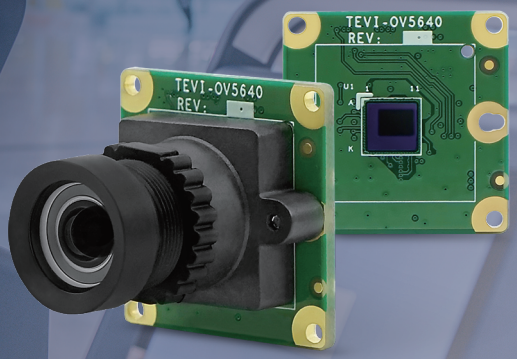
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TEVI-OV5640

- OmniVision OV5640 5MP rolling shutter image sensor with ISP for advanced vision embedded applications.
- Convenient S-Mount (M12) interchangeable lens.
- Driver integration support for :
  - NXP i.MX8 / i.MX9 Family
  - Nvidia Jetson Nano / Xavier NX / Orin
  - TI Sitara™ AM62x / Jacinto™ TDA4 Family



Specifications

Camera Information

CMOS Sensor	OmniVision OV5640
Active Pixels	2592 (H) x 1944 (V) = 5MP
Pixel Size	1.4 µm x 1.4 µm
Optical Format	1/4” (Diagonal 4.6 mm)
Shutter Type	Rolling Shutter
Chromaticity	Color
Illuminated type	Back Side Illuminated (BSI)
Maximum Frame Rate (UYVY)	2592 x 1944 @ 15 fps 1920 x 1080 @ 30 fps 1280 x 720 @ 60 fps 640 x 480 @ 30 fps
Maximum S/N Ratio	36 dB
Input Clock Range	48 MHz
Output Format	UYVY

Camera Interface

Module Data Transmission	MIPI CSI-2, up to 2 lanes
Communication Interface	I²C
Connector	70 Pin Standardized Camera Connector

Power

Supply Voltage	I/O: 1.8V Analog: 2.8V Digital: 3.3V
Power Consumption	2592 x 1944 @ 15 fps ≤ 294 mW
Standby Power	≤ 18 mW Standby

Software Support

Platform Support	NXP i.MX8M Nano / Mini / Plus NXP i.MX93 TI Sitara™ AM62x / AM62A TI Jacinto™ TDA4VM / TDA4VA / TDA4VH NVIDIA Jetson Nano NVIDIA Xavier NX NVIDIA Orin Nano/NX
Operation Systems	Linux Yocto Android
SDK	VizionViewer™ SDK

