T7

Automotive Grade Hexa-Core Processor

For Driver Cockpit Infotainment System

Overview

Allwinner’ s T7 ARM Cortex-A7 Hexa-core processor is aimed at the automotive infotainment market and is AEC-Q100 compliant. The system has integrated dual image processing, multiple interfaces and a dedicated ADAS acceleration engine for processing various driver assist features.

The T7 can be used as a multimedia/entertainment panel, electronic instrument panel, car navigation display or customized by the user depending on their preference.

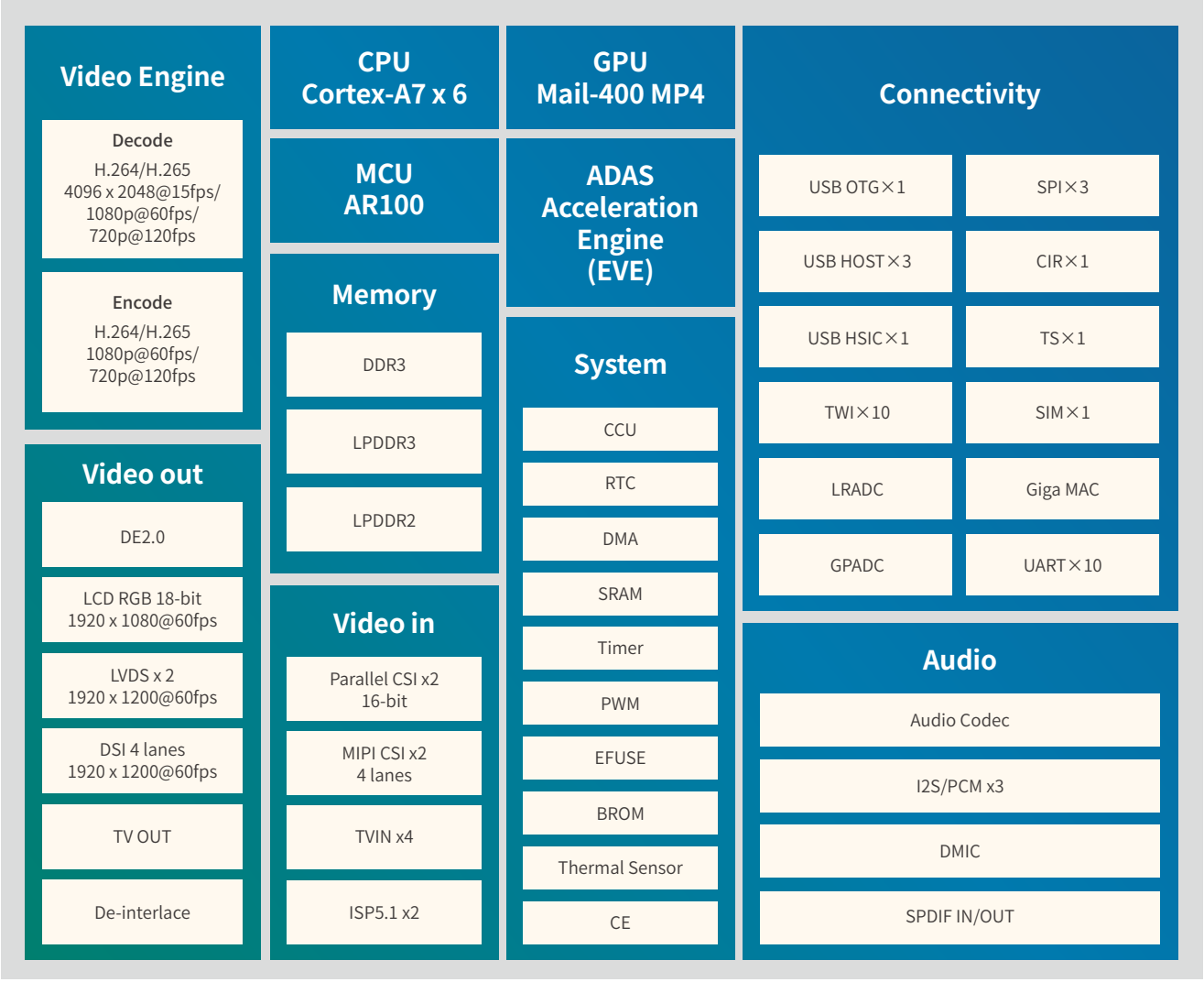
Highlights

- AEC-Q100 Certified
- CPU: 6-core ARM Cortex-A7 CPU
- GPU: Mali 400 MP4 - Excellent processing performance and display
- Supports a wide range of 32-bit DRAM types and dynamic frequency scaling, considering the application bandwidth and power consumption requirements in multi-scenes.
- Multiple camera interfaces that support up to 8 high-definition cameras.
- Integrated ADAS acceleration engine improves the efficiency of processing ADAS algorithms whilst reducing the load on the CPU.
- Integrated dual image processor is suitable for more vehicle scenes such as DVR, 360° AVM.

