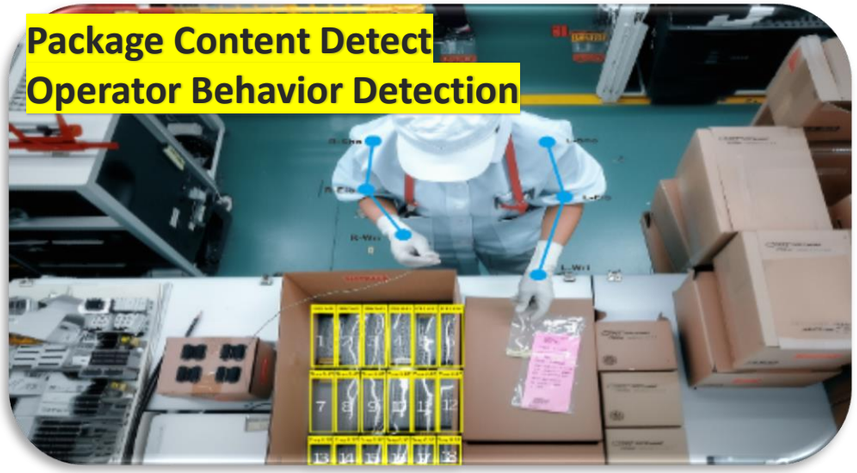
USI Smart Camera

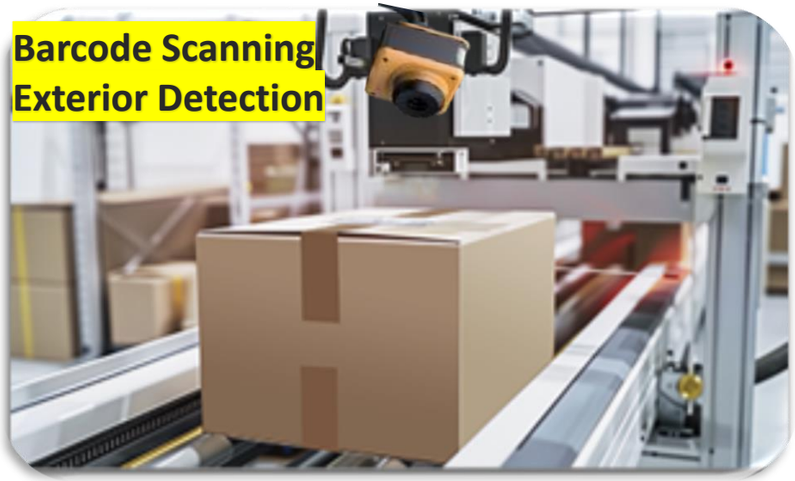
May, 2026

Executive Summary

- USI develops smart camera solution to improve the productivity and efficiency in manufacturing ,warehouse and surveillance .
- The major applications are object detection ,defect detection ,manufacturing process quality enhancement and worker safety enhancement.
- USI’s comprehensive design capabilities deliver high performance and advanced edge-AI camera development.
  - Qualcomm QCS5430 processors integration.
  - Customized AI model for diversify scenario.
  - Ruggedized mechanical & Rich I/O for industry requirement.
  - Capable of developing customized accessory.

User Scenario –Machine vision (Warehouse & Manufacturing)





- Quality control & Object Classification.
- Defect detection.
- Pose estimation and optimize the working flow.

Key Features

Device Specifications & Features

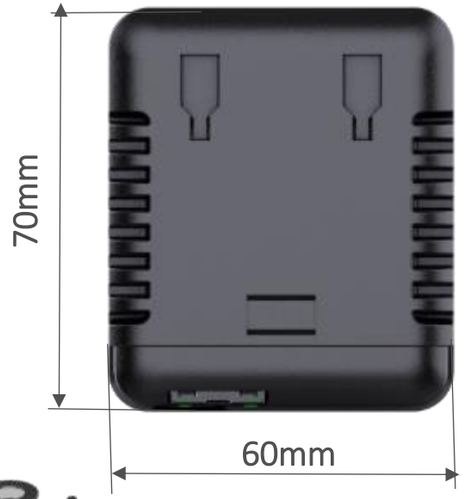
- **Application**: Object detection & defect identification
- **Processor**: Qualcomm QCS5430 ,AI 3.5 TOPS
- **Memory**: LPDDR4X 4GB + UFS2.x 64GB
- **Camera Module** : 8 Mega Pixels /Sony Sensors
- **Supported OS**: Linux
- **Audio**: 1 digital microphone / beeper
- **I/O Interfaces**:
  - Ethernet x1
  - Power key ,PoE (Power on Ethernet)
  - Link LED indicator x1
  - Power LED indicator x1 , Indicator LED x2
  - Expansion MicroSD
  - Power plug DC 12V /2.5A
  - HDMI

