



## New-gen AI processor

SOPHON AI processor BM1684  
up to 17.6T@INT8 or 2.2T@FP32  
Super High Computing Power



## A variety of interfaces

With PCIe3.0、GMAC、SDIO3.0、  
I2C、PWM、UART、GPIO, it can  
be directly applied to AI edge  
computing products



## High throughput

Based on INT8 quantified Batch4  
measured data, it has higher  
throughput and energy efficiency  
ratio



## Powerful video AI performance

Up to 32-channel 1080P .264/H.265 video  
decoding is supported. It can process and  
analyze more than 16-channel HD video at  
the same time



## One-stop toolkit

The MNNSDK2 one-stop deep learning  
development toolkit provides a series of  
software tools, It supports Caffe/TF/  
PyTorch/Mxnet/Paddle



## A wide range of applications

visual computing, edge computing, general  
computing power services, Artificial Intelligence,  
intelligent construction site, intelligent  
transportation, security surveillance

Specification	
Model	Core-1684JD4
SOC	SOPHON BM1684
CPU	Integrated high-performance ARM A53, 12nm lithography process, clock speed up to 2.3GHz
TPU	Built-in tensor computing module TPU, computing power up to: 17.6T (INT8) / 2.2T (FP32) / 35.2 T (INT8, enable winograd) TPU contains 64 NPU arithmetic units, each NPU contains 16 EU arithmetic units, 1024 EU in total Support mainstream programming frameworks, such as TensorFlow / Caffe / PyTorch / Paddle / ONNX / MXNet / DarkNet
Encoding/ Decoding	Up to 32-channel H.265/H.264 1080p@30fps video decoding, 1080p@50fps video encoding MJPEG image encoding and decoding up to 1080P@480fps
RAM	6GB/12GB LPDDR4/LPDDR4X
Storage	32GB/64GB/128GB eMMC
Ethernet	Expandable dual 1000Mbps Ethernet via GMAC
Interface	PCIe3.0、GMAC、SDIO3.0、I2C、PWM、UART、GPIO
OS	Linux
Interface Type	SODIMM (260 PIN, 0.5mm Pitch)
Dimension	69.6mm × 55mm
Environment	Operating Temperature: -20°C ~ 60°C Storage Temperature: -20°C ~ 70°C Storage Humidity: -40% ~ 70 %

## SODIMM 260P



PCIe3.0	GMAC	SDIO3.0
PWM	UART	GPIO

