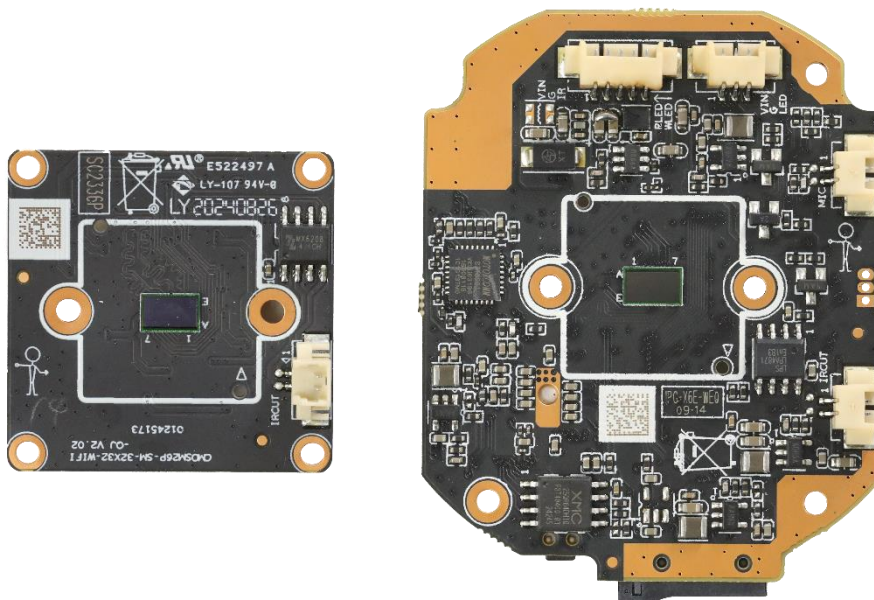


IPG-X6E-WEQ Module Specification

Document Version: 20240314



Introduction

IPG-X6E-WEQ is a 6MP Wi-Fi Bullet&PT Integrated Camera Module developed by our company, mainly used in HD video surveillance cameras.

Main Features



Bluetooth Network Configuration



One Top Two



Two-way Monitoring



Dual-screen Preview



Bullet&PT Linkage



Point and See



Human Detection



Human Tracking



H.265AI



Cloud Storage



TF Card Storage

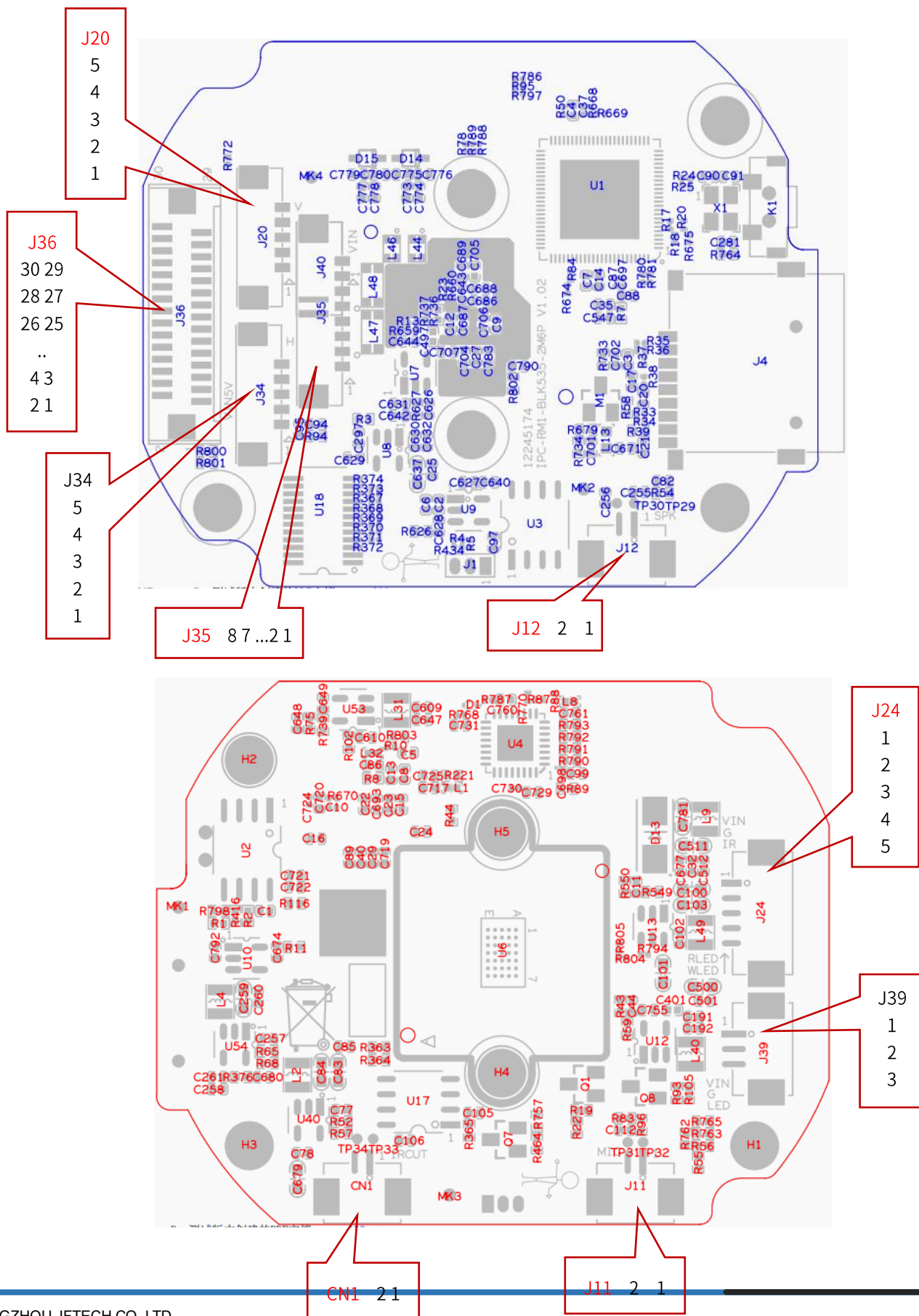
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1. Product Parameters