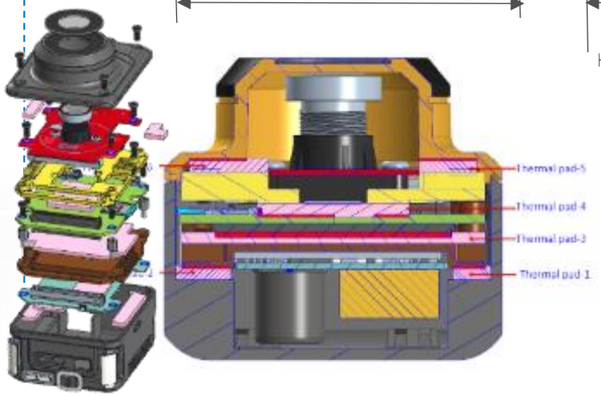
Item	Specification
Sensor (Sony)	1/1.8" IMX678-AAQR1-C
Active Array Size	8M / 3840(H) × 2160(V)
Connect Type	MIPI
Interface Type	FF
View Angle	135°
Depth of Field	0.79m ~ ∞

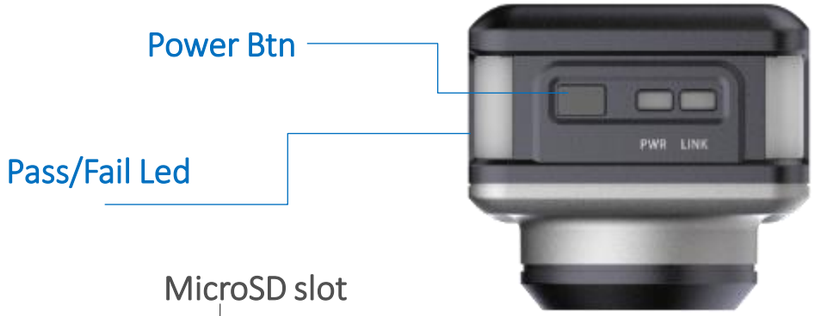
SPEC

Items	Specification	
Camera	Sensor	1/1.8" IMX678-AAQR1-C ,SONY
	Active Array Size	8M Pixels / 3840(H) × 2160(V)
	Connect Type	MIPI
	Interface Type	Fixed Focus
	View Angle	135°
	Depth of Field	0.79m ~ ∞
	Module Dimension	20 × 20 × 44.44 mm
Processors	CPU	2x Kryo Gold @ 2.1 GHz4x Kryo Silver @ 1.9 GHz
	Memory	4GB LPDDR4
	Storage	64GB UFS2
	GPU	Adreno 642L @ 315 MHz(MH3.0 ~45–48 fps)
	Graphics APIs	OpenGL ES 3.2, Vulkan 1.x, OpenCL 2.0, DX FL12
	AI Engine	6th Gen Qualcomm AI Engine2x HVX 2K-HMX @ 912 MHz (~3.5 INT8 TOPS)
	VPU	Adreno VPU 633Encode: 4K@30fpsDecode: 4K@60fps
	Camera ISP	Spectra 570L: 22+22MP @30fps2x IFE + 2x IFE lite4x MIPI CSI
	Audio	Hexagon DSP V66M , 1 Digital MIC, 1 Buzzer
I/O	USB	TYPE C connector *1
	PCIe	Ethernet RJ45 connector *˙1
	Expansion	MicroSD
	HDMI	HDMI *1
	Power DC Jack	DC 12V/2.5A
	Indicator LED	Power*1 / LINK *1 /Alarm *2
	Power Button	Yes

ID &Accessory Design







Thank You