

▲ Flight B2S

Design guide

## **1、 Summarize**

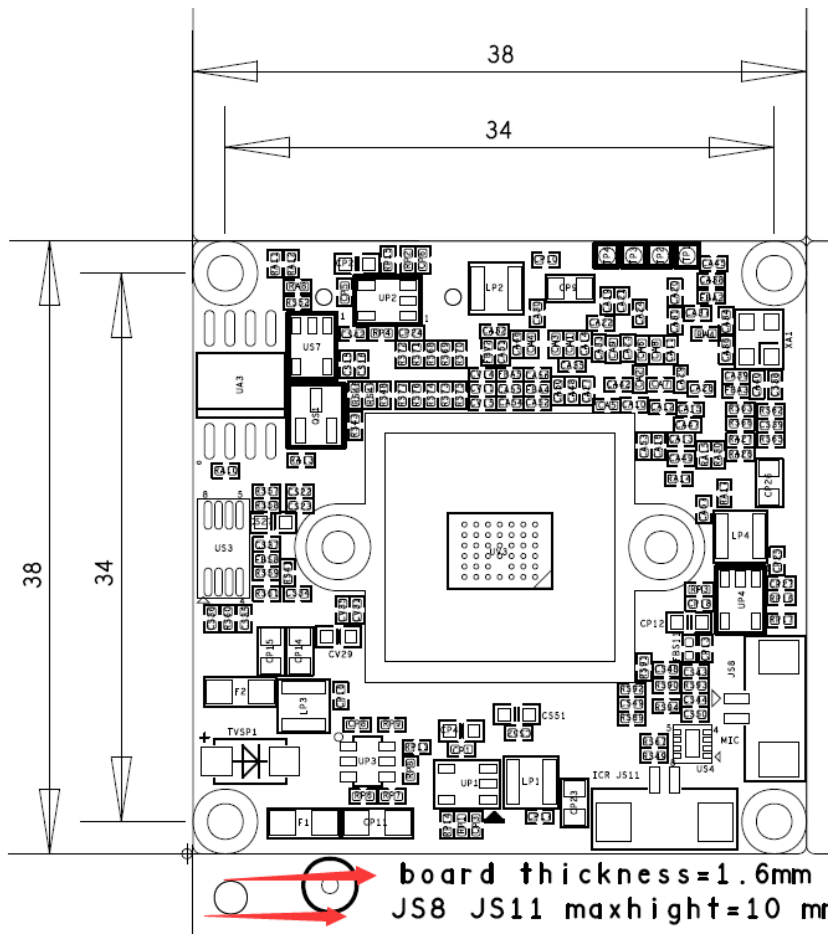
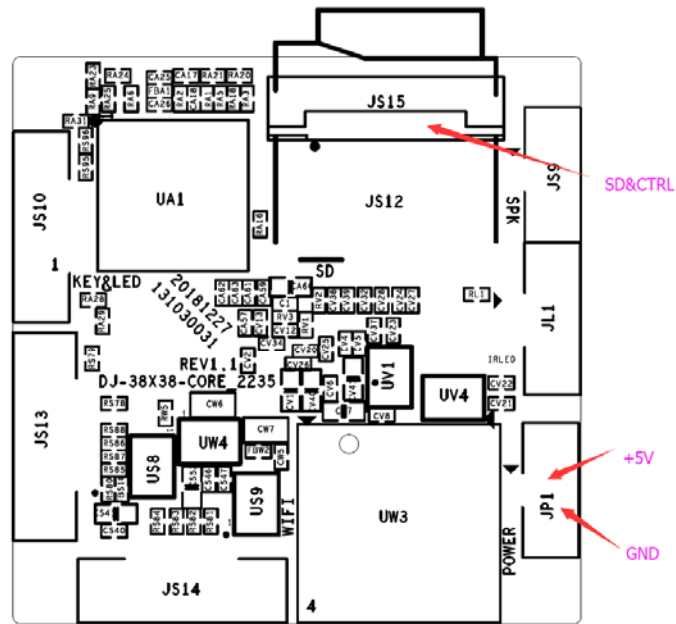
Flight B2S offers a highly integrated wi-fi solution featuring compact design, reliable performance, and versatility.

