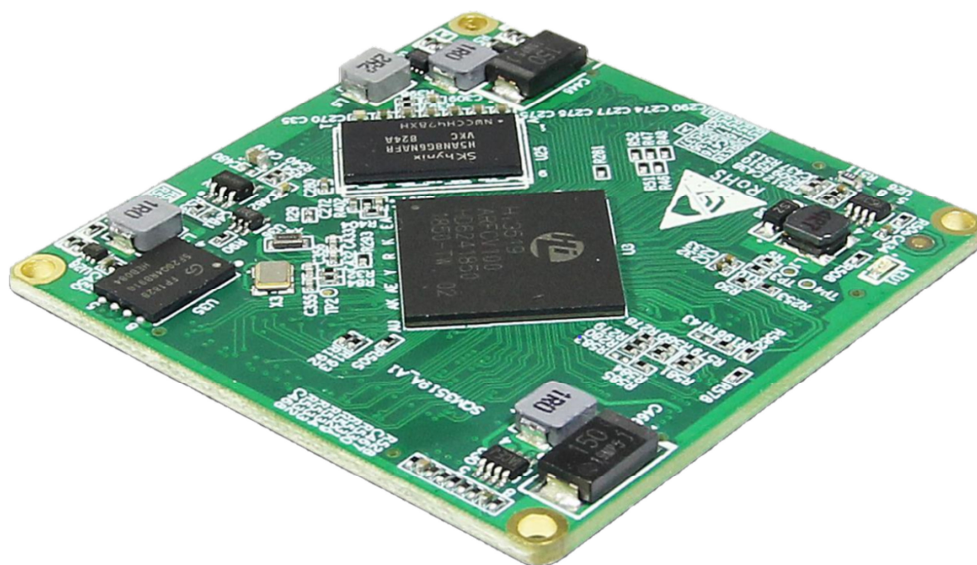


## Introduction

- Based on Huawei Hisilicon chip HI3519AV100 microprocessor design
- The board adopts immersion gold lead-free, eight-layer board design
- You can use this core board to develop your products, and we will provide the software services and hardware services you need.
- DDR and FLASH can be flexibly selected based on different application needs of customers. Extensive peripheral interface provides easy expansion of 10/100/1000M Ethernet port, USB Host, HDMI, USB3.0, TF card, ADC, SPI, IIC and other interfaces.



## Application Fields

HI3519AV100 is versatile for various video processing applications such as intelligent Security cameras, video conference, intelligent video analysis, 4K video codec and UAV.





## Hardware Specification

Item	Type	Model	Description
	Hi3519AV100	Processor Core	Dual-core ARM Cortex-A53@1.4 GHz, 32 KB I-cache, 32 KB D-cache or 256 KB L2-cache Neon acceleration and integrated FPU
		DSP	integrated Ten silica Vision P6 DSP@630MHz 32 KB I-cache, 32 KB I-RAM, and 512 KB D-RAM 0.3 TOPS neural network computing performance Huawei LiteOS
		NNIE	Multiple neural network options, such as AlexNet, VGG, ResNet, and GoogLeNet Multiple neural network options for target detection, such as the Faster R-CNN, SSD, and YOLOv2 2.0 TOPS neural network computing performance Complete APIs and tool chains (compilers and simulators) to adapt to customized networks
	RAM	DDR4	2G Byte (customizable)
	FLASH	SPI Flash(Optional)	256M Byte (customizable)
	Connector	BTB Connector	240PIN,0.635mm
Peripheral	Video Input	5 channel	Maximum 5-channel video input ,Supporting MIPI/BT1120
	Video Output	3 channel	HDMI2.0,Support maximum 4Kx2k@60fps output, 4-lane MIPI DSI ,Support up to 1080@60fps output Support 6-/8-/16-/24-bit LCD /BT.656/BT1120 digital interface maximum 1080P@60fps RGB/YUV output,
	Ethernet	1xEthernet	1000M Ethernet interface, supporting RGMII/RMII
	SDIO	2xSDIO	SDIOO support docking 3V3/1.8V level SDXC card, backward compatible with SDHC card, SDIO1 supports docking WIFI interface of 1V8 level.
	Audio Input	2x	Audio LINE-IN
	Audio Output	1x	Audio LINE-OUT

