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# MV3566 CPU 모듈 사양서

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2024. 5. 9



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## Revision History

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**Version: 1.0**

**Date: 2024. 5. 9**

**Description: MV3566 CPU Module Data Sheet**



## MicroVision

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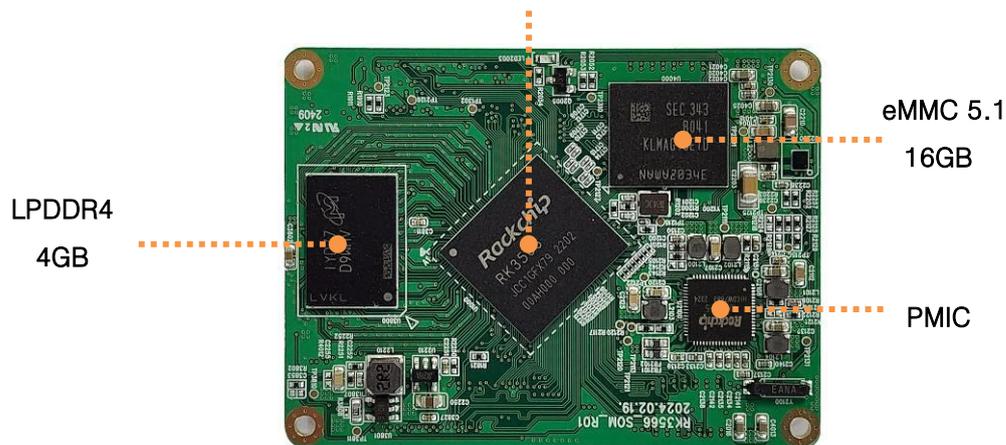
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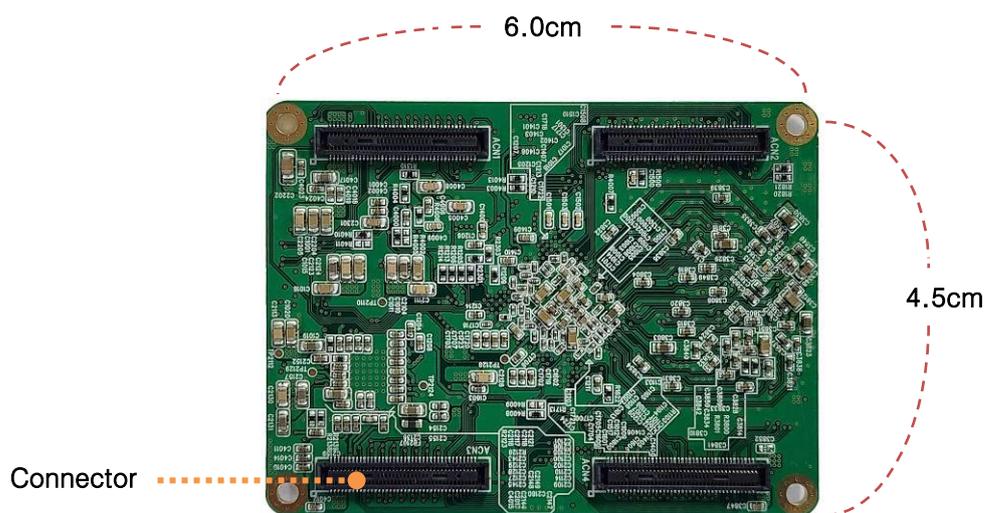
## 1. MV3566 CPU 모듈 소개

MV3566 CPU 모듈은 양산을 고려하여 사이즈를 최소화하였으며, CPU가 가지고 있는 가능한 모든 핀(기능)을 확장 핀으로 제공하므로 다양한 하드웨어 및 프로그램 테스트를 할 수 있다. 사용자가 필요한 기능만 Base Board(새로운 타겟 보드) 설계 및 제작하고 CPU 모듈 부분은 그대로 장착하여 다양한 제품 형태를 단시간에 테스트 및 양산 가능하다. 이로 인해 전체 개발기간 시간이 1/2로 단축할 수 있어 비용 및 시간 절감할 수 있다.

