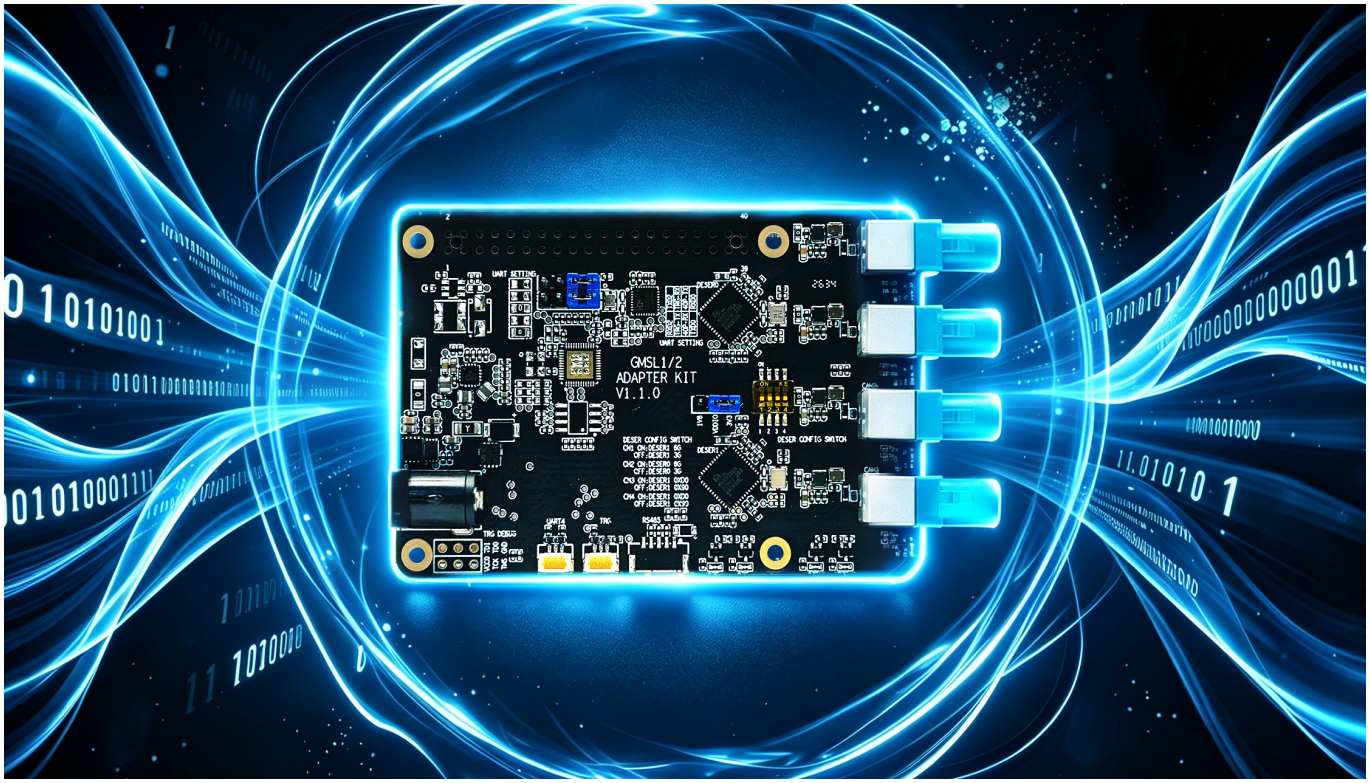
ALG-TECH

RDK X5 GMSL ADAPTER KIT

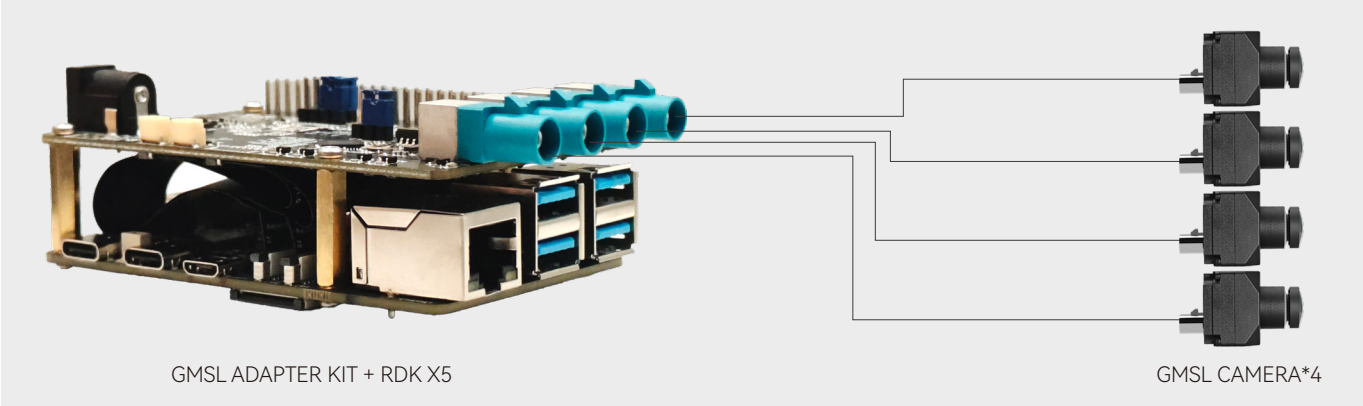


Product Introduction

AKT1448-DX5-ZAI is a high-performance GMSL image transfer solution designed specifically for industrial machine vision, autonomous driving perception, and more.Based on the Maxim MAX9296 industrial grade dual channel GMSL deserializer chip, it can achieve stable docking with the MIPI CSI-2 interface of the RDK X5 platform, support 4-in-1 and 2-in-1 signal output configurations, and provide one-stop adaptation for monocular, binocular, and multi vision acquisition projects, greatly reducing the integration difficulty and development cost of GMSL cameras on the RDK X5 platform. It is a standardized and preferred kit for industrial vision development, scientific research projects, and product mass production.