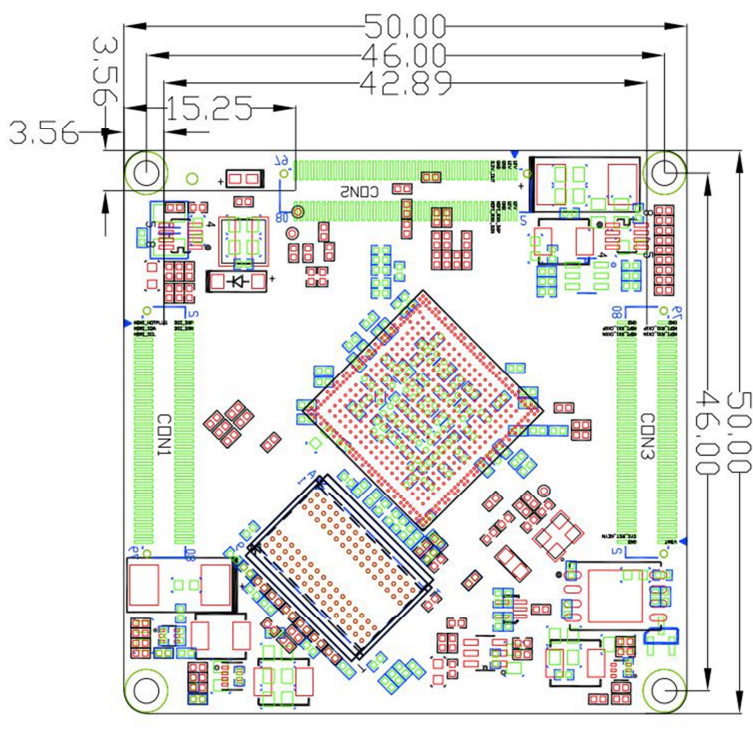
	PCIe	1x	multiplexing with USB3.0
	SPI	4xSPI	SPI0~2 are used to configure the sensor parameter. SPI3~4 are used to control peripherals.
	UART	9xUART	UART0 is the 3V3 system debug serial port, UART2 is used to debug the HUAWEI LiteOS/DSP. UART1/UART3/UART7/UART8 are 4-wire serial ports,
	IIC	10xIIC	I2C1~6 are used to configure the sensor parameter. multiplexing with SPI0~2, I2C0 is used to control peripherals.
	I2S	2x	multiplexing with JTAG
	USB	2x	1xUSB3.0 and PCIE interface are multiplexed 1Xusb2.0 support the host or Device mode
	PWM	8x	PWM_OUT0~7 for docking peripherals
	ADC	4x	Support the 4 channel analog signal inputs
	IR	1x	Support infrared input signal
	RTC	Internal RTC, Powered by button cell	
Operating Temperature:		0℃ ~ +70℃	
Storage Temperature:		-10℃ ~ 80℃	
Operating Voltage:		4.7V~12.5V      Typical value:5V	

NOTE: All useful function pins of the HI3519AV100 have been exported

## Software Specification

Linux	Uboot	version	U-Boot 2016.11
		Download Method	Serial Port/TF Card
	Kernel	Kernel Version	Linux 4.9.37
		File System	ext4/yaffs2/jffs2/ubifs
		Download Method	Serial Port/TF Card/Ethernet
	Device Driver	LED	LED Driver
		Serial Port	Serial Port Driver
		RTC	RTC Driver for saving system time
		Ethernet	10/100/1000M Ethernet Driver
		USB host	USB2.0 host driver
		OTG	USB2.0 OTG driver
		MMC/SD	MMC/SD controller driver
		INPUT	HDMI Input Driver
		I2S	I2S bus driver
		OUTPUT	HDMI output driver
		SPI	SPI bus driver
		Audio input & output	Audio input/output driver
		TCP/IP	Offer complete TCP/IP driver
	System and Service Configuration	Ifconfig/route	For network configuration and related service program
	Basic Tool	Common Command	Cat , chmod, echo, free, init ,kill, ls, mkdir, mount, ps, reboot, rm, lsmod, rmmod
	GUI	QT4.8.7	Offer QT development resources

## Mechanical Dimensions



Structural parameters	
Connector	BTB connector
Dimension	50mmx50mmx6mm
PIN spacing	0.635mm
PIN quantity	240(80x3)

## Development Package

- Provide technical reference manual describing hardware design, system software porting, driver development and application software development environment.
- Provide CPU datasheet, SDK and software development environment. So you just need to focus on your core software development.
- Provide QT development environment.
- Provide a variety of Linux DEMO including VIO, AVS, VENC, VDEC, DSP, NNIE, IVE.

## Free Technical Support Services

- Locate product fault
- Explain software and hardware resources in our embedded product.
- Help users compile and run correctly the source code we provided.
- Help user solve the abnormal problems while using our embedded product based on the development package we provided.