RK3566 Quad Core (Cortex-A55 1.8 GHz 64Bit)



[그림1] MV3566 CPU 모듈 전면



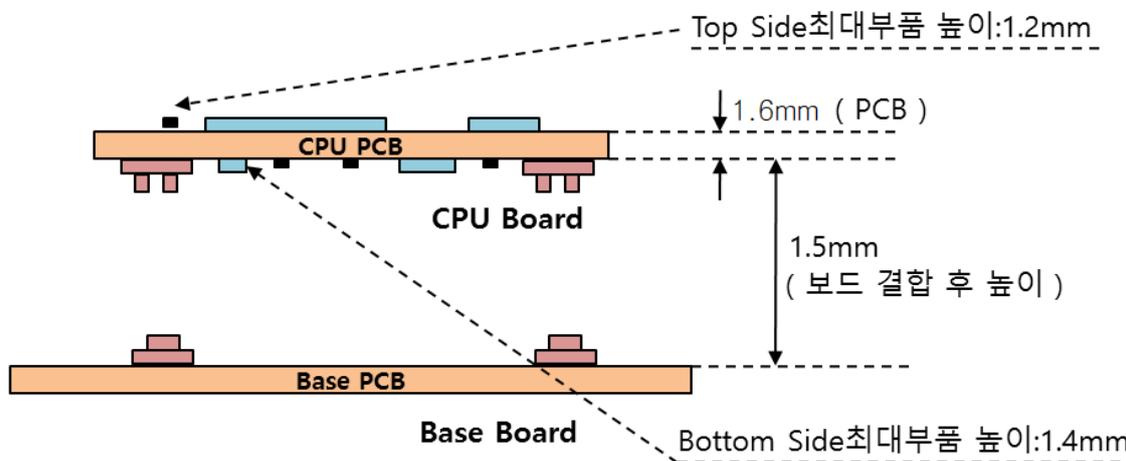
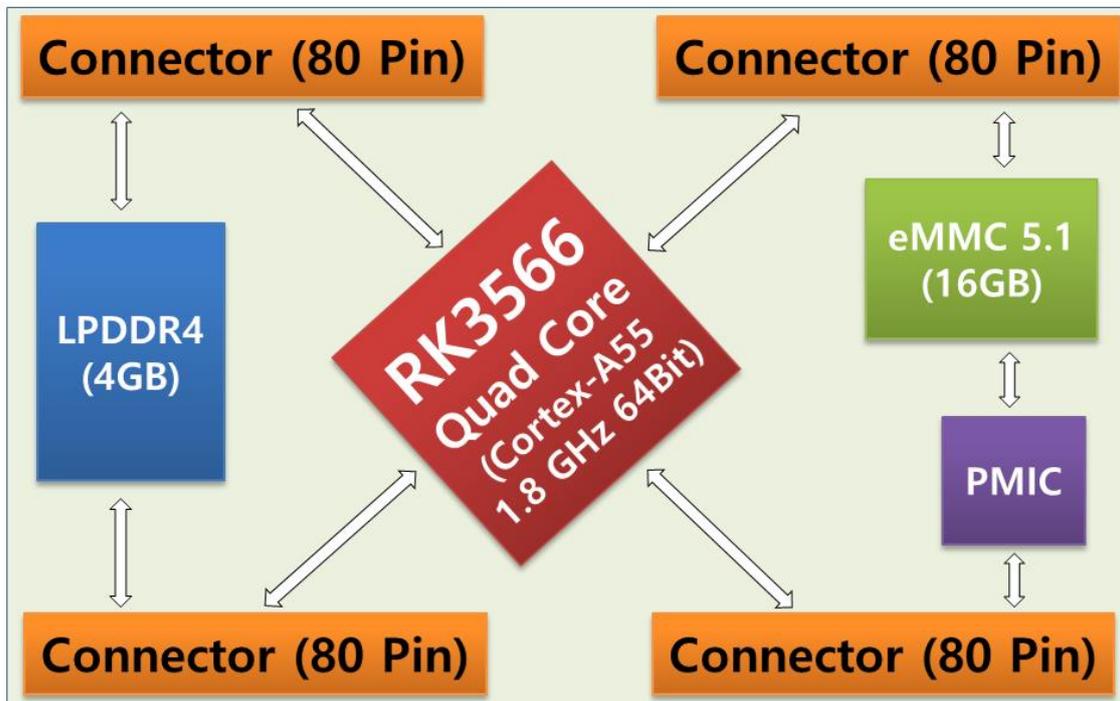
[그림2] MV3566 CPU 모듈 후면

개발환경PC OS (개발환경)	Ubuntu 18.04 x86_64
MV3566 Bootloader	U-boot
MV3566 Kernel	Kernel 5.X
MV3566 Android	Android 13