In addition to the wi-fi capabilities, Flight B2S also integrates with the Hi3518V300 series of processors for powerful processing power. Flight B2S enables GPIO port, serial port and other integrated sensors and other devices to reduce the early development costs and minimize the use of system resources during operation. The software development kit (SDK) provided by Meari contains sample code for a variety of applications.

## 2、 Functional description

technical indicator	parameter
Sensor Type	1/3" CMOS
Sensor pixel	2Mega
minimal illumination	Colours 0.01Lux@F1.2 Monochrome 0.001Lux@F1.2
Lens	4.0mm F2.0
shutter	1/25 s~1/100,000 s
Infrared ligh	ICR Infrared filter
Wide Dynamic	Digital WDR
video compression standard	H.264
Compress the output bit rate	32Kbps~2Mbps
Maximum Image Size	1920 × 1080
fps	1~25 frame/s
image	Support hd/standard switching; Support for mirror Settings
Voice	full-duplex speech
memory function	Support SD card (Max. 128G), cloud storage
communication protocol	HTTP,DHCP,DNS
wireless standards	IEEE802.11b/g/n
frequency range	2412-2462MHz
channel bandwidth	20/40MHz
WLAN security	WPA-PSK/WPA2-PSK
data security	AES128
intelligence	Support motion detection, noise detection
one-key reset	support
operating temperature	-20℃~55℃
power supply	DC5V,1A
power dissipation	2.5W MAX

### 3、 Layout



## 4、Flight B2S interface specification

### 4.1 power interface JP1(1.25 spacing)

Pin number	function
1	GND
2	5V
3	GND
4	12V

### 4.2 IR\_CUT interface JS11(1.25 spacing)

Pin number	function
1	Ircut negative electrode
2	ircut positive electrode

### 4.3 audio input JS8(1.25 spacing)

Pin number	function
1	MIC positive
2	MIC negative

### 4.4 audio output JS9(1.25 spacing)

Pin number	function
1	speaker positive
2	speaker negative

### 4.5 infrared lamp control interface JL1(1.25 spacing)

Pin number	function	Corresponding GPIO
1	5V	
2	LED IO ( ACTIVE HIGH)	GPIO0_2
3	GND	

### 4.6 button and indicator light interface JS10(1.25 spacing)

Pin number	function	GPIO
1	Red light control	GPIO0_0
2	Blue light control	GPIO0_1
3	keystroke IO ( ACTIVE low )	GPIO7_7
4	5V0	
5	GND	

### 4.7 reserve GPIO interface JS14(1.25 spacing)

Pin number	function	Corresponding GPIO
1	white light controlIO ( ACTIVE HIGH)	GPIO6_6
2	PIR signal inputIO	GPIO7_1

	(ACTIVE low)	
3	Reserved I0	GPI07_0
4	Reserved I0	GPI06_7
5	GND	
6	3V3	

#### 4.8 external communication interface JS13(1.25 spacing)

Pin number	primary function	Alternate Function
1	VCC (3V3 or 5V)	
2	I2C2_SDA	GPI04_4
3	I2C2_SCL	GPI04_4
4	GND	
5	URAT1_RX	GPI06_0
6	UART1_TX	GPI06_2

#### 4.9 Seventh, SD card external expansion interface JS15(0.5 spacing FPC seat)

Pin number	function
1	SD power
2	SDIO_DATA0
3	SDIO_DATA1
4	SDIO_DATA2
5	SDIO_DATA3
6	SDIO_CMD
7	SDIO_DET
8	GND
9	SDIO_CLK
10	GND
11	5V
12	Red light control
13	Blue light control
14	Keystroke I0

# 10. OEM/Integrators Installation Manual

## 10.1. List of applicable FCC rules

This module has been tested and found to comply with part 15.247 requirements for Modular Approval.

## 10.2. Summarize the specific operational use conditions

This module can be used in Wifi-camera. The input voltage to the module should be nominally 4.75-5.25 VDC ,typical value 5VDC and the ambient temperature of the module should not exceed 50°C. Flight B2S has one PCB antenna with max antenna gain 2.5dBi .

## 10.3. Limited module procedures

This module can be used in Wifi-camera. The input voltage to the module should be nominally 4.75-5.25 VDC ,typical value 5VDC . The limited module manufacturer will reviews detailed test data or host designs prior to giving the host manufacturer approval.

