

1 Features

- Resolution: 3840x2160 (4K)
- Frame rate: 60fps
- Optical format: 1/1.8"
- Gain: 0~72dB
- Video interface: 2 dual coaxial (IPEX)
- Power supply and button interface: 2 A1251WR-S-3P
- 2D mode image delay: $\leq 90\text{ms}$
- Lens interface: C/CS
- Flange distance: 18mm
- Structure: 43mm x 43mm x 30mm

2 Overview

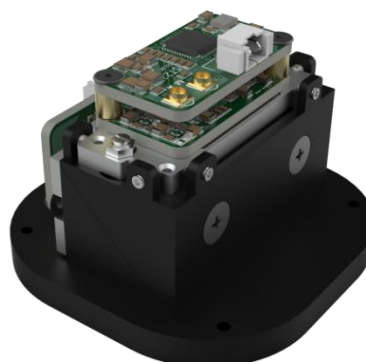
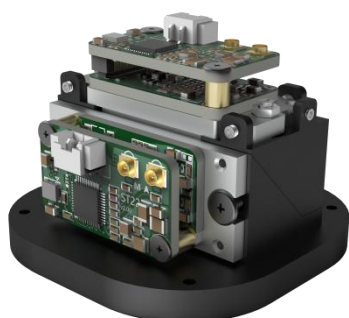
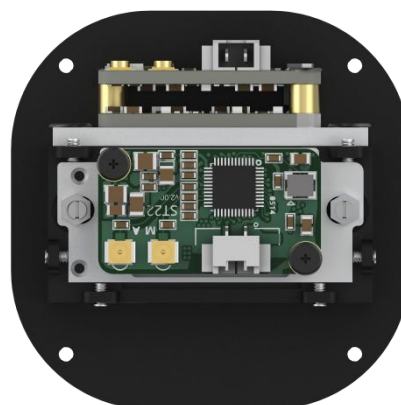
The IS82 is a compact ultra-HD camera module featuring a dual-layer stacked 14mm-wide structure. It incorporates SONY's ultra-low-light STARVIS2 sensor with a 1/1.8" large sensor area, delivering exceptional imaging performance.

The module features two sensors positioned at a 90-degree angle, with one capturing white light images and the other monitoring fluorescence signals, fully meeting fluorescence imaging requirements. The aluminum alloy mounting base, coated with black hard oxide, has passed both EMC and safety certifications. The waterproof glass is bonded with adhesive, while the rear housing and module interface are sealed to achieve IP67 waterproof rating.