[표1] MV3566 소프트웨어 사양

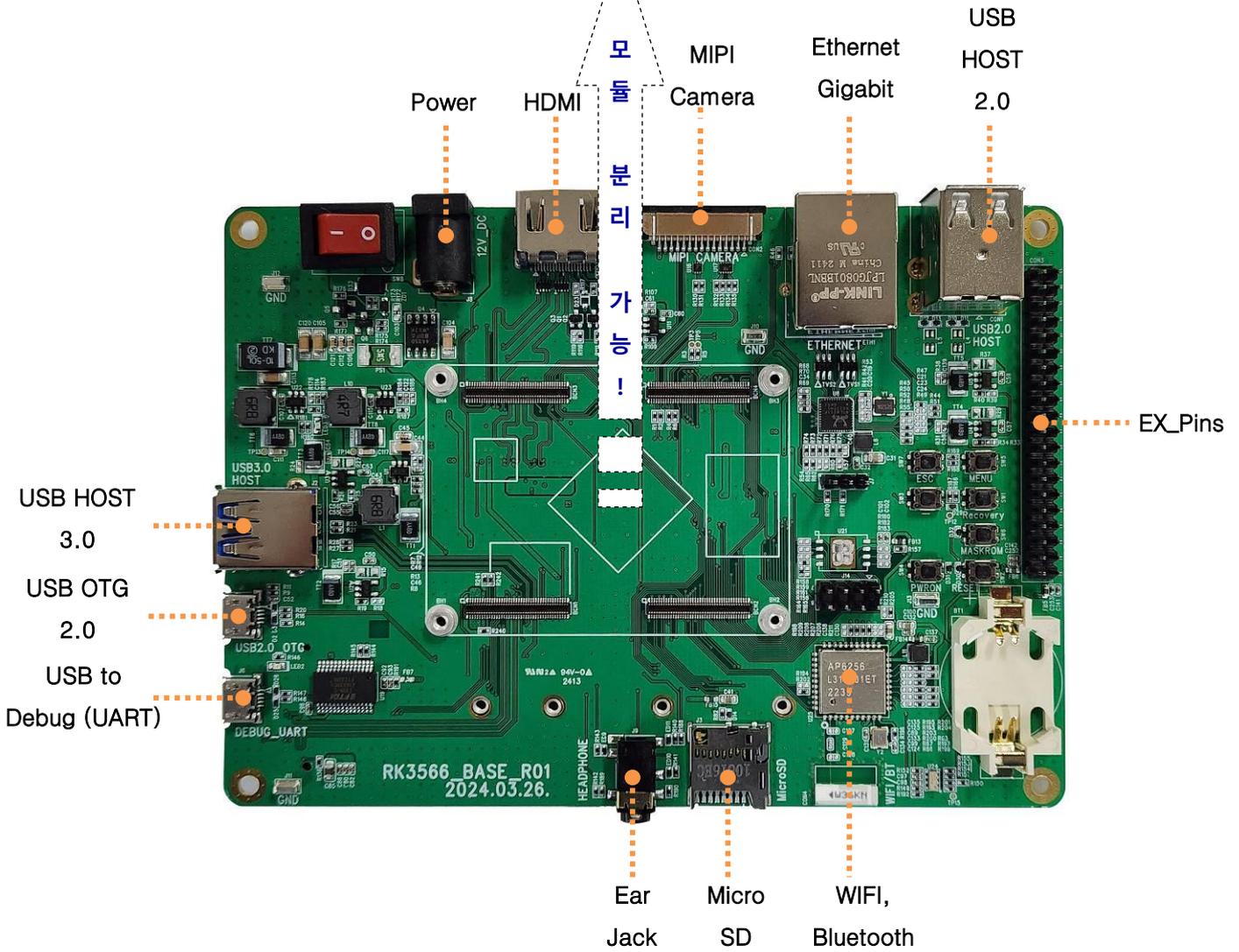
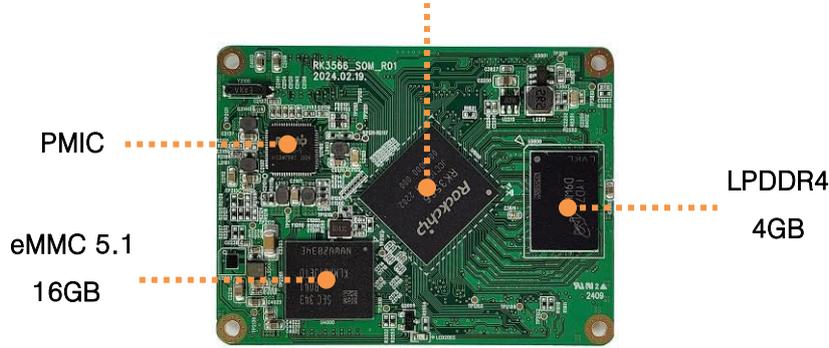
ITEM	Specification	Description
CPU	RK3566 Quad Core	Rockchip RK3566 Quad Core CPU (Cortex-A55 1.8 GHz 64Bit) Core x 4: 32KB L1 I-Cache 32KB L1 D-Cache NOEN/FPU/Crypto 512KB L3-Cache
RAM	LPDDR4	LPDDR4 4GB
ROM	eMMC	eMMC 5.1 16GB (용량확장 가능)
PMIC	Power Management	Power Management Integrated Circuits
Connector A	DF40C(2.0)-80DS x 4	320 Pin ( 0.4mm / 80 Pin x 4)
Dimension	Size	6.0mm x 4.5mm (결합 시: B to B, 높이: 1.5mm)
PCB 사양	PCB	8 Layer

