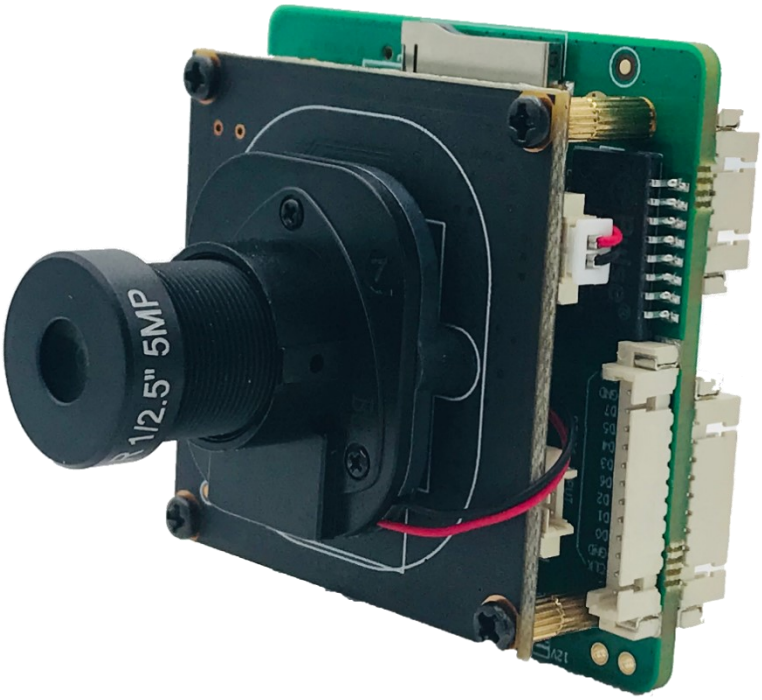

IP Camera Module Datasheet

Build-version：V1

Build-date：2021-11-18

Build：Michael

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About This Document

Purpose

This document describes the base functions, interface usages and hardware specification

Related Version

The following table lists the product version related to this document.

Product Name	Version	Release Date
IP Camera Module	VA1	2021.11.18

Intended Audience

This document is intended for：

- Technical Support Engineer
- Hardware engineer
- Mechanical structure engineer
- Software engineer

Change History

Version	Describes
VA1	The first official release

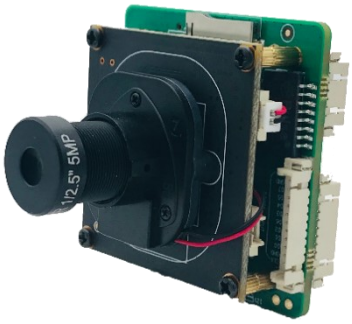
Contents

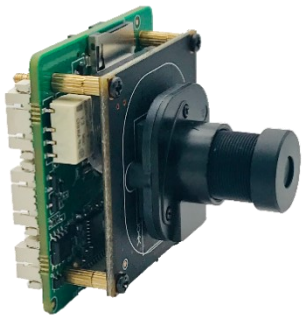
Contents

1 Overview

1.1 Brief Introduction

The camera module consists of an interface board, a core board, and a sensor board. It uses the company's Hi3516DV300 SOM/Hi3516AV300 SOM/Hi3559V200 SOM core board. The user can directly use the module to assemble the whole product. The interface board integrates a WIFI module (BL-M8189FS6(VC), 802.11n 150Mbps) (wireless video products can be designed), and provides RJ45 10M/100M interface, BT656 input interface (available Docking thermal imaging module or other digital modules), SD card storage, RS485, UART, MIC IN, AUDIO IN/OUT, ALARM IN/OUT, CDS detection, USB2.0 and other interfaces to meet the needs of customers in various application scenarios



