IM20A03
2.0MP Low-illumination HD IPC Module

UART | | USB | Onvif® | H.265 | SDK
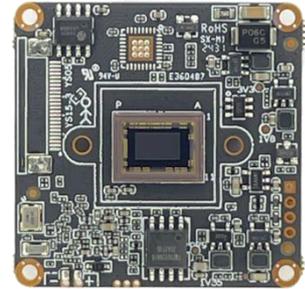
The IM20A03 is a cost-effective 2MP surveillance network camera module designed for both indoor and outdoor use. It features a 1/2.8" Sony IMX307 STARVIS sensor and is powered by the GOKE GK7205V300 SoC, equipped with 1Gb of RAM. In terms of extended I/O capabilities, it supports dual light source illumination, as well as microphone and speaker connections, enabling two-way audio and additional interfaces.

For secondary development, the IM20A03 includes two set UART interfaces and provides SDKs for Windows, Linux, and Android. It also supports the ONVIF standard protocol, along with OpenIPC and FPV firmware. This makes it highly convenient for secondary development and allows for quick integration into your projects.

Key Features：

- 1/2.8" 2MP Sony IMX307 STARVIS CMOS
- Maximum resolution up to 1920×1080@60fps
- True Day/Night, 3D DNR, Digital WDR
- Support humanoid detection, motion detection
- Support the Tuya P2P on Android, IOS(default without ....)
- Support two way audio, Built-in audio amplifier function
- Support ONVIF and HIK/XM protocol
- Support TCP/IP/HTTP/NTP/DHCP/SMTP/RTSP
- Open SDK(Linux,Windows), CGI,Support OPENIPC development

Technical Specifications:

Image Sensor	
Sensor	1/2.8" 2MP Sony IMX307 STARVIS CMOS
Maximum Resolution	1920x1080@60fps
Minimum Illumination	0.01lux @F1.0(Color) / 0.005 lux@F1.0 (B/W)
Camera	
AGC	Auto/Manual
S/N Ratio	≥45dB（AGC OFF）
Shutter Speed	1/2 - 1/20 ,000s,Slow shutter support
Wide Dynamic Range	Digital WDR
Exposure Mode	Auto/ Manual/shutter mode
AWB	Yes
Day & Night	External control（IR Cut Filter）
Light Control	Support IR/White/dual light, three mode independent control
Compression	
Video Compression	H.265/H.264 Main Profile /M-JPEG
Audio Compression	G711U,G711A,PCM
Image Resolution	
Main Stream	1920×1080/1280x960/1280x720@60fps
Sub Stream	640×480/480x360/352×288/176×144@60fps
General Protocol	
Network Protocol	TCP/IP/HTTP/NTP/DHCP/SMTP/RTSP/P2P
ONVIF protocol	Yes
Compatibility	Support HIK/XM protocol
P2P	
Support TUYA APP	Support for Tuya APP （Android, IOS） default without ....
Function	
Web Configuration	Yes
OSD	Yes
Motion Detection	Yes
Humanoid Detection	Yes
Reset	Support cable reset button(opticnal)
Amplifier	Built-in amplifier
Interface	
Wired	1ch 10/100 BaseT Ethernet,RJ45 interface
Audio	Microphone input/output
Alarm	2 ports input, 2 ports output
UART	Support
USB	Support
TF Card	Optional and max256G (reserved extended SD slot)
Other	
Power Supply	DC 12V
Size/Weight	38x38mm /10g
Operation Temperature	-30°C~60°C
Working Humidity	≤90%RH(non-condensing)

Interface Pin Definition:
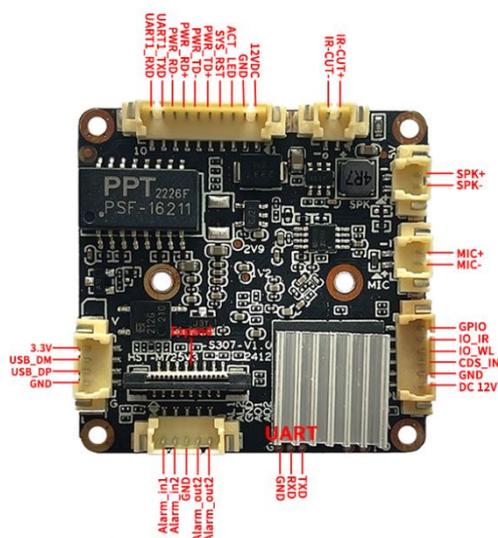
Interface	pin	Pin name	Functional parameter
J1	1	12VDC	DC Input, voltage range 9V-13.8V
	2	GND	GND
	3	ACT_LED	Network indicator light interface
	4	SYS_RST	Restore factory settings LOW valid
	5	PWR_TD+	Adaptive network interface, physically receiving/transmitting signals (differential +)
	6	PWR_TD-	Adaptive network interface, physically receiving/transmitting signals (difference -)
	7	PWR_RD+	Adaptive network interface, physically receiving/transmitting signals (differential+)
	8	PWR_RD-	Adaptive network interface, physically receiving/transmitting signals (difference -)
	9	UART1_TXD	Serial communication, sending TX
	10	UART1_RXD	UART1, receive RX
J2	1	IR-CUT＋	IRCUT signal +
	2	IR-CUT－	IRCUT signal-
J3	1	SPK+	SPK+
	2	SPK-	SPK-
J4	1	MIC+	MIC+
	2	MIC-	MIC-
J5	1	12VDC	**DC Out,** 12V
	2	GND	GND
	3	GDS_IN	Hard light sensitive infrared
	4	IO_WL	Soft photosensitive white light
	5	IO_IR	Soft photosensitive infrared
	6	GPIO	8 preview GPIO (PWM not supported)
J6	1	Alarm_in1	Alarm input 1
	2	Alarm_in2	Alarm input 2
	3	GND	GND
	4	Alarm_out1	Alarm relay output 1
	5	Alarm_out2	Alarm relay output 2
J7	1	3.3V	3.3V power supply
	2	USB_DM	data D-
	3	USB_DP	data D+
	4	GND	GND