Product advantages

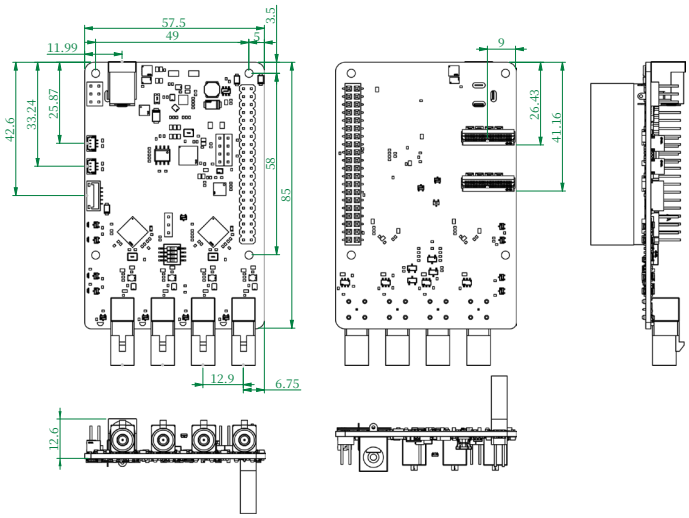
- Specially designed for RDK X5, with a streamlined structure, a visual acquisition system can be quickly set up through direct wiring, eliminating the need for users to manually debug complex signal timing.
- Easy to get started, easy to develop, equipped with complete drivers and graphic tutorials. The device can light up and display images when powered on, without the need for low-level code modification, and can be used directly.
- Using industrial grade chips and relying on the advantages of GMSL long-distance transmission, it has excellent anti-interference ability and is suitable for complex environments such as factories and outdoors. It works continuously and stably 24/7.
- The independent triggering control technology of the adapter kit channel, with the help of the X5's high-precision triggering function, solves the problems of high-speed capture and ghosting, binocular distance measurement deviation, and provides stable timing guarantee for robot vision grasping and scientific research experiments.
- Supports synchronous access of 4 GMSL cameras, capable of synchronously converting and outputting multiple image signals. A set of solutions to meet the imaging needs of multiple devices without the need for additional transfer modules. Supports GMSL transparent transmission of I2C, UART, GPIO control signals.



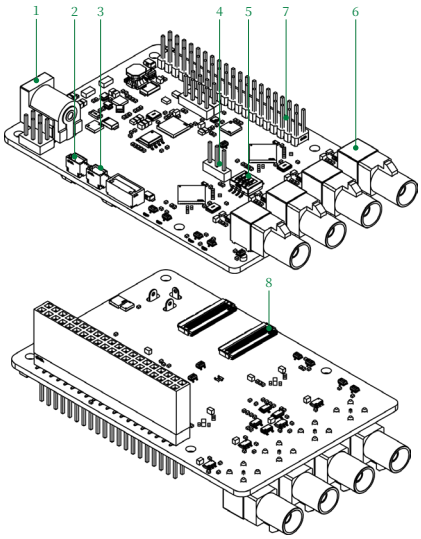
Optional accessories

名称	型号	规格
1M工业视觉GMSL摄像头模组	ALI3112-C121M17GZ00-T75MBI-IP67	1MP ; 1280x960 @30fps HFOV 120°;-20°C-+65°C;
	ALI3120-C121M17GZ00-TA2MBI-IP67	1MP ; 1280x960 @30fps HFOV 200°;-20°C-+65°C;
3M工业视觉GMSL摄像头模组	ALI3312-C360M17GZ00-T26MBI-IP67	3MP ; 1920x1536 @30fps HFOV 120°;-20°C-+65°C;
	ALI3320-C360M17GZ00-TA6MBI-IP67	3MP ; 1920x1536 @30fps HFOV 120°;-20°C-+65°C;

Structural Dimensions



Interface Definition



Number	Function
1	12V DC power supply interface
2	UART interface
3	External trigger interface
4	IO level selection (jump cap selection I0 level 3.3V)
5	Serial address selection (DIP development 1&2 select ON, 3&4 select OFF), mode is 6G
6	4-channel FAKRA image data signal interface
7	40pin female seat
8	2-channel 30pin MIPI interface

Technical Specifications

Type	Parameter
Product Model	AKT1448-DX5-ZAI
Deserializer	Maxim MAX9296
GMSL input channels	Maximum 4 routes
GMSL protocol	GMSL 1/2 (supports up to
Maximum transmission distance	About 15 meters (coaxial cable)
MIPI output interfaces	2 routes
MIPI output interfaces	MIPI CSI-2 (through 22-pin FPC)
MIPI Lane number	Maximum 4-lane, maximum 6 Gbps/lane
Independent trigger	Support
trigger mode	external trigger
external power supply	12V DC
serial port	2x UART
LED indicator light	1 channel per channel, a total of 4
Operating system support	Linux (RDK 3.4.1)
Operating Temperature	-20℃ ~ 85℃
Size (reference)	85mm (L)x57.5mm (W) x12.6mm (H)

Shenzhen Aili-Light Technology Co., Ltd

Tel: 0755-27218150
Business: sales@alg-tech.com
Web: WWW.ALG-TECH.COM
Add: Zone 82, Halyu Community, Xin'an Street, Bao an District, Shenzhen City

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