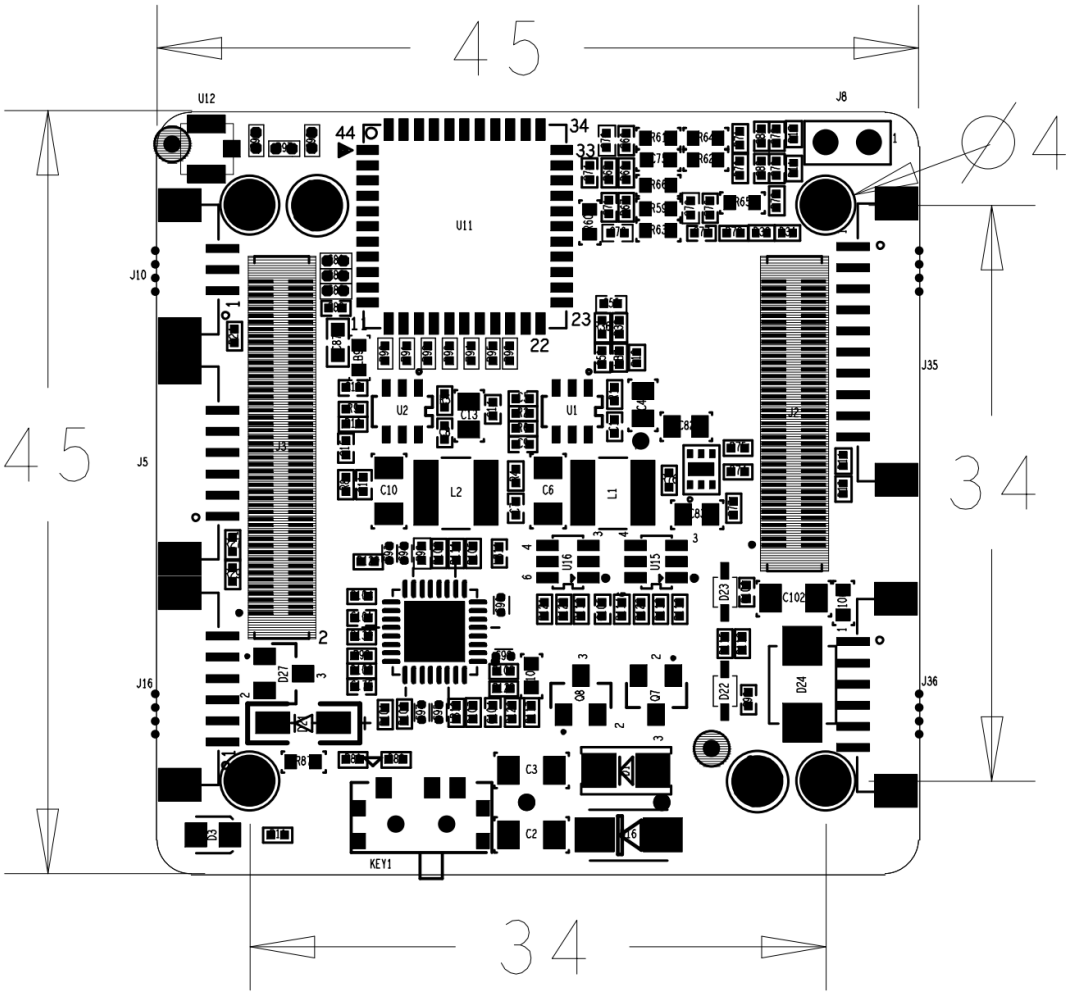


1.2 Hardware configuration

Optional core board		Hi3516DV300_SOM HI3516AV300_SOM HI3559V200_SOM	
Memory	Flash	☑NAND ☐NOR ☐eMMC	☐128MB ☐256MB ☑512MB
	RAM	☑DDR3 ☐DDR4 ☐LPDDR4	☑1GB ☐2GB ☐4GB
RTC		☑Internal RTC ☐External RTC	
Firmware encryption		☑Support ☐Not support	
WDG		☑Internal ☐External	
Optional configuration		HI3516DV300 with IMX335 PN: HV_38MDV300-C1-335 HI3516DV300 with IMX327 PN: HV_38MDV300-C1-327 HI3516DV300 with IMX290 PN: HV_38MDV300-C1-290 HI3516AV300 with IMX415 PN: HV_38MAV300-C1-415 HI3516AV300 with IMX334 PN: HV_38MAV300-C1-334	
Sensor		SONY IMX335, 1/2.8” CMOS, 5.0M Pixels	
		SONY IMX327, 1/2.8” CMOS, 2.0M Pixels	
		SONY IMX290, 1/2.8” CMOS, 2.0M Pixels	
		SONY IMX415, 1/2.8” CMOS, 8.0M Pixels	
		SONY IMX334, 1/1.8” CMOS, 8.0M Pixels	
LENS		6mm IR 1/2.5″,5MP,Fixed focal length lens, 5mm IR 1/1.7″,12MP,Fixed focal length lens, Optional selection according to customer requirement	
Power and consumption		DC12V±5% in,2.2~3.2W(all functions run and open the AI)	
Module size		45mm*45mm	

