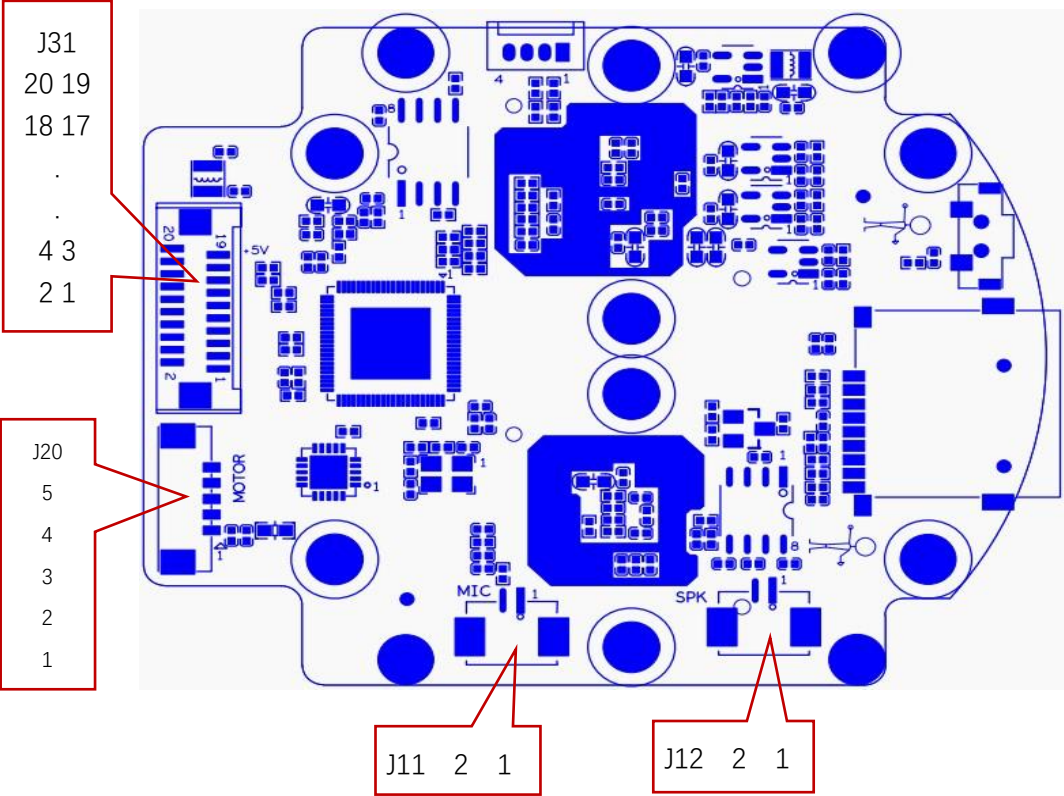
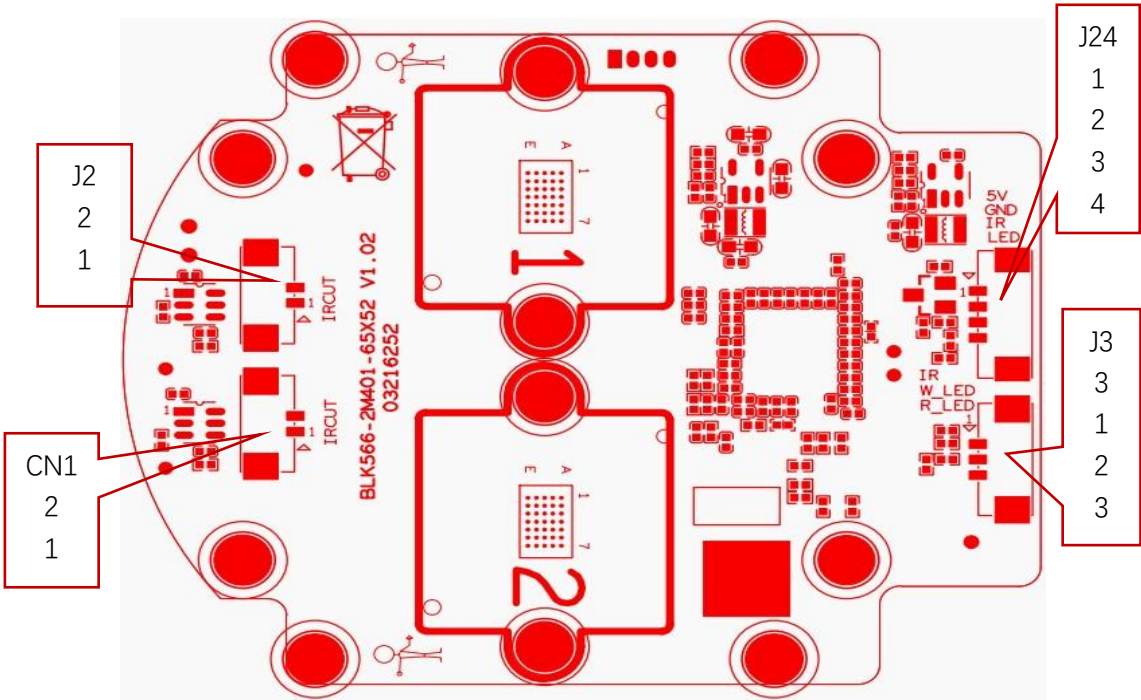
Content

