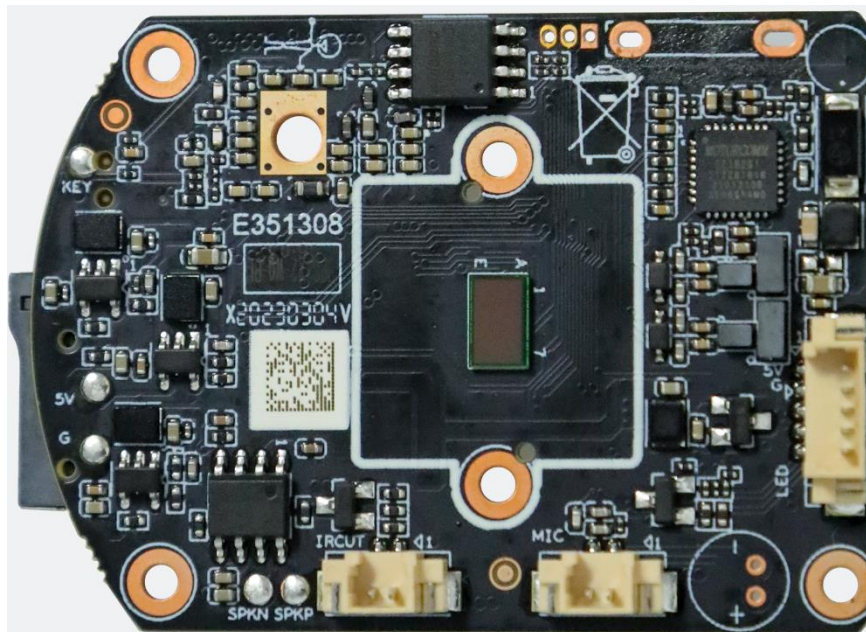


IPG-X2S-WQ-BL Module Specification

Document Version : 20231203



Introduction

IPG-X2S-WQ-BL is an 2MP Wi-Fi PT camera module developed by our company, which supports Bluetooth fast network distribution and is mainly applied to HD video surveillance cameras.