## 10.4. Trace antenna designs

NA

## 10.5. RF exposure considerations

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment .This equipment should be installed and operated with minimum distance 20cm between the radiator& your body. If the device built into a host as a portable usage, the additional RF exposure evaluation may be required as specified by § 2.1093.

## 10.6. Antennas

Antenna type: PCB antenna	2.4GHz band Peak Gain 2.5(dBi)				
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## 10.7. Label and compliance information

When the module is installed in the host device, the FCC ID/IC label must be visible through a window on the final device or it must be visible when an access panel, door or cover is easily re-moved. If not, a second label must be placed on the outside of the final device that contains the following text: "Contains FCC ID: 2ANJC-FLIGHTB2S" "Contains IC: 25656-FLIGHTB2S" The FCC ID/IC can be used only when all FCC ID/IC compliance requirements are met.

## 10.8. Information on test modes and additional testing requirements

- a) The modular transmitter has been fully tested by the module grantee on the required number of channels, modulation types, and modes, it should not be necessary for the host installer to re-test all the available transmitter modes or settings. It is recommended that the host product manufacturer, installing the modular transmitter, perform some investigative measurements to confirm that the resulting composite system does not exceed the spurious emissions limits or band edge limits (e.g., where a different antenna may be causing additional emissions).
- b) The testing should check for emissions that may occur due to the intermixing of emissions with the other transmitters, digital circuitry, or due to physical properties of the host product (enclosure). This investigation is especially important when integrating multiple modular transmitters where the certification is based on testing each of them in a stand-alone configuration. It is important to note that host product manufacturers should not assume that because the modular transmitter is certified that they do not have any responsibility for final product compliance.
- c) If the investigation indicates a compliance concern the host product manufacturer is obligated to mitigate the issue. Host products using a modular transmitter are subject to all the applicable individual technical rules as well as to the general conditions of operation in Sections 15.5, 15.15, and 15.29 to not cause interference. The operator of the host product will be obligated to stop operating the device until the interference have been corrected , WIFI testing using QRCT in FTM mode.

## 10.9. Additional testing, Part 15 Subpart B disclaimer

The final host / module combination need to be evaluated against the FCC Part 15B criteria for unintentional radiators in order to be properly authorized for operation as a Part 15 digital device.

The host integrator installing this module into their product must ensure that the final composite product complies with the FCC requirements by a technical assessment or evaluation to the FCC rules, including the transmitter operation and should refer to guidance in KDB 996369.

For host products with certified modular transmitter, the frequency range of investigation of the composite system is specified by rule in Sections 15.33(a)(1) through (a)(3), or the range applicable to the digital device, as shown in Section 15.33(b)(1), whichever is the higher frequency range of investigation

When testing the host product, all the transmitters must be operating. The transmitters can be enabled by using publicly-available drivers and turned on, so the transmitters are active. In certain conditions it might be appropriate to use a technology-specific call box (test set) where accessory



devices or drivers are not available. When testing for emissions from the unintentional radiator, the transmitter shall be placed in the receive mode or idle mode, if possible. If receive mode only is not possible then, the radio shall be passive (preferred) and/or active scanning. In these cases, this would need to enable activity on the communication BUS (i.e., PCIe, SDIO, USB) to ensure the unintentional radiator circuitry is enabled. Testing laboratories may need to add attenuation or filters depending on the signal strength of any active beacons (if applicable) from the enabled radio(s). See ANSI C63.4, ANSI C63.10 and ANSI C63.26 for further general testing details.

The product under test is set into a link/association with a partnering WLAN device, as per the normal intended use of the product. To ease testing, the product under test is set to transmit at a high duty cycle, such as by sending a file or streaming some media content.

## 10.10 Operating the host product

This module can be used in Wifi-camera.for example:



### FCC Statment:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

### ISED RSS Warning:

This device complies with Innovation, Science and Economic Development Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'ISED applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

(1) l'appareil ne doit pas produire de brouillage, et

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

The EUT is a mobile device; maintain at least a 20 cm separation between the EUT and the user's body

and must not transmit simultaneously with any other antenna or transmitter.

L'autre utilisé pour l'émetteur doit être installé pour fournir une distance de séparation d'au moins 20 cm de toutes les personnes et ne doit pas être colocalisé ou fonctionner conjointement avec une autre