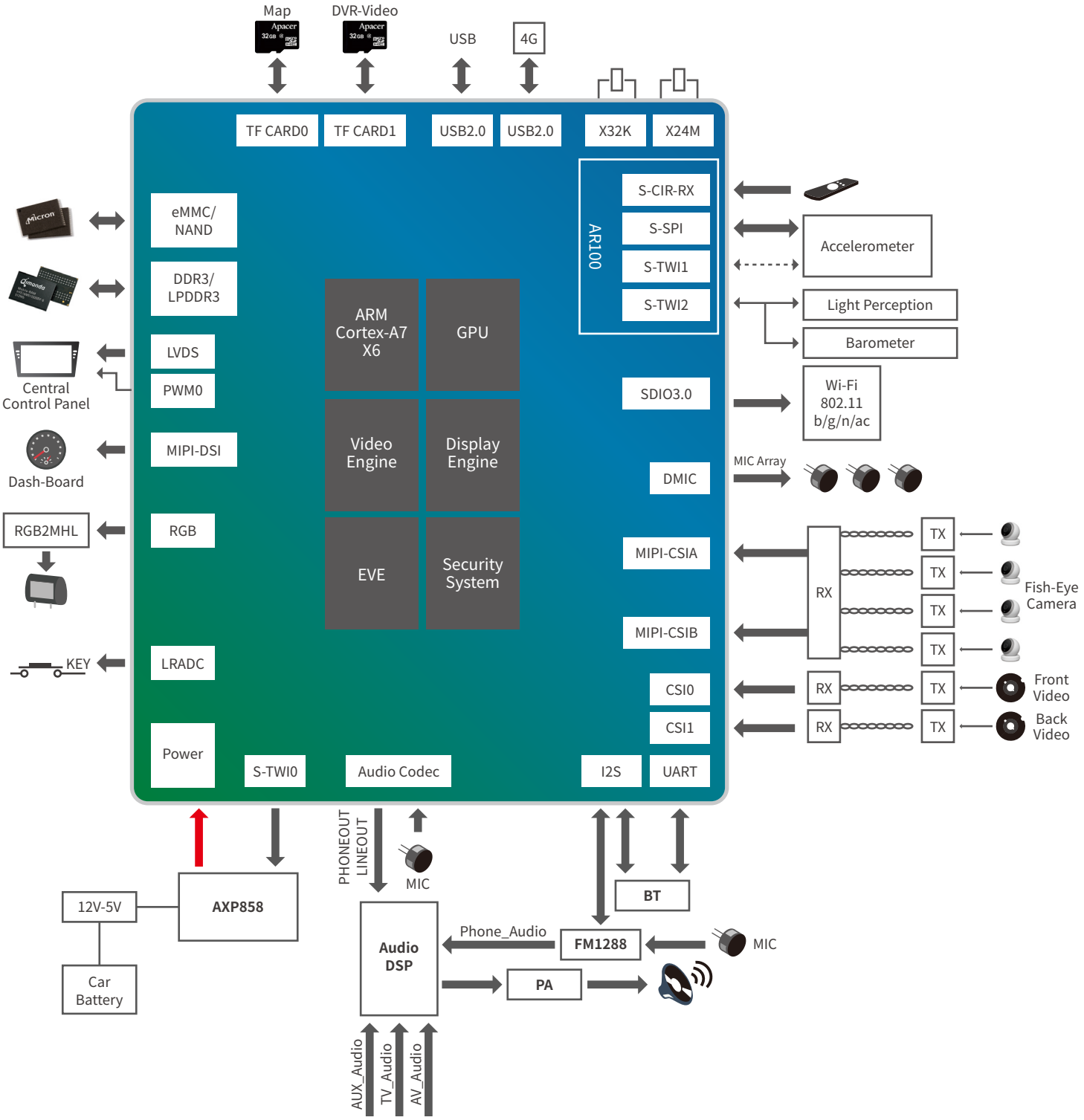
Feature List

CPU	Hexa-core ARM Cortex™-A7 Processor
GPU	Mali 400 MP4
Memory	• Supports DDR3/DDR3L/LPDDR2/LPDDR3 up to 3GB • Supports eMMC, SD card, NAND Flash, SPI Nor Flash and SPI Nand flash
Video	• Supports video decoding up to 1080p@60fps with MPEG1/MPEG2/MPEG4/H.263/H.264/H.265/VP8/AVS/AVS+ multi-formats • Supports H.265 MP video encoding up to 1080p@60fps • Supports H.264 MP video encoding up to 1080p@60fps • Supports input titled(128x32)/YU12/YV12/NU12/NV12/ARGB/YUYV multi-formats • Supports Alpha blending • Supports Thumb generation • Supports 4x2 scaling ratio from 1/16 to 64 arbitrary non-integer ratio
Audio	• Two audio digital-to-analog(DAC) channels • Three audio analog-to-digital(ADC) channels • Four audio inputs • Two audio analog outputs
Display	• Supports 4 lanes MIPI DSI up to 1920 x 1200@60fps • Supports LVDS interface up to 1920 x 1200@60fps • Supports 18-bit RGB interface up to 1920 x 1080@60fps • Supports 1-ch TV CVBS output
Camera	• Supports 4 channel CVBS input or 1 channel YPbPr and 1channel CVBS • Supports 2 individual MIPI CSI camera control interface • Supports 2 individual CSI interface, with 16bit data wide each other • Builtin 2 image processors with HDR、3D de-noise、Sharpening algorithm
EVE(ADAS)	• Detection Speed: 30fps(VGA) • Supports 4 channel integral Image, processes 130 million features per second • Supports up to 3 channel feature calculation
External peripheral	• USB x 4 with USB OTG*1 and USB host*3 • UART*10/SPI* 3/TS*1/TWI*10/EMAC*1/CIR*1
Package	PBGA 547 balls, 21 x 21 mm, 0.8 mm ball pitch