1. Product Parameters	3
2. Interface Description	4
3. Electrical Parameters	7
3.1 Absolute Electrical Parameters	7
3.2 Working Conditions	8
4. RF parameters	8
4.1 Basic RF Performance	8
4.2 Wi-Fi RF Performance	8
4.2.1 Wi-Fi TX Performance	8
4.2.2 Wi-Fi RX Performance	8

1. Product Parameters

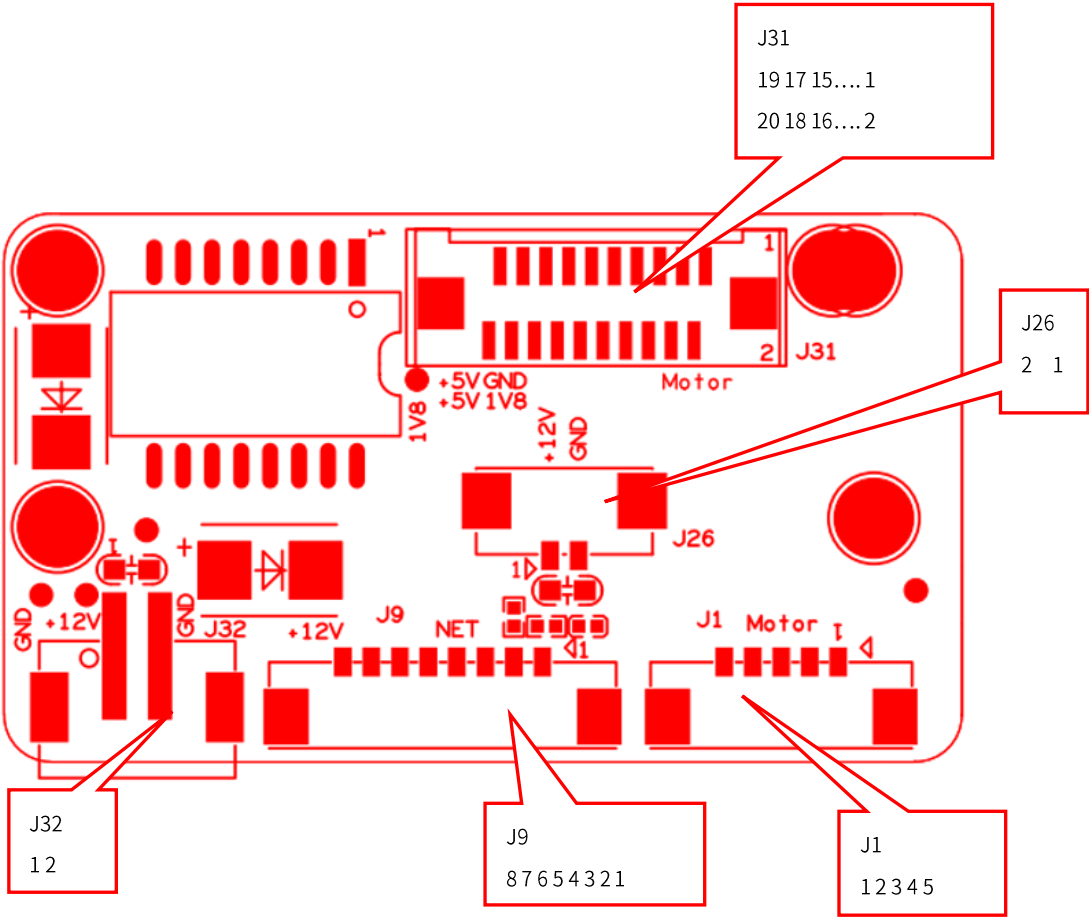
Model	IPG-N4C-WQ2-M
System Structure	dual-core 32-bit DSP (NT98566) ,pure hard compression ,watch dog
Sensor	2*1/3" high performance CMOS Sensor
Min. Illumination	Color : 0.01Lux @(F1.2,AGC ON); 0 Lux with IR Black/White: 0.001 Lux @ (F1.2,AGC ON),0 Lux with IR
Video Compression	H.265AI
Image Output	Main stream: 2560*1440@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 Process	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*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 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	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	DC12V
Dimension	52mm*64mm+41mm*20mm