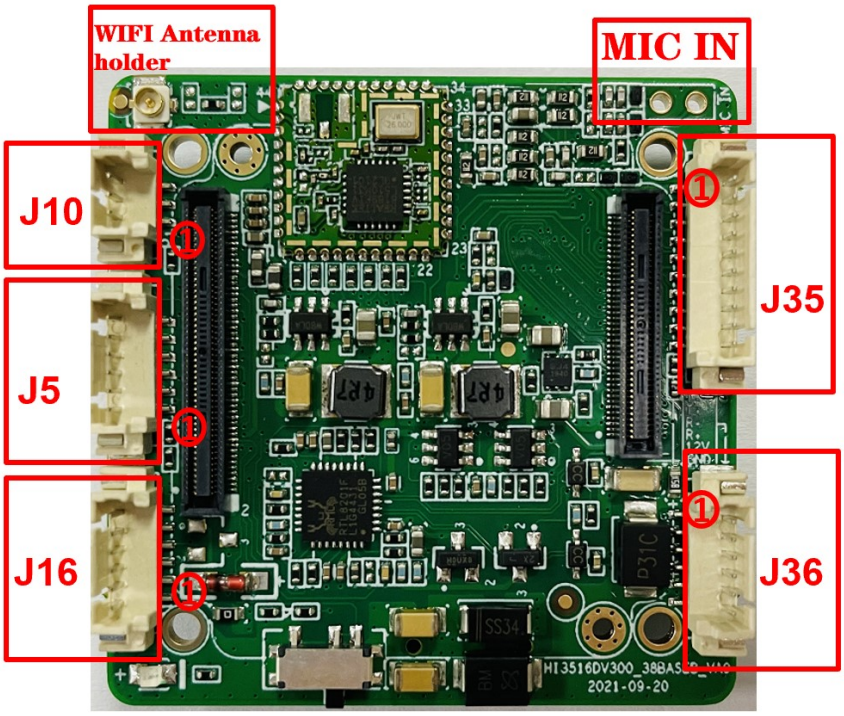
2 Hardware Introduction

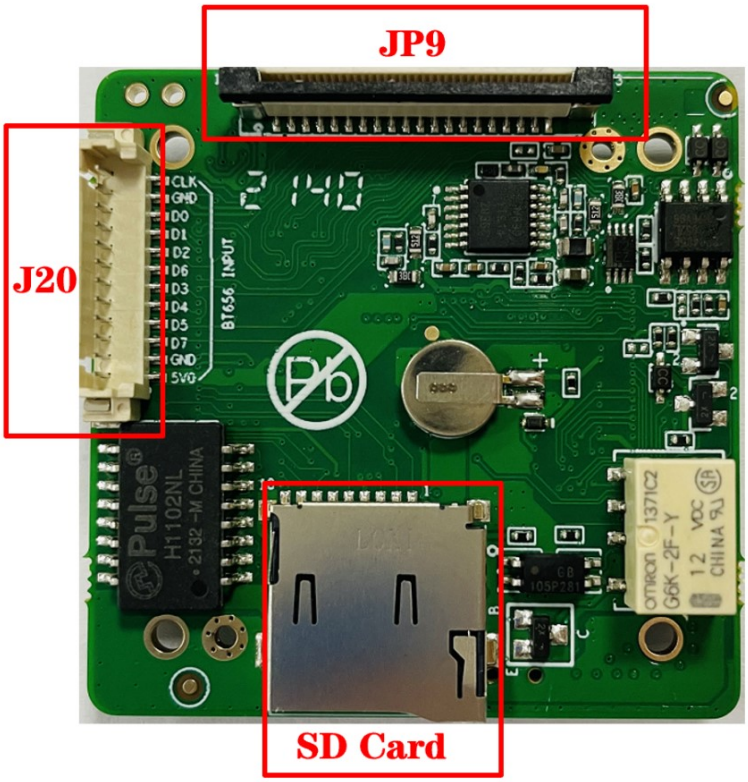
2.1 Mechanical Dimensions



Unit：mm

2.2 Interface definition





U12-WIFI Antenna Jack

J10 Connector --- UART0 Debug（SMD3-1.25mm_Vertical）					
Pin No./Name		Function	Pin No./Name		Function
PIN1	GND		PIN2	UART0_RXD	3.3V TTL
PIN3	UART0_TXD	3.3V TTL			

J5 Connector ---LED Power Supply and IR Control （SMD6-1.25mm_Vertical）					
Pin No./Name		Function	Pin No./Name		Function
PIN1	CDS_IN		PIN2	IR Control	
PIN3	GND		PIN4	GND	
PIN5	DC12V	Output	PIN6	DC12V	Output

KEY1---USB Upgrade mode switch, switch to the left to upgrade mode, the right to normal mode

J16 Connector --RS485 and Alarm （SMD6-1.25mm_Vertical）					
Pin No./Name		Function	Pin No./Name		Function
PIN1	RS485_A		PIN2	RS485_B	
PIN3	GND		PIN4	ALARM_IN_CON	
PIN5	RELAY1_COM		PIN6	RELAY1_OPEN	

J36 Connector --RJ45 and POWER （SMD6-1.25mm_Vertical）					
Pin No./Name		Function	Pin No./Name		Function
PIN1	TX-		PIN2	TX+	
PIN3	RX-		PIN4	RX+	
PIN5	DC12V	Power in	PIN6	GND	

J35 Connector –AUDIO and UART and USB2.0 （SMD10-1.25mm_Vertical）					
Pin No./Name		Function	Pin No./Name		Function
PIN1	AC_INR		PIN2	AC_INL	
PIN3	AUDIO_OUTR		PIN4	AUDIO_OUTL	
PIN5	UART2_RXD	3.3V Level	PIN6	UART2_TXD	3.3V Level
PIN7	GND		PIN8	USB_DM	
PIN9	USB_DP		PIN10	5V0_USB	

J8 Connector --MIC（SIP2-2.54mm_Vertical）					
Pin No./Name		Function	Pin No./Name		Function