Main Features



Bluetooth Network Configuration



HD Picture Quality



PT Control



Human Detection



Two-way Audio



Mobile Remote



Infrared Night Vision



Regional Alert



TF Card Storage



Cloud Storage



H.265AI

Content

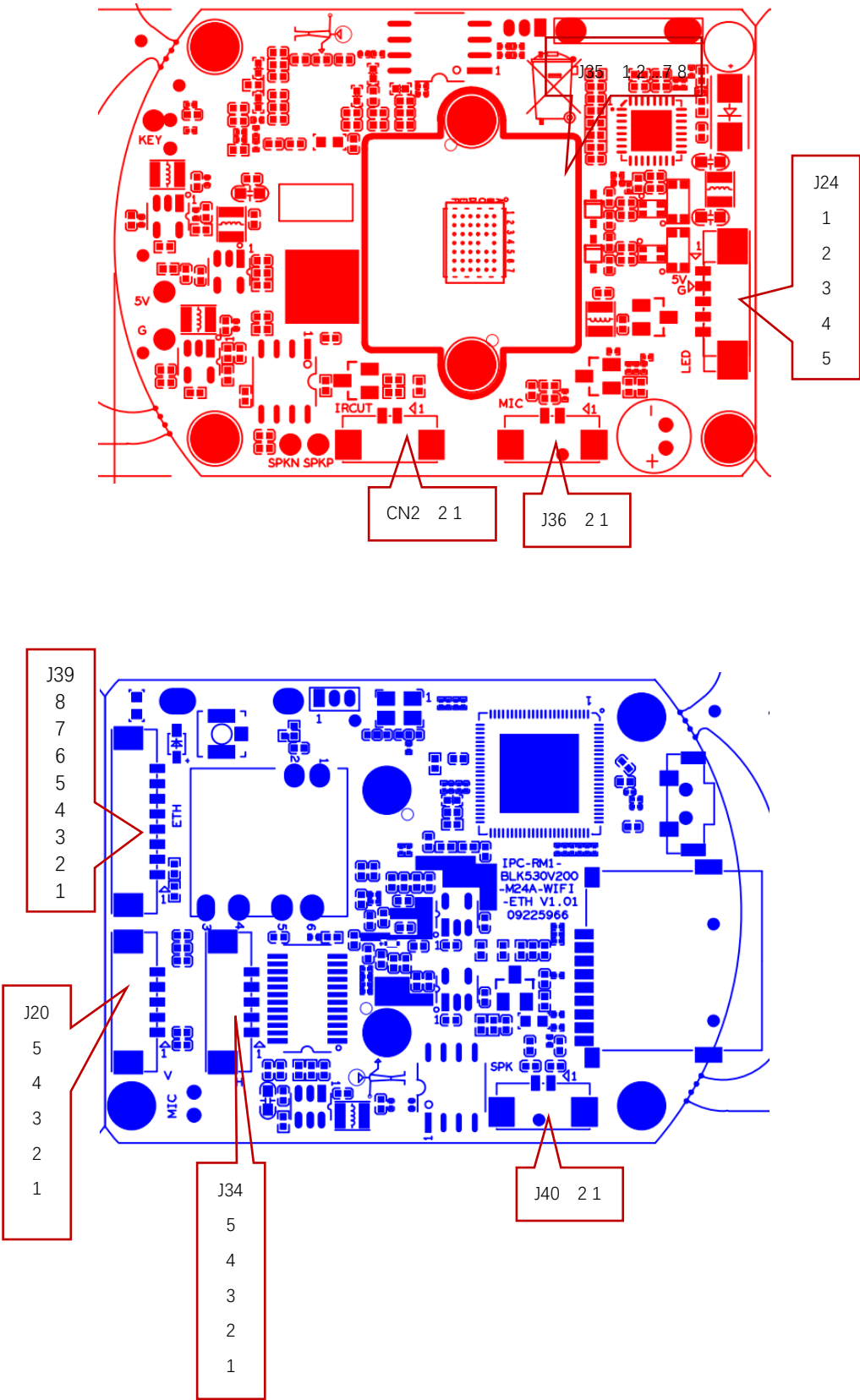
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1. Product Parameters

Model	IPG-X2S-WQ-BL
System Structure	dual-core 32-bit DSP (XM530V200) ,pure hard compression ,watch dog
Sensor	2MP 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: 1920*1080@12fps; Sub-code stream:800*448@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 DNR
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*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	38mm*54mm

2. Interface Description

Dimension : 38mm*54mm



Silk Screen Number	Pin Number	Pin Definition	Function
CN2	1	IR-CUT	IR-CUT Driver
	2		
J36	1	MIC_N	Microphone signal
	2	MIC_P	
J24	1	5V	5V power supply
	2	GND	GND
	3	IRIN_GPIO7_1	Hard photosensitive input signal
	4	RLED/GPIO2_0	Infrared light control signal
	5	WLED/GPIO0_4	White light control signal
J39	1	ETH_LINK_ACT_LED	Network light
	2	ETH_LINK_STA_LED	
	3	ETHTX+	Network port data transmission
	4	ETHTX-	Network port data sending
	5	ETHRX+	Network port data receiving
	6	ETHRX-	Network Port Data Receive
	7	GND	GND
	8	+12V_IN	12V power supply
J20	1	5V	5V power supply
	2	OUT1	Motor drive signal
	3	OUT2	
	4	OUT3	
	5	OUT4	
J34	1	5V	5V power supply
	2	OUT1	Motor drive signal
	3	OUT2	
	4	OUT3	
	5	OUT4	
J40	1	SPKN	Horn signal
	2	SPKP	

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
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 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	HT20/MCS7	14dBm±2dB	≤-27dB

4.3.2 Wi-Fi RX Performance

Working State	Rate	RX Sensitivity (Test Value)	RX Sensitivity (Standard Value)
(802.11b, 20MHz) @8%PER	1M	-97dBm	≤-90dBm
	11M	-89dBm	≤-76dBm
802.11g, 20MHz) @10% PER	6M	-93dBm	≤-82dBm
	54M	-75dBm	≤-65dBm
802.11n, 20MHz) @10% PER	HT20/MCS7	-73dBm	≤-64dBm