



Features

CPU

- Quad-core ARM Cortex-A55 processor

GPU

- ARM G52-2EE
- OpenGL ES1.1/2.0/3.0/3.1/3.2, Vulkan 1.1, OpenCL 2.1

NPU

- 1TOPs@INT8
- Support INT8/INT16/FP16/BFP16
- Support deep learning frameworks: TensorFlow, Caffe, Tflite, Pytorch, Onnx, Android NN, etc

Memory

- 32bit DDR4/3/3L/LPDDR4/4X/3
- Support eMMC 5.1, SFC

Display

- Single display engine
- HDMI2.0
- eDP 1.3
- Dual MIPI-DSI, combo with single LVDS
- 24bit RGB/BT1120
- EBC interface

Multi-Media

- 4K H.265/H.264/VP9 video decoder
- 1080p@60fps H.264/H.265 video encoder

Video input

- 8M Pixel ISP
- 1*4lanes or 2*2lanes MIPI CSI-2 and DVP interface

Audio Interface

- I2S0/I2S1 with 8 channels
- I2S2/I2S3 with 2 channels
- SPDIF0
- PDM0 with 8 channels
- TDM0 with 8 channels
- VAD (Voice Activity Detection)

High Speed Interface

- One USB 3.0 Host, two Sata3.0, one PCIe2.1, Share two serdes lanes
- Dual USB 2.0 host and one USB 2.0 otg
- Single RGMII interface

Security

- ARM Trustzone security extension
- Secure Video Path
- Secure JTAG to debug
- Secure boot
- OTP
- Crypto (AES/TDES/SM4/SM3/SHA256/SHA512 /RSA)

SDK

- Linux4.19 & 5.10
- Android11 & 12

Device Information

- Package:
- FCCSP565L
- Body: 15.5mm x 14.4mm
- Ball pitch: 0.4mm+0.6mm

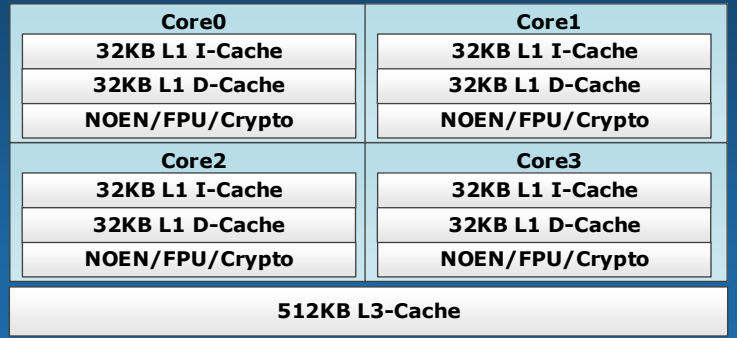
RK3566 Target Applications

- Tablet
- E-book Reader
- POS Equipment
- Cloud Terminal
- Dictionary Pen
- Desk Lamp
- Robot Vacuum

Block Diagram

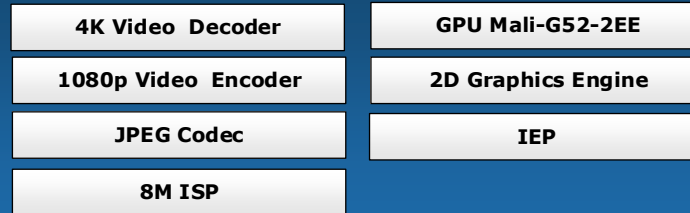
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Cortex-A55 Quad-Core

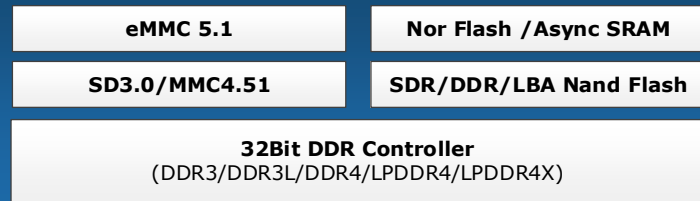


NPU

Multi-Media Processor



External Memory Interface



System

Clock & Reset
WDT
PLL x9
Timer x6
Secure Timer x2
PMU
Crypto
Interrupt Controller
DMAC x2
SARADC x4
TSADC
MCU
Mailbox

Multi-Media Interface

VOP (Same Source, Dual Display)
HDMI2.0a
eDP1.3
Single LVDS/ Dual MIPI-DSI_TX
E-Ink Interface
16bits Camera I/F
MIPI-CSI_RX 4 Lane

Connectivity

PCIe2.1/SATA3.0
USB3.0 HOST/SATA3.0
USB2.0 HOST x2
USB2.0 OTG
I2S/TDM(8ch) x2, one for HDMI
I2S/PCM(2ch) x2
PDM(8ch)
SPDIF(8ch)
Audio PWM
Digital Acodec
VAD
ISO7816
UART x10
SPI x4
SDIO 3.0
Ethernet GMAC x1 (10/100/1000M)
I2C x6
PWM x16
GPIO x142

Embedded Memory

SRAM (64KB)
ROM (32KB)
OTP(8K bit)

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Typical Application Diagram