PIN1	AC_IN1_N	MIC IN_N	PIN2	AC_IN1_P	MIC IN_P
JP9 Connector ---Sensor in （FPC40-0.5mm）					
J15 Connector ---TF Card					

J20 Connector --- BT656 INPUT/OUTPUT（SMD12-1.25mm_Vertical）					
Pin No./Name		Function	Pin No./Name		Function
PIN1	5V POWER	output	PIN2	GND	
PIN3	VI_DATA7/VO_DATA7	3.3V Level	PIN4	VI_DATA5/VO_DATA5	3.3V Level
PIN5	VI_DATA4/VO_DATA4	3.3V Level	PIN6	VI_DATA3/VO_DATA3	3.3V Level
PIN7	VI_DATA6/VO_DATA6	3.3V Level	PIN8	VI_DATA2/VO_DATA2	3.3V Level
PIN9	VI_DATA1/VO_DATA1	3.3V Level	PIN10	VI_DATA0/VO_DATA0	3.3V Level
PIN11	GND		PIN12	VI_CLK/VO_CLK	3.3V Level

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3 Operation Guide

3.1 Precautions

For product testing or application development environment, please read the following precautions before operation:

· In the power-on state, the bare board cannot be hot-plugged, and it is forbidden to touch the internal components of the PCBA board by hand;

· The power output capacity of each port is limited, do not exceed the specifications, otherwise the system will crash or even burn the board;

· Pay attention to the docking IO level, and prohibit over-specification applications, otherwise it will cause the IO to burn out;

· SoC and DDR are used for heat dissipation, keep away from heat sources to avoid affecting the performance and life of the chip;

· Carefully check the connection of each component to avoid wrong connection causing burn-in or failure to work.

