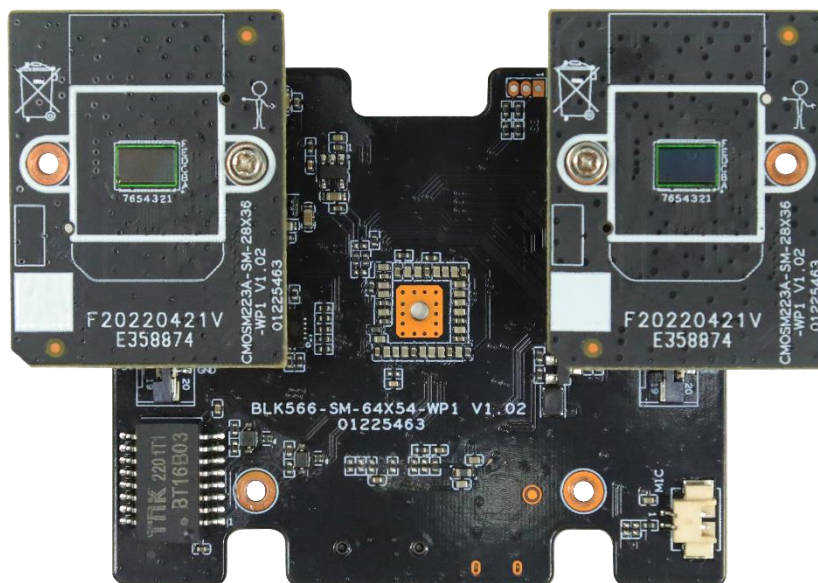


IPG-N4-WE2J Module Specification

Document Version : 20230718



Introduction

IPG-N4-WE2J is an 4MP Wi-Fi Dual-lens splicing bullet camera module developed by our company, with a nearly 180° ultra-wide field of view, mainly used in high-definition video surveillance cameras.

Main Features



HD Picture Quality



Nearly 180° View



Human Detection



One Top Two



Electronic PT



Mobile Remote



Two-way Talk



H.265AI



Cloud Storage



TF Card Storage

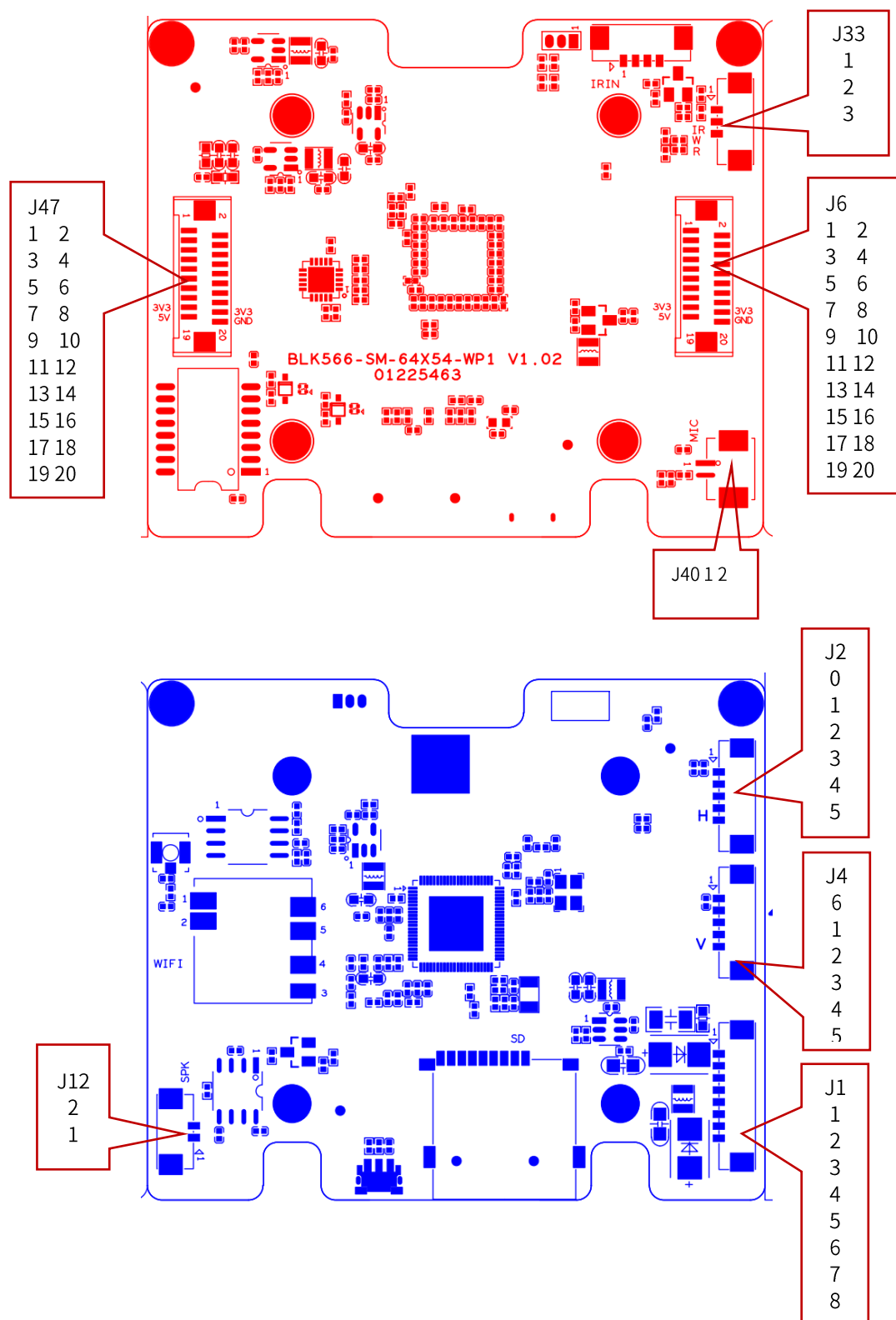
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1. Product Parameters