Block Diagram

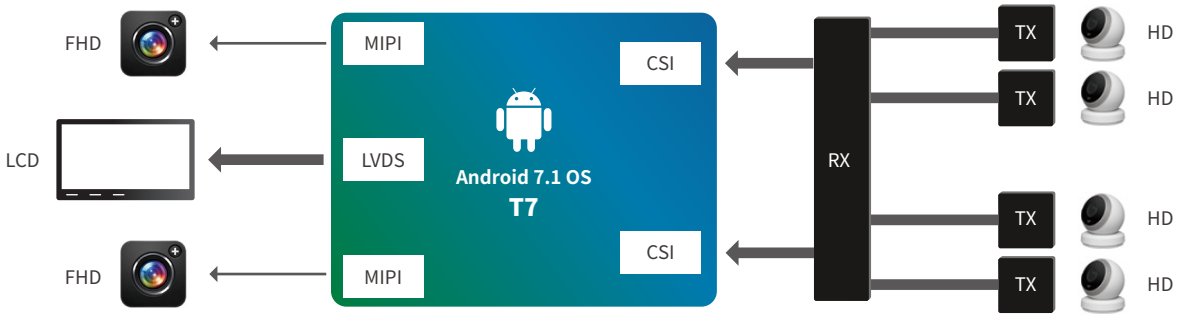


Application Diagram

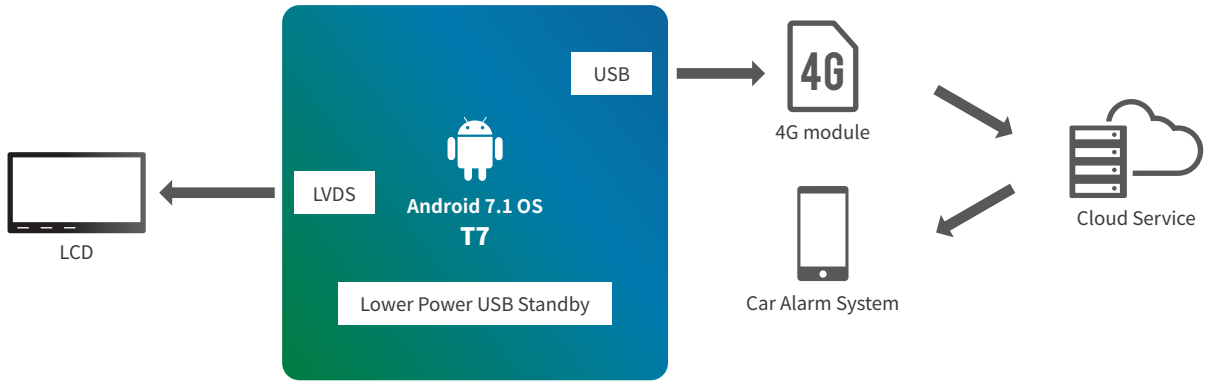


Product Diagram

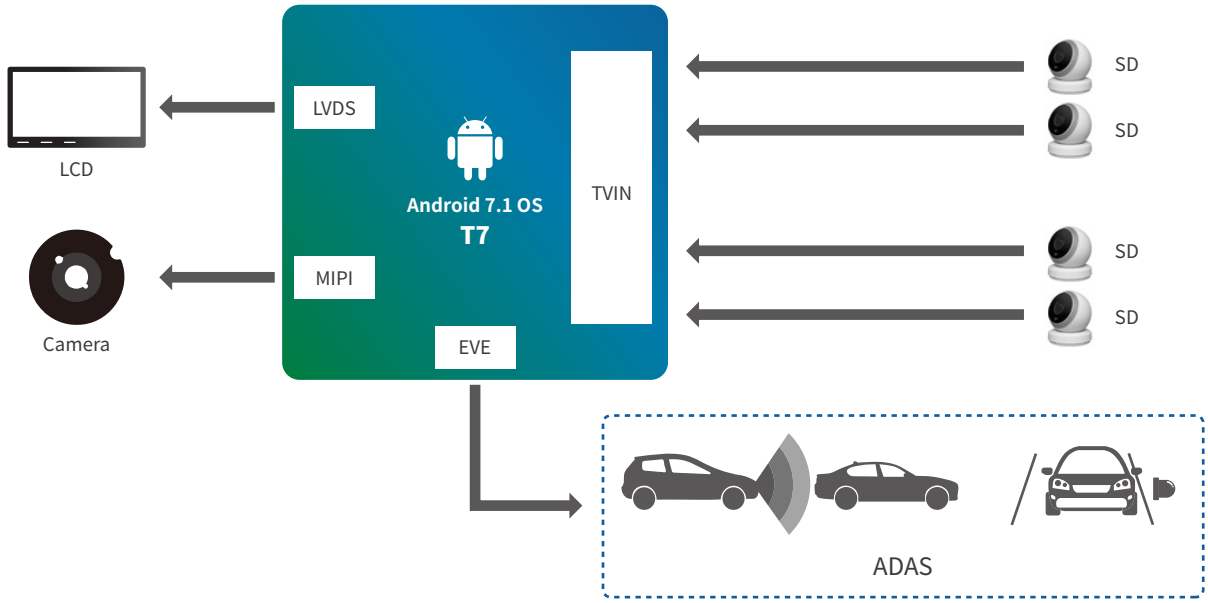
1. HD 360° Navigation Display



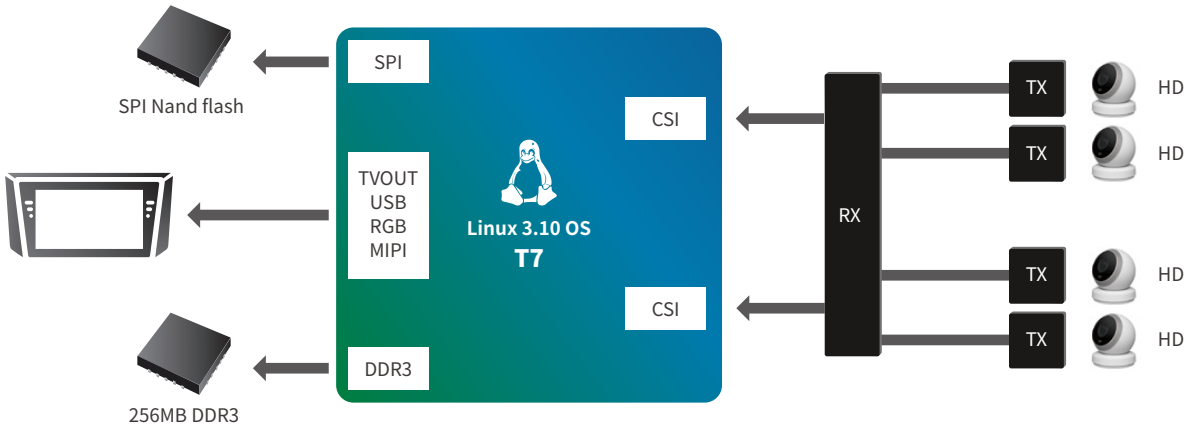
2. Parking monitor



3. SD 360° and DVR Navigation Display



4. HD AVM BOX



ABOUT ALLWINNER

Allwinner Technology is a leading fabless design company dedicated to smart application processor SoCs and smart analog ICs. Its product line includes multi-core application processors for smart devices and smart power management ICs used by brands worldwide.

With its focus on cutting edge UHD video processing, high performance multi-core CPU/GPU integration, and ultra-low power consumption, Allwinner Technology is a mainstream solution provider for the global tablet, internet TV, smart home device, automotive in-dash device, smart power management, and mobile connected device markets. Allwinner Technology is headquartered in Zhuhai, China.

CONTACT US

For more product info, please contact service@allwinnertech.com, or scan the QR code to follow us on Wechat.

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