2. Interface Description



Silk Screen Number	Pin Number	Pin Definition	Function
J31	1	OUT1	Horizontal Motor Interface
	2	OUT2	
	3	OUT3	
	4	OUT4	
	5	GND	GND
	6	KEY_SET	Reset key
	7	GND	GND
	8	WIFI_PDN	WiFi
	9	WIFI_DN	
	10	WIFI_DP	
	11	GND	GND
	12	TPTX-	Wired Network
	13	TPTX+	
	14	GND	WiFi
	15	TPRX+	Wired Network
	16	TPRX-	
	17	GND	GND
	18	/	
	19	5V	Power supply
	20	5V	
	2	OUT4	
	3	OUT3	
	4	OUT2	
	5	OUT1	
J20	1	+5V_M1	Vertical Motor Interfac
	2	OUT8	
	3	OUT7	
	4	OUT6	
	5	OUT5	
J12	1	SPKN	Speaker Interface
	2	SPKP	
J11	1	GND	MIC
	2	MIC_INP	
J2	1	OUT1	IRCUT
	2	OUT2	
CN1	1	OUT1	IRCUT
	2	OUT2	
J24	1	5V	Power Supply
	2	GND	GND

J33	3	IR	IR signal input
	4	LED	LED control
	1	IR	Infrared Signal Input
	2	WLED	White light enable
	3	RLED	Infrared enable



Silk Screen Number	Pin Number	Pin Definition	Function
J31	1	OUT1	Motor Signal
	2	OUT2	Motor Signal
	3	OUT3	Motor Signal
	4	OUT4	Motor Signal
	5	GND	GND
	6	KEY_SET	Reset button
	7	GND	GND
	8	WIFI_PDN	WIFI power control signal
	9	WIFI_DN	USB Negative
	10	WIFI_DP	USB Positive
	11	GND	USB Positive
	12	TPTX-	Network Port Transmit

	13	TPTX+	Network Port Transmit
	14	GND	GND
	15	TPRX+	Ethernet Port Receive Signal
	16	TPRX-	Network Port Receive Signal
	17	GND	GND
	18	1.8V	1.8V Power Supply
	19	+5V	5V Power Supply
	20	+5V	5V Power Supply
J1	1	+5V	5V Power Supply
	2	OUT1	Horizontal Motor Signal
	3	OUT2	Horizontal Motor Signal
	4	OUT3	Horizontal Motor Signal
	5	OUT4	Horizontal Motor Signal
J9	1	KEY_SET	Reset button
	2	Led	Network Port Lamp Signal
	3	ETHTX+	Network Transformer Transmit Signal Line
	4	ETHTX-	Network Transformer Transmit Signal Line
	5	ETHRX+	Network Transformer Receive Signal Line
	6	ETHRX-	Network Transformer Receive Signal Line
	7	GND	GND
	8	12V	12V power supply
J32	1	12V	12V power supply
	2	GND	GND
J26	1	12V	12V Power Supply
	2	GND	GND

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℃	-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	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 RF Performance

Parameter	Description
Wi-Fi standard	IEEE 802.11 b/g/n Wi-Fi compliant
Frequency Range	2.412GHz ~ 2.484GHz (2.4 GHz ISM Band)
Number of Channels	2.4GHz: Ch1 ~ Ch14
Antenna Type	External IPEX interface

4.2 Wi-Fi RF Performance

4.2.1 Wi-Fi TX Performance

Mode	Rate	Power	EVM
802.11b	1Mbps	17dBm±2dB	≤-10.5dB
	11Mbps	17dBm±2dB	≤-10.5dB
802.11g	6Mbps	15dBm±2dB	≤-5dB
	54Mbps	15dBm±2dB	≤-25dB
802.11n	HT40/MCS7	13dBm±2dB	≤-27dB
	HT20/MCS7	14dBm±2dB	≤-27dB

4.2.2 Wi-Fi RX Performance

Working State	Rate	RX Sensitivity (Test Value)	RX Sensitivity (Standard Value)
(802.11b, 20MHz) @8% PER	1Mbps	-97.5dBm	≤-90dBm
	11Mbps	-90dBm	≤-76dBm
(802.11g, 20MHz) @10% PER	6Mbps	-93.5dBm	≤-82dBm
	54Mbps	-76.5dBm	≤-65dBm
(802.11n, 20MHz) @10% PER	HT20/MCS7	-74dBm	≤-64dBm
	HT40/MCS7	-70.5dBm	≤-61dBm