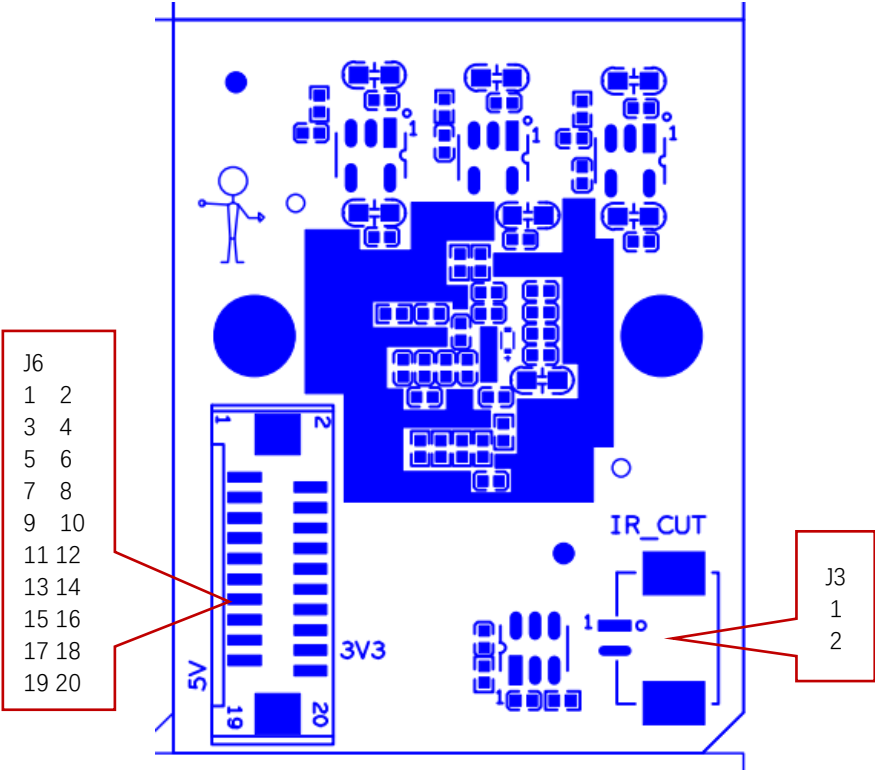
Model	IPG-N4-WE2J
System Structure	dual-core 32-bit DSP (NT98566) ,pure hard compression ,watch dog
Sensor	2 pcs 2MP 1/2.8" high performance CMOS sensor
Min. Illumination	Color : 0.01Lux @(F1.2,AGC ON); 0 Lux with IR Black/White: 0.001 Lux @ (F1.2,AGC ON),0 Lux with IR
Video Compression	H.265AI
Image Output	Main stream: 3664*1080@12fps ; sub-stream:1280*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*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	64mm*54mm+36mm*28mm+36mm*28mm