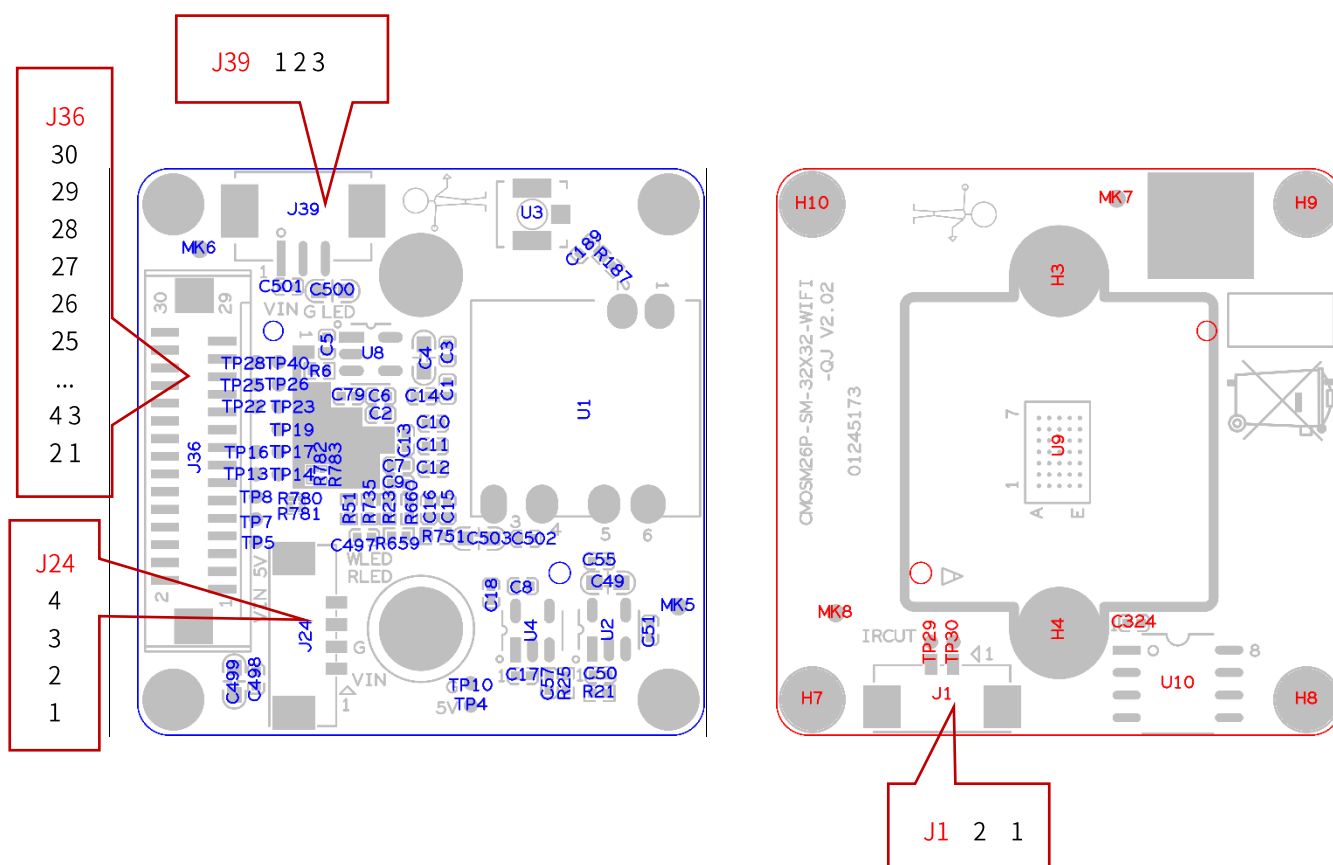
Model	IPG-X6E-WEQ
System Structure	dual-core 32-bit DSP (XM535SD1) ,pure hard compression ,watch dog
Sensor	2*1/3" Low illumination CMOS Sensor
Min. Illumination	Color: 0.01Lux @(F1.2,AGC ON); 0 Lux with IR Black/White: 0.001 Lux @ (F1.2,AGC ON),0 Lux with IR
Video Compression	H.265AI
Image Output	Main stream: 2304*2592@12fps; Sub-code stream:640*720@12fps
Shutter	1/50(1/60)s to 1/10,000s
Day&Night	Support IR-CUT(Recommended: 5V standard voltage 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(MIC: selection range -28dB~-36dB, -33dB specification recommended); 1 channel output, support speaker output playback(speaker: 8Ω 2W specification recommended)
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 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
Value-added services	Support cloud storage, scene AI (outdoor security) and other value-added services, which need to be activated at the APP side at your own expense
Mobile Monitoring	Support (iOS, Android)
Power Supply	DC12V
Dimension	53mm*46mm+32mm*32mm