Environmental and Mechanical

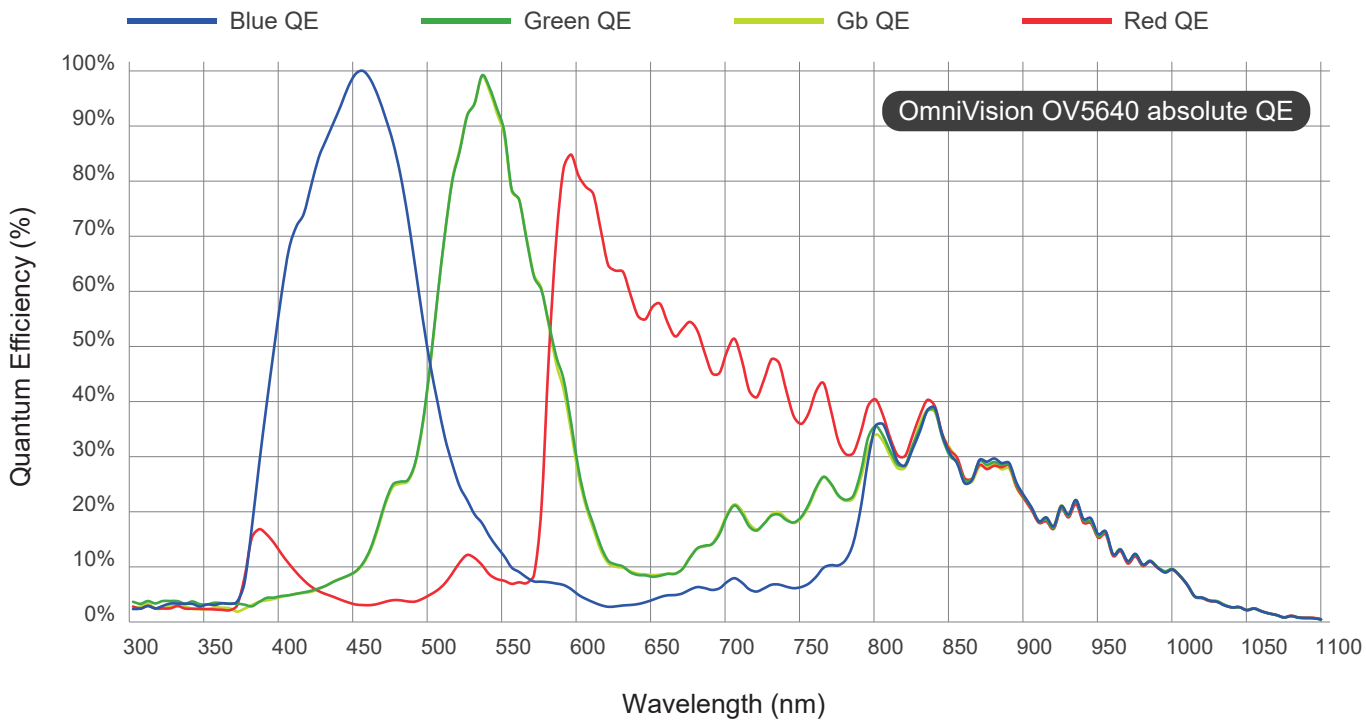
Dimensions	24.5(W) x 24.5(H) x 3.45(D) mm
Weight	≤ 3 grams
Operating Temperature	-30°C to +70°C

Certification and Compliance

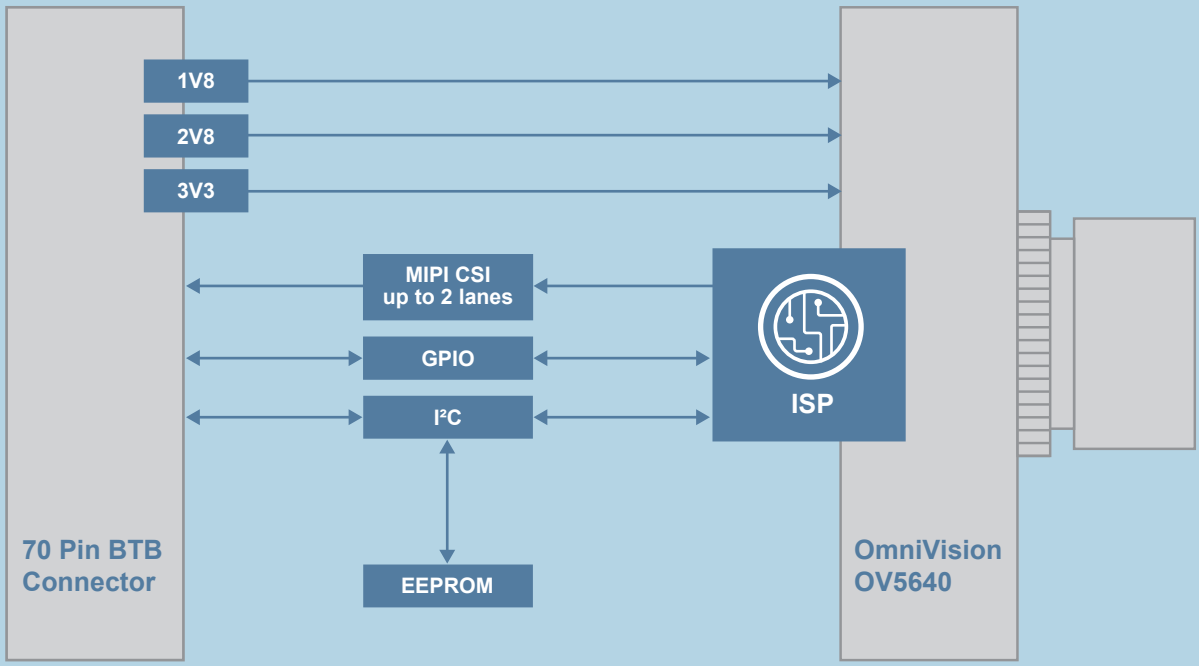
Certification	Compliant with CE / FCC / RoHS / REACH directives

