

SPECIFICATIONS



skoopia 21C42IP2

H.265 / H.264 IP CAMERA MODULE

with

2MP - 1/2.8" Sony IMX307 sensor

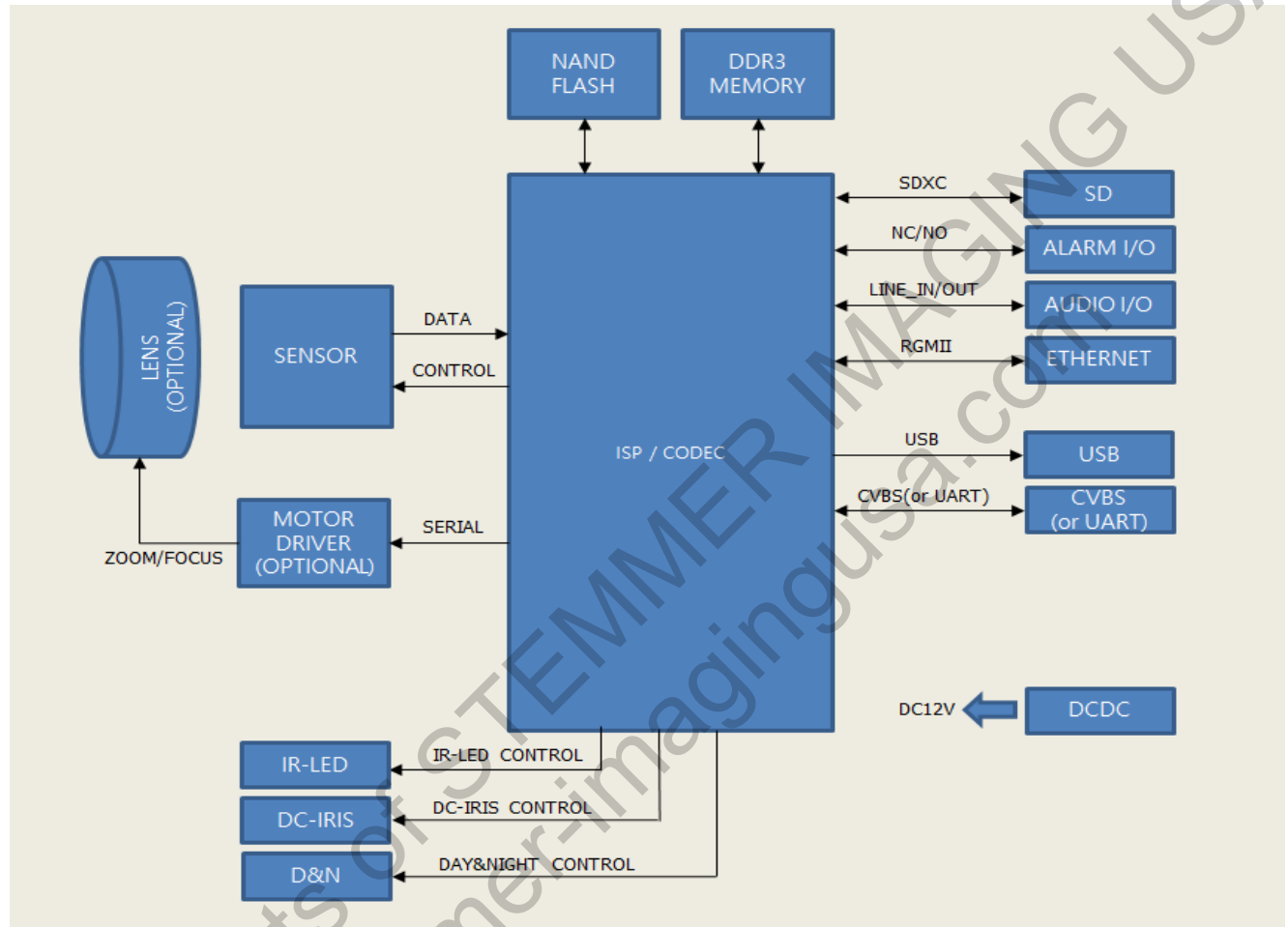
and

Ambarella DSP

0. USPs

- Cost effective solution
- Low light sensitivity – IMX307
- Flexible DSP without import restrictions in USA (Ambarella)

