Overview

The VATICS M550S Camera SoC integrates advanced image signal processing (ISP) engines, H.265/H.264 and MJPEG encoders, a 720MHz ARM® Cortex™ A5 CPU, a CEVA® DSP, and rich peripherals for implementing a wide range of camera applications, such as professional IP Camera, WiFi Home Camera, 720/360 Camera, Dash Camera, and Drone Camera, etc. M550S offers advanced imaging processing features such as multi-exposure true WDR, DWDR, 3D noise reduction, and fisheye dewarping and stitching.

The M550S SDK provides Linux-based and RTOS-based framework and development environment that includes image-tuning tools and a rich set of APIs, enabling easy product customization and differentiation in areas such as sensor and lens tuning, audio/video analytics and video streaming applications.

Key Features

Flexible Low-Power Platform
- ARM® Cortex™ A5 CPU
- CEVA® MM3101 DSP
- Linux and RTOS SDK
- 28-nm low-power CMOS process

Advanced Image Processing
- Up to 7,936 x 7,936 sensor resolution
- Multi-shutter frames fusion (up to 120dB)
- Hardware dewarping for 360°/180° panorama
- Improved 2D/3D noise reduction
- Adaptive weighting edge enhancement

High-Efficiency Video Encoding
- H.265 and H.264 video compression
- H.265 up to 4M@30fps + 1M@30fps video
- H.264 up to 2M@60fps + 1M@30fps video
- Flexible, unlimited multi-channel streaming

VATICS Value Up Package (VVUP)
- Royalty-free audio solutions
- Royalty-free video solutions

Block Diagram

The diagram below illustrates the functional block diagram of M550S SoC and its connections to external components in a general camera product.
The M550S Development Platform contains the necessary tools, software, hardware and documentation to develop a camera product while supporting development of customized features.

**Evaluation Kit (EVK)**
- M550S Evaluation Board (EVB) with connectors for sensor/lens board and peripherals
- Sensor board: Omnivision, ON Semiconductor, Panasonic, Sony, and others
- Datasheet, BOM, schematics, and layout
- IP Camera and 720° dual-sensor Camera reference applications with C source code

**Software Development Kit (SDK)**
- Linux 4.9.X kernel with patches, drivers, tools, and application source code
- Image tuning and calibration tools
- Programmer’s guide, application notes
- VATICS Value Up Package (VVUP)

**Contact** www.vatics.com

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