2. Interface Description



Silk Screen Number	Pin Number	Pin Definition	Function
J33	1	IR	Hard photosensitive input signal
	2	W_LED	White light control signal
	3	R_LED	Infrared lamp control signal
J6	1	GND	GND
	2	SEN_CLK0P	MIPI signal
	3	SEN_CLK0N	MIPI signal
	4	GND	GND
	5	SEN_D0P	MIPI signal
	6	SEN_D0N	MIPI signal
	7	GND	earth
	8	SEN_D1P	MIPI signal
	9	SEN_D1N	MIPI signal
	10	GND	GND
	11	SEN0_MCLK	MIPI signal
	12	GND	GND
	13	SCL	I2C signal
	14	SDA	I2C signal
	15	GND	GND
	16	IRCUT_A	IRCUT drives the signal
	17	3V3	3.3V power supply
	18	3V3	3.3V power supply
	19	5V	5V power supply
	20	GND	GND
J47	1	GND	GND
	2	SEN_CLK1P	MIPI signal
	3	SEN_CLK1N	MIPI signal
	4	GND	GND
	5	SEN_D2P	MIPI signal
	6	SEN_D2N	MIPI signal
	7	GND	GND
	8	SEN_D3P	MIPI signal
	9	SEN_D3N	MIPI signal
	10	GND	GND
	11	SEN1_MCLK	MIPI signal
	12	GND	GND
	13	SCL	I2C signal
	14	SDA	I2C signal
	15	1.8V	1.8V power supply
	16	IRCUT_A	IRCUT drives the signal
	17	3V3	3.3V power supply
	18	3V3	3.3V power supply
	19	5V	5V power supply
	20	GND	GND
J40	1	GND	GND
	2	MIC_INP	Mike input signal
J20	1	+5V_M1	5V power supply

	2	OUT4	Motor drive signal
	3	OUT3	Motor drive signal
	4	OUT2	Motor drive signal
	5	OUT1	Motor drive signal
J46	1	+5V_M2	5V power supply
	2	OUT4	Motor drive signal
	3	OUT3	Motor drive signal
	4	OUT2	Motor drive signal
	5	OUT1	Motor drive signal
J1	1	ETH_LINK_ACT_LED	Network lights
	2	ETH_LINK_STA_LED	Network lights
	3	ETHTX+	Network port data sending
	4	ETHTX-	Network port data sending
	5	ETHRX+	Network port data reception
	6	ETHRX-	Network port data reception
	7	GND	GND
	8	+12V_IN	12V power supply
J12	1	SPKN	Horn signal
	2	SPKP	Horn signal



Silk Screen	Pin Number	Pin Definition	Function
J3	1	OUT1	IRCUT drives the signal
	2	OUT2	IRCUT drives the signal
J6	1	GND	GND
	2	SEN_CLK0P	MIPI signal
	3	SEN_CLK0N	MIPI signal
	4	GND	GND
	5	SEN_D0P	MIPI signal
	6	SEN_D0N	MIPI signal
	7	GND	GND
	8	SEN_D1P	MIPI signal
	9	SEN_D1N	MIPI signal
	10	GND	GND
	11	SEN0_MCLK	MIPI signal
	12	GND	GND
	13	SCL	I2C signal
	14	SDA	I2C signal
	15	GND	GND
	16	IRCUT_A	IRCUT drives the signal
	17	3V3	3.3V power supply
	18	3V3	3.3V power supply
	19	5V	5V power supply
	20	GND	GND
	18	3V3	3.3V power supply
	19	5V	5V power supply
	20	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 Wi-Fi Performance

Parameter	Description
Wi-Fi standard	IEEE 802.11 b/g/n
Frequency Range	2.412 GHz ~ 2.484 GHz (2.4 GHz ISM Band)
Number of Channels	2.4GHz: Ch1 ~ Ch13
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	HT20/MCS7	14dBm±2dB	≤-27dB
	HT40/MCS7	13dBm±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