1. BLOCK DIAGRAM



2. MODULE DIMENSION

① 11p Connector: SD
J9 : Molex, P/N : 53047-1110

② 5p Connector: Audio_IO / Alarm_IO
J9 : Molex, P/N : 53047-0510

③ 4p Connector: IR_LED
J2 : Molex, P/N : 53047-0410

④ 8p Connector: Zoom/Focus(Optional)
J16 : Molex, P/N : 53047-0810

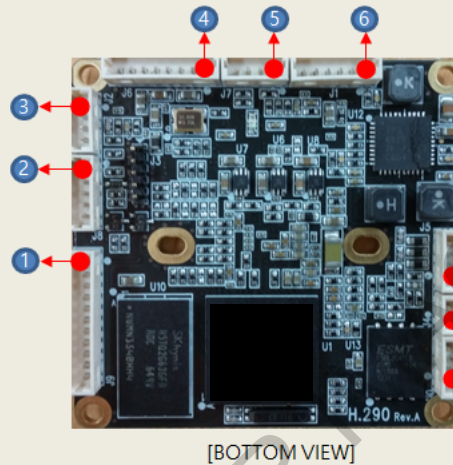
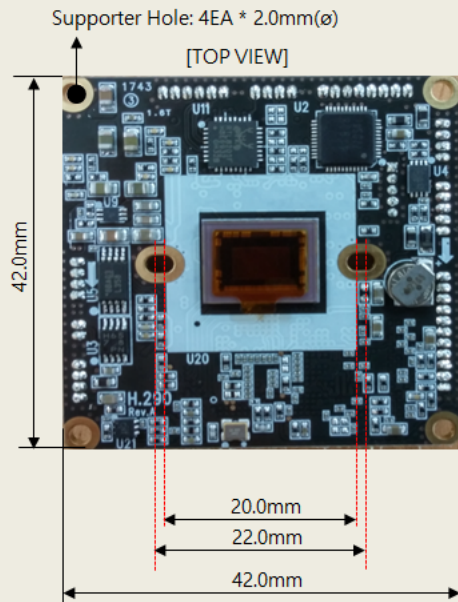
⑤ 4p Connector: CVBS(or UART)
J7 : Molex, P/N : 53047-0410

⑥ 6p Connector: Ethernet
J1 : Molex, P/N : 53047-0610

⑦ 4p Connector: DC Iris
J5 : Molex, P/N : 53047-0410

⑧ 2p Connector: D&N
J4 : Molex, P/N : 53047-0210

⑨ 4p Connector: USB
J10 : Molex, P/N : 53047-0410



3. CONNECTOR SPECIFICATIONS

J4 : DAY & NIGHT, Molex P/N : 53047-0210		
Pin No.	Pin Name	Description
1	Motor -	Night Mode : Active Low
2	Motor +	Day Mode : Active High

J5 : DC IRIS, Molex P/N : 53047-0410		
Pin No.	Pin Name	Description
1	Drive -	Normally connect to GND
2	Drive +	Iris motor drive
3	Control +	Iris motor control +
4	Control -	Iris motor control -

J2 : IR_LED, Molex P/N : 53047-0310		
Pin No.	Pin Name	Description
1	DC +12V	DC +12V Power output
2	IR_LED_INPUT	IR_LED CDS signal input from IR board
3	GND	GND
4	IR_LED ON/OFF OUTPUT	IR_LED_On/Off TTL signal output to IR board

J6 : ZOOM/FOFUS, Molex P/N : 53047-0810 (Optional)		
Pin No.	Pin Name	Description
1	Focus A-	Focus In-
2	Focus A+	Focus In+
3	Zoom A-	Zoom In-
4	Zoom A+	Zoom In+
5	Zoom B+	Zoom Out+
6	Zoom B-	Zoom Out-
7	Focus B-	Focus Out-
8	Focus B+	Focus Out+

J1 : Power & Network, Molex P/N : 53047-0610		
Pin No.	Pin Name	Description
1	+12V	DC +12V input
2	PHY_TX+	Ethernet TX+ signal output
3	PHY_TX-	Ethernet TX- signal output
4	PHY_RX+	Ethernet RX+ signal input
5	PHY_RX-	Ethernet RX- signal input



6	GND	GND
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J9 : SD, Molex P/N : 53047-1110

Pin No.	Pin Name	Description
1	DAT2	SD data2
2	DAT3	SD data3
3	CMD	Command signal
4	PWR	Power +3.3V
5	CLK	Clock signal
6	GND	GND
7	DAT0	SD data0
8	DAT1	SD data1
9	CD	Card Detect signal
10	WP	Write Protection signal
11	FACTORY SWITCH	Factory reset signal input signal

J8 : AUDIO/ALARM, Molex P/N : 53047-0510

Pin No.	Pin Name	Description
1	AUDIO_IN	Audio Line_In signal
2	AUDIO_OUT	Audio Line_Out signal
3	GND	GND
4	ALARM_IN	Alarm In signal
5	ALARM_OUT	Alarm Out signal

J10 : USB, Molex P/N : 53047-0410

Pin No.	Pin Name	Description
1	VSUB	USB power output DC5V
2	USB_DM	USB data -
3	USB_DP	USB data +
4	GND	GND

J7 : CVBS (or UART), Molex P/N : 53047-0410

Pin No.	Pin Name	Description
1	PHY_LINK	PHY Link indication output signal
2	GPIO7_1(or UART1_TXD)	GPIO(or UART1_Tx signal)
3	CVBS_OUT(or UART1_RXD)	Composite output signal(or UART1_Rx signal)
4	GND	GND