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Spectral Characteristics



Block Diagram

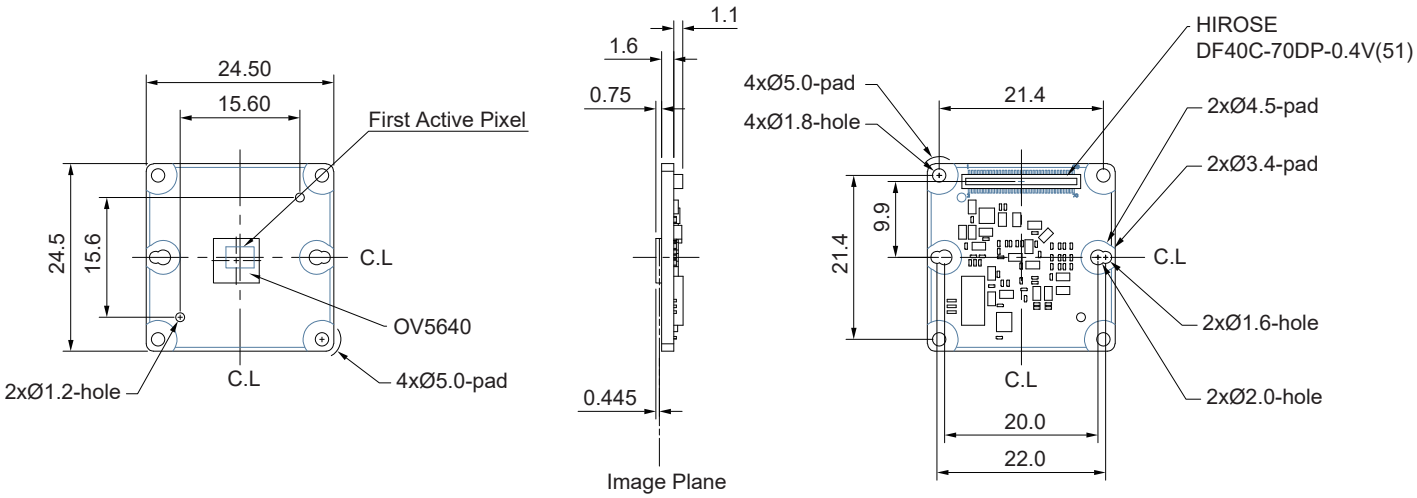


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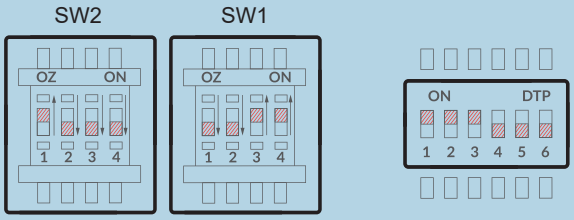
Dimensions (units in mm)