[표2] MV3566 CPU 모듈 하드웨어 사양



[그림3] MV3566 CPU 모듈 Block Diagram 및 높이치수

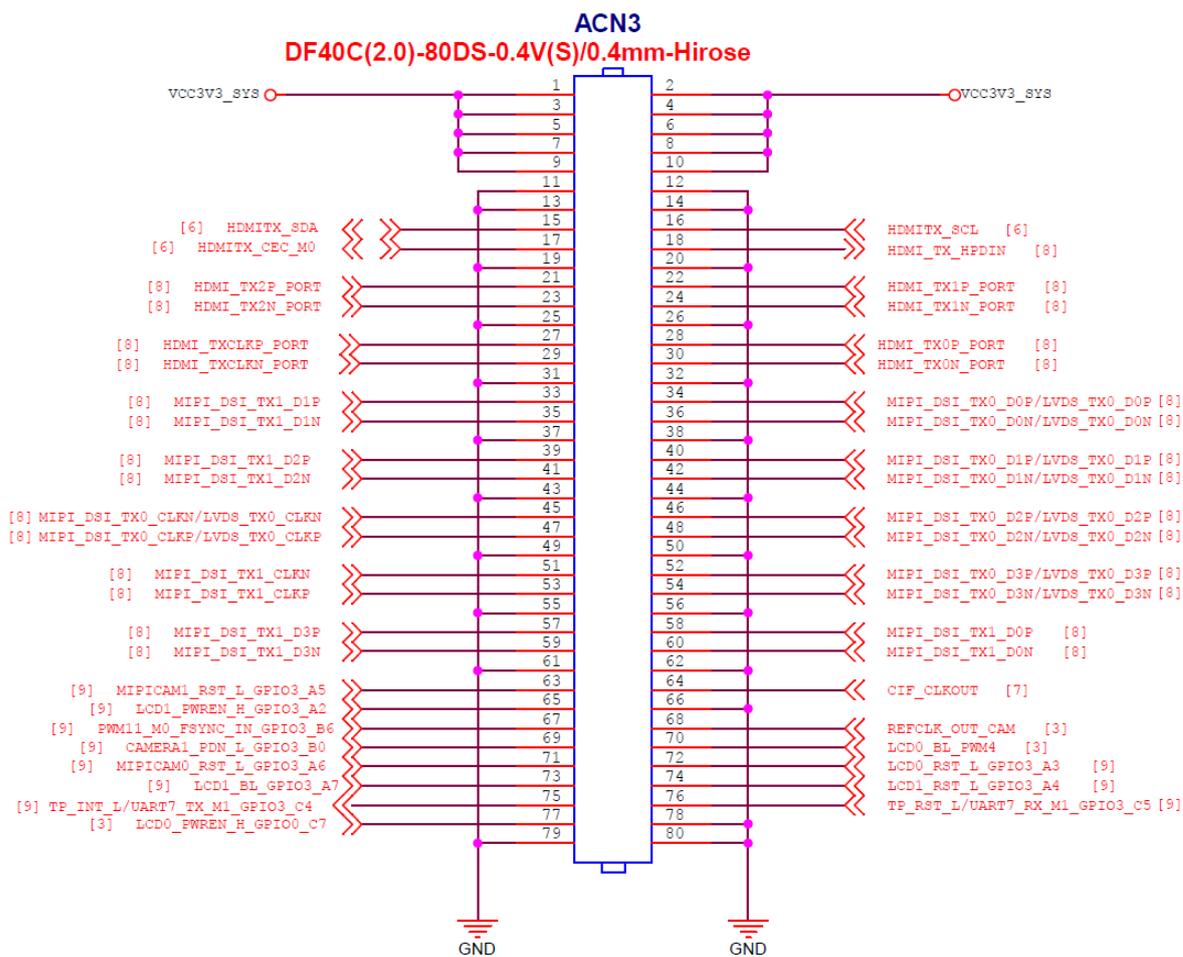
RK3566 Quad Core  
(Cortex-A55 1.8 GHz 64Bit)