2. Interface Description



Silk Screen Number	Pin Number	Pin Definition	Function
J36	1	VCC_IN	12V
	2		
	3	5V	5V
	4		
	5	3V3_WIFI	WIFI power supply
	6	GND	GND
	7	WIFI_DP	USB signal
	8	WIFI_DN	
	9	LED	Light
	10	GND	GND
	11	WLED	White light control signal
	12	RLED	Infrared light control signal
	13	IRCUTA	IRCUT drive
	14	IRCUTB	
	15	RST	SENSOR-related signals
	16	SCL	
	17	SDA	
	18	FSYNC/GND	
	19	SEN0_MCLK	
	20	GND	
	21	GND	
	22	SEN_CLK0N	
	23	SEN_CLK0P	
	24	GND	
	25	SEN_D0N	
	26	SEN_D0P	
	27	GND	
	28	SEN_D1N	
	29	SEN_D1P	
	30	GND	
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	SPK

	2	SPKP	
J35	1	LINK	Ethernet port indicator
	2	ACT	
	3	ETHTX+	Wired network
	4	ETHTX-	
	5	ETHRX+	
	6	ETHRX-	
	7	GND	GND
	8	VCC_IN	12V power supply
J11	1	MIC_G	MIC
	2	MIC_IN	
CN1	1	OUT1	IRCUT
	2	OUT2	
J24	1	VCC_IN	12V
	2	GND	GND
	3	IR	Hard photosensitive input signal
	4	RLED	Infrared light control signal
	5	WLED	White light control signal
J39	1	VCC_IN	12V
	2	GND	GND
	3	LED	Light



Silk Screen Number	Pin Number	Pin Definition	Function
J36	1	VCC_IN	12V
	2		
	3	5V	5V
	4		
	5	3V3_WIFI	WIFI power
	6	GND	GND
	7	WIFI_DP	USB signal
	8	WIFI_DN	
	9	LED	Light
	10	GND	GND
	11	WLED	White light control signal
	12	RLED	Infrared lamp control signal
	13	IRCUTA	IRCUT drive
	14	IRCUTB	
	15	RST	SENSOR-related signals
	16	SCL	
	17	SDA	
	18	FSYNC/GND	
	19	SEN0_MCLK	
	20	GND	
	21	GND	
	22	SEN_CLK0N	
	23	SEN_CLK0P	
	24	GND	
	25	SEN_D0N	
	26	SEN_D0P	
	27	GND	
	28	SEN_D1N	
	29	SEN_D1P	
	30	GND	
J24	1	VCC_IN	12V
	2	GND	GND
	3	RLED	Infrared lamp control signal
	4	WLDE	White light control signal
J39	1	VCC_IN	12V
	2	GND	GND
	3	LED	light
J1	1	OUT1	IRCUT
	2	OUT1	

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

3.3 RF Power Consumption

Operating	Mode	Rate	Power (mA)
TX mode	802.11b	11Mbps	186.6
	802.11g	54Mbps	158
	802.11n	HT20/MCS7	159.4
	802.11n	HT40/MCS7	161
RX mode	802.11b	/	35.7
	802.11g/n	/	
BLE TX	/	/	90.3
BLE RX	/	/	33

4. RF parameters

4.1 Basic RF Performance

Parameter	Description
Wi-Fi standard	IEEE 802.11 b/g/n Wi-Fi compliant
Frequency Range	2.412 Hz ~ 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
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	1Mbps	17dBm±2dB	≤-10.5dB
	11Mbps	17dBm±2dB	≤-10.5dB
802.11g	6Mbps	15dBm±2dB	≤-5dB
	54Mbps	15dBm±2dB	≤-25dB
802.11n	MCS7_HT20	14dBm±2dB	≤-27dB

4.3.2 Wi-Fi RX Performance

Working State	Rate	RX Sensitivity (Test Value)	RX Sensitivity (Standard Value)
802.11b	1Mbps	-97dBm	≤-90dBm
	11Mbps	-89dBm	≤-76dBm
802.11g	6Mbps	-93Bm	≤-82dBm
	54Mbps	-75Bm	≤-65dBm
802.11n	MCS7_HT20	-73Bm	≤-64dBm