Switch Configuration

TechNexion EVK

Switch

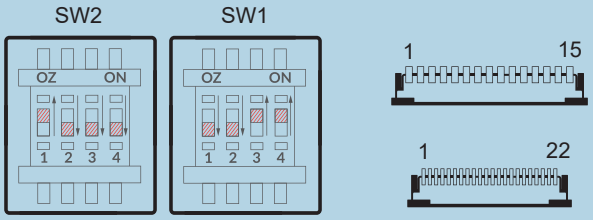


Power Sequence Setting

I²S

RPI Adapter

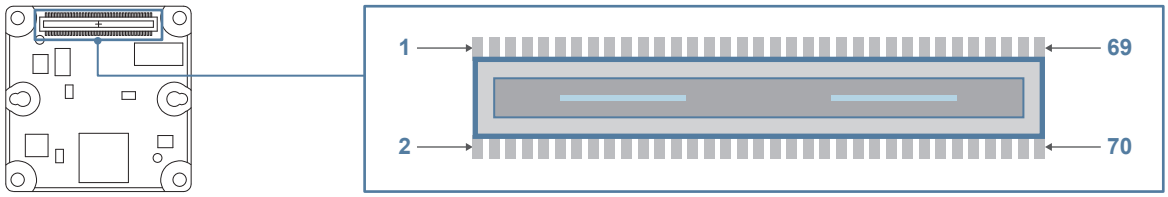
Switch



Power Sequence Setting

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Connector Pin Definition



No.	Pin Define	Level	No.	Pin Define	Level
01	3V3D	3.3V	**02**	3V3D	3.3V
03	3V3D	3.3V	**04**	3V3D	3.3V
05	GND	GND	**06**	GND	GND
07	NC		**08**	NC	
09	GND	GND	**10**	GND	GND
11	2V8A	2.8V	**12**	2V8A	2.8V
13	GND	GND	**14**	GND	GND
15	1V8D	1.8V	**16**	1V8D	1.8V
17	GND	GND	**18**	GND	GND
19	1V15D	1.15V	**20**	1V15D	1.15V
21	GND	GND	**22**	GND	GND
23	NC		**24**	NC	
25	NC		**26**	NC	
27	NC		**28**	NC	
29	NC		**30**	NC	
31	NC		**32**	NC	
33	NC		**34**	NC	
35	GND	GND	**36**	GND	GND
37	H_CAM_DN0		**38**	NC	
39	H_CAM_DP0		**40**	CSI_nRST	1.8V
41	GND	GND	**42**	GND	GND
43	H_CAM_DN1		**44**	STANDBY	1.8V
45	H_CAM_DP1		**46**	NC	
47	GND	GND	**48**	GND	GND
49	H_CAM_DN2		**50**	CAM_SHUTDOWN	1.8V
51	H_CAM_DP2		**52**	NC	
53	GND	GND	**54**	GND	GND
55	H_CAM_DN3		**56**	I²C_SCL	1.8V
57	H_CAM_DP3		**58**	I²C_SDA	1.8V
59	GND	GND	**60**	GND	GND
61	H_CAM_CKN		**62**	NC	
63	H_CAM_CKP		**64**	NC	
65	GND	GND	**66**	NC	
67	NC		**68**	NC	
69	GND	GND	**70**	GND	GND

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Lenses

Lens Information

Focus Type	Fixed Focus
Focal Length	2.85 mm
Aperture	F2.8
Lens D-FOV	84.0°
Lens H-FOV	75.0°
Lens V-FOV	58.0°
Module D-FOV	83.8° ± 5%
Module H-FOV	71.5° ± 5%
Module V-FOV	56.9° ± 5%
TTL	20 mm
BFL	2.03 mm
MOD	0.3 m
Distortion	< - 0.35%
IR-Filter	650 nm
Lens Operating Temperature	- 20°C to + 60°C

Order Information

TEVI-OV5640-x-Sxx-xx-xxx

Part Number Rules

Option	Code	Description
Chromaticity	C	Color
Lens	-	-
	S84	S-Mount Module D-FOV 84°
Filter	-	-
	IR	IR Cut Filter 650nm
Evaluation Kit	-	70 pin Standardized Camera Connector
	EVK	70 pin Standardized Camera Connector with FPC cable
	RPI15	15 pin Standardized ZIF Connector with FFC cable
	RPI22	22 pin Standardized ZIF Connector with FFC cable
	NXP	Mini-SAS connection cable for NXP Evaluation Board

For further customization or questions about orders, contact your TechNexion sales representative.