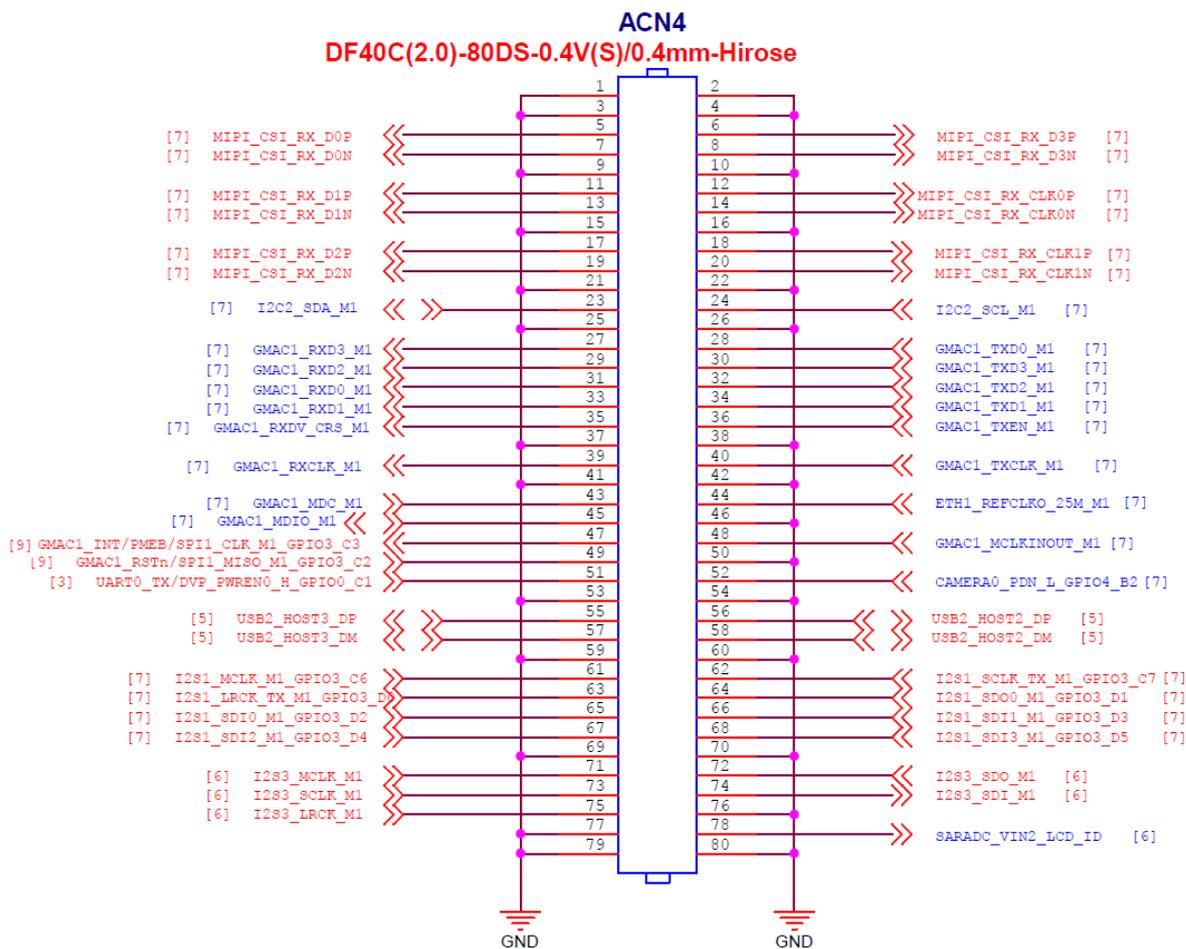
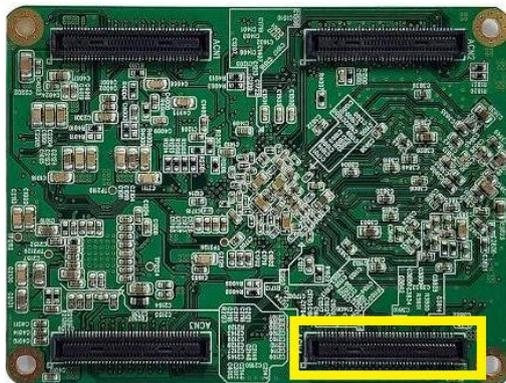
[그림4] MV3566-LCD 레퍼런스 보드 (CPU 모듈 분리 예시)