4. MODULE SPECIFICATIONS

LENS (Optional)	
<i>Focal Length</i>	<i>2.8~12 mm</i>
<i>F No.</i>	<i>1.4±5%</i>
<i>Image Format</i>	<i>1/2.7" inch</i>
<i>Dimension(mm)</i>	<i>Φ28.05 x 37.74 x 45.1 mm</i>
<i>Field of View</i>	<i>H103° x V74.4° ~ H30.8° x V23.3°</i>
IMAGE	
Image Sensor	Sony IMX307LQR-C, 1/2.8" , 2.16Megapixel RGB Bayer Array CMOS Sensor
Number of Effective Pixels	1945(H) x 1097(V) approx. 2.13M pixels
Scanning Mode	Progressive Scan
CAMERA	
Wide Dynamic Range	DOL HDR (Digital Over Lab High Dynamic Range)
Day and Night Mode	Automatic, Day, Night
Noise Reduction	2D-NR, 3D-NR
Auto Exposure Mode	Automatic (Priority: Frame rate/Low noise), Manual
Shutter Speed Control	Automatic: Min. 1/135,000 sec ~ Max. 1/60 sec Manual: Min. 1/10,000 sec ~ Max. 1/10 sec
Gain Control	Automatic: Min. 1.2dB ~ Max. 54dB Manual: Min. 1.2dB ~ Max. 54dB, Default 1.2dB
Auto White Balance Mode	ATW-Indoor/Outdoor, Shade, Clear sky, Fluorescent light, Light bulb, Flame, Manual
<i>Auto Focus (Optional)</i>	<i>One Push, Manual, (Automatic)</i>
<i>Optical Zoom (Optional)</i>	<i>Motorized 4.2x</i>
<i>Optical Zoom Speed (Optional)</i>	<i>1~6 Steps</i>
Digital Zoom	16x
On Screen Display	On/Off
Back Light Compensation	On/Off
High Light Compensation	On/Off
Image Effect	Mirror, Flip
Privacy Mask	Max.8 Area Selection
Tamper	On/Off
Video Motion Detection	Max.4 Area Selection



Corridor Format	90°/270°
Defog	On/Off
Lens Distortion Compensation	On/Off
Digital Image Stabilization	On/Off
NETWORK	
Video Compression	H.265 Main profile, H.264(High, Main, Base line profile), MJPEG
Video Resolution	1920x1080(Full-HD), 1280x720(HD), 1024x576, 768x432, 640x360, 384x216
Video Frame Rate	Up to 30fps@1920x1080p
Video Streaming	Simultaneously H.265 and MJPEG (Multi Streaming) or Simultaneously H.264 and MJPEG (Multi Streaming) Independent Frame Rate and Bandwidth Control, VBR/CBR Mode
Audio Streaming	Two way(G.711)
FTP Uploading	MJPEG Still Image
Event In	Onboot/Trigger/Network Loss/Tampering/Motion
Event Out Notification	E-mail, FTP
Login Authority	Administrator, Operator, Guest
Event Buffering	FTP : Pre/Post Event Time: 0~30sec, FPS: 1~2 fps
Manual Trigger	Still Image Capture
Security	Multi User Authority, IP Filtering, HTTPS
Network Time Sync	Synchronize Computer/NTP Server, Manual
Software Reset	Restart, Reset, Factory Default
Auto Recovery	Backup, Restore
Remote Upgrade	Using Web Browser
Protocols	TCP/IP, UDP, IPv4/v6, HTTP, HTTPS, FTP, UPnP, RTP, RTSP, RTCP, DHCP, ARP, Zeroconf
Client Software	Built-In Web, ONVIF Compatible 3rd Party VMS
Max. User Connection	10 Users
SDK Support	API, ONVIF Profile S Compliant
EXTERNAL IN/OUT	
Ethernet Tx/Rx	RJ-45(10/100Base-T)
IR LED Control	IR LED Control On/Off
Day & Night Control	IR Cut Filter Exchange
Iris Control	DC-Iris, Fixed
Alarm Control	Alarm-In 1/Alarm-Out 1
SD Card	SDHC/SDXC
Audio	Line-In/Line-Out
USB	USB 2.0
CVBS(or UART)	Composite Out(or Serial TX/RX)
Zoom Control	Max. 4.2x
Focus Control	One-Push, Manual, (Automatic)
NT/PAL	NT/PAL composite Out



OPERATION ENVIRONMENTS	
Operating Humidity	0~90% (non-condensing)
Operating Temperature	0°C~ +50°C
Power Supply	DC12V
Power Consumption	4W(without IR_LED)
Dimension	42.0(W) x 42.0(D) x 7.3(H)mm
Weight	15g

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