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TEVI-OV5640-x-Sxx-IR-EVK

OmniVision OV5640 5MP rolling shutter with ISP camera module + S-Mount (M12) lens with IR-cut filter + FPC connection cable for TechNexion SOM EVK



Package Content

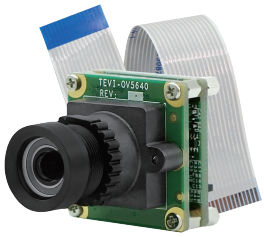
- TEVI-OV5640
- S-Mount lens
- 20cm flexible PCB for TechNexion EVK

TechNexion



TEVI-OV5640-x-Sxx-IR-RPI15

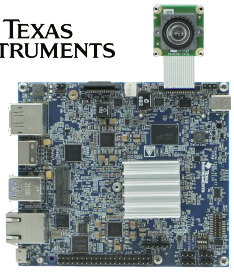
OmniVision OV5640 5MP rolling shutter with ISP camera module + S-Mount (M12) lens with IR-cut filter + RPI 15 Pin converter and FFC



Package Content

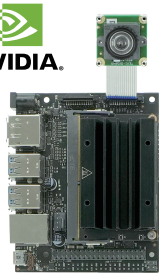
- TEVI-OV5640
- S-Mount lens
- RPI 15 Pin compatible converter PCB
- 20cm 15 Pin FPC cable

Texas Instruments



SK-TDA4VM

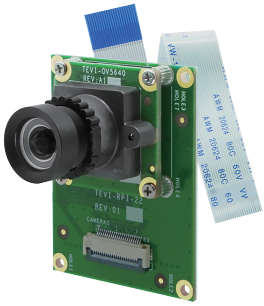
NVIDIA



JETSON NANO
XAVIER NX

TEVI-OV5640-x-Sxx-IR-RPI22

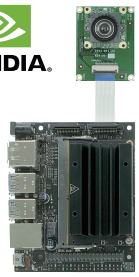
OmniVision OV5640 5MP rolling shutter with ISP camera module + S-Mount (M12) lens with IR-cut filter + RPI 22 Pin converter and FFC



Package Content

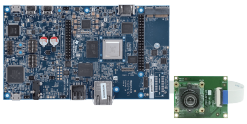
- TEVI-OV5640
- S-Mount lens
- RPI 22 Pin compatible converter PCB
- 10cm 22 Pin FPC cable

NVIDIA



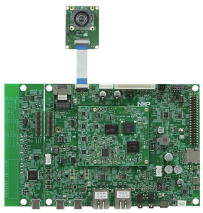
ORIN NANO
ORIN NX

Texas Instruments



SK-AM62A

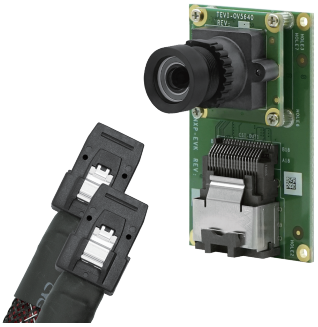
NXP



NXP i.MX93 EVK

TEVI-OV5640-x-Sxx-IR-NXP

OmniVision OV5640 5MP rolling shutter with ISP camera module + S-Mount (M12) lens with IR-cut filter + Mini-SAS Connection Cable for NXP i.MX8 Evaluation Board



Package Content

- TEVI-OV5640
- S-Mount lens
- 20cm Mini-SAS cable
  for NXP i.MX8 Family EVK

NXP

NXP i.MX8M NANO EVK
NXP i.MX8M MINI EVK
NXP i.MX8M PLUS EVK



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