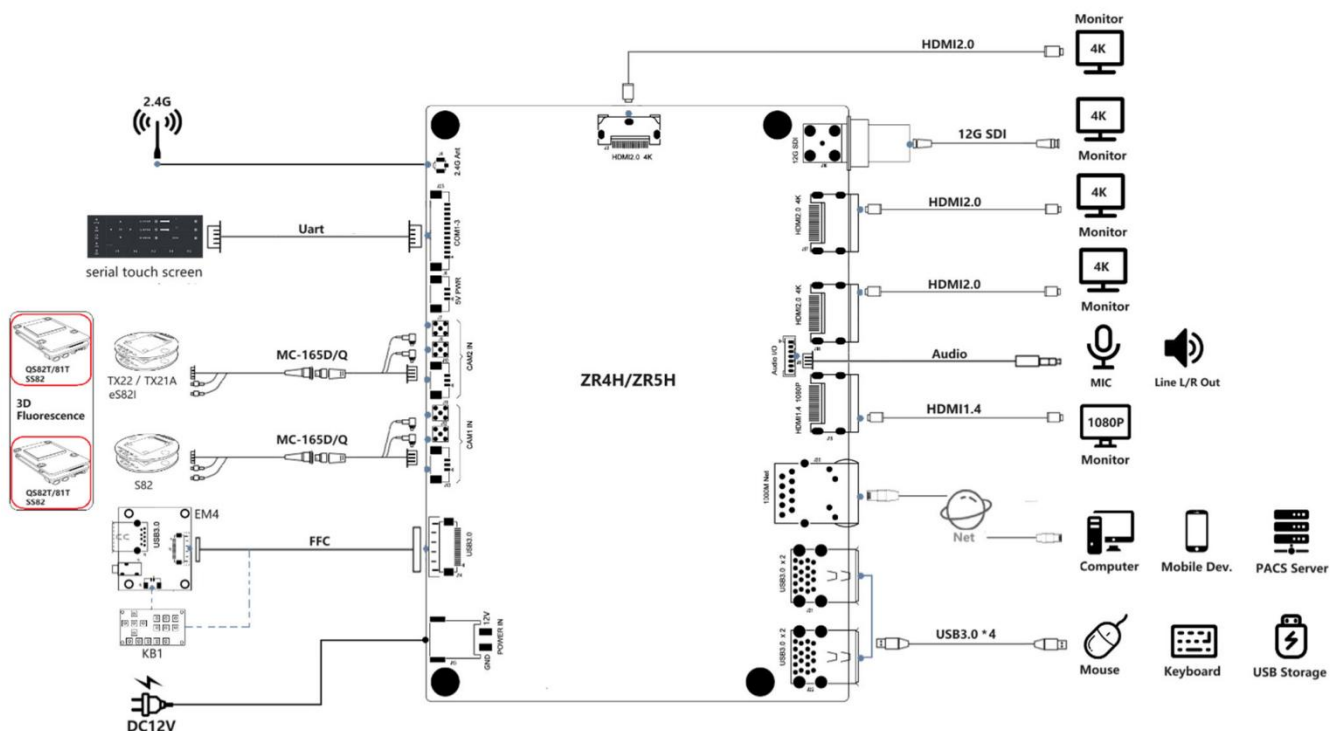
3 Main Application Scenarios

Medical endoscope

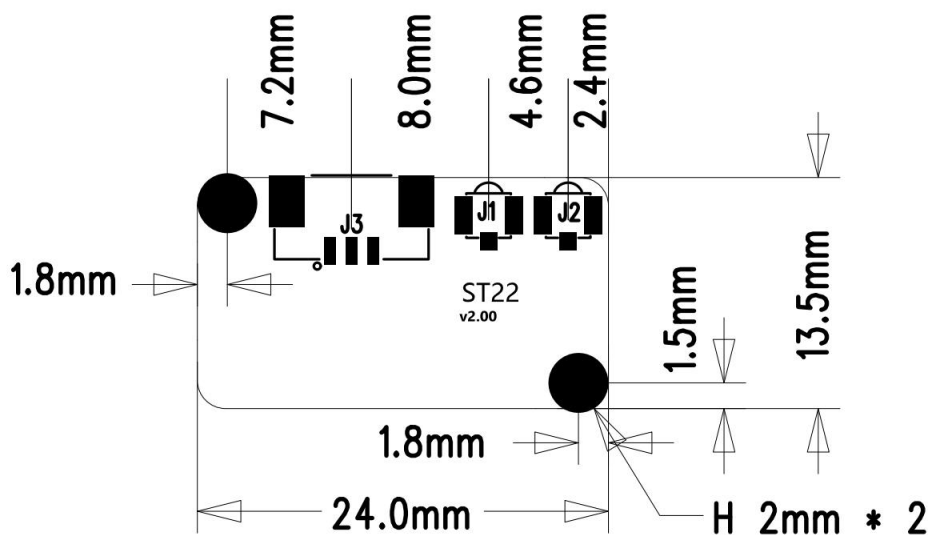
Surgical microscope



4 Application Block Diagram



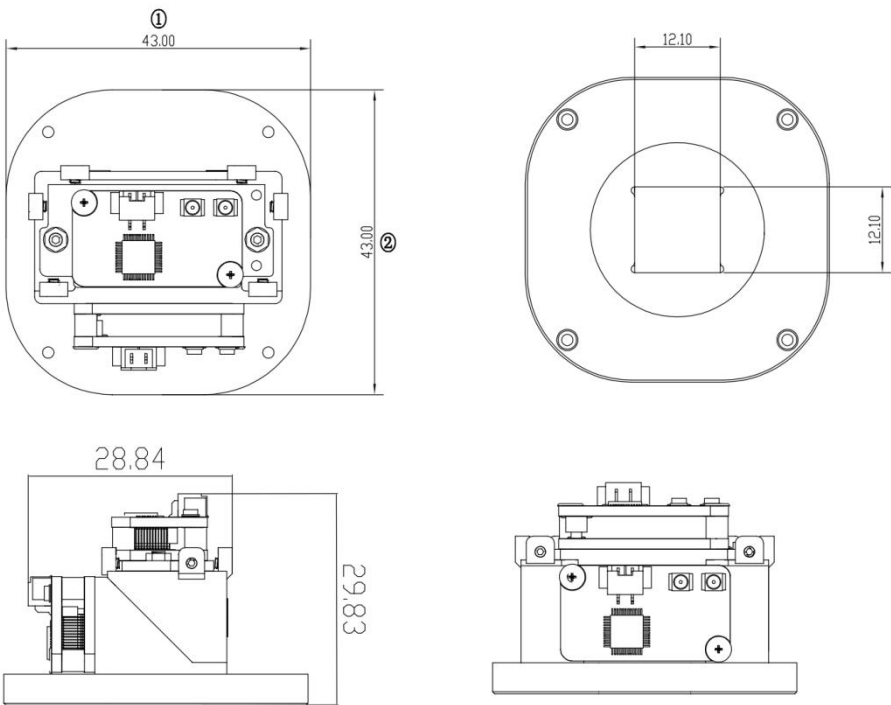
5 Interface Definition



Note: The "△" indicates the first pin (Pin1).

name	item	Pin definition	direction for use
power input	J3	3pin 1.25mm wafer: A1251WR-S-3P Pin1: +5V Pin2: GND Pin3: ADC IN	Connect to the motherboard's white light module power interface
video monitor 525 vidicon video out	J1 J2	RF Coaxial Connector: IPEX J1: CH0 J2: CH1	Connect to the motherboard's white light module video interface
power input	J3	3pin 1.25mm wafer: A1251WR-S-3P Pin1: +5V Pin2: GND Pin3: ADC IN	Connect to the motherboard's fluorescent module power interface
video monitor 525 vidicon video out	J1 J2	RF Coaxial Connector: IPEX J1: CH0 J2: CH1	Connect to the mainboard's video interface

6 Structural dimensions



7 Electrical Specifications

1) Work environment

parameter	minimum	typical case	maximum	explain
input voltage (V)	4.75	5	5.5	
operating power (W)			1.8	
ambient temperature (°C)	5	25	45	
humidity (%rh)	5	55	85	
atmos (kPa)	50	101	106	

8 Related parts: ZR5I, ZR5H