3.2 Configuration

3.2.1 Sensor, VI, DSI/LCD Power Configuration

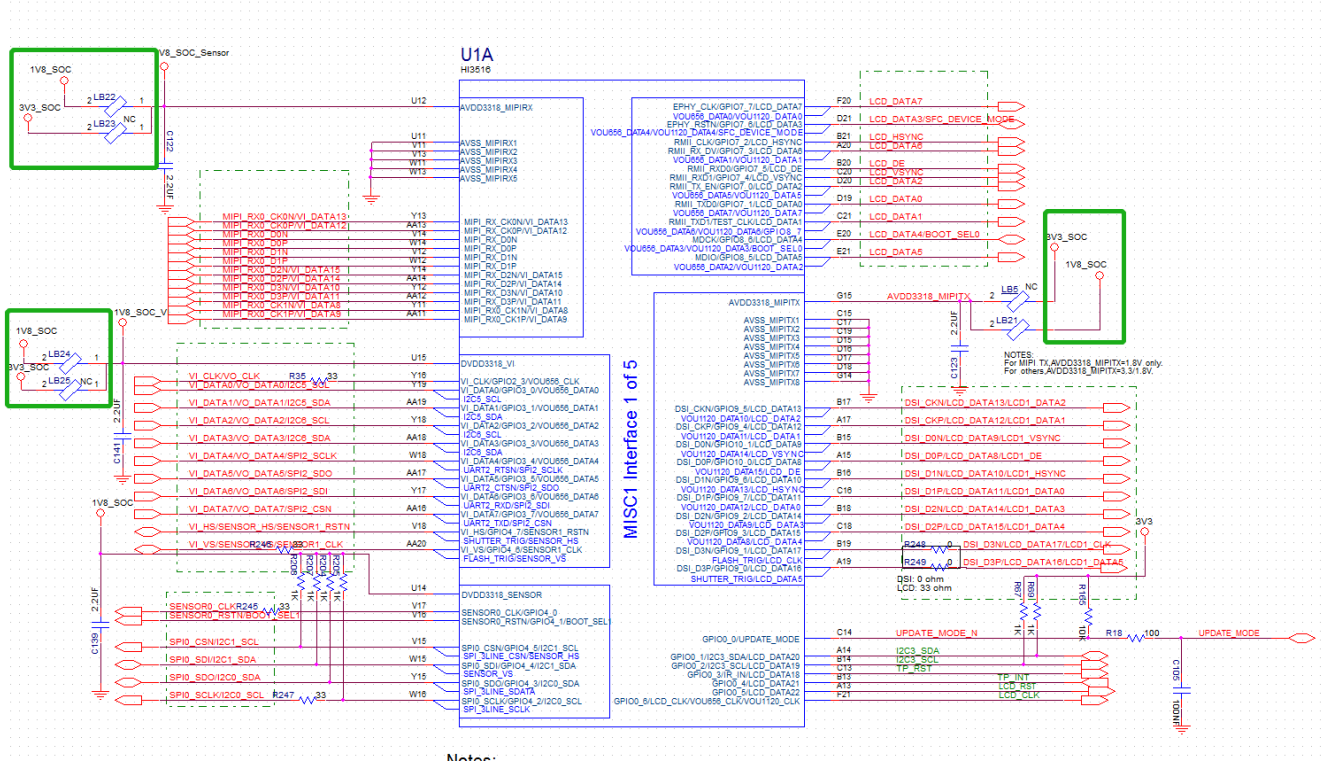
The working level of Sensor，VI，DSI/LCD can pass the magnetic beads according to the actual application mode

LB22/LB23：AVDD3318_MIPIRX

LB24/LB25: DVDD3318_VI

LB5/LB21： AVDD3318_MIPITX

For selection, SOM defaults to 1.8V, as shown in the schematic diagram below, according to the different product application requirements of customers, select the corresponding matching level mode during testing and production.



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