[그림7] MV3566 CPU 모듈 ACN3 핀내용



[그림8] MV3566 CPU 모듈 ACN4 핀내용

### 3. RK3566 "AP(CPU)" Features

#### AP (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
- 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
- SPDIFO • PDMO with 8 channels
- TDMO 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

- Linux5.x
- Android 13

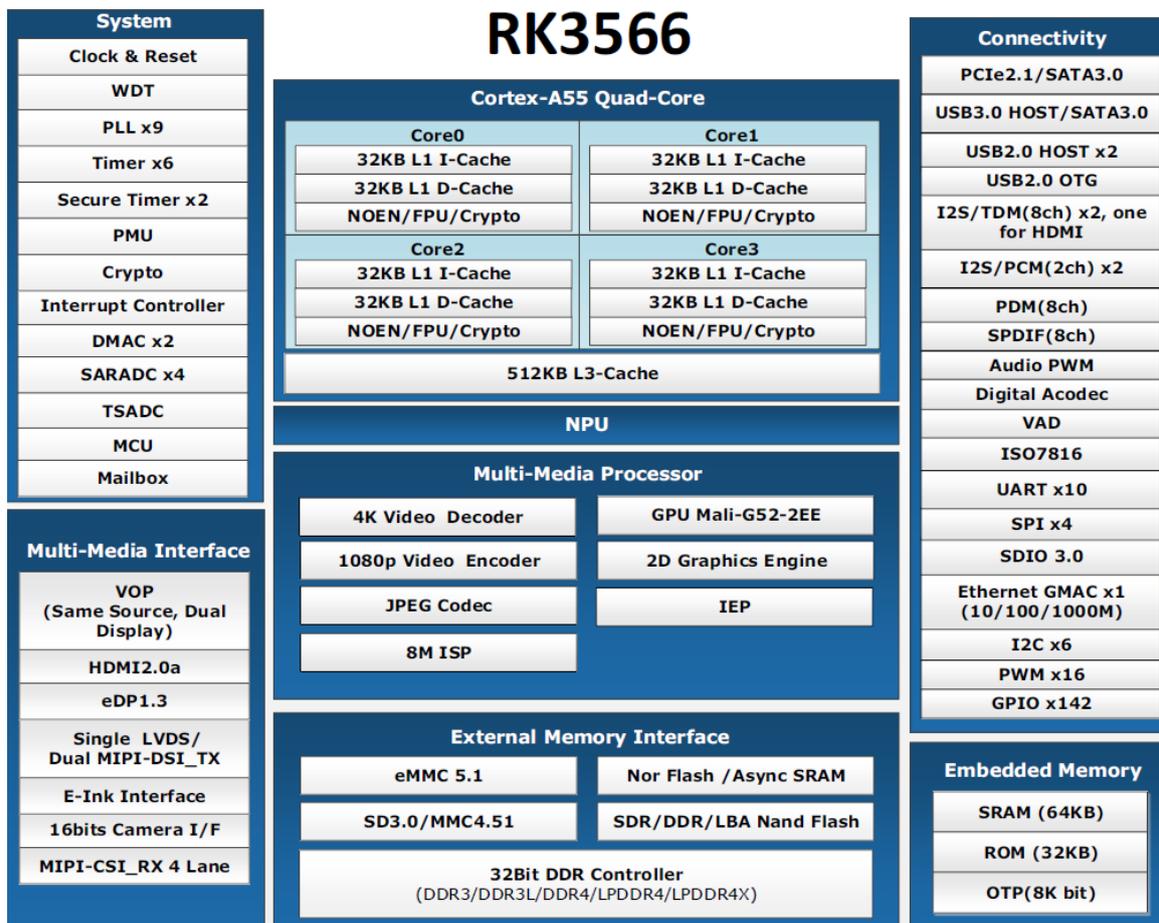
#### Device Information

Package:

- FCCSP565L

Body: 15.5mm x 14.4mm

Ball pitch: 0.4mm+0.6mm



[그림9] RK3566 AP(CPU) Block Diagram